Supplementary Information

# Targeting the $CD4^+$ effector memory T cells re-expressing CD45RA Suppressor Galectin-7: A Multi-Omics-Guided Therapeutic Strategy for Idiopathic Pulmonary Fibrosis

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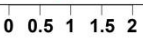
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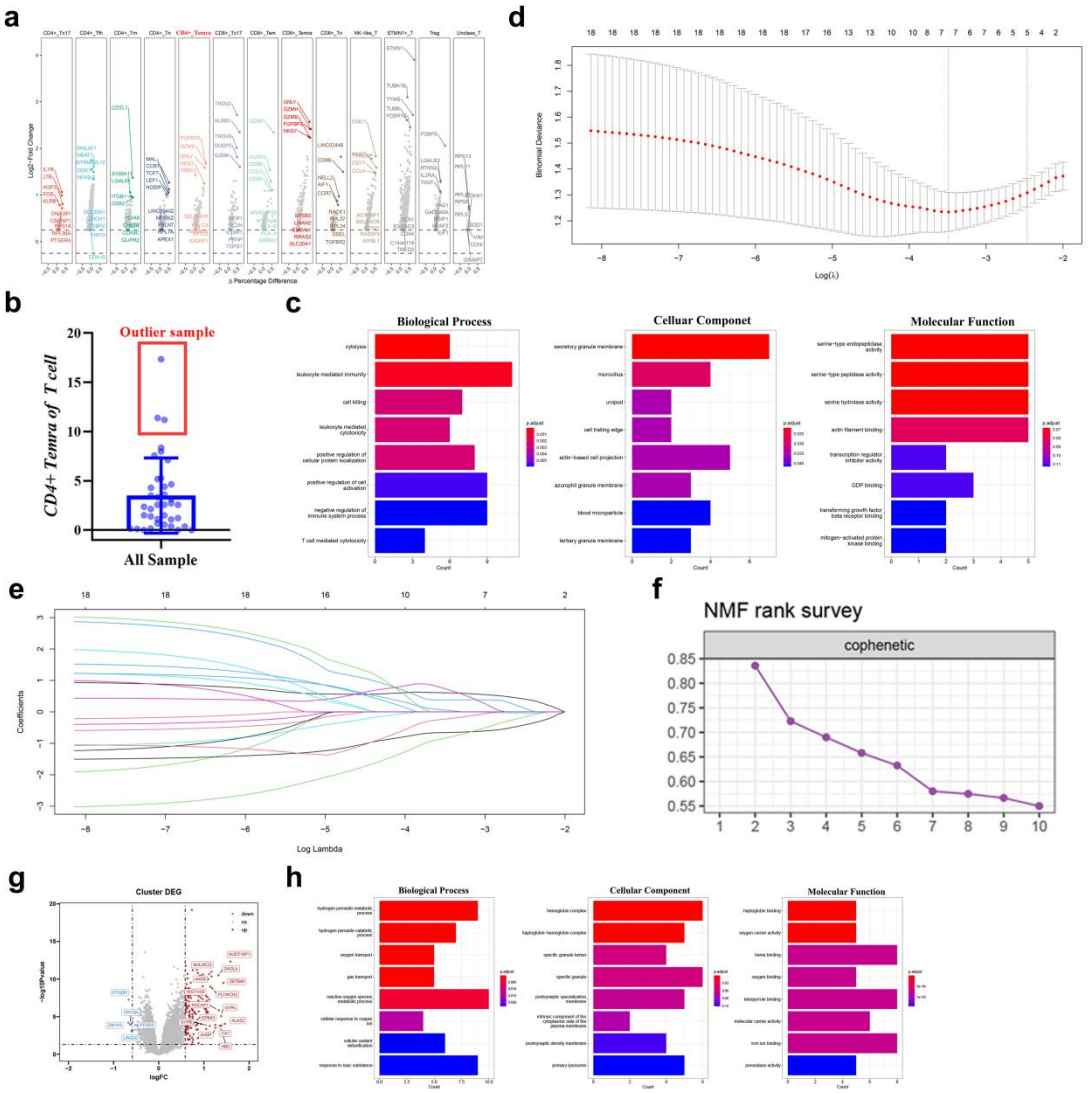
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The authors have declared that no conflict of interest exists.

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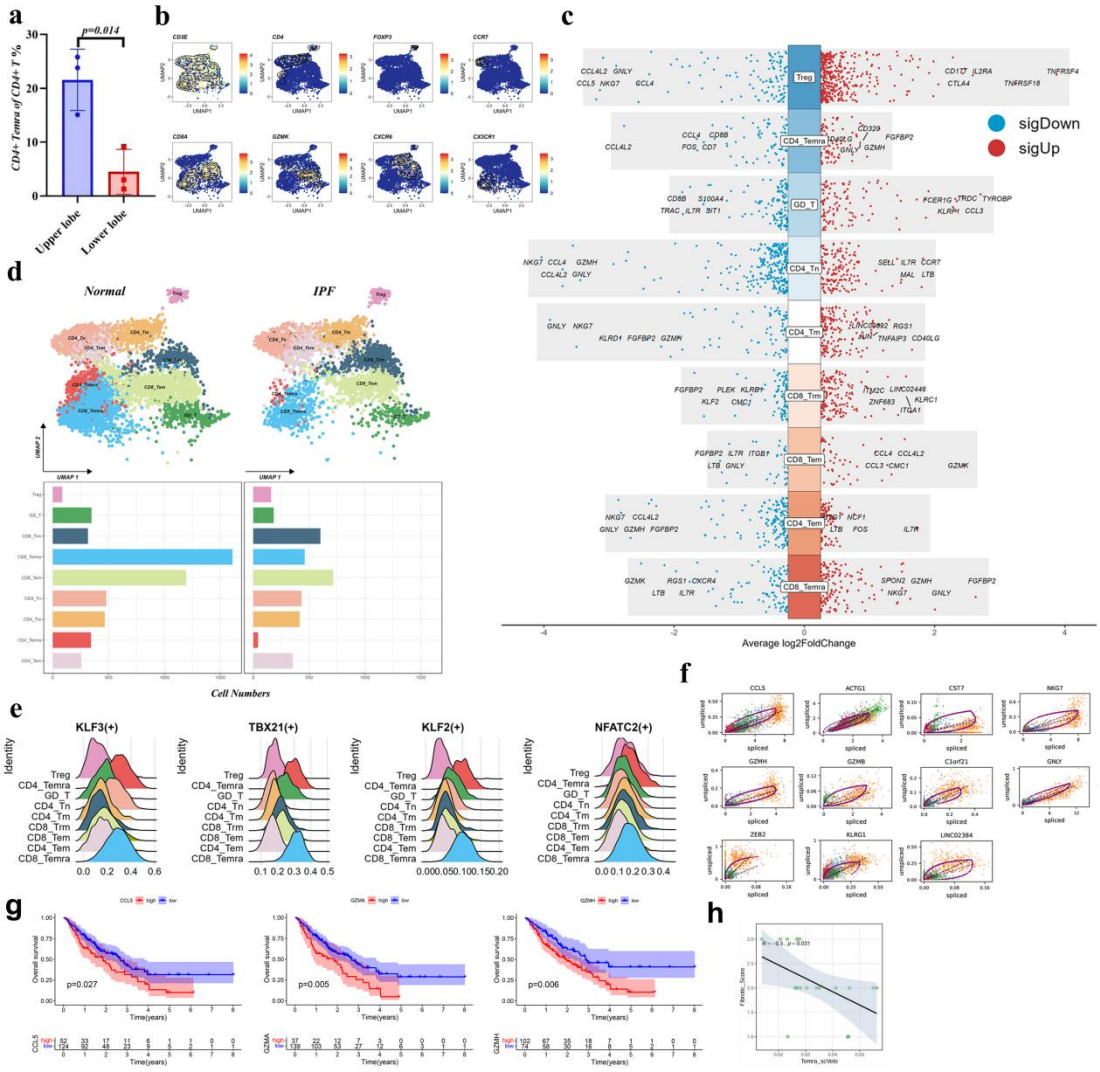
| id.exposure | nsnp | method | pval | OR(95% CI) |
|---|---|---|---|---|
| CD4+Temra %T cell_Discovery | 2 | IVW−mre | 0.004 | 0.712 (0.565 to 0.896) |
| CD4+Temra %T cell_Validation | 2 | IVW−mre | <0.001 | 0.452 (0.397 to 0.515) |
| CD33 on Granulocytic MDSCs_Discovery | 3 | IVW−mre | <0.001 | 1.019 (1.012 to 1.026) |
| | 3 | MR Egger | 0.749 | 1.026 (0.908 to 1.159) |
| | 3 | Simple mode | 0.790 | 1.015 (0.920 to 1.121) |
| | 3 | Weighted median | 0.538 | 1.020 (0.958 to 1.086) |
| | 3 | Weighted mode | 0.616 | 1.021 (0.954 to 1.092) |
| CD33 on Granulocytic MDSCs_Validation | 3 | IVW−mre | 0.002 | 0.922 (0.876 to 0.970) |
| | 3 | MR Egger | 0.485 | 0.899 (0.736 to 1.097) |
| | 3 | Simple mode | 0.377 | 0.907 (0.765 to 1.075) |
| | 3 | Weighted median | 0.101 | 0.915 (0.822 to 1.018) |
| | 3 | Weighted mode | 0.257 | 0.914 (0.817 to 1.023) |
| CD33 on Monocytic MDSCs_Discovery | 3 | IVW−mre | <0.001 | 1.018 (1.011 to 1.026) |
| | 3 | MR Egger | 0.656 | 1.026 (0.944 to 1.115) |
| | 3 | Simple mode | 0.936 | 1.004 (0.925 to 1.089) |
| | 3 | Weighted median | 0.437 | 1.019 (0.972 to 1.067) |
| | 3 | Weighted mode | 0.500 | 1.020 (0.972 to 1.071) |
| CD33 on Monocytic MDSCs_Validation | 3 | IVW−mre | <0.001 | 0.932 (0.895 to 0.970) |
| | 3 | MR Egger | 0.410 | 0.911 (0.794 to 1.045) |
| | 3 | Simple mode | 0.399 | 0.926 (0.804 to 1.067) |
| | 3 | Weighted median | 0.059 | 0.925 (0.854 to 1.003) |
| | 3 | Weighted mode | 0.207 | 0.925 (0.852 to 1.005) |
| CCR2 on monocyte_Discovery | 2 | IVW−mre | <0.001 | 1.046 (1.022 to 1.071) |
| CCR2 on monocyte_Validation | 2 | IVW−mre | 0.002 | 0.853 (0.771 to 0.943) |



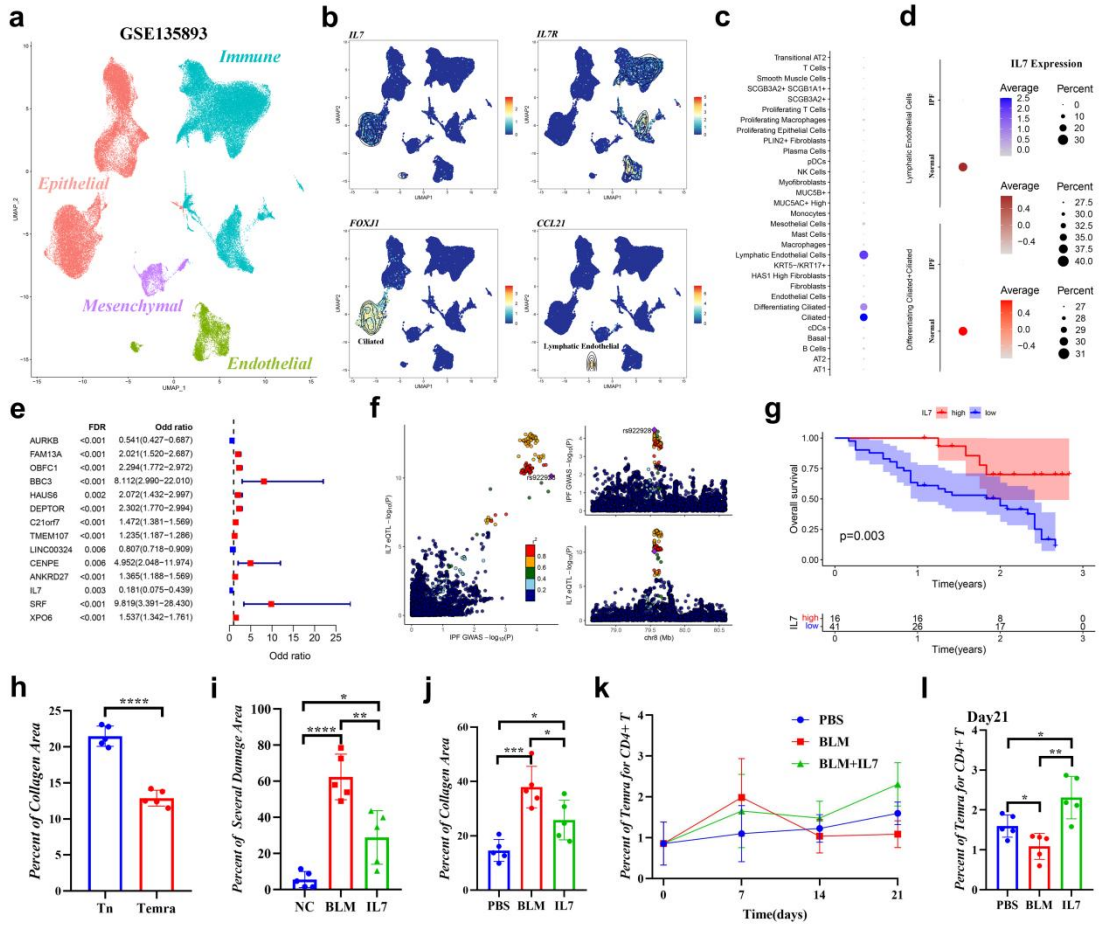

Supplementary figure 1 (a) The forest plot showed the common four immune traits with causal association with IPF in the discovery and validation cohorts.



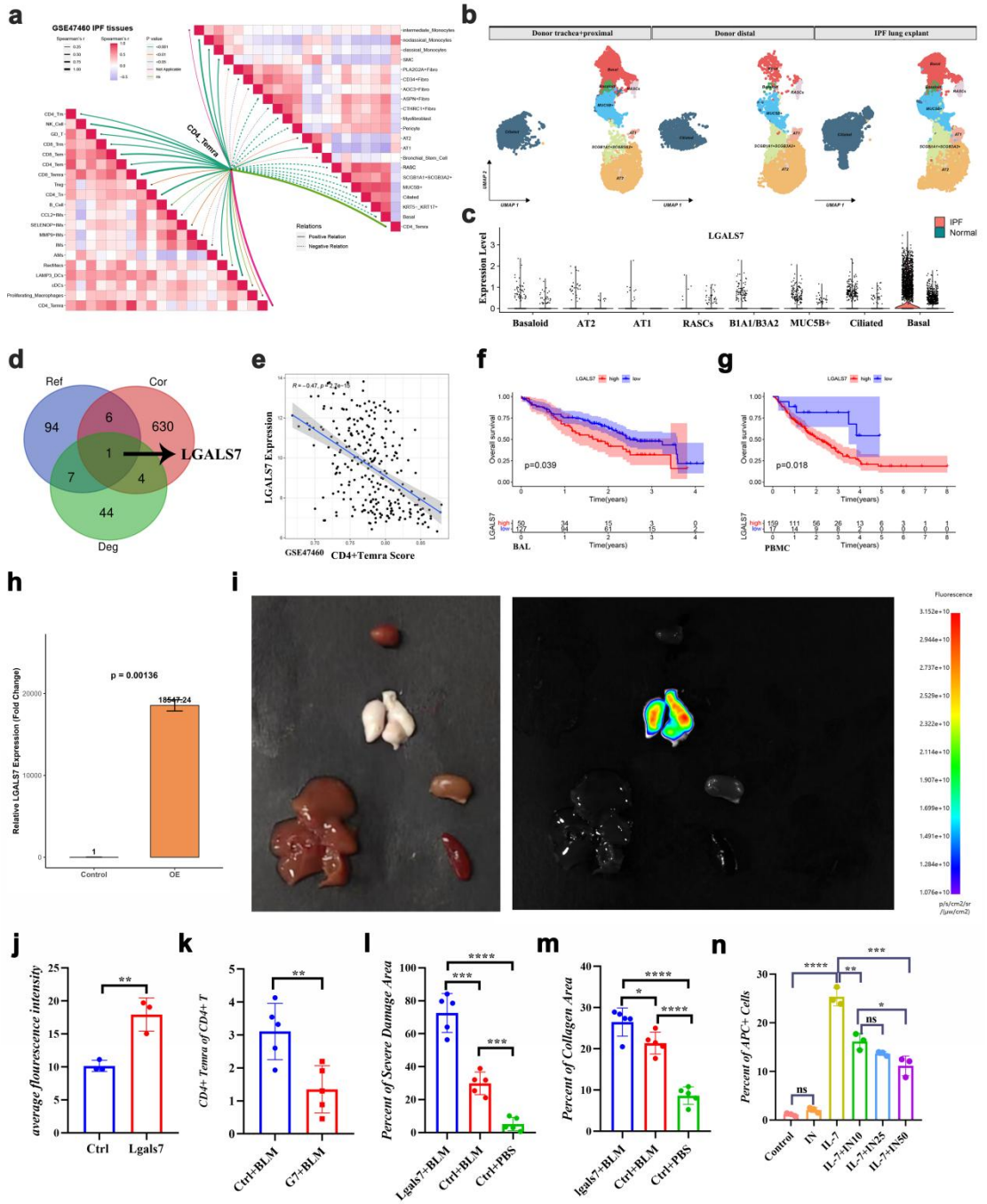

Supplementary figure 2 (a) The high-expressed gene sets of T cell subtypes. (b) Show the outliers of the proportion of $CD4^+$ TEMRA in patients with IPF. (c) Carried out GO enrichment analysis based on the red module genes. (d) The cross-validation curve of LASSO regression indicates that when the number of variables is 7, the model achieves optimal fit. (e) The LASSO regression coefficient path diagram shows that as the horizontal coordinate log Lambda increases, the vertical coordinate value of the regression coefficient continuously converges and eventually converges to 0. (f) Based on the cophenetic coefficient of the NMF clustering parameters, which is the co-expression correlation coefficient, the optimal number of subgroups is selected as 2. (g) By using subtype 1 as the reference for DEG analysis, a total of 5 down-regulated genes and 152 up-regulated genes were identified (h) The biological process module indicated that the DEGs were significantly enriched in the ROS metabolic pathway, while the other modules all suggested associations with oxygen metabolism.




Supplementary figure 3 (a) The quantitative image analysis of mIHC. (b) Contour maps display the characteristic marker expression of 9 T cell subpopulations. (c) Differentially expressed genes characteristic of each T cell subpopulation are displayed, with red and blue dots representing significantly upregulated and downregulated genes, respectively. (d) The infiltrating differences of 9 T cell subpopulations between IPF and normal lung tissues were compared. (e) SCENIC analysis identified transcription factors characterized in each T cell subpopulation. KLF3, TBX21, KLF2 and NFATC2 were highly expressed and might act as key driver genes for the $CD4^+$ TEMRA subpopulation. (f) The top 15 genes contributing most strongly to $CD4^+$ TEMRA in normal lung tissues. (g) Kaplan-Meier survival analyses of IPF patients with high and low expression of CCL5 (left), GZMA (middle) and GZMH (right). Log-rank test was used to detect the statistical significance. (h) The correlation analysis revealed that the gene set promoting TEMRA differentiation was significantly negatively correlated with the expression level of ACTA2.

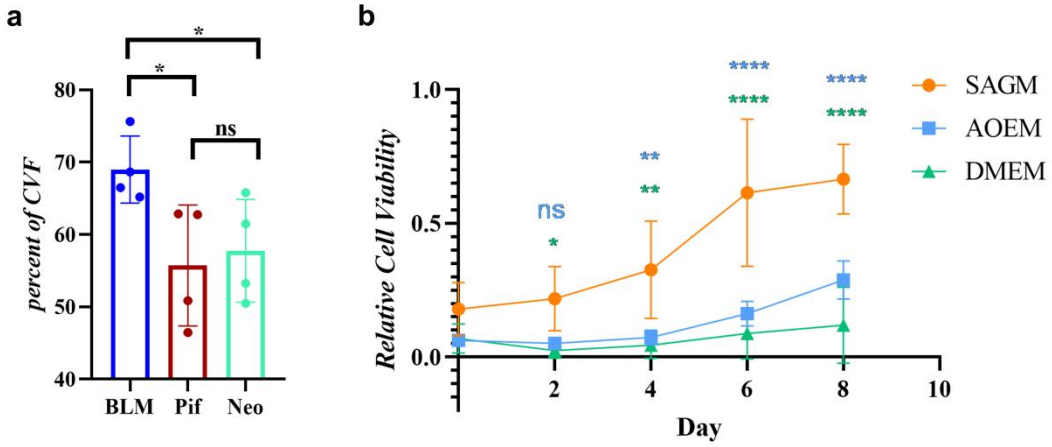



Supplementary figure 4 (a) The single-cell RNA sequencing data identified the epithelial, mesenchymal, immune and endothelial lineages in lung tissues from IPF patients and normal subjects. (b) Contour map shows that the expression of *IL7* is concentrated in ciliated cells and lymphatic endothelial cells. (c) Distribution of IL-7 expression in overall cell subgroups via dot plot. (d) Differences in IL-7 expression in lymphatic endothelial cells between IPF and normal groups. (e) MR analysis for screening genes related to the onset of IPF (f) A high posterior probability for hypothesis 4 (PPH4 = 0.83) indicates that the Mendelian randomization association is unlikely to be confounded by linkage disequilibrium. (g) High expression of *IL7* in peripheral blood indicates a favorable prognosis. (h) Quantitative results of CVF for PCLS co-culture with Tn and Temra. (i) The LungDamage algorithm calculates the areas of lung fibrosis damage in mice. (j) Quantitative results of CVF in the three groups (all n = 5). PBS, control group; BLM, fibrosis model group; BLM+IL7, treatment group. (k) Changes in the proportion of $CD4^+$ TEMRA in peripheral blood of the three groups of mice from 0 to 21 days. (l) At 21 days, the proportion of $CD4^+$ TEMRA in the treatment group and the control group was significantly higher than that in the fibrosis model group.




Supplementary figure 5 (a) ssGSEA-based deconvolution of scRNA-seq profiles revealed a disease-specific inverse association between basal cells and CD4 $^{+}$ TEMRA cells in IPF, which was absent in normal lung tissue. (b) UMAP dimensional plot and histogram displayed the epithelial cell subpopulations in donor proximal airway, distal lung and IPF distal lung tissues. (c) *LGALS7* is specifically highly expressed in the basal cells of IPF. (d) Venn plot showed that *LGALS7* was only candidate between Cor (negative correlation between CD4$^{+}$ TEMRA abundance), Deg (differentially expressed genes set of basal cell between IPF and normal lung) and Ref (The differentially expressed gene set between the AT2 differentiated basal cells in the previously reported organoid models and the normal human lung basal cells).(e) Correlation of *LGALS7* and CD4$^{+}$ TEMRA abundance calculated via ssGSEA in the

IPF lung tissues (GSE47460). (f) Kaplan-Meier survival analyses of IPF patients with high- and low-*LGALS7* expression in bronchoalveolar lavage fluid and PBMCs (g) and was tested by log-rank test. (h) PCR test the upregulation of *LGALS7* of A549 after plasmid transfection. (i) Compare the fluorescence intensities of the heart, liver, spleen, lung and kidney in mice, and verify the specific expression of Lgals7 in the mouse lungs. (j) Compare the fluorescence intensities of Galectin-7 between *Lgals7*-overexpression and control group. (k) Flow cytometry was used to examine the changes in the proportion of $CD4^+$ TEMRA in the peripheral blood of mice (sampled from the orbital vein). Galectin-7 significantly decreased the proportion of $CD4^+$ TEMRA. (l) The collagen deposition in each group was observed. (m) Quantitative analysis showed that the CVF in the *Lgals7*+BLM group was significantly higher than that in the other two groups. NC+PBS, control group treated with empty virus and PBS; G7+BLM, fibrosis model with overexpressed gene; NC+BLM, fibrosis model treated with empty virus. (n) Quantitative analysis of $CD4^+$ TEMRA percent of control group, only STAT5-IN-1 treatment, IL-7 treat and IL-7 treat with 10 μM, 25 μM and 50 μM.




Supplementary figure 6 (a) Quantitative analysis of Masson's trichrome staining data across different treatment groups. BLM (Bleomycin model, 69.24 ± 2.65), Pif (Pirfenidone treatment, 55.72 ± 4.11), and Neo (neoeriocitrin treatment, 57.52 ± 3.83). (b) CCK-8 assay showing PCLS viability under indicated culture conditions.

**Supplementary Table 1. Source of exposure and outcome data**
**Supplementary Table 2. Instrumental varibales of immune traits used for MR analysis after**
**Supplementary Table 3. Mendelian randomization results for the association between immune traits**
**Supplementary Table 4. Steiger filtering results for the association between immune traits and IPF risk**
**Supplementary Table 5. Instrumental varibales of immune traits used for MR analysis after**
**Supplementary Table 6. Mendelian randomization results for the association between immune traits**
**Supplementary Table 7. Steiger filtering results for the association between immune traits and IPF risk**
**Supplementary Table 8. Reverse mendelian randomization results for the association between IPF and**
**Supplementary Table 9. Previously-reported genome-wide significant association of SNPs as genetic**
**Supplementary Table 10. The detailed characteristics of 120 small molecule compounds obtained**
**Supplementary Table 11. Clinical information of donor and IPF patients involved in scRNA-seq and**

**Supplementary Table 1**

| Traits | Accession numbers/Source | Population |
|---|---|---|
| 731 immune traits | GCST0001391-GCST0002121 | European |
| IPF (Discovery cohort) | The International IPF Genetics Consortium | European |
| IPF (Validation cohort) | finn-b-IPF | European |

| Reference | Case | Control | Total | Variants |
|---|---|---|---|---|
| Valeria et al., 2020 | NA | NA | up to 3,757 | up to 22 million |
| Richard et al. 2022 | 4,125 | 20,464 | 24,589 | 7,554,248 |
| NA | 1,028 | 196,986 | 198,014 | 16,380,413 |

**Supplementary Table 2**

| Exposure | Id.exposure | Types | Outcome |
|---|---|---|---|
| FSC-A on Natural Killer | GCST90001969 | blood protein measurement | IPF |
| FSC-A on Natural Killer | GCST90001969 | blood protein measurement | IPF |
| FSC-A on Natural Killer | GCST90001969 | blood protein measurement | IPF |
| SSC-A on Natural Killer | GCST90002076 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD45RA+ CD28- CD8+ T cell %T cell | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T cell | GCST90001700 | lymphocyte count | IPF |
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| CD45RA+ CD28- CD8+ T cell %T cell | GCST90001700 | lymphocyte count | IPF |
| Naive CD8+ T cell %T cell | GCST90001553 | lymphocyte count | IPF |
| Naive CD8+ T cell %T cell | GCST90001553 | lymphocyte count | IPF |
| Naive CD8+ T cell %T cell | GCST90001553 | lymphocyte count | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| SSC-A on Natural Killer T | GCST90002084 | blood protein measurement | IPF |
| SSC-A on Natural Killer T | GCST90002084 | blood protein measurement | IPF |
| CD19 on CD20- CD38- B cell | GCST90001722 | blood protein measurement | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |

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| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |

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|---|---|---|---|
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |

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| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |

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| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Absolute | GCST90001698 | lymphocyte count | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD8 on CD8+ T cell | GCST90002058 | blood protein measurement | IPF |
| CD8 on CD8+ T cell | GCST90002058 | blood protein measurement | IPF |
| Natural Killer %lymphocyte | GCST90001647 | leukocyte count | IPF |
| Natural Killer %lymphocyte | GCST90001647 | leukocyte count | IPF |
| Natural Killer %lymphocyte | GCST90001647 | leukocyte count | IPF |
| CD3- lymphocyte %lymphocyte | GCST90001640 | leukocyte count | IPF |
| CD3- lymphocyte %lymphocyte | GCST90001640 | leukocyte count | IPF |
| T cell %lymphocyte | GCST90001604 | leukocyte count | IPF |
| T cell %lymphocyte | GCST90001604 | leukocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %CD8+ T | GCST90001692 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %CD8+ T | GCST90001692 | lymphocyte count | IPF |
| Naive CD8+ T cell %CD8+ T cell | GCST90001552 | lymphocyte count | IPF |
| CD4 on CD4+ T cell | GCST90002022 | blood protein measurement | IPF |
| CD4 on CD4+ T cell | GCST90002022 | blood protein measurement | IPF |
| CD39+ activated CD4 regulatory T cell A | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell A | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell A | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell A | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell A | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001491 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Count | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Count | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Count | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Count | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Count | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Count | GCST90001660 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001497 | lymphocyte count | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |

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| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B cell | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |

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| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell A | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T cell % | GCST90001496 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T cell % | GCST90001490 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD4 on CD39+ secreting CD4 regulatory | GCST90002069 | blood protein measurement | IPF |
| CD4 on CD39+ secreting CD4 regulatory | GCST90002069 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 regulatory | GCST90001854 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 regulatory | GCST90001854 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 regulatory | GCST90001854 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 regulator | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 regulator | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 regulator | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 regulator | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 regulator | GCST90002031 | blood protein measurement | IPF |

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| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD8+ T cell | GCST90002029 | blood protein measurement | IPF |
| CD39 on CD39+ CD8+ T cell | GCST90002029 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 regulator | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 regulator | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 regulator | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 regulator | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 regulator | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 regulator | GCST90002030 | blood protein measurement | IPF |
| CD39+ CD4+ T cell %CD4+ T cell | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T cell | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T cell | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T cell | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T cell | GCST90001659 | lymphocyte count | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- unswitched memo | GCST90001782 | blood protein measurement | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001509 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001509 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001509 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001509 | lymphocyte count | IPF |
| CD25 on CD45RA+ CD4 not regulatory ' | GCST90001934 | blood protein measurement | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001508 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001508 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001508 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001508 | lymphocyte count | IPF |
| CD45 on CD33- HLA DR- | GCST90002045 | blood protein measurement | IPF |
| CD45 on CD33- HLA DR- | GCST90002045 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD4+CD8+ T cell Absolute Count | GCST90001594 | leukocyte count | IPF |
| CD4+CD8+ T cell Absolute Count | GCST90001594 | leukocyte count | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyte | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyte | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyte | GCST90002011 | blood protein measurement | IPF |
| HLA DR on HLA DR+ CD4+ T cell | GCST90002114 | blood protein measurement | IPF |

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| HLA DR on HLA DR+ T cell | GCST90002113 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ CD11b | GCST90002110 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ CD11b | GCST90002110 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ CD11b | GCST90002111 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ CD11b | GCST90002111 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ CD11b | GCST90002111 | blood protein measurement | IPF |
| CD8+ and CD8dim T cell %leukocyte | GCST90001614 | leukocyte count | IPF |
| CD8+ and CD8dim T cell %leukocyte | GCST90001614 | leukocyte count | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B cell | GCST90001806 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14dim %CD33+ H | GCST90001521 | myeloid white cell count | IPF |
| CD45RA on resting CD4 regulatory T ce | GCST90002102 | blood protein measurement | IPF |
| CD45RA on resting CD4 regulatory T ce | GCST90002102 | blood protein measurement | IPF |
| CD45RA on resting CD4 regulatory T ce | GCST90002102 | blood protein measurement | IPF |
| CD45RA on resting CD4 regulatory T ce | GCST90002102 | blood protein measurement | IPF |
| CD45RA- CD4+ T cell %CD4+ T cell | GCST90001535 | lymphocyte count | IPF |

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| CD45RA- CD4+ T cell %CD4+ T cell | GCST90001535 | lymphocyte count | IPF |
| CD45RA- CD4+ T cell %CD4+ T cell | GCST90001535 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001507 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001507 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regulatory T | GCST90001507 | lymphocyte count | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T cell | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |

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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |

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| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Absolute ( | GCST90001695 | lymphocyte count | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Derived Sup | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Derived Sup | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Derived Sup | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Derived Sup | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Derived Sup | GCST90001955 | blood protein measurement | IPF |
| CD45 on Immature Myeloid-Derived Sup | GCST90002052 | blood protein measurement | IPF |
| CD45 on Immature Myeloid-Derived Sup | GCST90002052 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| Effector Memory CD4-CD8- T cell Abso | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell Abso | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell Abso | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell Abso | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell %CD | GCST90001570 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell %CD | GCST90001570 | lymphocyte count | IPF |
| Terminally Differentiated CD4-CD8- T c | GCST90001574 | lymphocyte count | IPF |

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| Terminally Differentiated CD4-CD8- T c | GCST90001574 | lymphocyte count | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell %T cell | GCST90001688 | lymphocyte count | IPF |
| CD20 on unswitched memory B cell | GCST90001760 | blood protein measurement | IPF |
| CD20 on unswitched memory B cell | GCST90001760 | blood protein measurement | IPF |
| CD20 on unswitched memory B cell | GCST90001760 | blood protein measurement | IPF |
| CD20 on unswitched memory B cell | GCST90001760 | blood protein measurement | IPF |
| CD19 on IgD- CD38dim B cell | GCST90001735 | blood protein measurement | IPF |
| CD19 on IgD- CD38dim B cell | GCST90001735 | blood protein measurement | IPF |
| CD19 on IgD+ CD38dim B cell | GCST90001730 | blood protein measurement | IPF |
| CD19 on IgD+ CD38dim B cell | GCST90001730 | blood protein measurement | IPF |
| CD19 on IgD+ CD38dim B cell | GCST90001730 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| CD62L- monocyte Absolute Count | GCST90001450 | leukocyte count | IPF |
| CD62L- monocyte Absolute Count | GCST90001450 | leukocyte count | IPF |
| Activated & secreting CD4 regulatory T c | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T c | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T c | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T c | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T c | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T c | GCST90001503 | lymphocyte count | IPF |
| CD28 on CD28+ CD45RA+ CD8+ T cell | GCST90001896 | blood protein measurement | IPF |
| CD28 on CD28+ CD45RA+ CD8+ T cell | GCST90001896 | blood protein measurement | IPF |
| CD28+ CD45RA+ CD8dim T cell Absol | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell Absol | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell Absol | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell Absol | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell Absol | GCST90001666 | lymphocyte count | IPF |
| CD25 on activated & secreting CD4 regu | GCST90001943 | blood protein measurement | IPF |

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| CD25 on CD39+ secreting CD4 regulator | GCST90001942 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| IgD+ CD38- B cell %B cell | GCST90001395 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell Absolute | GCST90001486 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell Absolute | GCST90001486 | lymphocyte count | IPF |
| Central Memory CD8+ T cell Absolute C | GCST90001548 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell %T c | GCST90001571 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell %T c | GCST90001571 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cell %T c | GCST90001571 | lymphocyte count | IPF |
| BAFF-R on CD20- B cell | GCST90001830 | blood protein measurement | IPF |
| CD19 on IgD+ CD38- unswitched memo | GCST90001728 | blood protein measurement | IPF |
| CD19 on IgD+ CD38- unswitched memo | GCST90001728 | blood protein measurement | IPF |
| CD19 on IgD+ CD38- unswitched memo | GCST90001728 | blood protein measurement | IPF |
| CD19 on transitional B cell | GCST90001742 | blood protein measurement | IPF |
| CD19 on transitional B cell | GCST90001742 | blood protein measurement | IPF |
| CD19 on transitional B cell | GCST90001742 | blood protein measurement | IPF |
| CD19 on unswitched memory B cell | GCST90001738 | blood protein measurement | IPF |
| CD19 on unswitched memory B cell | GCST90001738 | blood protein measurement | IPF |
| CD19 on unswitched memory B cell | GCST90001738 | blood protein measurement | IPF |
| CD19 on IgD+ CD24- B cell | GCST90001725 | blood protein measurement | IPF |
| CD19 on IgD+ CD24- B cell | GCST90001725 | blood protein measurement | IPF |
| CD19 on IgD+ CD24- B cell | GCST90001725 | blood protein measurement | IPF |
| CD19 on IgD+ B cell | GCST90001741 | blood protein measurement | IPF |
| CD19 on IgD+ B cell | GCST90001741 | blood protein measurement | IPF |
| CD19 on IgD+ CD38+ B cell | GCST90001729 | blood protein measurement | IPF |
| CD19 on IgD+ CD38+ B cell | GCST90001729 | blood protein measurement | IPF |
| CD19 on IgD+ CD38+ B cell | GCST90001729 | blood protein measurement | IPF |
| CD19 on IgD+ CD24+ B cell | GCST90001724 | blood protein measurement | IPF |
| CD19 on IgD+ CD24+ B cell | GCST90001724 | blood protein measurement | IPF |
| CD19 on IgD+ CD24+ B cell | GCST90001724 | blood protein measurement | IPF |
| Immature Myeloid-Derived Suppressor C | GCST90001516 | myeloid white cell count | IPF |
| Immature Myeloid-Derived Suppressor C | GCST90001516 | myeloid white cell count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %CD8+ T | GCST90001696 | lymphocyte count | IPF |
| CD33dim HLA DR- Absolute Count | GCST90001531 | myeloid white cell count | IPF |
| CD33dim HLA DR- Absolute Count | GCST90001531 | myeloid white cell count | IPF |
| Basophil Absolute Count | GCST90001532 | myeloid white cell count | IPF |
| Basophil Absolute Count | GCST90001532 | myeloid white cell count | IPF |
| Basophil Absolute Count | GCST90001532 | myeloid white cell count | IPF |
| CD3 on secreting CD4 regulatory T cell | GCST90001855 | blood protein measurement | IPF |
| CD3 on secreting CD4 regulatory T cell | GCST90001855 | blood protein measurement | IPF |
| CD3 on secreting CD4 regulatory T cell | GCST90001855 | blood protein measurement | IPF |
| CD3 on CD4 regulatory T cell | GCST90001868 | blood protein measurement | IPF |
| CD3 on CD4 regulatory T cell | GCST90001868 | blood protein measurement | IPF |
| CD3 on CD4 regulatory T cell | GCST90001868 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 regula | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 regula | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 regula | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated CD4 regulatory T cell | GCST90001853 | blood protein measurement | IPF |
| CD3 on activated CD4 regulatory T cell | GCST90001853 | blood protein measurement | IPF |

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| CD3 on activated CD4 regulatory T cell | GCST90001853 | blood protein measurement | IPF |
| CD45RA+ CD8+ T cell Absolute Count | GCST90001560 | lymphocyte count | IPF |
| CD38 on IgD+ CD24- B cell | GCST90001811 | blood protein measurement | IPF |
| CD38 on IgD+ CD24- B cell | GCST90001811 | blood protein measurement | IPF |
| CD38 on naive-mature B cell | GCST90001816 | blood protein measurement | IPF |
| CD38 on naive-mature B cell | GCST90001816 | blood protein measurement | IPF |
| CD38 on naive-mature B cell | GCST90001816 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on IgD- CD38dim B cell | GCST90001815 | blood protein measurement | IPF |
| CD38 on IgD- CD38dim B cell | GCST90001815 | blood protein measurement | IPF |
| CD38 on IgD- CD38dim B cell | GCST90001815 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD14+ CD16- monocyte %monocyte | GCST90001586 | monocyte count | IPF |
| CD14+ CD16- monocyte %monocyte | GCST90001586 | monocyte count | IPF |
| CD14- CD16+ monocyte %monocyte | GCST90001584 | monocyte count | IPF |
| CD14- CD16+ monocyte %monocyte | GCST90001584 | monocyte count | IPF |
| CD14- CD16+ monocyte Absolute Count | GCST90001579 | monocyte count | IPF |
| CCR2 on CD14+ CD16+ monocyte | GCST90001992 | blood protein measurement | IPF |
| CCR2 on CD14+ CD16+ monocyte | GCST90001992 | blood protein measurement | IPF |
| CD16+ monocyte %monocyte | GCST90001587 | monocyte count | IPF |
| CD16+ monocyte %monocyte | GCST90001587 | monocyte count | IPF |
| CD64 on CD14- CD16+ monocyte | GCST90001990 | blood protein measurement | IPF |
| CD8dim Natural Killer T %lymphocyte | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymphocyte | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymphocyte | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymphocyte | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymphocyte | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymphocyte | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD25 on IgD- CD24- B cell | GCST90001785 | blood protein measurement | IPF |
| CD25 on IgD- CD24- B cell | GCST90001785 | blood protein measurement | IPF |
| CD4-CD8- Natural Killer T %lymphocyt | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lymphocyt | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lymphocyt | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lymphocyt | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lymphocyt | GCST90001638 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute Count | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute Count | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute Count | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute Count | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute Count | GCST90001633 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |

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| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absolute Cou | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absolute Cou | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absolute Cou | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absolute Cou | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absolute Cou | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T cell | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T cell | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T cell | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T cell | GCST90001637 | leukocyte count | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| CD86+ myeloid Dendritic Cell %Dendrit | GCST90001465 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell %Dendrit | GCST90001465 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell %Dendrit | GCST90001465 | leukocyte count | IPF |
| CD127 on CD45RA+ CD4+ T cell | GCST90001932 | blood protein measurement | IPF |
| CD127 on CD45RA+ CD4+ T cell | GCST90001932 | blood protein measurement | IPF |
| SSC-A on T cell | GCST90002080 | blood protein measurement | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %re | GCST90001484 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4+ | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4+ | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4+ | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4+ | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4+ | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4+ | GCST90001494 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regulatory T | GCST90001512 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regulatory T | GCST90001512 | lymphocyte count | IPF |
| CD4RA on Terminally Differentiated CD | GCST90002099 | blood protein measurement | IPF |
| CD4RA on Terminally Differentiated CD | GCST90002099 | blood protein measurement | IPF |
| Resting CD4 regulatory T cell %CD4 reg | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4 reg | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4 reg | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4 reg | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4 reg | GCST90001481 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |

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| CD39+ resting CD4 regulatory T cell %C | GCST90001485 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %T ce | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %T ce | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %T ce | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %T ce | GCST90001664 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001500 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001500 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001500 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001502 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell Absolute | GCST90001492 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell Absolute | GCST90001492 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell Absolute | GCST90001492 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %CD8 | GCST90001665 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %CD8 | GCST90001665 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell %CD8 | GCST90001665 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001499 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001499 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001499 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell Absolu | GCST90001669 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell Absolu | GCST90001669 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell Absolute | GCST90001693 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T cell Abs | GCST90001483 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4+ T | GCST90001482 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4+ T | GCST90001482 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4+ T | GCST90001482 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %CD4+ T | GCST90001482 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell %T cel | GCST90001667 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell %T cel | GCST90001667 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4 re | GCST90001493 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4 re | GCST90001493 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell %CD4 re | GCST90001493 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell %CD8 | GCST90001668 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001501 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001501 | lymphocyte count | IPF |
| Activated & secreting CD4 regulatory T ( | GCST90001501 | lymphocyte count | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD25 on CD24+ CD27+ B cell | GCST90001777 | blood protein measurement | IPF |

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| CD25 on CD24+ CD27+ B cell | GCST90001777 | blood protein measurement | IPF |
| CD25 on CD24+ CD27+ B cell | GCST90001777 | blood protein measurement | IPF |
| CD25 on memory B cell | GCST90001790 | blood protein measurement | IPF |
| CD25 on memory B cell | GCST90001790 | blood protein measurement | IPF |
| CD25 on memory B cell | GCST90001790 | blood protein measurement | IPF |
| CD25 on unswitched memory B cell | GCST90001792 | blood protein measurement | IPF |
| CD25 on unswitched memory B cell | GCST90001792 | blood protein measurement | IPF |
| CD25 on unswitched memory B cell | GCST90001792 | blood protein measurement | IPF |
| CD25 on IgD+ CD24+ B cell | GCST90001778 | blood protein measurement | IPF |
| CD25 on IgD+ CD24+ B cell | GCST90001778 | blood protein measurement | IPF |
| CD45 on CD8+ T cell | GCST90001917 | blood protein measurement | IPF |
| CD45 on CD8+ T cell | GCST90001917 | blood protein measurement | IPF |
| CD4 on CD28+ CD4+ T cell | GCST90002062 | blood protein measurement | IPF |
| CD4 on CD28+ CD4+ T cell | GCST90002062 | blood protein measurement | IPF |
| CD4 on CD39+ activated CD4 regulatory | GCST90002067 | blood protein measurement | IPF |
| CD4 on CD39+ activated CD4 regulatory | GCST90002067 | blood protein measurement | IPF |
| CD4 on CD39+ activated CD4 regulatory | GCST90002067 | blood protein measurement | IPF |
| CD4 on secreting CD4 regulatory T cell | GCST90002068 | blood protein measurement | IPF |
| CD4 on activated & secreting CD4 regula | GCST90002070 | blood protein measurement | IPF |
| CD4 on activated & secreting CD4 regula | GCST90002070 | blood protein measurement | IPF |
| CD4 on CD45RA+ CD4+ T cell | GCST90002027 | blood protein measurement | IPF |
| CD4 on CD4 regulatory T cell | GCST90002063 | blood protein measurement | IPF |
| CD4 on Central Memory CD4+ T cell | GCST90002023 | blood protein measurement | IPF |
| CD4 on Effector Memory CD4+ T cell | GCST90002025 | blood protein measurement | IPF |
| CD4 on resting CD4 regulatory T cell | GCST90002064 | blood protein measurement | IPF |
| CD4 on activated CD4 regulatory T cell | GCST90002066 | blood protein measurement | IPF |
| CD4 on activated CD4 regulatory T cell | GCST90002066 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| HLA DR+ CD4+ T cell %T cell | GCST90001625 | leukocyte count | IPF |
| CD127 on CD28+ CD45RA- CD8+ T cel | GCST90001928 | blood protein measurement | IPF |
| CD19 on CD24+ CD27+ B cell | GCST90001723 | blood protein measurement | IPF |
| CD19 on CD24+ CD27+ B cell | GCST90001723 | blood protein measurement | IPF |
| CD19 on memory B cell | GCST90001736 | blood protein measurement | IPF |
| CD19 on memory B cell | GCST90001736 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendritic Cell | GCST90002105 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendritic Cell | GCST90002105 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendritic Cell | GCST90002105 | blood protein measurement | IPF |
| CD45RA on naive CD8+ T cell | GCST90002100 | blood protein measurement | IPF |
| CD45RA on naive CD8+ T cell | GCST90002100 | blood protein measurement | IPF |
| Memory B cell %lymphocyte | GCST90001436 | lymphocyte count | IPF |
| Memory B cell %lymphocyte | GCST90001436 | lymphocyte count | IPF |
| Switched memory B cell %lymphocyte | GCST90001434 | lymphocyte count | IPF |
| Switched memory B cell %lymphocyte | GCST90001434 | lymphocyte count | IPF |
| Switched memory B cell %lymphocyte | GCST90001434 | lymphocyte count | IPF |
| IgD+ CD24+ B cell %lymphocyte | GCST90001439 | lymphocyte count | IPF |
| IgD+ CD24+ B cell %lymphocyte | GCST90001439 | lymphocyte count | IPF |
| IgD+ B cell %Lymphocyte | GCST90001424 | lymphocyte count | IPF |
| IgD+ B cell %Lymphocyte | GCST90001424 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %lymphocyte | GCST90001442 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %lymphocyte | GCST90001442 | lymphocyte count | IPF |
| Memory B cell %B cell | GCST90001406 | lymphocyte count | IPF |

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|---|---|---|---|
| IgD- CD38dim B cell %lymphocyte | GCST90001426 | lymphocyte count | IPF |
| IgD- CD38dim B cell %lymphocyte | GCST90001426 | lymphocyte count | IPF |
| FSC-A on plasmacytoid Dendritic Cell | GCST90001964 | blood protein measurement | IPF |
| FSC-A on plasmacytoid Dendritic Cell | GCST90001964 | blood protein measurement | IPF |
| FSC-A on plasmacytoid Dendritic Cell | GCST90001964 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B cell | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B cell | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B cell | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B cell | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B cell | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B cell | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| CD28- CD8dim T cell %T cell | GCST90001661 | lymphocyte count | IPF |
| CD28- CD8dim T cell %T cell | GCST90001661 | lymphocyte count | IPF |
| CD28- CD8dim T cell %T cell | GCST90001661 | lymphocyte count | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD20- CD38- B cell %B cell | GCST90001422 | lymphocyte count | IPF |
| CD19 on CD20- B cell | GCST90001721 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD28 on activated & secreting CD4 regu | GCST90001889 | blood protein measurement | IPF |
| CD28 on CD4 regulatory T cell | GCST90001899 | blood protein measurement | IPF |
| CD28 on CD39+ resting CD4 regulatory ' | GCST90001901 | blood protein measurement | IPF |
| CD28 on CD39+ resting CD4 regulatory ' | GCST90001901 | blood protein measurement | IPF |

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| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| CD3 on Natural Killer T | GCST90001848 | blood protein measurement | IPF |
| CD3 on Natural Killer T | GCST90001848 | blood protein measurement | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T cell | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T cell | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T cell | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T cell | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T cell | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T cell | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Count | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Count | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Count | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Count | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Count | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Count | GCST90001672 | lymphocyte count | IPF |
| FSC-A on HLA DR+ Natural Killer | GCST90001970 | blood protein measurement | IPF |
| FSC-A on HLA DR+ Natural Killer | GCST90001970 | blood protein measurement | IPF |
| Effector Memory CD8+ T cell %CD8+ T | GCST90001555 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell %CD8+ T | GCST90001555 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %CD8+ T cell | GCST90001561 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %CD8+ T cell | GCST90001561 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %CD8+ T cell | GCST90001561 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell Absolute | GCST90001690 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell Absolute | GCST90001690 | lymphocyte count | IPF |
| B cell %CD3- lymphocyte | GCST90001643 | leukocyte count | IPF |
| B cell %CD3- lymphocyte | GCST90001643 | leukocyte count | IPF |
| B cell %CD3- lymphocyte | GCST90001643 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| Monocytic Myeloid-Derived Suppressor ( | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Suppressor ( | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Suppressor ( | GCST90001530 | myeloid white cell count | IPF |
| HLA DR on CD14+ CD16- monocyte | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16- monocyte | GCST90001988 | blood protein measurement | IPF |
| CD62L on CD62L+ myeloid Dendritic C | GCST90001831 | blood protein measurement | IPF |
| CD62L on CD62L+ myeloid Dendritic C | GCST90001831 | blood protein measurement | IPF |
| CD45 on Natural Killer T | GCST90001919 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T cell | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T cell | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T cell | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T cell | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T cell | GCST90001869 | blood protein measurement | IPF |
| CD3 on CD4+ T cell | GCST90001867 | blood protein measurement | IPF |
| CD3 on CD4+ T cell | GCST90001867 | blood protein measurement | IPF |
| CD24 on transitional B cell | GCST90001774 | blood protein measurement | IPF |

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|---|---|---|---|
| FSC-A on CD4+ T cell | GCST90001973 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD25 on IgD- CD38- B cell | GCST90001787 | blood protein measurement | IPF |
| CD25 on IgD- CD38- B cell | GCST90001787 | blood protein measurement | IPF |
| CD25 on IgD- CD38- B cell | GCST90001787 | blood protein measurement | IPF |
| Monocyte Absolute Count | GCST90001583 | monocyte count | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD3 on HLA DR+ T cell | GCST90001847 | blood protein measurement | IPF |
| CD3 on HLA DR+ T cell | GCST90001847 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Killer | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Killer | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Killer | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Killer | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Killer | GCST90002117 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ T cell | GCST90002119 | blood protein measurement | IPF |
| CD4+ CD8dim T cell %lymphocyte | GCST90001610 | leukocyte count | IPF |
| CD4+ CD8dim T cell %lymphocyte | GCST90001610 | leukocyte count | IPF |
| CD80 on granulocyte | GCST90002040 | blood protein measurement | IPF |
| CD80 on granulocyte | GCST90002040 | blood protein measurement | IPF |
| CD80 on granulocyte | GCST90002040 | blood protein measurement | IPF |
| CD86 on granulocyte | GCST90001906 | blood protein measurement | IPF |
| CD86 on granulocyte | GCST90001906 | blood protein measurement | IPF |
| CD45RA- CD4+ T cell %T cell | GCST90001536 | lymphocyte count | IPF |
| Terminally Differentiated CD4-CD8- T c | GCST90001573 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T cell A | GCST90001545 | lymphocyte count | IPF |
| Naive CD4+ T cell %CD4+ T cell | GCST90001541 | lymphocyte count | IPF |
| CD25 on resting CD4 regulatory T cell | GCST90001937 | blood protein measurement | IPF |
| CD28 on CD39+ secreting CD4 regulator | GCST90001888 | blood protein measurement | IPF |
| CD28 on CD39+ secreting CD4 regulator | GCST90001888 | blood protein measurement | IPF |
| B cell Absolute Count | GCST90001642 | leukocyte count | IPF |
| IgD+ CD24+ B cell Absolute Count | GCST90001412 | lymphocyte count | IPF |
| IgD+ CD38- B cell %lymphocyte | GCST90001431 | lymphocyte count | IPF |
| Unswitched memory B cell %lymphocyte | GCST90001432 | lymphocyte count | IPF |
| Unswitched memory B cell %lymphocyte | GCST90001432 | lymphocyte count | IPF |
| T/B cell | GCST90001588 | leukocyte count | IPF |
| T/B cell | GCST90001588 | leukocyte count | IPF |
| CD24+ CD27+ B cell Absolute Count | GCST90001418 | lymphocyte count | IPF |
| Memory B cell Absolute Count | GCST90001407 | lymphocyte count | IPF |
| B cell %lymphocyte | GCST90001644 | leukocyte count | IPF |

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|---|---|---|---|
| B cell %lymphocyte | GCST90001644 | leukocyte count | IPF |
| Unswitched memory B cell Absolute Cou | GCST90001398 | lymphocyte count | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD28- CD8dim T cell Absolute Count | GCST90001663 | lymphocyte count | IPF |
| CD28- CD8dim T cell Absolute Count | GCST90001663 | lymphocyte count | IPF |
| CD8 on CD28+ CD45RA- CD8+ T cell | GCST90002118 | blood protein measurement | IPF |
| Terminally Differentiated CD8+ T cell % | GCST90001558 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T cell % | GCST90001558 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T cell % | GCST90001558 | lymphocyte count | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| CD127 on CD28+ CD4+ T cell | GCST90001924 | blood protein measurement | IPF |
| CD127 on CD28+ CD4+ T cell | GCST90001924 | blood protein measurement | IPF |
| CD127 on CD28+ CD4+ T cell | GCST90001924 | blood protein measurement | IPF |
| CD4+ T cell %leukocyte | GCST90001606 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell Absolute Count | GCST90001624 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell Absolute Count | GCST90001624 | leukocyte count | IPF |
| CD28 on CD45RA- CD4 not regulatory T | GCST90001891 | blood protein measurement | IPF |
| CD28 on CD45RA- CD4 not regulatory T | GCST90001891 | blood protein measurement | IPF |
| CD14+ CD16- monocyte Absolute Count | GCST90001582 | monocyte count | IPF |
| CD14+ CD16- monocyte Absolute Count | GCST90001582 | monocyte count | IPF |
| CD14+ CD16- monocyte Absolute Count | GCST90001582 | monocyte count | IPF |
| Activated CD4 regulatory T cell %CD4 r | GCST90001487 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell %CD4 r | GCST90001487 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell %CD4 r | GCST90001487 | lymphocyte count | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| CD28 on CD28+ CD4-CD8- T cell | GCST90001895 | blood protein measurement | IPF |
| CD28 on CD28+ CD4-CD8- T cell | GCST90001895 | blood protein measurement | IPF |
| CD28 on CD28+ CD4-CD8- T cell | GCST90001895 | blood protein measurement | IPF |
| CD28- CD4-CD8- T cell %T cell | GCST90001694 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell %T cell | GCST90001694 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell %T cell | GCST90001694 | lymphocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD8dim T cell %leukocyte | GCST90001612 | leukocyte count | IPF |
| CD8dim T cell %leukocyte | GCST90001612 | leukocyte count | IPF |
| CD4-CD8- T cell %T cell | GCST90001599 | leukocyte count | IPF |
| CD4-CD8- T cell %T cell | GCST90001599 | leukocyte count | IPF |

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|---|---|---|---|
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| CD8dim T cell Absolute Count | GCST90001596 | leukocyte count | IPF |
| CD8dim T cell Absolute Count | GCST90001596 | leukocyte count | IPF |
| CD8dim T cell Absolute Count | GCST90001596 | leukocyte count | IPF |
| CD8dim T cell %T cell | GCST90001597 | leukocyte count | IPF |
| CD8dim T cell %T cell | GCST90001597 | leukocyte count | IPF |
| IgD+ CD38+ B cell Absolute Count | GCST90001392 | lymphocyte count | IPF |
| IgD+ CD38+ B cell Absolute Count | GCST90001392 | lymphocyte count | IPF |
| BAFF-R on IgD+ CD38- unswitched mer | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitched mer | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitched mer | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitched mer | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitched mer | GCST90001707 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD80 on CD62L+ myeloid Dendritic Cel | GCST90002036 | blood protein measurement | IPF |
| CD80 on CD62L+ myeloid Dendritic Cel | GCST90002036 | blood protein measurement | IPF |
| CD80 on CD62L+ myeloid Dendritic Cel | GCST90002036 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| IgD+ CD38+ B cell %lymphocyte | GCST90001429 | lymphocyte count | IPF |
| CD25++ CD8+ T cell Absolute Count | GCST90001681 | lymphocyte count | IPF |
| CD25++ CD8+ T cell Absolute Count | GCST90001681 | lymphocyte count | IPF |
| CD25++ CD8+ T cell Absolute Count | GCST90001681 | lymphocyte count | IPF |
| FSC-A on CD14+ monocyte | GCST90001967 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic Cell | GCST90002072 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic Cell | GCST90002072 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic Cell | GCST90002072 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic Cell | GCST90002072 | blood protein measurement | IPF |
| CD62L- myeloid Dendritic Cell Absolute | GCST90001468 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Absolute | GCST90001468 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Absolute | GCST90001468 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Absolute | GCST90001468 | leukocyte count | IPF |
| CCR2 on CD62L+ plasmacytoid Dendriti | GCST90002016 | blood protein measurement | IPF |
| CCR2 on CD62L+ plasmacytoid Dendriti | GCST90002016 | blood protein measurement | IPF |
| CCR2 on plasmacytoid Dendritic Cell | GCST90002015 | blood protein measurement | IPF |
| CCR2 on plasmacytoid Dendritic Cell | GCST90002015 | blood protein measurement | IPF |
| CD14- CD16- Absolute Count | GCST90001581 | monocyte count | IPF |
| CD14- CD16- Absolute Count | GCST90001581 | monocyte count | IPF |
| CX3CR1 on CD14- CD16- | GCST90001994 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16+ monocyte | GCST90002007 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16+ monocyte | GCST90002007 | blood protein measurement | IPF |
| FSC-A on Natural Killer T | GCST90001976 | blood protein measurement | IPF |
| FSC-A on Natural Killer T | GCST90001976 | blood protein measurement | IPF |
| CD25 on B cell | GCST90001775 | blood protein measurement | IPF |

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| CD25 on B cell | GCST90001775 | blood protein measurement | IPF |
| CD25 on B cell | GCST90001775 | blood protein measurement | IPF |
| CD25 on IgD+ CD38dim B cell | GCST90001784 | blood protein measurement | IPF |
| CD25 on IgD+ CD38dim B cell | GCST90001784 | blood protein measurement | IPF |
| CD25 on IgD+ CD38dim B cell | GCST90001784 | blood protein measurement | IPF |
| CD25 on IgD+ B cell | GCST90001794 | blood protein measurement | IPF |
| CD25 on IgD+ B cell | GCST90001794 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyte | GCST90002005 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyte | GCST90002005 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyte | GCST90002005 | blood protein measurement | IPF |
| CD4 on CD39+ resting CD4 regulatory T | GCST90002065 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| SSC-A on CD4+ T cell | GCST90002081 | blood protein measurement | IPF |
| CD62L- myeloid Dendritic Cell %Dendri | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell %Dendri | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell %Dendri | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell %Dendri | GCST90001469 | leukocyte count | IPF |
| BAFF-R on IgD- CD38+ B cell | GCST90001713 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38+ B cell | GCST90001713 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38+ B cell | GCST90001713 | blood protein measurement | IPF |
| CD20 on IgD+ CD24+ B cell | GCST90001746 | blood protein measurement | IPF |
| CD20 on IgD+ CD24+ B cell | GCST90001746 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD4 regulatory T cell %CD4+ T cell | GCST90001478 | lymphocyte count | IPF |
| CD4 regulatory T cell %CD4+ T cell | GCST90001478 | lymphocyte count | IPF |
| CD4 regulatory T cell %T cell | GCST90001479 | lymphocyte count | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD8+ T cell | GCST90001908 | blood protein measurement | IPF |
| CCR7 on naive CD8+ T cell | GCST90001908 | blood protein measurement | IPF |
| CD127 on CD4+ T cell | GCST90001931 | blood protein measurement | IPF |
| CD33- HLA DR+ Absolute Count | GCST90001523 | myeloid white cell count | IPF |
| Granulocytic Myeloid-Derived Suppressc | GCST90001524 | myeloid white cell count | IPF |
| Granulocytic Myeloid-Derived Suppressc | GCST90001524 | myeloid white cell count | IPF |
| CD8 on Effector Memory CD8+ T cell | GCST90002056 | blood protein measurement | IPF |
| CD8 on Effector Memory CD8+ T cell | GCST90002056 | blood protein measurement | IPF |
| CD8 on Effector Memory CD8+ T cell | GCST90002056 | blood protein measurement | IPF |
| CD3 on CD39+ resting CD4 regulatory T | GCST90001852 | blood protein measurement | IPF |
| CD3 on HLA DR+ CD4+ T cell | GCST90001849 | blood protein measurement | IPF |
| CD3 on Central Memory CD8+ T cell | GCST90001846 | blood protein measurement | IPF |
| CD3 on Central Memory CD8+ T cell | GCST90001846 | blood protein measurement | IPF |
| CD3 on Central Memory CD8+ T cell | GCST90001846 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA- CD8+ T cell | GCST90001863 | blood protein measurement | IPF |

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| CD3 on CD28+ CD45RA- CD8+ T cell | GCST90001863 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA- CD8+ T cell | GCST90001863 | blood protein measurement | IPF |
| CD3 on CD39+ CD8+ T cell | GCST90001866 | blood protein measurement | IPF |
| CD3 on Terminally Differentiated CD4+ | GCST90001844 | blood protein measurement | IPF |
| CD3 on CD8+ T cell | GCST90001859 | blood protein measurement | IPF |
| CD3 on CD8+ T cell | GCST90001859 | blood protein measurement | IPF |
| CD45 on CD33- HLA DR+ | GCST90002046 | blood protein measurement | IPF |
| Resting CD4 regulatory T cell Absolute C | GCST90001480 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell Absolute C | GCST90001480 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell Absolute C | GCST90001480 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell %T cell | GCST90001556 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell %T cell | GCST90001556 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell Absolute C | GCST90001554 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell Absolute C | GCST90001554 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regulatory T | GCST90001511 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regulatory T | GCST90001511 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %T cell | GCST90001691 | lymphocyte count | IPF |
| Effector Memory CD4+ T cell %CD4+ T | GCST90001543 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %T cell | GCST90001562 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %T cell | GCST90001562 | lymphocyte count | IPF |
| CD45RA- CD4+ T cell Absolute Count | GCST90001534 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T cell % | GCST90001546 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T cell % | GCST90001547 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T cell % | GCST90001547 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regulatory T | GCST90001510 | lymphocyte count | IPF |
| CD3 on Effector Memory CD8+ T cell | GCST90001839 | blood protein measurement | IPF |
| CD3 on Effector Memory CD8+ T cell | GCST90001839 | blood protein measurement | IPF |
| CD3 on Effector Memory CD8+ T cell | GCST90001839 | blood protein measurement | IPF |
| CD3 on HLA DR+ CD8+ T cell | GCST90001850 | blood protein measurement | IPF |
| CD3- lymphocyte Absolute Count | GCST90001639 | leukocyte count | IPF |
| CD24 on IgD+ CD38+ B cell | GCST90001768 | blood protein measurement | IPF |
| CD24 on IgD+ CD38+ B cell | GCST90001768 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| FSC-A on monocyte | GCST90001965 | blood protein measurement | IPF |
| FSC-A on monocyte | GCST90001965 | blood protein measurement | IPF |
| PDL-1 on CD14- CD16- | GCST90002000 | blood protein measurement | IPF |
| CCR2 on CD14- CD16- | GCST90002003 | blood protein measurement | IPF |
| CCR2 on CD14- CD16- | GCST90002003 | blood protein measurement | IPF |
| CCR2 on CD14- CD16- | GCST90002003 | blood protein measurement | IPF |
| CD33dim HLA DR+ CD11b+ Absolute C | GCST90001525 | myeloid white cell count | IPF |
| CCR2 on monocyte | GCST90002017 | blood protein measurement | IPF |
| CCR2 on monocyte | GCST90002017 | blood protein measurement | IPF |
| CD14 on CD33dim HLA DR+ CD11b+ | GCST90002021 | blood protein measurement | IPF |
| CD27 on T cell | GCST90001799 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16+ monocyte | GCST90001996 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16+ monocyte | GCST90001996 | blood protein measurement | IPF |
| CX3CR1 on monocyte | GCST90001995 | blood protein measurement | IPF |
| CX3CR1 on monocyte | GCST90001995 | blood protein measurement | IPF |
| CD11c on monocyte | GCST90002089 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b- | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b- | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b- | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b- | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b- | GCST90001949 | blood protein measurement | IPF |
| CD40 on CD14+ CD16+ monocyte | GCST90001981 | blood protein measurement | IPF |
| CD40 on CD14+ CD16+ monocyte | GCST90001981 | blood protein measurement | IPF |
| CD40 on CD14+ CD16+ monocyte | GCST90001981 | blood protein measurement | IPF |

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| CD40 on CD14+ CD16+ monocyte | GCST90001981 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b+ | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b+ | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b+ | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b+ | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b+ | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD11b+ | GCST90001948 | blood protein measurement | IPF |
| CX3CR1 on CD14- CD16+ monocyte | GCST90002012 | blood protein measurement | IPF |
| CD11b on CD33+ HLA DR+ CD14dim | GCST90002097 | blood protein measurement | IPF |
| CD11b on Monocytic Myeloid-Derived S | GCST90002094 | blood protein measurement | IPF |
| PDL-1 on CD14+ CD16+ monocyte | GCST90001998 | blood protein measurement | IPF |
| CD33dim HLA DR+ CD11b- %CD33dim | GCST90001528 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b- %CD33dim | GCST90001528 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b- %CD33dim | GCST90001528 | myeloid white cell count | IPF |
| CD11c on granulocyte | GCST90002090 | blood protein measurement | IPF |
| CD11c on granulocyte | GCST90002090 | blood protein measurement | IPF |
| CD11b on CD14+ monocyte | GCST90002091 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16- monocyte | GCST90001997 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16- monocyte | GCST90001997 | blood protein measurement | IPF |
| CD33dim HLA DR+ CD11b+ %CD33dim | GCST90001526 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b+ %CD33dim | GCST90001526 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b+ %CD33dim | GCST90001526 | myeloid white cell count | IPF |
| CD25 on CD45RA- CD4 not regulatory T | GCST90001933 | blood protein measurement | IPF |
| Natural Killer Absolute Count | GCST90001645 | leukocyte count | IPF |
| Natural Killer Absolute Count | GCST90001645 | leukocyte count | IPF |
| Natural Killer Absolute Count | GCST90001645 | leukocyte count | IPF |
| CD45 on Natural Killer | GCST90001911 | blood protein measurement | IPF |
| CD45 on Natural Killer | GCST90001911 | blood protein measurement | IPF |
| CD33dim HLA DR+ CD11b- Absolute C | GCST90001527 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b- Absolute C | GCST90001527 | myeloid white cell count | IPF |
| CD25 on IgD- CD27- B cell | GCST90001786 | blood protein measurement | IPF |
| CD25 on IgD- CD27- B cell | GCST90001786 | blood protein measurement | IPF |
| CD27 on IgD- CD38+ B cell | GCST90001803 | blood protein measurement | IPF |
| CD27 on IgD- CD38+ B cell | GCST90001803 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| HVEM on Central Memory CD8+ T cell | GCST90001882 | blood protein measurement | IPF |
| HVEM on CD45RA- CD4+ T cell | GCST90001880 | blood protein measurement | IPF |
| HVEM on CD4+ T cell | GCST90001875 | blood protein measurement | IPF |
| HVEM on Effector Memory CD8+ T cell | GCST90001873 | blood protein measurement | IPF |
| HVEM on T cell | GCST90001871 | blood protein measurement | IPF |
| HVEM on Central Memory CD4+ T cell | GCST90001876 | blood protein measurement | IPF |
| CD62L- Dendritic Cell Absolute Count | GCST90001462 | leukocyte count | IPF |
| CD62L- Dendritic Cell Absolute Count | GCST90001462 | leukocyte count | IPF |
| CD62L- Dendritic Cell Absolute Count | GCST90001462 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Absolute | GCST90001464 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Absolute | GCST90001464 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Absolute | GCST90001464 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic Cell A | GCST90001472 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic Cell A | GCST90001472 | leukocyte count | IPF |

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| CD62L- CD86+ myeloid Dendritic Cell A | GCST90001472 | leukocyte count | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD28 on CD28+ CD4+ T cell | GCST90001894 | blood protein measurement | IPF |
| CD28 on CD28+ CD4+ T cell | GCST90001894 | blood protein measurement | IPF |
| CD28 on CD4+ T cell | GCST90001898 | blood protein measurement | IPF |
| CD28 on CD4+ T cell | GCST90001898 | blood protein measurement | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| IgD on IgD+ CD38+ B cell | GCST90001824 | blood protein measurement | IPF |
| IgD on IgD+ CD38+ B cell | GCST90001824 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD45 on granulocyte | GCST90001913 | blood protein measurement | IPF |
| CD45 on HLA DR+ CD4+ T cell | GCST90001920 | blood protein measurement | IPF |
| CD45 on HLA DR+ CD4+ T cell | GCST90001920 | blood protein measurement | IPF |
| Plasmacytoid Dendritic Cell Absolute Co | GCST90001460 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell Absolute Count | GCST90001627 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell Absolute Count | GCST90001627 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell Absolute Count | GCST90001627 | leukocyte count | IPF |
| HLA DR+ T cell Absolute Count | GCST90001618 | leukocyte count | IPF |
| HLA DR+ T cell Absolute Count | GCST90001618 | leukocyte count | IPF |
| HLA DR+ T cell Absolute Count | GCST90001618 | leukocyte count | IPF |
| HVEM on Effector Memory CD4+ T cell | GCST90001878 | blood protein measurement | IPF |
| HVEM on CD8+ T cell | GCST90001881 | blood protein measurement | IPF |
| HVEM on Terminally Differentiated CD4 | GCST90001879 | blood protein measurement | IPF |
| HVEM on naive CD8+ T cell | GCST90001872 | blood protein measurement | IPF |
| HVEM on naive CD8+ T cell | GCST90001872 | blood protein measurement | IPF |
| HVEM on naive CD4+ T cell | GCST90001877 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- unswitched memo | GCST90001767 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- unswitched memo | GCST90001767 | blood protein measurement | IPF |
| CD24 on CD24+ CD27+ B cell | GCST90001764 | blood protein measurement | IPF |
| CD24 on CD24+ CD27+ B cell | GCST90001764 | blood protein measurement | IPF |
| CD24 on CD24+ CD27+ B cell | GCST90001764 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- B cell | GCST90001766 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- B cell | GCST90001766 | blood protein measurement | IPF |
| CD24 on IgD- CD38dim B cell | GCST90001770 | blood protein measurement | IPF |
| CD24 on IgD- CD38dim B cell | GCST90001770 | blood protein measurement | IPF |
| CD24 on memory B cell | GCST90001771 | blood protein measurement | IPF |
| CD24 on memory B cell | GCST90001771 | blood protein measurement | IPF |
| CD24 on unswitched memory B cell | GCST90001772 | blood protein measurement | IPF |
| CD24 on unswitched memory B cell | GCST90001772 | blood protein measurement | IPF |
| CD24 on switched memory B cell | GCST90001773 | blood protein measurement | IPF |
| CD24 on switched memory B cell | GCST90001773 | blood protein measurement | IPF |
| CD24 on IgD+ CD24+ B cell | GCST90001765 | blood protein measurement | IPF |
| CD24 on IgD+ CD24+ B cell | GCST90001765 | blood protein measurement | IPF |
| CD24 on IgD- CD38- B cell | GCST90001769 | blood protein measurement | IPF |
| CD24 on IgD- CD38- B cell | GCST90001769 | blood protein measurement | IPF |
| SSC-A on granulocyte | GCST90002078 | blood protein measurement | IPF |

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| SSC-A on granulocyte | GCST90002078 | blood protein measurement | IPF |
| IgD- CD27- B cell %B cell | GCST90001399 | lymphocyte count | IPF |
| IgD- CD27- B cell %B cell | GCST90001399 | lymphocyte count | IPF |
| IgD- CD27- B cell %B cell | GCST90001399 | lymphocyte count | IPF |
| IgD- CD27- B cell Absolute Count | GCST90001401 | lymphocyte count | IPF |
| IgD- CD27- B cell Absolute Count | GCST90001401 | lymphocyte count | IPF |
| CD25 on IgD+ CD38- naive B cell | GCST90001781 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- naive B cell | GCST90001781 | blood protein measurement | IPF |
| CD39 on monocyte | GCST90002034 | blood protein measurement | IPF |
| CD39 on monocyte | GCST90002034 | blood protein measurement | IPF |
| Immature Myeloid-Derived Suppressor C | GCST90001515 | myeloid white cell count | IPF |
| Immature Myeloid-Derived Suppressor C | GCST90001515 | myeloid white cell count | IPF |
| PDL-1 on CD14- CD16+ monocyte | GCST90001999 | blood protein measurement | IPF |
| PDL-1 on CD14- CD16+ monocyte | GCST90001999 | blood protein measurement | IPF |
| CD45 on B cell | GCST90001910 | blood protein measurement | IPF |
| CD45 on B cell | GCST90001910 | blood protein measurement | IPF |
| Naive CD4-CD8- T cell %T cell | GCST90001568 | lymphocyte count | IPF |
| CD8 on HLA DR+ CD8+ T cell | GCST90002060 | blood protein measurement | IPF |
| CD8 on HLA DR+ CD8+ T cell | GCST90002060 | blood protein measurement | IPF |
| CD8 on Terminally Differentiated CD8+ | GCST90002057 | blood protein measurement | IPF |
| CD8 on Terminally Differentiated CD8+ | GCST90002057 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched memo | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched memo | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched memo | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched memo | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched memo | GCST90001801 | blood protein measurement | IPF |
| CD14 on CD14+ CD16+ monocyte | GCST90001983 | blood protein measurement | IPF |
| CD14 on CD14+ CD16+ monocyte | GCST90001983 | blood protein measurement | IPF |
| IgD- CD38+ B cell %B cell | GCST90001410 | lymphocyte count | IPF |
| FSC-A on myeloid Dendritic Cell | GCST90001963 | blood protein measurement | IPF |
| FSC-A on myeloid Dendritic Cell | GCST90001963 | blood protein measurement | IPF |
| FSC-A on myeloid Dendritic Cell | GCST90001963 | blood protein measurement | IPF |
| CD8 on Central Memory CD8+ T cell | GCST90002054 | blood protein measurement | IPF |
| CD8 on Central Memory CD8+ T cell | GCST90002054 | blood protein measurement | IPF |
| CD4+CD8+ T cell %leukocyte | GCST90001608 | leukocyte count | IPF |
| CD4+CD8+ T cell %T cell | GCST90001595 | leukocyte count | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ B cell | GCST90001827 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Cell | GCST90002104 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Cell | GCST90002104 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T cell | GCST90001841 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T cell | GCST90001841 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T cell | GCST90001841 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T cell | GCST90001841 | blood protein measurement | IPF |
| CD3 on CD39+ secreting CD4 regulatory | GCST90001856 | blood protein measurement | IPF |
| CD3 on CD39+ secreting CD4 regulatory | GCST90001856 | blood protein measurement | IPF |
| CD3 on CD39+ secreting CD4 regulatory | GCST90001856 | blood protein measurement | IPF |
| CD3 on CD39+ CD4+ T cell | GCST90001860 | blood protein measurement | IPF |
| CD3 on CD39+ CD4+ T cell | GCST90001860 | blood protein measurement | IPF |
| CD3 on CD45RA- CD4+ T cell | GCST90001845 | blood protein measurement | IPF |
| CD3 on CD45RA- CD4+ T cell | GCST90001845 | blood protein measurement | IPF |
| CD3 on CD45RA- CD4+ T cell | GCST90001845 | blood protein measurement | IPF |
| CD3 on Terminally Differentiated CD8+ | GCST90001840 | blood protein measurement | IPF |

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| CD3 on CD28+ CD4+ T cell | GCST90001861 | blood protein measurement | IPF |
| CD3 on CD28+ CD4+ T cell | GCST90001861 | blood protein measurement | IPF |
| CD3 on CD28- CD8+ T cell | GCST90001865 | blood protein measurement | IPF |
| CD3 on Effector Memory CD4+ T cell | GCST90001843 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ T cell | GCST90001864 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ T cell | GCST90001864 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ T cell | GCST90001864 | blood protein measurement | IPF |
| HLA DR+ CD8+ T cell %T cell | GCST90001628 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %T cell | GCST90001628 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %T cell | GCST90001628 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %lymphocyte | GCST90001629 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %lymphocyte | GCST90001629 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell %lymphocyte | GCST90001626 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell %lymphocyte | GCST90001626 | leukocyte count | IPF |
| CD28 on CD39+ CD8+ T cell | GCST90001897 | blood protein measurement | IPF |
| CD28 on CD39+ CD8+ T cell | GCST90001897 | blood protein measurement | IPF |
| CD28 on CD39+ activated CD4 regulator | GCST90001886 | blood protein measurement | IPF |
| Naive CD4+ T cell Absolute Count | GCST90001540 | lymphocyte count | IPF |
| CD127- CD8+ T cell Absolute Count | GCST90001684 | lymphocyte count | IPF |
| CD8+ T cell Absolute Count | GCST90001592 | leukocyte count | IPF |
| CD8+ T cell %leukocyte | GCST90001607 | leukocyte count | IPF |
| CD28- CD8+ T cell Absolute Count | GCST90001687 | lymphocyte count | IPF |
| CD28- CD8+ T cell Absolute Count | GCST90001687 | lymphocyte count | IPF |
| Central Memory CD4+ T cell Absolute C | GCST90001537 | lymphocyte count | IPF |
| CD4+ T cell Absolute Count | GCST90001590 | leukocyte count | IPF |
| T cell Absolute Count | GCST90001603 | leukocyte count | IPF |
| CD62L on CD62L+ plasmacytoid Dendri | GCST90001832 | blood protein measurement | IPF |
| CD28 on secreting CD4 regulatory T cell | GCST90001887 | blood protein measurement | IPF |
| CD28 on secreting CD4 regulatory T cell | GCST90001887 | blood protein measurement | IPF |
| CD28 on secreting CD4 regulatory T cell | GCST90001887 | blood protein measurement | IPF |
| CD28+ CD4-CD8- T cell %T cell | GCST90001655 | lymphocyte count | IPF |
| CD4+ CD8dim T cell %leukocyte | GCST90001611 | leukocyte count | IPF |
| CD4+ CD8dim T cell Absolute Count | GCST90001609 | leukocyte count | IPF |
| CD20 on IgD- CD24- B cell | GCST90001753 | blood protein measurement | IPF |
| IgD- CD27- B cell %lymphocyte | GCST90001433 | lymphocyte count | IPF |
| IgD- CD27- B cell %lymphocyte | GCST90001433 | lymphocyte count | IPF |
| CCR2 on CD62L+ myeloid Dendritic Cel | GCST90002014 | blood protein measurement | IPF |
| CCR2 on CD62L+ myeloid Dendritic Cel | GCST90002014 | blood protein measurement | IPF |
| CCR2 on myeloid Dendritic Cell | GCST90002013 | blood protein measurement | IPF |
| CCR2 on myeloid Dendritic Cell | GCST90002013 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- B cell | GCST90001780 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- B cell | GCST90001780 | blood protein measurement | IPF |
| CD25 on IgD+ CD38+ B cell | GCST90001783 | blood protein measurement | IPF |
| CD25 on IgD+ CD38+ B cell | GCST90001783 | blood protein measurement | IPF |
| CD25 on IgD- CD38dim B cell | GCST90001789 | blood protein measurement | IPF |
| CD25 on IgD- CD38dim B cell | GCST90001789 | blood protein measurement | IPF |
| CD25 on IgD- CD38dim B cell | GCST90001789 | blood protein measurement | IPF |
| CD14+ CD16+ monocyte Absolute Coun | GCST90001580 | monocyte count | IPF |
| CD14+ CD16+ monocyte Absolute Coun | GCST90001580 | monocyte count | IPF |
| CD14+ CD16+ monocyte %monocyte | GCST90001585 | monocyte count | IPF |
| CD14+ CD16+ monocyte %monocyte | GCST90001585 | monocyte count | IPF |

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| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14- | GCST90001957 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14- | GCST90001957 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14- | GCST90001957 | blood protein measurement | IPF |
| CD33 on Monocytic Myeloid-Derived Su | GCST90001952 | blood protein measurement | IPF |
| CD33 on Monocytic Myeloid-Derived Su | GCST90001952 | blood protein measurement | IPF |
| CD33 on Monocytic Myeloid-Derived Su | GCST90001952 | blood protein measurement | IPF |
| Basophil %CD33dim HLA DR- CD66b- | GCST90001533 | myeloid white cell count | IPF |
| Basophil %CD33dim HLA DR- CD66b- | GCST90001533 | myeloid white cell count | IPF |
| Basophil %CD33dim HLA DR- CD66b- | GCST90001533 | myeloid white cell count | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14dim Absolute C | GCST90001520 | myeloid white cell count | IPF |
| CD33+ HLA DR+ CD14dim Absolute C | GCST90001520 | myeloid white cell count | IPF |
| CD33 on CD33+ HLA DR+ CD14dim | GCST90001947 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14dim | GCST90001947 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14dim | GCST90001947 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14- Absolute Coun | GCST90001518 | myeloid white cell count | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33+ HLA DR+ Absolute Count | GCST90001517 | myeloid white cell count | IPF |
| CD62L on CD62L+ Dendritic Cell | GCST90001833 | blood protein measurement | IPF |
| CD62L on CD62L+ Dendritic Cell | GCST90001833 | blood protein measurement | IPF |
| CD19 on switched memory B cell | GCST90001740 | blood protein measurement | IPF |
| CD19 on switched memory B cell | GCST90001740 | blood protein measurement | IPF |
| HLA DR on CD14- CD16- | GCST90002009 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monocyte | GCST90001984 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monocyte | GCST90001984 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monocyte | GCST90001984 | blood protein measurement | IPF |
| CD25 on switched memory B cell | GCST90001793 | blood protein measurement | IPF |
| CD25 on switched memory B cell | GCST90001793 | blood protein measurement | IPF |
| FSC-A on granulocyte | GCST90001966 | blood protein measurement | IPF |
| CCR2 on granulocyte | GCST90002018 | blood protein measurement | IPF |
| CD4 on HLA DR+ CD4+ T cell | GCST90001959 | blood protein measurement | IPF |
| CD4 on HLA DR+ CD4+ T cell | GCST90001959 | blood protein measurement | IPF |
| CD39 on granulocyte | GCST90002033 | blood protein measurement | IPF |
| CD11c on CD62L+ myeloid Dendritic C | GCST90002088 | blood protein measurement | IPF |
| CD127 on CD28+ CD45RA+ CD8+ T ce | GCST90001929 | blood protein measurement | IPF |
| CD62L- monocyte %monocyte | GCST90001451 | leukocyte count | IPF |
| CD62L- monocyte %monocyte | GCST90001451 | leukocyte count | IPF |
| CD62L- monocyte %monocyte | GCST90001451 | leukocyte count | IPF |
| CD24+ CD27+ B cell %B cell | GCST90001417 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %B cell | GCST90001417 | lymphocyte count | IPF |
| CD27 on Plasma Blast-Plasma Cell | GCST90001807 | blood protein measurement | IPF |
| CD3 on T cell | GCST90001851 | blood protein measurement | IPF |
| CCR2 on CD14+ CD16- monocyte | GCST90002004 | blood protein measurement | IPF |
| CCR2 on CD14+ CD16- monocyte | GCST90002004 | blood protein measurement | IPF |

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| CCR2 on monocyte | GCST90002008 | blood protein measurement | IPF |
| CCR2 on monocyte | GCST90002008 | blood protein measurement | IPF |
| Plasma Blast-Plasma Cell %lymphocyte | GCST90001435 | lymphocyte count | IPF |
| CD3- lymphocyte %leukocyte | GCST90001641 | leukocyte count | IPF |
| CD28+ CD4-CD8- T cell %CD4-CD8- T | GCST90001656 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell %CD4-CD8- T | GCST90001653 | lymphocyte count | IPF |
| CD28- CD8+ T cell %CD8+ T cell | GCST90001686 | lymphocyte count | IPF |
| CD28- CD8+ T cell %CD8+ T cell | GCST90001686 | lymphocyte count | IPF |
| CD28- CD8+ T cell %CD8+ T cell | GCST90001686 | lymphocyte count | IPF |
| CD28- CD8dim T cell %CD8dim T cell | GCST90001662 | lymphocyte count | IPF |
| Naive CD8+ T cell Absolute Count | GCST90001551 | lymphocyte count | IPF |
| CD62L on monocyte | GCST90001834 | blood protein measurement | IPF |
| CD38 on CD3- CD19- | GCST90001810 | blood protein measurement | IPF |
| CD11c+ CD62L- monocyte Absolute Co | GCST90001452 | leukocyte count | IPF |
| Dendritic Cell Absolute Count | GCST90001461 | leukocyte count | IPF |
| Dendritic Cell Absolute Count | GCST90001461 | leukocyte count | IPF |
| CD28 on CD28+ CD45RA- CD8+ T cell | GCST90001893 | blood protein measurement | IPF |
| CD8 on CD28- CD8+ T cell | GCST90002120 | blood protein measurement | IPF |
| CD8 on CD28- CD8+ T cell | GCST90002120 | blood protein measurement | IPF |
| SSC-A on HLA DR+ Natural Killer | GCST90002077 | blood protein measurement | IPF |
| SSC-A on HLA DR+ Natural Killer | GCST90002077 | blood protein measurement | IPF |
| HLA DR+ Natural Killer %CD3- lymph | GCST90001650 | leukocyte count | IPF |
| HLA DR+ Natural Killer %CD3- lymph | GCST90001650 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natural Kille | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natural Kille | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natural Kille | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natural Kille | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natural Kille | GCST90001649 | leukocyte count | IPF |
| Myeloid Dendritic Cell Absolute Count | GCST90001458 | leukocyte count | IPF |
| Myeloid Dendritic Cell Absolute Count | GCST90001458 | leukocyte count | IPF |
| CD14 on CD14+ CD16- monocyte | GCST90001986 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| Lymphocyte Absolute Count | GCST90001601 | leukocyte count | IPF |
| CD45RA on Terminally Differentiated C | GCST90002101 | blood protein measurement | IPF |
| HLA DR on CD33+ HLA DR+ CD14dim | GCST90002109 | blood protein measurement | IPF |
| CD25++ CD4+ T cell %CD4+ T cell | GCST90001505 | lymphocyte count | IPF |
| CD25++ CD8+ T cell %T cell | GCST90001679 | lymphocyte count | IPF |
| CD25++ CD8+ T cell %T cell | GCST90001679 | lymphocyte count | IPF |
| CD25++ CD4+ T cell %T cell | GCST90001506 | lymphocyte count | IPF |
| CD25 on CD4+ T cell | GCST90001960 | blood protein measurement | IPF |
| CD25++ CD4+ T cell Absolute Count | GCST90001504 | lymphocyte count | IPF |
| CD25 on CD28+ CD4+ T cell | GCST90001962 | blood protein measurement | IPF |
| CD28 on activated CD4 regulatory T cell | GCST90001902 | blood protein measurement | IPF |
| CD28 on resting CD4 regulatory T cell | GCST90001900 | blood protein measurement | IPF |
| CD28 on resting CD4 regulatory T cell | GCST90001900 | blood protein measurement | IPF |
| CD28 on CD45RA+ CD4+ T cell | GCST90001890 | blood protein measurement | IPF |
| CD28 on CD45RA+ CD4+ T cell | GCST90001890 | blood protein measurement | IPF |
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| CD123 on plasmacytoid Dendritic Cell | GCST90001944 | blood protein measurement | IPF |
| CD123 on plasmacytoid Dendritic Cell | GCST90001944 | blood protein measurement | IPF |
| CD80 on plasmacytoid Dendritic Cell | GCST90002037 | blood protein measurement | IPF |
| CD80 on plasmacytoid Dendritic Cell | GCST90002037 | blood protein measurement | IPF |
| CD123 on CD62L+ plasmacytoid Dendri | GCST90001945 | blood protein measurement | IPF |
| CD123 on CD62L+ plasmacytoid Dendri | GCST90001945 | blood protein measurement | IPF |

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| CD80 on CD62L+ plasmacytoid Dendriti | GCST90002038 | blood protein measurement | IPF |
| CD80 on CD62L+ plasmacytoid Dendriti | GCST90002038 | blood protein measurement | IPF |
| CD25 on transitional B cell | GCST90001795 | blood protein measurement | IPF |
| CD14 on Monocytic Myeloid-Derived Su | GCST90002019 | blood protein measurement | IPF |
| CD62L- plasmacytoid Dendritic Cell %D | GCST90001471 | leukocyte count | IPF |
| CD62L- plasmacytoid Dendritic Cell Abs | GCST90001470 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic Cell | GCST90001463 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic Cell | GCST90001463 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic Cell | GCST90001463 | leukocyte count | IPF |
| CD25 on CD39+ activated CD4 regulator | GCST90001940 | blood protein measurement | IPF |
| CD25 on CD39+ CD4 regulatory T cell | GCST90001935 | blood protein measurement | IPF |
| CD25 on CD39+ resting CD4 regulatory ' | GCST90001938 | blood protein measurement | IPF |
| Terminally Differentiated CD8+ T cell % | GCST90001559 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T cell A | GCST90001557 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell Absolute Count | GCST90001654 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell Absolute Count | GCST90001654 | lymphocyte count | IPF |
| Central Memory CD4+ T cell %CD4+ T | GCST90001538 | lymphocyte count | IPF |
| Activated & resting CD4 regulatory T cel | GCST90001498 | lymphocyte count | IPF |
| CD4-CD8- T cell Absolute Count | GCST90001598 | leukocyte count | IPF |
| CD4-CD8- T cell Absolute Count | GCST90001598 | leukocyte count | IPF |
| CD11c+ HLA DR++ monocyte %monocy | GCST90001457 | leukocyte count | IPF |
| CD86 on myeloid Dendritic Cell | GCST90001903 | blood protein measurement | IPF |
| Myeloid Dendritic Cell %Dendritic Cell | GCST90001459 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic Cell % | GCST90001473 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic Cell % | GCST90001473 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic Cell % | GCST90001473 | leukocyte count | IPF |
| Plasmacytoid Dendritic Cell %Dendritic ( | GCST90001474 | leukocyte count | IPF |
| Plasmacytoid Dendritic Cell %Dendritic ( | GCST90001474 | leukocyte count | IPF |
| HLA DR+ Natural Killer Absolute Count | GCST90001648 | leukocyte count | IPF |
| HLA DR+ Natural Killer Absolute Count | GCST90001648 | leukocyte count | IPF |
| CD19 on IgD- CD38- B cell | GCST90001733 | blood protein measurement | IPF |
| CD33 on Granulocytic Myeloid-Derived | GCST90001950 | blood protein measurement | IPF |
| CD33 on Granulocytic Myeloid-Derived | GCST90001950 | blood protein measurement | IPF |
| CD33 on Granulocytic Myeloid-Derived | GCST90001950 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14- %CD33+ HLA | GCST90001519 | myeloid white cell count | IPF |
| CD45 on CD33+ HLA DR+ CD14- | GCST90002042 | blood protein measurement | IPF |
| CD25++ CD8+ T cell %CD8+ T cell | GCST90001680 | lymphocyte count | IPF |
| CD4 on monocyte | GCST90001958 | blood protein measurement | IPF |
| BAFF-R on CD20- CD38- B cell | GCST90001701 | blood protein measurement | IPF |
| CD4+/CD8+ T cell | GCST90001589 | leukocyte count | IPF |
| CD8+ T cell %T cell | GCST90001593 | leukocyte count | IPF |
| CD45RA on CD39+ resting CD4 regulato | GCST90002103 | blood protein measurement | IPF |
| Hematopoietic Stem Cell Absolute Count | GCST90001514 | myeloid white cell count | IPF |
| CD19 on naive-mature B cell | GCST90001737 | blood protein measurement | IPF |
| CD19 on naive-mature B cell | GCST90001737 | blood protein measurement | IPF |
| CD45RA+ CD28- CD8+ T cell %CD8+ T | GCST90001699 | lymphocyte count | IPF |
| IgD+ CD24- B cell %B cell | GCST90001415 | lymphocyte count | IPF |
| CD11b on CD33dim HLA DR- | GCST90002095 | blood protein measurement | IPF |
| CD11b on basophil | GCST90002096 | blood protein measurement | IPF |
| CD38 on IgD+ CD38+ B cell | GCST90001812 | blood protein measurement | IPF |
| CD38 on IgD+ CD38+ B cell | GCST90001812 | blood protein measurement | IPF |
| CD38 on IgD+ B cell | GCST90001818 | blood protein measurement | IPF |
| CD8+ Natural Killer T %T cell | GCST90001631 | leukocyte count | IPF |
| Lymphocyte %leukocyte | GCST90001602 | leukocyte count | IPF |
| Granulocyte %leukocyte | GCST90001652 | leukocyte count | IPF |
| FSC-A on CD8+ T cell | GCST90001974 | blood protein measurement | IPF |
| PDL-1 on CD14+ CD16- monocyte | GCST90001993 | blood protein measurement | IPF |
| CD127 on CD8+ T cell | GCST90001927 | blood protein measurement | IPF |

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|---|---|---|---|
| CD8+ Natural Killer T Absolute Count | GCST90001630 | leukocyte count | IPF |
| CD8+ Natural Killer T %lymphocyte | GCST90001632 | leukocyte count | IPF |
| CD16-CD56 on HLA DR+ Natural Killer | GCST90001885 | blood protein measurement | IPF |
| CD20 on transitional B cell | GCST90001763 | blood protein measurement | IPF |
| HLA DR on CD33- HLA DR+ | GCST90002112 | blood protein measurement | IPF |
| SSC-A on lymphocyte | GCST90002079 | blood protein measurement | IPF |
| CD33- HLA DR- Absolute Count | GCST90001522 | myeloid white cell count | IPF |

| SNP | Chr | Position | EA.exposure | NEA.exposure | EA.outcome | NEA.outcome |
|---|---|---|---|---|---|---|
| rs1006368 | 10 | 126346603 | T | C | T | C |
| rs10919543 | 1 | 161508617 | G | A | G | A |
| rs9912354 | 17 | 33805730 | T | C | T | C |
| rs1006368 | 10 | 126346603 | T | C | T | C |
| rs1007337 | 22 | 39781585 | T | C | T | C |
| rs2066399 | 6 | 15880540 | A | G | A | G |
| rs34486765 | 19 | 49915911 | A | G | A | G |
| rs4939384 | 11 | 60273642 | G | A | G | A |
| rs72836542 | 6 | 14091682 | T | C | T | C |
| rs7404890 | 16 | 11007193 | A | G | A | G |
| rs10824158 | 10 | 53915868 | T | G | T | G |
| rs111747460 | 3 | 74016318 | A | G | A | G |
| rs114230155 | 1 | 102796337 | A | G | A | G |
| rs114581990 | 2 | 235962017 | G | A | G | A |
| rs116399750 | 4 | 176754667 | A | G | A | G |
| rs116581718 | 5 | 29413612 | C | T | C | T |
| rs116915023 | 18 | 62442252 | T | C | T | C |
| rs116916598 | 11 | 121746998 | G | A | G | A |
| rs117173207 | 11 | 24544063 | A | G | A | G |
| rs117478414 | 8 | 56081028 | T | C | T | C |
| rs117692894 | 7 | 39587008 | T | G | T | G |
| rs117867588 | 8 | 15699657 | A | G | A | G |
| rs12279408 | 11 | 84269972 | T | C | T | C |
| rs12501785 | 4 | 180565400 | A | G | A | G |
| rs137942933 | 20 | 33104122 | T | G | T | G |
| rs138327786 | 6 | 1730982 | A | G | A | G |
| rs138937927 | 16 | 51095561 | T | C | T | C |
| rs143395500 | 10 | 69536834 | T | C | T | C |
| rs145604620 | 6 | 11491250 | G | A | G | A |
| rs147093663 | 15 | 81422902 | T | G | T | G |
| rs149208831 | 6 | 10017676 | C | A | C | A |
| rs16864501 | 3 | 152385976 | A | G | A | G |
| rs17791728 | 20 | 17556587 | C | T | C | T |
| rs185587352 | 3 | 117384981 | A | G | A | G |
| rs62321187 | 4 | 120605817 | T | C | T | C |
| rs72758450 | 15 | 69811049 | C | T | C | T |
| rs72931475 | 2 | 159316835 | G | A | G | A |
| rs75993384 | 4 | 55305871 | C | T | C | T |
| rs76552842 | 11 | 83433494 | A | G | A | G |
| rs77113660 | 12 | 83249816 | G | A | G | A |
| rs78069205 | 10 | 9668124 | G | A | G | A |
| rs78088167 | 4 | 130098084 | G | A | G | A |
| rs78750136 | 14 | 26308944 | C | T | C | T |
| rs79027575 | 2 | 146371302 | C | T | C | T |
| rs79851411 | 8 | 13716390 | A | G | A | G |
| rs80331554 | 15 | 59013643 | G | A | G | A |
| rs10183338 | 2 | 111610816 | T | G | T | G |
| rs116562707 | 6 | 31360602 | G | A | G | A |
| rs143809235 | 2 | 167484735 | G | T | G | T |
| rs1037633 | 3 | 23750521 | G | T | G | T |
| rs200474 | 6 | 27767640 | A | G | A | G |
| rs2018404 | 14 | 105695446 | T | C | T | C |
| rs10422871 | 19 | 8789227 | T | C | T | C |
| rs10765790 | 11 | 95852734 | C | T | C | T |
| rs10426452 | 19 | 49907690 | A | G | A | G |
| rs10484068 | 14 | 99653123 | T | C | T | C |

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|---|---|---|---|---|---|---|
| rs10824158 | 10 | 53915868 | T | G | T | G |
| rs11060236 | 12 | 129773605 | G | A | G | A |
| rs1106305 | 11 | 12065087 | T | C | T | C |
| rs11112760 | 12 | 106241673 | T | C | T | C |
| rs111648746 | 13 | 28485345 | A | G | A | G |
| rs111867376 | 6 | 159962229 | A | G | A | G |
| rs112121527 | 12 | 119037578 | C | T | C | T |
| rs112137766 | 2 | 41540149 | C | T | C | T |
| rs112517700 | 10 | 91013835 | A | G | A | G |
| rs112529428 | 12 | 129340399 | T | C | T | C |
| rs112785730 | 2 | 127831527 | A | G | A | G |
| rs112880431 | 6 | 130091902 | A | G | A | G |
| rs112973846 | 5 | 128365521 | G | A | G | A |
| rs113369914 | 20 | 21420694 | T | C | T | C |
| rs113698814 | 1 | 207678128 | G | A | G | A |
| rs114230155 | 1 | 102796337 | A | G | A | G |
| rs114425563 | 5 | 176911575 | T | C | T | C |
| rs114507999 | 1 | 21892266 | A | G | A | G |
| rs114619811 | 4 | 71875684 | G | A | G | A |
| rs114685875 | 4 | 138349095 | A | G | A | G |
| rs114791501 | 1 | 81668305 | T | C | T | C |
| rs114871166 | 5 | 24165437 | G | T | G | T |
| rs115040341 | 3 | 64543612 | T | C | T | C |
| rs115135290 | 3 | 105859785 | A | G | A | G |
| rs115212782 | 3 | 74527776 | T | C | T | C |
| rs115221944 | 7 | 56724250 | G | T | G | T |
| rs11538695 | 20 | 50004560 | A | G | A | G |
| rs115517310 | 2 | 170436614 | C | T | C | T |
| rs115660429 | 3 | 195531004 | A | C | A | C |
| rs115677012 | 4 | 167555345 | T | C | T | C |
| rs115755474 | 5 | 168914162 | T | C | T | C |
| rs11576563 | 1 | 6118693 | T | C | T | C |
| rs115821332 | 3 | 115341107 | G | A | G | A |
| rs115945729 | 2 | 199934892 | A | G | A | G |
| rs116399750 | 4 | 176754667 | A | G | A | G |
| rs116431337 | 6 | 66416572 | C | T | C | T |
| rs116498781 | 4 | 183314518 | A | G | A | G |
| rs116510159 | 1 | 195636177 | C | A | C | A |
| rs116581718 | 5 | 29413612 | C | T | C | T |
| rs116589647 | 3 | 122070556 | T | G | T | G |
| rs11661882 | 18 | 70504468 | A | G | A | G |
| rs116719160 | 3 | 130201546 | T | G | T | G |
| rs116916598 | 11 | 121746998 | G | A | G | A |
| rs116921833 | 7 | 153895185 | T | C | T | C |
| rs117003718 | 10 | 124406240 | A | G | A | G |
| rs117177255 | 13 | 77081029 | T | C | T | C |
| rs117185099 | 6 | 119514715 | T | C | T | C |
| rs117270364 | 11 | 60694375 | C | A | C | A |
| rs117293367 | 12 | 52437438 | T | C | T | C |
| rs117433099 | 7 | 6934892 | A | G | A | G |
| rs117448261 | 8 | 82400020 | C | T | C | T |
| rs117469911 | 7 | 79791344 | A | C | A | C |
| rs117555426 | 16 | 13128176 | C | A | C | A |
| rs117702997 | 9 | 83435830 | G | A | G | A |
| rs117741105 | 8 | 112234506 | A | G | A | G |
| rs117785622 | 12 | 132283582 | T | G | T | G |
| rs117801457 | 15 | 29421113 | T | C | T | C |
| rs117808048 | 8 | 73079210 | A | G | A | G |

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|---|---|---|---|---|---|---|
| rs117822024 | 6 | 86346609 | C | T | C | T |
| rs117840149 | 22 | 36506460 | A | C | A | C |
| rs117922572 | 21 | 27289871 | T | C | T | C |
| rs117922931 | 17 | 30028367 | G | A | G | A |
| rs117983267 | 8 | 124174485 | A | C | A | C |
| rs118076041 | 8 | 144562245 | A | G | A | G |
| rs12130486 | 1 | 81455274 | C | T | C | T |
| rs12279408 | 11 | 84269972 | T | C | T | C |
| rs12332976 | 6 | 40616989 | A | G | A | G |
| rs12378893 | 9 | 79057643 | A | G | A | G |
| rs12501785 | 4 | 180565400 | A | G | A | G |
| rs12750174 | 1 | 184765000 | A | G | A | G |
| rs13010105 | 2 | 42107980 | G | A | G | A |
| rs132751 | 22 | 36610967 | T | C | T | C |
| rs137942933 | 20 | 33104122 | T | G | T | G |
| rs137997289 | 7 | 115706613 | C | T | C | T |
| rs138327786 | 6 | 1730982 | A | G | A | G |
| rs138401052 | 3 | 166256176 | A | G | A | G |
| rs138822361 | 1 | 5236853 | A | G | A | G |
| rs138871895 | 3 | 162179186 | C | T | C | T |
| rs138937927 | 16 | 51095561 | T | C | T | C |
| rs138948609 | 10 | 132596864 | A | G | A | G |
| rs138954494 | 4 | 32184694 | C | T | C | T |
| rs139075636 | 12 | 102082782 | G | A | G | A |
| rs140322068 | 10 | 1765793 | A | G | A | G |
| rs140367496 | 4 | 131786765 | C | T | C | T |
| rs140800343 | 19 | 50001170 | T | C | T | C |
| rs140929582 | 2 | 169297185 | T | C | T | C |
| rs141644068 | 1 | 220781210 | A | G | A | G |
| rs142076427 | 16 | 5628078 | A | G | A | G |
| rs142686680 | 12 | 29095512 | C | T | C | T |
| rs142869493 | 11 | 87291175 | T | C | T | C |
| rs142922198 | 5 | 145713781 | C | A | C | A |
| rs143395500 | 10 | 69536834 | T | C | T | C |
| rs143435133 | 12 | 129545747 | A | G | A | G |
| rs143772909 | 10 | 101494118 | T | C | T | C |
| rs143871291 | 19 | 1191667 | G | A | G | A |
| rs143940797 | 1 | 52644883 | A | G | A | G |
| rs144104650 | 17 | 5023557 | A | G | A | G |
| rs144258173 | 8 | 2859400 | G | A | G | A |
| rs144275943 | 14 | 34065832 | G | T | G | T |
| rs144613377 | 5 | 81311763 | C | T | C | T |
| rs144682449 | 12 | 53402638 | A | G | A | G |
| rs144942838 | 1 | 111842326 | T | C | T | C |
| rs145021762 | 10 | 22411454 | A | G | A | G |
| rs145336406 | 6 | 78745175 | T | C | T | C |
| rs145563511 | 9 | 106801353 | G | A | G | A |
| rs145604620 | 6 | 11491250 | G | A | G | A |
| rs145720280 | 13 | 43404037 | C | T | C | T |
| rs145978106 | 18 | 7839215 | A | C | A | C |
| rs146135726 | 5 | 154015729 | T | C | T | C |
| rs146217030 | 2 | 41343706 | C | T | C | T |
| rs146661200 | 12 | 100494123 | T | C | T | C |
| rs147026949 | 4 | 100588891 | T | C | T | C |
| rs147563624 | 10 | 5377215 | T | C | T | C |
| rs147591823 | 1 | 47595103 | G | A | G | A |
| rs147681963 | 7 | 37590076 | T | C | T | C |
| rs147959386 | 8 | 124197307 | A | G | A | G |

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|---|---|---|---|---|---|---|
| rs147968748 | 10 | 54704473 | G | A | G | A |
| rs148380088 | 9 | 28759554 | T | C | T | C |
| rs148816938 | 5 | 71107850 | G | A | G | A |
| rs148939501 | 5 | 12480500 | G | A | G | A |
| rs148947489 | 2 | 10326418 | T | C | T | C |
| rs149208831 | 6 | 10017676 | C | A | C | A |
| rs149649979 | 9 | 10889621 | T | C | T | C |
| rs149801155 | 6 | 162457335 | G | A | G | A |
| rs149828559 | 6 | 84898123 | T | C | T | C |
| rs149844272 | 4 | 87144762 | A | G | A | G |
| rs150053624 | 17 | 80299376 | T | C | T | C |
| rs150055480 | 14 | 55295865 | A | G | A | G |
| rs150476409 | 13 | 113289664 | A | G | A | G |
| rs1508064 | 2 | 72979172 | T | C | T | C |
| rs151250363 | 2 | 240644273 | T | C | T | C |
| rs16864501 | 3 | 152385976 | A | G | A | G |
| rs17642570 | 5 | 148699825 | C | T | C | T |
| rs17791728 | 20 | 17556587 | C | T | C | T |
| rs17878699 | 3 | 3132754 | A | G | A | G |
| rs17882143 | 17 | 41836082 | T | C | T | C |
| rs183280627 | 8 | 30627573 | A | G | A | G |
| rs183895386 | 2 | 22576943 | T | C | T | C |
| rs184184520 | 14 | 45055780 | T | G | T | G |
| rs184401135 | 7 | 83368658 | T | C | T | C |
| rs185587352 | 3 | 117384981 | A | G | A | G |
| rs186251573 | 7 | 13558580 | C | A | C | A |
| rs187990734 | 3 | 144835290 | G | A | G | A |
| rs188074116 | 12 | 19311236 | A | G | A | G |
| rs188292706 | 2 | 162960872 | T | C | T | C |
| rs191325818 | 10 | 120573449 | C | A | C | A |
| rs192397067 | 6 | 81984275 | T | C | T | C |
| rs2384564 | 10 | 36442592 | G | A | G | A |
| rs2496150 | 6 | 13374132 | G | A | G | A |
| rs34000508 | 8 | 25574426 | T | C | T | C |
| rs34772471 | 1 | 112269677 | T | C | T | C |
| rs35275693 | 12 | 88561479 | G | A | G | A |
| rs35706199 | 7 | 131191874 | T | C | T | C |
| rs35730839 | 7 | 109248384 | T | C | T | C |
| rs35948774 | 2 | 118664032 | A | G | A | G |
| rs459056 | 20 | 15614140 | G | T | G | T |
| rs536434085 | 18 | 63832285 | T | C | T | C |
| rs55787444 | 3 | 185766414 | T | C | T | C |
| rs55856613 | 17 | 79094162 | A | G | A | G |
| rs58243030 | 5 | 180495180 | G | A | G | A |
| rs58817739 | 12 | 46009960 | G | A | G | A |
| rs59745713 | 19 | 34075835 | A | G | A | G |
| rs62247421 | 3 | 64390467 | A | G | A | G |
| rs62321187 | 4 | 120605817 | T | C | T | C |
| rs62337106 | 5 | 1957403 | G | T | G | T |
| rs62424171 | 6 | 118769058 | A | G | A | G |
| rs6517382 | 21 | 38156170 | C | T | C | T |
| rs7130130 | 11 | 59336329 | A | G | A | G |
| rs71466029 | 12 | 82065434 | T | C | T | C |
| rs7254864 | 19 | 9246656 | A | G | A | G |
| rs72704856 | 9 | 10774031 | G | A | G | A |
| rs72723889 | 4 | 146773005 | C | T | C | T |
| rs72768736 | 9 | 137149408 | A | G | A | G |
| rs72931475 | 2 | 159316835 | G | A | G | A |

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|---|---|---|---|---|---|---|
| rs72996438 | 2 | 211172214 | C | T | C | T |
| rs73034498 | 19 | 44937435 | T | C | T | C |
| rs73116391 | 7 | 46417626 | G | T | G | T |
| rs73206236 | 7 | 113679246 | A | G | A | G |
| rs73780868 | 6 | 152137377 | C | T | C | T |
| rs7426047 | 2 | 107184424 | T | C | T | C |
| rs74322543 | 10 | 85916001 | G | A | G | A |
| rs74336249 | 9 | 135625608 | T | C | T | C |
| rs74540476 | 11 | 29902098 | A | G | A | G |
| rs74565504 | 14 | 89207147 | T | G | T | G |
| rs74842782 | 7 | 131413341 | G | T | G | T |
| rs75157411 | 11 | 95180478 | A | G | A | G |
| rs75361870 | 8 | 9202609 | A | G | A | G |
| rs75510626 | 6 | 64401131 | C | T | C | T |
| rs75550713 | 13 | 112088993 | T | C | T | C |
| rs75551427 | 3 | 168644376 | G | A | G | A |
| rs75561723 | 2 | 199542954 | T | C | T | C |
| rs75592465 | 13 | 105831838 | T | G | T | G |
| rs75600477 | 20 | 40197928 | G | T | G | T |
| rs75660425 | 3 | 129232254 | A | G | A | G |
| rs75760272 | 5 | 10850589 | A | G | A | G |
| rs7597139 | 2 | 107560107 | A | G | A | G |
| rs76385522 | 11 | 10620991 | T | C | T | C |
| rs76543451 | 9 | 122201008 | A | G | A | G |
| rs76552842 | 11 | 83433494 | A | G | A | G |
| rs76568972 | 2 | 1592272 | T | C | T | C |
| rs76636736 | 1 | 99542806 | A | C | A | C |
| rs76679968 | 4 | 129754843 | T | C | T | C |
| rs76736944 | 1 | 180881632 | C | T | C | T |
| rs76808079 | 18 | 22735939 | C | A | C | A |
| rs77009235 | 8 | 4499026 | T | C | T | C |
| rs77156603 | 2 | 104590904 | A | C | A | C |
| rs77370289 | 8 | 57917248 | C | T | C | T |
| rs77390603 | 10 | 4688192 | A | C | A | C |
| rs77434296 | 4 | 22140311 | A | G | A | G |
| rs77485746 | 11 | 129187484 | A | C | A | C |
| rs77538429 | 1 | 110742985 | G | A | G | A |
| rs77577050 | 12 | 116077199 | T | G | T | G |
| rs77587134 | 5 | 3635021 | A | G | A | G |
| rs77689186 | 4 | 176614955 | A | C | A | C |
| rs77725246 | 17 | 55639212 | T | C | T | C |
| rs77814979 | 4 | 131041099 | C | A | C | A |
| rs78085398 | 11 | 33121166 | A | G | A | G |
| rs78100215 | 17 | 8298873 | A | G | A | G |
| rs78275221 | 6 | 90900544 | A | G | A | G |
| rs78313301 | 3 | 11075184 | T | C | T | C |
| rs78470553 | 7 | 158334355 | A | G | A | G |
| rs7850783 | 9 | 100968226 | G | A | G | A |
| rs78622624 | 10 | 33359425 | C | T | C | T |
| rs78656354 | 1 | 166905650 | A | G | A | G |
| rs78703636 | 19 | 33953595 | C | T | C | T |
| rs78750136 | 14 | 26308944 | C | T | C | T |
| rs78773852 | 12 | 71181930 | C | T | C | T |
| rs78881177 | 11 | 127881478 | C | A | C | A |
| rs78888262 | 16 | 88701572 | A | C | A | C |
| rs78922116 | 11 | 25534610 | T | C | T | C |
| rs79027575 | 2 | 146371302 | C | T | C | T |
| rs79418578 | 3 | 141886501 | A | C | A | C |

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|---|---|---|---|---|---|---|
| rs79548047 | 16 | 11614838 | C | T | C | T |
| rs79725470 | 5 | 94705605 | C | T | C | T |
| rs79741386 | 11 | 109660227 | A | G | A | G |
| rs79757812 | 17 | 65896989 | A | G | A | G |
| rs79851411 | 8 | 13716390 | A | G | A | G |
| rs79888370 | 4 | 180201786 | T | G | T | G |
| rs80018878 | 7 | 46985321 | T | C | T | C |
| rs80305889 | 7 | 34681601 | G | T | G | T |
| rs80331575 | 4 | 109566866 | T | C | T | C |
| rs80334718 | 14 | 33998519 | G | A | G | A |
| rs9471016 | 6 | 39196392 | T | C | T | C |
| rs9479093 | 6 | 151992984 | G | A | G | A |
| rs10501383 | 11 | 60164527 | T | C | T | C |
| rs11751198 | 6 | 31753526 | A | G | A | G |
| rs1569590 | 6 | 15898884 | G | A | G | A |
| rs35039517 | 10 | 94522438 | A | G | A | G |
| rs55809481 | 19 | 49872521 | C | T | C | T |
| rs61731791 | 19 | 50940778 | T | C | T | C |
| rs1050420 | 6 | 31239518 | T | C | T | C |
| rs3020726 | 2 | 87016506 | G | A | G | A |
| rs10512469 | 17 | 33770802 | T | C | T | C |
| rs183053322 | 1 | 25076059 | T | C | T | C |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs10512469 | 17 | 33770802 | T | C | T | C |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs10512469 | 17 | 33770802 | T | C | T | C |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs1051488 | 6 | 31322911 | T | C | T | C |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs1064086 | 2 | 237034061 | A | G | A | G |
| rs10774625 | 12 | 111910219 | G | A | G | A |
| rs11615628 | 12 | 6903631 | A | G | A | G |
| rs10786199 | 10 | 97069472 | A | G | A | G |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs11188757 | 10 | 98205222 | C | A | C | A |
| rs7088584 | 10 | 97607644 | T | G | T | G |
| rs72809762 | 10 | 97294154 | T | C | T | C |
| rs10786199 | 10 | 97069472 | A | G | A | G |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs12268044 | 10 | 98794615 | T | C | T | C |
| rs141018090 | 10 | 98169221 | T | G | T | G |
| rs7094484 | 10 | 97490998 | G | A | G | A |
| rs72809762 | 10 | 97294154 | T | C | T | C |
| rs10786199 | 10 | 97069472 | A | G | A | G |
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| rs12268044 | 10 | 98794615 | T | C | T | C |
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| rs6584022 | 10 | 97509641 | G | T | G | T |
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| rs7918541 | 10 | 98168559 | G | A | G | A |
| rs10786281 | 10 | 98116936 | C | T | C | T |
| rs117458836 | 10 | 96773382 | A | G | A | G |
| rs12778618 | 10 | 95633120 | C | T | C | T |

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| rs4293064 | 10 | 107757380 | A | C | A | C |
| rs7086986 | 10 | 97507312 | G | A | G | A |
| rs9264532 | 6 | 31234381 | T | C | T | C |
| rs1081003 | 22 | 42525756 | A | G | A | G |
| rs117705111 | 22 | 41957510 | A | G | A | G |
| rs149806587 | 22 | 40774205 | G | A | G | A |
| rs1894588 | 22 | 40629980 | T | C | T | C |
| rs2018340 | 22 | 43390319 | A | G | A | G |
| rs5757678 | 22 | 39843409 | T | C | T | C |
| rs76146864 | 22 | 40246055 | T | C | T | C |
| rs1081003 | 22 | 42525756 | A | G | A | G |
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| rs149806587 | 22 | 40774205 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
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| rs5757678 | 22 | 39843409 | T | C | T | C |
| rs5759079 | 22 | 43393437 | A | G | A | G |
| rs76146864 | 22 | 40246055 | T | C | T | C |
| rs1081003 | 22 | 42525756 | A | G | A | G |
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| rs5996087 | 22 | 42321591 | G | A | G | A |
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| rs73165129 | 22 | 42315371 | T | C | T | C |
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|---|---|---|---|---|---|---|
| rs5757678 | 22 | 39843409 | T | C | T | C |
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| rs76146864 | 22 | 40246055 | T | C | T | C |
| rs1084560 | 16 | 10824872 | G | A | G | A |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs7032773 | 9 | 117645562 | T | C | T | C |
| rs10882573 | 10 | 97009657 | A | G | A | G |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs10883093 | 10 | 100183774 | G | A | G | A |
| rs11188757 | 10 | 98205222 | C | A | C | A |
| rs1410600 | 10 | 97070694 | T | C | T | C |
| rs2805590 | 10 | 98812166 | T | C | T | C |
| rs4918962 | 10 | 97475574 | C | A | C | A |
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| rs141018090 | 10 | 98169221 | T | G | T | G |
| rs3814159 | 10 | 97515137 | A | G | A | G |
| rs3824789 | 10 | 98800099 | A | G | A | G |
| rs72809757 | 10 | 97285715 | G | A | G | A |
| rs10882573 | 10 | 97009657 | A | G | A | G |
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| rs10883093 | 10 | 100183774 | G | A | G | A |
| rs141018090 | 10 | 98169221 | T | G | T | G |
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| rs61854874 | 10 | 89173298 | A | G | A | G |
| rs6584018 | 10 | 97480752 | G | A | G | A |
| rs72809757 | 10 | 97285715 | G | A | G | A |
| rs10882573 | 10 | 97009657 | A | G | A | G |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs11188465 | 10 | 97506400 | T | C | T | C |
| rs1410600 | 10 | 97070694 | T | C | T | C |
| rs145557266 | 10 | 95850055 | G | A | G | A |
| rs7918541 | 10 | 98168559 | G | A | G | A |
| rs10882655 | 10 | 97474371 | A | G | A | G |
| rs9263475 | 6 | 31050348 | G | A | G | A |
| rs10882659 | 10 | 97510704 | C | T | C | T |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs35055340 | 1 | 165314063 | T | C | T | C |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs11188465 | 10 | 97506400 | T | C | T | C |
| rs12778797 | 10 | 96998688 | C | T | C | T |
| rs1410600 | 10 | 97070694 | T | C | T | C |
| rs9663948 | 10 | 98238236 | C | T | C | T |

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|---|---|---|---|---|---|---|
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs117458836 | 10 | 96773382 | A | G | A | G |
| rs12778618 | 10 | 95633120 | C | T | C | T |
| rs1539433 | 10 | 97519645 | T | C | T | C |
| rs7426056 | 2 | 204612058 | G | A | G | A |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs1410600 | 10 | 97070694 | T | C | T | C |
| rs2901833 | 10 | 96998591 | A | G | A | G |
| rs6584017 | 10 | 97480462 | A | G | A | G |
| rs10882701 | 10 | 97741071 | C | A | C | A |
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| rs12778797 | 10 | 96998688 | C | T | C | T |
| rs1410600 | 10 | 97070694 | T | C | T | C |
| rs145557266 | 10 | 95850055 | G | A | G | A |
| rs1539433 | 10 | 97519645 | T | C | T | C |
| rs1923692 | 10 | 98173715 | G | T | G | T |
| rs10882701 | 10 | 97741071 | C | A | C | A |
| rs141018090 | 10 | 98169221 | T | G | T | G |
| rs3824789 | 10 | 98800099 | A | G | A | G |
| rs4336961 | 10 | 97497563 | C | A | C | A |
| rs72809762 | 10 | 97294154 | T | C | T | C |
| rs113063605 | 1 | 161246613 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs34658867 | 20 | 44977184 | C | A | C | A |
| rs745307 | 20 | 44747086 | A | G | A | G |
| rs10905716 | 10 | 6114010 | T | C | T | C |
| rs10905719 | 10 | 6115171 | A | G | A | G |
| rs11124653 | 2 | 39112166 | A | C | A | C |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs61836370 | 1 | 188691469 | G | A | G | A |
| rs10905719 | 10 | 6115171 | A | G | A | G |
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| rs10919544 | 1 | 161508763 | C | T | C | T |
| rs12614599 | 2 | 232290640 | A | G | A | G |
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| rs111579151 | 11 | 111848073 | T | C | T | C |
| rs11214436 | 11 | 112830782 | T | G | T | G |
| rs117533070 | 11 | 112710664 | T | C | T | C |
| rs148849191 | 11 | 113153223 | T | C | T | C |
| rs17504675 | 11 | 110737507 | A | G | A | G |
| rs77291736 | 11 | 112749800 | T | C | T | C |
| rs11025036 | 11 | 19175633 | A | G | A | G |
| rs2857229 | 12 | 6900616 | G | A | G | A |
| rs11086984 | 20 | 44511627 | T | C | T | C |
| rs162076 | 20 | 46785499 | A | G | A | G |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs2250246 | 12 | 6553016 | G | A | G | A |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs75918255 | 3 | 32945761 | A | G | A | G |
| rs11065979 | 12 | 112059557 | T | C | T | C |
| rs116275309 | 1 | 150863650 | A | G | A | G |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs11074932 | 16 | 10968336 | C | T | C | T |

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|---|---|---|---|---|---|---|
| rs11074932 | 16 | 10968336 | C | T | C | T |
| rs11074934 | 16 | 10979440 | T | C | T | C |
| rs61742525 | 6 | 33072522 | A | G | A | G |
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| rs1632994 | 6 | 29926597 | C | T | C | T |
| rs61742525 | 6 | 33072522 | A | G | A | G |
| rs11080350 | 17 | 33774635 | T | C | T | C |
| rs73402222 | 6 | 31388449 | C | T | C | T |
| rs11086984 | 20 | 44511627 | T | C | T | C |
| rs147714617 | 12 | 6605299 | T | C | T | C |
| rs162076 | 20 | 46785499 | A | G | A | G |
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| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs25680 | 12 | 6554628 | A | G | A | G |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs75918255 | 3 | 32945761 | A | G | A | G |
| rs7621492 | 3 | 32302456 | A | G | A | G |
| rs9989924 | 20 | 42019380 | C | T | C | T |
| rs11086984 | 20 | 44511627 | T | C | T | C |
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| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs25680 | 12 | 6554628 | A | G | A | G |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs56237381 | 3 | 32924804 | A | G | A | G |
| rs72485816 | 20 | 45314435 | C | T | C | T |
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| rs11086984 | 20 | 44511627 | T | C | T | C |
| rs144642376 | 3 | 36349691 | G | A | G | A |
| rs147714617 | 12 | 6605299 | T | C | T | C |
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| rs56237381 | 3 | 32924804 | A | G | A | G |
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| rs11086984 | 20 | 44511627 | T | C | T | C |
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| rs111231787 | 5 | 112408670 | T | C | T | C |
| rs11124653 | 2 | 39112166 | A | C | A | C |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs78689347 | 2 | 40773763 | C | A | C | A |
| rs11124653 | 2 | 39112166 | A | C | A | C |

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|---|---|---|---|---|---|---|
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs12712610 | 2 | 38897249 | G | A | G | A |
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| rs12712610 | 2 | 38897249 | G | A | G | A |
| rs117519014 | 10 | 97403248 | A | C | A | C |
| rs17190839 | 6 | 31138707 | A | G | A | G |
| rs72847706 | 2 | 87055981 | C | T | C | T |
| rs9357097 | 6 | 30285121 | T | C | T | C |
| rs11136335 | 8 | 145003777 | A | G | A | G |
| rs11554159 | 19 | 18285944 | A | G | A | G |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs75994780 | 12 | 70949085 | A | G | A | G |
| rs80216229 | 12 | 67839087 | C | T | C | T |
| rs111388649 | 12 | 28246470 | A | G | A | G |
| rs11233425 | 11 | 82732689 | A | G | A | G |
| rs114135956 | 2 | 8930530 | C | T | C | T |
| rs114216104 | 5 | 140131486 | T | C | T | C |
| rs115954619 | 2 | 174896997 | A | G | A | G |
| rs117428784 | 19 | 43422957 | A | C | A | C |
| rs12656604 | 5 | 72679056 | A | C | A | C |
| rs130071 | 6 | 31116210 | A | G | A | G |
| rs143930177 | 10 | 70543706 | A | G | A | G |
| rs147264423 | 15 | 78644995 | G | A | G | A |
| rs149487182 | 8 | 131518018 | T | C | T | C |
| rs149716976 | 16 | 75062625 | G | A | G | A |
| rs149994650 | 3 | 18550864 | A | C | A | C |
| rs190272290 | 2 | 9944052 | A | G | A | G |
| rs55881385 | 1 | 34724192 | T | G | T | G |
| rs55971473 | 1 | 117061778 | T | C | T | C |
| rs58905133 | 2 | 38887964 | G | A | G | A |
| rs61772921 | 1 | 80897562 | C | T | C | T |
| rs62021713 | 15 | 50365389 | T | C | T | C |
| rs62409210 | 4 | 25412773 | A | G | A | G |
| rs74707627 | 15 | 86484743 | C | T | C | T |
| rs76506268 | 4 | 187981624 | G | A | G | A |
| rs76938777 | 7 | 31473901 | A | G | A | G |
| rs111417549 | 11 | 36584481 | T | C | T | C |
| rs111953852 | 14 | 84194540 | G | A | G | A |
| rs111978771 | 1 | 21025910 | C | T | C | T |
| rs112568609 | 15 | 27818525 | T | C | T | C |
| rs113432575 | 21 | 30128360 | T | C | T | C |
| rs114216104 | 5 | 140131486 | T | C | T | C |
| rs114507999 | 1 | 21892266 | A | G | A | G |
| rs114801643 | 6 | 66316172 | A | C | A | C |
| rs115379408 | 6 | 18617129 | A | G | A | G |
| rs115954619 | 2 | 174896997 | A | G | A | G |
| rs116581718 | 5 | 29413612 | C | T | C | T |
| rs116959045 | 8 | 53929771 | G | T | G | T |
| rs117036387 | 20 | 3521072 | G | A | G | A |
| rs11716645 | 3 | 29402908 | G | A | G | A |
| rs117196114 | 9 | 83853182 | A | G | A | G |
| rs117271894 | 8 | 112881674 | A | G | A | G |
| rs117413806 | 11 | 16290338 | C | T | C | T |
| rs117428784 | 19 | 43422957 | A | C | A | C |
| rs117431224 | 11 | 44356396 | G | A | G | A |
| rs117469911 | 7 | 79791344 | A | C | A | C |

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|---|---|---|---|---|---|---|
| rs117514047 | 21 | 26316207 | C | A | C | A |
| rs117785622 | 12 | 132283582 | T | G | T | G |
| rs117804407 | 16 | 5944116 | G | A | G | A |
| rs12464465 | 2 | 176542288 | A | G | A | G |
| rs130071 | 6 | 31116210 | A | G | A | G |
| rs13044559 | 20 | 36073660 | A | G | A | G |
| rs137978465 | 2 | 228411157 | A | G | A | G |
| rs138010330 | 1 | 161526187 | T | C | T | C |
| rs138799468 | 2 | 9441279 | T | C | T | C |
| rs138962348 | 2 | 146534594 | C | T | C | T |
| rs139457426 | 12 | 47679643 | T | C | T | C |
| rs140134394 | 16 | 17341866 | C | T | C | T |
| rs141023610 | 3 | 15790899 | A | G | A | G |
| rs142470414 | 13 | 73498369 | T | C | T | C |
| rs142522853 | 7 | 1084031 | T | C | T | C |
| rs143825022 | 8 | 28561116 | T | C | T | C |
| rs144571871 | 1 | 65133062 | G | A | G | A |
| rs145336406 | 6 | 78745175 | T | C | T | C |
| rs146164275 | 17 | 76005958 | G | A | G | A |
| rs146940094 | 15 | 94946993 | T | G | T | G |
| rs149716976 | 16 | 75062625 | G | A | G | A |
| rs149994650 | 3 | 18550864 | A | C | A | C |
| rs151120803 | 9 | 96711406 | A | G | A | G |
| rs151145927 | 18 | 38375388 | A | G | A | G |
| rs16864501 | 3 | 152385976 | A | G | A | G |
| rs183382760 | 4 | 116470715 | C | A | C | A |
| rs186595909 | 15 | 78554710 | A | G | A | G |
| rs2615702 | 16 | 81462243 | T | C | T | C |
| rs34592474 | 7 | 57279055 | C | T | C | T |
| rs55830085 | 4 | 106862213 | T | C | T | C |
| rs55881385 | 1 | 34724192 | T | G | T | G |
| rs58905133 | 2 | 38887964 | G | A | G | A |
| rs61772921 | 1 | 80897562 | C | T | C | T |
| rs61864030 | 10 | 133431823 | C | T | C | T |
| rs61988500 | 14 | 86640070 | C | T | C | T |
| rs62021713 | 15 | 50365389 | T | C | T | C |
| rs62369101 | 5 | 97959184 | A | G | A | G |
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| rs72728362 | 8 | 127054086 | C | T | C | T |
| rs72815709 | 2 | 80415786 | C | T | C | T |
| rs72929459 | 2 | 200181613 | T | C | T | C |
| rs74603821 | 12 | 101714936 | C | A | C | A |
| rs74902462 | 12 | 59066617 | T | C | T | C |
| rs75346347 | 18 | 7862061 | T | C | T | C |
| rs75828981 | 2 | 144233823 | A | G | A | G |
| rs75884646 | 15 | 95776793 | A | G | A | G |
| rs76506268 | 4 | 187981624 | G | A | G | A |
| rs76595423 | 1 | 102745011 | G | T | G | T |
| rs76732756 | 1 | 221000197 | A | G | A | G |
| rs77152285 | 4 | 93935039 | G | A | G | A |
| rs77164608 | 7 | 21673701 | A | G | A | G |
| rs77243672 | 14 | 76846837 | G | T | G | T |
| rs77937827 | 20 | 20799344 | C | T | C | T |
| rs78656354 | 1 | 166905650 | A | G | A | G |
| rs78939697 | 6 | 67374008 | C | A | C | A |
| rs79407975 | 10 | 28109090 | A | C | A | C |
| rs79870119 | 4 | 64142694 | A | G | A | G |

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| rs79888820 | 15 | 96888705 | C | T | C | T |
| rs80012883 | 13 | 94341740 | T | G | T | G |
| rs80347872 | 6 | 562203 | A | G | A | G |
| rs111436326 | 20 | 42701487 | T | C | T | C |
| rs139376787 | 1 | 161847528 | A | G | A | G |
| rs148765873 | 1 | 161221713 | C | T | C | T |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs34658867 | 20 | 44977184 | C | A | C | A |
| rs6032211 | 20 | 44092301 | A | G | A | G |
| rs6687275 | 1 | 161515638 | G | T | G | T |
| rs745307 | 20 | 44747086 | A | G | A | G |
| rs11158593 | 14 | 65859984 | A | G | A | G |
| rs2844608 | 6 | 31247414 | T | C | T | C |
| rs3184504 | 12 | 111884608 | C | T | C | T |
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| rs111695695 | 19 | 51897760 | A | C | A | C |
| rs56043070 | 1 | 247719769 | A | G | A | G |
| rs58483275 | 19 | 51868443 | T | C | T | C |
| rs7245846 | 19 | 51731176 | A | G | A | G |
| rs7351079 | 19 | 51574038 | G | A | G | A |
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| rs273640 | 19 | 51725824 | T | G | T | G |
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| rs12921174 | 16 | 430304 | C | T | C | T |
| rs2995089 | 1 | 167431193 | A | G | A | G |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs4657706 | 1 | 167728447 | T | C | T | C |
| rs61814886 | 1 | 167136405 | A | G | A | G |
| rs78132817 | 1 | 165191695 | G | T | G | T |
| rs11187166 | 10 | 94516008 | T | C | T | C |
| rs2304938 | 11 | 60167744 | T | C | T | C |
| rs55809481 | 19 | 49872521 | C | T | C | T |
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| rs909846 | 6 | 15897003 | G | T | G | T |
| rs9469053 | 6 | 31755776 | G | A | G | A |
| rs11187515 | 10 | 95327429 | T | C | T | C |
| rs12778618 | 10 | 95633120 | C | T | C | T |
| rs35025323 | 10 | 97089991 | C | T | C | T |
| rs4075310 | 10 | 97574689 | T | C | T | C |
| rs7079761 | 10 | 97842115 | A | G | A | G |
| rs111902980 | 1 | 157954450 | A | G | A | G |
| rs139249541 | 6 | 102294761 | G | A | G | A |
| rs6710361 | 2 | 87047145 | A | G | A | G |
| rs9896155 | 17 | 33794697 | G | A | G | A |
| rs111902980 | 1 | 157954450 | A | G | A | G |
| rs116877116 | 8 | 135490341 | A | G | A | G |
| rs111983490 | 6 | 32205324 | A | G | A | G |

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| rs111983490 | 6 | 32205324 | A | G | A | G |
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| rs147210938 | 6 | 13892767 | A | G | A | G |
| rs2286975 | 16 | 11114006 | A | G | A | G |
| rs3869145 | 6 | 31851354 | A | G | A | G |
| rs7192768 | 16 | 11004905 | C | T | C | T |
| rs74405933 | 6 | 14095755 | A | G | A | G |
| rs11214436 | 11 | 112830782 | T | G | T | G |
| rs117147408 | 6 | 101980039 | G | A | G | A |
| rs77738700 | 11 | 112751407 | A | G | A | G |
| rs79251210 | 6 | 100468602 | A | G | A | G |
| rs112258643 | 12 | 55672838 | T | C | T | C |
| rs112571466 | 7 | 111704231 | G | A | G | A |
| rs113447229 | 9 | 105346840 | C | T | C | T |
| rs115077170 | 2 | 53872294 | G | T | G | T |
| rs115218435 | 4 | 67836131 | G | T | G | T |
| rs116562707 | 6 | 31360602 | G | A | G | A |
| rs117475733 | 6 | 148775706 | T | C | T | C |
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| rs12755474 | 1 | 216352525 | G | A | G | A |
| rs142208889 | 19 | 51829114 | T | C | T | C |
| rs142530179 | 1 | 62672889 | G | A | G | A |
| rs143498795 | 8 | 140342260 | A | C | A | C |
| rs149023182 | 1 | 232754676 | G | A | G | A |
| rs189801254 | 10 | 68336237 | A | C | A | C |
| rs73127385 | 4 | 31396800 | G | A | G | A |
| rs76325389 | 9 | 122676137 | G | A | G | A |
| rs77935824 | 18 | 68968361 | G | A | G | A |
| rs80194890 | 10 | 91332621 | G | T | G | T |
| rs112405902 | 6 | 31809504 | A | G | A | G |
| rs4447195 | 11 | 60249734 | T | C | T | C |
| rs6459417 | 6 | 15858996 | T | C | T | C |
| rs6509428 | 19 | 49853881 | T | C | T | C |
| rs112417310 | 1 | 206855483 | A | G | A | G |
| rs11643297 | 16 | 28973268 | G | A | G | A |
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| rs113812519 | 1 | 207276336 | G | A | G | A |
| rs144743804 | 1 | 207018206 | A | G | A | G |
| rs112421400 | 6 | 28205826 | T | C | T | C |
| rs139084170 | 6 | 43351686 | A | C | A | C |
| rs1794511 | 6 | 32671207 | G | T | G | T |
| rs11249570 | 5 | 177033794 | A | G | A | G |
| rs4987369 | 1 | 169662742 | T | G | T | G |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs12712610 | 2 | 38897249 | G | A | G | A |
| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs138960714 | 4 | 123422719 | C | A | C | A |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs74830391 | 7 | 37427289 | T | C | T | C |
| rs112581826 | 2 | 204650296 | A | G | A | G |
| rs72928038 | 6 | 90976768 | A | G | A | G |
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| rs61038907 | 2 | 87061070 | A | C | A | C |
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| rs113116201 | 1 | 198830942 | C | T | C | T |

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| rs139529340 | 1 | 161563554 | G | A | G | A |
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| rs4910742 | 11 | 5306509 | A | G | A | G |
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| rs113398446 | 6 | 161871755 | C | A | C | A |
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| rs113500908 | 6 | 100774499 | T | C | T | C |
| rs13210358 | 6 | 102272234 | T | C | T | C |
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| rs144743804 | 1 | 207018206 | A | G | A | G |
| rs55712453 | 1 | 206902437 | G | A | G | A |
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| rs79856590 | 1 | 205241642 | A | G | A | G |
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| rs11643297 | 16 | 28973268 | G | A | G | A |
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| rs113865045 | 2 | 176969703 | A | G | A | G |
| rs2455069 | 19 | 51728641 | G | A | G | A |
| rs114135956 | 2 | 8930530 | C | T | C | T |
| rs130071 | 6 | 31116210 | A | G | A | G |
| rs140385926 | 15 | 69903187 | G | A | G | A |
| rs1736913 | 6 | 29704400 | C | T | C | T |
| rs450175 | 2 | 38400812 | C | A | C | A |
| rs58905133 | 2 | 38887964 | G | A | G | A |
| rs72815709 | 2 | 80415786 | C | T | C | T |
| rs114590598 | 1 | 185852065 | T | C | T | C |
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| rs114672530 | 1 | 168306279 | A | G | A | G |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs4657649 | 1 | 167173140 | C | T | C | T |
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|---|---|---|---|---|---|---|
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| rs149852991 | 4 | 15044338 | T | G | T | G |
| rs197429 | 1 | 112267500 | T | C | T | C |
| rs572542 | 4 | 14029370 | T | C | T | C |
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| rs76354299 | 4 | 15037408 | A | G | A | G |
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| rs115383270 | 1 | 161531340 | A | G | A | G |
| rs74975395 | 1 | 166026114 | T | C | T | C |
| rs115383270 | 1 | 161531340 | A | G | A | G |
| rs3826007 | 15 | 80263217 | T | C | T | C |
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| rs74975395 | 1 | 166026114 | T | C | T | C |
| rs115383270 | 1 | 161531340 | A | G | A | G |
| rs11544989 | 8 | 145057868 | G | A | G | A |
| rs115536607 | 6 | 101417409 | T | C | T | C |
| rs117147408 | 6 | 101980039 | G | A | G | A |
| rs77738700 | 11 | 112751407 | A | G | A | G |
| rs79251210 | 6 | 100468602 | A | G | A | G |
| rs9916257 | 17 | 33797371 | T | G | T | G |
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| rs41294937 | 10 | 6106621 | C | T | C | T |
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| rs77738700 | 11 | 112751407 | A | G | A | G |
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| rs11554159 | 19 | 18285944 | A | G | A | G |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs75994780 | 12 | 70949085 | A | G | A | G |
| rs115624142 | 1 | 161701708 | A | C | A | C |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs1573735 | 16 | 423696 | T | C | T | C |
| rs3129891 | 6 | 32415080 | A | G | A | G |
| rs115752428 | 1 | 205560814 | A | G | A | G |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs11818051 | 10 | 97972294 | T | C | T | C |
| rs143132810 | 10 | 96890004 | C | T | C | T |
| rs17111341 | 10 | 97881031 | C | T | C | T |
| rs185474383 | 10 | 96311553 | T | G | T | G |
| rs3740373 | 10 | 95256200 | A | C | A | C |
| rs4918969 | 10 | 97562938 | A | G | A | G |
| rs77520132 | 10 | 98160835 | A | G | A | G |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs12712610 | 2 | 38897249 | G | A | G | A |
| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs138960714 | 4 | 123422719 | C | A | C | A |
| rs74830391 | 7 | 37427289 | T | C | T | C |
| rs7893324 | 10 | 6111075 | C | T | C | T |
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| rs7559619 | 2 | 38892207 | G | A | G | A |
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| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs17607399 | 2 | 41884212 | T | C | T | C |
| rs6751481 | 2 | 38897810 | C | T | C | T |
| rs7530076 | 1 | 195825276 | A | G | A | G |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs11818051 | 10 | 97972294 | T | C | T | C |
| rs11890666 | 2 | 38745822 | A | G | A | G |
| rs12712610 | 2 | 38897249 | G | A | G | A |
| rs1410600 | 10 | 97070694 | T | C | T | C |
| rs17111341 | 10 | 97881031 | C | T | C | T |
| rs182702572 | 10 | 96658384 | A | C | A | C |
| rs34645541 | 1 | 195875605 | A | C | A | C |
| rs35909109 | 10 | 98014850 | T | C | T | C |
| rs4918969 | 10 | 97562938 | A | G | A | G |

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|---|---|---|---|---|---|---|
| rs77520132 | 10 | 98160835 | A | G | A | G |
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| rs408686 | 2 | 39177320 | A | C | A | C |
| rs6751481 | 2 | 38897810 | C | T | C | T |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs17607399 | 2 | 41884212 | T | C | T | C |
| rs34645541 | 1 | 195875605 | A | C | A | C |
| rs6751481 | 2 | 38897810 | C | T | C | T |
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| rs11579717 | 1 | 199999121 | A | G | A | G |
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| rs2367376 | 2 | 87009742 | C | T | C | T |
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| rs11890666 | 2 | 38745822 | A | G | A | G |
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| rs143132810 | 10 | 96890004 | C | T | C | T |
| rs185474383 | 10 | 96311553 | T | G | T | G |
| rs34645541 | 1 | 195875605 | A | C | A | C |
| rs35909109 | 10 | 98014850 | T | C | T | C |
| rs7079761 | 10 | 97842115 | A | G | A | G |
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| rs116759767 | 1 | 189981116 | A | G | A | G |
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| rs17607399 | 2 | 41884212 | T | C | T | C |
| rs6751481 | 2 | 38897810 | C | T | C | T |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs11579717 | 1 | 199999121 | A | G | A | G |
| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs11579717 | 1 | 199999121 | A | G | A | G |
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| rs145947216 | 2 | 38596674 | T | C | T | C |
| rs147692482 | 2 | 39864242 | T | C | T | C |
| rs34558770 | 2 | 38933040 | T | C | T | C |
| rs7605193 | 2 | 38698112 | G | T | G | T |
| rs79747818 | 2 | 41757305 | T | C | T | C |
| rs917116 | 7 | 28172739 | G | T | G | T |
| rs11598494 | 10 | 6178941 | C | T | C | T |

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| rs3793662 | 9 | 95886051 | T | C | T | C |
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| rs116030815 | 1 | 42691989 | C | T | C | T |
| rs7559619 | 2 | 38892207 | G | A | G | A |
| rs11615628 | 12 | 6903631 | A | G | A | G |
| rs2844608 | 6 | 31247414 | T | C | T | C |
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| rs2253487 | 6 | 31249127 | A | G | A | G |
| rs9263475 | 6 | 31050348 | G | A | G | A |
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| rs116275309 | 1 | 150863650 | A | G | A | G |
| rs145828126 | 1 | 120233380 | A | G | A | G |
| rs1801274 | 1 | 161479745 | G | A | G | A |
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| rs11641185 | 16 | 10986596 | T | C | T | C |
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| rs11643297 | 16 | 28973268 | G | A | G | A |
| rs75968672 | 1 | 206890212 | G | A | G | A |
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| rs7748976 | 6 | 33890451 | A | G | A | G |
| rs9296042 | 6 | 32736005 | T | C | T | C |
| rs116517602 | 1 | 198922068 | T | C | T | C |
| rs12712613 | 2 | 38948860 | T | G | T | G |
| rs11653761 | 17 | 2716535 | T | G | T | G |
| rs12874404 | 13 | 108993494 | G | A | G | A |
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| rs9520836 | 13 | 108957063 | G | A | G | A |
| rs11657118 | 17 | 2714118 | C | T | C | T |
| rs12874404 | 13 | 108993494 | G | A | G | A |
| rs11657531 | 17 | 2731370 | T | C | T | C |
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| rs116844769 | 14 | 65713895 | A | G | A | G |

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| rs11687597 | 2 | 136926146 | G | A | G | A |
| rs7840395 | 8 | 144984956 | G | A | G | A |
| rs117067704 | 17 | 62128083 | G | A | G | A |
| rs62045817 | 16 | 89045233 | T | C | T | C |
| rs722926 | 17 | 8677215 | T | C | T | C |
| rs117086217 | 22 | 39876838 | G | A | G | A |
| rs13058590 | 22 | 39641412 | T | C | T | C |
| rs143944768 | 22 | 44378670 | T | C | T | C |
| rs144886236 | 22 | 42326166 | C | T | C | T |
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| rs2142827 | 22 | 42874781 | A | G | A | G |
| rs5758649 | 22 | 42605548 | T | C | T | C |
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| rs4657041 | 1 | 161478859 | C | T | C | T |
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| rs77657071 | 22 | 42324463 | A | G | A | G |
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| rs117147408 | 6 | 101980039 | G | A | G | A |
| rs12986962 | 2 | 111808558 | G | A | G | A |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs117295081 | 20 | 45333273 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs60629714 | 9 | 95889160 | C | T | C | T |
| rs745307 | 20 | 44747086 | A | G | A | G |
| rs117308259 | 14 | 31993501 | C | T | C | T |
| rs11748905 | 5 | 80934634 | C | T | C | T |
| rs11751198 | 6 | 31753526 | A | G | A | G |
| rs55809481 | 19 | 49872521 | C | T | C | T |
| rs61731791 | 19 | 50940778 | T | C | T | C |
| rs78287249 | 11 | 60157281 | T | G | T | G |
| rs62183989 | 2 | 204609402 | T | C | T | C |
| rs56209416 | 2 | 204627500 | C | T | C | T |
| rs117653391 | 10 | 97551952 | A | G | A | G |
| rs4707609 | 6 | 90946479 | C | T | C | T |

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| rs117705111 | 22 | 41957510 | A | G | A | G |
| rs12170003 | 22 | 37748690 | T | C | T | C |
| rs148289768 | 22 | 43472311 | C | A | C | A |
| rs5996088 | 22 | 42323913 | T | C | T | C |
| rs117913408 | 6 | 102173117 | G | A | G | A |
| rs79086781 | 6 | 100526652 | T | C | T | C |
| rs11818051 | 10 | 97972294 | T | C | T | C |
| rs12778618 | 10 | 95633120 | C | T | C | T |
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| rs7083411 | 10 | 97606602 | T | C | T | C |
| rs72812685 | 10 | 95845989 | A | G | A | G |
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| rs2901833 | 10 | 96998591 | A | G | A | G |
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| rs569911 | 1 | 160798209 | C | T | C | T |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs17583875 | 1 | 197924770 | A | G | A | G |
| rs2463509 | 2 | 103672986 | T | C | T | C |
| rs150956189 | 1 | 214625781 | C | T | C | T |
| rs17583875 | 1 | 197924770 | A | G | A | G |
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| rs12901644 | 15 | 36456429 | T | C | T | C |
| rs3131627 | 6 | 31415065 | G | A | G | A |
| rs11954223 | 5 | 67413499 | A | G | A | G |
| rs9520836 | 13 | 108957063 | G | A | G | A |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs11954223 | 5 | 67413499 | A | G | A | G |
| rs12874404 | 13 | 108993494 | G | A | G | A |
| rs183053322 | 1 | 25076059 | T | C | T | C |
| rs7218011 | 17 | 33773022 | G | A | G | A |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs11961777 | 6 | 32379535 | C | T | C | T |
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| rs1354106 | 19 | 51737991 | G | T | G | T |
| rs2071473 | 6 | 32782605 | T | C | T | C |
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| rs12075684 | 1 | 169620673 | G | A | G | A |
| rs6427213 | 1 | 169713146 | G | A | G | A |
| rs12145132 | 1 | 198636736 | G | A | G | A |
| rs12752576 | 1 | 168605042 | G | A | G | A |
| rs61814886 | 1 | 167136405 | A | G | A | G |
| rs6658665 | 1 | 166460696 | G | A | G | A |
| rs6668517 | 1 | 26556870 | C | A | C | A |
| rs74620952 | 11 | 117753136 | C | T | C | T |
| rs41289614 | 3 | 45972492 | T | C | T | C |
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| rs7745305 | 6 | 30913475 | C | T | C | T |
| rs12212931 | 6 | 15913304 | G | T | G | T |
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| rs72836542 | 6 | 14091682 | T | C | T | C |
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| rs12722531 | 10 | 6076076 | A | G | A | G |
| rs706779 | 10 | 6098824 | C | T | C | T |
| rs12346499 | 9 | 113902881 | T | C | T | C |
| rs12459503 | 19 | 52161035 | C | T | C | T |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs12554596 | 9 | 37002142 | G | A | G | A |
| rs2066399 | 6 | 15880540 | A | G | A | G |
| rs2070770 | 11 | 60230531 | T | C | T | C |
| rs30003 | 19 | 49846398 | C | T | C | T |
| rs12596540 | 16 | 10970476 | G | A | G | A |
| rs1723018 | 1 | 167433420 | G | A | G | A |
| rs12598451 | 16 | 10982607 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs805288 | 6 | 31678028 | T | C | T | C |
| rs885947 | 6 | 29696656 | A | G | A | G |
| rs9268628 | 6 | 32405865 | C | A | C | A |
| rs1264570 | 6 | 30365210 | T | C | T | C |
| rs12660712 | 6 | 29734634 | A | C | A | C |
| rs130065 | 6 | 31122500 | A | G | A | G |
| rs13024436 | 2 | 86534521 | A | G | A | G |
| rs1356625 | 2 | 86022747 | C | T | C | T |
| rs6903896 | 6 | 31168029 | A | G | A | G |
| rs938487 | 2 | 87009488 | G | A | G | A |
| rs1264580 | 6 | 30301230 | A | G | A | G |
| rs9461744 | 6 | 32388317 | G | A | G | A |
| rs12675296 | 8 | 6828795 | A | G | A | G |
| rs1886654 | 1 | 236105910 | C | T | C | T |
| rs2981398 | 8 | 6801712 | G | A | G | A |
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| rs445 | 7 | 92408370 | T | C | T | C |
| rs12712610 | 2 | 38897249 | G | A | G | A |
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| rs12722600 | 10 | 6054765 | T | C | T | C |
| rs12778618 | 10 | 95633120 | C | T | C | T |
| rs3181132 | 10 | 97601894 | G | A | G | A |
| rs12865434 | 13 | 108970631 | G | A | G | A |
| rs12874404 | 13 | 108993494 | G | A | G | A |
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| rs12874404 | 13 | 108993494 | G | A | G | A |
| rs12921174 | 16 | 430304 | C | T | C | T |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs61814872 | 1 | 167113055 | T | C | T | C |
| rs79179998 | 3 | 45947066 | A | G | A | G |
| rs12986962 | 2 | 111808558 | G | A | G | A |
| rs58745116 | 17 | 33803592 | A | G | A | G |
| rs56262516 | 6 | 29930939 | A | G | A | G |
| rs13023673 | 2 | 38594483 | C | T | C | T |
| rs6707421 | 2 | 38897781 | G | A | G | A |
| rs79827501 | 2 | 38431267 | T | G | T | G |
| rs13058590 | 22 | 39641412 | T | C | T | C |
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| rs150612106 | 22 | 40175781 | A | G | A | G |
| rs4657041 | 1 | 161478859 | C | T | C | T |
| rs5758649 | 22 | 42605548 | T | C | T | C |
| rs73165129 | 22 | 42315371 | T | C | T | C |
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| rs13172065 | 5 | 35887454 | G | A | G | A |
| rs1573734 | 16 | 423619 | T | C | T | C |
| rs28680958 | 1 | 173848808 | A | G | A | G |
| rs13210358 | 6 | 102272234 | T | C | T | C |
| rs1322067 | 9 | 117660933 | G | A | G | A |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs13390252 | 2 | 204596729 | G | A | G | A |
| rs59639671 | 2 | 39003961 | T | C | T | C |
| rs1375493 | 2 | 182323766 | A | G | A | G |
| rs2418135 | 9 | 113901309 | A | G | A | G |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs138915779 | 1 | 190079170 | A | C | A | C |
| rs17583875 | 1 | 197924770 | A | G | A | G |
| rs7530076 | 1 | 195825276 | A | G | A | G |
| rs139084170 | 6 | 43351686 | A | C | A | C |
| rs241407 | 6 | 32862740 | T | C | T | C |
| rs9267517 | 6 | 31573110 | A | G | A | G |
| rs9276702 | 6 | 32756741 | G | A | G | A |
| rs139249541 | 6 | 102294761 | G | A | G | A |
| rs62184019 | 2 | 204633784 | T | C | T | C |
| rs79086781 | 6 | 100526652 | T | C | T | C |
| rs139249541 | 6 | 102294761 | G | A | G | A |
| rs6755452 | 2 | 87035076 | G | T | G | T |
| rs9896155 | 17 | 33794697 | G | A | G | A |
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|---|---|---|---|---|---|---|
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| rs75494211 | 6 | 101911859 | A | G | A | G |
| rs7819099 | 8 | 144992862 | G | A | G | A |
| rs78268116 | 11 | 112705025 | T | C | T | C |
| rs9916629 | 17 | 33796260 | C | T | C | T |
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| rs80330977 | 5 | 158276610 | A | G | A | G |
| rs139290596 | 22 | 44349795 | G | A | G | A |
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| rs5758649 | 22 | 42605548 | T | C | T | C |
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| rs139489968 | 1 | 208017826 | A | G | A | G |
| rs36102158 | 15 | 50363583 | A | G | A | G |
| rs4406271 | 6 | 109598213 | A | G | A | G |
| rs586030 | 1 | 208170487 | T | C | T | C |
| rs139795227 | 1 | 92842367 | C | A | C | A |
| rs2325259 | 6 | 90850164 | C | T | C | T |
| rs6445484 | 3 | 52503800 | G | A | G | A |
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| rs141264358 | 1 | 90530314 | C | T | C | T |
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| rs76064946 | 1 | 93926697 | G | T | G | T |
| rs79015439 | 1 | 94803124 | T | C | T | C |
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| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs140088532 | 2 | 105581937 | C | T | C | T |
| rs1403755 | 18 | 30263492 | T | C | T | C |
| rs2875404 | 3 | 76674553 | T | C | T | C |
| rs78667279 | 2 | 54957709 | A | G | A | G |
| rs142456232 | 11 | 4960640 | T | C | T | C |
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| rs17552904 | 7 | 50318308 | T | G | T | G |
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| rs78736654 | 11 | 5544477 | G | T | G | T |
| rs143140559 | 1 | 160972255 | T | C | T | C |
| rs148765873 | 1 | 161221713 | C | T | C | T |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs143407337 | 7 | 1095701 | T | C | T | C |
| rs3092963 | 3 | 46396938 | G | A | G | A |
| rs143407337 | 7 | 1095701 | T | C | T | C |
| rs3092963 | 3 | 46396938 | G | A | G | A |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs876036 | 7 | 50307710 | C | T | C | T |
| rs62395272 | 6 | 31394424 | T | C | T | C |
| rs6934244 | 6 | 33024032 | A | C | A | C |
| rs146765347 | 11 | 11413255 | T | C | T | C |
| rs60499622 | 10 | 126551228 | T | C | T | C |
| rs147487472 | 10 | 6191376 | A | C | A | C |

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|---|---|---|---|---|---|---|
| rs3793662 | 9 | 95886051 | T | C | T | C |
| rs41294937 | 10 | 6106621 | C | T | C | T |
| rs147487472 | 10 | 6191376 | A | C | A | C |
| rs149662107 | 7 | 47871972 | A | G | A | G |
| rs62626323 | 10 | 6115678 | A | C | A | C |
| rs147487472 | 10 | 6191376 | A | C | A | C |
| rs41294937 | 10 | 6106621 | C | T | C | T |
| rs147487472 | 10 | 6191376 | A | C | A | C |
| rs17403348 | 10 | 5827901 | C | T | C | T |
| rs3793662 | 9 | 95886051 | T | C | T | C |
| rs41294937 | 10 | 6106621 | C | T | C | T |
| rs147487472 | 10 | 6191376 | A | C | A | C |
| rs17403348 | 10 | 5827901 | C | T | C | T |
| rs3793662 | 9 | 95886051 | T | C | T | C |
| rs62626323 | 10 | 6115678 | A | C | A | C |
| rs147678401 | 1 | 161035780 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs147763768 | 10 | 97548303 | A | G | A | G |
| rs147850744 | 17 | 56374364 | T | C | T | C |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs77771777 | 17 | 55927801 | T | C | T | C |
| rs148031710 | 6 | 31148873 | C | T | C | T |
| rs148765873 | 1 | 161221713 | C | T | C | T |
| rs191217950 | 1 | 160940671 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs149192849 | 22 | 42270864 | C | T | C | T |
| rs4822134 | 22 | 42867332 | C | T | C | T |
| rs73165129 | 22 | 42315371 | T | C | T | C |
| rs1569590 | 6 | 15898884 | G | A | G | A |
| rs55809481 | 19 | 49872521 | C | T | C | T |
| rs1569590 | 6 | 15898884 | G | A | G | A |
| rs2070770 | 11 | 60230531 | T | C | T | C |
| rs30003 | 19 | 49846398 | C | T | C | T |
| rs9461562 | 6 | 29778271 | G | A | G | A |
| rs1571025 | 10 | 6134869 | G | A | G | A |
| rs6602392 | 10 | 6078079 | A | C | A | C |
| rs1571026 | 10 | 6135025 | G | T | G | T |
| rs1573732 | 16 | 423420 | T | C | T | C |
| rs2228015 | 17 | 38715186 | C | T | C | T |
| rs61968809 | 13 | 106399307 | A | G | A | G |
| rs75983909 | 17 | 38723925 | T | C | T | C |
| rs1573732 | 16 | 423420 | T | C | T | C |
| rs2228015 | 17 | 38715186 | C | T | C | T |
| rs1573734 | 16 | 423619 | T | C | T | C |
| rs876036 | 7 | 50307710 | C | T | C | T |
| rs16988872 | 19 | 51580161 | T | C | T | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs17201560 | 6 | 32047268 | C | T | C | T |
| rs2571390 | 6 | 29923554 | C | T | C | T |
| rs3020726 | 2 | 87016506 | G | A | G | A |
| rs1723016 | 1 | 167433056 | C | T | C | T |
| rs1723018 | 1 | 167433420 | G | A | G | A |
| rs1723018 | 1 | 167433420 | G | A | G | A |
| rs61814886 | 1 | 167136405 | A | G | A | G |
| rs858545 | 1 | 167461391 | C | A | C | A |
| rs1723018 | 1 | 167433420 | G | A | G | A |

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|---|---|---|---|---|---|---|
| rs62028293 | 16 | 50264054 | C | T | C | T |
| rs858545 | 1 | 167461391 | C | A | C | A |
| rs1723018 | 1 | 167433420 | G | A | G | A |
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| rs1723018 | 1 | 167433420 | G | A | G | A |
| rs858545 | 1 | 167461391 | C | A | C | A |
| rs17552904 | 7 | 50318308 | T | G | T | G |
| rs17583875 | 1 | 197924770 | A | G | A | G |
| rs408686 | 2 | 39177320 | A | C | A | C |
| rs6751481 | 2 | 38897810 | C | T | C | T |
| rs17583875 | 1 | 197924770 | A | G | A | G |
| rs58905133 | 2 | 38887964 | G | A | G | A |
| rs17583875 | 1 | 197924770 | A | G | A | G |
| rs3130685 | 6 | 31206206 | T | C | T | C |
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| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs17583875 | 1 | 197924770 | A | G | A | G |
| rs4959028 | 6 | 32383138 | G | A | G | A |
| rs2596459 | 6 | 31417540 | T | G | T | G |
| rs6707421 | 2 | 38897781 | G | A | G | A |
| rs653178 | 12 | 112007756 | T | C | T | C |
| rs62400929 | 6 | 31159546 | G | A | G | A |
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| rs9501107 | 6 | 31392047 | T | G | T | G |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs17664049 | 18 | 48685445 | T | C | T | C |
| rs2480679 | 1 | 167407517 | G | A | G | A |
| rs2988279 | 1 | 167419839 | A | G | A | G |
| rs1773542 | 1 | 167432949 | C | T | C | T |
| rs17824379 | 3 | 5810961 | G | A | G | A |
| rs1799693 | 6 | 106992464 | G | A | G | A |
| rs9398107 | 6 | 107155687 | G | A | G | A |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs62395272 | 6 | 31394424 | T | C | T | C |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs77762937 | 2 | 203467470 | T | G | T | G |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs1800973 | 12 | 69744014 | A | C | A | C |
| rs762789 | 3 | 46402627 | A | G | A | G |
| rs77465361 | 5 | 159009803 | T | G | T | G |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs4683184 | 3 | 46187707 | A | G | A | G |
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| rs2649752 | 3 | 39351805 | A | C | A | C |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs72865957 | 3 | 39355919 | A | G | A | G |
| rs1801274 | 1 | 161479745 | G | A | G | A |
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| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs73051934 | 19 | 48582916 | G | A | G | A |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs2664523 | 20 | 45318042 | A | G | A | G |
| rs6687275 | 1 | 161515638 | G | T | G | T |

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|---|---|---|---|---|---|---|
| rs745307 | 20 | 44747086 | A | G | A | G |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs4802858 | 19 | 52253150 | C | T | C | T |
| rs58483275 | 19 | 51868443 | T | C | T | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
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| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs3820097 | 1 | 161049358 | A | G | A | G |
| rs3826007 | 15 | 80263217 | T | C | T | C |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs8046381 | 16 | 31379355 | C | T | C | T |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs1801274 | 1 | 161479745 | G | A | G | A |
| rs72865957 | 3 | 39355919 | A | G | A | G |
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| rs3820097 | 1 | 161049358 | A | G | A | G |
| rs3826007 | 15 | 80263217 | T | C | T | C |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs183053322 | 1 | 25076059 | T | C | T | C |
| rs7216096 | 17 | 33772954 | A | G | A | G |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs183053322 | 1 | 25076059 | T | C | T | C |
| rs6721978 | 2 | 232290157 | C | T | C | T |
| rs185048341 | 9 | 107953420 | A | G | A | G |
| rs67760360 | 15 | 80260872 | A | G | A | G |
| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs41295093 | 10 | 6120173 | A | G | A | G |
| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs2250246 | 12 | 6553016 | G | A | G | A |
| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs25680 | 12 | 6554628 | A | G | A | G |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs75918255 | 3 | 32945761 | A | G | A | G |
| rs7621492 | 3 | 32302456 | A | G | A | G |
| rs76929865 | 3 | 31134534 | C | A | C | A |
| rs1883832 | 20 | 44746982 | C | T | C | T |
| rs30006 | 19 | 49847916 | C | T | C | T |
| rs4716010 | 6 | 15898371 | A | G | A | G |
| rs61731791 | 19 | 50940778 | T | C | T | C |
| rs1886730 | 1 | 2488608 | C | T | C | T |
| rs1886730 | 1 | 2488608 | C | T | C | T |
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| rs1886730 | 1 | 2488608 | C | T | C | T |
| rs1886730 | 1 | 2488608 | C | T | C | T |
| rs1886730 | 1 | 2488608 | C | T | C | T |
| rs191217950 | 1 | 160940671 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs191217950 | 1 | 160940671 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
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| rs191217950 | 1 | 160940671 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |

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|---|---|---|---|---|---|---|
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs1941018 | 11 | 60268994 | G | A | G | A |
| rs30003 | 19 | 49846398 | C | T | C | T |
| rs388354 | 7 | 40190449 | C | A | C | A |
| rs72836542 | 6 | 14091682 | T | C | T | C |
| rs1973872 | 2 | 204631016 | G | T | G | T |
| rs72928038 | 6 | 90976768 | A | G | A | G |
| rs1973872 | 2 | 204631016 | G | T | G | T |
| rs72928038 | 6 | 90976768 | A | G | A | G |
| rs28607988 | 3 | 45913338 | C | A | C | A |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs61814872 | 1 | 167113055 | T | C | T | C |
| rs2018404 | 14 | 105695446 | T | C | T | C |
| rs28669075 | 15 | 40856521 | T | C | T | C |
| rs2066399 | 6 | 15880540 | A | G | A | G |
| rs4939384 | 11 | 60273642 | G | A | G | A |
| rs72836542 | 6 | 14091682 | T | C | T | C |
| rs2066399 | 6 | 15880540 | A | G | A | G |
| rs34486765 | 19 | 49915911 | A | G | A | G |
| rs72836542 | 6 | 14091682 | T | C | T | C |
| rs7939177 | 11 | 60266070 | T | C | T | C |
| rs2070901 | 1 | 161185058 | T | G | T | G |
| rs2092305 | 6 | 33100189 | G | A | G | A |
| rs72770017 | 16 | 10973612 | A | G | A | G |
| rs2164210 | 2 | 136580287 | C | T | C | T |
| rs2181036 | 9 | 117649136 | C | T | C | T |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs72779785 | 16 | 10569039 | G | A | G | A |
| rs2181036 | 9 | 117649136 | C | T | C | T |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs72779785 | 16 | 10569039 | G | A | G | A |
| rs2182176 | 1 | 2499254 | A | G | A | G |
| rs2227313 | 1 | 2487766 | C | T | C | T |
| rs2227313 | 1 | 2487766 | C | T | C | T |
| rs2234161 | 1 | 2491205 | T | C | T | C |
| rs2844594 | 6 | 31258393 | A | G | A | G |
| rs2234161 | 1 | 2491205 | T | C | T | C |
| rs2236073 | 6 | 106898421 | A | G | A | G |
| rs9400058 | 6 | 107164076 | G | A | G | A |
| rs2236073 | 6 | 106898421 | A | G | A | G |
| rs7246669 | 19 | 16442023 | G | A | G | A |
| rs72948545 | 6 | 107168477 | G | A | G | A |
| rs2236073 | 6 | 106898421 | A | G | A | G |
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| rs72948545 | 6 | 107168477 | G | A | G | A |
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| rs2236073 | 6 | 106898421 | A | G | A | G |
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| rs2236947 | 3 | 50371432 | A | C | A | C |

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|---|---|---|---|---|---|---|
| rs445 | 7 | 92408370 | T | C | T | C |
| rs2250246 | 12 | 6553016 | G | A | G | A |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs4810485 | 20 | 44747947 | G | T | G | T |
| rs2250246 | 12 | 6553016 | G | A | G | A |
| rs4239702 | 20 | 44749251 | C | T | C | T |
| rs2275848 | 9 | 95887320 | T | G | T | G |
| rs41294937 | 10 | 6106621 | C | T | C | T |
| rs2337147 | 18 | 46483810 | A | G | A | G |
| rs77346511 | 11 | 5268498 | T | C | T | C |
| rs2455069 | 19 | 51728641 | G | A | G | A |
| rs4499342 | 19 | 8786913 | T | C | T | C |
| rs2490437 | 1 | 161937517 | C | T | C | T |
| rs71632989 | 1 | 161533055 | G | T | G | T |
| rs2517515 | 6 | 31029258 | T | C | T | C |
| rs5750829 | 22 | 39838018 | G | A | G | A |
| rs2523614 | 6 | 31320654 | C | T | C | T |
| rs2523882 | 6 | 31042217 | T | C | T | C |
| rs3020726 | 2 | 87016506 | G | A | G | A |
| rs2523887 | 6 | 31040725 | G | A | G | A |
| rs2571390 | 6 | 29923554 | C | T | C | T |
| rs25680 | 12 | 6554628 | A | G | A | G |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs4810485 | 20 | 44747947 | G | T | G | T |
| rs56237381 | 3 | 32924804 | A | G | A | G |
| rs75918255 | 3 | 32945761 | A | G | A | G |
| rs2569177 | 5 | 139992162 | T | G | T | G |
| rs6671847 | 1 | 161478810 | A | G | A | G |
| rs2792563 | 1 | 213100225 | A | G | A | G |
| rs28424875 | 4 | 42664508 | C | A | C | A |
| rs55971447 | 1 | 161515326 | T | C | T | C |
| rs72926952 | 2 | 203485086 | T | G | T | G |
| rs2844804 | 6 | 29942126 | G | T | G | T |
| rs3020726 | 2 | 87016506 | G | A | G | A |
| rs2857229 | 12 | 6900616 | G | A | G | A |
| rs2857229 | 12 | 6900616 | G | A | G | A |
| rs28634695 | 15 | 40856113 | A | G | A | G |
| rs35501848 | 17 | 62021003 | T | G | T | G |
| rs9639820 | 7 | 40094641 | G | A | G | A |
| rs28669075 | 15 | 40856521 | T | C | T | C |
| rs28669075 | 15 | 40856521 | T | C | T | C |
| rs35501848 | 17 | 62021003 | T | G | T | G |
| rs9639820 | 7 | 40094641 | G | A | G | A |
| rs55971447 | 1 | 161515326 | T | C | T | C |
| rs6925683 | 6 | 33894292 | G | T | G | T |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs57319220 | 3 | 45919992 | A | G | A | G |
| rs61814872 | 1 | 167113055 | T | C | T | C |
| rs2949661 | 1 | 167424924 | T | C | T | C |
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| rs76540213 | 1 | 166035343 | T | C | T | C |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs858496 | 1 | 167500918 | G | T | G | T |
| rs2949661 | 1 | 167424924 | T | C | T | C |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs61814872 | 1 | 167113055 | T | C | T | C |
| rs2949669 | 1 | 167417884 | T | C | T | C |

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|---|---|---|---|---|---|---|
| rs2988277 | 1 | 167431352 | T | C | T | C |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs2988279 | 1 | 167419839 | A | G | A | G |
| rs2995089 | 1 | 167431193 | A | G | A | G |
| rs2995089 | 1 | 167431193 | A | G | A | G |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs7519927 | 1 | 167100361 | A | G | A | G |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs542160 | 11 | 107676543 | T | C | T | C |
| rs72779785 | 16 | 10569039 | G | A | G | A |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs62029480 | 16 | 10651993 | T | C | T | C |
| rs7032773 | 9 | 117645562 | T | C | T | C |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs72779785 | 16 | 10569039 | G | A | G | A |
| rs3087456 | 16 | 10970902 | A | G | A | G |
| rs7032773 | 9 | 117645562 | T | C | T | C |
| rs3116493 | 2 | 204589281 | T | G | T | G |
| rs75380201 | 18 | 39778311 | T | C | T | C |
| rs3116493 | 2 | 204589281 | T | G | T | G |
| rs3129891 | 6 | 32415080 | A | G | A | G |
| rs3130685 | 6 | 31206206 | T | C | T | C |
| rs3130685 | 6 | 31206206 | T | C | T | C |
| rs3130685 | 6 | 31206206 | T | C | T | C |
| rs3130685 | 6 | 31206206 | T | C | T | C |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs3184504 | 12 | 111884608 | C | T | C | T |
| rs3184504 | 12 | 111884608 | C | T | C | T |
| rs3184504 | 12 | 111884608 | C | T | C | T |
| rs4987358 | 1 | 169665551 | T | G | T | G |
| rs34460712 | 2 | 38935236 | A | G | A | G |
| rs3757247 | 6 | 90957463 | T | C | T | C |
| rs62183989 | 2 | 204609402 | T | C | T | C |
| rs34546581 | 2 | 87021659 | A | G | A | G |
| rs9461744 | 6 | 32388317 | G | A | G | A |
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| rs354020 | 19 | 49838891 | A | C | A | C |
| rs35574803 | 3 | 32533246 | C | T | C | T |
| rs4810485 | 20 | 44747947 | G | T | G | T |
| rs35587265 | 3 | 46259296 | G | A | G | A |
| rs6687275 | 1 | 161515638 | G | T | G | T |
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| rs55971447 | 1 | 161515326 | T | C | T | C |
| rs362522 | 6 | 29545208 | T | C | T | C |
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| rs7748976 | 6 | 33890451 | A | G | A | G |
| rs9296042 | 6 | 32736005 | T | C | T | C |
| rs3793662 | 9 | 95886051 | T | C | T | C |
| rs41295093 | 10 | 6120173 | A | G | A | G |
| rs3793662 | 9 | 95886051 | T | C | T | C |
| rs62626323 | 10 | 6115678 | A | C | A | C |
| rs3793662 | 9 | 95886051 | T | C | T | C |
| rs41294937 | 10 | 6106621 | C | T | C | T |
| rs7078614 | 10 | 6075831 | T | G | T | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |

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|---|---|---|---|---|---|---|
| rs3856266 | 1 | 157973889 | G | T | G | T |
| rs4656984 | 1 | 161078909 | C | T | C | T |
| rs77418963 | 1 | 162197834 | G | A | G | A |
| rs78569595 | 1 | 162032153 | T | G | T | G |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs62114147 | 19 | 51588018 | T | C | T | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs4499342 | 19 | 8786913 | T | C | T | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs4802858 | 19 | 52253150 | C | T | C | T |
| rs58483275 | 19 | 51868443 | T | C | T | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs74253876 | 18 | 5858361 | T | C | T | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs56043070 | 1 | 247719769 | A | G | A | G |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs75773078 | 19 | 51742145 | A | G | A | G |
| rs3865444 | 19 | 51727962 | A | C | A | C |
| rs3917768 | 1 | 169572947 | G | T | G | T |
| rs7526645 | 1 | 169728916 | T | C | T | C |
| rs3934748 | 1 | 206879659 | T | G | T | G |
| rs7189927 | 16 | 28913787 | C | T | C | T |
| rs394199 | 6 | 33553580 | T | C | T | C |
| rs61742525 | 6 | 33072522 | A | G | A | G |
| rs6808893 | 3 | 188133439 | T | C | T | C |
| rs73499473 | 16 | 10978885 | T | C | T | C |
| rs41294937 | 10 | 6106621 | C | T | C | T |
| rs7078614 | 10 | 6075831 | T | G | T | G |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs4371876 | 6 | 31067550 | A | G | A | G |
| rs9357097 | 6 | 30285121 | T | C | T | C |
| rs445 | 7 | 92408370 | T | C | T | C |
| rs4493054 | 16 | 31361988 | A | G | A | G |
| rs4521502 | 5 | 35842748 | G | T | G | T |
| rs4987360 | 1 | 169664867 | G | A | G | A |
| rs7139370 | 13 | 109976273 | T | C | T | C |
| rs9859349 | 3 | 31661754 | A | G | A | G |
| rs45608038 | 2 | 73679013 | G | A | G | A |
| rs75766272 | 1 | 8009985 | T | C | T | C |
| rs4657041 | 1 | 161478859 | C | T | C | T |
| rs4657649 | 1 | 167173140 | C | T | C | T |
| rs4683184 | 3 | 46187707 | A | G | A | G |
| rs79641389 | 3 | 46882338 | C | A | C | A |

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|---|---|---|---|---|---|---|
| rs4683184 | 3 | 46187707 | A | G | A | G |
| rs79825014 | 3 | 46880193 | T | G | T | G |
| rs4785074 | 16 | 59885737 | T | C | T | C |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs6904670 | 6 | 31192797 | G | A | G | A |
| rs7728865 | 5 | 59819941 | A | G | A | G |
| rs4796089 | 17 | 33814758 | C | T | C | T |
| rs4849134 | 2 | 111615015 | G | A | G | A |
| rs4987369 | 1 | 169662742 | T | G | T | G |
| rs548316 | 11 | 128077683 | A | G | A | G |
| rs55971447 | 1 | 161515326 | T | C | T | C |
| rs55971447 | 1 | 161515326 | T | C | T | C |
| rs75072970 | 1 | 161058351 | C | T | C | T |
| rs56216383 | 2 | 204631712 | G | A | G | A |
| rs56262516 | 6 | 29930939 | A | G | A | G |
| rs7425430 | 2 | 87056480 | G | A | G | A |
| rs569911 | 1 | 160798209 | C | T | C | T |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs569911 | 1 | 160798209 | C | T | C | T |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs569911 | 1 | 160798209 | C | T | C | T |
| rs71632989 | 1 | 161533055 | G | T | G | T |
| rs7180804 | 15 | 80259074 | A | G | A | G |
| rs865239 | 1 | 156896164 | G | A | G | A |
| rs9916257 | 17 | 33797371 | T | G | T | G |
| rs569911 | 1 | 160798209 | C | T | C | T |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs58027502 | 5 | 139978241 | T | C | T | C |
| rs58408589 | 16 | 31362741 | G | A | G | A |
| rs75841521 | 2 | 59592691 | A | G | A | G |
| rs78520150 | 1 | 19786101 | A | C | A | C |
| rs79298699 | 16 | 31402042 | T | C | T | C |
| rs597808 | 12 | 111973358 | G | A | G | A |
| rs61141933 | 2 | 39388479 | T | C | T | C |
| rs613165 | 6 | 31834398 | A | G | A | G |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs78667279 | 2 | 54957709 | A | G | A | G |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs61839660 | 10 | 6094697 | T | C | T | C |
| rs62183989 | 2 | 204609402 | T | C | T | C |
| rs62184016 | 2 | 204623481 | C | T | C | T |
| rs72928038 | 6 | 90976768 | A | G | A | G |
| rs62184016 | 2 | 204623481 | C | T | C | T |
| rs72928038 | 6 | 90976768 | A | G | A | G |
| rs62395272 | 6 | 31394424 | T | C | T | C |
| rs9296042 | 6 | 32736005 | T | C | T | C |
| rs62447171 | 7 | 50309890 | A | G | A | G |
| rs7658518 | 4 | 84160279 | A | G | A | G |
| rs62447171 | 7 | 50309890 | A | G | A | G |
| rs7658518 | 4 | 84160279 | A | G | A | G |
| rs62447171 | 7 | 50309890 | A | G | A | G |
| rs7658518 | 4 | 84160279 | A | G | A | G |

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|---|---|---|---|---|---|---|
| rs62447171 | 7 | 50309890 | A | G | A | G |
| rs7658518 | 4 | 84160279 | A | G | A | G |
| rs62626323 | 10 | 6115678 | A | C | A | C |
| rs6453485 | 5 | 79151752 | T | C | T | C |
| rs6535445 | 4 | 84151427 | C | T | C | T |
| rs6535445 | 4 | 84151427 | C | T | C | T |
| rs6537835 | 1 | 115108914 | A | G | A | G |
| rs71632989 | 1 | 161533055 | G | T | G | T |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs7078614 | 10 | 6075831 | T | G | T | G |
| rs7078614 | 10 | 6075831 | T | G | T | G |
| rs6681289 | 1 | 119421209 | A | G | A | G |
| rs6707421 | 2 | 38897781 | G | A | G | A |
| rs6707421 | 2 | 38897781 | G | A | G | A |
| rs6710361 | 2 | 87047145 | A | G | A | G |
| rs9896155 | 17 | 33794697 | G | A | G | A |
| rs6751481 | 2 | 38897810 | C | T | C | T |
| rs6751481 | 2 | 38897810 | C | T | C | T |
| rs6755452 | 2 | 87035076 | G | T | G | T |
| rs9896155 | 17 | 33794697 | G | A | G | A |
| rs6808893 | 3 | 188133439 | T | C | T | C |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71632979 | 1 | 161526397 | G | A | G | A |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs78600824 | 1 | 160841013 | G | A | G | A |
| rs71632989 | 1 | 161533055 | G | T | G | T |
| rs876036 | 7 | 50307710 | C | T | C | T |
| rs71632989 | 1 | 161533055 | G | T | G | T |
| rs71639910 | 1 | 161937774 | A | G | A | G |
| rs7189927 | 16 | 28913787 | C | T | C | T |
| rs7245846 | 19 | 51731176 | A | G | A | G |
| rs7351079 | 19 | 51574038 | G | A | G | A |
| rs78949787 | 19 | 51591138 | T | C | T | C |
| rs7245846 | 19 | 51731176 | A | G | A | G |
| rs72677097 | 1 | 61134076 | G | A | G | A |
| rs72915529 | 2 | 54970478 | A | G | A | G |
| rs9302635 | 16 | 72144174 | C | T | C | T |
| rs73165129 | 22 | 42315371 | T | C | T | C |
| rs73402222 | 6 | 31388449 | C | T | C | T |
| rs73402222 | 6 | 31388449 | C | T | C | T |
| rs73735764 | 6 | 46441386 | T | C | T | C |
| rs74529033 | 2 | 137747326 | G | A | G | A |
| rs75320486 | 1 | 206842241 | A | G | A | G |
| rs79856590 | 1 | 205241642 | A | G | A | G |
| rs7559619 | 2 | 38892207 | G | A | G | A |
| rs75766272 | 1 | 8009985 | T | C | T | C |
| rs760462 | 21 | 46328099 | C | T | C | T |
| rs760462 | 21 | 46328099 | C | T | C | T |
| rs76112278 | 4 | 15915069 | A | G | A | G |
| rs807784 | 4 | 13906853 | T | G | T | G |
| rs76112278 | 4 | 15915069 | A | G | A | G |
| rs76161425 | 11 | 112704995 | T | C | T | C |
| rs77650974 | 18 | 12394263 | A | G | A | G |
| rs77650974 | 18 | 12394263 | A | G | A | G |
| rs77789294 | 14 | 29178686 | C | T | C | T |
| rs778582 | 5 | 140004816 | T | C | T | C |
| rs7801342 | 7 | 31163003 | C | T | C | T |

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|---|---|---|---|---|---|---|
| rs78268116 | 11 | 112705025 | T | C | T | C |
| rs78268116 | 11 | 112705025 | T | C | T | C |
| rs78358948 | 11 | 112751974 | A | G | A | G |
| rs879299 | 6 | 15897007 | G | T | G | T |
| rs9268498 | 6 | 32375431 | C | T | C | T |
| rs9268832 | 6 | 32427789 | C | T | C | T |
| rs9916257 | 17 | 33797371 | T | G | T | G |

| EAF.exposure | EAF.outcome | BETA.exposure | BETA.outcome | SE.exposure | SE.outcome |
|---|---|---|---|---|---|
| 0.1224 | 0.8889362 | 0.389 | 0.0092 | 0.04003 | 0.04310441 |
| 0.5475 | 0.332246216 | -0.1509 | 0.0551 | 0.02717 | 0.028666013 |
| 0.5254 | 0.5819941 | 0.1606 | -0.0194 | 0.02681 | 0.02761212 |
| 0.1224 | 0.8889362 | 0.4144 | 0.0092 | 0.04052 | 0.04310441 |
| 0.6024 | 0.6754331 | -0.1389 | 0.009 | 0.02509 | 0.02887679 |
| 0.821 | 0.8228947 | 0.2375 | 0.0247 | 0.03213 | 0.03920499 |
| 0.3094 | 0.7911125 | 0.167 | -0.0081 | 0.02642 | 0.03319777 |
| 0.6088 | 0.4717883 | -0.236 | 0.0168 | 0.02474 | 0.02719056 |
| 0.3161 | 0.7159645 | 0.1752 | 0.0285 | 0.0268 | 0.03024686 |
| 0.8208 | 0.7666319 | 0.1788 | -0.0873 | 0.03256 | 0.04036428 |
| 0.0019 | 0.96419689 | 9.768 | 0.1314 | 1.725 | 0.07155964 |
| 0.0003 | 0.9871039 | 26.82 | 0.029 | 4.296 | 0.1372175 |
| 0.0023 | 0.987676059 | 9.265 | 0.0902 | 1.585 | 0.128470109 |
| 0.0022 | 0.01415165 | 8.874 | 0.056 | 1.564 | 0.1230952 |
| 0.0006 | 0.9866611 | 17.96 | 0.2719 | 3.205 | 0.1138209 |
| 0.0006 | 0.02026086 | 22.4 | -0.0884 | 3.301 | 0.1006472 |
| 0.0016 | 0.97909603 | 10.65 | 0.1129 | 1.782 | 0.09790708 |
| 0.0006 | 0.01336841 | 19.07 | -0.031 | 3.407 | 0.1241491 |
| 0.0004 | 0.9795834 | 18.77 | 0.0397 | 3.342 | 0.1091838 |
| 0.0001 | 0.98304394 | 32.87 | -0.1083 | 5.796 | 0.1119239 |
| 0.0001 | 0.97515327 | 33.95 | 0.1941 | 5.804 | 0.08367946 |
| 0.0001 | 0.9739926 | 36.56 | 0.2132 | 6.272 | 0.08694655 |
| 0.0007 | 0.98877191 | 16 | 0.2952 | 2.92 | 0.1360582 |
| 0.0013 | 0.98156476 | 10.8 | 0.1065 | 1.881 | 0.1007526 |
| 0.0006 | 0.9645273 | 23.37 | 0.0477 | 3.154 | 0.08083394 |
| 0.0003 | 0.98607117 | 21.5 | 0.2214 | 3.886 | 0.1133994 |
| 0.0003 | 0.97577714 | 23.94 | 0.093 | 3.906 | 0.09021363 |
| 0.0001 | 0.9837365 | 51.17 | -0.0102 | 8.845 | 0.1111862 |
| 0.0003 | 0.01714996 | 34.45 | -0.0405 | 4.832 | 0.1083407 |
| 0.0001 | 0.98187071 | 42.63 | -0.0299 | 7.413 | 0.1145587 |
| 0.0003 | 0.02310309 | 25.69 | 0.0502 | 4.095 | 0.0935861 |
| 0.0001 | 0.98181837 | 33.31 | -0.064 | 5.744 | 0.1041251 |
| 0.0006 | 0.03324949 | 15.79 | -0.079 | 2.811 | 0.07524828 |
| 0.0006 | 0.98327753 | 18.17 | -0.0866 | 3.072 | 0.1172988 |
| 0.0001 | 0.97758993 | 49 | 0.0325 | 5.703 | 0.09211064 |
| 0.0001 | 0.01306243 | 33.05 | 0.0514 | 5.644 | 0.1303671 |
| 0.0003 | 0.01199841 | 31.04 | 0.1773 | 4.31 | 0.1282593 |
| 0.0001 | 0.02740286 | 38.22 | 0.0796 | 4.737 | 0.0853657 |
| 0.0001 | 0.98281062 | 49.64 | 0.0712 | 5.557 | 0.1043359 |
| 0.0001 | 0.01424236 | 52.91 | -0.0836 | 5.64 | 0.1254138 |
| 0.0001 | 0.01128583 | 46.68 | 0.0474 | 7.967 | 0.1435408 |
| 0.0006 | 0.02180299 | 19.81 | -0.0027 | 3.224 | 0.09653701 |
| 0 | 0.01886418 | 100.8 | 0.0307 | 11.59 | 0.1093946 |
| 0.0022 | 0.01071407 | 9.036 | 0.2055 | 1.652 | 0.1322641 |
| 0.0001 | 0.98919462 | 35.15 | -0.1931 | 5.793 | 0.1513397 |
| 0.0001 | 0.01544379 | 44.6 | 0.081 | 7.703 | 0.1157179 |
| 0.1892 | 0.7034485 | 0.1206 | 0.029 | 0.02163 | 0.02971991 |
| 0.0191 | 0.02907878 | 0.3952 | -0.1512 | 0.06626 | 0.08578726 |
| 0 | 0.01609922 | -12.04 | 0.1998 | 2.063 | 0.1064437 |
| 0.124 | 0.06602777 | 0.234 | 0.0111 | 0.03837 | 0.05490806 |
| 0.3117 | 0.8077573 | -0.1677 | 0.0326 | 0.02967 | 0.03477862 |
| 0.1325 | 0.8378662 | -0.2444 | 0.0026 | 0.0376 | 0.03867804 |
| 0.0888 | 0.91798137 | -0.2765 | 0.0188 | 0.04672 | 0.04984935 |
| 0.5524 | 0.4572018 | 0.1554 | -0.0282 | 0.02741 | 0.02719056 |
| 0.3815 | 0.7085882 | -0.1391 | -0.0099 | 0.02491 | 0.0298253 |
| 0.0103 | 0.92049029 | 118.5 | -0.0163 | 17.59 | 0.04984935 |

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|---|---|---|---|---|---|
| 0.0019 | 0.96419689 | 407.5 | 0.1314 | 40.68 | 0.07155964 |
| 0.0031 | 0.04033336 | 216.9 | 0.0583 | 30.85 | 0.06934646 |
| 0.0173 | 0.96841416 | 95.49 | 0.0226 | 13.66 | 0.07767225 |
| 0.0173 | 0.98555397 | 82 | 0.0629 | 13.96 | 0.1143479 |
| 0.0015 | 0.97568433 | 308.6 | -0.1452 | 43.15 | 0.09021363 |
| 0.0026 | 0.96205689 | 206.9 | -0.0544 | 34.55 | 0.07261354 |
| 0.0019 | 0.01377006 | 249.4 | -0.0134 | 42.57 | 0.1144533 |
| 0.0019 | 0.02082668 | 292.3 | 0.0329 | 40.49 | 0.09759091 |
| 0.0114 | 0.96262871 | 95.85 | 0.048 | 16.51 | 0.0699788 |
| 0.0015 | 0.96746908 | 345.5 | 0.0779 | 42.75 | 0.08473336 |
| 0.0026 | 0.98285181 | 206.8 | 0.2128 | 32.42 | 0.1063383 |
| 0.0015 | 0.98485096 | 312.7 | -0.0474 | 46.04 | 0.1078137 |
| 0.0012 | 0.01082456 | 386.6 | 0.0774 | 51.06 | 0.1448055 |
| 0.0021 | 0.97563359 | 214.8 | 0.0498 | 37.5 | 0.09611545 |
| 0.0037 | 0.02348297 | 189.8 | 0.0309 | 29.08 | 0.09727474 |
| 0.0023 | 0.987676059 | 324.4 | 0.0902 | 37.63 | 0.128470109 |
| 0.0038 | 0.98431097 | 172.3 | -0.0798 | 28.61 | 0.1307887 |
| 0.0022 | 0.982179784 | 234.6 | -0.0223 | 39.65 | 0.105600532 |
| 0.0006 | 0.01103262 | 725.8 | 0.0724 | 66.51 | 0.1356366 |
| 0.0004 | 0.988121 | 662.4 | -0.1119 | 82.11 | 0.1394306 |
| 0.0059 | 0.982094194 | 139.3 | -0.0644 | 25.24 | 0.107075989 |
| 0.0019 | 0.02489514 | 239.1 | 0.0241 | 39.88 | 0.08705194 |
| 0.0054 | 0.98520068 | 160.1 | 0.0325 | 23.53 | 0.1124509 |
| 0.0003 | 0.98838633 | 623.6 | 0.0323 | 88.02 | 0.1325803 |
| 0.0018 | 0.98539682 | 274.8 | 0.183 | 40.08 | 0.1156126 |
| 0.0041 | 0.0124802 | 192.2 | -0.1399 | 28.52 | 0.145754 |
| 0.0023 | 0.98043859 | 221.5 | 0.0501 | 34.4 | 0.1021227 |
| 0.0034 | 0.0327613 | 177.5 | -0.0683 | 30.9 | 0.07746147 |
| 0.0023 | 0.98209737 | 207.9 | 0.0726 | 36.33 | 0.1140317 |
| 0.0016 | 0.98341378 | 315.7 | 0.0382 | 41.99 | 0.117088 |
| 0.0003 | 0.97456223 | 771.6 | -0.108 | 91.49 | 0.09042441 |
| 0.0006 | 0.977252932 | 794.2 | -0.1597 | 70 | 0.094218439 |
| 0.0006 | 0.01415715 | 759.4 | 0.1028 | 70.06 | 0.117088 |
| 0.0003 | 0.98909167 | 896.2 | 0.014 | 97.49 | 0.1477564 |
| 0.0006 | 0.9866611 | 889.9 | 0.2719 | 73.93 | 0.1138209 |
| 0.0043 | 0.01128752 | 159.2 | -0.1112 | 28.32 | 0.1465971 |
| 0.0015 | 0.96743738 | 268.3 | -0.0619 | 44.19 | 0.0781992 |
| 0.0022 | 0.02510031 | 297 | -0.1267 | 38.79 | 0.09200525 |
| 0.0006 | 0.02026086 | 1006 | -0.0884 | 78.94 | 0.1006472 |
| 0.0023 | 0.97523846 | 212.9 | 0.0354 | 34.36 | 0.09759091 |
| 0.9974 | 0.98823728 | -233.6 | -0.1129 | 40.25 | 0.1244653 |
| 0.0012 | 0.98672996 | 420 | 0.2269 | 62.49 | 0.131948 |
| 0.0006 | 0.01336841 | 834.4 | -0.031 | 80.31 | 0.1241491 |
| 0.0065 | 0.98815331 | 126.2 | -0.1952 | 21.64 | 0.1387983 |
| 0.0035 | 0.9856401 | 194.3 | -0.0968 | 29.94 | 0.1194066 |
| 0.0028 | 0.98131625 | 255.1 | -0.0426 | 33.32 | 0.1043359 |
| 0.0028 | 0.98235331 | 208.3 | -0.146 | 32.03 | 0.1074975 |
| 0.0032 | 0.0116044 | 186 | -0.0286 | 31.2 | 0.1340558 |
| 0.0006 | 0.97525802 | 437.7 | 0.0254 | 69.06 | 0.08778966 |
| 0.0019 | 0.97958602 | 264.9 | 0.0668 | 39.21 | 0.1059167 |
| 0.0022 | 0.0123869 | 196.1 | -0.0642 | 35.66 | 0.1243599 |
| 0.0035 | 0.98548787 | 272.5 | -0.0651 | 27.65 | 0.1163503 |
| 0.001 | 0.02914985 | 414.6 | -0.1389 | 53.64 | 0.08589265 |
| 0.0021 | 0.01319819 | 215.2 | 0.1873 | 39.24 | 0.1177204 |
| 0.0021 | 0.97482968 | 260.9 | -0.0836 | 40.57 | 0.09653701 |
| 0.001 | 0.98735438 | 573 | 0.0437 | 57.77 | 0.139536 |
| 0.0034 | 0.9737687 | 224.8 | 0.1031 | 31.22 | 0.09284837 |
| 0.0026 | 0.98808371 | 206.4 | 0.1019 | 37.47 | 0.1322641 |

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|---|---|---|---|---|---|
| 0.0079 | 0.0136695 | 141 | -0.024 | 20.2 | 0.1171934 |
| 0.0021 | 0.98474473 | 246.8 | -0.1021 | 37.81 | 0.1144533 |
| 0.0032 | 0.98261055 | 172.1 | -0.0004 | 31.46 | 0.104652 |
| 0.0006 | 0.02497234 | 785.2 | -0.0242 | 70.89 | 0.08800044 |
| 0.0079 | 0.97330471 | 111 | -0.0845 | 19.94 | 0.0853657 |
| 0.0022 | 0.98554605 | 248.5 | 0.0877 | 37.09 | 0.1149802 |
| 0.0251 | 0.103848041 | 76.42 | -0.016 | 11.29 | 0.045106814 |
| 0.0007 | 0.98877191 | 699.1 | 0.2952 | 69.55 | 0.1360582 |
| 0.0057 | 0.98403866 | 169.6 | 0.0028 | 23.32 | 0.108973 |
| 0.0025 | 0.9697458 | 245.4 | -0.0034 | 36.99 | 0.08283635 |
| 0.0013 | 0.98156476 | 620.5 | 0.1065 | 43.09 | 0.1007526 |
| 0.0035 | 0.96653244 | 166.6 | -0.0795 | 29.17 | 0.07809381 |
| 0.0113 | 0.01219264 | 98.72 | -0.0864 | 17.57 | 0.1209874 |
| 0.0012 | 0.97867044 | 417.3 | -0.0856 | 51.4 | 0.09495617 |
| 0.0006 | 0.9645273 | 1000 | 0.0477 | 72.99 | 0.08083394 |
| 0.0028 | 0.02405701 | 219.9 | -0.2065 | 33.8 | 0.09179447 |
| 0.0003 | 0.98607117 | 1285 | 0.2214 | 88.96 | 0.1133994 |
| 0.0054 | 0.98867435 | 139.5 | 0.1377 | 25.13 | 0.1341612 |
| 0.0034 | 0.982567529 | 200.7 | 0.0511 | 32.7 | 0.108129886 |
| 0.0006 | 0.01310247 | 570.9 | 0.2159 | 70.25 | 0.1191958 |
| 0.0003 | 0.97577714 | 842.4 | 0.093 | 89.95 | 0.09021363 |
| 0.0318 | 0.96796895 | 59.98 | -0.0362 | 10.31 | 0.08009621 |
| 0.0004 | 0.01869668 | 836.1 | 0.0101 | 73.46 | 0.1023334 |
| 0.001 | 0.01535632 | 516.8 | 0.0824 | 57.96 | 0.120882 |
| 0.0032 | 0.98751415 | 204.4 | 0.0367 | 36.08 | 0.1281539 |
| 0.0012 | 0.01347037 | 460.1 | 0.1009 | 50.43 | 0.1191958 |
| 0.0211 | 0.98473183 | 69.9 | -0.0319 | 12.06 | 0.121409 |
| 0.0026 | 0.97113734 | 210.6 | 0.0112 | 33.76 | 0.08115011 |
| 0.0009 | 0.98857458 | 636.7 | 0.156 | 65.61 | 0.1340558 |
| 0.0029 | 0.9838868 | 181.9 | -0.0997 | 32.71 | 0.111397 |
| 0.0007 | 0.01333926 | 440.2 | 0.033 | 64.38 | 0.1236222 |
| 0.0013 | 0.98772699 | 394.5 | -0.1751 | 51.12 | 0.1423816 |
| 0.0072 | 0.0192333 | 127.1 | 0.0921 | 21.37 | 0.1037035 |
| 0.0001 | 0.9837365 | 1232 | -0.0102 | 203.7 | 0.1111862 |
| 0.0021 | 0.98043422 | 279.2 | 0.0867 | 36.97 | 0.1004364 |
| 0.001 | 0.98681758 | 328.1 | -0.0299 | 52.32 | 0.1164557 |
| 0.0092 | 0.02196956 | 111.8 | -0.1926 | 18.01 | 0.1056005 |
| 0.0565 | 0.983126233 | 43.94 | 0.0736 | 7.987 | 0.103703517 |
| 0.0006 | 0.98295575 | 591.4 | 0.0326 | 73.04 | 0.1090784 |
| 0.0007 | 0.01578429 | 369.2 | 0.2467 | 61.96 | 0.1061275 |
| 0.0003 | 0.01862886 | 730 | -0.1288 | 96.39 | 0.1082353 |
| 0.01 | 0.02203397 | 159.5 | 0.0207 | 18.29 | 0.09274298 |
| 0.0062 | 0.97993006 | 144.1 | -0.0653 | 25.27 | 0.09885559 |
| 0.0025 | 0.983073198 | 210.7 | -0.0367 | 35.78 | 0.104546635 |
| 0.0207 | 0.96998417 | 77.03 | -0.0208 | 13.23 | 0.08652499 |
| 0.0026 | 0.98310219 | 186.1 | 0.0563 | 33.82 | 0.106549 |
| 0.0031 | 0.01340742 | 185.9 | 0.0426 | 33.18 | 0.1227791 |
| 0.0003 | 0.01714996 | 1994 | -0.0405 | 108.9 | 0.1083407 |
| 0.0031 | 0.01329828 | 202.4 | 0.1809 | 32.76 | 0.1274162 |
| 0.006 | 0.98410214 | 207 | 0.0144 | 22.8 | 0.1093946 |
| 0.0016 | 0.98647639 | 235.3 | -0.0519 | 42.7 | 0.121409 |
| 0.005 | 0.01072233 | 143.9 | -0.0001 | 26.11 | 0.1351097 |
| 0.0056 | 0.98084517 | 152.8 | -0.076 | 23.81 | 0.1054951 |
| 0.0032 | 0.98289946 | 181.2 | -0.0339 | 33.13 | 0.1088676 |
| 0.0009 | 0.9885705 | 549.6 | -0.0416 | 57.08 | 0.1460702 |
| 0.0016 | 0.013485144 | 301 | -0.0588 | 43.5 | 0.118985031 |
| 0.0094 | 0.98746893 | 114.2 | 0.1236 | 18.22 | 0.1187743 |
| 0.0079 | 0.98877646 | 123.5 | 0.0422 | 20 | 0.1273108 |

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|---|---|---|---|---|---|
| 0.0057 | 0.01385253 | 183.9 | 0.3099 | 22.31 | 0.1140317 |
| 0.0044 | 0.98332186 | 149.3 | 0.1083 | 26.38 | 0.107076 |
| 0.0007 | 0.01001303 | 438.9 | 0.1138 | 64.07 | 0.1674643 |
| 0.0013 | 0.01669789 | 266.7 | -0.0502 | 46.83 | 0.1033873 |
| 0.0022 | 0.96910044 | 257.4 | 0.1108 | 36.09 | 0.07904231 |
| 0.0003 | 0.02310309 | 1445 | 0.0502 | 93.44 | 0.0935861 |
| 0.0007 | 0.98769911 | 708.1 | -0.1791 | 63.75 | 0.1403792 |
| 0.0028 | 0.03440742 | 203.9 | -0.0262 | 36.54 | 0.07703991 |
| 0.0022 | 0.98275093 | 339.6 | -0.0613 | 33.81 | 0.1060221 |
| 0.0019 | 0.98173442 | 240.6 | -0.1084 | 38.16 | 0.09906637 |
| 0.0009 | 0.98208131 | 496.1 | -0.0133 | 55.44 | 0.1125563 |
| 0.0025 | 0.97574899 | 262.4 | 0.0492 | 37.13 | 0.08894895 |
| 0.0012 | 0.98145415 | 432.3 | 0.1186 | 52.29 | 0.1066544 |
| 0.0073 | 0.94613854 | 163.3 | -0.0705 | 20.92 | 0.06449853 |
| 0.0012 | 0.98219229 | 320.1 | 0.1667 | 47.71 | 0.1101323 |
| 0.0001 | 0.98181837 | 2073 | -0.064 | 128.5 | 0.1041251 |
| 0.0091 | 0.02619594 | 150.2 | 0.0908 | 18.37 | 0.08937051 |
| 0.0006 | 0.03324949 | 751.8 | -0.079 | 64.6 | 0.07524828 |
| 0.0028 | 0.98532138 | 235.6 | -0.0253 | 38.25 | 0.1172988 |
| 0.007 | 0.98311021 | 121.9 | 0.156 | 21.11 | 0.1129778 |
| 0.0021 | 0.98859344 | 253.3 | -0.124 | 38.53 | 0.1344773 |
| 0.0026 | 0.98216767 | 230.6 | 0.0048 | 33.78 | 0.1103431 |
| 0.0013 | 0.98185971 | 306.1 | -0.1376 | 48.59 | 0.1021227 |
| 0.0032 | 0.97849558 | 181.1 | -0.1321 | 30.9 | 0.09558851 |
| 0.0006 | 0.98327753 | 887.3 | -0.0866 | 70.63 | 0.1172988 |
| 0.0007 | 0.02400834 | 750.9 | 0.033 | 68.52 | 0.08810583 |
| 0.0009 | 0.02135305 | 428.3 | 0.1883 | 59.76 | 0.09474539 |
| 0.0001 | 0.9882903 | 1200 | -0.2103 | 109.5 | 0.1278378 |
| 0.0007 | 0.97531989 | 413.3 | -0.0531 | 62.46 | 0.09232142 |
| 0.004 | 0.01219474 | 177.1 | 0.1851 | 31.66 | 0.1203551 |
| 0.0009 | 0.98832722 | 436.5 | -0.1834 | 60.77 | 0.1299456 |
| 0.0066 | 0.03844981 | 156.1 | -0.061 | 22.14 | 0.07219198 |
| 0.9988 | 0.03954309 | -388.2 | 0.1042 | 50.03 | 0.07208659 |
| 0.0066 | 0.97987692 | 164.3 | -0.0579 | 21.61 | 0.09853942 |
| 0.0018 | 0.987338319 | 270.7 | -0.0814 | 41.43 | 0.123306011 |
| 0.001 | 0.01906996 | 542.5 | -0.256 | 54.89 | 0.1166665 |
| 0.0009 | 0.98267978 | 336.7 | 0.033 | 53.43 | 0.1052844 |
| 0.001 | 0.97214318 | 475 | -0.0416 | 55.24 | 0.08884356 |
| 0.0035 | 0.97338396 | 158.9 | 0.0033 | 28.76 | 0.08620882 |
| 0.0034 | 0.01584373 | 197.3 | -0.1385 | 29.42 | 0.1091838 |
| 0.0025 | 0.98864644 | 286.8 | -0.1086 | 38.31 | 0.1380606 |
| 0.0022 | 0.9849388 | 212.6 | -0.0084 | 36.32 | 0.1117131 |
| 0.0007 | 0.98368665 | 330.6 | -0.016 | 59.91 | 0.1110808 |
| 0.0037 | 0.01326142 | 160.9 | -0.2425 | 28.33 | 0.1204605 |
| 0.0007 | 0.01729143 | 398.3 | 0.1422 | 60.2 | 0.1041251 |
| 0.0069 | 0.98550463 | 149.1 | -0.1418 | 21.18 | 0.1177204 |
| 0.0032 | 0.98770375 | 255.1 | -0.1127 | 29.73 | 0.1378498 |
| 0.0001 | 0.97758993 | 1757 | 0.0325 | 129.6 | 0.09211064 |
| 0.0022 | 0.01504849 | 235.6 | 0.1061 | 37 | 0.1138209 |
| 0.0016 | 0.98410962 | 263 | 0.0042 | 43.72 | 0.1095 |
| 0.999 | 0.03531652 | -548.4 | -0.0412 | 57.56 | 0.0760914 |
| 0.0015 | 0.95540653 | 342.1 | 0.0666 | 46.48 | 0.07271893 |
| 0.0015 | 0.9885306 | 397 | -0.0216 | 48.27 | 0.1225683 |
| 0.0006 | 0.98292753 | 643.8 | -0.0691 | 80.36 | 0.1118185 |
| 0.0013 | 0.02277337 | 424.9 | -0.014 | 49.05 | 0.09938254 |
| 0.0012 | 0.0309615 | 381.2 | -0.0075 | 58.11 | 0.0771453 |
| 0.0007 | 0.97536527 | 520 | 0.0413 | 59.93 | 0.09748552 |
| 0.0003 | 0.01199841 | 1003 | 0.1773 | 98.17 | 0.1282593 |

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|---|---|---|---|---|---|
| 0.0004 | 0.02533842 | 568.9 | 0.082 | 78.84 | 0.08473336 |
| 0.0016 | 0.96759374 | 250 | 0.047 | 43.75 | 0.07809381 |
| 0.004 | 0.01959568 | 204.6 | -0.0663 | 27.04 | 0.09790708 |
| 0.0116 | 0.96879091 | 130.7 | 0.1882 | 17.31 | 0.08157167 |
| 0.0029 | 0.01820527 | 218.4 | 0.001 | 33.18 | 0.1025442 |
| 0.0041 | 0.98457324 | 166.4 | -0.1342 | 27.44 | 0.1137155 |
| 0.0004 | 0.02200173 | 658.4 | 0.0464 | 82.87 | 0.08989746 |
| 0.0076 | 0.97704832 | 125.6 | -0.116 | 19.43 | 0.09611545 |
| 0.0122 | 0.98326187 | 90.23 | -0.0966 | 16.28 | 0.1069706 |
| 0.001 | 0.97241604 | 442.9 | 0.1298 | 54.79 | 0.08410102 |
| 0.0032 | 0.02680152 | 184.9 | 0.1269 | 31.03 | 0.0853657 |
| 0.0022 | 0.97463833 | 212.8 | -0.0876 | 37.83 | 0.08873817 |
| 0.0015 | 0.98581446 | 269.8 | -0.1265 | 44.42 | 0.1198281 |
| 0.0022 | 0.01115302 | 239.6 | 0.0964 | 36.44 | 0.1353204 |
| 0.0029 | 0.98709176 | 207 | 0.051 | 33.71 | 0.1194066 |
| 0.0009 | 0.010292 | 358.8 | 0.1049 | 54.73 | 0.1551337 |
| 0.0013 | 0.98179744 | 353 | 0.0473 | 46.68 | 0.1035981 |
| 0.0006 | 0.9840287 | 559.9 | 0.1182 | 69.63 | 0.1028604 |
| 0.0009 | 0.02122599 | 559.6 | -0.1032 | 56.91 | 0.09305915 |
| 0.0004 | 0.9809955 | 632.9 | 0.0986 | 75.09 | 0.1031766 |
| 0.0016 | 0.98255561 | 348.1 | 0.0707 | 45.47 | 0.1012796 |
| 0.9869 | 0.9872728 | -87.22 | 0.053 | 15.38 | 0.1210928 |
| 0.0016 | 0.9668513 | 335 | -0.0996 | 44.28 | 0.07703991 |
| 0.0079 | 0.98413772 | 130.9 | -0.0089 | 20.78 | 0.1082353 |
| 0.0001 | 0.98281062 | 2721 | 0.0712 | 123.4 | 0.1043359 |
| 0.0029 | 0.98546138 | 203 | -0.1113 | 35.7 | 0.1163503 |
| 0.0088 | 0.979274382 | 106.8 | -0.1068 | 19.44 | 0.092532203 |
| 0.0004 | 0.97865667 | 634.9 | -0.0282 | 80.9 | 0.1024388 |
| 0.0063 | 0.01150237 | 134.6 | 0.1684 | 22.06 | 0.1293132 |
| 0.001 | 0.03549027 | 364.4 | 0.0131 | 54.53 | 0.07872615 |
| 0.0066 | 0.95834935 | 116.6 | -0.0386 | 21.02 | 0.06903029 |
| 0.0018 | 0.98567904 | 278.8 | -0.0438 | 42.64 | 0.1207767 |
| 0.0007 | 0.01419689 | 404.4 | -0.1716 | 62.01 | 0.1216198 |
| 0.0015 | 0.97570031 | 336.9 | 0.0668 | 45.79 | 0.08884356 |
| 0.0012 | 0.98907429 | 438.9 | -0.0429 | 52.07 | 0.1512343 |
| 0.0015 | 0.97788482 | 287.4 | 0.054 | 43.92 | 0.0915837 |
| 0.0018 | 0.024439875 | 264 | -0.1987 | 40.5 | 0.09790708 |
| 0.0016 | 0.96774718 | 322 | -0.0546 | 41.59 | 0.07883154 |
| 0.0018 | 0.96761029 | 308.9 | 0.1102 | 44.43 | 0.07935848 |
| 0.0019 | 0.98660028 | 326.1 | 0.1684 | 38.46 | 0.1172988 |
| 0.0016 | 0.9850556 | 268.4 | -0.1873 | 41.66 | 0.1156126 |
| 0.0018 | 0.01522108 | 338.9 | -0.0128 | 40.47 | 0.1234114 |
| 0.0094 | 0.98441518 | 105.3 | 0.0487 | 18.42 | 0.1128724 |
| 0.0015 | 0.98231232 | 352 | -0.1353 | 44.95 | 0.1071814 |
| 0.0103 | 0.97894049 | 101.4 | 0.1559 | 17.52 | 0.1001203 |
| 0.0018 | 0.98587311 | 225.9 | 0.0633 | 40.82 | 0.1175096 |
| 0.0097 | 0.97549097 | 132.5 | -0.0522 | 17.32 | 0.09316454 |
| 0.0079 | 0.03022528 | 143.3 | -0.044 | 20.28 | 0.08030699 |
| 0.0128 | 0.02292249 | 97.68 | -0.1219 | 15.15 | 0.09453461 |
| 0.0013 | 0.984637461 | 287 | 0.2675 | 50.66 | 0.108340666 |
| 0.0001 | 0.02424251 | 1057 | 0.0367 | 134.1 | 0.08852739 |
| 0 | 0.01886418 | 3549 | 0.0307 | 263.7 | 0.1093946 |
| 0.0016 | 0.02192245 | 303.6 | -0.0567 | 45.76 | 0.09221603 |
| 0.0016 | 0.01167217 | 297 | 0.0628 | 43.55 | 0.1351097 |
| 0.0006 | 0.97419497 | 434.2 | -0.0649 | 63.13 | 0.08989746 |
| 0.0029 | 0.9847622 | 263.6 | -0.0157 | 31.58 | 0.1269947 |
| 0.0022 | 0.01071407 | 331.8 | 0.2055 | 38.87 | 0.1322641 |
| 0.0003 | 0.97626379 | 961.3 | 0.0501 | 93.43 | 0.09390227 |

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|---|---|---|---|---|---|
| 0.0053 | 0.04828693 | 163.6 | -0.0011 | 28.37 | 0.06934646 |
| 0.0004 | 0.02243307 | 1117 | 0.1659 | 84.15 | 0.09442922 |
| 0.0073 | 0.98453632 | 141.4 | 0.2243 | 20.64 | 0.1232006 |
| 0.0116 | 0.98081326 | 99.34 | 0.2628 | 16.98 | 0.1102377 |
| 0.0001 | 0.98919462 | 1826 | -0.1931 | 132.8 | 0.1513397 |
| 0.0433 | 0.98403694 | 47.59 | 0.1204 | 8.691 | 0.1069706 |
| 0.0004 | 0.98443843 | 774.8 | -0.1946 | 85.45 | 0.1117131 |
| 0.0007 | 0.01779188 | 404.7 | 0.0393 | 62.22 | 0.1052844 |
| 0.0043 | 0.97337307 | 168.6 | 0.1023 | 26.99 | 0.08494414 |
| 0.0012 | 0.02245681 | 391.1 | 0.0159 | 49.95 | 0.09263759 |
| 0.0161 | 0.97217755 | 85.79 | -0.2378 | 14.27 | 0.08620882 |
| 0.0031 | 0.02390009 | 193.7 | -0.0244 | 32.62 | 0.08589265 |
| 0.0971 | 0.91276956 | -0.2991 | -0.0693 | 0.04099 | 0.04890085 |
| 0.1839 | 0.95956166 | 0.2182 | -0.0805 | 0.03712 | 0.07429978 |
| 0.8748 | 0.07937202 | 0.207 | 0.0581 | 0.03723 | 0.05100864 |
| 0.203 | 0.834726 | 0.1894 | 0.0475 | 0.0315 | 0.03962655 |
| 0.2425 | 0.2448006 | -0.3215 | -0.0138 | 0.02865 | 0.03161693 |
| 0.0972 | 0.95894409 | 0.2358 | 0.0999 | 0.04238 | 0.06860873 |
| 0.5787 | 0.6203122 | 0.2317 | -0.0648 | 0.02892 | 0.03045764 |
| 0.1412 | 0.1588857 | -0.5196 | 0.0342 | 0.03725 | 0.03688641 |
| 0.1639 | 0.8232942 | 0.249 | 0.061 | 0.03122 | 0.03562174 |
| 0.0354 | 0.988271966 | -0.408 | -0.1162 | 0.06431 | 0.130894073 |
| 0.5685 | 0.5594995 | -0.2323 | -0.0028 | 0.02306 | 0.02740134 |
| 0.1639 | 0.8232942 | 0.2345 | 0.061 | 0.03229 | 0.03562174 |
| 0.5685 | 0.5594995 | -0.1918 | -0.0028 | 0.02391 | 0.02740134 |
| 0.1639 | 0.8232942 | -0.2345 | 0.061 | 0.03229 | 0.03562174 |
| 0.5685 | 0.5594995 | 0.1918 | -0.0028 | 0.02391 | 0.02740134 |
| 0.7693 | 0.6926367 | 0.2395 | -0.047 | 0.03338 | 0.03172232 |
| 0.0044 | 0.9524443 | -1.249 | 0.0334 | 0.188 | 0.06397158 |
| 0.328 | 0.615129 | -0.1062 | 0.0206 | 0.01937 | 0.02803367 |
| 0.5294 | 0.4947278 | -0.1633 | -0.0646 | 0.02863 | 0.02708517 |
| 0.2464 | 0.6983108 | -0.2753 | 0.0017 | 0.03163 | 0.02961452 |
| 0.2894 | 0.5997991 | -0.189 | 0.0087 | 0.02875 | 0.02782289 |
| 0.514 | 0.4115997 | -0.3631 | 0.0066 | 0.02528 | 0.0277175 |
| 0.2213 | 0.3083588 | -0.2494 | -0.0195 | 0.03146 | 0.02961452 |
| 0.4687 | 0.5454015 | 0.8768 | 0.0122 | 0.02116 | 0.02719056 |
| 0.0675 | 0.9628155 | 0.3373 | -0.0594 | 0.0511 | 0.07229737 |
| 0.2888 | 0.5997991 | -0.1864 | 0.0087 | 0.02836 | 0.02782289 |
| 0.5141 | 0.4115997 | -0.3538 | 0.0066 | 0.02489 | 0.0277175 |
| 0.3439 | 0.5965761 | -0.1886 | -0.0094 | 0.02672 | 0.02761212 |
| 0.0528 | 0.98522253 | 0.4456 | -0.0419 | 0.05532 | 0.1119239 |
| 0.4686 | 0.4548862 | 0.9156 | 0.0121 | 0.02033 | 0.02719056 |
| 0.0675 | 0.9628155 | 0.3615 | -0.0594 | 0.05014 | 0.07229737 |
| 0.2895 | 0.5997991 | -0.2188 | 0.0087 | 0.02869 | 0.02782289 |
| 0.5139 | 0.4115997 | -0.4118 | 0.0066 | 0.0249 | 0.0277175 |
| 0.3446 | 0.5965761 | -0.1846 | -0.0094 | 0.02711 | 0.02761212 |
| 0.0524 | 0.98522253 | 0.5248 | -0.0419 | 0.05593 | 0.1119239 |
| 0.4682 | 0.4548643 | 1.011 | 0.013 | 0.01936 | 0.02719056 |
| 0.0675 | 0.9628155 | 0.4486 | -0.0594 | 0.05056 | 0.07229737 |
| 0.2888 | 0.5997991 | -0.1827 | 0.0087 | 0.02838 | 0.02782289 |
| 0.5141 | 0.4115997 | -0.3962 | 0.0066 | 0.02472 | 0.0277175 |
| 0.3439 | 0.5965761 | -0.1937 | -0.0094 | 0.02673 | 0.02761212 |
| 0.4687 | 0.4549361 | 1.014 | 0.0114 | 0.01892 | 0.02719056 |
| 0.0675 | 0.9628155 | 0.4759 | -0.0594 | 0.0499 | 0.07229737 |
| 0.9472 | 0.01481844 | -0.5171 | 0.0582 | 0.0553 | 0.1117131 |
| 0.6527 | 0.2266671 | 0.1739 | -0.0007 | 0.02896 | 0.03277621 |
| 0.0187 | 0.98374399 | 0.8979 | -0.0521 | 0.1053 | 0.1145587 |
| 0.0457 | 0.01499557 | 0.5908 | 0.1274 | 0.06675 | 0.1160341 |

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|---|---|---|---|---|---|
| 0.0884 | 0.93086251 | 0.2681 | 0.0177 | 0.04886 | 0.05374877 |
| 0.4728 | 0.4549336 | 0.4907 | 0.0114 | 0.0262 | 0.02719056 |
| 0.5897 | 0.6909228 | 0.185 | -0.0499 | 0.03057 | 0.0319331 |
| 0.0887 | 0.97541987 | -0.5202 | -0.1282 | 0.05995 | 0.09780169 |
| 0.0346 | 0.96480425 | -0.7129 | 0.0568 | 0.09169 | 0.07440517 |
| 0.0517 | 0.01403027 | -0.5047 | -0.0838 | 0.07979 | 0.1172988 |
| 0.061 | 0.96862688 | -0.607 | -0.0636 | 0.07005 | 0.08009621 |
| 0.1375 | 0.92517759 | -0.472 | 0.0138 | 0.04978 | 0.05195715 |
| 0.6486 | 0.7404184 | 0.2286 | 0.0144 | 0.03604 | 0.03098459 |
| 0.025 | 0.97486188 | -0.7454 | 0.083 | 0.1101 | 0.0894759 |
| 0.0875 | 0.97541987 | -0.5131 | -0.1282 | 0.04473 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.7498 | 0.0568 | 0.06509 | 0.07440517 |
| 0.0526 | 0.01403027 | -0.5364 | -0.0838 | 0.05734 | 0.1172988 |
| 0.325 | 0.480596621 | -0.1694 | 0.0078 | 0.02694 | 0.027295946 |
| 0.0622 | 0.96862688 | -0.5248 | -0.0636 | 0.05105 | 0.08009621 |
| 0.6419 | 0.7404184 | 0.218 | 0.0144 | 0.0259 | 0.03098459 |
| 0.1407 | 0.92520665 | -0.4367 | 0.0139 | 0.036 | 0.05195715 |
| 0.0264 | 0.97486188 | -0.7095 | 0.083 | 0.07772 | 0.0894759 |
| 0.0874 | 0.97541987 | -0.5326 | -0.1282 | 0.04476 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.7406 | 0.0568 | 0.06518 | 0.07440517 |
| 0.099 | 0.07958666 | -1.496 | 0.0485 | 0.03385 | 0.05058708 |
| 0.0526 | 0.01403027 | -0.5338 | -0.0838 | 0.05744 | 0.1172988 |
| 0.3253 | 0.480596621 | -0.1724 | 0.0078 | 0.02698 | 0.027295946 |
| 0.0622 | 0.96862688 | -0.5142 | -0.0636 | 0.05113 | 0.08009621 |
| 0.6419 | 0.7404184 | 0.2136 | 0.0144 | 0.02594 | 0.03098459 |
| 0.1407 | 0.92520665 | -0.4435 | 0.0139 | 0.03602 | 0.05195715 |
| 0.0264 | 0.97486188 | -0.7056 | 0.083 | 0.07783 | 0.0894759 |
| 0.0874 | 0.97541987 | -0.4922 | -0.1282 | 0.04486 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.7389 | 0.0568 | 0.0653 | 0.07440517 |
| 0.0527 | 0.01403027 | -0.4826 | -0.0838 | 0.05757 | 0.1172988 |
| 0.0622 | 0.96862688 | -0.5142 | -0.0636 | 0.05119 | 0.08009621 |
| 0.3342 | 0.47856234 | -0.1522 | 0.0065 | 0.02702 | 0.029614521 |
| 0.6418 | 0.7404184 | 0.2246 | 0.0144 | 0.02597 | 0.03098459 |
| 0.1406 | 0.92520665 | -0.4284 | 0.0139 | 0.03608 | 0.05195715 |
| 0.0996 | 0.08022913 | -1.434 | 0.0391 | 0.03455 | 0.05027091 |
| 0.0264 | 0.97486188 | -0.7005 | 0.083 | 0.0779 | 0.0894759 |
| 0.0873 | 0.97541987 | -0.4717 | -0.1282 | 0.0449 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.6734 | 0.0568 | 0.06556 | 0.07440517 |
| 0.0525 | 0.01403027 | -0.4771 | -0.0838 | 0.05763 | 0.1172988 |
| 0.0622 | 0.96862688 | -0.4832 | -0.0636 | 0.05131 | 0.08009621 |
| 0.6419 | 0.7404184 | 0.2113 | 0.0144 | 0.026 | 0.03098459 |
| 0.1406 | 0.92520665 | -0.4046 | 0.0139 | 0.03616 | 0.05195715 |
| 0.099 | 0.92084717 | -1.385 | 0.0455 | 0.03524 | 0.05069247 |
| 0.0264 | 0.97486188 | -0.6664 | 0.083 | 0.07803 | 0.0894759 |
| 0.0874 | 0.97541987 | -0.5028 | -0.1282 | 0.04481 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.7505 | 0.0568 | 0.06509 | 0.07440517 |
| 0.0526 | 0.01403027 | -0.5223 | -0.0838 | 0.05739 | 0.1172988 |
| 0.325 | 0.480596621 | -0.1765 | 0.0078 | 0.02694 | 0.027295946 |
| 0.0622 | 0.96862688 | -0.5308 | -0.0636 | 0.05104 | 0.08009621 |
| 0.6418 | 0.7404184 | 0.2184 | 0.0144 | 0.02591 | 0.03098459 |
| 0.1406 | 0.92520665 | -0.4356 | 0.0139 | 0.03602 | 0.05195715 |
| 0.0264 | 0.97486188 | -0.7149 | 0.083 | 0.07772 | 0.0894759 |
| 0.0874 | 0.97541987 | -0.4975 | -0.1282 | 0.0448 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.763 | 0.0568 | 0.065 | 0.07440517 |
| 0.099 | 0.07958666 | -1.509 | 0.0485 | 0.03362 | 0.05058708 |
| 0.0526 | 0.01403027 | -0.5384 | -0.0838 | 0.05731 | 0.1172988 |
| 0.325 | 0.480596621 | -0.1805 | 0.0078 | 0.02691 | 0.027295946 |
| 0.0622 | 0.96862688 | -0.532 | -0.0636 | 0.051 | 0.08009621 |

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|---|---|---|---|---|---|
| 0.6418 | 0.7404184 | 0.2191 | 0.0144 | 0.0259 | 0.03098459 |
| 0.1406 | 0.92520665 | -0.4296 | 0.0139 | 0.03601 | 0.05195715 |
| 0.0264 | 0.97486188 | -0.7283 | 0.083 | 0.07763 | 0.0894759 |
| 0.0874 | 0.97541987 | -0.5029 | -0.1282 | 0.04491 | 0.09780169 |
| 0.0365 | 0.96480425 | -0.7531 | 0.0568 | 0.06516 | 0.07440517 |
| 0.0526 | 0.01403027 | -0.5248 | -0.0838 | 0.05747 | 0.1172988 |
| 0.325 | 0.480596621 | -0.1866 | 0.0078 | 0.02696 | 0.027295946 |
| 0.0622 | 0.96862688 | -0.5235 | -0.0636 | 0.05113 | 0.08009621 |
| 0.6418 | 0.7404184 | 0.2161 | 0.0144 | 0.02596 | 0.03098459 |
| 0.1406 | 0.92520665 | -0.4336 | 0.0139 | 0.03609 | 0.05195715 |
| 0.0264 | 0.97486188 | -0.7259 | 0.083 | 0.0778 | 0.0894759 |
| 0.0872 | 0.97541987 | -0.5412 | -0.1282 | 0.04473 | 0.09780169 |
| 0.0364 | 0.96480425 | -0.7379 | 0.0568 | 0.06516 | 0.07440517 |
| 0.0527 | 0.01403027 | -0.5355 | -0.0838 | 0.05733 | 0.1172988 |
| 0.0621 | 0.96862688 | -0.5121 | -0.0636 | 0.05103 | 0.08009621 |
| 0.6417 | 0.7404184 | 0.2107 | 0.0144 | 0.02589 | 0.03098459 |
| 0.1407 | 0.92520665 | -0.4487 | 0.0139 | 0.03597 | 0.05195715 |
| 0.0263 | 0.97486188 | -0.6949 | 0.083 | 0.07785 | 0.0894759 |
| 0.5726 | 0.3374182 | -0.1328 | 0.0217 | 0.02309 | 0.03140615 |
| 0.7661 | 0.742607 | -0.4611 | -0.0272 | 0.02546 | 0.0308792 |
| 0.4182 | 0.5706917 | -0.1471 | 0.0227 | 0.02426 | 0.02740134 |
| 0.1007 | 0.8023709 | 0.4553 | 0.0139 | 0.04256 | 0.03425167 |
| 0.514 | 0.4115997 | -0.4069 | 0.0066 | 0.02528 | 0.0277175 |
| 0.9692 | 0.01600679 | -0.4298 | -0.183 | 0.07576 | 0.1078137 |
| 0.2213 | 0.3083588 | -0.2549 | -0.0195 | 0.03174 | 0.02961452 |
| 0.4073 | 0.5029423 | -0.2387 | 0.004 | 0.02661 | 0.02719056 |
| 0.6348 | 0.5804156 | 0.1594 | 0.0232 | 0.02725 | 0.02761212 |
| 0.574 | 0.4948719 | -0.9707 | -0.0089 | 0.02069 | 0.02697978 |
| 0.1007 | 0.8023709 | 0.4987 | 0.0139 | 0.04195 | 0.03425167 |
| 0.5141 | 0.4115997 | -0.4034 | 0.0066 | 0.02502 | 0.0277175 |
| 0.0528 | 0.98522253 | 0.5578 | -0.0419 | 0.05578 | 0.1119239 |
| 0.4262 | 0.5052813 | 1.039 | 0.008 | 0.01935 | 0.02697978 |
| 0.3 | 0.6881858 | -0.1833 | -0.0352 | 0.02842 | 0.02929835 |
| 0.0588 | 0.02573456 | 0.562 | -0.0992 | 0.05417 | 0.08821122 |
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| 0.5141 | 0.4115997 | -0.4485 | 0.0066 | 0.02417 | 0.0277175 |
| 0.9693 | 0.01600679 | -0.4197 | -0.183 | 0.07322 | 0.1078137 |
| 0.0528 | 0.98522253 | 0.6399 | -0.0419 | 0.0542 | 0.1119239 |
| 0.6359 | 0.5804156 | 0.2158 | 0.0232 | 0.0262 | 0.02761212 |
| 0.0716 | 0.96151999 | 0.269 | -0.0469 | 0.0485 | 0.07040035 |
| 0.5738 | 0.4948475 | -1.111 | -0.0084 | 0.01733 | 0.02697978 |
| 0.0588 | 0.02573456 | 0.6144 | -0.0992 | 0.05272 | 0.08821122 |
| 0.1009 | 0.8023709 | 0.4441 | 0.0139 | 0.04007 | 0.03425167 |
| 0.5141 | 0.4115997 | -0.3969 | 0.0066 | 0.02378 | 0.0277175 |
| 0.4259 | 0.5052349 | 0.9616 | 0.007 | 0.01893 | 0.02697978 |
| 0.4068 | 0.5029423 | -0.2419 | 0.004 | 0.0251 | 0.02719056 |
| 0.0211 | 0.01943345 | 0.6746 | -0.0582 | 0.08639 | 0.09959332 |
| 0.9472 | 0.01481844 | -0.5209 | 0.0582 | 0.0533 | 0.1117131 |
| 0.5276 | 0.5448902 | -0.2945 | -0.013 | 0.02665 | 0.02719056 |
| 0.4865 | 0.2053527 | 0.2076 | -0.0532 | 0.02905 | 0.03625407 |
| 0.4269 | 0.4947586 | -0.2226 | 0.0073 | 0.02713 | 0.02697978 |
| 0.4466 | 0.605326605 | 0.5797 | 0.0108 | 0.02517 | 0.027822895 |
| 0.0324 | 0.93209821 | -0.4505 | -0.0165 | 0.07604 | 0.053748774 |
| 0.5156 | 0.4115997 | -0.3988 | 0.0066 | 0.02725 | 0.0277175 |
| 0.4288 | 0.5052349 | 1.015 | 0.007 | 0.02097 | 0.02697978 |
| 0.3854 | 0.3931844 | 0.2849 | 0.0076 | 0.02836 | 0.03024686 |
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|---|---|---|---|---|---|
| 0.5156 | 0.4115997 | -0.1597 | 0.0066 | 0.02758 | 0.0277175 |
| 0.0187 | 0.98374399 | 0.6927 | -0.0521 | 0.1041 | 0.1145587 |
| 0.0457 | 0.01499557 | 0.5196 | 0.1274 | 0.06591 | 0.1160341 |
| 0.4719 | 0.5474985 | 0.5445 | 0.0168 | 0.02537 | 0.02950913 |
| 0.5717 | 0.2393961 | 0.3005 | 0.0084 | 0.02793 | 0.03172232 |
| 0.5156 | 0.4115997 | -0.3837 | 0.0066 | 0.0273 | 0.0277175 |
| 0.4053 | 0.5029423 | -0.2329 | 0.004 | 0.02819 | 0.02719056 |
| 0.3848 | 0.6068208 | 0.2703 | 0.007 | 0.02839 | 0.03024686 |
| 0.5709 | 0.5051715 | -1.026 | -0.0084 | 0.02079 | 0.02697978 |
| 0.5153 | 0.4115997 | -0.1936 | 0.0066 | 0.02737 | 0.0277175 |
| 0.3851 | 0.6068208 | 0.1839 | 0.007 | 0.02761 | 0.03024686 |
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| 0.0211 | 0.01943345 | 0.569 | -0.0582 | 0.09629 | 0.09959332 |
| 0.4719 | 0.5474985 | 1.175 | 0.0168 | 0.01665 | 0.02950913 |
| 0.9466 | 0.01974258 | -0.4413 | 0.0496 | 0.05908 | 0.09685318 |
| 0.5141 | 0.4115997 | -0.3997 | 0.0066 | 0.02377 | 0.0277175 |
| 0.0528 | 0.98522253 | 0.5572 | -0.0419 | 0.05308 | 0.1119239 |
| 0.2999 | 0.6881858 | -0.2053 | -0.0352 | 0.02702 | 0.02929835 |
| 0.4686 | 0.4548874 | 1.021 | 0.0123 | 0.01764 | 0.02719056 |
| 0.0674 | 0.9628155 | 0.4246 | -0.0594 | 0.04825 | 0.07229737 |
| 0.1106 | 0.135951218 | 0.2178 | -0.052 | 0.03952 | 0.040048106 |
| 0.3258 | 0.480596621 | 0.5089 | 0.0078 | 0.02554 | 0.027295946 |
| 0.0455 | 0.01871598 | 0.3665 | -0.0397 | 0.06056 | 0.1042305 |
| 0.146 | 0.7315893 | 0.715 | 0.0431 | 0.0334 | 0.03056303 |
| 0.2439 | 0.7849069 | -0.4537 | -0.0132 | 0.03721 | 0.03267082 |
| 0.2082 | 0.6878651 | 0.1734 | 0.0168 | 0.03172 | 0.02950913 |
| 0.5911 | 0.6088145 | -0.1952 | -0.0323 | 0.02627 | 0.0277175 |
| 0.0044 | 0.9524443 | 1.391 | 0.0334 | 0.1912 | 0.06397158 |
| 0.0145 | 0.06456783 | 0.6084 | -0.0294 | 0.1074 | 0.05627813 |
| 0.2083 | 0.6878651 | 0.2281 | 0.0168 | 0.02982 | 0.02950913 |
| 0.2082 | 0.6878651 | 0.1841 | 0.0168 | 0.03172 | 0.02950913 |
| 0.5911 | 0.6088145 | -0.2138 | -0.0323 | 0.02624 | 0.0277175 |
| 0.0044 | 0.9524443 | 1.418 | 0.0334 | 0.1913 | 0.06397158 |
| 0.0145 | 0.06456783 | 0.6318 | -0.0294 | 0.1074 | 0.05627813 |
| 0.552 | 0.332185099 | 0.238 | 0.0556 | 0.03646 | 0.028666013 |
| 0.3428 | 0.7678453 | 0.2608 | 0.0052 | 0.03665 | 0.03477862 |
| 0.5475 | 0.332185099 | -0.2555 | 0.0556 | 0.02745 | 0.028666013 |
| 0.0323 | 0.96141674 | -0.5632 | 0.0179 | 0.07427 | 0.07788303 |
| 0.3055 | 0.6139303 | 0.3221 | -0.0079 | 0.02878 | 0.02792828 |
| 0.0816 | 0.97718644 | 0.2856 | -0.0427 | 0.04932 | 0.09548312 |
| 0.0124 | 0.98311064 | -0.7822 | -0.1058 | 0.1208 | 0.1091838 |
| 0.0308 | 0.97488021 | -0.4696 | 0.165 | 0.07632 | 0.08620882 |
| 0.1086 | 0.96980236 | -1.076 | 0.013 | 0.03832 | 0.07904231 |
| 0.022 | 0.96320915 | -0.4567 | 0.0146 | 0.08253 | 0.07261354 |
| 0.2581 | 0.3227183 | 0.273 | 0.0324 | 0.02764 | 0.02898218 |
| 0.1514 | 0.8949306 | 0.2106 | 0.0358 | 0.03486 | 0.0442637 |
| 0.555 | 0.5682089 | -0.143 | -0.0168 | 0.02522 | 0.02750673 |
| 0.325 | 0.480596621 | -0.2111 | 0.0078 | 0.02661 | 0.027295946 |
| 0.6318 | 0.2481714 | -0.4707 | -0.0551 | 0.02507 | 0.03130076 |
| 0.5339 | 0.4012964 | -0.2059 | 0.0136 | 0.02456 | 0.0277175 |
| 0.0562 | 0.02701209 | 0.6071 | -0.0586 | 0.05356 | 0.08273096 |
| 0.035 | 0.98073243 | 0.4158 | 0.0596 | 0.06821 | 0.1021227 |
| 0.469 | 0.5566083 | 0.1497 | 0.0549 | 0.02574 | 0.02729595 |
| 0.0133 | 0.963834118 | 0.6796 | -0.1283 | 0.109 | 0.075459063 |
| 0.3268 | 0.480596621 | 0.3834 | 0.0078 | 0.02582 | 0.027295946 |
| 0.3064 | 0.2916925 | -0.1674 | 0.0084 | 0.02775 | 0.0298253 |

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| 0.3064 | 0.2916925 | -0.2433 | 0.0084 | 0.02779 | 0.0298253 |
| 0.2194 | 0.7256658 | -0.3589 | 0.0084 | 0.04157 | 0.03045764 |
| 0.0918 | 0.98911045 | 0.4117 | 0.0849 | 0.06776 | 0.1322641 |
| 0.2193 | 0.7256658 | -0.4126 | 0.0084 | 0.04076 | 0.03045764 |
| 0.7156 | 0.4798355 | -0.2424 | 0.03 | 0.04306 | 0.02961452 |
| 0.0917 | 0.98911045 | 0.3935 | 0.0849 | 0.06679 | 0.1322641 |
| 0.4017 | 0.7138743 | -0.1548 | 0.029 | 0.0252 | 0.02993069 |
| 0.3458 | 0.06052395 | -0.1904 | 0.0311 | 0.03241 | 0.0596506 |
| 0.1514 | 0.8949306 | 0.256 | 0.0358 | 0.03444 | 0.0442637 |
| 0.1224 | 0.95767674 | 0.2579 | -0.0321 | 0.03725 | 0.07113808 |
| 0.555 | 0.5682089 | -0.1453 | -0.0168 | 0.02494 | 0.02750673 |
| 0.325 | 0.480596621 | -0.2208 | 0.0078 | 0.02632 | 0.027295946 |
| 0.6318 | 0.2481714 | -0.5841 | -0.0551 | 0.02417 | 0.03130076 |
| 0.1671 | 0.7631517 | -0.2616 | 0.0099 | 0.03299 | 0.03203848 |
| 0.0562 | 0.02701209 | 0.7589 | -0.0586 | 0.05246 | 0.08273096 |
| 0.035 | 0.98073243 | 0.5011 | 0.0596 | 0.06717 | 0.1021227 |
| 0.1136 | 0.95896223 | 0.2196 | 0.0549 | 0.03939 | 0.06713327 |
| 0.6669 | 0.2582425 | 0.1525 | 0.0121 | 0.02627 | 0.03098459 |
| 0.1514 | 0.8949306 | 0.199 | 0.0358 | 0.03488 | 0.0442637 |
| 0.1224 | 0.95767674 | 0.2563 | -0.0321 | 0.03761 | 0.07113808 |
| 0.6318 | 0.2481714 | -0.5071 | -0.0551 | 0.0249 | 0.03130076 |
| 0.1671 | 0.7631517 | -0.213 | 0.0099 | 0.03344 | 0.03203848 |
| 0.0562 | 0.02701209 | 0.6708 | -0.0586 | 0.05333 | 0.08273096 |
| 0.0272 | 0.9634158 | 0.4286 | 0.0998 | 0.07713 | 0.07271893 |
| 0.0304 | 0.03540675 | -0.4093 | 0.1531 | 0.0725 | 0.07177042 |
| 0.035 | 0.98073243 | 0.4366 | 0.0596 | 0.06803 | 0.1021227 |
| 0.1514 | 0.8949306 | 0.2761 | 0.0358 | 0.03467 | 0.0442637 |
| 0.0718 | 0.02406367 | 0.2781 | 0.0013 | 0.0492 | 0.08873817 |
| 0.1224 | 0.95767674 | 0.299 | -0.0321 | 0.03747 | 0.07113808 |
| 0.555 | 0.5682089 | -0.1635 | -0.0168 | 0.02512 | 0.02750673 |
| 0.325 | 0.480596621 | -0.2933 | 0.0078 | 0.02635 | 0.027295946 |
| 0.6318 | 0.2481714 | -0.5853 | -0.0551 | 0.02439 | 0.03130076 |
| 0.1671 | 0.7631517 | -0.3147 | 0.0099 | 0.03313 | 0.03203848 |
| 0.0562 | 0.02701209 | 0.6995 | -0.0586 | 0.05313 | 0.08273096 |
| 0.035 | 0.98073243 | 0.478 | 0.0596 | 0.06777 | 0.1021227 |
| 0.1513 | 0.8949306 | 0.1988 | 0.0358 | 0.03485 | 0.0442637 |
| 0.0718 | 0.02406367 | 0.2712 | 0.0013 | 0.04922 | 0.08873817 |
| 0.1224 | 0.95767674 | 0.2484 | -0.0321 | 0.03759 | 0.07113808 |
| 0.3251 | 0.480596621 | -0.1586 | 0.0078 | 0.02671 | 0.027295946 |
| 0.167 | 0.7631517 | -0.2612 | 0.0099 | 0.03338 | 0.03203848 |
| 0.0561 | 0.02701209 | 0.7465 | -0.0586 | 0.05306 | 0.08273096 |
| 0.6313 | 0.2482242 | -0.4783 | -0.0536 | 0.02498 | 0.03130076 |
| 0.0272 | 0.9634158 | 0.4379 | 0.0998 | 0.077 | 0.07271893 |
| 0.035 | 0.98073243 | 0.5086 | 0.0596 | 0.06804 | 0.1021227 |
| 0.1514 | 0.8949306 | 0.2742 | 0.0358 | 0.03426 | 0.0442637 |
| 0.1224 | 0.95767674 | 0.264 | -0.0321 | 0.03709 | 0.07113808 |
| 0.555 | 0.5682089 | -0.1634 | -0.0168 | 0.02479 | 0.02750673 |
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| 0.6318 | 0.2481714 | -0.6404 | -0.0551 | 0.02368 | 0.03130076 |
| 0.1671 | 0.7631517 | -0.2122 | 0.0099 | 0.03291 | 0.03203848 |
| 0.0562 | 0.02701209 | 0.6579 | -0.0586 | 0.05259 | 0.08273096 |
| 0.035 | 0.98073243 | 0.4177 | 0.0596 | 0.06693 | 0.1021227 |
| 0.0057 | 0.98063408 | 1.244 | -0.0876 | 0.2236 | 0.1009634 |
| 0.5925 | 0.6088145 | -0.2555 | -0.0323 | 0.02636 | 0.0277175 |
| 0.0041 | 0.9524443 | 1.499 | 0.0334 | 0.1979 | 0.06397158 |
| 0.0033 | 0.97848138 | 1.586 | 0.0964 | 0.2396 | 0.1012796 |
| 0.0149 | 0.03293785 | 0.698 | 0.0715 | 0.1104 | 0.07588062 |
| 0.5909 | 0.6088145 | 0.1345 | -0.0323 | 0.02443 | 0.0277175 |

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|---|---|---|---|---|---|
| 0.0044 | 0.9524443 | -1.081 | 0.0334 | 0.1759 | 0.06397158 |
| 0.2969 | 0.1744765 | -0.1902 | 0.0787 | 0.02599 | 0.03541096 |
| 0.5907 | 0.6088145 | -0.1861 | -0.0323 | 0.0267 | 0.0277175 |
| 0.0044 | 0.9524443 | 1.342 | 0.0334 | 0.1929 | 0.06397158 |
| 0.2972 | 0.1744765 | 0.2347 | 0.0787 | 0.02843 | 0.03541096 |
| 0.0427 | 0.95329406 | 0.4352 | 0.0264 | 0.06661 | 0.06355002 |
| 0.1266 | 0.97237729 | -0.2839 | -0.0557 | 0.04341 | 0.09105675 |
| 0.228 | 0.3246714 | -0.2551 | 0.0332 | 0.03189 | 0.02919296 |
| 0.4762 | 0.754849 | 0.1925 | -0.0197 | 0.02804 | 0.03456784 |
| 0.4853 | 0.5866563 | -0.1653 | 0.0224 | 0.02755 | 0.02750673 |
| 0.2982 | 0.7284708 | -0.3745 | -0.0296 | 0.02938 | 0.03045764 |
| 0.0844 | 0.93606052 | -1.218 | -0.0655 | 0.04471 | 0.05480267 |
| 0.1975 | 0.90110612 | 0.2088 | -0.0062 | 0.03441 | 0.04942779 |
| 0.0637 | 0.97695845 | -0.4161 | -0.1528 | 0.05614 | 0.09095136 |
| 0.0212 | 0.0153733 | -0.5777 | 0.0456 | 0.0981 | 0.1230952 |
| 0.0001 | 0.97968015 | 26.26 | 0.0756 | 4.684 | 0.1048628 |
| 0.0003 | 0.98514891 | 23.77 | -0.1534 | 3.62 | 0.1358474 |
| 0.0003 | 0.03656503 | 32 | -0.0975 | 3.541 | 0.08041238 |
| 0.0001 | 0.98489401 | 30.16 | 0.0588 | 4.486 | 0.1143479 |
| 0.0015 | 0.98731482 | 9.757 | 0.0086 | 1.738 | 0.1210928 |
| 0.0004 | 0.98279228 | 24.71 | 0.0192 | 3.261 | 0.1112916 |
| 0.0047 | 0.97838495 | 5.388 | 0.0563 | 0.8953 | 0.09211064 |
| 0.2185 | 0.704696 | 1.086 | -0.0388 | 0.1686 | 0.03246004 |
| 0.0072 | 0.95716267 | 4.44 | 0.0664 | 0.7441 | 0.06860873 |
| 0.0003 | 0.01711402 | 19.07 | 0.0973 | 3.318 | 0.105179 |
| 0.0004 | 0.98426147 | 20.95 | 0.2047 | 2.979 | 0.1110808 |
| 0.0057 | 0.02114181 | 4.577 | 0.2215 | 0.79 | 0.09896098 |
| 0.0003 | 0.98493582 | 22.84 | 0.1169 | 3.766 | 0.1210928 |
| 0.0003 | 0.98381268 | 24.63 | -0.028 | 3.673 | 0.1136102 |
| 0.0001 | 0.986435563 | 25.81 | -0.0434 | 4.27 | 0.118247303 |
| 0.001 | 0.985159205 | 11.36 | -0.0279 | 1.879 | 0.113293984 |
| 0.3523 | 0.3818072 | 1.152 | -0.0222 | 0.1309 | 0.0277175 |
| 0.0001 | 0.01549095 | 31.35 | -0.1516 | 4.91 | 0.114031713 |
| 0.0001 | 0.97660591 | 52.08 | 0.1346 | 8.178 | 0.09010824 |
| 0.0001 | 0.98036846 | 29.68 | -0.0075 | 4.936 | 0.100858 |
| 0.0003 | 0.01996814 | 20.97 | 0.1057 | 3.305 | 0.09969871 |
| 0.0032 | 0.04135303 | 6.353 | 0.1118 | 1.049 | 0.07040035 |
| 0.0003 | 0.98489215 | 18.92 | 0.139 | 3.324 | 0.108973 |
| 0.0006 | 0.97908569 | 303.3 | -0.0439 | 53.88 | 0.09390227 |
| 0.0025 | 0.02127788 | 137.6 | -0.0058 | 24.38 | 0.09590468 |
| 0.0043 | 0.015378928 | 123.8 | -0.048 | 19.64 | 0.120565877 |
| 0.0076 | 0.97699058 | 87.63 | 0.0311 | 15.24 | 0.09031902 |
| 0.0006 | 0.98861784 | 345.8 | -0.0222 | 57.03 | 0.133318 |
| 0.0001 | 0.98489401 | 591 | 0.0588 | 96.85 | 0.1143479 |
| 0.0022 | 0.982179784 | 176.7 | -0.0223 | 29.35 | 0.105600532 |
| 0.0003 | 0.97598111 | 436 | 0.0444 | 75.02 | 0.0976963 |
| 0.0003 | 0.98817053 | 450.6 | -0.0604 | 77.86 | 0.135742 |
| 0.0015 | 0.98731482 | 213 | 0.0086 | 36.73 | 0.1210928 |
| 0.0006 | 0.02026086 | 384.3 | -0.0884 | 58.05 | 0.1006472 |
| 0.0022 | 0.01099178 | 172.7 | 0.1607 | 28.26 | 0.1316318 |
| 0.0075 | 0.02343719 | 84.27 | 0.1624 | 15.32 | 0.09042441 |
| 0.0025 | 0.02881138 | 159.7 | -0.0131 | 26.69 | 0.08157167 |
| 0.0018 | 0.95529191 | 201.5 | -0.018 | 32.14 | 0.06639554 |
| 0.0022 | 0.98266658 | 192.8 | -0.0712 | 34.06 | 0.1043359 |
| 0.0004 | 0.0247793 | 364.8 | 0.0384 | 66.04 | 0.09622084 |
| 0.0004 | 0.98279228 | 472.2 | 0.0192 | 70.2 | 0.1112916 |
| 0.0004 | 0.01144458 | 385.7 | -0.1674 | 68.87 | 0.1301563 |
| 0.0035 | 0.98548787 | 132.8 | -0.0651 | 20.58 | 0.1163503 |

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|---|---|---|---|---|---|
| 0.0003 | 0.01358241 | 462.3 | -0.0879 | 82.97 | 0.1193012 |
| 0.001 | 0.98735438 | 232.5 | 0.0437 | 42.11 | 0.139536 |
| 0 | 0.01465189 | 2185 | 0.1756 | 391 | 0.1122401 |
| 0.0015 | 0.97671832 | 189.7 | 0.0245 | 34.49 | 0.09653701 |
| 0.2188 | 0.704696 | 22.81 | -0.0388 | 3.563 | 0.03246004 |
| 0 | 0.98346473 | 1678 | -0.0058 | 304.6 | 0.1099215 |
| 0.0004 | 0.98278539 | 641.1 | -0.0951 | 67.08 | 0.1096053 |
| 0.0048 | 0.980979747 | 111 | -0.1716 | 19.7 | 0.116034118 |
| 0.0001 | 0.98688365 | 791.9 | 0.2462 | 98.43 | 0.1428031 |
| 0.0007 | 0.01876459 | 259.1 | -0.0195 | 45.06 | 0.103282 |
| 0.0147 | 0.98308721 | 71.36 | 0.0321 | 10.98 | 0.1031766 |
| 0.0028 | 0.01335061 | 151.8 | 0.1092 | 24.76 | 0.1234114 |
| 0.0004 | 0.9894948 | 556.4 | 0.3367 | 84.21 | 0.1426977 |
| 0.0009 | 0.98300647 | 259.6 | 0.0479 | 43.23 | 0.1061275 |
| 0.0003 | 0.97751619 | 595.1 | -0.1756 | 71.5 | 0.09706396 |
| 0.001 | 0.97850794 | 251.2 | 0.0999 | 41.16 | 0.09590468 |
| 0.0001 | 0.012060681 | 725.9 | 0.0626 | 100.6 | 0.135952781 |
| 0.0026 | 0.98310219 | 148.2 | 0.0563 | 25.16 | 0.106549 |
| 0.0009 | 0.01292423 | 262.3 | 0.0993 | 44.92 | 0.1330019 |
| 0.0007 | 0.98809857 | 285.3 | -0.0303 | 47.21 | 0.127627 |
| 0.0057 | 0.02114181 | 118.8 | 0.2215 | 16.87 | 0.09896098 |
| 0.0003 | 0.98493582 | 473.4 | 0.1169 | 81.22 | 0.1210928 |
| 0.0004 | 0.9856037 | 402.2 | -0.1604 | 60.78 | 0.1120293 |
| 0.0001 | 0.98548952 | 613.8 | 0.0572 | 90.65 | 0.1168772 |
| 0.0001 | 0.98181837 | 760.5 | -0.064 | 100.6 | 0.1041251 |
| 0.0003 | 0.01442422 | 1005 | -0.134 | 130 | 0.1283647 |
| 0.0003 | 0.98625613 | 402.2 | 0.1004 | 71.9 | 0.1230952 |
| 0.9991 | 0.98796374 | -397.5 | 0.0882 | 42.74 | 0.1475457 |
| 0.0009 | 0.01377977 | 256.7 | -0.1786 | 45.57 | 0.152499 |
| 0.0004 | 0.97847424 | 548.7 | -0.1433 | 98.8 | 0.1062329 |
| 0.0001 | 0.986435563 | 721.2 | -0.0434 | 91.57 | 0.118247303 |
| 0.3526 | 0.3818072 | 20.08 | -0.0222 | 2.814 | 0.0277175 |
| 0.0001 | 0.01549095 | 644.1 | -0.1516 | 106 | 0.114031713 |
| 0.0006 | 0.02221245 | 284.3 | 0.0989 | 51.52 | 0.1020173 |
| 0.0007 | 0.01394672 | 296.2 | 0.034 | 50.18 | 0.118985 |
| 0.0001 | 0.97660591 | 1065 | 0.1346 | 176.6 | 0.09010824 |
| 0.001 | 0.98381856 | 251.6 | 0.0248 | 42.22 | 0.1217252 |
| 0.0001 | 0.98036846 | 610.4 | -0.0075 | 106.6 | 0.100858 |
| 0.0098 | 0.96869065 | 75.05 | -0.0412 | 12.99 | 0.08620882 |
| 0.0007 | 0.01695547 | 375.7 | 0.0911 | 59.27 | 0.1080245 |
| 0.0022 | 0.04187151 | 185.1 | 0.0645 | 26.88 | 0.07113808 |
| 0.0003 | 0.98914133 | 485.7 | -0.0836 | 72.98 | 0.1468079 |
| 0.0001 | 0.01575078 | 591.3 | -0.0446 | 99.63 | 0.1084461 |
| 0.004 | 0.97202549 | 123.2 | -0.0131 | 21.68 | 0.08209862 |
| 0.0073 | 0.9863678 | 88.88 | 0.1155 | 15.94 | 0.1178257 |
| 0.0007 | 0.98813605 | 283 | -0.2663 | 46.74 | 0.1360582 |
| 0.0022 | 0.97767933 | 186.4 | -0.0248 | 27.77 | 0.1013849 |
| 0.0032 | 0.04135303 | 154.5 | 0.1118 | 22.53 | 0.07040035 |
| 0.0035 | 0.042610028 | 147.3 | -0.0659 | 23.48 | 0.068608729 |
| 0.0016 | 0.98656904 | 187 | 0.0392 | 33.11 | 0.1193012 |
| 0.0006 | 0.01118989 | 285.1 | -0.155 | 50.77 | 0.1498642 |
| 0.0006 | 0.98538135 | 379.6 | 0.146 | 61.08 | 0.1115024 |
| 0.0072 | 0.01082888 | 109 | -0.0877 | 15.71 | 0.1432247 |
| 0.0004 | 0.02876123 | 358.8 | -0.1535 | 56.41 | 0.08958129 |
| 0.0013 | 0.984637461 | 263.3 | 0.2675 | 37.24 | 0.108340666 |
| 0.0125 | 0.01346555 | 74.28 | -0.0355 | 11.52 | 0.1169826 |
| 0.0003 | 0.98398986 | 389.2 | 0.0278 | 70.79 | 0.1163503 |
| 0.0004 | 0.97215177 | 397.6 | 0.0064 | 71.92 | 0.08389024 |

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|---|---|---|---|---|---|
| 0.0003 | 0.01949902 | 514.7 | 0.0627 | 82.05 | 0.1072868 |
| 0.0004 | 0.98680291 | 368.8 | 0.0444 | 66.09 | 0.1245707 |
| 0 | 0.98530474 | 1621 | -0.2039 | 252.5 | 0.1162449 |
| 0.034 | 0.98300627 | 0.4119 | 0.1365 | 0.06902 | 0.1023334 |
| 0.0758 | 0.97539085 | -0.3125 | -0.0906 | 0.04775 | 0.097169352 |
| 0.0453 | 0.011696572 | -0.3497 | 0.0388 | 0.06275 | 0.126994652 |
| 0.3264 | 0.480596621 | 0.5292 | 0.0078 | 0.02548 | 0.027295946 |
| 0.0456 | 0.01871598 | 0.4042 | -0.0397 | 0.06064 | 0.1042305 |
| 0.1838 | 0.8915075 | 0.189 | 0.0119 | 0.0324 | 0.04753078 |
| 0.2737 | 0.178094739 | 0.339 | 0.0253 | 0.02812 | 0.038678039 |
| 0.1464 | 0.7315893 | 0.7089 | 0.0431 | 0.03346 | 0.03056303 |
| 0.479 | 0.529565 | 0.1981 | 0.0215 | 0.02746 | 0.02708517 |
| 0.4574 | 0.622394 | 0.1993 | -0.0673 | 0.03174 | 0.03035225 |
| 0.5296 | 0.4881992 | -0.1576 | -0.0661 | 0.02879 | 0.02708517 |
| 0.4856 | 0.6080001 | -0.1549 | 0.0025 | 0.02715 | 0.03509479 |
| 0.0772 | 0.97365801 | -0.5454 | 0.0433 | 0.06799 | 0.0894759 |
| 0.0566 | 0.93029537 | 0.4881 | -0.0175 | 0.07845 | 0.05417033 |
| 0.0733 | 0.98906866 | 0.5176 | -0.0653 | 0.07238 | 0.1501804 |
| 0.1939 | 0.6507084 | -1.131 | -0.0173 | 0.03861 | 0.02856062 |
| 0.2579 | 0.1764607 | -0.3642 | -0.0004 | 0.04217 | 0.03551635 |
| 0.0707 | 0.92082395 | -0.4918 | 0.0123 | 0.07051 | 0.05058708 |
| 0.0772 | 0.97365801 | -0.5128 | 0.0433 | 0.06836 | 0.0894759 |
| 0.0734 | 0.98906866 | 0.5046 | -0.0653 | 0.07256 | 0.1501804 |
| 0.1934 | 0.6507084 | -1.115 | -0.0173 | 0.0393 | 0.02856062 |
| 0.258 | 0.1764607 | -0.3351 | -0.0004 | 0.0424 | 0.03551635 |
| 0.0705 | 0.92082395 | -0.5252 | 0.0123 | 0.07057 | 0.05058708 |
| 0.0772 | 0.97365801 | 0.3963 | 0.0433 | 0.06945 | 0.0894759 |
| 0.5441 | 0.573417 | -0.5579 | 0.0236 | 0.03593 | 0.0277175 |
| 0.045 | 0.9834009 | -0.3659 | 0.0375 | 0.06602 | 0.1063383 |
| 0.2041 | 0.4449728 | -0.1937 | 0.0005 | 0.03404 | 0.02740134 |
| 0.4459 | 0.608089804 | 0.6185 | 0.0038 | 0.02534 | 0.027822895 |
| 0.051 | 0.100653834 | 0.4823 | -0.0309 | 0.06189 | 0.04679305 |
| 0.7893 | 0.686264144 | 0.1921 | -0.0447 | 0.03327 | 0.029614521 |
| 0.106 | 0.879144205 | 0.3184 | 0.0358 | 0.04432 | 0.041945122 |
| 0.0296 | 0.023620203 | -0.4992 | -0.0093 | 0.08145 | 0.090845967 |
| 0.1993 | 0.834777 | 0.1756 | 0.0503 | 0.03165 | 0.03962655 |
| 0.0917 | 0.91692666 | -0.2878 | -0.0738 | 0.04216 | 0.05016552 |
| 0.2425 | 0.2448006 | -0.283 | -0.0138 | 0.0286 | 0.03161693 |
| 0.8737 | 0.91247 | 0.2138 | 0.036 | 0.03693 | 0.04900624 |
| 0.1124 | 0.97028055 | 0.2943 | -0.1921 | 0.05167 | 0.08937051 |
| 0.1993 | 0.834777 | 0.1757 | 0.0503 | 0.03163 | 0.03962655 |
| 0.0965 | 0.91845283 | -0.2657 | -0.0485 | 0.0417 | 0.0503763 |
| 0.2425 | 0.2448006 | -0.3192 | -0.0138 | 0.02843 | 0.03161693 |
| 0.0972 | 0.95894409 | 0.2688 | 0.0999 | 0.042 | 0.06860873 |
| 0.8744 | 0.07925644 | 0.2058 | 0.0611 | 0.03711 | 0.05100864 |
| 0.184 | 0.04429664 | 0.2372 | -0.0696 | 0.03691 | 0.07082191 |
| 0.1491 | 0.8814485 | -0.2152 | -0.0124 | 0.03869 | 0.04183973 |
| 0.0457 | 0.01499557 | -0.6486 | 0.1274 | 0.06633 | 0.1160341 |
| 0.2147 | 0.1240099 | -0.2986 | -0.0213 | 0.03345 | 0.04089122 |
| 0.4729 | 0.5452511 | -0.7175 | 0.0122 | 0.02414 | 0.02719056 |
| 0.0557 | 0.98403512 | -0.4818 | -0.2116 | 0.06227 | 0.1076029 |
| 0.0193 | 0.971911457 | 0.4732 | 0.0845 | 0.08644 | 0.082204007 |
| 0.0314 | 0.01522292 | 0.3984 | -0.0498 | 0.07064 | 0.1332126 |
| 0.1985 | 0.7401346 | 0.177 | 0.0303 | 0.03027 | 0.03077381 |
| 0.6739 | 0.4695682 | 0.1522 | -0.0222 | 0.02556 | 0.02729595 |
| 0.0193 | 0.971911457 | 0.5134 | 0.0845 | 0.09207 | 0.082204007 |
| 0.1008 | 0.97891384 | 0.2343 | 0.1317 | 0.04232 | 0.09337532 |
| 0.2107 | 0.95045462 | -0.2166 | 0.0096 | 0.03665 | 0.06449853 |

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|---|---|---|---|---|---|
| 0.1886 | 0.2517236 | 0.1903 | 0.0304 | 0.03241 | 0.03108998 |
| 0.2111 | 0.95045462 | -0.3007 | 0.0096 | 0.03814 | 0.06449853 |
| 0.0359 | 0.02908859 | -0.3957 | -0.0999 | 0.07188 | 0.08252018 |
| 0.0332 | 0.98623927 | -0.4296 | -0.0587 | 0.07489 | 0.115191 |
| 0.3234 | 0.7170177 | 0.1738 | 0.0564 | 0.02982 | 0.0298253 |
| 0.0817 | 0.96761985 | -0.3894 | 0.063 | 0.0561 | 0.08030699 |
| 0.8124 | 0.2339563 | -0.4789 | -0.0787 | 0.03416 | 0.04025889 |
| 0.0729 | 0.9527966 | -0.7731 | 0.1008 | 0.05178 | 0.06312846 |
| 0.3055 | 0.6139303 | 0.2713 | -0.0079 | 0.02873 | 0.02792828 |
| 0.0276 | 0.02307243 | 0.6523 | -0.0632 | 0.08226 | 0.09211064 |
| 0.1066 | 0.96977141 | -0.7478 | 0.0172 | 0.04098 | 0.0791477 |
| 0.0385 | 0.96396148 | 0.4508 | -0.0595 | 0.07013 | 0.07240276 |
| 0.0001 | 0.98337037 | 3.436 | -0.0833 | 0.6021 | 0.1091838 |
| 0.0001 | 0.01170785 | 3.787 | -0.0642 | 0.6773 | 0.1281539 |
| 0.0001 | 0.01718125 | 4.765 | 0.1456 | 0.8459 | 0.102755 |
| 0 | 0.01211493 | 7.992 | 0.014 | 1.404 | 0.1375336 |
| 0.0001 | 0.01111673 | 4.272 | -0.1049 | 0.7543 | 0.1372175 |
| 0.0192 | 0.02907878 | 0.4024 | -0.1512 | 0.06819 | 0.08578726 |
| 0.0004 | 0.9766971 | 1.818 | 0.0289 | 0.2979 | 0.09074058 |
| 0 | 0.02084062 | 7.82 | -0.0261 | 1.424 | 0.09632623 |
| 0.0001 | 0.01114357 | 6.643 | -0.1204 | 1.199 | 0.1390091 |
| 0.0001 | 0.98145344 | 3.814 | 0.0523 | 0.6612 | 0.1048628 |
| 0.0001 | 0.012295369 | 3.783 | 0.2779 | 0.6683 | 0.133001868 |
| 0.0001 | 0.98641582 | 3.717 | 0.0325 | 0.67 | 0.1217252 |
| 0.0001 | 0.01268386 | 4.52 | 0.033 | 0.7897 | 0.125203 |
| 0.0001 | 0.9851344 | 4.11 | 0.0516 | 0.7256 | 0.1157179 |
| 0.0001 | 0.01862649 | 3.855 | -0.1035 | 0.6805 | 0.1020173 |
| 0.0001 | 0.01083516 | 4.877 | -0.0446 | 0.8599 | 0.1428031 |
| 0.0001 | 0.01052958 | 3.755 | -0.0472 | 0.6644 | 0.1406953 |
| 0.0001 | 0.01197512 | 4.68 | -0.0272 | 0.8111 | 0.1243599 |
| 0.1069 | 0.97239935 | 0.2604 | -0.0353 | 0.0461 | 0.09021363 |
| 0.0982 | 0.91684888 | -0.2525 | -0.0427 | 0.04163 | 0.04974396 |
| 0.8737 | 0.91247 | 0.2282 | 0.036 | 0.03694 | 0.04900624 |
| 0.2323 | 0.7524537 | -0.2404 | -0.0091 | 0.02912 | 0.03151154 |
| 0.0201 | 0.98853127 | 0.5373 | -0.1768 | 0.08896 | 0.1305779 |
| 0.611 | 0.304194 | 0.167 | 0.0119 | 0.02538 | 0.02971991 |
| 0.0201 | 0.98853127 | 0.5594 | -0.1768 | 0.089 | 0.1305779 |
| 0.0185 | 0.01781957 | 0.5583 | 0.0207 | 0.09163 | 0.1082353 |
| 0.0197 | 0.98875462 | 0.5079 | -0.0336 | 0.0892 | 0.1346881 |
| 0.2101 | 0.94805868 | -0.1982 | 0.0004 | 0.03505 | 0.06059911 |
| 0.052 | 0.98540978 | 0.3593 | 0.0115 | 0.05776 | 0.1126616 |
| 0.2594 | 0.1400056 | -0.2439 | -0.0754 | 0.03383 | 0.04405292 |
| 0.4581 | 0.5840964 | -0.1525 | 0.0027 | 0.02632 | 0.02750673 |
| 0.2774 | 0.677216374 | 0.2378 | -0.0215 | 0.03006 | 0.029192962 |
| 0.0044 | 0.9524443 | -1.573 | 0.0334 | 0.1855 | 0.06397158 |
| 0.2975 | 0.1744765 | -0.1572 | 0.0787 | 0.02752 | 0.03541096 |
| 0.0035 | 0.97848138 | -1.565 | 0.0964 | 0.2272 | 0.1012796 |
| 0.0006 | 0.01047694 | -2.923 | 0.1039 | 0.4989 | 0.1404845 |
| 0.0543 | 0.90385129 | 0.4097 | -0.0393 | 0.05516 | 0.04616071 |
| 0.1525 | 0.8928413 | 0.1992 | -0.0497 | 0.03616 | 0.04394753 |
| 0.1281 | 0.95469981 | -0.2422 | -0.062 | 0.04219 | 0.06470931 |
| 0.199 | 0.8235794 | 0.5885 | -0.0489 | 0.03315 | 0.03583252 |
| 0.0003 | 0.97382295 | 3.334 | 0.0638 | 0.5986 | 0.08294174 |
| 0.0044 | 0.9524443 | 1.176 | 0.0334 | 0.1662 | 0.06397158 |
| 0.2974 | 0.1744765 | 0.1631 | 0.0787 | 0.02442 | 0.03541096 |
| 0.2664 | 0.6069461 | 0.1398 | 0.0397 | 0.02509 | 0.03035225 |
| 0.0003 | 0.98383776 | 3.341 | -0.0953 | 0.5986 | 0.1110808 |
| 0.0044 | 0.01937848 | 1.068 | -0.0296 | 0.1846 | 0.106549 |

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|---|---|---|---|---|---|
| 0.0044 | 0.01937848 | 1.189 | -0.0296 | 0.186 | 0.106549 |
| 0.2308 | 0.128257917 | 0.2016 | 0.0678 | 0.03334 | 0.043736747 |
| 0.0841 | 0.93606052 | -0.3487 | -0.0655 | 0.0505 | 0.05480267 |
| 0.9244 | 0.95188003 | 0.3805 | -0.0365 | 0.05405 | 0.0648147 |
| 0.0425 | 0.98719058 | -0.4081 | -0.0773 | 0.07152 | 0.1202497 |
| 0.1687 | 0.2153354 | 0.1793 | 0.0493 | 0.03256 | 0.03298699 |
| 0.0032 | 0.01859489 | -1.414 | -0.1534 | 0.2277 | 0.1082353 |
| 0.0034 | 0.97848138 | -1.288 | 0.0964 | 0.2345 | 0.1012796 |
| 0.0032 | 0.01859489 | -1.226 | -0.1534 | 0.2117 | 0.1082353 |
| 0.0449 | 0.96366853 | 0.3476 | 0.0715 | 0.05835 | 0.07229737 |
| 0.0312 | 0.9791012 | 0.4707 | -0.041 | 0.07114 | 0.103282 |
| 0.1923 | 0.7476587 | 0.2019 | 0.03 | 0.03063 | 0.03119537 |
| 0.0998 | 0.08022913 | -0.4215 | 0.0391 | 0.0399 | 0.05027091 |
| 0.0215 | 0.01781957 | 0.7181 | 0.0207 | 0.116 | 0.1082353 |
| 0.0224 | 0.98875462 | 0.6567 | -0.0336 | 0.1158 | 0.1346881 |
| 0.0205 | 0.01148618 | 0.7788 | -0.1527 | 0.1195 | 0.1301563 |
| 0.0185 | 0.01781957 | 0.5863 | 0.0207 | 0.09251 | 0.1082353 |
| 0.0197 | 0.98875462 | 0.539 | -0.0336 | 0.09004 | 0.1346881 |
| 0.0201 | 0.01148618 | 0.5582 | -0.1527 | 0.0907 | 0.1301563 |
| 0.0185 | 0.01781957 | 0.5404 | 0.0207 | 0.0918 | 0.1082353 |
| 0.0197 | 0.98875462 | 0.4919 | -0.0336 | 0.08935 | 0.1346881 |
| 0.0201 | 0.01148618 | 0.5735 | -0.1527 | 0.08992 | 0.1301563 |
| 0.0185 | 0.01781957 | 0.5314 | 0.0207 | 0.09132 | 0.1082353 |
| 0.0201 | 0.01147284 | 0.5237 | -0.164 | 0.08866 | 0.1304725 |
| 0.0609 | 0.95486603 | 0.281 | 0.0146 | 0.05096 | 0.06744944 |
| 0.0185 | 0.01781957 | 0.5095 | 0.0207 | 0.09165 | 0.1082353 |
| 0.0201 | 0.98854203 | 0.5195 | -0.1458 | 0.08901 | 0.1303671 |
| 0.0185 | 0.01781957 | 0.6788 | 0.0207 | 0.09244 | 0.1082353 |
| 0.0197 | 0.98875462 | 0.6138 | -0.0336 | 0.09002 | 0.1346881 |
| 0.0201 | 0.98854203 | 0.6504 | -0.1458 | 0.08983 | 0.1303671 |
| 0.0185 | 0.01781957 | 0.5546 | 0.0207 | 0.09212 | 0.1082353 |
| 0.6109 | 0.304194 | 0.148 | 0.0119 | 0.02557 | 0.02971991 |
| 0.0201 | 0.01148618 | 0.5738 | -0.1527 | 0.09026 | 0.1301563 |
| 0.0307 | 0.93812853 | -0.5378 | -0.0187 | 0.09656 | 0.05796436 |
| 0.5197 | 0.4267604 | 0.2522 | 0.0233 | 0.03266 | 0.0277175 |
| 0.0003 | 0.03656503 | 53.93 | -0.0975 | 8.721 | 0.08041238 |
| 0.2185 | 0.704696 | 2.545 | -0.0388 | 0.4129 | 0.03246004 |
| 0.0009 | 0.01294799 | 28.75 | -0.0299 | 5.206 | 0.1226737 |
| 0.6474 | 0.3264086 | 2.095 | 0.0172 | 0.3672 | 0.03140615 |
| 0.541 | 0.4776394 | -1.704 | 0.0393 | 0.3071 | 0.02971991 |
| 0.3523 | 0.3818072 | 3.541 | -0.0222 | 0.3183 | 0.0277175 |
| 0.0022 | 0.04187151 | 18.44 | 0.0645 | 3.073 | 0.07113808 |
| 0.0016 | 0.97067529 | 2.431 | 0.0864 | 0.4216 | 0.08062316 |
| 0.0673 | 0.91676436 | -0.5108 | 0.0616 | 0.06739 | 0.04911162 |
| 0.0016 | 0.97067529 | 2.421 | 0.0864 | 0.4204 | 0.08062316 |
| 0.2132 | 0.6806864 | -0.4855 | -0.0232 | 0.03861 | 0.02919296 |
| 0.0673 | 0.91676436 | -0.5045 | 0.0616 | 0.06722 | 0.04911162 |
| 0.0173 | 0.97256145 | -0.6777 | -0.0651 | 0.105 | 0.086524987 |
| 0.4466 | 0.605326605 | 0.6149 | 0.0108 | 0.02529 | 0.027822895 |
| 0.0512 | 0.100653834 | 0.3533 | -0.0309 | 0.062 | 0.04679305 |
| 0.0173 | 0.97256145 | -0.6683 | -0.0651 | 0.1039 | 0.086524987 |
| 0.4466 | 0.605326605 | 0.6285 | 0.0108 | 0.02484 | 0.027822895 |
| 0.0324 | 0.93209821 | -0.4838 | -0.0165 | 0.07619 | 0.053748774 |
| 0.0173 | 0.97256145 | -0.6462 | -0.0651 | 0.1049 | 0.086524987 |
| 0.4466 | 0.605326605 | 0.6324 | 0.0108 | 0.02507 | 0.027822895 |
| 0.0324 | 0.93209821 | -0.4665 | -0.0165 | 0.07691 | 0.053748774 |
| 0.0173 | 0.97256145 | -0.6177 | -0.0651 | 0.1046 | 0.086524987 |
| 0.4466 | 0.605326605 | 0.6184 | 0.0108 | 0.02511 | 0.027822895 |

| | | | | | |
|---|---|---|---|---|---|
| 0.0324 | 0.93209821 | -0.4927 | -0.0165 | 0.07664 | 0.053748774 |
| 0.2996 | 0.07723095 | -0.1586 | -0.1135 | 0.02793 | 0.05258949 |
| 0.0115 | 0.01844077 | -0.6992 | 0.2738 | 0.1209 | 0.09896098 |
| 0.0194 | 0.98573486 | -0.7826 | 0.0585 | 0.08987 | 0.1147694 |
| 0.0115 | 0.01844077 | -0.7874 | 0.2738 | 0.1197 | 0.09896098 |
| 0.0194 | 0.98573486 | -0.8747 | 0.0585 | 0.08908 | 0.1147694 |
| 0.0321 | 0.96426846 | -0.4181 | 0.004 | 0.06918 | 0.07377283 |
| 0.0115 | 0.01844077 | -0.912 | 0.2738 | 0.1184 | 0.09896098 |
| 0.0321 | 0.96405962 | -0.5334 | 0 | 0.06859 | 0.07366744 |
| 0.233 | 0.75063287 | 0.1669 | 0.0117 | 0.02931 | 0.031195367 |
| 0.0288 | 0.97381613 | -0.4513 | -0.0711 | 0.07246 | 0.08663038 |
| 0.0194 | 0.98573486 | -1.046 | 0.0585 | 0.08813 | 0.1147694 |
| 0.0115 | 0.01844077 | -0.8942 | 0.2738 | 0.1174 | 0.09896098 |
| 0.0194 | 0.98573486 | -0.9249 | 0.0585 | 0.08708 | 0.1147694 |
| 0.0321 | 0.96426846 | -0.4635 | 0.004 | 0.06776 | 0.07377283 |
| 0.0115 | 0.01844077 | -0.8972 | 0.2738 | 0.1213 | 0.09896098 |
| 0.0289 | 0.97381613 | -0.4696 | -0.0711 | 0.07316 | 0.08663038 |
| 0.0194 | 0.98573486 | -1.065 | 0.0585 | 0.08937 | 0.1147694 |
| 0.0322 | 0.96426846 | -0.502 | 0.004 | 0.06983 | 0.07377283 |
| 0.1714 | 0.921286668 | 0.5518 | 0.032 | 0.03171 | 0.054908061 |
| 0.081 | 0.976083308 | -0.254 | -0.024 | 0.04499 | 0.089897459 |
| 0.1714 | 0.921286668 | -0.4468 | 0.032 | 0.03195 | 0.054908061 |
| 0.2136 | 0.7421583 | -0.1739 | 0.0386 | 0.02973 | 0.03098459 |
| 0.1714 | 0.921286668 | -0.4624 | 0.032 | 0.03231 | 0.054908061 |
| 0.1689 | 0.921286668 | 0.2574 | 0.032 | 0.03268 | 0.054908061 |
| 0.0401 | 0.96656008 | 0.3476 | -0.0272 | 0.06205 | 0.07640757 |
| 0.1714 | 0.921286668 | -0.5431 | 0.032 | 0.03176 | 0.054908061 |
| 0.081 | 0.976083308 | 0.2556 | -0.024 | 0.045 | 0.089897459 |
| 0.1699 | 0.921286668 | 0.2927 | 0.032 | 0.0332 | 0.054908061 |
| 0.6125 | 0.428884 | 0.1407 | -0.0144 | 0.02521 | 0.02729595 |
| 0.0545 | 0.95433669 | 0.3865 | 0.0607 | 0.05433 | 0.06565782 |
| 0.0275 | 0.02307243 | 0.7078 | -0.0632 | 0.07572 | 0.09211064 |
| 0.1067 | 0.96977141 | -0.3205 | 0.0172 | 0.03937 | 0.0791477 |
| 0.0378 | 0.96396148 | 0.5857 | -0.0595 | 0.06479 | 0.07240276 |
| 0.5684 | 0.5594995 | 0.1437 | -0.0028 | 0.02463 | 0.02740134 |
| 0.6125 | 0.428884 | 0.1399 | -0.0144 | 0.02533 | 0.02729595 |
| 0.0545 | 0.95433669 | 0.3978 | 0.0607 | 0.05455 | 0.06565782 |
| 0.0275 | 0.02307243 | 0.7354 | -0.0632 | 0.07599 | 0.09211064 |
| 0.1067 | 0.96977141 | -0.3265 | 0.0172 | 0.03954 | 0.0791477 |
| 0.0378 | 0.96396148 | 0.5985 | -0.0595 | 0.06505 | 0.07240276 |
| 0.1287 | 0.03671273 | -0.2363 | 0.0194 | 0.03676 | 0.07166503 |
| 0.1073 | 0.05372035 | 0.3718 | 0.0556 | 0.04036 | 0.05954521 |
| 0.0545 | 0.95433669 | 0.3576 | 0.0607 | 0.05416 | 0.06565782 |
| 0.0275 | 0.02307243 | 0.675 | -0.0632 | 0.07557 | 0.09211064 |
| 0.1067 | 0.96977141 | -0.3774 | 0.0172 | 0.03905 | 0.0791477 |
| 0.0378 | 0.96396148 | 0.5505 | -0.0595 | 0.06465 | 0.07240276 |
| 0.5123 | 0.3279215 | 0.1378 | -0.0449 | 0.02431 | 0.03151154 |
| 0.0545 | 0.95433669 | 0.3253 | 0.0607 | 0.05512 | 0.06565782 |
| 0.0275 | 0.02307243 | 0.6063 | -0.0632 | 0.07722 | 0.09211064 |
| 0.1067 | 0.96977141 | -0.435 | 0.0172 | 0.03955 | 0.0791477 |
| 0.5112 | 0.4325118 | 0.148 | 0.0175 | 0.02495 | 0.02740134 |
| 0.0377 | 0.96396148 | 0.4184 | -0.0595 | 0.06614 | 0.07240276 |
| 0.0548 | 0.95433669 | 0.3487 | 0.0607 | 0.05419 | 0.06565782 |
| 0.0277 | 0.02307243 | 0.6679 | -0.0632 | 0.0755 | 0.09211064 |
| 0.1069 | 0.96977141 | -0.3231 | 0.0172 | 0.03929 | 0.0791477 |
| 0.0379 | 0.96396148 | 0.5556 | -0.0595 | 0.0646 | 0.07240276 |
| 0.5685 | 0.5594995 | 0.1472 | -0.0028 | 0.02455 | 0.02740134 |
| 0.0545 | 0.95433669 | 0.3109 | 0.0607 | 0.05547 | 0.06565782 |

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|---|---|---|---|---|---|
| 0.0275 | 0.02307243 | 0.5685 | -0.0632 | 0.07776 | 0.09211064 |
| 0.1634 | 0.1747017 | -0.1866 | 0.0649 | 0.03387 | 0.03572713 |
| 0.1067 | 0.96977141 | -0.4214 | 0.0172 | 0.03983 | 0.0791477 |
| 0.5112 | 0.4325118 | 0.1488 | 0.0175 | 0.0251 | 0.02740134 |
| 0.0377 | 0.96396148 | 0.4014 | -0.0595 | 0.06656 | 0.07240276 |
| 0.5271 | 0.5819941 | 0.1443 | -0.0194 | 0.02505 | 0.02761212 |
| 0.0548 | 0.95433669 | 0.316 | 0.0607 | 0.05379 | 0.06565782 |
| 0.0277 | 0.02307243 | 0.6264 | -0.0632 | 0.07504 | 0.09211064 |
| 0.1094 | 0.96980236 | -0.3692 | 0.013 | 0.0383 | 0.07904231 |
| 0.0379 | 0.96396148 | 0.5148 | -0.0595 | 0.06419 | 0.07240276 |
| 0.5122 | 0.3279215 | 0.1432 | -0.0449 | 0.02412 | 0.03151154 |
| 0.0545 | 0.95433669 | 0.3694 | 0.0607 | 0.05436 | 0.06565782 |
| 0.0275 | 0.02307243 | 0.7037 | -0.0632 | 0.07581 | 0.09211064 |
| 0.1067 | 0.96977141 | -0.3832 | 0.0172 | 0.0392 | 0.0791477 |
| 0.0378 | 0.96396148 | 0.564 | -0.0595 | 0.06488 | 0.07240276 |
| 0.2995 | 0.7284708 | -0.2988 | -0.0296 | 0.0284 | 0.03045764 |
| 0.0845 | 0.93606052 | -1.048 | -0.0655 | 0.04423 | 0.05480267 |
| 0.1968 | 0.90110612 | 0.229 | -0.0062 | 0.03302 | 0.04942779 |
| 0.0625 | 0.97695845 | -0.3607 | -0.1528 | 0.05457 | 0.09095136 |
| 0.0381 | 0.977076489 | -0.3742 | -0.0282 | 0.06789 | 0.09369149 |
| 0.2447 | 0.123361277 | 0.8089 | 0.0572 | 0.02792 | 0.044579865 |
| 0.0688 | 0.976189635 | 0.3612 | 0.0148 | 0.0521 | 0.087789664 |
| 0.3262 | 0.566992 | -0.2069 | 0.0099 | 0.02839 | 0.02750673 |
| 0.2223 | 0.7918039 | -0.2373 | -0.0234 | 0.03434 | 0.03646485 |
| 0.0226 | 0.98456778 | 0.482 | 0.0124 | 0.08487 | 0.1128724 |
| 0.0044 | 0.9524443 | 1.128 | 0.0334 | 0.1851 | 0.06397158 |
| 0.0317 | 0.98960096 | 0.7676 | -0.3571 | 0.07181 | 0.1570307 |
| 0.0263 | 0.01876155 | 0.7376 | -0.1956 | 0.07787 | 0.1021227 |
| 0.0666 | 0.02559553 | 0.7229 | -0.138 | 0.05006 | 0.08589265 |
| 0.0209 | 0.97942471 | 0.4997 | 0.035 | 0.08601 | 0.09263759 |
| 0.0653 | 0.97796134 | 0.2846 | -0.0223 | 0.0507 | 0.09421844 |
| 0.4267 | 0.5053871 | 0.8891 | 0.0087 | 0.02025 | 0.02697978 |
| 0.0464 | 0.98687268 | 0.6555 | -0.0562 | 0.05812 | 0.1172988 |
| 0.0044 | 0.9524443 | -1.625 | 0.0334 | 0.1865 | 0.06397158 |
| 0.2975 | 0.1744765 | -0.1818 | 0.0787 | 0.02763 | 0.03541096 |
| 0.0035 | 0.97848138 | -1.514 | 0.0964 | 0.2286 | 0.1012796 |
| 0.0006 | 0.01047694 | -2.942 | 0.1039 | 0.5018 | 0.1404845 |
| 0.1525 | 0.8928413 | 0.1999 | -0.0497 | 0.03637 | 0.04394753 |
| 0.1562 | 0.1485174 | 0.2816 | 0.0037 | 0.03509 | 0.03815109 |
| 0.0044 | 0.9524443 | -1.078 | 0.0334 | 0.1911 | 0.06397158 |
| 0.0543 | 0.90385129 | 0.5758 | -0.0393 | 0.05532 | 0.04616071 |
| 0.0045 | 0.9524443 | 1.19 | 0.0334 | 0.202 | 0.06397158 |
| 0.3455 | 0.376821 | -0.2144 | -0.0192 | 0.02871 | 0.02782289 |
| 0.0044 | 0.9524443 | 1.864 | 0.0334 | 0.1678 | 0.06397158 |
| 0.0035 | 0.97848138 | 1.793 | 0.0964 | 0.2061 | 0.1012796 |
| 0.1084 | 0.92139333 | 0.209 | -0.0315 | 0.03723 | 0.05111403 |
| 0.4709 | 0.4787451 | 0.2946 | 0.0462 | 0.02252 | 0.02697978 |
| 0.9748 | 0.97111705 | -0.463 | 0.0023 | 0.07456 | 0.08420641 |
| 0.0044 | 0.9524443 | 1.718 | 0.0334 | 0.1835 | 0.06397158 |
| 0.0317 | 0.98960096 | 0.6998 | -0.3571 | 0.0719 | 0.1570307 |
| 0.2866 | 0.7817408 | -0.1612 | -0.0078 | 0.02787 | 0.0328816 |
| 0.2975 | 0.1744765 | 0.201 | 0.0787 | 0.02719 | 0.03541096 |
| 0.4069 | 0.5029423 | -0.2216 | 0.004 | 0.02536 | 0.02719056 |
| 0.0666 | 0.02559553 | 0.6853 | -0.138 | 0.05013 | 0.08589265 |
| 0.0295 | 0.98914066 | 0.5464 | -0.1965 | 0.07402 | 0.136269 |
| 0.0095 | 0.98020646 | 0.7843 | 0.0874 | 0.1289 | 0.1031766 |
| 0.0464 | 0.9735335 | 0.3811 | 0.0377 | 0.05993 | 0.08705194 |
| 0.4267 | 0.5053871 | 0.8426 | 0.0087 | 0.02078 | 0.02697978 |

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|---|---|---|---|---|---|
| 0.0464 | 0.98687268 | 0.6067 | -0.0562 | 0.05819 | 0.1172988 |
| 0.0044 | 0.9524443 | 1.303 | 0.0334 | 0.1744 | 0.06397158 |
| 0.2977 | 0.1744765 | 0.1724 | 0.0787 | 0.02569 | 0.03541096 |
| 0.243 | 0.6731526 | 0.1726 | 0.0319 | 0.02712 | 0.02908757 |
| 0.0731 | 0.95701402 | -0.267 | -0.0604 | 0.04503 | 0.06818717 |
| 0.0044 | 0.9524443 | 1.174 | 0.0334 | 0.1853 | 0.06397158 |
| 0.8142 | 0.91833056 | -0.2228 | -0.04 | 0.03216 | 0.04953318 |
| 0.4709 | 0.4787451 | 0.2086 | 0.0462 | 0.02476 | 0.02697978 |
| 0.0044 | 0.9524443 | -1.821 | 0.0334 | 0.1663 | 0.06397158 |
| 0.0035 | 0.97848138 | -1.784 | 0.0964 | 0.2042 | 0.1012796 |
| 0.1084 | 0.92139333 | -0.2077 | -0.0315 | 0.03673 | 0.05111403 |
| 0.0095 | 0.98020646 | -0.6555 | 0.0874 | 0.1174 | 0.1031766 |
| 0.4709 | 0.4787451 | -0.2903 | 0.0462 | 0.02227 | 0.02697978 |
| 0.9748 | 0.97111705 | 0.4611 | 0.0023 | 0.07373 | 0.08420641 |
| 0.0044 | 0.9524443 | -1.201 | 0.0334 | 0.1934 | 0.06397158 |
| 0.0034 | 0.97848138 | -1.455 | 0.0964 | 0.2371 | 0.1012796 |
| 0.0542 | 0.90385129 | 0.3436 | -0.0393 | 0.05734 | 0.04616071 |
| 0.0044 | 0.9524443 | 1.307 | 0.0334 | 0.1858 | 0.06397158 |
| 0.2977 | 0.1744765 | 0.1611 | 0.0787 | 0.02726 | 0.03541096 |
| 0.2464 | 0.4337771 | 0.1716 | 0.0408 | 0.02881 | 0.02740134 |
| 0.0044 | 0.9524443 | 1.815 | 0.0334 | 0.1783 | 0.06397158 |
| 0.1084 | 0.92139333 | 0.218 | -0.0315 | 0.03915 | 0.05111403 |
| 0.4709 | 0.4787451 | 0.2886 | 0.0462 | 0.02387 | 0.02697978 |
| 0.0044 | 0.9524443 | -1.125 | 0.0334 | 0.169 | 0.06397158 |
| 0.0034 | 0.97848138 | -1.228 | 0.0964 | 0.2078 | 0.1012796 |
| 0.0044 | 0.9524443 | -1.253 | 0.0334 | 0.1905 | 0.06397158 |
| 0.0044 | 0.9524443 | 1.608 | 0.0334 | 0.1845 | 0.06397158 |
| 0.2875 | 0.7817408 | -0.1566 | -0.0078 | 0.02815 | 0.0328816 |
| 0.2972 | 0.1744765 | 0.1912 | 0.0787 | 0.02749 | 0.03541096 |
| 0.0263 | 0.01876155 | 0.6358 | -0.1956 | 0.0789 | 0.1021227 |
| 0.021 | 0.97942471 | 0.5292 | 0.035 | 0.08658 | 0.09263759 |
| 0.0095 | 0.98020646 | 0.7461 | 0.0874 | 0.1294 | 0.1031766 |
| 0.0464 | 0.9735335 | 0.3601 | 0.0377 | 0.06066 | 0.08705194 |
| 0.0554 | 0.98403512 | 0.7212 | -0.2116 | 0.05595 | 0.1076029 |
| 0.0675 | 0.9628155 | 0.4336 | -0.0594 | 0.04951 | 0.07229737 |
| 0.046 | 0.98687268 | 0.5828 | -0.0562 | 0.05899 | 0.1172988 |
| 0.0044 | 0.9524443 | 1.52 | 0.0334 | 0.1739 | 0.06397158 |
| 0.0035 | 0.97848138 | 1.439 | 0.0964 | 0.2131 | 0.1012796 |
| 0.8142 | 0.91833056 | -0.2655 | -0.04 | 0.03044 | 0.04953318 |
| 0.4709 | 0.4787451 | 0.2762 | 0.0462 | 0.0232 | 0.02697978 |
| 0.0044 | 0.9524443 | -1.201 | 0.0334 | 0.1771 | 0.06397158 |
| 0.0049 | 0.96728229 | -0.9923 | 0.0602 | 0.1747 | 0.08157167 |
| 0.0044 | 0.9524443 | -1.776 | 0.0334 | 0.1774 | 0.06397158 |
| 0.1084 | 0.92139333 | -0.2213 | -0.0315 | 0.03894 | 0.05111403 |
| 0.4709 | 0.4787451 | -0.2879 | 0.0462 | 0.02374 | 0.02697978 |
| 0.0044 | 0.9524443 | -1.217 | 0.0334 | 0.1857 | 0.06397158 |
| 0.0044 | 0.9524443 | -1.179 | 0.0334 | 0.1933 | 0.06397158 |
| 0.0034 | 0.97848138 | -1.518 | 0.0964 | 0.2369 | 0.1012796 |
| 0.0542 | 0.90385129 | 0.3316 | -0.0393 | 0.05733 | 0.04616071 |
| 0.0045 | 0.9524443 | 1.394 | 0.0334 | 0.191 | 0.06397158 |
| 0.0036 | 0.97848138 | 1.33 | 0.0964 | 0.2281 | 0.1012796 |
| 0.0375 | 0.97944285 | 0.7147 | 0.1167 | 0.07055 | 0.09527234 |
| 0.0246 | 0.98794316 | 0.6089 | -0.0257 | 0.08426 | 0.1389037 |
| 0.1871 | 0.92153759 | 0.4963 | 0.1047 | 0.03241 | 0.05016552 |
| 0.0643 | 0.05328005 | -0.3245 | -0.0806 | 0.05318 | 0.06186378 |
| 0.0689 | 0.98142263 | 0.3184 | 0.0904 | 0.0526 | 0.09748552 |
| 0.2548 | 0.216538 | 0.1762 | -0.0475 | 0.0299 | 0.0328816 |
| 0.5587 | 0.3493569 | -0.1762 | 0.0136 | 0.02445 | 0.02834984 |

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|---|---|---|---|---|---|
| 0.2454 | 0.7849887 | -0.4244 | -0.014 | 0.0273 | 0.03277621 |
| 0.7759 | 0.8096676 | -0.1594 | -0.043 | 0.0289 | 0.03425167 |
| 0.5587 | 0.3493569 | -0.1768 | 0.0136 | 0.02448 | 0.02834984 |
| 0.2454 | 0.7849887 | -0.4203 | -0.014 | 0.02736 | 0.03277621 |
| 0.7759 | 0.8096676 | -0.1626 | -0.043 | 0.02894 | 0.03425167 |
| 0.5587 | 0.3493569 | -0.1584 | 0.0136 | 0.02453 | 0.02834984 |
| 0.2454 | 0.7849887 | -0.4047 | -0.014 | 0.02745 | 0.03277621 |
| 0.7759 | 0.8096676 | -0.167 | -0.043 | 0.02895 | 0.03425167 |
| 0.5587 | 0.3493569 | -0.1524 | 0.0136 | 0.02465 | 0.02834984 |
| 0.2454 | 0.7849887 | -0.3962 | -0.014 | 0.0276 | 0.03277621 |
| 0.0005 | 0.013547986 | -3.125 | -0.1913 | 0.5674 | 0.12383296 |
| 0.345 | 0.376821 | 0.1424 | -0.0192 | 0.02589 | 0.02782289 |
| 0.2466 | 0.6983108 | -0.2032 | 0.0017 | 0.03171 | 0.02961452 |
| 0.4572 | 0.622394 | 0.1884 | -0.0673 | 0.03065 | 0.03035225 |
| 0.2466 | 0.6983108 | -0.2062 | 0.0017 | 0.03133 | 0.02961452 |
| 0.4719 | 0.593635 | 0.2209 | -0.0429 | 0.02974 | 0.02993069 |
| 0.4865 | 0.2053527 | 0.2029 | -0.0532 | 0.02967 | 0.03625407 |
| 0.2466 | 0.6983108 | -0.2046 | 0.0017 | 0.03153 | 0.02961452 |
| 0.2466 | 0.6983108 | -0.2367 | 0.0017 | 0.03149 | 0.02961452 |
| 0.5897 | 0.6909228 | 0.1686 | -0.0499 | 0.03009 | 0.0319331 |
| 0.2465 | 0.6983108 | -0.3264 | 0.0017 | 0.03137 | 0.02961452 |
| 0.2466 | 0.6983108 | -0.2417 | 0.0017 | 0.03133 | 0.02961452 |
| 0.2464 | 0.6983108 | -0.3032 | 0.0017 | 0.03145 | 0.02961452 |
| 0.2464 | 0.6983108 | -0.3219 | 0.0017 | 0.03112 | 0.02961452 |
| 0.2467 | 0.6983108 | -0.1847 | 0.0017 | 0.03074 | 0.02961452 |
| 0.2466 | 0.6983108 | -0.2479 | 0.0017 | 0.03131 | 0.02961452 |
| 0.5897 | 0.6909228 | 0.188 | -0.0499 | 0.02994 | 0.0319331 |
| 0.0133 | 0.963834118 | 0.8426 | -0.1283 | 0.1098 | 0.075459063 |
| 0.0478 | 0.924670903 | -0.3359 | 0.0724 | 0.05863 | 0.05121942 |
| 0.3259 | 0.480596621 | 0.429 | 0.0078 | 0.02588 | 0.027295946 |
| 0.011 | 0.02117985 | -0.6409 | -0.1602 | 0.1167 | 0.09906637 |
| 0.0133 | 0.963834118 | 0.8229 | -0.1283 | 0.1104 | 0.075459063 |
| 0.0478 | 0.924670903 | -0.3227 | 0.0724 | 0.05896 | 0.05121942 |
| 0.3259 | 0.480596621 | 0.3944 | 0.0078 | 0.02617 | 0.027295946 |
| 0.011 | 0.02117985 | -0.6492 | -0.1602 | 0.1176 | 0.09906637 |
| 0.7744 | 0.7342165 | -0.2989 | 0.0022 | 0.02511 | 0.03077381 |
| 0.0077 | 0.97445843 | 0.8507 | 0.1022 | 0.1494 | 0.09063519 |
| 0.6109 | 0.304194 | 0.1545 | 0.0119 | 0.02548 | 0.02971991 |
| 0.0201 | 0.01148703 | 0.5474 | -0.1461 | 0.08918 | 0.1303671 |
| 0.611 | 0.304194 | 0.1475 | 0.0119 | 0.02551 | 0.02971991 |
| 0.0201 | 0.01148703 | 0.5116 | -0.1461 | 0.08936 | 0.1303671 |
| 0.1398 | 0.7761381 | -0.291 | -0.006 | 0.03898 | 0.03267082 |
| 0.1367 | 0.7371554 | 0.2325 | 0.0349 | 0.04076 | 0.03077381 |
| 0.5014 | 0.6106737 | -0.294 | -0.0275 | 0.03041 | 0.03014147 |
| 0.0041 | 0.98508444 | 1.147 | -0.03 | 0.201 | 0.1301563 |
| 0.4847 | 0.5324209 | -0.1917 | -0.0088 | 0.02672 | 0.02719056 |
| 0.592 | 0.6146481 | -0.1359 | 0.0178 | 0.02451 | 0.02792828 |
| 0.3256 | 0.06073939 | 0.2221 | -0.0146 | 0.0262 | 0.05564579 |
| 0.592 | 0.6146481 | -0.1491 | 0.0178 | 0.02489 | 0.02792828 |
| 0.5715 | 0.4758682 | -0.1437 | 0.0157 | 0.02517 | 0.02729595 |
| 0.5044 | 0.2386445 | 0.1567 | 0.0016 | 0.02479 | 0.03172232 |
| 0.475 | 0.4846681 | -0.1428 | 0.0237 | 0.02416 | 0.02719056 |
| 0.3256 | 0.06073939 | 0.2335 | -0.0146 | 0.02632 | 0.05564579 |
| 0.4882 | 0.5293066 | -0.1468 | 0.0303 | 0.0236 | 0.02719056 |
| 0.3257 | 0.06073939 | 0.1898 | -0.0146 | 0.02599 | 0.05564579 |
| 0.4903 | 0.4884768 | -0.1352 | 0.034 | 0.02397 | 0.02719056 |
| 0.3256 | 0.06073939 | 0.2114 | -0.0146 | 0.02614 | 0.05564579 |
| 0.0662 | 0.95753497 | 0.2839 | -0.0255 | 0.05066 | 0.07324588 |

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|---|---|---|---|---|---|
| 0.2069 | 0.2598781 | 0.1644 | -0.0525 | 0.03007 | 0.03151154 |
| 0.5715 | 0.4761836 | -0.1408 | 0.0222 | 0.02438 | 0.02856062 |
| 0.0232 | 0.01654435 | 0.6413 | 0.049 | 0.08914 | 0.1148748 |
| 0.1737 | 0.8492428 | -0.2143 | 0.0577 | 0.0366 | 0.03836187 |
| 0.4102 | 0.6033231 | 0.1525 | 0.0306 | 0.02762 | 0.02782289 |
| 0.0343 | 0.02714758 | -0.5014 | 0.0055 | 0.06723 | 0.08515492 |
| 0.0468 | 0.97288166 | -0.3738 | -0.0227 | 0.05926 | 0.08736811 |
| 0.0463 | 0.98448718 | -0.3468 | 0.0587 | 0.0588 | 0.1138209 |
| 0.099 | 0.07958666 | -1.492 | 0.0485 | 0.0339 | 0.05058708 |
| 0.0756 | 0.98609609 | -0.574 | -0.0128 | 0.04773 | 0.1188796 |
| 0.1416 | 0.7905467 | -0.3402 | 0.0076 | 0.03585 | 0.04268285 |
| 0.0871 | 0.9756463 | -0.6147 | -0.1068 | 0.04478 | 0.09632623 |
| 0.0343 | 0.02714758 | -0.5069 | 0.0055 | 0.06712 | 0.08515492 |
| 0.0468 | 0.97288166 | -0.3667 | -0.0227 | 0.0592 | 0.08736811 |
| 0.0756 | 0.98609609 | -0.5694 | -0.0128 | 0.04769 | 0.1188796 |
| 0.1416 | 0.7905467 | -0.3357 | 0.0076 | 0.03582 | 0.04268285 |
| 0.0871 | 0.9756463 | -0.6016 | -0.1068 | 0.04478 | 0.09632623 |
| 0.0343 | 0.02714758 | -0.4887 | 0.0055 | 0.06701 | 0.08515492 |
| 0.0463 | 0.98441591 | -0.3333 | 0.0354 | 0.05866 | 0.1246761 |
| 0.1416 | 0.7905467 | -0.3562 | 0.0076 | 0.03572 | 0.04268285 |
| 0.0871 | 0.9756463 | -0.6648 | -0.1068 | 0.04459 | 0.09632623 |
| 0.0762 | 0.97227924 | -0.6176 | 0.0513 | 0.04729 | 0.08273096 |
| 0.0343 | 0.02714758 | -0.5 | 0.0055 | 0.06715 | 0.08515492 |
| 0.0468 | 0.97288166 | -0.3847 | -0.0227 | 0.05918 | 0.08736811 |
| 0.0756 | 0.98609609 | -0.5628 | -0.0128 | 0.04773 | 0.1188796 |
| 0.1416 | 0.7905467 | -0.3298 | 0.0076 | 0.03584 | 0.04268285 |
| 0.0871 | 0.9756463 | -0.6019 | -0.1068 | 0.04479 | 0.09632623 |
| 0.0343 | 0.02714758 | -0.4893 | 0.0055 | 0.06729 | 0.08515492 |
| 0.0468 | 0.97288166 | -0.3673 | -0.0227 | 0.05933 | 0.08736811 |
| 0.0463 | 0.98448718 | -0.3347 | 0.0587 | 0.05887 | 0.1138209 |
| 0.0756 | 0.98609609 | -0.5915 | -0.0128 | 0.04776 | 0.1188796 |
| 0.1416 | 0.7905467 | -0.3514 | 0.0076 | 0.03586 | 0.04268285 |
| 0.3344 | 0.47856234 | -0.1521 | 0.0065 | 0.02702 | 0.029614521 |
| 0.0871 | 0.9756463 | -0.6396 | -0.1068 | 0.04477 | 0.09632623 |
| 0.099 | 0.92082617 | -1.465 | 0.0444 | 0.03426 | 0.05069247 |
| 0.0343 | 0.02714758 | -0.503 | 0.0055 | 0.06729 | 0.08515492 |
| 0.0463 | 0.98441591 | -0.3452 | 0.0354 | 0.05888 | 0.1246761 |
| 0.1416 | 0.7905467 | -0.3391 | 0.0076 | 0.0359 | 0.04268285 |
| 0.3344 | 0.47856234 | -0.1739 | 0.0065 | 0.02699 | 0.029614521 |
| 0.0871 | 0.9756463 | -0.6019 | -0.1068 | 0.04492 | 0.09632623 |
| 0.0762 | 0.97227924 | -0.5742 | 0.0513 | 0.04755 | 0.08273096 |
| 0.0273 | 0.02307243 | 0.4819 | -0.0632 | 0.07946 | 0.09211064 |
| 0.2827 | 0.371674 | -0.1604 | -0.0233 | 0.02829 | 0.02824445 |
| 0.1343 | 0.08687124 | -0.2225 | 0.0862 | 0.0377 | 0.04763617 |
| 0.0175 | 0.03282322 | 0.5503 | 0.1435 | 0.09653 | 0.07493211 |
| 0.3258 | 0.480596621 | 0.4371 | 0.0078 | 0.02569 | 0.027295946 |
| 0.1835 | 0.1982917 | 0.1864 | 0.0275 | 0.03172 | 0.0339355 |
| 0.146 | 0.7315893 | 0.6636 | 0.0431 | 0.03341 | 0.03056303 |
| 0.0066 | 0.0134038 | -0.8348 | -0.1384 | 0.1494 | 0.1203551 |
| 0.0048 | 0.02385227 | -1.009 | -0.1832 | 0.1845 | 0.09147831 |
| 0.1839 | 0.95956166 | 0.1995 | -0.0805 | 0.03634 | 0.07429978 |
| 0.2425 | 0.2448006 | -0.2424 | -0.0138 | 0.02879 | 0.03161693 |
| 0.0972 | 0.95894409 | 0.2328 | 0.0999 | 0.04226 | 0.06860873 |
| 0.0971 | 0.91284558 | -0.255 | -0.0654 | 0.04098 | 0.04890085 |
| 0.1983 | 0.8238965 | -0.4077 | -0.0218 | 0.03293 | 0.03562174 |
| 0.1976 | 0.176266 | -0.3545 | -0.0188 | 0.0323 | 0.03562174 |
| 0.0449 | 0.95304762 | 0.4455 | 0.0225 | 0.06505 | 0.06333924 |
| 0.4387 | 0.3615601 | 0.1619 | 0.0248 | 0.0273 | 0.02845523 |

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|---|---|---|---|---|---|
| 0.0365 | 0.96480425 | -0.731 | 0.0568 | 0.06518 | 0.07440517 |
| 0.0648 | 0.96858726 | -0.322 | 0.1968 | 0.05089 | 0.0760914 |
| 0.0409 | 0.03361877 | -0.3511 | -0.0773 | 0.06406 | 0.07862076 |
| 0.1053 | 0.91926911 | -1.396 | 0.0444 | 0.03364 | 0.05006013 |
| 0.0321 | 0.02077387 | 0.4285 | 0.0454 | 0.07737 | 0.1038089 |
| 0.0387 | 0.96043839 | 0.4289 | -0.0805 | 0.06851 | 0.06966263 |
| 0.0317 | 0.98960096 | 0.6769 | -0.3571 | 0.07397 | 0.1570307 |
| 0.0462 | 0.01499557 | 0.8332 | 0.1274 | 0.06081 | 0.1160341 |
| 0.0667 | 0.02559553 | 0.6237 | -0.138 | 0.0518 | 0.08589265 |
| 0.4688 | 0.5454178 | 1.01 | 0.0122 | 0.01915 | 0.02719056 |
| 0.0483 | 0.9261867 | 0.6459 | -0.1307 | 0.05873 | 0.05332721 |
| 0.0317 | 0.98960096 | 0.6977 | -0.3571 | 0.07403 | 0.1570307 |
| 0.0462 | 0.01499557 | 0.8186 | 0.1274 | 0.06103 | 0.1160341 |
| 0.0667 | 0.02559553 | 0.6402 | -0.138 | 0.05184 | 0.08589265 |
| 0.383 | 0.6068208 | 0.2205 | 0.007 | 0.02662 | 0.03024686 |
| 0.5314 | 0.5450437 | -0.9998 | -0.0119 | 0.01941 | 0.02719056 |
| 0.0483 | 0.9261867 | 0.6238 | -0.1307 | 0.05887 | 0.05332721 |
| 0.0317 | 0.98960096 | 0.7156 | -0.3571 | 0.07506 | 0.1570307 |
| 0.0461 | 0.01499557 | 0.8528 | 0.1274 | 0.06178 | 0.1160341 |
| 0.3841 | 0.3931844 | 0.2118 | 0.0076 | 0.0271 | 0.03024686 |
| 0.0668 | 0.02559553 | 0.6424 | -0.138 | 0.05263 | 0.08589265 |
| 0.0481 | 0.9261867 | 0.6785 | -0.1307 | 0.05954 | 0.05332721 |
| 0.4689 | 0.4548542 | 1.01 | 0.0116 | 0.01969 | 0.02719056 |
| 0.4305 | 0.446061027 | -0.1551 | 0.0049 | 0.02782 | 0.027401336 |
| 0.2402 | 0.123361277 | -0.5493 | 0.0572 | 0.03044 | 0.044579865 |
| 0.0029 | 0.97951509 | -1.619 | 0.0393 | 0.1943 | 0.09832864 |
| 0.9971 | 0.96582227 | 1.154 | -0.1257 | 0.2032 | 0.07398361 |
| 0.0003 | 0.01968076 | 3.098 | 0.0941 | 0.5579 | 0.09811786 |
| 0.0029 | 0.97951509 | 1.755 | 0.0393 | 0.1946 | 0.09832864 |
| 0.9971 | 0.96582227 | -1.139 | -0.1257 | 0.2039 | 0.07398361 |
| 0.0929 | 0.91409653 | -0.1685 | 0.0412 | 0.03056 | 0.04774156 |
| 0.5109 | 0.4110804 | 0.1259 | -0.0288 | 0.021 | 0.02971991 |
| 0.001 | 0.97735715 | 2.135 | 0.0406 | 0.3629 | 0.09453461 |
| 0.4999 | 0.2386445 | 0.1363 | 0.0016 | 0.02361 | 0.03172232 |
| 0.5685 | 0.5594995 | 0.1693 | -0.0028 | 0.0237 | 0.02740134 |
| 0.001 | 0.97735715 | -2.093 | 0.0406 | 0.3644 | 0.09453461 |
| 0.319 | 0.06073939 | -0.1456 | -0.0146 | 0.02572 | 0.05564579 |
| 0.0354 | 0.988271966 | -0.4163 | -0.1162 | 0.06609 | 0.130894073 |
| 0.1634 | 0.1747017 | 0.1822 | 0.0649 | 0.03225 | 0.03572713 |
| 0.5685 | 0.5594995 | -0.1909 | -0.0028 | 0.02375 | 0.02740134 |
| 0.0704 | 0.01536781 | 0.4454 | -0.165 | 0.05597 | 0.1146641 |
| 0.0798 | 0.93606052 | -0.315 | -0.0655 | 0.04587 | 0.05480267 |
| 0.072 | 0.01536781 | -0.4695 | -0.165 | 0.0721 | 0.1146641 |
| 0.2237 | 0.3500874 | -0.4306 | -0.0154 | 0.03825 | 0.02845523 |
| 0.3892 | 0.6642629 | -0.2405 | -0.0366 | 0.03772 | 0.03098459 |
| 0.0704 | 0.01536781 | 0.4573 | -0.165 | 0.0559 | 0.1146641 |
| 0.0798 | 0.93606052 | -0.3123 | -0.0655 | 0.04579 | 0.05480267 |
| 0.2561 | 0.275401506 | 0.1927 | 0.0308 | 0.02975 | 0.030457639 |
| 0.1758 | 0.141248699 | 0.3455 | -0.0676 | 0.03444 | 0.039204988 |
| 0.1462 | 0.1524209 | 0.209 | 0.0439 | 0.03794 | 0.04152356 |
| 0.0154 | 0.045457836 | -0.7279 | -0.0047 | 0.1101 | 0.065657816 |
| 0.1057 | 0.879144205 | 0.3619 | 0.0358 | 0.04392 | 0.041945122 |
| 0.5197 | 0.340822483 | 0.1538 | 0.0409 | 0.02746 | 0.036043295 |
| 0.1227 | 0.105340973 | -0.2306 | 0.0009 | 0.04135 | 0.043525968 |
| 0.0031 | 0.02920255 | -1.355 | 0.0084 | 0.247 | 0.08304713 |
| 0.1961 | 0.90839607 | 0.1883 | -0.0102 | 0.03418 | 0.04679305 |
| 0.0512 | 0.100653834 | 0.4334 | -0.0309 | 0.06029 | 0.04679305 |
| 0.0559 | 0.94388769 | -0.4459 | -0.0357 | 0.05365 | 0.0596506 |

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| 0.1635 | 0.05202141 | 0.2065 | -0.0018 | 0.03765 | 0.06492009 |
| 0.8197 | 0.1720222 | 0.2121 | -0.0017 | 0.03182 | 0.0360433 |
| 0.6079 | 0.4734739 | -0.1808 | 0.0146 | 0.02489 | 0.02950913 |
| 0.7669 | 0.7522896 | 0.1996 | 0.0104 | 0.0293 | 0.03151154 |
| 0.8197 | 0.1720222 | 0.2233 | -0.0017 | 0.03173 | 0.0360433 |
| 0.2303 | 0.246139 | -0.1786 | -0.0117 | 0.02943 | 0.03435706 |
| 0.6088 | 0.4717883 | -0.2011 | 0.0168 | 0.02485 | 0.02719056 |
| 0.3162 | 0.7159645 | 0.1521 | 0.0285 | 0.02688 | 0.03024686 |
| 0.2216 | 0.811438 | -0.1657 | 0.0433 | 0.02956 | 0.0349894 |
| 0.074 | 0.97668284 | 0.4479 | 0.1062 | 0.04714 | 0.08873817 |
| 0.6084 | 0.4680248 | -0.293 | -0.0163 | 0.02511 | 0.02729595 |
| 0.5233 | 0.5199509 | -0.1378 | 0.0069 | 0.0244 | 0.02719056 |
| 0.7148 | 0.3600622 | 0.2704 | -0.012 | 0.04205 | 0.02824445 |
| 0.2094 | 0.6806864 | -0.9497 | -0.0232 | 0.0394 | 0.02919296 |
| 0.2702 | 0.1764607 | -0.3103 | -0.0004 | 0.04316 | 0.03551635 |
| 0.5574 | 0.5366913 | 0.2681 | 0.003 | 0.03799 | 0.02961452 |
| 0.3892 | 0.2056222 | -0.1558 | -0.0138 | 0.02531 | 0.03361933 |
| 0.8211 | 0.8228947 | 0.187 | 0.0247 | 0.03209 | 0.03920499 |
| 0.0967 | 0.91845283 | -0.2571 | -0.0485 | 0.04166 | 0.0503763 |
| 0.2303 | 0.246139 | -0.1948 | -0.0117 | 0.02926 | 0.03435706 |
| 0.2521 | 0.2474684 | 0.2057 | 0.014 | 0.03039 | 0.03140615 |
| 0.4556 | 0.403856826 | 0.3893 | -0.0046 | 0.02598 | 0.027717505 |
| 0.2279 | 0.735701 | -0.378 | -0.0008 | 0.03133 | 0.03077381 |
| 0.2402 | 0.123361277 | -0.4762 | 0.0572 | 0.03104 | 0.044579865 |
| 0.5436 | 0.7418202 | -0.1801 | 0.0499 | 0.02926 | 0.03330316 |
| 0.1067 | 0.7385435 | 0.2608 | 0.0155 | 0.04744 | 0.0339355 |
| 0.6062 | 0.1451289 | -0.2999 | -0.0519 | 0.02977 | 0.04078583 |
| 0.7204 | 0.6046474 | 0.1984 | -0.0253 | 0.03266 | 0.03014147 |
| 0.1152 | 0.96980573 | -0.2799 | -0.186 | 0.04891 | 0.08852739 |
| 0.1642 | 0.765104 | -0.3127 | 0.0241 | 0.04043 | 0.03509479 |
| 0.3759 | 0.6019412 | 0.1591 | 0.0257 | 0.02774 | 0.02761212 |
| 0.463 | 0.4818525 | 0.192 | -0.0416 | 0.02696 | 0.02729595 |
| 0.1269 | 0.97379986 | -0.3411 | 0.0387 | 0.04595 | 0.09274298 |
| 0.2476 | 0.4369519 | -0.5168 | 0.0328 | 0.02954 | 0.02740134 |
| 0.2255 | 0.91055998 | 0.1861 | -0.0062 | 0.03366 | 0.05079786 |
| 0.2125 | 0.01349708 | 0.3015 | 0.017 | 0.03386 | 0.1150856 |
| 0.0277 | 0.98025025 | -0.6824 | 0.0742 | 0.08527 | 0.09906637 |
| 0.8374 | 0.1088978 | -0.2078 | 0.0717 | 0.03753 | 0.04405292 |
| 0.3354 | 0.3898166 | -0.2231 | 0.0012 | 0.02895 | 0.0277175 |
| 0.0277 | 0.97949554 | -0.5258 | 0.0496 | 0.08507 | 0.09853942 |
| 0.1973 | 0.90110612 | 0.2079 | -0.0062 | 0.0346 | 0.04942779 |
| 0.2969 | 0.1744765 | -0.1632 | 0.0787 | 0.02646 | 0.03541096 |
| 0.2969 | 0.1744765 | 0.1603 | 0.0787 | 0.0281 | 0.03541096 |
| 0.2966 | 0.1744765 | 0.183 | 0.0787 | 0.02834 | 0.03541096 |
| 0.2969 | 0.1744765 | 0.1457 | 0.0787 | 0.02548 | 0.03541096 |
| 0.0705 | 0.9775227 | 0.3212 | 0.1242 | 0.04962 | 0.09084597 |
| 0.0457 | 0.01499557 | 0.4215 | 0.1274 | 0.06475 | 0.1160341 |
| 0.4733 | 0.4546282 | 0.4156 | 0.0115 | 0.02562 | 0.02719056 |
| 0.4777 | 0.2284913 | 0.1537 | -0.0153 | 0.02404 | 0.03214387 |
| 0.3256 | 0.06073939 | 0.1963 | -0.0146 | 0.02601 | 0.05564579 |
| 0.3256 | 0.06073939 | 0.1714 | -0.0146 | 0.02663 | 0.05564579 |
| 0.3256 | 0.06073939 | 0.1827 | -0.0146 | 0.02625 | 0.05564579 |
| 0.6359 | 0.7526132 | -0.1525 | -0.0579 | 0.02629 | 0.03140615 |
| 0.3195 | 0.06073939 | -0.2201 | -0.0146 | 0.02651 | 0.05564579 |
| 0.597 | 0.3611831 | 0.1572 | 0.0186 | 0.02469 | 0.02834984 |
| 0.3256 | 0.06073939 | 0.1691 | -0.0146 | 0.02653 | 0.05564579 |
| 0.3256 | 0.06073939 | 0.173 | -0.0146 | 0.02661 | 0.05564579 |
| 0.319 | 0.06073939 | 0.2272 | -0.0146 | 0.02633 | 0.05564579 |

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|---|---|---|---|---|---|
| 0.4842 | 0.5124104 | -0.1493 | 0.0375 | 0.02419 | 0.02961452 |
| 0.3256 | 0.06073939 | 0.1523 | -0.0146 | 0.02639 | 0.05564579 |
| 0.2038 | 0.4449728 | -0.2044 | 0.0005 | 0.03371 | 0.02740134 |
| 0.4466 | 0.605326605 | 0.6441 | 0.0108 | 0.02485 | 0.027822895 |
| 0.0512 | 0.100653834 | 0.5386 | -0.0309 | 0.06087 | 0.04679305 |
| 0.1024 | 0.893214404 | 0.3132 | 0.0252 | 0.04432 | 0.044263696 |
| 0.2093 | 0.8914494 | 0.2304 | -0.0409 | 0.03386 | 0.04352597 |
| 0.2826 | 0.371674 | -0.1568 | -0.0233 | 0.0284 | 0.02824445 |
| 0.5219 | 0.6096652 | 0.1662 | -0.0174 | 0.02565 | 0.02782289 |
| 0.2757 | 0.9303338 | 0.2531 | -0.0624 | 0.03508 | 0.05828053 |
| 0.1792 | 0.1684372 | 0.1837 | 0.0286 | 0.03302 | 0.03646485 |
| 0.3011 | 0.1687823 | 0.246 | 0.09 | 0.02696 | 0.03583252 |
| 0.0732 | 0.95701402 | -0.3142 | -0.0604 | 0.04765 | 0.06818717 |
| 0.0468 | 0.97288166 | -0.3797 | -0.0227 | 0.05894 | 0.08736811 |
| 0.0463 | 0.98441591 | -0.3313 | 0.0354 | 0.05854 | 0.1246761 |
| 0.0756 | 0.98609609 | -0.5638 | -0.0128 | 0.04748 | 0.1188796 |
| 0.0261 | 0.97891546 | -0.725 | 0.1455 | 0.07793 | 0.09716935 |
| 0.3344 | 0.47856234 | -0.1503 | 0.0065 | 0.02684 | 0.029614521 |
| 0.0871 | 0.9756463 | -0.5779 | -0.1068 | 0.04464 | 0.09632623 |
| 0.099 | 0.92084717 | -1.439 | 0.0455 | 0.03429 | 0.05069247 |
| 0.0468 | 0.97288166 | -0.355 | -0.0227 | 0.05912 | 0.08736811 |
| 0.0463 | 0.98441591 | -0.3245 | 0.0354 | 0.05867 | 0.1246761 |
| 0.0756 | 0.98609609 | -0.5779 | -0.0128 | 0.0476 | 0.1188796 |
| 0.0261 | 0.97891546 | -0.7252 | 0.1455 | 0.07811 | 0.09716935 |
| 0.3344 | 0.47856234 | -0.1479 | 0.0065 | 0.02692 | 0.029614521 |
| 0.0871 | 0.9756463 | -0.6004 | -0.1068 | 0.04473 | 0.09632623 |
| 0.099 | 0.92084717 | -1.427 | 0.0455 | 0.03453 | 0.05069247 |
| 0.1101 | 0.1408396 | -0.2835 | 0.045 | 0.04291 | 0.03920499 |
| 0.3265 | 0.5669823 | -0.182 | 0.0098 | 0.02858 | 0.02750673 |
| 0.2366 | 0.784688702 | 0.1855 | 0.0081 | 0.03217 | 0.033197772 |
| 0.0315 | 0.9791012 | -0.3968 | -0.041 | 0.07123 | 0.103282 |
| 0.4173 | 0.4304709 | -0.1511 | 0.0224 | 0.02575 | 0.02729595 |
| 0.766 | 0.742607 | -0.2926 | -0.0272 | 0.02777 | 0.0308792 |
| 0.199 | 0.1739004 | -0.4805 | -0.0212 | 0.03356 | 0.03583252 |
| 0.1779 | 0.9290425 | 0.1962 | 0.0486 | 0.03583 | 0.05258949 |
| 0.3781 | 0.5521445 | 0.1517 | 0.0274 | 0.02476 | 0.02750673 |
| 0.5236 | 0.5199127 | -0.1487 | 0.0066 | 0.02438 | 0.02719056 |
| 0.1941 | 0.90110612 | -0.1822 | -0.0062 | 0.02999 | 0.04942779 |
| 0.0035 | 0.97848138 | -1.347 | 0.0964 | 0.2241 | 0.1012796 |
| 0.0029 | 0.97951509 | -1.532 | 0.0393 | 0.2241 | 0.09832864 |
| 0.9748 | 0.97111705 | 0.4628 | 0.0023 | 0.08043 | 0.08420641 |
| 0.0523 | 0.98540978 | 0.3794 | 0.0115 | 0.05758 | 0.1126616 |
| 0.223 | 0.90611356 | -0.201 | -0.0677 | 0.03417 | 0.05006013 |
| 0.2446 | 0.98567273 | -0.2671 | -0.0953 | 0.03579 | 0.1222521 |
| 0.7804 | 0.1392854 | 0.2205 | -0.1895 | 0.03527 | 0.04226129 |
| 0.0315 | 0.01522292 | -0.4403 | -0.0498 | 0.07983 | 0.1332126 |
| 0.1973 | 0.8255325 | -0.4347 | -0.0091 | 0.03405 | 0.03878343 |
| 0.0389 | 0.96043839 | -0.4661 | -0.0805 | 0.07094 | 0.06966263 |
| 0.0312 | 0.01522292 | 0.4291 | -0.0498 | 0.07557 | 0.1332126 |
| 0.189 | 0.2517236 | 0.2159 | 0.0304 | 0.03275 | 0.03108998 |
| 0.6741 | 0.4695682 | 0.1701 | -0.0222 | 0.02733 | 0.02729595 |
| 0.0315 | 0.01522292 | 0.415 | -0.0498 | 0.06958 | 0.1332126 |
| 0.0378 | 0.96396148 | 0.3543 | -0.0595 | 0.06302 | 0.07240276 |
| 0.6738 | 0.4695682 | 0.1408 | -0.0222 | 0.02517 | 0.02729595 |
| 0.0315 | 0.01522292 | 0.5228 | -0.0498 | 0.07237 | 0.1332126 |
| 0.0378 | 0.96043839 | 0.471 | -0.0805 | 0.06515 | 0.06966263 |
| 0.0315 | 0.01522292 | 0.4569 | -0.0498 | 0.0704 | 0.1332126 |
| 0.0378 | 0.96396148 | 0.3685 | -0.0595 | 0.0638 | 0.07240276 |

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|---|---|---|---|---|---|
| 0.0316 | 0.01522292 | 0.4624 | -0.0498 | 0.07284 | 0.1332126 |
| 0.0328 | 0.96442635 | 0.4706 | 0.0361 | 0.07011 | 0.07482672 |
| 0.5116 | 0.4325118 | 0.1387 | 0.0175 | 0.02493 | 0.02740134 |
| 0.1096 | 0.96878866 | -0.4086 | 0.0429 | 0.03904 | 0.07735608 |
| 0.5123 | 0.3279215 | 0.1457 | -0.0449 | 0.02472 | 0.03151154 |
| 0.0316 | 0.01522292 | 0.4806 | -0.0498 | 0.07016 | 0.1332126 |
| 0.0379 | 0.96396148 | 0.425 | -0.0595 | 0.06368 | 0.07240276 |
| 0.5122 | 0.3279215 | 0.1339 | -0.0449 | 0.02395 | 0.03151154 |
| 0.0315 | 0.01522292 | 0.5664 | -0.0498 | 0.07147 | 0.1332126 |
| 0.0378 | 0.96043839 | 0.4888 | -0.0805 | 0.06448 | 0.06966263 |
| 0.0368 | 0.98573072 | -0.3567 | 0.0554 | 0.06295 | 0.1174042 |
| 0.0814 | 0.92393594 | -0.2576 | 0.0352 | 0.04422 | 0.05100864 |
| 0.0482 | 0.01544514 | -0.4589 | 0.0338 | 0.07926 | 0.1154018 |
| 0.0762 | 0.98609609 | -0.5625 | -0.0128 | 0.06459 | 0.1188796 |
| 0.025 | 0.97891546 | -0.6961 | 0.1455 | 0.1109 | 0.09716935 |
| 0.0887 | 0.9756463 | -0.6208 | -0.1068 | 0.05961 | 0.09632623 |
| 0.0944 | 0.92084717 | -1.495 | 0.0455 | 0.04742 | 0.05069247 |
| 0.1016 | 0.98660943 | 0.5509 | 0.059 | 0.05917 | 0.1261515 |
| 0.1622 | 0.7860275 | 0.2745 | 0.0343 | 0.04858 | 0.03340855 |
| 0.4036 | 0.5125463 | -0.2587 | -0.0244 | 0.036 | 0.02961452 |
| 0.5545 | 0.6013043 | 0.2107 | 0.027 | 0.03686 | 0.03014147 |
| 0.0479 | 0.015563395 | -0.5867 | -0.0777 | 0.06432 | 0.114453272 |
| 0.4422 | 0.35907 | 0.2265 | 0.0111 | 0.02793 | 0.02824445 |
| 0.8964 | 0.05442347 | 0.4659 | 0.003 | 0.04526 | 0.05975599 |
| 0.0481 | 0.015563395 | -1.147 | -0.0777 | 0.06195 | 0.114453272 |
| 0.016 | 0.026128823 | -0.5868 | 0.0519 | 0.1067 | 0.084417192 |
| 0.8956 | 0.05496869 | 0.6619 | 0.0114 | 0.04462 | 0.05954521 |
| 0.1204 | 0.045166011 | -0.35 | -0.0945 | 0.04248 | 0.070294965 |
| 0.0126 | 0.98194135 | -0.7914 | 0.0507 | 0.1209 | 0.100752604 |
| 0.0479 | 0.015563395 | -0.5725 | -0.0777 | 0.0642 | 0.114453272 |
| 0.4422 | 0.35907 | 0.1995 | 0.0111 | 0.02793 | 0.02824445 |
| 0.8955 | 0.05965993 | 0.4055 | 0.0014 | 0.04516 | 0.05733203 |
| 0.2457 | 0.123361277 | 0.3323 | 0.0572 | 0.0314 | 0.044579865 |
| 0.0368 | 0.01445622 | -0.3597 | 0.0742 | 0.06402 | 0.1161395 |
| 0.0864 | 0.94092196 | 0.2696 | 0.0554 | 0.04674 | 0.05891287 |
| 0.657 | 0.7883355 | -0.1537 | 0.0037 | 0.02772 | 0.03330316 |
| 0.0096 | 0.95561488 | -0.7492 | -0.0869 | 0.1315 | 0.06650093 |
| 0.0572 | 0.97626834 | -0.3287 | 0.1203 | 0.05796 | 0.08863278 |
| 0.0573 | 0.97626834 | -0.3341 | 0.1203 | 0.05919 | 0.08863278 |
| 0.245 | 0.7425922 | -0.1851 | 0.0127 | 0.03237 | 0.03108998 |
| 0.4102 | 0.6033231 | 0.1642 | 0.0306 | 0.02772 | 0.02782289 |
| 0.0378 | 0.01050977 | -0.4036 | 0.1083 | 0.07353 | 0.1268893 |
| 0.0094 | 0.986539893 | 0.8211 | 0.2271 | 0.1303 | 0.111186189 |
| 0.0438 | 0.011696572 | -0.3791 | 0.0388 | 0.06661 | 0.126994652 |
| 0.2449 | 0.123361277 | 0.8094 | 0.0572 | 0.02787 | 0.044579865 |
| 0.0686 | 0.976189635 | 0.401 | 0.0148 | 0.05202 | 0.087789664 |
| 0.2142 | 0.95372751 | 0.2427 | -0.0485 | 0.03394 | 0.07271893 |
| 0.4183 | 0.3115299 | -0.4395 | -0.0062 | 0.0274 | 0.02940374 |
| 0.2142 | 0.95372751 | 0.2439 | -0.0485 | 0.03399 | 0.07271893 |
| 0.4183 | 0.3115299 | -0.4405 | -0.0062 | 0.02745 | 0.02940374 |
| 0.0798 | 0.93606052 | 0.3084 | -0.0655 | 0.0448 | 0.05480267 |
| 0.1941 | 0.90110612 | -0.1786 | -0.0062 | 0.03068 | 0.04942779 |
| 0.2589 | 0.3216039 | 0.1655 | 0.0217 | 0.02824 | 0.02908757 |
| 0.2848 | 0.90704723 | -0.2623 | -0.0268 | 0.03321 | 0.05111403 |
| 0.1551 | 0.97088922 | 0.4143 | -0.0649 | 0.039 | 0.08452258 |
| 0.0495 | 0.96806773 | -0.3331 | 0.062 | 0.06077 | 0.07524828 |
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| 0.0415 | 0.95205874 | 0.4239 | -0.0813 | 0.06144 | 0.06439314 |

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|---|---|---|---|---|---|
| 0.776 | 0.8096676 | -0.1654 | -0.043 | 0.0295 | 0.03425167 |
| 0.1077 | 0.05372035 | 0.4838 | 0.0556 | 0.04036 | 0.05954521 |
| 0.0414 | 0.95205874 | 0.4191 | -0.0813 | 0.06162 | 0.06439314 |
| 0.0062 | 0.98765616 | -0.9269 | 0.0017 | 0.1592 | 0.1286809 |
| 0.1075 | 0.94504495 | 0.5433 | 0.0502 | 0.04021 | 0.05891287 |
| 0.0416 | 0.95205874 | 0.3795 | -0.0813 | 0.0615 | 0.06439314 |
| 0.1076 | 0.05372035 | 0.476 | 0.0556 | 0.04039 | 0.05954521 |
| 0.0414 | 0.95205874 | 0.4465 | -0.0813 | 0.0617 | 0.06439314 |
| 0.0997 | 0.03251896 | 0.2314 | 0.0069 | 0.04201 | 0.07893692 |
| 0.7759 | 0.8096676 | -0.1953 | -0.043 | 0.02956 | 0.03425167 |
| 0.1075 | 0.05372035 | 0.5626 | 0.0556 | 0.04021 | 0.05954521 |
| 0.0414 | 0.95205874 | 0.4264 | -0.0813 | 0.06126 | 0.06439314 |
| 0.0997 | 0.03251896 | 0.2334 | 0.0069 | 0.04168 | 0.07893692 |
| 0.7759 | 0.8096676 | -0.1898 | -0.043 | 0.02934 | 0.03425167 |
| 0.1075 | 0.94504495 | 0.5847 | 0.0502 | 0.03976 | 0.05891287 |
| 0.0405 | 0.928591483 | -0.3505 | 0.0408 | 0.06354 | 0.052589487 |
| 0.2456 | 0.123361277 | -0.8542 | 0.0572 | 0.02593 | 0.044579865 |
| 0.0702 | 0.976189635 | -0.3755 | 0.0148 | 0.0488 | 0.087789664 |
| 0.0434 | 0.95306675 | 0.3722 | 0.0222 | 0.06802 | 0.06333924 |
| 0.0277 | 0.982385 | -0.7524 | -0.1114 | 0.08106 | 0.1028604 |
| 0.1974 | 0.90110612 | 0.3156 | -0.0062 | 0.03411 | 0.04942779 |
| 0.0188 | 0.96625957 | -0.6814 | 0.1079 | 0.1013 | 0.07240276 |
| 0.1078 | 0.01592119 | 0.2974 | -0.0561 | 0.04937 | 0.123833 |
| 0.0437 | 0.011696572 | -0.3975 | 0.0388 | 0.06549 | 0.126994652 |
| 0.0095 | 0.986995687 | 0.8012 | 0.2067 | 0.1303 | 0.112556256 |
| 0.2447 | 0.123361277 | 0.8232 | 0.0572 | 0.02725 | 0.044579865 |
| 0.0688 | 0.976189635 | 0.4169 | 0.0148 | 0.05126 | 0.087789664 |
| 0.0536 | 0.02831551 | -0.3114 | -0.0705 | 0.0547 | 0.08157167 |
| 0.4057 | 0.4135887 | 0.1467 | -0.0045 | 0.02525 | 0.02750673 |
| 0.0991 | 0.92084717 | -0.5288 | 0.0455 | 0.04055 | 0.05069247 |
| 0.8748 | 0.07937202 | 0.2082 | 0.0581 | 0.03692 | 0.05100864 |
| 0.2425 | 0.2448006 | -0.2125 | -0.0138 | 0.0287 | 0.03161693 |
| 0.8748 | 0.07937202 | 0.2257 | 0.0581 | 0.03693 | 0.05100864 |
| 0.0965 | 0.91845283 | -0.2717 | -0.0485 | 0.04169 | 0.0503763 |
| 0.2304 | 0.246139 | -0.2717 | -0.0117 | 0.02911 | 0.03435706 |
| 0.1025 | 0.02699745 | 0.2896 | -0.1839 | 0.05014 | 0.09369149 |
| 0.1766 | 0.1340879 | 0.2422 | -0.0213 | 0.0339 | 0.03983733 |
| 0.1155 | 0.8991515 | 0.2173 | 0.0261 | 0.03926 | 0.04468526 |
| 0.1766 | 0.1342725 | 0.2054 | -0.0208 | 0.03486 | 0.03973194 |
| 0.3258 | 0.5704662 | -0.2745 | 0.0071 | 0.02859 | 0.03003608 |
| 0.0407 | 0.03775643 | 0.683 | 0.0803 | 0.06832 | 0.07082191 |
| 0.0979 | 0.92212349 | 0.2565 | 0.0218 | 0.04671 | 0.05027091 |
| 0.017 | 0.97209325 | 0.5993 | -0.069 | 0.1066 | 0.08557648 |
| 0.3258 | 0.5704662 | -0.209 | 0.0071 | 0.02852 | 0.03003608 |
| 0.0407 | 0.03775643 | 0.3833 | 0.0803 | 0.06868 | 0.07082191 |
| 0.3265 | 0.5669823 | -0.1614 | 0.0098 | 0.02865 | 0.02750673 |
| 0.2635 | 0.3216039 | -0.2533 | 0.0217 | 0.03729 | 0.02908757 |
| 0.2659 | 0.8319775 | -0.2007 | 0.0325 | 0.03572 | 0.0360433 |
| 0.2128 | 0.6806864 | -0.2687 | -0.0232 | 0.03761 | 0.02919296 |
| 0.029 | 0.03967256 | -0.5186 | 0.0051 | 0.08634 | 0.07588062 |
| 0.8223 | 0.4004856 | 0.3643 | -0.0152 | 0.03754 | 0.03024686 |
| 0.1384 | 0.1588857 | -0.2979 | 0.0342 | 0.03961 | 0.03688641 |
| 0.4579 | 0.404382487 | 0.3265 | -0.0035 | 0.02759 | 0.027717505 |
| 0.4556 | 0.403856826 | 0.4384 | -0.0046 | 0.02585 | 0.027717505 |
| 0.4562 | 0.403856826 | 0.4235 | -0.0046 | 0.02586 | 0.027717505 |
| 0.1062 | 0.879144205 | 0.254 | 0.0358 | 0.04309 | 0.041945122 |
| 0.5771 | 0.383552659 | -0.1676 | -0.0573 | 0.02695 | 0.030352249 |
| 0.4567 | 0.403856826 | 0.3668 | -0.0046 | 0.0263 | 0.027717505 |

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|---|---|---|---|---|---|
| 0.0735 | 0.01475094 | 0.2839 | -0.3388 | 0.05153 | 0.1261515 |
| 0.5766 | 0.383552659 | -0.1489 | -0.0573 | 0.02709 | 0.030352249 |
| 0.4569 | 0.403856826 | 0.3496 | -0.0046 | 0.02643 | 0.027717505 |
| 0.4559 | 0.403856826 | 0.2737 | -0.0046 | 0.02723 | 0.027717505 |
| 0.4568 | 0.403856826 | 0.4112 | -0.0046 | 0.02631 | 0.027717505 |
| 0.5764 | 0.383552659 | -0.1746 | -0.0573 | 0.02729 | 0.030352249 |
| 0.255 | 0.7425922 | -0.2523 | 0.0127 | 0.04091 | 0.03108998 |
| 0.0029 | 0.97951509 | 1.651 | 0.0393 | 0.2111 | 0.09832864 |
| 0.814 | 0.91833056 | -0.2089 | -0.04 | 0.03078 | 0.04953318 |
| 0.4699 | 0.4787451 | 0.2177 | 0.0462 | 0.02348 | 0.02697978 |
| 0.0029 | 0.97951509 | -1.502 | 0.0393 | 0.2221 | 0.09832864 |
| 0.3528 | 0.3818072 | 0.1775 | -0.0222 | 0.02609 | 0.0277175 |
| 0.0029 | 0.97951509 | -1.51 | 0.0393 | 0.2336 | 0.09832864 |
| 0.3439 | 0.5614494 | 0.1803 | -0.0042 | 0.03185 | 0.02971991 |
| 0.0029 | 0.97951509 | -1.737 | 0.0393 | 0.2311 | 0.09832864 |
| 0.0543 | 0.90385129 | 0.6146 | -0.0393 | 0.05523 | 0.04616071 |
| 0.0029 | 0.97951509 | -2.154 | 0.0393 | 0.2288 | 0.09832864 |
| 0.2288 | 0.049622 | 0.2111 | 0.0189 | 0.03351 | 0.06418236 |
| 0.5099 | 0.5889065 | 0.1499 | -0.0291 | 0.02649 | 0.02971991 |
| 0.3011 | 0.1687823 | 0.1592 | 0.09 | 0.02442 | 0.03583252 |
| 0.5287 | 0.511173 | -0.1619 | -0.0678 | 0.02833 | 0.02708517 |
| 0.1087 | 0.01592168 | 0.307 | -0.0561 | 0.04769 | 0.123833 |
| 0.1087 | 0.01592168 | 0.3169 | -0.0561 | 0.04734 | 0.123833 |
| 0.1503 | 0.94072813 | 0.2185 | -0.0929 | 0.03884 | 0.06165301 |
| 0.0542 | 0.90385129 | 0.5547 | -0.0393 | 0.05665 | 0.04616071 |
| 0.013 | 0.97481682 | -0.6608 | 0.1429 | 0.12 | 0.08852739 |
| 0.8652 | 0.110879532 | 0.2289 | 0.0088 | 0.04072 | 0.043315188 |
| 0.4845 | 0.580520179 | 0.3371 | 0.005 | 0.02703 | 0.027612115 |
| 0.4552 | 0.404401427 | 0.2805 | -0.0037 | 0.0264 | 0.027717505 |
| 0.0027 | 0.01432312 | -1.353 | 0.0059 | 0.2268 | 0.1171934 |
| 0.8286 | 0.0710573 | -0.2018 | -0.0458 | 0.03253 | 0.05311644 |
| 0.0555 | 0.05616582 | -0.4386 | -0.0374 | 0.0546 | 0.05954521 |
| 0.0798 | 0.93606052 | -0.2562 | -0.0655 | 0.04587 | 0.05480267 |
| 0.2849 | 0.90704723 | -0.2546 | -0.0268 | 0.03302 | 0.05111403 |
| 0.0844 | 0.93606052 | -0.2824 | -0.0655 | 0.04984 | 0.05480267 |
| 0.5089 | 0.7122266 | 0.1733 | 0.0574 | 0.02875 | 0.02993069 |
| 0.0798 | 0.93606052 | -0.2797 | -0.0655 | 0.04402 | 0.05480267 |
| 0.0798 | 0.93606052 | -0.2492 | -0.0655 | 0.04479 | 0.05480267 |
| 0.447 | 0.6673901 | -0.1859 | -0.0177 | 0.02487 | 0.02887679 |
| 0.0236 | 0.98670342 | 0.4573 | -0.1599 | 0.07909 | 0.1209874 |
| 0.3334 | 0.480596621 | 0.2617 | 0.0078 | 0.03479 | 0.027295946 |
| 0.3209 | 0.480596621 | 0.2581 | 0.0078 | 0.02951 | 0.027295946 |
| 0.6884 | 0.6387578 | 0.3253 | 0.0178 | 0.02975 | 0.02824445 |
| 0.3302 | 0.480596621 | -0.3379 | 0.0078 | 0.03798 | 0.027295946 |
| 0.3166 | 0.480596621 | -0.3112 | 0.0078 | 0.03296 | 0.027295946 |
| 0.327 | 0.480596621 | -0.4628 | 0.0078 | 0.02573 | 0.027295946 |
| 0.2677 | 0.662003 | 0.1581 | 0.006 | 0.02862 | 0.02856062 |
| 0.3262 | 0.480596621 | -0.41 | 0.0078 | 0.02603 | 0.027295946 |
| 0.2681 | 0.6616651 | 0.2391 | 0.007 | 0.02846 | 0.02856062 |
| 0.3209 | 0.480596621 | 0.2755 | 0.0078 | 0.02934 | 0.027295946 |
| 0.3299 | 0.480596621 | -0.261 | 0.0078 | 0.03857 | 0.027295946 |
| 0.2121 | 0.6806864 | -1.119 | -0.0232 | 0.03392 | 0.02919296 |
| 0.0278 | 0.01802522 | -0.6094 | -0.0065 | 0.105 | 0.1093946 |
| 0.2708 | 0.1764607 | -0.3832 | -0.0004 | 0.03992 | 0.03551635 |
| 0.5535 | 0.5366913 | 0.2977 | 0.003 | 0.03561 | 0.02961452 |
| 0.3267 | 0.480596621 | 0.4646 | 0.0078 | 0.02562 | 0.027295946 |
| 0.0427 | 0.9282526 | 0.3595 | 0.1071 | 0.06265 | 0.05164098 |
| 0.2729 | 0.178094739 | 0.1985 | 0.0253 | 0.02838 | 0.038678039 |

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|---|---|---|---|---|---|
| 0.1461 | 0.7315893 | 0.6978 | 0.0431 | 0.03329 | 0.03056303 |
| 0.3298 | 0.480596621 | -0.2575 | 0.0078 | 0.0387 | 0.027295946 |
| 0.2122 | 0.6806864 | -1.139 | -0.0232 | 0.03358 | 0.02919296 |
| 0.5707 | 0.4477274 | -0.2061 | -0.0058 | 0.03609 | 0.0298253 |
| 0.0704 | 0.98906866 | 0.4941 | -0.0653 | 0.07133 | 0.1501804 |
| 0.271 | 0.1764607 | -0.3895 | -0.0004 | 0.04 | 0.03551635 |
| 0.5533 | 0.5366913 | 0.2922 | 0.003 | 0.03574 | 0.02961452 |
| 0.3268 | 0.480596621 | -0.2388 | 0.0078 | 0.02599 | 0.027295946 |
| 0.3305 | 0.480596621 | 0.4941 | 0.0078 | 0.03702 | 0.027295946 |
| 0.3309 | 0.480596621 | 0.461 | 0.0078 | 0.03828 | 0.027295946 |
| 0.3267 | 0.480596621 | 0.1446 | 0.0078 | 0.02624 | 0.027295946 |
| 0.3334 | 0.480596621 | -0.5517 | 0.0078 | 0.03439 | 0.027295946 |
| 0.9459 | 0.890610494 | 0.4291 | -0.0305 | 0.07422 | 0.043736747 |
| 0.2209 | 0.7421583 | -0.3541 | 0.0386 | 0.04034 | 0.03098459 |
| 0.3209 | 0.480596621 | 0.248 | 0.0078 | 0.02982 | 0.027295946 |
| 0.8668 | 0.06731554 | 0.4684 | -0.0155 | 0.04088 | 0.05511884 |
| 0.3303 | 0.480596621 | 0.624 | 0.0078 | 0.03633 | 0.027295946 |
| 0.3262 | 0.480596621 | -0.4504 | 0.0078 | 0.02605 | 0.027295946 |
| 0.2681 | 0.6616651 | 0.2834 | 0.007 | 0.02853 | 0.02856062 |
| 0.3334 | 0.480596621 | 0.5511 | 0.0078 | 0.03437 | 0.027295946 |
| 0.9459 | 0.890610494 | -0.4313 | -0.0305 | 0.07416 | 0.043736747 |
| 0.2209 | 0.7421583 | 0.361 | 0.0386 | 0.04027 | 0.03098459 |
| 0.0544 | 0.90385129 | 0.6113 | -0.0393 | 0.05534 | 0.04616071 |
| 0.0356 | 0.988271966 | -0.3926 | -0.1162 | 0.06648 | 0.130894073 |
| 0.1622 | 0.8260896 | 0.2022 | 0.0596 | 0.03265 | 0.03583252 |
| 0.5686 | 0.5594995 | -0.2005 | -0.0028 | 0.02398 | 0.02740134 |
| 0.0357 | 0.988271966 | 0.5102 | -0.1162 | 0.07408 | 0.130894073 |
| 0.3466 | 0.2330231 | 0.2237 | -0.0264 | 0.02785 | 0.03214387 |
| 0.0175 | 0.9868665 | -0.6561 | 0.1577 | 0.1188 | 0.1286809 |
| 0.2209 | 0.7447375 | -0.3414 | 0.0427 | 0.0375 | 0.03108998 |
| 0.6316 | 0.2481714 | 0.2306 | -0.0551 | 0.02558 | 0.03130076 |
| 0.1067 | 0.9468934 | 0.3186 | 0.0378 | 0.0403 | 0.06565782 |
| 0.6323 | 0.2481714 | -0.1431 | -0.0551 | 0.02594 | 0.03130076 |
| 0.534 | 0.4012964 | -0.1679 | 0.0136 | 0.02462 | 0.0277175 |
| 0.6317 | 0.2481714 | -0.4972 | -0.0551 | 0.02506 | 0.03130076 |
| 0.167 | 0.7631517 | -0.1925 | 0.0099 | 0.03366 | 0.03203848 |
| 0.0561 | 0.02701209 | 0.7463 | -0.0586 | 0.05335 | 0.08273096 |
| 0.035 | 0.98073243 | 0.4946 | 0.0596 | 0.06834 | 0.1021227 |
| 0.1136 | 0.95896223 | 0.2435 | 0.0549 | 0.03994 | 0.06713327 |
| 0.0223 | 0.01729453 | 0.5735 | 0.0766 | 0.08703 | 0.1193012 |
| 0.6318 | 0.2481714 | -0.1869 | -0.0551 | 0.02576 | 0.03130076 |
| 0.2335 | 0.2474873 | -0.1907 | -0.0086 | 0.02929 | 0.03151154 |
| 0.8194 | 0.8256369 | 0.1924 | 0.0206 | 0.0321 | 0.0360433 |
| 0.0972 | 0.95894409 | 0.2363 | 0.0999 | 0.04232 | 0.06860873 |
| 0.5778 | 0.495913938 | 0.3092 | -0.0551 | 0.03847 | 0.029509131 |
| 0.5778 | 0.495913938 | 0.3004 | -0.0551 | 0.03886 | 0.029509131 |
| 0.5778 | 0.495913938 | 0.2928 | -0.0551 | 0.0385 | 0.029509131 |
| 0.5778 | 0.495913938 | 0.2857 | -0.0551 | 0.03952 | 0.029509131 |
| 0.5778 | 0.495913938 | 0.2864 | -0.0551 | 0.03948 | 0.029509131 |
| 0.5778 | 0.495913938 | 0.2857 | -0.0551 | 0.03841 | 0.029509131 |
| 0.0096 | 0.986995687 | 0.7543 | 0.2067 | 0.1293 | 0.112556256 |
| 0.2449 | 0.123361277 | 0.7524 | 0.0572 | 0.02735 | 0.044579865 |
| 0.0686 | 0.976189635 | 0.3586 | 0.0148 | 0.05081 | 0.087789664 |
| 0.0096 | 0.986995687 | 0.7582 | 0.2067 | 0.1312 | 0.112556256 |
| 0.2449 | 0.123361277 | 0.8088 | 0.0572 | 0.02785 | 0.044579865 |
| 0.0686 | 0.976189635 | 0.3667 | 0.0148 | 0.05205 | 0.087789664 |
| 0.0096 | 0.986995687 | 0.7724 | 0.2067 | 0.1306 | 0.112556256 |
| 0.2449 | 0.123361277 | 0.9207 | 0.0572 | 0.02691 | 0.044579865 |

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|---|---|---|---|---|---|
| 0.0686 | 0.976189635 | 0.425 | 0.0148 | 0.05195 | 0.087789664 |
| 0.6081 | 0.4734739 | -0.1965 | 0.0146 | 0.02481 | 0.02950913 |
| 0.2304 | 0.246139 | -0.1667 | -0.0117 | 0.02948 | 0.03435706 |
| 0.5205 | 0.4073034 | -0.1343 | 0.0038 | 0.0244 | 0.03024686 |
| 0.3161 | 0.7159645 | 0.1572 | 0.0285 | 0.02688 | 0.03024686 |
| 0.601 | 0.2667026 | 0.3858 | 0.0135 | 0.02783 | 0.03077381 |
| 0.199 | 0.8235794 | 0.2512 | -0.0489 | 0.03397 | 0.03583252 |
| 0.601 | 0.2667026 | 0.3661 | 0.0135 | 0.02791 | 0.03077381 |
| 0.199 | 0.8235794 | 0.233 | -0.0489 | 0.03402 | 0.03583252 |
| 0.1704 | 0.0787949 | 0.2334 | -0.0625 | 0.03629 | 0.05058708 |
| 0.446 | 0.605326605 | 0.6864 | 0.0108 | 0.02442 | 0.027822895 |
| 0.051 | 0.100653834 | 0.5489 | -0.0309 | 0.06086 | 0.04679305 |
| 0.1024 | 0.893214404 | 0.3354 | 0.0252 | 0.04422 | 0.044263696 |
| 0.1325 | 0.8378662 | -0.2711 | 0.0026 | 0.03734 | 0.03867804 |
| 0.4074 | 0.5478163 | -0.1665 | -0.1275 | 0.02485 | 0.02750673 |
| 0.821 | 0.8228947 | 0.2255 | 0.0247 | 0.03219 | 0.03920499 |
| 0.6088 | 0.4717883 | -0.2046 | 0.0168 | 0.02482 | 0.02719056 |
| 0.3161 | 0.7159645 | 0.1645 | 0.0285 | 0.02685 | 0.03024686 |
| 0.821 | 0.8228947 | 0.3353 | 0.0247 | 0.03177 | 0.03920499 |
| 0.3094 | 0.7911125 | 0.1684 | -0.0081 | 0.02631 | 0.03319777 |
| 0.3161 | 0.7159645 | 0.1494 | 0.0285 | 0.02674 | 0.03024686 |
| 0.6102 | 0.5273167 | -0.1785 | 0.0162 | 0.02475 | 0.02719056 |
| 0.2834 | 0.730585995 | 0.173 | 0.0036 | 0.02971 | 0.030563028 |
| 0.265 | 0.1308152 | -0.182 | 0.0122 | 0.03168 | 0.04405292 |
| 0.7709 | 0.7444521 | -0.1919 | -0.0312 | 0.03092 | 0.03098459 |
| 0.3244 | 0.2322854 | 0.1937 | 0.0053 | 0.02628 | 0.04078583 |
| 0.4167 | 0.4315696 | -0.1446 | 0.0212 | 0.02608 | 0.02740134 |
| 0.766 | 0.742607 | -0.4286 | -0.0272 | 0.0278 | 0.0308792 |
| 0.1636 | 0.05045666 | -0.2122 | 0.0226 | 0.03296 | 0.06734405 |
| 0.4168 | 0.4315696 | -0.1628 | 0.0212 | 0.02568 | 0.02740134 |
| 0.7659 | 0.742607 | -0.4355 | -0.0272 | 0.02736 | 0.0308792 |
| 0.1635 | 0.05045666 | -0.2015 | 0.0226 | 0.03253 | 0.06734405 |
| 0.5882 | 0.521369452 | 0.2882 | -0.0535 | 0.03927 | 0.029509131 |
| 0.5754 | 0.493399851 | 0.2584 | -0.0629 | 0.03896 | 0.029614521 |
| 0.5747 | 0.493399851 | 0.2382 | -0.0629 | 0.03976 | 0.029614521 |
| 0.593 | 0.504110418 | 0.2305 | -0.0526 | 0.03896 | 0.029509131 |
| 0.3841 | 0.8015662 | -0.276 | -0.0394 | 0.04325 | 0.03730797 |
| 0.593 | 0.504110418 | 0.2484 | -0.0526 | 0.03809 | 0.029509131 |
| 0.5961 | 0.5685548 | 0.2114 | 0.0358 | 0.03543 | 0.02740134 |
| 0.0617 | 0.0711945 | -0.8239 | -0.026 | 0.07087 | 0.05364338 |
| 0.5998 | 0.5685548 | 0.1789 | 0.0358 | 0.02478 | 0.02740134 |
| 0.7284 | 0.2469821 | 0.1513 | 0.0191 | 0.0275 | 0.03435706 |
| 0.0584 | 0.05979309 | -0.858 | -0.0259 | 0.05093 | 0.05849131 |
| 0.5998 | 0.5685548 | 0.1396 | 0.0358 | 0.02534 | 0.02740134 |
| 0.0651 | 0.0711945 | -0.432 | -0.026 | 0.05081 | 0.05364338 |
| 0.5995 | 0.5685548 | 0.1758 | 0.0358 | 0.02511 | 0.02740134 |
| 0.0586 | 0.05979309 | -0.7439 | -0.0259 | 0.05193 | 0.05849131 |
| 0.5996 | 0.5685548 | 0.1799 | 0.0358 | 0.0249 | 0.02740134 |
| 0.0586 | 0.05979309 | -0.7352 | -0.0259 | 0.05156 | 0.05849131 |
| 0.5997 | 0.5685548 | 0.1623 | 0.0358 | 0.02499 | 0.02740134 |
| 0.065 | 0.0711945 | -0.6739 | -0.026 | 0.04955 | 0.05364338 |
| 0.5997 | 0.5685548 | 0.1709 | 0.0358 | 0.02524 | 0.02740134 |
| 0.0586 | 0.05979309 | -0.7073 | -0.0259 | 0.05233 | 0.05849131 |
| 0.5997 | 0.5685548 | 0.1681 | 0.0358 | 0.02484 | 0.02740134 |
| 0.065 | 0.0711945 | -0.7377 | -0.026 | 0.04904 | 0.05364338 |
| 0.5996 | 0.5685548 | 0.1798 | 0.0358 | 0.02528 | 0.02740134 |
| 0.0651 | 0.0711945 | -0.5307 | -0.026 | 0.05059 | 0.05364338 |
| 0.6173 | 0.5197658 | 0.1811 | 0.023 | 0.02845 | 0.02708517 |

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| 0.1965 | 0.90110612 | 0.4371 | -0.0062 | 0.03249 | 0.04942779 |
| 0.5339 | 0.4012964 | 0.1466 | 0.0136 | 0.02442 | 0.0277175 |
| 0.0562 | 0.02701209 | -0.3526 | -0.0586 | 0.05371 | 0.08273096 |
| 0.6314 | 0.2482242 | 0.3898 | -0.0536 | 0.02585 | 0.03130076 |
| 0.5341 | 0.4012964 | 0.1359 | 0.0136 | 0.02451 | 0.0277175 |
| 0.6002 | 0.2757794 | 0.2841 | -0.0467 | 0.02593 | 0.03035225 |
| 0.7711 | 0.8085377 | -0.2187 | -0.0429 | 0.0399 | 0.03414628 |
| 0.1068 | 0.05372035 | 0.4909 | 0.0556 | 0.05533 | 0.05954521 |
| 0.3544 | 0.7992945 | -0.165 | 0.0167 | 0.02926 | 0.03383011 |
| 0.0756 | 0.96765703 | -0.2936 | -0.0326 | 0.05364 | 0.07999082 |
| 0.5197 | 0.4267604 | 0.3938 | 0.0233 | 0.03247 | 0.0277175 |
| 0.1527 | 0.8454784 | -0.2816 | 0.0595 | 0.04685 | 0.03741336 |
| 0.3672 | 0.375473785 | -0.145 | -0.0119 | 0.02605 | 0.028139064 |
| 0.2461 | 0.123329992 | -0.5526 | 0.0562 | 0.02805 | 0.044579865 |
| 0.4243 | 0.843785 | -0.1602 | -0.0177 | 0.02905 | 0.0401535 |
| 0.5967 | 0.2629509 | -0.1537 | 0.0358 | 0.02608 | 0.03340855 |
| 0.2642 | 0.275708 | -0.1522 | -0.003 | 0.02611 | 0.03298699 |
| 0.5685 | 0.739911 | 0.1657 | -0.0412 | 0.0284 | 0.03351394 |
| 0.1412 | 0.1588857 | -0.3008 | 0.0342 | 0.03802 | 0.03688641 |
| 0.5359 | 0.2331346 | 0.1639 | -0.0486 | 0.02894 | 0.03467323 |
| 0.8222 | 0.4004856 | 0.3571 | -0.0152 | 0.0369 | 0.03024686 |
| 0.1672 | 0.7631517 | -0.2854 | 0.0099 | 0.04636 | 0.03203848 |
| 0.0564 | 0.02701209 | 0.9344 | -0.0586 | 0.07016 | 0.08273096 |
| 0.6302 | 0.2482242 | -0.5719 | -0.0536 | 0.03295 | 0.03130076 |
| 0.0294 | 0.9634158 | 0.5453 | 0.0998 | 0.09922 | 0.07271893 |
| 0.0376 | 0.98073243 | 0.5783 | 0.0596 | 0.0916 | 0.1021227 |
| 0.3057 | 0.7105329 | 0.1645 | -0.0449 | 0.02658 | 0.03246004 |
| 0.2995 | 0.512842806 | 0.1769 | 0.0143 | 0.02681 | 0.027295946 |
| 0.567 | 0.5578927 | -0.1407 | 0.0064 | 0.02479 | 0.02729595 |
| 0.0627 | 0.05587868 | -0.3193 | -0.0057 | 0.05783 | 0.05975599 |
| 0.2371 | 0.876309667 | -0.2761 | 0.0472 | 0.03208 | 0.040891224 |
| 0.4991 | 0.7011108 | 0.3426 | 0.0741 | 0.0281 | 0.02961452 |
| 0.6009 | 0.4480597 | 0.1877 | 0.0143 | 0.03056 | 0.02971991 |
| 0.1385 | 0.1588857 | -0.4218 | 0.0342 | 0.03923 | 0.03688641 |
| 0.2578 | 0.3227183 | 0.2919 | 0.0324 | 0.02741 | 0.02898218 |
| 0.2578 | 0.3227183 | 0.299 | 0.0324 | 0.0274 | 0.02898218 |
| 0.408 | 0.5471778 | -0.2027 | -0.1252 | 0.02492 | 0.02750673 |
| 0.4878 | 0.650616 | -0.1633 | 0.0078 | 0.02494 | 0.02856062 |
| 0.3917 | 0.3568843 | 0.1554 | 0.0215 | 0.02512 | 0.02824445 |
| 0.4074 | 0.5478163 | -0.1749 | -0.1275 | 0.02521 | 0.02750673 |
| 0.4075 | 0.5478163 | -0.2111 | -0.1275 | 0.02508 | 0.02750673 |
| 0.4878 | 0.650616 | -0.1647 | 0.0078 | 0.02506 | 0.02856062 |
| 0.3917 | 0.3568843 | 0.1551 | 0.0215 | 0.02525 | 0.02824445 |
| 0.2371 | 0.876309667 | -0.4802 | 0.0472 | 0.03135 | 0.040891224 |
| 0.1238 | 0.2268457 | 0.2917 | 0.0345 | 0.04331 | 0.03246004 |
| 0.4463 | 0.605326605 | 0.567 | 0.0108 | 0.0258 | 0.027822895 |
| 0.0512 | 0.100653834 | 0.4895 | -0.0309 | 0.06186 | 0.04679305 |
| 0.1715 | 0.91857449 | 0.2019 | -0.0743 | 0.03657 | 0.04963857 |
| 0.1027 | 0.893214404 | 0.2885 | 0.0252 | 0.04484 | 0.044263696 |
| 0.4466 | 0.605326605 | 0.5477 | 0.0108 | 0.02564 | 0.027822895 |
| 0.1024 | 0.893214404 | 0.2777 | 0.0252 | 0.0445 | 0.044263696 |
| 0.0214 | 0.989015672 | 0.5264 | 0.0821 | 0.09617 | 0.147440264 |
| 0.4466 | 0.605326605 | 0.644 | 0.0108 | 0.02499 | 0.027822895 |
| 0.6622 | 0.182408031 | 0.1732 | -0.0035 | 0.02866 | 0.036886413 |
| 0.4462 | 0.605326605 | 0.521 | 0.0108 | 0.02584 | 0.027822895 |
| 0.051 | 0.100653834 | 0.4147 | -0.0309 | 0.06162 | 0.04679305 |
| 0.1025 | 0.893214404 | 0.2716 | 0.0252 | 0.0445 | 0.044263696 |
| 0.472 | 0.600484792 | 0.2073 | 0.009 | 0.02706 | 0.027717505 |

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| 0.4462 | 0.60793966 | 0.4749 | 0.0028 | 0.02583 | 0.027822895 |
| 0.0512 | 0.100653834 | 0.4331 | -0.0309 | 0.0606 | 0.04679305 |
| 0.4849 | 0.580520179 | 0.2396 | 0.005 | 0.02713 | 0.027612115 |
| 0.4461 | 0.608089804 | 0.4829 | 0.0038 | 0.02629 | 0.027822895 |
| 0.4466 | 0.608089804 | 0.6021 | 0.0038 | 0.02516 | 0.027822895 |
| 0.0512 | 0.100653834 | 0.447 | -0.0309 | 0.06122 | 0.04679305 |
| 0.5978 | 0.559980812 | -0.1899 | 0.0023 | 0.02764 | 0.027295946 |
| 0.7662 | 0.742607 | -0.4526 | -0.0272 | 0.02659 | 0.0308792 |
| 0.5089 | 0.542335 | -0.1295 | 0.0032 | 0.02364 | 0.02719056 |
| 0.1634 | 0.05045666 | -0.1852 | 0.0226 | 0.03176 | 0.06734405 |
| 0.7661 | 0.742607 | -0.4689 | -0.0272 | 0.02616 | 0.0308792 |
| 0.0236 | 0.97244648 | 0.4397 | -0.1535 | 0.07676 | 0.09442922 |
| 0.4182 | 0.5706917 | -0.1552 | 0.0227 | 0.0249 | 0.02740134 |
| 0.7662 | 0.742607 | -0.4525 | -0.0272 | 0.027 | 0.0308792 |
| 0.1634 | 0.05045666 | -0.1929 | 0.0226 | 0.03221 | 0.06734405 |
| 0.7662 | 0.742607 | -0.3114 | -0.0272 | 0.02551 | 0.0308792 |
| 0.4182 | 0.5706917 | -0.1334 | 0.0227 | 0.02345 | 0.02740134 |
| 0.5635 | 0.7424431 | 0.1976 | 0.0303 | 0.02744 | 0.03108998 |
| 0.0022 | 0.94034804 | -1.668 | 0.0302 | 0.2802 | 0.05764819 |
| 0.5639 | 0.7424431 | 0.303 | 0.0303 | 0.02642 | 0.03108998 |
| 0.2239 | 0.7918039 | -0.2185 | -0.0234 | 0.03362 | 0.03646485 |
| 0.3449 | 0.5614494 | 0.1905 | -0.0042 | 0.03102 | 0.02971991 |
| 0.3428 | 0.5614494 | 0.1887 | -0.0042 | 0.0284 | 0.02971991 |
| 0.3428 | 0.5614494 | 0.1801 | -0.0042 | 0.02952 | 0.02971991 |
| 0.3439 | 0.5614494 | 0.1894 | -0.0042 | 0.02987 | 0.02971991 |
| 0.1339 | 0.08687124 | -0.2103 | 0.0862 | 0.03733 | 0.04763617 |
| 0.5292 | 0.4881992 | -0.1609 | -0.0661 | 0.02705 | 0.02708517 |
| 0.5305 | 0.4881992 | -0.1838 | -0.0661 | 0.02676 | 0.02708517 |
| 0.5304 | 0.4881992 | -0.1468 | -0.0661 | 0.02633 | 0.02708517 |
| 0.2441 | 0.731635994 | 0.3259 | -0.033 | 0.02935 | 0.030879198 |
| 0.1712 | 0.92402453 | 0.1995 | 0.105 | 0.03596 | 0.05490806 |
| 0.5264 | 0.5238236 | 0.1526 | 0.0124 | 0.02725 | 0.02950913 |
| 0.1983 | 0.8238965 | -0.4161 | -0.0218 | 0.03368 | 0.03562174 |
| 0.1927 | 0.7476587 | 0.1659 | 0.03 | 0.02878 | 0.03119537 |
| 0.2125 | 0.01349708 | 0.2827 | 0.017 | 0.03403 | 0.1150856 |
| 0.2128 | 0.01349708 | 0.2434 | 0.017 | 0.03534 | 0.1150856 |
| 0.7665 | 0.7524722 | 0.196 | 0.01 | 0.02941 | 0.03151154 |
| 0.0562 | 0.02701209 | -0.3044 | -0.0586 | 0.05397 | 0.08273096 |
| 0.6313 | 0.2482242 | 0.317 | -0.0536 | 0.02622 | 0.03130076 |
| 0.0624 | 0.07756574 | -0.4732 | -0.042 | 0.05907 | 0.05058708 |
| 0.2742 | 0.178094739 | 0.2327 | 0.0253 | 0.03137 | 0.038678039 |
| 0.0624 | 0.07756574 | -0.4223 | -0.042 | 0.05867 | 0.05058708 |
| 0.2369 | 0.876309667 | -0.4101 | 0.0472 | 0.03167 | 0.040891224 |
| 0.1553 | 0.768573 | 0.3225 | -0.0416 | 0.04073 | 0.03488401 |
| 0.2372 | 0.876309667 | -0.3418 | 0.0472 | 0.03192 | 0.040891224 |
| 0.1365 | 0.7371554 | 0.2659 | 0.0349 | 0.04133 | 0.03077381 |
| 0.5014 | 0.6106737 | -0.3191 | -0.0275 | 0.03045 | 0.03014147 |
| 0.7759 | 0.8096676 | -0.1749 | -0.043 | 0.02923 | 0.03425167 |
| 0.1068 | 0.9468934 | 0.4244 | 0.0378 | 0.0402 | 0.06565782 |
| 0.7758 | 0.8096676 | -0.1813 | -0.043 | 0.02898 | 0.03425167 |
| 0.1074 | 0.94504495 | 0.349 | 0.0502 | 0.03994 | 0.05891287 |
| 0.7759 | 0.8096676 | -0.1698 | -0.043 | 0.02871 | 0.03425167 |
| 0.1075 | 0.05372035 | 0.5734 | 0.0556 | 0.03893 | 0.05954521 |
| 0.35 | 0.6045065 | 0.2184 | -0.0345 | 0.02531 | 0.0277175 |
| 0.2479 | 0.123361277 | -0.6399 | 0.0572 | 0.02726 | 0.044579865 |
| 0.0704 | 0.976189635 | -0.3061 | 0.0148 | 0.04812 | 0.087789664 |
| 0.2479 | 0.123361277 | -0.7013 | 0.0572 | 0.02722 | 0.044579865 |
| 0.0704 | 0.976189635 | -0.2863 | 0.0148 | 0.04872 | 0.087789664 |

| | | | | | |
|---|---|---|---|---|---|
| 0.1482 | 0.251945786 | -0.2278 | 0.0102 | 0.03508 | 0.03414628 |
| 0.5946 | 0.389494173 | 0.2065 | 0.0239 | 0.02568 | 0.027612115 |
| 0.0247 | 0.028211035 | -0.507 | -0.0068 | 0.08113 | 0.082941735 |
| 0.0272 | 0.977534109 | 0.4617 | 0.0787 | 0.0778 | 0.091267526 |
| 0.1936 | 0.6806864 | -1.223 | -0.0232 | 0.0362 | 0.02919296 |
| 0.2617 | 0.1764607 | -0.3413 | -0.0004 | 0.04213 | 0.03551635 |
| 0.5596 | 0.5366913 | 0.2935 | 0.003 | 0.03701 | 0.02961452 |
| 0.1896 | 0.6806864 | -1.151 | -0.0232 | 0.03884 | 0.02919296 |
| 0.5586 | 0.5322823 | 0.2625 | 0.0016 | 0.03721 | 0.02729595 |
| 0.2604 | 0.1764607 | -0.3677 | -0.0004 | 0.04232 | 0.03551635 |
| 0.2132 | 0.6806864 | -0.5183 | -0.0232 | 0.03788 | 0.02919296 |
| 0.1527 | 0.8454784 | 0.2541 | 0.0595 | 0.04602 | 0.03741336 |
| 0.2722 | 0.1764607 | -0.2756 | -0.0004 | 0.03696 | 0.03551635 |
| 0.2121 | 0.6806864 | -1.143 | -0.0232 | 0.03378 | 0.02919296 |
| 0.571 | 0.4477274 | -0.2031 | -0.0058 | 0.03621 | 0.0298253 |
| 0.0704 | 0.98906866 | 0.4387 | -0.0653 | 0.07202 | 0.1501804 |
| 0.2708 | 0.1764607 | -0.4007 | -0.0004 | 0.04013 | 0.03551635 |
| 0.5535 | 0.5366913 | 0.2828 | 0.003 | 0.03593 | 0.02961452 |
| 0.2131 | 0.6806864 | -0.3278 | -0.0232 | 0.03915 | 0.02919296 |
| 0.2177 | 0.849878 | -0.2252 | -0.0118 | 0.03955 | 0.04173434 |
| 0.1934 | 0.6806864 | -1.214 | -0.0232 | 0.03655 | 0.02919296 |
| 0.2613 | 0.1764607 | -0.326 | -0.0004 | 0.04234 | 0.03551635 |
| 0.5593 | 0.5366913 | 0.2876 | 0.003 | 0.03706 | 0.02961452 |
| 0.1938 | 0.6806864 | -1.219 | -0.0232 | 0.03627 | 0.02919296 |
| 0.2619 | 0.1764607 | -0.3366 | -0.0004 | 0.04212 | 0.03551635 |
| 0.5592 | 0.5366913 | 0.2938 | 0.003 | 0.03696 | 0.02961452 |
| 0.2131 | 0.6806864 | -0.3767 | -0.0232 | 0.03917 | 0.02919296 |
| 0.1845 | 0.6806864 | -1.138 | -0.0232 | 0.03974 | 0.02919296 |
| 0.0565 | 0.93029537 | 0.5006 | -0.0175 | 0.0784 | 0.05417033 |
| 0.258 | 0.1764607 | -0.3645 | -0.0004 | 0.04209 | 0.03551635 |
| 0.0709 | 0.92082395 | -0.4918 | 0.0123 | 0.07038 | 0.05058708 |
| 0.2131 | 0.6806864 | -0.3696 | -0.0232 | 0.03875 | 0.02919296 |
| 0.3642 | 0.439263237 | 0.1797 | -0.0492 | 0.02746 | 0.027295946 |
| 0.4599 | 0.569179938 | 0.1721 | -0.0621 | 0.02612 | 0.027506725 |
| 0.0201 | 0.98854203 | 0.4952 | -0.1458 | 0.0895 | 0.1303671 |
| 0.5982 | 0.3530986 | 0.167 | -0.0007 | 0.02504 | 0.02845523 |
| 0.481 | 0.5123808 | -0.1722 | -0.0634 | 0.02583 | 0.02697978 |
| 0.0888 | 0.98911045 | 0.313 | 0.0849 | 0.04821 | 0.1322641 |
| 0.5719 | 0.5117309 | -0.2043 | 0.032 | 0.02491 | 0.02729595 |
| 0.776 | 0.7241723 | 0.3801 | -0.0102 | 0.02898 | 0.03035225 |
| 0.1075 | 0.05372035 | 0.5555 | 0.0556 | 0.03963 | 0.05954521 |
| 0.35 | 0.6045065 | 0.2383 | -0.0345 | 0.02566 | 0.0277175 |
| 0.1975 | 0.90110612 | 0.4475 | -0.0062 | 0.03413 | 0.04942779 |
| 0.1975 | 0.90110612 | 0.2826 | -0.0062 | 0.03426 | 0.04942779 |
| 0.4923 | 0.6525941 | 0.1831 | -0.0296 | 0.02869 | 0.03098459 |
| 0.476 | 0.754849 | 0.1669 | -0.0197 | 0.02793 | 0.03456784 |
| 0.1974 | 0.90110612 | 0.2094 | -0.0062 | 0.03421 | 0.04942779 |
| 0.7366 | 0.686247 | 0.3611 | 0.0029 | 0.02998 | 0.02950913 |
| 0.1051 | 0.1349908 | -0.3173 | 0.0421 | 0.04155 | 0.03952116 |
| 0.2763 | 0.308565431 | 0.3359 | -0.0254 | 0.02969 | 0.029509131 |
| 0.0676 | 0.8930332 | 0.2947 | -0.0476 | 0.0539 | 0.04436909 |
| 0.1205 | 0.90719217 | 0.227 | 0.0143 | 0.04151 | 0.05058708 |
| 0.0421 | 0.01583341 | 0.3527 | -0.0175 | 0.0624 | 0.1240437 |
| 0.0201 | 0.976143807 | -0.4865 | -0.0115 | 0.08656 | 0.093586101 |
| 0.3347 | 0.47856234 | -0.1484 | 0.0065 | 0.02581 | 0.029614521 |
| 0.0512 | 0.100653834 | 0.3622 | -0.0309 | 0.06121 | 0.04679305 |
| 0.6904 | 0.6387578 | 0.2454 | 0.0178 | 0.02618 | 0.02824445 |
| 0.0336 | 0.04173253 | -0.4165 | -0.1194 | 0.06803 | 0.06913568 |

| | | | | | |
|---|---|---|---|---|---|
| 0.6904 | 0.6387578 | 0.2224 | 0.0178 | 0.0265 | 0.02824445 |
| 0.0336 | 0.95828728 | -0.4084 | -0.1181 | 0.06877 | 0.06924107 |
| 0.6349 | 0.7338248 | -0.1403 | 0.01 | 0.02562 | 0.03108998 |
| 0.134 | 0.08687124 | 0.2194 | 0.0862 | 0.0369 | 0.04763617 |
| 0.1343 | 0.08687124 | 0.2435 | 0.0862 | 0.0371 | 0.04763617 |
| 0.1343 | 0.08687124 | -0.2435 | 0.0862 | 0.0371 | 0.04763617 |
| 0.1343 | 0.08687124 | -0.2034 | 0.0862 | 0.03346 | 0.04763617 |
| 0.6414 | 0.4306812 | -0.1458 | -0.03 | 0.02634 | 0.02971991 |
| 0.1019 | 0.8685341 | -0.2169 | -0.0077 | 0.03774 | 0.03994272 |
| 0.1343 | 0.08687124 | -0.2283 | 0.0862 | 0.03646 | 0.04763617 |
| 0.6455 | 0.2852371 | 0.1004 | -0.0431 | 0.0178 | 0.03003608 |
| 0.279 | 0.677216374 | -0.4474 | -0.0215 | 0.02945 | 0.029192962 |
| 0.5251 | 0.7070426 | -0.1994 | -0.0119 | 0.03417 | 0.02971991 |
| 0.231 | 0.876309667 | -0.1809 | 0.0472 | 0.03084 | 0.040891224 |
| 0.2358 | 0.876309667 | 0.5889 | 0.0472 | 0.02846 | 0.040891224 |
| 0.0532 | 0.043457713 | 0.3483 | 0.119 | 0.05681 | 0.066184765 |
| 0.1976 | 0.1744217 | -0.4779 | -0.0102 | 0.03389 | 0.03878343 |
| 0.2757 | 0.9303338 | 0.23 | -0.0624 | 0.03381 | 0.05828053 |
| 0.2317 | 0.3256302 | -0.2188 | 0.0276 | 0.03213 | 0.03161693 |
| 0.4305 | 0.446061027 | -0.1723 | 0.0049 | 0.02756 | 0.027401336 |
| 0.2402 | 0.123361277 | -0.5652 | 0.0572 | 0.0301 | 0.044579865 |
| 0.4331 | 0.446061027 | -0.1534 | 0.0049 | 0.02565 | 0.027401336 |
| 0.2474 | 0.123361277 | -0.7124 | 0.0572 | 0.02686 | 0.044579865 |
| 0.4331 | 0.446061027 | -0.1436 | 0.0049 | 0.02619 | 0.027401336 |
| 0.2474 | 0.123329992 | -0.6848 | 0.0562 | 0.02772 | 0.044579865 |
| 0.2162 | 0.7446472 | -0.2525 | 0.0422 | 0.03019 | 0.03108998 |
| 0.5004 | 0.474756961 | -0.1371 | 0.0221 | 0.02509 | 0.027190556 |
| 0.5698 | 0.5594995 | 0.1457 | -0.0028 | 0.02506 | 0.02740134 |
| 0.4349 | 0.446061027 | 0.1529 | 0.0049 | 0.02614 | 0.027401336 |
| 0.2449 | 0.123361277 | 0.6546 | 0.0572 | 0.02797 | 0.044579865 |
| 0.1375 | 0.7783377 | -0.2591 | -0.0453 | 0.03497 | 0.0328816 |
| 0.3505 | 0.1615462 | 0.3276 | -0.0018 | 0.02803 | 0.03635946 |
| 0.028 | 0.98708127 | -0.442 | -0.3146 | 0.08067 | 0.1244653 |
| 0.0376 | 0.976453893 | 0.3947 | -0.023 | 0.07143 | 0.090319018 |
| 0.0825 | 0.93411417 | -0.279 | -0.206 | 0.04807 | 0.05817514 |
| 0.5363 | 0.4887289 | -0.1543 | -0.0689 | 0.02682 | 0.02708517 |
| 0.1242 | 0.91741931 | 0.2582 | 0.033 | 0.04145 | 0.04911162 |
| 0.3188 | 0.8494761 | -0.2784 | 0.0454 | 0.04395 | 0.04068044 |
| 0.0543 | 0.90385129 | 0.592 | -0.0393 | 0.05509 | 0.04616071 |
| 0.0541 | 0.90385129 | 0.3212 | -0.0393 | 0.05805 | 0.04616071 |
| 0.0096 | 0.95561488 | -0.7401 | -0.0869 | 0.13 | 0.06650093 |
| 0.0543 | 0.90385129 | 0.5156 | -0.0393 | 0.05562 | 0.04616071 |
| 0.0575 | 0.90385129 | 0.386 | -0.0393 | 0.0569 | 0.04616071 |
| 0.0542 | 0.90385129 | 0.4625 | -0.0393 | 0.05656 | 0.04616071 |
| 0.0575 | 0.90385129 | 0.4562 | -0.0393 | 0.05531 | 0.04616071 |
| 0.1983 | 0.8238965 | -0.3589 | -0.0218 | 0.03258 | 0.03562174 |
| 0.1987 | 0.176446 | -0.5184 | -0.0247 | 0.03354 | 0.03562174 |
| 0.199 | 0.8235794 | 0.5273 | -0.0489 | 0.03289 | 0.03583252 |
| 0.1986 | 0.176446 | -0.4171 | -0.0247 | 0.03444 | 0.03562174 |
| 0.199 | 0.8235794 | 0.3653 | -0.0489 | 0.03405 | 0.03583252 |
| 0.2819 | 0.90704723 | -0.2295 | -0.0268 | 0.03657 | 0.05111403 |
| 0.5013 | 0.6106737 | -0.1923 | -0.0275 | 0.02928 | 0.03014147 |
| 0.2429 | 0.7415999 | -0.2192 | 0.0126 | 0.03318 | 0.03108998 |
| 0.294 | 0.7108824 | -0.3048 | 0.0264 | 0.03055 | 0.02993069 |
| 0.2426 | 0.7415999 | -0.2093 | 0.0126 | 0.03307 | 0.03108998 |
| 0.2941 | 0.7108824 | -0.2855 | 0.0264 | 0.03051 | 0.02993069 |
| 0.2429 | 0.7415999 | -0.2184 | 0.0126 | 0.03318 | 0.03108998 |
| 0.294 | 0.7108824 | -0.3012 | 0.0264 | 0.03056 | 0.02993069 |

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|---|---|---|---|---|---|
| 0.2426 | 0.7415999 | -0.2089 | 0.0126 | 0.03307 | 0.03108998 |
| 0.2941 | 0.7108824 | -0.2821 | 0.0264 | 0.03052 | 0.02993069 |
| 0.1075 | 0.94504495 | 0.2969 | 0.0502 | 0.04016 | 0.05891287 |
| 0.0997 | 0.7653477 | 0.3322 | -0.0138 | 0.06048 | 0.03224926 |
| 0.344 | 0.3459092 | -0.3029 | 0.0085 | 0.02564 | 0.02845523 |
| 0.3435 | 0.3459092 | -0.2794 | 0.0085 | 0.02525 | 0.02845523 |
| 0.8488 | 0.922622738 | -0.2072 | 0.0245 | 0.03711 | 0.050060133 |
| 0.2447 | 0.123329992 | 0.7582 | 0.0562 | 0.02825 | 0.044579865 |
| 0.0688 | 0.976189635 | 0.3617 | 0.0148 | 0.05191 | 0.087789664 |
| 0.3413 | 0.6045065 | 0.1714 | -0.0345 | 0.0264 | 0.0277175 |
| 0.3414 | 0.6045065 | 0.182 | -0.0345 | 0.02618 | 0.0277175 |
| 0.1884 | 0.862196494 | -0.186 | 0.0559 | 0.03337 | 0.039837327 |
| 0.3011 | 0.1687823 | 0.1972 | 0.09 | 0.02757 | 0.03583252 |
| 0.3009 | 0.1687823 | 0.1912 | 0.09 | 0.02822 | 0.03583252 |
| 0.1991 | 0.7401346 | 0.1921 | 0.0303 | 0.03166 | 0.03077381 |
| 0.6743 | 0.4695682 | 0.1857 | -0.0222 | 0.02686 | 0.02729595 |
| 0.4704 | 0.4787451 | -0.1726 | 0.0462 | 0.0256 | 0.02697978 |
| 0.4699 | 0.4787451 | 0.1507 | 0.0462 | 0.02494 | 0.02697978 |
| 0.1925 | 0.2517236 | 0.2134 | 0.0304 | 0.02962 | 0.03108998 |
| 0.6737 | 0.4695682 | 0.1433 | -0.0222 | 0.02475 | 0.02729595 |
| 0.5717 | 0.5117309 | -0.1582 | 0.032 | 0.02739 | 0.02729595 |
| 0.2454 | 0.123361277 | 0.5196 | 0.0572 | 0.031 | 0.044579865 |
| 0.2447 | 0.123361277 | 0.6258 | 0.0572 | 0.0287 | 0.044579865 |
| 0.2447 | 0.123361277 | 0.929 | 0.0572 | 0.0268 | 0.044579865 |
| 0.0688 | 0.976189635 | 0.4245 | 0.0148 | 0.05172 | 0.087789664 |
| 0.1104 | 0.127086456 | -0.2319 | -0.0102 | 0.04179 | 0.040680445 |
| 0.2447 | 0.123329992 | -0.5889 | 0.0562 | 0.02815 | 0.044579865 |
| 0.2645 | 0.3216039 | -0.1835 | 0.0217 | 0.02885 | 0.02908757 |
| 0.2473 | 0.123329992 | -0.6984 | 0.0562 | 0.02689 | 0.044579865 |
| 0.0686 | 0.976189635 | -0.3019 | 0.0148 | 0.04947 | 0.087789664 |
| 0.5982 | 0.3530986 | 0.1434 | -0.0007 | 0.025 | 0.02845523 |
| 0.1853 | 0.6507084 | -0.8358 | -0.0173 | 0.04903 | 0.02856062 |
| 0.2544 | 0.1764607 | -0.2821 | -0.0004 | 0.048 | 0.03551635 |
| 0.5691 | 0.5366913 | 0.2277 | 0.003 | 0.04091 | 0.02961452 |
| 0.2236 | 0.6507084 | -0.3128 | -0.0173 | 0.03922 | 0.02856062 |
| 0.0861 | 0.058766079 | 0.3805 | 0.081 | 0.06635 | 0.056699687 |
| 0.0103 | 0.95475878 | -0.7447 | -0.0968 | 0.1252 | 0.06660632 |
| 0.1984 | 0.178909 | 0.2953 | 0.0736 | 0.03367 | 0.0349894 |
| 0.0987 | 0.92084717 | -0.5191 | 0.0455 | 0.04044 | 0.05069247 |
| 0.3456 | 0.06052395 | 0.1905 | 0.0311 | 0.03406 | 0.0596506 |
| 0.3458 | 0.06052395 | -0.1934 | 0.0311 | 0.03245 | 0.0596506 |
| 0.0413 | 0.96767917 | -0.383 | 0.0192 | 0.06981 | 0.0760914 |
| 0.0081 | 0.0161378 | 1.453 | 0.0375 | 0.1814 | 0.1147694 |
| 0.0246 | 0.98997111 | 0.4393 | -0.0431 | 0.07886 | 0.1498642 |
| 0.0609 | 0.95486603 | 0.292 | 0.0146 | 0.05091 | 0.06744944 |
| 0.3508 | 0.376821 | -2.745 | -0.0192 | 0.372 | 0.02782289 |
| 0.0201 | 0.976143807 | 0.483 | -0.0115 | 0.08768 | 0.093586101 |
| 0.8262 | 0.1804233 | 0.4384 | 0.0041 | 0.04722 | 0.03562174 |
| 0.8258 | 0.1804233 | 0.4516 | 0.0041 | 0.04677 | 0.03562174 |
| 0.0194 | 0.98573486 | -0.7731 | 0.0585 | 0.089 | 0.1147694 |
| 0.9403 | 0.94745022 | 0.3174 | 0.1257 | 0.05158 | 0.06133684 |
| 0.0194 | 0.98573486 | -0.6069 | 0.0585 | 0.09018 | 0.1147694 |
| 0.1088 | 0.96940732 | -0.406 | 0.0462 | 0.03854 | 0.07798842 |
| 0.3227 | 0.8117048 | -0.1502 | -0.0071 | 0.02624 | 0.03467323 |
| 0.3227 | 0.8117048 | 0.1512 | -0.0071 | 0.0265 | 0.03467323 |
| 0.0957 | 0.04141161 | 0.2186 | 0.0809 | 0.03992 | 0.06660632 |
| 0.3067 | 0.7113613 | 0.1479 | -0.053 | 0.02672 | 0.03003608 |
| 0.2342 | 0.3262434 | 0.1834 | -0.0287 | 0.03032 | 0.02866601 |

| | | | | | |
|---|---|---|---|---|---|
| 0.1097 | 0.96878866 | -0.3964 | 0.0429 | 0.0389 | 0.07735608 |
| 0.1095 | 0.96878866 | -0.3961 | 0.0429 | 0.03859 | 0.07735608 |
| 0.1096 | 0.96977877 | -0.3396 | 0.0168 | 0.04218 | 0.0791477 |
| 0.8198 | 0.1742978 | 0.287 | 0.0222 | 0.03212 | 0.0360433 |
| 0.2911 | 0.0658253 | -0.4511 | -0.0101 | 0.04468 | 0.05849131 |
| 0.7326 | 0.395538 | -0.1677 | -0.072 | 0.03001 | 0.03024686 |
| 0.5737 | 0.5594995 | -0.1904 | -0.0028 | 0.03354 | 0.02740134 |

| Pval.exposure | Pval.outcome | Samplesize.exposure | Samplesize.outcome | F-statistics |
|---|---|---|---|---|
| 5.08E-22 | 0.8309875 | 3113 | 24589 | 94.433921 |
| 3.03E-08 | 0.054588538 | 3113 | 24589 | 30.8460247 |
| 2.35E-09 | 0.4823112 | 3113 | 24589 | 35.8837196 |
| 3.61E-24 | 0.8309875 | 3113 | 24589 | 104.592518 |
| 3.34E-08 | 0.7552921 | 3657 | 24589 | 30.6480727 |
| 1.75E-13 | 0.5286803 | 3657 | 24589 | 54.6393818 |
| 2.90E-10 | 0.8072368 | 3657 | 24589 | 39.9546486 |
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| 2.33E-08 | 0.8028196 | 3425 | 24589 | 31.3297637 |
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| 1.00E-08 | 0.2904912 | 3425 | 24589 | 32.9662782 |
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| 9.81E-10 | 0.3025941 | 3425 | 24589 | 37.5650364 |
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| 2.10E-08 | 0.2937835 | 3425 | 24589 | 31.5531389 |
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| 7.32E-10 | 0.7402878 | 3408 | 24589 | 38.130625 |

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| 2.32E-16 | 0.006574436 | 3408 | 24589 | 67.9460662 |
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| 1.71E-27 | 0.7079955 | 3408 | 24589 | 120.096265 |
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| 3.69E-24 | 0.1668625 | 3408 | 24589 | 104.386487 |

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| 6.60E-13 | 0.3331734 | 3408 | 24589 | 52.068928 |
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| 1.29E-14 | 0.4885504 | 3408 | 24589 | 59.942369 |
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| 4.18E-15 | 0.6784633 | 3408 | 24589 | 62.1287218 |
| 2.85E-40 | 0.77899 | 3408 | 24589 | 181.130564 |
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| 1.80E-24 | 0.5936644 | 3408 | 24589 | 105.863241 |

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| 8.71E-09 | 0.9873442 | 3408 | 24589 | 33.2543089 |
| 3.23E-39 | 0.07893972 | 3408 | 24589 | 176.196836 |
| 8.60E-12 | 0.06866651 | 3408 | 24589 | 46.9331208 |
| 5.33E-09 | 0.0171284 | 3408 | 24589 | 34.2273235 |
| 6.61E-42 | 0.2019776 | 3408 | 24589 | 189.0625 |
| 4.67E-08 | 0.260359 | 3408 | 24589 | 29.9841616 |
| 2.03E-19 | 0.08151516 | 3408 | 24589 | 82.2157627 |
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| 4.71E-10 | 0.2284656 | 3408 | 24589 | 39.0219862 |
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| 6.09E-43 | 0.3538379 | 3113 | 24589 | 194.574414 |
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| 2.51E-10 | 0.374680231 | 3669 | 24589 | 40.2497611 |
| 1.51E-23 | 0.91861 | 3669 | 24589 | 101.479849 |
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| 4.56E-08 | 0.4624427 | 3427 | 24589 | 30.0600565 |
| 1.29E-08 | 0.0170759 | 2912 | 24589 | 32.5334165 |
| 5.31E-18 | 0.9542232 | 2912 | 24589 | 75.7554773 |
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| 1.80E-45 | 0.8117906 | 3405 | 24589 | 206.299587 |
| 3.06E-15 | 0.5102421 | 3405 | 24589 | 62.8456846 |
| 3.74E-304 | 0.6536588 | 3405 | 24589 | 1716.99787 |
| 4.74E-11 | 0.4113008 | 3405 | 24589 | 43.5703333 |
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| 2.34E-17 | 0.6492612 | 2920 | 24589 | 72.7108465 |
| 1.47E-18 | 0.272225 | 2920 | 24589 | 78.3390739 |

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| 4.45E-08 | 0.7419215 | 2920 | 24589 | 30.1083324 |
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| 1.86E-10 | 0.775064459 | 3660 | 24589 | 40.8310579 |
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| 2.44E-16 | 0.6421125 | 3660 | 24589 | 67.80513 |
| 3.75E-34 | 0.7890625 | 3660 | 24589 | 151.60022 |
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| 0.00E+00 | 0.4366953 | 3656 | 24589 | 1722.67043 |
| 3.78E-19 | 0.3536026 | 3656 | 24589 | 80.86142 |
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| 5.08E-17 | 0.6421125 | 3657 | 24589 | 71.0510405 |
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| 3.97E-25 | 0.4271692 | 3657 | 24589 | 108.813533 |

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| 3.82E-17 | 0.6421125 | 3657 | 24589 | 71.5624543 |
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| 3.19E-56 | 0.8117906 | 3405 | 24589 | 259.072455 |
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| 5.38E-09 | 0.4007902 | 3405 | 24589 | 34.2171332 |
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| 2.04E-56 | 0.8117906 | 3437 | 24589 | 259.954403 |
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| 2.50E-73 | 0.8117906 | 3437 | 24589 | 344.327408 |
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| 5.30E-108 | 0.69789058 | 2919 | 24589 | 530.444767 |
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| 1.32E-08 | 0.1717885 | 2920 | 24589 | 32.5009312 |

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| 7.66E-09 | 0.8117906 | 2920 | 24589 | 33.5290546 |
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| 1.58E-09 | 0.7032873 | 3629 | 24589 | 36.6248812 |
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| 6.15E-33 | 0.6861905 | 1837 | 24589 | 148.668246 |
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| 1.36E-13 | 0.243886 | 3437 | 24589 | 55.212763 |
| 4.29E-13 | 0.6015959 | 3437 | 24589 | 52.927147 |
| 1.58E-08 | 0.6013881 | 3437 | 24589 | 32.0900097 |
| 2.56E-14 | 0.5691422 | 3435 | 24589 | 58.5106998 |
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| 1.68E-12 | 0.8811456 | 1635 | 24589 | 50.6369124 |
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| 1.83E-09 | 0.7782195 | 3060 | 24589 | 36.3902411 |

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| 3.30E-18 | 0.7782195 | 3060 | 24589 | 76.6491114 |
| 1.37E-17 | 0.7827071 | 1634 | 24589 | 74.5395674 |
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| 3.82E-08 | 0.9883115 | 3656 | 24589 | 30.3596074 |
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| 3.13E-09 | 0.775064459 | 3656 | 24589 | 35.2580744 |
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| 6.84E-22 | 0.243886 | 2919 | 24589 | 93.948748 |
| 4.74E-14 | 0.6015959 | 2919 | 24589 | 57.373544 |
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| 3.00E-10 | 0.3460547 | 2919 | 24589 | 39.9735481 |
| 3.92E-08 | 0.243886 | 3427 | 24589 | 30.3108165 |

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| 4.23E-12 | 0.6015959 | 3405 | 24589 | 48.3994667 |
| 2.15E-16 | 0.02625116 | 3405 | 24589 | 68.1510356 |
| 7.57E-11 | 0.6778339 | 2915 | 24589 | 42.6873216 |
| 7.21E-11 | 0.540732 | 2915 | 24589 | 42.7711782 |
| 1.80E-15 | 0.2554294 | 2915 | 24589 | 63.9899659 |
| 8.08E-12 | 0.5687497 | 2915 | 24589 | 47.1308692 |
| 2.20E-09 | 0.4154466 | 2850 | 24589 | 36 |
| 3.14E-36 | 0.3311294 | 2850 | 24589 | 162.480056 |
| 1.72E-145 | 0.23201 | 2850 | 24589 | 742.138969 |
| 1.45E-09 | 0.9001788 | 2850 | 24589 | 36.8206663 |
| 1.64E-13 | 0.09295363 | 2850 | 24589 | 54.935188 |
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| 5.93E-11 | 0.25881 | 3425 | 24589 | 43.1162739 |
| 2.61E-19 | 0.2253211 | 3425 | 24589 | 81.6672822 |
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| 2.15E-08 | 0.9433819 | 3425 | 24589 | 31.5161432 |
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| 1.95E-09 | 0.541053 | 3425 | 24589 | 36.2174613 |
| 1.37E-10 | 0.2319637 | 3425 | 24589 | 41.4901027 |
| 2.66E-09 | 0.3331408 | 3425 | 24589 | 35.6043721 |
| 9.78E-09 | 0.3549192 | 3425 | 24589 | 33.033046 |
| 2.46E-12 | 0.06535782 | 3425 | 24589 | 49.4569179 |
| 7.53E-09 | 0.02520437 | 3425 | 24589 | 33.5666223 |
| 1.47E-09 | 0.334357 | 3425 | 24589 | 36.7816805 |
| 2.35E-11 | 0.8053286 | 3425 | 24589 | 44.9662807 |
| 1.66E-09 | 0.71359858 | 3425 | 24589 | 36.5359378 |
| 1.67E-09 | 0.805479445 | 3425 | 24589 | 36.5513231 |
| 2.08E-18 | 0.4231676 | 3425 | 24589 | 77.4507567 |
| 1.95E-10 | 0.183697991 | 3425 | 24589 | 40.7673147 |
| 2.17E-10 | 0.1352386 | 3425 | 24589 | 40.5553112 |
| 2.03E-09 | 0.9407224 | 3425 | 24589 | 36.1557597 |
| 2.50E-10 | 0.2890562 | 3425 | 24589 | 40.2581611 |
| 1.52E-09 | 0.1122727 | 3425 | 24589 | 36.6780919 |
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| 2.31E-08 | 0.1983923 | 3408 | 24589 | 31.3645537 |
| 1.24E-10 | 0.5758087 | 3408 | 24589 | 41.6394907 |

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| 2.71E-08 | 0.4612497 | 3408 | 24589 | 31.0459967 |
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| 6.76E-13 | 0.645190392 | 3408 | 24589 | 52.0664097 |
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| 5.25E-14 | 0.5387889 | 3408 | 24589 | 57.1481894 |
| 1.39E-14 | 0.2965314 | 3408 | 24589 | 59.7647929 |
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| 1.91E-08 | 0.2415363 | 3408 | 24589 | 31.7317249 |
| 3.01E-08 | 0.1773616 | 3408 | 24589 | 30.8429586 |
| 4.50E-15 | 0.71359858 | 3408 | 24589 | 62.0304608 |
| 1.18E-12 | 0.4231676 | 3408 | 24589 | 50.9189255 |
| 1.37E-09 | 0.183697991 | 3408 | 24589 | 36.9228204 |
| 3.69E-08 | 0.3323239 | 3408 | 24589 | 30.4510317 |
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| 1.78E-09 | 0.1352386 | 3408 | 24589 | 36.3678659 |
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| 1.11E-08 | 0.9407224 | 3408 | 24589 | 32.7879784 |
| 8.29E-09 | 0.6327147 | 3408 | 24589 | 33.3797509 |
| 2.64E-10 | 0.3990455 | 3408 | 24589 | 40.1802408 |
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| 2.11E-08 | 0.3010102 | 3408 | 24589 | 31.5340758 |
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| 4.64E-12 | 0.540323 | 3408 | 24589 | 48.1393948 |
| 2.28E-10 | 0.08661555 | 3408 | 24589 | 40.4569063 |
| 1.90E-12 | 0.013546712 | 3408 | 24589 | 49.9899122 |
| 1.29E-10 | 0.7615364 | 3408 | 24589 | 41.5756293 |
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| 3.50E-08 | 0.9391883 | 3408 | 24589 | 30.5628179 |

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| 3.97E-10 | 0.5589411 | 3408 | 24589 | 39.3505825 |
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| 5.03E-94 | 0.1584805 | 3621 | 24589 | 448.867415 |
| 6.89E-13 | 0.4273163 | 2910 | 24589 | 52.0436665 |
| 3.90E-10 | 0.02660269 | 2910 | 24589 | 39.4276373 |
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| 1.29E-08 | 0.9432102 | 2910 | 24589 | 32.5509125 |
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| 6.30E-10 | 0.7466535 | 1555 | 24589 | 38.7107619 |
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| 1.81E-150 | 0.5446947 | 1555 | 24589 | 858.075707 |
| 1.40E-17 | 0.9910141 | 1555 | 24589 | 74.5886387 |
| 4.53E-12 | 0.807893 | 1555 | 24589 | 48.6491906 |
| 1.06E-13 | 0.6284361 | 1554 | 24589 | 56.2719448 |
| 5.21E-12 | 0.6637 | 1554 | 24589 | 48.3615202 |
| 6.08E-143 | 0.5446947 | 1554 | 24589 | 804.942084 |
| 5.07E-15 | 0.9910141 | 1554 | 24589 | 62.4621807 |
| 1.64E-13 | 0.807893 | 1554 | 24589 | 55.3871731 |
| 1.38E-08 | 0.6284361 | 1555 | 24589 | 32.5614431 |
| 1.22E-50 | 0.3945208 | 1555 | 24589 | 241.100598 |
| 3.25E-08 | 0.7243522 | 2910 | 24589 | 30.716645 |
| 1.40E-08 | 0.9854416 | 2910 | 24589 | 32.3802456 |
| 6.62E-120 | 0.891364234 | 2910 | 24589 | 595.75293 |
| 9.11E-15 | 0.509026381 | 2910 | 24589 | 60.7286404 |
| 8.64E-09 | 0.13119795 | 2910 | 24589 | 33.3387358 |
| 8.58E-13 | 0.393384219 | 2910 | 24589 | 51.6115159 |
| 1.00E-09 | 0.918462136 | 2910 | 24589 | 37.56358 |
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| 1.03E-11 | 0.141256 | 3657 | 24589 | 46.5994054 |
| 8.18E-23 | 0.6624921 | 3657 | 24589 | 97.9131009 |
| 7.67E-09 | 0.4625829 | 3657 | 24589 | 33.5163554 |
| 1.32E-08 | 0.03159648 | 3657 | 24589 | 32.4416998 |
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| 9.01E-29 | 0.6624921 | 3657 | 24589 | 126.058474 |
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| 3.04E-22 | 0.272225 | 2920 | 24589 | 95.6167315 |
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| 1.39E-14 | 0.04924214 | 2920 | 24589 | 59.865396 |
| 4.72E-08 | 0.303982557 | 3395 | 24589 | 29.9681515 |
| 1.85E-08 | 0.7085246 | 3395 | 24589 | 31.8080671 |
| 5.45E-09 | 0.3248189 | 3395 | 24589 | 34.1917785 |
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| 2.65E-08 | 0.303982557 | 3427 | 24589 | 31.0939175 |
| 3.32E-08 | 0.1584107 | 3427 | 24589 | 30.6516077 |
| 3.74E-09 | 0.8816794 | 3427 | 24589 | 34.9276162 |

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| 4.75E-09 | 0.3281697 | 3427 | 24589 | 34.4762098 |
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| 9.39E-71 | 0.8279627 | 3113 | 24589 | 332.986797 |
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| 1.13E-08 | 0.7921098 | 3440 | 24589 | 32.7606563 |
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| 1.72E-08 | 0.7372655 | 3440 | 24589 | 31.9418919 |
| 8.65E-09 | 0.8268682 | 3440 | 24589 | 33.2922313 |
| 1.75E-08 | 0.6955804 | 3657 | 24589 | 31.9065692 |
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| 7.25E-10 | 0.4625829 | 3657 | 24589 | 38.1625598 |
| 2.09E-16 | 0.7727473 | 3657 | 24589 | 68.1531895 |
| 1.70E-09 | 0.1757424 | 3657 | 24589 | 36.4791015 |
| 5.48E-11 | 0.6888583 | 3657 | 24589 | 43.2961926 |
| 3.65E-10 | 0.1757424 | 3657 | 24589 | 39.5061684 |
| 1.22E-09 | 0.8483297 | 3657 | 24589 | 37.1244375 |
| 1.34E-08 | 0.8030009 | 3657 | 24589 | 32.4210232 |
| 1.70E-08 | 0.9947334 | 3656 | 24589 | 31.9765243 |
| 5.51E-10 | 0.9186967 | 3656 | 24589 | 38.6954646 |
| 6.87E-13 | 0.08697448 | 3656 | 24589 | 51.9780048 |
| 7.66E-09 | 0.921807 | 3019 | 24589 | 33.5712813 |
| 3.61E-15 | 0.461439308 | 3019 | 24589 | 62.5814682 |
| 3.35E-17 | 0.6015959 | 3437 | 24589 | 71.9067429 |
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| 6.75E-12 | 0.3411878 | 3437 | 24589 | 47.4473575 |
| 5.13E-09 | 0.459553 | 3437 | 24589 | 34.3265868 |
| 1.38E-13 | 0.394562 | 3437 | 24589 | 55.1675139 |
| 3.87E-08 | 0.2580997 | 3437 | 24589 | 30.3474234 |
| 1.04E-08 | 0.3379967 | 2920 | 24589 | 32.9556003 |
| 5.13E-67 | 0.1723529 | 2920 | 24589 | 315.15621 |
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| 1.77E-12 | 0.6015959 | 3408 | 24589 | 50.0671193 |
| 2.82E-11 | 0.02625116 | 3408 | 24589 | 44.6083955 |
| 2.72E-08 | 0.1908816 | 3408 | 24589 | 31.0465266 |
| 2.58E-08 | 0.3909289 | 3408 | 24589 | 31.1515404 |
| 8.02E-09 | 0.781161 | 3435 | 24589 | 33.4718034 |

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| 1.82E-10 | 0.781161 | 3435 | 24589 | 40.8637126 |
| 1.68E-09 | 0.121097392 | 2872 | 24589 | 36.5636771 |
| 6.15E-12 | 0.23201 | 2872 | 24589 | 47.6783413 |
| 2.39E-12 | 0.5733369 | 2872 | 24589 | 49.5584741 |
| 1.27E-08 | 0.5203351 | 2872 | 24589 | 32.5595338 |
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| 1.03E-25 | 0.4366953 | 3648 | 24589 | 111.59619 |
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| 1.65E-08 | 0.8030009 | 1833 | 24589 | 32.1600647 |
| 9.18E-11 | 0.2407138 | 1833 | 24589 | 42.4733068 |
| 2.61E-10 | 0.8483297 | 3657 | 24589 | 40.1663554 |
| 2.36E-09 | 0.8030009 | 3657 | 24589 | 35.8349298 |
| 8.34E-10 | 0.2407138 | 3657 | 24589 | 37.8760857 |
| 4.29E-09 | 0.8483297 | 3656 | 24589 | 34.6533574 |
| 3.95E-08 | 0.8030009 | 3656 | 24589 | 30.3085062 |
| 2.02E-10 | 0.2407138 | 3656 | 24589 | 40.6774995 |
| 6.42E-09 | 0.8483297 | 3656 | 24589 | 33.8618978 |
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| 3.76E-08 | 0.8286304 | 3656 | 24589 | 30.4056156 |
| 2.91E-08 | 0.8483297 | 3658 | 24589 | 30.9046221 |
| 5.79E-09 | 0.2634047 | 3658 | 24589 | 34.063832 |
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| 1.07E-11 | 0.8030009 | 3657 | 24589 | 46.4917347 |
| 5.43E-13 | 0.2634047 | 3657 | 24589 | 52.4225649 |
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| 2.31E-10 | 0.2407138 | 3656 | 24589 | 40.413869 |
| 2.92E-08 | 0.7469891 | 1857 | 24589 | 31.0203777 |
| 1.86E-14 | 0.4005586 | 1857 | 24589 | 59.6290381 |
| 6.98E-10 | 0.2253211 | 3425 | 24589 | 38.2409143 |
| 7.93E-10 | 0.2319637 | 3425 | 24589 | 37.9914446 |
| 3.59E-08 | 0.8074352 | 3425 | 24589 | 30.4977198 |
| 1.26E-08 | 0.583923 | 3425 | 24589 | 32.5508782 |
| 3.08E-08 | 0.186053 | 3425 | 24589 | 30.7878632 |
| 2.91E-28 | 0.4231676 | 3425 | 24589 | 123.759509 |
| 2.16E-09 | 0.3645722 | 3425 | 24589 | 36.0078104 |
| 9.41E-09 | 0.2838762 | 1856 | 24589 | 33.248244 |
| 5.44E-14 | 0.2097382 | 1856 | 24589 | 57.4527557 |
| 9.84E-09 | 0.2838762 | 1857 | 24589 | 33.1637906 |
| 7.51E-35 | 0.426781 | 1857 | 24589 | 158.117109 |
| 9.46E-14 | 0.2097382 | 1857 | 24589 | 56.3281289 |
| 1.29E-10 | 0.451820276 | 2919 | 24589 | 41.6578041 |
| 4.33E-119 | 0.69789058 | 2919 | 24589 | 591.168558 |
| 1.33E-08 | 0.509026381 | 2919 | 24589 | 32.4716155 |
| 1.46E-10 | 0.451820276 | 2919 | 24589 | 41.372506 |
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| 8.19E-10 | 0.451820276 | 2919 | 24589 | 37.9474791 |
| 3.46E-127 | 0.69789058 | 2919 | 24589 | 636.31924 |
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| 7.26E-122 | 0.69789058 | 2919 | 24589 | 606.520573 |

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| 1.50E-10 | 0.758855744 | 2919 | 24589 | 41.3289272 |
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| 1.69E-14 | 0.005661866 | 3657 | 24589 | 59.3316289 |
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| 3.23E-13 | 0.4926303 | 3669 | 24589 | 53.4500892 |
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| 6.09E-46 | 0.1081297 | 3437 | 24589 | 208.532985 |
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| 1.29E-09 | 0.3969441 | 3437 | 24589 | 37.0218908 |
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| 4.32E-294 | 0.7471014 | 3437 | 24589 | 1644.18932 |

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| 4.44E-25 | 0.6318545 | 3437 | 24589 | 108.705439 |
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| 5.53E-11 | 0.6015959 | 3408 | 24589 | 43.2625567 |
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| 1.07E-15 | 0.0554487 | 3405 | 24589 | 64.9362254 |
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| 1.03E-22 | 0.6318545 | 3405 | 24589 | 97.6072987 |
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| 6.79E-13 | 0.6314262 | 3657 | 24589 | 51.934276 |

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| 3.44E-09 | 0.383457 | 2650 | 24589 | 35.1696789 |

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| 1.02E-28 | 0.4452321 | 3657 | 24589 | 125.778393 |
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| 1.23E-41 | 0.272225 | 3440 | 24589 | 187.736413 |
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| 1.08E-12 | 0.91861 | 3669 | 24589 | 51.0290196 |
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| 4.51E-08 | 0.9778804 | 3113 | 24589 | 30.0822386 |
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| 1.15E-08 | 0.03563705 | 2920 | 24589 | 32.7499372 |
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| 8.28E-19 | 0.8825668 | 3668 | 24589 | 79.2867699 |
| 1.76E-15 | 0.4538615 | 2850 | 24589 | 64.0450413 |
| 3.36E-08 | 0.1036123 | 2850 | 24589 | 30.6573038 |
| 1.77E-14 | 0.9654672 | 2850 | 24589 | 59.3884519 |
| 7.25E-10 | 0.6147169 | 2848 | 24589 | 38.2021933 |
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| 9.00E-18 | 0.7930332 | 3669 | 24589 | 74.4586119 |

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| 7.63E-10 | 0.2054162 | 3669 | 24589 | 38.093237 |
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| 3.89E-40 | 0.2675457 | 3657 | 24589 | 180.170453 |
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| 1.16E-09 | 0.8082135 | 3629 | 24589 | 37.2009932 |
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| 2.44E-10 | 0.7085246 | 3653 | 24589 | 40.2991398 |
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| 1.32E-08 | 0.1912981 | 3130 | 24589 | 32.4596649 |
| 1.55E-08 | 0.1746905 | 3112 | 24589 | 32.1619709 |
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| 1.56E-55 | 0.8329985 | 2871 | 24589 | 257.286283 |
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| 6.35E-09 | 0.9001788 | 3629 | 24589 | 33.8884885 |
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| 3.77E-15 | 0.6000575 | 3618 | 24589 | 62.3819333 |
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| 2.19E-08 | 0.2093288 | 3660 | 24589 | 31.4359782 |
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| 1.25E-40 | 0.3941554 | 3657 | 24589 | 182.562369 |
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| 3.72E-08 | 0.437854999 | 3617 | 24589 | 30.4285756 |
| 2.60E-208 | 0.199460386 | 3617 | 24589 | 1085.21078 |
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| 3.17E-20 | 0.278799 | 2920 | 24589 | 86.1557713 |
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| 4.96E-38 | 0.3694153 | 3659 | 24589 | 170.059609 |
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| 1.71E-20 | 0.7334489 | 3657 | 24589 | 87.1153861 |
| 8.25E-09 | 0.04966651 | 3657 | 24589 | 33.3601854 |
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| 4.17E-09 | 0.6006206 | 3437 | 24589 | 34.7173136 |
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| 4.36E-08 | 0.6645423 | 2910 | 24589 | 30.1546995 |
| 2.10E-08 | 0.420072 | 2910 | 24589 | 31.6063355 |
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| 2.13E-09 | 0.9464139 | 2912 | 24589 | 36.0778739 |
| 6.16E-22 | 0.6152937 | 2912 | 24589 | 94.1737373 |
| 7.15E-14 | 0.3538379 | 2912 | 24589 | 56.5628549 |
| 1.57E-31 | 0.899515043 | 2649 | 24589 | 140.043505 |
| 1.01E-61 | 0.868188347 | 3060 | 24589 | 287.620605 |
| 9.84E-58 | 0.868188347 | 2910 | 24589 | 268.194451 |
| 4.21E-09 | 0.393384219 | 2910 | 24589 | 34.7467704 |
| 5.71E-10 | 0.059048271 | 2910 | 24589 | 38.6750149 |
| 7.25E-43 | 0.868188347 | 2919 | 24589 | 194.512339 |

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| 3.92E-08 | 0.007238693 | 2919 | 24589 | 30.3536205 |
| 4.23E-08 | 0.059048271 | 2919 | 24589 | 30.2114372 |
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| 2.21E-23 | 0.868188347 | 2903 | 24589 | 101.030921 |
| 6.14E-53 | 0.868188347 | 2918 | 24589 | 244.266841 |
| 1.83E-10 | 0.059048271 | 2918 | 24589 | 40.9337382 |
| 8.80E-10 | 0.6829127 | 1635 | 24589 | 38.03431 |
| 6.94E-15 | 0.6893922 | 3405 | 24589 | 61.1670703 |
| 1.33E-11 | 0.4193558 | 3405 | 24589 | 46.0616668 |
| 3.10E-20 | 0.08682414 | 3405 | 24589 | 85.9648031 |
| 1.56E-11 | 0.6893922 | 3427 | 24589 | 45.734375 |
| 1.19E-11 | 0.4231676 | 3427 | 24589 | 46.2858834 |
| 1.15E-10 | 0.6893922 | 3395 | 24589 | 41.7838273 |
| 1.63E-08 | 0.8876176 | 3395 | 24589 | 32.0459079 |
| 7.08E-14 | 0.6893922 | 3437 | 24589 | 56.4936644 |
| 2.78E-28 | 0.394562 | 3437 | 24589 | 123.83261 |
| 8.60E-21 | 0.6893922 | 3440 | 24589 | 88.629716 |
| 3.35E-10 | 0.7683962 | 3427 | 24589 | 39.6851121 |
| 1.65E-08 | 0.32751 | 3427 | 24589 | 32.0213287 |
| 8.11E-11 | 0.01201562 | 3427 | 24589 | 42.5005752 |
| 1.18E-08 | 0.01230707 | 3395 | 24589 | 32.6588245 |
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| 2.00E-08 | 0.1318567 | 3427 | 24589 | 31.6478667 |
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| 3.96E-08 | 0.1064863 | 2912 | 24589 | 30.3233778 |
| 2.08E-08 | 0.839008419 | 2912 | 24589 | 31.599197 |
| 8.20E-35 | 0.856304835 | 2912 | 24589 | 155.534026 |
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| 2.63E-09 | 0.9598482 | 3653 | 24589 | 35.5884844 |
| 6.12E-10 | 0.3885463 | 3655 | 24589 | 38.4834676 |
| 1.28E-15 | 0.5299422 | 3655 | 24589 | 64.5285594 |
| 2.51E-08 | 0.23201 | 3629 | 24589 | 31.1961335 |
| 1.61E-14 | 0.6000575 | 3629 | 24589 | 59.4514787 |
| 1.61E-08 | 0.23201 | 2850 | 24589 | 32.1050475 |
| 1.89E-09 | 0.05514094 | 2850 | 24589 | 36.3346873 |
| 2.37E-10 | 0.23201 | 3629 | 24589 | 40.3724268 |
| 2.82E-08 | 0.23201 | 3629 | 24589 | 30.955224 |
| 9.48E-14 | 0.5399101 | 3629 | 24589 | 55.8736714 |
| 8.02E-09 | 0.1862931 | 3629 | 24589 | 33.4317609 |
| 8.34E-14 | 0.775064459 | 1858 | 24589 | 56.584644 |
| 3.69E-18 | 0.775064459 | 2850 | 24589 | 76.4957999 |
| 2.69E-27 | 0.5285557 | 2850 | 24589 | 119.56228 |
| 1.47E-18 | 0.775064459 | 1634 | 24589 | 79.1528329 |
| 1.06E-20 | 0.775064459 | 1838 | 24589 | 89.1465972 |
| 2.62E-69 | 0.775064459 | 3579 | 24589 | 323.524465 |
| 3.51E-08 | 0.8336057 | 3579 | 24589 | 30.5157804 |
| 4.45E-54 | 0.775064459 | 3590 | 24589 | 248.09578 |
| 6.28E-17 | 0.8063847 | 3590 | 24589 | 70.5812525 |
| 1.20E-20 | 0.775064459 | 2850 | 24589 | 88.1704358 |
| 1.84E-11 | 0.775064459 | 1634 | 24589 | 45.7911697 |
| 2.40E-183 | 0.426781 | 1634 | 24589 | 1088.29964 |
| 7.89E-09 | 0.9526192 | 1634 | 24589 | 33.684205 |
| 2.91E-21 | 0.9910141 | 1634 | 24589 | 92.1446099 |
| 1.33E-16 | 0.919311 | 1634 | 24589 | 69.8897878 |
| 2.06E-70 | 0.775064459 | 3618 | 24589 | 328.851752 |
| 1.03E-08 | 0.03808541 | 3618 | 24589 | 32.9272635 |
| 3.17E-12 | 0.513035814 | 3618 | 24589 | 48.921103 |

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| 3.78E-92 | 0.1584805 | 3618 | 24589 | 439.373986 |
| 3.93E-11 | 0.775064459 | 1633 | 24589 | 44.2723461 |
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| 1.33E-08 | 0.8458112 | 1633 | 24589 | 32.6123594 |
| 6.18E-12 | 0.6637 | 1633 | 24589 | 47.9827638 |
| 8.18E-22 | 0.9910141 | 1633 | 24589 | 94.8189063 |
| 5.83E-16 | 0.919311 | 1633 | 24589 | 66.842291 |
| 6.57E-20 | 0.775064459 | 3582 | 24589 | 84.4220873 |
| 1.43E-38 | 0.775064459 | 1578 | 24589 | 178.138126 |
| 5.24E-32 | 0.775064459 | 1570 | 24589 | 145.030049 |
| 3.85E-08 | 0.775064459 | 3618 | 24589 | 30.3674919 |
| 2.53E-54 | 0.775064459 | 1858 | 24589 | 257.360337 |
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| 1.36E-16 | 0.775064459 | 2850 | 24589 | 69.1652711 |
| 9.63E-30 | 0.7785489 | 2850 | 24589 | 131.28406 |
| 6.27E-61 | 0.775064459 | 1635 | 24589 | 295.011118 |
| 2.10E-64 | 0.775064459 | 3590 | 24589 | 298.938127 |
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| 2.77E-54 | 0.775064459 | 1858 | 24589 | 257.099811 |
| 7.11E-09 | 0.485581221 | 1858 | 24589 | 33.8235723 |
| 7.44E-19 | 0.2128449 | 1858 | 24589 | 80.3620755 |
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| 3.83E-09 | 0.374680231 | 3653 | 24589 | 34.8753495 |
| 6.55E-10 | 0.09625365 | 3653 | 24589 | 38.3526989 |
| 8.82E-17 | 0.91861 | 3653 | 24589 | 69.9085664 |
| 6.88E-12 | 0.374680231 | 3113 | 24589 | 47.4328217 |
| 1.34E-15 | 0.4114712 | 3113 | 24589 | 64.5181 |
| 3.83E-08 | 0.2203823 | 1858 | 24589 | 30.5005165 |
| 2.20E-19 | 0.1696178 | 1858 | 24589 | 82.882816 |
| 3.11E-19 | 0.07835003 | 3651 | 24589 | 81.2676171 |
| 3.50E-15 | 0.5648098 | 3651 | 24589 | 62.5002063 |
| 3.69E-08 | 0.07835003 | 3642 | 24589 | 30.4326187 |
| 1.07E-11 | 0.6236636 | 3642 | 24589 | 46.5077463 |
| 2.98E-83 | 0.07835003 | 3656 | 24589 | 393.640801 |
| 1.15E-08 | 0.757319 | 3656 | 24589 | 32.7064377 |
| 2.35E-43 | 0.4787465 | 3656 | 24589 | 195.685225 |
| 5.54E-13 | 0.5594815 | 3656 | 24589 | 52.3791293 |
| 1.18E-09 | 0.4134849 | 3656 | 24589 | 37.1690799 |
| 5.04E-11 | 0.5208262 | 3656 | 24589 | 43.4239052 |
| 4.90E-13 | 0.07835003 | 3657 | 24589 | 52.6413339 |
| 8.55E-11 | 0.7849178 | 3657 | 24589 | 42.3899245 |
| 2.24E-09 | 0.5676371 | 3657 | 24589 | 35.9252725 |
| 2.51E-08 | 0.1453697 | 3657 | 24589 | 31.1771294 |
| 2.10E-15 | 0.061871057 | 1247 | 24589 | 64.6003094 |
| 2.17E-14 | 0.061871057 | 1247 | 24589 | 59.7577537 |
| 5.64E-14 | 0.061871057 | 1247 | 24589 | 57.838988 |
| 8.55E-13 | 0.061871057 | 1247 | 24589 | 52.2620702 |
| 7.00E-13 | 0.061871057 | 1247 | 24589 | 52.6249552 |
| 1.91E-13 | 0.061871057 | 1247 | 24589 | 55.3263305 |
| 5.90E-09 | 0.066296299 | 3387 | 24589 | 34.0322894 |
| 1.40E-150 | 0.199460386 | 3387 | 24589 | 756.803118 |
| 2.05E-12 | 0.866123264 | 3387 | 24589 | 49.8106467 |
| 8.13E-09 | 0.066296299 | 3387 | 24589 | 33.3964181 |
| 9.71E-166 | 0.199460386 | 3387 | 24589 | 843.396678 |
| 2.26E-12 | 0.866123264 | 3387 | 24589 | 49.634123 |
| 3.62E-09 | 0.066296299 | 3387 | 24589 | 34.978258 |
| 1.34E-220 | 0.199460386 | 3387 | 24589 | 1170.601 |

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| 3.96E-16 | 0.866123264 | 3387 | 24589 | 66.9278319 |
| 3.16E-15 | 0.620768 | 3657 | 24589 | 62.7294646 |
| 1.67E-08 | 0.7334489 | 3657 | 24589 | 31.9754188 |
| 3.93E-08 | 0.9000225 | 3657 | 24589 | 30.2950988 |
| 5.42E-09 | 0.3460664 | 3657 | 24589 | 34.2016103 |
| 2.24E-42 | 0.66089 | 2920 | 24589 | 192.175506 |
| 1.84E-13 | 0.1723529 | 2920 | 24589 | 54.6824767 |
| 3.15E-38 | 0.66089 | 2920 | 24589 | 172.059947 |
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| 1.46E-10 | 0.216647 | 2910 | 24589 | 41.3644989 |
| 5.66E-154 | 0.69789058 | 2910 | 24589 | 790.065741 |
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| 4.48E-14 | 0.569142177 | 2910 | 24589 | 57.5292404 |
| 4.69E-13 | 0.9464053 | 3656 | 24589 | 52.7121109 |
| 2.44E-11 | 3.56541E-06 | 3656 | 24589 | 44.8926962 |
| 2.95E-12 | 0.5286803 | 3657 | 24589 | 49.0739639 |
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| 1.75E-10 | 0.8072368 | 3657 | 24589 | 40.9677845 |
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| 6.73E-13 | 0.5513121 | 3657 | 24589 | 52.0146924 |
| 6.37E-09 | 0.906234549 | 3112 | 24589 | 33.9068077 |
| 1.00E-08 | 0.7818264 | 3060 | 24589 | 33.0044447 |
| 6.18E-10 | 0.3139577 | 3060 | 24589 | 38.518643 |
| 2.12E-13 | 0.8966083 | 3374 | 24589 | 54.3260989 |
| 3.17E-08 | 0.4391171 | 3579 | 24589 | 30.7412421 |
| 5.57E-52 | 0.378398 | 3579 | 24589 | 237.692097 |
| 1.36E-10 | 0.73718 | 3579 | 24589 | 41.4492191 |
| 2.59E-10 | 0.4391171 | 3580 | 24589 | 40.19007 |
| 3.62E-55 | 0.378398 | 3580 | 24589 | 253.363548 |
| 6.46E-10 | 0.73718 | 3580 | 24589 | 38.369132 |
| 3.86E-13 | 0.069832104 | 1247 | 24589 | 53.8599754 |
| 4.90E-11 | 0.03367365 | 1247 | 24589 | 43.9893072 |
| 2.74E-09 | 0.03367365 | 1245 | 24589 | 35.8914301 |
| 4.25E-09 | 0.074667873 | 1247 | 24589 | 35.0028948 |
| 2.44E-10 | 0.2909342 | 1247 | 24589 | 40.7235791 |
| 1.02E-10 | 0.074667873 | 1247 | 24589 | 42.5286148 |
| 2.92E-09 | 0.1913807 | 1832 | 24589 | 35.6014479 |
| 3.42E-30 | 0.6279017 | 1832 | 24589 | 135.152518 |
| 6.38E-13 | 0.1913807 | 3654 | 24589 | 52.1216406 |
| 4.04E-08 | 0.5782611 | 3654 | 24589 | 30.2700033 |
| 2.16E-61 | 0.6579098 | 3654 | 24589 | 283.809693 |
| 3.86E-08 | 0.1913807 | 3638 | 24589 | 30.3499245 |
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| 2.52E-45 | 0.6579098 | 3649 | 24589 | 205.207142 |
| 6.00E-13 | 0.1913807 | 3653 | 24589 | 52.1991742 |
| 6.21E-45 | 0.6579098 | 3653 | 24589 | 203.322378 |
| 9.31E-11 | 0.1913807 | 3655 | 24589 | 42.1798011 |
| 3.93E-41 | 0.6279017 | 3655 | 24589 | 184.970979 |
| 1.46E-11 | 0.1913807 | 3652 | 24589 | 45.8464195 |
| 1.21E-40 | 0.6579098 | 3652 | 24589 | 182.686244 |
| 1.54E-11 | 0.1913807 | 3655 | 24589 | 45.7964953 |
| 1.16E-49 | 0.6279017 | 3655 | 24589 | 226.286499 |
| 1.36E-12 | 0.1913807 | 3648 | 24589 | 50.5854055 |
| 2.21E-25 | 0.6279017 | 3648 | 24589 | 110.04462 |
| 2.24E-10 | 0.3957849 | 3112 | 24589 | 40.5202727 |

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| 3.84E-40 | 0.9001788 | 3112 | 24589 | 180.993172 |
| 2.13E-09 | 0.6236636 | 3657 | 24589 | 36.0393228 |
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| 7.20E-50 | 0.08681954 | 3657 | 24589 | 227.385399 |
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| 1.64E-27 | 0.1239017 | 3656 | 24589 | 120.043164 |
| 4.81E-08 | 0.2089857 | 1835 | 24589 | 30.0435864 |
| 1.67E-18 | 0.3504358 | 1835 | 24589 | 78.7163093 |
| 1.86E-08 | 0.6215583 | 2909 | 24589 | 31.7994234 |
| 4.79E-08 | 0.6836065 | 2909 | 24589 | 29.9595002 |
| 1.25E-32 | 0.4005586 | 1857 | 24589 | 147.091253 |
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| 2.77E-08 | 0.672368486 | 3621 | 24589 | 30.9827918 |
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| 4.14E-09 | 0.2839079 | 3112 | 24589 | 34.7322214 |
| 6.10E-09 | 0.9275363 | 3427 | 24589 | 33.9793887 |
| 5.97E-09 | 0.2189447 | 3060 | 24589 | 34.0414724 |
| 3.53E-15 | 0.3538379 | 3060 | 24589 | 62.5938174 |
| 1.63E-08 | 0.1610175 | 2911 | 24589 | 32.0745708 |
| 8.13E-22 | 0.6152937 | 2911 | 24589 | 93.6541374 |
| 9.11E-10 | 0.757319 | 1836 | 24589 | 37.8984181 |
| 1.08E-38 | 0.4787465 | 1836 | 24589 | 177.372586 |
| 1.33E-62 | 0.08681954 | 1836 | 24589 | 301.251595 |
| 4.44E-08 | 0.1699366 | 1836 | 24589 | 30.2045625 |
| 3.41E-10 | 0.5594815 | 1836 | 24589 | 39.857994 |
| 6.78E-10 | 0.1665916 | 3618 | 24589 | 38.3020352 |
| 4.70E-11 | 0.600356914 | 3618 | 24589 | 43.5373547 |
| 1.49E-08 | 0.8146224 | 3657 | 24589 | 32.2132944 |
| 3.67E-08 | 0.9240067 | 2872 | 24589 | 30.4853687 |
| 1.22E-17 | 0.248384613 | 2872 | 24589 | 74.0737095 |
| 2.21E-33 | 0.01234413 | 2872 | 24589 | 148.649029 |
| 9.29E-10 | 0.6304036 | 2910 | 24589 | 37.7243569 |
| 1.84E-26 | 0.3538379 | 2910 | 24589 | 115.604978 |
| 4.29E-26 | 0.2635976 | 3668 | 24589 | 113.409678 |
| 2.66E-27 | 0.2635976 | 3668 | 24589 | 119.080665 |
| 5.70E-16 | 5.32359E-06 | 3656 | 24589 | 66.162426 |
| 6.58E-11 | 0.7847738 | 3656 | 24589 | 42.8725654 |
| 6.86E-10 | 0.4465308 | 3656 | 24589 | 38.2703786 |
| 4.71E-12 | 3.56541E-06 | 3657 | 24589 | 48.1320022 |
| 5.47E-17 | 3.56541E-06 | 3656 | 24589 | 70.8469898 |
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| 8.85E-10 | 0.4465308 | 3656 | 24589 | 37.7312185 |
| 5.94E-51 | 0.248384613 | 2872 | 24589 | 234.622264 |
| 1.95E-11 | 0.2878522 | 2872 | 24589 | 45.3624488 |
| 3.45E-99 | 0.69789058 | 2912 | 24589 | 482.977285 |
| 3.56E-15 | 0.509026381 | 2912 | 24589 | 62.6160346 |
| 3.70E-08 | 0.1344402 | 2912 | 24589 | 30.4805442 |
| 1.46E-10 | 0.569142177 | 2912 | 24589 | 41.3961953 |
| 3.54E-94 | 0.69789058 | 2919 | 24589 | 456.298919 |
| 5.02E-10 | 0.569142177 | 2919 | 24589 | 38.9432092 |
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| 1.69E-09 | 0.924405468 | 2919 | 24589 | 36.5210624 |
| 1.05E-84 | 0.69789058 | 2911 | 24589 | 406.527967 |
| 2.05E-11 | 0.509026381 | 2911 | 24589 | 45.2923321 |
| 1.18E-09 | 0.569142177 | 2911 | 24589 | 37.251135 |
| 2.49E-14 | 0.74540469 | 2911 | 24589 | 58.68715 |

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| 1.61E-71 | 0.919838985 | 2919 | 24589 | 338.030219 |
| 1.12E-12 | 0.509026381 | 2919 | 24589 | 51.0776748 |
| 1.75E-18 | 0.856304835 | 2919 | 24589 | 77.996307 |
| 2.05E-71 | 0.891364234 | 2912 | 24589 | 337.390802 |
| 1.10E-115 | 0.891364234 | 2919 | 24589 | 572.685228 |
| 3.64E-13 | 0.509026381 | 2919 | 24589 | 53.3124199 |
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| 1.47E-62 | 0.378398 | 3595 | 24589 | 289.729305 |
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| 1.34E-33 | 0.378398 | 3595 | 24589 | 149.010303 |
| 1.39E-08 | 0.4074289 | 3595 | 24589 | 32.3613004 |
| 7.57E-13 | 0.3297634 | 2914 | 24589 | 51.8567944 |
| 2.96E-09 | 0.6003709 | 2914 | 24589 | 35.4369088 |
| 8.44E-30 | 0.3297634 | 2920 | 24589 | 131.528428 |
| 9.33E-11 | 0.521059 | 3395 | 24589 | 42.2384006 |
| 9.17E-10 | 0.8876176 | 3371 | 24589 | 37.7143279 |
| 3.52E-11 | 0.8876176 | 3652 | 24589 | 44.1476022 |
| 1.16E-09 | 0.8876176 | 3668 | 24589 | 37.2215727 |
| 2.56E-10 | 0.8876176 | 3408 | 24589 | 40.2058737 |
| 1.90E-08 | 0.07036569 | 3408 | 24589 | 31.7367584 |
| 2.99E-09 | 0.01466897 | 3395 | 24589 | 35.3816066 |
| 7.66E-12 | 0.01466897 | 3652 | 24589 | 47.1757481 |
| 2.65E-08 | 0.01466897 | 3653 | 24589 | 31.0849657 |
| 4.42E-28 | 0.285213607 | 2872 | 24589 | 123.297 |
| 3.17E-08 | 0.05583933 | 2920 | 24589 | 30.778428 |
| 2.34E-08 | 0.6743328 | 2920 | 24589 | 31.36 |
| 3.31E-34 | 0.5405471 | 2920 | 24589 | 152.633993 |
| 8.92E-09 | 0.3362097 | 3440 | 24589 | 33.2285349 |
| 1.38E-16 | 0.8825668 | 3668 | 24589 | 69.0124934 |
| 6.70E-12 | 0.8825668 | 3652 | 24589 | 47.4359997 |
| 3.03E-11 | 0.7509825 | 3657 | 24589 | 44.4142255 |
| 1.83E-08 | 0.4787465 | 3656 | 24589 | 31.8115229 |
| 4.98E-33 | 0.08681954 | 3656 | 24589 | 146.168284 |
| 1.64E-15 | 0.4063966 | 2870 | 24589 | 64.173471 |
| 1.56E-13 | 0.513035814 | 2870 | 24589 | 55.025466 |
| 7.75E-13 | 0.4063966 | 2870 | 24589 | 51.8095698 |
| 2.59E-37 | 0.248384613 | 2870 | 24589 | 167.680829 |
| 3.42E-15 | 0.233056 | 2871 | 24589 | 62.6946696 |
| 2.91E-26 | 0.248384613 | 2871 | 24589 | 114.661693 |
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0.00293764
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0.00183033
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0.00810719
0.0008358
0.00477998
0.00963881
0.00664045
0.00921377
0.00069775
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0.0457279
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0.00648718
0.03306845

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0.00685024
0.00883862
0.00010389
0.00409628
0.01257757
7.7178E-05
0.00616782
7.1176E-05
0.00425956
9.5058E-05
0.00370032
0.000149
0.00408664
0.00467009
0.00521959
0.00479399
0.0023431
0.00253371
0.00235877
0.00288687
0.00026722
0.00253117
0.02668004
0.01829809
5.2466E-05
0.0029907
0.00185093
0.00126249
0.00667521
0.00174103
0.00637249
0.00163385
0.00125274
0.00761172
0.00042456
0.01353673
0.01169839
0.01799773
0.02142726
0.0209882
0.03978673
0.00334295
0.03037875
0.00771567
0.01348378
0.01239029
0.22260668
0.00111431
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0.00536606

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0.02294223
0.02023353
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0.01063703
0.0798251
0.03660428
0.01078649
0.06150592
0.00186314
0.01488759
0.0036546
0.00065555
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0.00938729
0.0005645
0.01535457
0.01035851
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0.00096778
0.00204745
0.00051792
0.00669723
0.00414922
0.00290749
0.00149623
0.02527516
0.02338049
0.02262976
0.02044777
0.02058975
0.02164667
0.00019107
0.08264013
0.00187931
0.0001875
0.09209582
0.00187265
0.00019638
0.12782534

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0.00817574
0.00310076
0.00413511
0.0040436
0.03156404
0.00597009
0.02826014
0.00512125
0.00401886
0.13416674
0.0027058
0.0036342
0.00331451
0.00592901
0.00394414
0.00885088
0.00443778
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0.00442541
0.0042016
0.00444634
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0.00545772
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0.00686119
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0.00602732
0.00551921
0.00601582
0.00752534
0.00665819
0.00367189
0.00615202

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0.00125019
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0.01575796
0.00577966
0.00818424
0.00500222
0.00143947
0.03954306
0.00503432
0.00397641
0.0397725
0.00477411
0.00537164
0.003855
0.00545793
0.00496097
0.0054808
0.00940641
0.00574851
0.01028279
0.0764772
0.0009389
0.00157114
0.00449393
0.00504927
0.00432525
0.00124762
0.00933058
0.02587893
0.00621789
0.00948022
0.0118319
0.01242355
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0.00935753
0.00590378
0.00491808
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0.00342662
0.08197223
0.00208915
0.00297453
0.00262004
0.07726863
0.00245251
0.0004299
0.11245868
0.00559742
0.06901774
0.00150608
0.00235443
0.01004863

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0.00170009
0.01334792
0.0572579
0.09697723
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0.00777621
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0.00417232
0.00258596
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0.00042053
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0.00272762
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5.339E-05
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0.0053238
0.00215994
0.00519307
0.00643486
0.00423899
0.01584274
0.00299121
0.00535489
0.01662008
0.00300538
0.00629706
0.00435175
0.00434737
0.00092305
0.01861169
0.00261641
0.00763126
0.00211232
0.02112409
0.0057293
0.01445242
0.00339858
0.01912548
0.00341869
0.0058386
0.00372399
0.00400424
0.0033263
0.0113833
0.00926419
0.05661971
0.00145944
0.06820663
0.00124549

0.002941
0.00861153
0.00051977
0.00051484
0.22584716
0.01607123
0.01964382
0.1720034
0.01564154
0.01853279
0.033823
0.00424825
0.0118635
0.23418705
0.00943266
0.00297218
0.02409759
0.01873965
0.0126544
0.00594374
0.21826073
0.0145124
0.01882579
0.22354076
0.01563688
0.0197286
0.01669442
0.15838413
0.00278999
0.01842992
0.00412905
0.01642131
0.006908
0.0075119
0.00032976
0.0058469
0.00611467
0.00188383
0.00909612
0.0165162
0.0103096
0.01073053
0.01912101
0.00756775
0.00665367
0.00582127
0.00406575
0.0196013
0.00375684
0.01682712
0.0012388
0.00208372
0.00070461
0.00034026
0.00403258
0.00116545
0.01035034
0.00067076

0.00829703
0.00063112
0.00380171
0.00223628
0.00291182
0.00291182
0.00249784
0.00409727
0.00175746
0.00265029
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0.0326025
0.00926052
0.00405174
0.04573504
0.00112231
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0.00565428
0.00645069
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0.00488406
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0.00410528
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0.00415168
0.00460851
0.00496516
0.05981018
0.00358797
0.02165481
0.00056897
0.00076942
0.00177568
0.0045065
0.00289986
0.01104426
0.00345066
0.00099096
0.00019491
0.00256784
0.00170823
0.00201334
0.00252522
0.01321376
0.0260611
0.02807174
0.01598931
0.01256602
0.00443534
0.00599908
0.00558926
0.01438815
0.00512723
0.01266376
0.00554854
0.01404109

0.00510765
0.01235584
0.00286784
0.00344976
0.01847143
0.01636728
0.00234655
0.07808358
0.00182432
0.00551748
0.00632876
0.00304713
0.00628322
0.00568871
0.00344519
0.00616046
0.00660896
0.00534207
0.00441867
0.00403576
0.00537052
0.03624124
0.05153905
0.13025395
0.00253131
0.00177377
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0.00461599
0.07014874
0.00132938
0.00432494
0.07052835
0.0105331
0.01221355
0.01188666
0.00327776
0.00022812
0.00786195
0.00816131
0.00387451
0.00438147
0.00089945
0.00055487
0.00040767
0.00103008
0.00724113
0.00032687
0.01587844
0.01723918
0.00078611
0.0011641
0.00047108
0.00586723
0.00390368
0.00387859
0.00166723
0.00359039
0.00449459

0.00555406
0.00560156
0.00425839
0.00645031
0.02573112
0.00393019
0.00848384

**Supplementary Table 3**

| Id.exposure | Outcome | Exposure |
|---|---|---|
| GCST90001392 | IPF | IgD+ CD38+ B cell Absolute Count |
| GCST90001424 | IPF | IgD+ B cell %Lymphocyte |
| GCST90001426 | IPF | IgD- CD38dim B cell %lymphocyte |
| GCST90001436 | IPF | Memory B cell %lymphocyte |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absolute Count |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell %Dendritic Cell |
| GCST90001475 | IPF | HLA DR++ monocyte %monocyte |
| GCST90001520 | IPF | CD33+ HLA DR+ CD14dim Absolute Count |
| GCST90001527 | IPF | CD33dim HLA DR+ CD11b- Absolute Count |
| GCST90001547 | IPF | Terminally Differentiated CD4+ T cell %T cell |
| GCST90001554 | IPF | Effector Memory CD8+ T cell Absolute Count |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001580 | IPF | CD14+ CD16+ monocyte Absolute Count |
| GCST90001585 | IPF | CD14+ CD16+ monocyte %monocyte |
| GCST90001586 | IPF | CD14+ CD16- monocyte %monocyte |
| GCST90001587 | IPF | CD16+ monocyte %monocyte |
| GCST90001588 | IPF | T/B cell |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001597 | IPF | CD8dim T cell %T cell |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell |
| GCST90001612 | IPF | CD8dim T cell %leukocyte |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001614 | IPF | CD8+ and CD8dim T cell %leukocyte |
| GCST90001648 | IPF | HLA DR+ Natural Killer Absolute Count |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001650 | IPF | HLA DR+ Natural Killer  %CD3- lymphocyte |
| GCST90001690 | IPF | CD28+ CD45RA+ CD8+ T cell Absolute Count |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |

| | | |
|---|---|---|
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B cell |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell |
| GCST90001827 | IPF | IgD on IgD+ B cell |
| GCST90001833 | IPF | CD62L on CD62L+ Dendritic Cell |
| GCST90001867 | IPF | CD3 on CD4+ T cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001911 | IPF | CD45 on Natural Killer |
| GCST90001944 | IPF | CD123 on plasmacytoid Dendritic Cell |
| GCST90001945 | IPF | CD123 on CD62L+ plasmacytoid Dendritic Cell |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001959 | IPF | CD4 on HLA DR+ CD4+ T cell |
| GCST90001965 | IPF | FSC-A on monocyte |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural Killer |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid Dendritic Cell |
| GCST90002017 | IPF | CCR2 on monocyte |
| GCST90002037 | IPF | CD80 on plasmacytoid Dendritic Cell |
| GCST90002038 | IPF | CD80 on CD62L+ plasmacytoid Dendritic Cell |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural Killer |

| Method | nsnp | β coefficient (95%CI) | SE | OR (95%CI) |
|---|---|---|---|---|
| IVW-mre | 2 | -0.142 (-0.158 - -0.125) | 0.008245665 | 0.868 (0.854 - 0.882) |
| IVW-mre | 2 | -0.169 (-0.284 - -0.055) | 0.058465806 | 0.844 (0.753 - 0.947) |
| IVW-mre | 2 | -0.243 (-0.401 - -0.085) | 0.080706827 | 0.784 (0.669 - 0.919) |
| IVW-mre | 2 | -0.105 (-0.167 - -0.042) | 0.031991103 | 0.901 (0.846 - 0.959) |
| IVW-mre | 2 | 0.08 (0.044 - 0.116) | 0.018374394 | 1.084 (1.045 - 1.123) |
| MR Egger | 3 | 0.082 (-0.264 - 0.428) | 0.176698386 | 1.086 (0.768 - 1.535) |
| IVW-mre | 3 | 0.07 (0.061 - 0.078) | 0.00452157 | 1.072 (1.063 - 1.082) |
| Weighted median | 3 | 0.071 (-0.035 - 0.176) | 0.05373131 | 1.073 (0.966 - 1.192) |
| Weighted mode | 3 | 0.071 (-0.032 - 0.173) | 0.052295288 | 1.074 (0.969 - 1.189) |
| Simple mode | 3 | 0.073 (-0.109 - 0.255) | 0.092933586 | 1.076 (0.897 - 1.291) |
| MR Egger | 3 | 0.068 (-0.1 - 0.237) | 0.085999731 | 1.071 (0.905 - 1.267) |
| IVW-mre | 3 | 0.059 (0.049 - 0.069) | 0.004928393 | 1.061 (1.051 - 1.071) |
| Weighted median | 3 | 0.059 (-0.033 - 0.152) | 0.047289049 | 1.061 (0.967 - 1.164) |
| Weighted mode | 3 | 0.061 (-0.034 - 0.157) | 0.048708357 | 1.063 (0.966 - 1.17) |
| Simple mode | 3 | 0.041 (-0.11 - 0.192) | 0.077075634 | 1.042 (0.896 - 1.212) |
| IVW-mre | 2 | -0.1 (-0.117 - -0.082) | 0.008875584 | 0.905 (0.89 - 0.921) |
| IVW-mre | 2 | 0.134 (0.11 - 0.159) | 0.012345365 | 1.144 (1.116 - 1.172) |
| IVW-mre | 2 | 0.067 (0.053 - 0.081) | 0.007174369 | 1.07 (1.055 - 1.085) |
| IVW-mre | 2 | -0.146 (-0.232 - -0.059) | 0.044035671 | 0.865 (0.793 - 0.943) |
| IVW-mre | 2 | -0.34 (-0.571 - -0.109) | 0.117773391 | 0.712 (0.565 - 0.896) |
| IVW-mre | 2 | -0.026 (-0.027 - -0.024) | 0.00093357 | 0.975 (0.973 - 0.976) |
| MR Egger | 3 | 0.443 (-0.632 - 1.518) | 0.548322852 | 1.558 (0.532 - 4.563) |
| IVW-mre | 3 | 0.27 (0.134 - 0.405) | 0.069016942 | 1.309 (1.144 - 1.499) |
| Weighted median | 3 | 0.243 (0.008 - 0.478) | 0.119967281 | 1.275 (1.008 - 1.613) |
| Weighted mode | 3 | 0.366 (0.086 - 0.645) | 0.142485194 | 1.442 (1.09 - 1.906) |
| Simple mode | 3 | 0.174 (-0.138 - 0.486) | 0.159099081 | 1.19 (0.871 - 1.626) |
| IVW-mre | 2 | -0.087 (-0.106 - -0.069) | 0.009413313 | 0.917 (0.9 - 0.934) |
| IVW-mre | 2 | -0.08 (-0.092 - -0.069) | 0.005936851 | 0.923 (0.912 - 0.934) |
| IVW-mre | 2 | 0.061 (0.042 - 0.079) | 0.009509285 | 1.063 (1.043 - 1.083) |
| IVW-mre | 2 | -0.062 (-0.08 - -0.043) | 0.009286585 | 0.94 (0.923 - 0.958) |
| IVW-mre | 2 | 0.101 (0.053 - 0.149) | 0.024577725 | 1.106 (1.054 - 1.161) |
| IVW-mre | 3 | -0.187 (-0.315 - -0.058) | 0.065591053 | 0.83 (0.73 - 0.944) |
| MR Egger | 3 | -0.039 (-0.496 - 0.417) | 0.232839059 | 0.962 (0.609 - 1.518) |
| Weighted median | 3 | -0.155 (-0.429 - 0.118) | 0.139446422 | 0.856 (0.651 - 1.125) |
| Weighted mode | 3 | -0.132 (-0.455 - 0.192) | 0.164940846 | 0.877 (0.635 - 1.211) |
| Simple mode | 3 | -0.122 (-0.461 - 0.218) | 0.173306898 | 0.886 (0.631 - 1.244) |
| IVW-mre | 2 | -0.144 (-0.211 - -0.077) | 0.034023742 | 0.866 (0.81 - 0.926) |
| IVW-mre | 2 | -0.145 (-0.193 - -0.097) | 0.024316394 | 0.865 (0.825 - 0.907) |
| IVW-mre | 2 | -0.152 (-0.216 - -0.087) | 0.032847923 | 0.859 (0.806 - 0.916) |
| MR Egger | 3 | -0.15 (-0.742 - 0.443) | 0.302250024 | 0.861 (0.476 - 1.557) |
| IVW-mre | 3 | -0.156 (-0.178 - -0.133) | 0.011543082 | 0.856 (0.837 - 0.875) |
| Weighted median | 3 | -0.161 (-0.453 - 0.131) | 0.148973115 | 0.852 (0.636 - 1.14) |
| Weighted mode | 3 | -0.162 (-0.509 - 0.184) | 0.176690721 | 0.85 (0.601 - 1.202) |
| Simple mode | 3 | -0.163 (-0.496 - 0.17) | 0.169963292 | 0.85 (0.609 - 1.186) |
| IVW-mre | 2 | -0.181 (-0.202 - -0.16) | 0.010725509 | 0.835 (0.817 - 0.852) |
| IVW-mre | 2 | -0.079 (-0.092 - -0.066) | 0.006585561 | 0.924 (0.912 - 0.936) |
| MR Egger | 5 | -0.091 (-0.261 - 0.078) | 0.086434935 | 0.913 (0.77 - 1.081) |
| IVW-mre | 5 | -0.094 (-0.137 - -0.05) | 0.022236862 | 0.91 (0.872 - 0.951) |
| Weighted median | 5 | -0.092 (-0.205 - 0.02) | 0.057457799 | 0.912 (0.815 - 1.021) |
| Weighted mode | 5 | -0.082 (-0.2 - 0.036) | 0.060078611 | 0.921 (0.819 - 1.036) |
| Simple mode | 5 | -0.046 (-0.212 - 0.12) | 0.084603266 | 0.955 (0.809 - 1.127) |
| IVW-mre | 2 | -0.075 (-0.105 - -0.045) | 0.015086385 | 0.928 (0.901 - 0.956) |
| IVW-mre | 2 | -0.235 (-0.25 - -0.22) | 0.007749243 | 0.79 (0.778 - 0.803) |
| MR Egger | 4 | 0.317 (-0.847 - 1.482) | 0.594088869 | 1.374 (0.429 - 4.401) |
| IVW-mre | 4 | 0.115 (0.058 - 0.172) | 0.029084434 | 1.122 (1.059 - 1.187) |
| Weighted median | 4 | 0.104 (-0.124 - 0.332) | 0.116336427 | 1.11 (0.884 - 1.394) |

| | | |
|---|---|---|
| Weighted mode | 4 0.083 (-0.208 - 0.373) | 0.148025507 1.086 (0.813 - 1.452) |
| Simple mode | 4 0.091 (-0.196 - 0.379) | 0.146557704 1.096 (0.822 - 1.46) |
| IVW-mre | 2 0.144 (0.066 - 0.223) | 0.040162208 1.155 (1.068 - 1.25) |
| IVW-mre | 2 0.185 (0.094 - 0.276) | 0.046373941 1.204 (1.099 - 1.318) |
| Wald ratio | 1 0.729 (0.421 - 1.037) | 0.157271184 2.073 (1.523 - 2.821) |
| IVW-mre | 2 -0.315 (-0.4 - -0.23) | 0.043467205 0.73 (0.67 - 0.795) |
| IVW-mre | 2 -0.069 (-0.081 - -0.056) | 0.006259907 0.934 (0.922 - 0.945) |
| MR Egger | 4 0.091 (-0.602 - 0.784) | 0.353647122 1.095 (0.548 - 2.19) |
| IVW-mre | 4 0.113 (0.096 - 0.13) | 0.008706325 1.12 (1.101 - 1.139) |
| Weighted median | 4 0.115 (-0.043 - 0.273) | 0.080687928 1.122 (0.958 - 1.314) |
| Weighted mode | 4 0.125 (-0.055 - 0.306) | 0.092021135 1.133 (0.946 - 1.357) |
| Simple mode | 4 0.124 (-0.073 - 0.32) | 0.100380687 1.132 (0.929 - 1.378) |
| IVW-mre | 2 -0.144 (-0.236 - -0.053) | 0.046786242 0.866 (0.79 - 0.949) |
| IVW-mre | 2 -0.077 (-0.104 - -0.05) | 0.013634224 0.926 (0.901 - 0.951) |
| IVW-mre | 2 -0.078 (-0.105 - -0.05) | 0.014060406 0.925 (0.9 - 0.951) |
| MR Egger | 3 0.023 (-0.056 - 0.103) | 0.040615491 1.024 (0.945 - 1.108) |
| IVW-mre | 3 0.018 (0.012 - 0.023) | 0.002860169 1.018 (1.012 - 1.024) |
| Weighted median | 3 0.018 (-0.025 - 0.062) | 0.022286768 1.018 (0.975 - 1.064) |
| Weighted mode | 3 0.019 (-0.028 - 0.066) | 0.023928955 1.019 (0.972 - 1.068) |
| Simple mode | 3 0.011 (-0.065 - 0.087) | 0.03873708 1.011 (0.937 - 1.091) |
| MR Egger | 3 0.026 (-0.096 - 0.148) | 0.062160763 1.026 (0.908 - 1.159) |
| IVW-mre | 3 0.019 (0.012 - 0.026) | 0.003500288 1.019 (1.012 - 1.026) |
| Weighted median | 3 0.02 (-0.043 - 0.082) | 0.03197553 1.02 (0.958 - 1.086) |
| Weighted mode | 3 0.02 (-0.048 - 0.088) | 0.034634653 1.021 (0.954 - 1.092) |
| Simple mode | 3 0.015 (-0.084 - 0.114) | 0.050493895 1.015 (0.92 - 1.121) |
| MR Egger | 3 0.026 (-0.058 - 0.109) | 0.042567569 1.026 (0.944 - 1.115) |
| IVW-mre | 3 0.018 (0.011 - 0.026) | 0.003808321 1.018 (1.011 - 1.026) |
| Weighted median | 3 0.018 (-0.028 - 0.065) | 0.023755438 1.019 (0.972 - 1.067) |
| Weighted mode | 3 0.02 (-0.028 - 0.068) | 0.024646352 1.02 (0.972 - 1.071) |
| Simple mode | 3 0.004 (-0.078 - 0.085) | 0.041462157 1.004 (0.925 - 1.089) |
| MR Egger | 3 0.023 (-0.057 - 0.103) | 0.040744134 1.024 (0.945 - 1.109) |
| IVW-mre | 3 0.018 (0.012 - 0.023) | 0.002926748 1.018 (1.012 - 1.024) |
| Weighted median | 3 0.018 (-0.028 - 0.064) | 0.023341293 1.018 (0.973 - 1.066) |
| Weighted mode | 3 0.019 (-0.025 - 0.063) | 0.022420008 1.019 (0.975 - 1.065) |
| Simple mode | 3 0.01 (-0.069 - 0.089) | 0.04029696 1.01 (0.934 - 1.093) |
| MR Egger | 3 0.023 (-0.056 - 0.103) | 0.040636442 1.024 (0.945 - 1.108) |
| IVW-mre | 3 0.018 (0.012 - 0.023) | 0.002936248 1.018 (1.012 - 1.024) |
| Weighted median | 3 0.018 (-0.027 - 0.063) | 0.023122879 1.018 (0.973 - 1.065) |
| Weighted mode | 3 0.019 (-0.027 - 0.065) | 0.02340915 1.019 (0.973 - 1.067) |
| Simple mode | 3 0.011 (-0.069 - 0.09) | 0.040408462 1.011 (0.934 - 1.094) |
| IVW-mre | 2 -0.144 (-0.186 - -0.102) | 0.021374886 0.866 (0.83 - 0.903) |
| IVW-mre | 2 0.287 (0.191 - 0.384) | 0.049303247 1.333 (1.21 - 1.468) |
| IVW-mre | 2 -0.091 (-0.145 - -0.038) | 0.027516484 0.913 (0.865 - 0.963) |
| MR Egger | 3 -0.046 (-0.296 - 0.204) | 0.127527452 0.955 (0.744 - 1.227) |
| IVW-mre | 3 -0.071 (-0.094 - -0.048) | 0.011606186 0.932 (0.911 - 0.953) |
| Weighted median | 3 -0.07 (-0.165 - 0.025) | 0.048464468 0.932 (0.848 - 1.025) |
| Weighted mode | 3 -0.068 (-0.168 - 0.033) | 0.051313381 0.845 (1.034 - 0.319) |
| Simple mode | 3 -0.058 (-0.207 - 0.09) | 0.07586317 0.813 (1.094 - 0.522) |
| IVW-mre | 2 0.095 (0.077 - 0.112) | 0.009083978 1.099 (1.08 - 1.119) |
| IVW-mre | 2 0.045 (0.021 - 0.068) | 0.012014472 1.046 (1.022 - 1.071) |
| IVW-mre | 2 -0.082 (-0.112 - -0.052) | 0.015201943 0.922 (0.894 - 0.949) |
| IVW-mre | 2 -0.082 (-0.113 - -0.052) | 0.015724918 0.921 (0.893 - 0.95) |
| IVW-mre | 2 -0.087 (-0.144 - -0.03) | 0.028963937 0.917 (0.866 - 0.97) |

| Pval | FDR | Cochrane Q | Q_pval | Egger_Intercept | Pleiotropy_pval |
|---|---|---|---|---|---|
| 4.20E-66 | 8.10E-64 | 0.002361637 | 0.961241 | NA | NA |
| 0.003749 | 0.042560119 | 0.139404592 | 0.708874 | NA | NA |
| 2.60E-03 | 3.07E-02 | 0.335593805 | 0.562384 | NA | NA |
| 0.00106 | 0.013063667 | 0.040536977 | 0.840434 | NA | NA |
| 1.21E-05 | 1.95E-04 | 0.083307125 | 0.772865 | NA | NA |
| 0.723016 | 1 | 0.009228643 | 0.923468 | NA | NA |
| 2.34E-53 | 2.71E-51 | 0.014806775 | 0.992624 | -0.009189377 | 0.952540957 |
| 0.188701 | 1 | NA | NA | NA | NA |
| 3.08E-01 | 1.00E+00 | NA | NA | NA | NA |
| 0.51409 | 1 | NA | NA | NA | NA |
| 5.73E-01 | 1.00E+00 | 0.008058771 | 0.928469 | NA | NA |
| 3.63E-33 | 2.1E-31 | 0.023810142 | 0.988166 | -0.006793561 | 0.920516958 |
| 2.09E-01 | 1.00E+00 | NA | NA | NA | NA |
| 0.336076 | 1 | NA | NA | NA | NA |
| 6.47E-01 | 1.00E+00 | NA | NA | NA | NA |
| 2.91E-29 | 1.53E-27 | 0.016881831 | 0.896622 | NA | NA |
| 1.44E-27 | 6.39E-26 | 0.00927602 | 0.923273 | NA | NA |
| 6.33E-21 | 2.44E-19 | 0.007988474 | 0.928781 | NA | NA |
| 9.51E-04 | 1.20E-02 | 0.284237905 | 0.593937 | NA | NA |
| 0.003877 | 0.043169353 | 0.265053936 | 0.606669 | NA | NA |
| 2.77E-166 | 8.03E-164 | 0.000237613 | 0.987701 | NA | NA |
| 0.567256 | 1 | 0.789198759 | 0.374343 | NA | NA |
| 9.35E-05 | 1.29E-03 | 0.893063576 | 0.639843 | -0.040947058 | 0.801520813 |
| 0.042767 | 1 | NA | NA | NA | NA |
| 1.24E-01 | 1.00E+00 | NA | NA | NA | NA |
| 0.387999 | 1 | NA | NA | NA | NA |
| 2.18E-20 | 7.89E-19 | 0.019334368 | 0.889412 | NA | NA |
| 1.02E-41 | 9.89E-40 | 0.009097388 | 0.924013 | NA | NA |
| 1.78E-10 | 5.14E-09 | 0.009854326 | 0.920925 | NA | NA |
| 3.31E-11 | 1.01E-09 | 0.009134391 | 0.923859 | NA | NA |
| 4.12E-05 | 6.11E-04 | 0.028023807 | 0.867053 | NA | NA |
| 0.004444 | 0.048544687 | 0.563829163 | 0.754338 | -0.039743653 | 0.591658282 |
| 8.94E-01 | 1.00E+00 | 0.006184738 | 0.937316 | NA | NA |
| 0.265523 | 1 | NA | NA | NA | NA |
| 5.09E-01 | 1.00E+00 | NA | NA | NA | NA |
| 0.555723 | 1 | NA | NA | NA | NA |
| 2.29E-05 | 3.59E-04 | 0.077921326 | 0.780134 | NA | NA |
| 2.43E-09 | 5.62E-08 | 0.022272472 | 0.881365 | NA | NA |
| 3.79E-06 | 6.27E-05 | 0.065942631 | 0.797339 | NA | NA |
| 0.70717 | 1 | 0.01558575 | 0.900648 | NA | NA |
| 1.86E-41 | 1.54E-39 | 0.016058139 | 0.992003 | -0.00127917 | 0.986165556 |
| 0.281229 | 1 | NA | NA | NA | NA |
| 4.55E-01 | 1.00E+00 | NA | NA | NA | NA |
| 0.439203 | 1 | NA | NA | NA | NA |
| 1.06E-63 | 1.53E-61 | 0.004249152 | 0.948026 | NA | NA |
| 3.57E-33 | 2.1E-31 | 0.011157176 | 0.915878 | NA | NA |
| 3.68E-01 | 1.00E+00 | 0.756361869 | 0.859874 | NA | NA |
| 2.42E-05 | 0.000368575 | 0.757713481 | 0.944026 | -0.000834565 | 0.972982503 |
| 1.08E-01 | 1.00E+00 | NA | NA | NA | NA |
| 0.243513 | 1 | NA | NA | NA | NA |
| 6.15E-01 | 1.00E+00 | NA | NA | NA | NA |
| 6.63E-07 | 0.000012 | 0.065255103 | 0.798375 | NA | NA |
| 2.33E-202 | 1.35E-199 | 0.001825684 | 0.965918 | NA | NA |
| 0.646589 | 1 | 0.140226559 | 0.932288 | NA | NA |
| 7.98E-05 | 1.13E-03 | 0.259915628 | 0.967382 | -0.039474748 | 0.762375528 |
| 0.369975 | 1 | NA | NA | NA | NA |

| | | | | | | |
|---|---|---|---|---|---|---|
| 6.16E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.577023 | 1 | NA | NA | NA | NA | |
| 3.22E-04 | 4.24E-03 | 0.175797214 | 0.67501 | NA | NA | |
| 6.46E-05 | 0.000935481 | 0.13572392 | 0.71257 | NA | NA | |
| 3.57E-06 | 6.07E-05 | NA | NA | NA | NA | |
| 4.19E-13 | 1.43E-11 | 0.155850354 | 0.693006 | NA | NA | |
| 6.29E-28 | 3.04E-26 | 0.003996199 | 0.949595 | NA | NA | |
| 0.821285 | 1 | 0.044058765 | 0.978211 | NA | NA | |
| 1.51E-38 | 1.09E-36 | 0.048153432 | 0.99723 | 0.00582159 | 0.954798779 | |
| 0.153794 | 1 | NA | NA | NA | NA | |
| 2.67E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.306059 | 1 | NA | NA | NA | NA | |
| 2.05E-03 | 2.48E-02 | 0.139272689 | 0.709005 | NA | NA | |
| 1.51E-08 | 0.000000324 | 0.028518413 | 0.865896 | NA | NA | |
| 3.10E-08 | 6.41E-07 | 0.029776111 | 0.862999 | NA | NA | |
| 0.669024 | 1 | 0.005711362 | 0.939758 | NA | NA | |
| 3.96E-10 | 1.09E-08 | 0.031215519 | 0.984513 | -0.005083331 | 0.899183021 | |
| 0.4126 | 1 | NA | NA | NA | NA | |
| 5.11E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.801227 | 1 | NA | NA | NA | NA | |
| 7.49E-01 | 1.00E+00 | 0.007542961 | 0.930791 | NA | NA | |
| 5.68E-08 | 0.00000113 | 0.023979451 | 0.988082 | -0.004435603 | 0.918825054 | |
| 5.38E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.615987 | 1 | NA | NA | NA | NA | |
| 7.90E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.655526 | 1 | 0.007621659 | 0.930431 | NA | NA | |
| 1.65E-06 | 2.90E-05 | 0.050882843 | 0.974879 | -0.006447061 | 0.869448758 | |
| 0.437341 | 1 | NA | NA | NA | NA | |
| 5.00E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.936143 | 1 | NA | NA | NA | NA | |
| 6.69E-01 | 1.00E+00 | 0.006061356 | 0.937944 | NA | NA | |
| 1.31E-09 | 3.31E-08 | 0.033096053 | 0.983588 | -0.005283068 | 0.896253774 | |
| 4.37E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.490128 | 1 | NA | NA | NA | NA | |
| 8.21E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.669333 | 1 | 0.006450126 | 0.935989 | NA | NA | |
| 1.72E-09 | 4.14E-08 | 0.033548987 | 0.983365 | -0.005294143 | 0.896132902 | |
| 0.434527 | 1 | NA | NA | NA | NA | |
| 5.08E-01 | 1.00E+00 | NA | NA | NA | NA | |
| 0.818165 | 1 | NA | NA | NA | NA | |
| 1.52E-11 | 4.89E-10 | 0.026605495 | 0.87043 | NA | NA | |
| 5.61E-09 | 0.000000125 | 0.146039089 | 0.70235 | NA | NA | |
| 8.84E-04 | 1.14E-02 | 0.139213537 | 0.709064 | NA | NA | |
| 0.780723 | 1 | 0.070421119 | 0.790725 | NA | NA | |
| 1.00E-09 | 2.64E-08 | 0.115808258 | 0.94374 | -0.017862037 | 0.866370664 | |
| 0.148582 | 1 | NA | NA | NA | NA | |
| 1.00E+00 | NA | NA | NA | NA | NA | |
| 1 | NA | NA | NA | NA | NA | |
| 2.14E-25 | 8.86E-24 | 0.010207288 | 0.919526 | NA | NA | |
| 0.000189 | 0.002543635 | 0.032053386 | 0.857911 | NA | NA | |
| 7.58E-08 | 1.46E-06 | 0.031500576 | 0.859128 | NA | NA | |
| 1.62E-07 | 0.00000303 | 0.033129742 | 0.85557 | NA | NA | |
| 2.72E-03 | 3.15E-02 | 0.168016974 | 0.68188 | NA | NA | |

**Supplementary Table 4**

| Id.exposure | Outcome | Exposure |
|---|---|---|
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001650 | IPF | HLA DR+ Natural Killer %CD3- lymphocyte |
| GCST90001648 | IPF | HLA DR+ Natural Killer Absolute Count |
| GCST90001585 | IPF | CD14+ CD16+ monocyte %monocyte |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absolute Count |
| GCST90001580 | IPF | CD14+ CD16+ monocyte Absolute Count |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell %Dendritic Cell |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural Killer |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural Killer |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001586 | IPF | CD14+ CD16- monocyte %monocyte |
| GCST90001587 | IPF | CD16+ monocyte %monocyte |
| GCST90002017 | IPF | CCR2 on monocyte |
| GCST90001944 | IPF | CD123 on plasmacytoid Dendritic Cell |
| GCST90001945 | IPF | CD123 on CD62L+ plasmacytoid Dendritic Cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90002037 | IPF | CD80 on plasmacytoid Dendritic Cell |
| GCST90002038 | IPF | CD80 on CD62L+ plasmacytoid Dendritic Cell |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90001527 | IPF | CD33dim HLA DR+ CD11b- Absolute Count |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B cell |
| GCST90002017 | IPF | CCR2 on monocyte |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell |
| GCST90001520 | IPF | CD33+ HLA DR+ CD14dim Absolute Count |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001436 | IPF | Memory B cell %lymphocyte |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ |
| GCST90001588 | IPF | T/B cell |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ CD14- |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ CD14dim |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid Dendritic Cell |
| GCST90001911 | IPF | CD45 on Natural Killer |
| GCST90001597 | IPF | CD8dim T cell %T cell |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid-Derived Suppressor Cells |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid Dendritic Cell |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001424 | IPF | IgD+ B cell %Lymphocyte |
| GCST90001597 | IPF | CD8dim T cell %T cell |
| GCST90001612 | IPF | CD8dim T cell %leukocyte |
| GCST90001867 | IPF | CD3 on CD4+ T cell |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001612 | IPF | CD8dim T cell %leukocyte |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |

| | | |
|---|---|---|
| GCST90001911 | IPF | CD45 on Natural Killer |
| GCST90001944 | IPF | CD123 on plasmacytoid Dendritic Cell |
| GCST90001547 | IPF | Terminally Differentiated CD4+ T cell %T cell |
| GCST90001945 | IPF | CD123 on CD62L+ plasmacytoid Dendritic Cell |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell |
| GCST90001554 | IPF | Effector Memory CD8+ T cell Absolute Count |
| GCST90001580 | IPF | CD14+ CD16+ monocyte Absolute Count |
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90002037 | IPF | CD80 on plasmacytoid Dendritic Cell |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural Killer |
| GCST90002038 | IPF | CD80 on CD62L+ plasmacytoid Dendritic Cell |
| GCST90001475 | IPF | HLA DR++ monocyte %monocyte |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001588 | IPF | T/B cell |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell %Dendritic Cell |
| GCST90001959 | IPF | CD4 on HLA DR+ CD4+ T cell |
| GCST90001475 | IPF | HLA DR++ monocyte %monocyte |
| GCST90001648 | IPF | HLA DR+ Natural Killer Absolute Count |
| GCST90001833 | IPF | CD62L on CD62L+ Dendritic Cell |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001650 | IPF | HLA DR+ Natural Killer  %CD3- lymphocyte |
| GCST90001833 | IPF | CD62L on CD62L+ Dendritic Cell |
| GCST90001959 | IPF | CD4 on HLA DR+ CD4+ T cell |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001585 | IPF | CD14+ CD16+ monocyte %monocyte |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absolute Count |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001520 | IPF | CD33+ HLA DR+ CD14dim Absolute Count |
| GCST90001424 | IPF | IgD+ B cell %Lymphocyte |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloid-Derived Suppressor Cells |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell |
| GCST90001614 | IPF | CD8+ and CD8dim T cell %leukocyte |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001614 | IPF | CD8+ and CD8dim T cell %leukocyte |
| GCST90001690 | IPF | CD28+ CD45RA+ CD8+ T cell Absolute Count |
| GCST90001554 | IPF | Effector Memory CD8+ T cell Absolute Count |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell |
| GCST90001587 | IPF | CD16+ monocyte %monocyte |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural Killer |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem Cell |
| GCST90001392 | IPF | IgD+ CD38+ B cell Absolute Count |
| GCST90001586 | IPF | CD14+ CD16- monocyte %monocyte |
| GCST90001867 | IPF | CD3 on CD4+ T cell |
| GCST90001392 | IPF | IgD+ CD38+ B cell Absolute Count |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001426 | IPF | IgD- CD38dim B cell %lymphocyte |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell |
| GCST90001965 | IPF | FSC-A on monocyte |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cell %Dendritic Cell |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001527 | IPF | CD33dim HLA DR+ CD11b- Absolute Count |
| GCST90001965 | IPF | FSC-A on monocyte |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B cell |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90001436 | IPF | Memory B cell %lymphocyte |

| | | |
|---|---|---|
| GCST90001558 | IPF | Terminally Differentiated CD8+ T cell %CD8+ T cell |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ monocyte |
| GCST90001690 | IPF | CD28+ CD45RA+ CD8+ T cell Absolute Count |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Natural Killer |
| GCST90001827 | IPF | IgD on IgD+ B cell |
| GCST90001547 | IPF | Terminally Differentiated CD4+ T cell %T cell |
| GCST90001596 | IPF | CD8dim T cell Absolute Count |
| GCST90001426 | IPF | IgD- CD38dim B cell %lymphocyte |

| Types | SNP | Samplesize.outcome | Samplesize.exposure |
|---|---|---|---|
| leukocyte count | rs71632979 | 24589 | 3410 |
| blood protein measurement | rs3865444 | 24589 | 1578 |
| blood protein measurement | rs3865444 | 24589 | 1579 |
| blood protein measurement | rs3865444 | 24589 | 1577 |
| blood protein measurement | rs71632979 | 24589 | 3617 |
| blood protein measurement | rs3865444 | 24589 | 1569 |
| leukocyte count | rs71632979 | 24589 | 3410 |
| leukocyte count | rs71632979 | 24589 | 3596 |
| leukocyte count | rs71632989 | 24589 | 3580 |
| monocyte count | rs71632979 | 24589 | 3629 |
| leukocyte count | rs71632989 | 24589 | 3596 |
| leukocyte count | rs71632979 | 24589 | 3387 |
| monocyte count | rs71632979 | 24589 | 3629 |
| leukocyte count | rs71632989 | 24589 | 3410 |
| blood protein measurement | rs71632979 | 24589 | 2971 |
| blood protein measurement | rs71632979 | 24589 | 2971 |
| blood protein measurement | rs7245846 | 24589 | 1244 |
| monocyte count | rs115383270 | 24589 | 3629 |
| monocyte count | rs115383270 | 24589 | 3629 |
| blood protein measurement | rs4683184 | 24589 | 2850 |
| blood protein measurement | rs7658518 | 24589 | 2872 |
| blood protein measurement | rs7658518 | 24589 | 2872 |
| blood protein measurement | rs139489968 | 24589 | 1634 |
| blood protein measurement | rs7658518 | 24589 | 2871 |
| blood protein measurement | rs7658518 | 24589 | 2871 |
| blood protein measurement | rs7351079 | 24589 | 1569 |
| myeloid white cell count | rs67760360 | 24589 | 1858 |
| blood protein measurement | rs41294937 | 24589 | 1835 |
| blood protein measurement | rs1801274 | 24589 | 2850 |
| blood protein measurement | rs62626323 | 24589 | 3656 |
| myeloid white cell count | rs3865444 | 24589 | 1858 |
| blood protein measurement | rs7351079 | 24589 | 1578 |
| lymphocyte count | rs12874404 | 24589 | 3656 |
| blood protein measurement | rs7351079 | 24589 | 1579 |
| lymphocyte count | rs6707421 | 24589 | 3427 |
| blood protein measurement | rs78949787 | 24589 | 1579 |
| leukocyte count | rs12874404 | 24589 | 3653 |
| blood protein measurement | rs78949787 | 24589 | 1578 |
| leukocyte count | rs71639910 | 24589 | 3410 |
| blood protein measurement | rs78949787 | 24589 | 1577 |
| blood protein measurement | rs7351079 | 24589 | 1577 |
| leukocyte count | rs7180804 | 24589 | 3596 |
| blood protein measurement | rs35587265 | 24589 | 2870 |
| blood protein measurement | rs6721978 | 24589 | 3113 |
| leukocyte count | rs139249541 | 24589 | 3668 |
| blood protein measurement | rs71639910 | 24589 | 3617 |
| blood protein measurement | rs62114147 | 24589 | 1569 |
| blood protein measurement | rs6687275 | 24589 | 2870 |
| blood protein measurement | rs4406271 | 24589 | 1634 |
| lymphocyte count | rs12874404 | 24589 | 3657 |
| leukocyte count | rs79086781 | 24589 | 3668 |
| leukocyte count | rs139249541 | 24589 | 3668 |
| blood protein measurement | rs4657649 | 24589 | 2919 |
| leukocyte count | rs71639910 | 24589 | 3410 |
| leukocyte count | rs79086781 | 24589 | 3668 |
| leukocyte count | rs139249541 | 24589 | 3652 |

| | | | |
|---|---|---|---|
| blood protein measurement | rs183053322 | 24589 | 3113 |
| blood protein measurement | rs62447171 | 24589 | 2872 |
| lymphocyte count | rs62400929 | 24589 | 3427 |
| blood protein measurement | rs62447171 | 24589 | 2872 |
| blood protein measurement | rs30003 | 24589 | 3645 |
| leukocyte count | rs79251210 | 24589 | 3652 |
| leukocyte count | rs139249541 | 24589 | 3668 |
| lymphocyte count | rs17583875 | 24589 | 3395 |
| monocyte count | rs71639910 | 24589 | 3629 |
| lymphocyte count | rs79827501 | 24589 | 3427 |
| blood protein measurement | rs62447171 | 24589 | 2871 |
| blood protein measurement | rs569911 | 24589 | 2971 |
| blood protein measurement | rs62447171 | 24589 | 2871 |
| leukocyte count | rs9296042 | 24589 | 3595 |
| blood protein measurement | rs7351079 | 24589 | 1244 |
| leukocyte count | rs9892810 | 24589 | 3653 |
| leukocyte count | rs876036 | 24589 | 3410 |
| blood protein measurement | rs4371876 | 24589 | 3060 |
| leukocyte count | rs62395272 | 24589 | 3595 |
| leukocyte count | rs71639910 | 24589 | 3580 |
| blood protein measurement | rs3917768 | 24589 | 2871 |
| blood protein measurement | rs12554596 | 24589 | 3645 |
| leukocyte count | rs569911 | 24589 | 3596 |
| blood protein measurement | rs7526645 | 24589 | 2871 |
| blood protein measurement | rs9357097 | 24589 | 3060 |
| leukocyte count | rs139249541 | 24589 | 3668 |
| monocyte count | rs71639910 | 24589 | 3629 |
| leukocyte count | rs569911 | 24589 | 3387 |
| blood protein measurement | rs2070770 | 24589 | 3645 |
| myeloid white cell count | rs74253876 | 24589 | 1858 |
| lymphocyte count | rs11657531 | 24589 | 3657 |
| leukocyte count | rs9916257 | 24589 | 3596 |
| blood protein measurement | rs78949787 | 24589 | 1244 |
| blood protein measurement | rs3793662 | 24589 | 3656 |
| leukocyte count | rs11080350 | 24589 | 3668 |
| blood protein measurement | rs586030 | 24589 | 1634 |
| leukocyte count | rs73402222 | 24589 | 3668 |
| lymphocyte count | rs3131627 | 24589 | 3408 |
| lymphocyte count | rs3130685 | 24589 | 3395 |
| blood protein measurement | rs2066399 | 24589 | 3645 |
| monocyte count | rs74975395 | 24589 | 3629 |
| blood protein measurement | rs569911 | 24589 | 2971 |
| blood protein measurement | rs36102158 | 24589 | 1634 |
| lymphocyte count | rs80330977 | 24589 | 3656 |
| monocyte count | rs74975395 | 24589 | 3629 |
| blood protein measurement | rs41289614 | 24589 | 2919 |
| lymphocyte count | rs139260757 | 24589 | 3656 |
| leukocyte count | rs78600824 | 24589 | 3410 |
| lymphocyte count | rs7840395 | 24589 | 3656 |
| leukocyte count | rs79251210 | 24589 | 3668 |
| blood protein measurement | rs77762937 | 24589 | 2850 |
| leukocyte count | rs115624142 | 24589 | 3410 |
| leukocyte count | rs569911 | 24589 | 3596 |
| myeloid white cell count | rs185048341 | 24589 | 1858 |
| blood protein measurement | rs1800973 | 24589 | 2850 |
| blood protein measurement | rs2275848 | 24589 | 1835 |
| leukocyte count | rs79251210 | 24589 | 3668 |
| lymphocyte count | rs11653761 | 24589 | 3656 |

| | | | |
|---|---|---|---|
| lymphocyte count | rs13023673 | 24589 | 3427 |
| leukocyte count | rs9896155 | 24589 | 3668 |
| blood protein measurement | rs147678401 | 24589 | 3617 |
| lymphocyte count | rs12901644 | 24589 | 3408 |
| leukocyte count | rs865239 | 24589 | 3596 |
| blood protein measurement | rs28669075 | 24589 | 3657 |
| lymphocyte count | rs9501107 | 24589 | 3427 |
| leukocyte count | rs9916629 | 24589 | 3652 |
| lymphocyte count | rs11687597 | 24589 | 3656 |

| Steiger_dir | Steiger_pval | Steiger_FDR |
|---|---|---|
| TRUE | 1.12E-202 | 1.38E-200 |
| TRUE | 2.36E-191 | 1.45E-189 |
| TRUE | 1.05E-189 | 4.30E-188 |
| TRUE | 5.73E-186 | 1.76E-184 |
| TRUE | 4.47E-184 | 1.10E-182 |
| TRUE | 4.05E-153 | 8.31E-152 |
| TRUE | 1.37E-145 | 2.41E-144 |
| TRUE | 8.14E-123 | 1.25E-121 |
| TRUE | 3.65E-118 | 4.99E-117 |
| TRUE | 3.76E-116 | 4.62E-115 |
| TRUE | 2.09E-107 | 2.34E-106 |
| TRUE | 2.29E-97 | 2.35E-96 |
| TRUE | 2.82E-97 | 2.67E-96 |
| TRUE | 1.43E-78 | 1.26E-77 |
| TRUE | 1.16E-64 | 9.51E-64 |
| TRUE | 6.59E-60 | 5.06E-59 |
| TRUE | 5.91E-57 | 4.28E-56 |
| TRUE | 2.43E-56 | 1.66E-55 |
| TRUE | 1.71E-54 | 1.11E-53 |
| TRUE | 7.08E-24 | 4.36E-23 |
| TRUE | 8.96E-20 | 5.25E-19 |
| TRUE | 2.51E-19 | 1.40E-18 |
| TRUE | 1.16E-18 | 6.18E-18 |
| TRUE | 1.54E-17 | 7.88E-17 |
| TRUE | 3.84E-17 | 1.89E-16 |
| TRUE | 6.67E-17 | 3.15E-16 |
| TRUE | 6.90E-17 | 3.15E-16 |
| TRUE | 1.57E-16 | 6.91E-16 |
| TRUE | 3.65E-16 | 1.55E-15 |
| TRUE | 5.38E-15 | 2.21E-14 |
| TRUE | 5.66E-15 | 2.25E-14 |
| TRUE | 6.46E-15 | 2.48E-14 |
| TRUE | 6.77E-15 | 2.52E-14 |
| TRUE | 1.47E-14 | 5.30E-14 |
| TRUE | 2.26E-14 | 7.93E-14 |
| TRUE | 2.38E-14 | 7.94E-14 |
| TRUE | 2.39E-14 | 7.94E-14 |
| TRUE | 2.73E-14 | 8.85E-14 |
| TRUE | 2.81E-14 | 8.85E-14 |
| TRUE | 9.41E-14 | 2.89E-13 |
| TRUE | 1.23E-13 | 3.70E-13 |
| TRUE | 2.85E-13 | 8.34E-13 |
| TRUE | 3.26E-13 | 9.31E-13 |
| TRUE | 3.71E-13 | 1.04E-12 |
| TRUE | 4.60E-13 | 1.26E-12 |
| TRUE | 1.21E-12 | 3.24E-12 |
| TRUE | 1.14E-11 | 2.97E-11 |
| TRUE | 1.16E-11 | 2.97E-11 |
| TRUE | 1.88E-11 | 4.71E-11 |
| TRUE | 2.05E-11 | 5.05E-11 |
| TRUE | 3.22E-11 | 7.76E-11 |
| TRUE | 4.47E-11 | 1.06E-10 |
| TRUE | 5.35E-11 | 1.24E-10 |
| TRUE | 1.34E-10 | 3.06E-10 |
| TRUE | 2.77E-10 | 6.19E-10 |
| TRUE | 4.29E-10 | 9.41E-10 |

| | | |
|---|---|---|
| TRUE | 6.66E-10 | 1.44E-09 |
| TRUE | 1.04E-09 | 2.20E-09 |
| TRUE | 1.07E-09 | 2.23E-09 |
| TRUE | 1.19E-09 | 2.45E-09 |
| TRUE | 1.22E-09 | 2.46E-09 |
| TRUE | 3.24E-09 | 6.43E-09 |
| TRUE | 3.47E-09 | 6.69E-09 |
| TRUE | 3.48E-09 | 6.69E-09 |
| TRUE | 4.46E-09 | 8.44E-09 |
| TRUE | 4.79E-09 | 8.93E-09 |
| TRUE | 5.11E-09 | 9.39E-09 |
| TRUE | 5.45E-09 | 9.76E-09 |
| TRUE | 5.47E-09 | 9.76E-09 |
| TRUE | 6.79E-09 | 1.19E-08 |
| TRUE | 1.18E-08 | 2.04E-08 |
| TRUE | 1.24E-08 | 2.13E-08 |
| TRUE | 1.29E-08 | 2.15E-08 |
| TRUE | 1.29E-08 | 2.15E-08 |
| TRUE | 1.48E-08 | 2.43E-08 |
| TRUE | 1.79E-08 | 2.90E-08 |
| TRUE | 2.22E-08 | 3.55E-08 |
| TRUE | 2.31E-08 | 3.65E-08 |
| TRUE | 3.54E-08 | 5.51E-08 |
| TRUE | 4.05E-08 | 6.22E-08 |
| TRUE | 5.50E-08 | 8.36E-08 |
| TRUE | 5.97E-08 | 8.96E-08 |
| TRUE | 6.10E-08 | 9.03E-08 |
| TRUE | 6.24E-08 | 9.14E-08 |
| TRUE | 6.56E-08 | 9.49E-08 |
| TRUE | 6.72E-08 | 9.61E-08 |
| TRUE | 6.96E-08 | 9.84E-08 |
| TRUE | 7.24E-08 | 1.01E-07 |
| TRUE | 7.29E-08 | 1.01E-07 |
| TRUE | 7.67E-08 | 1.05E-07 |
| TRUE | 7.83E-08 | 1.06E-07 |
| TRUE | 1.21E-07 | 1.62E-07 |
| TRUE | 1.27E-07 | 1.68E-07 |
| TRUE | 1.36E-07 | 1.78E-07 |
| TRUE | 1.53E-07 | 1.99E-07 |
| TRUE | 1.96E-07 | 2.51E-07 |
| TRUE | 2.01E-07 | 2.52E-07 |
| TRUE | 2.02E-07 | 2.52E-07 |
| TRUE | 2.03E-07 | 2.52E-07 |
| TRUE | 2.24E-07 | 2.75E-07 |
| TRUE | 2.39E-07 | 2.91E-07 |
| TRUE | 2.93E-07 | 3.53E-07 |
| TRUE | 3.24E-07 | 3.87E-07 |
| TRUE | 3.32E-07 | 3.92E-07 |
| TRUE | 3.39E-07 | 3.97E-07 |
| TRUE | 3.71E-07 | 4.30E-07 |
| TRUE | 3.86E-07 | 4.44E-07 |
| TRUE | 4.37E-07 | 4.98E-07 |
| TRUE | 4.42E-07 | 4.99E-07 |
| TRUE | 6.20E-07 | 6.93E-07 |
| TRUE | 6.76E-07 | 7.49E-07 |
| TRUE | 7.77E-07 | 8.48E-07 |
| TRUE | 7.79E-07 | 8.48E-07 |
| TRUE | 7.95E-07 | 8.58E-07 |

| | | |
|---|---|---|
| TRUE | 8.25E-07 | 8.82E-07 |
| TRUE | 8.77E-07 | 9.30E-07 |
| TRUE | 1.14E-06 | 1.20E-06 |
| TRUE | 1.19E-06 | 1.24E-06 |
| TRUE | 1.54E-06 | 1.59E-06 |
| TRUE | 1.66E-06 | 1.70E-06 |
| TRUE | 2.19E-06 | 2.23E-06 |
| TRUE | 2.64E-06 | 2.67E-06 |
| TRUE | 6.97E-06 | 6.97E-06 |

**Supplementary Table 5**

| Exposure | Id.exposure | Types | Outcome |
|---|---|---|---|
| SSC-A on Natural Killer | GCST90002076 | blood protein measurement | IPF |
| FSC-A on Natural Killer | GCST90001969 | blood protein measurement | IPF |
| FSC-A on Natural Killer | GCST90001969 | blood protein measurement | IPF |
| FSC-A on Natural Killer | GCST90001969 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD20 on IgD+ CD38dim B cell | GCST90001752 | blood protein measurement | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |

| | | | |
|---|---|---|---|
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
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| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell Ab | GCST90001698 | lymphocyte count | IPF |
| Naive CD8+ T cell %T cell | GCST90001553 | lymphocyte count | IPF |
| Naive CD8+ T cell %T cell | GCST90001553 | lymphocyte count | IPF |
| Naive CD8+ T cell %T cell | GCST90001553 | lymphocyte count | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA+ CD8+ | GCST90002119 | blood protein measurement | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| IgD on transitional B cell | GCST90001828 | blood protein measurement | IPF |
| SSC-A on Natural Killer T | GCST90002084 | blood protein measurement | IPF |
| SSC-A on Natural Killer T | GCST90002084 | blood protein measurement | IPF |
| CD19 on CD20- CD38- B cell | GCST90001722 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD20 on switched memory B cell | GCST90001761 | blood protein measurement | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %T | GCST90001700 | lymphocyte count | IPF |

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|---|---|---|---|
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell % | GCST90001700 | lymphocyte count | IPF |
| CD3- lymphocyte %lymphocyte | GCST90001640 | leukocyte count | IPF |
| CD3- lymphocyte %lymphocyte | GCST90001640 | leukocyte count | IPF |
| Natural Killer %lymphocyte | GCST90001647 | leukocyte count | IPF |
| Natural Killer %lymphocyte | GCST90001647 | leukocyte count | IPF |
| Natural Killer %lymphocyte | GCST90001647 | leukocyte count | IPF |
| T cell %lymphocyte | GCST90001604 | leukocyte count | IPF |
| T cell %lymphocyte | GCST90001604 | leukocyte count | IPF |
| Naive CD8+ T cell %CD8+ T cell | GCST90001552 | lymphocyte count | IPF |
| CD4 on CD4+ T cell | GCST90002022 | blood protein measurement | IPF |

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|---|---|---|---|
| CD4 on CD4+ T cell | GCST90002022 | blood protein measurement | IPF |
| CD39+ CD4+ T cell Absolute Cou | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Cou | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Cou | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Cou | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Cou | GCST90001660 | lymphocyte count | IPF |
| CD39+ CD4+ T cell Absolute Cou | GCST90001660 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001497 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001497 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001489 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001491 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001491 | lymphocyte count | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| CD4 on CD39+ CD4+ T cell | GCST90002061 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- naive B c | GCST90001706 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- B cell | GCST90001705 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38dim B cell | GCST90001709 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |

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| BAFF-R on IgD+ B cell | GCST90001719 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24- B cell | GCST90001704 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on naive-mature B cell | GCST90001716 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on B cell | GCST90001829 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on transitional B cell | GCST90001720 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38+ B cell | GCST90001708 | blood protein measurement | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| HLA DR+ T cell%T cell | GCST90001619 | leukocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001496 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |

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| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |
| CD39+ secreting CD4 regulatory T | GCST90001495 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %T cell | GCST90001658 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD39+ activated CD4 regulatory T | GCST90001490 | lymphocyte count | IPF |
| CD4 on CD39+ secreting CD4 reg | GCST90002069 | blood protein measurement | IPF |
| CD4 on CD39+ secreting CD4 reg | GCST90002069 | blood protein measurement | IPF |
| CD4 on CD39+ secreting CD4 reg | GCST90002069 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 reg | GCST90001854 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 reg | GCST90001854 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 reg | GCST90001854 | blood protein measurement | IPF |
| CD3 on CD39+ activated CD4 reg | GCST90001854 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ CD4+ T cell | GCST90002032 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 re | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 re | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 re | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 re | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 re | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ activated CD4 re | GCST90002030 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 re | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 re | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 re | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 re | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ secreting CD4 re | GCST90002031 | blood protein measurement | IPF |
| CD39 on CD39+ CD8+ T cell | GCST90002029 | blood protein measurement | IPF |
| CD39 on CD39+ CD8+ T cell | GCST90002029 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD28 on CD39+ CD4+ T cell | GCST90001892 | blood protein measurement | IPF |
| CD39+ CD4+ T cell %CD4+ T ce | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T ce | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T ce | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T ce | GCST90001659 | lymphocyte count | IPF |
| CD39+ CD4+ T cell %CD4+ T ce | GCST90001659 | lymphocyte count | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD40 on monocytes | GCST90001985 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- unswitched | GCST90001782 | blood protein measurement | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001508 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001508 | lymphocyte count | IPF |

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|---|---|---|---|
| CD25++ CD45RA+ CD4 not regu | GCST90001508 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001508 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001509 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001509 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001509 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001509 | lymphocyte count | IPF |
| CD25 on CD45RA+ CD4 not regu | GCST90001934 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer | GCST90001884 | blood protein measurement | IPF |
| CD45 on CD33- HLA DR- | GCST90002045 | blood protein measurement | IPF |
| CD45 on CD33- HLA DR- | GCST90002045 | blood protein measurement | IPF |
| CD4+CD8+ T cell Absolute Count | GCST90001594 | leukocyte count | IPF |
| CD4+CD8+ T cell Absolute Count | GCST90001594 | leukocyte count | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD27 on IgD- CD38- B cell | GCST90001802 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| CD64 on CD14+ CD16+ monocyt | GCST90002011 | blood protein measurement | IPF |
| HLA DR on HLA DR+ CD4+ T c | GCST90002114 | blood protein measurement | IPF |
| HLA DR on HLA DR+ T cell | GCST90002113 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002110 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002110 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002110 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002111 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002111 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002111 | blood protein measurement | IPF |
| HLA DR on CD33dim HLA DR+ | GCST90002111 | blood protein measurement | IPF |
| CD8+ and CD8dim T cell %leuko | GCST90001614 | leukocyte count | IPF |
| CD8+ and CD8dim T cell %leuko | GCST90001614 | leukocyte count | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on memory B cell | GCST90001805 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |

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| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on CD24+ CD27+ B cell | GCST90001798 | blood protein measurement | IPF |
| CD27 on unswitched memory B ce | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B ce | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B ce | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B ce | GCST90001806 | blood protein measurement | IPF |
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| CD27 on unswitched memory B ce | GCST90001806 | blood protein measurement | IPF |
| CD27 on unswitched memory B ce | GCST90001806 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
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| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on switched memory B cell | GCST90001808 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD27 on IgD- CD38dim B cell | GCST90001804 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14dim %CL | GCST90001521 | myeloid white cell count | IPF |
| CD45RA- CD4+ T cell %CD4+ T | GCST90001535 | lymphocyte count | IPF |
| CD45RA- CD4+ T cell %CD4+ T | GCST90001535 | lymphocyte count | IPF |
| CD45RA- CD4+ T cell %CD4+ T | GCST90001535 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001507 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001507 | lymphocyte count | IPF |
| CD25++ CD45RA+ CD4 not regu | GCST90001507 | lymphocyte count | IPF |
| CD45RA on resting CD4 regulator | GCST90002102 | blood protein measurement | IPF |
| CD45RA on resting CD4 regulator | GCST90002102 | blood protein measurement | IPF |
| CD45RA on resting CD4 regulator | GCST90002102 | blood protein measurement | IPF |
| CD45RA on resting CD4 regulator | GCST90002102 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD20 on CD24+ CD27+ B cell | GCST90001745 | blood protein measurement | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |

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| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
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| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
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| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell % | GCST90001688 | lymphocyte count | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| CD8 on CD39+ CD8+ T cell | GCST90002121 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| SSC-A on monocyte | GCST90002073 | blood protein measurement | IPF |
| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |

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| CD45RA- CD28- CD8+ T cell %T | GCST90001697 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Ab:GCST90001695 | | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
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| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell Ab | GCST90001695 | lymphocyte count | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD40 on CD14- CD16+ monocyte | GCST90001989 | blood protein measurement | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001484 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %T cell | GCST90001670 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ CD8+ T cell Absolute Cou | GCST90001672 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |

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| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001485 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ resting CD4 regulatory T c | GCST90001483 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD39+ CD8+ T cell %CD8+ T ce | GCST90001671 | lymphocyte count | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD4 on naive CD4+ T cell | GCST90002024 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on basophil | GCST90001954 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Deriv | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Deriv | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Deriv | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Deriv | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Deriv | GCST90001955 | blood protein measurement | IPF |
| CD33 on Immature Myeloid-Deriv | GCST90001955 | blood protein measurement | IPF |
| CD45 on Immature Myeloid-Deriv | GCST90002052 | blood protein measurement | IPF |
| CD45 on Immature Myeloid-Deriv | GCST90002052 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD3 on naive CD8+ T cell | GCST90001838 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |

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| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD20 on IgD- CD38dim B cell | GCST90001757 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| CD25 on CD39+ CD4+ T cell | GCST90001961 | blood protein measurement | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001570 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001570 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001569 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001569 | lymphocyte count | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| HLA DR on B cell | GCST90002116 | blood protein measurement | IPF |
| Terminally Differentiated CD4-CI | GCST90001574 | lymphocyte count | IPF |
| Terminally Differentiated CD4-CI | GCST90001574 | lymphocyte count | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD16-CD56 on Natural Killer T | GCST90001883 | blood protein measurement | IPF |
| CD20 on unswitched memory B ce | GCST90001760 | blood protein measurement | IPF |
| CD20 on unswitched memory B ce | GCST90001760 | blood protein measurement | IPF |
| CD20 on unswitched memory B ce | GCST90001760 | blood protein measurement | IPF |
| CD20 on unswitched memory B ce | GCST90001760 | blood protein measurement | IPF |
| CD19 on IgD+ CD38dim B cell | GCST90001730 | blood protein measurement | IPF |
| CD19 on IgD+ CD38dim B cell | GCST90001730 | blood protein measurement | IPF |
| CD19 on IgD+ CD38dim B cell | GCST90001730 | blood protein measurement | IPF |
| CD19 on IgD- CD38dim B cell | GCST90001735 | blood protein measurement | IPF |
| CD19 on IgD- CD38dim B cell | GCST90001735 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| IgD on IgD+ CD24+ B cell | GCST90001820 | blood protein measurement | IPF |
| CD62L- monocyte Absolute Count | GCST90001450 | leukocyte count | IPF |
| CD62L- monocyte Absolute Count | GCST90001450 | leukocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001503 | lymphocyte count | IPF |
| CD28 on CD28+ CD45RA+ CD8+ | GCST90001896 | blood protein measurement | IPF |
| CD28 on CD28+ CD45RA+ CD8+ | GCST90001896 | blood protein measurement | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |

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| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001666 | lymphocyte count | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on CD14+ CD16- monocyte | GCST90001987 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD64 on monocyte | GCST90002006 | blood protein measurement | IPF |
| CD25 on CD39+ secreting CD4 re | GCST90001942 | blood protein measurement | IPF |
| CD25 on activated & secreting CD | GCST90001943 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| SSC-A on myeloid Dendritic Cell | GCST90002071 | blood protein measurement | IPF |
| Terminally Differentiated CD4+ T | GCST90001547 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T | GCST90001547 | lymphocyte count | IPF |
| Naive CD4+ T cell %CD4+ T cell | GCST90001541 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T | GCST90001546 | lymphocyte count | IPF |
| SSC-A on CD4+ T cell | GCST90002081 | blood protein measurement | IPF |
| IgD+ CD38- B cell %B cell | GCST90001395 | lymphocyte count | IPF |
| Central Memory CD8+ T cell Abs | GCST90001548 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell A | GCST90001486 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell A | GCST90001486 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001571 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001571 | lymphocyte count | IPF |
| Effector Memory CD4-CD8- T cel | GCST90001571 | lymphocyte count | IPF |
| BAFF-R on CD20- B cell | GCST90001830 | blood protein measurement | IPF |
| CD19 on IgD+ CD38+ B cell | GCST90001729 | blood protein measurement | IPF |
| CD19 on IgD+ CD38+ B cell | GCST90001729 | blood protein measurement | IPF |
| CD19 on IgD+ CD38+ B cell | GCST90001729 | blood protein measurement | IPF |
| CD19 on IgD+ B cell | GCST90001741 | blood protein measurement | IPF |
| CD19 on IgD+ B cell | GCST90001741 | blood protein measurement | IPF |
| CD19 on transitional B cell | GCST90001742 | blood protein measurement | IPF |
| CD19 on transitional B cell | GCST90001742 | blood protein measurement | IPF |
| CD19 on transitional B cell | GCST90001742 | blood protein measurement | IPF |
| CD19 on IgD+ CD38- unswitched | GCST90001728 | blood protein measurement | IPF |
| CD19 on IgD+ CD38- unswitched | GCST90001728 | blood protein measurement | IPF |
| CD19 on IgD+ CD38- unswitched | GCST90001728 | blood protein measurement | IPF |
| CD19 on IgD+ CD24- B cell | GCST90001725 | blood protein measurement | IPF |
| CD19 on IgD+ CD24- B cell | GCST90001725 | blood protein measurement | IPF |
| CD19 on IgD+ CD24- B cell | GCST90001725 | blood protein measurement | IPF |
| CD19 on unswitched memory B ce | GCST90001738 | blood protein measurement | IPF |
| CD19 on unswitched memory B ce | GCST90001738 | blood protein measurement | IPF |
| CD19 on unswitched memory B ce | GCST90001738 | blood protein measurement | IPF |
| CD19 on IgD+ CD24+ B cell | GCST90001724 | blood protein measurement | IPF |

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| CD19 on IgD+ CD24+ B cell | GCST90001724 | blood protein measurement | IPF |
| CD19 on IgD+ CD24+ B cell | GCST90001724 | blood protein measurement | IPF |
| Immature Myeloid-Derived Suppr | GCST90001516 | myeloid white cell count | IPF |
| Immature Myeloid-Derived Suppr | GCST90001516 | myeloid white cell count | IPF |
| HLA DR on CD33- HLA DR+ | GCST90002112 | blood protein measurement | IPF |
| HLA DR on CD33- HLA DR+ | GCST90002112 | blood protein measurement | IPF |
| HLA DR on CD33- HLA DR+ | GCST90002112 | blood protein measurement | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| CD45RA- CD28- CD8+ T cell %C | GCST90001696 | lymphocyte count | IPF |
| Basophil Absolute Count | GCST90001532 | myeloid white cell count | IPF |
| Basophil Absolute Count | GCST90001532 | myeloid white cell count | IPF |
| Basophil Absolute Count | GCST90001532 | myeloid white cell count | IPF |
| CD33dim HLA DR- Absolute Cou | GCST90001531 | myeloid white cell count | IPF |
| CD33dim HLA DR- Absolute Cou | GCST90001531 | myeloid white cell count | IPF |
| CD3 on secreting CD4 regulatory ´ | GCST90001855 | blood protein measurement | IPF |
| CD3 on secreting CD4 regulatory ´ | GCST90001855 | blood protein measurement | IPF |
| CD3 on secreting CD4 regulatory ´ | GCST90001855 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated & secreting CD4 | GCST90001857 | blood protein measurement | IPF |
| CD3 on activated CD4 regulatory ´ | GCST90001853 | blood protein measurement | IPF |
| CD3 on activated CD4 regulatory ´ | GCST90001853 | blood protein measurement | IPF |
| CD3 on activated CD4 regulatory ´ | GCST90001853 | blood protein measurement | IPF |
| CD3 on activated CD4 regulatory ´ | GCST90001853 | blood protein measurement | IPF |
| CD3 on CD4 regulatory T cell | GCST90001868 | blood protein measurement | IPF |
| CD3 on CD4 regulatory T cell | GCST90001868 | blood protein measurement | IPF |
| CD3 on CD4 regulatory T cell | GCST90001868 | blood protein measurement | IPF |
| CD45RA+ CD8+ T cell Absolute ( | GCST90001560 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell Absolute ( | GCST90001560 | lymphocyte count | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD38dim B cell | GCST90001813 | blood protein measurement | IPF |
| CD38 on IgD+ CD24- B cell | GCST90001811 | blood protein measurement | IPF |
| CD38 on IgD+ CD24- B cell | GCST90001811 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on transitional B cell | GCST90001819 | blood protein measurement | IPF |
| CD38 on naive-mature B cell | GCST90001816 | blood protein measurement | IPF |
| CD38 on naive-mature B cell | GCST90001816 | blood protein measurement | IPF |
| CD38 on naive-mature B cell | GCST90001816 | blood protein measurement | IPF |
| CD38 on IgD- CD38dim B cell | GCST90001815 | blood protein measurement | IPF |
| CD38 on IgD- CD38dim B cell | GCST90001815 | blood protein measurement | IPF |
| CD38 on IgD- CD38dim B cell | GCST90001815 | blood protein measurement | IPF |
| CCR2 on CD14+ CD16+ monocyt | GCST90001992 | blood protein measurement | IPF |
| CCR2 on CD14+ CD16+ monocyt | GCST90001992 | blood protein measurement | IPF |
| CD16+ monocyte %monocyte | GCST90001587 | monocyte count | IPF |
| CD16+ monocyte %monocyte | GCST90001587 | monocyte count | IPF |

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| CD14- CD16+ monocyte Absolute | GCST90001579 | monocyte count | IPF |
| CD64 on CD14- CD16+ monocyte | GCST90001990 | blood protein measurement | IPF |
| CD64 on CD14- CD16+ monocyte | GCST90001990 | blood protein measurement | IPF |
| CD14+ CD16- monocyte %monoc | GCST90001586 | monocyte count | IPF |
| CD14+ CD16- monocyte %monoc | GCST90001586 | monocyte count | IPF |
| CD14- CD16+ monocyte %monoc | GCST90001584 | monocyte count | IPF |
| CD14- CD16+ monocyte %monoc | GCST90001584 | monocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %T cell | GCST90001634 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymph | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymph | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymph | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymph | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymph | GCST90001635 | leukocyte count | IPF |
| CD8dim Natural Killer T %lymph | GCST90001635 | leukocyte count | IPF |
| CD25 on IgD- CD24- B cell | GCST90001785 | blood protein measurement | IPF |
| CD25 on IgD- CD24- B cell | GCST90001785 | blood protein measurement | IPF |
| CD4-CD8- Natural Killer T %lym | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lym | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lym | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lym | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %lym | GCST90001638 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T ce | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T ce | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T ce | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T ce | GCST90001637 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T %T ce | GCST90001637 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| Natural Killer T %lymphocyte | GCST90001623 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absol | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absol | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absol | GCST90001636 | leukocyte count | IPF |
| CD4-CD8- Natural Killer T Absol | GCST90001636 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| Natural Killer T %T cell | GCST90001622 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute | GCST90001633 | leukocyte count | IPF |
| CD8dim Natural Killer T Absolute | GCST90001633 | leukocyte count | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| SSC-A on CD14+ monocyte | GCST90002074 | blood protein measurement | IPF |
| CD86+ myeloid Dendritic Cell %I | GCST90001465 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell %I | GCST90001465 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell %I | GCST90001465 | leukocyte count | IPF |

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| CD86+ myeloid Dendritic Cell %I | GCST90001465 | leukocyte count | IPF |
| CD127 on CD45RA+ CD4+ T cell | GCST90001932 | blood protein measurement | IPF |
| CD127 on CD45RA+ CD4+ T cell | GCST90001932 | blood protein measurement | IPF |
| CD127 on CD45RA+ CD4+ T cell | GCST90001932 | blood protein measurement | IPF |
| SSC-A on T cell | GCST90002080 | blood protein measurement | IPF |
| Secreting CD4 regulatory T cell % | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001494 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001494 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001482 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001482 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001482 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001482 | lymphocyte count | IPF |
| CD4RA on Terminally Differentia | GCST90002099 | blood protein measurement | IPF |
| CD4RA on Terminally Differentia | GCST90002099 | blood protein measurement | IPF |
| Secreting CD4 regulatory T cell % | GCST90001493 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001493 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001493 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell % | GCST90001493 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %( | GCST90001692 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %( | GCST90001692 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell ' | GCST90001668 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001500 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001500 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001500 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001501 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001501 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001501 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & secreting CD4 regulat | GCST90001502 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001499 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001499 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001499 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001499 | lymphocyte count | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| CD45RA on naive CD4+ T cell | GCST90002098 | blood protein measurement | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell %C | GCST90001481 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regul | GCST90001512 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regul | GCST90001512 | lymphocyte count | IPF |

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| CD28+ CD45RA- CD8dim T cell , | GCST90001669 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell , | GCST90001669 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell A | GCST90001492 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell A | GCST90001492 | lymphocyte count | IPF |
| Secreting CD4 regulatory T cell A | GCST90001492 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell ' | GCST90001667 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8dim T cell ' | GCST90001667 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001664 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell Ab | GCST90001693 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell Ab | GCST90001693 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001665 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001665 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001665 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8dim T cell | GCST90001665 | lymphocyte count | IPF |
| HLA DR+ Natural Killer %Natura | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natura | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natura | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natura | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natura | GCST90001649 | leukocyte count | IPF |
| HLA DR+ Natural Killer %Natura | GCST90001649 | leukocyte count | IPF |
| CD16 on CD14+ CD16+ monocyt | GCST90002005 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyt | GCST90002005 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyt | GCST90002005 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyt | GCST90002005 | blood protein measurement | IPF |
| CD16 on CD14+ CD16+ monocyt | GCST90002005 | blood protein measurement | IPF |
| SSC-A on HLA DR+ Natural Kille | GCST90002077 | blood protein measurement | IPF |
| SSC-A on HLA DR+ Natural Kille | GCST90002077 | blood protein measurement | IPF |
| SSC-A on HLA DR+ Natural Kille | GCST90002077 | blood protein measurement | IPF |
| CD62L- Dendritic Cell Absolute C | GCST90001462 | leukocyte count | IPF |
| CD62L- Dendritic Cell Absolute C | GCST90001462 | leukocyte count | IPF |
| CD62L- Dendritic Cell Absolute C | GCST90001462 | leukocyte count | IPF |
| CD62L- Dendritic Cell Absolute C | GCST90001462 | leukocyte count | IPF |
| Plasmacytoid Dendritic Cell %Der | GCST90001474 | leukocyte count | IPF |
| Plasmacytoid Dendritic Cell %Der | GCST90001474 | leukocyte count | IPF |
| Plasmacytoid Dendritic Cell %Der | GCST90001474 | leukocyte count | IPF |
| HLA DR+ Natural Killer Absolute | GCST90001648 | leukocyte count | IPF |
| HLA DR+ Natural Killer Absolute | GCST90001648 | leukocyte count | IPF |
| HLA DR+ Natural Killer Absolute | GCST90001648 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001472 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001472 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001472 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001472 | leukocyte count | IPF |
| HLA DR+ Natural Killer %CD3- | GCST90001650 | leukocyte count | IPF |
| HLA DR+ Natural Killer %CD3- | GCST90001650 | leukocyte count | IPF |
| HLA DR+ Natural Killer %CD3- | GCST90001650 | leukocyte count | IPF |
| Myeloid Dendritic Cell %Dendriti | GCST90001459 | leukocyte count | IPF |
| Myeloid Dendritic Cell %Dendriti | GCST90001459 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Ab | GCST90001464 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Ab | GCST90001464 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Ab | GCST90001464 | leukocyte count | IPF |
| CD86+ myeloid Dendritic Cell Ab | GCST90001464 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Al | GCST90001468 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Al | GCST90001468 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Al | GCST90001468 | leukocyte count | IPF |

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| CD62L- myeloid Dendritic Cell Al | GCST90001468 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell Al | GCST90001468 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic | GCST90001463 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic | GCST90001463 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic | GCST90001463 | leukocyte count | IPF |
| CD62L- Dendritic Cell %Dendritic | GCST90001463 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell % | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell % | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell % | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell % | GCST90001469 | leukocyte count | IPF |
| CD62L- myeloid Dendritic Cell % | GCST90001469 | leukocyte count | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD16 on CD14- CD16+ monocyte | GCST90001979 | blood protein measurement | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001473 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001473 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001473 | leukocyte count | IPF |
| CD62L- CD86+ myeloid Dendritic | GCST90001473 | leukocyte count | IPF |
| FSC-A on HLA DR+ Natural Kille | GCST90001970 | blood protein measurement | IPF |
| FSC-A on HLA DR+ Natural Kille | GCST90001970 | blood protein measurement | IPF |
| FSC-A on HLA DR+ Natural Kille | GCST90001970 | blood protein measurement | IPF |
| Myeloid Dendritic Cell Absolute C | GCST90001458 | leukocyte count | IPF |
| Myeloid Dendritic Cell Absolute C | GCST90001458 | leukocyte count | IPF |
| Myeloid Dendritic Cell Absolute C | GCST90001458 | leukocyte count | IPF |
| Hematopoietic Stem Cell Absolute | GCST90001514 | myeloid white cell count | IPF |
| Hematopoietic Stem Cell Absolute | GCST90001514 | myeloid white cell count | IPF |
| CD25 on unswitched memory B ce | GCST90001792 | blood protein measurement | IPF |
| CD25 on unswitched memory B ce | GCST90001792 | blood protein measurement | IPF |
| CD25 on unswitched memory B ce | GCST90001792 | blood protein measurement | IPF |
| CD25 on IgD+ CD24+ B cell | GCST90001778 | blood protein measurement | IPF |
| CD25 on IgD+ CD24+ B cell | GCST90001778 | blood protein measurement | IPF |
| CD25 on CD24+ CD27+ B cell | GCST90001777 | blood protein measurement | IPF |
| CD25 on CD24+ CD27+ B cell | GCST90001777 | blood protein measurement | IPF |
| CD25 on CD24+ CD27+ B cell | GCST90001777 | blood protein measurement | IPF |
| CD25 on memory B cell | GCST90001790 | blood protein measurement | IPF |
| CD25 on memory B cell | GCST90001790 | blood protein measurement | IPF |
| CD25 on memory B cell | GCST90001790 | blood protein measurement | IPF |
| HLA DR on CD33+ HLA DR+ CI | GCST90002108 | blood protein measurement | IPF |
| HLA DR on CD33+ HLA DR+ CI | GCST90002108 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendrit | GCST90002105 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendrit | GCST90002105 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendrit | GCST90002105 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendrit | GCST90002105 | blood protein measurement | IPF |
| HLA DR on plasmacytoid Dendrit | GCST90002105 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Ce | GCST90002104 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Ce | GCST90002104 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Ce | GCST90002104 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Ce | GCST90002104 | blood protein measurement | IPF |
| HLA DR on myeloid Dendritic Ce | GCST90002104 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |
| HLA DR on Dendritic Cell | GCST90002106 | blood protein measurement | IPF |

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| CD45 on CD8+ T cell | GCST90001917 | blood protein measurement | IPF |
| CD45 on CD8+ T cell | GCST90001917 | blood protein measurement | IPF |
| CD4 on Effector Memory CD4+ T | GCST90002025 | blood protein measurement | IPF |
| CD4 on Effector Memory CD4+ T | GCST90002025 | blood protein measurement | IPF |
| CD4 on Central Memory CD4+ T | GCST90002023 | blood protein measurement | IPF |
| CD4 on CD28+ CD4+ T cell | GCST90002062 | blood protein measurement | IPF |
| CD4 on CD28+ CD4+ T cell | GCST90002062 | blood protein measurement | IPF |
| CD4 on secreting CD4 regulatory T | GCST90002068 | blood protein measurement | IPF |
| CD4 on resting CD4 regulatory T c | GCST90002064 | blood protein measurement | IPF |
| CD4 on CD39+ activated CD4 reg | GCST90002067 | blood protein measurement | IPF |
| CD4 on CD39+ activated CD4 reg | GCST90002067 | blood protein measurement | IPF |
| CD4 on CD39+ activated CD4 reg | GCST90002067 | blood protein measurement | IPF |
| CD4 on CD4 regulatory T cell | GCST90002063 | blood protein measurement | IPF |
| CD4 on CD45RA+ CD4+ T cell | GCST90002027 | blood protein measurement | IPF |
| CD4 on activated CD4 regulatory T | GCST90002066 | blood protein measurement | IPF |
| CD4 on activated & secreting CD4 | GCST90002070 | blood protein measurement | IPF |
| HLA DR+ CD4+ T cell %T cell | GCST90001625 | leukocyte count | IPF |
| CD127 on CD28+ CD45RA- CD8 | GCST90001928 | blood protein measurement | IPF |
| CD19 on memory B cell | GCST90001736 | blood protein measurement | IPF |
| CD19 on memory B cell | GCST90001736 | blood protein measurement | IPF |
| CD19 on CD24+ CD27+ B cell | GCST90001723 | blood protein measurement | IPF |
| CD19 on CD24+ CD27+ B cell | GCST90001723 | blood protein measurement | IPF |
| CD45RA on naive CD8+ T cell | GCST90002100 | blood protein measurement | IPF |
| CD45RA on naive CD8+ T cell | GCST90002100 | blood protein measurement | IPF |
| Memory B cell %lymphocyte | GCST90001436 | lymphocyte count | IPF |
| Memory B cell %lymphocyte | GCST90001436 | lymphocyte count | IPF |
| Switched memory B cell %lympho | GCST90001434 | lymphocyte count | IPF |
| Switched memory B cell %lympho | GCST90001434 | lymphocyte count | IPF |
| Switched memory B cell %lympho | GCST90001434 | lymphocyte count | IPF |
| IgD+ CD24+ B cell %lymphocyte | GCST90001439 | lymphocyte count | IPF |
| IgD+ CD24+ B cell %lymphocyte | GCST90001439 | lymphocyte count | IPF |
| IgD+ B cell %Lymphocyte | GCST90001424 | lymphocyte count | IPF |
| IgD+ B cell %Lymphocyte | GCST90001424 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %lymphocy | GCST90001442 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %lymphocy | GCST90001442 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %lymphocy | GCST90001442 | lymphocyte count | IPF |
| HLA DR on CD14- CD16+ monoc | GCST90001984 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monoc | GCST90001984 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monoc | GCST90001984 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monoc | GCST90001984 | blood protein measurement | IPF |
| HLA DR on CD14- CD16+ monoc | GCST90001984 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR- | GCST90001953 | blood protein measurement | IPF |
| CD25++ CD45RA- CD4 not regul | GCST90001511 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regul | GCST90001511 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regul | GCST90001511 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %T | GCST90001691 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %T | GCST90001691 | lymphocyte count | IPF |
| CD28+ CD45RA- CD8+ T cell %T | GCST90001691 | lymphocyte count | IPF |
| IgD- CD38dim B cell %lymphocyt | GCST90001426 | lymphocyte count | IPF |
| IgD- CD38dim B cell %lymphocyt | GCST90001426 | lymphocyte count | IPF |
| CD127 on CD28+ CD45RA+ CD8 | GCST90001929 | blood protein measurement | IPF |
| CD127 on CD28+ CD45RA+ CD8 | GCST90001929 | blood protein measurement | IPF |
| FSC-A on plasmacytoid Dendritic | GCST90001964 | blood protein measurement | IPF |

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| FSC-A on plasmacytoid Dendritic | GCST90001964 | blood protein measurement | IPF |
| FSC-A on plasmacytoid Dendritic | GCST90001964 | blood protein measurement | IPF |
| FSC-A on plasmacytoid Dendritic | GCST90001964 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on unswitched memory B | GCST90001717 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on CD24+ CD27+ B cell | GCST90001702 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on switched memory B c | GCST90001718 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38dim B cell | GCST90001714 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on memory B cell | GCST90001715 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38- B cell | GCST90001712 | blood protein measurement | IPF |
| CD28- CD8dim T cell %T cell | GCST90001661 | lymphocyte count | IPF |
| CD28- CD8dim T cell %T cell | GCST90001661 | lymphocyte count | IPF |
| CD28- CD8dim T cell %T cell | GCST90001661 | lymphocyte count | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD40 on CD14+ CD16- monocyte | GCST90001980 | blood protein measurement | IPF |
| CD20- CD38- B cell %B cell | GCST90001422 | lymphocyte count | IPF |
| CD19 on CD20- B cell | GCST90001721 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD20 on IgD- CD38- B cell | GCST90001755 | blood protein measurement | IPF |
| CD28 on activated & secreting CD | GCST90001889 | blood protein measurement | IPF |
| CD28 on CD4 regulatory T cell | GCST90001899 | blood protein measurement | IPF |
| CD28 on CD39+ resting CD4 regu | GCST90001901 | blood protein measurement | IPF |
| CD28 on CD39+ resting CD4 regu | GCST90001901 | blood protein measurement | IPF |
| CD39 on granulocyte | GCST90002033 | blood protein measurement | IPF |
| CD39 on granulocyte | GCST90002033 | blood protein measurement | IPF |

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|---|---|---|---|
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD24+ B cell | GCST90001703 | blood protein measurement | IPF |
| CD62L on CD62L+ plasmacytoid | GCST90001832 | blood protein measurement | IPF |
| CD62L on CD62L+ plasmacytoid | GCST90001832 | blood protein measurement | IPF |
| CD3 on Natural Killer T | GCST90001848 | blood protein measurement | IPF |
| CD3 on Natural Killer T | GCST90001848 | blood protein measurement | IPF |
| Effector Memory CD8+ T cell %C | GCST90001555 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell %C | GCST90001555 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %CD8+ T | GCST90001561 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %CD8+ T | GCST90001561 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %CD8+ T | GCST90001561 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell Al | GCST90001690 | lymphocyte count | IPF |
| CD28+ CD45RA+ CD8+ T cell Al | GCST90001690 | lymphocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| Natural Killer %CD3- lymphocyte | GCST90001646 | leukocyte count | IPF |
| B cell %CD3- lymphocyte | GCST90001643 | leukocyte count | IPF |
| B cell %CD3- lymphocyte | GCST90001643 | leukocyte count | IPF |
| B cell %CD3- lymphocyte | GCST90001643 | leukocyte count | IPF |
| HLA DR on CD14+ CD16- monoc | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16- monoc | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16- monoc | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16- monoc | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16- monoc | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16- monoc | GCST90001988 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| HLA DR on CD14+ monocyte | GCST90001991 | blood protein measurement | IPF |
| Monocytic Myeloid-Derived Supp | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Supp | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Supp | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Supp | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Supp | GCST90001530 | myeloid white cell count | IPF |
| Monocytic Myeloid-Derived Supp | GCST90001530 | myeloid white cell count | IPF |
| HLA DR on CD14- CD16- | GCST90002009 | blood protein measurement | IPF |
| HLA DR on CD14- CD16- | GCST90002009 | blood protein measurement | IPF |
| HLA DR on CD14- CD16- | GCST90002009 | blood protein measurement | IPF |
| CD62L on CD62L+ myeloid Dend | GCST90001831 | blood protein measurement | IPF |
| CD62L on CD62L+ myeloid Dend | GCST90001831 | blood protein measurement | IPF |
| CD3 on CD39+ CD4+ T cell | GCST90001860 | blood protein measurement | IPF |
| CD3 on CD39+ CD4+ T cell | GCST90001860 | blood protein measurement | IPF |
| CD3 on CD39+ CD4+ T cell | GCST90001860 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ | GCST90001864 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ | GCST90001864 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ | GCST90001864 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA+ CD8+ | GCST90001864 | blood protein measurement | IPF |
| CD45 on Natural Killer T | GCST90001919 | blood protein measurement | IPF |
| CD3 on CD4+ T cell | GCST90001867 | blood protein measurement | IPF |
| CD3 on CD4+ T cell | GCST90001867 | blood protein measurement | IPF |

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| CD3 on resting CD4 regulatory T ( | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T ( | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T ( | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T ( | GCST90001869 | blood protein measurement | IPF |
| CD3 on resting CD4 regulatory T ( | GCST90001869 | blood protein measurement | IPF |
| CD24 on transitional B cell | GCST90001774 | blood protein measurement | IPF |
| FSC-A on CD4+ T cell | GCST90001973 | blood protein measurement | IPF |
| FSC-A on CD4+ T cell | GCST90001973 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on IgD+ B cell | GCST90001762 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD20 on B cell | GCST90001743 | blood protein measurement | IPF |
| CD25 on IgD- CD38- B cell | GCST90001787 | blood protein measurement | IPF |
| CD25 on IgD- CD38- B cell | GCST90001787 | blood protein measurement | IPF |
| CD25 on IgD- CD38- B cell | GCST90001787 | blood protein measurement | IPF |
| Monocyte Absolute Count | GCST90001583 | monocyte count | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD33 on CD66b++ myeloid cell | GCST90001951 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD20 on IgD+ CD38- B cell | GCST90001748 | blood protein measurement | IPF |
| CD3 on HLA DR+ T cell | GCST90001847 | blood protein measurement | IPF |
| CD3 on HLA DR+ T cell | GCST90001847 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Ki | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Ki | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Ki | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Ki | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Ki | GCST90002117 | blood protein measurement | IPF |
| HLA DR on HLA DR+ Natural Ki | GCST90002117 | blood protein measurement | IPF |
| CD4+ CD8dim T cell %lymphocyt | GCST90001610 | leukocyte count | IPF |
| CD4+ CD8dim T cell %lymphocyt | GCST90001610 | leukocyte count | IPF |
| CD4+ CD8dim T cell %lymphocyt | GCST90001610 | leukocyte count | IPF |
| CD80 on granulocyte | GCST90002040 | blood protein measurement | IPF |
| CD80 on granulocyte | GCST90002040 | blood protein measurement | IPF |
| CD80 on granulocyte | GCST90002040 | blood protein measurement | IPF |
| CD86 on granulocyte | GCST90001906 | blood protein measurement | IPF |
| CD86 on granulocyte | GCST90001906 | blood protein measurement | IPF |
| Terminally Differentiated CD4+ T | GCST90001545 | lymphocyte count | IPF |
| Terminally Differentiated CD4+ T | GCST90001545 | lymphocyte count | IPF |
| CD45RA- CD4+ T cell %T cell | GCST90001536 | lymphocyte count | IPF |
| Terminally Differentiated CD4-CI | GCST90001573 | lymphocyte count | IPF |
| CD25 on resting CD4 regulatory T | GCST90001937 | blood protein measurement | IPF |
| CD28 on CD39+ secreting CD4 re | GCST90001888 | blood protein measurement | IPF |
| CD28 on CD39+ secreting CD4 re | GCST90001888 | blood protein measurement | IPF |
| B cell Absolute Count | GCST90001642 | leukocyte count | IPF |
| B cell %lymphocyte | GCST90001644 | leukocyte count | IPF |
| Unswitched memory B cell %lymp | GCST90001432 | lymphocyte count | IPF |
| Unswitched memory B cell %lymp | GCST90001432 | lymphocyte count | IPF |
| Unswitched memory B cell %lymp | GCST90001432 | lymphocyte count | IPF |

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|---|---|---|---|
| IgD+ CD24+ B cell Absolute Cou | GCST90001412 | lymphocyte count | IPF |
| Memory B cell Absolute Count | GCST90001407 | lymphocyte count | IPF |
| Unswitched memory B cell Absolu | GCST90001398 | lymphocyte count | IPF |
| Unswitched memory B cell Absolu | GCST90001398 | lymphocyte count | IPF |
| IgD+ CD38- B cell %lymphocyte | GCST90001431 | lymphocyte count | IPF |
| T/B cell | GCST90001588 | leukocyte count | IPF |
| T/B cell | GCST90001588 | leukocyte count | IPF |
| CD24+ CD27+ B cell Absolute Cc | GCST90001418 | lymphocyte count | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD3 on CD45RA+ CD4+ T cell | GCST90001858 | blood protein measurement | IPF |
| CD28- CD8dim T cell Absolute C | GCST90001663 | lymphocyte count | IPF |
| CD28- CD8dim T cell Absolute C | GCST90001663 | lymphocyte count | IPF |
| CD8 on CD28+ CD45RA- CD8+ T | GCST90002118 | blood protein measurement | IPF |
| CD8 on CD28+ CD45RA- CD8+ T | GCST90002118 | blood protein measurement | IPF |
| Terminally Differentiated CD8+ T | GCST90001558 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T | GCST90001558 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T | GCST90001558 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T | GCST90001558 | lymphocyte count | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD27- B cell | GCST90001711 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| BAFF-R on IgD- CD24- B cell | GCST90001710 | blood protein measurement | IPF |
| CD127 on CD28+ CD4+ T cell | GCST90001924 | blood protein measurement | IPF |
| CD127 on CD28+ CD4+ T cell | GCST90001924 | blood protein measurement | IPF |
| CD127 on CD28+ CD4+ T cell | GCST90001924 | blood protein measurement | IPF |
| CD4+ T cell %leukocyte | GCST90001606 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell Absolute ( | GCST90001624 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell Absolute ( | GCST90001624 | leukocyte count | IPF |
| CD28 on CD45RA- CD4 not regul | GCST90001891 | blood protein measurement | IPF |
| CD28 on CD45RA- CD4 not regul | GCST90001891 | blood protein measurement | IPF |
| CD14+ CD16- monocyte Absolute | GCST90001582 | monocyte count | IPF |
| CD14+ CD16- monocyte Absolute | GCST90001582 | monocyte count | IPF |
| CD14+ CD16- monocyte Absolute | GCST90001582 | monocyte count | IPF |
| Activated CD4 regulatory T cell % | GCST90001487 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell % | GCST90001487 | lymphocyte count | IPF |
| Activated CD4 regulatory T cell % | GCST90001487 | lymphocyte count | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| IgD on unswitched memory B cell | GCST90001826 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |

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| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD127 on granulocyte | GCST90001926 | blood protein measurement | IPF |
| CD28- CD4-CD8- T cell %T cell | GCST90001694 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell %T cell | GCST90001694 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell %T cell | GCST90001694 | lymphocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD4-CD8- T cell %leukocyte | GCST90001613 | leukocyte count | IPF |
| CD8dim T cell %T cell | GCST90001597 | leukocyte count | IPF |
| CD8dim T cell %T cell | GCST90001597 | leukocyte count | IPF |
| CD4-CD8- T cell %T cell | GCST90001599 | leukocyte count | IPF |
| CD4-CD8- T cell %T cell | GCST90001599 | leukocyte count | IPF |
| CD4-CD8- T cell %T cell | GCST90001599 | leukocyte count | IPF |
| CD8dim T cell Absolute Count | GCST90001596 | leukocyte count | IPF |
| CD8dim T cell Absolute Count | GCST90001596 | leukocyte count | IPF |
| CD8dim T cell %leukocyte | GCST90001612 | leukocyte count | IPF |
| CD8dim T cell %leukocyte | GCST90001612 | leukocyte count | IPF |
| CD28 on CD28+ CD4-CD8- T cel | GCST90001895 | blood protein measurement | IPF |
| CD28 on CD28+ CD4-CD8- T cel | GCST90001895 | blood protein measurement | IPF |
| CD28 on CD28+ CD4-CD8- T cel | GCST90001895 | blood protein measurement | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| Natural Killer T Absolute Count | GCST90001621 | leukocyte count | IPF |
| IgD+ CD38+ B cell Absolute Cou | GCST90001392 | lymphocyte count | IPF |
| IgD+ CD38+ B cell Absolute Cou | GCST90001392 | lymphocyte count | IPF |
| BAFF-R on IgD+ CD38- unswitch | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitch | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitch | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitch | GCST90001707 | blood protein measurement | IPF |
| BAFF-R on IgD+ CD38- unswitch | GCST90001707 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD34 on Hematopoietic Stem Cell | GCST90001870 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on myeloid Dendritic Cell | GCST90002035 | blood protein measurement | IPF |
| CD80 on CD62L+ myeloid Dendri | GCST90002036 | blood protein measurement | IPF |
| CD80 on CD62L+ myeloid Dendri | GCST90002036 | blood protein measurement | IPF |
| CD80 on CD62L+ myeloid Dendri | GCST90002036 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| CD80 on monocyte | GCST90002039 | blood protein measurement | IPF |
| IgD+ CD38+ B cell %lymphocyte | GCST90001429 | lymphocyte count | IPF |
| CD25++ CD8+ T cell Absolute Cc | GCST90001681 | lymphocyte count | IPF |
| CD25++ CD8+ T cell Absolute Cc | GCST90001681 | lymphocyte count | IPF |
| CD25++ CD8+ T cell Absolute Cc | GCST90001681 | lymphocyte count | IPF |
| CCR2 on CD14+ CD16- monocyte | GCST90002004 | blood protein measurement | IPF |
| CCR2 on CD14+ CD16- monocyte | GCST90002004 | blood protein measurement | IPF |
| HLA DR on CD33+ HLA DR+ CI | GCST90002109 | blood protein measurement | IPF |
| HLA DR on CD33+ HLA DR+ CI | GCST90002109 | blood protein measurement | IPF |

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|---|---|---|---|
| HLA DR on CD33+ HLA DR+ CI | GCST90002109 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic | GCST90002072 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic | GCST90002072 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic | GCST90002072 | blood protein measurement | IPF |
| SSC-A on plasmacytoid Dendritic | GCST90002072 | blood protein measurement | IPF |
| FSC-A on CD14+ monocyte | GCST90001967 | blood protein measurement | IPF |
| CCR2 on plasmacytoid Dendritic ( | GCST90002015 | blood protein measurement | IPF |
| CCR2 on plasmacytoid Dendritic ( | GCST90002015 | blood protein measurement | IPF |
| CCR2 on CD62L+ plasmacytoid D | GCST90002016 | blood protein measurement | IPF |
| CCR2 on CD62L+ plasmacytoid D | GCST90002016 | blood protein measurement | IPF |
| CX3CR1 on CD14- CD16- | GCST90001994 | blood protein measurement | IPF |
| CD14- CD16- Absolute Count | GCST90001581 | monocyte count | IPF |
| CD14- CD16- Absolute Count | GCST90001581 | monocyte count | IPF |
| HLA DR on CD14+ CD16+ mono | GCST90002007 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16+ mono | GCST90002007 | blood protein measurement | IPF |
| HLA DR on CD14+ CD16+ mono | GCST90002007 | blood protein measurement | IPF |
| Terminally Differentiated CD8+ T | GCST90001559 | lymphocyte count | IPF |
| Terminally Differentiated CD8+ T | GCST90001559 | lymphocyte count | IPF |
| FSC-A on Natural Killer T | GCST90001976 | blood protein measurement | IPF |
| FSC-A on Natural Killer T | GCST90001976 | blood protein measurement | IPF |
| CD25 on IgD+ B cell | GCST90001794 | blood protein measurement | IPF |
| CD25 on IgD+ B cell | GCST90001794 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on naive-mature B cell | GCST90001791 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on IgD+ CD24- B cell | GCST90001779 | blood protein measurement | IPF |
| CD25 on B cell | GCST90001775 | blood protein measurement | IPF |
| CD25 on B cell | GCST90001775 | blood protein measurement | IPF |
| CD25 on B cell | GCST90001775 | blood protein measurement | IPF |
| CD25 on IgD+ CD38dim B cell | GCST90001784 | blood protein measurement | IPF |
| CD25 on IgD+ CD38dim B cell | GCST90001784 | blood protein measurement | IPF |
| CD25 on IgD+ CD38dim B cell | GCST90001784 | blood protein measurement | IPF |
| CD16-CD56 on HLA DR+ Natura | GCST90001885 | blood protein measurement | IPF |
| CD16-CD56 on HLA DR+ Natura | GCST90001885 | blood protein measurement | IPF |
| CD4 on CD39+ resting CD4 regul | GCST90002065 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38+ B cell | GCST90001713 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38+ B cell | GCST90001713 | blood protein measurement | IPF |
| BAFF-R on IgD- CD38+ B cell | GCST90001713 | blood protein measurement | IPF |
| CD64 on CD14- CD16- | GCST90002001 | blood protein measurement | IPF |
| CD64 on CD14- CD16- | GCST90002001 | blood protein measurement | IPF |
| CD64 on CD14- CD16- | GCST90002001 | blood protein measurement | IPF |
| CD20 on IgD+ CD24+ B cell | GCST90001746 | blood protein measurement | IPF |
| CD20 on IgD+ CD24+ B cell | GCST90001746 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD20 on memory B cell | GCST90001758 | blood protein measurement | IPF |
| CD4 regulatory T cell %CD4+ T c | GCST90001478 | lymphocyte count | IPF |
| CD4 regulatory T cell %CD4+ T c | GCST90001478 | lymphocyte count | IPF |
| CD4 regulatory T cell %T cell | GCST90001479 | lymphocyte count | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |

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| CCR7 on naive CD4+ T cell | GCST90001907 | blood protein measurement | IPF |
| CCR7 on naive CD8+ T cell | GCST90001908 | blood protein measurement | IPF |
| CCR7 on naive CD8+ T cell | GCST90001908 | blood protein measurement | IPF |
| CD127 on CD4+ T cell | GCST90001931 | blood protein measurement | IPF |
| CD3 on T cell | GCST90001851 | blood protein measurement | IPF |
| CD3 on T cell | GCST90001851 | blood protein measurement | IPF |
| CD33- HLA DR+ Absolute Count | GCST90001523 | myeloid white cell count | IPF |
| Granulocytic Myeloid-Derived Su | GCST90001524 | myeloid white cell count | IPF |
| Granulocytic Myeloid-Derived Su | GCST90001524 | myeloid white cell count | IPF |
| CD8 on Effector Memory CD8+ T | GCST90002056 | blood protein measurement | IPF |
| CD8 on Effector Memory CD8+ T | GCST90002056 | blood protein measurement | IPF |
| CD8 on Effector Memory CD8+ T | GCST90002056 | blood protein measurement | IPF |
| CD28- CD127- CD25++ CD8+ T ( | GCST90001675 | lymphocyte count | IPF |
| CD3 on CD39+ resting CD4 regul | GCST90001852 | blood protein measurement | IPF |
| CD3 on CD39+ CD8+ T cell | GCST90001866 | blood protein measurement | IPF |
| CD3 on HLA DR+ CD4+ T cell | GCST90001849 | blood protein measurement | IPF |
| CD3 on Central Memory CD8+ T | GCST90001846 | blood protein measurement | IPF |
| CD3 on Central Memory CD8+ T | GCST90001846 | blood protein measurement | IPF |
| CD3 on Terminally Differentiated | GCST90001844 | blood protein measurement | IPF |
| CD3 on CD8+ T cell | GCST90001859 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA- CD8+ T | GCST90001863 | blood protein measurement | IPF |
| CD3 on CD28+ CD45RA- CD8+ T | GCST90001863 | blood protein measurement | IPF |
| CD45 on CD33- HLA DR+ | GCST90002046 | blood protein measurement | IPF |
| Effector Memory CD8+ T cell Abs | GCST90001554 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell Abs | GCST90001554 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell Abs | GCST90001480 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell Abs | GCST90001480 | lymphocyte count | IPF |
| Resting CD4 regulatory T cell Abs | GCST90001480 | lymphocyte count | IPF |
| Effector Memory CD8+ T cell %T | GCST90001556 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %T cell | GCST90001562 | lymphocyte count | IPF |
| CD45RA+ CD8+ T cell %T cell | GCST90001562 | lymphocyte count | IPF |
| CD45RA- CD4+ T cell Absolute C | GCST90001534 | lymphocyte count | IPF |
| CD25++ CD45RA- CD4 not regul | GCST90001510 | lymphocyte count | IPF |
| Effector Memory CD4+ T cell %C | GCST90001543 | lymphocyte count | IPF |
| CD3 on Effector Memory CD8+ T | GCST90001839 | blood protein measurement | IPF |
| CD3 on Effector Memory CD8+ T | GCST90001839 | blood protein measurement | IPF |
| CD3 on Effector Memory CD8+ T | GCST90001839 | blood protein measurement | IPF |
| CD3 on HLA DR+ CD8+ T cell | GCST90001850 | blood protein measurement | IPF |
| CD3- lymphocyte Absolute Count | GCST90001639 | leukocyte count | IPF |
| CD24 on IgD+ CD38+ B cell | GCST90001768 | blood protein measurement | IPF |
| CD24 on IgD+ CD38+ B cell | GCST90001768 | blood protein measurement | IPF |
| PDL-1 on CD14- CD16- | GCST90002000 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| HLA DR on monocyte | GCST90002010 | blood protein measurement | IPF |
| CCR2 on CD14- CD16- | GCST90002003 | blood protein measurement | IPF |
| CCR2 on CD14- CD16- | GCST90002003 | blood protein measurement | IPF |
| CCR2 on CD14- CD16- | GCST90002003 | blood protein measurement | IPF |
| FSC-A on monocyte | GCST90001965 | blood protein measurement | IPF |
| FSC-A on monocyte | GCST90001965 | blood protein measurement | IPF |
| CD33dim HLA DR+ CD11b+ %C | GCST90001526 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b+ %C | GCST90001526 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b+ %C | GCST90001526 | myeloid white cell count | IPF |
| CD40 on CD14+ CD16+ monocyt | GCST90001981 | blood protein measurement | IPF |
| CD40 on CD14+ CD16+ monocyt | GCST90001981 | blood protein measurement | IPF |

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| CD40 on CD14+ CD16+ monocyt | GCST90001981 | blood protein measurement | IPF |
| CD40 on CD14+ CD16+ monocyt | GCST90001981 | blood protein measurement | IPF |
| CD11c on granulocyte | GCST90002090 | blood protein measurement | IPF |
| CD11c on granulocyte | GCST90002090 | blood protein measurement | IPF |
| CD14 on CD33dim HLA DR+ CD | GCST90002021 | blood protein measurement | IPF |
| CD11b on Monocytic Myeloid-De | GCST90002094 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001948 | blood protein measurement | IPF |
| CX3CR1 on monocyte | GCST90001995 | blood protein measurement | IPF |
| CX3CR1 on monocyte | GCST90001995 | blood protein measurement | IPF |
| CD33dim HLA DR+ CD11b- %CI | GCST90001528 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b- %CI | GCST90001528 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b- %CI | GCST90001528 | myeloid white cell count | IPF |
| CD33dim HLA DR+ CD11b+ Abs | GCST90001525 | myeloid white cell count | IPF |
| CD11b on CD14+ monocyte | GCST90002091 | blood protein measurement | IPF |
| CX3CR1 on CD14- CD16+ monoc | GCST90002012 | blood protein measurement | IPF |
| CD27 on T cell | GCST90001799 | blood protein measurement | IPF |
| CD11b on CD33+ HLA DR+ CD1 | GCST90002097 | blood protein measurement | IPF |
| PDL-1 on CD14+ CD16+ monocyt | GCST90001998 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001949 | blood protein measurement | IPF |
| CD33 on CD33dim HLA DR+ CD | GCST90001949 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16- monoc | GCST90001997 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16- monoc | GCST90001997 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16+ mono | GCST90001996 | blood protein measurement | IPF |
| CX3CR1 on CD14+ CD16+ mono | GCST90001996 | blood protein measurement | IPF |
| CD11c on monocyte | GCST90002089 | blood protein measurement | IPF |
| CCR2 on monocyte | GCST90002017 | blood protein measurement | IPF |
| CCR2 on monocyte | GCST90002017 | blood protein measurement | IPF |
| CD25 on CD45RA- CD4 not regul | GCST90001933 | blood protein measurement | IPF |
| Natural Killer Absolute Count | GCST90001645 | leukocyte count | IPF |
| Natural Killer Absolute Count | GCST90001645 | leukocyte count | IPF |
| Natural Killer Absolute Count | GCST90001645 | leukocyte count | IPF |
| CD45 on Natural Killer | GCST90001911 | blood protein measurement | IPF |
| CD45 on Natural Killer | GCST90001911 | blood protein measurement | IPF |
| CD38 on IgD+ CD38+ B cell | GCST90001812 | blood protein measurement | IPF |
| CD38 on IgD+ CD38+ B cell | GCST90001812 | blood protein measurement | IPF |
| CD38 on IgD+ CD38+ B cell | GCST90001812 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD20 on IgD- CD27- B cell | GCST90001754 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD+ CD24+ B cell | GCST90001800 | blood protein measurement | IPF |
| CD27 on IgD- CD38+ B cell | GCST90001803 | blood protein measurement | IPF |
| CD27 on IgD- CD38+ B cell | GCST90001803 | blood protein measurement | IPF |

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| CD25 on IgD- CD27- B cell | GCST90001786 | blood protein measurement | IPF |
| CD25 on IgD- CD27- B cell | GCST90001786 | blood protein measurement | IPF |
| HVEM on CD4+ T cell | GCST90001875 | blood protein measurement | IPF |
| HVEM on CD45RA- CD4+ T cell | GCST90001880 | blood protein measurement | IPF |
| HVEM on Central Memory CD8+ | GCST90001882 | blood protein measurement | IPF |
| HVEM on Central Memory CD4+ | GCST90001876 | blood protein measurement | IPF |
| HVEM on Effector Memory CD8+ | GCST90001873 | blood protein measurement | IPF |
| HVEM on T cell | GCST90001871 | blood protein measurement | IPF |
| CD45 on lymphocyte | GCST90002041 | blood protein measurement | IPF |
| CD45RA on CD39+ resting CD4 r | GCST90002103 | blood protein measurement | IPF |
| CD45RA on CD39+ resting CD4 r | GCST90002103 | blood protein measurement | IPF |
| CD62L- plasmacytoid Dendritic C | GCST90001470 | leukocyte count | IPF |
| CD62L- plasmacytoid Dendritic C | GCST90001470 | leukocyte count | IPF |
| CD62L- plasmacytoid Dendritic C | GCST90001471 | leukocyte count | IPF |
| CD62L- plasmacytoid Dendritic C | GCST90001471 | leukocyte count | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD20 on naive-mature B cell | GCST90001759 | blood protein measurement | IPF |
| CD28 on CD4+ T cell | GCST90001898 | blood protein measurement | IPF |
| CD28 on CD4+ T cell | GCST90001898 | blood protein measurement | IPF |
| CD28 on CD28+ CD4+ T cell | GCST90001894 | blood protein measurement | IPF |
| CD28 on CD28+ CD4+ T cell | GCST90001894 | blood protein measurement | IPF |
| CD45RA+ CD28- CD8+ T cell %( | GCST90001699 | lymphocyte count | IPF |
| CD45RA+ CD28- CD8+ T cell %( | GCST90001699 | lymphocyte count | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| CD3 on Naive CD4+ T cell | GCST90001842 | blood protein measurement | IPF |
| IgD on IgD+ CD38+ B cell | GCST90001824 | blood protein measurement | IPF |
| IgD on IgD+ CD38+ B cell | GCST90001824 | blood protein measurement | IPF |
| IgD on IgD+ CD38+ B cell | GCST90001824 | blood protein measurement | IPF |
| IgD on IgD+ CD38+ B cell | GCST90001824 | blood protein measurement | IPF |
| IgD on IgD+ CD38- unswitched m | GCST90001823 | blood protein measurement | IPF |
| IgD on IgD+ CD38- unswitched m | GCST90001823 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD24- B cell | GCST90001747 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD20 on IgD+ CD38+ B cell | GCST90001751 | blood protein measurement | IPF |
| CD45 on granulocyte | GCST90001913 | blood protein measurement | IPF |
| CD45 on HLA DR+ CD4+ T cell | GCST90001920 | blood protein measurement | IPF |
| CD45 on HLA DR+ CD4+ T cell | GCST90001920 | blood protein measurement | IPF |
| Plasmacytoid Dendritic Cell Absol | GCST90001460 | leukocyte count | IPF |
| CCR2 on myeloid Dendritic Cell | GCST90002013 | blood protein measurement | IPF |
| CCR2 on myeloid Dendritic Cell | GCST90002013 | blood protein measurement | IPF |
| CCR2 on myeloid Dendritic Cell | GCST90002013 | blood protein measurement | IPF |
| HLA DR+ CD8+ T cell Absolute ( | GCST90001627 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell Absolute ( | GCST90001627 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell Absolute ( | GCST90001627 | leukocyte count | IPF |
| HLA DR+ T cell Absolute Count | GCST90001618 | leukocyte count | IPF |
| HLA DR+ T cell Absolute Count | GCST90001618 | leukocyte count | IPF |
| HLA DR+ T cell Absolute Count | GCST90001618 | leukocyte count | IPF |
| HVEM on Effector Memory CD4+ | GCST90001878 | blood protein measurement | IPF |

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| HVEM on CD8+ T cell | GCST90001881 | blood protein measurement | IPF |
| HVEM on Terminally Differentiat | GCST90001879 | blood protein measurement | IPF |
| HVEM on naive CD4+ T cell | GCST90001877 | blood protein measurement | IPF |
| HVEM on naive CD8+ T cell | GCST90001872 | blood protein measurement | IPF |
| HVEM on naive CD8+ T cell | GCST90001872 | blood protein measurement | IPF |
| CD24 on IgD- CD38dim B cell | GCST90001770 | blood protein measurement | IPF |
| CD24 on IgD- CD38dim B cell | GCST90001770 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- unswitched | GCST90001767 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- unswitched | GCST90001767 | blood protein measurement | IPF |
| CD24 on memory B cell | GCST90001771 | blood protein measurement | IPF |
| CD24 on memory B cell | GCST90001771 | blood protein measurement | IPF |
| CD24 on IgD- CD38- B cell | GCST90001769 | blood protein measurement | IPF |
| CD24 on IgD- CD38- B cell | GCST90001769 | blood protein measurement | IPF |
| CD24 on unswitched memory B ce | GCST90001772 | blood protein measurement | IPF |
| CD24 on unswitched memory B ce | GCST90001772 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- B cell | GCST90001766 | blood protein measurement | IPF |
| CD24 on IgD+ CD38- B cell | GCST90001766 | blood protein measurement | IPF |
| CD24 on CD24+ CD27+ B cell | GCST90001764 | blood protein measurement | IPF |
| CD24 on CD24+ CD27+ B cell | GCST90001764 | blood protein measurement | IPF |
| CD24 on CD24+ CD27+ B cell | GCST90001764 | blood protein measurement | IPF |
| CD24 on switched memory B cell | GCST90001773 | blood protein measurement | IPF |
| CD24 on switched memory B cell | GCST90001773 | blood protein measurement | IPF |
| CD24 on IgD+ CD24+ B cell | GCST90001765 | blood protein measurement | IPF |
| CD24 on IgD+ CD24+ B cell | GCST90001765 | blood protein measurement | IPF |
| SSC-A on granulocyte | GCST90002078 | blood protein measurement | IPF |
| SSC-A on granulocyte | GCST90002078 | blood protein measurement | IPF |
| IgD- CD27- B cell Absolute Count | GCST90001401 | lymphocyte count | IPF |
| IgD- CD27- B cell Absolute Count | GCST90001401 | lymphocyte count | IPF |
| IgD- CD27- B cell %B cell | GCST90001399 | lymphocyte count | IPF |
| IgD- CD27- B cell %B cell | GCST90001399 | lymphocyte count | IPF |
| IgD- CD27- B cell %B cell | GCST90001399 | lymphocyte count | IPF |
| CD25 on IgD+ CD38- naive B cell | GCST90001781 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- naive B cell | GCST90001781 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- naive B cell | GCST90001781 | blood protein measurement | IPF |
| CD39 on monocyte | GCST90002034 | blood protein measurement | IPF |
| CD39 on monocyte | GCST90002034 | blood protein measurement | IPF |
| CD8 on Natural Killer T | GCST90002059 | blood protein measurement | IPF |
| Immature Myeloid-Derived Suppre | GCST90001515 | myeloid white cell count | IPF |
| Immature Myeloid-Derived Suppre | GCST90001515 | myeloid white cell count | IPF |
| PDL-1 on CD14- CD16+ monocyt | GCST90001999 | blood protein measurement | IPF |
| PDL-1 on CD14- CD16+ monocyt | GCST90001999 | blood protein measurement | IPF |
| CD45 on B cell | GCST90001910 | blood protein measurement | IPF |
| CD45 on B cell | GCST90001910 | blood protein measurement | IPF |
| Naive CD4-CD8- T cell %T cell | GCST90001568 | lymphocyte count | IPF |
| CD8 on HLA DR+ CD8+ T cell | GCST90002060 | blood protein measurement | IPF |
| CD8 on HLA DR+ CD8+ T cell | GCST90002060 | blood protein measurement | IPF |
| CD8 on Terminally Differentiated | GCST90002057 | blood protein measurement | IPF |
| CD8 on Terminally Differentiated | GCST90002057 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched | GCST90001801 | blood protein measurement | IPF |
| CD27 on IgD+ CD38- unswitched | GCST90001801 | blood protein measurement | IPF |
| CD14 on CD14+ CD16+ monocyt | GCST90001983 | blood protein measurement | IPF |
| CD14 on CD14+ CD16+ monocyt | GCST90001983 | blood protein measurement | IPF |
| IgD- CD38+ B cell %B cell | GCST90001410 | lymphocyte count | IPF |
| FSC-A on myeloid Dendritic Cell | GCST90001963 | blood protein measurement | IPF |
| FSC-A on myeloid Dendritic Cell | GCST90001963 | blood protein measurement | IPF |

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| FSC-A on myeloid Dendritic Cell | GCST90001963 | blood protein measurement | IPF |
| CD8 on Central Memory CD8+ T | GCST90002054 | blood protein measurement | IPF |
| CD8 on Central Memory CD8+ T | GCST90002054 | blood protein measurement | IPF |
| CD4+CD8+ T cell %leukocyte | GCST90001608 | leukocyte count | IPF |
| CD4+CD8+ T cell %T cell | GCST90001595 | leukocyte count | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ CD24- B cell | GCST90001821 | blood protein measurement | IPF |
| IgD on IgD+ B cell | GCST90001827 | blood protein measurement | IPF |
| IgD on IgD+ B cell | GCST90001827 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| IgD on IgD+ CD38dim B cell | GCST90001825 | blood protein measurement | IPF |
| CD3 on CD45RA- CD4+ T cell | GCST90001845 | blood protein measurement | IPF |
| CD3 on CD45RA- CD4+ T cell | GCST90001845 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T | GCST90001841 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T | GCST90001841 | blood protein measurement | IPF |
| CD3 on Central Memory CD4+ T | GCST90001841 | blood protein measurement | IPF |
| CD3 on CD39+ secreting CD4 reg | GCST90001856 | blood protein measurement | IPF |
| CD3 on CD39+ secreting CD4 reg | GCST90001856 | blood protein measurement | IPF |
| CD3 on Terminally Differentiated | GCST90001840 | blood protein measurement | IPF |
| CD3 on CD28+ CD4+ T cell | GCST90001861 | blood protein measurement | IPF |
| CD3 on CD28+ CD4+ T cell | GCST90001861 | blood protein measurement | IPF |
| CD3 on CD28- CD8+ T cell | GCST90001865 | blood protein measurement | IPF |
| CD3 on Effector Memory CD4+ T | GCST90001843 | blood protein measurement | IPF |
| CD8 on CD8+ T cell | GCST90002058 | blood protein measurement | IPF |
| HLA DR+ CD4+ T cell %lymphoc | GCST90001626 | leukocyte count | IPF |
| HLA DR+ CD4+ T cell %lymphoc | GCST90001626 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %T cell | GCST90001628 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %T cell | GCST90001628 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %T cell | GCST90001628 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ T cell%lymphocyte | GCST90001620 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %lymphoc | GCST90001629 | leukocyte count | IPF |
| HLA DR+ CD8+ T cell %lymphoc | GCST90001629 | leukocyte count | IPF |
| CD45 on CD4+ T cell | GCST90001916 | blood protein measurement | IPF |
| CD28 on CD39+ CD8+ T cell | GCST90001897 | blood protein measurement | IPF |
| CD28 on CD39+ CD8+ T cell | GCST90001897 | blood protein measurement | IPF |
| CD28 on CD39+ activated CD4 re | GCST90001886 | blood protein measurement | IPF |
| Naive CD4+ T cell Absolute Coun | GCST90001540 | lymphocyte count | IPF |
| Naive CD4+ T cell Absolute Coun | GCST90001540 | lymphocyte count | IPF |
| CD8+ T cell Absolute Count | GCST90001592 | leukocyte count | IPF |
| CD8+ T cell %leukocyte | GCST90001607 | leukocyte count | IPF |
| CD28- CD8+ T cell Absolute Cou | GCST90001687 | lymphocyte count | IPF |
| CD28- CD8+ T cell Absolute Cou | GCST90001687 | lymphocyte count | IPF |
| CD28- CD8+ T cell Absolute Cou | GCST90001687 | lymphocyte count | IPF |
| CD127- CD8+ T cell Absolute Co | GCST90001684 | lymphocyte count | IPF |
| Central Memory CD4+ T cell Abs | GCST90001537 | lymphocyte count | IPF |
| T cell Absolute Count | GCST90001603 | leukocyte count | IPF |
| T cell Absolute Count | GCST90001603 | leukocyte count | IPF |
| CD4+ T cell Absolute Count | GCST90001590 | leukocyte count | IPF |
| CD28 on secreting CD4 regulatory | GCST90001887 | blood protein measurement | IPF |

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| CD28 on secreting CD4 regulatory | GCST90001887 | blood protein measurement | IPF |
| CD28 on secreting CD4 regulatory | GCST90001887 | blood protein measurement | IPF |
| CD28+ CD4-CD8- T cell %T cell | GCST90001655 | lymphocyte count | IPF |
| CD4+ CD8dim T cell %leukocyte | GCST90001611 | leukocyte count | IPF |
| CD4+ CD8dim T cell %leukocyte | GCST90001611 | leukocyte count | IPF |
| CD4+ CD8dim T cell Absolute Co | GCST90001609 | leukocyte count | IPF |
| CD20 on IgD- CD24- B cell | GCST90001753 | blood protein measurement | IPF |
| CD20 on IgD- CD24- B cell | GCST90001753 | blood protein measurement | IPF |
| IgD- CD27- B cell %lymphocyte | GCST90001433 | lymphocyte count | IPF |
| IgD- CD27- B cell %lymphocyte | GCST90001433 | lymphocyte count | IPF |
| CCR2 on CD62L+ myeloid Dendr | GCST90002014 | blood protein measurement | IPF |
| CCR2 on CD62L+ myeloid Dendr | GCST90002014 | blood protein measurement | IPF |
| CCR2 on CD62L+ myeloid Dendr | GCST90002014 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- B cell | GCST90001780 | blood protein measurement | IPF |
| CD25 on IgD+ CD38- B cell | GCST90001780 | blood protein measurement | IPF |
| CD25 on IgD- CD38dim B cell | GCST90001789 | blood protein measurement | IPF |
| CD25 on IgD- CD38dim B cell | GCST90001789 | blood protein measurement | IPF |
| CD25 on IgD- CD38dim B cell | GCST90001789 | blood protein measurement | IPF |
| CD25 on IgD+ CD38+ B cell | GCST90001783 | blood protein measurement | IPF |
| CD25 on IgD+ CD38+ B cell | GCST90001783 | blood protein measurement | IPF |
| CD25 on IgD+ CD38+ B cell | GCST90001783 | blood protein measurement | IPF |
| CD14+ CD16+ monocyte Absolut | GCST90001580 | monocyte count | IPF |
| CD14+ CD16+ monocyte Absolut | GCST90001580 | monocyte count | IPF |
| CD14+ CD16+ monocyte %monoc | GCST90001585 | monocyte count | IPF |
| CD14+ CD16+ monocyte %monoc | GCST90001585 | monocyte count | IPF |
| CD86+ plasmacytoid Dendritic Ce | GCST90001467 | leukocyte count | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001947 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001947 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001947 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001947 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14dim Abso | GCST90001520 | myeloid white cell count | IPF |
| CD33+ HLA DR+ CD14dim Abso | GCST90001520 | myeloid white cell count | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001957 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001957 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001957 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ CD14 | GCST90001957 | blood protein measurement | IPF |
| CD33+ HLA DR+ Absolute Count | GCST90001517 | myeloid white cell count | IPF |
| Basophil %CD33dim HLA DR- Cl | GCST90001533 | myeloid white cell count | IPF |
| Basophil %CD33dim HLA DR- Cl | GCST90001533 | myeloid white cell count | IPF |
| Basophil %CD33dim HLA DR- Cl | GCST90001533 | myeloid white cell count | IPF |
| CD33 on Monocytic Myeloid-Deri | GCST90001952 | blood protein measurement | IPF |
| CD33 on Monocytic Myeloid-Deri | GCST90001952 | blood protein measurement | IPF |
| CD33 on Monocytic Myeloid-Deri | GCST90001952 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14- Absolut | GCST90001518 | myeloid white cell count | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33 on CD33+ HLA DR+ | GCST90001956 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD33 on CD14+ monocyte | GCST90001946 | blood protein measurement | IPF |
| CD62L on CD62L+ Dendritic Cell | GCST90001833 | blood protein measurement | IPF |
| CD62L on CD62L+ Dendritic Cell | GCST90001833 | blood protein measurement | IPF |
| CD19 on switched memory B cell | GCST90001740 | blood protein measurement | IPF |
| CD19 on switched memory B cell | GCST90001740 | blood protein measurement | IPF |

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|---|---|---|---|
| CD25 on switched memory B cell | GCST90001793 | blood protein measurement | IPF |
| CD25 on switched memory B cell | GCST90001793 | blood protein measurement | IPF |
| CCR2 on granulocyte | GCST90002018 | blood protein measurement | IPF |
| FSC-A on granulocyte | GCST90001966 | blood protein measurement | IPF |
| CD4 on HLA DR+ CD4+ T cell | GCST90001959 | blood protein measurement | IPF |
| CD4 on HLA DR+ CD4+ T cell | GCST90001959 | blood protein measurement | IPF |
| CD11c on CD62L+ myeloid Dend | GCST90002088 | blood protein measurement | IPF |
| CD62L- monocyte %monocyte | GCST90001451 | leukocyte count | IPF |
| CD62L- monocyte %monocyte | GCST90001451 | leukocyte count | IPF |
| CD24+ CD27+ B cell %B cell | GCST90001417 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %B cell | GCST90001417 | lymphocyte count | IPF |
| CD24+ CD27+ B cell %B cell | GCST90001417 | lymphocyte count | IPF |
| CD27 on Plasma Blast-Plasma Cel | GCST90001807 | blood protein measurement | IPF |
| CCR2 on monocyte | GCST90002008 | blood protein measurement | IPF |
| CCR2 on monocyte | GCST90002008 | blood protein measurement | IPF |
| Plasma Blast-Plasma Cell %lymph | GCST90001435 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell %CD4-C | GCST90001653 | lymphocyte count | IPF |
| CD3- lymphocyte %leukocyte | GCST90001641 | leukocyte count | IPF |
| CD28- CD8+ T cell %CD8+ T cel | GCST90001686 | lymphocyte count | IPF |
| CD28- CD8+ T cell %CD8+ T cel | GCST90001686 | lymphocyte count | IPF |
| CD28- CD8+ T cell %CD8+ T cel | GCST90001686 | lymphocyte count | IPF |
| CD28+ CD4-CD8- T cell %CD4-C | GCST90001656 | lymphocyte count | IPF |
| CD28- CD8dim T cell %CD8dim ′ | GCST90001662 | lymphocyte count | IPF |
| Naive CD8+ T cell Absolute Coun | GCST90001551 | lymphocyte count | IPF |
| CD62L on monocyte | GCST90001834 | blood protein measurement | IPF |
| CD38 on CD3- CD19- | GCST90001810 | blood protein measurement | IPF |
| Dendritic Cell Absolute Count | GCST90001461 | leukocyte count | IPF |
| Dendritic Cell Absolute Count | GCST90001461 | leukocyte count | IPF |
| CD11c+ CD62L- monocyte Absol | GCST90001452 | leukocyte count | IPF |
| CD28 on CD28+ CD45RA- CD8+ | GCST90001893 | blood protein measurement | IPF |
| CD8 on CD28- CD8+ T cell | GCST90002120 | blood protein measurement | IPF |
| CD8 on CD28- CD8+ T cell | GCST90002120 | blood protein measurement | IPF |
| CD8 on CD28- CD8+ T cell | GCST90002120 | blood protein measurement | IPF |
| CD45 on HLA DR+ Natural Killer | GCST90001912 | blood protein measurement | IPF |
| CD14 on CD14+ CD16- monocyte | GCST90001986 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| CD11c on myeloid Dendritic Cell | GCST90002087 | blood protein measurement | IPF |
| Lymphocyte Absolute Count | GCST90001601 | leukocyte count | IPF |
| Lymphocyte Absolute Count | GCST90001601 | leukocyte count | IPF |
| Terminally Differentiated CD4-CI | GCST90001572 | lymphocyte count | IPF |
| CD45RA on Terminally Differenti | GCST90002101 | blood protein measurement | IPF |
| CD25 on CD4+ T cell | GCST90001960 | blood protein measurement | IPF |
| CD25++ CD4+ T cell Absolute Cc | GCST90001504 | lymphocyte count | IPF |
| CD25++ CD8+ T cell %T cell | GCST90001679 | lymphocyte count | IPF |
| CD25++ CD8+ T cell %T cell | GCST90001679 | lymphocyte count | IPF |
| CD25 on CD28+ CD4+ T cell | GCST90001962 | blood protein measurement | IPF |
| CD25 on CD28+ CD4+ T cell | GCST90001962 | blood protein measurement | IPF |
| CD25++ CD4+ T cell %T cell | GCST90001506 | lymphocyte count | IPF |
| CD25++ CD4+ T cell %CD4+ T c | GCST90001505 | lymphocyte count | IPF |
| CD28 on activated CD4 regulatory | GCST90001902 | blood protein measurement | IPF |
| CD28 on resting CD4 regulatory T | GCST90001900 | blood protein measurement | IPF |
| CD28 on resting CD4 regulatory T | GCST90001900 | blood protein measurement | IPF |
| CD28 on CD45RA+ CD4+ T cell | GCST90001890 | blood protein measurement | IPF |
| CD28 on CD45RA+ CD4+ T cell | GCST90001890 | blood protein measurement | IPF |
| CD45 on CD33dim HLA DR- | GCST90002050 | blood protein measurement | IPF |

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|---|---|---|---|
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| HLA DR++ monocyte %monocyte | GCST90001475 | leukocyte count | IPF |
| CD123 on CD62L+ plasmacytoid | GCST90001945 | blood protein measurement | IPF |
| CD123 on CD62L+ plasmacytoid | GCST90001945 | blood protein measurement | IPF |
| CD80 on CD62L+ plasmacytoid D | GCST90002038 | blood protein measurement | IPF |
| CD80 on CD62L+ plasmacytoid D | GCST90002038 | blood protein measurement | IPF |
| CD80 on plasmacytoid Dendritic C | GCST90002037 | blood protein measurement | IPF |
| CD80 on plasmacytoid Dendritic C | GCST90002037 | blood protein measurement | IPF |
| CD123 on plasmacytoid Dendritic | GCST90001944 | blood protein measurement | IPF |
| CD123 on plasmacytoid Dendritic | GCST90001944 | blood protein measurement | IPF |
| CD25 on transitional B cell | GCST90001795 | blood protein measurement | IPF |
| CD25 on transitional B cell | GCST90001795 | blood protein measurement | IPF |
| CD14 on Monocytic Myeloid-Deri | GCST90002019 | blood protein measurement | IPF |
| CD25 on CD39+ activated CD4 re | GCST90001940 | blood protein measurement | IPF |
| CD25 on CD39+ CD4 regulatory | GCST90001935 | blood protein measurement | IPF |
| CD25 on CD39+ resting CD4 regu | GCST90001938 | blood protein measurement | IPF |
| Terminally Differentiated CD8+ T | GCST90001557 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell Absolute | GCST90001654 | lymphocyte count | IPF |
| CD28- CD4-CD8- T cell Absolute | GCST90001654 | lymphocyte count | IPF |
| Central Memory CD4+ T cell %CI | GCST90001538 | lymphocyte count | IPF |
| Activated & resting CD4 regulator | GCST90001498 | lymphocyte count | IPF |
| CD4-CD8- T cell Absolute Count | GCST90001598 | leukocyte count | IPF |
| CD4-CD8- T cell Absolute Count | GCST90001598 | leukocyte count | IPF |
| CD33dim HLA DR+ CD11b- Abs | GCST90001527 | myeloid white cell count | IPF |
| CD11c+ HLA DR++ monocyte %I | GCST90001457 | leukocyte count | IPF |
| IgD on IgD+ CD38- B cell | GCST90001822 | blood protein measurement | IPF |
| CD86 on myeloid Dendritic Cell | GCST90001903 | blood protein measurement | IPF |
| CD19 on IgD- CD38- B cell | GCST90001733 | blood protein measurement | IPF |
| CD33+ HLA DR+ CD14- %CD33 | GCST90001519 | myeloid white cell count | IPF |
| CD33 on Granulocytic Myeloid-D | GCST90001950 | blood protein measurement | IPF |
| CD33 on Granulocytic Myeloid-D | GCST90001950 | blood protein measurement | IPF |
| CD33 on Granulocytic Myeloid-D | GCST90001950 | blood protein measurement | IPF |
| Memory B cell %B cell | GCST90001406 | lymphocyte count | IPF |
| Naive-mature B cell %B cell | GCST90001408 | lymphocyte count | IPF |
| CD45 on CD33+ HLA DR+ CD14 | GCST90002042 | blood protein measurement | IPF |
| CD25++ CD8+ T cell %CD8+ T c | GCST90001680 | lymphocyte count | IPF |
| CD4 on monocyte | GCST90001958 | blood protein measurement | IPF |
| BAFF-R on CD20- CD38- B cell | GCST90001701 | blood protein measurement | IPF |
| Unswitched memory B cell %B ce | GCST90001397 | lymphocyte count | IPF |
| CD8+ T cell %T cell | GCST90001593 | leukocyte count | IPF |
| CD4+/CD8+ T cell | GCST90001589 | leukocyte count | IPF |
| CD28- CD8+ T cell %T cell | GCST90001685 | lymphocyte count | IPF |
| CD19 on naive-mature B cell | GCST90001737 | blood protein measurement | IPF |
| CD19 on naive-mature B cell | GCST90001737 | blood protein measurement | IPF |
| IgD+ CD24- B cell %B cell | GCST90001415 | lymphocyte count | IPF |
| CD11b on basophil | GCST90002096 | blood protein measurement | IPF |
| CD11b on CD33dim HLA DR- | GCST90002095 | blood protein measurement | IPF |
| CD38 on IgD+ B cell | GCST90001818 | blood protein measurement | IPF |
| CD8+ Natural Killer T %T cell | GCST90001631 | leukocyte count | IPF |
| Lymphocyte %leukocyte | GCST90001602 | leukocyte count | IPF |
| Granulocyte %leukocyte | GCST90001652 | leukocyte count | IPF |
| FSC-A on CD8+ T cell | GCST90001974 | blood protein measurement | IPF |
| PDL-1 on CD14+ CD16- monocyt | GCST90001993 | blood protein measurement | IPF |
| CD127 on CD8+ T cell | GCST90001927 | blood protein measurement | IPF |
| CD8+ Natural Killer T %lymphoc | GCST90001632 | leukocyte count | IPF |

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|---|---|---|---|
| CD8+ Natural Killer T Absolute C | GCST90001630 | leukocyte count | IPF |
| CD8+ Natural Killer T Absolute C | GCST90001630 | leukocyte count | IPF |
| CD20 on transitional B cell | GCST90001763 | blood protein measurement | IPF |
| HLA DR on Hematopoietic Stem ( | GCST90002107 | blood protein measurement | IPF |
| HLA DR on Hematopoietic Stem ( | GCST90002107 | blood protein measurement | IPF |
| HLA DR on Hematopoietic Stem ( | GCST90002107 | blood protein measurement | IPF |
| SSC-A on lymphocyte | GCST90002079 | blood protein measurement | IPF |
| CD28- CD25++ CD8+ T cell Absc | GCST90001678 | lymphocyte count | IPF |
| HLA DR++ monocyte %leukocyte | GCST90001476 | leukocyte count | IPF |
| HLA DR++ monocyte %leukocyte | GCST90001476 | leukocyte count | IPF |
| HLA DR++ monocyte %leukocyte | GCST90001476 | leukocyte count | IPF |
| HLA DR++ monocyte Absolute C | GCST90001477 | leukocyte count | IPF |
| CD33- HLA DR- Absolute Count | GCST90001522 | myeloid white cell count | IPF |

| SNP | Chr | Position | EA.exposure | NEA.exposure |
|---|---|---|---|---|
| rs1006368 | 10 | 126346603 | T | C |
| rs1006368 | 10 | 126346603 | T | C |
| rs10919543 | 1 | 161508617 | G | A |
| rs9912354 | 17 | 33805730 | T | C |
| rs1007337 | 22 | 39781585 | T | C |
| rs2066399 | 6 | 15880540 | A | G |
| rs34486765 | 19 | 49915911 | A | G |
| rs4939384 | 11 | 60273642 | G | A |
| rs72836542 | 6 | 14091682 | T | C |
| rs7404890 | 16 | 11007193 | A | G |
| rs9270560 | 6 | 32560741 | C | T |
| rs10122523 | 9 | 99511751 | A | G |
| rs10400782 | 14 | 35130401 | C | A |
| rs10484068 | 14 | 99653123 | T | C |
| rs10505739 | 12 | 10043518 | C | A |
| rs10824158 | 10 | 53915868 | T | G |
| rs11060236 | 12 | 129773605 | G | A |
| rs1106305 | 11 | 12065087 | T | C |
| rs11112760 | 12 | 106241673 | T | C |
| rs11139981 | 7 | 146550168 | T | G |
| rs11164874 | 13 | 28485345 | A | G |
| rs11174596 | 3 | 67860216 | C | T |
| rs11186737 | 6 | 159962229 | A | G |
| rs11190247 | 3 | 14459099 | G | A |
| rs11202534 | 10 | 89500755 | T | G |
| rs11212152 | 12 | 119037578 | C | T |
| rs11213776 | 2 | 41540149 | C | T |
| rs11251770 | 10 | 91013835 | A | G |
| rs11252942 | 12 | 129340399 | T | C |
| rs11260481 | 19 | 46587710 | T | C |
| rs11278573 | 2 | 127831527 | A | G |
| rs11288043 | 6 | 130091902 | A | G |
| rs11297384 | 5 | 128365521 | G | A |
| rs11336991 | 20 | 21420694 | T | C |
| rs11369881 | 1 | 207678128 | G | A |
| rs11369916 | 14 | 58571589 | A | G |
| rs11423015 | 1 | 102796337 | A | G |
| rs11442556 | 5 | 176911575 | T | C |
| rs11450799 | 1 | 21892266 | A | G |
| rs11461981 | 4 | 71875684 | G | A |
| rs11468587 | 4 | 138349095 | A | G |
| rs11479150 | 1 | 81668305 | T | C |
| rs11487116 | 5 | 24165437 | G | T |
| rs11504034 | 3 | 64543612 | T | C |
| rs11513529 | 3 | 105859785 | A | G |
| rs11517541 | 1 | 100459655 | A | G |
| rs11521278 | 3 | 74527776 | T | C |
| rs11522194 | 7 | 56724250 | G | T |
| rs11538695 | 20 | 50004560 | A | G |
| rs11551731 | 2 | 170436614 | C | T |
| rs11566042 | 3 | 195531004 | A | C |
| rs11567701 | 4 | 167555345 | T | C |
| rs11575547 | 5 | 168914162 | T | C |
| rs11576563 | 1 | 6118693 | T | C |
| rs11582133 | 3 | 115341107 | G | A |
| rs11587918 | 3 | 194347376 | G | A |

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|---|---|---|---|---|
| rs11594572 | 2 | 199934892 | A | G |
| rs11639975 | 4 | 176754667 | A | G |
| rs11643133 | 6 | 66416572 | C | T |
| rs11649878 | 4 | 183314518 | A | G |
| rs11651015 | 1 | 195636177 | C | A |
| rs11658171 | 5 | 29413612 | C | T |
| rs11661882 | 18 | 70504468 | A | G |
| rs11671916 | 3 | 130201546 | T | G |
| rs11691659 | 11 | 121746998 | G | A |
| rs11692183 | 7 | 153895185 | T | C |
| rs11694097 | 18 | 38279589 | T | C |
| rs11700371 | 10 | 124406240 | A | G |
| rs11707903 | 7 | 69510130 | C | T |
| rs11712771 | 8 | 31315428 | A | G |
| rs11717725 | 13 | 77081029 | T | C |
| rs11718509 | 6 | 119514715 | T | C |
| rs11721138 | 15 | 51649599 | A | G |
| rs11724808 | 6 | 119632972 | T | C |
| rs11727036 | 11 | 60694375 | C | A |
| rs11729336 | 12 | 52437438 | T | C |
| rs11743309 | 7 | 6934892 | A | G |
| rs11744086 | 8 | 98513319 | C | T |
| rs11744826 | 8 | 82400020 | C | T |
| rs11746991 | 7 | 79791344 | A | C |
| rs11755542 | 16 | 13128176 | C | A |
| rs11761343 | 12 | 93540934 | A | G |
| rs11770299 | 9 | 83435830 | G | A |
| rs11774582 | 18 | 3305228 | C | T |
| rs11778562 | 12 | 132283582 | T | G |
| rs11780145 | 15 | 29421113 | T | C |
| rs11780804 | 8 | 73079210 | A | G |
| rs11782202 | 6 | 86346609 | C | T |
| rs11784014 | 22 | 36506460 | A | C |
| rs11792257 | 21 | 27289871 | T | C |
| rs11792293 | 17 | 30028367 | G | A |
| rs11798326 | 8 | 124174485 | A | C |
| rs11801453 | 11 | 3830358 | A | G |
| rs11807604 | 8 | 144562245 | A | G |
| rs11808986 | 19 | 24477916 | T | C |
| rs11818047 | 20 | 37027035 | C | T |
| rs12130486 | 1 | 81455274 | C | T |
| rs12279408 | 11 | 84269972 | T | C |
| rs12332976 | 6 | 40616989 | A | G |
| rs12378893 | 9 | 79057643 | A | G |
| rs12499962 | 4 | 99029457 | G | A |
| rs12501785 | 4 | 180565400 | A | G |
| rs12616335 | 2 | 159969605 | T | C |
| rs12750174 | 1 | 184765000 | A | G |
| rs13010105 | 2 | 42107980 | G | A |
| rs13104493 | 4 | 32690871 | G | A |
| rs132751 | 22 | 36610967 | T | C |
| rs13794293 | 20 | 33104122 | T | G |
| rs13794319 | 12 | 10963475 | A | C |
| rs13799728 | 7 | 115706613 | C | T |
| rs13815289 | 2 | 40546780 | G | A |
| rs13824639 | 20 | 54228961 | A | G |
| rs13825956 | 11 | 76470121 | A | G |
| rs13832778 | 6 | 1730982 | A | G |

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|---|---|---|---|---|
| rs13840105 | 3 | 166256176 | A | G |
| rs13844903 | 7 | 29025284 | T | C |
| rs13856797 | 2 | 8152821 | A | G |
| rs1388223( | 1 | 5236853 | A | G |
| rs13887189 | 3 | 162179186 | C | T |
| rs13893792 | 16 | 51095561 | T | C |
| rs13894362 | 4 | 114293931 | A | G |
| rs1389486( | 10 | 132596864 | A | G |
| rs13895449 | 4 | 32184694 | C | T |
| rs13907563 | 12 | 102082782 | G | A |
| rs13942364 | 1 | 236238830 | A | G |
| rs13958447 | 8 | 57056704 | A | G |
| rs13973637 | 17 | 67625638 | T | C |
| rs14008754 | 6 | 168136303 | T | C |
| rs14017352 | 2 | 195788562 | A | C |
| rs1403220( | 10 | 1765793 | A | G |
| rs14036749 | 4 | 131786765 | C | T |
| rs14080034 | 19 | 50001170 | T | C |
| rs14092958 | 2 | 169297185 | T | C |
| rs14096328 | 1 | 24640467 | T | C |
| rs1416440( | 1 | 220781210 | A | G |
| rs14207642 | 16 | 5628078 | A | G |
| rs14215188 | 16 | 1071217 | A | C |
| rs14260404 | 2 | 87503702 | C | A |
| rs14268668 | 12 | 29095512 | C | T |
| rs14286949 | 11 | 87291175 | T | C |
| rs14292219 | 5 | 145713781 | C | A |
| rs14339313 | 17 | 30967385 | T | C |
| rs1433955( | 10 | 69536834 | T | C |
| rs14343513 | 12 | 129545747 | A | G |
| rs1437729( | 10 | 101494118 | T | C |
| rs14387129 | 19 | 1191667 | G | A |
| rs14394079 | 1 | 52644883 | A | G |
| rs14410465 | 17 | 5023557 | A | G |
| rs14420685 | 9 | 77966779 | T | G |
| rs14425817 | 8 | 2859400 | G | A |
| rs14427594 | 14 | 34065832 | G | T |
| rs14461337 | 5 | 81311763 | C | T |
| rs14468244 | 12 | 53402638 | A | G |
| rs14494283 | 1 | 111842326 | T | C |
| rs1450217( | 10 | 22411454 | A | G |
| rs1453364( | 6 | 78745175 | T | C |
| rs14556351 | 9 | 106801353 | G | A |
| rs14558353 | 1 | 66490103 | C | T |
| rs14572028 | 13 | 43404037 | C | T |
| rs1457436( | 10 | 16995517 | C | T |
| rs14583573 | 10 | 66659421 | G | T |
| rs1459781( | 18 | 7839215 | A | C |
| rs14610142 | 19 | 6753000 | A | C |
| rs14613572 | 5 | 154015729 | T | C |
| rs14621703 | 2 | 41343706 | C | T |
| rs14631422 | 5 | 141469416 | C | A |
| rs14637448 | 4 | 85578601 | A | G |
| rs14646185 | 22 | 23709958 | A | G |
| rs1466508( | 19 | 22454852 | A | G |
| rs1466612( | 12 | 100494123 | T | C |
| rs1467563( | 3 | 76660068 | T | C |
| rs14693704 | 14 | 46740502 | G | T |

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| rs14702694 | 4 | 100588891 | T | C |
| rs14756362 | 10 | 5377215 | T | C |
| rs14757273 | 19 | 49416171 | T | C |
| rs14759182 | 1 | 47595103 | G | A |
| rs14768196 | 7 | 37590076 | T | C |
| rs14795938 | 8 | 124197307 | A | G |
| rs14796874 | 10 | 54704473 | G | A |
| rs14838008 | 9 | 28759554 | T | C |
| rs14851382 | 20 | 61268143 | T | C |
| rs14859091 | 4 | 187560601 | A | G |
| rs14865840 | 3 | 153311399 | T | C |
| rs14881693 | 5 | 71107850 | G | A |
| rs14883508 | 9 | 10278984 | T | C |
| rs14893950 | 5 | 12480500 | G | A |
| rs14894748 | 2 | 10326418 | T | C |
| rs14920883 | 6 | 10017676 | C | A |
| rs14943807 | 15 | 30234373 | G | A |
| rs14964997 | 9 | 10889621 | T | C |
| rs14980115 | 6 | 162457335 | G | A |
| rs14982855 | 6 | 84898123 | T | C |
| rs14984427 | 4 | 87144762 | A | G |
| rs14986020 | 10 | 31026572 | T | C |
| rs14987615 | 2 | 24167677 | C | T |
| rs14990831 | 15 | 54344919 | T | C |
| rs15005362 | 17 | 80299376 | T | C |
| rs15005548 | 14 | 55295865 | A | G |
| rs15040023 | 7 | 136855654 | T | C |
| rs15047640 | 13 | 113289664 | A | G |
| rs1508064 | 2 | 72979172 | T | C |
| rs15088938 | 14 | 100822892 | C | T |
| rs15090574 | 18 | 70586990 | A | G |
| rs15099408 | 18 | 56708792 | T | C |
| rs15108617 | 1 | 223544915 | A | G |
| rs15108617 | 1 | 223544915 | A | G |
| rs15124681 | 16 | 23373955 | A | G |
| rs15125036 | 2 | 240644273 | T | C |
| rs16864501 | 3 | 152385976 | A | G |
| rs17642570 | 5 | 148699825 | C | T |
| rs17791728 | 20 | 17556587 | C | T |
| rs17878699 | 3 | 3132754 | A | G |
| rs17882143 | 17 | 41836082 | T | C |
| rs18071679 | 2 | 150956800 | C | A |
| rs18074590 | 6 | 20965785 | C | A |
| rs18097248 | 20 | 24457030 | A | G |
| rs18122822 | 15 | 84950824 | A | G |
| rs18166007 | 8 | 117040660 | T | C |
| rs18328062 | 8 | 30627573 | A | G |
| rs18389538 | 2 | 22576943 | T | C |
| rs18418452 | 14 | 45055780 | T | G |
| rs18440113 | 7 | 83368658 | T | C |
| rs18491002 | 12 | 117089403 | A | G |
| rs18503442 | 3 | 90216749 | A | C |
| rs18558735 | 3 | 117384981 | A | G |
| rs18575492 | 7 | 62917010 | G | A |
| rs18625157 | 7 | 13558580 | C | A |
| rs18799073 | 3 | 144835290 | G | A |
| rs18807411 | 12 | 19311236 | A | G |
| rs18808767 | 15 | 29114742 | A | G |

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| rs1882927( | 2 | 162960872 | T | C |
| rs18837624 | 9 | 102390885 | T | C |
| rs18913134 | 6 | 167014418 | T | C |
| rs18936911 | 5 | 142967016 | T | C |
| rs18941234 | 5 | 75564943 | T | C |
| rs18979612 | 11 | 109281106 | T | C |
| rs19066519 | 2 | 106438361 | G | A |
| rs19132581 | 10 | 120573449 | C | A |
| rs19160721 | 4 | 123414413 | A | C |
| rs1923970( | 6 | 81984275 | T | C |
| rs1925560( | 5 | 135639453 | A | G |
| rs2001988( | 19 | 46387941 | A | G |
| rs2384564 | 10 | 36442592 | G | A |
| rs2496150 | 6 | 13374132 | G | A |
| rs34000508 | 8 | 25574426 | T | C |
| rs34039708 | 8 | 12500832 | A | C |
| rs34539402 | 17 | 39959627 | A | G |
| rs34609592 | 9 | 136915695 | A | G |
| rs34772471 | 1 | 112269677 | T | C |
| rs35275693 | 12 | 88561479 | G | A |
| rs3570619( | 7 | 131191874 | T | C |
| rs3573083( | 7 | 109248384 | T | C |
| rs35948774 | 2 | 118664032 | A | G |
| rs37496461 | 9 | 504491 | C | A |
| rs3848018 | 13 | 99034552 | G | A |
| rs459056 | 20 | 15614140 | G | T |
| rs4853078 | 2 | 75148081 | G | T |
| rs53643408 | 18 | 63832285 | T | C |
| rs5485532( | 13 | 114441234 | C | T |
| rs55787444 | 3 | 185766414 | T | C |
| rs55856613 | 17 | 79094162 | A | G |
| rs57121931 | 19 | 55017690 | C | T |
| rs5824303( | 5 | 180495180 | G | A |
| rs5881773( | 12 | 46009960 | G | A |
| rs59745713 | 19 | 34075835 | A | G |
| rs61755651 | 14 | 72431599 | T | C |
| rs61784602 | 1 | 46796909 | C | T |
| rs62247421 | 3 | 64390467 | A | G |
| rs62321187 | 4 | 120605817 | T | C |
| rs6233710( | 5 | 1957403 | G | T |
| rs62424171 | 6 | 118769058 | A | G |
| rs6517382 | 21 | 38156170 | C | T |
| rs6916896 | 6 | 5734886 | T | C |
| rs71419987 | 14 | 34919717 | A | G |
| rs7146602( | 12 | 82065434 | T | C |
| rs7254864 | 19 | 9246656 | A | G |
| rs7270485( | 9 | 10774031 | G | A |
| rs7272388( | 4 | 146773005 | C | T |
| rs7276873( | 9 | 137149408 | A | G |
| rs7281082( | 10 | 92600913 | T | C |
| rs72931475 | 2 | 159316835 | G | A |
| rs72996438 | 2 | 211172214 | C | T |
| rs73034498 | 19 | 44937435 | T | C |
| rs73116391 | 7 | 46417626 | G | T |
| rs7320623( | 7 | 113679246 | A | G |
| rs73780868 | 6 | 152137377 | C | T |
| rs7426047 | 2 | 107184424 | T | C |
| rs74322543 | 10 | 85916001 | G | A |

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| rs74336249 | 9 | 135625608 | T | C |
| rs74540476 | 11 | 29902098 | A | G |
| rs74565504 | 14 | 89207147 | T | G |
| rs74842782 | 7 | 131413341 | G | T |
| rs74932477 | 2 | 229222112 | A | G |
| rs75157411 | 11 | 95180478 | A | G |
| rs75255396 | 1 | 35892939 | C | T |
| rs75361870 | 8 | 9202609 | A | G |
| rs75391939 | 12 | 133446245 | T | C |
| rs75438005 | 18 | 26017285 | A | G |
| rs75510626 | 6 | 64401131 | C | T |
| rs75550713 | 13 | 112088993 | T | C |
| rs75551427 | 3 | 168644376 | G | A |
| rs75561723 | 2 | 199542954 | T | C |
| rs75592465 | 13 | 105831838 | T | G |
| rs75600477 | 20 | 40197928 | G | T |
| rs75641434 | 1 | 181280885 | T | C |
| rs75660425 | 3 | 129232254 | A | G |
| rs75669615 | 15 | 39668760 | A | G |
| rs75760272 | 5 | 10850589 | A | G |
| rs75774401 | 12 | 48211641 | A | C |
| rs7597139 | 2 | 107560107 | A | G |
| rs7613821 | 3 | 105611213 | G | A |
| rs76385522 | 11 | 10620991 | T | C |
| rs76444609 | 1 | 249084997 | A | G |
| rs76543451 | 9 | 122201008 | A | G |
| rs76552842 | 11 | 83433494 | A | G |
| rs76568972 | 2 | 1592272 | T | C |
| rs76636736 | 1 | 99542806 | A | C |
| rs76679968 | 4 | 129754843 | T | C |
| rs76736944 | 1 | 180881632 | C | T |
| rs76808079 | 18 | 22735939 | C | A |
| rs77009235 | 8 | 4499026 | T | C |
| rs77146551 | 4 | 108096534 | G | A |
| rs77156603 | 2 | 104590904 | A | C |
| rs77370289 | 8 | 57917248 | C | T |
| rs77390603 | 10 | 4688192 | A | C |
| rs77434296 | 4 | 22140311 | A | G |
| rs77465871 | 7 | 47504039 | G | A |
| rs77485746 | 11 | 129187484 | A | C |
| rs77538429 | 1 | 110742985 | G | A |
| rs77577050 | 12 | 116077199 | T | G |
| rs77587134 | 5 | 3635021 | A | G |
| rs77689186 | 4 | 176614955 | A | C |
| rs77725246 | 17 | 55639212 | T | C |
| rs77733172 | 9 | 140235501 | T | C |
| rs77814979 | 4 | 131041099 | C | A |
| rs77955766 | 19 | 17307102 | G | T |
| rs78085370 | 1 | 186023973 | A | G |
| rs78085398 | 11 | 33121166 | A | G |
| rs78100215 | 17 | 8298873 | A | G |
| rs78275221 | 6 | 90900544 | A | G |
| rs78313301 | 3 | 11075184 | T | C |
| rs78470553 | 7 | 158334355 | A | G |
| rs7850783 | 9 | 100968226 | G | A |
| rs78524989 | 11 | 94284134 | G | T |
| rs78622624 | 10 | 33359425 | C | T |
| rs78656354 | 1 | 166905650 | A | G |

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|---|---|---|---|---|
| rs78703636 | 19 | 33953595 | C | T |
| rs78741146 | 3 | 182409985 | C | T |
| rs78750136 | 14 | 26308944 | C | T |
| rs78773852 | 12 | 71181930 | C | T |
| rs78881177 | 11 | 127881478 | C | A |
| rs78888262 | 16 | 88701572 | A | C |
| rs78922116 | 11 | 25534610 | T | C |
| rs79027575 | 2 | 146371302 | C | T |
| rs79395509 | 4 | 176348299 | T | C |
| rs79418578 | 3 | 141886501 | A | C |
| rs79518488 | 6 | 28389143 | C | T |
| rs79548047 | 16 | 11614838 | C | T |
| rs79647440 | 7 | 142438302 | T | C |
| rs79725470 | 5 | 94705605 | C | T |
| rs79741386 | 11 | 109660227 | A | G |
| rs79757812 | 17 | 65896989 | A | G |
| rs79851411 | 8 | 13716390 | A | G |
| rs79888370 | 4 | 180201786 | T | G |
| rs80018878 | 7 | 46985321 | T | C |
| rs80305889 | 7 | 34681601 | G | T |
| rs80331575 | 4 | 109566866 | T | C |
| rs80334718 | 14 | 33998519 | G | A |
| rs8178689 | 8 | 42060072 | G | A |
| rs9471016 | 6 | 39196392 | T | C |
| rs9479093 | 6 | 151992984 | G | A |
| rs10183338 | 2 | 111610816 | T | G |
| rs11656270 | 6 | 31360602 | G | A |
| rs14380923 | 2 | 167484735 | G | T |
| rs10205992 | 2 | 87279109 | T | C |
| rs1264570 | 6 | 30365210 | T | C |
| rs12660712 | 6 | 29734634 | A | C |
| rs130065 | 6 | 31122500 | A | G |
| rs13024436 | 2 | 86534521 | A | G |
| rs1356625 | 2 | 86022747 | C | T |
| rs6903896 | 6 | 31168029 | A | G |
| rs938487 | 2 | 87009488 | G | A |
| rs1037633 | 3 | 23750521 | G | T |
| rs200474 | 6 | 27767640 | A | G |
| rs2018404 | 14 | 105695446 | T | C |
| rs709589 | 14 | 106306841 | T | C |
| rs10422871 | 19 | 8789227 | T | C |
| rs10765790 | 11 | 95852734 | C | T |
| rs10426452 | 19 | 49907690 | A | G |
| rs10501383 | 11 | 60164527 | T | C |
| rs11751198 | 6 | 31753526 | A | G |
| rs1569590 | 6 | 15898884 | G | A |
| rs35039517 | 10 | 94522438 | A | G |
| rs55809481 | 19 | 49872521 | C | T |
| rs61731791 | 19 | 50940778 | T | C |
| rs9271146 | 6 | 32577282 | C | A |
| rs10505739 | 12 | 10043518 | C | A |
| rs10824158 | 10 | 53915868 | T | G |
| rs11174746 | 3 | 74016318 | A | G |
| rs11423015 | 1 | 102796337 | A | G |
| rs11458199 | 2 | 235962017 | G | A |
| rs11639975 | 4 | 176754667 | A | G |
| rs11658171 | 5 | 29413612 | C | T |
| rs11691502 | 18 | 62442252 | T | C |

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| rs1169165 | 11 | 121746998 | G | A |
| rs1171732 | 11 | 24544063 | A | G |
| rs11747841 | 8 | 56081028 | T | C |
| rs1176928 | 7 | 39587008 | T | G |
| rs1178675 | 8 | 15699657 | A | G |
| rs1180898 | 19 | 24477916 | T | C |
| rs1227940 | 11 | 84269972 | T | C |
| rs1249996 | 4 | 99029457 | G | A |
| rs1250178 | 4 | 180565400 | A | G |
| rs1379429 | 20 | 33104122 | T | G |
| rs1383277 | 6 | 1730982 | A | G |
| rs1389379 | 16 | 51095561 | T | C |
| rs1409632 | 1 | 24640467 | T | C |
| rs1433550 | 10 | 69536834 | T | C |
| rs1470936 | 15 | 81422902 | T | G |
| rs1486584 | 3 | 153311399 | T | C |
| rs1492088 | 6 | 10017676 | C | A |
| rs1508852 | 17 | 49002799 | A | G |
| rs1686450 | 3 | 152385976 | A | G |
| rs1779172 | 20 | 17556587 | C | T |
| rs1809724 | 20 | 24457030 | A | G |
| rs1855873 | 3 | 117384981 | A | G |
| rs1857549 | 7 | 62917010 | G | A |
| rs1897961 | 11 | 109281106 | T | C |
| rs1906651 | 2 | 106438361 | G | A |
| rs3403970 | 8 | 12500832 | A | C |
| rs3506866 | 14 | 101798387 | G | T |
| rs3577239 | 16 | 47727514 | T | C |
| rs3753568 | 6 | 165166578 | G | A |
| rs4853078 | 2 | 75148081 | G | T |
| rs6232118 | 4 | 120605817 | T | C |
| rs7275845 | 15 | 69811049 | C | T |
| rs7293147 | 2 | 159316835 | G | A |
| rs7543800 | 18 | 26017285 | A | G |
| rs7599338 | 4 | 55305871 | C | T |
| rs7644460 | 1 | 249084997 | A | G |
| rs7655284 | 11 | 83433494 | A | G |
| rs7711366 | 12 | 83249816 | G | A |
| rs7746587 | 7 | 47504039 | G | A |
| rs7746738 | 16 | 78662086 | T | C |
| rs7808816 | 4 | 130098084 | G | A |
| rs7832225 | 12 | 48207497 | A | G |
| rs7875013 | 14 | 26308944 | C | T |
| rs7902757 | 2 | 146371302 | C | T |
| rs7939550 | 4 | 176348299 | T | C |
| rs7951848 | 6 | 28389143 | C | T |
| rs7964744 | 7 | 142438302 | T | C |
| rs7985141 | 8 | 13716390 | A | G |
| rs8033155 | 15 | 59013643 | G | A |
| rs1051246 | 17 | 33770802 | T | C |
| rs9916257 | 17 | 33797371 | T | G |
| rs1051246 | 17 | 33770802 | T | C |
| rs1830533 | 1 | 25076059 | T | C |
| rs9916257 | 17 | 33797371 | T | G |
| rs1051246 | 17 | 33770802 | T | C |
| rs9916257 | 17 | 33797371 | T | G |
| rs1064086 | 2 | 237034061 | A | G |
| rs1077462 | 12 | 111910219 | G | A |

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| rs11615628 | 12 | 6903631 | A | G |
| rs10786199 | 10 | 97069472 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs12268044 | 10 | 98794615 | T | C |
| rs14101809 | 10 | 98169221 | T | G |
| rs5014871 | 10 | 97522795 | G | A |
| rs72809762 | 10 | 97294154 | T | C |
| rs10786199 | 10 | 97069472 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs12268044 | 10 | 98794615 | T | C |
| rs6584022 | 10 | 97509641 | G | T |
| rs72809762 | 10 | 97294154 | T | C |
| rs7918541 | 10 | 98168559 | G | A |
| rs10786199 | 10 | 97069472 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs11188757 | 10 | 98205222 | C | A |
| rs7088584 | 10 | 97607644 | T | G |
| rs72809762 | 10 | 97294154 | T | C |
| rs10786199 | 10 | 97069472 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs12268044 | 10 | 98794615 | T | C |
| rs14101809 | 10 | 98169221 | T | G |
| rs7094484 | 10 | 97490998 | G | A |
| rs72809762 | 10 | 97294154 | T | C |
| rs10786281 | 10 | 98116936 | C | T |
| rs11745883 | 10 | 96773382 | A | G |
| rs12778618 | 10 | 95633120 | C | T |
| rs4293064 | 10 | 107757380 | A | C |
| rs7086986 | 10 | 97507312 | G | A |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs2018340 | 22 | 43390319 | A | G |
| rs5757678 | 22 | 39843409 | T | C |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |

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| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14488623 | 22 | 42326166 | C | T |
| rs14980658 | 22 | 40774205 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14488623 | 22 | 42326166 | C | T |
| rs14980658 | 22 | 40774205 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs73165129 | 22 | 42315371 | T | C |
| rs76146864 | 22 | 40246055 | T | C |
| rs1081003 | 22 | 42525756 | A | G |
| rs11770511 | 22 | 41957510 | A | G |
| rs14980658 | 22 | 40774205 | G | A |
| rs1894588 | 22 | 40629980 | T | C |
| rs4657041 | 1 | 161478859 | C | T |
| rs5757678 | 22 | 39843409 | T | C |
| rs5759079 | 22 | 43393437 | A | G |
| rs5996087 | 22 | 42321591 | G | A |
| rs76146864 | 22 | 40246055 | T | C |
| rs1084560 | 16 | 10824872 | G | A |
| rs3087456 | 16 | 10970902 | A | G |
| rs3104414 | 6 | 32582612 | A | G |
| rs7032773 | 9 | 117645562 | T | C |
| rs10882573 | 10 | 97009657 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs14101809 | 10 | 98169221 | T | G |
| rs3814159 | 10 | 97515137 | A | G |
| rs3824789 | 10 | 98800099 | A | G |
| rs72809757 | 10 | 97285715 | G | A |
| rs10882573 | 10 | 97009657 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs10883093 | 10 | 100183774 | G | A |
| rs11188757 | 10 | 98205222 | C | A |

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| rs1410600 | 10 | 97070694 | T | C |
| rs2805590 | 10 | 98812166 | T | C |
| rs4918962 | 10 | 97475574 | C | A |
| rs10882573 | 10 | 97009657 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs11188465 | 10 | 97506400 | T | C |
| rs1410600 | 10 | 97070694 | T | C |
| rs14555726 | 10 | 95850055 | G | A |
| rs7918541 | 10 | 98168559 | G | A |
| rs10882573 | 10 | 97009657 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs10883093 | 10 | 100183774 | G | A |
| rs14101809 | 10 | 98169221 | T | G |
| rs2805590 | 10 | 98812166 | T | C |
| rs61854874 | 10 | 89173298 | A | G |
| rs6584018 | 10 | 97480752 | G | A |
| rs72809757 | 10 | 97285715 | G | A |
| rs10882655 | 10 | 97474371 | A | G |
| rs9263475 | 6 | 31050348 | G | A |
| rs9265951 | 6 | 31315270 | T | C |
| rs10882659 | 10 | 97510704 | C | T |
| rs12138291 | 1 | 166464476 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs35055340 | 1 | 165314063 | T | C |
| rs10882701 | 10 | 97741071 | C | A |
| rs1410600 | 10 | 97070694 | T | C |
| rs2901833 | 10 | 96998591 | A | G |
| rs6584017 | 10 | 97480462 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs12778797 | 10 | 96998688 | C | T |
| rs1410600 | 10 | 97070694 | T | C |
| rs14555726 | 10 | 95850055 | G | A |
| rs1539433 | 10 | 97519645 | T | C |
| rs1923692 | 10 | 98173715 | G | T |
| rs10882701 | 10 | 97741071 | C | A |
| rs11188465 | 10 | 97506400 | T | C |
| rs12778797 | 10 | 96998688 | C | T |
| rs1410600 | 10 | 97070694 | T | C |
| rs9663948 | 10 | 98238236 | C | T |
| rs10882701 | 10 | 97741071 | C | A |
| rs2901833 | 10 | 96998591 | A | G |
| rs10882701 | 10 | 97741071 | C | A |
| rs11745883 | 10 | 96773382 | A | G |
| rs12778618 | 10 | 95633120 | C | T |
| rs1539433 | 10 | 97519645 | T | C |
| rs7426056 | 2 | 204612058 | G | A |
| rs10882701 | 10 | 97741071 | C | A |
| rs14101809 | 10 | 98169221 | T | G |
| rs3824789 | 10 | 98800099 | A | G |
| rs4336961 | 10 | 97497563 | C | A |
| rs72809762 | 10 | 97294154 | T | C |
| rs11306360 | 1 | 161246613 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs34658867 | 20 | 44977184 | C | A |
| rs745307 | 20 | 44747086 | A | G |
| rs10905716 | 10 | 6114010 | T | C |
| rs10905719 | 10 | 6115171 | A | G |
| rs11124653 | 2 | 39112166 | A | C |

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|---|---|---|---|---|
| rs11579717 | 1 | 199999121 | A | G |
| rs6183637( | 1 | 188691469 | G | A |
| rs1090571( | 10 | 6115171 | A | G |
| rs1112465( | 2 | 39112166 | A | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs6183637( | 1 | 188691469 | G | A |
| rs1090571( | 10 | 6115171 | A | G |
| rs1091954( | 1 | 161508763 | C | T |
| rs1115791( | 11 | 111848073 | T | C |
| rs1121443( | 11 | 112830782 | T | G |
| rs1175330( | 11 | 112710664 | T | C |
| rs1488491( | 11 | 113153223 | T | C |
| rs1750467( | 11 | 110737507 | A | G |
| rs7729173( | 11 | 112749800 | T | C |
| rs1091954( | 1 | 161508763 | C | T |
| rs1261459( | 2 | 232290640 | A | G |
| rs1102503( | 11 | 19175633 | A | G |
| rs2857229 | 12 | 6900616 | G | A |
| rs1108698( | 20 | 44511627 | T | C |
| rs162076 | 20 | 46785499 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs1883832 | 20 | 44746982 | C | T |
| rs2250246 | 12 | 6553016 | G | A |
| rs3557480( | 3 | 32533246 | C | T |
| rs7591825( | 3 | 32945761 | A | G |
| rs1106597( | 12 | 112059557 | T | C |
| rs1127555( | 1 | 149716369 | G | A |
| rs1162753( | 1 | 150863650 | A | G |
| rs1469632( | 4 | 17530633 | A | G |
| rs1501457( | 1 | 149738590 | C | T |
| rs1801274 | 1 | 161479745 | G | A |
| rs1882684( | 1 | 150401679 | T | C |
| rs1107493( | 16 | 10968336 | C | T |
| rs1107493( | 16 | 10968336 | C | T |
| rs1107493( | 16 | 10979440 | T | C |
| rs6174252( | 6 | 33072522 | A | G |
| rs9269109 | 6 | 32443266 | C | T |
| rs1107493( | 16 | 10979440 | T | C |
| rs1632994 | 6 | 29926597 | C | T |
| rs6174252( | 6 | 33072522 | A | G |
| rs9269109 | 6 | 32443266 | C | T |
| rs1108035( | 17 | 33774635 | T | C |
| rs7340222( | 6 | 31388449 | C | T |
| rs1108698( | 20 | 44511627 | T | C |
| rs1477146( | 12 | 6605299 | T | C |
| rs1883832 | 20 | 44746982 | C | T |
| rs25680 | 12 | 6554628 | A | G |
| rs3557480( | 3 | 32533246 | C | T |
| rs5623738( | 3 | 32924804 | A | G |
| rs7248581( | 20 | 45314435 | C | T |
| rs7591825( | 3 | 32945761 | A | G |
| rs1108698( | 20 | 44511627 | T | C |
| rs1477146( | 12 | 6605299 | T | C |
| rs162076 | 20 | 46785499 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs1883832 | 20 | 44746982 | C | T |
| rs25680 | 12 | 6554628 | A | G |
| rs3410157( | 1 | 31211894 | A | G |

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|---|---|---|---|---|
| rs35574803 | 3 | 32533246 | C | T |
| rs75918255 | 3 | 32945761 | A | G |
| rs7621492 | 3 | 32302456 | A | G |
| rs9989924 | 20 | 42019380 | C | T |
| rs11086984 | 20 | 44511627 | T | C |
| rs14464237 | 3 | 36349691 | G | A |
| rs14771461 | 12 | 6605299 | T | C |
| rs1801274 | 1 | 161479745 | G | A |
| rs25680 | 12 | 6554628 | A | G |
| rs35574803 | 3 | 32533246 | C | T |
| rs4810485 | 20 | 44747947 | G | T |
| rs56237381 | 3 | 32924804 | A | G |
| rs709589 | 14 | 106306841 | T | C |
| rs75918255 | 3 | 32945761 | A | G |
| rs11086984 | 20 | 44511627 | T | C |
| rs14464237 | 3 | 36349691 | G | A |
| rs14771461 | 12 | 6605299 | T | C |
| rs162076 | 20 | 46785499 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs1883832 | 20 | 44746982 | C | T |
| rs25680 | 12 | 6554628 | A | G |
| rs34101571 | 1 | 31211894 | A | G |
| rs35574803 | 3 | 32533246 | C | T |
| rs75918255 | 3 | 32945761 | A | G |
| rs11086984 | 20 | 44511627 | T | C |
| rs14771461 | 12 | 6605299 | T | C |
| rs162076 | 20 | 46785499 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs1883832 | 20 | 44746982 | C | T |
| rs25680 | 12 | 6554628 | A | G |
| rs34101571 | 1 | 31211894 | A | G |
| rs35574803 | 3 | 32533246 | C | T |
| rs75918255 | 3 | 32945761 | A | G |
| rs11123178 | 5 | 112408670 | T | C |
| rs11124653 | 2 | 39112166 | A | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs12712610 | 2 | 38897249 | G | A |
| rs11124653 | 2 | 39112166 | A | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs12712610 | 2 | 38897249 | G | A |
| rs11124653 | 2 | 39112166 | A | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs13891577 | 1 | 190079170 | A | C |
| rs78689347 | 2 | 40773763 | C | A |
| rs11125917 | 6 | 32640351 | G | A |
| rs11187166 | 10 | 94516008 | T | C |
| rs2304938 | 11 | 60167744 | T | C |
| rs55809481 | 19 | 49872521 | C | T |
| rs6459417 | 6 | 15858996 | T | C |
| rs9461557 | 6 | 29765925 | T | C |
| rs11128304 | 16 | 79205197 | C | A |
| rs11225864 | 12 | 55672838 | T | C |
| rs11257146 | 7 | 111704231 | G | A |
| rs11344722 | 9 | 105346840 | C | T |
| rs11507717 | 2 | 53872294 | G | T |
| rs11521843 | 4 | 67836131 | G | T |
| rs11656270 | 6 | 31360602 | G | A |
| rs11676788 | 6 | 24745313 | T | C |

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|---|---|---|---|---|
| rs11698453 | 13 | 22348885 | T | C |
| rs11747573 | 6 | 148775706 | T | C |
| rs11749408 | 14 | 56862154 | A | G |
| rs11792748 | 12 | 49315200 | A | G |
| rs11801638 | 12 | 28662288 | C | T |
| rs12755474 | 1 | 216352525 | G | A |
| rs13785858 | 5 | 173002007 | C | T |
| rs13920089 | 9 | 12799038 | A | G |
| rs14220888 | 19 | 51829114 | T | C |
| rs14253017 | 1 | 62672889 | G | A |
| rs14349879 | 8 | 140342260 | A | C |
| rs14459133 | 16 | 59010741 | G | A |
| rs14582711 | 20 | 57132122 | T | C |
| rs14607300 | 17 | 11512358 | T | C |
| rs14698529 | 3 | 170169608 | G | A |
| rs14902318 | 1 | 232754676 | G | A |
| rs14992607 | 21 | 41143748 | A | G |
| rs18223633 | 7 | 124954943 | G | A |
| rs18408274 | 7 | 92791863 | C | T |
| rs18874853 | 19 | 8271140 | C | T |
| rs18980125 | 10 | 68336237 | A | C |
| rs73127385 | 4 | 31396800 | G | A |
| rs76325389 | 9 | 122676137 | G | A |
| rs77047785 | 14 | 28364836 | T | C |
| rs77935824 | 18 | 68968361 | G | A |
| rs80194890 | 10 | 91332621 | G | T |
| rs11751901 | 10 | 97403248 | A | C |
| rs17190839 | 6 | 31138707 | A | G |
| rs72847706 | 2 | 87055981 | C | T |
| rs9357097 | 6 | 30285121 | T | C |
| rs11136335 | 8 | 145003777 | A | G |
| rs11554159 | 19 | 18285944 | A | G |
| rs1800973 | 12 | 69744014 | A | C |
| rs445 | 7 | 92408370 | T | C |
| rs75994780 | 12 | 70949085 | A | G |
| rs80216229 | 12 | 67839087 | C | T |
| rs11138864 | 12 | 28246470 | A | G |
| rs11233425 | 11 | 82732689 | A | G |
| rs11413595 | 2 | 8930530 | C | T |
| rs11421610 | 5 | 140131486 | T | C |
| rs11476381 | 2 | 191319109 | A | C |
| rs11595461 | 2 | 174896997 | A | G |
| rs11700664 | 10 | 108143796 | G | A |
| rs11742878 | 19 | 43422957 | A | C |
| rs11797510 | 12 | 52408142 | T | G |
| rs12656604 | 5 | 72679056 | A | C |
| rs130071 | 6 | 31116210 | A | G |
| rs14393017 | 10 | 70543706 | A | G |
| rs14602778 | 11 | 54986405 | C | T |
| rs14726442 | 15 | 78644995 | G | A |
| rs14948718 | 8 | 131518018 | T | C |
| rs14971697 | 16 | 75062625 | G | A |
| rs14999465 | 3 | 18550864 | A | C |
| rs14999465 | 3 | 18550864 | A | C |
| rs19027229 | 2 | 9944052 | A | G |
| rs19230267 | 16 | 85685140 | T | C |
| rs2977034 | 8 | 88503714 | T | C |
| rs34375694 | 16 | 19193363 | G | A |

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|---|---|---|---|---|
| rs5382646 | 12 | 97040021 | C | A |
| rs5588138 | 1 | 34724192 | T | G |
| rs5597147 | 1 | 117061778 | T | C |
| rs6177292 | 1 | 80897562 | C | T |
| rs6202171 | 15 | 50365389 | T | C |
| rs6240921 | 4 | 25412773 | A | G |
| rs6248880 | 8 | 7162695 | T | C |
| rs742867 | 14 | 68217724 | T | C |
| rs7470762 | 15 | 86484743 | C | T |
| rs7542047 | 18 | 39828718 | C | T |
| rs7634345 | 5 | 81353920 | C | T |
| rs7650626 | 4 | 187981624 | G | A |
| rs7693877 | 7 | 31473901 | A | G |
| rs7919051 | 2 | 151197759 | G | T |
| rs1114175 | 11 | 36584481 | T | C |
| rs1119538 | 14 | 84194540 | G | A |
| rs1119787 | 1 | 21025910 | C | T |
| rs1125686 | 15 | 27818525 | T | C |
| rs1128391 | 2 | 238422350 | A | G |
| rs1128577 | 6 | 148462118 | T | C |
| rs1134325 | 21 | 30128360 | T | C |
| rs1138196 | 13 | 100586942 | T | C |
| rs1142161 | 5 | 140131486 | T | C |
| rs1145079 | 1 | 21892266 | A | G |
| rs1147638 | 2 | 191319109 | A | C |
| rs1148016 | 6 | 66316172 | A | C |
| rs1153794 | 6 | 18617129 | A | G |
| rs1158791 | 3 | 194347376 | G | A |
| rs1159546 | 2 | 174896997 | A | G |
| rs1165817 | 5 | 29413612 | C | T |
| rs1168761 | 17 | 16446446 | C | T |
| rs1169590 | 8 | 53929771 | G | T |
| rs1170363 | 20 | 3521072 | G | A |
| rs1171664 | 3 | 29402908 | G | A |
| rs1171961 | 9 | 83853182 | A | G |
| rs1172621 | 16 | 5991815 | T | C |
| rs1172718 | 8 | 112881674 | A | G |
| rs1174138 | 11 | 16290338 | C | T |
| rs1174287 | 19 | 43422957 | A | C |
| rs1174312 | 11 | 44356396 | G | A |
| rs1174699 | 7 | 79791344 | A | C |
| rs1175140 | 21 | 26316207 | C | A |
| rs1177856 | 12 | 132283582 | T | G |
| rs1178044 | 16 | 5944116 | G | A |
| rs1246446 | 2 | 176542288 | A | G |
| rs130071 | 6 | 31116210 | A | G |
| rs1304455 | 20 | 36073660 | A | G |
| rs1379784 | 2 | 228411157 | A | G |
| rs1380103 | 1 | 161526187 | T | C |
| rs1387994 | 2 | 9441279 | T | C |
| rs1388295 | 1 | 79094990 | A | G |
| rs1389623 | 2 | 146534594 | C | T |
| rs1394574 | 12 | 47679643 | T | C |
| rs1397720 | 3 | 10035985 | G | T |
| rs1401343 | 16 | 17341866 | C | T |
| rs1403111 | 4 | 8174723 | T | C |
| rs1406056 | 16 | 68607748 | T | C |
| rs1409632 | 1 | 24640467 | T | C |

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|---|---|---|---|---|
| rs14102361 | 3 | 15790899 | A | G |
| rs14247041 | 13 | 73498369 | T | C |
| rs14252285 | 7 | 1084031 | T | C |
| rs14291181 | 12 | 114081812 | A | G |
| rs14382502 | 8 | 28561116 | T | C |
| rs14457187 | 1 | 65133062 | G | A |
| rs14471172 | 2 | 145836600 | T | C |
| rs1449934( | 12 | 38374287 | A | G |
| rs1453364( | 6 | 78745175 | T | C |
| rs1469400( | 15 | 94946993 | T | G |
| rs1486584( | 3 | 153311399 | T | C |
| rs14971697 | 16 | 75062625 | G | A |
| rs14995752 | 6 | 52375282 | A | G |
| rs14999465 | 3 | 18550864 | A | C |
| rs14999465 | 3 | 18550864 | A | C |
| rs15038357 | 14 | 43151367 | C | T |
| rs15042732 | 11 | 118189351 | A | G |
| rs1506505( | 1 | 83046200 | C | A |
| rs1508562( | 16 | 26527473 | T | C |
| rs1511208( | 9 | 96711406 | A | G |
| rs15114592 | 18 | 38375388 | A | G |
| rs15123748 | 16 | 78214566 | C | A |
| rs16864501 | 3 | 152385976 | A | G |
| rs17212021 | 6 | 32637474 | C | T |
| rs1721299( | 12 | 13243168 | G | A |
| rs18278438 | 1 | 18635367 | T | G |
| rs1833827( | 4 | 116470715 | C | A |
| rs18577892 | 7 | 148905542 | A | G |
| rs1865959( | 15 | 78554710 | A | G |
| rs1883946( | 16 | 70343845 | G | T |
| rs1896838( | 10 | 89153882 | A | C |
| rs19230267 | 16 | 85685140 | T | C |
| rs19255327 | 4 | 114347303 | T | C |
| rs2615702 | 16 | 81462243 | T | C |
| rs34592474 | 7 | 57279055 | C | T |
| rs34609592 | 9 | 136915695 | A | G |
| rs45507192 | 10 | 21304171 | A | G |
| rs53500571 | 8 | 144233069 | A | G |
| rs55830085 | 4 | 106862213 | T | C |
| rs55881385 | 1 | 34724192 | T | G |
| rs5886056( | 6 | 79460848 | A | C |
| rs59236867 | 8 | 42077996 | C | T |
| rs61772921 | 1 | 80897562 | C | T |
| rs6198850( | 14 | 86640070 | C | T |
| rs62021713 | 15 | 50365389 | T | C |
| rs62369101 | 5 | 97959184 | A | G |
| rs6240921( | 4 | 25412773 | A | G |
| rs62488802 | 8 | 7162695 | T | C |
| rs62531041 | 19 | 48379346 | T | C |
| rs72728362 | 8 | 127054086 | C | T |
| rs7281570( | 2 | 80415786 | C | T |
| rs72847598 | 17 | 71902183 | C | T |
| rs7292945( | 2 | 200181613 | T | C |
| rs74603821 | 12 | 101714936 | C | A |
| rs74902462 | 12 | 59066617 | T | C |
| rs74932477 | 2 | 229222112 | A | G |
| rs75346347 | 18 | 7862061 | T | C |
| rs75420474 | 18 | 39828718 | C | T |

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|---|---|---|---|---|
| rs75828981 | 2 | 144233823 | A | G |
| rs7588464( | 15 | 95776793 | A | G |
| rs76343453 | 5 | 81353920 | C | T |
| rs7650626( | 4 | 187981624 | G | A |
| rs76595423 | 1 | 102745011 | G | T |
| rs7673275( | 1 | 221000197 | A | G |
| rs77152285 | 4 | 93935039 | G | A |
| rs7716460( | 7 | 21673701 | A | G |
| rs77243672 | 14 | 76846837 | G | T |
| rs7793782( | 20 | 20799344 | C | T |
| rs7865635( | 1 | 166905650 | A | G |
| rs7893969( | 6 | 67374008 | C | A |
| rs7940797( | 10 | 28109090 | A | C |
| rs7948988( | 3 | 39505173 | A | G |
| rs7964744( | 7 | 142438302 | T | C |
| rs7987011( | 4 | 64142694 | A | G |
| rs7988882( | 15 | 96888705 | C | T |
| rs8001288( | 13 | 94341740 | T | G |
| rs8014225( | 13 | 110903174 | T | C |
| rs8034787( | 6 | 562203 | A | G |
| rs1114363( | 20 | 42701487 | T | C |
| rs1393767( | 1 | 161847528 | A | G |
| rs1487658( | 1 | 161221713 | C | T |
| rs1801274 | 1 | 161479745 | G | A |
| rs3465886( | 20 | 44977184 | C | A |
| rs6032211 | 20 | 44092301 | A | G |
| rs6687275 | 1 | 161515638 | G | T |
| rs745307 | 20 | 44747086 | A | G |
| rs1115347( | 10 | 98139264 | T | G |
| rs1157971( | 1 | 199999121 | A | G |
| rs1181805( | 10 | 97972294 | T | C |
| rs1431328( | 10 | 96890004 | C | T |
| rs1711134( | 10 | 97881031 | C | T |
| rs1854743( | 10 | 96311553 | T | G |
| rs3740373 | 10 | 95256200 | A | C |
| rs4918969 | 10 | 97562938 | A | G |
| rs7752013( | 10 | 98160835 | A | G |
| rs1115347( | 10 | 98139264 | T | G |
| rs1176482( | 10 | 98816434 | T | C |
| rs1181805( | 10 | 97972294 | T | C |
| rs1277861( | 10 | 95633120 | C | T |
| rs1277883( | 10 | 96998744 | C | T |
| rs1711134( | 10 | 97881031 | C | T |
| rs7083411 | 10 | 97606602 | T | C |
| rs7281268( | 10 | 95845989 | A | G |
| rs1115347( | 10 | 98139264 | T | G |
| rs1181805( | 10 | 97972294 | T | C |
| rs1277861( | 10 | 95633120 | C | T |
| rs1277879( | 10 | 96998688 | C | T |
| rs1711134( | 10 | 97881031 | C | T |
| rs7281268( | 10 | 95845989 | A | G |
| rs7913082 | 10 | 97561886 | C | T |
| rs1115347( | 10 | 98139264 | T | G |
| rs1157971( | 1 | 199999121 | A | G |
| rs1167941( | 1 | 194010208 | C | T |
| rs1181805( | 10 | 97972294 | T | C |
| rs1189066( | 2 | 38745822 | A | G |
| rs1271261( | 2 | 38897249 | G | A |

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|---|---|---|---|---|
| rs12778837 | 10 | 96998744 | C | T |
| rs1410600 | 10 | 97070694 | T | C |
| rs17111341 | 10 | 97881031 | C | T |
| rs18270257 | 10 | 96658384 | A | C |
| rs34645541 | 1 | 195875605 | A | C |
| rs35909109 | 10 | 98014850 | T | C |
| rs4918969 | 10 | 97562938 | A | G |
| rs77520132 | 10 | 98160835 | A | G |
| rs11153472 | 10 | 98139264 | T | G |
| rs11579717 | 1 | 199999121 | A | G |
| rs11679417 | 1 | 194010208 | C | T |
| rs11890666 | 2 | 38745822 | A | G |
| rs12712610 | 2 | 38897249 | G | A |
| rs14313281 | 10 | 96890004 | C | T |
| rs18547438 | 10 | 96311553 | T | G |
| rs34645541 | 1 | 195875605 | A | C |
| rs35909109 | 10 | 98014850 | T | C |
| rs7079761 | 10 | 97842115 | A | G |
| rs72809762 | 10 | 97294154 | T | C |
| rs77520132 | 10 | 98160835 | A | G |
| rs11153472 | 10 | 98139264 | T | G |
| rs11818051 | 10 | 97972294 | T | C |
| rs12778618 | 10 | 95633120 | C | T |
| rs17111341 | 10 | 97881031 | C | T |
| rs2901833 | 10 | 96998591 | A | G |
| rs4381306 | 10 | 97484131 | T | C |
| rs72812685 | 10 | 95845989 | A | G |
| rs11158593 | 14 | 65859984 | A | G |
| rs2844608 | 6 | 31247414 | T | C |
| rs3184504 | 12 | 111884608 | C | T |
| rs951818 | 12 | 6896055 | A | C |
| rs11169569 | 19 | 51897760 | A | C |
| rs56043070 | 1 | 247719769 | A | G |
| rs58483275 | 19 | 51868443 | T | C |
| rs7245846 | 19 | 51731176 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs75773078 | 19 | 51742145 | A | G |
| rs79377141 | 19 | 51538952 | A | G |
| rs11169569 | 19 | 51897760 | A | C |
| rs58483275 | 19 | 51868443 | T | C |
| rs7245846 | 19 | 51731176 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs75773078 | 19 | 51742145 | A | G |
| rs79377141 | 19 | 51538952 | A | G |
| rs11169569 | 19 | 51897760 | A | C |
| rs273640 | 19 | 51725824 | T | G |
| rs11178044 | 11 | 132210362 | T | C |
| rs12921174 | 16 | 430304 | C | T |
| rs2995089 | 1 | 167431193 | A | G |
| rs4657649 | 1 | 167173140 | C | T |
| rs4657706 | 1 | 167728447 | T | C |
| rs61814886 | 1 | 167136405 | A | G |
| rs78132817 | 1 | 165191695 | G | T |
| rs11187166 | 10 | 94516008 | T | C |
| rs2070770 | 11 | 60230531 | T | C |
| rs55809481 | 19 | 49872521 | C | T |
| rs61731791 | 19 | 50940778 | T | C |
| rs909846 | 6 | 15897003 | G | T |

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| rs9271146 | 6 | 32577282 | C | A |
| rs9469053 | 6 | 31755776 | G | A |
| rs11187515 | 10 | 95327429 | T | C |
| rs11359423 | 10 | 98103215 | T | C |
| rs12778618 | 10 | 95633120 | C | T |
| rs35025323 | 10 | 97089991 | C | T |
| rs4075310 | 10 | 97574689 | T | C |
| rs7079761 | 10 | 97842115 | A | G |
| rs11190298 | 1 | 157954450 | A | G |
| rs11687711 | 8 | 135490341 | A | G |
| rs11190298 | 1 | 157954450 | A | G |
| rs13924954 | 6 | 102294761 | G | A |
| rs6710361 | 2 | 87047145 | A | G |
| rs9896155 | 17 | 33794697 | G | A |
| rs11198349 | 6 | 32205324 | A | G |
| rs14330512 | 6 | 13991643 | C | T |
| rs14721093 | 6 | 13892767 | A | G |
| rs2286975 | 16 | 11114006 | A | G |
| rs3869145 | 6 | 31851354 | A | G |
| rs7192768 | 16 | 11004905 | C | T |
| rs74405933 | 6 | 14095755 | A | G |
| rs9270599 | 6 | 32561656 | A | G |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs11198349 | 6 | 32205324 | A | G |
| rs6755452 | 2 | 87035076 | G | T |
| rs11214436 | 11 | 112830782 | T | G |
| rs11714740 | 6 | 101980039 | G | A |
| rs77738700 | 11 | 112751407 | A | G |
| rs79251210 | 6 | 100468602 | A | G |
| rs11240590 | 6 | 31809504 | A | G |
| rs4447195 | 11 | 60249734 | T | C |
| rs6459417 | 6 | 15858996 | T | C |
| rs6509428 | 19 | 49853881 | T | C |
| rs11241731 | 1 | 206855483 | A | G |
| rs11381251 | 1 | 207276336 | G | A |
| rs14474380 | 1 | 207018206 | A | G |
| rs11241731 | 1 | 206855483 | A | G |
| rs11643297 | 16 | 28973268 | G | A |
| rs11242140 | 6 | 28205826 | T | C |
| rs13908417 | 6 | 43351686 | A | C |
| rs1794511 | 6 | 32671207 | G | T |
| rs709589 | 14 | 106306841 | T | C |
| rs9265515 | 6 | 31297744 | C | T |
| rs11249570 | 5 | 177033794 | A | G |
| rs4987369 | 1 | 169662742 | T | G |
| rs11579717 | 1 | 199999121 | A | G |
| rs12712610 | 2 | 38897249 | G | A |
| rs13891577 | 1 | 190079170 | A | C |
| rs13896071 | 4 | 123422719 | C | A |
| rs14783814 | 22 | 47814108 | G | T |
| rs61839660 | 10 | 6094697 | T | C |
| rs74830391 | 7 | 37427289 | T | C |
| rs11258182 | 2 | 204650296 | A | G |
| rs72928038 | 6 | 90976768 | A | G |
| rs11263784 | 6 | 149114553 | A | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs11679417 | 1 | 194010208 | C | T |

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| rs12314907 | 12 | 79661771 | G | A |
| rs1271261( | 2 | 38897249 | G | A |
| rs61038907 | 2 | 87061070 | A | C |
| rs74577787 | 3 | 84799491 | T | C |
| rs11275557 | 1 | 149716369 | G | A |
| rs1162753( | 1 | 150863650 | A | G |
| rs14582812 | 1 | 120233380 | A | G |
| rs1501457( | 1 | 149738590 | C | T |
| rs1801274 | 1 | 161479745 | G | A |
| rs18826841 | 1 | 150401679 | T | C |
| rs58775931 | 1 | 121480104 | T | G |
| rs80178684 | 8 | 59726631 | G | A |
| rs11275557 | 1 | 149716369 | G | A |
| rs1162753( | 1 | 150863650 | A | G |
| rs14582812 | 1 | 120233380 | A | G |
| rs1501457( | 1 | 149738590 | C | T |
| rs1801274 | 1 | 161479745 | G | A |
| rs18826841 | 1 | 150401679 | T | C |
| rs80178684 | 8 | 59726631 | G | A |
| rs1131162( | 1 | 198830942 | C | T |
| rs1131162( | 1 | 198830942 | C | T |
| rs1157804( | 6 | 32501627 | G | T |
| rs13952934 | 1 | 161563554 | G | A |
| rs1399470( | 12 | 25434182 | A | G |
| rs1800973 | 12 | 69744014 | A | C |
| rs4910742 | 11 | 5306509 | A | G |
| rs80297185 | 11 | 5488177 | T | C |
| rs6240092( | 6 | 31159546 | G | A |
| rs9501107 | 6 | 31392047 | T | G |
| rs1271261( | 2 | 38897249 | G | A |
| rs6240092( | 6 | 31159546 | G | A |
| rs14803171 | 6 | 31148873 | C | T |
| rs11339844 | 6 | 161871755 | C | A |
| rs11343534 | 1 | 198151688 | G | A |
| rs11343534 | 1 | 198151688 | G | A |
| rs13891577 | 1 | 190079170 | A | C |
| rs1135009( | 6 | 100774499 | T | C |
| rs13210358 | 6 | 102272234 | T | C |
| rs34546581 | 2 | 87021659 | A | G |
| rs5996087 | 22 | 42321591 | G | A |
| rs11381251 | 1 | 207276336 | G | A |
| rs1447438( | 1 | 207018206 | A | G |
| rs3934748 | 1 | 206879659 | T | G |
| rs11381251 | 1 | 207276336 | G | A |
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| rs11381251 | 1 | 207276336 | G | A |
| rs1447438( | 1 | 207018206 | A | G |
| rs55712453 | 1 | 206902437 | G | A |
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| rs1447438( | 1 | 207018206 | A | G |
| rs55712453 | 1 | 206902437 | G | A |
| rs11381251 | 1 | 207276336 | G | A |
| rs78760135 | 1 | 206909820 | G | A |
| rs7985659( | 1 | 205241642 | A | G |
| rs11381251 | 1 | 207276336 | G | A |
| rs1447438( | 1 | 207018206 | A | G |
| rs55712453 | 1 | 206902437 | G | A |
| rs11381251 | 1 | 207276336 | G | A |

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| rs11643297 | 16 | 28973268 | G | A |
| rs55712453 | 1 | 206902437 | G | A |
| rs11386504 | 2 | 176969703 | A | G |
| rs2455069 | 19 | 51728641 | G | A |
| rs11406846 | 6 | 33054463 | T | C |
| rs2760980 | 6 | 32565201 | A | G |
| rs9268498 | 6 | 32375431 | C | T |
| rs11413595 | 2 | 8930530 | C | T |
| rs130071 | 6 | 31116210 | A | G |
| rs14038592 | 15 | 69903187 | G | A |
| rs17212021 | 6 | 32637474 | C | T |
| rs1736913 | 6 | 29704400 | C | T |
| rs19031265 | 16 | 81625215 | A | G |
| rs450175 | 2 | 38400812 | C | A |
| rs72815709 | 2 | 80415786 | C | T |
| rs742867 | 14 | 68217724 | T | C |
| rs11459059 | 1 | 185852065 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs78744187 | 19 | 33754548 | T | C |
| rs11459059 | 1 | 185852065 | T | C |
| rs78744187 | 19 | 33754548 | T | C |
| rs11467253 | 1 | 168306279 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs4657649 | 1 | 167173140 | C | T |
| rs11467253 | 1 | 168306279 | A | G |
| rs12138291 | 1 | 166464476 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs35055340 | 1 | 165314063 | T | C |
| rs11467253 | 1 | 168306279 | A | G |
| rs12138291 | 1 | 166464476 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs35055340 | 1 | 165314063 | T | C |
| rs11467253 | 1 | 168306279 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs35055340 | 1 | 165314063 | T | C |
| rs11496804 | 6 | 32666960 | C | T |
| rs3104369 | 6 | 32602482 | C | T |
| rs11506220 | 4 | 15956227 | G | A |
| rs572542 | 4 | 14029370 | T | C |
| rs76112278 | 4 | 15915069 | A | G |
| rs76354299 | 4 | 15037408 | A | G |
| rs11506220 | 4 | 15956227 | G | A |
| rs76112278 | 4 | 15915069 | A | G |
| rs11506220 | 4 | 15956227 | G | A |
| rs14985299 | 4 | 15044338 | T | G |
| rs197429 | 1 | 112267500 | T | C |
| rs572542 | 4 | 14029370 | T | C |
| rs76112278 | 4 | 15915069 | A | G |
| rs11506220 | 4 | 15956227 | G | A |
| rs76112278 | 4 | 15915069 | A | G |
| rs76354299 | 4 | 15037408 | A | G |
| rs11506220 | 4 | 15956227 | G | A |
| rs76112278 | 4 | 15915069 | A | G |
| rs76354299 | 4 | 15037408 | A | G |
| rs11538327 | 1 | 161531340 | A | G |
| rs77640671 | 16 | 58607804 | T | C |
| rs11538327 | 1 | 161531340 | A | G |
| rs74975395 | 1 | 166026114 | T | C |

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|---|---|---|---|---|
| rs11538327 | 1 | 161531340 | A | G |
| rs11538327 | 1 | 161531340 | A | G |
| rs15014579 | 1 | 149738590 | C | T |
| rs11538327 | 1 | 161531340 | A | G |
| rs74975395 | 1 | 166026114 | T | C |
| rs11538327 | 1 | 161531340 | A | G |
| rs3826007 | 15 | 80263217 | T | C |
| rs11544989 | 8 | 145057868 | G | A |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs77738700 | 11 | 112751407 | A | G |
| rs79251210 | 6 | 100468602 | A | G |
| rs11544989 | 8 | 145057868 | G | A |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs77738700 | 11 | 112751407 | A | G |
| rs79251210 | 6 | 100468602 | A | G |
| rs9916257 | 17 | 33797371 | T | G |
| rs11548656 | 16 | 81916912 | G | A |
| rs41294937 | 10 | 6106621 | C | T |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs7569868 | 2 | 87019683 | T | C |
| rs77738700 | 11 | 112751407 | A | G |
| rs79251210 | 6 | 100468602 | A | G |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs7569868 | 2 | 87019683 | T | C |
| rs77738700 | 11 | 112751407 | A | G |
| rs79251210 | 6 | 100468602 | A | G |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs7218011 | 17 | 33773022 | G | A |
| rs77738700 | 11 | 112751407 | A | G |
| rs7819099 | 8 | 144992862 | G | A |
| rs79251210 | 6 | 100468602 | A | G |
| rs9912354 | 17 | 33805730 | T | C |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs77291736 | 11 | 112749800 | T | C |
| rs79251210 | 6 | 100468602 | A | G |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs77738700 | 11 | 112751407 | A | G |
| rs7819099 | 8 | 144992862 | G | A |
| rs79251210 | 6 | 100468602 | A | G |
| rs11553660 | 6 | 101417409 | T | C |
| rs11714740 | 6 | 101980039 | G | A |
| rs77738700 | 11 | 112751407 | A | G |
| rs79251210 | 6 | 100468602 | A | G |
| rs9916257 | 17 | 33797371 | T | G |
| rs11554159 | 19 | 18285944 | A | G |
| rs1800973 | 12 | 69744014 | A | C |
| rs445 | 7 | 92408370 | T | C |
| rs75994780 | 12 | 70949085 | A | G |
| rs11562414 | 1 | 161701708 | A | C |
| rs11580516 | 1 | 161410253 | T | C |
| rs71632979 | 1 | 161526397 | G | A |

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| rs7163991( | 1 | 161937774 | A | G |
| rs1573735 | 16 | 423696 | T | C |
| rs3129891 | 6 | 32415080 | A | G |
| rs9271772 | 6 | 32594275 | A | G |
| rs1157524 | 1 | 205560814 | A | G |
| rs1157971 | 1 | 199999121 | A | G |
| rs1271261( | 2 | 38897249 | G | A |
| rs1389157 | 1 | 190079170 | A | C |
| rs1389607 | 4 | 123422719 | C | A |
| rs7483039 | 7 | 37427289 | T | C |
| rs7893324 | 10 | 6111075 | C | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs1389157 | 1 | 190079170 | A | C |
| rs408686 | 2 | 39177320 | A | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs7559619 | 2 | 38892207 | G | A |
| rs1157971 | 1 | 199999121 | A | G |
| rs1167941 | 1 | 194010208 | C | T |
| rs1760739 | 2 | 41884212 | T | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs2105899 | 6 | 32590473 | C | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs1157971 | 1 | 199999121 | A | G |
| rs408686 | 2 | 39177320 | A | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs1389157 | 1 | 190079170 | A | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs1157971 | 1 | 199999121 | A | G |
| rs1389157 | 1 | 190079170 | A | C |
| rs1760739 | 2 | 41884212 | T | C |
| rs1870893 | 1 | 182091538 | C | A |
| rs3464554 | 1 | 195875605 | A | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs7530076 | 1 | 195825276 | A | G |
| rs1157971 | 1 | 199999121 | A | G |
| rs1167941 | 1 | 194010208 | C | T |
| rs1760739 | 2 | 41884212 | T | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs1389157 | 1 | 190079170 | A | C |
| rs1459472 | 2 | 38596674 | T | C |
| rs1476924 | 2 | 39864242 | T | C |
| rs3455877( | 2 | 38933040 | T | C |
| rs7605193 | 2 | 38698112 | G | T |
| rs7974781 | 2 | 41757305 | T | C |
| rs917116 | 7 | 28172739 | G | T |
| rs1157971 | 1 | 199999121 | A | G |
| rs1389157 | 1 | 190079170 | A | C |
| rs1760739 | 2 | 41884212 | T | C |
| rs1870893 | 1 | 182091538 | C | A |
| rs6022094 | 1 | 193505625 | T | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs7530076 | 1 | 195825276 | A | G |
| rs1157971 | 1 | 199999121 | A | G |
| rs6183966( | 10 | 6094697 | T | C |

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|---|---|---|---|---|
| rs11579717 | 1 | 199999121 | A | G |
| rs13891577 | 1 | 190079170 | A | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs13891577 | 1 | 190079170 | A | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs11579717 | 1 | 199999121 | A | G |
| rs1167597( | 1 | 189981116 | A | G |
| rs11579717 | 1 | 199999121 | A | G |
| rs11679417 | 1 | 194010208 | C | T |
| rs1271261( | 2 | 38897249 | G | A |
| rs4832054 | 2 | 87058580 | A | G |
| rs79827501 | 2 | 38431267 | T | G |
| rs11579717 | 1 | 199999121 | A | G |
| rs5413673( | 1 | 198283058 | A | G |
| rs11579717 | 1 | 199999121 | A | G |
| rs11679417 | 1 | 194010208 | C | T |
| rs1271261( | 2 | 38897249 | G | A |
| rs2367376 | 2 | 87009742 | C | T |
| rs1158051( | 1 | 161410253 | T | C |
| rs569911 | 1 | 160798209 | C | T |
| rs7163298( | 1 | 161533055 | G | T |
| rs7180804 | 15 | 80259074 | A | G |
| rs865239 | 1 | 156896164 | G | A |
| rs9916257 | 17 | 33797371 | T | G |
| rs1158051( | 1 | 161410253 | T | C |
| rs1476784( | 1 | 161035780 | A | G |
| rs1871975( | 1 | 161006723 | T | C |
| rs7163297( | 1 | 161526397 | G | A |
| rs7163991( | 1 | 161937774 | A | G |
| rs1158051( | 1 | 161410253 | T | C |
| rs569911 | 1 | 160798209 | C | T |
| rs7163297( | 1 | 161526397 | G | A |
| rs1158051( | 1 | 161410253 | T | C |
| rs1912179( | 1 | 160940671 | A | G |
| rs7163297( | 1 | 161526397 | G | A |
| rs7163991( | 1 | 161937774 | A | G |
| rs1158051( | 1 | 161410253 | T | C |
| rs7163298( | 1 | 161533055 | G | T |
| rs876036 | 7 | 50307710 | C | T |
| rs1158051( | 1 | 161410253 | T | C |
| rs7163298( | 1 | 161533055 | G | T |
| rs7163991( | 1 | 161937774 | A | G |
| rs1158051( | 1 | 161410253 | T | C |
| rs1912179( | 1 | 160940671 | A | G |
| rs7163297( | 1 | 161526397 | G | A |
| rs7163991( | 1 | 161937774 | A | G |
| rs1158051( | 1 | 161410253 | T | C |
| rs569911 | 1 | 160798209 | C | T |
| rs7163297( | 1 | 161526397 | G | A |
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| rs1158051( | 1 | 161410253 | T | C |
| rs1912179( | 1 | 160940671 | A | G |
| rs7163297( | 1 | 161526397 | G | A |
| rs7163991( | 1 | 161937774 | A | G |
| rs1158051( | 1 | 161410253 | T | C |
| rs1431405( | 1 | 160972255 | T | C |
| rs1487658( | 1 | 161221713 | C | T |

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| rs7163297 | 1 | 161526397 | G | A |
| rs7163991 | 1 | 161937774 | A | G |
| rs1158051 | 1 | 161410253 | T | C |
| rs6537835 | 1 | 115108914 | A | G |
| rs7163298 | 1 | 161533055 | G | T |
| rs7163991 | 1 | 161937774 | A | G |
| rs1158051 | 1 | 161410253 | T | C |
| rs1487658 | 1 | 161221713 | C | T |
| rs1912179 | 1 | 160940671 | A | G |
| rs7163297 | 1 | 161526397 | G | A |
| rs7163991 | 1 | 161937774 | A | G |
| rs1158051 | 1 | 161410253 | T | C |
| rs3845548 | 1 | 161507448 | T | C |
| rs3856266 | 1 | 157973889 | G | T |
| rs4656984 | 1 | 161078909 | C | T |
| rs7741896 | 1 | 162197834 | G | A |
| rs7856959 | 1 | 162032153 | T | G |
| rs1158051 | 1 | 161410253 | T | C |
| rs7163297 | 1 | 161526397 | G | A |
| rs7163991 | 1 | 161937774 | A | G |
| rs7860082 | 1 | 160841013 | G | A |
| rs1158051 | 1 | 161410253 | T | C |
| rs569911 | 1 | 160798209 | C | T |
| rs7163297 | 1 | 161526397 | G | A |
| rs1158051 | 1 | 161410253 | T | C |
| rs569911 | 1 | 160798209 | C | T |
| rs7163297 | 1 | 161526397 | G | A |
| rs1159372 | 2 | 136121922 | A | G |
| rs7452903 | 2 | 137747326 | G | A |
| rs1159849 | 10 | 6178941 | C | T |
| rs1887027 | 10 | 6113782 | T | C |
| rs3793662 | 9 | 95886051 | T | C |
| rs1159849 | 10 | 6178941 | C | T |
| rs1887027 | 10 | 6113782 | T | C |
| rs1159849 | 10 | 6178941 | C | T |
| rs1887027 | 10 | 6113782 | T | C |
| rs3793662 | 9 | 95886051 | T | C |
| rs1159849 | 10 | 6178941 | C | T |
| rs1887027 | 10 | 6113782 | T | C |
| rs3793662 | 9 | 95886051 | T | C |
| rs1160078 | 6 | 31569745 | G | A |
| rs9270588 | 6 | 32561327 | T | C |
| rs1160078 | 6 | 31569745 | G | A |
| rs1164401 | 16 | 10863414 | T | C |
| rs3403959 | 6 | 32570311 | G | T |
| rs7748976 | 6 | 33890451 | A | G |
| rs9296042 | 6 | 32736005 | T | C |
| rs1160078 | 6 | 31569745 | G | A |
| rs2858885 | 6 | 32699782 | T | C |
| rs3552512 | 6 | 32561283 | A | C |
| rs5597144 | 1 | 161515326 | T | C |
| rs6925683 | 6 | 33894292 | G | T |
| rs1160078 | 6 | 31569745 | G | A |
| rs3403959 | 6 | 32570311 | G | T |
| rs362522 | 6 | 29545208 | T | C |
| rs5597144 | 1 | 161515326 | T | C |
| rs7748976 | 6 | 33890451 | A | G |
| rs9296042 | 6 | 32736005 | T | C |

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| rs11603081 | 1 | 42691989 | C | T |
| rs7559619 | 2 | 38892207 | G | A |
| rs11615628 | 12 | 6903631 | A | G |
| rs9272242 | 6 | 32602790 | C | T |
| rs11615628 | 12 | 6903631 | A | G |
| rs11615628 | 12 | 6903631 | A | G |
| rs2844608 | 6 | 31247414 | T | C |
| rs11615628 | 12 | 6903631 | A | G |
| rs11615628 | 12 | 6903631 | A | G |
| rs11615628 | 12 | 6903631 | A | G |
| rs2253487 | 6 | 31249127 | A | G |
| rs9263475 | 6 | 31050348 | G | A |
| rs11615628 | 12 | 6903631 | A | G |
| rs11615628 | 12 | 6903631 | A | G |
| rs11615628 | 12 | 6903631 | A | G |
| rs11615628 | 12 | 6903631 | A | G |
| rs11641185 | 16 | 10986596 | T | C |
| rs11642314 | 5 | 174310054 | A | G |
| rs11643297 | 16 | 28973268 | G | A |
| rs75968672 | 1 | 206890212 | G | A |
| rs11643297 | 16 | 28973268 | G | A |
| rs75968672 | 1 | 206890212 | G | A |
| rs1165176( | 1 | 198922068 | T | C |
| rs12712613 | 2 | 38948860 | T | G |
| rs11653761 | 17 | 2716535 | T | G |
| rs12874404 | 13 | 108993494 | G | A |
| rs11653761 | 17 | 2716535 | T | G |
| rs11777835 | 8 | 144986103 | C | T |
| rs9520836 | 13 | 108957063 | G | A |
| rs11657118 | 17 | 2714118 | C | T |
| rs12874404 | 13 | 108993494 | G | A |
| rs11657531 | 17 | 2731370 | T | C |
| rs12874404 | 13 | 108993494 | G | A |
| rs1165775( | 17 | 2715961 | C | A |
| rs12874404 | 13 | 108993494 | G | A |
| rs73192651 | 13 | 50212885 | T | C |
| rs11667181 | 6 | 31450274 | A | G |
| rs61742525 | 6 | 33072522 | A | G |
| rs6808893 | 3 | 188133439 | T | C |
| rs73499473 | 16 | 10978885 | T | C |
| rs9269109 | 6 | 32443266 | C | T |
| rs11669394 | 19 | 53262327 | A | G |
| rs13871252 | 19 | 51544665 | A | G |
| rs3865444 | 19 | 51727962 | A | C |
| rs5604307( | 1 | 247719769 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs75773078 | 19 | 51742145 | A | G |
| rs11679417 | 1 | 194010208 | C | T |
| rs17583875 | 1 | 197924770 | A | G |
| rs6183966( | 10 | 6094697 | T | C |
| rs11679417 | 1 | 194010208 | C | T |
| rs17583875 | 1 | 197924770 | A | G |
| rs6022094( | 1 | 193505625 | T | C |
| rs11687597 | 2 | 136926146 | G | A |
| rs7840395 | 8 | 144984956 | G | A |
| rs11703762 | 16 | 423809 | G | A |
| rs4521502 | 5 | 35842748 | G | T |
| rs1170677( | 17 | 62128083 | G | A |

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| rs14484397 | 17 | 63066415 | T | C |
| rs62045817 | 16 | 89045233 | T | C |
| rs722926 | 17 | 8677215 | T | C |
| rs11708621 | 22 | 39876838 | G | A |
| rs1305859( | 22 | 39641412 | T | C |
| rs14606972 | 22 | 43339331 | T | C |
| rs2142827 | 22 | 42874781 | A | G |
| rs5758649 | 22 | 42605548 | T | C |
| rs11708621 | 22 | 39876838 | G | A |
| rs1305859( | 22 | 39641412 | T | C |
| rs1439447( | 22 | 44378670 | T | C |
| rs14488623 | 22 | 42326166 | C | T |
| rs14606972 | 22 | 43339331 | T | C |
| rs2142827 | 22 | 42874781 | A | G |
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| rs1439447( | 22 | 44378670 | T | C |
| rs14606972 | 22 | 43339331 | T | C |
| rs2142827 | 22 | 42874781 | A | G |
| rs4657041 | 1 | 161478859 | C | T |
| rs5758649 | 22 | 42605548 | T | C |
| rs77657071 | 22 | 42324463 | A | G |
| rs11708621 | 22 | 39876838 | G | A |
| rs14278001 | 22 | 44395926 | A | G |
| rs2142827 | 22 | 42874781 | A | G |
| rs4657041 | 1 | 161478859 | C | T |
| rs5758649 | 22 | 42605548 | T | C |
| rs75056525 | 22 | 43349884 | A | G |
| rs11708621 | 22 | 39876838 | G | A |
| rs1305859( | 22 | 39641412 | T | C |
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| rs5758649 | 22 | 42605548 | T | C |
| rs75056525 | 22 | 43349884 | A | G |
| rs1171474( | 6 | 101980039 | G | A |
| rs12986962 | 2 | 111808558 | G | A |
| rs4796089 | 17 | 33814758 | C | T |
| rs11729508 | 20 | 45333273 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs60629714 | 9 | 95889160 | C | T |
| rs745307 | 20 | 44747086 | A | G |
| rs11730825 | 14 | 31993501 | C | T |
| rs11748905 | 5 | 80934634 | C | T |
| rs11751198 | 6 | 31753526 | A | G |
| rs55809481 | 19 | 49872521 | C | T |
| rs61731791 | 19 | 50940778 | T | C |
| rs7828724( | 11 | 60157281 | T | G |
| rs6218398( | 2 | 204609402 | T | C |
| rs5620941( | 2 | 204627500 | C | T |
| rs1176533( | 10 | 97551952 | A | G |
| rs4707609 | 6 | 90946479 | C | T |
| rs11766311 | 7 | 77134132 | A | G |
| rs445 | 7 | 92408370 | T | C |

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| rs11770511 | 22 | 41957510 | A | G |
| rs1180403( | 22 | 42616172 | T | C |
| rs12170003 | 22 | 37748690 | T | C |
| rs1482897( | 22 | 43472311 | C | A |
| rs1905296: | 22 | 38163121 | A | G |
| rs5996088 | 22 | 42323913 | T | C |
| rs1177376: | 7 | 50271499 | T | C |
| rs4987358 | 1 | 169665551 | T | G |
| rs1179134( | 6 | 102173117 | G | A |
| rs7908678: | 6 | 100526652 | T | C |
| rs1758387: | 1 | 197924770 | A | G |
| rs2463509 | 2 | 103672986 | T | C |
| rs1509561: | 1 | 214625781 | C | T |
| rs1758387: | 1 | 197924770 | A | G |
| rs2463509 | 2 | 103672986 | T | C |
| rs1290164( | 15 | 36456429 | T | C |
| rs3131627 | 6 | 31415065 | G | A |
| rs1195422: | 5 | 67413499 | A | G |
| rs1287440( | 13 | 108993494 | G | A |
| rs1830533: | 1 | 25076059 | T | C |
| rs7218011 | 17 | 33773022 | G | A |
| rs9916257 | 17 | 33797371 | T | G |
| rs1195422: | 5 | 67413499 | A | G |
| rs9520836 | 13 | 108957063 | G | A |
| rs9916257 | 17 | 33797371 | T | G |
| rs1196177( | 6 | 32379535 | C | T |
| rs1800973 | 12 | 69744014 | A | C |
| rs9270585 | 6 | 32561300 | T | C |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9469245 | 6 | 32692084 | T | C |
| rs1196177( | 6 | 32379535 | C | T |
| rs1800973 | 12 | 69744014 | A | C |
| rs9270585 | 6 | 32561300 | T | C |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9469245 | 6 | 32692084 | T | C |
| rs1196177( | 6 | 32379535 | C | T |
| rs1354106 | 19 | 51737991 | G | T |
| rs2071473 | 6 | 32782605 | T | C |
| rs9270591 | 6 | 32561424 | T | C |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs1196409: | 6 | 29501792 | A | C |
| rs3511876: | 6 | 32560631 | T | C |
| rs394199 | 6 | 33553580 | T | C |
| rs1207568( | 1 | 169620673 | G | A |
| rs6427213 | 1 | 169713146 | G | A |
| rs1213829: | 1 | 166464476 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs858496 | 1 | 167500918 | G | T |
| rs1213829: | 1 | 166464476 | A | G |
| rs2995089 | 1 | 167431193 | A | G |
| rs4657649 | 1 | 167173140 | C | T |
| rs7519927 | 1 | 167100361 | A | G |
| rs1214513: | 1 | 198636736 | G | A |
| rs4128961( | 3 | 45972492 | T | C |
| rs4657649 | 1 | 167173140 | C | T |

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|---|---|---|---|---|
| rs12752576 | 1 | 168605042 | G | A |
| rs61814886 | 1 | 167136405 | A | G |
| rs6658665 | 1 | 166460696 | G | A |
| rs6668517 | 1 | 26556870 | C | A |
| rs74620952 | 11 | 117753136 | C | T |
| rs12206866 | 6 | 107159822 | T | C |
| rs3129765 | 6 | 32591428 | G | A |
| rs7745305 | 6 | 30913475 | C | T |
| rs12212931 | 6 | 15913304 | G | T |
| rs30003 | 19 | 49846398 | C | T |
| rs4939384 | 11 | 60273642 | G | A |
| rs72836542 | 6 | 14091682 | T | C |
| rs9270560 | 6 | 32560741 | C | T |
| rs12212931 | 6 | 15913304 | G | T |
| rs1941018 | 11 | 60268994 | G | A |
| rs35139284 | 6 | 32561370 | T | C |
| rs354026 | 19 | 49841054 | T | G |
| rs12342539 | 9 | 4327960 | T | C |
| rs12722531 | 10 | 6076076 | A | G |
| rs706779 | 10 | 6098824 | C | T |
| rs12346499 | 9 | 113902881 | T | C |
| rs12459503 | 19 | 52161035 | C | T |
| rs3865444 | 19 | 51727962 | A | C |
| rs55862503 | 19 | 51858911 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs12554596 | 9 | 37002142 | G | A |
| rs2066399 | 6 | 15880540 | A | G |
| rs2070770 | 11 | 60230531 | T | C |
| rs30003 | 19 | 49846398 | C | T |
| rs12596540 | 16 | 10970476 | G | A |
| rs1723018 | 1 | 167433420 | G | A |
| rs12598451 | 16 | 10982607 | A | G |
| rs13917417 | 6 | 32592834 | A | C |
| rs71632979 | 1 | 161526397 | G | A |
| rs805288 | 6 | 31678028 | T | C |
| rs885947 | 6 | 29696656 | A | G |
| rs9268628 | 6 | 32405865 | C | A |
| rs1264580 | 6 | 30301230 | A | G |
| rs9270657 | 6 | 32566021 | G | T |
| rs9461744 | 6 | 32388317 | G | A |
| rs12675296 | 8 | 6828795 | A | G |
| rs1886654 | 1 | 236105910 | C | T |
| rs2981398 | 8 | 6801712 | G | A |
| rs12675298 | 8 | 6828813 | A | G |
| rs445 | 7 | 92408370 | T | C |
| rs12712610 | 2 | 38897249 | G | A |
| rs9271537 | 6 | 32589982 | T | C |
| rs12712610 | 2 | 38897249 | G | A |
| rs12712610 | 2 | 38897249 | G | A |
| rs12722600 | 10 | 6054765 | T | C |
| rs12778618 | 10 | 95633120 | C | T |
| rs3181132 | 10 | 97601894 | G | A |
| rs12865434 | 13 | 108970631 | G | A |
| rs12874404 | 13 | 108993494 | G | A |
| rs12874404 | 13 | 108993494 | G | A |
| rs6032660 | 20 | 44730245 | A | G |
| rs73192651 | 13 | 50212885 | T | C |

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| rs12874404 | 13 | 108993494 | G | A |
| rs12874404 | 13 | 108993494 | G | A |
| rs12874404 | 13 | 108993494 | G | A |
| rs73192651 | 13 | 50212885 | T | C |
| rs12874404 | 13 | 108993494 | G | A |
| rs12874404 | 13 | 108993494 | G | A |
| rs9892810 | 17 | 2716155 | C | T |
| rs12874404 | 13 | 108993494 | G | A |
| rs12921174 | 16 | 430304 | C | T |
| rs2949661 | 1 | 167424924 | T | C |
| rs4657649 | 1 | 167173140 | C | T |
| rs79179998 | 3 | 45947066 | A | G |
| rs12986962 | 2 | 111808558 | G | A |
| rs58745116 | 17 | 33803592 | A | G |
| rs56262516 | 6 | 29930939 | A | G |
| rs9263601 | 6 | 31071758 | C | T |
| rs13023673 | 2 | 38594483 | C | T |
| rs5413673C | 1 | 198283058 | A | G |
| rs6707421 | 2 | 38897781 | G | A |
| rs79827501 | 2 | 38431267 | T | G |
| rs1305859C | 22 | 39641412 | T | C |
| rs14278001 | 22 | 44395926 | A | G |
| rs14606972 | 22 | 43339331 | T | C |
| rs1506121C | 22 | 40175781 | A | G |
| rs4657041 | 1 | 161478859 | C | T |
| rs5758649 | 22 | 42605548 | T | C |
| rs73165129 | 22 | 42315371 | T | C |
| rs1305859C | 22 | 39641412 | T | C |
| rs14278001 | 22 | 44395926 | A | G |
| rs14606972 | 22 | 43339331 | T | C |
| rs1506121C | 22 | 40175781 | A | G |
| rs4657041 | 1 | 161478859 | C | T |
| rs5758649 | 22 | 42605548 | T | C |
| rs73165129 | 22 | 42315371 | T | C |
| rs13172065 | 5 | 35887454 | G | A |
| rs1573734 | 16 | 423619 | T | C |
| rs28680958 | 1 | 173848808 | A | G |
| rs13210358 | 6 | 102272234 | T | C |
| rs1322067 | 9 | 117660933 | G | A |
| rs3087456 | 16 | 10970902 | A | G |
| rs13390252 | 2 | 204596729 | G | A |
| rs59639671 | 2 | 39003961 | T | C |
| rs1375493 | 2 | 182323766 | A | G |
| rs2418135 | 9 | 113901309 | A | G |
| rs445 | 7 | 92408370 | T | C |
| rs13891577 | 1 | 190079170 | A | C |
| rs17583875 | 1 | 197924770 | A | G |
| rs7530076 | 1 | 195825276 | A | G |
| rs13908417 | 6 | 43351686 | A | C |
| rs241407 | 6 | 32862740 | T | C |
| rs28723652 | 14 | 106644507 | A | C |
| rs709589 | 14 | 106306841 | T | C |
| rs9267517 | 6 | 31573110 | A | G |
| rs9276702 | 6 | 32756741 | G | A |
| rs13913272 | 17 | 55643849 | T | C |
| rs14258741 | 17 | 58777014 | A | G |
| rs14613046 | 17 | 61576413 | A | G |
| rs14717344 | 17 | 59945942 | T | G |

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| rs14785074 | 17 | 56374364 | T | C |
| rs445 | 7 | 92408370 | T | C |
| rs77771777 | 17 | 55927801 | T | C |
| rs13924954 | 6 | 102294761 | G | A |
| rs6755452 | 2 | 87035076 | G | T |
| rs9896155 | 17 | 33794697 | G | A |
| rs13924954 | 6 | 102294761 | G | A |
| rs7569868 | 2 | 87019683 | T | C |
| rs7925121C | 6 | 100468602 | A | G |
| rs9896155 | 17 | 33794697 | G | A |
| rs13924954 | 6 | 102294761 | G | A |
| rs79086781 | 6 | 100526652 | T | C |
| rs13924954 | 6 | 102294761 | G | A |
| rs7569868 | 2 | 87019683 | T | C |
| rs7925121C | 6 | 100468602 | A | G |
| rs13924954 | 6 | 102294761 | G | A |
| rs7925121C | 6 | 100468602 | A | G |
| rs13924954 | 6 | 102294761 | G | A |
| rs79086781 | 6 | 100526652 | T | C |
| rs13924954 | 6 | 102294761 | G | A |
| rs62184019 | 2 | 204633784 | T | C |
| rs79086781 | 6 | 100526652 | T | C |
| rs13924954 | 6 | 102294761 | G | A |
| rs75494211 | 6 | 101911859 | A | G |
| rs7819099 | 8 | 144992862 | G | A |
| rs78268116 | 11 | 112705025 | T | C |
| rs13926075 | 2 | 105578959 | T | C |
| rs80330977 | 5 | 158276610 | A | G |
| rs13929059 | 22 | 44349795 | G | A |
| rs14606972 | 22 | 43339331 | T | C |
| rs1506121C | 22 | 40175781 | A | G |
| rs5758649 | 22 | 42605548 | T | C |
| rs73165129 | 22 | 42315371 | T | C |
| rs13948996 | 1 | 208017826 | A | G |
| rs36102158 | 15 | 50363583 | A | G |
| rs4406271 | 6 | 109598213 | A | G |
| rs586030 | 1 | 208170487 | T | C |
| rs13979522 | 1 | 92842367 | C | A |
| rs2325259 | 6 | 90850164 | C | T |
| rs6445506 | 3 | 52528292 | C | T |
| rs71632979 | 1 | 161526397 | G | A |
| rs13979522 | 1 | 92842367 | C | A |
| rs2325259 | 6 | 90850164 | C | T |
| rs6445484 | 3 | 52503800 | G | A |
| rs13979522 | 1 | 92842367 | C | A |
| rs14126435 | 1 | 90530314 | C | T |
| rs35075155 | 3 | 53273195 | C | T |
| rs758800 | 3 | 52529266 | C | T |
| rs76064946 | 1 | 93926697 | G | T |
| rs79015439 | 1 | 94803124 | T | C |
| rs14008853 | 2 | 105581937 | C | T |
| rs1403755 | 18 | 30263492 | T | C |
| rs2875404 | 3 | 76674553 | T | C |
| rs78667279 | 2 | 54957709 | A | G |
| rs4683184 | 3 | 46187707 | A | G |
| rs79641389 | 3 | 46882338 | C | A |
| rs14218649 | 6 | 31473707 | G | A |
| rs613165 | 6 | 31834398 | A | G |

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| rs9270588 | 6 | 32561327 | T | C |
| rs14245623 | 11 | 4960640 | T | C |
| rs17552904 | 7 | 50318308 | T | G |
| rs722926 | 17 | 8677215 | T | C |
| rs78736654 | 11 | 5544477 | G | T |
| rs14245623 | 11 | 4960640 | T | C |
| rs14340733 | 7 | 1095701 | T | C |
| rs3092963 | 3 | 46396938 | G | A |
| rs14340733 | 7 | 1095701 | T | C |
| rs3092963 | 3 | 46396938 | G | A |
| rs876036 | 7 | 50307710 | C | T |
| rs1800973 | 12 | 69744014 | A | C |
| rs445 | 7 | 92408370 | T | C |
| rs62395272 | 6 | 31394424 | T | C |
| rs6934244 | 6 | 33024032 | A | C |
| rs9275511 | 6 | 32674329 | A | G |
| rs14662058 | 1 | 198524264 | T | G |
| rs6707421 | 2 | 38897781 | G | A |
| rs14676534 | 11 | 11413255 | T | C |
| rs60499622 | 10 | 126551228 | T | C |
| rs14748747 | 10 | 6191376 | A | C |
| rs41294937 | 10 | 6106621 | C | T |
| rs14748747 | 10 | 6191376 | A | C |
| rs17403348 | 10 | 5827901 | C | T |
| rs3793662 | 9 | 95886051 | T | C |
| rs41294937 | 10 | 6106621 | C | T |
| rs14748747 | 10 | 6191376 | A | C |
| rs17403348 | 10 | 5827901 | C | T |
| rs3793662 | 9 | 95886051 | T | C |
| rs62626323 | 10 | 6115678 | A | C |
| rs709589 | 14 | 106306841 | T | C |
| rs14748747 | 10 | 6191376 | A | C |
| rs3793662 | 9 | 95886051 | T | C |
| rs41294937 | 10 | 6106621 | C | T |
| rs14748747 | 10 | 6191376 | A | C |
| rs14966210 | 7 | 47871972 | A | G |
| rs62626323 | 10 | 6115678 | A | C |
| rs14764033 | 1 | 161536758 | C | T |
| rs78358948 | 11 | 112751974 | A | G |
| rs14776376 | 10 | 97548303 | A | G |
| rs14919284 | 22 | 42270864 | C | T |
| rs4822134 | 22 | 42867332 | C | T |
| rs73165129 | 22 | 42315371 | T | C |
| rs15014579 | 1 | 149738590 | C | T |
| rs558721 | 6 | 32570573 | T | C |
| rs9597833 | 13 | 59334076 | G | T |
| rs1569590 | 6 | 15898884 | G | A |
| rs55809481 | 19 | 49872521 | C | T |
| rs1569590 | 6 | 15898884 | G | A |
| rs2070770 | 11 | 60230531 | T | C |
| rs30003 | 19 | 49846398 | C | T |
| rs9461562 | 6 | 29778271 | G | A |
| rs1571025 | 10 | 6134869 | G | A |
| rs6602392 | 10 | 6078079 | A | C |
| rs1571026 | 10 | 6135025 | G | T |
| rs1573732 | 16 | 423420 | T | C |
| rs2228015 | 17 | 38715186 | C | T |
| rs61968809 | 13 | 106399307 | A | G |

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|---|---|---|---|---|
| rs75983909 | 17 | 38723925 | T | C |
| rs1573732 | 16 | 423420 | T | C |
| rs2228015 | 17 | 38715186 | C | T |
| rs1573734 | 16 | 423619 | T | C |
| rs1617988 | 1 | 167436300 | C | T |
| rs4657649 | 1 | 167173140 | C | T |
| rs876036 | 7 | 50307710 | C | T |
| rs16988872 | 19 | 51580161 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs1720156( | 6 | 32047268 | C | T |
| rs2571390 | 6 | 29923554 | C | T |
| rs3020726 | 2 | 87016506 | G | A |
| rs17203563 | 6 | 32446459 | A | G |
| rs1723016 | 1 | 167433056 | C | T |
| rs1723018 | 1 | 167433420 | G | A |
| rs1723018 | 1 | 167433420 | G | A |
| rs1723018 | 1 | 167433420 | G | A |
| rs61814886 | 1 | 167136405 | A | G |
| rs1723018 | 1 | 167433420 | G | A |
| rs1723018 | 1 | 167433420 | G | A |
| rs1723018 | 1 | 167433420 | G | A |
| rs62028293 | 16 | 50264054 | C | T |
| rs17552904 | 7 | 50318308 | T | G |
| rs17583875 | 1 | 197924770 | A | G |
| rs3130685 | 6 | 31206206 | T | C |
| rs17583875 | 1 | 197924770 | A | G |
| rs408686 | 2 | 39177320 | A | C |
| rs6751481 | 2 | 38897810 | C | T |
| rs17583875 | 1 | 197924770 | A | G |
| rs2596459 | 6 | 31417540 | T | G |
| rs6707421 | 2 | 38897781 | G | A |
| rs653178 | 12 | 112007756 | T | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs4959028 | 6 | 32383138 | G | A |
| rs17664049 | 18 | 48685445 | T | C |
| rs2480679 | 1 | 167407517 | G | A |
| rs2988279 | 1 | 167419839 | A | G |
| rs1773542 | 1 | 167432949 | C | T |
| rs17824379 | 3 | 5810961 | G | A |
| rs1799693 | 6 | 106992464 | G | A |
| rs9398107 | 6 | 107155687 | G | A |
| rs1800973 | 12 | 69744014 | A | C |
| rs1800973 | 12 | 69744014 | A | C |
| rs62395272 | 6 | 31394424 | T | C |
| rs9270588 | 6 | 32561327 | T | C |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9469245 | 6 | 32692084 | T | C |
| rs1800973 | 12 | 69744014 | A | C |
| rs762789 | 3 | 46402627 | A | G |
| rs77465361 | 5 | 159009803 | T | G |
| rs1800973 | 12 | 69744014 | A | C |
| rs77762937 | 2 | 203467470 | T | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs3820097 | 1 | 161049358 | A | G |
| rs3826007 | 15 | 80263217 | T | C |
| rs1801274 | 1 | 161479745 | G | A |
| rs2664523 | 20 | 45318042 | A | G |

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|---|---|---|---|---|
| rs6687275 | 1 | 161515638 | G | T |
| rs745307 | 20 | 44747086 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs8046381 | 16 | 31379355 | C | T |
| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs3865444 | 19 | 51727962 | A | C |
| rs4802858 | 19 | 52253150 | C | T |
| rs55862503 | 19 | 51858911 | A | G |
| rs58483275 | 19 | 51868443 | T | C |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs1801274 | 1 | 161479745 | G | A |
| rs72865957 | 3 | 39355919 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs3820097 | 1 | 161049358 | A | G |
| rs3826007 | 15 | 80263217 | T | C |
| rs1801274 | 1 | 161479745 | G | A |
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| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs3865444 | 19 | 51727962 | A | C |
| rs55862503 | 19 | 51858911 | A | G |
| rs73051934 | 19 | 48582916 | G | A |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs1801274 | 1 | 161479745 | G | A |
| rs72865957 | 3 | 39355919 | A | G |
| rs1801274 | 1 | 161479745 | G | A |
| rs2649752 | 3 | 39351805 | A | C |
| rs1801274 | 1 | 161479745 | G | A |
| rs1801274 | 1 | 161479745 | G | A |
| rs4683184 | 3 | 46187707 | A | G |
| rs61839660 | 10 | 6094697 | T | C |
| rs18305332 | 1 | 25076059 | T | C |
| rs7216096 | 17 | 33772954 | A | G |
| rs9916257 | 17 | 33797371 | T | G |
| rs18305332 | 1 | 25076059 | T | C |
| rs6721978 | 2 | 232290157 | C | T |
| rs18609069 | 4 | 8970919 | A | C |
| rs76112278 | 4 | 15915069 | A | G |
| rs807784 | 4 | 13906853 | T | G |
| rs1883832 | 20 | 44746982 | C | T |
| rs30006 | 19 | 49847916 | C | T |
| rs4716010 | 6 | 15898371 | A | G |
| rs61731791 | 19 | 50940778 | T | C |
| rs1883832 | 20 | 44746982 | C | T |
| rs25680 | 12 | 6554628 | A | G |
| rs35574803 | 3 | 32533246 | C | T |
| rs75918255 | 3 | 32945761 | A | G |
| rs7621492 | 3 | 32302456 | A | G |
| rs76929865 | 3 | 31134534 | C | A |
| rs1883832 | 20 | 44746982 | C | T |
| rs2250246 | 12 | 6553016 | G | A |

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|---|---|---|---|---|
| rs1883832 | 20 | 44746982 | C | T |
| rs41295093 | 10 | 6120173 | A | G |
| rs1886730 | 1 | 2488608 | C | T |
| rs1886730 | 1 | 2488608 | C | T |
| rs1886730 | 1 | 2488608 | C | T |
| rs1886730 | 1 | 2488608 | C | T |
| rs1886730 | 1 | 2488608 | C | T |
| rs1886730 | 1 | 2488608 | C | T |
| rs18888277 | 10 | 16716607 | C | A |
| rs19175322 | 1 | 196321168 | T | C |
| rs73735764 | 6 | 46441386 | T | C |
| rs19177913 | 4 | 82502357 | G | A |
| rs6535445 | 4 | 84151427 | C | T |
| rs19177913 | 4 | 82502357 | G | A |
| rs6535445 | 4 | 84151427 | C | T |
| rs1941018 | 11 | 60268994 | G | A |
| rs30003 | 19 | 49846398 | C | T |
| rs388354 | 7 | 40190449 | C | A |
| rs72836542 | 6 | 14091682 | T | C |
| rs9270560 | 6 | 32560741 | C | T |
| rs1973872 | 2 | 204631016 | G | T |
| rs72928038 | 6 | 90976768 | A | G |
| rs1973872 | 2 | 204631016 | G | T |
| rs72928038 | 6 | 90976768 | A | G |
| rs19979771 | 4 | 120352238 | C | T |
| rs7559619 | 2 | 38892207 | G | A |
| rs28607988 | 3 | 45913338 | C | A |
| rs2949661 | 1 | 167424924 | T | C |
| rs4657649 | 1 | 167173140 | C | T |
| rs2018404 | 14 | 105695446 | T | C |
| rs2338377 | 14 | 106671275 | A | G |
| rs28669075 | 15 | 40856521 | T | C |
| rs709589 | 14 | 106306841 | T | C |
| rs2040406 | 6 | 32603007 | G | A |
| rs709589 | 14 | 106306841 | T | C |
| rs2066399 | 6 | 15880540 | A | G |
| rs4939384 | 11 | 60273642 | G | A |
| rs72836542 | 6 | 14091682 | T | C |
| rs9270560 | 6 | 32560741 | C | T |
| rs2066399 | 6 | 15880540 | A | G |
| rs34486765 | 19 | 49915911 | A | G |
| rs72836542 | 6 | 14091682 | T | C |
| rs7768875 | 6 | 32560752 | T | C |
| rs7939177 | 11 | 60266070 | T | C |
| rs2070901 | 1 | 161185058 | T | G |
| rs2092305 | 6 | 33100189 | G | A |
| rs72770017 | 16 | 10973612 | A | G |
| rs2164210 | 2 | 136580287 | C | T |
| rs2169052 | 1 | 161557154 | C | T |
| rs35587265 | 3 | 46259296 | G | A |
| rs55971447 | 1 | 161515326 | T | C |
| rs2181036 | 9 | 117649136 | C | T |
| rs3087456 | 16 | 10970902 | A | G |
| rs72779785 | 16 | 10569039 | G | A |
| rs2181036 | 9 | 117649136 | C | T |
| rs3087456 | 16 | 10970902 | A | G |
| rs72779785 | 16 | 10569039 | G | A |
| rs2182176 | 1 | 2499254 | A | G |

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|---|---|---|---|---|
| rs2227313 | 1 | 2487766 | C | T |
| rs2227313 | 1 | 2487766 | C | T |
| rs2234161 | 1 | 2491205 | T | C |
| rs2234161 | 1 | 2491205 | T | C |
| rs2844594 | 6 | 31258393 | A | G |
| rs2236073 | 6 | 106898421 | A | G |
| rs72948545 | 6 | 107168477 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs9400058 | 6 | 107164076 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs72948545 | 6 | 107168477 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs9400058 | 6 | 107164076 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs9400058 | 6 | 107164076 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs9400058 | 6 | 107164076 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs7246669 | 19 | 16442023 | G | A |
| rs72948545 | 6 | 107168477 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs72948545 | 6 | 107168477 | G | A |
| rs2236073 | 6 | 106898421 | A | G |
| rs9400058 | 6 | 107164076 | G | A |
| rs2236947 | 3 | 50371432 | A | C |
| rs445 | 7 | 92408370 | T | C |
| rs2250246 | 12 | 6553016 | G | A |
| rs4239702 | 20 | 44749251 | C | T |
| rs2250246 | 12 | 6553016 | G | A |
| rs35574803 | 3 | 32533246 | C | T |
| rs4810485 | 20 | 44747947 | G | T |
| rs2275848 | 9 | 95887320 | T | G |
| rs41294937 | 10 | 6106621 | C | T |
| rs709589 | 14 | 106306841 | T | C |
| rs2337147 | 18 | 46483810 | A | G |
| rs77346511 | 11 | 5268498 | T | C |
| rs2395191 | 6 | 32447085 | C | T |
| rs2455069 | 19 | 51728641 | G | A |
| rs4499342 | 19 | 8786913 | T | C |
| rs2490437 | 1 | 161937517 | C | T |
| rs71632989 | 1 | 161533055 | G | T |
| rs2517515 | 6 | 31029258 | T | C |
| rs5750829 | 22 | 39838018 | G | A |
| rs2523614 | 6 | 31320654 | C | T |
| rs2523882 | 6 | 31042217 | T | C |
| rs3020726 | 2 | 87016506 | G | A |
| rs2523887 | 6 | 31040725 | G | A |
| rs2571390 | 6 | 29923554 | C | T |
| rs25680 | 12 | 6554628 | A | G |
| rs35574803 | 3 | 32533246 | C | T |
| rs4810485 | 20 | 44747947 | G | T |
| rs56237381 | 3 | 32924804 | A | G |
| rs75918255 | 3 | 32945761 | A | G |
| rs2569177 | 5 | 139992162 | T | G |
| rs6671847 | 1 | 161478810 | A | G |
| rs2792563 | 1 | 213100225 | A | G |
| rs28424875 | 4 | 42664508 | C | A |
| rs55971447 | 1 | 161515326 | T | C |

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|---|---|---|---|---|
| rs72926952 | 2 | 203485086 | T | G |
| rs2844804 | 6 | 29942126 | G | T |
| rs3020726 | 2 | 87016506 | G | A |
| rs2857229 | 12 | 6900616 | G | A |
| rs2857229 | 12 | 6900616 | G | A |
| rs28634695 | 15 | 40856113 | A | G |
| rs28723652 | 14 | 106644507 | A | C |
| rs35501848 | 17 | 62021003 | T | G |
| rs709589 | 14 | 106306841 | T | C |
| rs9639820 | 7 | 40094641 | G | A |
| rs28669075 | 15 | 40856521 | T | C |
| rs709589 | 14 | 106306841 | T | C |
| rs28669075 | 15 | 40856521 | T | C |
| rs28723652 | 14 | 106644507 | A | C |
| rs35501848 | 17 | 62021003 | T | G |
| rs709589 | 14 | 106306841 | T | C |
| rs9639820 | 7 | 40094641 | G | A |
| rs2949661 | 1 | 167424924 | T | C |
| rs4657649 | 1 | 167173140 | C | T |
| rs2949661 | 1 | 167424924 | T | C |
| rs4657649 | 1 | 167173140 | C | T |
| rs57319220 | 3 | 45919992 | A | G |
| rs2949661 | 1 | 167424924 | T | C |
| rs76540213 | 1 | 166035343 | T | C |
| rs2949669 | 1 | 167417884 | T | C |
| rs2988277 | 1 | 167431352 | T | C |
| rs4657649 | 1 | 167173140 | C | T |
| rs2988279 | 1 | 167419839 | A | G |
| rs2995089 | 1 | 167431193 | A | G |
| rs3020726 | 2 | 87016506 | G | A |
| rs3087456 | 16 | 10970902 | A | G |
| rs7032773 | 9 | 117645562 | T | C |
| rs3087456 | 16 | 10970902 | A | G |
| rs542160 | 11 | 107676543 | T | C |
| rs72779785 | 16 | 10569039 | G | A |
| rs3087456 | 16 | 10970902 | A | G |
| rs55724950 | 16 | 10993712 | A | G |
| rs62029480 | 16 | 10651993 | T | C |
| rs7032773 | 9 | 117645562 | T | C |
| rs3087456 | 16 | 10970902 | A | G |
| rs72779785 | 16 | 10569039 | G | A |
| rs3104369 | 6 | 32602482 | C | T |
| rs3116493 | 2 | 204589281 | T | G |
| rs75380201 | 18 | 39778311 | T | C |
| rs3116493 | 2 | 204589281 | T | G |
| rs3129891 | 6 | 32415080 | A | G |
| rs9271771 | 6 | 32594274 | C | T |
| rs3130685 | 6 | 31206206 | T | C |
| rs3130685 | 6 | 31206206 | T | C |
| rs3130685 | 6 | 31206206 | T | C |
| rs36058358 | 6 | 32636282 | A | G |
| rs4796089 | 17 | 33814758 | C | T |
| rs3130685 | 6 | 31206206 | T | C |
| rs3184504 | 12 | 111884608 | C | T |
| rs3184504 | 12 | 111884608 | C | T |
| rs9271622 | 6 | 32591845 | A | G |
| rs3184504 | 12 | 111884608 | C | T |
| rs34460712 | 2 | 38935236 | A | G |

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|---|---|---|---|---|
| rs3757247 | 6 | 90957463 | T | C |
| rs62183989 | 2 | 204609402 | T | C |
| rs34546581 | 2 | 87021659 | A | G |
| rs9270657 | 6 | 32566021 | G | T |
| rs9461744 | 6 | 32388317 | G | A |
| rs9461744 | 6 | 32388317 | G | A |
| rs354020 | 19 | 49838891 | A | C |
| rs35567463 | 6 | 32633970 | A | C |
| rs35574803 | 3 | 32533246 | C | T |
| rs4810485 | 20 | 44747947 | G | T |
| rs35587265 | 3 | 46259296 | G | A |
| rs61802333 | 1 | 161589982 | T | G |
| rs6687275 | 1 | 161515638 | G | T |
| rs3793662 | 9 | 95886051 | T | C |
| rs41295093 | 10 | 6120173 | A | G |
| rs3793662 | 9 | 95886051 | T | C |
| rs41294937 | 10 | 6106621 | C | T |
| rs7078614 | 10 | 6075831 | T | G |
| rs3793662 | 9 | 95886051 | T | C |
| rs62626323 | 10 | 6115678 | A | C |
| rs709589 | 14 | 106306841 | T | C |
| rs71632979 | 1 | 161526397 | G | A |
| rs71639910 | 1 | 161937774 | A | G |
| rs71632979 | 1 | 161526397 | G | A |
| rs71639910 | 1 | 161937774 | A | G |
| rs3845548 | 1 | 161507448 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs55862503 | 19 | 51858911 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs74253876 | 18 | 5858361 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs55862503 | 19 | 51858911 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs4499342 | 19 | 8786913 | T | C |
| rs7351079 | 19 | 51574038 | G | A |
| rs3865444 | 19 | 51727962 | A | C |
| rs62114147 | 19 | 51588018 | T | C |
| rs7351079 | 19 | 51574038 | G | A |
| rs3865444 | 19 | 51727962 | A | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs55862503 | 19 | 51858911 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs3865444 | 19 | 51727962 | A | C |
| rs4802858 | 19 | 52253150 | C | T |
| rs55862503 | 19 | 51858911 | A | G |
| rs58483275 | 19 | 51868443 | T | C |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs3917768 | 1 | 169572947 | G | T |
| rs7526645 | 1 | 169728916 | T | C |
| rs3934748 | 1 | 206879659 | T | G |
| rs7189927 | 16 | 28913787 | C | T |

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|---|---|---|---|---|
| rs41294937 | 10 | 6106621 | C | T |
| rs7078614 | 10 | 6075831 | T | G |
| rs445 | 7 | 92408370 | T | C |
| rs445 | 7 | 92408370 | T | C |
| rs4371876 | 6 | 31067550 | A | G |
| rs9357097 | 6 | 30285121 | T | C |
| rs4493054 | 16 | 31361988 | A | G |
| rs4987360 | 1 | 169664867 | G | A |
| rs7139370 | 13 | 109976273 | T | C |
| rs45608038 | 2 | 73679013 | G | A |
| rs75766272 | 1 | 8009985 | T | C |
| rs7647728( | 13 | 50147180 | G | A |
| rs4657041 | 1 | 161478859 | C | T |
| rs4683184 | 3 | 46187707 | A | G |
| rs79825014 | 3 | 46880193 | T | G |
| rs4785074 | 16 | 59885737 | T | C |
| rs4796089 | 17 | 33814758 | C | T |
| rs4796089 | 17 | 33814758 | C | T |
| rs4796089 | 17 | 33814758 | C | T |
| rs6904670 | 6 | 31192797 | G | A |
| rs7728865 | 5 | 59819941 | A | G |
| rs4796089 | 17 | 33814758 | C | T |
| rs4796089 | 17 | 33814758 | C | T |
| rs4849134 | 2 | 111615015 | G | A |
| rs4987369 | 1 | 169662742 | T | G |
| rs548316 | 11 | 128077683 | A | G |
| rs55971447 | 1 | 161515326 | T | C |
| rs7507297( | 1 | 161058351 | C | T |
| rs55971447 | 1 | 161515326 | T | C |
| rs56216383 | 2 | 204631712 | G | A |
| rs56262516 | 6 | 29930939 | A | G |
| rs7425430 | 2 | 87056480 | G | A |
| rs9263601 | 6 | 31071758 | C | T |
| rs56568421 | 10 | 68270803 | A | G |
| rs58027502 | 5 | 139978241 | T | C |
| rs58408589 | 16 | 31362741 | G | A |
| rs61802329 | 1 | 161589626 | T | C |
| rs75841521 | 2 | 59592691 | A | G |
| rs7852015( | 1 | 19786101 | A | C |
| rs79298699 | 16 | 31402042 | T | C |
| rs597808 | 12 | 111973358 | G | A |
| rs9271629 | 6 | 32591976 | A | C |
| rs6112609( | 6 | 32586382 | G | A |
| rs61141933 | 2 | 39388479 | T | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs78667279 | 2 | 54957709 | A | G |
| rs6183966( | 10 | 6094697 | T | C |
| rs9268791 | 6 | 32421073 | C | T |
| rs6183966( | 10 | 6094697 | T | C |
| rs6183966( | 10 | 6094697 | T | C |
| rs62183989 | 2 | 204609402 | T | C |
| rs62184016 | 2 | 204623481 | C | T |
| rs72928038 | 6 | 90976768 | A | G |
| rs62184016 | 2 | 204623481 | C | T |
| rs72928038 | 6 | 90976768 | A | G |
| rs62325303 | 4 | 111000603 | T | C |

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|---|---|---|---|---|
| rs62395272 | 6 | 31394424 | T | C |
| rs9271296 | 6 | 32581501 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9296042 | 6 | 32736005 | T | C |
| rs62447171 | 7 | 50309890 | A | G |
| rs7658518 | 4 | 84160279 | A | G |
| rs62447171 | 7 | 50309890 | A | G |
| rs7658518 | 4 | 84160279 | A | G |
| rs62447171 | 7 | 50309890 | A | G |
| rs7658518 | 4 | 84160279 | A | G |
| rs62447171 | 7 | 50309890 | A | G |
| rs7658518 | 4 | 84160279 | A | G |
| rs62626323 | 10 | 6115678 | A | C |
| rs709589 | 14 | 106306841 | T | C |
| rs6453485 | 5 | 79151752 | T | C |
| rs7078614 | 10 | 6075831 | T | G |
| rs7078614 | 10 | 6075831 | T | G |
| rs6681289 | 1 | 119421209 | A | G |
| rs6707421 | 2 | 38897781 | G | A |
| rs6710361 | 2 | 87047145 | A | G |
| rs9896155 | 17 | 33794697 | G | A |
| rs6751481 | 2 | 38897810 | C | T |
| rs6751481 | 2 | 38897810 | C | T |
| rs6755452 | 2 | 87035076 | G | T |
| rs9896155 | 17 | 33794697 | G | A |
| rs67760360 | 15 | 80260872 | A | G |
| rs6808893 | 3 | 188133439 | T | C |
| rs709589 | 14 | 106306841 | T | C |
| rs71632979 | 1 | 161526397 | G | A |
| rs7189927 | 16 | 28913787 | C | T |
| rs7245846 | 19 | 51731176 | A | G |
| rs7245846 | 19 | 51731176 | A | G |
| rs7351079 | 19 | 51574038 | G | A |
| rs78949787 | 19 | 51591138 | T | C |
| rs72635970 | 2 | 73868977 | G | T |
| rs72635970 | 2 | 73868977 | G | T |
| rs72677097 | 1 | 61134076 | G | A |
| rs72915529 | 2 | 54970478 | A | G |
| rs9302635 | 16 | 72144174 | C | T |
| rs73165129 | 22 | 42315371 | T | C |
| rs73192651 | 13 | 50212885 | T | C |
| rs73402222 | 6 | 31388449 | C | T |
| rs73402222 | 6 | 31388449 | C | T |
| rs74657611 | 4 | 53172274 | A | G |
| rs75320486 | 1 | 206842241 | A | G |
| rs79856590 | 1 | 205241642 | A | G |
| rs75766272 | 1 | 8009985 | T | C |
| rs760462 | 21 | 46328099 | C | T |
| rs760462 | 21 | 46328099 | C | T |
| rs76112278 | 4 | 15915069 | A | G |
| rs76161425 | 11 | 112704995 | T | C |
| rs77650974 | 18 | 12394263 | A | G |
| rs77650974 | 18 | 12394263 | A | G |
| rs77789294 | 14 | 29178686 | C | T |
| rs778582 | 5 | 140004816 | T | C |
| rs7801342 | 7 | 31163003 | C | T |
| rs78268116 | 11 | 112705025 | T | C |

| | | | | |
|---|---|---|---|---|
| rs78268116 | 11 | 112705025 | T | C |
| rs9269109 | 6 | 32443266 | C | T |
| rs879299 | 6 | 15897007 | G | T |
| rs9270591 | 6 | 32561424 | T | C |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9268832 | 6 | 32427789 | C | T |
| rs9269109 | 6 | 32443266 | C | T |
| rs9270591 | 6 | 32561424 | T | C |
| rs9271768 | 6 | 32594188 | G | A |
| rs9271768 | 6 | 32594188 | G | A |
| rs9275271 | 6 | 32662533 | C | T |
| rs9916257 | 17 | 33797371 | T | G |

| EA.outcome | NEA.outcome | BETA.exposure | BETA.outcome |
|---|---|---|---|
| T | C | 0.4144 | 0.0691 |
| T | C | 0.389 | 0.0691 |
| G | A | -0.1509 | 0.0701 |
| T | C | 0.1606 | 0.0047 |
| T | C | -0.1389 | -0.0662 |
| A | G | 0.2375 | 0.0744 |
| A | G | 0.167 | -0.0963 |
| G | A | -0.236 | 0.0608 |
| T | C | 0.1752 | -0.0714 |
| A | G | 0.1788 | 0.1047 |
| C | T | -0.2177 | 0.0187 |
| A | G | 359.1 | 0.0708 |
| C | A | 280.3 | -0.0559 |
| T | C | 118.5 | -0.1275 |
| C | A | 985.5 | 0.0591 |
| T | G | 407.5 | 0.0145 |
| G | A | 216.9 | -0.0563 |
| T | C | 95.49 | -0.1613 |
| T | C | 82 | 0.1028 |
| T | G | 303 | 0.1121 |
| A | G | 308.6 | 0.0262 |
| C | T | 196.5 | -0.0034 |
| A | G | 206.9 | -0.0301 |
| G | A | 237.6 | 0.2464 |
| T | G | 387.4 | -0.0825 |
| C | T | 249.4 | -0.0221 |
| C | T | 292.3 | 0.18 |
| A | G | 95.85 | -0.0658 |
| T | C | 345.5 | -0.0176 |
| T | C | 1015 | -0.1165 |
| A | G | 206.8 | -0.2543 |
| A | G | 312.7 | -0.0614 |
| G | A | 386.6 | -0.1356 |
| T | C | 214.8 | 0.0111 |
| G | A | 189.8 | 0.3645 |
| A | G | 337.1 | 0.111 |
| A | G | 324.4 | -0.143 |
| T | C | 172.3 | -0.0933 |
| A | G | 234.6 | 0.0351 |
| G | A | 725.8 | -0.1551 |
| A | G | 662.4 | -0.2204 |
| T | C | 139.3 | -0.251 |
| G | T | 239.1 | 0.0469 |
| T | C | 160.1 | 0.6174 |
| A | G | 623.6 | -1.0858 |
| A | G | 342.3 | -0.0437 |
| T | C | 274.8 | 0.1591 |
| G | T | 192.2 | -0.0103 |
| A | G | 221.5 | -0.1298 |
| C | T | 177.5 | 0.1099 |
| A | C | 207.9 | -0.5188 |
| T | C | 315.7 | -0.1446 |
| T | C | 771.6 | -0.1079 |
| T | C | 794.2 | -0.1622 |
| G | A | 759.4 | 0.0147 |
| G | A | 571.9 | -0.0127 |

| | | | |
|---|---|---|---|
| A | G | 896.2 | -0.1558 |
| A | G | 889.9 | -0.1426 |
| C | T | 159.2 | 0.4404 |
| A | G | 268.3 | 0.0344 |
| C | A | 297 | -0.0642 |
| C | T | 1006 | 0.1416 |
| A | G | -233.6 | 0.2413 |
| T | G | 420 | -0.2509 |
| G | A | 834.4 | -0.2166 |
| T | C | 126.2 | 0.0387 |
| T | C | 469.1 | -0.0856 |
| A | G | 194.3 | -0.1966 |
| C | T | 163.2 | -0.0318 |
| A | G | 180.4 | 0.1677 |
| T | C | 255.1 | 0.2906 |
| T | C | 208.3 | -0.3456 |
| A | G | 447.6 | 0.1016 |
| T | C | 378.1 | 0.0973 |
| C | A | 186 | 0.2007 |
| T | C | 437.7 | 0.1178 |
| A | G | 264.9 | 0.0801 |
| C | T | 375.1 | 0.1548 |
| C | T | 196.1 | -0.4049 |
| A | C | 272.5 | 0.136 |
| C | A | 414.6 | -0.0276 |
| A | G | 250.3 | 0.4328 |
| G | A | 215.2 | 0.1485 |
| C | T | 854.9 | 0.201 |
| T | G | 573 | 0.323 |
| T | C | 224.8 | -0.2395 |
| A | G | 206.4 | 0.3356 |
| C | T | 141 | -0.1023 |
| A | C | 246.8 | 0.0699 |
| T | C | 172.1 | 0.0588 |
| G | A | 785.2 | -0.1064 |
| A | C | 111 | 0.0045 |
| A | G | 248.6 | -0.3587 |
| A | G | 248.5 | -0.3063 |
| T | C | 516.5 | -0.0735 |
| C | T | 534.9 | 0.0977 |
| C | T | 76.42 | 0.0786 |
| T | C | 699.1 | -0.5411 |
| A | G | 169.6 | -0.2131 |
| A | G | 245.4 | -0.0333 |
| G | A | 1129 | 0.172 |
| A | G | 620.5 | 0.0511 |
| T | C | 330.2 | -0.049 |
| A | G | 166.6 | -0.017 |
| G | A | 98.72 | 0.0821 |
| G | A | 84.59 | -1.3127 |
| T | C | 417.3 | 0.0592 |
| T | G | 1000 | 0.2108 |
| A | C | 515.7 | -0.0813 |
| C | T | 219.9 | 0.1595 |
| G | A | 244 | 0.1932 |
| A | G | 262.1 | -0.383 |
| A | G | 187 | -1.0989 |
| A | G | 1285 | 0.0887 |

| | | | |
|---|---|---|---|
| A | G | 139.5 | -0.1171 |
| T | C | 419.3 | 0.0688 |
| A | G | 155.1 | -0.005 |
| A | G | 200.7 | -0.2164 |
| C | T | 570.9 | 0.1111 |
| T | C | 842.4 | 0.0271 |
| A | G | 257.5 | 0.3457 |
| A | G | 59.98 | 0.2182 |
| C | T | 836.1 | -0.289 |
| G | A | 516.8 | 0.0299 |
| A | G | 381.7 | 0.6836 |
| A | G | 172.5 | 0.1835 |
| T | C | 443.1 | 0.0348 |
| T | C | 176.3 | -0.291 |
| A | C | 199.4 | 0.0858 |
| A | G | 204.4 | 0.0667 |
| C | T | 460.1 | 0.1411 |
| T | C | 69.9 | -0.162 |
| T | C | 210.6 | 0.0934 |
| T | C | 2073 | 0.0344 |
| A | G | 636.7 | -0.2095 |
| A | G | 181.9 | -0.0565 |
| A | C | 274.8 | 0.1674 |
| C | A | 216.5 | 0.0595 |
| C | T | 440.2 | 0.1434 |
| T | C | 394.5 | -0.3114 |
| C | A | 127.1 | -0.1824 |
| T | C | 189.1 | 0.2418 |
| T | C | 1232 | 0.3383 |
| A | G | 279.2 | 0.1539 |
| T | C | 328.1 | 0.161 |
| G | A | 111.8 | -0.0015 |
| A | G | 43.94 | 0.134 |
| A | G | 591.4 | -0.3 |
| T | G | 494.7 | 0.3245 |
| G | A | 369.2 | 0.1453 |
| G | T | 730 | 0.2811 |
| C | T | 159.5 | 0.1884 |
| A | G | 144.1 | -0.102 |
| T | C | 210.7 | -0.1441 |
| A | G | 77.03 | 0.1113 |
| T | C | 186.1 | 0.0408 |
| G | A | 185.9 | 0.0402 |
| C | T | 465.8 | -0.2247 |
| C | T | 202.4 | -0.0915 |
| C | T | 124.1 | 0.382 |
| G | T | 479.2 | 0.014 |
| A | C | 207 | -0.4634 |
| A | C | 417.2 | 0.6499 |
| T | C | 235.3 | 0.2146 |
| C | T | 143.9 | -0.2957 |
| C | A | 225.4 | -0.2711 |
| A | G | 1165 | 0.0075 |
| A | G | 355.7 | -0.2667 |
| A | G | 338.4 | 0.0439 |
| T | C | 152.8 | -0.0069 |
| T | C | 313.5 | 0.1209 |
| G | T | 399.5 | 0.1423 |

| | | | |
|---|---|---|---|
| T | C | 181.2 | 0.0629 |
| T | C | 549.6 | -0.0402 |
| T | C | 826.8 | 0.2022 |
| G | A | 301 | -0.0339 |
| T | C | 114.2 | 0.344 |
| A | G | 123.5 | 0.4332 |
| G | A | 183.9 | 0.4682 |
| T | C | 149.3 | 0.1368 |
| T | C | 282.1 | 0.311 |
| A | G | 262.7 | -0.0385 |
| T | C | 2047 | 0.0485 |
| G | A | 438.9 | 0.1232 |
| T | C | 751.9 | -0.1653 |
| G | A | 266.7 | -0.1099 |
| T | C | 257.4 | 0.0122 |
| C | A | 1445 | 0.1675 |
| G | A | 159.7 | -0.2337 |
| T | C | 708.1 | 0.0426 |
| G | A | 203.9 | 0.0008 |
| T | C | 339.6 | 0.2622 |
| A | G | 240.6 | 0.0934 |
| T | C | 453.6 | -0.3907 |
| C | T | 562.4 | 0.0619 |
| T | C | 416.3 | -0.1175 |
| T | C | 496.1 | -0.1546 |
| A | G | 262.4 | 0.1494 |
| T | C | 299.6 | -0.1263 |
| A | G | 432.3 | 0.0257 |
| T | C | 163.3 | 0.0986 |
| C | T | 829.8 | -0.0342 |
| A | G | 311 | 0.3713 |
| T | C | 316 | -0.1059 |
| A | C | 731.4 | 1.3811 |
| A | G | 731.4 | -0.0303 |
| A | G | 331.7 | -0.1567 |
| T | C | 320.1 | 0.1897 |
| A | G | 2073 | -0.5947 |
| C | T | 150.2 | 0.0502 |
| C | T | 751.8 | -0.1313 |
| A | G | 235.6 | -0.1457 |
| T | C | 121.9 | -0.0686 |
| C | A | 282.9 | -0.147 |
| C | A | 301.9 | 0.0064 |
| A | G | 489.9 | 0.0984 |
| A | G | 628.3 | 0.1681 |
| T | C | 137 | 0.1857 |
| A | G | 253.3 | 0.2472 |
| T | C | 230.6 | 0.0152 |
| T | G | 306.1 | 0.0746 |
| T | C | 181.1 | -0.0022 |
| A | G | 271.1 | 0.008 |
| A | C | 548.1 | -0.4947 |
| A | G | 887.3 | 0.2218 |
| G | A | 300.6 | 0.2776 |
| C | A | 750.9 | -0.3545 |
| G | A | 428.3 | -0.1324 |
| A | G | 1200 | -0.0325 |
| A | G | 246 | 0.0308 |

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|---|---|---|---|
| T | C | 413.3 | 0.0757 |
| T | C | 159.6 | -0.093 |
| T | C | 175.4 | 0.3781 |
| T | C | 358.2 | -0.0185 |
| T | C | 988.1 | 0.425 |
| T | C | 122.6 | -0.7748 |
| G | A | 1581 | -0.0876 |
| C | A | 177.1 | 0.1569 |
| A | C | 580.3 | 0.0594 |
| T | C | 436.5 | -0.1868 |
| A | G | 189.6 | -0.2619 |
| A | G | 319.6 | -0.1343 |
| G | A | 156.1 | 0.0201 |
| G | A | -388.2 | 0.0317 |
| T | C | 164.3 | -0.083 |
| A | C | 395.7 | -0.1795 |
| A | G | 211.7 | -0.248 |
| A | G | 1008 | 0.0213 |
| T | C | 270.7 | -0.5055 |
| G | A | 542.5 | -0.0827 |
| T | C | 336.7 | -0.0125 |
| T | C | 475 | 0.0781 |
| A | G | 158.9 | 0.1527 |
| C | A | 196.4 | 0.0171 |
| G | A | 257 | -0.2276 |
| G | T | 197.3 | -0.2209 |
| G | T | 353.7 | -0.0395 |
| T | C | 286.8 | 0.0612 |
| C | T | 353.5 | 0.0027 |
| T | C | 212.6 | -0.0049 |
| A | G | 330.6 | -0.2073 |
| C | T | 214.7 | -0.0386 |
| G | A | 160.9 | 0.5836 |
| G | A | 398.3 | -0.2987 |
| A | G | 149.1 | -0.0221 |
| T | C | 211.5 | 0.239 |
| C | T | 360.9 | 0.0185 |
| A | G | 255.1 | -0.081 |
| T | C | 1757 | 0.0573 |
| G | T | 235.6 | 0.03 |
| A | G | 263 | -0.106 |
| C | T | -548.4 | 0.2554 |
| T | C | 466.1 | 0.0024 |
| A | G | 584.1 | 0.11 |
| T | C | 397 | 0.0146 |
| A | G | 643.8 | -0.3837 |
| G | A | 424.9 | 0.0171 |
| C | T | 381.2 | 0.0198 |
| A | G | 520 | -0.1228 |
| T | C | 584.7 | -0.3072 |
| G | A | 1003 | 0.0185 |
| C | T | 568.9 | -0.0952 |
| T | C | 250 | -0.0945 |
| G | T | 204.6 | -0.1712 |
| A | G | 130.7 | 0.0088 |
| C | T | 218.4 | 0.0674 |
| T | C | 166.4 | 0.1597 |
| G | A | 658.4 | 0.0624 |

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|---|---|---|---|
| T | C | 125.6 | -0.0257 |
| A | G | 90.23 | -0.0883 |
| T | G | 442.9 | -0.087 |
| G | T | 184.9 | -0.119 |
| A | G | 658.4 | 0.4389 |
| A | G | 212.8 | 0.0467 |
| C | T | 104.8 | -0.0982 |
| A | G | 269.8 | 0.0686 |
| T | C | 416.6 | -0.1517 |
| A | G | 939.1 | 0.2586 |
| C | T | 239.6 | -0.1121 |
| T | C | 207 | -0.1333 |
| G | A | 358.8 | 0.2887 |
| T | C | 353 | -0.0099 |
| T | G | 559.9 | -0.003 |
| G | T | 559.6 | 0.2817 |
| T | C | 605.2 | 0.2562 |
| A | G | 632.9 | 0.147 |
| A | G | 185 | 0.1223 |
| A | G | 348.1 | -0.1075 |
| A | C | 851.2 | 0.2378 |
| A | G | -87.22 | -0.2222 |
| G | A | -287.7 | -0.0053 |
| T | C | 335 | -0.1137 |
| A | G | 2896 | 0.1059 |
| A | G | 130.9 | -0.0541 |
| A | G | 2721 | 0.2602 |
| T | C | 203 | -0.1183 |
| A | C | 106.8 | -0.3843 |
| T | C | 634.9 | 0.2334 |
| C | T | 134.6 | 0.1004 |
| C | A | 364.4 | -0.1119 |
| T | C | 116.6 | 0.068 |
| G | A | 475.9 | -0.2022 |
| A | C | 278.8 | -0.2466 |
| C | T | 404.4 | 0.0071 |
| A | C | 336.9 | 0.2061 |
| A | G | 438.9 | -0.6117 |
| G | A | 413.6 | 0.1407 |
| A | C | 287.4 | 0.3767 |
| G | A | 264 | -0.2102 |
| T | G | 322 | 0.0584 |
| A | G | 308.9 | 0.1034 |
| A | C | 326.1 | 0.2608 |
| T | C | 268.4 | 0.0381 |
| T | C | 188.4 | 0.0907 |
| C | A | 338.9 | 0.2102 |
| G | T | 217.6 | 0.0963 |
| A | G | 317.1 | -0.12 |
| A | G | 105.3 | -0.2517 |
| A | G | 352 | -0.2332 |
| A | G | 101.4 | 0.1958 |
| T | C | 225.9 | -0.0152 |
| A | G | 132.5 | 0.0559 |
| G | A | 143.3 | -0.1165 |
| G | T | 183 | -0.2947 |
| C | T | 97.68 | -0.329 |
| A | G | 287 | -0.1551 |

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|---|---|---|---|
| C | T | 1057 | 0.007 |
| C | T | 212.5 | -0.062 |
| C | T | 3549 | 0.1092 |
| C | T | 303.6 | 0.0619 |
| C | A | 297 | -0.2419 |
| A | C | 434.2 | 0.1958 |
| T | C | 263.6 | 0.1284 |
| C | T | 331.8 | -0.0967 |
| T | C | 1584 | -0.1626 |
| A | C | 961.3 | 0.1518 |
| C | T | 857.2 | 0.3525 |
| C | T | 163.6 | 0.001 |
| T | C | 1574 | 0.1153 |
| C | T | 1117 | -0.2919 |
| A | G | 141.4 | -0.0806 |
| A | G | 99.34 | -0.1182 |
| A | G | 1826 | -0.0768 |
| T | G | 47.59 | -0.1277 |
| T | C | 774.8 | -0.2324 |
| G | T | 404.7 | 0.5388 |
| T | C | 168.6 | 0.1438 |
| G | A | 391.1 | 0.308 |
| G | A | 301.1 | 0.0861 |
| T | C | 85.79 | 0.0868 |
| G | A | 193.7 | 0.1272 |
| T | G | 0.1206 | -0.0362 |
| G | A | 0.3952 | -0.181 |
| G | T | -12.04 | 0.2093 |
| T | C | -0.2955 | -0.0034 |
| T | C | 0.1984 | 0.0203 |
| A | C | -0.2799 | 0.1297 |
| A | G | -0.3127 | 0.1634 |
| A | G | 0.1591 | 0.0428 |
| C | T | 0.192 | -0.0772 |
| A | G | -0.3411 | -0.366 |
| G | A | -0.5168 | -0.0378 |
| G | T | 0.234 | -0.005 |
| A | G | -0.1677 | -0.0443 |
| T | C | -0.2444 | 0.0679 |
| T | C | -0.5713 | 0.0067 |
| T | C | -0.2765 | -0.1022 |
| C | T | 0.1554 | -0.0256 |
| A | G | -0.1391 | -0.0538 |
| T | C | -0.2991 | 0.1394 |
| A | G | 0.2182 | -0.5309 |
| G | A | 0.207 | 0.0253 |
| A | G | 0.1894 | -0.0394 |
| C | T | -0.3215 | 0.0549 |
| T | C | 0.2358 | 0.0366 |
| C | A | -0.1728 | -0.1029 |
| C | A | 18.81 | 0.0591 |
| T | G | 9.768 | 0.0145 |
| A | G | 26.82 | 0.3903 |
| A | G | 9.265 | -0.143 |
| G | A | 8.874 | 0.2249 |
| A | G | 17.96 | -0.1426 |
| C | T | 22.4 | 0.1416 |
| T | C | 10.65 | -0.1832 |

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|---|---|---|---|
| G | A | 19.07 | -0.2166 |
| A | G | 18.77 | 0.0509 |
| T | C | 32.87 | -0.1481 |
| T | G | 33.95 | 0.0856 |
| A | G | 36.56 | 0.2356 |
| T | C | 12.62 | -0.0735 |
| T | C | 16 | -0.5411 |
| G | A | 25.15 | 0.172 |
| A | G | 10.8 | 0.0511 |
| T | G | 23.37 | 0.2108 |
| A | G | 21.5 | 0.0887 |
| T | C | 23.94 | 0.0271 |
| T | C | 33.4 | 0.0344 |
| T | C | 51.17 | 0.3383 |
| T | G | 42.63 | 0.3025 |
| T | C | 32.81 | 0.0485 |
| C | A | 25.69 | 0.1675 |
| A | G | 31.1 | -0.1105 |
| A | G | 33.31 | -0.5947 |
| C | T | 15.79 | -0.1313 |
| A | G | 12.36 | 0.0984 |
| A | G | 18.17 | 0.2218 |
| G | A | 8.527 | 0.2776 |
| T | C | 4.47 | -0.7748 |
| G | A | 35.37 | -0.0876 |
| A | C | 12.51 | -0.1795 |
| G | T | 53.41 | 0.1019 |
| T | C | 38.7 | 0.0486 |
| G | A | 4.521 | 0.2592 |
| G | T | 9.274 | -0.0395 |
| T | C | 49 | 0.0573 |
| C | T | 33.05 | -0.1134 |
| G | A | 31.04 | 0.0185 |
| A | G | 38.95 | 0.2586 |
| C | T | 38.22 | 0.0408 |
| A | G | 51.58 | 0.1059 |
| A | G | 49.64 | 0.2602 |
| G | A | 52.91 | 0.2319 |
| G | A | 13.03 | 0.1407 |
| T | C | 34.38 | 0.0569 |
| G | A | 19.81 | 0.2067 |
| A | G | 23.9 | 0.2363 |
| C | T | 100.8 | 0.1092 |
| C | T | 9.036 | -0.0967 |
| T | C | 26.23 | -0.1626 |
| C | T | 24.55 | 0.3525 |
| T | C | 37.38 | 0.1153 |
| A | G | 35.15 | -0.0768 |
| G | A | 44.6 | -0.2206 |
| T | C | 0.2345 | 0.0994 |
| T | G | -0.1918 | 0.0148 |
| T | C | 0.249 | 0.0994 |
| T | C | -0.408 | 0.2087 |
| T | G | -0.2323 | 0.0148 |
| T | C | -0.2345 | 0.0994 |
| T | G | 0.1918 | 0.0148 |
| A | G | -0.1062 | -0.0899 |
| G | A | -0.1633 | -0.088 |

| | | | |
|---|---|---|---|
| A | G | -0.2753 | 0.0045 |
| A | G | -0.2188 | -0.0383 |
| C | A | -0.4118 | -0.0083 |
| T | C | -0.1846 | 0.0511 |
| T | G | 0.5248 | 0.3729 |
| G | A | 1.011 | -0.0167 |
| T | C | 0.4486 | -0.0398 |
| A | G | -0.1827 | -0.0383 |
| C | A | -0.3962 | -0.0083 |
| T | C | -0.1937 | 0.0511 |
| G | T | 1.014 | -0.0166 |
| T | C | 0.4759 | -0.0398 |
| G | A | -0.5171 | -0.4266 |
| A | G | -0.189 | -0.0383 |
| C | A | -0.3631 | -0.0083 |
| C | A | -0.2494 | -0.0385 |
| T | G | 0.8768 | -0.0165 |
| T | C | 0.3373 | -0.0398 |
| A | G | -0.1864 | -0.0383 |
| C | A | -0.3538 | -0.0083 |
| T | C | -0.1886 | 0.0511 |
| T | G | 0.4456 | 0.3729 |
| G | A | 0.9156 | -0.0158 |
| T | C | 0.3615 | -0.0398 |
| C | T | 0.1739 | 0.0317 |
| A | G | 0.8979 | -0.1854 |
| C | T | 0.5908 | -0.8331 |
| A | C | 0.2681 | 0.1138 |
| G | A | 0.4907 | -0.0167 |
| A | G | -0.5202 | 0.1813 |
| A | G | -0.7129 | 0.1523 |
| G | A | -0.5047 | -0.0619 |
| T | C | -0.607 | 0.1328 |
| A | G | -0.472 | -0.002 |
| T | C | 0.2286 | -0.05 |
| T | C | -0.7454 | 0.1686 |
| A | G | -0.5412 | 0.1813 |
| A | G | -0.7379 | 0.1523 |
| G | A | -0.5355 | -0.0619 |
| T | C | -0.5121 | 0.1328 |
| T | C | 0.2107 | -0.05 |
| A | G | -0.4487 | -0.0126 |
| T | C | -0.6949 | 0.1686 |
| A | G | -0.5028 | 0.1813 |
| A | G | -0.7505 | 0.1523 |
| G | A | -0.5223 | -0.0619 |
| G | A | -0.1765 | -0.025 |
| T | C | -0.5308 | 0.1328 |
| T | C | 0.2184 | -0.05 |
| A | G | -0.4356 | -0.0126 |
| T | C | -0.7149 | 0.1686 |
| A | G | -0.5131 | 0.1813 |
| A | G | -0.7498 | 0.1523 |
| G | A | -0.5364 | -0.0619 |
| G | A | -0.1694 | -0.025 |
| T | C | -0.5248 | 0.1328 |
| T | C | 0.218 | -0.05 |
| A | G | -0.4367 | -0.0126 |

| | | | |
|---|---|---|---|
| T | C | -0.7095 | 0.1686 |
| A | G | -0.4975 | 0.1813 |
| A | G | -0.763 | 0.1523 |
| C | T | -1.509 | -0.0567 |
| G | A | -0.5384 | -0.0619 |
| G | A | -0.1805 | -0.025 |
| T | C | -0.532 | 0.1328 |
| T | C | 0.2191 | -0.05 |
| A | G | -0.4296 | -0.0126 |
| T | C | -0.7283 | 0.1686 |
| A | G | -0.5029 | 0.1813 |
| A | G | -0.7531 | 0.1523 |
| G | A | -0.5248 | -0.0619 |
| G | A | -0.1866 | -0.025 |
| T | C | -0.5235 | 0.1328 |
| T | C | 0.2161 | -0.05 |
| A | G | -0.4336 | -0.0126 |
| T | C | -0.7259 | 0.1686 |
| A | G | -0.5326 | 0.1813 |
| A | G | -0.7406 | 0.1523 |
| C | T | -1.496 | -0.0567 |
| G | A | -0.5338 | -0.0619 |
| G | A | -0.1724 | -0.025 |
| T | C | -0.5142 | 0.1328 |
| T | C | 0.2136 | -0.05 |
| A | G | -0.4435 | -0.0126 |
| T | C | -0.7056 | 0.1686 |
| A | G | -0.4717 | 0.1813 |
| A | G | -0.6734 | 0.1523 |
| G | A | -0.4771 | -0.0619 |
| T | C | -0.4832 | 0.1328 |
| T | C | 0.2113 | -0.05 |
| A | G | -0.4046 | -0.0126 |
| T | C | -1.385 | -0.0615 |
| T | C | -0.6664 | 0.1686 |
| A | G | -0.4922 | 0.1813 |
| A | G | -0.7389 | 0.1523 |
| G | A | -0.4826 | -0.0619 |
| T | C | -0.5142 | 0.1328 |
| C | T | -0.1522 | -0.0249 |
| T | C | 0.2246 | -0.05 |
| A | G | -0.4284 | -0.0126 |
| G | A | -1.434 | -0.0605 |
| T | C | -0.7005 | 0.1686 |
| G | A | -0.1328 | -0.0267 |
| A | G | -0.4611 | -0.0987 |
| A | G | 0.1693 | -0.0904 |
| T | C | -0.1471 | -0.0706 |
| A | G | 0.4987 | -0.0135 |
| C | A | -0.4034 | -0.0083 |
| T | G | 0.5578 | 0.3729 |
| A | G | 1.039 | -0.0221 |
| A | G | -0.1833 | 0.0559 |
| G | A | 0.562 | 0.0331 |
| A | G | 0.4553 | -0.0135 |
| C | A | -0.4069 | -0.0083 |
| G | A | -0.4298 | 0.1344 |
| C | A | -0.2549 | -0.0385 |

| | | | |
|---|---|---|---|
| T | C | -0.2387 | 0.0141 |
| T | C | 0.1594 | -0.0566 |
| C | A | -0.9707 | 0.0187 |
| A | G | 0.4441 | -0.0135 |
| C | A | -0.3969 | -0.0083 |
| T | C | 0.9616 | -0.0221 |
| T | C | -0.2419 | 0.0141 |
| G | A | 0.6746 | -0.3269 |
| G | A | -0.5209 | -0.4266 |
| A | G | 0.5396 | -0.0135 |
| C | A | -0.4485 | -0.0083 |
| G | A | -0.4197 | 0.1344 |
| T | G | 0.6399 | 0.3729 |
| T | C | 0.2158 | -0.0566 |
| A | G | 0.269 | -0.0401 |
| G | A | -1.111 | 0.0215 |
| G | A | 0.6144 | 0.0331 |
| A | G | -0.2945 | 0.0158 |
| G | A | 0.2076 | -0.0379 |
| T | C | -0.173 | -0.0186 |
| C | T | -0.2226 | -0.022 |
| A | G | -0.2588 | 0.0786 |
| T | C | 0.5797 | 0.0324 |
| T | C | -0.4505 | -0.0072 |
| C | A | -0.3837 | -0.0083 |
| T | C | -0.2329 | 0.0141 |
| A | G | 0.2703 | -0.0195 |
| A | G | -1.026 | 0.0215 |
| C | A | -0.4542 | -0.0083 |
| C | T | 0.3052 | -0.0194 |
| T | C | -0.2642 | 0.0141 |
| G | A | 0.569 | -0.3269 |
| T | C | 1.175 | -0.0167 |
| G | T | -0.4413 | -0.2293 |
| C | A | -0.3988 | -0.0083 |
| T | C | 1.015 | -0.0221 |
| C | T | 0.2849 | -0.0194 |
| T | C | -0.2442 | 0.0141 |
| C | T | -0.22 | 0.0092 |
| C | A | -0.1936 | -0.0083 |
| A | G | 0.1839 | -0.0195 |
| C | A | -0.1597 | -0.0083 |
| A | G | 0.6927 | -0.1854 |
| C | T | 0.5196 | -0.8331 |
| T | C | 0.5445 | -0.0167 |
| G | A | 0.3005 | -0.1348 |
| C | A | -0.3997 | -0.0083 |
| T | G | 0.5572 | 0.3729 |
| A | G | -0.2053 | 0.0559 |
| C | A | 1.021 | -0.0162 |
| T | C | 0.4246 | -0.0398 |
| G | A | 0.2178 | -0.0329 |
| G | A | 0.5089 | -0.025 |
| C | A | 0.3665 | 0.1295 |
| A | G | 0.715 | 0.0212 |
| T | C | -0.4537 | 0.0044 |
| A | G | 0.1841 | -0.032 |
| A | C | -0.2138 | -0.0103 |

| | | | |
|---|---|---|---|
| A | G | 1.418 | -0.0066 |
| G | A | 0.6318 | 0.0529 |
| A | G | 0.1734 | -0.032 |
| A | C | -0.1952 | -0.0103 |
| A | G | 1.391 | -0.0066 |
| G | A | 0.6084 | 0.0529 |
| A | G | 0.2281 | -0.032 |
| C | T | -0.2555 | 0.0701 |
| T | C | -0.5632 | 0.2639 |
| T | G | 0.3221 | -0.0482 |
| T | C | 0.2856 | -0.0398 |
| T | C | -0.7822 | -0.0882 |
| A | G | -0.4696 | 0.1655 |
| T | C | -1.076 | 0.1588 |
| C | T | 0.238 | 0.0701 |
| A | G | 0.2608 | -0.0365 |
| A | G | -0.4567 | 0.1597 |
| G | A | 0.273 | 0.0122 |
| T | C | 0.2106 | 0.0529 |
| A | G | -0.143 | -0.0163 |
| G | A | -0.2111 | -0.025 |
| C | T | -0.4707 | -0.0003 |
| G | A | -0.2059 | -0.0475 |
| C | T | 0.6071 | 0.2704 |
| A | G | 0.4158 | -0.3229 |
| T | C | 0.1497 | 0.1056 |
| G | A | -0.3203 | 0.1054 |
| A | G | 0.6796 | -0.1088 |
| A | G | -0.5728 | -1.0664 |
| C | T | 0.5924 | 0.0964 |
| G | A | 0.3834 | -0.025 |
| T | C | -0.4684 | -0.194 |
| C | T | -0.1674 | 0.113 |
| C | T | -0.2433 | 0.113 |
| T | C | -0.3589 | 0.1071 |
| A | G | 0.4117 | 0.6199 |
| C | T | 0.3633 | -0.0623 |
| T | C | -0.4126 | 0.1071 |
| C | T | -0.2424 | 0.0369 |
| A | G | 0.3935 | 0.6199 |
| C | T | 0.3702 | -0.0623 |
| T | C | -0.1548 | 0.031 |
| C | T | -0.1904 | -0.0129 |
| T | C | 0.199 | 0.0529 |
| T | C | 0.2563 | 0.1138 |
| C | T | -0.5071 | -0.0003 |
| A | G | -0.213 | 0.0648 |
| C | T | 0.6708 | 0.2704 |
| A | G | 0.4286 | -0.0516 |
| C | T | -0.4093 | 0.0855 |
| A | G | 0.4366 | -0.3229 |
| T | C | 0.256 | 0.0529 |
| T | C | 0.2579 | 0.1138 |
| A | G | -0.1453 | -0.0163 |
| G | A | -0.2208 | -0.025 |
| C | T | -0.5841 | -0.0003 |
| A | G | -0.2616 | 0.0648 |
| A | G | -0.4501 | 0.2157 |

| | | | |
|---|---|---|---|
| C | T | 0.7589 | 0.2704 |
| A | G | 0.5011 | -0.3229 |
| A | G | 0.2196 | -0.1401 |
| C | T | 0.1525 | -0.0276 |
| T | C | 0.1988 | 0.0529 |
| G | A | 0.2712 | 0.0121 |
| T | C | 0.2484 | 0.1138 |
| G | A | -0.1586 | -0.025 |
| A | G | -0.2612 | 0.0648 |
| C | T | 0.7465 | 0.2704 |
| G | T | -0.4783 | -0.0022 |
| A | G | 0.4379 | -0.0516 |
| T | C | -0.1755 | 0.0067 |
| A | G | 0.5086 | -0.3229 |
| T | C | 0.2761 | 0.0529 |
| G | A | 0.2781 | 0.0121 |
| T | C | 0.299 | 0.1138 |
| A | G | -0.1635 | -0.0163 |
| G | A | -0.2933 | -0.025 |
| C | T | -0.5853 | -0.0003 |
| A | G | -0.3147 | 0.0648 |
| A | G | -0.5359 | 0.2157 |
| C | T | 0.6995 | 0.2704 |
| A | G | 0.478 | -0.3229 |
| T | C | 0.2742 | 0.0529 |
| T | C | 0.264 | 0.1138 |
| A | G | -0.1634 | -0.0163 |
| G | A | -0.2036 | -0.025 |
| C | T | -0.6404 | -0.0003 |
| A | G | -0.2122 | 0.0648 |
| A | G | -0.534 | 0.2157 |
| C | T | 0.6579 | 0.2704 |
| A | G | 0.4177 | -0.3229 |
| T | C | 1.244 | -0.3159 |
| A | C | 0.1345 | -0.0103 |
| A | G | -1.081 | -0.0066 |
| G | A | -0.1902 | -0.0263 |
| A | C | -0.1861 | -0.0103 |
| A | G | 1.342 | -0.0066 |
| G | A | 0.2347 | -0.0263 |
| A | C | -0.2555 | -0.0103 |
| A | G | 1.499 | -0.0066 |
| A | C | 1.586 | -0.1549 |
| C | A | 0.698 | 0.2014 |
| G | A | 0.2545 | -0.0398 |
| T | C | 0.1756 | -0.0409 |
| T | C | -0.2878 | 0.1861 |
| C | T | -0.283 | 0.0549 |
| T | C | 0.2138 | 0.0355 |
| T | C | 0.2943 | 0.1406 |
| C | A | 4.463 | -0.1975 |
| T | C | 3.436 | 0.2919 |
| G | A | 3.787 | 0.252 |
| C | T | 4.765 | -0.0767 |
| G | T | 7.992 | 0.2488 |
| G | T | 4.272 | -0.1323 |
| G | A | 0.4024 | -0.181 |
| T | C | 9.1 | -0.0736 |

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|---|---|---|---|
| T | C | 8.74 | 0.1925 |
| T | C | 1.818 | 0.1817 |
| A | G | 3.894 | -0.001 |
| A | G | 3.783 | 0.1117 |
| C | T | 7.82 | -0.0446 |
| G | A | 6.643 | -0.1189 |
| C | T | 3.974 | -0.5766 |
| A | G | 3.794 | -0.1784 |
| T | C | 3.814 | -0.1469 |
| G | A | 3.783 | 0.0676 |
| A | C | 3.717 | -0.1498 |
| G | A | 3.946 | 0.0681 |
| T | C | 4.893 | -0.0233 |
| T | C | 7.599 | 0.2777 |
| G | A | 6.493 | 0.0959 |
| G | A | 4.52 | -0.0712 |
| A | G | 3.533 | -0.4489 |
| G | A | 4.848 | 0.1309 |
| C | T | 4.025 | -0.0381 |
| C | T | 13.7 | 0.311 |
| A | C | 4.11 | -0.3519 |
| G | A | 3.855 | -0.0089 |
| G | A | 4.877 | 0.0186 |
| T | C | 3.833 | -0.0254 |
| G | A | 3.755 | -0.1125 |
| G | T | 4.68 | 0.0418 |
| A | C | 0.4352 | 0.0414 |
| A | G | -0.2839 | -0.0759 |
| C | T | -0.2551 | -0.0218 |
| T | C | 0.1925 | -0.101 |
| A | G | -0.1653 | 0.0448 |
| A | G | -0.3745 | -0.0168 |
| A | C | -1.218 | -0.0063 |
| T | C | 0.2088 | 0.017 |
| A | G | -0.4161 | 0.2142 |
| C | T | -0.5777 | 0.0869 |
| A | G | 26.26 | 0.289 |
| A | G | 23.77 | 0.2321 |
| C | T | 32 | -0.2605 |
| T | C | 30.16 | 0.0121 |
| A | C | 47.98 | -0.0662 |
| A | G | 9.757 | -0.0863 |
| G | A | 16.44 | 0.5879 |
| A | C | 24.71 | -0.0203 |
| T | G | 15.84 | 0.9243 |
| A | C | 5.388 | 0.0924 |
| A | G | 1.086 | 0.0781 |
| A | G | 4.44 | 0.0395 |
| C | T | 20.33 | -1.131 |
| G | A | 19.07 | 0.0212 |
| T | C | 20.95 | -0.3145 |
| G | A | 4.577 | -0.0343 |
| A | C | 22.84 | -0.1276 |
| A | G | 22.84 | -0.3344 |
| A | G | 24.63 | -0.1327 |
| T | C | 12.63 | 0.0359 |
| T | C | 9.254 | -0.4613 |
| G | A | 18.3 | -0.5194 |

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|---|---|---|---|
| C | A | 20.46 | 0.1308 |
| T | G | 25.81 | -0.0224 |
| T | C | 11.36 | 0.1358 |
| C | T | 31.35 | -0.2993 |
| T | C | 52.08 | 0.0539 |
| A | G | 29.68 | -0.0324 |
| T | C | 29.98 | 0.2017 |
| T | C | 7.048 | 0.2672 |
| C | T | 20.97 | -0.1165 |
| C | T | 28.44 | -0.0748 |
| C | T | 10.98 | 0.4724 |
| G | A | 6.353 | 0.0252 |
| A | G | 18.92 | -0.1028 |
| G | T | 10.56 | 0.4465 |
| T | C | 303.3 | 0.1868 |
| G | A | 137.6 | -0.4335 |
| C | T | 123.8 | 0.0011 |
| T | C | 87.63 | 0.1486 |
| A | G | 444.1 | 0.0753 |
| T | C | 286.9 | 0.0458 |
| T | C | 345.8 | 0.3121 |
| T | C | 442.7 | -0.143 |
| T | C | 591 | 0.0121 |
| A | G | 176.7 | 0.0351 |
| A | C | 979.6 | -0.0662 |
| A | C | 436 | 0.0411 |
| A | G | 450.6 | -0.404 |
| G | A | 281.9 | -0.0127 |
| A | G | 213 | -0.0863 |
| C | T | 384.3 | 0.1416 |
| C | T | 647.9 | -0.0763 |
| G | T | 172.7 | 0.4063 |
| G | A | 84.27 | -0.404 |
| G | A | 159.7 | 0.188 |
| A | G | 201.5 | 0.2254 |
| T | C | 270.5 | -0.0823 |
| A | G | 192.8 | -0.0185 |
| C | T | 364.8 | 0.0101 |
| A | C | 472.2 | -0.0203 |
| G | A | 385.7 | -0.0395 |
| A | C | 132.8 | 0.136 |
| C | A | 462.3 | -0.3403 |
| T | G | 232.5 | 0.323 |
| G | A | 2185 | 0.1378 |
| A | G | 189.7 | -0.2051 |
| A | G | 22.81 | 0.0781 |
| A | G | 1678 | 0.1196 |
| A | G | 641.1 | -0.0635 |
| T | C | 111 | 0.1377 |
| T | C | 791.9 | -0.2184 |
| A | G | 463.8 | -0.1144 |
| C | T | 259.1 | -0.027 |
| T | C | 71.36 | 0.1399 |
| G | T | 550.9 | -0.1257 |
| C | T | 151.8 | -0.2394 |
| T | C | 142.3 | 0.031 |
| T | C | 161.7 | 0.2169 |
| T | C | 760.9 | 0.0344 |

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|---|---|---|---|
| A | G | 556.4 | -0.4122 |
| T | C | 259.6 | -0.2455 |
| T | C | 595.1 | -0.2109 |
| A | G | 320.2 | 0.1649 |
| T | C | 251.2 | -0.2508 |
| G | A | 725.9 | -0.1614 |
| T | C | 429 | 0.0647 |
| A | G | 1279 | -0.3027 |
| T | C | 148.2 | 0.0408 |
| T | G | 285.3 | -0.0324 |
| T | C | 751.4 | 0.0485 |
| G | A | 118.8 | -0.0343 |
| A | G | 913.1 | -0.0463 |
| A | C | 473.4 | -0.1276 |
| A | G | 473.4 | -0.3344 |
| C | T | 61.29 | 0.1703 |
| A | G | 352.4 | -0.0543 |
| C | A | 530.8 | -0.1576 |
| T | C | 337.2 | -0.3267 |
| A | G | 402.2 | -0.0997 |
| A | G | 613.8 | 0.4768 |
| C | A | 416.3 | 0.3139 |
| A | G | 760.5 | -0.5947 |
| C | T | -22.92 | 0.0378 |
| G | A | 101.4 | -0.1244 |
| T | G | 328.7 | 0.0732 |
| C | A | 1005 | -0.0016 |
| A | G | 332.4 | -0.2739 |
| A | G | 402.2 | 0.07 |
| G | T | 654.7 | -0.4367 |
| A | C | 138.5 | -0.0784 |
| T | C | 317.4 | 0.0359 |
| T | C | 293.3 | -0.1433 |
| T | C | -397.5 | 0.0157 |
| C | T | 256.7 | -0.0422 |
| A | G | 420 | 0.0213 |
| A | G | 416.6 | -0.1032 |
| A | G | 557.6 | 0.0283 |
| T | C | 548.7 | 0.0162 |
| T | G | 721.2 | -0.0224 |
| A | C | 404.2 | -0.0216 |
| C | T | 178.9 | 0.1005 |
| C | T | 644.1 | -0.2993 |
| C | T | 296.2 | -0.1171 |
| T | C | 1065 | 0.0539 |
| A | G | 251.6 | -0.0235 |
| A | G | 610.4 | -0.0324 |
| T | C | 591.6 | 0.2017 |
| T | C | 351.9 | 1.7493 |
| C | T | 375.7 | -0.0816 |
| C | T | 185.1 | -0.2167 |
| C | T | 319.5 | -0.1491 |
| T | C | 485.7 | -0.1325 |
| C | A | 591.3 | 0.0528 |
| T | C | 123.2 | -0.0092 |
| A | G | 405.6 | 0.4389 |
| T | C | 88.88 | -0.4706 |
| C | T | 538.9 | -0.0748 |

| | | | |
|---|---|---|---|
| A | G | 283 | -0.1167 |
| A | G | 186.4 | -0.0779 |
| C | T | 224.8 | 0.4724 |
| G | A | 154.5 | 0.0252 |
| G | T | 147.3 | 0.0979 |
| A | G | 187 | 0.0075 |
| G | A | 285.1 | -0.4718 |
| A | G | 379.6 | -0.1417 |
| G | T | 109 | -0.1946 |
| C | T | 358.8 | -0.0565 |
| A | G | 263.3 | -0.1551 |
| C | A | 74.28 | 0.3255 |
| A | C | 389.2 | -0.1343 |
| A | G | 239.7 | 0.1156 |
| T | C | 521.4 | 0.1153 |
| A | G | 397.6 | -0.181 |
| C | T | 514.7 | 0.0161 |
| T | G | 368.8 | 0.0741 |
| T | C | 128.8 | 0.0481 |
| A | G | 1621 | -0.0955 |
| T | C | 0.4119 | 0.0484 |
| A | G | -0.3125 | -0.2047 |
| C | T | -0.3497 | -0.0851 |
| G | A | 0.5292 | -0.025 |
| C | A | 0.4042 | 0.1295 |
| A | G | 0.189 | -0.0195 |
| G | T | 0.339 | 0.0272 |
| A | G | 0.7089 | 0.0212 |
| T | G | 0.8581 | 0.3639 |
| A | G | 1.128 | -0.0066 |
| T | C | 0.7676 | -0.2008 |
| C | T | 0.7376 | -0.4351 |
| C | T | 0.7229 | 0.0212 |
| T | G | 0.4997 | 0.0804 |
| A | C | 0.2846 | -0.0494 |
| A | G | 0.8891 | -0.0204 |
| A | G | 0.6555 | 0.3799 |
| T | G | 0.7307 | 0.3639 |
| T | C | 1.27 | -0.4383 |
| T | C | 0.6769 | -0.2008 |
| C | T | 0.8332 | -0.8331 |
| C | T | 0.2205 | -0.0194 |
| C | T | 0.6237 | 0.0212 |
| T | C | 1.01 | -0.0165 |
| A | G | 0.6459 | -0.0997 |
| T | G | 0.7282 | 0.3639 |
| T | C | 0.7156 | -0.2008 |
| C | T | 0.8528 | -0.8331 |
| C | T | 0.2118 | -0.0194 |
| C | T | 0.6424 | 0.0212 |
| A | G | 0.6785 | -0.0997 |
| C | T | 1.01 | -0.0163 |
| T | G | 0.8056 | 0.3639 |
| A | G | 1.718 | -0.0066 |
| C | T | 1.311 | -0.1383 |
| T | C | 0.6998 | -0.2008 |
| A | G | -0.1612 | 0.0768 |
| G | A | 0.201 | -0.0263 |

| | | | |
|---|---|---|---|
| C | T | 0.1965 | -0.0194 |
| T | C | -0.2216 | 0.0141 |
| C | T | 0.6853 | 0.0212 |
| A | C | 0.5464 | -0.0086 |
| A | C | 0.7843 | 0.1286 |
| T | C | 0.3811 | -0.0312 |
| A | G | 0.8426 | -0.0204 |
| A | G | 0.6067 | 0.3799 |
| T | G | 0.7719 | 0.3639 |
| A | G | 1.608 | -0.0066 |
| C | T | 1.189 | -0.1383 |
| A | G | -0.1566 | 0.0768 |
| G | A | 0.1912 | -0.0263 |
| C | T | 0.6358 | -0.4351 |
| T | G | 0.5292 | 0.0804 |
| A | C | 0.7461 | 0.1286 |
| T | C | 0.3601 | -0.0312 |
| A | G | 0.7212 | -0.1309 |
| T | C | 0.4336 | -0.0398 |
| A | G | 0.5828 | 0.3799 |
| T | G | 0.7675 | 0.3639 |
| T | C | 0.6977 | -0.2008 |
| C | T | 0.8186 | -0.8331 |
| C | T | 0.6402 | 0.0212 |
| A | G | 0.2205 | -0.0195 |
| T | C | -0.9998 | 0.0158 |
| A | G | 0.6238 | -0.0997 |
| A | G | 0.1981 | 0.0002 |
| T | C | 0.1993 | -0.0825 |
| C | T | -0.1576 | -0.0885 |
| A | C | -0.1549 | 0.0137 |
| A | C | -0.5454 | 0.0862 |
| A | G | 0.4881 | -0.0202 |
| T | C | 0.5176 | -0.2186 |
| A | G | -1.131 | 0.0745 |
| G | A | -0.3642 | -0.0199 |
| A | G | -0.4918 | 0.0656 |
| A | G | 0.3421 | 0.1288 |
| A | C | -0.5128 | 0.0862 |
| T | C | 0.5046 | -0.2186 |
| A | G | -1.115 | 0.0745 |
| G | A | -0.3351 | -0.0199 |
| A | G | -0.5252 | 0.0656 |
| A | G | 0.3376 | 0.1288 |
| A | C | 0.3963 | 0.0862 |
| T | G | -0.5579 | -0.0484 |
| T | C | -0.3659 | 0.0711 |
| C | T | -0.1937 | 0.0899 |
| A | G | 0.6185 | 0.0203 |
| C | T | 0.4823 | 0.0434 |
| T | C | 0.1921 | -0.0023 |
| A | G | 0.3184 | -0.0121 |
| G | T | -0.4992 | 0.2807 |
| T | C | 0.1757 | -0.0409 |
| T | C | -0.2657 | 0.1705 |
| C | T | -0.3192 | 0.0549 |
| T | C | 0.2688 | 0.0366 |
| G | T | 0.2058 | 0.0251 |

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|---|---|---|---|
| C | A | -0.1886 | -0.1029 |
| G | A | 0.2372 | -0.395 |
| T | C | -0.2152 | 0.0222 |
| T | C | -0.6028 | 1.0122 |
| C | T | -0.6486 | -0.8331 |
| C | T | -0.2986 | -0.0204 |
| T | C | -0.7175 | -0.0146 |
| A | G | -0.4818 | -0.1309 |
| A | G | 0.5134 | 0.2362 |
| A | G | 0.2343 | -0.198 |
| A | G | 0.4732 | 0.2362 |
| G | A | 0.3984 | -0.1522 |
| A | G | 0.177 | -0.0548 |
| G | A | 0.1522 | -0.012 |
| A | G | -0.3007 | 0.1047 |
| C | T | -0.3957 | 0.0795 |
| A | G | -0.4296 | 0.3073 |
| A | G | 0.1738 | -0.0569 |
| A | G | -0.3894 | 0.0287 |
| C | T | -0.4789 | 0.1065 |
| A | G | -0.7731 | -0.0375 |
| A | G | 0.5573 | -0.1516 |
| A | T | 0.4094 | -0.0422 |
| G | A | 0.4094 | -0.0124 |
| A | G | -0.2166 | 0.1047 |
| G | T | 0.1903 | -0.0657 |
| T | G | 0.2713 | -0.0482 |
| G | A | 0.6523 | 0.0154 |
| A | G | -0.7478 | 0.1574 |
| A | G | 0.4508 | 0.0375 |
| A | G | 0.2604 | -0.7219 |
| T | C | -0.2525 | 0.161 |
| T | C | 0.2282 | 0.0355 |
| T | C | -0.2404 | 0.0548 |
| A | G | 0.5594 | 0.2651 |
| G | A | 0.5583 | 0.0069 |
| A | G | 0.5079 | -0.1535 |
| A | G | 0.5373 | 0.2651 |
| G | A | 0.167 | -0.0189 |
| T | C | -0.1982 | -0.2846 |
| A | C | 0.3593 | 0.0624 |
| G | T | -0.2439 | 0.0468 |
| T | C | -0.6123 | 0.0067 |
| C | T | -0.221 | 0.0336 |
| A | G | -0.1525 | 0.0645 |
| T | G | 0.2378 | 0.0151 |
| A | G | -1.573 | -0.0066 |
| G | A | -0.1572 | -0.0263 |
| A | C | -1.565 | -0.1549 |
| C | A | -2.923 | 0.3771 |
| G | T | -2.662 | -0.0312 |
| T | C | 0.4097 | 0.1293 |
| T | C | 0.1992 | -0.0597 |
| A | G | -0.2422 | -0.1754 |
| A | G | 0.5885 | 0.0145 |
| A | C | 3.334 | 0.0887 |
| A | G | 1.176 | -0.0066 |
| C | T | 1.018 | -0.1383 |

| | | | |
|---|---|---|---|
| G | A | 8.184 | -0.0077 |
| G | A | 0.1631 | -0.0263 |
| A | C | 0.1398 | 0.0012 |
| T | C | 3.341 | -0.1508 |
| G | A | -0.5111 | 0.1054 |
| A | G | 0.8426 | -0.1088 |
| A | G | -0.3359 | 0.1138 |
| C | T | 0.7751 | 0.0964 |
| G | A | 0.429 | -0.025 |
| T | C | -0.6011 | -0.194 |
| T | G | -0.7116 | 0.0076 |
| G | A | -0.6409 | -0.2302 |
| G | A | -0.446 | 0.1054 |
| A | G | 0.8229 | -0.1088 |
| A | G | -0.3227 | 0.1138 |
| C | T | 0.7181 | 0.0964 |
| G | A | 0.3944 | -0.025 |
| T | C | -0.5571 | -0.194 |
| G | A | -0.6492 | -0.2302 |
| C | T | 1.189 | 0.0917 |
| C | T | 1.068 | 0.0917 |
| G | T | 0.34 | -0.0365 |
| G | A | 0.2016 | 0.0394 |
| A | G | 0.4676 | -0.1398 |
| A | C | -0.3487 | -0.0063 |
| A | G | 0.3805 | -0.038 |
| T | C | -0.4081 | 0.2937 |
| G | A | 0.3169 | -0.3704 |
| T | G | 0.2185 | -0.1708 |
| G | A | 0.1457 | -0.0263 |
| G | A | 0.307 | -0.3704 |
| C | T | 0.2974 | -0.3704 |
| C | A | 0.1793 | -0.0284 |
| G | A | -1.226 | -0.0665 |
| G | A | -1.414 | -0.0665 |
| A | C | -1.288 | -0.1549 |
| T | C | 0.3476 | 0.0433 |
| T | C | 0.4707 | -0.1731 |
| A | G | 0.2019 | -0.0575 |
| G | A | -0.4215 | -0.0605 |
| G | A | 0.6788 | 0.0069 |
| A | G | 0.6138 | -0.1535 |
| T | G | 0.6504 | 0.2651 |
| G | A | 0.5095 | 0.0069 |
| T | G | 0.5195 | 0.2651 |
| G | A | 0.5863 | 0.0069 |
| A | G | 0.539 | -0.1535 |
| G | A | 0.5582 | 0.2483 |
| G | A | 0.7181 | 0.0069 |
| A | G | 0.6567 | -0.1535 |
| G | A | 0.7788 | 0.2483 |
| G | A | 0.5314 | 0.0069 |
| G | A | 0.5237 | 0.2653 |
| A | G | 0.281 | 0.0035 |
| G | A | 0.5404 | 0.0069 |
| A | G | 0.4919 | -0.1535 |
| G | A | 0.5735 | 0.2483 |
| G | A | 0.5546 | 0.0069 |

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|---|---|---|---|
| G | A | 0.148 | -0.0189 |
| G | A | 0.5738 | 0.2483 |
| A | G | -0.5378 | 0.0318 |
| G | A | 0.2522 | -0.0422 |
| T | C | 0.3671 | 0.3901 |
| A | G | 1.049 | -0.1496 |
| C | T | -0.4511 | 0.057 |
| C | T | 53.93 | -0.2605 |
| A | G | 2.545 | 0.0781 |
| G | A | 28.75 | -0.0216 |
| C | T | -2.715 | 0.0378 |
| C | T | 2.095 | 0.1422 |
| A | G | 26.32 | -0.1973 |
| C | A | -1.704 | -0.0492 |
| C | T | 18.44 | -0.2167 |
| T | C | 14.88 | 0.2672 |
| T | C | 2.421 | -0.2453 |
| A | C | -0.4855 | 0.0895 |
| T | C | -0.5045 | -0.0432 |
| T | C | 2.431 | -0.2453 |
| T | C | -0.5108 | -0.0432 |
| A | G | -0.6777 | 0.1699 |
| T | C | 0.6149 | 0.0324 |
| C | T | 0.3533 | 0.0434 |
| A | G | -0.6462 | 0.1699 |
| A | G | -0.2836 | 0.0786 |
| T | C | 0.6324 | 0.0324 |
| T | C | -0.4665 | -0.0072 |
| A | G | -0.6177 | 0.1699 |
| A | G | -0.2802 | 0.0786 |
| T | C | 0.6184 | 0.0324 |
| T | C | -0.4927 | -0.0072 |
| A | G | -0.6683 | 0.1699 |
| T | C | 0.6285 | 0.0324 |
| T | C | -0.4838 | -0.0072 |
| C | T | -0.1586 | 0.0277 |
| C | T | 0.1747 | 0.0266 |
| G | A | -0.8972 | 0.0967 |
| T | C | -0.4696 | 0.3016 |
| A | G | -1.065 | 0.1768 |
| A | G | -0.502 | 0.0213 |
| G | A | -0.6992 | 0.0967 |
| A | G | -0.7826 | 0.1768 |
| G | A | -0.912 | 0.0967 |
| T | G | -0.5334 | 0.0218 |
| T | C | 0.1669 | 0.0081 |
| T | C | -0.4513 | 0.3016 |
| A | G | -1.046 | 0.1768 |
| G | A | -0.7874 | 0.0967 |
| A | G | -0.8747 | 0.1768 |
| A | G | -0.4181 | 0.0213 |
| G | A | -0.8942 | 0.0967 |
| A | G | -0.9249 | 0.1768 |
| A | G | -0.4635 | 0.0213 |
| A | G | 0.2574 | 0.0347 |
| T | C | 0.3476 | -0.1035 |
| A | G | -0.5431 | 0.0347 |
| T | C | 0.2556 | 0.012 |

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|---|---|---|---|
| A | G | -0.4624 | 0.0347 |
| A | G | 0.2927 | 0.0347 |
| C | T | 0.2869 | 0.0964 |
| A | G | 0.5518 | 0.0347 |
| T | C | -0.254 | 0.012 |
| A | G | -0.4468 | 0.0347 |
| T | C | -0.1739 | 0.0549 |
| G | A | 0.1399 | 0.0195 |
| T | C | 0.3978 | 0.1338 |
| G | A | 0.7354 | 0.0154 |
| A | G | -0.3265 | 0.1574 |
| A | G | 0.5985 | 0.0375 |
| G | A | 0.1407 | 0.0195 |
| T | C | 0.3865 | 0.1338 |
| G | A | 0.7078 | 0.0154 |
| A | G | -0.3205 | 0.1574 |
| A | G | 0.5857 | 0.0375 |
| T | G | 0.1437 | 0.0148 |
| G | A | -0.2363 | -0.0366 |
| C | T | 0.3718 | 0.1699 |
| T | C | 0.3576 | 0.1338 |
| G | A | 0.675 | 0.0154 |
| T | C | 0.2197 | -0.0571 |
| A | G | -0.3774 | 0.1574 |
| A | G | 0.5505 | 0.0375 |
| T | C | 0.3694 | 0.1338 |
| G | A | 0.7037 | 0.0154 |
| T | C | 0.2272 | -0.0571 |
| A | G | -0.3832 | 0.1574 |
| A | G | 0.564 | 0.0375 |
| T | C | 0.3109 | 0.1338 |
| G | A | 0.5685 | 0.0154 |
| G | A | -0.1866 | 0.1096 |
| A | G | -0.4214 | 0.1574 |
| G | A | 0.1488 | 0.0558 |
| A | G | 0.4014 | 0.0375 |
| T | C | 0.1443 | 0.0047 |
| T | C | 0.316 | 0.1338 |
| G | A | 0.6264 | 0.0154 |
| T | C | -0.3692 | 0.1588 |
| A | G | 0.5148 | 0.0375 |
| T | C | 0.3253 | 0.1338 |
| G | A | 0.6063 | 0.0154 |
| A | G | -0.435 | 0.1574 |
| G | A | 0.148 | 0.0558 |
| A | G | 0.4184 | 0.0375 |
| T | C | 0.3487 | 0.1338 |
| G | A | 0.6679 | 0.0154 |
| A | G | -0.3231 | 0.1574 |
| A | G | 0.5556 | 0.0375 |
| T | G | 0.1472 | 0.0148 |
| A | G | -0.2988 | -0.0168 |
| A | C | -1.048 | -0.0063 |
| T | C | 0.229 | 0.017 |
| A | G | -0.3607 | 0.2142 |
| A | C | -0.3742 | 0.097 |
| T | C | -0.2598 | -0.1838 |
| G | A | 0.8089 | 0.0718 |

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|---|---|---|---|
| A | G | 0.3612 | -0.232 |
| T | C | -0.2069 | 0.0448 |
| A | G | -0.2373 | -0.071 |
| A | G | 0.2608 | -0.0568 |
| A | G | 0.482 | -0.4022 |
| A | G | -1.625 | -0.0066 |
| G | A | -0.1818 | -0.0263 |
| A | C | -1.514 | -0.1549 |
| C | A | -2.942 | 0.3771 |
| T | C | 0.1999 | -0.0597 |
| C | T | 0.2816 | 0.1288 |
| A | G | 1.52 | -0.0066 |
| A | C | 1.439 | -0.1549 |
| A | C | -0.2655 | -0.1084 |
| C | T | 0.2762 | -0.0477 |
| A | G | 1.19 | -0.0066 |
| G | A | -0.2144 | 0.0081 |
| A | G | -1.776 | -0.0066 |
| C | T | -1.417 | -0.1383 |
| T | C | -0.2213 | 0.0005 |
| C | T | -0.2879 | -0.0477 |
| A | G | -1.249 | -0.0066 |
| C | T | -0.2355 | -0.0565 |
| A | G | -1.217 | -0.0066 |
| A | G | 1.174 | -0.0066 |
| A | C | -0.2228 | -0.1084 |
| C | T | 0.2086 | -0.0477 |
| A | G | -1.179 | -0.0066 |
| A | C | -1.518 | -0.1549 |
| T | C | 0.3316 | 0.1293 |
| A | G | -1.821 | -0.0066 |
| A | C | -1.784 | -0.1549 |
| T | C | -0.2077 | 0.0005 |
| C | A | -0.9956 | -0.1808 |
| A | C | -0.6555 | 0.1286 |
| C | T | -0.2903 | -0.0477 |
| A | G | 0.4611 | 0.0025 |
| A | G | 1.815 | -0.0066 |
| C | T | 1.427 | -0.1383 |
| T | C | 0.218 | 0.0005 |
| C | T | 0.2886 | -0.0477 |
| A | G | 1.394 | -0.0066 |
| A | C | 1.33 | -0.1549 |
| T | C | 0.7147 | -0.4438 |
| T | C | 0.6089 | 0.3216 |
| T | C | 0.4963 | 0.1638 |
| G | T | -0.3245 | -0.051 |
| T | C | 0.3184 | -0.0026 |
| G | T | 0.1762 | -0.0656 |
| A | G | 1.864 | -0.0066 |
| A | C | 1.793 | -0.1549 |
| T | C | 0.209 | 0.0005 |
| C | A | 0.9806 | -0.1808 |
| T | C | 0.4297 | -0.2378 |
| C | T | 0.2946 | -0.0477 |
| A | G | -0.463 | 0.0025 |
| A | G | -1.078 | -0.0066 |
| T | C | 0.5758 | 0.1293 |

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|---|---|---|---|
| A | G | -1.125 | -0.0066 |
| A | C | -1.228 | -0.1549 |
| A | G | -1.201 | -0.0066 |
| A | C | -1.455 | -0.1549 |
| T | C | 0.3436 | 0.1293 |
| A | G | -1.201 | -0.0066 |
| A | G | -0.9923 | -0.0807 |
| A | G | 1.303 | -0.0066 |
| C | T | 1.164 | -0.1383 |
| G | A | 0.1724 | -0.0263 |
| A | G | 0.1726 | -0.0252 |
| T | G | -0.267 | 0.2385 |
| A | G | -1.253 | -0.0066 |
| A | G | -2.393 | -0.2321 |
| A | G | 1.307 | -0.0066 |
| C | T | 1.191 | -0.1383 |
| G | A | 0.1611 | -0.0263 |
| C | T | 0.1716 | -0.0256 |
| T | C | 0.2582 | -0.1838 |
| C | T | -0.1436 | 0.0375 |
| G | T | -0.6848 | 0.0631 |
| A | G | -0.2525 | 0.059 |
| G | A | -0.1371 | 0.0133 |
| T | G | 0.1457 | 0.0148 |
| T | C | 0.306 | -0.1838 |
| A | G | -0.3505 | 0.0299 |
| T | C | -0.5269 | -0.1672 |
| G | A | -0.8542 | 0.0718 |
| A | G | -0.3755 | -0.232 |
| T | C | 0.2464 | -0.1838 |
| C | T | -0.1723 | 0.0375 |
| G | A | -0.5652 | 0.0718 |
| T | C | -0.2709 | -0.1838 |
| A | G | 0.7543 | 0.584 |
| G | A | 0.7524 | 0.0718 |
| A | G | 0.3586 | -0.232 |
| T | C | 0.2023 | -0.1838 |
| G | T | -0.5889 | 0.0631 |
| C | T | -0.1835 | -0.0555 |
| T | C | 0.2631 | -0.1838 |
| G | T | -0.6984 | 0.0631 |
| A | G | -0.3019 | -0.232 |
| T | C | -0.3094 | -0.1838 |
| A | G | 0.7724 | 0.584 |
| G | A | 0.9207 | 0.0718 |
| A | G | 0.425 | -0.232 |
| T | C | 0.2697 | -0.1838 |
| C | T | -0.1534 | 0.0375 |
| G | A | -0.7124 | 0.0718 |
| T | C | -0.2046 | -0.1838 |
| G | A | 0.6258 | 0.0718 |
| T | C | -0.2673 | -0.1838 |
| A | G | 0.7582 | 0.584 |
| G | A | 0.8088 | 0.0718 |
| A | G | 0.3667 | -0.232 |
| T | C | -0.2833 | -0.1838 |
| T | C | 0.8211 | 0.651 |
| C | T | -0.3791 | -0.0851 |

| | | | |
|---|---|---|---|
| G | A | 0.8094 | 0.0718 |
| A | G | 0.401 | -0.232 |
| T | C | -0.2722 | -0.1838 |
| A | G | -0.2072 | 0.0718 |
| G | T | 0.7582 | 0.0631 |
| A | G | 0.3617 | -0.232 |
| T | C | -0.2838 | -0.1838 |
| C | T | -0.3975 | -0.0851 |
| A | G | 0.8012 | 0.584 |
| G | A | 0.8232 | 0.0718 |
| A | G | 0.4169 | -0.232 |
| T | C | 0.3636 | -0.1838 |
| T | C | -1.165 | 0.0549 |
| G | T | -0.2278 | -0.0955 |
| C | T | 0.2065 | -0.0579 |
| G | A | -0.507 | -0.0851 |
| T | G | 0.4617 | 0.0584 |
| T | C | -0.3069 | -0.1838 |
| G | A | 0.929 | 0.0718 |
| A | G | 0.4245 | -0.232 |
| G | A | -0.2319 | -0.1246 |
| T | C | 0.2393 | -0.1838 |
| C | T | -0.1551 | 0.0375 |
| G | A | -0.5493 | 0.0718 |
| T | C | -0.2265 | -0.1838 |
| C | T | 0.1529 | 0.0375 |
| G | A | 0.6546 | 0.0718 |
| A | G | 1.543 | -0.2762 |
| G | A | 1.453 | -0.079 |
| C | T | -0.1584 | -0.0549 |
| T | C | -0.4047 | 0.0044 |
| T | C | -0.167 | -0.0066 |
| C | T | -0.1524 | -0.0549 |
| T | C | -0.3962 | 0.0044 |
| C | T | -0.1762 | -0.0549 |
| T | C | -0.4244 | 0.0044 |
| T | C | -0.1594 | -0.0066 |
| C | T | -0.1768 | -0.0549 |
| T | C | -0.4203 | 0.0044 |
| T | C | -0.1626 | -0.0066 |
| G | A | 0.6643 | -1.1028 |
| T | C | -0.5992 | 0.0165 |
| G | A | 0.751 | -1.1028 |
| T | C | -0.291 | -0.0217 |
| G | T | 1.217 | -0.1511 |
| A | G | 0.2325 | 0.0097 |
| T | C | -0.294 | 0.0483 |
| G | A | 0.8001 | -1.1028 |
| T | C | -0.3187 | 0.0352 |
| A | C | 0.8525 | -0.149 |
| T | C | -0.4802 | 0.049 |
| G | T | 0.2917 | 0.0332 |
| G | A | 0.8336 | -1.1028 |
| G | T | 1.075 | -0.1511 |
| T | C | 0.3225 | -0.0393 |
| T | C | -0.3418 | 0.049 |
| A | G | 0.2659 | 0.0097 |
| T | C | -0.3191 | 0.0483 |

| | | | |
|---|---|---|---|
| C | T | -3.125 | 0.825 |
| G | A | 0.1424 | 0.0081 |
| A | G | -0.3219 | 0.0045 |
| C | T | 0.2215 | -0.014 |
| A | G | -0.3032 | 0.0045 |
| A | G | -0.2032 | 0.0045 |
| T | C | 0.1884 | -0.0825 |
| A | G | -0.2046 | 0.0045 |
| A | G | -0.1847 | 0.0045 |
| A | G | -0.2062 | 0.0045 |
| A | G | 0.2209 | -0.0211 |
| G | A | 0.2029 | -0.0379 |
| A | G | -0.2417 | 0.0045 |
| A | G | -0.3264 | 0.0045 |
| A | G | -0.2479 | 0.0045 |
| A | G | -0.2367 | 0.0045 |
| T | C | -0.2989 | -0.0922 |
| A | G | 0.8507 | -0.0433 |
| G | A | 0.1475 | -0.0189 |
| G | A | 0.5116 | 0.265 |
| G | A | 0.1545 | -0.0189 |
| G | A | 0.5474 | 0.265 |
| T | C | 1.147 | 0.0906 |
| T | G | -0.1917 | -0.0245 |
| T | G | -0.1359 | -0.004 |
| G | A | 0.2221 | -0.0564 |
| T | G | -0.1491 | -0.004 |
| C | T | -0.1437 | 0.0452 |
| G | A | 0.1567 | -0.0841 |
| C | T | -0.1428 | -0.0328 |
| G | A | 0.2335 | -0.0564 |
| T | C | -0.1468 | -0.0176 |
| G | A | 0.1898 | -0.0564 |
| C | A | -0.1352 | -0.0227 |
| G | A | 0.2114 | -0.0564 |
| T | C | 0.5056 | 0.0382 |
| A | G | 0.3239 | -1.0535 |
| A | G | 0.313 | 0.6199 |
| T | C | -0.2043 | -0.0261 |
| T | C | 0.3801 | -0.1077 |
| C | T | 0.3511 | -0.0623 |
| A | G | -0.2604 | 0.0505 |
| A | G | 0.3426 | 0.1372 |
| A | C | -1.138 | 0.0895 |
| A | G | 0.5006 | -0.0202 |
| G | A | -0.3645 | -0.0199 |
| A | G | -0.4918 | 0.0656 |
| C | T | -1.101 | -0.1383 |
| A | G | -1.737 | -0.208 |
| T | C | 0.6146 | 0.1293 |
| C | T | -1.073 | -0.1383 |
| A | G | -2.154 | -0.208 |
| T | C | -0.5154 | -0.2378 |
| G | A | 0.1644 | 0.0815 |
| G | A | -0.1408 | 0.0451 |
| G | A | -0.1647 | 0.0449 |
| G | T | -0.3173 | 0.0703 |
| G | A | 0.6413 | 0.165 |

| | | | |
|---|---|---|---|
| T | C | 0.3683 | 0.7883 |
| T | C | -0.2143 | 0.0296 |
| T | C | 0.1525 | 0.0022 |
| G | A | -0.5 | -0.1476 |
| T | C | -0.3847 | -0.283 |
| T | C | -0.5628 | 0.0844 |
| A | G | -0.3298 | 0.0425 |
| T | C | -0.6019 | 0.0639 |
| G | A | -0.5014 | -0.1476 |
| T | C | -0.3738 | -0.283 |
| T | C | -0.3468 | 0.0938 |
| C | T | -1.492 | -0.0567 |
| T | C | -0.574 | 0.0844 |
| A | G | -0.3402 | 0.0425 |
| T | C | -0.6147 | 0.0639 |
| G | A | -0.4893 | -0.1476 |
| T | C | -0.3673 | -0.283 |
| T | C | -0.3347 | 0.0938 |
| T | C | -0.5915 | 0.0844 |
| A | G | -0.3514 | 0.0425 |
| C | T | -0.1521 | -0.0249 |
| T | C | -0.6396 | 0.0639 |
| A | G | -1.465 | -0.0606 |
| G | A | -0.503 | -0.1476 |
| A | G | -0.3452 | 0.0942 |
| A | G | -0.3391 | 0.0425 |
| C | T | -0.1739 | -0.0249 |
| T | C | -0.6019 | 0.0639 |
| A | G | -0.5742 | 0.0456 |
| G | A | -0.5069 | -0.1476 |
| T | C | -0.3667 | -0.283 |
| T | C | -0.5694 | 0.0844 |
| A | G | -0.3357 | 0.0425 |
| T | C | -0.6016 | 0.0639 |
| G | A | -0.4887 | -0.1476 |
| A | G | -0.3333 | 0.0942 |
| A | G | -0.3562 | 0.0425 |
| T | C | -0.6648 | 0.0639 |
| A | G | -0.6176 | 0.0456 |
| G | A | 0.4819 | 0.0154 |
| G | A | -0.1604 | -0.1005 |
| C | T | -0.2225 | 0.0653 |
| G | A | 0.5503 | 0.1153 |
| G | A | 0.4371 | -0.025 |
| C | T | 0.1864 | -0.0028 |
| A | G | 0.6636 | 0.0212 |
| C | T | -0.8348 | -0.0883 |
| C | T | -1.009 | -0.1135 |
| A | G | 0.1995 | -0.5309 |
| C | T | -0.2424 | 0.0549 |
| T | C | 0.2328 | 0.0366 |
| T | G | -0.255 | 0.1388 |
| T | C | -0.4077 | 0.1408 |
| C | T | -0.3545 | 0.1547 |
| A | G | 0.4455 | 0.0314 |
| C | T | 0.1619 | 0.0535 |
| A | G | -0.1526 | 0.0223 |
| T | C | 0.2094 | 0.017 |

| | | | |
|---|---|---|---|
| A | G | -0.731 | 0.1523 |
| T | C | -0.6022 | -0.0099 |
| T | C | -0.322 | -0.0413 |
| C | A | -0.3511 | 0.0328 |
| A | G | -1.005 | 0.072 |
| T | C | -1.396 | -0.0606 |
| T | C | -0.1856 | -0.053 |
| T | G | 0.3259 | 0.0772 |
| G | A | 0.4285 | -0.059 |
| T | C | 0.4289 | 0.03 |
| A | G | -1.619 | -0.208 |
| T | C | 1.154 | 0.2063 |
| C | T | 3.098 | 0.1711 |
| A | G | 1.755 | -0.208 |
| T | C | -1.139 | 0.2063 |
| T | C | -0.1685 | 0.0677 |
| G | A | 0.1259 | 0.0543 |
| A | G | -2.093 | 0.0128 |
| G | A | -0.1456 | -0.0564 |
| T | C | -0.4163 | 0.2087 |
| G | A | 0.1822 | 0.1096 |
| T | G | -0.1909 | 0.0148 |
| A | G | 2.135 | 0.0128 |
| G | A | 0.1363 | -0.0841 |
| T | G | 0.1693 | 0.0148 |
| C | T | 0.4573 | 0.3224 |
| A | C | -0.3123 | -0.0063 |
| T | C | -0.6054 | 0.0165 |
| A | T | -0.5252 | -0.0422 |
| G | A | -0.5252 | -0.0124 |
| T | C | -0.2672 | 0.042 |
| C | T | 0.4454 | 0.3224 |
| A | C | -0.315 | -0.0063 |
| T | C | -0.5871 | 0.0165 |
| A | T | -0.5084 | -0.0422 |
| G | A | -0.5084 | -0.0124 |
| T | C | -0.2607 | 0.042 |
| C | T | -0.4695 | 0.3224 |
| G | T | -0.4306 | 0.0739 |
| T | C | -0.2405 | 0.0355 |
| T | C | 0.4161 | 0.0165 |
| A | T | 0.3668 | -0.0422 |
| G | A | 0.3668 | -0.0124 |
| A | C | 0.3789 | -0.3513 |
| T | C | 0.8124 | -0.149 |
| T | C | -0.1722 | -0.1032 |
| G | A | 0.1927 | 0.0313 |
| G | A | 0.3455 | 0.0576 |
| A | G | -0.2773 | 0.0786 |
| T | C | 0.644 | 0.0324 |
| G | T | 0.1732 | -0.0381 |
| A | G | -0.2709 | 0.0786 |
| A | G | 0.6021 | 0.0203 |
| C | T | 0.447 | 0.0434 |
| A | G | -0.1899 | -0.0131 |
| G | A | 0.209 | 0.0493 |
| T | C | 0.1883 | -0.095 |
| C | T | 0.4334 | 0.0434 |

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|---|---|---|---|
| G | A | -0.7279 | 0.2503 |
| A | G | 0.3619 | -0.0121 |
| G | A | 0.1538 | -0.0611 |
| C | A | -0.2306 | -0.1116 |
| C | T | -1.355 | 0.179 |
| T | C | -0.4459 | 0.3137 |
| G | A | -0.2158 | -0.0568 |
| C | T | 0.2065 | -0.0375 |
| G | T | 0.2233 | 0.0348 |
| C | T | -0.1786 | 0.0525 |
| G | A | -0.2011 | 0.0608 |
| T | C | 0.1521 | -0.0714 |
| C | T | -0.1793 | 0.0187 |
| G | T | 0.2121 | 0.0348 |
| G | A | -0.1808 | 0.062 |
| T | C | 0.183 | -0.1019 |
| T | G | 0.1996 | -0.0532 |
| T | C | -0.1657 | 0.0705 |
| A | G | 0.4479 | -0.0845 |
| C | T | -0.293 | 0.0576 |
| T | C | -0.1378 | -0.0505 |
| C | T | 0.2704 | 0.0152 |
| A | C | -0.9497 | 0.0895 |
| A | G | -0.6061 | -0.1488 |
| G | A | -0.3103 | -0.0199 |
| T | C | 0.2681 | -0.0242 |
| G | A | -0.1558 | -0.1103 |
| A | G | 0.187 | 0.0744 |
| T | C | -0.2571 | 0.1705 |
| C | T | -0.1948 | 0.0525 |
| G | A | 0.2057 | 0.0514 |
| G | A | 0.3893 | 0.0192 |
| A | G | -0.378 | 0.0608 |
| A | C | 0.4977 | 0.2211 |
| G | A | -0.4762 | 0.0718 |
| T | C | -0.1801 | 0.0455 |
| A | G | 0.2608 | 0.0603 |
| C | A | -0.2999 | 0.1087 |
| A | G | 0.1861 | 0.1216 |
| G | T | -0.1713 | 0.035 |
| G | A | 0.3015 | -0.0014 |
| A | G | -0.6824 | -0.076 |
| C | T | -0.2078 | -0.0133 |
| G | A | -0.2231 | -0.0013 |
| A | G | -0.5258 | -0.0769 |
| T | C | 0.2079 | 0.017 |
| G | A | 0.183 | -0.0263 |
| T | C | -0.1866 | 0.0604 |
| G | A | -0.1632 | -0.0263 |
| G | A | 0.1603 | -0.0263 |
| T | C | 0.3212 | -0.196 |
| C | T | 0.4215 | -0.8331 |
| G | A | 0.4156 | -0.0123 |
| G | A | 0.1537 | -0.1124 |
| G | A | 0.2272 | -0.0564 |
| G | A | 0.1827 | -0.0564 |
| A | G | -0.1525 | -0.0026 |
| T | C | 0.5455 | 0.0382 |

| | | | |
|---|---|---|---|
| G | A | 0.1963 | -0.0564 |
| G | A | 0.173 | -0.0564 |
| G | A | 0.1523 | -0.0564 |
| T | C | 0.4968 | 0.0382 |
| G | A | 0.1714 | -0.0564 |
| G | A | -0.2201 | -0.0564 |
| C | T | 0.1572 | -0.0137 |
| G | A | 0.1691 | -0.0564 |
| C | T | -0.2044 | 0.0899 |
| T | C | 0.6441 | 0.0324 |
| C | T | 0.5386 | 0.0434 |
| A | G | 0.2304 | -0.098 |
| G | A | -0.1568 | -0.1005 |
| A | G | 0.1662 | -0.0407 |
| A | G | 0.2531 | -0.1375 |
| C | T | 0.2002 | 0.056 |
| C | T | 0.1837 | 0.0518 |
| A | G | 1.79 | -0.2321 |
| G | A | 0.246 | -0.0013 |
| T | G | -0.3142 | 0.2385 |
| T | C | -0.3797 | -0.283 |
| A | G | -0.3313 | 0.0942 |
| T | C | -0.5638 | 0.0844 |
| A | G | -0.725 | 0.1445 |
| C | T | -0.1503 | -0.0249 |
| T | C | -0.5779 | 0.0639 |
| T | C | -1.439 | -0.0615 |
| T | C | -0.355 | -0.283 |
| A | G | -0.3245 | 0.0942 |
| T | C | -0.5779 | 0.0844 |
| A | G | -0.7252 | 0.1445 |
| C | T | -0.1479 | -0.0249 |
| T | C | -0.6004 | 0.0639 |
| T | C | -1.427 | -0.0615 |
| G | A | -0.2835 | 0.1038 |
| T | C | -0.182 | 0.0443 |
| A | G | 0.1855 | 0.0136 |
| T | C | -0.3968 | -0.1731 |
| G | A | -0.1511 | -0.0699 |
| A | G | -0.2926 | -0.0987 |
| G | A | -0.4805 | 0.1154 |
| T | C | 0.1962 | 0.1246 |
| A | G | 0.1517 | -0.0982 |
| A | G | -0.1487 | -0.0505 |
| T | C | -0.1822 | 0.017 |
| A | C | -1.347 | -0.1549 |
| A | G | -1.532 | -0.208 |
| A | G | 0.4628 | 0.0025 |
| A | C | 0.3794 | 0.0624 |
| T | C | -0.201 | -0.0339 |
| A | C | 0.4108 | -0.0879 |
| T | C | -0.5907 | 0.0067 |
| A | G | -0.2671 | -0.0163 |
| G | A | 0.2205 | -0.1236 |
| T | C | -0.659 | 0.472 |
| A | G | -0.8103 | -0.2813 |
| A | G | -0.9089 | 0.1078 |
| T | G | -1.096 | -0.0129 |

| | | | |
|---|---|---|---|
| T | C | -0.7524 | 0.0606 |
| T | C | 0.3156 | 0.017 |
| T | C | -0.6814 | -0.1064 |
| G | A | 0.4291 | -0.1522 |
| G | T | 0.2159 | -0.0657 |
| G | A | 0.1701 | -0.012 |
| G | A | 0.415 | -0.1522 |
| T | C | 0.2327 | -0.0571 |
| A | G | 0.3543 | 0.0375 |
| G | A | 0.1408 | -0.012 |
| G | A | 0.5664 | -0.1522 |
| T | C | 0.4888 | 0.03 |
| G | A | 0.4569 | -0.1522 |
| T | C | 0.246 | -0.0571 |
| A | G | 0.3685 | 0.0375 |
| G | A | 0.4806 | -0.1522 |
| A | G | 0.425 | 0.0375 |
| G | A | 0.5228 | -0.1522 |
| T | C | 0.471 | 0.03 |
| G | A | -0.4403 | -0.1522 |
| T | C | -0.4347 | 0.1658 |
| T | C | -0.4661 | 0.03 |
| G | A | 0.4624 | -0.1522 |
| A | G | 0.4706 | 0.0575 |
| G | A | 0.1387 | 0.0558 |
| T | C | -0.4086 | 0.0388 |
| T | C | -0.3567 | 0.3647 |
| A | G | -0.2576 | -0.0421 |
| G | A | -0.4589 | 0.0707 |
| T | C | -0.5625 | 0.0844 |
| A | G | -0.6961 | 0.1445 |
| T | C | -0.6208 | 0.0639 |
| T | C | -1.495 | -0.0615 |
| A | G | 0.5509 | 0.4085 |
| A | G | 0.2745 | 0.1098 |
| A | G | -0.2587 | 0.0155 |
| T | C | 0.2107 | -0.0243 |
| C | A | -0.5725 | -0.1699 |
| C | T | 0.1995 | 0.0459 |
| C | T | 0.4055 | -0.0116 |
| G | A | 0.3323 | 0.0718 |
| C | A | -0.5867 | -0.1699 |
| C | T | 0.2265 | 0.0459 |
| G | A | 0.4659 | -0.0153 |
| C | A | -1.147 | -0.1699 |
| C | T | -0.5868 | 0.2918 |
| C | T | -0.1646 | 0.0644 |
| C | T | 0.6619 | -0.0192 |
| G | T | -0.35 | -0.1 |
| T | C | -0.7914 | 0.0577 |
| C | T | -0.3597 | 0.3947 |
| T | C | 0.2696 | -0.0031 |
| T | C | -0.1537 | 0.042 |
| A | G | -0.7492 | -0.0607 |
| A | G | 0.2454 | -0.0655 |
| C | A | -0.4165 | 0.0475 |
| G | A | 0.4579 | -1.0602 |
| A | G | -0.2784 | 0.0016 |

| | | | |
|---|---|---|---|
| T | C | -0.4302 | 0.0165 |
| T | C | -0.3341 | -0.3335 |
| T | G | -0.1851 | -0.0391 |
| T | C | 0.1642 | 0.0022 |
| G | T | -0.4036 | 0.2068 |
| T | C | -0.3287 | -0.3335 |
| T | C | 0.2439 | -0.0654 |
| G | A | -0.4405 | -0.0131 |
| T | C | 0.2427 | -0.0654 |
| G | A | -0.4395 | -0.0131 |
| C | T | 0.1655 | -0.0555 |
| A | C | 0.3084 | -0.0063 |
| T | C | -0.1786 | 0.017 |
| T | C | -0.2623 | 0.1606 |
| A | C | 0.4143 | -0.0055 |
| A | G | 0.3664 | -0.0023 |
| T | G | 1.574 | -0.2792 |
| G | A | 0.1972 | -0.0013 |
| T | C | -0.3331 | 0.1248 |
| T | C | 0.2272 | 0.0447 |
| A | C | 0.3795 | -0.0083 |
| C | T | 0.476 | 0.1699 |
| A | C | 0.4465 | -0.0083 |
| C | T | 0.2314 | 0.1048 |
| T | C | -0.1953 | -0.0066 |
| C | T | 0.5626 | 0.1699 |
| A | C | 0.4264 | -0.0083 |
| C | T | 0.2334 | 0.1048 |
| T | C | -0.1898 | -0.0066 |
| A | C | 0.5847 | 0.1705 |
| T | C | -0.183 | 0.0067 |
| A | C | 0.4239 | -0.0083 |
| T | C | -0.1654 | -0.0066 |
| C | T | 0.4838 | 0.1699 |
| A | C | 0.4191 | -0.0083 |
| A | G | -0.9269 | -0.2712 |
| A | C | 0.5433 | 0.1705 |
| C | T | 0.2402 | 0.0491 |
| A | G | -0.3396 | 0.1572 |
| A | G | 0.3722 | 0.0314 |
| C | T | -0.3114 | 0.0556 |
| C | T | 0.1467 | -0.0173 |
| T | C | -0.5288 | -0.0615 |
| C | T | 0.2881 | 0.0964 |
| T | C | 0.3331 | -0.1511 |
| G | T | -0.1381 | -0.0055 |
| G | A | 0.2082 | 0.0253 |
| C | T | -0.2125 | 0.0549 |
| G | A | 0.2257 | 0.0253 |
| T | C | -0.2717 | 0.1705 |
| C | T | -0.2717 | 0.0525 |
| G | A | 0.2896 | 0.1609 |
| G | A | 0.2422 | -0.0144 |
| A | C | 0.2173 | -0.0755 |
| G | T | 0.2054 | -0.0134 |
| T | C | -0.2745 | 0.0453 |
| C | T | 0.683 | -0.0058 |
| A | G | 0.2565 | -0.0667 |

| | | | |
|---|---|---|---|
| T | C | 0.5993 | -0.0298 |
| T | C | -0.209 | 0.0453 |
| C | T | 0.3833 | -0.0058 |
| T | C | -0.1614 | 0.0443 |
| C | T | 0.428 | 0.0215 |
| C | T | 0.3622 | 0.0434 |
| C | T | -0.2533 | -0.0555 |
| T | C | -0.2007 | -0.0692 |
| A | C | -0.2687 | 0.0895 |
| C | T | -0.5186 | -0.2891 |
| C | T | 0.3643 | 0.0805 |
| G | A | -0.2979 | -0.1105 |
| A | G | 0.1789 | -0.0241 |
| C | T | 0.3265 | 0.0182 |
| G | A | 0.3496 | 0.0192 |
| G | A | 0.4384 | 0.0192 |
| G | A | 0.4235 | 0.0192 |
| A | G | 0.254 | -0.0121 |
| G | A | 0.2737 | 0.0192 |
| G | A | 0.4112 | 0.0192 |
| G | A | 0.3668 | 0.0192 |
| C | T | 0.2839 | 0.0658 |
| T | G | -0.2523 | -0.0391 |
| A | G | -1.51 | -0.208 |
| T | C | 0.1803 | 0.1243 |
| A | G | 1.651 | -0.208 |
| A | C | -0.2089 | -0.1084 |
| C | T | 0.2177 | -0.0477 |
| A | G | -1.502 | -0.208 |
| T | G | 0.1499 | 0.0543 |
| G | A | 0.1592 | -0.0013 |
| T | C | -0.1619 | -0.0943 |
| T | C | 0.5547 | 0.1293 |
| G | A | 0.2111 | -0.0212 |
| T | C | -0.6608 | -0.0755 |
| G | A | 0.2289 | 0.1476 |
| A | G | 0.3371 | 0.0086 |
| C | T | 0.2805 | 0.018 |
| G | A | -1.353 | 0.5984 |
| G | A | -0.2018 | 0.1258 |
| G | A | -0.4386 | 0.314 |
| A | C | -0.2797 | -0.0063 |
| A | C | -0.2562 | -0.0063 |
| T | C | -0.2546 | 0.1606 |
| T | C | -0.5388 | 0.0165 |
| A | T | -0.4741 | -0.0422 |
| G | A | -0.4741 | -0.0124 |
| T | C | -0.2618 | 0.042 |
| A | C | -0.2492 | -0.0063 |
| A | G | -0.1859 | -0.0237 |
| T | G | 0.4573 | -0.1613 |
| A | C | -0.2824 | -0.0063 |
| T | G | 0.1733 | 0.0997 |
| G | A | 0.5511 | -0.025 |
| A | G | -0.4313 | 0.0437 |
| T | C | 0.361 | 0.0549 |
| G | A | 0.4646 | -0.025 |
| A | G | 0.3595 | 0.0601 |

| | | | |
|---|---|---|---|
| G | T | 0.1985 | 0.0272 |
| A | G | 0.6978 | 0.0212 |
| G | A | 0.248 | -0.025 |
| C | T | 0.4684 | 0.0737 |
| G | A | -0.3379 | -0.025 |
| G | A | 0.461 | -0.025 |
| G | A | -0.2575 | -0.025 |
| A | C | -1.139 | 0.0895 |
| C | T | -0.2061 | 0.084 |
| A | G | -0.675 | -0.1488 |
| T | C | 0.4941 | -0.2186 |
| G | A | -0.3895 | -0.0199 |
| T | C | 0.2922 | -0.0242 |
| G | A | -0.41 | -0.025 |
| A | G | 0.2391 | 0.0291 |
| G | A | -0.5517 | -0.025 |
| A | G | 0.4291 | 0.0437 |
| T | C | -0.3541 | 0.0549 |
| G | A | 0.2617 | -0.025 |
| G | A | 0.624 | -0.025 |
| G | A | -0.2388 | -0.025 |
| G | A | -0.3112 | -0.025 |
| G | A | 0.4941 | -0.025 |
| G | A | 0.1446 | -0.025 |
| G | A | -0.261 | -0.025 |
| A | C | -1.119 | 0.0895 |
| A | G | -0.6956 | -0.1488 |
| G | A | -0.6094 | 0.232 |
| G | A | -0.3832 | -0.0199 |
| T | C | 0.2977 | -0.0242 |
| G | A | -0.4504 | -0.025 |
| A | G | 0.2834 | 0.0291 |
| G | A | -0.4628 | -0.025 |
| A | C | 0.1581 | 0.029 |
| G | A | 0.2755 | -0.025 |
| G | A | 0.2581 | -0.025 |
| A | G | 0.3253 | -0.0655 |
| T | C | 0.6113 | 0.1293 |
| T | C | -0.3926 | 0.2087 |
| A | G | 0.2022 | 0.1089 |
| T | G | -0.2005 | 0.0148 |
| T | C | 0.5102 | 0.2087 |
| C | T | 0.2237 | -0.0302 |
| A | C | -0.7905 | 0.093 |
| A | G | -0.7731 | 0.1768 |
| T | G | 0.3174 | -0.1745 |
| C | T | -0.1869 | -0.0003 |
| C | T | -0.1907 | 0.0525 |
| A | G | 0.1924 | 0.0678 |
| T | C | 0.2363 | 0.0366 |
| C | T | -0.4972 | -0.0003 |
| A | G | -0.1925 | 0.0648 |
| C | T | 0.7463 | 0.2704 |
| A | G | 0.4946 | -0.3229 |
| A | G | 0.2435 | -0.1401 |
| C | A | 0.5735 | 0.0611 |
| C | T | -0.1431 | -0.0003 |
| G | A | -0.1679 | -0.0475 |

| | | | |
|---|---|---|---|
| C | T | 0.2306 | -0.0003 |
| A | G | 0.3186 | 0.1607 |
| C | T | 0.2928 | 0.0005 |
| C | T | 0.3004 | 0.0005 |
| C | T | 0.3092 | 0.0005 |
| C | T | 0.2857 | 0.0005 |
| C | T | 0.2857 | 0.0005 |
| C | T | 0.2864 | 0.0005 |
| C | A | 0.6261 | -0.142 |
| T | C | 1.583 | -0.2571 |
| T | C | -0.383 | 0.1546 |
| G | A | -0.2628 | 0.1889 |
| C | T | -0.2794 | -0.0422 |
| G | A | -0.2664 | 0.1889 |
| C | T | -0.3029 | -0.0422 |
| G | A | -0.1965 | 0.062 |
| C | T | -0.1667 | 0.0525 |
| C | A | -0.1343 | 0.0123 |
| T | C | 0.1572 | -0.0714 |
| C | T | -0.1712 | 0.0187 |
| G | T | 0.3661 | -0.0705 |
| A | G | 0.233 | 0.0145 |
| G | T | 0.3858 | -0.0705 |
| A | G | 0.2512 | 0.0145 |
| C | T | 37.99 | -0.1261 |
| G | A | -2.745 | 0.0081 |
| C | A | 0.2334 | -0.0803 |
| T | C | 0.6864 | 0.0324 |
| C | T | 0.5489 | 0.0434 |
| T | C | -0.2711 | 0.0679 |
| A | G | 0.3485 | -0.0554 |
| T | C | -0.1665 | -0.1207 |
| T | C | -0.7004 | 0.0067 |
| G | A | -0.2692 | 0.0267 |
| T | C | -0.6783 | 0.0067 |
| A | G | 0.2255 | 0.0744 |
| G | A | -0.2046 | 0.0608 |
| T | C | 0.1645 | -0.0714 |
| C | T | -0.1682 | 0.0187 |
| A | G | 0.3353 | 0.0744 |
| A | G | 0.1684 | -0.0963 |
| T | C | 0.1494 | -0.0714 |
| T | C | -0.1706 | -0.0452 |
| T | C | -0.1785 | 0.0624 |
| T | G | 0.173 | 0.0268 |
| G | A | -0.182 | -0.0882 |
| A | G | -0.1919 | -0.0946 |
| C | T | 0.1937 | 0.0495 |
| C | T | 0.2363 | -0.0252 |
| G | A | -0.4223 | 0.0574 |
| T | C | -0.4101 | 0.049 |
| C | T | -0.1446 | -0.0706 |
| A | G | -0.4286 | -0.0987 |
| G | A | -0.2122 | -0.0751 |
| C | T | -0.1628 | -0.0706 |
| A | G | -0.4355 | -0.0987 |
| G | A | -0.2015 | -0.0751 |
| A | G | 0.2882 | -0.0444 |

| | | | |
|---|---|---|---|
| C | T | 0.2584 | -0.0308 |
| C | T | 0.2382 | -0.0308 |
| T | C | 0.2484 | -0.0378 |
| T | C | 0.2305 | -0.0378 |
| A | G | -0.276 | 0.1174 |
| A | G | 0.1758 | -0.016 |
| G | A | -0.7439 | 0.3055 |
| A | G | 0.2114 | -0.016 |
| G | A | -0.8239 | 0.1121 |
| A | G | 0.1799 | -0.016 |
| G | A | -0.7352 | 0.3055 |
| A | G | 0.1798 | -0.016 |
| G | A | -0.5307 | 0.1121 |
| A | G | 0.1623 | -0.016 |
| G | A | -0.6739 | 0.1121 |
| A | G | 0.1396 | -0.016 |
| G | A | -0.432 | 0.1121 |
| A | G | 0.1789 | -0.016 |
| G | A | 0.1513 | -0.0448 |
| G | A | -0.858 | 0.3055 |
| A | G | 0.1709 | -0.016 |
| G | A | -0.7073 | 0.3055 |
| A | G | 0.1681 | -0.016 |
| G | A | -0.7377 | 0.1121 |
| A | C | 0.1811 | 0.0208 |
| T | C | 0.4371 | 0.017 |
| G | A | 0.1359 | -0.0475 |
| C | T | 0.2841 | 0.003 |
| G | A | 0.1466 | -0.0475 |
| C | T | -0.3526 | 0.2704 |
| G | T | 0.3898 | -0.0022 |
| T | G | -0.2187 | -0.0061 |
| C | T | 0.4909 | 0.1699 |
| T | C | -0.2484 | 0.0067 |
| A | G | -0.165 | 0.1328 |
| T | C | -0.2936 | 0.0333 |
| C | T | 0.1751 | -0.0784 |
| G | A | 0.3938 | -0.0422 |
| T | C | -0.2816 | -0.0276 |
| C | T | -0.145 | 0.0453 |
| G | T | -0.5526 | 0.0631 |
| T | C | -0.1602 | -0.1021 |
| G | A | -0.1537 | -0.0486 |
| C | T | -0.1522 | 0.0198 |
| T | C | 0.1657 | 0.0152 |
| G | A | -0.3008 | -0.1105 |
| G | A | 0.1639 | 0.0614 |
| C | T | 0.3571 | 0.0805 |
| A | G | -0.2854 | 0.0648 |
| C | T | 0.9344 | 0.2704 |
| G | T | -0.5719 | -0.0022 |
| A | G | 0.5453 | -0.0516 |
| A | G | 0.5783 | -0.3229 |
| T | G | 0.1645 | -0.0003 |
| A | G | 0.1769 | 0.0134 |
| A | G | -0.1407 | 0.0442 |
| C | A | -0.3193 | 0.0152 |
| T | C | -0.2761 | 0.049 |

| | | | |
|---|---|---|---|
| T | G | 0.3426 | 0.1115 |
| G | T | 0.1877 | 0.0905 |
| G | A | -0.4218 | -0.1105 |
| G | A | 0.2919 | 0.0122 |
| G | A | 0.299 | 0.0122 |
| A | G | -0.2027 | -0.1208 |
| A | C | 0.4338 | -0.0879 |
| T | G | -0.1633 | -0.0345 |
| T | C | -0.6633 | 0.0067 |
| G | A | 0.1554 | 0.0523 |
| T | C | -0.1749 | -0.1207 |
| T | C | -0.5948 | 0.0067 |
| T | C | -0.2111 | -0.1207 |
| A | C | 0.4141 | -0.0879 |
| T | G | -0.1647 | -0.0345 |
| T | C | -0.6238 | 0.0067 |
| G | A | 0.1551 | 0.0523 |
| T | C | 0.521 | 0.0324 |
| C | T | 0.4147 | 0.0434 |
| T | C | 0.567 | 0.0324 |
| C | T | 0.4895 | 0.0434 |
| A | G | 0.2019 | -0.076 |
| T | C | 0.5477 | 0.0324 |
| T | C | 0.5264 | -0.0943 |
| T | C | 0.2073 | 0.0326 |
| T | C | 0.4749 | 0.0204 |
| C | T | 0.4331 | 0.0434 |
| A | G | 0.2396 | 0.0086 |
| A | G | 0.4829 | 0.0203 |
| G | A | -0.5196 | -0.1105 |
| A | G | -0.3114 | -0.0987 |
| T | C | -0.1334 | -0.0706 |
| A | G | -0.4526 | -0.0987 |
| T | C | -0.1295 | 0.0639 |
| G | A | -0.1852 | -0.0751 |
| A | G | -0.4689 | -0.0987 |
| A | G | -0.2598 | 0.1255 |
| T | C | 0.4397 | -0.169 |
| T | C | -0.1552 | -0.0706 |
| A | G | -0.4525 | -0.0987 |
| G | A | -0.1929 | -0.0751 |
| C | T | -0.1999 | 0.0266 |
| T | G | 0.1976 | -0.1207 |
| T | C | -1.668 | 0.0193 |
| T | G | 0.303 | -0.1207 |
| A | G | -0.2185 | -0.071 |
| C | T | 0.2514 | -0.0568 |
| T | C | 0.1887 | 0.1243 |
| T | C | 0.1801 | 0.1243 |
| T | C | 0.1894 | 0.1243 |
| A | G | -0.22 | 0.0379 |
| C | T | -0.2103 | 0.0653 |
| T | C | 0.1905 | 0.1243 |
| C | T | -0.1609 | -0.0885 |
| C | T | -0.1468 | -0.0885 |
| A | G | 0.2154 | -0.0568 |
| C | T | -0.1838 | -0.0885 |
| A | G | 0.1995 | 0.2122 |

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|---|---|---|---|
| T | C | 0.1526 | 0.0953 |
| T | C | -0.4161 | 0.1408 |
| A | G | 0.1659 | -0.0575 |
| G | T | -0.172 | 0.035 |
| G | A | 0.2827 | -0.0014 |
| G | A | 0.2434 | -0.0014 |
| A | C | 0.196 | -0.0534 |
| A | C | 0.1709 | 0.0535 |
| C | T | -0.3044 | 0.2704 |
| G | T | 0.317 | -0.0022 |
| G | A | -0.4732 | 0.0574 |
| T | G | 0.3125 | 0.0112 |
| G | T | 0.2327 | 0.0272 |
| T | C | -0.1749 | -0.0066 |
| A | G | 0.4244 | 0.1607 |
| T | C | -0.1698 | -0.0066 |
| C | T | 0.5734 | 0.1699 |
| T | G | 0.2184 | -0.0229 |
| T | C | -0.1813 | -0.0066 |
| A | C | 0.349 | 0.1705 |
| T | C | -0.2486 | 0.0067 |
| G | A | -0.6399 | 0.0718 |
| A | G | -0.3061 | -0.232 |
| G | A | -0.7013 | 0.0718 |
| A | G | -0.2863 | -0.232 |
| T | C | -0.2739 | 0.0549 |
| A | C | -1.214 | 0.0895 |
| A | G | -0.7134 | -0.1488 |
| G | A | -0.326 | -0.0199 |
| T | C | 0.2876 | -0.0242 |
| A | C | -0.3278 | 0.0895 |
| T | C | -0.2252 | 0.0067 |
| A | C | -1.223 | 0.0895 |
| A | G | -0.7209 | -0.1488 |
| G | A | -0.3413 | -0.0199 |
| T | C | 0.2935 | -0.0242 |
| A | C | -0.3696 | 0.0895 |
| A | C | -0.5183 | 0.0895 |
| T | C | 0.2541 | -0.0276 |
| G | A | -0.2756 | -0.0199 |
| A | C | -1.151 | 0.0895 |
| T | C | 0.2625 | -0.0197 |
| G | A | -0.3677 | -0.0199 |
| A | C | -0.3767 | 0.0895 |
| A | C | -1.219 | 0.0895 |
| A | G | -0.7095 | -0.1488 |
| G | A | -0.3366 | -0.0199 |
| T | C | 0.2938 | -0.0242 |
| A | C | -1.143 | 0.0895 |
| C | T | -0.2031 | 0.084 |
| A | G | -0.6341 | -0.1488 |
| T | C | 0.4387 | -0.2186 |
| G | A | -0.4007 | -0.0199 |
| T | C | 0.2828 | -0.0242 |
| G | T | 0.1797 | 0.0324 |
| T | C | 0.1721 | 0.0815 |
| T | G | 0.4952 | 0.2651 |
| C | T | 0.167 | -0.0325 |

| | | | |
|---|---|---|---|
| C | T | 0.5555 | 0.1699 |
| T | G | 0.2383 | -0.0229 |
| T | C | 0.2826 | 0.017 |
| T | C | 0.4475 | 0.017 |
| A | G | 0.1831 | 0.0186 |
| T | C | 0.1669 | -0.101 |
| A | G | 0.3611 | 0.064 |
| G | A | 0.3359 | 0.0303 |
| T | C | 0.2947 | 0.0659 |
| G | A | 0.3527 | -0.0306 |
| T | C | -0.4865 | -0.0869 |
| G | A | 0.4892 | 0.0383 |
| C | T | -0.1484 | -0.0249 |
| A | G | 0.2224 | -0.0655 |
| T | G | -0.4084 | 0.0473 |
| T | C | -0.1403 | 0.0055 |
| C | T | -0.2435 | 0.0653 |
| C | T | 0.2194 | 0.0653 |
| C | T | -0.2034 | 0.0653 |
| G | A | -0.1458 | -0.0768 |
| A | G | -0.2169 | 0.0862 |
| C | T | 0.2435 | 0.0653 |
| C | T | -0.2283 | 0.0653 |
| G | A | 0.1004 | 0.0304 |
| T | G | -0.4474 | 0.0151 |
| A | G | -0.1994 | -0.0381 |
| T | C | 0.5889 | 0.049 |
| C | T | 0.3483 | 0.2031 |
| T | C | -0.1809 | 0.049 |
| G | A | -0.4779 | 0.1518 |
| A | G | 0.23 | -0.1375 |
| G | A | -0.2188 | -0.0218 |
| C | T | 0.1763 | 0.056 |
| A | G | 1.653 | -0.4407 |
| T | C | -0.2591 | 0.0298 |
| G | A | 0.3276 | 0.0701 |
| T | C | 0.1669 | 0.0188 |
| A | G | -0.442 | -0.4301 |
| A | C | 0.3947 | 0.0373 |
| T | C | -0.279 | 0.0559 |
| G | A | -0.1543 | -0.088 |
| A | C | 0.1945 | -0.0568 |
| G | A | -0.2671 | 0.0006 |
| T | C | 0.2582 | -0.0169 |
| T | C | 0.386 | 0.1293 |
| T | C | 0.4625 | 0.1293 |
| T | C | 0.3212 | 0.1293 |
| A | G | -0.7401 | -0.0607 |
| T | C | 0.4562 | 0.1293 |
| C | T | -0.2077 | -0.0076 |
| T | C | 0.5156 | 0.1293 |
| T | C | 0.592 | 0.1293 |
| T | C | -0.3589 | 0.1408 |
| C | T | -0.5184 | 0.139 |
| A | G | 0.5273 | 0.0145 |
| C | T | -0.4171 | 0.139 |
| A | G | 0.3653 | 0.0145 |
| T | C | -0.5164 | 0.1135 |

| | | | |
|---|---|---|---|
| T | C | -0.2295 | 0.1606 |
| G | A | -0.3033 | 0.1049 |
| A | T | -0.2475 | -0.0422 |
| G | A | -0.2475 | -0.0124 |
| T | C | -0.1923 | 0.0483 |
| A | G | -0.2184 | -0.0375 |
| A | G | -0.3012 | 0.0134 |
| A | G | -0.2089 | -0.0375 |
| A | G | -0.2821 | 0.0134 |
| A | G | -0.2093 | -0.0375 |
| A | G | -0.2855 | 0.0134 |
| A | G | -0.2192 | -0.0375 |
| A | G | -0.3048 | 0.0134 |
| A | C | 0.2969 | 0.1705 |
| T | C | -0.2255 | 0.0067 |
| T | C | 0.3322 | 0.0209 |
| T | G | 0.1714 | -0.0229 |
| T | G | 0.182 | -0.0229 |
| A | G | -0.186 | -0.0023 |
| G | A | 0.1912 | -0.0013 |
| A | G | 0.1921 | -0.0548 |
| G | A | 0.1857 | -0.012 |
| C | T | -0.1726 | -0.0477 |
| C | T | 0.1507 | -0.0477 |
| G | T | 0.2134 | -0.0657 |
| G | A | 0.1433 | -0.012 |
| A | G | -0.3414 | 0.0593 |
| T | C | -0.1582 | -0.0261 |
| T | C | -0.5029 | 0.0067 |
| G | A | 0.5196 | 0.0718 |
| C | T | 0.1434 | -0.0325 |
| A | G | -0.3128 | 0.0745 |
| A | G | -0.8358 | 0.0745 |
| G | A | -0.2821 | -0.0199 |
| T | C | 0.2277 | -0.0242 |
| G | T | 0.3572 | -0.0214 |
| G | T | -0.3399 | -0.0214 |
| G | A | 0.3805 | -0.1341 |
| A | G | -0.7447 | -0.0175 |
| C | T | 0.2953 | 0.0038 |
| T | C | -0.5191 | -0.0615 |
| T | C | 0.5551 | 0.0382 |
| C | T | -0.1934 | -0.0129 |
| C | T | 0.1905 | -0.0129 |
| A | G | -0.9757 | 0.2928 |
| A | G | 0.4393 | -0.0786 |
| A | G | 0.292 | 0.0035 |
| T | C | 0.483 | -0.0869 |
| C | T | 0.4516 | 0.0869 |
| C | T | 0.4384 | 0.0869 |
| A | G | -0.6069 | 0.1768 |
| T | C | -0.406 | 0.1586 |
| A | G | -0.1502 | 0.0588 |
| A | G | 0.1512 | 0.0588 |
| C | T | 0.2186 | 0.019 |
| T | C | 0.1479 | 0.0322 |
| C | T | 0.1834 | -0.0329 |
| T | C | -0.3961 | 0.0388 |

| | | | |
|---|---|---|---|
| T | C | -0.3964 | 0.0388 |
| C | T | 0.1671 | -0.0623 |
| G | T | 0.287 | 0.0584 |
| T | C | -0.5658 | 0.0165 |
| A | T | -0.3876 | -0.0422 |
| G | A | -0.3876 | -0.0124 |
| C | T | -0.1677 | -0.0008 |
| C | T | 0.1597 | -0.0623 |
| T | C | -0.2715 | 0.0165 |
| A | T | -0.2168 | -0.0422 |
| G | A | -0.2168 | -0.0124 |
| C | T | 0.2356 | -0.0115 |
| T | G | -0.1904 | 0.0148 |

| EAF.exposure | EAF.outcome | SE.exposure | SE.outcome | Pval.expos | Pval.outcome |
|---|---|---|---|---|---|
| 0.1224 | 0.0817 | 0.04052 | 0.0842 | 3.61E-24 | 0.4115 |
| 0.1224 | 0.0817 | 0.04003 | 0.0842 | 5.08E-22 | 0.4115 |
| 0.5475 | 0.2659 | 0.02717 | 0.0517 | 3.03E-08 | 0.1758 |
| 0.5254 | 0.3535 | 0.02681 | 0.0478 | 2.35E-09 | 0.9214 |
| 0.6024 | 0.7119 | 0.02509 | 0.0501 | 3.34E-08 | 0.1865 |
| 0.821 | 0.8344 | 0.03213 | 0.0618 | 1.75E-13 | 0.2283 |
| 0.3094 | 0.1514 | 0.02642 | 0.0637 | 2.90E-10 | 0.1306 |
| 0.6088 | 0.5047 | 0.02474 | 0.0456 | 2.50E-21 | 0.1821 |
| 0.3161 | 0.2954 | 0.0268 | 0.0497 | 7.20E-11 | 0.151 |
| 0.8208 | 0.7863 | 0.03256 | 0.0557 | 4.23E-08 | 0.0603198 |
| 0.5889 | 0.5173 | 0.02955 | 0.0518 | 2.13E-13 | 0.7185 |
| 0.0012 | 0.03528 | 49.2 | 0.1225 | 3.58E-13 | 0.5634 |
| 0.0019 | 0.04052 | 39.64 | 0.1144 | 1.85E-12 | 0.6254 |
| 0.0103 | 0.08082 | 17.59 | 0.0858 | 1.86E-11 | 0.1375 |
| 0.0004 | 0.05048 | 78.14 | 0.1049 | 1.12E-35 | 0.5733 |
| 0.0019 | 0.07432 | 40.68 | 0.0854 | 2.65E-23 | 0.865 |
| 0.0031 | 0.03129 | 30.85 | 0.135 | 2.49E-12 | 0.676799 |
| 0.0173 | 0.01398 | 13.66 | 0.1974 | 3.28E-12 | 0.4139 |
| 0.0173 | 0.002535 | 13.96 | 0.4796 | 4.67E-09 | 0.8303 |
| 0.0015 | 0.01217 | 43.46 | 0.2174 | 3.75E-12 | 0.606001 |
| 0.0015 | 0.03513 | 43.15 | 0.1295 | 1.04E-12 | 0.8397 |
| 0.0035 | 0.009531 | 29.94 | 0.2376 | 6.06E-11 | 0.9887 |
| 0.0026 | 0.06333 | 34.55 | 0.0934 | 2.34E-09 | 0.746799 |
| 0.0021 | 0.006678 | 38.71 | 0.2919 | 9.39E-10 | 0.3986 |
| 0.001 | 0.05642 | 65.92 | 0.0984 | 4.58E-09 | 0.4022 |
| 0.0019 | 0.03932 | 42.57 | 0.1159 | 5.14E-09 | 0.8485 |
| 0.0019 | 0.02419 | 40.49 | 0.148 | 6.43E-13 | 0.2238 |
| 0.0114 | 0.06263 | 16.51 | 0.0957 | 7.06E-09 | 0.491801 |
| 0.0015 | 0.02801 | 42.75 | 0.1433 | 8.74E-16 | 0.902 |
| 0.0004 | 0.006228 | 81.57 | 0.2922 | 8.89E-35 | 0.6902 |
| 0.0026 | 0.01249 | 32.42 | 0.2059 | 2.03E-10 | 0.2169 |
| 0.0015 | 0.012 | 46.04 | 0.2085 | 1.30E-11 | 0.768199 |
| 0.0012 | 0.0298 | 51.06 | 0.1324 | 4.77E-14 | 0.3055 |
| 0.0021 | 0.01304 | 37.5 | 0.2025 | 1.11E-08 | 0.9564 |
| 0.0037 | 0.0181 | 29.08 | 0.1684 | 7.67E-11 | 0.0303997 |
| 0.0015 | 0.00489 | 43.36 | 0.3375 | 9.91E-15 | 0.742299 |
| 0.0023 | 0.01788 | 37.63 | 0.1745 | 1.01E-17 | 0.4125 |
| 0.0038 | 0.03087 | 28.61 | 0.1309 | 1.93E-09 | 0.4759 |
| 0.0022 | 0.02511 | 39.65 | 0.1479 | 3.61E-09 | 0.8125 |
| 0.0006 | 0.03563 | 66.51 | 0.1224 | 2.81E-27 | 0.2051 |
| 0.0004 | 0.01606 | 82.11 | 0.181 | 9.85E-16 | 0.2233 |
| 0.0059 | 0.009233 | 25.24 | 0.247 | 3.67E-08 | 0.3096 |
| 0.0019 | 0.01699 | 39.88 | 0.1783 | 2.24E-09 | 0.7925 |
| 0.0054 | 0.003958 | 23.53 | 0.3657 | 1.21E-11 | 0.0914092 |
| 0.0003 | 0.002179 | 88.02 | 0.5178 | 1.69E-12 | 0.0359998 |
| 0.0019 | 0.004999 | 48.3 | 0.3332 | 1.66E-12 | 0.8957 |
| 0.0018 | 0.007492 | 40.08 | 0.2743 | 8.40E-12 | 0.5619 |
| 0.0041 | 0.02102 | 28.52 | 0.1581 | 1.88E-11 | 0.9479 |
| 0.0023 | 0.02012 | 34.4 | 0.1717 | 1.36E-10 | 0.4496 |
| 0.0034 | 0.03617 | 30.9 | 0.1218 | 1.01E-08 | 0.3669 |
| 0.0023 | 0.006918 | 36.33 | 0.2807 | 1.15E-08 | 0.0645194 |
| 0.0016 | 0.02378 | 41.99 | 0.1597 | 7.06E-14 | 0.3651 |
| 0.0003 | 0.02656 | 91.49 | 0.1421 | 4.87E-17 | 0.4476 |
| 0.0006 | 0.04747 | 70 | 0.1063 | 2.61E-29 | 0.1269 |
| 0.0006 | 0.01865 | 70.06 | 0.1661 | 6.21E-27 | 0.9295 |
| 0.0009 | 0.01369 | 61.21 | 0.2122 | 1.66E-20 | 0.9524 |

| | | | | | |
|---|---|---|---|---|---|
| 0.0003 | 0.01552 | 97.49 | 0.1835 | 6.49E-20 | 0.3958 |
| 0.0006 | 0.02165 | 73.93 | 0.162 | 1.04E-32 | 0.3786 |
| 0.0043 | 0.01139 | 28.32 | 0.2101 | 2.05E-08 | 0.0360903 |
| 0.0015 | 0.02905 | 44.19 | 0.1373 | 1.40E-09 | 0.8021 |
| 0.0022 | 0.03139 | 38.79 | 0.1329 | 2.47E-14 | 0.628801 |
| 0.0006 | 0.01123 | 78.94 | 0.2092 | 2.29E-36 | 0.4984 |
| 0.9974 | 0.995 | 40.25 | 0.3106 | 7.08E-09 | 0.4373 |
| 0.0012 | 0.005583 | 62.49 | 0.3243 | 2.10E-11 | 0.4392 |
| 0.0006 | 0.0029 | 80.31 | 0.4615 | 6.49E-25 | 0.6389 |
| 0.0065 | 0.01003 | 21.64 | 0.2373 | 5.99E-09 | 0.8703 |
| 0.001 | 0.02137 | 52.88 | 0.1586 | 1.14E-18 | 0.5892 |
| 0.0035 | 0.01892 | 29.94 | 0.1659 | 9.89E-11 | 0.236 |
| 0.006 | 0.001528 | 23.63 | 0.5752 | 6.03E-12 | 0.9558 |
| 0.0032 | 0.03212 | 30.92 | 0.1283 | 5.91E-09 | 0.1909 |
| 0.0028 | 0.01135 | 33.32 | 0.2077 | 2.52E-14 | 0.1618 |
| 0.0028 | 0.003273 | 32.03 | 0.4063 | 8.96E-11 | 0.395 |
| 0.001 | 0.09368 | 54.04 | 0.0779 | 1.71E-16 | 0.1919 |
| 0.0013 | 0.06351 | 57.27 | 0.0924 | 4.68E-11 | 0.2922 |
| 0.0032 | 0.0124 | 31.2 | 0.2048 | 2.73E-09 | 0.3271 |
| 0.0006 | 0.02242 | 69.06 | 0.1608 | 2.64E-10 | 0.4636 |
| 0.0019 | 0.01421 | 39.21 | 0.208 | 1.68E-11 | 0.7003 |
| 0.0009 | 0.005856 | 62.7 | 0.3078 | 2.43E-09 | 0.615 |
| 0.0022 | 0.004574 | 35.66 | 0.3608 | 4.08E-08 | 0.2618 |
| 0.0035 | 0.0115 | 27.65 | 0.2203 | 1.31E-22 | 0.537 |
| 0.001 | 0.01011 | 53.64 | 0.236 | 1.41E-14 | 0.907 |
| 0.0015 | 0.00616 | 45.06 | 0.2934 | 3.01E-08 | 0.1402 |
| 0.0021 | 0.01756 | 39.24 | 0.1732 | 4.46E-08 | 0.391 |
| 0.0006 | 0.02242 | 74.11 | 0.1583 | 3.13E-30 | 0.2043 |
| 0.001 | 0.02472 | 57.77 | 0.148 | 7.11E-23 | 0.02913 |
| 0.0034 | 0.02701 | 31.22 | 0.1429 | 7.31E-13 | 0.0937389 |
| 0.0026 | 0.002771 | 37.47 | 0.4348 | 3.86E-08 | 0.4403 |
| 0.0079 | 0.004577 | 20.2 | 0.3641 | 3.50E-12 | 0.7787 |
| 0.0021 | 0.0729 | 37.81 | 0.0862 | 7.63E-11 | 0.4168 |
| 0.0032 | 0.01371 | 31.46 | 0.1958 | 4.77E-08 | 0.763999 |
| 0.0006 | 0.01329 | 70.89 | 0.2058 | 4.89E-28 | 0.604999 |
| 0.0079 | 0.02959 | 19.94 | 0.137 | 2.77E-08 | 0.974 |
| 0.004 | 0.004823 | 28.49 | 0.3662 | 4.08E-18 | 0.3273 |
| 0.0022 | 0.01396 | 37.09 | 0.1931 | 2.41E-11 | 0.1126 |
| 0.0018 | 0.025 | 52.39 | 0.1467 | 1.25E-22 | 0.6163 |
| 0.001 | 0.01554 | 55.24 | 0.1873 | 6.76E-22 | 0.601999 |
| 0.0251 | 0.1349 | 11.29 | 0.0676 | 1.55E-11 | 0.2449 |
| 0.0007 | 0.003013 | 69.55 | 0.416 | 1.90E-23 | 0.1934 |
| 0.0057 | 0.002896 | 23.32 | 0.4256 | 4.38E-13 | 0.616601 |
| 0.0025 | 0.02593 | 36.99 | 0.1462 | 3.79E-11 | 0.8196 |
| 0.0006 | 0.03653 | 72.17 | 0.1186 | 2.50E-53 | 0.1471 |
| 0.0013 | 0.05676 | 43.09 | 0.0961 | 1.11E-45 | 0.5947 |
| 0.0012 | 0.04888 | 60.13 | 0.1053 | 4.27E-08 | 0.6418 |
| 0.0035 | 0.01342 | 29.17 | 0.2041 | 1.22E-08 | 0.9337 |
| 0.0113 | 0.02516 | 17.57 | 0.1471 | 2.08E-08 | 0.5768 |
| 0.0185 | 0.001344 | 13.57 | 0.7588 | 5.08E-10 | 0.08362 |
| 0.0012 | 0.0332 | 51.4 | 0.1289 | 6.59E-16 | 0.646001 |
| 0.0006 | 0.01141 | 72.99 | 0.2184 | 1.18E-41 | 0.3347 |
| 0.0009 | 0.02616 | 55.97 | 0.1425 | 5.40E-20 | 0.5686 |
| 0.0028 | 0.02674 | 33.8 | 0.1423 | 8.78E-11 | 0.2625 |
| 0.0021 | 0.0004755 | 36.89 | 0.9931 | 4.30E-11 | 0.8457 |
| 0.0016 | 0.01627 | 43.79 | 0.1856 | 2.38E-09 | 0.0390598 |
| 0.0029 | 0.0009055 | 31.68 | 0.7721 | 3.98E-09 | 0.1547 |
| 0.0003 | 0.03052 | 88.96 | 0.1353 | 5.98E-46 | 0.5121 |

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|---|---|---|---|---|---|
| 0.0054 | 0.02523 | 25.13 | 0.1452 | 3.08E-08 | 0.42 |
| 0.0006 | 0.002731 | 64.95 | 0.4632 | 1.23E-10 | 0.882 |
| 0.0038 | 0.03077 | 28.13 | 0.1346 | 3.76E-08 | 0.9706 |
| 0.0034 | 0.009843 | 32.7 | 0.2454 | 9.35E-10 | 0.3778 |
| 0.0006 | 0.04998 | 70.25 | 0.1046 | 6.12E-16 | 0.2879 |
| 0.0003 | 0.03101 | 89.95 | 0.1314 | 1.34E-20 | 0.8367 |
| 0.0015 | 0.003402 | 44.78 | 0.404 | 9.76E-09 | 0.3922 |
| 0.0318 | 0.02467 | 10.31 | 0.1474 | 6.47E-09 | 0.1389 |
| 0.0004 | 0.01578 | 73.46 | 0.1811 | 1.75E-29 | 0.1105 |
| 0.001 | 0.03317 | 57.96 | 0.126 | 7.67E-19 | 0.8126 |
| 0.0009 | 0.002861 | 53.18 | 0.4512 | 8.73E-13 | 0.1298 |
| 0.0035 | 0.01469 | 29.41 | 0.1892 | 4.95E-09 | 0.3321 |
| 0.001 | 0.02319 | 51.97 | 0.1518 | 2.25E-17 | 0.8188 |
| 0.004 | 0.01545 | 27.54 | 0.1887 | 1.74E-10 | 0.123 |
| 0.0026 | 0.001873 | 34.68 | 0.5478 | 9.74E-09 | 0.8756 |
| 0.0032 | 0.01526 | 36.08 | 0.1902 | 1.58E-08 | 0.7258 |
| 0.0012 | 0.01369 | 50.43 | 0.2023 | 1.21E-19 | 0.4854 |
| 0.0211 | 0.002332 | 12.06 | 0.5154 | 7.48E-09 | 0.7533 |
| 0.0026 | 0.03827 | 33.76 | 0.1193 | 4.98E-10 | 0.4335 |
| 0.0001 | 0.02148 | 128.3 | 0.1523 | 1.15E-56 | 0.8212 |
| 0.0009 | 0.0206 | 65.61 | 0.161 | 5.51E-22 | 0.1932 |
| 0.0029 | 0.03413 | 32.71 | 0.1248 | 2.90E-08 | 0.6506 |
| 0.0019 | 0.01087 | 38.79 | 0.2277 | 1.69E-12 | 0.4622 |
| 0.0026 | 0.05144 | 35.34 | 0.1045 | 1.00E-09 | 0.5692 |
| 0.0007 | 0.01997 | 64.38 | 0.164 | 9.46E-12 | 0.382 |
| 0.0013 | 0.0104 | 51.12 | 0.2202 | 1.55E-14 | 0.1573 |
| 0.0072 | 0.02264 | 21.37 | 0.1535 | 3.00E-09 | 0.2348 |
| 0.0028 | 0.02691 | 33.53 | 0.1418 | 1.84E-08 | 0.0879995 |
| 0.0001 | 0.03207 | 203.7 | 0.1286 | 1.63E-09 | 0.00852001 |
| 0.0021 | 0.007837 | 36.97 | 0.252 | 5.42E-14 | 0.5414 |
| 0.001 | 0.02316 | 52.32 | 0.1525 | 4.02E-10 | 0.291 |
| 0.0092 | 0.02906 | 18.01 | 0.1363 | 6.12E-10 | 0.9915 |
| 0.0565 | 0.01343 | 7.987 | 0.2005 | 4.03E-08 | 0.5041 |
| 0.0006 | 0.01918 | 73.04 | 0.1703 | 7.80E-16 | 0.0781808 |
| 0.0012 | 0.0005627 | 55.7 | 1.1831 | 1.05E-18 | 0.7838 |
| 0.0007 | 0.04024 | 61.96 | 0.1174 | 2.79E-09 | 0.2157 |
| 0.0003 | 0.01868 | 96.39 | 0.1716 | 4.65E-14 | 0.1013 |
| 0.01 | 0.01478 | 18.29 | 0.1943 | 4.20E-18 | 0.3324 |
| 0.0062 | 0.0399 | 25.27 | 0.1168 | 1.30E-08 | 0.3828 |
| 0.0025 | 0.009294 | 35.78 | 0.2575 | 4.25E-09 | 0.5757 |
| 0.0207 | 0.02748 | 13.23 | 0.1411 | 6.37E-09 | 0.4303 |
| 0.0026 | 0.03 | 33.82 | 0.1376 | 4.06E-08 | 0.7668 |
| 0.0031 | 0.04196 | 33.18 | 0.1139 | 2.28E-08 | 0.724001 |
| 0.001 | 0.0008187 | 51.16 | 0.9672 | 1.42E-19 | 0.8163 |
| 0.0031 | 0.01478 | 32.76 | 0.1922 | 7.31E-10 | 0.6341 |
| 0.0092 | 0.007947 | 19.47 | 0.2737 | 2.08E-10 | 0.1627 |
| 0.0004 | 0.01119 | 79.88 | 0.2169 | 2.19E-09 | 0.9486 |
| 0.006 | 0.01108 | 22.8 | 0.2257 | 1.80E-19 | 0.0400396 |
| 0.0007 | 0.00341 | 62.38 | 0.4174 | 2.64E-11 | 0.1195 |
| 0.0016 | 0.01588 | 42.7 | 0.1814 | 3.85E-08 | 0.2369 |
| 0.005 | 0.00286 | 26.11 | 0.4724 | 3.78E-08 | 0.5313 |
| 0.0018 | 0.000532 | 40.79 | 0.951 | 3.49E-08 | 0.7756 |
| 0.0004 | 0.001519 | 84.75 | 0.5992 | 6.83E-42 | 0.9901 |
| 0.0013 | 0.02312 | 52.34 | 0.1564 | 1.26E-11 | 0.0882104 |
| 0.0021 | 0.01951 | 41.59 | 0.1643 | 5.64E-16 | 0.7893 |
| 0.0056 | 0.03293 | 23.81 | 0.1298 | 1.58E-10 | 0.9578 |
| 0.0018 | 0.004352 | 41.76 | 0.3617 | 7.66E-14 | 0.7382 |
| 0.0018 | 0.01484 | 53.53 | 0.1916 | 1.07E-13 | 0.4577 |

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|---|---|---|---|---|---|
| 0.0032 | 0.02167 | 33.13 | 0.1554 | 4.82E-08 | 0.685499 |
| 0.0009 | 0.02506 | 57.08 | 0.1486 | 1.16E-21 | 0.7867 |
| 0.0007 | 0.01923 | 69.68 | 0.1678 | 7.54E-32 | 0.2281 |
| 0.0016 | 0.03616 | 43.5 | 0.1219 | 5.38E-12 | 0.781101 |
| 0.0094 | 0.02098 | 18.22 | 0.157 | 4.11E-10 | 0.0283903 |
| 0.0079 | 0.001848 | 20 | 0.5693 | 7.32E-10 | 0.4467 |
| 0.0057 | 0.01076 | 22.31 | 0.221 | 2.32E-16 | 0.0341704 |
| 0.0044 | 0.02861 | 26.38 | 0.136 | 1.64E-08 | 0.3144 |
| 0.0018 | 0.0009084 | 43.4 | 0.8267 | 9.20E-11 | 0.706801 |
| 0.0015 | 0.03176 | 44.6 | 0.1298 | 4.22E-09 | 0.7666 |
| 0.0001 | 0.02786 | 127.9 | 0.1371 | 1.21E-55 | 0.723299 |
| 0.0007 | 0.01444 | 64.07 | 0.1873 | 8.69E-12 | 0.5107 |
| 0.0004 | 0.01233 | 78.49 | 0.2162 | 1.83E-21 | 0.4447 |
| 0.0013 | 0.025 | 46.83 | 0.1447 | 1.34E-08 | 0.4476 |
| 0.0022 | 0.03807 | 36.09 | 0.1184 | 1.20E-12 | 0.9178 |
| 0.0003 | 0.02668 | 93.44 | 0.1448 | 3.23E-52 | 0.2472 |
| 0.004 | 0.0132 | 28.3 | 0.2096 | 1.82E-08 | 0.2647 |
| 0.0007 | 0.00876 | 63.75 | 0.237 | 3.47E-28 | 0.8574 |
| 0.0028 | 0.04452 | 36.54 | 0.1127 | 2.60E-08 | 0.9942 |
| 0.0022 | 0.02374 | 33.81 | 0.1508 | 2.09E-23 | 0.0819691 |
| 0.0019 | 0.01445 | 38.16 | 0.1968 | 3.26E-10 | 0.635 |
| 0.0013 | 0.002655 | 47.7 | 0.4806 | 3.55E-21 | 0.4162 |
| 0.0007 | 0.009802 | 67.24 | 0.2378 | 8.73E-17 | 0.7947 |
| 0.0016 | 0.03206 | 45.67 | 0.1322 | 1.31E-19 | 0.3743 |
| 0.0009 | 0.02121 | 55.44 | 0.1541 | 5.81E-19 | 0.3156 |
| 0.0025 | 0.02159 | 37.13 | 0.1599 | 1.91E-12 | 0.3501 |
| 0.0018 | 0.01456 | 41.15 | 0.1922 | 4.15E-13 | 0.5112 |
| 0.0012 | 0.02442 | 52.29 | 0.1497 | 1.92E-16 | 0.8638 |
| 0.0073 | 0.06426 | 20.92 | 0.0938 | 7.76E-15 | 0.2931 |
| 0.0003 | 0.03499 | 104 | 0.1227 | 2.04E-15 | 0.7805 |
| 0.0015 | 0.00901 | 47.64 | 0.2447 | 7.72E-11 | 0.1292 |
| 0.0013 | 0.01901 | 49.25 | 0.1641 | 1.59E-10 | 0.5188 |
| 0.0006 | 0.0004565 | 69.14 | 1.1944 | 9.38E-26 | 0.2476 |
| 0.0006 | 0.03891 | 69.14 | 0.1191 | 9.38E-26 | 0.799 |
| 0.0015 | 0.01896 | 44.7 | 0.1693 | 1.46E-13 | 0.3548 |
| 0.0012 | 0.02553 | 47.71 | 0.1508 | 2.29E-11 | 0.2084 |
| 0.0001 | 0.002981 | 128.5 | 0.4287 | 1.74E-56 | 0.1653 |
| 0.0091 | 0.01009 | 18.37 | 0.2378 | 4.15E-16 | 0.8329 |
| 0.0006 | 0.04858 | 64.6 | 0.1064 | 1.00E-30 | 0.2171 |
| 0.0028 | 0.02745 | 38.25 | 0.1475 | 8.14E-10 | 0.3234 |
| 0.007 | 0.0105 | 21.11 | 0.232 | 8.32E-09 | 0.767499 |
| 0.0021 | 0.009284 | 37.84 | 0.2378 | 9.60E-14 | 0.5363 |
| 0.0015 | 0.01517 | 44.92 | 0.1824 | 2.12E-11 | 0.9719 |
| 0.001 | 0.02648 | 50.73 | 0.1426 | 8.85E-22 | 0.4901 |
| 0.0006 | 0.02598 | 64.46 | 0.1406 | 3.68E-22 | 0.2318 |
| 0.0085 | 0.01558 | 20.15 | 0.1861 | 1.26E-11 | 0.3185 |
| 0.0021 | 0.004137 | 38.53 | 0.3776 | 5.64E-11 | 0.5126 |
| 0.0026 | 0.02608 | 33.78 | 0.1416 | 1.02E-11 | 0.9145 |
| 0.0013 | 0.009251 | 48.59 | 0.245 | 3.39E-10 | 0.760699 |
| 0.0032 | 0.03721 | 30.9 | 0.1214 | 5.04E-09 | 0.9858 |
| 0.0019 | 0.006042 | 40.3 | 0.3157 | 2.02E-11 | 0.9797 |
| 0.0006 | 0.006911 | 67.17 | 0.2975 | 4.65E-16 | 0.0963297 |
| 0.0006 | 0.009832 | 70.63 | 0.238 | 2.03E-35 | 0.3512 |
| 0.0025 | 0.03283 | 36.78 | 0.1309 | 4.15E-16 | 0.0339399 |
| 0.0007 | 0.01749 | 68.52 | 0.1758 | 1.71E-27 | 0.0437703 |
| 0.0009 | 0.02467 | 59.76 | 0.1476 | 9.36E-13 | 0.3697 |
| 0.0001 | 0.008567 | 109.5 | 0.2401 | 1.70E-27 | 0.8923 |
| 0.0032 | 0.01828 | 36.11 | 0.178 | 1.13E-11 | 0.8626 |

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|---|---|---|---|---|---|
| 0.0007 | 0.02753 | 62.46 | 0.1434 | 4.25E-11 | 0.5974 |
| 0.0044 | 0.007482 | 26.7 | 0.2604 | 2.51E-09 | 0.7209 |
| 0.0032 | 0.007987 | 31.44 | 0.2534 | 2.59E-08 | 0.1357 |
| 0.0013 | 0.007855 | 46.47 | 0.2652 | 1.67E-14 | 0.9444 |
| 0.0004 | 0.02125 | 79.27 | 0.1547 | 6.58E-35 | 0.00599805 |
| 0.01 | 0.002617 | 18.08 | 0.4878 | 1.42E-11 | 0.1122 |
| 0.0003 | 0.06652 | 93.65 | 0.0925 | 1.69E-61 | 0.3436 |
| 0.004 | 0.01706 | 31.66 | 0.1754 | 2.42E-08 | 0.3708 |
| 0.0007 | 0.002763 | 60.69 | 0.4699 | 2.16E-21 | 0.8993 |
| 0.0009 | 0.01872 | 60.77 | 0.1745 | 8.35E-13 | 0.2845 |
| 0.004 | 0.01829 | 29.36 | 0.1684 | 1.20E-10 | 0.1199 |
| 0.0016 | 0.01526 | 44.35 | 0.1918 | 7.07E-13 | 0.4838 |
| 0.0066 | 0.04422 | 22.14 | 0.1131 | 2.15E-12 | 0.8592 |
| 0.9988 | 0.9563 | 50.03 | 0.1125 | 1.11E-14 | 0.7782 |
| 0.0066 | 0.01584 | 21.61 | 0.1836 | 3.69E-14 | 0.6511 |
| 0.0019 | 0.01926 | 44.12 | 0.1802 | 4.89E-19 | 0.3192 |
| 0.0026 | 0.01881 | 33.34 | 0.1649 | 2.42E-10 | 0.1325 |
| 0.0003 | 0.03902 | 92.78 | 0.1184 | 4.73E-27 | 0.8573 |
| 0.0018 | 0.001946 | 41.43 | 0.5309 | 7.32E-11 | 0.341 |
| 0.001 | 0.1363 | 54.89 | 0.0662 | 9.78E-23 | 0.2116 |
| 0.0009 | 0.0167 | 53.43 | 0.1802 | 3.31E-10 | 0.9449 |
| 0.001 | 0.01955 | 55.24 | 0.1616 | 1.21E-17 | 0.628901 |
| 0.0035 | 0.0144 | 28.76 | 0.1954 | 3.53E-08 | 0.4347 |
| 0.0038 | 0.02925 | 28.32 | 0.1357 | 4.89E-12 | 0.8997 |
| 0.0021 | 0.006235 | 38.1 | 0.2989 | 1.78E-11 | 0.4465 |
| 0.0034 | 0.01217 | 29.42 | 0.2139 | 2.34E-11 | 0.3016 |
| 0.0019 | 0.03554 | 39.81 | 0.1229 | 1.03E-18 | 0.747699 |
| 0.0025 | 0.004121 | 38.31 | 0.3832 | 9.00E-14 | 0.8732 |
| 0.0018 | 0.0279 | 42.26 | 0.1403 | 8.66E-17 | 0.9845 |
| 0.0022 | 0.003825 | 36.32 | 0.4014 | 5.30E-09 | 0.9903 |
| 0.0007 | 0.009338 | 59.91 | 0.241 | 3.68E-08 | 0.3896 |
| 0.0022 | 0.004981 | 38.13 | 0.3385 | 1.94E-08 | 0.9091 |
| 0.0037 | 0.007424 | 28.33 | 0.2796 | 1.47E-08 | 0.0368799 |
| 0.0007 | 0.03546 | 60.2 | 0.1234 | 4.25E-11 | 0.0154899 |
| 0.0069 | 0.005057 | 21.18 | 0.3232 | 2.36E-12 | 0.9456 |
| 0.0023 | 0.003467 | 36.04 | 0.4062 | 4.80E-09 | 0.5564 |
| 0.0015 | 0.005399 | 45.09 | 0.3242 | 1.62E-15 | 0.9544 |
| 0.0032 | 0.03206 | 29.73 | 0.1328 | 1.40E-17 | 0.542199 |
| 0.0001 | 0.008568 | 129.6 | 0.2533 | 8.20E-41 | 0.8211 |
| 0.0022 | 0.007426 | 37 | 0.2698 | 2.19E-10 | 0.9115 |
| 0.0016 | 0.03672 | 43.72 | 0.1211 | 1.99E-09 | 0.3812 |
| 0.999 | 0.9841 | 57.56 | 0.1871 | 2.95E-21 | 0.1723 |
| 0.001 | 0.02766 | 53.08 | 0.1436 | 2.51E-18 | 0.9865 |
| 0.0006 | 0.03677 | 69.32 | 0.1215 | 5.22E-17 | 0.3654 |
| 0.0015 | 0.01838 | 48.27 | 0.1664 | 2.74E-16 | 0.9302 |
| 0.0006 | 0.007731 | 80.36 | 0.2726 | 1.54E-15 | 0.1592 |
| 0.0013 | 0.03738 | 49.05 | 0.1214 | 7.02E-18 | 0.888 |
| 0.0012 | 0.0187 | 58.11 | 0.1736 | 6.19E-11 | 0.9092 |
| 0.0007 | 0.05015 | 59.93 | 0.1049 | 6.19E-18 | 0.2415 |
| 0.0004 | 0.004399 | 76.44 | 0.3552 | 2.60E-14 | 0.3871 |
| 0.0003 | 0.01378 | 98.17 | 0.2054 | 3.69E-24 | 0.9283 |
| 0.0004 | 0.0255 | 78.84 | 0.1441 | 6.60E-13 | 0.509 |
| 0.0016 | 0.0262 | 43.75 | 0.1472 | 1.20E-08 | 0.5208 |
| 0.004 | 0.01551 | 27.04 | 0.1831 | 4.93E-14 | 0.3498 |
| 0.0116 | 0.02754 | 17.31 | 0.1417 | 5.64E-14 | 0.9507 |
| 0.0029 | 0.01824 | 33.18 | 0.1703 | 5.41E-11 | 0.692299 |
| 0.0041 | 0.02564 | 27.44 | 0.1428 | 1.46E-09 | 0.2635 |
| 0.0004 | 0.03689 | 82.87 | 0.1231 | 2.61E-15 | 0.612099 |

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|---|---|---|---|---|---|
| 0.0076 | 0.02038 | 19.43 | 0.1651 | 1.16E-10 | 0.8763 |
| 0.0122 | 0.0127 | 16.28 | 0.2079 | 3.21E-08 | 0.671001 |
| 0.001 | 0.06206 | 54.79 | 0.0948 | 8.69E-16 | 0.3587 |
| 0.0032 | 0.01958 | 31.03 | 0.1667 | 2.77E-09 | 0.4752 |
| 0.0004 | 0.001121 | 82.54 | 0.728 | 2.02E-15 | 0.5466 |
| 0.0022 | 0.01324 | 37.83 | 0.2022 | 2.00E-08 | 0.8174 |
| 0.0095 | 0.03164 | 18.61 | 0.1324 | 1.97E-08 | 0.4582 |
| 0.0015 | 0.008318 | 44.42 | 0.2656 | 1.39E-09 | 0.7963 |
| 0.0012 | 0.01692 | 51.47 | 0.1818 | 7.89E-16 | 0.4038 |
| 0.0001 | 0.01884 | 130.1 | 0.1662 | 6.41E-13 | 0.1197 |
| 0.0022 | 0.0127 | 36.44 | 0.2088 | 5.54E-11 | 0.5915 |
| 0.0029 | 0.003964 | 33.71 | 0.3957 | 9.17E-10 | 0.7362 |
| 0.0009 | 0.002867 | 54.73 | 0.4501 | 6.40E-11 | 0.5213 |
| 0.0013 | 0.02493 | 46.68 | 0.1507 | 5.07E-14 | 0.9478 |
| 0.0006 | 0.03136 | 69.63 | 0.1319 | 1.22E-15 | 0.9818 |
| 0.0009 | 0.01404 | 56.91 | 0.1947 | 1.61E-22 | 0.1479 |
| 0.0007 | 0.01413 | 62.86 | 0.1929 | 1.15E-21 | 0.1842 |
| 0.0004 | 0.01855 | 75.09 | 0.1694 | 5.08E-17 | 0.3857 |
| 0.0037 | 0.00201 | 29.82 | 0.5588 | 6.24E-10 | 0.8268 |
| 0.0016 | 0.05192 | 45.47 | 0.1026 | 2.50E-14 | 0.2949 |
| 0.0003 | 0.01937 | 92.57 | 0.1651 | 6.37E-20 | 0.1498 |
| 0.9869 | 0.9853 | 15.38 | 0.1912 | 1.55E-08 | 0.2452 |
| 0.9987 | 0.9576 | 48.86 | 0.112 | 4.25E-09 | 0.9626 |
| 0.0016 | 0.02105 | 44.28 | 0.1563 | 4.92E-14 | 0.4672 |
| 0.0001 | 0.02639 | 127.1 | 0.1443 | 5.00E-107 | 0.4631 |
| 0.0079 | 0.02736 | 20.78 | 0.138 | 3.35E-10 | 0.6948 |
| 0.0001 | 0.01206 | 123.4 | 0.2141 | 8.41E-101 | 0.2241 |
| 0.0029 | 0.03356 | 35.7 | 0.1265 | 1.41E-08 | 0.3496 |
| 0.0088 | 0.008223 | 19.44 | 0.267 | 4.27E-08 | 0.1501 |
| 0.0004 | 0.01823 | 80.9 | 0.1743 | 5.64E-15 | 0.1805 |
| 0.0063 | 0.008168 | 22.06 | 0.2529 | 1.16E-09 | 0.6912 |
| 0.001 | 0.03774 | 54.53 | 0.1216 | 2.74E-11 | 0.3575 |
| 0.0066 | 0.03821 | 21.02 | 0.1206 | 3.19E-08 | 0.5727 |
| 0.0012 | 0.005835 | 53.26 | 0.3235 | 6.51E-19 | 0.532 |
| 0.0018 | 0.003909 | 42.64 | 0.3724 | 7.23E-11 | 0.5078 |
| 0.0007 | 0.02372 | 62.01 | 0.1506 | 7.99E-11 | 0.9623 |
| 0.0015 | 0.02526 | 45.79 | 0.1479 | 2.36E-13 | 0.1635 |
| 0.0012 | 0.006124 | 52.07 | 0.2979 | 5.06E-17 | 0.0400304 |
| 0.0015 | 0.03025 | 45.5 | 0.1312 | 1.66E-19 | 0.2836 |
| 0.0015 | 0.008495 | 43.92 | 0.2469 | 6.96E-11 | 0.1271 |
| 0.0018 | 0.03904 | 40.5 | 0.1202 | 8.16E-11 | 0.08041 |
| 0.0016 | 0.0718 | 41.59 | 0.0879 | 1.29E-14 | 0.5063 |
| 0.0018 | 0.01461 | 44.43 | 0.1913 | 4.29E-12 | 0.588901 |
| 0.0019 | 0.007971 | 38.46 | 0.2785 | 3.32E-17 | 0.3491 |
| 0.0016 | 0.02516 | 41.66 | 0.1489 | 1.35E-10 | 0.7978 |
| 0.0037 | 0.02334 | 31.51 | 0.1631 | 2.46E-09 | 0.578 |
| 0.0018 | 0.007155 | 40.47 | 0.2671 | 7.89E-17 | 0.4313 |
| 0.0023 | 0.002789 | 37.05 | 0.4408 | 4.72E-09 | 0.827 |
| 0.0013 | 0.00687 | 49.08 | 0.2771 | 1.19E-10 | 0.665001 |
| 0.0094 | 0.0181 | 18.42 | 0.1734 | 1.18E-08 | 0.1465 |
| 0.0015 | 0.02608 | 44.95 | 0.1477 | 6.36E-15 | 0.1143 |
| 0.0103 | 0.03732 | 17.52 | 0.1197 | 7.68E-09 | 0.1018 |
| 0.0018 | 0.05518 | 40.82 | 0.1023 | 3.37E-08 | 0.8819 |
| 0.0097 | 0.1146 | 17.32 | 0.0714 | 2.61E-14 | 0.4339 |
| 0.0079 | 0.009412 | 20.28 | 0.2525 | 1.89E-12 | 0.6446 |
| 0.0029 | 0.003841 | 33.09 | 0.3829 | 3.42E-08 | 0.4416 |
| 0.0128 | 0.008979 | 15.15 | 0.2515 | 1.30E-10 | 0.1908 |
| 0.0013 | 0.03326 | 50.66 | 0.1271 | 1.60E-08 | 0.2225 |

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|---|---|---|---|---|---|
| 0.0001 | 0.04963 | 134.1 | 0.1038 | 4.18E-15 | 0.9461 |
| 0.0023 | 0.04315 | 36.29 | 0.1186 | 5.23E-09 | 0.6011 |
| 0 | 0.03086 | 263.7 | 0.1348 | 2.85E-40 | 0.4177 |
| 0.0016 | 0.02625 | 45.76 | 0.1416 | 3.79E-11 | 0.661899 |
| 0.0016 | 0.02375 | 43.55 | 0.1486 | 1.07E-11 | 0.1035 |
| 0.0006 | 0.008882 | 63.13 | 0.2559 | 7.20E-12 | 0.4442 |
| 0.0029 | 0.01385 | 31.58 | 0.1957 | 1.02E-16 | 0.511601 |
| 0.0022 | 0.01047 | 38.87 | 0.2299 | 2.06E-17 | 0.6742 |
| 0.0006 | 0.002231 | 97.29 | 0.487 | 1.79E-57 | 0.738401 |
| 0.0003 | 0.008833 | 93.43 | 0.2515 | 1.80E-24 | 0.5461 |
| 0.0003 | 0.006677 | 107 | 0.2719 | 1.54E-15 | 0.1948 |
| 0.0053 | 0.09565 | 28.37 | 0.077 | 8.71E-09 | 0.9901 |
| 0.0004 | 0.02592 | 113.7 | 0.1458 | 1.91E-42 | 0.4292 |
| 0.0004 | 0.01464 | 84.15 | 0.1968 | 3.23E-39 | 0.1379 |
| 0.0073 | 0.004551 | 20.64 | 0.3565 | 8.60E-12 | 0.8211 |
| 0.0116 | 0.01747 | 16.98 | 0.1798 | 5.33E-09 | 0.5109 |
| 0.0001 | 0.02948 | 132.8 | 0.139 | 6.61E-42 | 0.5807 |
| 0.0433 | 0.01417 | 8.691 | 0.1878 | 4.67E-08 | 0.4964 |
| 0.0004 | 0.006105 | 85.45 | 0.3017 | 2.03E-19 | 0.4411 |
| 0.0007 | 0.005822 | 62.22 | 0.319 | 8.89E-11 | 0.0912494 |
| 0.0043 | 0.03475 | 26.99 | 0.1264 | 4.71E-10 | 0.2551 |
| 0.0012 | 0.01487 | 49.95 | 0.1927 | 6.43E-15 | 0.1099 |
| 0.0018 | 0.011 | 42.76 | 0.2174 | 2.29E-12 | 0.692 |
| 0.0161 | 0.01749 | 14.27 | 0.181 | 2.00E-09 | 0.6317 |
| 0.0031 | 0.04884 | 32.62 | 0.1058 | 3.18E-09 | 0.2292 |
| 0.1892 | 0.29 | 0.02163 | 0.0503 | 2.66E-08 | 0.4717 |
| 0.0191 | 0.04703 | 0.06626 | 0.1075 | 2.71E-09 | 0.0923103 |
| 0 | 0.02609 | 2.063 | 0.1436 | 5.88E-09 | 0.145 |
| 0.4729 | 0.602 | 0.02653 | 0.0469 | 3.00E-28 | 0.9424 |
| 0.7204 | 0.6075 | 0.03266 | 0.047 | 1.42E-09 | 0.6659 |
| 0.1152 | 0.01396 | 0.04891 | 0.1985 | 1.15E-08 | 0.513499 |
| 0.1642 | 0.1496 | 0.04043 | 0.0671 | 1.42E-14 | 0.01494 |
| 0.3759 | 0.4 | 0.02774 | 0.0465 | 1.08E-08 | 0.3573 |
| 0.463 | 0.4824 | 0.02696 | 0.0464 | 1.37E-12 | 0.0963696 |
| 0.1269 | 0.01544 | 0.04595 | 0.1845 | 1.49E-13 | 0.0473304 |
| 0.2476 | 0.4082 | 0.02954 | 0.0466 | 2.91E-65 | 0.4176 |
| 0.124 | 0.06438 | 0.03837 | 0.0942 | 1.19E-09 | 0.9579 |
| 0.3117 | 0.1327 | 0.02967 | 0.0679 | 1.72E-08 | 0.5138 |
| 0.1325 | 0.1866 | 0.0376 | 0.0595 | 9.14E-11 | 0.2541 |
| 0.4557 | 0.49 | 0.03022 | 0.0487 | 4.00E-76 | 0.8913 |
| 0.0888 | 0.04555 | 0.04672 | 0.112 | 3.60E-09 | 0.3618 |
| 0.5524 | 0.4935 | 0.02741 | 0.0458 | 1.55E-08 | 0.5766 |
| 0.3815 | 0.2061 | 0.02491 | 0.0565 | 2.51E-08 | 0.3408 |
| 0.0971 | 0.05673 | 0.04099 | 0.0996 | 3.61E-13 | 0.1615 |
| 0.1839 | 0.008356 | 0.03712 | 0.2583 | 4.52E-09 | 0.0398602 |
| 0.8748 | 0.8829 | 0.03723 | 0.0712 | 2.88E-08 | 0.722 |
| 0.203 | 0.1824 | 0.0315 | 0.0592 | 2.00E-09 | 0.5057 |
| 0.2425 | 0.3066 | 0.02865 | 0.0498 | 9.31E-29 | 0.2701 |
| 0.0972 | 0.027 | 0.04238 | 0.1409 | 2.83E-08 | 0.795 |
| 0.7067 | 0.6684 | 0.03061 | 0.058 | 1.77E-08 | 0.0760099 |
| 0.0004 | 0.05048 | 3.393 | 0.1049 | 3.21E-08 | 0.5733 |
| 0.0019 | 0.07432 | 1.725 | 0.0854 | 1.62E-08 | 0.865 |
| 0.0003 | 0.003652 | 4.296 | 0.3673 | 4.81E-10 | 0.288 |
| 0.0023 | 0.01788 | 1.585 | 0.1745 | 5.47E-09 | 0.4125 |
| 0.0022 | 0.006809 | 1.564 | 0.2859 | 1.51E-08 | 0.4315 |
| 0.0006 | 0.02165 | 3.205 | 0.162 | 2.27E-08 | 0.3786 |
| 0.0006 | 0.01123 | 3.301 | 0.2092 | 1.35E-11 | 0.4984 |
| 0.0016 | 0.01286 | 1.782 | 0.2099 | 2.50E-09 | 0.3829 |

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|---|---|---|---|---|---|
| 0.0006 | 0.0029 | 3.407 | 0.4615 | 2.33E-08 | 0.6389 |
| 0.0004 | 0.004817 | 3.342 | 0.336 | 2.10E-08 | 0.8796 |
| 0.0001 | 0.00569 | 5.796 | 0.3117 | 1.53E-08 | 0.634699 |
| 0.0001 | 0.03561 | 5.804 | 0.1243 | 5.41E-09 | 0.490999 |
| 0.0001 | 0.01246 | 6.272 | 0.2079 | 6.06E-09 | 0.257 |
| 0.0018 | 0.025 | 2.243 | 0.1467 | 1.98E-08 | 0.6163 |
| 0.0007 | 0.003013 | 2.92 | 0.416 | 4.60E-08 | 0.1934 |
| 0.0006 | 0.03653 | 3.141 | 0.1186 | 1.59E-15 | 0.1471 |
| 0.0013 | 0.05676 | 1.881 | 0.0961 | 1.00E-08 | 0.5947 |
| 0.0006 | 0.01141 | 3.154 | 0.2184 | 1.58E-13 | 0.3347 |
| 0.0003 | 0.03052 | 3.886 | 0.1353 | 3.38E-08 | 0.5121 |
| 0.0003 | 0.03101 | 3.906 | 0.1314 | 9.81E-10 | 0.8367 |
| 0.0001 | 0.02148 | 5.736 | 0.1523 | 6.30E-09 | 0.8212 |
| 0.0001 | 0.03207 | 8.845 | 0.1286 | 7.92E-09 | 0.00852001 |
| 0.0001 | 0.006401 | 7.413 | 0.3078 | 9.65E-09 | 0.3256 |
| 0.0001 | 0.02786 | 5.716 | 0.1371 | 1.03E-08 | 0.723299 |
| 0.0003 | 0.02668 | 4.095 | 0.1448 | 3.97E-10 | 0.2472 |
| 0.0003 | 0.02849 | 3.924 | 0.136 | 3.08E-15 | 0.4165 |
| 0.0001 | 0.002981 | 5.744 | 0.4287 | 7.31E-09 | 0.1653 |
| 0.0006 | 0.04858 | 2.811 | 0.1064 | 2.10E-08 | 0.2171 |
| 0.001 | 0.02648 | 2.205 | 0.1426 | 2.22E-08 | 0.4901 |
| 0.0006 | 0.009832 | 3.072 | 0.238 | 3.62E-09 | 0.3512 |
| 0.0025 | 0.03283 | 1.56 | 0.1309 | 4.90E-08 | 0.0339399 |
| 0.0099 | 0.002617 | 0.763 | 0.4878 | 5.14E-09 | 0.1122 |
| 0.0003 | 0.06652 | 4.058 | 0.0925 | 4.44E-18 | 0.3436 |
| 0.0019 | 0.01926 | 1.85 | 0.1802 | 1.58E-11 | 0.3192 |
| 0.0001 | 0.03867 | 5.65 | 0.1158 | 5.87E-21 | 0.3788 |
| 0 | 0.01599 | 6.463 | 0.1762 | 2.34E-09 | 0.7826 |
| 0.0092 | 0.02121 | 0.8043 | 0.1553 | 2.04E-08 | 0.0950802 |
| 0.0019 | 0.03554 | 1.681 | 0.1229 | 3.74E-08 | 0.747699 |
| 0.0001 | 0.008568 | 5.703 | 0.2533 | 1.26E-17 | 0.8211 |
| 0.0001 | 0.01705 | 5.644 | 0.1787 | 5.19E-09 | 0.525801 |
| 0.0003 | 0.01378 | 4.31 | 0.2054 | 7.31E-13 | 0.9283 |
| 0.0001 | 0.01884 | 5.695 | 0.1662 | 9.31E-12 | 0.1197 |
| 0.0001 | 0.02256 | 4.737 | 0.1573 | 9.74E-16 | 0.7954 |
| 0.0001 | 0.02639 | 5.751 | 0.1443 | 4.82E-19 | 0.4631 |
| 0.0001 | 0.01206 | 5.557 | 0.2141 | 6.60E-19 | 0.2241 |
| 0.0001 | 0.01669 | 5.64 | 0.1805 | 1.16E-20 | 0.1987 |
| 0.0015 | 0.03025 | 1.94 | 0.1312 | 2.13E-11 | 0.2836 |
| 0.0001 | 0.02344 | 5.85 | 0.1482 | 4.56E-09 | 0.7009 |
| 0.0006 | 0.018 | 3.224 | 0.1743 | 8.99E-10 | 0.2358 |
| 0.0003 | 0.01938 | 4.049 | 0.1651 | 3.92E-09 | 0.1525 |
| 0 | 0.03086 | 11.59 | 0.1348 | 5.21E-18 | 0.4177 |
| 0.0022 | 0.01047 | 1.652 | 0.2299 | 4.84E-08 | 0.6742 |
| 0.0006 | 0.002231 | 4.191 | 0.487 | 4.38E-10 | 0.738401 |
| 0.0003 | 0.006677 | 4.474 | 0.2719 | 4.37E-08 | 0.1948 |
| 0.0004 | 0.02592 | 4.922 | 0.1458 | 3.94E-14 | 0.4292 |
| 0.0001 | 0.02948 | 5.793 | 0.139 | 1.44E-09 | 0.5807 |
| 0.0001 | 0.01697 | 7.703 | 0.1794 | 7.70E-09 | 0.2188 |
| 0.1639 | 0.2492 | 0.03229 | 0.0522 | 4.61E-13 | 0.0569102 |
| 0.5685 | 0.3828 | 0.02391 | 0.047 | 1.41E-15 | 0.753101 |
| 0.1639 | 0.2492 | 0.03122 | 0.0522 | 1.98E-15 | 0.0569102 |
| 0.0354 | 0.007566 | 0.06431 | 0.2613 | 2.51E-10 | 0.4245 |
| 0.5685 | 0.3828 | 0.02306 | 0.047 | 1.51E-23 | 0.753101 |
| 0.1639 | 0.2492 | 0.03229 | 0.0522 | 4.61E-13 | 0.0569102 |
| 0.5685 | 0.3828 | 0.02391 | 0.047 | 1.41E-15 | 0.753101 |
| 0.328 | 0.4255 | 0.01937 | 0.0466 | 4.56E-08 | 0.0537205 |
| 0.5294 | 0.5705 | 0.02863 | 0.0461 | 1.29E-08 | 0.0560803 |

| | | | | | |
|---|---|---|---|---|---|
| 0.2464 | 0.2876 | 0.03163 | 0.0507 | 5.31E-18 | 0.9298 |
| 0.2895 | 0.4056 | 0.02869 | 0.0463 | 3.14E-14 | 0.4084 |
| 0.5139 | 0.5759 | 0.0249 | 0.0465 | 3.85E-59 | 0.858 |
| 0.3446 | 0.318 | 0.02711 | 0.0494 | 1.18E-11 | 0.301 |
| 0.0524 | 0.003504 | 0.05593 | 0.4016 | 1.14E-20 | 0.3531 |
| 0.4682 | 0.5392 | 0.01936 | 0.0454 | 0.00E+00 | 0.713001 |
| 0.0675 | 0.01732 | 0.05056 | 0.1799 | 1.12E-18 | 0.825 |
| 0.2888 | 0.4056 | 0.02838 | 0.0463 | 1.39E-10 | 0.4084 |
| 0.5141 | 0.5759 | 0.02472 | 0.0465 | 8.03E-56 | 0.858 |
| 0.3439 | 0.318 | 0.02673 | 0.0494 | 5.32E-13 | 0.301 |
| 0.4687 | 0.5392 | 0.01892 | 0.0454 | 0.00E+00 | 0.714 |
| 0.0675 | 0.01732 | 0.0499 | 0.1799 | 2.70E-21 | 0.825 |
| 0.9472 | 0.9963 | 0.0553 | 0.3874 | 1.53E-20 | 0.2708 |
| 0.2894 | 0.4056 | 0.02875 | 0.0463 | 5.63E-11 | 0.4084 |
| 0.514 | 0.5759 | 0.02528 | 0.0465 | 1.80E-45 | 0.858 |
| 0.2213 | 0.2727 | 0.03146 | 0.0511 | 3.06E-15 | 0.4505 |
| 0.4687 | 0.5392 | 0.02116 | 0.0454 | 3.74E-304 | 0.717 |
| 0.0675 | 0.01732 | 0.0511 | 0.1799 | 4.74E-11 | 0.825 |
| 0.2888 | 0.4056 | 0.02836 | 0.0463 | 5.61E-11 | 0.4084 |
| 0.5141 | 0.5759 | 0.02489 | 0.0465 | 1.32E-44 | 0.858 |
| 0.3439 | 0.318 | 0.02672 | 0.0494 | 2.05E-12 | 0.301 |
| 0.0528 | 0.003504 | 0.05532 | 0.4016 | 1.08E-15 | 0.3531 |
| 0.4686 | 0.5392 | 0.02033 | 0.0454 | 0.00E+00 | 0.727301 |
| 0.0675 | 0.01732 | 0.05014 | 0.1799 | 6.86E-13 | 0.825 |
| 0.6527 | 0.7737 | 0.02896 | 0.0547 | 2.18E-09 | 0.562101 |
| 0.0187 | 0.009385 | 0.1053 | 0.231 | 2.34E-17 | 0.4224 |
| 0.0457 | 0.003723 | 0.06675 | 0.3907 | 1.47E-18 | 0.0329602 |
| 0.0884 | 0.04667 | 0.04886 | 0.1096 | 4.45E-08 | 0.2993 |
| 0.4728 | 0.5392 | 0.0262 | 0.0454 | 5.68E-74 | 0.713801 |
| 0.0887 | 0.01822 | 0.05995 | 0.1728 | 8.86E-18 | 0.294 |
| 0.0346 | 0.02483 | 0.09169 | 0.1486 | 1.25E-14 | 0.3053 |
| 0.0517 | 0.00594 | 0.07979 | 0.3084 | 3.18E-10 | 0.8408 |
| 0.061 | 0.07194 | 0.07005 | 0.0886 | 9.72E-18 | 0.1341 |
| 0.1375 | 0.1086 | 0.04978 | 0.073 | 7.45E-21 | 0.9785 |
| 0.6486 | 0.7395 | 0.03604 | 0.0518 | 2.82E-10 | 0.3339 |
| 0.025 | 0.01548 | 0.1101 | 0.1927 | 1.74E-11 | 0.3817 |
| 0.0872 | 0.01822 | 0.04473 | 0.1728 | 4.59E-33 | 0.294 |
| 0.0364 | 0.02483 | 0.06516 | 0.1486 | 3.00E-29 | 0.3053 |
| 0.0527 | 0.00594 | 0.05733 | 0.3084 | 1.61E-20 | 0.8408 |
| 0.0621 | 0.07194 | 0.05103 | 0.0886 | 2.15E-23 | 0.1341 |
| 0.6417 | 0.7395 | 0.02589 | 0.0518 | 5.47E-16 | 0.3339 |
| 0.1407 | 0.1064 | 0.03597 | 0.0738 | 5.11E-35 | 0.864 |
| 0.0263 | 0.01548 | 0.07785 | 0.1927 | 6.86E-19 | 0.3817 |
| 0.0874 | 0.01822 | 0.04481 | 0.1728 | 9.61E-29 | 0.294 |
| 0.0365 | 0.02483 | 0.06509 | 0.1486 | 3.09E-30 | 0.3053 |
| 0.0526 | 0.00594 | 0.05739 | 0.3084 | 1.44E-19 | 0.8408 |
| 0.325 | 0.5036 | 0.02694 | 0.0456 | 6.47E-11 | 0.5836 |
| 0.0622 | 0.07194 | 0.05104 | 0.0886 | 5.44E-25 | 0.1341 |
| 0.6418 | 0.7395 | 0.02591 | 0.0518 | 5.08E-17 | 0.3339 |
| 0.1406 | 0.1064 | 0.03602 | 0.0738 | 4.86E-33 | 0.864 |
| 0.0264 | 0.01548 | 0.07772 | 0.1927 | 5.94E-20 | 0.3817 |
| 0.0875 | 0.01822 | 0.04473 | 0.1728 | 5.92E-30 | 0.294 |
| 0.0365 | 0.02483 | 0.06509 | 0.1486 | 3.48E-30 | 0.3053 |
| 0.0526 | 0.00594 | 0.05734 | 0.3084 | 1.41E-20 | 0.8408 |
| 0.325 | 0.5036 | 0.02694 | 0.0456 | 3.64E-10 | 0.5836 |
| 0.0622 | 0.07194 | 0.05105 | 0.0886 | 1.87E-24 | 0.1341 |
| 0.6419 | 0.7395 | 0.0259 | 0.0518 | 5.51E-17 | 0.3339 |
| 0.1407 | 0.1064 | 0.036 | 0.0738 | 3.06E-33 | 0.864 |

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|---|---|---|---|---|---|
| 0.0264 | 0.01548 | 0.07772 | 0.1927 | 1.11E-19 | 0.3817 |
| 0.0874 | 0.01822 | 0.0448 | 0.1728 | 3.32E-28 | 0.294 |
| 0.0365 | 0.02483 | 0.065 | 0.1486 | 2.97E-31 | 0.3053 |
| 0.099 | 0.08743 | 0.03362 | 0.081 | 0.00E+00 | 0.484 |
| 0.0526 | 0.00594 | 0.05731 | 0.3084 | 9.77E-21 | 0.8408 |
| 0.325 | 0.5036 | 0.02691 | 0.0456 | 2.29E-11 | 0.5836 |
| 0.0622 | 0.07194 | 0.051 | 0.0886 | 3.97E-25 | 0.1341 |
| 0.6418 | 0.7395 | 0.0259 | 0.0518 | 3.82E-17 | 0.3339 |
| 0.1406 | 0.1064 | 0.03601 | 0.0738 | 3.27E-32 | 0.864 |
| 0.0264 | 0.01548 | 0.07763 | 0.1927 | 1.10E-20 | 0.3817 |
| 0.0874 | 0.01822 | 0.04491 | 0.1728 | 1.23E-28 | 0.294 |
| 0.0365 | 0.02483 | 0.06516 | 0.1486 | 2.27E-30 | 0.3053 |
| 0.0526 | 0.00594 | 0.05747 | 0.3084 | 1.09E-19 | 0.8408 |
| 0.325 | 0.5036 | 0.02696 | 0.0456 | 5.25E-12 | 0.5836 |
| 0.0622 | 0.07194 | 0.05113 | 0.0886 | 2.84E-24 | 0.1341 |
| 0.6418 | 0.7395 | 0.02596 | 0.0518 | 1.16E-16 | 0.3339 |
| 0.1406 | 0.1064 | 0.03609 | 0.0738 | 1.22E-32 | 0.864 |
| 0.0264 | 0.01548 | 0.0778 | 0.1927 | 1.78E-20 | 0.3817 |
| 0.0874 | 0.01822 | 0.04476 | 0.1728 | 4.65E-32 | 0.294 |
| 0.0365 | 0.02483 | 0.06518 | 0.1486 | 1.97E-29 | 0.3053 |
| 0.099 | 0.08743 | 0.03385 | 0.081 | 0.00E+00 | 0.484 |
| 0.0526 | 0.00594 | 0.05744 | 0.3084 | 2.50E-20 | 0.8408 |
| 0.3253 | 0.5036 | 0.02698 | 0.0456 | 1.86E-10 | 0.5836 |
| 0.0622 | 0.07194 | 0.05113 | 0.0886 | 1.71E-23 | 0.1341 |
| 0.6419 | 0.7395 | 0.02594 | 0.0518 | 2.44E-16 | 0.3339 |
| 0.1407 | 0.1064 | 0.03602 | 0.0738 | 3.75E-34 | 0.864 |
| 0.0264 | 0.01548 | 0.07783 | 0.1927 | 1.97E-19 | 0.3817 |
| 0.0873 | 0.01822 | 0.0449 | 0.1728 | 1.86E-25 | 0.294 |
| 0.0365 | 0.02483 | 0.06556 | 0.1486 | 2.04E-24 | 0.3053 |
| 0.0525 | 0.00594 | 0.05763 | 0.3084 | 1.73E-16 | 0.8408 |
| 0.0622 | 0.07194 | 0.05131 | 0.0886 | 7.95E-21 | 0.1341 |
| 0.6419 | 0.7395 | 0.026 | 0.0518 | 5.84E-16 | 0.3339 |
| 0.1406 | 0.1064 | 0.03616 | 0.0738 | 1.32E-28 | 0.864 |
| 0.099 | 0.08647 | 0.03524 | 0.0813 | 3.43E-282 | 0.449 |
| 0.0264 | 0.01548 | 0.07803 | 0.1927 | 1.94E-17 | 0.3817 |
| 0.0874 | 0.01822 | 0.04486 | 0.1728 | 1.40E-27 | 0.294 |
| 0.0365 | 0.02483 | 0.0653 | 0.1486 | 3.37E-29 | 0.3053 |
| 0.0527 | 0.00594 | 0.05757 | 0.3084 | 7.25E-17 | 0.8408 |
| 0.0622 | 0.07194 | 0.05119 | 0.0886 | 1.95E-23 | 0.1341 |
| 0.3342 | 0.5043 | 0.02702 | 0.0457 | 1.93E-08 | 0.585901 |
| 0.6418 | 0.7395 | 0.02597 | 0.0518 | 7.67E-18 | 0.3339 |
| 0.1406 | 0.1064 | 0.03608 | 0.0738 | 6.31E-32 | 0.864 |
| 0.0996 | 0.08693 | 0.03455 | 0.0811 | 0.00E+00 | 0.4555 |
| 0.0264 | 0.01548 | 0.0779 | 0.1927 | 3.78E-19 | 0.3817 |
| 0.5726 | 0.6967 | 0.02309 | 0.0497 | 9.71E-09 | 0.5909 |
| 0.7661 | 0.7338 | 0.02546 | 0.0517 | 3.08E-70 | 0.0563495 |
| 0.3813 | 0.4421 | 0.0294 | 0.0551 | 9.31E-09 | 0.1011 |
| 0.4182 | 0.4821 | 0.02426 | 0.0454 | 1.46E-09 | 0.1199 |
| 0.1007 | 0.1827 | 0.04195 | 0.0596 | 5.73E-32 | 0.821 |
| 0.5141 | 0.5759 | 0.02502 | 0.0465 | 2.04E-56 | 0.858 |
| 0.0528 | 0.003504 | 0.05578 | 0.4016 | 3.17E-23 | 0.3531 |
| 0.4262 | 0.4946 | 0.01935 | 0.0455 | 0.00E+00 | 0.627001 |
| 0.3 | 0.2515 | 0.02842 | 0.0528 | 1.28E-10 | 0.2892 |
| 0.0588 | 0.01548 | 0.05417 | 0.1886 | 7.59E-25 | 0.8607 |
| 0.1007 | 0.1827 | 0.04256 | 0.0596 | 2.76E-26 | 0.821 |
| 0.514 | 0.5759 | 0.02528 | 0.0465 | 3.19E-56 | 0.858 |
| 0.9692 | 0.993 | 0.07576 | 0.2797 | 1.52E-08 | 0.630999 |
| 0.2213 | 0.2727 | 0.03174 | 0.0511 | 1.33E-15 | 0.4505 |

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|---|---|---|---|---|---|
| 0.4073 | 0.5273 | 0.02661 | 0.0456 | 4.74E-19 | 0.7571 |
| 0.6348 | 0.662 | 0.02725 | 0.0486 | 5.38E-09 | 0.2447 |
| 0.574 | 0.5056 | 0.02069 | 0.0455 | 0.00E+00 | 0.6805 |
| 0.1009 | 0.1827 | 0.04007 | 0.0596 | 4.50E-28 | 0.821 |
| 0.5141 | 0.5759 | 0.02378 | 0.0465 | 3.17E-60 | 0.858 |
| 0.4259 | 0.4946 | 0.01893 | 0.0455 | 0.00E+00 | 0.6276 |
| 0.4068 | 0.5273 | 0.0251 | 0.0456 | 1.06E-21 | 0.7571 |
| 0.0211 | 0.01338 | 0.08639 | 0.2026 | 7.61E-15 | 0.1067 |
| 0.9472 | 0.9963 | 0.0533 | 0.3874 | 2.86E-22 | 0.2708 |
| 0.1007 | 0.1827 | 0.04083 | 0.0596 | 6.27E-39 | 0.821 |
| 0.5141 | 0.5759 | 0.02417 | 0.0465 | 2.50E-73 | 0.858 |
| 0.9693 | 0.993 | 0.07322 | 0.2797 | 1.08E-08 | 0.630999 |
| 0.0528 | 0.003504 | 0.0542 | 0.4016 | 1.49E-31 | 0.3531 |
| 0.6359 | 0.662 | 0.0262 | 0.0486 | 2.44E-16 | 0.2447 |
| 0.0716 | 0.02708 | 0.0485 | 0.1441 | 3.13E-08 | 0.781 |
| 0.5738 | 0.5053 | 0.01733 | 0.0454 | 0.00E+00 | 0.6363 |
| 0.0588 | 0.01548 | 0.05272 | 0.1886 | 8.25E-31 | 0.8607 |
| 0.5276 | 0.4608 | 0.02665 | 0.0454 | 7.84E-28 | 0.7274 |
| 0.4865 | 0.2828 | 0.02905 | 0.061 | 1.11E-12 | 0.5346 |
| 0.4796 | 0.6244 | 0.029 | 0.0478 | 2.73E-09 | 0.696899 |
| 0.4269 | 0.4946 | 0.02713 | 0.0455 | 3.43E-16 | 0.627899 |
| 0.1482 | 0.2489 | 0.03815 | 0.0529 | 1.41E-11 | 0.1369 |
| 0.4466 | 0.26 | 0.02517 | 0.0523 | 5.30E-108 | 0.5358 |
| 0.0324 | 0.05182 | 0.07604 | 0.1042 | 3.51E-09 | 0.945 |
| 0.5156 | 0.5759 | 0.0273 | 0.0465 | 1.78E-43 | 0.858 |
| 0.4053 | 0.5273 | 0.02819 | 0.0456 | 2.19E-16 | 0.7571 |
| 0.3848 | 0.3462 | 0.02839 | 0.0477 | 3.43E-21 | 0.6829 |
| 0.5709 | 0.5053 | 0.02079 | 0.0454 | 0.00E+00 | 0.6363 |
| 0.5156 | 0.5759 | 0.02621 | 0.0465 | 4.05E-64 | 0.858 |
| 0.3854 | 0.3468 | 0.02778 | 0.0477 | 1.54E-27 | 0.6838 |
| 0.4053 | 0.5273 | 0.02755 | 0.0456 | 1.82E-21 | 0.7571 |
| 0.0211 | 0.01338 | 0.09629 | 0.2026 | 3.84E-09 | 0.1067 |
| 0.4719 | 0.5392 | 0.01665 | 0.0454 | 0.00E+00 | 0.713099 |
| 0.9466 | 0.9958 | 0.05908 | 0.3665 | 1.06E-13 | 0.5316 |
| 0.5156 | 0.5759 | 0.02725 | 0.0465 | 7.28E-47 | 0.858 |
| 0.4288 | 0.4946 | 0.02097 | 0.0455 | 0.00E+00 | 0.6276 |
| 0.3854 | 0.3468 | 0.02836 | 0.0477 | 2.24E-23 | 0.6838 |
| 0.4053 | 0.5273 | 0.02817 | 0.0456 | 6.97E-18 | 0.7571 |
| 0.8479 | 0.6771 | 0.03859 | 0.0488 | 1.32E-08 | 0.851 |
| 0.5153 | 0.5759 | 0.02737 | 0.0465 | 1.87E-12 | 0.858 |
| 0.3851 | 0.3462 | 0.02761 | 0.0477 | 3.22E-11 | 0.6829 |
| 0.5156 | 0.5759 | 0.02758 | 0.0465 | 7.66E-09 | 0.858 |
| 0.0187 | 0.009385 | 0.1041 | 0.231 | 3.45E-11 | 0.4224 |
| 0.0457 | 0.003723 | 0.06591 | 0.3907 | 4.44E-15 | 0.0329602 |
| 0.4719 | 0.5392 | 0.02537 | 0.0454 | 5.03E-95 | 0.713099 |
| 0.5717 | 0.8191 | 0.02793 | 0.0594 | 1.67E-26 | 0.0233201 |
| 0.5141 | 0.5759 | 0.02377 | 0.0465 | 4.54E-61 | 0.858 |
| 0.0528 | 0.003504 | 0.05308 | 0.4016 | 2.14E-25 | 0.3531 |
| 0.2999 | 0.2515 | 0.02702 | 0.0528 | 3.88E-14 | 0.2892 |
| 0.4686 | 0.5393 | 0.01764 | 0.0454 | 0.00E+00 | 0.7212 |
| 0.0674 | 0.01732 | 0.04825 | 0.1799 | 2.12E-18 | 0.825 |
| 0.1106 | 0.1393 | 0.03952 | 0.0663 | 3.83E-08 | 0.6193 |
| 0.3258 | 0.5036 | 0.02554 | 0.0456 | 7.00E-84 | 0.5836 |
| 0.0455 | 0.02257 | 0.06056 | 0.1503 | 1.58E-09 | 0.3889 |
| 0.146 | 0.2525 | 0.0334 | 0.0524 | 7.30E-96 | 0.6859 |
| 0.2439 | 0.1955 | 0.03721 | 0.0576 | 6.15E-33 | 0.9393 |
| 0.2082 | 0.3629 | 0.03172 | 0.0475 | 7.06E-09 | 0.5005 |
| 0.5911 | 0.6569 | 0.02624 | 0.048 | 5.23E-16 | 0.8306 |

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|---|---|---|---|---|---|
| 0.0044 | 0.07472 | 0.1913 | 0.0865 | 1.55E-13 | 0.9393 |
| 0.0145 | 0.1071 | 0.1074 | 0.0746 | 4.42E-09 | 0.4781 |
| 0.2082 | 0.3629 | 0.03172 | 0.0475 | 4.89E-08 | 0.5005 |
| 0.5911 | 0.6569 | 0.02627 | 0.048 | 1.36E-13 | 0.8306 |
| 0.0044 | 0.07472 | 0.1912 | 0.0865 | 4.29E-13 | 0.9393 |
| 0.0145 | 0.1071 | 0.1074 | 0.0746 | 1.58E-08 | 0.4781 |
| 0.2083 | 0.3629 | 0.02982 | 0.0475 | 2.56E-14 | 0.5005 |
| 0.5475 | 0.2659 | 0.02745 | 0.0518 | 2.40E-20 | 0.1757 |
| 0.0323 | 0.01568 | 0.07427 | 0.1991 | 4.45E-14 | 0.1852 |
| 0.3055 | 0.4841 | 0.02878 | 0.0457 | 1.59E-28 | 0.2911 |
| 0.0816 | 0.007247 | 0.04932 | 0.2823 | 7.71E-09 | 0.888 |
| 0.0124 | 0.01003 | 0.1208 | 0.2313 | 1.11E-10 | 0.702901 |
| 0.0308 | 0.04103 | 0.07632 | 0.1158 | 8.59E-10 | 0.1532 |
| 0.1086 | 0.01183 | 0.03832 | 0.2117 | 6.93E-155 | 0.453 |
| 0.552 | 0.2659 | 0.03646 | 0.0518 | 8.84E-11 | 0.1757 |
| 0.3428 | 0.3054 | 0.03665 | 0.0494 | 1.68E-12 | 0.4608 |
| 0.022 | 0.009927 | 0.08253 | 0.2334 | 3.35E-08 | 0.4938 |
| 0.2581 | 0.362 | 0.02764 | 0.0474 | 1.03E-22 | 0.7972 |
| 0.1514 | 0.1234 | 0.03486 | 0.0699 | 1.67E-09 | 0.4498 |
| 0.555 | 0.6242 | 0.02522 | 0.0473 | 1.54E-08 | 0.7304 |
| 0.325 | 0.5036 | 0.02661 | 0.0456 | 2.77E-15 | 0.5836 |
| 0.6318 | 0.73 | 0.02507 | 0.0511 | 3.83E-75 | 0.9949 |
| 0.5339 | 0.6136 | 0.02456 | 0.0467 | 7.42E-17 | 0.3091 |
| 0.0562 | 0.01053 | 0.05356 | 0.2321 | 2.74E-29 | 0.244 |
| 0.035 | 0.01079 | 0.06821 | 0.2353 | 1.20E-09 | 0.1699 |
| 0.469 | 0.3835 | 0.02574 | 0.0469 | 6.46E-09 | 0.0243198 |
| 0.076 | 0.1943 | 0.04909 | 0.0592 | 7.78E-11 | 0.0748497 |
| 0.0133 | 0.05822 | 0.109 | 0.0989 | 5.10E-10 | 0.271 |
| 0.015 | 0.001029 | 0.1006 | 0.7739 | 1.35E-08 | 0.1683 |
| 0.1328 | 0.0614 | 0.03627 | 0.0966 | 6.58E-58 | 0.3182 |
| 0.3268 | 0.5036 | 0.02582 | 0.0456 | 1.86E-48 | 0.5836 |
| 0.0453 | 0.0161 | 0.05885 | 0.1861 | 2.30E-15 | 0.2973 |
| 0.3064 | 0.3294 | 0.02775 | 0.0488 | 1.83E-09 | 0.02063 |
| 0.3064 | 0.3294 | 0.02779 | 0.0488 | 3.30E-18 | 0.02063 |
| 0.2194 | 0.2686 | 0.04157 | 0.0516 | 1.37E-17 | 0.0379001 |
| 0.0918 | 0.004023 | 0.06776 | 0.3601 | 1.54E-09 | 0.0852001 |
| 0.3574 | 0.6809 | 0.04076 | 0.0497 | 1.29E-18 | 0.21 |
| 0.2193 | 0.2686 | 0.04076 | 0.0516 | 2.14E-23 | 0.0379001 |
| 0.7156 | 0.5149 | 0.04306 | 0.0468 | 2.12E-08 | 0.4307 |
| 0.0917 | 0.004023 | 0.06679 | 0.3601 | 4.65E-09 | 0.0852001 |
| 0.3575 | 0.6809 | 0.04014 | 0.0497 | 8.64E-20 | 0.21 |
| 0.4017 | 0.2858 | 0.0252 | 0.0505 | 9.08E-10 | 0.5391 |
| 0.3458 | 0.05991 | 0.03241 | 0.0971 | 4.59E-09 | 0.8941 |
| 0.1514 | 0.1234 | 0.03488 | 0.0699 | 1.25E-08 | 0.4498 |
| 0.1224 | 0.01739 | 0.03761 | 0.1729 | 1.11E-11 | 0.5104 |
| 0.6318 | 0.73 | 0.0249 | 0.0511 | 1.88E-87 | 0.9949 |
| 0.1671 | 0.1852 | 0.03344 | 0.0591 | 2.13E-10 | 0.2733 |
| 0.0562 | 0.01053 | 0.05333 | 0.2321 | 1.49E-35 | 0.244 |
| 0.0272 | 0.05897 | 0.07713 | 0.0978 | 2.95E-08 | 0.5975 |
| 0.0304 | 0.04511 | 0.0725 | 0.1093 | 1.77E-08 | 0.4341 |
| 0.035 | 0.01079 | 0.06803 | 0.2353 | 1.57E-10 | 0.1699 |
| 0.1514 | 0.1234 | 0.03444 | 0.0699 | 1.30E-13 | 0.4498 |
| 0.1224 | 0.01739 | 0.03725 | 0.1729 | 5.23E-12 | 0.5104 |
| 0.555 | 0.6242 | 0.02494 | 0.0473 | 6.20E-09 | 0.7304 |
| 0.325 | 0.5036 | 0.02632 | 0.0456 | 7.07E-17 | 0.5836 |
| 0.6318 | 0.73 | 0.02417 | 0.0511 | 8.47E-120 | 0.9949 |
| 0.1671 | 0.1852 | 0.03299 | 0.0591 | 2.87E-15 | 0.2733 |
| 0.0239 | 0.03176 | 0.07925 | 0.1276 | 1.45E-08 | 0.0908594 |

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|---|---|---|---|---|---|
| 0.0562 | 0.01053 | 0.05246 | 0.2321 | 3.63E-46 | 0.244 |
| 0.035 | 0.01079 | 0.06717 | 0.2353 | 1.07E-13 | 0.1699 |
| 0.1136 | 0.01493 | 0.03939 | 0.19 | 2.67E-08 | 0.461 |
| 0.6669 | 0.8037 | 0.02627 | 0.0576 | 7.02E-09 | 0.6317 |
| 0.1513 | 0.1234 | 0.03485 | 0.0699 | 1.25E-08 | 0.4498 |
| 0.0718 | 0.01545 | 0.04922 | 0.1842 | 3.82E-08 | 0.9478 |
| 0.1224 | 0.01739 | 0.03759 | 0.1729 | 4.48E-11 | 0.5104 |
| 0.3251 | 0.5036 | 0.02671 | 0.0456 | 3.13E-09 | 0.5836 |
| 0.167 | 0.1852 | 0.03338 | 0.0591 | 6.60E-15 | 0.2733 |
| 0.0561 | 0.01053 | 0.05306 | 0.2321 | 8.02E-44 | 0.244 |
| 0.6313 | 0.729 | 0.02498 | 0.051 | 5.93E-78 | 0.9652 |
| 0.0272 | 0.05897 | 0.077 | 0.0978 | 1.39E-08 | 0.5975 |
| 0.4557 | 0.49 | 0.03152 | 0.0487 | 2.78E-08 | 0.8913 |
| 0.035 | 0.01079 | 0.06804 | 0.2353 | 9.62E-14 | 0.1699 |
| 0.1514 | 0.1234 | 0.03467 | 0.0699 | 2.23E-15 | 0.4498 |
| 0.0718 | 0.01545 | 0.0492 | 0.1842 | 1.69E-08 | 0.9478 |
| 0.1224 | 0.01739 | 0.03747 | 0.1729 | 1.93E-15 | 0.5104 |
| 0.555 | 0.6242 | 0.02512 | 0.0473 | 8.52E-11 | 0.7304 |
| 0.325 | 0.5036 | 0.02635 | 0.0456 | 2.48E-28 | 0.5836 |
| 0.6318 | 0.73 | 0.02439 | 0.0511 | 2.53E-118 | 0.9949 |
| 0.1671 | 0.1852 | 0.03313 | 0.0591 | 3.76E-21 | 0.2733 |
| 0.0239 | 0.03176 | 0.07974 | 0.1276 | 2.10E-11 | 0.0908594 |
| 0.0562 | 0.01053 | 0.05313 | 0.2321 | 1.02E-38 | 0.244 |
| 0.035 | 0.01079 | 0.06777 | 0.2353 | 2.09E-12 | 0.1699 |
| 0.1514 | 0.1234 | 0.03426 | 0.0699 | 1.59E-15 | 0.4498 |
| 0.1224 | 0.01739 | 0.03709 | 0.1729 | 1.33E-12 | 0.5104 |
| 0.555 | 0.6242 | 0.02479 | 0.0473 | 5.03E-11 | 0.7304 |
| 0.325 | 0.5036 | 0.02626 | 0.0456 | 1.14E-14 | 0.5836 |
| 0.6318 | 0.73 | 0.02368 | 0.0511 | 6.21E-147 | 0.9949 |
| 0.1671 | 0.1852 | 0.03291 | 0.0591 | 1.29E-10 | 0.2733 |
| 0.0239 | 0.03176 | 0.07874 | 0.1276 | 1.39E-11 | 0.0908594 |
| 0.0562 | 0.01053 | 0.05259 | 0.2321 | 3.42E-35 | 0.244 |
| 0.035 | 0.01079 | 0.06693 | 0.2353 | 4.84E-10 | 0.1699 |
| 0.0057 | 0.008924 | 0.2236 | 0.2495 | 3.04E-08 | 0.2054 |
| 0.5909 | 0.6569 | 0.02443 | 0.048 | 3.92E-08 | 0.8306 |
| 0.0044 | 0.07472 | 0.1759 | 0.0865 | 8.87E-10 | 0.9393 |
| 0.2969 | 0.1244 | 0.02599 | 0.0686 | 3.13E-13 | 0.7019 |
| 0.5907 | 0.6569 | 0.0267 | 0.048 | 3.74E-12 | 0.8306 |
| 0.0044 | 0.07472 | 0.1929 | 0.0865 | 4.23E-12 | 0.9393 |
| 0.2972 | 0.1244 | 0.02843 | 0.0686 | 2.15E-16 | 0.7019 |
| 0.5925 | 0.6569 | 0.02636 | 0.048 | 6.84E-22 | 0.8306 |
| 0.0041 | 0.07472 | 0.1979 | 0.0865 | 4.74E-14 | 0.9393 |
| 0.0033 | 0.01555 | 0.2396 | 0.1806 | 4.28E-11 | 0.3913 |
| 0.0149 | 0.01898 | 0.1104 | 0.1714 | 3.00E-10 | 0.2398 |
| 0.1947 | 0.01045 | 0.04474 | 0.2224 | 1.38E-08 | 0.858 |
| 0.1993 | 0.1823 | 0.03165 | 0.0594 | 3.07E-08 | 0.490601 |
| 0.0917 | 0.05364 | 0.04216 | 0.1022 | 1.03E-11 | 0.0685804 |
| 0.2425 | 0.3066 | 0.0286 | 0.0498 | 8.18E-23 | 0.2701 |
| 0.8737 | 0.8895 | 0.03693 | 0.0736 | 7.67E-09 | 0.6296 |
| 0.1124 | 0.01404 | 0.05167 | 0.1985 | 1.32E-08 | 0.4787 |
| 0.0001 | 0.02101 | 0.7922 | 0.1588 | 1.91E-08 | 0.2136 |
| 0.0001 | 0.006175 | 0.6021 | 0.3241 | 1.25E-08 | 0.3678 |
| 0.0001 | 0.01536 | 0.6773 | 0.1879 | 2.44E-08 | 0.1799 |
| 0.0001 | 0.01948 | 0.8459 | 0.168 | 1.92E-08 | 0.6479 |
| 0 | 0.01241 | 1.404 | 0.2057 | 1.37E-08 | 0.2265 |
| 0.0001 | 0.01916 | 0.7543 | 0.1643 | 1.60E-08 | 0.4207 |
| 0.0192 | 0.04703 | 0.06819 | 0.1075 | 3.97E-09 | 0.0923103 |
| 0 | 0.015 | 1.583 | 0.1838 | 9.88E-09 | 0.6888 |

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|---|---|---|---|---|---|
| 0 | 0.01115 | 1.55 | 0.2176 | 1.83E-08 | 0.3764 |
| 0.0004 | 0.01706 | 0.2979 | 0.1808 | 1.17E-09 | 0.3149 |
| 0.0001 | 0.003444 | 0.6914 | 0.4314 | 1.94E-08 | 0.9982 |
| 0.0001 | 0.01218 | 0.6683 | 0.206 | 1.63E-08 | 0.5877 |
| 0 | 0.02147 | 1.424 | 0.1618 | 4.27E-08 | 0.7826 |
| 0.0001 | 0.01393 | 1.199 | 0.1951 | 3.22E-08 | 0.542099 |
| 0.0001 | 0.01406 | 0.7251 | 0.205 | 4.54E-08 | 0.00490897 |
| 0.0001 | 0.04819 | 0.6678 | 0.1068 | 1.44E-08 | 0.0947305 |
| 0.0001 | 0.009705 | 0.6612 | 0.2396 | 8.68E-09 | 0.539699 |
| 0.0001 | 0.0231 | 0.6683 | 0.1543 | 1.63E-08 | 0.6612 |
| 0.0001 | 0.0277 | 0.67 | 0.146 | 3.11E-08 | 0.3049 |
| 0.0001 | 0.0271 | 0.6967 | 0.142 | 1.60E-08 | 0.631801 |
| 0.0001 | 0.03123 | 0.8386 | 0.1297 | 5.92E-09 | 0.8572 |
| 0 | 0.01026 | 1.346 | 0.2365 | 1.80E-08 | 0.2402 |
| 0.0001 | 0.0212 | 1.126 | 0.1589 | 8.69E-09 | 0.5461 |
| 0.0001 | 0.01076 | 0.7897 | 0.2294 | 1.13E-08 | 0.756201 |
| 0.0001 | 0.002281 | 0.6368 | 0.4835 | 3.12E-08 | 0.3532 |
| 0.0001 | 0.00465 | 0.8097 | 0.3461 | 2.34E-09 | 0.7052 |
| 0.0001 | 0.0156 | 0.6399 | 0.189 | 3.59E-10 | 0.8404 |
| 0 | 0.03402 | 2.197 | 0.1264 | 5.06E-10 | 0.01392 |
| 0.0001 | 0.004404 | 0.7256 | 0.3745 | 1.60E-08 | 0.3474 |
| 0.0001 | 0.02259 | 0.6805 | 0.1533 | 1.59E-08 | 0.9535 |
| 0.0001 | 0.02127 | 0.8599 | 0.1614 | 1.53E-08 | 0.9082 |
| 0.0001 | 0.01913 | 0.6771 | 0.1632 | 1.63E-08 | 0.8763 |
| 0.0001 | 0.004045 | 0.6644 | 0.3691 | 1.72E-08 | 0.7605 |
| 0.0001 | 0.02308 | 0.8111 | 0.1502 | 8.65E-09 | 0.781 |
| 0.0427 | 0.04467 | 0.06661 | 0.1101 | 7.57E-11 | 0.7071 |
| 0.1266 | 0.05503 | 0.04341 | 0.0994 | 7.21E-11 | 0.4454 |
| 0.228 | 0.2843 | 0.03189 | 0.0504 | 1.80E-15 | 0.6656 |
| 0.4762 | 0.2522 | 0.02804 | 0.0607 | 8.08E-12 | 0.0960904 |
| 0.4853 | 0.3897 | 0.02755 | 0.0468 | 2.20E-09 | 0.3381 |
| 0.2982 | 0.2507 | 0.02938 | 0.0524 | 3.14E-36 | 0.7486 |
| 0.0844 | 0.04891 | 0.04471 | 0.1071 | 1.72E-145 | 0.953 |
| 0.1975 | 0.05865 | 0.03441 | 0.098 | 1.45E-09 | 0.8625 |
| 0.0637 | 0.01496 | 0.05614 | 0.1875 | 1.64E-13 | 0.2532 |
| 0.0212 | 0.0311 | 0.0981 | 0.1319 | 4.35E-09 | 0.5098 |
| 0.0001 | 0.01039 | 4.684 | 0.2305 | 2.22E-08 | 0.2098 |
| 0.0003 | 0.008699 | 3.62 | 0.267 | 5.93E-11 | 0.3848 |
| 0.0003 | 0.01669 | 3.541 | 0.1884 | 2.61E-19 | 0.1668 |
| 0.0001 | 0.02383 | 4.486 | 0.1488 | 2.09E-11 | 0.9354 |
| 0.0001 | 0.01553 | 7.59 | 0.1863 | 2.92E-10 | 0.722099 |
| 0.0015 | 0.01707 | 1.738 | 0.1772 | 2.15E-08 | 0.626299 |
| 0.0004 | 0.003985 | 2.719 | 0.3626 | 1.62E-09 | 0.1049 |
| 0.0004 | 0.00608 | 3.261 | 0.3098 | 4.54E-14 | 0.9477 |
| 0.0006 | 0.002347 | 2.869 | 0.4887 | 3.65E-08 | 0.0585706 |
| 0.0047 | 0.0242 | 0.8953 | 0.1472 | 1.95E-09 | 0.5303 |
| 0.2185 | 0.2684 | 0.1686 | 0.0558 | 1.37E-10 | 0.1617 |
| 0.0072 | 0.03469 | 0.7441 | 0.1249 | 2.66E-09 | 0.7514 |
| 0.0004 | 0.0008742 | 3.685 | 0.8495 | 3.68E-08 | 0.1831 |
| 0.0003 | 0.01027 | 3.318 | 0.226 | 9.78E-09 | 0.9254 |
| 0.0004 | 0.021 | 2.979 | 0.1609 | 2.46E-12 | 0.0506804 |
| 0.0057 | 0.04981 | 0.79 | 0.1057 | 7.53E-09 | 0.745501 |
| 0.0003 | 0.005156 | 3.766 | 0.3261 | 1.47E-09 | 0.6957 |
| 0.0003 | 0.001378 | 3.766 | 0.6468 | 1.47E-09 | 0.6052 |
| 0.0003 | 0.02874 | 3.673 | 0.1338 | 2.35E-11 | 0.3212 |
| 0.0009 | 0.03815 | 2.018 | 0.1219 | 4.39E-10 | 0.768199 |
| 0.0015 | 0.002659 | 1.615 | 0.4623 | 1.08E-08 | 0.3183 |
| 0.0003 | 0.01136 | 3.188 | 0.2282 | 1.04E-08 | 0.0228302 |

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|---|---|---|---|---|---|
| 0.0003 | 0.007195 | 3.333 | 0.2648 | 9.41E-10 | 0.6214 |
| 0.0001 | 0.04281 | 4.27 | 0.111 | 1.66E-09 | 0.8398 |
| 0.001 | 0.01323 | 1.879 | 0.2167 | 1.67E-09 | 0.5309 |
| 0.0001 | 0.01787 | 4.91 | 0.1691 | 1.95E-10 | 0.0766496 |
| 0.0001 | 0.05876 | 8.178 | 0.0954 | 2.17E-10 | 0.572 |
| 0.0001 | 0.02024 | 4.936 | 0.1616 | 2.03E-09 | 0.8412 |
| 0.0003 | 0.03309 | 3.911 | 0.1279 | 2.31E-14 | 0.1148 |
| 0.0029 | 0.004329 | 1.098 | 0.3665 | 1.57E-10 | 0.4661 |
| 0.0003 | 0.05963 | 3.305 | 0.0943 | 2.50E-10 | 0.2165 |
| 0.0003 | 0.0241 | 3.429 | 0.1515 | 1.57E-16 | 0.6215 |
| 0.0018 | 0.001548 | 1.499 | 0.622 | 2.98E-13 | 0.4476 |
| 0.0032 | 0.03261 | 1.049 | 0.1323 | 1.52E-09 | 0.8492 |
| 0.0003 | 0.009892 | 3.324 | 0.226 | 1.37E-08 | 0.6494 |
| 0.0012 | 0.01777 | 1.865 | 0.1665 | 1.64E-08 | 0.00733804 |
| 0.0006 | 0.03298 | 53.88 | 0.1256 | 1.95E-08 | 0.1369 |
| 0.0025 | 0.01151 | 24.38 | 0.222 | 1.82E-08 | 0.0507902 |
| 0.0043 | 0.02316 | 19.64 | 0.1523 | 3.21E-10 | 0.994 |
| 0.0076 | 0.004316 | 15.24 | 0.3595 | 9.60E-09 | 0.679401 |
| 0.0003 | 0.006687 | 76.59 | 0.2873 | 7.32E-09 | 0.7934 |
| 0.0009 | 0.04173 | 45.35 | 0.1112 | 2.84E-10 | 0.6806 |
| 0.0006 | 0.00947 | 57.03 | 0.2396 | 1.48E-09 | 0.1928 |
| 0.0004 | 0.006754 | 63.56 | 0.2912 | 3.90E-12 | 0.6233 |
| 0.0001 | 0.02383 | 96.85 | 0.1488 | 1.16E-09 | 0.9354 |
| 0.0022 | 0.02511 | 29.35 | 0.1479 | 1.92E-09 | 0.8125 |
| 0.0001 | 0.01553 | 163.9 | 0.1863 | 2.52E-09 | 0.722099 |
| 0.0003 | 0.03165 | 75.02 | 0.1277 | 6.72E-09 | 0.7474 |
| 0.0003 | 0.008843 | 77.86 | 0.2475 | 7.79E-09 | 0.1025 |
| 0.0009 | 0.01369 | 45.23 | 0.2122 | 5.10E-10 | 0.9524 |
| 0.0015 | 0.01707 | 36.73 | 0.1772 | 7.23E-09 | 0.626299 |
| 0.0006 | 0.01123 | 58.05 | 0.2092 | 4.14E-11 | 0.4984 |
| 0.0001 | 0.03453 | 98.9 | 0.1247 | 6.57E-11 | 0.5409 |
| 0.0022 | 0.006729 | 28.26 | 0.2804 | 1.12E-09 | 0.1473 |
| 0.0075 | 0.01486 | 15.32 | 0.1941 | 4.04E-08 | 0.03743 |
| 0.0025 | 0.09396 | 26.69 | 0.0775 | 2.42E-09 | 0.0152901 |
| 0.0018 | 0.02138 | 32.14 | 0.1639 | 4.11E-10 | 0.1691 |
| 0.0013 | 0.01366 | 39.98 | 0.2026 | 1.55E-11 | 0.684699 |
| 0.0022 | 0.009754 | 34.06 | 0.2309 | 1.63E-08 | 0.936 |
| 0.0004 | 0.02407 | 66.04 | 0.1548 | 3.57E-08 | 0.9477 |
| 0.0004 | 0.00608 | 70.2 | 0.3098 | 2.03E-11 | 0.9477 |
| 0.0004 | 0.02194 | 68.87 | 0.1575 | 2.31E-08 | 0.8022 |
| 0.0035 | 0.0115 | 20.58 | 0.2203 | 1.24E-10 | 0.537 |
| 0.0003 | 0.003694 | 82.97 | 0.3915 | 2.71E-08 | 0.3847 |
| 0.001 | 0.02472 | 42.11 | 0.148 | 3.63E-08 | 0.02913 |
| 0 | 0.0227 | 391 | 0.1577 | 2.46E-08 | 0.382 |
| 0.0015 | 0.02228 | 34.49 | 0.1552 | 4.09E-08 | 0.1862 |
| 0.2188 | 0.2684 | 3.563 | 0.0558 | 1.74E-10 | 0.1617 |
| 0 | 0.03737 | 304.6 | 0.1181 | 3.88E-08 | 0.3112 |
| 0.0004 | 0.005701 | 67.08 | 0.3018 | 2.24E-21 | 0.8335 |
| 0.0048 | 0.01656 | 19.7 | 0.1848 | 1.89E-08 | 0.4562 |
| 0.0001 | 0.01777 | 98.43 | 0.1764 | 1.17E-15 | 0.2155 |
| 0.0004 | 0.002088 | 58.31 | 0.5593 | 2.46E-15 | 0.8379 |
| 0.0007 | 0.0466 | 45.06 | 0.1099 | 9.70E-09 | 0.8059 |
| 0.0147 | 0.02372 | 10.98 | 0.1503 | 9.24E-11 | 0.3521 |
| 0.0001 | 0.01402 | 98.17 | 0.1989 | 2.17E-08 | 0.5276 |
| 0.0028 | 0.03515 | 24.76 | 0.1259 | 9.76E-10 | 0.0571202 |
| 0.0037 | 0.04732 | 22.5 | 0.1083 | 2.87E-10 | 0.774599 |
| 0.0025 | 0.01734 | 26.59 | 0.1695 | 1.33E-09 | 0.2008 |
| 0.0001 | 0.02148 | 100.5 | 0.1523 | 4.68E-14 | 0.8212 |

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|---|---|---|---|---|---|
| 0.0004 | 0.001906 | 84.21 | 0.5781 | 4.51E-11 | 0.4759 |
| 0.0009 | 0.0153 | 43.23 | 0.1892 | 2.11E-09 | 0.1945 |
| 0.0003 | 0.01433 | 71.5 | 0.1988 | 1.23E-16 | 0.2888 |
| 0.0006 | 0.01504 | 56.32 | 0.1918 | 1.42E-08 | 0.3902 |
| 0.001 | 0.0285 | 41.16 | 0.1378 | 1.15E-09 | 0.0687907 |
| 0.0001 | 0.02077 | 100.6 | 0.1559 | 6.76E-13 | 0.3006 |
| 0.0003 | 0.0348 | 74.81 | 0.1234 | 1.06E-08 | 0.600101 |
| 0 | 0.001206 | 227.4 | 0.6469 | 2.03E-08 | 0.6398 |
| 0.0026 | 0.03 | 25.16 | 0.1376 | 4.22E-09 | 0.7668 |
| 0.0007 | 0.01699 | 47.21 | 0.1746 | 1.66E-09 | 0.853 |
| 0.0001 | 0.02786 | 100.1 | 0.1371 | 7.82E-14 | 0.723299 |
| 0.0057 | 0.04981 | 16.87 | 0.1057 | 2.27E-12 | 0.745501 |
| 0.0001 | 0.01338 | 98.95 | 0.2058 | 4.71E-20 | 0.8219 |
| 0.0003 | 0.005156 | 81.22 | 0.3261 | 6.10E-09 | 0.6957 |
| 0.0003 | 0.001378 | 81.22 | 0.6468 | 6.10E-09 | 0.6052 |
| 0.0141 | 0.003683 | 11.2 | 0.4116 | 4.77E-08 | 0.679 |
| 0.0007 | 0.01234 | 49.32 | 0.2134 | 1.09E-12 | 0.7993 |
| 0.0004 | 0.001393 | 58.46 | 0.6663 | 1.81E-19 | 0.813 |
| 0.0007 | 0.01232 | 53.66 | 0.2083 | 3.73E-10 | 0.1169 |
| 0.0004 | 0.02563 | 60.78 | 0.1446 | 4.24E-11 | 0.490399 |
| 0.0001 | 0.006139 | 90.65 | 0.2918 | 1.50E-11 | 0.1023 |
| 0.0009 | 0.0177 | 43.68 | 0.1726 | 2.82E-21 | 0.0689398 |
| 0.0001 | 0.002981 | 100.6 | 0.4287 | 5.25E-14 | 0.1653 |
| 0.2372 | 0.0221 | 4.094 | 0.1537 | 2.31E-08 | 0.8055 |
| 0.0053 | 0.03685 | 18.3 | 0.1199 | 3.25E-08 | 0.2995 |
| 0.0006 | 0.02616 | 56.2 | 0.1438 | 5.40E-09 | 0.6109 |
| 0.0003 | 0.004676 | 130 | 0.348 | 1.39E-14 | 0.9963 |
| 0.0006 | 0.0007598 | 56.32 | 1.0227 | 3.92E-09 | 0.7888 |
| 0.0003 | 0.007912 | 71.9 | 0.2585 | 2.39E-08 | 0.7867 |
| 0.0003 | 0.007808 | 114.1 | 0.2703 | 1.06E-08 | 0.1062 |
| 0.0037 | 0.05163 | 21.65 | 0.1056 | 1.80E-10 | 0.4577 |
| 0.0009 | 0.03815 | 43.13 | 0.1219 | 2.34E-13 | 0.768199 |
| 0.0007 | 0.02801 | 48.87 | 0.1393 | 2.16E-09 | 0.3036 |
| 0.9991 | 0.9832 | 42.74 | 0.1868 | 2.40E-20 | 0.9329 |
| 0.0009 | 0.06236 | 45.57 | 0.0932 | 1.91E-08 | 0.6509 |
| 0.0003 | 0.03902 | 71.13 | 0.1184 | 3.87E-09 | 0.8573 |
| 0.0003 | 0.022 | 74.65 | 0.1537 | 2.58E-08 | 0.5018 |
| 0.0001 | 0.01482 | 102 | 0.1955 | 4.91E-08 | 0.8848 |
| 0.0004 | 0.07938 | 98.8 | 0.0864 | 3.01E-08 | 0.8513 |
| 0.0001 | 0.04281 | 91.57 | 0.111 | 4.50E-15 | 0.8398 |
| 0.0003 | 0.0485 | 71.96 | 0.1064 | 2.09E-08 | 0.8389 |
| 0.0023 | 0.01095 | 27.52 | 0.2183 | 9.07E-11 | 0.6454 |
| 0.0001 | 0.01787 | 106 | 0.1691 | 1.37E-09 | 0.0766496 |
| 0.0007 | 0.03421 | 50.18 | 0.1262 | 3.93E-09 | 0.3533 |
| 0.0001 | 0.05876 | 176.6 | 0.0954 | 1.78E-09 | 0.572 |
| 0.001 | 0.01825 | 42.22 | 0.1746 | 2.78E-09 | 0.8929 |
| 0.0001 | 0.02024 | 106.6 | 0.1616 | 1.11E-08 | 0.8412 |
| 0.0003 | 0.03309 | 84.77 | 0.1279 | 3.56E-12 | 0.1148 |
| 0.0006 | 0.0006401 | 58.23 | 0.966 | 1.68E-09 | 0.0701504 |
| 0.0007 | 0.004708 | 59.27 | 0.3573 | 2.64E-10 | 0.8193 |
| 0.0022 | 0.03683 | 26.88 | 0.1233 | 6.76E-12 | 0.0787608 |
| 0.0006 | 0.02768 | 53.02 | 0.1396 | 1.87E-09 | 0.2858 |
| 0.0003 | 0.01562 | 72.98 | 0.183 | 3.29E-11 | 0.4691 |
| 0.0001 | 0.03127 | 99.63 | 0.1307 | 3.23E-09 | 0.6859 |
| 0.004 | 0.05743 | 21.68 | 0.0982 | 1.43E-08 | 0.9257 |
| 0.0004 | 0.001121 | 61.74 | 0.728 | 5.84E-11 | 0.5466 |
| 0.0073 | 0.005086 | 15.94 | 0.3581 | 2.66E-08 | 0.1888 |
| 0.0003 | 0.0241 | 73.99 | 0.1515 | 4.03E-13 | 0.6215 |

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|---|---|---|---|---|---|
| 0.0007 | 0.03759 | 46.74 | 0.122 | 1.55E-09 | 0.3387 |
| 0.0022 | 0.01575 | 27.77 | 0.1901 | 2.26E-11 | 0.681999 |
| 0.0018 | 0.001548 | 32.07 | 0.622 | 2.83E-12 | 0.4476 |
| 0.0032 | 0.03261 | 22.53 | 0.1323 | 8.23E-12 | 0.8492 |
| 0.0035 | 0.07302 | 23.48 | 0.0876 | 3.93E-10 | 0.2639 |
| 0.0016 | 0.02106 | 33.11 | 0.1615 | 1.74E-08 | 0.963 |
| 0.0006 | 0.01251 | 50.77 | 0.2033 | 2.11E-08 | 0.02031 |
| 0.0006 | 0.01727 | 61.08 | 0.1866 | 5.76E-10 | 0.4475 |
| 0.0072 | 0.01673 | 15.71 | 0.1816 | 4.64E-12 | 0.284 |
| 0.0004 | 0.02892 | 56.41 | 0.1397 | 2.28E-10 | 0.6859 |
| 0.0013 | 0.03326 | 37.24 | 0.1271 | 1.90E-12 | 0.2225 |
| 0.0125 | 0.004147 | 11.52 | 0.3745 | 1.29E-10 | 0.3848 |
| 0.0003 | 0.01148 | 70.79 | 0.2147 | 4.14E-08 | 0.531401 |
| 0.001 | 0.01034 | 42.01 | 0.2389 | 1.26E-08 | 0.6284 |
| 0.0004 | 0.02592 | 86.78 | 0.1458 | 2.08E-09 | 0.4292 |
| 0.0004 | 0.0252 | 71.92 | 0.1497 | 3.50E-08 | 0.2265 |
| 0.0003 | 0.01935 | 82.05 | 0.1737 | 3.97E-10 | 0.9263 |
| 0.0004 | 0.01683 | 66.09 | 0.179 | 2.59E-08 | 0.679 |
| 0.0034 | 0.03069 | 22.13 | 0.1358 | 6.54E-09 | 0.723 |
| 0 | 0.05031 | 252.5 | 0.104 | 1.55E-10 | 0.3586 |
| 0.034 | 0.007596 | 0.06902 | 0.2617 | 2.63E-09 | 0.8534 |
| 0.0758 | 0.007212 | 0.04775 | 0.2818 | 6.85E-11 | 0.467599 |
| 0.0453 | 0.007744 | 0.06275 | 0.2603 | 2.69E-08 | 0.7437 |
| 0.3264 | 0.5036 | 0.02548 | 0.0456 | 1.29E-90 | 0.5836 |
| 0.0456 | 0.02257 | 0.06064 | 0.1503 | 3.04E-11 | 0.3889 |
| 0.1838 | 0.1302 | 0.0324 | 0.0675 | 5.95E-09 | 0.7722 |
| 0.2737 | 0.1558 | 0.02812 | 0.0631 | 7.57E-33 | 0.6664 |
| 0.1464 | 0.2525 | 0.03346 | 0.0524 | 5.03E-94 | 0.6859 |
| 0.0409 | 0.006844 | 0.0628 | 0.2828 | 2.01E-41 | 0.1982 |
| 0.0044 | 0.07472 | 0.1851 | 0.0865 | 1.23E-09 | 0.9393 |
| 0.0317 | 0.01393 | 0.07181 | 0.1959 | 2.94E-26 | 0.3054 |
| 0.0263 | 0.01428 | 0.07787 | 0.1929 | 4.91E-21 | 0.0241502 |
| 0.0666 | 0.02073 | 0.05006 | 0.1623 | 6.09E-46 | 0.896 |
| 0.0209 | 0.07624 | 0.08601 | 0.0853 | 6.83E-09 | 0.346 |
| 0.0653 | 0.01568 | 0.0507 | 0.1842 | 2.14E-08 | 0.7886 |
| 0.4267 | 0.4947 | 0.02025 | 0.0455 | 0.00E+00 | 0.6534 |
| 0.0464 | 0.003478 | 0.05812 | 0.4035 | 5.35E-29 | 0.3465 |
| 0.041 | 0.006844 | 0.06471 | 0.2828 | 4.66E-29 | 0.1982 |
| 0.0029 | 0.002813 | 0.2262 | 0.4612 | 2.14E-08 | 0.3419 |
| 0.0317 | 0.01393 | 0.07397 | 0.1959 | 9.35E-20 | 0.3054 |
| 0.0462 | 0.003723 | 0.06081 | 0.3907 | 1.23E-41 | 0.0329602 |
| 0.3594 | 0.3468 | 0.0273 | 0.0477 | 9.08E-16 | 0.6838 |
| 0.0667 | 0.02073 | 0.0518 | 0.1623 | 9.80E-33 | 0.896 |
| 0.4688 | 0.5393 | 0.01915 | 0.0454 | 0.00E+00 | 0.716901 |
| 0.0483 | 0.0771 | 0.05873 | 0.0864 | 1.13E-27 | 0.2487 |
| 0.0409 | 0.006844 | 0.06583 | 0.2828 | 5.69E-28 | 0.1982 |
| 0.0317 | 0.01393 | 0.07506 | 0.1959 | 2.79E-21 | 0.3054 |
| 0.0461 | 0.003723 | 0.06178 | 0.3907 | 3.23E-42 | 0.0329602 |
| 0.3841 | 0.3468 | 0.0271 | 0.0477 | 7.19E-15 | 0.6838 |
| 0.0668 | 0.02073 | 0.05263 | 0.1623 | 1.45E-33 | 0.896 |
| 0.0481 | 0.0771 | 0.05954 | 0.0864 | 1.49E-29 | 0.2487 |
| 0.4689 | 0.5391 | 0.01969 | 0.0454 | 0.00E+00 | 0.7204 |
| 0.0409 | 0.006844 | 0.06291 | 0.2828 | 1.06E-36 | 0.1982 |
| 0.0044 | 0.07472 | 0.1835 | 0.0865 | 1.35E-20 | 0.9393 |
| 0.0042 | 0.001315 | 0.1905 | 0.6881 | 6.98E-12 | 0.8408 |
| 0.0317 | 0.01393 | 0.0719 | 0.1959 | 4.24E-22 | 0.3054 |
| 0.2866 | 0.1697 | 0.02787 | 0.061 | 7.94E-09 | 0.2074 |
| 0.2975 | 0.1244 | 0.02719 | 0.0686 | 1.83E-13 | 0.7019 |

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|---|---|---|---|---|---|
| 0.3595 | 0.3468 | 0.02651 | 0.0477 | 1.55E-13 | 0.6838 |
| 0.4069 | 0.5273 | 0.02536 | 0.0456 | 3.59E-18 | 0.7571 |
| 0.0666 | 0.02073 | 0.05013 | 0.1623 | 1.86E-41 | 0.896 |
| 0.0295 | 0.03282 | 0.07402 | 0.127 | 1.95E-13 | 0.9459 |
| 0.0095 | 0.02011 | 0.1289 | 0.1683 | 1.29E-09 | 0.4447 |
| 0.0464 | 0.04164 | 0.05993 | 0.1154 | 2.30E-10 | 0.786901 |
| 0.4267 | 0.4947 | 0.02078 | 0.0455 | 4.32E-294 | 0.6534 |
| 0.0464 | 0.003478 | 0.05819 | 0.4035 | 4.44E-25 | 0.3465 |
| 0.0408 | 0.006844 | 0.06357 | 0.2828 | 3.06E-33 | 0.1982 |
| 0.0044 | 0.07472 | 0.1845 | 0.0865 | 4.41E-18 | 0.9393 |
| 0.0043 | 0.001315 | 0.1915 | 0.6881 | 6.05E-10 | 0.8408 |
| 0.2875 | 0.1697 | 0.02815 | 0.061 | 2.88E-08 | 0.2074 |
| 0.2972 | 0.1244 | 0.02749 | 0.0686 | 4.17E-12 | 0.7019 |
| 0.0263 | 0.01428 | 0.0789 | 0.1929 | 1.07E-15 | 0.0241502 |
| 0.021 | 0.07624 | 0.08658 | 0.0853 | 1.10E-09 | 0.346 |
| 0.0095 | 0.02011 | 0.1294 | 0.1683 | 8.93E-09 | 0.4447 |
| 0.0464 | 0.04164 | 0.06066 | 0.1154 | 3.22E-09 | 0.786901 |
| 0.0554 | 0.01471 | 0.05595 | 0.1904 | 3.75E-37 | 0.4917 |
| 0.0675 | 0.01732 | 0.04951 | 0.1799 | 3.04E-18 | 0.825 |
| 0.046 | 0.003478 | 0.05899 | 0.4035 | 1.03E-22 | 0.3465 |
| 0.041 | 0.006844 | 0.06467 | 0.2828 | 7.28E-32 | 0.1982 |
| 0.0317 | 0.01393 | 0.07403 | 0.1959 | 7.75E-21 | 0.3054 |
| 0.0462 | 0.003723 | 0.06103 | 0.3907 | 5.07E-40 | 0.0329602 |
| 0.0667 | 0.02073 | 0.05184 | 0.1623 | 2.59E-34 | 0.896 |
| 0.383 | 0.3462 | 0.02662 | 0.0477 | 1.73E-16 | 0.6829 |
| 0.5314 | 0.4608 | 0.01941 | 0.0454 | 0.00E+00 | 0.728201 |
| 0.0483 | 0.0771 | 0.05887 | 0.0864 | 7.75E-26 | 0.2487 |
| 0.479 | 0.4762 | 0.02746 | 0.0458 | 6.89E-13 | 0.9969 |
| 0.4574 | 0.4372 | 0.03174 | 0.0487 | 3.90E-10 | 0.0900907 |
| 0.5296 | 0.593 | 0.02879 | 0.0464 | 4.81E-08 | 0.0564196 |
| 0.4856 | 0.646 | 0.02715 | 0.0477 | 1.29E-08 | 0.7732 |
| 0.0772 | 0.02778 | 0.06799 | 0.1405 | 2.04E-15 | 0.5392 |
| 0.0566 | 0.05421 | 0.07845 | 0.1021 | 6.30E-10 | 0.8432 |
| 0.0733 | 0.004544 | 0.07238 | 0.348 | 1.33E-12 | 0.5298 |
| 0.1939 | 0.3718 | 0.03861 | 0.0471 | 1.81E-150 | 0.1134 |
| 0.2579 | 0.1541 | 0.04217 | 0.0635 | 1.40E-17 | 0.7535 |
| 0.0707 | 0.03757 | 0.07051 | 0.1224 | 4.53E-12 | 0.592 |
| 0.2006 | 0.05323 | 0.04576 | 0.1041 | 1.26E-13 | 0.2159 |
| 0.0772 | 0.02778 | 0.06836 | 0.1405 | 1.06E-13 | 0.5392 |
| 0.0734 | 0.004544 | 0.07256 | 0.348 | 5.21E-12 | 0.5298 |
| 0.1934 | 0.3718 | 0.0393 | 0.0471 | 6.08E-143 | 0.1134 |
| 0.258 | 0.1541 | 0.0424 | 0.0635 | 5.07E-15 | 0.7535 |
| 0.0705 | 0.03757 | 0.07057 | 0.1224 | 1.64E-13 | 0.592 |
| 0.2008 | 0.05323 | 0.0459 | 0.1041 | 3.07E-13 | 0.2159 |
| 0.0772 | 0.02778 | 0.06945 | 0.1405 | 1.38E-08 | 0.5392 |
| 0.5441 | 0.3944 | 0.03593 | 0.0466 | 1.22E-50 | 0.2997 |
| 0.045 | 0.01191 | 0.06602 | 0.2128 | 3.25E-08 | 0.7383 |
| 0.2041 | 0.4347 | 0.03404 | 0.0458 | 1.40E-08 | 0.0498597 |
| 0.4459 | 0.2595 | 0.02534 | 0.0523 | 6.62E-120 | 0.6974 |
| 0.051 | 0.1128 | 0.06189 | 0.0732 | 9.11E-15 | 0.5532 |
| 0.7893 | 0.7156 | 0.03327 | 0.0507 | 8.64E-09 | 0.9643 |
| 0.106 | 0.1082 | 0.04432 | 0.0735 | 8.58E-13 | 0.8692 |
| 0.0296 | 0.01287 | 0.08145 | 0.2144 | 1.00E-09 | 0.1904 |
| 0.1993 | 0.1823 | 0.03163 | 0.0594 | 2.97E-08 | 0.490601 |
| 0.0965 | 0.04117 | 0.0417 | 0.1166 | 2.09E-10 | 0.1437 |
| 0.2425 | 0.3066 | 0.02843 | 0.0498 | 9.01E-29 | 0.2701 |
| 0.0972 | 0.027 | 0.042 | 0.1409 | 1.75E-10 | 0.795 |
| 0.8744 | 0.8829 | 0.03711 | 0.0712 | 3.14E-08 | 0.723901 |

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|---|---|---|---|---|---|
| 0.7067 | 0.6684 | 0.0304 | 0.058 | 6.09E-10 | 0.0760099 |
| 0.184 | 0.009685 | 0.03691 | 0.2391 | 1.47E-10 | 0.0986211 |
| 0.1491 | 0.1124 | 0.03869 | 0.0736 | 2.90E-08 | 0.7626 |
| 0.037 | 0.002494 | 0.07314 | 0.4732 | 2.54E-16 | 0.0324198 |
| 0.0457 | 0.003723 | 0.06633 | 0.3907 | 3.04E-22 | 0.0329602 |
| 0.2147 | 0.08465 | 0.03345 | 0.0811 | 7.71E-19 | 0.8016 |
| 0.4729 | 0.5396 | 0.02414 | 0.0454 | 7.97E-170 | 0.747901 |
| 0.0557 | 0.01471 | 0.06227 | 0.1904 | 1.39E-14 | 0.4917 |
| 0.0193 | 0.06736 | 0.09207 | 0.0897 | 2.65E-08 | 0.00850609 |
| 0.1008 | 0.01715 | 0.04232 | 0.1748 | 3.32E-08 | 0.2573 |
| 0.0193 | 0.06736 | 0.08644 | 0.0897 | 4.72E-08 | 0.00850609 |
| 0.0314 | 0.01471 | 0.07064 | 0.2013 | 1.85E-08 | 0.4496 |
| 0.1985 | 0.1915 | 0.03027 | 0.0589 | 5.45E-09 | 0.3524 |
| 0.6739 | 0.4166 | 0.02556 | 0.0463 | 2.84E-09 | 0.7959 |
| 0.2111 | 0.02089 | 0.03814 | 0.1622 | 4.36E-15 | 0.5184 |
| 0.0359 | 0.01936 | 0.07188 | 0.1747 | 4.01E-08 | 0.649201 |
| 0.0332 | 0.004679 | 0.07489 | 0.3486 | 1.06E-08 | 0.3781 |
| 0.3234 | 0.2363 | 0.02982 | 0.0538 | 6.18E-09 | 0.2904 |
| 0.0817 | 0.03364 | 0.0561 | 0.1271 | 4.73E-12 | 0.8217 |
| 0.8124 | 0.786 | 0.03416 | 0.0558 | 2.47E-43 | 0.0562095 |
| 0.0729 | 0.07649 | 0.05178 | 0.0849 | 1.06E-48 | 0.658801 |
| 0.635 | 0.5768 | 0.03189 | 0.0531 | 3.06E-65 | 0.00432404 |
| 0.4355 | 0.245 | 0.03232 | 0.0538 | 6.87E-36 | 0.433 |
| 0.4355 | 0.2252 | 0.03232 | 0.0681 | 6.87E-36 | 0.8549 |
| 0.2107 | 0.02089 | 0.03665 | 0.1622 | 3.74E-09 | 0.5184 |
| 0.1886 | 0.1867 | 0.03241 | 0.0595 | 4.75E-09 | 0.2692 |
| 0.3055 | 0.4841 | 0.02873 | 0.0457 | 7.05E-21 | 0.2911 |
| 0.0276 | 0.04052 | 0.08226 | 0.1175 | 3.03E-15 | 0.8954 |
| 0.1066 | 0.01176 | 0.04098 | 0.2125 | 9.39E-71 | 0.4589 |
| 0.0385 | 0.02382 | 0.07013 | 0.1566 | 1.49E-10 | 0.8106 |
| 0.1069 | 0.006002 | 0.0461 | 0.307 | 1.75E-08 | 0.0186999 |
| 0.0982 | 0.04235 | 0.04163 | 0.1145 | 1.45E-09 | 0.1598 |
| 0.8737 | 0.8895 | 0.03694 | 0.0736 | 7.25E-10 | 0.6296 |
| 0.2323 | 0.3066 | 0.02912 | 0.0498 | 2.09E-16 | 0.2708 |
| 0.0201 | 0.003981 | 0.089 | 0.3649 | 3.65E-10 | 0.467599 |
| 0.0185 | 0.02561 | 0.09163 | 0.143 | 1.22E-09 | 0.9616 |
| 0.0197 | 0.01122 | 0.0892 | 0.2173 | 1.34E-08 | 0.4799 |
| 0.0201 | 0.003981 | 0.08896 | 0.3649 | 1.70E-09 | 0.467599 |
| 0.611 | 0.6666 | 0.02538 | 0.0484 | 5.48E-11 | 0.696299 |
| 0.2101 | 0.03411 | 0.03505 | 0.1254 | 1.70E-08 | 0.0232001 |
| 0.052 | 0.009082 | 0.05776 | 0.248 | 5.51E-10 | 0.8013 |
| 0.2594 | 0.1007 | 0.03383 | 0.0822 | 6.87E-13 | 0.5689 |
| 0.4558 | 0.49 | 0.03013 | 0.0487 | 4.43E-87 | 0.8913 |
| 0.3368 | 0.05968 | 0.03249 | 0.0989 | 1.20E-11 | 0.7345 |
| 0.4581 | 0.3476 | 0.02632 | 0.048 | 7.66E-09 | 0.1792 |
| 0.2774 | 0.2623 | 0.03006 | 0.0517 | 3.61E-15 | 0.7704 |
| 0.0044 | 0.07472 | 0.1855 | 0.0865 | 3.35E-17 | 0.9393 |
| 0.2975 | 0.1244 | 0.02752 | 0.0686 | 1.21E-08 | 0.7019 |
| 0.0035 | 0.01555 | 0.2272 | 0.1806 | 6.75E-12 | 0.3913 |
| 0.0006 | 0.00676 | 0.4989 | 0.2846 | 5.13E-09 | 0.1851 |
| 0.0006 | 0.01928 | 0.4776 | 0.1711 | 2.68E-08 | 0.8553 |
| 0.0543 | 0.04058 | 0.05516 | 0.1145 | 1.38E-13 | 0.2585 |
| 0.1525 | 0.1219 | 0.03616 | 0.07 | 3.87E-08 | 0.3944 |
| 0.1281 | 0.01649 | 0.04219 | 0.187 | 1.04E-08 | 0.3482 |
| 0.199 | 0.1145 | 0.03315 | 0.0721 | 5.13E-67 | 0.8412 |
| 0.0003 | 0.03565 | 0.5986 | 0.1254 | 2.76E-08 | 0.4795 |
| 0.0044 | 0.07472 | 0.1662 | 0.0865 | 1.77E-12 | 0.9393 |
| 0.0043 | 0.001315 | 0.1715 | 0.6881 | 3.23E-09 | 0.8408 |

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|---|---|---|---|---|---|
| 0 | 0.08777 | 1.461 | 0.0803 | 2.27E-08 | 0.9233 |
| 0.2974 | 0.1244 | 0.02442 | 0.0686 | 2.82E-11 | 0.7019 |
| 0.2664 | 0.3528 | 0.02509 | 0.0479 | 2.72E-08 | 0.9799 |
| 0.0003 | 0.01303 | 0.5986 | 0.2053 | 2.58E-08 | 0.462701 |
| 0.0758 | 0.1943 | 0.04896 | 0.0592 | 3.75E-25 | 0.0748497 |
| 0.0133 | 0.05822 | 0.1098 | 0.0989 | 2.16E-14 | 0.271 |
| 0.0478 | 0.06942 | 0.05863 | 0.091 | 1.09E-08 | 0.2111 |
| 0.1327 | 0.0614 | 0.03562 | 0.0966 | 8.90E-99 | 0.3182 |
| 0.3259 | 0.5036 | 0.02588 | 0.0456 | 1.45E-59 | 0.5836 |
| 0.0451 | 0.0161 | 0.05895 | 0.1861 | 4.30E-24 | 0.2973 |
| 0.0163 | 0.03912 | 0.1185 | 0.121 | 2.13E-09 | 0.9501 |
| 0.011 | 0.004242 | 0.1167 | 0.3916 | 4.21E-08 | 0.5566 |
| 0.0758 | 0.1943 | 0.04948 | 0.0592 | 3.16E-19 | 0.0748497 |
| 0.0133 | 0.05822 | 0.1104 | 0.0989 | 1.15E-13 | 0.271 |
| 0.0478 | 0.06942 | 0.05896 | 0.091 | 4.73E-08 | 0.2111 |
| 0.1327 | 0.0614 | 0.03619 | 0.0966 | 2.76E-83 | 0.3182 |
| 0.3259 | 0.5036 | 0.02617 | 0.0456 | 8.17E-50 | 0.5836 |
| 0.0451 | 0.0161 | 0.05946 | 0.1861 | 1.25E-20 | 0.2973 |
| 0.011 | 0.004242 | 0.1176 | 0.3916 | 3.65E-08 | 0.5566 |
| 0.0044 | 0.01061 | 0.186 | 0.224 | 1.82E-10 | 0.682501 |
| 0.0044 | 0.01061 | 0.1846 | 0.224 | 8.02E-09 | 0.682501 |
| 0.1868 | 0.009171 | 0.05429 | 0.2401 | 4.35E-10 | 0.8793 |
| 0.2308 | 0.1143 | 0.03334 | 0.073 | 1.68E-09 | 0.5898 |
| 0.0266 | 0.002263 | 0.08405 | 0.497 | 2.89E-08 | 0.778501 |
| 0.0841 | 0.04891 | 0.0505 | 0.1071 | 6.15E-12 | 0.953 |
| 0.9244 | 0.9214 | 0.05405 | 0.0842 | 2.39E-12 | 0.6517 |
| 0.0425 | 0.0156 | 0.07152 | 0.1803 | 1.27E-08 | 0.1034 |
| 0.1087 | 0.0008819 | 0.04734 | 0.8254 | 2.55E-11 | 0.6536 |
| 0.1503 | 0.1363 | 0.03884 | 0.1009 | 2.00E-08 | 0.0905503 |
| 0.2969 | 0.1244 | 0.02548 | 0.0686 | 1.18E-08 | 0.7019 |
| 0.1087 | 0.0008819 | 0.04769 | 0.8254 | 1.37E-10 | 0.6536 |
| 0.1078 | 0.000882 | 0.04937 | 0.8253 | 1.91E-09 | 0.653501 |
| 0.1687 | 0.1811 | 0.03256 | 0.0605 | 3.91E-08 | 0.6385 |
| 0.0032 | 0.004554 | 0.2117 | 0.3402 | 7.49E-09 | 0.845 |
| 0.0032 | 0.004554 | 0.2277 | 0.3402 | 5.88E-10 | 0.845 |
| 0.0034 | 0.01555 | 0.2345 | 0.1806 | 4.23E-08 | 0.3913 |
| 0.0449 | 0.05731 | 0.05835 | 0.0997 | 2.84E-09 | 0.664401 |
| 0.0312 | 0.01769 | 0.07114 | 0.1832 | 4.24E-11 | 0.3447 |
| 0.1923 | 0.1895 | 0.03063 | 0.059 | 5.06E-11 | 0.3304 |
| 0.0998 | 0.08693 | 0.0399 | 0.0811 | 1.03E-25 | 0.4555 |
| 0.0185 | 0.02561 | 0.09244 | 0.143 | 2.55E-13 | 0.9616 |
| 0.0197 | 0.01122 | 0.09002 | 0.2173 | 1.07E-11 | 0.4799 |
| 0.0201 | 0.003981 | 0.08983 | 0.3649 | 5.43E-13 | 0.467599 |
| 0.0185 | 0.02561 | 0.09165 | 0.143 | 2.91E-08 | 0.9616 |
| 0.0201 | 0.003981 | 0.08901 | 0.3649 | 5.79E-09 | 0.467599 |
| 0.0185 | 0.02561 | 0.09251 | 0.143 | 2.61E-10 | 0.9616 |
| 0.0197 | 0.01122 | 0.09004 | 0.2173 | 2.36E-09 | 0.4799 |
| 0.0201 | 0.00403 | 0.0907 | 0.3625 | 8.34E-10 | 0.4934 |
| 0.0215 | 0.02561 | 0.116 | 0.143 | 7.39E-10 | 0.9616 |
| 0.0224 | 0.01122 | 0.1158 | 0.2173 | 1.65E-08 | 0.4799 |
| 0.0205 | 0.00403 | 0.1195 | 0.3625 | 9.18E-11 | 0.4934 |
| 0.0185 | 0.02561 | 0.09132 | 0.143 | 6.42E-09 | 0.9616 |
| 0.0201 | 0.003982 | 0.08866 | 0.3651 | 3.80E-09 | 0.4674 |
| 0.0609 | 0.01743 | 0.05096 | 0.1765 | 3.76E-08 | 0.984 |
| 0.0185 | 0.02561 | 0.0918 | 0.143 | 4.29E-09 | 0.9616 |
| 0.0197 | 0.01122 | 0.08935 | 0.2173 | 3.95E-08 | 0.4799 |
| 0.0201 | 0.00403 | 0.08992 | 0.3625 | 2.02E-10 | 0.4934 |
| 0.0185 | 0.02561 | 0.09212 | 0.143 | 1.92E-09 | 0.9616 |

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|---|---|---|---|---|---|
| 0.6109 | 0.6666 | 0.02557 | 0.0484 | 7.82E-09 | 0.696299 |
| 0.0201 | 0.00403 | 0.09026 | 0.3625 | 2.31E-10 | 0.4934 |
| 0.0307 | 0.1024 | 0.09656 | 0.0748 | 2.92E-08 | 0.6712 |
| 0.5197 | 0.3884 | 0.03266 | 0.0468 | 1.86E-14 | 0.3663 |
| 0.0963 | 0.004735 | 0.06556 | 0.3345 | 2.51E-08 | 0.2435 |
| 0.1202 | 0.1518 | 0.06137 | 0.0641 | 2.44E-60 | 0.0195398 |
| 0.2911 | 0.07462 | 0.04468 | 0.0877 | 2.71E-23 | 0.5155 |
| 0.0003 | 0.01669 | 8.721 | 0.1884 | 6.98E-10 | 0.1668 |
| 0.2185 | 0.2684 | 0.4129 | 0.0558 | 7.93E-10 | 0.1617 |
| 0.0009 | 0.02269 | 5.206 | 0.1559 | 3.59E-08 | 0.89 |
| 0.2372 | 0.0221 | 0.473 | 0.1537 | 1.03E-08 | 0.8055 |
| 0.6474 | 0.5857 | 0.3672 | 0.0492 | 1.26E-08 | 0.00383301 |
| 0.001 | 0.01784 | 4.629 | 0.1753 | 1.42E-08 | 0.2602 |
| 0.541 | 0.4431 | 0.3071 | 0.046 | 3.08E-08 | 0.2845 |
| 0.0022 | 0.03683 | 3.073 | 0.1233 | 2.16E-09 | 0.0787608 |
| 0.0029 | 0.004329 | 2.692 | 0.3665 | 3.49E-08 | 0.4661 |
| 0.0016 | 0.04362 | 0.4204 | 0.1118 | 9.84E-09 | 0.02828 |
| 0.2132 | 0.3626 | 0.03861 | 0.0472 | 7.51E-35 | 0.0579002 |
| 0.0673 | 0.1486 | 0.06722 | 0.0647 | 9.46E-14 | 0.504001 |
| 0.0016 | 0.04362 | 0.4216 | 0.1118 | 9.41E-09 | 0.02828 |
| 0.0673 | 0.1486 | 0.06739 | 0.0647 | 5.44E-14 | 0.504001 |
| 0.0173 | 0.01706 | 0.105 | 0.1857 | 1.29E-10 | 0.3603 |
| 0.4466 | 0.26 | 0.02529 | 0.0523 | 4.33E-119 | 0.5358 |
| 0.0512 | 0.1128 | 0.062 | 0.0732 | 1.33E-08 | 0.5532 |
| 0.0173 | 0.01706 | 0.1049 | 0.1857 | 8.19E-10 | 0.3603 |
| 0.1482 | 0.2489 | 0.0385 | 0.0529 | 2.28E-13 | 0.1369 |
| 0.4466 | 0.26 | 0.02507 | 0.0523 | 3.46E-127 | 0.5358 |
| 0.0324 | 0.05182 | 0.07691 | 0.1042 | 1.48E-09 | 0.945 |
| 0.0173 | 0.01706 | 0.1046 | 0.1857 | 3.99E-09 | 0.3603 |
| 0.1482 | 0.2489 | 0.0384 | 0.0529 | 3.83E-13 | 0.1369 |
| 0.4466 | 0.26 | 0.02511 | 0.0523 | 7.26E-122 | 0.5358 |
| 0.0324 | 0.05182 | 0.07664 | 0.1042 | 1.50E-10 | 0.945 |
| 0.0173 | 0.01706 | 0.1039 | 0.1857 | 1.46E-10 | 0.3603 |
| 0.4466 | 0.26 | 0.02484 | 0.0523 | 6.96E-128 | 0.5358 |
| 0.0324 | 0.05182 | 0.07619 | 0.1042 | 2.49E-10 | 0.945 |
| 0.2996 | 0.05773 | 0.02793 | 0.098 | 1.48E-08 | 0.777499 |
| 0.7732 | 0.6698 | 0.02866 | 0.0502 | 1.22E-09 | 0.5961 |
| 0.0115 | 0.02821 | 0.1213 | 0.1359 | 1.71E-13 | 0.4767 |
| 0.0289 | 0.01519 | 0.07316 | 0.1911 | 1.54E-10 | 0.1145 |
| 0.0194 | 0.01518 | 0.08937 | 0.1876 | 3.63E-32 | 0.3459 |
| 0.0322 | 0.02741 | 0.06983 | 0.1394 | 7.84E-13 | 0.8787 |
| 0.0115 | 0.02821 | 0.1209 | 0.1359 | 7.97E-09 | 0.4767 |
| 0.0194 | 0.01518 | 0.08987 | 0.1876 | 4.58E-18 | 0.3459 |
| 0.0115 | 0.02821 | 0.1184 | 0.1359 | 1.69E-14 | 0.4767 |
| 0.0321 | 0.02741 | 0.06859 | 0.1394 | 9.69E-15 | 0.8758 |
| 0.233 | 0.2522 | 0.02931 | 0.0524 | 1.35E-08 | 0.8767 |
| 0.0288 | 0.01519 | 0.07246 | 0.1911 | 5.24E-10 | 0.1145 |
| 0.0194 | 0.01518 | 0.08813 | 0.1876 | 6.27E-32 | 0.3459 |
| 0.0115 | 0.02821 | 0.1197 | 0.1359 | 5.48E-11 | 0.4767 |
| 0.0194 | 0.01518 | 0.08908 | 0.1876 | 1.76E-22 | 0.3459 |
| 0.0321 | 0.02741 | 0.06918 | 0.1394 | 1.66E-09 | 0.8787 |
| 0.0115 | 0.02821 | 0.1174 | 0.1359 | 3.34E-14 | 0.4767 |
| 0.0194 | 0.01518 | 0.08708 | 0.1876 | 5.62E-26 | 0.3459 |
| 0.0321 | 0.02741 | 0.06776 | 0.1394 | 9.22E-12 | 0.8787 |
| 0.1689 | 0.06072 | 0.03268 | 0.0961 | 4.42E-15 | 0.718199 |
| 0.0401 | 0.01869 | 0.06205 | 0.1702 | 2.29E-08 | 0.5433 |
| 0.1714 | 0.06072 | 0.03176 | 0.0961 | 4.06E-63 | 0.718199 |
| 0.081 | 0.01444 | 0.045 | 0.1993 | 1.45E-08 | 0.9522 |

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|---|---|---|---|---|---|
| 0.1714 | 0.06072 | 0.03231 | 0.0961 | 3.10E-45 | 0.718199 |
| 0.1699 | 0.06072 | 0.0332 | 0.0961 | 1.81E-18 | 0.718199 |
| 0.1328 | 0.0614 | 0.03746 | 0.0966 | 2.36E-14 | 0.3182 |
| 0.1714 | 0.06072 | 0.03171 | 0.0961 | 3.21E-65 | 0.718199 |
| 0.081 | 0.01444 | 0.04499 | 0.1993 | 1.77E-08 | 0.9522 |
| 0.1714 | 0.06072 | 0.03195 | 0.0961 | 2.52E-43 | 0.718199 |
| 0.2136 | 0.2246 | 0.02973 | 0.0543 | 5.41E-09 | 0.3116 |
| 0.6125 | 0.5608 | 0.02533 | 0.0463 | 3.56E-08 | 0.673 |
| 0.0545 | 0.02605 | 0.05455 | 0.1451 | 3.73E-13 | 0.3565 |
| 0.0275 | 0.04052 | 0.07599 | 0.1175 | 6.79E-22 | 0.8954 |
| 0.1067 | 0.01176 | 0.03954 | 0.2125 | 2.06E-16 | 0.4589 |
| 0.0378 | 0.02382 | 0.06505 | 0.1566 | 5.81E-20 | 0.8106 |
| 0.6125 | 0.5608 | 0.02521 | 0.0463 | 2.55E-08 | 0.673 |
| 0.0545 | 0.02605 | 0.05433 | 0.1451 | 1.35E-12 | 0.3565 |
| 0.0275 | 0.04052 | 0.07572 | 0.1175 | 1.51E-20 | 0.8954 |
| 0.1067 | 0.01176 | 0.03937 | 0.2125 | 5.38E-16 | 0.4589 |
| 0.0378 | 0.02382 | 0.06479 | 0.1566 | 2.47E-19 | 0.8106 |
| 0.5684 | 0.3828 | 0.02463 | 0.047 | 5.79E-09 | 0.753101 |
| 0.1287 | 0.04786 | 0.03676 | 0.1074 | 1.47E-10 | 0.7335 |
| 0.1073 | 0.03644 | 0.04036 | 0.1185 | 5.23E-20 | 0.1517 |
| 0.0545 | 0.02605 | 0.05416 | 0.1451 | 4.64E-11 | 0.3565 |
| 0.0275 | 0.04052 | 0.07557 | 0.1175 | 6.50E-19 | 0.8954 |
| 0.1915 | 0.1895 | 0.03135 | 0.0591 | 2.88E-12 | 0.3337 |
| 0.1067 | 0.01176 | 0.03905 | 0.2125 | 7.85E-22 | 0.4589 |
| 0.0378 | 0.02382 | 0.06465 | 0.1566 | 2.39E-17 | 0.8106 |
| 0.0545 | 0.02605 | 0.05436 | 0.1451 | 1.25E-11 | 0.3565 |
| 0.0275 | 0.04052 | 0.07581 | 0.1175 | 2.76E-20 | 0.8954 |
| 0.1915 | 0.1895 | 0.03147 | 0.0591 | 6.36E-13 | 0.3337 |
| 0.1067 | 0.01176 | 0.0392 | 0.2125 | 2.68E-22 | 0.4589 |
| 0.0378 | 0.02382 | 0.06488 | 0.1566 | 5.29E-18 | 0.8106 |
| 0.0545 | 0.02605 | 0.05547 | 0.1451 | 2.25E-08 | 0.3565 |
| 0.0275 | 0.04052 | 0.07776 | 0.1175 | 3.23E-13 | 0.8954 |
| 0.1634 | 0.2353 | 0.03387 | 0.0532 | 3.82E-08 | 0.0392998 |
| 0.1067 | 0.01176 | 0.03983 | 0.2125 | 8.64E-26 | 0.4589 |
| 0.5112 | 0.4 | 0.0251 | 0.0465 | 3.34E-09 | 0.23 |
| 0.0377 | 0.02382 | 0.06656 | 0.1566 | 1.79E-09 | 0.8106 |
| 0.5271 | 0.3535 | 0.02505 | 0.0478 | 9.10E-09 | 0.9214 |
| 0.0548 | 0.02605 | 0.05379 | 0.1451 | 4.64E-09 | 0.3565 |
| 0.0277 | 0.04052 | 0.07504 | 0.1175 | 9.75E-17 | 0.8954 |
| 0.1094 | 0.01183 | 0.0383 | 0.2117 | 9.86E-22 | 0.453 |
| 0.0379 | 0.02382 | 0.06419 | 0.1566 | 1.41E-15 | 0.8106 |
| 0.0545 | 0.02605 | 0.05512 | 0.1451 | 3.91E-09 | 0.3565 |
| 0.0275 | 0.04052 | 0.07722 | 0.1175 | 5.37E-15 | 0.8954 |
| 0.1067 | 0.01176 | 0.03955 | 0.2125 | 1.04E-27 | 0.4589 |
| 0.5112 | 0.4 | 0.02495 | 0.0465 | 3.25E-09 | 0.23 |
| 0.0377 | 0.02382 | 0.06614 | 0.1566 | 2.83E-10 | 0.8106 |
| 0.0548 | 0.02605 | 0.05419 | 0.1451 | 1.40E-10 | 0.3565 |
| 0.0277 | 0.04052 | 0.0755 | 0.1175 | 1.38E-18 | 0.8954 |
| 0.1069 | 0.01176 | 0.03929 | 0.2125 | 2.69E-16 | 0.4589 |
| 0.0379 | 0.02382 | 0.0646 | 0.1566 | 1.16E-17 | 0.8106 |
| 0.5685 | 0.3828 | 0.02455 | 0.047 | 2.20E-09 | 0.753101 |
| 0.2995 | 0.2507 | 0.0284 | 0.0524 | 1.82E-25 | 0.7486 |
| 0.0845 | 0.04891 | 0.04423 | 0.1071 | 3.30E-114 | 0.953 |
| 0.1968 | 0.05865 | 0.03302 | 0.098 | 4.94E-12 | 0.8625 |
| 0.0625 | 0.01496 | 0.05457 | 0.1875 | 4.48E-11 | 0.2532 |
| 0.0381 | 0.03779 | 0.06789 | 0.1177 | 3.80E-08 | 0.41 |
| 0.2084 | 0.07845 | 0.03331 | 0.0842 | 8.20E-15 | 0.0290898 |
| 0.2447 | 0.1086 | 0.02792 | 0.0736 | 4.21E-165 | 0.329 |

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|---|---|---|---|---|---|
| 0.0688 | 0.02845 | 0.0521 | 0.1391 | 4.90E-12 | 0.0954289 |
| 0.3262 | 0.544 | 0.02839 | 0.0455 | 4.02E-13 | 0.325 |
| 0.2223 | 0.2205 | 0.03434 | 0.0605 | 5.88E-12 | 0.2408 |
| 0.7752 | 0.7576 | 0.0354 | 0.0538 | 2.23E-13 | 0.2915 |
| 0.0226 | 0.01011 | 0.08487 | 0.2395 | 1.47E-08 | 0.0930894 |
| 0.0044 | 0.07472 | 0.1865 | 0.0865 | 4.49E-18 | 0.9393 |
| 0.2975 | 0.1244 | 0.02763 | 0.0686 | 5.43E-11 | 0.7019 |
| 0.0035 | 0.01555 | 0.2286 | 0.1806 | 4.11E-11 | 0.3913 |
| 0.0006 | 0.00676 | 0.5018 | 0.2846 | 4.97E-09 | 0.1851 |
| 0.1525 | 0.1219 | 0.03637 | 0.07 | 4.14E-08 | 0.3944 |
| 0.1562 | 0.1008 | 0.03509 | 0.0745 | 1.37E-15 | 0.0837202 |
| 0.0044 | 0.07472 | 0.1739 | 0.0865 | 3.57E-18 | 0.9393 |
| 0.0035 | 0.01555 | 0.2131 | 0.1806 | 1.72E-11 | 0.3913 |
| 0.8142 | 0.9725 | 0.03044 | 0.1435 | 4.22E-18 | 0.450001 |
| 0.4709 | 0.5257 | 0.0232 | 0.0454 | 4.78E-32 | 0.293 |
| 0.0045 | 0.07472 | 0.202 | 0.0865 | 4.31E-09 | 0.9393 |
| 0.3455 | 0.4221 | 0.02871 | 0.0463 | 1.09E-13 | 0.8607 |
| 0.0044 | 0.07472 | 0.1774 | 0.0865 | 2.93E-23 | 0.9393 |
| 0.0042 | 0.001315 | 0.1841 | 0.6881 | 1.78E-14 | 0.8408 |
| 0.1084 | 0.08133 | 0.03894 | 0.0837 | 1.44E-08 | 0.9954 |
| 0.4709 | 0.5257 | 0.02374 | 0.0454 | 3.53E-33 | 0.293 |
| 0.0044 | 0.07472 | 0.188 | 0.0865 | 3.55E-11 | 0.9393 |
| 0.7833 | 0.7575 | 0.03476 | 0.0538 | 1.47E-11 | 0.2934 |
| 0.0044 | 0.07472 | 0.1857 | 0.0865 | 6.36E-11 | 0.9393 |
| 0.0044 | 0.07472 | 0.1853 | 0.0865 | 2.66E-10 | 0.9393 |
| 0.8142 | 0.9725 | 0.03216 | 0.1435 | 5.06E-12 | 0.450001 |
| 0.4709 | 0.5257 | 0.02476 | 0.0454 | 5.19E-17 | 0.293 |
| 0.0044 | 0.07472 | 0.1933 | 0.0865 | 1.18E-09 | 0.9393 |
| 0.0034 | 0.01555 | 0.2369 | 0.1806 | 1.67E-10 | 0.3913 |
| 0.0542 | 0.04058 | 0.05733 | 0.1145 | 7.93E-09 | 0.2585 |
| 0.0044 | 0.07472 | 0.1663 | 0.0865 | 1.87E-27 | 0.9393 |
| 0.0035 | 0.01555 | 0.2042 | 0.1806 | 3.70E-18 | 0.3913 |
| 0.1084 | 0.08133 | 0.03673 | 0.0837 | 1.70E-08 | 0.9954 |
| 0.0047 | 0.0143 | 0.1693 | 0.188 | 4.52E-09 | 0.3362 |
| 0.0095 | 0.02011 | 0.1174 | 0.1683 | 2.55E-08 | 0.4447 |
| 0.4709 | 0.5257 | 0.02227 | 0.0454 | 6.29E-38 | 0.293 |
| 0.9748 | 0.9604 | 0.07373 | 0.1166 | 4.50E-10 | 0.9826 |
| 0.0044 | 0.07472 | 0.1783 | 0.0865 | 5.33E-24 | 0.9393 |
| 0.0042 | 0.001315 | 0.1851 | 0.6881 | 1.62E-14 | 0.8408 |
| 0.1084 | 0.08133 | 0.03915 | 0.0837 | 2.77E-08 | 0.9954 |
| 0.4709 | 0.5257 | 0.02387 | 0.0454 | 5.49E-33 | 0.293 |
| 0.0045 | 0.07472 | 0.191 | 0.0865 | 3.79E-13 | 0.9393 |
| 0.0036 | 0.01555 | 0.2281 | 0.1806 | 6.19E-09 | 0.3913 |
| 0.0375 | 0.00757 | 0.07055 | 0.2738 | 9.98E-24 | 0.1051 |
| 0.0246 | 0.01433 | 0.08426 | 0.1959 | 6.32E-13 | 0.1007 |
| 0.1871 | 0.05718 | 0.03241 | 0.097 | 5.75E-51 | 0.0911591 |
| 0.0643 | 0.0558 | 0.05318 | 0.0984 | 1.19E-09 | 0.6042 |
| 0.0689 | 0.005976 | 0.0526 | 0.3009 | 1.59E-09 | 0.9932 |
| 0.2548 | 0.184 | 0.0299 | 0.0587 | 4.26E-09 | 0.2637 |
| 0.0044 | 0.07472 | 0.1678 | 0.0865 | 3.37E-28 | 0.9393 |
| 0.0035 | 0.01555 | 0.2061 | 0.1806 | 4.93E-18 | 0.3913 |
| 0.1084 | 0.08133 | 0.03723 | 0.0837 | 2.14E-08 | 0.9954 |
| 0.0047 | 0.0143 | 0.1707 | 0.188 | 1.00E-08 | 0.3362 |
| 0.0212 | 0.008734 | 0.07742 | 0.2645 | 3.08E-08 | 0.3686 |
| 0.4709 | 0.5257 | 0.02252 | 0.0454 | 3.40E-38 | 0.293 |
| 0.9748 | 0.9604 | 0.07456 | 0.1166 | 5.96E-10 | 0.9826 |
| 0.0044 | 0.07472 | 0.1911 | 0.0865 | 1.83E-08 | 0.9393 |
| 0.0543 | 0.04058 | 0.05532 | 0.1145 | 5.32E-25 | 0.2585 |

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|---|---|---|---|---|---|
| 0.0044 | 0.07472 | 0.169 | 0.0865 | 3.18E-11 | 0.9393 |
| 0.0034 | 0.01555 | 0.2078 | 0.1806 | 3.74E-09 | 0.3913 |
| 0.0044 | 0.07472 | 0.1934 | 0.0865 | 5.94E-10 | 0.9393 |
| 0.0034 | 0.01555 | 0.2371 | 0.1806 | 9.40E-10 | 0.3913 |
| 0.0542 | 0.04058 | 0.05734 | 0.1145 | 2.27E-09 | 0.2585 |
| 0.0044 | 0.07472 | 0.1771 | 0.0865 | 1.42E-11 | 0.9393 |
| 0.0049 | 0.03129 | 0.1747 | 0.132 | 1.45E-08 | 0.541 |
| 0.0044 | 0.07472 | 0.1744 | 0.0865 | 1.02E-13 | 0.9393 |
| 0.0042 | 0.001315 | 0.1805 | 0.6881 | 1.30E-10 | 0.8408 |
| 0.2977 | 0.1244 | 0.02569 | 0.0686 | 2.27E-11 | 0.7019 |
| 0.243 | 0.2842 | 0.02712 | 0.0506 | 2.21E-10 | 0.6178 |
| 0.0731 | 0.02004 | 0.04503 | 0.1656 | 3.34E-09 | 0.1499 |
| 0.0044 | 0.07472 | 0.1905 | 0.0865 | 5.53E-11 | 0.9393 |
| 0.0032 | 0.004446 | 0.2611 | 0.3457 | 8.39E-20 | 0.5019 |
| 0.0044 | 0.07472 | 0.1858 | 0.0865 | 2.37E-12 | 0.9393 |
| 0.0042 | 0.001315 | 0.1918 | 0.6881 | 5.92E-10 | 0.8408 |
| 0.2977 | 0.1244 | 0.02726 | 0.0686 | 3.80E-09 | 0.7019 |
| 0.2464 | 0.4034 | 0.02881 | 0.0467 | 2.85E-09 | 0.5837 |
| 0.2076 | 0.07845 | 0.03216 | 0.0842 | 1.32E-15 | 0.0290898 |
| 0.4331 | 0.5038 | 0.02619 | 0.0456 | 4.42E-08 | 0.4114 |
| 0.2474 | 0.1083 | 0.02772 | 0.0738 | 1.30E-124 | 0.3928 |
| 0.2162 | 0.2237 | 0.03019 | 0.0544 | 8.74E-17 | 0.2778 |
| 0.5004 | 0.5374 | 0.02509 | 0.0456 | 4.97E-08 | 0.7701 |
| 0.5698 | 0.3828 | 0.02506 | 0.047 | 6.72E-09 | 0.753101 |
| 0.2111 | 0.07845 | 0.03117 | 0.0842 | 1.81E-22 | 0.0290898 |
| 0.0405 | 0.05056 | 0.06354 | 0.1048 | 3.72E-08 | 0.7755 |
| 0.0299 | 0.004659 | 0.07878 | 0.3483 | 2.60E-11 | 0.6312 |
| 0.2456 | 0.1086 | 0.02593 | 0.0736 | 2.60E-208 | 0.329 |
| 0.0702 | 0.02845 | 0.0488 | 0.1391 | 1.83E-14 | 0.0954289 |
| 0.2099 | 0.07845 | 0.03359 | 0.0842 | 2.85E-13 | 0.0290898 |
| 0.4305 | 0.5038 | 0.02756 | 0.0456 | 4.62E-10 | 0.4114 |
| 0.2402 | 0.1086 | 0.0301 | 0.0736 | 1.98E-74 | 0.329 |
| 0.2083 | 0.07845 | 0.03229 | 0.0842 | 7.20E-17 | 0.0290898 |
| 0.0096 | 0.003346 | 0.1293 | 0.428 | 5.90E-09 | 0.1724 |
| 0.2449 | 0.1086 | 0.02735 | 0.0736 | 1.40E-150 | 0.329 |
| 0.0686 | 0.02845 | 0.05081 | 0.1391 | 2.05E-12 | 0.0954289 |
| 0.2084 | 0.07845 | 0.03202 | 0.0842 | 2.99E-10 | 0.0290898 |
| 0.2447 | 0.1083 | 0.02815 | 0.0738 | 1.63E-91 | 0.3928 |
| 0.2645 | 0.3008 | 0.02885 | 0.0494 | 2.25E-10 | 0.261 |
| 0.2074 | 0.07845 | 0.03144 | 0.0842 | 8.32E-17 | 0.0290898 |
| 0.2473 | 0.1083 | 0.02689 | 0.0738 | 2.05E-136 | 0.3928 |
| 0.0686 | 0.02845 | 0.04947 | 0.1391 | 1.15E-09 | 0.0954289 |
| 0.2083 | 0.07845 | 0.03328 | 0.0842 | 2.47E-20 | 0.0290898 |
| 0.0096 | 0.003346 | 0.1306 | 0.428 | 3.62E-09 | 0.1724 |
| 0.2449 | 0.1086 | 0.02691 | 0.0736 | 1.34E-220 | 0.329 |
| 0.0686 | 0.02845 | 0.05195 | 0.1391 | 3.96E-16 | 0.0954289 |
| 0.2076 | 0.07845 | 0.0315 | 0.0842 | 1.62E-17 | 0.0290898 |
| 0.4331 | 0.5038 | 0.02565 | 0.0456 | 2.47E-09 | 0.4114 |
| 0.2474 | 0.1086 | 0.02686 | 0.0736 | 9.97E-142 | 0.329 |
| 0.2084 | 0.07845 | 0.03284 | 0.0842 | 5.25E-10 | 0.0290898 |
| 0.2447 | 0.1086 | 0.0287 | 0.0736 | 8.46E-99 | 0.329 |
| 0.2083 | 0.07845 | 0.03328 | 0.0842 | 1.29E-15 | 0.0290898 |
| 0.0096 | 0.003346 | 0.1312 | 0.428 | 8.13E-09 | 0.1724 |
| 0.2449 | 0.1086 | 0.02785 | 0.0736 | 9.71E-166 | 0.329 |
| 0.0686 | 0.02845 | 0.05205 | 0.1391 | 2.26E-12 | 0.0954289 |
| 0.2083 | 0.07845 | 0.03326 | 0.0842 | 2.43E-17 | 0.0290898 |
| 0.0094 | 0.003214 | 0.1303 | 0.4327 | 3.34E-10 | 0.1325 |
| 0.0438 | 0.007744 | 0.06661 | 0.2603 | 1.36E-08 | 0.7437 |

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|---|---|---|---|---|---|
| 0.2449 | 0.1086 | 0.02787 | 0.0736 | 9.85E-166 | 0.329 |
| 0.0686 | 0.02845 | 0.05202 | 0.1391 | 1.66E-14 | 0.0954289 |
| 0.2084 | 0.07845 | 0.03316 | 0.0842 | 3.19E-16 | 0.0290898 |
| 0.8488 | 0.8314 | 0.03711 | 0.0605 | 2.54E-08 | 0.2359 |
| 0.2447 | 0.1083 | 0.02825 | 0.0738 | 4.02E-144 | 0.3928 |
| 0.0688 | 0.02845 | 0.05191 | 0.1391 | 3.87E-12 | 0.0954289 |
| 0.2084 | 0.07845 | 0.03272 | 0.0842 | 6.30E-18 | 0.0290898 |
| 0.0437 | 0.007744 | 0.06549 | 0.2603 | 1.43E-09 | 0.7437 |
| 0.0095 | 0.003346 | 0.1303 | 0.428 | 8.71E-10 | 0.1724 |
| 0.2447 | 0.1086 | 0.02725 | 0.0736 | 8.53E-178 | 0.329 |
| 0.0688 | 0.02845 | 0.05126 | 0.1391 | 5.86E-16 | 0.0954289 |
| 0.2109 | 0.07845 | 0.03087 | 0.0842 | 1.84E-31 | 0.0290898 |
| 0.237 | 0.107 | 0.02248 | 0.0741 | 0.00E+00 | 0.4584 |
| 0.1482 | 0.2908 | 0.03508 | 0.0504 | 9.59E-11 | 0.0579696 |
| 0.5946 | 0.5797 | 0.02568 | 0.0464 | 1.19E-15 | 0.2121 |
| 0.0247 | 0.04112 | 0.08113 | 0.1174 | 4.60E-10 | 0.4684 |
| 0.0272 | 0.02289 | 0.0778 | 0.154 | 3.22E-09 | 0.704399 |
| 0.2084 | 0.07845 | 0.03321 | 0.0842 | 4.18E-20 | 0.0290898 |
| 0.2447 | 0.1086 | 0.0268 | 0.0736 | 1.03E-225 | 0.329 |
| 0.0688 | 0.02845 | 0.05172 | 0.1391 | 3.16E-16 | 0.0954289 |
| 0.1104 | 0.07198 | 0.04179 | 0.09 | 3.09E-08 | 0.1661 |
| 0.2099 | 0.07845 | 0.03389 | 0.0842 | 2.03E-12 | 0.0290898 |
| 0.4305 | 0.5038 | 0.02782 | 0.0456 | 2.70E-08 | 0.4114 |
| 0.2402 | 0.1086 | 0.03044 | 0.0736 | 3.58E-69 | 0.329 |
| 0.2083 | 0.07845 | 0.03229 | 0.0842 | 2.75E-12 | 0.0290898 |
| 0.4349 | 0.5038 | 0.02614 | 0.0456 | 5.43E-09 | 0.4114 |
| 0.2449 | 0.1086 | 0.02797 | 0.0736 | 2.29E-112 | 0.329 |
| 0.0086 | 0.03279 | 0.1747 | 0.1261 | 2.30E-18 | 0.0284997 |
| 0.0081 | 0.009645 | 0.1814 | 0.2335 | 2.00E-15 | 0.735201 |
| 0.5587 | 0.3298 | 0.02453 | 0.0484 | 1.20E-10 | 0.2568 |
| 0.2454 | 0.1955 | 0.02745 | 0.0576 | 7.76E-48 | 0.9394 |
| 0.7759 | 0.7776 | 0.02895 | 0.0549 | 8.76E-09 | 0.9043 |
| 0.5587 | 0.3298 | 0.02465 | 0.0484 | 6.90E-10 | 0.2568 |
| 0.2454 | 0.1955 | 0.0276 | 0.0576 | 1.71E-45 | 0.9394 |
| 0.5587 | 0.3298 | 0.02445 | 0.0484 | 6.79E-13 | 0.2568 |
| 0.2454 | 0.1955 | 0.0273 | 0.0576 | 8.06E-53 | 0.9394 |
| 0.7759 | 0.7776 | 0.0289 | 0.0549 | 3.75E-08 | 0.9043 |
| 0.5587 | 0.3298 | 0.02448 | 0.0484 | 6.09E-13 | 0.2568 |
| 0.2454 | 0.1955 | 0.02736 | 0.0576 | 1.16E-51 | 0.9394 |
| 0.7759 | 0.7776 | 0.02894 | 0.0549 | 2.05E-08 | 0.9043 |
| 0.0681 | 0.0008004 | 0.07716 | 0.8367 | 1.75E-17 | 0.1875 |
| 0.5722 | 0.5164 | 0.03915 | 0.0518 | 2.14E-49 | 0.7501 |
| 0.0686 | 0.0008004 | 0.06113 | 0.8367 | 7.61E-34 | 0.1875 |
| 0.1398 | 0.2113 | 0.03898 | 0.0558 | 1.10E-13 | 0.6975 |
| 0.1173 | 0.1517 | 0.0446 | 0.0641 | 6.25E-146 | 0.01842 |
| 0.1367 | 0.288 | 0.04076 | 0.0505 | 1.28E-08 | 0.8473 |
| 0.5014 | 0.5015 | 0.03041 | 0.052 | 8.65E-22 | 0.3526 |
| 0.0686 | 0.0008004 | 0.06015 | 0.8367 | 3.14E-39 | 0.1875 |
| 0.5362 | 0.4992 | 0.0308 | 0.0522 | 1.13E-24 | 0.4996 |
| 0.1179 | 0.1517 | 0.04857 | 0.0641 | 1.39E-65 | 0.0200198 |
| 0.2371 | 0.1065 | 0.03135 | 0.074 | 5.94E-51 | 0.5083 |
| 0.1238 | 0.2745 | 0.04331 | 0.0512 | 1.95E-11 | 0.5162 |
| 0.0686 | 0.0008004 | 0.06047 | 0.8367 | 6.52E-42 | 0.1875 |
| 0.1174 | 0.1517 | 0.04613 | 0.0641 | 3.67E-110 | 0.01842 |
| 0.1553 | 0.3901 | 0.04073 | 0.0506 | 3.42E-15 | 0.4372 |
| 0.2372 | 0.1065 | 0.03192 | 0.074 | 2.91E-26 | 0.5083 |
| 0.1365 | 0.288 | 0.04133 | 0.0505 | 1.44E-10 | 0.8473 |
| 0.5014 | 0.5015 | 0.03045 | 0.052 | 3.03E-25 | 0.3526 |

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|---|---|---|---|---|---|
| 0.0005 | 0.004456 | 0.5674 | 0.3549 | 3.93E-08 | 0.02009 |
| 0.345 | 0.4221 | 0.02589 | 0.0463 | 4.05E-08 | 0.8607 |
| 0.2464 | 0.2876 | 0.03112 | 0.0507 | 1.21E-24 | 0.9298 |
| 0.6535 | 0.6046 | 0.03175 | 0.0473 | 3.73E-12 | 0.767201 |
| 0.2464 | 0.2876 | 0.03145 | 0.0507 | 1.12E-21 | 0.9298 |
| 0.2466 | 0.2876 | 0.03171 | 0.0507 | 1.71E-10 | 0.9298 |
| 0.4572 | 0.4372 | 0.03065 | 0.0487 | 9.04E-10 | 0.0900907 |
| 0.2466 | 0.2876 | 0.03153 | 0.0507 | 1.00E-10 | 0.9298 |
| 0.2467 | 0.2876 | 0.03074 | 0.0507 | 2.11E-09 | 0.9298 |
| 0.2466 | 0.2876 | 0.03133 | 0.0507 | 5.49E-11 | 0.9298 |
| 0.4719 | 0.3699 | 0.02974 | 0.0485 | 1.42E-13 | 0.6635 |
| 0.4865 | 0.2828 | 0.02967 | 0.061 | 9.61E-12 | 0.5346 |
| 0.2466 | 0.2876 | 0.03133 | 0.0507 | 1.66E-14 | 0.9298 |
| 0.2465 | 0.2876 | 0.03137 | 0.0507 | 6.46E-25 | 0.9298 |
| 0.2466 | 0.2876 | 0.03131 | 0.0507 | 3.36E-15 | 0.9298 |
| 0.2466 | 0.2876 | 0.03149 | 0.0507 | 7.48E-14 | 0.9298 |
| 0.7744 | 0.7902 | 0.02511 | 0.0566 | 4.52E-32 | 0.1036 |
| 0.0077 | 0.06232 | 0.1494 | 0.0954 | 1.37E-08 | 0.649999 |
| 0.611 | 0.6666 | 0.02551 | 0.0484 | 7.89E-09 | 0.696299 |
| 0.0201 | 0.003981 | 0.08936 | 0.365 | 1.12E-08 | 0.4678 |
| 0.6109 | 0.6666 | 0.02548 | 0.0484 | 1.46E-09 | 0.696299 |
| 0.0201 | 0.003981 | 0.08918 | 0.365 | 9.28E-10 | 0.4678 |
| 0.0041 | 0.009268 | 0.201 | 0.2416 | 1.29E-08 | 0.707801 |
| 0.4847 | 0.5676 | 0.02672 | 0.0463 | 9.13E-13 | 0.5962 |
| 0.592 | 0.5984 | 0.02451 | 0.0464 | 3.18E-08 | 0.9317 |
| 0.3256 | 0.03521 | 0.0262 | 0.1253 | 3.31E-17 | 0.6524 |
| 0.592 | 0.5984 | 0.02489 | 0.0464 | 2.30E-09 | 0.9317 |
| 0.5715 | 0.4562 | 0.02517 | 0.0457 | 1.21E-08 | 0.3228 |
| 0.5044 | 0.2247 | 0.02479 | 0.0549 | 2.91E-10 | 0.1255 |
| 0.475 | 0.4026 | 0.02416 | 0.0467 | 3.70E-09 | 0.4826 |
| 0.3256 | 0.03521 | 0.02632 | 0.1253 | 1.09E-18 | 0.6524 |
| 0.4882 | 0.382 | 0.0236 | 0.0474 | 5.53E-10 | 0.7097 |
| 0.3257 | 0.03521 | 0.02599 | 0.1253 | 3.43E-13 | 0.6524 |
| 0.4903 | 0.4009 | 0.02397 | 0.0466 | 1.81E-08 | 0.6265 |
| 0.3256 | 0.03521 | 0.02614 | 0.1253 | 8.09E-16 | 0.6524 |
| 0.02 | 0.0162 | 0.08768 | 0.1796 | 8.75E-09 | 0.8315 |
| 0.0711 | 0.0008447 | 0.05515 | 0.8059 | 4.66E-09 | 0.1911 |
| 0.0888 | 0.004023 | 0.04821 | 0.3601 | 9.64E-11 | 0.0852001 |
| 0.5719 | 0.5607 | 0.02491 | 0.0461 | 3.27E-16 | 0.5713 |
| 0.776 | 0.7314 | 0.02898 | 0.0516 | 1.91E-38 | 0.0368799 |
| 0.3592 | 0.6809 | 0.02921 | 0.0497 | 1.19E-32 | 0.21 |
| 0.3039 | 0.2789 | 0.0392 | 0.0513 | 4.22E-11 | 0.3248 |
| 0.199 | 0.05088 | 0.04579 | 0.1066 | 1.22E-13 | 0.1983 |
| 0.1845 | 0.3626 | 0.03974 | 0.0472 | 2.60E-145 | 0.0579002 |
| 0.0565 | 0.05421 | 0.0784 | 0.1021 | 2.26E-10 | 0.8432 |
| 0.258 | 0.1541 | 0.04209 | 0.0635 | 1.15E-17 | 0.7535 |
| 0.0709 | 0.03757 | 0.07038 | 0.1224 | 4.12E-12 | 0.592 |
| 0.0042 | 0.001315 | 0.1969 | 0.6881 | 2.46E-08 | 0.8408 |
| 0.0029 | 0.02198 | 0.2311 | 0.1568 | 7.08E-14 | 0.1846 |
| 0.0543 | 0.04058 | 0.05523 | 0.1145 | 2.78E-28 | 0.2585 |
| 0.0042 | 0.001315 | 0.1963 | 0.6881 | 4.99E-08 | 0.8408 |
| 0.0029 | 0.02198 | 0.2288 | 0.1568 | 8.60E-21 | 0.1846 |
| 0.0212 | 0.008734 | 0.0867 | 0.2645 | 3.04E-09 | 0.3686 |
| 0.2069 | 0.1508 | 0.03007 | 0.0653 | 4.86E-08 | 0.2124 |
| 0.5715 | 0.4562 | 0.02438 | 0.0457 | 8.25E-09 | 0.3237 |
| 0.3072 | 0.544 | 0.02853 | 0.0455 | 8.69E-09 | 0.3239 |
| 0.1051 | 0.0953 | 0.04155 | 0.0779 | 3.00E-14 | 0.367 |
| 0.0232 | 0.01469 | 0.08914 | 0.1922 | 7.97E-13 | 0.3905 |

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|---|---|---|---|---|---|
| 0.0519 | 0.001482 | 0.06208 | 0.6165 | 3.33E-09 | 0.201 |
| 0.1737 | 0.1294 | 0.0366 | 0.069 | 5.27E-09 | 0.667999 |
| 0.4102 | 0.3577 | 0.02762 | 0.0477 | 3.66E-08 | 0.9637 |
| 0.0343 | 0.005012 | 0.06715 | 0.3584 | 1.20E-13 | 0.6805 |
| 0.0468 | 0.02801 | 0.05918 | 0.1422 | 9.08E-11 | 0.0465404 |
| 0.0756 | 0.02538 | 0.04773 | 0.1442 | 1.58E-31 | 0.5585 |
| 0.1416 | 0.2239 | 0.03584 | 0.0554 | 5.84E-20 | 0.4435 |
| 0.0871 | 0.01114 | 0.04479 | 0.2277 | 3.19E-40 | 0.7791 |
| 0.0343 | 0.005012 | 0.06723 | 0.3584 | 1.09E-13 | 0.6805 |
| 0.0468 | 0.02801 | 0.05926 | 0.1422 | 3.16E-10 | 0.0465404 |
| 0.0463 | 0.01167 | 0.0588 | 0.2211 | 4.03E-09 | 0.671399 |
| 0.099 | 0.08743 | 0.0339 | 0.081 | 0.00E+00 | 0.484 |
| 0.0756 | 0.02538 | 0.04773 | 0.1442 | 1.06E-32 | 0.5585 |
| 0.1416 | 0.2239 | 0.03585 | 0.0554 | 4.12E-21 | 0.4435 |
| 0.0871 | 0.01114 | 0.04478 | 0.2277 | 7.31E-42 | 0.7791 |
| 0.0343 | 0.005012 | 0.06729 | 0.3584 | 4.34E-13 | 0.6805 |
| 0.0468 | 0.02801 | 0.05933 | 0.1422 | 6.66E-10 | 0.0465404 |
| 0.0463 | 0.01167 | 0.05887 | 0.2211 | 1.41E-08 | 0.671399 |
| 0.0756 | 0.02538 | 0.04776 | 0.1442 | 1.54E-34 | 0.5585 |
| 0.1416 | 0.2239 | 0.03586 | 0.0554 | 2.13E-22 | 0.4435 |
| 0.3344 | 0.5043 | 0.02702 | 0.0457 | 1.93E-08 | 0.585901 |
| 0.0871 | 0.01114 | 0.04477 | 0.2277 | 4.41E-45 | 0.7791 |
| 0.099 | 0.08695 | 0.03426 | 0.0811 | 0.00E+00 | 0.4554 |
| 0.0343 | 0.005012 | 0.06729 | 0.3584 | 9.69E-14 | 0.6805 |
| 0.0463 | 0.01166 | 0.05888 | 0.2214 | 4.98E-09 | 0.670601 |
| 0.1416 | 0.2239 | 0.0359 | 0.0554 | 6.20E-21 | 0.4435 |
| 0.3344 | 0.5043 | 0.02699 | 0.0457 | 1.31E-10 | 0.585901 |
| 0.0871 | 0.01114 | 0.04492 | 0.2277 | 5.24E-40 | 0.7791 |
| 0.0762 | 0.0281 | 0.04755 | 0.1378 | 5.97E-33 | 0.740699 |
| 0.0343 | 0.005012 | 0.06712 | 0.3584 | 5.39E-14 | 0.6805 |
| 0.0468 | 0.02801 | 0.0592 | 0.1422 | 6.49E-10 | 0.0465404 |
| 0.0756 | 0.02538 | 0.04769 | 0.1442 | 2.95E-32 | 0.5585 |
| 0.1416 | 0.2239 | 0.03582 | 0.0554 | 1.22E-20 | 0.4435 |
| 0.0871 | 0.01114 | 0.04478 | 0.2277 | 3.37E-40 | 0.7791 |
| 0.0343 | 0.005012 | 0.06701 | 0.3584 | 3.73E-13 | 0.6805 |
| 0.0463 | 0.01166 | 0.05866 | 0.2214 | 1.44E-08 | 0.670601 |
| 0.1416 | 0.2239 | 0.03572 | 0.0554 | 3.98E-23 | 0.4435 |
| 0.0871 | 0.01114 | 0.04459 | 0.2277 | 7.62E-49 | 0.7791 |
| 0.0762 | 0.0281 | 0.04729 | 0.1378 | 3.88E-38 | 0.740699 |
| 0.0273 | 0.04052 | 0.07946 | 0.1175 | 1.47E-09 | 0.8954 |
| 0.2827 | 0.3882 | 0.02829 | 0.0466 | 1.54E-08 | 0.0312299 |
| 0.1343 | 0.09292 | 0.0377 | 0.0777 | 3.91E-09 | 0.4006 |
| 0.0175 | 0.01176 | 0.09653 | 0.2119 | 1.29E-08 | 0.5864 |
| 0.3258 | 0.5036 | 0.02569 | 0.0456 | 1.62E-62 | 0.5836 |
| 0.1835 | 0.2031 | 0.03172 | 0.0565 | 4.55E-09 | 0.9602 |
| 0.146 | 0.2525 | 0.03341 | 0.0524 | 2.07E-83 | 0.6859 |
| 0.0066 | 0.02218 | 0.1494 | 0.1518 | 2.48E-08 | 0.561 |
| 0.0048 | 0.02246 | 0.1845 | 0.1555 | 4.78E-08 | 0.4655 |
| 0.1839 | 0.008356 | 0.03634 | 0.2583 | 4.32E-08 | 0.0398602 |
| 0.2425 | 0.3066 | 0.02879 | 0.0498 | 5.44E-17 | 0.2701 |
| 0.0972 | 0.027 | 0.04226 | 0.1409 | 3.86E-08 | 0.795 |
| 0.0971 | 0.05677 | 0.04098 | 0.0995 | 5.41E-10 | 0.1631 |
| 0.1983 | 0.124 | 0.03293 | 0.069 | 2.33E-34 | 0.04134 |
| 0.1976 | 0.1253 | 0.0323 | 0.0689 | 1.68E-27 | 0.0247098 |
| 0.0449 | 0.04459 | 0.06505 | 0.11 | 9.29E-12 | 0.7751 |
| 0.4387 | 0.2663 | 0.0273 | 0.0517 | 3.44E-09 | 0.3011 |
| 0.411 | 0.3162 | 0.02783 | 0.0495 | 4.55E-08 | 0.6517 |
| 0.1974 | 0.05865 | 0.03421 | 0.098 | 1.06E-09 | 0.8625 |

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|---|---|---|---|---|---|
| 0.0365 | 0.02483 | 0.06518 | 0.1486 | 1.02E-28 | 0.3053 |
| 0.0855 | 0.004361 | 0.04531 | 0.3649 | 2.12E-39 | 0.9783 |
| 0.0648 | 0.02027 | 0.05089 | 0.1696 | 2.80E-10 | 0.8078 |
| 0.0409 | 0.04949 | 0.06406 | 0.1042 | 4.53E-08 | 0.7526 |
| 0.0129 | 0.03811 | 0.1086 | 0.1196 | 3.59E-20 | 0.547299 |
| 0.1053 | 0.08695 | 0.03364 | 0.0811 | 0.00E+00 | 0.455 |
| 0.2587 | 0.3136 | 0.03003 | 0.0488 | 7.29E-10 | 0.2776 |
| 0.2441 | 0.2165 | 0.02935 | 0.0553 | 4.42E-28 | 0.1629 |
| 0.0321 | 0.02762 | 0.07737 | 0.1489 | 3.31E-08 | 0.692201 |
| 0.0387 | 0.02392 | 0.06851 | 0.1562 | 4.36E-10 | 0.8478 |
| 0.0029 | 0.02198 | 0.1943 | 0.1568 | 1.14E-16 | 0.1846 |
| 0.9971 | 0.9852 | 0.2032 | 0.2027 | 1.46E-08 | 0.3086 |
| 0.0003 | 0.04176 | 0.5579 | 0.1153 | 3.03E-08 | 0.1376 |
| 0.0029 | 0.02198 | 0.1946 | 0.1568 | 3.06E-19 | 0.1846 |
| 0.9971 | 0.9852 | 0.2039 | 0.2027 | 2.52E-08 | 0.3086 |
| 0.0929 | 0.1108 | 0.03056 | 0.0725 | 3.80E-08 | 0.3505 |
| 0.5109 | 0.541 | 0.021 | 0.0469 | 2.27E-09 | 0.2467 |
| 0.001 | 0.01049 | 0.3644 | 0.2273 | 9.93E-09 | 0.955 |
| 0.319 | 0.03521 | 0.02572 | 0.1253 | 1.60E-08 | 0.6524 |
| 0.0354 | 0.007566 | 0.06609 | 0.2613 | 3.35E-10 | 0.4245 |
| 0.1634 | 0.2353 | 0.03225 | 0.0532 | 1.74E-08 | 0.0392998 |
| 0.5685 | 0.3828 | 0.02375 | 0.047 | 1.21E-15 | 0.753101 |
| 0.001 | 0.01049 | 0.3629 | 0.2273 | 4.36E-09 | 0.955 |
| 0.4999 | 0.2247 | 0.02361 | 0.0549 | 8.45E-09 | 0.1255 |
| 0.5685 | 0.3828 | 0.0237 | 0.047 | 1.08E-12 | 0.753101 |
| 0.0704 | 0.002626 | 0.0559 | 0.4801 | 3.84E-16 | 0.5019 |
| 0.0798 | 0.04891 | 0.04579 | 0.1071 | 1.06E-11 | 0.953 |
| 0.5834 | 0.5164 | 0.0279 | 0.0518 | 3.04E-98 | 0.75 |
| 0.4388 | 0.245 | 0.02936 | 0.0538 | 1.21E-68 | 0.433 |
| 0.4388 | 0.2252 | 0.02936 | 0.0681 | 1.21E-68 | 0.8549 |
| 0.5433 | 0.505 | 0.02801 | 0.0519 | 2.52E-21 | 0.4179 |
| 0.0704 | 0.002626 | 0.05597 | 0.4801 | 2.31E-15 | 0.5019 |
| 0.0798 | 0.04891 | 0.04587 | 0.1071 | 7.74E-12 | 0.953 |
| 0.5834 | 0.5164 | 0.02804 | 0.0518 | 5.56E-92 | 0.75 |
| 0.4388 | 0.245 | 0.02947 | 0.0538 | 3.56E-64 | 0.433 |
| 0.4388 | 0.2252 | 0.02947 | 0.0681 | 3.56E-64 | 0.8549 |
| 0.5433 | 0.505 | 0.02805 | 0.0519 | 2.56E-20 | 0.4179 |
| 0.072 | 0.002626 | 0.0721 | 0.4801 | 9.55E-11 | 0.5019 |
| 0.2237 | 0.3723 | 0.03825 | 0.0471 | 1.72E-28 | 0.1166 |
| 0.3892 | 0.4641 | 0.03772 | 0.0522 | 2.30E-10 | 0.4961 |
| 0.5755 | 0.5164 | 0.03887 | 0.0518 | 5.46E-26 | 0.749701 |
| 0.4372 | 0.245 | 0.03985 | 0.0538 | 8.99E-20 | 0.433 |
| 0.4372 | 0.2252 | 0.03985 | 0.0681 | 8.99E-20 | 0.8549 |
| 0.0444 | 0.002425 | 0.06725 | 0.4875 | 1.90E-08 | 0.4712 |
| 0.1171 | 0.1517 | 0.04087 | 0.0641 | 1.54E-83 | 0.0200101 |
| 0.481 | 0.4828 | 0.02583 | 0.0458 | 3.02E-11 | 0.0241102 |
| 0.2561 | 0.3333 | 0.02975 | 0.0483 | 1.09E-10 | 0.517001 |
| 0.1758 | 0.1344 | 0.03444 | 0.067 | 2.69E-23 | 0.3903 |
| 0.1482 | 0.2489 | 0.03854 | 0.0529 | 7.97E-13 | 0.1369 |
| 0.4466 | 0.26 | 0.02499 | 0.0523 | 3.76E-132 | 0.5358 |
| 0.6622 | 0.731 | 0.02866 | 0.0516 | 1.69E-09 | 0.4604 |
| 0.1482 | 0.2489 | 0.03832 | 0.0529 | 1.93E-12 | 0.1369 |
| 0.4466 | 0.2595 | 0.02516 | 0.0523 | 1.10E-115 | 0.6974 |
| 0.0512 | 0.1128 | 0.06122 | 0.0732 | 3.64E-13 | 0.5532 |
| 0.5978 | 0.5899 | 0.02764 | 0.0468 | 7.71E-12 | 0.779301 |
| 0.1462 | 0.1595 | 0.03794 | 0.0625 | 3.88E-08 | 0.4304 |
| 0.1961 | 0.09891 | 0.03418 | 0.0766 | 3.94E-08 | 0.215 |
| 0.0512 | 0.1128 | 0.06029 | 0.0732 | 8.31E-13 | 0.5532 |

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|---|---|---|---|---|---|
| 0.0154 | 0.02295 | 0.1101 | 0.1567 | 4.57E-11 | 0.1102 |
| 0.1057 | 0.1082 | 0.04392 | 0.0735 | 2.58E-16 | 0.8692 |
| 0.5197 | 0.2723 | 0.02746 | 0.0513 | 2.35E-08 | 0.2333 |
| 0.1227 | 0.1276 | 0.04135 | 0.0673 | 2.66E-08 | 0.097499 |
| 0.0031 | 0.02497 | 0.247 | 0.1471 | 4.46E-08 | 0.2234 |
| 0.0559 | 0.02981 | 0.05365 | 0.1348 | 1.32E-16 | 0.0199701 |
| 0.7745 | 0.7574 | 0.03328 | 0.0538 | 1.02E-10 | 0.2916 |
| 0.1635 | 0.05233 | 0.03765 | 0.1027 | 4.51E-08 | 0.715201 |
| 0.8197 | 0.8486 | 0.03173 | 0.0639 | 2.33E-12 | 0.5865 |
| 0.2303 | 0.3065 | 0.02943 | 0.0498 | 1.42E-09 | 0.2921 |
| 0.6088 | 0.5047 | 0.02485 | 0.0456 | 7.90E-16 | 0.1821 |
| 0.3162 | 0.2954 | 0.02688 | 0.0497 | 1.64E-08 | 0.151 |
| 0.5887 | 0.5173 | 0.02962 | 0.0518 | 1.55E-09 | 0.7185 |
| 0.8197 | 0.8486 | 0.03182 | 0.0639 | 3.02E-11 | 0.5865 |
| 0.6079 | 0.5115 | 0.02489 | 0.0455 | 4.63E-13 | 0.173 |
| 0.401 | 0.3458 | 0.02909 | 0.0612 | 3.55E-10 | 0.0959798 |
| 0.7669 | 0.6927 | 0.0293 | 0.0497 | 1.12E-11 | 0.2845 |
| 0.2216 | 0.2748 | 0.02956 | 0.0509 | 2.25E-08 | 0.1658 |
| 0.074 | 0.00329 | 0.04714 | 0.4102 | 3.61E-21 | 0.8367 |
| 0.6084 | 0.3782 | 0.02511 | 0.0469 | 6.64E-31 | 0.2198 |
| 0.5233 | 0.534 | 0.0244 | 0.0456 | 1.77E-08 | 0.2677 |
| 0.7148 | 0.5608 | 0.04205 | 0.0461 | 1.74E-10 | 0.7416 |
| 0.2094 | 0.3626 | 0.0394 | 0.0472 | 2.39E-108 | 0.0579002 |
| 0.0499 | 0.02672 | 0.08664 | 0.1439 | 4.02E-12 | 0.3012 |
| 0.2702 | 0.1541 | 0.04316 | 0.0635 | 1.04E-12 | 0.7535 |
| 0.5574 | 0.548 | 0.03799 | 0.0461 | 2.62E-12 | 0.5991 |
| 0.3892 | 0.1267 | 0.02531 | 0.0692 | 8.43E-10 | 0.1106 |
| 0.8211 | 0.8344 | 0.03209 | 0.0618 | 6.08E-09 | 0.2283 |
| 0.0967 | 0.04117 | 0.04166 | 0.1166 | 7.49E-10 | 0.1437 |
| 0.2303 | 0.3065 | 0.02926 | 0.0498 | 3.22E-11 | 0.2921 |
| 0.2521 | 0.2451 | 0.03039 | 0.0531 | 1.56E-11 | 0.3337 |
| 0.4556 | 0.2689 | 0.02598 | 0.0516 | 4.92E-49 | 0.7098 |
| 0.2279 | 0.2471 | 0.03133 | 0.053 | 9.38E-33 | 0.2517 |
| 0.0459 | 0.004779 | 0.07912 | 0.3262 | 3.62E-10 | 0.4979 |
| 0.2402 | 0.1086 | 0.03104 | 0.0736 | 3.47E-51 | 0.329 |
| 0.5436 | 0.3841 | 0.02926 | 0.052 | 8.44E-10 | 0.3813 |
| 0.1067 | 0.1641 | 0.04744 | 0.0639 | 4.17E-08 | 0.3457 |
| 0.6062 | 0.1169 | 0.02977 | 0.0708 | 1.72E-23 | 0.1247 |
| 0.2255 | 0.07128 | 0.03366 | 0.0879 | 3.47E-08 | 0.1665 |
| 0.5065 | 0.3314 | 0.02942 | 0.0523 | 6.34E-09 | 0.5031 |
| 0.2125 | 0.0107 | 0.03386 | 0.2203 | 8.28E-19 | 0.9948 |
| 0.0277 | 0.007397 | 0.08527 | 0.2719 | 1.76E-15 | 0.780001 |
| 0.8374 | 0.9147 | 0.03753 | 0.0822 | 3.36E-08 | 0.8716 |
| 0.3354 | 0.4627 | 0.02895 | 0.0462 | 1.77E-14 | 0.9772 |
| 0.0277 | 0.007408 | 0.08507 | 0.2718 | 7.25E-10 | 0.777301 |
| 0.1973 | 0.05865 | 0.0346 | 0.098 | 2.11E-09 | 0.8625 |
| 0.2966 | 0.1244 | 0.02834 | 0.0686 | 1.22E-10 | 0.7019 |
| 0.633 | 0.4193 | 0.03113 | 0.0486 | 2.26E-09 | 0.2146 |
| 0.2969 | 0.1244 | 0.02646 | 0.0686 | 7.83E-10 | 0.7019 |
| 0.2969 | 0.1244 | 0.0281 | 0.0686 | 1.26E-08 | 0.7019 |
| 0.0705 | 0.002922 | 0.04962 | 0.432 | 1.09E-10 | 0.649999 |
| 0.0457 | 0.003723 | 0.06475 | 0.3907 | 8.83E-11 | 0.0329602 |
| 0.4733 | 0.5401 | 0.02562 | 0.0456 | 9.56E-57 | 0.7871 |
| 0.4777 | 0.208 | 0.02404 | 0.0563 | 1.83E-10 | 0.0459304 |
| 0.319 | 0.03521 | 0.02633 | 0.1253 | 9.00E-18 | 0.6524 |
| 0.3256 | 0.03521 | 0.02625 | 0.1253 | 4.02E-12 | 0.6524 |
| 0.6359 | 0.727 | 0.02629 | 0.0509 | 7.20E-09 | 0.9587 |
| 0.02 | 0.0162 | 0.08807 | 0.1796 | 6.54E-10 | 0.8315 |

| | | | | | |
|---|---|---|---|---|---|
| 0.3256 | 0.03521 | 0.02601 | 0.1253 | 5.62E-14 | 0.6524 |
| 0.3256 | 0.03521 | 0.02661 | 0.1253 | 9.14E-11 | 0.6524 |
| 0.3256 | 0.03521 | 0.02639 | 0.1253 | 8.62E-09 | 0.6524 |
| 0.02 | 0.0162 | 0.08845 | 0.1796 | 2.09E-08 | 0.8315 |
| 0.3256 | 0.03521 | 0.02663 | 0.1253 | 1.39E-10 | 0.6524 |
| 0.3195 | 0.03521 | 0.02651 | 0.1253 | 1.43E-16 | 0.6524 |
| 0.597 | 0.6099 | 0.02469 | 0.0466 | 2.18E-10 | 0.7692 |
| 0.3256 | 0.03521 | 0.02653 | 0.1253 | 2.04E-10 | 0.6524 |
| 0.2038 | 0.4347 | 0.03371 | 0.0458 | 1.49E-09 | 0.0498597 |
| 0.4466 | 0.26 | 0.02485 | 0.0523 | 1.66E-133 | 0.5358 |
| 0.0512 | 0.1128 | 0.06087 | 0.0732 | 1.51E-18 | 0.5532 |
| 0.2093 | 0.1083 | 0.03386 | 0.0736 | 1.23E-11 | 0.1833 |
| 0.2826 | 0.3882 | 0.0284 | 0.0466 | 3.59E-08 | 0.0312299 |
| 0.5219 | 0.3083 | 0.02565 | 0.0493 | 1.05E-10 | 0.4086 |
| 0.2757 | 0.05315 | 0.03508 | 0.1008 | 6.75E-13 | 0.1725 |
| 0.4483 | 0.3127 | 0.03074 | 0.0523 | 8.61E-11 | 0.2841 |
| 0.1792 | 0.1525 | 0.03302 | 0.0632 | 2.87E-08 | 0.4131 |
| 0.0032 | 0.004446 | 0.2563 | 0.3457 | 3.42E-12 | 0.5019 |
| 0.3011 | 0.1198 | 0.02696 | 0.0692 | 1.21E-19 | 0.985 |
| 0.0732 | 0.02004 | 0.04765 | 0.1656 | 4.97E-11 | 0.1499 |
| 0.0468 | 0.02801 | 0.05894 | 0.1422 | 1.33E-10 | 0.0465404 |
| 0.0463 | 0.01166 | 0.05854 | 0.2214 | 1.63E-08 | 0.670601 |
| 0.0756 | 0.02538 | 0.04748 | 0.1442 | 6.25E-32 | 0.5585 |
| 0.0261 | 0.0152 | 0.07793 | 0.1935 | 2.29E-20 | 0.4553 |
| 0.3344 | 0.5043 | 0.02684 | 0.0457 | 2.29E-08 | 0.585901 |
| 0.0871 | 0.01114 | 0.04464 | 0.2277 | 1.63E-37 | 0.7791 |
| 0.099 | 0.08647 | 0.03429 | 0.0813 | 1.76399999 | 0.449 |
| 0.0468 | 0.02801 | 0.05912 | 0.1422 | 2.10E-09 | 0.0465404 |
| 0.0463 | 0.01166 | 0.05867 | 0.2214 | 3.41E-08 | 0.670601 |
| 0.0756 | 0.02538 | 0.0476 | 0.1442 | 2.82E-33 | 0.5585 |
| 0.0261 | 0.0152 | 0.07811 | 0.1935 | 2.74E-20 | 0.4553 |
| 0.3344 | 0.5043 | 0.02692 | 0.0457 | 4.18E-08 | 0.585901 |
| 0.0871 | 0.01114 | 0.04473 | 0.2277 | 3.89E-40 | 0.7791 |
| 0.099 | 0.08647 | 0.03453 | 0.0813 | 1.85E-306 | 0.449 |
| 0.1101 | 0.09757 | 0.04291 | 0.077 | 4.67E-11 | 0.1773 |
| 0.3265 | 0.5442 | 0.02858 | 0.0455 | 2.20E-10 | 0.3306 |
| 0.2366 | 0.1953 | 0.03217 | 0.0573 | 8.94E-09 | 0.8123 |
| 0.0315 | 0.01769 | 0.07123 | 0.1832 | 2.73E-08 | 0.3447 |
| 0.4173 | 0.4836 | 0.02575 | 0.0454 | 4.75E-09 | 0.1235 |
| 0.766 | 0.7338 | 0.02777 | 0.0517 | 1.40E-25 | 0.0563495 |
| 0.199 | 0.1175 | 0.03356 | 0.0707 | 5.58E-45 | 0.1025 |
| 0.1779 | 0.05297 | 0.03583 | 0.1008 | 4.70E-08 | 0.2164 |
| 0.3781 | 0.6129 | 0.02476 | 0.047 | 9.92E-10 | 0.0365603 |
| 0.5236 | 0.534 | 0.02438 | 0.0456 | 1.16E-09 | 0.2676 |
| 0.1941 | 0.05865 | 0.02999 | 0.098 | 1.36E-09 | 0.8625 |
| 0.0035 | 0.01555 | 0.2241 | 0.1806 | 2.06E-09 | 0.3913 |
| 0.0029 | 0.02198 | 0.2241 | 0.1568 | 9.63E-12 | 0.1846 |
| 0.9748 | 0.9604 | 0.08043 | 0.1166 | 9.52E-09 | 0.9826 |
| 0.0523 | 0.009082 | 0.05758 | 0.248 | 5.09E-11 | 0.8013 |
| 0.223 | 0.1104 | 0.03417 | 0.0728 | 4.39E-09 | 0.6409 |
| 0.0443 | 0.1363 | 0.07319 | 0.07 | 2.15E-08 | 0.2089 |
| 0.4567 | 0.49 | 0.0302 | 0.0487 | 4.31E-81 | 0.8913 |
| 0.2446 | 0.006063 | 0.03579 | 0.3 | 1.06E-13 | 0.9568 |
| 0.7804 | 0.9021 | 0.03527 | 0.0775 | 4.55E-10 | 0.1106 |
| 0.014 | 0.007996 | 0.1144 | 0.268 | 9.40E-09 | 0.0782096 |
| 0.0144 | 0.01422 | 0.1169 | 0.2003 | 5.08E-12 | 0.1602 |
| 0.0079 | 0.03755 | 0.1549 | 0.119 | 4.89E-09 | 0.3653 |
| 0.0074 | 0.02955 | 0.1607 | 0.1365 | 1.12E-11 | 0.9248 |

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|---|---|---|---|---|---|
| 0.0277 | 0.03914 | 0.08106 | 0.1158 | 3.17E-20 | 0.6005 |
| 0.1974 | 0.05865 | 0.03411 | 0.098 | 4.02E-20 | 0.8625 |
| 0.0188 | 0.02379 | 0.1013 | 0.1504 | 2.06E-11 | 0.4792 |
| 0.0312 | 0.01471 | 0.07557 | 0.2013 | 1.48E-08 | 0.4496 |
| 0.189 | 0.1867 | 0.03275 | 0.0595 | 5.01E-11 | 0.2692 |
| 0.6741 | 0.4166 | 0.02733 | 0.0463 | 5.51E-10 | 0.7959 |
| 0.0315 | 0.01471 | 0.06958 | 0.2013 | 2.69E-09 | 0.4496 |
| 0.1915 | 0.1895 | 0.0304 | 0.0591 | 2.49E-14 | 0.3337 |
| 0.0378 | 0.02382 | 0.06302 | 0.1566 | 2.02E-08 | 0.8106 |
| 0.6738 | 0.4166 | 0.02517 | 0.0463 | 2.39E-08 | 0.7959 |
| 0.0315 | 0.01471 | 0.07147 | 0.2013 | 2.99E-15 | 0.4496 |
| 0.0378 | 0.02392 | 0.06448 | 0.1562 | 4.31E-14 | 0.8478 |
| 0.0315 | 0.01471 | 0.0704 | 0.2013 | 9.72E-11 | 0.4496 |
| 0.1915 | 0.1895 | 0.03076 | 0.0591 | 1.70E-15 | 0.3337 |
| 0.0378 | 0.02382 | 0.0638 | 0.1566 | 8.33E-09 | 0.8106 |
| 0.0316 | 0.01471 | 0.07016 | 0.2013 | 8.63E-12 | 0.4496 |
| 0.0379 | 0.02382 | 0.06368 | 0.1566 | 2.87E-11 | 0.8106 |
| 0.0315 | 0.01471 | 0.07237 | 0.2013 | 6.10E-13 | 0.4496 |
| 0.0378 | 0.02392 | 0.06515 | 0.1562 | 5.86E-13 | 0.8478 |
| 0.0315 | 0.01471 | 0.07983 | 0.2013 | 3.78E-08 | 0.4496 |
| 0.1973 | 0.1252 | 0.03405 | 0.069 | 2.31E-36 | 0.0162499 |
| 0.0389 | 0.02392 | 0.07094 | 0.1562 | 5.94E-11 | 0.8478 |
| 0.0316 | 0.01471 | 0.07284 | 0.2013 | 2.44E-10 | 0.4496 |
| 0.0328 | 0.06289 | 0.07011 | 0.0943 | 2.22E-11 | 0.542099 |
| 0.5116 | 0.4 | 0.02493 | 0.0465 | 2.84E-08 | 0.23 |
| 0.1096 | 0.01461 | 0.03904 | 0.192 | 2.79E-25 | 0.8397 |
| 0.0368 | 0.002429 | 0.06295 | 0.448 | 1.57E-08 | 0.4156 |
| 0.0814 | 0.05682 | 0.04422 | 0.0979 | 6.16E-09 | 0.667 |
| 0.0482 | 0.01192 | 0.07926 | 0.2185 | 8.25E-09 | 0.746299 |
| 0.0762 | 0.02538 | 0.06459 | 0.1442 | 6.78E-18 | 0.5585 |
| 0.025 | 0.0152 | 0.1109 | 0.1935 | 4.23E-10 | 0.4553 |
| 0.0887 | 0.01114 | 0.05961 | 0.2277 | 1.02E-24 | 0.7791 |
| 0.0944 | 0.08647 | 0.04742 | 0.0813 | 9.85E-175 | 0.449 |
| 0.1016 | 0.01051 | 0.05917 | 0.2286 | 3.99E-20 | 0.0739605 |
| 0.1622 | 0.188 | 0.04858 | 0.0586 | 1.89E-08 | 0.0609705 |
| 0.4036 | 0.6243 | 0.036 | 0.0475 | 1.01E-12 | 0.743599 |
| 0.5545 | 0.5302 | 0.03686 | 0.0457 | 1.29E-08 | 0.5954 |
| 0.0479 | 0.02755 | 0.0642 | 0.1354 | 8.24E-19 | 0.2095 |
| 0.4422 | 0.2507 | 0.02793 | 0.053 | 1.17E-12 | 0.3862 |
| 0.8955 | 0.9623 | 0.04516 | 0.1209 | 4.79E-19 | 0.9239 |
| 0.2457 | 0.1086 | 0.0314 | 0.0736 | 1.06E-25 | 0.329 |
| 0.0479 | 0.02755 | 0.06432 | 0.1354 | 1.36E-19 | 0.2095 |
| 0.4422 | 0.2507 | 0.02793 | 0.053 | 7.54E-16 | 0.3862 |
| 0.8964 | 0.9632 | 0.04526 | 0.1222 | 1.96E-24 | 0.9004 |
| 0.0481 | 0.02755 | 0.06195 | 0.1354 | 2.34E-72 | 0.2095 |
| 0.016 | 0.037 | 0.1067 | 0.1187 | 4.18E-08 | 0.0139701 |
| 0.4402 | 0.3676 | 0.02843 | 0.0478 | 7.77E-09 | 0.1777 |
| 0.8956 | 0.9633 | 0.04462 | 0.1222 | 5.12E-48 | 0.8754 |
| 0.1204 | 0.05648 | 0.04248 | 0.0986 | 2.61E-16 | 0.3102 |
| 0.0126 | 0.03193 | 0.1209 | 0.1315 | 6.94E-11 | 0.6608 |
| 0.0368 | 0.002595 | 0.06402 | 0.4462 | 2.07E-08 | 0.3764 |
| 0.0864 | 0.06796 | 0.04674 | 0.0958 | 8.82E-09 | 0.9739 |
| 0.657 | 0.7849 | 0.02772 | 0.0552 | 3.16E-08 | 0.4459 |
| 0.0096 | 0.04919 | 0.1315 | 0.1046 | 1.32E-08 | 0.5615 |
| 0.6904 | 0.6174 | 0.02618 | 0.0472 | 1.17E-20 | 0.1649 |
| 0.0336 | 0.03386 | 0.06803 | 0.1262 | 1.02E-09 | 0.7067 |
| 0.0688 | 0.0008435 | 0.07698 | 0.8103 | 3.34E-09 | 0.1907 |
| 0.3188 | 0.3021 | 0.04395 | 0.058 | 3.10E-10 | 0.9782 |

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|---|---|---|---|---|---|
| 0.5722 | 0.5164 | 0.04022 | 0.0518 | 7.98E-26 | 0.7501 |
| 0.0573 | 0.01072 | 0.05919 | 0.2217 | 1.81E-08 | 0.1324 |
| 0.245 | 0.2063 | 0.03237 | 0.0563 | 1.20E-08 | 0.487401 |
| 0.4102 | 0.3577 | 0.02772 | 0.0477 | 3.49E-09 | 0.9637 |
| 0.0378 | 0.01129 | 0.07353 | 0.216 | 4.41E-08 | 0.3384 |
| 0.0572 | 0.01072 | 0.05796 | 0.2217 | 1.55E-08 | 0.1324 |
| 0.2142 | 0.01973 | 0.03399 | 0.1695 | 9.17E-13 | 0.6997 |
| 0.4183 | 0.2887 | 0.02745 | 0.0503 | 1.45E-55 | 0.793999 |
| 0.2142 | 0.01973 | 0.03394 | 0.1695 | 1.10E-12 | 0.6997 |
| 0.4183 | 0.2887 | 0.0274 | 0.0503 | 1.56E-55 | 0.793999 |
| 0.2589 | 0.3008 | 0.02824 | 0.0494 | 5.07E-09 | 0.261 |
| 0.0798 | 0.04891 | 0.0448 | 0.1071 | 6.79E-12 | 0.953 |
| 0.1941 | 0.05865 | 0.03068 | 0.098 | 6.35E-09 | 0.8625 |
| 0.2848 | 0.1071 | 0.03321 | 0.0745 | 3.77E-15 | 0.0312198 |
| 0.1551 | 0.0567 | 0.039 | 0.1015 | 5.66E-26 | 0.9565 |
| 0.6053 | 0.4904 | 0.02907 | 0.0538 | 1.07E-35 | 0.9662 |
| 0.0032 | 0.005652 | 0.2873 | 0.3174 | 4.57E-08 | 0.3791 |
| 0.3011 | 0.1198 | 0.02757 | 0.0692 | 1.03E-12 | 0.985 |
| 0.0495 | 0.02453 | 0.06077 | 0.1472 | 4.55E-08 | 0.3966 |
| 0.1078 | 0.0786 | 0.04123 | 0.0855 | 3.87E-08 | 0.6016 |
| 0.0416 | 0.09206 | 0.0615 | 0.0784 | 7.55E-10 | 0.916 |
| 0.1076 | 0.03644 | 0.04039 | 0.1185 | 1.74E-31 | 0.1517 |
| 0.0414 | 0.09206 | 0.0617 | 0.0784 | 5.60E-13 | 0.916 |
| 0.0997 | 0.03243 | 0.04201 | 0.127 | 3.86E-08 | 0.4094 |
| 0.7759 | 0.7776 | 0.02956 | 0.0549 | 4.56E-11 | 0.9043 |
| 0.1075 | 0.03644 | 0.04021 | 0.1185 | 2.21E-43 | 0.1517 |
| 0.0414 | 0.09206 | 0.06126 | 0.0784 | 4.00E-12 | 0.916 |
| 0.0997 | 0.03243 | 0.04168 | 0.127 | 2.29E-08 | 0.4094 |
| 0.7759 | 0.7776 | 0.02934 | 0.0549 | 1.11E-10 | 0.9043 |
| 0.1075 | 0.03642 | 0.03976 | 0.1186 | 1.32E-47 | 0.1504 |
| 0.4557 | 0.49 | 0.03138 | 0.0487 | 5.98E-09 | 0.8913 |
| 0.0415 | 0.09206 | 0.06144 | 0.0784 | 6.12E-12 | 0.916 |
| 0.776 | 0.7776 | 0.0295 | 0.0549 | 2.19E-08 | 0.9043 |
| 0.1077 | 0.03644 | 0.04036 | 0.1185 | 1.68E-32 | 0.1517 |
| 0.0414 | 0.09206 | 0.06162 | 0.0784 | 1.20E-11 | 0.916 |
| 0.0062 | 0.004792 | 0.1592 | 0.3369 | 6.27E-09 | 0.4208 |
| 0.1075 | 0.03642 | 0.04021 | 0.1186 | 1.25E-40 | 0.1504 |
| 0.2437 | 0.1212 | 0.03117 | 0.0717 | 1.79E-14 | 0.4933 |
| 0.1096 | 0.01174 | 0.04218 | 0.2128 | 1.17E-15 | 0.4602 |
| 0.0434 | 0.04459 | 0.06802 | 0.11 | 4.86E-08 | 0.7751 |
| 0.0536 | 0.02426 | 0.0547 | 0.1494 | 1.35E-08 | 0.709601 |
| 0.4057 | 0.4544 | 0.02525 | 0.0462 | 6.78E-09 | 0.7074 |
| 0.0991 | 0.08647 | 0.04055 | 0.0813 | 4.96E-38 | 0.449 |
| 0.1327 | 0.0614 | 0.0365 | 0.0966 | 3.92E-15 | 0.3182 |
| 0.0986 | 0.1517 | 0.05893 | 0.0641 | 1.70E-08 | 0.0183599 |
| 0.4249 | 0.3995 | 0.02501 | 0.0465 | 3.61E-08 | 0.9053 |
| 0.8748 | 0.8829 | 0.03692 | 0.0712 | 1.85E-08 | 0.722 |
| 0.2425 | 0.3066 | 0.0287 | 0.0498 | 1.61E-13 | 0.2701 |
| 0.8748 | 0.8829 | 0.03693 | 0.0712 | 1.10E-09 | 0.722 |
| 0.0965 | 0.04117 | 0.04169 | 0.1166 | 8.13E-11 | 0.1437 |
| 0.2304 | 0.3065 | 0.02911 | 0.0498 | 1.71E-20 | 0.2921 |
| 0.1025 | 0.01417 | 0.05014 | 0.1985 | 8.25E-09 | 0.4176 |
| 0.1766 | 0.07404 | 0.0339 | 0.0874 | 1.11E-12 | 0.8694 |
| 0.1155 | 0.07865 | 0.03926 | 0.0855 | 3.34E-08 | 0.3776 |
| 0.1766 | 0.07395 | 0.03486 | 0.0874 | 4.17E-09 | 0.8778 |
| 0.3258 | 0.5436 | 0.02859 | 0.0455 | 1.65E-21 | 0.32 |
| 0.0407 | 0.02283 | 0.06832 | 0.1582 | 3.72E-23 | 0.971 |
| 0.0979 | 0.1339 | 0.04671 | 0.067 | 4.36E-08 | 0.3197 |

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|---|---|---|---|---|---|
| 0.017 | 0.02334 | 0.1066 | 0.1499 | 2.10E-08 | 0.8423 |
| 0.3258 | 0.5436 | 0.02852 | 0.0455 | 3.01E-13 | 0.32 |
| 0.0407 | 0.02283 | 0.06868 | 0.1582 | 2.61E-08 | 0.971 |
| 0.3265 | 0.5442 | 0.02865 | 0.0455 | 1.94E-08 | 0.3306 |
| 0.4481 | 0.2593 | 0.02617 | 0.0524 | 1.39E-57 | 0.681 |
| 0.0512 | 0.1128 | 0.06121 | 0.0732 | 3.66E-09 | 0.5532 |
| 0.2635 | 0.3008 | 0.03729 | 0.0494 | 1.49E-11 | 0.261 |
| 0.2659 | 0.1564 | 0.03572 | 0.0626 | 2.20E-08 | 0.2689 |
| 0.2128 | 0.3626 | 0.03761 | 0.0472 | 1.29E-12 | 0.0579002 |
| 0.029 | 0.03364 | 0.08634 | 0.1277 | 2.13E-09 | 0.02355 |
| 0.8223 | 0.612 | 0.03754 | 0.0486 | 6.16E-22 | 0.0975911 |
| 0.1384 | 0.09641 | 0.03961 | 0.0785 | 7.15E-14 | 0.1593 |
| 0.2767 | 0.4343 | 0.03263 | 0.0564 | 4.52E-08 | 0.6687 |
| 0.4579 | 0.2693 | 0.02759 | 0.0516 | 1.57E-31 | 0.7247 |
| 0.4569 | 0.2689 | 0.02643 | 0.0516 | 7.82E-39 | 0.7098 |
| 0.4556 | 0.2689 | 0.02585 | 0.0516 | 1.01E-61 | 0.7098 |
| 0.4562 | 0.2689 | 0.02586 | 0.0516 | 9.84E-58 | 0.7098 |
| 0.1062 | 0.1082 | 0.04309 | 0.0735 | 4.21E-09 | 0.8692 |
| 0.4559 | 0.2689 | 0.02723 | 0.0516 | 2.21E-23 | 0.7098 |
| 0.4568 | 0.2689 | 0.02631 | 0.0516 | 6.14E-53 | 0.7098 |
| 0.4567 | 0.2689 | 0.0263 | 0.0516 | 7.25E-43 | 0.7098 |
| 0.0735 | 0.01994 | 0.05153 | 0.1604 | 3.92E-08 | 0.6818 |
| 0.255 | 0.2063 | 0.04091 | 0.0563 | 8.80E-10 | 0.487401 |
| 0.0029 | 0.02198 | 0.2336 | 0.1568 | 1.15E-10 | 0.1846 |
| 0.3439 | 0.4487 | 0.03185 | 0.049 | 1.63E-08 | 0.0111699 |
| 0.0029 | 0.02198 | 0.2111 | 0.1568 | 6.94E-15 | 0.1846 |
| 0.814 | 0.9725 | 0.03078 | 0.1435 | 1.33E-11 | 0.450001 |
| 0.4699 | 0.5257 | 0.02348 | 0.0454 | 3.10E-20 | 0.293 |
| 0.0029 | 0.02198 | 0.2221 | 0.1568 | 1.56E-11 | 0.1846 |
| 0.5099 | 0.541 | 0.02649 | 0.0469 | 1.65E-08 | 0.2468 |
| 0.3011 | 0.1198 | 0.02442 | 0.0692 | 8.11E-11 | 0.985 |
| 0.5287 | 0.5857 | 0.02833 | 0.0463 | 1.18E-08 | 0.04157 |
| 0.0542 | 0.04058 | 0.05665 | 0.1145 | 2.40E-22 | 0.2585 |
| 0.2288 | 0.1094 | 0.03351 | 0.0723 | 3.35E-10 | 0.7693 |
| 0.013 | 0.02224 | 0.12 | 0.1574 | 3.96E-08 | 0.6317 |
| 0.8652 | 0.9043 | 0.04072 | 0.0776 | 2.08E-08 | 0.0569403 |
| 0.4845 | 0.283 | 0.02703 | 0.0508 | 8.20E-35 | 0.8655 |
| 0.4552 | 0.2693 | 0.0264 | 0.0516 | 6.52E-26 | 0.726999 |
| 0.0027 | 0.006415 | 0.2268 | 0.3009 | 2.63E-09 | 0.0467498 |
| 0.8286 | 0.9321 | 0.03253 | 0.0906 | 6.12E-10 | 0.1648 |
| 0.0555 | 0.02979 | 0.0546 | 0.1349 | 1.28E-15 | 0.01992 |
| 0.0798 | 0.04891 | 0.04402 | 0.1071 | 2.37E-10 | 0.953 |
| 0.0798 | 0.04891 | 0.04587 | 0.1071 | 2.51E-08 | 0.953 |
| 0.2849 | 0.1071 | 0.03302 | 0.0745 | 1.61E-14 | 0.0312198 |
| 0.5834 | 0.5164 | 0.02808 | 0.0518 | 3.21E-78 | 0.7501 |
| 0.4388 | 0.245 | 0.02935 | 0.0538 | 9.60E-57 | 0.433 |
| 0.4388 | 0.2252 | 0.02935 | 0.0681 | 9.60E-57 | 0.8549 |
| 0.5433 | 0.505 | 0.02781 | 0.0519 | 8.23E-21 | 0.4179 |
| 0.0798 | 0.04891 | 0.04479 | 0.1071 | 2.82E-08 | 0.953 |
| 0.447 | 0.3436 | 0.02487 | 0.048 | 9.48E-14 | 0.621299 |
| 0.0236 | 0.0176 | 0.07909 | 0.1705 | 8.02E-09 | 0.344 |
| 0.0844 | 0.04891 | 0.04984 | 0.1071 | 1.61E-08 | 0.953 |
| 0.5089 | 0.2356 | 0.02875 | 0.0543 | 1.89E-09 | 0.0661607 |
| 0.3334 | 0.5036 | 0.03437 | 0.0456 | 2.77E-54 | 0.5836 |
| 0.9459 | 0.8858 | 0.07416 | 0.0716 | 7.11E-09 | 0.5413 |
| 0.2209 | 0.2246 | 0.04027 | 0.0543 | 7.44E-19 | 0.3116 |
| 0.3267 | 0.5036 | 0.02562 | 0.0456 | 2.06E-70 | 0.5836 |
| 0.0427 | 0.1087 | 0.06265 | 0.0726 | 1.03E-08 | 0.4078 |

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|---|---|---|---|---|---|
| 0.2729 | 0.1558 | 0.02838 | 0.0631 | 3.17E-12 | 0.6664 |
| 0.1461 | 0.2525 | 0.03329 | 0.0524 | 3.78E-92 | 0.6859 |
| 0.3209 | 0.5036 | 0.02982 | 0.0456 | 1.36E-16 | 0.5836 |
| 0.8668 | 0.8708 | 0.04088 | 0.069 | 9.63E-30 | 0.2859 |
| 0.3302 | 0.5036 | 0.03798 | 0.0456 | 1.47E-18 | 0.5836 |
| 0.3309 | 0.5036 | 0.03828 | 0.0456 | 5.24E-32 | 0.5836 |
| 0.3298 | 0.5036 | 0.0387 | 0.0456 | 3.93E-11 | 0.5836 |
| 0.2122 | 0.3626 | 0.03358 | 0.0472 | 2.39E-191 | 0.0579002 |
| 0.5707 | 0.5797 | 0.03609 | 0.0462 | 1.33E-08 | 0.0691799 |
| 0.0484 | 0.02672 | 0.08124 | 0.1439 | 2.01E-16 | 0.3012 |
| 0.0704 | 0.004544 | 0.07133 | 0.348 | 6.18E-12 | 0.5298 |
| 0.271 | 0.1541 | 0.04 | 0.0635 | 8.18E-22 | 0.7535 |
| 0.5533 | 0.548 | 0.03574 | 0.0461 | 5.83E-16 | 0.5991 |
| 0.3262 | 0.5036 | 0.02603 | 0.0456 | 4.45E-54 | 0.5836 |
| 0.2681 | 0.2998 | 0.02846 | 0.05 | 6.28E-17 | 0.560701 |
| 0.3334 | 0.5036 | 0.03439 | 0.0456 | 2.53E-54 | 0.5836 |
| 0.9459 | 0.8858 | 0.07422 | 0.0716 | 8.70E-09 | 0.5413 |
| 0.2209 | 0.2246 | 0.04034 | 0.0543 | 3.71E-18 | 0.3116 |
| 0.3334 | 0.5036 | 0.03479 | 0.0456 | 8.34E-14 | 0.5836 |
| 0.3303 | 0.5036 | 0.03633 | 0.0456 | 6.27E-61 | 0.5836 |
| 0.3268 | 0.5036 | 0.02599 | 0.0456 | 6.57E-20 | 0.5836 |
| 0.3166 | 0.5036 | 0.03296 | 0.0456 | 1.06E-20 | 0.5836 |
| 0.3305 | 0.5036 | 0.03702 | 0.0456 | 1.43E-38 | 0.5836 |
| 0.3267 | 0.5036 | 0.02624 | 0.0456 | 3.85E-08 | 0.5836 |
| 0.3299 | 0.5036 | 0.03857 | 0.0456 | 1.84E-11 | 0.5836 |
| 0.2121 | 0.3626 | 0.03392 | 0.0472 | 2.40E-183 | 0.0579002 |
| 0.0483 | 0.02672 | 0.08096 | 0.1439 | 1.96E-17 | 0.3012 |
| 0.0278 | 0.007014 | 0.105 | 0.2805 | 7.89E-09 | 0.4083 |
| 0.2708 | 0.1541 | 0.03992 | 0.0635 | 2.91E-21 | 0.7535 |
| 0.5535 | 0.548 | 0.03561 | 0.0461 | 1.33E-16 | 0.5991 |
| 0.3262 | 0.5036 | 0.02605 | 0.0456 | 2.10E-64 | 0.5836 |
| 0.2681 | 0.2998 | 0.02853 | 0.05 | 6.00E-23 | 0.560701 |
| 0.327 | 0.5036 | 0.02573 | 0.0456 | 2.62E-69 | 0.5836 |
| 0.2677 | 0.2998 | 0.02862 | 0.05 | 3.51E-08 | 0.562 |
| 0.3209 | 0.5036 | 0.02934 | 0.0456 | 1.20E-20 | 0.5836 |
| 0.3209 | 0.5036 | 0.02951 | 0.0456 | 3.69E-18 | 0.5836 |
| 0.6884 | 0.6174 | 0.02975 | 0.0472 | 2.69E-27 | 0.1649 |
| 0.0544 | 0.04058 | 0.05534 | 0.1145 | 6.70E-28 | 0.2585 |
| 0.0356 | 0.007566 | 0.06648 | 0.2613 | 3.83E-09 | 0.4245 |
| 0.1622 | 0.2354 | 0.03265 | 0.0532 | 6.55E-10 | 0.0405005 |
| 0.5686 | 0.3828 | 0.02398 | 0.047 | 8.82E-17 | 0.753101 |
| 0.0357 | 0.007566 | 0.07408 | 0.2613 | 6.88E-12 | 0.4245 |
| 0.3466 | 0.3084 | 0.02785 | 0.0493 | 1.34E-15 | 0.5403 |
| 0.0097 | 0.03052 | 0.1388 | 0.1453 | 1.34E-08 | 0.5222 |
| 0.0194 | 0.01518 | 0.089 | 0.1876 | 5.54E-18 | 0.3459 |
| 0.9403 | 0.9446 | 0.05158 | 0.1001 | 8.42E-10 | 0.0813299 |
| 0.6318 | 0.73 | 0.02576 | 0.0511 | 4.90E-13 | 0.9949 |
| 0.2335 | 0.3065 | 0.02929 | 0.0498 | 8.55E-11 | 0.2921 |
| 0.8194 | 0.8234 | 0.0321 | 0.06 | 2.24E-09 | 0.2581 |
| 0.0972 | 0.027 | 0.04232 | 0.1409 | 2.51E-08 | 0.795 |
| 0.6317 | 0.73 | 0.02506 | 0.0511 | 2.98E-83 | 0.9949 |
| 0.167 | 0.1852 | 0.03366 | 0.0591 | 1.15E-08 | 0.2733 |
| 0.0561 | 0.01053 | 0.05335 | 0.2321 | 2.35E-43 | 0.244 |
| 0.035 | 0.01079 | 0.06834 | 0.2353 | 5.54E-13 | 0.1699 |
| 0.1136 | 0.01493 | 0.03994 | 0.19 | 1.18E-09 | 0.461 |
| 0.0223 | 0.0291 | 0.08703 | 0.137 | 5.04E-11 | 0.6555 |
| 0.6323 | 0.73 | 0.02594 | 0.0511 | 3.69E-08 | 0.9949 |
| 0.534 | 0.6136 | 0.02462 | 0.0467 | 1.07E-11 | 0.3091 |

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|---|---|---|---|---|---|
| 0.6316 | 0.73 | 0.02558 | 0.0511 | 3.11E-19 | 0.9949 |
| 0.1067 | 0.03695 | 0.0403 | 0.1178 | 3.50E-15 | 0.1723 |
| 0.5778 | 0.4816 | 0.0385 | 0.0456 | 5.64E-14 | 0.9919 |
| 0.5778 | 0.4816 | 0.03886 | 0.0456 | 2.17E-14 | 0.9919 |
| 0.5778 | 0.4816 | 0.03847 | 0.0456 | 2.10E-15 | 0.9919 |
| 0.5778 | 0.4816 | 0.03841 | 0.0456 | 1.91E-13 | 0.9919 |
| 0.5778 | 0.4816 | 0.03952 | 0.0456 | 8.55E-13 | 0.9919 |
| 0.5778 | 0.4816 | 0.03948 | 0.0456 | 7.00E-13 | 0.9919 |
| 0.0278 | 0.001989 | 0.1109 | 0.5605 | 1.96E-08 | 0.8 |
| 0.0043 | 0.0229 | 0.2431 | 0.1521 | 8.93E-11 | 0.0909997 |
| 0.0413 | 0.03954 | 0.06981 | 0.117 | 4.50E-08 | 0.1864 |
| 0.0865 | 0.00412 | 0.04325 | 0.3749 | 1.38E-09 | 0.614301 |
| 0.3435 | 0.2549 | 0.02525 | 0.0525 | 5.63E-28 | 0.4215 |
| 0.0867 | 0.00412 | 0.04411 | 0.3749 | 1.72E-09 | 0.614301 |
| 0.344 | 0.2549 | 0.02564 | 0.0525 | 1.35E-31 | 0.4215 |
| 0.6081 | 0.5115 | 0.02481 | 0.0455 | 3.16E-15 | 0.173 |
| 0.2304 | 0.3065 | 0.02948 | 0.0498 | 1.67E-08 | 0.2921 |
| 0.5205 | 0.6131 | 0.0244 | 0.0468 | 3.93E-08 | 0.793201 |
| 0.3161 | 0.2954 | 0.02688 | 0.0497 | 5.42E-09 | 0.151 |
| 0.5889 | 0.5173 | 0.02943 | 0.0518 | 6.52E-09 | 0.7185 |
| 0.601 | 0.8069 | 0.02791 | 0.0579 | 3.15E-38 | 0.2228 |
| 0.199 | 0.1145 | 0.03402 | 0.0721 | 9.00E-12 | 0.8412 |
| 0.601 | 0.8069 | 0.02783 | 0.0579 | 2.24E-42 | 0.2228 |
| 0.199 | 0.1145 | 0.03397 | 0.0721 | 1.84E-13 | 0.8412 |
| 0.001 | 0.01409 | 6.487 | 0.2008 | 5.20E-09 | 0.5301 |
| 0.3508 | 0.4221 | 0.372 | 0.0463 | 1.96E-13 | 0.8607 |
| 0.1704 | 0.09572 | 0.03629 | 0.0781 | 1.46E-10 | 0.3036 |
| 0.446 | 0.26 | 0.02442 | 0.0523 | 5.66E-154 | 0.5358 |
| 0.051 | 0.1128 | 0.06086 | 0.0732 | 3.34E-19 | 0.5532 |
| 0.1325 | 0.1866 | 0.03734 | 0.0595 | 4.69E-13 | 0.2541 |
| 0.0747 | 0.2712 | 0.06024 | 0.0539 | 7.87E-09 | 0.3033 |
| 0.4074 | 0.3711 | 0.02485 | 0.0474 | 2.44E-11 | 0.01087 |
| 0.4557 | 0.49 | 0.0293 | 0.0487 | 2.05E-117 | 0.8913 |
| 0.3212 | 0.2328 | 0.04397 | 0.0572 | 1.12E-09 | 0.6409 |
| 0.4528 | 0.49 | 0.04125 | 0.0487 | 9.01E-57 | 0.8913 |
| 0.821 | 0.8344 | 0.03219 | 0.0618 | 2.95E-12 | 0.2283 |
| 0.6088 | 0.5047 | 0.02482 | 0.0456 | 2.29E-16 | 0.1821 |
| 0.3161 | 0.2954 | 0.02685 | 0.0497 | 9.87E-10 | 0.151 |
| 0.5889 | 0.5173 | 0.02952 | 0.0518 | 1.31E-08 | 0.7185 |
| 0.821 | 0.8344 | 0.03177 | 0.0618 | 1.13E-25 | 0.2283 |
| 0.3094 | 0.1514 | 0.02631 | 0.0637 | 1.75E-10 | 0.1306 |
| 0.3161 | 0.2954 | 0.02674 | 0.0497 | 2.45E-08 | 0.151 |
| 0.461 | 0.3691 | 0.03073 | 0.052 | 3.05E-08 | 0.3854 |
| 0.6102 | 0.5114 | 0.02475 | 0.0455 | 6.73E-13 | 0.1703 |
| 0.2834 | 0.2828 | 0.02971 | 0.0508 | 6.37E-09 | 0.5974 |
| 0.265 | 0.1443 | 0.03168 | 0.0649 | 1.00E-08 | 0.1743 |
| 0.7709 | 0.7355 | 0.03092 | 0.0518 | 6.18E-10 | 0.06785 |
| 0.3244 | 0.7077 | 0.02628 | 0.0501 | 2.12E-13 | 0.3229 |
| 0.1476 | 0.3094 | 0.03961 | 0.0521 | 2.75E-09 | 0.628001 |
| 0.0624 | 0.1244 | 0.05867 | 0.0692 | 7.75E-13 | 0.407 |
| 0.2369 | 0.1065 | 0.03167 | 0.074 | 2.59E-37 | 0.5083 |
| 0.4167 | 0.4839 | 0.02608 | 0.0454 | 3.17E-08 | 0.1197 |
| 0.766 | 0.7338 | 0.0278 | 0.0517 | 5.57E-52 | 0.0563495 |
| 0.1636 | 0.06788 | 0.03296 | 0.0918 | 1.36E-10 | 0.4132 |
| 0.4168 | 0.4839 | 0.02568 | 0.0454 | 2.59E-10 | 0.1197 |
| 0.7659 | 0.7338 | 0.02736 | 0.0517 | 3.62E-55 | 0.0563495 |
| 0.1635 | 0.06788 | 0.03253 | 0.0918 | 6.46E-10 | 0.4132 |
| 0.5882 | 0.4766 | 0.03927 | 0.0456 | 3.86E-13 | 0.3302 |

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|---|---|---|---|---|---|
| 0.5754 | 0.4832 | 0.03896 | 0.0456 | 4.90E-11 | 0.499401 |
| 0.5747 | 0.4832 | 0.03976 | 0.0456 | 2.74E-09 | 0.499401 |
| 0.593 | 0.4885 | 0.03809 | 0.0456 | 1.02E-10 | 0.4071 |
| 0.593 | 0.4885 | 0.03896 | 0.0456 | 4.25E-09 | 0.4071 |
| 0.3841 | 0.1362 | 0.04325 | 0.0671 | 2.44E-10 | 0.0801401 |
| 0.5995 | 0.4955 | 0.02511 | 0.0457 | 2.96E-12 | 0.725499 |
| 0.0586 | 0.0299 | 0.05193 | 0.1344 | 2.52E-45 | 0.02305 |
| 0.5961 | 0.4955 | 0.03543 | 0.0457 | 2.92E-09 | 0.725499 |
| 0.0617 | 0.0998 | 0.07087 | 0.0749 | 3.42E-30 | 0.1346 |
| 0.5996 | 0.4955 | 0.0249 | 0.0457 | 6.00E-13 | 0.725499 |
| 0.0586 | 0.0299 | 0.05156 | 0.1344 | 6.21E-45 | 0.02305 |
| 0.5996 | 0.4955 | 0.02528 | 0.0457 | 1.36E-12 | 0.725499 |
| 0.0651 | 0.0998 | 0.05059 | 0.0749 | 2.21E-25 | 0.1346 |
| 0.5997 | 0.4955 | 0.02499 | 0.0457 | 9.31E-11 | 0.725499 |
| 0.065 | 0.0998 | 0.04955 | 0.0749 | 3.93E-41 | 0.1346 |
| 0.5998 | 0.4955 | 0.02534 | 0.0457 | 3.86E-08 | 0.725499 |
| 0.0651 | 0.0998 | 0.05081 | 0.0749 | 2.66E-17 | 0.1346 |
| 0.5998 | 0.4955 | 0.02478 | 0.0457 | 6.38E-13 | 0.725499 |
| 0.7284 | 0.7932 | 0.0275 | 0.0569 | 4.04E-08 | 0.4315 |
| 0.0584 | 0.0299 | 0.05093 | 0.1344 | 2.16E-61 | 0.02305 |
| 0.5997 | 0.4955 | 0.02524 | 0.0457 | 1.46E-11 | 0.725499 |
| 0.0586 | 0.0299 | 0.05233 | 0.1344 | 1.21E-40 | 0.02305 |
| 0.5997 | 0.4955 | 0.02484 | 0.0457 | 1.54E-11 | 0.725499 |
| 0.065 | 0.0998 | 0.04904 | 0.0749 | 1.16E-49 | 0.1346 |
| 0.6173 | 0.424 | 0.02845 | 0.0462 | 2.24E-10 | 0.6529 |
| 0.1965 | 0.05865 | 0.03249 | 0.098 | 3.84E-40 | 0.8625 |
| 0.5341 | 0.6136 | 0.02451 | 0.0467 | 3.13E-08 | 0.3091 |
| 0.6002 | 0.7114 | 0.02593 | 0.0502 | 1.64E-27 | 0.9527 |
| 0.5339 | 0.6136 | 0.02442 | 0.0467 | 2.13E-09 | 0.3091 |
| 0.0562 | 0.01053 | 0.05371 | 0.2321 | 5.92E-11 | 0.244 |
| 0.6314 | 0.729 | 0.02585 | 0.051 | 7.20E-50 | 0.9652 |
| 0.7711 | 0.7765 | 0.0399 | 0.0548 | 4.81E-08 | 0.9107 |
| 0.1068 | 0.03644 | 0.05533 | 0.1185 | 1.67E-18 | 0.1517 |
| 0.4529 | 0.49 | 0.04396 | 0.0487 | 1.84E-08 | 0.8913 |
| 0.3544 | 0.1742 | 0.02926 | 0.06 | 1.86E-08 | 0.0269799 |
| 0.0756 | 0.0361 | 0.05364 | 0.1219 | 4.79E-08 | 0.7848 |
| 0.3703 | 0.7412 | 0.02906 | 0.0532 | 1.89E-09 | 0.1404 |
| 0.5197 | 0.3884 | 0.03247 | 0.0468 | 1.25E-32 | 0.3663 |
| 0.1527 | 0.2218 | 0.04685 | 0.0548 | 2.20E-09 | 0.615 |
| 0.3672 | 0.3655 | 0.02605 | 0.0475 | 2.77E-08 | 0.3395 |
| 0.2461 | 0.1083 | 0.02805 | 0.0738 | 3.82E-82 | 0.3928 |
| 0.4243 | 0.171 | 0.02905 | 0.0606 | 3.74E-08 | 0.0917297 |
| 0.5967 | 0.7391 | 0.02608 | 0.0518 | 4.14E-09 | 0.3475 |
| 0.2642 | 0.2596 | 0.02611 | 0.0629 | 6.10E-09 | 0.753401 |
| 0.5685 | 0.3628 | 0.0284 | 0.0575 | 5.97E-09 | 0.791701 |
| 0.1412 | 0.09641 | 0.03802 | 0.0785 | 3.53E-15 | 0.1593 |
| 0.5359 | 0.3413 | 0.02894 | 0.0591 | 1.63E-08 | 0.2988 |
| 0.8222 | 0.612 | 0.0369 | 0.0486 | 8.13E-22 | 0.0975911 |
| 0.1672 | 0.1852 | 0.04636 | 0.0591 | 9.11E-10 | 0.2733 |
| 0.0564 | 0.01053 | 0.07016 | 0.2321 | 1.08E-38 | 0.244 |
| 0.6302 | 0.729 | 0.03295 | 0.051 | 1.33E-62 | 0.9652 |
| 0.0294 | 0.05897 | 0.09922 | 0.0978 | 4.44E-08 | 0.5975 |
| 0.0376 | 0.01079 | 0.0916 | 0.2353 | 3.41E-10 | 0.1699 |
| 0.3057 | 0.3555 | 0.02658 | 0.0475 | 6.78E-10 | 0.9956 |
| 0.2995 | 0.4549 | 0.02681 | 0.0459 | 4.70E-11 | 0.770999 |
| 0.567 | 0.4958 | 0.02479 | 0.0457 | 1.49E-08 | 0.3331 |
| 0.0627 | 0.05345 | 0.05783 | 0.1025 | 3.67E-08 | 0.8819 |
| 0.2371 | 0.1065 | 0.03208 | 0.074 | 1.22E-17 | 0.5083 |

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|---|---|---|---|---|---|
| 0.4991 | 0.2763 | 0.0281 | 0.0512 | 2.21E-33 | 0.0294503 |
| 0.6009 | 0.4913 | 0.03056 | 0.047 | 9.29E-10 | 0.0539796 |
| 0.1385 | 0.09641 | 0.03923 | 0.0785 | 1.84E-26 | 0.1593 |
| 0.2578 | 0.362 | 0.02741 | 0.0474 | 4.29E-26 | 0.7972 |
| 0.2578 | 0.362 | 0.0274 | 0.0474 | 2.66E-27 | 0.7972 |
| 0.408 | 0.3711 | 0.02492 | 0.0474 | 5.70E-16 | 0.0108101 |
| 0.0442 | 0.1363 | 0.0731 | 0.07 | 3.22E-09 | 0.2089 |
| 0.4878 | 0.3484 | 0.02494 | 0.0478 | 6.58E-11 | 0.4712 |
| 0.4557 | 0.49 | 0.02979 | 0.0487 | 4.57E-103 | 0.8913 |
| 0.3917 | 0.3246 | 0.02512 | 0.0485 | 6.86E-10 | 0.2809 |
| 0.4074 | 0.3711 | 0.02521 | 0.0474 | 4.71E-12 | 0.01087 |
| 0.4557 | 0.49 | 0.03043 | 0.0487 | 5.06E-81 | 0.8913 |
| 0.4075 | 0.3711 | 0.02508 | 0.0474 | 5.47E-17 | 0.01087 |
| 0.0442 | 0.1363 | 0.07351 | 0.07 | 1.89E-08 | 0.2089 |
| 0.4878 | 0.3484 | 0.02506 | 0.0478 | 5.73E-11 | 0.4712 |
| 0.4557 | 0.49 | 0.03019 | 0.0487 | 9.25E-90 | 0.8913 |
| 0.3917 | 0.3246 | 0.02525 | 0.0485 | 8.85E-10 | 0.2809 |
| 0.4462 | 0.26 | 0.02584 | 0.0523 | 1.05E-84 | 0.5358 |
| 0.051 | 0.1128 | 0.06162 | 0.0732 | 2.05E-11 | 0.5532 |
| 0.4463 | 0.26 | 0.0258 | 0.0523 | 3.45E-99 | 0.5358 |
| 0.0512 | 0.1128 | 0.06186 | 0.0732 | 3.56E-15 | 0.5532 |
| 0.1715 | 0.0963 | 0.03657 | 0.0777 | 3.70E-08 | 0.3285 |
| 0.4466 | 0.26 | 0.02564 | 0.0523 | 3.54E-94 | 0.5358 |
| 0.0214 | 0.03003 | 0.09617 | 0.1325 | 4.79E-08 | 0.4768 |
| 0.472 | 0.2634 | 0.02706 | 0.052 | 2.49E-14 | 0.5311 |
| 0.4462 | 0.2595 | 0.02583 | 0.0523 | 1.61E-71 | 0.6971 |
| 0.0512 | 0.1128 | 0.0606 | 0.0732 | 1.12E-12 | 0.5532 |
| 0.4849 | 0.283 | 0.02713 | 0.0508 | 1.75E-18 | 0.8655 |
| 0.4461 | 0.2595 | 0.02629 | 0.0523 | 2.05E-71 | 0.6974 |
| 0.1412 | 0.09641 | 0.03725 | 0.0785 | 6.09E-43 | 0.1593 |
| 0.7662 | 0.7338 | 0.02551 | 0.0517 | 1.34E-33 | 0.0563495 |
| 0.4182 | 0.4821 | 0.02345 | 0.0454 | 1.39E-08 | 0.1199 |
| 0.7662 | 0.7338 | 0.02659 | 0.0517 | 1.47E-62 | 0.0563495 |
| 0.5089 | 0.4988 | 0.02364 | 0.0455 | 4.62E-08 | 0.1597 |
| 0.1634 | 0.06788 | 0.03176 | 0.0918 | 5.96E-09 | 0.4132 |
| 0.7661 | 0.7338 | 0.02616 | 0.0517 | 7.09E-69 | 0.0563495 |
| 0.0654 | 0.02075 | 0.0468 | 0.1631 | 3.05E-08 | 0.4414 |
| 0.0236 | 0.03706 | 0.07676 | 0.1246 | 1.10E-08 | 0.1748 |
| 0.4182 | 0.4821 | 0.0249 | 0.0454 | 5.15E-10 | 0.1199 |
| 0.7662 | 0.7338 | 0.027 | 0.0517 | 9.23E-61 | 0.0563495 |
| 0.1634 | 0.06788 | 0.03221 | 0.0918 | 2.31E-09 | 0.4132 |
| 0.7716 | 0.6698 | 0.03334 | 0.0502 | 2.25E-09 | 0.5961 |
| 0.5635 | 0.8162 | 0.02744 | 0.0591 | 7.57E-13 | 0.0412895 |
| 0.0022 | 0.0583 | 0.2802 | 0.0975 | 2.96E-09 | 0.8429 |
| 0.5639 | 0.8162 | 0.02642 | 0.0591 | 8.44E-30 | 0.0412895 |
| 0.2239 | 0.2205 | 0.03362 | 0.0605 | 9.33E-11 | 0.2408 |
| 0.7751 | 0.7576 | 0.03424 | 0.0538 | 2.62E-13 | 0.2915 |
| 0.3428 | 0.4487 | 0.0284 | 0.049 | 3.52E-11 | 0.0111699 |
| 0.3428 | 0.4487 | 0.02952 | 0.049 | 1.16E-09 | 0.0111699 |
| 0.3439 | 0.4487 | 0.02987 | 0.049 | 2.56E-10 | 0.0111699 |
| 0.2229 | 0.0221 | 0.03784 | 0.1537 | 6.68E-09 | 0.805 |
| 0.1339 | 0.09292 | 0.03733 | 0.0777 | 1.90E-08 | 0.4006 |
| 0.3449 | 0.4487 | 0.03102 | 0.049 | 9.17E-10 | 0.0111699 |
| 0.5292 | 0.593 | 0.02705 | 0.0464 | 2.99E-09 | 0.0564196 |
| 0.5304 | 0.593 | 0.02633 | 0.0464 | 2.65E-08 | 0.0564196 |
| 0.7473 | 0.7576 | 0.03382 | 0.0538 | 2.14E-10 | 0.2915 |
| 0.5305 | 0.593 | 0.02676 | 0.0464 | 7.66E-12 | 0.0564196 |
| 0.1712 | 0.05407 | 0.03596 | 0.0999 | 3.17E-08 | 0.0336001 |

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|---|---|---|---|---|---|
| 0.5264 | 0.3648 | 0.02725 | 0.0475 | 2.34E-08 | 0.0451398 |
| 0.1983 | 0.124 | 0.03368 | 0.069 | 3.31E-34 | 0.04134 |
| 0.1927 | 0.1895 | 0.02878 | 0.059 | 8.92E-09 | 0.3304 |
| 0.5065 | 0.3314 | 0.02953 | 0.0523 | 6.22E-09 | 0.5031 |
| 0.2125 | 0.0107 | 0.03403 | 0.2203 | 1.38E-16 | 0.9948 |
| 0.2128 | 0.0107 | 0.03534 | 0.2203 | 6.70E-12 | 0.9948 |
| 0.7665 | 0.6927 | 0.02941 | 0.0497 | 3.03E-11 | 0.283 |
| 0.3506 | 0.2164 | 0.02875 | 0.0853 | 3.02E-09 | 0.530401 |
| 0.0562 | 0.01053 | 0.05397 | 0.2321 | 1.83E-08 | 0.244 |
| 0.6313 | 0.729 | 0.02622 | 0.051 | 4.98E-33 | 0.9652 |
| 0.0624 | 0.1244 | 0.05907 | 0.0692 | 1.64E-15 | 0.407 |
| 0.4627 | 0.5093 | 0.02782 | 0.0471 | 1.13E-28 | 0.8117 |
| 0.2742 | 0.1558 | 0.03137 | 0.0631 | 1.56E-13 | 0.6664 |
| 0.7759 | 0.7776 | 0.02923 | 0.0549 | 2.38E-09 | 0.9043 |
| 0.1068 | 0.03695 | 0.0402 | 0.1178 | 1.11E-25 | 0.1723 |
| 0.7759 | 0.7776 | 0.02871 | 0.0549 | 3.69E-09 | 0.9043 |
| 0.1075 | 0.03644 | 0.03893 | 0.1185 | 9.24E-48 | 0.1517 |
| 0.35 | 0.3621 | 0.02531 | 0.0474 | 9.24E-18 | 0.6282 |
| 0.7758 | 0.7776 | 0.02898 | 0.0549 | 4.38E-10 | 0.9043 |
| 0.1074 | 0.03642 | 0.03994 | 0.1186 | 3.54E-18 | 0.1504 |
| 0.4557 | 0.49 | 0.03091 | 0.0487 | 1.19E-15 | 0.8913 |
| 0.2479 | 0.1086 | 0.02726 | 0.0736 | 1.56E-113 | 0.329 |
| 0.0704 | 0.02845 | 0.04812 | 0.1391 | 2.25E-10 | 0.0954289 |
| 0.2479 | 0.1086 | 0.02722 | 0.0736 | 1.41E-134 | 0.329 |
| 0.0704 | 0.02845 | 0.04872 | 0.1391 | 4.58E-09 | 0.0954289 |
| 0.2345 | 0.107 | 0.02938 | 0.0741 | 1.98E-20 | 0.4584 |
| 0.1934 | 0.3626 | 0.03655 | 0.0472 | 7.84E-184 | 0.0579002 |
| 0.0476 | 0.02672 | 0.085 | 0.1439 | 1.04E-16 | 0.3012 |
| 0.2613 | 0.1541 | 0.04234 | 0.0635 | 2.43E-14 | 0.7535 |
| 0.5593 | 0.548 | 0.03706 | 0.0461 | 1.51E-14 | 0.5991 |
| 0.2131 | 0.3626 | 0.03915 | 0.0472 | 1.09E-16 | 0.0579002 |
| 0.2177 | 0.1353 | 0.03955 | 0.0669 | 1.45E-08 | 0.9208 |
| 0.1936 | 0.3626 | 0.0362 | 0.0472 | 9.19E-189 | 0.0579002 |
| 0.0475 | 0.02672 | 0.08485 | 0.1439 | 4.46E-17 | 0.3012 |
| 0.2617 | 0.1541 | 0.04213 | 0.0635 | 1.08E-15 | 0.7535 |
| 0.5596 | 0.548 | 0.03701 | 0.0461 | 4.12E-15 | 0.5991 |
| 0.2131 | 0.3626 | 0.03875 | 0.0472 | 4.36E-21 | 0.0579002 |
| 0.2132 | 0.3626 | 0.03788 | 0.0472 | 1.14E-40 | 0.0579002 |
| 0.1527 | 0.2218 | 0.04602 | 0.0548 | 3.85E-08 | 0.615 |
| 0.2722 | 0.1541 | 0.03696 | 0.0635 | 1.37E-13 | 0.7535 |
| 0.1896 | 0.3626 | 0.03884 | 0.0472 | 1.71E-153 | 0.0579002 |
| 0.5586 | 0.5454 | 0.03721 | 0.0458 | 2.56E-12 | 0.666801 |
| 0.2604 | 0.1541 | 0.04232 | 0.0635 | 9.03E-18 | 0.7535 |
| 0.2131 | 0.3626 | 0.03917 | 0.0472 | 2.13E-21 | 0.0579002 |
| 0.1938 | 0.3626 | 0.03627 | 0.0472 | 2.80E-187 | 0.0579002 |
| 0.0475 | 0.02672 | 0.08484 | 0.1439 | 1.33E-16 | 0.3012 |
| 0.2619 | 0.1541 | 0.04212 | 0.0635 | 2.54E-15 | 0.7535 |
| 0.5592 | 0.548 | 0.03696 | 0.0461 | 3.54E-15 | 0.5991 |
| 0.2121 | 0.3626 | 0.03378 | 0.0472 | 1.05E-190 | 0.0579002 |
| 0.571 | 0.5797 | 0.03621 | 0.0462 | 2.39E-08 | 0.0691799 |
| 0.0483 | 0.02672 | 0.08187 | 0.1439 | 1.67E-14 | 0.3012 |
| 0.0704 | 0.004544 | 0.07202 | 0.348 | 1.39E-09 | 0.5298 |
| 0.2708 | 0.1541 | 0.04013 | 0.0635 | 7.98E-23 | 0.7535 |
| 0.5535 | 0.548 | 0.03593 | 0.0461 | 6.32E-15 | 0.5991 |
| 0.3642 | 0.5598 | 0.02746 | 0.0462 | 7.06E-11 | 0.4838 |
| 0.4599 | 0.3609 | 0.02612 | 0.0474 | 5.33E-11 | 0.0858697 |
| 0.0201 | 0.003981 | 0.0895 | 0.3649 | 3.38E-08 | 0.467599 |
| 0.5982 | 0.6163 | 0.02504 | 0.0467 | 2.98E-11 | 0.4864 |

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|---|---|---|---|---|---|
| 0.1075 | 0.03644 | 0.03963 | 0.1185 | 1.57E-43 | 0.1517 |
| 0.35 | 0.3621 | 0.02566 | 0.0474 | 2.59E-20 | 0.6282 |
| 0.1975 | 0.05865 | 0.03426 | 0.098 | 2.41E-16 | 0.8625 |
| 0.1975 | 0.05865 | 0.03413 | 0.098 | 3.45E-38 | 0.8625 |
| 0.4923 | 0.3695 | 0.02869 | 0.0496 | 1.99E-10 | 0.7076 |
| 0.476 | 0.2522 | 0.02793 | 0.0607 | 2.57E-09 | 0.0960904 |
| 0.7366 | 0.6028 | 0.02998 | 0.0465 | 1.22E-32 | 0.1681 |
| 0.2763 | 0.2576 | 0.02969 | 0.052 | 4.37E-29 | 0.559899 |
| 0.0676 | 0.07622 | 0.0539 | 0.0856 | 4.96E-08 | 0.441199 |
| 0.0421 | 0.03658 | 0.0624 | 0.12 | 1.71E-08 | 0.7988 |
| 0.0201 | 0.07416 | 0.08656 | 0.0868 | 2.05E-08 | 0.317 |
| 0.0206 | 0.01612 | 0.08811 | 0.1796 | 3.03E-08 | 0.8312 |
| 0.3347 | 0.5043 | 0.02581 | 0.0457 | 9.69E-09 | 0.585901 |
| 0.6904 | 0.6174 | 0.0265 | 0.0472 | 6.59E-17 | 0.1649 |
| 0.0336 | 0.03387 | 0.06877 | 0.1262 | 3.13E-09 | 0.7079 |
| 0.6349 | 0.6917 | 0.02562 | 0.0496 | 4.62E-08 | 0.9113 |
| 0.1343 | 0.09292 | 0.0371 | 0.0777 | 6.13E-11 | 0.4006 |
| 0.134 | 0.09292 | 0.0369 | 0.0777 | 2.99E-09 | 0.4006 |
| 0.1343 | 0.09292 | 0.03346 | 0.0777 | 1.35E-09 | 0.4006 |
| 0.6414 | 0.4146 | 0.02634 | 0.0476 | 3.34E-08 | 0.1064 |
| 0.1019 | 0.09671 | 0.03774 | 0.0779 | 9.95E-09 | 0.2688 |
| 0.1343 | 0.09292 | 0.0371 | 0.0777 | 6.13E-11 | 0.4006 |
| 0.1343 | 0.09292 | 0.03646 | 0.0777 | 4.32E-10 | 0.4006 |
| 0.6455 | 0.7959 | 0.0178 | 0.0567 | 1.86E-08 | 0.5921 |
| 0.279 | 0.2623 | 0.02945 | 0.0517 | 3.51E-50 | 0.7704 |
| 0.5251 | 0.3346 | 0.03417 | 0.0482 | 6.38E-09 | 0.4292 |
| 0.2358 | 0.1065 | 0.02846 | 0.074 | 1.20E-89 | 0.5083 |
| 0.0532 | 0.02957 | 0.05681 | 0.1333 | 9.74E-10 | 0.1277 |
| 0.231 | 0.1065 | 0.03084 | 0.074 | 4.95E-09 | 0.5083 |
| 0.1976 | 0.1256 | 0.03389 | 0.0688 | 9.69E-44 | 0.0273899 |
| 0.2757 | 0.05315 | 0.03381 | 0.1008 | 1.24E-11 | 0.1725 |
| 0.2317 | 0.2843 | 0.03213 | 0.0504 | 1.19E-11 | 0.6654 |
| 0.4483 | 0.3127 | 0.02994 | 0.0523 | 4.31E-09 | 0.2841 |
| 0.0024 | 0.008725 | 0.2843 | 0.2427 | 6.79E-09 | 0.0693697 |
| 0.1375 | 0.2717 | 0.03497 | 0.0509 | 1.57E-13 | 0.5581 |
| 0.3505 | 0.1401 | 0.02803 | 0.0654 | 7.19E-31 | 0.2839 |
| 0.4673 | 0.5088 | 0.02718 | 0.047 | 9.48E-10 | 0.6895 |
| 0.028 | 0.003416 | 0.08067 | 0.4415 | 4.65E-08 | 0.33 |
| 0.0376 | 0.02796 | 0.07143 | 0.1396 | 3.57E-08 | 0.7896 |
| 0.0825 | 0.1008 | 0.04807 | 0.0764 | 7.22E-09 | 0.4647 |
| 0.5363 | 0.587 | 0.02682 | 0.0463 | 9.39E-09 | 0.0575003 |
| 0.7416 | 0.7576 | 0.03437 | 0.0538 | 1.65E-08 | 0.2915 |
| 0.1973 | 0.008696 | 0.03751 | 0.2457 | 1.31E-12 | 0.9981 |
| 0.1242 | 0.1137 | 0.04145 | 0.0712 | 5.39E-10 | 0.8126 |
| 0.0575 | 0.04058 | 0.0569 | 0.1145 | 1.42E-11 | 0.2585 |
| 0.0542 | 0.04058 | 0.05656 | 0.1145 | 4.05E-16 | 0.2585 |
| 0.0541 | 0.04058 | 0.05805 | 0.1145 | 3.41E-08 | 0.2585 |
| 0.0096 | 0.04919 | 0.13 | 0.1046 | 1.37E-08 | 0.5615 |
| 0.0575 | 0.04058 | 0.05531 | 0.1145 | 2.38E-16 | 0.2585 |
| 0.7493 | 0.5448 | 0.03213 | 0.0535 | 1.18E-10 | 0.8874 |
| 0.0543 | 0.04058 | 0.05562 | 0.1145 | 3.21E-20 | 0.2585 |
| 0.0543 | 0.04058 | 0.05509 | 0.1145 | 1.64E-26 | 0.2585 |
| 0.1983 | 0.124 | 0.03258 | 0.069 | 1.13E-27 | 0.04134 |
| 0.1987 | 0.1243 | 0.03354 | 0.069 | 7.38E-52 | 0.0439097 |
| 0.199 | 0.1145 | 0.03289 | 0.0721 | 1.61E-55 | 0.8412 |
| 0.1986 | 0.1243 | 0.03444 | 0.069 | 5.77E-33 | 0.0439097 |
| 0.199 | 0.1145 | 0.03405 | 0.0721 | 2.26E-26 | 0.8412 |
| 0.0401 | 0.04908 | 0.09417 | 0.1067 | 4.85E-08 | 0.2872 |

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|---|---|---|---|---|---|
| 0.2819 | 0.1071 | 0.03657 | 0.0745 | 3.91E-10 | 0.0312198 |
| 0.5733 | 0.2959 | 0.03044 | 0.0526 | 4.43E-23 | 0.0462605 |
| 0.4356 | 0.245 | 0.03213 | 0.0538 | 1.68E-14 | 0.433 |
| 0.4356 | 0.2252 | 0.03213 | 0.0681 | 1.68E-14 | 0.8549 |
| 0.5013 | 0.5015 | 0.02928 | 0.052 | 5.86E-11 | 0.3526 |
| 0.2429 | 0.2064 | 0.03318 | 0.0563 | 5.49E-11 | 0.5054 |
| 0.294 | 0.2197 | 0.03056 | 0.0554 | 1.44E-22 | 0.8088 |
| 0.2426 | 0.2064 | 0.03307 | 0.0563 | 3.09E-10 | 0.5054 |
| 0.2941 | 0.2197 | 0.03052 | 0.0554 | 4.45E-20 | 0.8088 |
| 0.2426 | 0.2064 | 0.03307 | 0.0563 | 2.85E-10 | 0.5054 |
| 0.2941 | 0.2197 | 0.03051 | 0.0554 | 1.58E-20 | 0.8088 |
| 0.2429 | 0.2064 | 0.03318 | 0.0563 | 4.68E-11 | 0.5054 |
| 0.294 | 0.2197 | 0.03055 | 0.0554 | 4.48E-23 | 0.8088 |
| 0.1075 | 0.03642 | 0.04016 | 0.1186 | 1.78E-13 | 0.1504 |
| 0.4557 | 0.49 | 0.03114 | 0.0487 | 5.41E-13 | 0.8913 |
| 0.0997 | 0.246 | 0.06048 | 0.0534 | 4.64E-08 | 0.6953 |
| 0.3413 | 0.3621 | 0.0264 | 0.0474 | 9.59E-11 | 0.6282 |
| 0.3414 | 0.3621 | 0.02618 | 0.0474 | 4.31E-12 | 0.6282 |
| 0.1884 | 0.1099 | 0.03337 | 0.0733 | 2.73E-08 | 0.9745 |
| 0.3009 | 0.1198 | 0.02822 | 0.0692 | 1.45E-11 | 0.985 |
| 0.1991 | 0.1915 | 0.03166 | 0.0589 | 1.45E-09 | 0.3524 |
| 0.6743 | 0.4166 | 0.02686 | 0.0463 | 5.64E-12 | 0.7959 |
| 0.4704 | 0.5257 | 0.0256 | 0.0454 | 1.82E-11 | 0.293 |
| 0.4699 | 0.5257 | 0.02494 | 0.0454 | 1.68E-09 | 0.293 |
| 0.1925 | 0.1867 | 0.02962 | 0.0595 | 7.04E-13 | 0.2692 |
| 0.6737 | 0.4166 | 0.02475 | 0.0463 | 7.59E-09 | 0.7959 |
| 0.2209 | 0.2237 | 0.0375 | 0.0543 | 2.20E-19 | 0.2754 |
| 0.5717 | 0.5607 | 0.02739 | 0.0461 | 8.47E-09 | 0.5713 |
| 0.4558 | 0.49 | 0.03076 | 0.0487 | 5.00E-58 | 0.8913 |
| 0.2454 | 0.1086 | 0.031 | 0.0736 | 3.13E-60 | 0.329 |
| 0.5982 | 0.6163 | 0.025 | 0.0467 | 1.07E-08 | 0.4864 |
| 0.2236 | 0.3718 | 0.03922 | 0.0471 | 2.63E-15 | 0.1134 |
| 0.1853 | 0.3718 | 0.04903 | 0.0471 | 1.02E-58 | 0.1134 |
| 0.2544 | 0.1541 | 0.048 | 0.0635 | 5.38E-09 | 0.7535 |
| 0.5691 | 0.548 | 0.04091 | 0.0461 | 3.22E-08 | 0.5991 |
| 0.0444 | 0.03315 | 0.06109 | 0.1251 | 5.45E-09 | 0.864 |
| 0.0444 | 0.03315 | 0.06121 | 0.1251 | 3.01E-08 | 0.864 |
| 0.0861 | 0.0685 | 0.06635 | 0.0902 | 1.16E-08 | 0.137 |
| 0.0103 | 0.04937 | 0.1252 | 0.1044 | 3.01E-09 | 0.8668 |
| 0.1984 | 0.1743 | 0.03367 | 0.0601 | 2.87E-18 | 0.9497 |
| 0.0987 | 0.08647 | 0.04044 | 0.0813 | 6.75E-37 | 0.449 |
| 0.02 | 0.0162 | 0.08989 | 0.1796 | 7.32E-10 | 0.8315 |
| 0.3458 | 0.05991 | 0.03245 | 0.0971 | 2.76E-09 | 0.8941 |
| 0.3456 | 0.05991 | 0.03406 | 0.0971 | 2.39E-08 | 0.8941 |
| 0.0049 | 0.001891 | 0.1761 | 0.5838 | 3.26E-08 | 0.616 |
| 0.0246 | 0.006545 | 0.07886 | 0.2825 | 2.72E-08 | 0.7808 |
| 0.0609 | 0.01743 | 0.05091 | 0.1765 | 1.05E-08 | 0.984 |
| 0.0201 | 0.07416 | 0.08768 | 0.0868 | 3.86E-08 | 0.317 |
| 0.8258 | 0.7972 | 0.04677 | 0.0567 | 1.85E-21 | 0.1256 |
| 0.8262 | 0.7972 | 0.04722 | 0.0567 | 5.30E-20 | 0.1256 |
| 0.0194 | 0.01518 | 0.09018 | 0.1876 | 1.97E-11 | 0.3459 |
| 0.1088 | 0.01194 | 0.03854 | 0.2092 | 1.41E-25 | 0.4485 |
| 0.3227 | 0.1244 | 0.02624 | 0.0701 | 1.12E-08 | 0.401 |
| 0.3227 | 0.1244 | 0.0265 | 0.0701 | 1.25E-08 | 0.401 |
| 0.0957 | 0.03265 | 0.03992 | 0.129 | 4.71E-08 | 0.8831 |
| 0.3067 | 0.3289 | 0.02672 | 0.0485 | 3.34E-08 | 0.5066 |
| 0.2342 | 0.4085 | 0.03032 | 0.0464 | 1.63E-09 | 0.4784 |
| 0.1095 | 0.01461 | 0.03859 | 0.192 | 2.18E-24 | 0.8397 |

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|---|---|---|---|---|---|
| 0.1097 | 0.01461 | 0.0389 | 0.192 | 4.65E-24 | 0.8397 |
| 0.3642 | 0.6809 | 0.03018 | 0.0497 | 3.31E-08 | 0.21 |
| 0.8198 | 0.8205 | 0.03212 | 0.0596 | 6.36E-19 | 0.3268 |
| 0.5719 | 0.5164 | 0.0375 | 0.0518 | 2.93E-48 | 0.749701 |
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| 3652 | 198014 | 33.52293031 | 0.004036 |
| 1858 | 198014 | 82.882816 | 0.015355 |
| 3042 | 198014 | 33.36021906 | 0.005371 |
| 3642 | 198014 | 267.2948609 | 0.036409 |
| 2871 | 198014 | 280.9408533 | 0.036241 |
| 3657 | 198014 | 32.901696 | 0.004325 |
| 1858 | 198014 | 63.60896222 | 0.011887 |
| 1244 | 198014 | 290.5901888 | 0.070528 |
| 1244 | 198014 | 34.54010851 | 0.010533 |
| 1244 | 198014 | 30.97897914 | 0.012214 |
| 3657 | 198014 | 34.18870494 | 0.000793 |
| 3657 | 198014 | 30.83596685 | 0.000716 |
| 1579 | 198014 | 32.88724304 | 0.003278 |
| 3162 | 198014 | 35.37969217 | 0.000228 |
| 3112 | 198014 | 76.92024541 | 0.007862 |
| 3592 | 198014 | 164.7706155 | 0.008161 |
| 3657 | 198014 | 38.13464377 | 0.000409 |
| 3668 | 198014 | 35.52086534 | 0.004381 |
| 3652 | 198014 | 31.28244378 | 0.003875 |
| 3440 | 198014 | 30.69826975 | 8.7E-05 |
| 3653 | 198014 | 31.0319353 | 0.000408 |
| 3653 | 198014 | 32.89724346 | 0.00103 |
| 3657 | 198014 | 30.34542185 | 0.000327 |
| 1556 | 198014 | 93.23374445 | 0.017239 |
| 1559 | 198014 | 86.19639953 | 0.015878 |
| 3658 | 198014 | 45.29119849 | 0.000471 |
| 3668 | 198014 | 110.9758925 | 0.005867 |
| 3669 | 198014 | 32.76515328 | 0.003904 |
| 3669 | 198014 | 32.55456034 | 0.003879 |
| 3113 | 198014 | 29.98604925 | 0.001667 |
| 3629 | 198014 | 30.63821366 | 0.00359 |
| 2920 | 198014 | 36.58813466 | 0.004495 |
| 3668 | 198014 | 105.3562072 | 0.005602 |

| | | | |
|---|---|---|---|
| 3652 | 198014 | 103.8408152 | 0.005554 |
| 3652 | 198014 | 30.65592528 | 0.003888 |
| 3657 | 198014 | 79.8385646 | 0.00645 |
| 1634 | 198014 | 227.647744 | 0.068219 |
| 1634 | 198014 | 96.63044568 | 0.029061 |
| 1634 | 198014 | 96.63044568 | 0.029061 |
| 3113 | 198014 | 31.22727834 | 0.00393 |
| 3130 | 198014 | 32.95304724 | 0.004847 |
| 3595 | 198014 | 74.90496932 | 0.010156 |
| 3595 | 198014 | 44.03725974 | 0.006023 |
| 3595 | 198014 | 44.03725974 | 0.006023 |
| 3579 | 198014 | 59.39634139 | 0.007744 |
| 1858 | 198014 | 32.22610157 | 0.008484 |

**Supplementary Table 6**

| Id.exposure | Outcome | Exposure | Method | nsnp |
|---|---|---|---|---|
| GCST90001392 | IPF | IgD+ CD38+ B cell Absolute ( | IVW-mre | 2 |
| GCST90001424 | IPF | IgD+ B cell %Lymphocyte | IVW-mre | 2 |
| GCST90001426 | IPF | IgD- CD38dim B cell %lymph | IVW-mre | 2 |
| GCST90001436 | IPF | Memory B cell %lymphocyte | IVW-mre | 2 |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absol | IVW-mre | 3 |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cel | IVW-mre | 4 |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Den | IVW-mre | 4 |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell % | IVW-mre | 3 |
| GCST90001475 | IPF | HLA DR++ monocyte %monc | IVW-mre | 4 |
| GCST90001520 | IPF | CD33+ HLA DR+ CD14dim A | IVW-mre | 2 |
| GCST90001547 | IPF | Terminally Differentiated CD4 | IVW-mre | 2 |
| GCST90001554 | IPF | Effector Memory CD8+ T cell | IVW-mre | 2 |
| GCST90001558 | IPF | Terminally Differentiated CD8 | IVW-mre | 4 |
| GCST90001580 | IPF | CD14+ CD16+ monocyte Abs | IVW-mre | 2 |
| GCST90001585 | IPF | CD14+ CD16+ monocyte %m | IVW-mre | 2 |
| GCST90001586 | IPF | CD14+ CD16- monocyte %mo | IVW-mre | 2 |
| GCST90001587 | IPF | CD16+ monocyte %monocyte | IVW-mre | 2 |
| GCST90001588 | IPF | T/B cell | IVW-mre | 2 |
| GCST90001596 | IPF | CD8dim T cell Absolute Coun | IVW-mre | 2 |
| GCST90001597 | IPF | CD8dim T cell %T cell | IVW-mre | 2 |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell | IVW-mre | 3 |
| GCST90001612 | IPF | CD8dim T cell %leukocyte | IVW-mre | 2 |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte | IVW-mre | 4 |
| GCST90001614 | IPF | CD8+ and CD8dim T cell %le | IVW-mre | 2 |
| GCST90001648 | IPF | HLA DR+ Natural Killer Abs | IVW-mre | 3 |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Na | IVW-mre | 6 |
| GCST90001650 | IPF | HLA DR+ Natural Killer %C | IVW-mre | 3 |
| GCST90001690 | IPF | CD28+ CD45RA+ CD8+ T ce | IVW-mre | 2 |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell | IVW-mre | 4 |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B | IVW-mre | 3 |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell | IVW-mre | 3 |
| GCST90001827 | IPF | IgD on IgD+ B cell | IVW-mre | 2 |
| GCST90001833 | IPF | CD62L on CD62L+ Dendritic | IVW-mre | 2 |
| GCST90001867 | IPF | CD3 on CD4+ T cell | IVW-mre | 2 |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem | IVW-mre | 4 |
| GCST90001911 | IPF | CD45 on Natural Killer | IVW-mre | 2 |
| GCST90001944 | IPF | CD123 on plasmacytoid Dend | IVW-mre | 2 |
| GCST90001945 | IPF | CD123 on CD62L+ plasmacyt | IVW-mre | 2 |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ C | IVW-mre | 4 |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloi | IVW-mre | 3 |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid- | IVW-mre | 3 |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ | IVW-mre | 4 |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ C | IVW-mre | 4 |
| GCST90001959 | IPF | CD4 on HLA DR+ CD4+ T ce | IVW-mre | 2 |
| GCST90001965 | IPF | FSC-A on monocyte | IVW-mre | 2 |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural I | IVW-mre | 3 |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ mon | IVW-mre | 5 |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid D | IVW-mre | 3 |
| GCST90002017 | IPF | CCR2 on monocyte | IVW-mre | 2 |
| GCST90002037 | IPF | CD80 on plasmacytoid Dendri | IVW-mre | 2 |
| GCST90002038 | IPF | CD80 on CD62L+ plasmacyto | IVW-mre | 2 |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural I | IVW-mre | 3 |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absol | MR Egger | 3 |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cel | MR Egger | 4 |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Den | MR Egger | 4 |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell % | MR Egger | 3 |

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|---|---|---|---|---|
| GCST90001475 | IPF | HLA DR++ monocyte %monc | MR Egger | 4 |
| GCST90001558 | IPF | Terminally Differentiated CD8 | MR Egger | 4 |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell | MR Egger | 3 |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte | MR Egger | 4 |
| GCST90001648 | IPF | HLA DR+ Natural Killer Absc | MR Egger | 3 |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Na | MR Egger | 6 |
| GCST90001650 | IPF | HLA DR+ Natural Killer %C | MR Egger | 3 |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell | MR Egger | 4 |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B | MR Egger | 3 |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell | MR Egger | 3 |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem | MR Egger | 4 |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ C | MR Egger | 4 |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloi | MR Egger | 3 |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid- | MR Egger | 3 |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ | MR Egger | 4 |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ C | MR Egger | 4 |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural | MR Egger | 3 |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ mon | MR Egger | 5 |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid D | MR Egger | 3 |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural | MR Egger | 3 |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absol | Simple mode | 3 |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cel | Simple mode | 4 |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Den | Simple mode | 4 |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell % | Simple mode | 3 |
| GCST90001475 | IPF | HLA DR++ monocyte %monc | Simple mode | 4 |
| GCST90001558 | IPF | Terminally Differentiated CD8 | Simple mode | 4 |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell | Simple mode | 3 |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte | Simple mode | 4 |
| GCST90001648 | IPF | HLA DR+ Natural Killer Absc | Simple mode | 3 |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Na | Simple mode | 6 |
| GCST90001650 | IPF | HLA DR+ Natural Killer %C | Simple mode | 3 |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell | Simple mode | 4 |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B | Simple mode | 3 |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell | Simple mode | 3 |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem | Simple mode | 4 |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ C | Simple mode | 4 |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloi | Simple mode | 3 |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid- | Simple mode | 3 |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ | Simple mode | 4 |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ C | Simple mode | 4 |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural | Simple mode | 3 |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ mon | Simple mode | 5 |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid D | Simple mode | 3 |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural | Simple mode | 3 |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absol | Weighted median | 3 |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cel | Weighted median | 4 |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Den | Weighted median | 4 |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell % | Weighted median | 3 |
| GCST90001475 | IPF | HLA DR++ monocyte %monc | Weighted median | 4 |
| GCST90001558 | IPF | Terminally Differentiated CD8 | Weighted median | 4 |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell | Weighted median | 3 |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte | Weighted median | 4 |
| GCST90001648 | IPF | HLA DR+ Natural Killer Absc | Weighted median | 3 |
| GCST90001649 | IPF | HLA DR+ Natural Killer %Na | Weighted median | 6 |
| GCST90001650 | IPF | HLA DR+ Natural Killer %C | Weighted median | 3 |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell | Weighted median | 4 |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B | Weighted median | 3 |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell | Weighted median | 3 |

| | | | | |
|---|---|---|---|---|
| GCST90001870 | IPF | CD34 on Hematopoietic Stem | Weighted median | 4 |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ C | Weighted median | 4 |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloi | Weighted median | 3 |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid- | Weighted median | 3 |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ | Weighted median | 4 |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ C | Weighted median | 4 |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural | Weighted median | 3 |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ mon | Weighted median | 5 |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid D | Weighted median | 3 |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural | Weighted median | 3 |
| GCST90001458 | IPF | Myeloid Dendritic Cell Absol | Weighted mode | 3 |
| GCST90001465 | IPF | CD86+ myeloid Dendritic Cel | Weighted mode | 4 |
| GCST90001473 | IPF | CD62L- CD86+ myeloid Den | Weighted mode | 4 |
| GCST90001474 | IPF | Plasmacytoid Dendritic Cell % | Weighted mode | 3 |
| GCST90001475 | IPF | HLA DR++ monocyte %monc | Weighted mode | 4 |
| GCST90001558 | IPF | Terminally Differentiated CD | Weighted mode | 4 |
| GCST90001599 | IPF | CD4-CD8- T cell %T cell | Weighted mode | 3 |
| GCST90001613 | IPF | CD4-CD8- T cell %leukocyte | Weighted mode | 4 |
| GCST90001648 | IPF | HLA DR+ Natural Killer Abs | Weighted mode | 3 |
| GCST90001649 | IPF | HLA DR+ Natural Killer %N | Weighted mode | 6 |
| GCST90001650 | IPF | HLA DR+ Natural Killer %C | Weighted mode | 3 |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B cell | Weighted mode | 4 |
| GCST90001781 | IPF | CD25 on IgD+ CD38- naive B | Weighted mode | 3 |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ B cell | Weighted mode | 3 |
| GCST90001870 | IPF | CD34 on Hematopoietic Stem | Weighted mode | 4 |
| GCST90001947 | IPF | CD33 on CD33+ HLA DR+ C | Weighted mode | 4 |
| GCST90001950 | IPF | CD33 on Granulocytic Myeloi | Weighted mode | 3 |
| GCST90001952 | IPF | CD33 on Monocytic Myeloid- | Weighted mode | 3 |
| GCST90001956 | IPF | CD33 on CD33+ HLA DR+ | Weighted mode | 4 |
| GCST90001957 | IPF | CD33 on CD33+ HLA DR+ C | Weighted mode | 4 |
| GCST90001970 | IPF | FSC-A on HLA DR+ Natural | Weighted mode | 3 |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ mon | Weighted mode | 5 |
| GCST90002014 | IPF | CCR2 on CD62L+ myeloid D | Weighted mode | 3 |
| GCST90002077 | IPF | SSC-A on HLA DR+ Natural | Weighted mode | 3 |
| GCST90001527 | IPF | CD33dim HLA DR+ CD11b- | Wald ratio | 1 |

| β coefficient (95%CI) | SE | OR (95%CI) | Pval | FDR | Cochrane Q |
|---|---|---|---|---|---|
| 0.064 (-0.58 - 0.708) | 0.328735 | 1.066 (0.56 - 2.03) | 0.845739 | 0.92677 | 0.816709349 |
| 0.039 (-0.283 - 0.362) | 0.164601 | 1.04 (0.753 - 1.436) | 0.810894 | 0.914413 | 0.322040208 |
| 0.006 (-0.777 - 0.79) | 0.399847 | 1.006 (0.46 - 2.204) | 0.987183 | 0.989795 | 2.530979115 |
| -0.047 (-0.293 - 0.199) | 0.125522 | 0.955 (0.746 - 1.221) | 0.710855 | 0.914413 | 0.184662242 |
| 0.177 (-0.078 - 0.433) | 0.130503 | 1.194 (0.925 - 1.542) | 0.174162 | 0.48582 | 3.323853958 |
| 0.071 (-0.199 - 0.342) | 0.138164 | 1.074 (0.819 - 1.408) | 0.605359 | 0.914413 | 8.427659252 |
| 0.099 (-0.142 - 0.34) | 0.12295 | 1.105 (0.868 - 1.406) | 0.418716 | 0.853537 | 8.5512541 |
| -0.095 (-0.467 - 0.278) | 0.18999 | 0.91 (0.627 - 1.32) | 0.61769 | 0.914413 | 6.009708763 |
| -0.3 (-0.544 - -0.056) | 0.124514 | 0.741 (0.58 - 0.945) | 0.015846 | 0.116356 | 3.23821602 |
| -0.227 (-0.414 - -0.04) | 0.095486 | 0.797 (0.661 - 0.961) | 0.017563 | 0.116356 | 0.54307059 |
| -0.793 (-0.924 - -0.663) | 0.066545 | 0.452 (0.397 - 0.515) | 8.85E-33 | 4.69E-31 | 0.0214184 |
| 0.208 (-0.152 - 0.569) | 0.183932 | 1.231 (0.859 - 1.766) | 0.258054 | 0.651278 | 3.595479249 |
| -0.076 (-0.344 - 0.193) | 0.137074 | 0.927 (0.709 - 1.213) | 0.581246 | 0.914413 | 2.902758857 |
| -0.06 (-0.465 - 0.346) | 0.206975 | 0.942 (0.628 - 1.413) | 0.772571 | 0.914413 | 3.445647414 |
| -0.062 (-0.431 - 0.308) | 0.188365 | 0.94 (0.65 - 1.36) | 0.743276 | 0.914413 | 3.371773615 |
| 0.058 (0.012 - 0.103) | 0.023296 | 1.059 (1.012 - 1.109) | 0.013234 | 0.116356 | 0.018774687 |
| -0.058 (-0.105 - -0.012) | 0.023921 | 0.943 (0.9 - 0.988) | 0.014526 | 0.116356 | 0.019217548 |
| -0.014 (-0.29 - 0.262) | 0.140671 | 0.986 (0.749 - 1.299) | 0.921285 | 0.976562 | 0.286243683 |
| -0.088 (-0.482 - 0.305) | 0.20081 | 0.915 (0.618 - 1.357) | 0.659705 | 0.914413 | 0.5268596 |
| -0.086 (-0.408 - 0.235) | 0.164116 | 0.917 (0.665 - 1.266) | 0.599463 | 0.914413 | 0.476994511 |
| -0.185 (-0.389 - 0.019) | 0.104069 | 0.831 (0.678 - 1.019) | 0.075941 | 0.268323 | 0.60681928 |
| -0.087 (-0.431 - 0.256) | 0.17545 | 0.916 (0.65 - 1.292) | 0.6183 | 0.914413 | 0.487519239 |
| -0.164 (-0.327 - -0.001) | 0.083137 | 0.848 (0.721 - 0.999) | 0.047989 | 0.231156 | 0.707479337 |
| -0.122 (-0.361 - 0.116) | 0.12166 | 0.885 (0.697 - 1.123) | 0.31424 | 0.724119 | 0.195986528 |
| -0.109 (-0.469 - 0.252) | 0.184104 | 0.897 (0.625 - 1.287) | 0.555457 | 0.914413 | 7.052097017 |
| -0.152 (-0.3 - -0.004) | 0.075615 | 0.859 (0.741 - 0.996) | 0.044235 | 0.231156 | 4.16292978 |
| -0.167 (-0.397 - 0.064) | 0.117716 | 0.847 (0.672 - 1.066) | 0.157037 | 0.462386 | 3.194486664 |
| 0.074 (-0.734 - 0.882) | 0.412249 | 1.077 (0.48 - 2.417) | 0.856825 | 0.92677 | 2.142684753 |
| -0.003 (-0.523 - 0.516) | 0.264899 | 0.997 (0.593 - 1.675) | 0.989795 | 0.989795 | 7.239145228 |
| 0.096 (-0.128 - 0.32) | 0.114166 | 1.101 (0.88 - 1.377) | 0.399755 | 0.847481 | 1.540733789 |
| 0.086 (-0.186 - 0.358) | 0.138978 | 1.09 (0.83 - 1.431) | 0.535887 | 0.914413 | 1.762399782 |
| 0.047 (-0.333 - 0.428) | 0.194171 | 1.049 (0.717 - 1.534) | 0.807153 | 0.914413 | 6.137447657 |
| 0.317 (0.03 - 0.604) | 0.146284 | 1.373 (1.031 - 1.829) | 0.030311 | 0.178499 | 0.605842432 |
| 0.011 (-0.408 - 0.431) | 0.214132 | 1.011 (0.665 - 1.539) | 0.958161 | 0.989795 | 1.884457471 |
| 0.113 (-0.202 - 0.428) | 0.160724 | 1.119 (0.817 - 1.534) | 0.483738 | 0.914413 | 6.096637791 |
| -0.05 (-0.437 - 0.337) | 0.197536 | 0.951 (0.646 - 1.401) | 0.800176 | 0.914413 | 0.952164743 |
| 0.028 (-0.171 - 0.227) | 0.101397 | 1.028 (0.843 - 1.254) | 0.784016 | 0.914413 | 0.467071155 |
| 0.028 (-0.172 - 0.229) | 0.102217 | 1.029 (0.842 - 1.257) | 0.780805 | 0.914413 | 0.466070298 |
| -0.06 (-0.123 - 0.002) | 0.031986 | 0.941 (0.884 - 1.002) | 0.059397 | 0.231156 | 2.306278773 |
| -0.082 (-0.133 - -0.03) | 0.026112 | 0.922 (0.876 - 0.97) | 0.001796 | 0.024985 | 0.48957654 |
| -0.071 (-0.111 - -0.031) | 0.020445 | 0.932 (0.895 - 0.97) | 0.000521 | 0.013816 | 0.55261937 |
| -0.06 (-0.122 - 0.002) | 0.031814 | 0.942 (0.885 - 1.002) | 0.059547 | 0.231156 | 2.307752821 |
| -0.06 (-0.122 - 0.003) | 0.031793 | 0.942 (0.885 - 1.003) | 0.06106 | 0.231156 | 2.322506193 |
| -0.151 (-0.814 - 0.513) | 0.338571 | 0.86 (0.443 - 1.67) | 0.656465 | 0.914413 | 2.428740542 |
| 0.351 (-0.181 - 0.883) | 0.271532 | 1.42 (0.834 - 2.419) | 0.196169 | 0.519848 | 1.263618711 |
| -0.216 (-0.487 - 0.055) | 0.138117 | 0.806 (0.615 - 1.056) | 0.117688 | 0.36691 | 2.874674843 |
| -0.089 (-0.295 - 0.118) | 0.105293 | 0.915 (0.744 - 1.125) | 0.398926 | 0.847481 | 7.479765862 |
| -0.024 (-0.151 - 0.103) | 0.064566 | 0.976 (0.86 - 1.108) | 0.710154 | 0.914413 | 0.870292264 |
| -0.159 (-0.26 - -0.059) | 0.051249 | 0.853 (0.771 - 0.943) | 0.001886 | 0.024985 | 0.208894115 |
| 0.03 (-0.18 - 0.241) | 0.10728 | 1.031 (0.835 - 1.272) | 0.776504 | 0.914413 | 0.464710624 |
| 0.031 (-0.181 - 0.243) | 0.108049 | 1.032 (0.835 - 1.275) | 0.77254 | 0.914413 | 0.463438584 |
| -0.208 (-0.467 - 0.052) | 0.132347 | 0.813 (0.627 - 1.053) | 0.116689 | 0.36691 | 2.866052137 |
| 0.037 (-0.471 - 0.545) | 0.259148 | 1.037 (0.624 - 1.724) | 0.910355 | 1 | 2.28854799 |
| 0.004 (-0.752 - 0.76) | 0.385787 | 1.004 (0.471 - 2.138) | 0.993216 | 1 | 8.270719478 |
| -0.079 (-0.589 - 0.431) | 0.260196 | 0.924 (0.555 - 1.538) | 0.788941 | 1 | 6.493432987 |
| -0.164 (-1.173 - 0.845) | 0.514739 | 0.849 (0.309 - 2.327) | 0.803435 | 1 | 5.864679349 |

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|---|---|---|---|---|---|
| -0.375 (-2.016 - 1.266) | 0.837334 | 0.687 (0.133 - 3.547) | 0.697993 | 1 | 3.224921849 |
| -0.209 (-0.663 - 0.246) | 0.232049 | 0.812 (0.515 - 1.279) | 0.463573 | 1 | 2.27115219 |
| -0.047 (-1.695 - 1.602) | 0.841018 | 0.954 (0.184 - 4.961) | 0.964583 | 1 | 0.578521568 |
| -0.243 (-1.223 - 0.737) | 0.500097 | 0.784 (0.294 - 2.09) | 0.67512 | 1 | 0.679534513 |
| 0.057 (-1.153 - 1.267) | 0.617333 | 1.059 (0.316 - 3.552) | 0.940969 | 1 | 6.491152796 |
| -0.121 (-0.405 - 0.162) | 0.144803 | 0.886 (0.667 - 1.176) | 0.449208 | 1 | 4.093338577 |
| -0.046 (-0.5 - 0.407) | 0.231563 | 0.955 (0.606 - 1.503) | 0.8742 | 1 | 2.244554219 |
| -3.037 (-5.598 - -0.477) | 1.306448 | 0.048 (0.004 - 0.621) | 0.145658 | 1 | 1.753050453 |
| 0.628 (-0.305 - 1.561) | 0.475888 | 1.874 (0.737 - 4.762) | 0.412857 | 1 | 0.191127935 |
| 0.661 (-0.811 - 2.132) | 0.750929 | 1.936 (0.444 - 8.435) | 0.540678 | 1 | 1.09366674 |
| 1.333 (0.135 - 2.531) | 0.611193 | 3.793 (1.145 - 12.567) | 0.160931 | 1 | 1.968005401 |
| -0.084 (-0.217 - 0.048) | 0.067632 | 0.919 (0.805 - 1.049) | 0.337912 | 1 | 2.111248429 |
| -0.107 (-0.306 - 0.093) | 0.101701 | 0.899 (0.736 - 1.097) | 0.485038 | 1 | 0.406391254 |
| -0.094 (-0.231 - 0.044) | 0.070142 | 0.911 (0.794 - 1.045) | 0.409545 | 1 | 0.402368384 |
| -0.085 (-0.218 - 0.048) | 0.067674 | 0.919 (0.804 - 1.049) | 0.335924 | 1 | 2.101337848 |
| -0.084 (-0.217 - 0.049) | 0.067783 | 0.919 (0.805 - 1.05) | 0.339906 | 1 | 2.121158193 |
| -0.067 (-0.711 - 0.576) | 0.328132 | 0.935 (0.491 - 1.778) | 0.870914 | 1 | 2.239857914 |
| 0.012 (-0.533 - 0.557) | 0.277985 | 1.012 (0.587 - 1.746) | 0.967589 | 1 | 7.097581468 |
| -0.364 (-1.116 - 0.388) | 0.383719 | 0.695 (0.328 - 1.475) | 0.517084 | 1 | 0.032212863 |
| -0.06 (-0.707 - 0.587) | 0.330154 | 0.942 (0.493 - 1.799) | 0.885704 | 1 | 2.26008913 |
| 0.179 (-0.202 - 0.56) | 0.194478 | 1.196 (0.817 - 1.751) | 0.45473 | 1 | NA |
| -0.222 (-0.739 - 0.295) | 0.263887 | 0.801 (0.477 - 1.343) | 0.461512 | 1 | NA |
| 0.504 (-0.064 - 1.072) | 0.289744 | 1.655 (0.938 - 2.921) | 0.180363 | 1 | NA |
| 0.032 (-0.335 - 0.399) | 0.187244 | 1.032 (0.715 - 1.49) | 0.881316 | 1 | NA |
| -0.273 (-0.687 - 0.14) | 0.210864 | 0.761 (0.503 - 1.15) | 0.285653 | 1 | NA |
| -0.003 (-0.426 - 0.42) | 0.215774 | 0.997 (0.653 - 1.521) | 0.988814 | 1 | NA |
| -0.282 (-0.793 - 0.229) | 0.260785 | 0.754 (0.452 - 1.257) | 0.39232 | 1 | NA |
| -0.224 (-0.701 - 0.253) | 0.243587 | 0.799 (0.496 - 1.288) | 0.425519 | 1 | NA |
| -0.252 (-0.643 - 0.138) | 0.199446 | 0.777 (0.526 - 1.148) | 0.333074 | 1 | NA |
| -0.153 (-0.435 - 0.13) | 0.144203 | 0.858 (0.647 - 1.139) | 0.337633 | 1 | NA |
| -0.175 (-0.531 - 0.182) | 0.181838 | 0.84 (0.588 - 1.199) | 0.437829 | 1 | NA |
| 0.387 (-0.469 - 1.242) | 0.436431 | 1.472 (0.626 - 3.463) | 0.440692 | 1 | NA |
| 0.001 (-0.399 - 0.401) | 0.204047 | 1.001 (0.671 - 1.494) | 0.995768 | 1 | NA |
| 0.004 (-0.424 - 0.432) | 0.21844 | 1.004 (0.654 - 1.541) | 0.98643 | 1 | NA |
| -0.026 (-0.449 - 0.398) | 0.215908 | 0.975 (0.638 - 1.488) | 0.913285 | 1 | NA |
| -0.063 (-0.232 - 0.105) | 0.08605 | 0.939 (0.793 - 1.111) | 0.515085 | 1 | NA |
| -0.098 (-0.268 - 0.073) | 0.086998 | 0.907 (0.765 - 1.075) | 0.377336 | 1 | NA |
| -0.077 (-0.218 - 0.065) | 0.072 | 0.926 (0.804 - 1.067) | 0.399153 | 1 | NA |
| -0.064 (-0.22 - 0.092) | 0.079386 | 0.938 (0.803 - 1.096) | 0.478662 | 1 | NA |
| -0.063 (-0.225 - 0.098) | 0.082385 | 0.939 (0.799 - 1.103) | 0.497555 | 1 | NA |
| -0.186 (-0.568 - 0.195) | 0.194516 | 0.83 (0.567 - 1.215) | 0.439258 | 1 | NA |
| 0.012 (-0.364 - 0.387) | 0.191702 | 1.012 (0.695 - 1.473) | 0.95483 | 1 | NA |
| 0.062 (-0.208 - 0.333) | 0.138022 | 1.064 (0.812 - 1.395) | 0.695447 | 1 | NA |
| -0.172 (-0.511 - 0.167) | 0.17281 | 0.842 (0.6 - 1.181) | 0.424393 | 1 | NA |
| 0.136 (-0.072 - 0.344) | 0.106222 | 1.146 (0.931 - 1.411) | 0.199655 | 0.998717 | NA |
| 0.069 (-0.106 - 0.244) | 0.08943 | 1.071 (0.899 - 1.277) | 0.4407 | 1 | NA |
| 0.105 (-0.051 - 0.26) | 0.07941 | 1.11 (0.95 - 1.297) | 0.186989 | 0.998717 | NA |
| -0.063 (-0.299 - 0.172) | 0.120204 | 0.939 (0.742 - 1.188) | 0.598038 | 1 | NA |
| -0.308 (-0.595 - -0.021) | 0.146254 | 0.735 (0.552 - 0.979) | 0.035183 | 0.687993 | NA |
| -0.074 (-0.386 - 0.238) | 0.159132 | 0.928 (0.68 - 1.268) | 0.640858 | 1 | NA |
| -0.226 (-0.624 - 0.173) | 0.20309 | 0.798 (0.536 - 1.188) | 0.266763 | 1 | NA |
| -0.179 (-0.582 - 0.224) | 0.205481 | 0.836 (0.559 - 1.251) | 0.383767 | 1 | NA |
| -0.12 (-0.321 - 0.082) | 0.102671 | 0.887 (0.725 - 1.085) | 0.243657 | 1 | NA |
| -0.094 (-0.279 - 0.091) | 0.094235 | 0.91 (0.757 - 1.095) | 0.317772 | 1 | NA |
| -0.129 (-0.322 - 0.064) | 0.098579 | 0.879 (0.724 - 1.066) | 0.189797 | 0.998717 | NA |
| -0.018 (-0.466 - 0.43) | 0.228649 | 0.982 (0.627 - 1.537) | 0.936624 | 1 | NA |
| 0.016 (-0.288 - 0.32) | 0.155093 | 1.016 (0.75 - 1.377) | 0.919104 | 1 | NA |
| 0.006 (-0.323 - 0.336) | 0.168157 | 1.006 (0.724 - 1.399) | 0.970612 | 1 | NA |

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|---|---|---|---|---|---|
| -0.02 (-0.312 - 0.272) | 0.149075 | 0.98 (0.732 - 1.313) | 0.893818 | 1 | NA |
| -0.071 (-0.145 - 0.002) | 0.03732 | 0.931 (0.865 - 1.002) | 0.0557 | 0.687993 | NA |
| -0.089 (-0.196 - 0.017) | 0.054466 | 0.915 (0.822 - 1.018) | 0.100845 | 0.890796 | NA |
| -0.077 (-0.158 - 0.003) | 0.040952 | 0.925 (0.854 - 1.003) | 0.058524 | 0.687993 | NA |
| -0.071 (-0.147 - 0.004) | 0.038577 | 0.931 (0.863 - 1.004) | 0.064905 | 0.687993 | NA |
| -0.071 (-0.144 - 0.002) | 0.037172 | 0.932 (0.866 - 1.002) | 0.057206 | 0.687993 | NA |
| -0.162 (-0.408 - 0.085) | 0.125823 | 0.851 (0.665 - 1.089) | 0.198557 | 0.998717 | NA |
| -0.084 (-0.248 - 0.079) | 0.083385 | 0.919 (0.781 - 1.082) | 0.312722 | 1 | NA |
| -0.021 (-0.248 - 0.206) | 0.115895 | 0.979 (0.78 - 1.229) | 0.855503 | 1 | NA |
| -0.154 (-0.394 - 0.086) | 0.122336 | 0.857 (0.674 - 1.089) | 0.207281 | 0.998717 | NA |
| 0.12 (-0.089 - 0.33) | 0.106902 | 1.128 (0.915 - 1.391) | 0.376989 | 1 | NA |
| 0.078 (-0.097 - 0.253) | 0.089207 | 1.081 (0.908 - 1.288) | 0.446467 | 1 | NA |
| 0.088 (-0.07 - 0.245) | 0.080513 | 1.092 (0.932 - 1.278) | 0.356311 | 1 | NA |
| -0.066 (-0.291 - 0.158) | 0.114605 | 0.936 (0.748 - 1.172) | 0.622234 | 1 | NA |
| -0.308 (-0.655 - 0.039) | 0.176986 | 0.735 (0.52 - 1.04) | 0.180541 | 1 | NA |
| -0.071 (-0.417 - 0.276) | 0.176693 | 0.932 (0.659 - 1.318) | 0.716595 | 1 | NA |
| -0.25 (-0.698 - 0.197) | 0.228416 | 0.779 (0.498 - 1.218) | 0.387382 | 1 | NA |
| -0.209 (-0.638 - 0.221) | 0.219132 | 0.812 (0.528 - 1.247) | 0.411235 | 1 | NA |
| -0.116 (-0.338 - 0.107) | 0.113487 | 0.891 (0.713 - 1.113) | 0.415535 | 1 | NA |
| -0.1 (-0.303 - 0.103) | 0.103772 | 0.905 (0.738 - 1.109) | 0.379476 | 1 | NA |
| -0.11 (-0.296 - 0.075) | 0.094631 | 0.896 (0.744 - 1.078) | 0.364849 | 1 | NA |
| -0.173 (-0.707 - 0.36) | 0.272142 | 0.841 (0.493 - 1.434) | 0.56961 | 1 | NA |
| -0.007 (-0.404 - 0.389) | 0.202379 | 0.993 (0.668 - 1.476) | 0.974504 | 1 | NA |
| -0.012 (-0.359 - 0.335) | 0.176885 | 0.988 (0.699 - 1.397) | 0.951854 | 1 | NA |
| -0.035 (-0.337 - 0.267) | 0.154283 | 0.966 (0.714 - 1.307) | 0.835021 | 1 | NA |
| -0.073 (-0.147 - 0) | 0.037547 | 0.929 (0.863 - 1) | 0.145687 | 1 | NA |
| -0.09 (-0.203 - 0.022) | 0.057418 | 0.914 (0.817 - 1.023) | 0.257382 | 1 | NA |
| -0.078 (-0.16 - 0.005) | 0.042144 | 0.925 (0.852 - 1.005) | 0.206526 | 1 | NA |
| -0.073 (-0.149 - 0.003) | 0.038771 | 0.93 (0.862 - 1.003) | 0.158092 | 1 | NA |
| -0.073 (-0.146 - -0.001) | 0.037059 | 0.929 (0.864 - 0.999) | 0.142662 | 1 | NA |
| -0.144 (-0.406 - 0.118) | 0.133763 | 0.866 (0.666 - 1.125) | 0.394323 | 1 | NA |
| -0.089 (-0.253 - 0.075) | 0.083736 | 0.915 (0.776 - 1.078) | 0.347378 | 1 | NA |
| -0.003 (-0.247 - 0.241) | 0.1243 | 0.997 (0.781 - 1.272) | 0.983225 | 1 | NA |
| -0.141 (-0.379 - 0.096) | 0.121242 | 0.868 (0.684 - 1.101) | 0.36358 | 1 | NA |
| -0.174 (-0.485 - 0.138) | 0.159051 | 0.841 (0.615 - 1.148) | 0.274797 | 0.662012 | NA |

| Q_pval | Egger_Intercept | Pleiotropy_pval |
|---|---|---|
| 0.366144 | NA | NA |
| 0.570384 | NA | NA |
| 0.111631 | NA | NA |
| 0.667397 | NA | NA |
| 0.189773 | 0.060627225 | 0.62306 |
| 0.037953 | 0.043001034 | 0.863538 |
| 0.035892 | 0.127109011 | 0.509444 |
| 0.049546 | 0.027252006 | 0.900701 |
| 0.356335 | 0.018896746 | 0.935927 |
| 0.461163 | NA | NA |
| 0.883645 | NA | NA |
| 0.057937 | NA | NA |
| 0.406862 | 0.05531707 | 0.533536 |
| 0.063419 | NA | NA |
| 0.066322 | NA | NA |
| 0.891014 | NA | NA |
| 0.889745 | NA | NA |
| 0.592638 | NA | NA |
| 0.46793 | NA | NA |
| 0.489787 | NA | NA |
| 0.738297 | -0.039925764 | 0.893902 |
| 0.485036 | NA | NA |
| 0.871443 | 0.017071335 | 0.882612 |
| 0.65798 | NA | NA |
| 0.029421 | -0.095413217 | 0.817982 |
| 0.526205 | -0.009998192 | 0.80714 |
| 0.202454 | -0.056948062 | 0.632822 |
| 0.143251 | NA | NA |
| 0.064654 | 0.582978602 | 0.14394 |
| 0.462843 | -0.147900188 | 0.452461 |
| 0.414286 | -0.138125846 | 0.577512 |
| 0.013235 | NA | NA |
| 0.436358 | NA | NA |
| 0.169828 | NA | NA |
| 0.107002 | -0.313771056 | 0.17923 |
| 0.329169 | NA | NA |
| 0.494338 | NA | NA |
| 0.494801 | NA | NA |
| 0.511319 | 0.022854251 | 0.709199 |
| 0.78287 | 0.016253396 | 0.821238 |
| 0.758578 | 0.020405358 | 0.764584 |
| 0.511037 | 0.023716807 | 0.700928 |
| 0.508223 | 0.023442069 | 0.705561 |
| 0.119129 | NA | NA |
| 0.260967 | NA | NA |
| 0.237559 | -0.053391718 | 0.688561 |
| 0.112605 | -0.066464066 | 0.714662 |
| 0.64717 | 0.118922843 | 0.528077 |
| 0.647636 | NA | NA |
| 0.495431 | NA | NA |
| 0.496021 | NA | NA |
| 0.238586 | -0.054446038 | 0.695833 |
| 0.130332 | NA | NA |
| 0.015997 | NA | NA |
| 0.038902 | NA | NA |
| 0.015448 | NA | NA |

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|---|---|---|
| 0.199396 | NA | NA |
| 0.321237 | NA | NA |
| 0.446892 | NA | NA |
| 0.711936 | NA | NA |
| 0.010841 | NA | NA |
| 0.393521 | NA | NA |
| 0.134086 | NA | NA |
| 0.416227 | NA | NA |
| 0.66198 | NA | NA |
| 0.29566 | NA | NA |
| 0.373812 | NA | NA |
| 0.347975 | NA | NA |
| 0.523807 | NA | NA |
| 0.525869 | NA | NA |
| 0.349704 | NA | NA |
| 0.346255 | NA | NA |
| 0.134493 | NA | NA |
| 0.068852 | NA | NA |
| 0.857561 | NA | NA |
| 0.132746 | NA | NA |
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| NA | NA | NA |
| NA | NA | NA |

**Supplementary Table 7**

| Id.exposure | Outcome | Exposure | Types |
|---|---|---|---|
| GCST90001473 | IPF | CD62L- CD86+ myeloic | leukocyte count |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ | blood protein measurement |
| GCST90001957 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001956 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001947 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001465 | IPF | CD86+ myeloid Dendrit | leukocyte count |
| GCST90001952 | IPF | CD33 on Monocytic My | blood protein measurement |
| GCST90001650 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001648 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001585 | IPF | CD14+ CD16+ monocyt | monocyte count |
| GCST90001649 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001580 | IPF | CD14+ CD16+ monocyt | monocyte count |
| GCST90001458 | IPF | Myeloid Dendritic Cell A | leukocyte count |
| GCST90001474 | IPF | Plasmacytoid Dendritic ( | leukocyte count |
| GCST90001827 | IPF | IgD on IgD+ B cell | blood protein measurement |
| GCST90002077 | IPF | SSC-A on HLA DR+ Na | blood protein measurement |
| GCST90001970 | IPF | FSC-A on HLA DR+ Na | blood protein measurement |
| GCST90001586 | IPF | CD14+ CD16- monocyte | monocyte count |
| GCST90001587 | IPF | CD16+ monocyte %mon | monocyte count |
| GCST90001950 | IPF | CD33 on Granulocytic M | blood protein measurement |
| GCST90002014 | IPF | CCR2 on CD62L+ myel | blood protein measurement |
| GCST90002017 | IPF | CCR2 on monocyte | blood protein measurement |
| GCST90001944 | IPF | CD123 on plasmacytoid | blood protein measurement |
| GCST90001945 | IPF | CD123 on CD62L+ plas | blood protein measurement |
| GCST90001475 | IPF | HLA DR++ monocyte % | leukocyte count |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ | blood protein measurement |
| GCST90002037 | IPF | CD80 on plasmacytoid D | blood protein measurement |
| GCST90002038 | IPF | CD80 on CD62L+ plasm | blood protein measurement |
| GCST90001870 | IPF | CD34 on Hematopoietic | blood protein measurement |
| GCST90001558 | IPF | Terminally Differentiate | lymphocyte count |
| GCST90001527 | IPF | CD33dim HLA DR+ CD | myeloid white cell count |
| GCST90001473 | IPF | CD62L- CD86+ myeloic | leukocyte count |
| GCST90001781 | IPF | CD25 on IgD+ CD38- na | blood protein measurement |
| GCST90002017 | IPF | CCR2 on monocyte | blood protein measurement |
| GCST90001952 | IPF | CD33 on Monocytic My | blood protein measurement |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ D | blood protein measurement |
| GCST90001436 | IPF | Memory B cell %lymph | lymphocyte count |
| GCST90001957 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001947 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001956 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001650 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001588 | IPF | T/B cell | leukocyte count |
| GCST90001649 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001520 | IPF | CD33+ HLA DR+ CD1 | myeloid white cell count |
| GCST90001957 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001648 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ D | blood protein measurement |
| GCST90001473 | IPF | CD62L- CD86+ myeloic | leukocyte count |
| GCST90001956 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001911 | IPF | CD45 on Natural Killer | blood protein measurement |
| GCST90002014 | IPF | CCR2 on CD62L+ myel | blood protein measurement |
| GCST90001956 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001957 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001599 | IPF | CD4-CD8- T cell %T ce | leukocyte count |
| GCST90001597 | IPF | CD8dim T cell %T cell | leukocyte count |
| GCST90001649 | IPF | HLA DR+ Natural Kille | leukocyte count |

| | | | |
|---|---|---|---|
| GCST90001947 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001947 | IPF | CD33 on CD33+ HLA D | blood protein measurement |
| GCST90001475 | IPF | HLA DR++ monocyte % | leukocyte count |
| GCST90001475 | IPF | HLA DR++ monocyte % | leukocyte count |
| GCST90001597 | IPF | CD8dim T cell %T cell | leukocyte count |
| GCST90001613 | IPF | CD4-CD8- T cell %leuk | leukocyte count |
| GCST90001465 | IPF | CD86+ myeloid Dendrit | leukocyte count |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ | blood protein measurement |
| GCST90002014 | IPF | CCR2 on CD62L+ myel | blood protein measurement |
| GCST90001424 | IPF | IgD+ B cell %Lymphocy | lymphocyte count |
| GCST90001612 | IPF | CD8dim T cell %leukoc | leukocyte count |
| GCST90001870 | IPF | CD34 on Hematopoietic | blood protein measurement |
| GCST90001867 | IPF | CD3 on CD4+ T cell | blood protein measurement |
| GCST90001612 | IPF | CD8dim T cell %leukoc | leukocyte count |
| GCST90002077 | IPF | SSC-A on HLA DR+ Na | blood protein measurement |
| GCST90001952 | IPF | CD33 on Monocytic My | blood protein measurement |
| GCST90001558 | IPF | Terminally Differentiate | lymphocyte count |
| GCST90001970 | IPF | FSC-A on HLA DR+ Na | blood protein measurement |
| GCST90001911 | IPF | CD45 on Natural Killer | blood protein measurement |
| GCST90001596 | IPF | CD8dim T cell Absolute | leukocyte count |
| GCST90001458 | IPF | Myeloid Dendritic Cell A | leukocyte count |
| GCST90001465 | IPF | CD86+ myeloid Dendrit | leukocyte count |
| GCST90001596 | IPF | CD8dim T cell Absolute | leukocyte count |
| GCST90001547 | IPF | Terminally Differentiate | lymphocyte count |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ | blood protein measurement |
| GCST90001827 | IPF | IgD on IgD+ B cell | blood protein measurement |
| GCST90001944 | IPF | CD123 on plasmacytoid | blood protein measurement |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B | blood protein measurement |
| GCST90001945 | IPF | CD123 on CD62L+ plas | blood protein measurement |
| GCST90001833 | IPF | CD62L on CD62L+ Den | blood protein measurement |
| GCST90001475 | IPF | HLA DR++ monocyte % | leukocyte count |
| GCST90001558 | IPF | Terminally Differentiate | lymphocyte count |
| GCST90001833 | IPF | CD62L on CD62L+ Den | blood protein measurement |
| GCST90001599 | IPF | CD4-CD8- T cell %T ce | leukocyte count |
| GCST90001959 | IPF | CD4 on HLA DR+ CD4 | blood protein measurement |
| GCST90001588 | IPF | T/B cell | leukocyte count |
| GCST90001554 | IPF | Effector Memory CD8+ | lymphocyte count |
| GCST90002037 | IPF | CD80 on plasmacytoid D | blood protein measurement |
| GCST90002038 | IPF | CD80 on CD62L+ plasm | blood protein measurement |
| GCST90001783 | IPF | CD25 on IgD+ CD38+ I | blood protein measurement |
| GCST90001474 | IPF | Plasmacytoid Dendritic C | leukocyte count |
| GCST90001424 | IPF | IgD+ B cell %Lymphocy | lymphocyte count |
| GCST90002077 | IPF | SSC-A on HLA DR+ Na | blood protein measurement |
| GCST90001580 | IPF | CD14+ CD16+ monocyt | monocyte count |
| GCST90001614 | IPF | CD8+ and CD8dim T ce | leukocyte count |
| GCST90001474 | IPF | Plasmacytoid Dendritic C | leukocyte count |
| GCST90001475 | IPF | HLA DR++ monocyte % | leukocyte count |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B | blood protein measurement |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B | blood protein measurement |
| GCST90001648 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001650 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001950 | IPF | CD33 on Granulocytic M | blood protein measurement |
| GCST90001613 | IPF | CD4-CD8- T cell %leuk | leukocyte count |
| GCST90001614 | IPF | CD8+ and CD8dim T ce | leukocyte count |
| GCST90001690 | IPF | CD28+ CD45RA+ CD8 | lymphocyte count |
| GCST90001965 | IPF | FSC-A on monocyte | blood protein measurement |
| GCST90001959 | IPF | CD4 on HLA DR+ CD4 | blood protein measurement |
| GCST90001649 | IPF | HLA DR+ Natural Kille | leukocyte count |

| | | | |
|---|---|---|---|
| GCST90001392 | IPF | IgD+ CD38+ B cell Abs | lymphocyte count |
| GCST90001458 | IPF | Myeloid Dendritic Cell / | leukocyte count |
| GCST90001599 | IPF | CD4-CD8- T cell %T ce | leukocyte count |
| GCST90001520 | IPF | CD33+ HLA DR+ CD14 | myeloid white cell count |
| GCST90001870 | IPF | CD34 on Hematopoietic | blood protein measurement |
| GCST90001587 | IPF | CD16+ monocyte %mor | monocyte count |
| GCST90001965 | IPF | FSC-A on monocyte | blood protein measurement |
| GCST90001748 | IPF | CD20 on IgD+ CD38- B | blood protein measurement |
| GCST90001781 | IPF | CD25 on IgD+ CD38- na | blood protein measurement |
| GCST90001585 | IPF | CD14+ CD16+ monocyt | monocyte count |
| GCST90001426 | IPF | IgD- CD38dim B cell % | lymphocyte count |
| GCST90001586 | IPF | CD14+ CD16- monocyte | monocyte count |
| GCST90001613 | IPF | CD4-CD8- T cell %leuk | leukocyte count |
| GCST90001613 | IPF | CD4-CD8- T cell %leuk | leukocyte count |
| GCST90001392 | IPF | IgD+ CD38+ B cell Abs | lymphocyte count |
| GCST90001950 | IPF | CD33 on Granulocytic M | blood protein measurement |
| GCST90001436 | IPF | Memory B cell %lymph | lymphocyte count |
| GCST90001870 | IPF | CD34 on Hematopoietic | blood protein measurement |
| GCST90001781 | IPF | CD25 on IgD+ CD38- na | blood protein measurement |
| GCST90001970 | IPF | FSC-A on HLA DR+ Na | blood protein measurement |
| GCST90002005 | IPF | CD16 on CD14+ CD16+ | blood protein measurement |
| GCST90001558 | IPF | Terminally Differentiate | lymphocyte count |
| GCST90001649 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001465 | IPF | CD86+ myeloid Dendrit | leukocyte count |
| GCST90001547 | IPF | Terminally Differentiate | lymphocyte count |
| GCST90001690 | IPF | CD28+ CD45RA+ CD8 | lymphocyte count |
| GCST90001649 | IPF | HLA DR+ Natural Kille | leukocyte count |
| GCST90001473 | IPF | CD62L- CD86+ myeloic | leukocyte count |
| GCST90001867 | IPF | CD3 on CD4+ T cell | blood protein measurement |
| GCST90001554 | IPF | Effector Memory CD8+ | lymphocyte count |
| GCST90001426 | IPF | IgD- CD38dim B cell % | lymphocyte count |

| SNP | Samplesize.outcome | Samplesize.exposure | Steiger_dir | Steiger_pval |
|---|---|---|---|---|
| rs71632979 | 198014 | 3410 | TRUE | 1.77E-231 |
| rs71632979 | 198014 | 3617 | TRUE | 7.04E-212 |
| rs3865444 | 198014 | 1578 | TRUE | 2.61E-202 |
| rs3865444 | 198014 | 1579 | TRUE | 1.42E-200 |
| rs3865444 | 198014 | 1577 | TRUE | 1.30E-196 |
| rs71632979 | 198014 | 3410 | TRUE | 7.66E-167 |
| rs3865444 | 198014 | 1569 | TRUE | 7.42E-162 |
| rs71632979 | 198014 | 3596 | TRUE | 6.66E-142 |
| rs71632989 | 198014 | 3580 | TRUE | 1.33E-136 |
| rs71632979 | 198014 | 3629 | TRUE | 1.92E-134 |
| rs71632989 | 198014 | 3596 | TRUE | 2.20E-124 |
| rs71632979 | 198014 | 3629 | TRUE | 7.47E-113 |
| rs71632979 | 198014 | 3387 | TRUE | 4.95E-112 |
| rs71632989 | 198014 | 3410 | TRUE | 8.31E-91 |
| rs709589 | 198014 | 3657 | TRUE | 1.06E-80 |
| rs71632979 | 198014 | 2971 | TRUE | 9.57E-74 |
| rs71632979 | 198014 | 2971 | TRUE | 2.11E-68 |
| rs115383270 | 198014 | 3629 | TRUE | 1.57E-64 |
| rs115383270 | 198014 | 3629 | TRUE | 1.99E-62 |
| rs7245846 | 198014 | 1244 | TRUE | 1.87E-59 |
| rs61802333 | 198014 | 2870 | TRUE | 2.40E-28 |
| rs4683184 | 198014 | 2850 | TRUE | 2.54E-26 |
| rs7658518 | 198014 | 2872 | TRUE | 9.37E-23 |
| rs7658518 | 198014 | 2872 | TRUE | 3.00E-22 |
| rs9271296 | 198014 | 3595 | TRUE | 1.15E-21 |
| rs115805162 | 198014 | 3617 | TRUE | 5.86E-21 |
| rs7658518 | 198014 | 2871 | TRUE | 3.16E-20 |
| rs7658518 | 198014 | 2871 | TRUE | 8.91E-20 |
| rs139489968 | 198014 | 1634 | TRUE | 1.75E-19 |
| rs6707421 | 198014 | 3427 | TRUE | 2.12E-19 |
| rs67760360 | 198014 | 1858 | TRUE | 6.23E-19 |
| rs115805162 | 198014 | 3410 | TRUE | 9.60E-19 |
| rs41294937 | 198014 | 1835 | TRUE | 6.15E-18 |
| rs1801274 | 198014 | 2850 | TRUE | 9.59E-18 |
| rs7351079 | 198014 | 1569 | TRUE | 1.17E-17 |
| rs62626323 | 198014 | 3656 | TRUE | 3.34E-17 |
| rs12874404 | 198014 | 3656 | TRUE | 9.49E-17 |
| rs558625031 | 198014 | 1578 | TRUE | 1.00E-16 |
| rs558625031 | 198014 | 1577 | TRUE | 2.32E-16 |
| rs558625031 | 198014 | 1579 | TRUE | 2.96E-16 |
| rs115805162 | 198014 | 3596 | TRUE | 3.24E-16 |
| rs12874404 | 198014 | 3653 | TRUE | 3.96E-16 |
| rs7180804 | 198014 | 3596 | TRUE | 4.81E-16 |
| rs3865444 | 198014 | 1858 | TRUE | 5.61E-16 |
| rs7351079 | 198014 | 1578 | TRUE | 1.42E-15 |
| rs115805162 | 198014 | 3580 | TRUE | 1.52E-15 |
| rs709589 | 198014 | 3656 | TRUE | 2.25E-15 |
| rs71639910 | 198014 | 3410 | TRUE | 2.94E-15 |
| rs7351079 | 198014 | 1579 | TRUE | 3.36E-15 |
| rs6721978 | 198014 | 3113 | TRUE | 3.68E-15 |
| rs35587265 | 198014 | 2870 | TRUE | 5.13E-15 |
| rs78949787 | 198014 | 1579 | TRUE | 5.43E-15 |
| rs78949787 | 198014 | 1578 | TRUE | 6.28E-15 |
| rs7569868 | 198014 | 3668 | TRUE | 7.84E-15 |
| rs139249541 | 198014 | 3668 | TRUE | 1.10E-14 |
| rs115805162 | 198014 | 3596 | TRUE | 2.16E-14 |

| | | | | |
|---|---|---|---|---|
| rs78949787 | 198014 | 1577 | TRUE | 2.31E-14 |
| rs7351079 | 198014 | 1577 | TRUE | 3.16E-14 |
| rs9271768 | 198014 | 3595 | TRUE | 3.25E-14 |
| rs9271768 | 198014 | 3595 | TRUE | 6.03E-14 |
| rs79086781 | 198014 | 3668 | TRUE | 8.33E-14 |
| rs7569868 | 198014 | 3668 | TRUE | 1.06E-13 |
| rs115805162 | 198014 | 3410 | TRUE | 1.12E-13 |
| rs71639910 | 198014 | 3617 | TRUE | 1.58E-13 |
| rs6687275 | 198014 | 2870 | TRUE | 3.13E-13 |
| rs12874404 | 198014 | 3657 | TRUE | 8.23E-13 |
| rs79086781 | 198014 | 3668 | TRUE | 1.08E-12 |
| rs4406271 | 198014 | 1634 | TRUE | 1.36E-12 |
| rs4657649 | 198014 | 2919 | TRUE | 1.89E-12 |
| rs139249541 | 198014 | 3668 | TRUE | 1.95E-12 |
| rs115805162 | 198014 | 2971 | TRUE | 2.69E-12 |
| rs62114147 | 198014 | 1569 | TRUE | 3.66E-12 |
| rs541367304 | 198014 | 3427 | TRUE | 9.13E-12 |
| rs115805162 | 198014 | 2971 | TRUE | 1.78E-11 |
| rs183053322 | 198014 | 3113 | TRUE | 1.87E-11 |
| rs139249541 | 198014 | 3652 | TRUE | 2.55E-11 |
| rs115805162 | 198014 | 3387 | TRUE | 2.84E-11 |
| rs71639910 | 198014 | 3410 | TRUE | 3.14E-11 |
| rs79251210 | 198014 | 3652 | TRUE | 5.14E-11 |
| rs62400929 | 198014 | 3427 | TRUE | 5.27E-11 |
| rs187197560 | 198014 | 3617 | TRUE | 5.78E-11 |
| rs28669075 | 198014 | 3657 | TRUE | 7.23E-11 |
| rs62447171 | 198014 | 2872 | TRUE | 1.03E-10 |
| rs30003 | 198014 | 3645 | TRUE | 1.18E-10 |
| rs62447171 | 198014 | 2872 | TRUE | 1.21E-10 |
| rs3917768 | 198014 | 2871 | TRUE | 1.59E-10 |
| rs9296042 | 198014 | 3595 | TRUE | 1.88E-10 |
| rs79827501 | 198014 | 3427 | TRUE | 2.37E-10 |
| rs7526645 | 198014 | 2871 | TRUE | 2.64E-10 |
| rs139249541 | 198014 | 3668 | TRUE | 2.69E-10 |
| rs4371876 | 198014 | 3060 | TRUE | 3.56E-10 |
| rs9892810 | 198014 | 3653 | TRUE | 3.92E-10 |
| rs17583875 | 198014 | 3395 | TRUE | 4.87E-10 |
| rs62447171 | 198014 | 2871 | TRUE | 6.08E-10 |
| rs62447171 | 198014 | 2871 | TRUE | 6.55E-10 |
| rs3793662 | 198014 | 3656 | TRUE | 6.78E-10 |
| rs876036 | 198014 | 3410 | TRUE | 7.90E-10 |
| rs11657531 | 198014 | 3657 | TRUE | 1.05E-09 |
| rs569911 | 198014 | 2971 | TRUE | 1.12E-09 |
| rs71639910 | 198014 | 3629 | TRUE | 1.30E-09 |
| rs11080350 | 198014 | 3668 | TRUE | 2.06E-09 |
| rs115805162 | 198014 | 3410 | TRUE | 2.41E-09 |
| rs62395272 | 198014 | 3595 | TRUE | 3.23E-09 |
| rs2070770 | 198014 | 3645 | TRUE | 3.47E-09 |
| rs12554596 | 198014 | 3645 | TRUE | 4.25E-09 |
| rs71639910 | 198014 | 3580 | TRUE | 6.07E-09 |
| rs569911 | 198014 | 3596 | TRUE | 6.38E-09 |
| rs7351079 | 198014 | 1244 | TRUE | 6.44E-09 |
| rs139249541 | 198014 | 3668 | TRUE | 6.72E-09 |
| rs73402222 | 198014 | 3668 | TRUE | 6.90E-09 |
| rs3131627 | 198014 | 3408 | TRUE | 7.36E-09 |
| rs77762937 | 198014 | 2850 | TRUE | 8.79E-09 |
| rs9357097 | 198014 | 3060 | TRUE | 1.11E-08 |
| rs9916257 | 198014 | 3596 | TRUE | 1.13E-08 |

| | | | | |
|---|---|---|---|---|
| rs80330977 | 198014 | 3656 | TRUE | 1.16E-08 |
| rs569911 | 198014 | 3387 | TRUE | 1.33E-08 |
| rs79251210 | 198014 | 3668 | TRUE | 1.34E-08 |
| rs74253876 | 198014 | 1858 | TRUE | 1.70E-08 |
| rs586030 | 198014 | 1634 | TRUE | 1.86E-08 |
| rs74975395 | 198014 | 3629 | TRUE | 2.01E-08 |
| rs1800973 | 198014 | 2850 | TRUE | 2.05E-08 |
| rs2066399 | 198014 | 3645 | TRUE | 2.11E-08 |
| rs709589 | 198014 | 1835 | TRUE | 2.22E-08 |
| rs71639910 | 198014 | 3629 | TRUE | 2.27E-08 |
| rs7840395 | 198014 | 3656 | TRUE | 2.40E-08 |
| rs74975395 | 198014 | 3629 | TRUE | 2.44E-08 |
| rs79251210 | 198014 | 3668 | TRUE | 3.21E-08 |
| rs9896155 | 198014 | 3668 | TRUE | 3.81E-08 |
| rs139260757 | 198014 | 3656 | TRUE | 3.88E-08 |
| rs78949787 | 198014 | 1244 | TRUE | 4.20E-08 |
| rs11653761 | 198014 | 3656 | TRUE | 4.39E-08 |
| rs36102158 | 198014 | 1634 | TRUE | 5.39E-08 |
| rs2275848 | 198014 | 1835 | TRUE | 5.66E-08 |
| rs569911 | 198014 | 2971 | TRUE | 5.85E-08 |
| rs147678401 | 198014 | 3617 | TRUE | 5.96E-08 |
| rs13023673 | 198014 | 3427 | TRUE | 6.67E-08 |
| rs865239 | 198014 | 3596 | TRUE | 7.95E-08 |
| rs115624142 | 198014 | 3410 | TRUE | 8.85E-08 |
| rs9501107 | 198014 | 3427 | TRUE | 8.91E-08 |
| rs12901644 | 198014 | 3408 | TRUE | 9.47E-08 |
| rs569911 | 198014 | 3596 | TRUE | 1.06E-07 |
| rs78600824 | 198014 | 3410 | TRUE | 1.08E-07 |
| rs41289614 | 198014 | 2919 | TRUE | 1.10E-07 |
| rs3130685 | 198014 | 3395 | TRUE | 1.33E-07 |
| rs11687597 | 198014 | 3656 | TRUE | 1.59E-07 |

| Steiger | FDR |
|---|---|
| | 2.57E-229 |
| | 5.11E-210 |
| | 1.26E-200 |
| | 5.14E-199 |
| | 3.77E-195 |
| | 1.85E-165 |
| | 1.54E-160 |
| | 1.21E-140 |
| | 2.15E-135 |
| | 2.78E-133 |
| | 2.90E-123 |
| | 9.03E-112 |
| | 5.52E-111 |
| | 8.60E-90 |
| | 1.02E-79 |
| | 8.67E-73 |
| | 1.80E-67 |
| | 1.26E-63 |
| | 1.52E-61 |
| | 1.36E-58 |
| | 1.66E-27 |
| | 1.67E-25 |
| | 5.90E-22 |
| | 1.81E-21 |
| | 6.69E-21 |
| | 3.27E-20 |
| | 1.70E-19 |
| | 4.62E-19 |
| | 8.75E-19 |
| | 1.03E-18 |
| | 2.91E-18 |
| | 4.35E-18 |
| | 2.70E-17 |
| | 4.09E-17 |
| | 4.85E-17 |
| | 1.34E-16 |
| | 3.72E-16 |
| | 3.82E-16 |
| | 8.63E-16 |
| | 1.07E-15 |
| | 1.15E-15 |
| | 1.37E-15 |
| | 1.62E-15 |
| | 1.85E-15 |
| | 4.57E-15 |
| | 4.80E-15 |
| | 6.95E-15 |
| | 8.89E-15 |
| | 9.95E-15 |
| | 1.07E-14 |
| | 1.46E-14 |
| | 1.51E-14 |
| | 1.72E-14 |
| | 2.10E-14 |
| | 2.89E-14 |
| | 5.60E-14 |

5.87E-14
7.90E-14
7.99E-14
1.46E-13
1.98E-13
2.48E-13
2.59E-13
3.58E-13
6.98E-13
1.81E-12
2.34E-12
2.91E-12
3.96E-12
4.03E-12
5.50E-12
7.37E-12
1.81E-11
3.49E-11
3.61E-11
4.86E-11
5.35E-11
5.83E-11
9.43E-11
9.55E-11
1.04E-10
1.28E-10
1.81E-10
2.05E-10
2.06E-10
2.69E-10
3.13E-10
3.91E-10
4.30E-10
4.33E-10
5.68E-10
6.18E-10
7.59E-10
9.37E-10
1.00E-09
1.02E-09
1.18E-09
1.55E-09
1.64E-09
1.88E-09
2.96E-09
3.43E-09
4.54E-09
4.84E-09
5.87E-09
8.30E-09
8.64E-09
8.65E-09
8.95E-09
9.10E-09
9.61E-09
1.14E-08
1.43E-08
1.44E-08

| |
|---|
| 1.47E-08 |
| 1.66E-08 |
| 1.66E-08 |
| 2.09E-08 |
| 2.27E-08 |
| 2.42E-08 |
| 2.46E-08 |
| 2.50E-08 |
| 2.62E-08 |
| 2.66E-08 |
| 2.78E-08 |
| 2.80E-08 |
| 3.66E-08 |
| 4.32E-08 |
| 4.36E-08 |
| 4.69E-08 |
| 4.86E-08 |
| 5.92E-08 |
| 6.18E-08 |
| 6.33E-08 |
| 6.40E-08 |
| 7.11E-08 |
| 8.41E-08 |
| 9.29E-08 |
| 9.30E-08 |
| 9.81E-08 |
| 1.09E-07 |
| 1.10E-07 |
| 1.12E-07 |
| 1.34E-07 |
| 1.59E-07 |

**Supplementary Table 8**

| Exposure | Outcome | Method | nsnp | β coefficient (95%CI) |
|---|---|---|---|---|
| IPF | CD4+Temra %T cell | MR Egger | 20 | -0.016 (-0.06 - 0.029) |
| | | Weighted median | | -0.009 (-0.047 - 0.029) |
| | | IVW | | 0.003 (-0.028 - 0.034) |
| | | Simple mode | | 0.024 (-0.064 - 0.113) |
| | | Weighted mode | | -0.008 (-0.045 - 0.028) |

| Discovery cohort | | | | | | |
|---|---|---|---|---|---|---|
| **SE** | **OR (95%CI)** | **Pval** | **Cochrane Q** | **Q_pval** | **Egger_Intercept** | |
| 0.022580716 | 0.984 (0.942 - 1.029 | 0.494569 | 17.15306609 | 0.512606 | NA | |
| 0.019197866 | 0.991 (0.954 - 1.029 | 0.634933 | NA | NA | NA | |
| 0.015712857 | 1.003 (0.973 - 1.034 | 0.842865 | 18.50536391 | 0.488953 | | 0.011659607 |
| 0.045180604 | 1.025 (0.938 - 1.12) | 0.594492 | NA | NA | NA | |
| 0.018610311 | 0.992 (0.956 - 1.029 | 0.660485 | NA | NA | NA | |

| Pleiotropy_pval | MR_Presso_pval | nsnp | β coefficient (95%CI) | SE | OR (95%CI) |
|---|---|---|---|---|---|
| NA | | | -0.076 (-0.299 - 0.147) | 0.11386 | 0.927 (0.741 - 1.158 |
| NA | | | -0.012 (-0.048 - 0.025) | 0.018466 | 0.988 (0.953 - 1.025 |
| 0.26006248 | 0.455 | 6 | -0.009 (-0.045 - 0.026) | 0.018186 | 0.991 (0.956 - 1.027 |
| NA | | | 0.006 (-0.069 - 0.08) | 0.038001 | 1.006 (0.933 - 1.083 |
| NA | | | -0.011 (-0.045 - 0.023) | 0.017471 | 0.989 (0.956 - 1.024 |

| Validation cohort | | | | | |
|---|---|---|---|---|---|
| **Pval** | **Cochrane Q_pval** | | **Egger_Intercept** | **Pleiotropy_pval** | **MR_Presso_pval** |
| 0.540587419 | 4.913783 | 0.296259 | NA | NA | |
| 0.528314752 | NA | NA | NA | NA | |
| 0.607535125 | 5.348604 | 0.374833 | 0.098834623 | 0.583902481 | 0.61 |
| 0.889569379 | NA | NA | NA | NA | |
| 0.560842358 | NA | NA | NA | NA | |

**Supplementary Table 9**

| snp | Traits | Catalog | ref_a1 | ref_a2 | proxy |
|---|---|---|---|---|---|
| rs62400929 | White blood cell count | GWAS | A | G | 0 |
| rs62400929 | Lymphocyte count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | Lymphocyte count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | Lymphocyte count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs62400929 | White blood cell count | GWAS | A | G | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 0 |
| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 0 |
| rs9501107 | Neutrophil count | GWAS | G | T | 0 |
| rs9501107 | Sum basophil neutrophil counts | GWAS | G | T | 0 |
| rs9501107 | White blood cell count | GWAS | G | T | 0 |
| rs9501107 | Primary sclerosing cholangitis | GWAS | G | T | 0 |
| rs9501107 | Asthma | GWAS | G | T | 0 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 0 |
| rs9501107 | Height | GWAS | G | T | 0 |
| rs9501107 | Intestinal malabsorption | GWAS | G | T | 0 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 0 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 0 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 0 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 0 |
| rs9501107 | Sitting height | GWAS | G | T | 0 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 0 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Sum basophil neutrophil counts | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
| rs9501107 | Primary sclerosing cholangitis | GWAS | G | T | 1 |
| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | Intestinal malabsorption | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 1 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
| rs9501107 | Granulocyte count | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 1 |
| rs9501107 | Myeloid white cell count | GWAS | G | T | 1 |
| rs9501107 | Neutrophil count | GWAS | G | T | 1 |
| rs9501107 | Sum basophil neutrophil counts | GWAS | G | T | 1 |
| rs9501107 | Sum neutrophil eosinophil counts | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
| rs9501107 | Granulocyte count | GWAS | G | T | 1 |

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|---|---|---|---|---|---|
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Myeloid white cell count | GWAS | G | T | 1 |
| rs9501107 | Neutrophil count | GWAS | G | T | 1 |
| rs9501107 | Sum basophil neutrophil counts | GWAS | G | T | 1 |
| rs9501107 | Sum neutrophil eosinophil counts | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
| rs9501107 | Primary sclerosing cholangitis | GWAS | G | T | 1 |
| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 1 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Self-reported thyroiditis | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
| rs9501107 | Granulocyte count | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Myeloid white cell count | GWAS | G | T | 1 |
| rs9501107 | Neutrophil count | GWAS | G | T | 1 |
| rs9501107 | Sum basophil neutrophil counts | GWAS | G | T | 1 |
| rs9501107 | Sum neutrophil eosinophil counts | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
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| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
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| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Self-reported thyroiditis | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte percentage of white cel | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
| rs9501107 | Primary sclerosing cholangitis | GWAS | G | T | 1 |
| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Birth weight of first child | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 1 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
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| rs9501107 | Lymphocyte percentage of white cel | GWAS | G | T | 1 |
| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 1 |
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| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Birth weight of first child | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |

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|---|---|---|---|---|---|
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 1 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte percentage of white cel | GWAS | G | T | 1 |
| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
| rs9501107 | Primary sclerosing cholangitis | GWAS | G | T | 1 |
| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Birth weight of first child | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
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| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte percentage of white cel | GWAS | G | T | 1 |
| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
| rs9501107 | Primary sclerosing cholangitis | GWAS | G | T | 1 |
| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 1 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
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| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
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| rs9501107 | Asthma | GWAS | G | T | 1 |
| rs9501107 | Hayfever, allergic rhinitis or eczema | GWAS | G | T | 1 |
| rs9501107 | Height | GWAS | G | T | 1 |
| rs9501107 | No blood clot, bronchitis, emphysen | GWAS | G | T | 1 |
| rs9501107 | Self-reported asthma | GWAS | G | T | 1 |
| rs9501107 | Self-reported hypothyroidism or my: | GWAS | G | T | 1 |
| rs9501107 | Self-reported malabsorption or coeli | GWAS | G | T | 1 |
| rs9501107 | Sitting height | GWAS | G | T | 1 |
| rs9501107 | Treatment with levothyroxine sodiu | GWAS | G | T | 1 |
| rs9501107 | Lymphocyte count | GWAS | G | T | 1 |
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| rs9501107 | Monocyte percentage of white cells | GWAS | G | T | 1 |
| rs9501107 | White blood cell count | GWAS | G | T | 1 |
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| rs9501107 | TCF19 | eQTL | G | T | 1 |

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| rs9501107 | Percent-splice-in | mQTL | G | T | 1 |

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| 1 | -0.08558 | 0.01421 | 1.71E-09 | 27863252 | European | chr6:31159546 |
| 1 | -0.08569 | 0.007693 | 8.15E-29 | 27863252 | European | chr6:31392047 |
| 1 | 0.04156 | 0.007621 | 4.95E-08 | 27863252 | European | chr6:31392047 |
| 1 | -0.04236 | 0.007656 | 3.16E-08 | 27863252 | European | chr6:31392047 |
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| 1 | -0.06651 | 0.007658 | 3.79E-18 | 27863252 | European | chr6:31392047 |
| 1 | 0.3873 | 0.068 | 3.45E-09 | 27992413 | European | chr6:31392047 |
| 1 | 0.01126 | 0.001658 | 1.1E-11 | UKBB | European | chr6:31392047 |
| 1 | 0.01609 | 0.002188 | 1.9E-13 | UKBB | European | chr6:31392047 |
| 1 | 0.03338 | 0.003679 | 1.16E-19 | UKBB | European | chr6:31392047 |
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| 0.82345 | -1.19 | 0.2046 | 5.998E-09 | 27863251 | European | chr6:31392047 |
| 0.82345 | 1.244 | 0.2034 | 9.614E-10 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.362 | 0.2014 | 1.354E-11 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.124 | 0.2047 | 3.996E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | 1.418 | 0.2495 | 1.319E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.366 | 0.2496 | 4.428E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | -0.5727 | 0.09388 | 1.624E-09 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5987 | 0.093 | 2.141E-10 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5864 | 0.09078 | 1.863E-10 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5107 | 0.09077 | 2.594E-08 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.6179 | 0.1025 | 2.585E-09 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.7062 | 0.09496 | 2.559E-13 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5159 | 0.08927 | 1.104E-08 | 27036880 | European | chr6:31392047 |
| 0.82345 | 1.529 | 0.1966 | 7.366E-15 | 27863251 | European | chr6:31392047 |
| 0.82345 | 1.372 | 0.2043 | 1.862E-11 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.358 | 0.2012 | 1.468E-11 | 27863251 | European | chr6:31392047 |
| 0.82345 | 1.325 | 0.2024 | 5.861E-11 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.304 | 0.2016 | 9.983E-11 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.169 | 0.2051 | 1.206E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.19 | 0.2046 | 5.998E-09 | 27863251 | European | chr6:31392047 |
| 0.82345 | 1.244 | 0.2034 | 9.614E-10 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.362 | 0.2014 | 1.354E-11 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.124 | 0.2047 | 3.996E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | 1.418 | 0.2495 | 1.319E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | -1.366 | 0.2496 | 4.428E-08 | 27863251 | European | chr6:31392047 |
| 0.82345 | -0.574 | 0.09316 | 1.117E-09 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.6223 | 0.09374 | 6.003E-11 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5929 | 0.09164 | 1.761E-10 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5237 | 0.09158 | 1.545E-08 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.5986 | 0.1011 | 4.801E-09 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.6681 | 0.09452 | 3.326E-12 | 27036880 | European | chr6:31392047 |
| 0.82345 | -0.543 | 0.08995 | 2.489E-09 | 27036880 | European | chr6:31392047 |
| 0.81187 | 1.54 | 0.2003 | 1.492E-14 | 27863251 | European | chr6:31392047 |
| 0.81187 | 1.387 | 0.2081 | 2.673E-11 | 27863251 | European | chr6:31392047 |
| 0.81187 | -1.338 | 0.2055 | 7.458E-11 | 27863251 | European | chr6:31392047 |
| 0.81187 | 1.308 | 0.2066 | 2.414E-10 | 27863251 | European | chr6:31392047 |
| 0.81187 | -1.365 | 0.2044 | 2.402E-11 | 27863251 | European | chr6:31392047 |
| 0.81187 | -1.181 | 0.2086 | 1.51E-08 | 27863251 | European | chr6:31392047 |
| 0.81187 | 1.259 | 0.207 | 1.192E-09 | 27863251 | European | chr6:31392047 |
| 0.81187 | -1.371 | 0.2053 | 2.396E-11 | 27863251 | European | chr6:31392047 |
| 0.81187 | -0.573 | 0.09487 | 2.322E-09 | 27036880 | European | chr6:31392047 |
| 0.81187 | -0.6173 | 0.09378 | 8.608E-11 | 27036880 | European | chr6:31392047 |
| 0.81187 | -0.5957 | 0.09162 | 1.434E-10 | 27036880 | European | chr6:31392047 |
| 0.81187 | -0.5256 | 0.09157 | 1.368E-08 | 27036880 | European | chr6:31392047 |
| 0.81187 | -0.5958 | 0.1041 | 1.476E-08 | 27036880 | European | chr6:31392047 |
| 0.81187 | -0.6996 | 0.09609 | 7.731E-13 | 27036880 | European | chr6:31392047 |
| 0.81187 | -0.5056 | 0.09024 | 2.976E-08 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.57 | 0.09416 | 2.142E-09 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.6415 | 0.09455 | 2.334E-11 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.6054 | 0.09249 | 1.083E-10 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.5453 | 0.09236 | 5.325E-09 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.6026 | 0.103 | 7.31E-09 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.6914 | 0.09538 | 9.558E-13 | 27036880 | European | chr6:31392047 |
| 0.81164 | -0.5567 | 0.09076 | 1.393E-09 | 27036880 | European | chr6:31392047 |
| 0.80013 | 1.498 | 0.1934 | 9.431E-15 | 27863251 | European | chr6:31392047 |
| 0.80013 | 1.348 | 0.2008 | 1.902E-11 | 27863251 | European | chr6:31392047 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 0.80013 | -1.333 | 0.1979 | 1.632E-11 | 27863251 | European | chr6:31392047 |
| 0.80013 | 1.259 | 0.1997 | 2.919E-10 | 27863251 | European | chr6:31392047 |
| 0.80013 | -1.339 | 0.1973 | 1.141E-11 | 27863251 | European | chr6:31392047 |
| 0.80013 | -1.135 | 0.2021 | 1.951E-08 | 27863251 | European | chr6:31392047 |
| 0.80013 | -1.151 | 0.2015 | 1.113E-08 | 27863251 | European | chr6:31392047 |
| 0.80013 | 1.17 | 0.2009 | 5.751E-09 | 27863251 | European | chr6:31392047 |
| 0.80013 | -1.335 | 0.1982 | 1.615E-11 | 27863251 | European | chr6:31392047 |
| 0.80013 | -1.18 | 0.2001 | 3.733E-09 | 27863251 | European | chr6:31392047 |
| 0.80013 | -0.5357 | 0.09159 | 7.073E-09 | 27036880 | European | chr6:31392047 |
| 0.80013 | -0.5957 | 0.09303 | 2.657E-10 | 27036880 | European | chr6:31392047 |
| 0.80013 | -0.5896 | 0.09075 | 1.479E-10 | 27036880 | European | chr6:31392047 |
| 0.80013 | -0.5417 | 0.09054 | 3.367E-09 | 27036880 | European | chr6:31392047 |
| 0.80013 | -0.5791 | 0.09937 | 8.253E-09 | 27036880 | European | chr6:31392047 |
| 0.80013 | -0.6412 | 0.09275 | 9.484E-12 | 27036880 | European | chr6:31392047 |
| 0.80013 | -0.5154 | 0.08927 | 1.143E-08 | 27036880 | European | chr6:31392047 |
| 0.80008 | 0.3161 | 0.0574 | 4.984E-08 | 27036880 | European | chr6:31392047 |
| 0.80008 | 0.3759 | 0.06627 | 1.994E-08 | 27036880 | European | chr6:31392047 |
| 0.80008 | -0.3859 | 0.06697 | 1.207E-08 | 27036880 | European | chr6:31392047 |
| 0.80008 | -0.4426 | 0.06286 | 4.238E-12 | 27036880 | European | chr6:31392047 |
| 0.80008 | 0.4081 | 0.06392 | 2.982E-10 | 27036880 | European | chr6:31392047 |
| 0.80008 | -0.3352 | 0.05682 | 5.326E-09 | 27036880 | European | chr6:31392047 |
| 0.80008 | -0.3376 | 0.06085 | 3.896E-08 | 27036880 | European | chr6:31392047 |
| 0.80008 | 0.3628 | 0.06043 | 2.867E-09 | 27036880 | European | chr6:31392047 |
| 0.80008 | -0.3415 | 0.0597 | 1.492E-08 | 27036880 | European | chr6:31392047 |

**Supplementary Table 10**

| ID | Name | CAS | MolWt | SMI | Pathways | Target | Bioactivity | BSA | dG |
|---|---|---|---|---|---|---|---|---|---|
| T21661L | [ 23042 Acc | T21661L | 1252.5 | =O)N[C@( | Others | Others | /al-Cys-Nal | | -78.6241 |
| TN1124 | Neoeriocitri | 13241-32-2 | 596.54 | C[C@@H] | Neuroscienc | AChE | and osteoge | | -77.6935 |
| T22928L | tachykinin ] | T22928L | 938.04 | H](NC(=O) | Others | Others | achykinin I | | -74.0751 |
| TP1280 | Hexa-His | 64134-30-1 | 840.85 | C(=O)[C@ | Others | Others | ;. Hexa His | | -73.9474 |
| TP1852L | state(11057( | TP1852L | 906.17 | O)C(=O)N | rter/Ion cha | ssium Cha | ntain myor | | -73.9124 |
| T7683 | ine amine c | 96760-69-9 | 576.6 | [C@H]5[C | Protein; Ne | nosine Rec | is an agonis | | -71.075 |
| TN1096 | nsenoside R | 83459-41-0 | 1211.38 | )[C@@H] | e Kinase/A | rosine Kina | bitory effec | | -70.1928 |
| T19368 | lypromellos | 9004-65-3 | 1261.44 | ](O[C@H]2 | Others | Others | ole hydroph | | -68.258 |
| TP1086 | TFA(13530 | TP1086 | 1195.25 | cc2)[C@@ | Protein; Ne | okinin Rec | tagonist wi | | -67.7458 |
| TP1910L1 | ALP1 aceta | TP1910L1 | 902.13 | C@@H](/N | n channel;N | m Channel; | iting the op | | -67.6467 |
| TP1033L | Peptide Dis | TP1033L | 1121.2 | (CO)C(=O) | transporter/ | ATPase | 1. Transder | | -67.5533 |
| TP1346 | N 154806 T | 828432-46- | 1311.36 | cc4)C(=O) | CR/G Prot | omatostatin | the recomb | | -67.2396 |
| T7625 | TRAP-6 | 41136-83-( | 748.87 | H](NC(=O | CR/G Prot | -activated I | of protease | | -66.7864 |
| T7513 | vated Rece | 90383-13-2 | 614.78 | [3+])[C@H | CR/G Prot | -activated I | mide is an? | | -66.2383 |
| T7616L | 159432-28- | T7616L | 987.01 | )H](NC(=C | inology/Ho | RAAS | tagonist of | | -64.9477 |
| T8488 | GMB-475 | 490599-18- | 861.93 | C)C(=O)N4 | aling; Tyro | Abl; PROT | R-ABL1 p | | -64.5848 |
| T8641 | Vancomycir | 1404-90-6 | 1449.25 | )@H](C(=C | Microbiol | d; Antibiotic | tively inhil | | -64.0783 |
| T1522 | Iopromide | 73334-07-3 | 791.12 | @H](O)CC | Others | Others | n-ionic cont | | -64.0179 |
| T67834 | C004019 | 417159-57- | 1035.29 | C@H](O)C | Cytoskeleta | Microtubule | E3 ligase (V | | -63.786 |
| T7769 | onapeptide | 58563-45-2 | 1206.5 | C(=O)N2[C | Others | Others | which mak | | -63.6104 |
| T22933L | ILS-NH2 ac | T22933L | 656.82 | C(=O)[C@( | CR/G Prot | -activated I | a PAR-2-in | | -63.1584 |
| T1245 | olistin sulfa | 1264-72-8 | 1253.51 | N[C@@H] | Inflammati | ibiotic; Aut | Bacillus c | | -62.7123 |
| T7675 | 2TFA(6806 | T7675 | 1128.08 | )H]2N(C(= | Others | Others | degradatio | | -62.1657 |
| TP1289 | alog (CTX) | 918768-05- | 1013.16 | =O)N[C@ | Others | Others | toxin analo | | -61.6496 |
| TN1028 | Militarine | 58139-23-4 | 726.73 | ](O)(CC(=( | Others | Others | t the growtl | | -61.5502 |
| TP1341L | B nonapep | TP1341L | 1023.19 | N[C@@H] | biology/vir | cterial; Ant | ed with pol | | -60.7047 |
| T1799 | ofungin Ac | 79463-17-3 | 1213.42 | H](O)CC[N | biology/vir | iotic; Antif | fermentati | | -60.6118 |
| T21498 | Phleomycin | 11006-33-0 | 1268.29 | (=[NH2+])c | amage/DNA | ibiotic; DN | is similar t | | -60.0647 |
| TN1957 | lberrofuran | 101383-35-1 | 592.55 | c6)(Oc6c(c | Others | Others | nboxane B2 | | -59.3983 |
| TP1805 | 7 Tag Pepti | 145445-88-9 | 1098.28 | (=O)NCC(= | Others | Others | ag antibodi | | -59.0379 |
| TP1913L1 | (183241-31 | TP1913L1 | 1193.35 | O)[C@@H] | CR/G Prot | besin Rece | y). Enhanc | | -58.8824 |
| TP1367 | ]leucine-en | 64963-01-5 | 569.65 | C@H](NC(= | es; GPCR/G | ioid Recep | st used to st | | -58.6426 |
| T15805L | ate(108871 | T15805L | 1250.49 | H2+]C(C)C | rotein; Imn | CXCR | st. It prever | | -58.2914 |
| T7434 | Argipressin | 113-79-1 | 1084.23 | O)N)NC(=O | CR/G Prot | pressin Rec | sin acts as a | | -58.0605 |
| T22446 | )P disodiun | 24292-60-2 | 787.37 | N)c3nc2)O1 | Others | Others | r in the me | | -57.6557 |
| TP1192L | etate(11131 | TP1192L | 1088.32 | 2+])N)NC(= | CR/G Prot | pressin Rec | shows high | | -57.5376 |
| TP1419L | ate(926018 | TP1419L | 821.84 | )[C@@H](N | CR/G Prot | agon Rece | N-terminal | | -57.1402 |
| T1104 | nomycin St | 1263-89-4 | 713.71 | 3+])[C@@ | biology/vir | al; Antibiot | by cell deat | | -57.0057 |
| T12882L | etate(9200 | 759937-80- | 1177.35 | C(=[NH2+]) | rotein; Ne | urocortin Re | (MC4R)(hu | | -56.8932 |
| T7598 | -methyltetr | 26560-38-3 | 497.51 | I]2N(C)C=3 | ycle/Check | Antifolate | posed for t | | -56.5279 |
| TP1941L1 | RWK-NH2 | TP1941L1 | 1072.22 | NC(=O)[C@ | es; GPCR/G | ioid Recep | ciceptin re | | -56.2351 |
| T20655 | yquaternium | 75345-27-6 | 556.99 | /C[N+](CC | biology/vir | Antibacteria | c preservat | | -55.4908 |
| TP2325L | in Inhibito | TP2325L | 1284.65 | CC[NH3+] | Others | Others | nces with d | | -55.345 |
| TN7089 | Alashinol G | 58139-12-1 | 378.42 | C@](O)(CO | Others | Others | folia, a Mor | | -54.9662 |
| T4S1616 | anggenon I | 81422-93-7 | 708.71 | ))(Oc3cc2O | ane transpo | ic ;GABA I | acterial acti | | -54.9039 |
| T7766 | Remdesivir | 809249-37- | 602.58 | c2n3N=CN | amage/DNA | Synthesis; | ident RNA | | -54.8251 |
| T40555L | yP-1 acetat | T40555L | 1052.19 | @H](O)C)( | Others | Others | ing to p32 r | | -54.4265 |
| T14589 | tin-PEG3-a | 2052881-76-8 | 447.55 | CCC[C@( | PROTAC | OTAC Lin | l group. The | | -54.282 |
| T7633 | Senktide | 106128-89-( | 842 | (=O)[C@H | Protein; Ne | okinin Rec | ist of tachy | | -54.1251 |
| TN1013 | ucurbitacin | 3877-86-9 | 516.67 | C@]1(C)[C( | Apoptosis | Apoptosis | cin D, a nov | | -54.0551 |
| TQ0269 | Melittoside | 19467-03-9 | 524.47 | )]2(O[C@H | ation-reduc | Antioxidant | luct and ma | | -53.9909 |
| TP1212 | he-Leu-Phe | 48182-34-7 | 785.97 | C@H](C(=( | Others | Others | ain effects | | -53.9595 |
| TN2079 | )-Pinoresin | 81446-29-9 | 358.39 | []3[C@H]( | Others | Others | whole plant | | -53.93 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| T4S1521 | affeoylquir | 1182-34-9 | 516.45 | /C=C/c2cc( | ology; Prot | HIV Proteas | tive class o | -53.6204 |
| T38063 | yltyrosylcy | 287585-40- | 453.56 | @H](NC(= | Metabolism | hione Pero | ogical funct | -53.5732 |
| T9501 | Enterobacti | 28384-96-5 | 669.55 | (=O)OC[C( | Others | Others | ophore that | -53.4513 |
| T7624 | DAPTA | 106362-34-9 | 856.88 | ccc(O)cc1)( | y/virology; | ; HIV Prot | f CCR5, sh | -53.3959 |
| TP2502 | VSVQDI A | TP2502 | 1008.13 | O)CNC(=O | Others | Others | HC class I-r | -52.7947 |
| T4589 | thyl salvian | 167424-32- | 732.7 | [C@@H](C | Others | Others | | -52.1667 |
| T16340 | Nosiheptide | 56377-79-8 | 1222.36 | C@@H]6c | biology/vir | cterial; An | osiheptide i | -51.426 |
| TP1286 | bryonic An | 68635-85-( | 964.07 | [C@@H](N | Others | Others | hat is preser | -50.7991 |
| T7627L | Hormone ( | T7627L | 1076.12 | )H](C(=O)N | Protein; Ne | urocortin Re | ) is an agor | -50.6932 |
| T5772 | tofuranosyl | 59432-60-9 | 828.72 | @H](O)[C@ | Others | Others | ch are natur | -50.5721 |
| T7495 | xa-D-argini | 73202-67-( | 954.14 | NC(=[NH2- | Others | Others | ne activatio | -49.5125 |
| T1470L | adine hydrc | 38452-21-8 | 538.12 | C[NH+]2C | nology/Infla | amine Rece | ne and long | -49.4668 |
| TP1889 | MCL0020 | 175498-26- | 609.73 | NC(=O)[C | Protein; Ne | urocortin Re | respectively | -49.4189 |
| T7484L | FA(187986- | T7484L | 1084.16 | ]c1)cccc2)( | Others | Others | ormyl pepti | -49.3797 |
| T40233 | [so)-MS432 | 601727-80- | 1101.32 | O)C1)COC( | Epigenetic | yltransfera | anticancer | -48.5035 |
| TP1378 | nide TFA(7 | TP1378 | 891.98 | C)C)CCCN | CR/G Prot | -activated | lective pro | -48.4234 |
| TP1328 | TB500 | 885340-08-9 | 889.01 | ](NC(=O)[ | Others | Others | rt-chain ve | -48.3546 |
| T13589 | aesappanin | 913319-59- | 608.59 | )](O)(CO)C | Others | Others | , shows str | -48.3061 |
| T17987 | -Gly-PEG4 | 353409-80- | 694.77 | CNC(=O)C | Conjugate | ADC Linke | f PEG, whi | -48.1416 |
| T7601L | betocin ace | 631754-28- | 1048.22 | @H](CCC(= | Hormones; | tocin Recep | trol postpa | -48.012 |
| T65172 | denine dinu | 146-14-5 | 785.55 | )-])(OC[C@ | Metabolism | enous Met | or, a protei | -47.8945 |
| T36798 | SW2_110A | 579696-95- | 760.96 | )[C@H](N | matin/Epige | Methyltrar | r with a Kc | -47.8815 |
| TP2373L | tripeptide- | TP2373L | 626.72 | C[C@@H]1 | Others | Others | promoting s | -47.8733 |
| T68151L | llimustine H | 18438-45-2 | 734.08 | (C)c(C(=O | amage/DNA | DNA | d in severe | -47.7463 |
| TP1085L | cetate(9216 | TP1085L | 805.9 | ](NC(=O)[ | Protein; Ne | amine Rece | distinct ex | -47.4834 |
| TP1273 | LAG peptic | 98849-88-8 | 1012.97 | C@@H](N | Others | Others | )-Lys) with | -46.832 |
| T76373L | a-alloresact | T76373L | 1106.28 | H](NC(=O)[ | rter/Ion ch | lcium Chan | released by | -46.7593 |
| TP1554L | E7 (86-93) | TP1554L | 875.08 | ])[C@H](O | Others | Others | gen A2.1 re | -46.3252 |
| T7423 | fosol tetras | 111427-08-( | 878.23 | [O-])[O-])( | Protein; Ne | 2Y Recept | ues Diquaf | -46.2364 |
| T8924 | FCD289873 | 610413-97- | 678.81 | N[C@H](C( | Others | Others | an be used | -46.1386 |
| T1626 | ostaglandin | 745-65-3 | 354.48 | H](/C=C/[C | nology/Infl | bolite; Pros | ts bronchodi | -45.9638 |
| T0978 | Pantethine | 16816-67-4 | 554.72 | O)(C)C)CC | Metabolism | s Metabolit | , so most vi | -45.7296 |
| T15711 | azotide ace | 881851-50-9 | 785.89 | H](NC(=O) | keletal Sig | Junction Pr | nction regu | -45.5209 |
| TP1940L1 | YRIK-NH2 | TP1940L1 | 999.17 | NC(=O)[C | es; GPCR/G | ioid Recep | partial agonis | -45.4391 |
| T21249L | entapeptide | T21249L | 856.19 | NH3+])C)[C | Others | Others | moting the | -45.4108 |
| T20080 | Exifone | 52479-85-3 | 278.21 | c(O)cc1)c1 | tic; DNA D | HDAC | substrate-bc | -45.0857 |
| TP1197 | Sincalide | 25126-32-3 | 1143.27 | (=O)N[C@ | Others | Others | e gallbladde | -45.0757 |
| TP2496 | peptide-2 A | TP2496 | 1005.06 | @@H](NC( | Others | Others | d migratio | -44.7841 |
| T21459 | opentin dia | 105184-37-( | 753.84 | C@H]([NH | Others | Others | n reproduc | -44.5174 |
| TP1687L | e(153045-2 | TP1687L | 1003.22 | )C(C)C)CC | Others | Others | -A*0201-re | -44.4793 |
| T7497L | FA(63555-6 | T7497L | 1052 | @@H](NC( | logy/Infla | plement Sy | correspond | -44.3961 |
| TP1618L | 8), human, | TP1618L | 1122.32 | ](NC(=O)[( | Others | Others | cacious, and | -44.36 |
| T11428 | -Obeticholi | 563239-60-5 | 477.68 | H]3[C@H](| Metabolism | FXR | c acid. Obe | -44.0661 |
| T16413 | OTX008 | 286936-40- | 937.18 | 1)Cc1c(O | Cology/Infla | Galectin | lective gale | -44.0363 |
| T8299 | yl lithosper | 75313-64-7 | 746.7 | [C@@H]((| transporter/d | ium Chan | B is a select | -43.7408 |
| T1067 | mphotericin | 1397-89-3 | 924.08 | \C=C/C=C\ | biology/vir | iotic; Anti | fies. Amph | -43.6555 |
| T7743 | V TFA(126 | T7743 | 888.92 | H](NC(=O)[ | inology/Ho | RAAS | fective ago | -43.6338 |
| T3786 | Tomatine | 17406-45-0 | 1034.2 | C4)CC3)C | es/Proteaso | osis; Prote | nt of breast | -43.6094 |
| T1013 | Amikacin | 37517-28-5 | 585.6 | ](O[C@@H | biology/vir | ribosome | um antibiot | -43.2393 |
| T22439 | icosin phos | 137330-13-3 | 967.1 | )O2)[C@@ | biology/vir | cterial; An | treat cattle | -43.0635 |
| T78181 | MMP-7-IN-8 | 848717-49- | 729.16 | =O)N[C@ | ases/Protea | Others | can be use | -43.0116 |
| T7554 | stance P (7- | 51165-05-0 | 612.78 | (NC(=O)[C | Protein; Ne | okinin Rec | C-termina | -42.9667 |
| T6S0743 | Sesamoside | 17479-87-5 | 420.36 | 2[C@H](O[ | Others | Others | s antinocic | -42.8908 |
| TQ0208 | SAH | 979-92-0 | 384.41 | 1[C@@H] | Metabolism | enous Met | cysteine. S | -42.3571 |
| TP1605L1 | FA(12333 | TP1605L1 | 1083.13 | )H](C(=O)N | Others | Others | nd in insec | -42.3347 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| T16083 | Mizagliflozi | 66843-10-3 | 564.67 | ](O)[C@@H | CR/G Prot | SGLT | zin is used a | -42.1397 |
| T60085 | MM3122 | 574390-27- | 665.76 | NC(=[NH2 | biology/vir | SARS-CoV | M3122 effe | -41.8626 |
| T20735 | xin dihydro | 10049-83-9 | 441.39 | nc1)Cc1c(C | Metabolism | enous Meta | in, improve | -41.5875 |
| TP1739L | e(688805-4( | TP1739L | 1095.26 | I](NC(=O)[ | Others | Others | capsid prot | -40.9802 |
| T12248 | seothricin s | 96736-11-7 | 1359.47 | (=O)C[C@ | biology/vir | l; Antibioti | synthesis i | -40.9256 |
| T6S0444 | vianolic aci | 96574-01-5 | 494.45 | )C(=O)/C= | ases/Protea | MMP | e 9 (MMP- | -40.7642 |
| T124010 | Dieckol | 88095-77-6 | 742.55 | 23)cc1O)c | irology;oxic | terial;Anti | rotective e | -40.7585 |
| T22540L | -1 (16-21), | T22540L | 898.01 | [C@@H](N | Others | Others | fragment, | -40.3539 |
| T24178 | Isatoribine | 22970-40-5 | 316.29 | O)[C@@H | robiology/ | ;HCV Prot | with anti-h | -40.1139 |
| TP1883 | eu9,Nle10]- | 37565-28-7 | 804 | C@@H](N | Protein; Ne | okinin Rec | contraction | -40.0679 |
| T19093 | caffeoyl-D- | 419478-52- | 858.71 | )cc1)C(=O) | Others | Others | a that inhib | -40.0589 |
| T15656 | KGA-2727 | 66842-36-( | 536.62 | 2O[C@H]2 | CR/G Prot | SGLT | ?The select | -40.0224 |

| PAINS | Lipinski | Pfizer | GSK | logP |
|---|---|---|---|---|
| ['-'] | 1 | 0 | 1 | 2.316867 |
| 9, 20, 22, 2 | 1 | 0 | 1 | 0.309898 |
| ['-'] | 1 | 0 | 1 | -1.82604 |
| ['-'] | 1 | 0 | 1 | -0.78043 |
| ['-'] | 1 | 0 | 1 | 1.293201 |
| ['-'] | 1 | 0 | 1 | 0.021877 |
| ['-'] | 1 | 0 | 1 | 1.086773 |
| ['-'] | 1 | 0 | 1 | -0.26131 |
| ['-'] | 1 | 0 | 1 | 0.878244 |
| ['-'] | 1 | 0 | 1 | 1.571726 |
| ['-'] | 1 | 0 | 1 | -2.62219 |
| ['-'] | 1 | 0 | 1 | 0.497526 |
| ['-'] | 1 | 0 | 1 | -0.39398 |
| ['-'] | 1 | 0 | 1 | 0.107448 |
| ['-'] | 1 | 0 | 1 | -0.93149 |
| ['-'] | 1 | 0 | 1 | 4.879642 |
| ['-'] | 1 | 0 | 1 | 0.192223 |
| ['-'] | 1 | 0 | 1 | -1.69548 |
| ['-'] | 1 | 0 | 1 | 1.197773 |
| ['-'] | 1 | 0 | 1 | 1.698694 |
| ['-'] | 1 | 0 | 1 | 0.003478 |
| ['-'] | 1 | 0 | 1 | 0.251303 |
| ['-'] | 1 | 0 | 1 | -1.63659 |
| ['-'] | 1 | 0 | 1 | 2.356198 |
| ['-'] | 1 | 0 | 1 | 0.93373 |
| ['-'] | 1 | 0 | 1 | -0.81882 |
| ['-'] | 1 | 0 | 1 | 1.542751 |
| ['-'] | 1 | 0 | 1 | -2.23782 |
| ['-'] | 0 | 0 | 1 | 4.077131 |
| ['-'] | 1 | 0 | 1 | -1.88829 |
| ['-'] | 1 | 0 | 1 | 1.25382 |
| ['-'] | 1 | 0 | 1 | 0.392502 |
| ['-'] | 1 | 0 | 1 | 1.284393 |
| ['-'] | 1 | 0 | 1 | -1.16033 |
| ['-'] | 1 | 0 | 1 | -3.36106 |
| ['-'] | 1 | 0 | 1 | -1.30053 |
| ['-'] | 1 | 0 | 1 | -1.62649 |
| ['-'] | 1 | 0 | 1 | -2.83022 |
| ['-'] | 1 | 0 | 1 | -0.79519 |
| ['-'] | 1 | 0 | 1 | -1.20712 |
| ['-'] | 1 | 0 | 1 | -1.3537 |
| ['-'] | 0 | 0 | 1 | -2.09793 |
| ['-'] | 1 | 0 | 1 | 0.643338 |
| ['-'] | 0 | 0 | 0 | 1.238833 |
| ['-'] | 1 | 0 | 1 | 3.995427 |
| ['-'] | 1 | 0 | 1 | 1.814291 |
| ['-'] | 1 | 0 | 1 | -5.32967 |
| ['-'] | 0 | 0 | 1 | 0.276531 |
| ['-'] | 1 | 0 | 1 | 0.9233 |
| ['-'] | 0 | 0 | 1 | 1.430007 |
| ['-'] | 1 | 0 | 1 | -2.14722 |
| ['-'] | 1 | 0 | 1 | 4.019019 |
| ['-'] | 0 | 0 | 0 | 1.229532 |

| | | | | |
|---|---|---|---|---|
| 6, 7, 9, 11, | 1 | 0 | 1 | 1.522129 |
| ['-'] | 0 | 0 | 1 | -0.56364 |
| 5, 16, 18, 1 | 1 | 0 | 1 | 0.363089 |
| ['-'] | 1 | 0 | 1 | -3.20469 |
| ['-'] | 1 | 0 | 1 | -0.69656 |
| , 9, 11, 13, | 1 | 0 | 1 | 2.800117 |
| ['-'] | 1 | 0 | 1 | 1.08653 |
| ['-'] | 1 | 0 | 1 | -0.84044 |
| ['-'] | 1 | 0 | 1 | -0.45805 |
| ['-'] | 1 | 0 | 1 | -4.02103 |
| ['-'] | 1 | 0 | 1 | -8.12024 |
| ['-'] | 0 | 0 | 1 | 3.547644 |
| ['-'] | 1 | 0 | 1 | 1.632903 |
| ['-'] | 1 | 0 | 1 | 1.831027 |
| ['-'] | 1 | 0 | 1 | 1.227596 |
| ['-'] | 1 | 0 | 1 | 0.573998 |
| ['-'] | 1 | 0 | 1 | -1.53605 |
| 9, 17, 15, 1 | 1 | 0 | 1 | 2.475041 |
| ['-'] | 1 | 0 | 1 | 0.408233 |
| ['-'] | 1 | 0 | 1 | 0.56349 |
| ['-'] | 1 | 0 | 1 | -2.2251 |
| ['-'] | 1 | 0 | 1 | 3.719315 |
| ['-'] | 1 | 0 | 1 | -0.53982 |
| ['-'] | 1 | 0 | 1 | 1.948077 |
| ['-'] | 1 | 0 | 1 | 1.656386 |
| ['-'] | 1 | 0 | 1 | -5.70431 |
| ['-'] | 1 | 0 | 1 | -1.51141 |
| ['-'] | 1 | 0 | 1 | 1.159936 |
| ['-'] | 1 | 0 | 1 | -5.1937 |
| ['-'] | 1 | 0 | 1 | 2.634693 |
| ['-'] | 0 | 0 | 0 | 3.148209 |
| ['-'] | 1 | 0 | 1 | -0.8691 |
| ['-'] | 1 | 0 | 1 | -1.0664 |
| ['-'] | 1 | 0 | 1 | -1.27789 |
| ['-'] | 1 | 0 | 1 | 3.205219 |
| 4, 6, 8, 10, | 0 | 0 | 0 | 1.284052 |
| ['-'] | 1 | 0 | 1 | -0.55789 |
| ['-'] | 1 | 0 | 1 | -2.08298 |
| ['-'] | 1 | 0 | 1 | -1.32405 |
| ['-'] | 1 | 0 | 1 | 0.142854 |
| ['-'] | 1 | 0 | 1 | -1.87544 |
| ['-'] | 1 | 0 | 1 | -3.23277 |
| ['-'] | 0 | 0 | 1 | 3.334264 |
| ['-'] | 1 | 0 | 1 | 3.514535 |
| , 9, 11, 13, | 1 | 0 | 1 | 3.020874 |
| ['-'] | 1 | 0 | 1 | 0.622134 |
| ['-'] | 1 | 0 | 1 | 1.522628 |
| ['-'] | 1 | 0 | 1 | 0.954793 |
| ['-'] | 1 | 0 | 1 | -3.63449 |
| ['-'] | 1 | 0 | 1 | 3.871225 |
| ['-'] | 1 | 0 | 1 | 1.104677 |
| ['-'] | 1 | 0 | 1 | 1.650141 |
| ['-'] | 1 | 0 | 1 | -1.27496 |
| ['-'] | 1 | 0 | 0 | -1.50272 |
| ['-'] | 1 | 0 | 1 | -0.18013 |

| | | | | |
|---|---|---|---|---|
| ['-'] | 1 | 0 | 1 | 1.705513 |
| ['-'] | 1 | 0 | 1 | 0.485195 |
| ['-'] | 0 | 0 | 0 | -0.50878 |
| ['-'] | 1 | 0 | 1 | -1.13862 |
| ['-'] | 1 | 0 | 1 | -3.11924 |
| 6, 7, 9, 11, | 0 | 0 | 1 | 2.559782 |
| ['-'] | 1 | 0 | 1 | 2.177415 |
| ['-'] | 1 | 0 | 1 | 1.477101 |
| ['-'] | 0 | 0 | 0 | -1.20924 |
| ['-'] | 1 | 0 | 1 | 1.020937 |
| 6, 7, 9, 11, | 1 | 0 | 1 | 2.631092 |
| ['-'] | 1 | 0 | 1 | 1.056679 |

**Supplementary Table 11**

| Application | Sample ID | Gender | Age |
|---|---|---|---|
| scRNA-seq | N1 | Female | 61 |
| | N2 | Male | 67 |
| | N3 | Female | 56 |
| | N4 | Female | 58 |
| | IPF1 | Male | 50 |
| | IPF2 | Male | 48 |
| | IPF3 | Male | 61 |
| | IPF4 | Male | 66 |
| Flow Cytometry | N1 | Male | 56 |
| | N2 | Male | 51 |
| | N3 | Male | 54 |
| | N4 | Male | 47 |
| | N5 | Male | 65 |
| | IPF1 | Male | 54 |
| | IPF2 | Female | 69 |
| | IPF3 | Male | 69 |
| | IPF4 | Male | 57 |
| | IPF5 | Male | 70 |

**Supplementary Table 12**

| Gene | Direction | Sequence |
|---|---|---|
| GAPDH | Forward | CGGAGTCAACGGATTTGGTCGTAT |
| | Reverse | AGCCTTCTCCATGGTGGTGAAGAC |
| LGALS7 | Forward | AATTCGCGGCTTGGTTCCTC |
| | Reverse | CTTGCTCCTTGCTGTTGAAGAC |