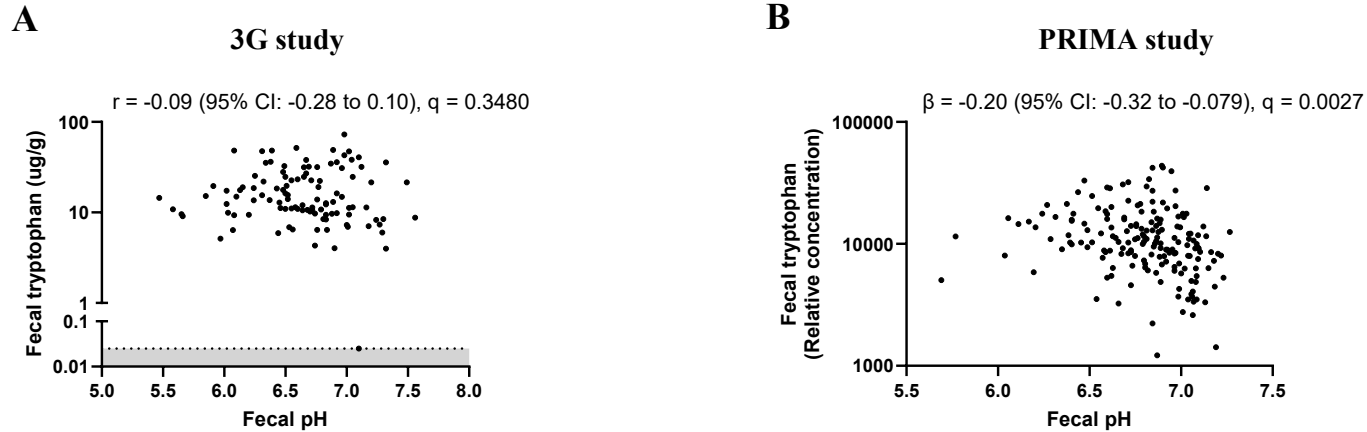
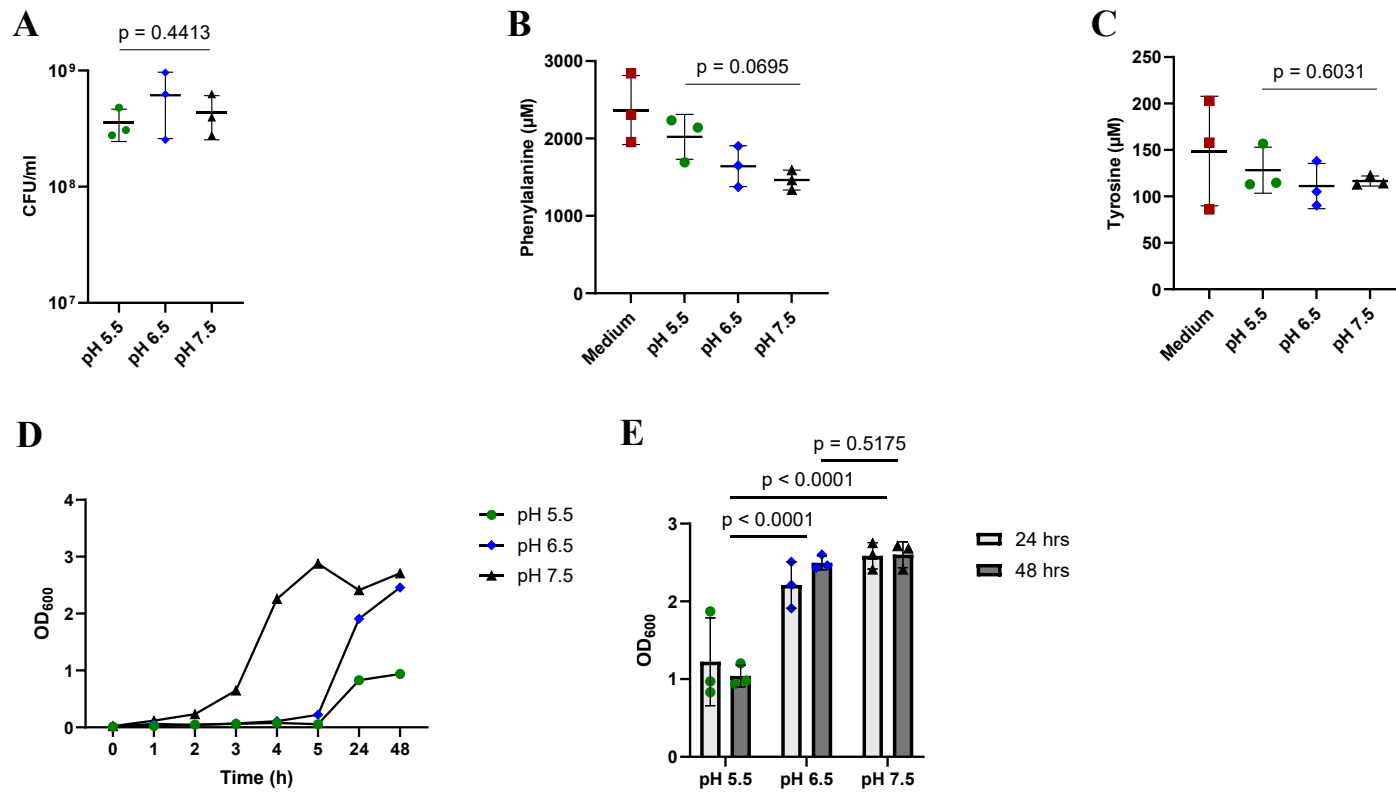
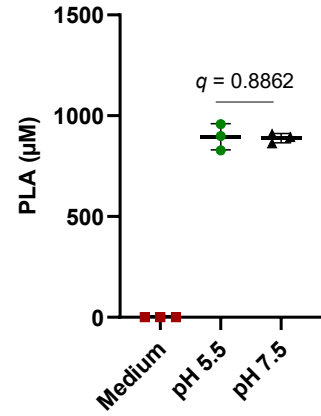
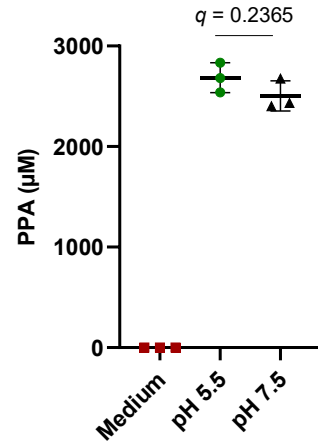
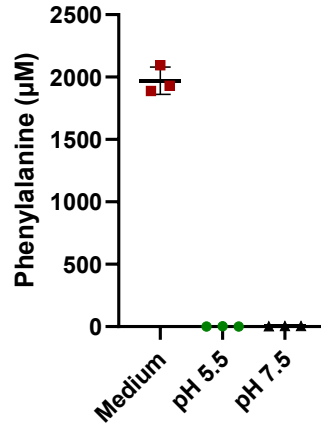
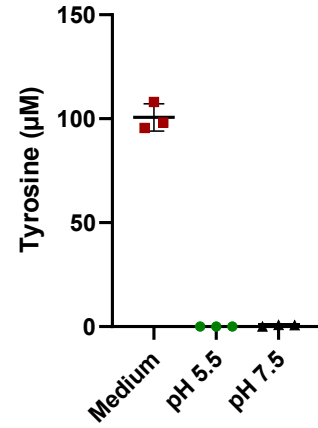




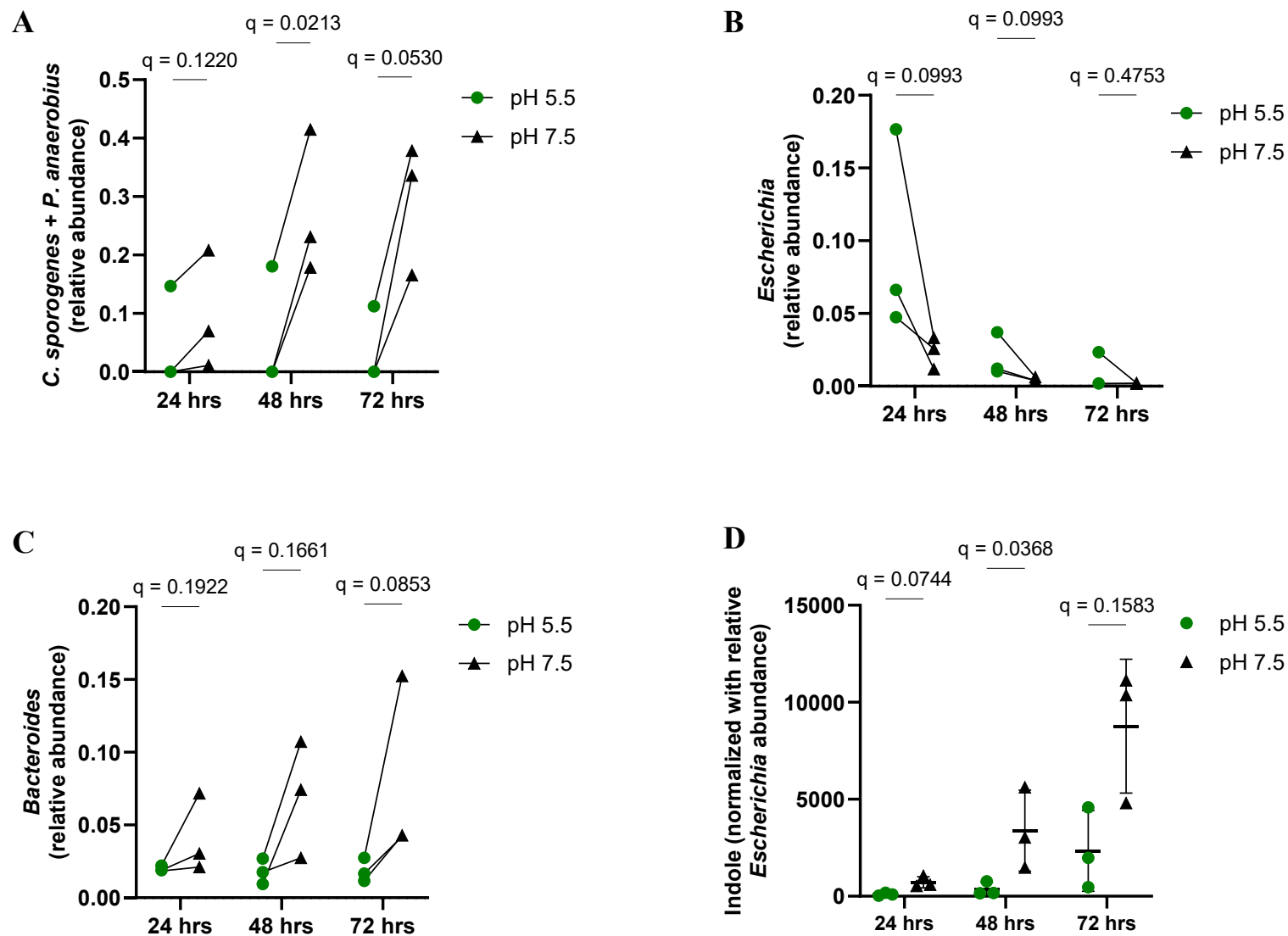
Supplementary Figure 1: The association between pH and levels of tryptophan in human feces. **A** Spearman's rank correlation (determined by two-tailed test) between tryptophan concentrations and pH in fecal samples from adult subjects ($n = 115$) with metabolic risk participating in the 3G study. **B** Associations assessed by linear mixed models of fecal pH versus relative tryptophan concentrations in fecal samples ($n = 181$) collected on day 2, 3 and 4 from 61 adult subjects from the PRIMA study. Vertically dashed lines and grey-shaded areas indicate the limit of detection (LOD). Values below this threshold were set to LOD/2 and included in the correlation analysis. All panels show 95% confidence intervals. q values are shown in the figure panels, with panel A showing values adjusted for multiple comparisons using the Benjamini-Hochberg method and panel B showing values obtained from the linear mixed models



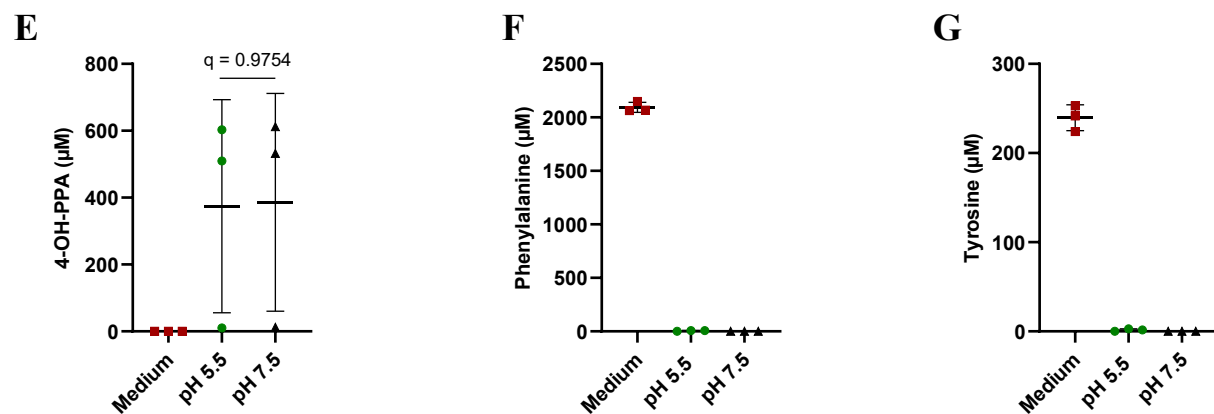
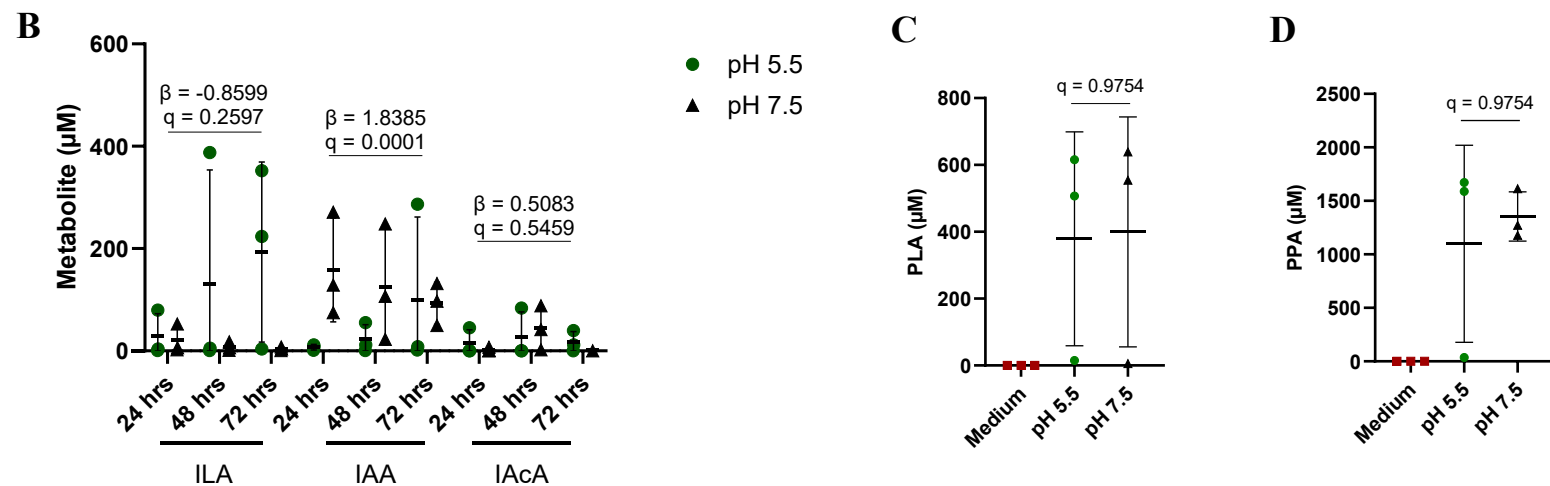
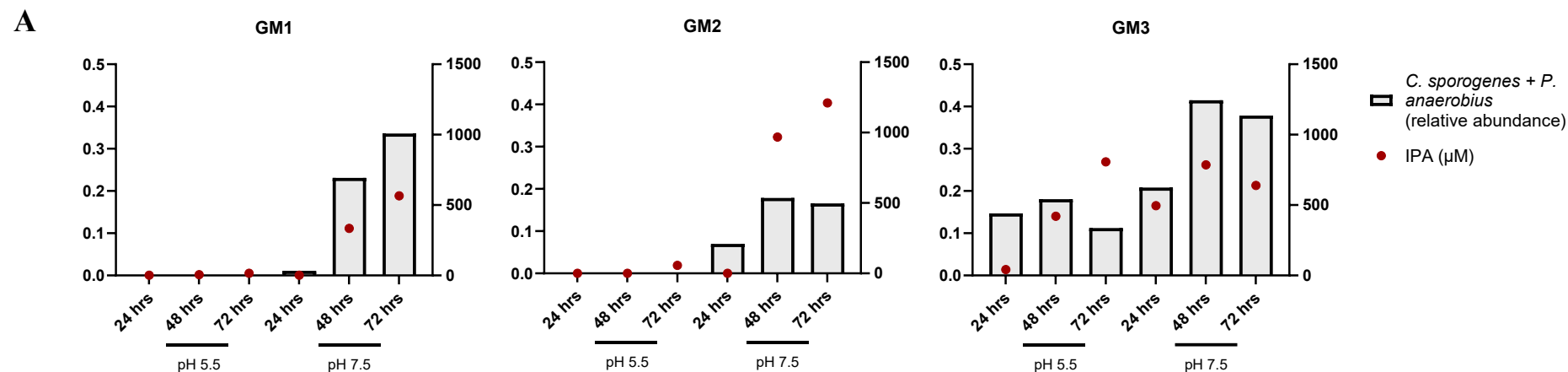
Supplementary Figure 2: Effect of pH on aromatic amino acid metabolism in monocultures. **A** Total *E. coli* cell counts (CFU/ml) after 48 h of batch culture at constant pH 5.5 (green circles), 6.5 (blue diamonds) or 7.5 (black triangles). **B-C** Levels of phenylalanine and tyrosine in LB medium (red squares) and after 48 h of batch culture using *E. coli* at constant pH 5.5, 6.5 or 7.5. **D-E** Representative growth curves over 48 h (D) and optical density at 600 nm (OD₆₀₀) measured at 24 h and 48 h (E) during batch culture of *Clostridium sporogenes* at constant pH 5.5, 6.5 or 7.5 in mGAM medium. **F-I** Levels of indole propionic acid (IPA), indolelactic acid (ILA), indoleacrylic acid (IAcA) and tryptophan in mGAM medium (red squares) and after 48 h of batch culture using *C. sporogenes* at constant pH 5.5, 6.5 or 7.5. Error bars show mean $\pm$ SD of three biological replicates. P values were determined by ordinary one-way ANOVA (A-C, F-I) or by two-way ANOVA with Bonferroni's multiple comparisons test (E) and are shown in the figure panels.

A**B****C****D**

Supplementary Figure 3: Effect of pH on aromatic amino acid metabolism in a co-culture. A-D Levels of phenyllactic acid (PLA), phenylpropionic acid (PPA), phenylalanine and tyrosine in LB medium (red squares) and after 48 h of continuous co-culture using the bacterial species *Clostridium sporogenes* and *E. coli* cultured at constant pH 5.5 (green circles) or 7.5 (black triangles). Error bars show mean $\pm$ SD of three biological replicates. q values were determined by two-tailed t-tests with Welch's correction, adjusted for multiple comparisons with the Benjamini-Hochberg method, and are shown in the figure panels.



Supplementary Figure 4: pH affects specific bacterial genera and relative indole production. A Combined relative abundance of *Clostridium sporogenes* and *Peptostreptococcus anaerobius* (100% ASV identity confirmed via BLAST) during 72 h of continuous culture at constant pH 5.5 (green circles) or 7.5 (black triangles). **B-C** Relative abundance of *Escherichia* and *Bacteroides* during 72 h continuous culture at constant pH 5.5 or 7.5. **D** Indole levels normalized with the relative abundance (%) of *Escherichia* during 72 h of culture at constant pH 5.5 or 7.5. Error bars show mean $\pm$ SD of three biological replicates. q values were determined by two-tailed paired t-tests, adjusted for multiple comparisons with the Benjamini-Hochberg method, and are shown in the figure panels.



Supplementary Figure 5: Effect of pH on aromatic amino acid metabolism in the human gut microbiota. **A** Combined relative abundance (grey bars) of *Clostridium sporogenes* and *Peptostreptococcus anaerobius* overlaid with indole propionic acid (IPA) concentrations (red circles) in three gut microbiotas (GM1, GM2 or GM3) during 72 h of culture at pH 5.5 or 7.5. **B** Associations between pH and levels of indolelactic acid (ILA), indoleacetic acid (IAA) and indoleacrylic acid (IAcA) during 72 h of continuous culture at constant pH 5.5 (green circles) or 7.5 (black triangles), as assessed by linear mixed model analysis. **C-G** Levels of phenyllactic acid (PLA), phenylpropionic acid (PPA), 4-hydroxy-phenylpropionic acid (4-OH-PPA), phenylalanine or tyrosine in growth medium (red squares) and after 72 h of continuous culture at constant pH 5.5 (green circles) or 7.5 (black triangles). Error bars show mean $\pm$ SD of three biological replicates. q values were determined by linear mixed model analysis (A) or two-tailed paired t -tests (B-D), adjusted for multiple comparisons using the Benjamini-Hochberg method, and are shown in the figure panels.

pH regulates gut bacterial tryptophan metabolism

Supplementary Data 1	Fecal pH and concentrations of tryptophan metabolites in the 3G study
Supplementary Data 2	List of target genes used for mining 3G study fecal metagenomes
Supplementary Data 3	Fecal pH and concentrations (relative) of tryptophan metabolites in the PRIMA cohort study
Supplementary Data 4	Linear mixed models of sampling day and tryptophan metabolites in the PRIMA study
Supplementary Data 5	ASV_0012 BLAST result
Supplementary Data 6	ASV_0008 BLAST result
Supplementary Data 7	ASV_0018 BLAST result
Supplementary Data 8	ASV_0021 BLAST result
Supplementary Data 9	List of qPCR primers

Supplementary Data S1. Fecal pH and concentrations of tryptophan metabolites in the 3G cohort study

Sample	Fecal pH	Indole (µg/g)	IPA (µg/g)	IAA (µg/g)	ILA (µg/g)	Tryptophan (µg/g)
1	6.70	344.46	1.56	2.39	0.03	10.21
2	5.91	136.71	4.81	2.80	5.08	19.60
3	6.38	NA	7.31	5.25	1.77	36.32
4	6.55	190.98	2.85	8.76	0.10	11.07
5	6.20	133.72	8.14	4.48	0.03	9.41
6	6.74	168.58	8.14	3.85	1.43	4.29
7	6.83	273.24	4.09	3.35	0.54	9.42
8	6.92	599.14	1.97	4.43	0.03	9.80
9	6.74	337.44	24.40	0.03	0.03	9.72
10	7.20	241.14	1.92	0.03	0.03	21.45
11	7.02	NA	1.80	1.08	0.03	9.48
12	6.46	148.89	4.20	4.54	0.03	11.18
13	6.50	190.84	2.52	22.40	0.67	16.26
14	6.50	139.89	1.85	7.44	0.03	10.95
15	5.97	NA	4.34	0.93	0.03	5.13
16	5.65	8.72	NA	NA	NA	NA
17	6.96	NA	1.94	7.15	0.53	14.89
18	6.13	88.46	NA	NA	NA	NA
19	6.08	129.47	42.51	8.16	0.03	9.34
20	6.45	303.70	6.13	21.93	0.03	12.85
21	6.89	248.01	4.72	1.34	0.61	13.06
22	6.10	468.14	9.76	13.68	0.03	14.97
23	5.56	0.50	NA	NA	NA	NA
24	6.15	217.33	6.72	5.41	0.03	18.98
25	6.52	147.35	5.66	5.75	0.03	15.58
26	7.12	229.99	8.68	25.60	0.69	31.82
27	6.55	128.26	3.85	1.53	0.33	22.59
28	6.50	183.63	3.41	16.40	0.03	24.73
29	7.05	207.87	1.37	1.34	1.35	24.70
30	7.49	445.98	15.58	0.03	0.03	21.50
31	6.87	75.03	5.04	4.10	0.03	34.56
32	6.51	78.71	8.25	7.00	0.03	19.70
33	6.56	121.24	2.65	0.03	0.03	6.47
34	6.02	200.31	9.10	16.65	0.82	17.41
35	6.07	180.73	6.98	10.59	0.40	6.39
36	6.67	352.03	1.85	3.96	0.75	27.00
37	6.76	NA	5.71	2.36	0.03	6.42
38	6.38	155.67	NA	NA	NA	NA
39	6.77	454.07	2.02	2.85	0.42	19.09
40	6.59	205.62	3.53	2.48	0.66	51.60
41	6.02	206.55	0.03	0.03	0.03	12.39
42	5.47	162.45	7.88	0.03	1.28	14.51
43	6.31	321.26	6.44	9.41	0.03	15.47
44	6.81	678.40	3.05	6.52	0.51	8.45
45	6.92	150.73	4.00	0.70	0.58	16.21
46	7.10	NA	0.61	2.03	0.03	40.68
47	6.88	112.64	2.30	0.03	0.03	9.65
48	7.27	141.94	1.84	0.03	0.03	7.36
49	6.72	135.12	0.03	4.97	0.79	10.52
50	7.02	257.32	0.82	3.31	0.03	47.20
51	6.58	NA	3.52	5.83	0.38	11.41
52	6.60	142.31	1.99	2.68	0.03	23.20
53	6.69	350.13	10.68	8.99	1.04	31.97
54	6.48	508.28	7.03	16.19	0.21	17.75
55	5.85	NA	12.99	3.03	0.38	15.18
56	5.58	NA	11.80	4.10	1.82	10.86

57	5.34	9.44	NA	NA	NA	NA
58	6.60	NA	3.35	2.49	0.03	10.93
59	6.64	384.39	2.10	2.11	0.24	10.55
60	6.25	289.66	1.16	0.03	4.45	25.31
61	6.39	720.65	4.00	17.65	0.03	48.31
62	7.02	460.64	1.53	0.03	0.03	11.24
63	6.24	811.19	6.24	7.57	1.14	13.60
64	7.00	683.72	1.40	1.16	0.58	7.28
65	7.32	233.02	2.76	0.80	0.03	35.67
66	6.13	189.27	3.35	0.82	0.03	17.63
67	7.10	782.11	0.03	0.03	0.03	0.03
68	6.98	NA	2.38	4.58	0.03	42.80
69	6.76	313.44	6.04	10.41	0.03	31.77
70	6.24	106.97	7.35	13.51	0.66	18.56
71	5.66	66.78	5.30	0.03	0.03	9.09
72	6.08	181.41	10.28	9.79	0.75	48.23
73	7.04	333.89	3.91	4.09	0.16	38.17
74	6.67	920.42	14.40	19.53	0.03	38.02
75	7.18	241.03	1.48	1.95	0.42	7.06
76	6.68	196.25	1.73	1.83	0.03	10.69
77	6.92	107.79	0.88	0.03	0.03	35.86
78	6.52	122.97	5.38	8.27	0.62	14.03
79	6.48	218.84	2.45	4.19	0.63	28.01
80	6.49	279.95	7.09	8.76	0.03	32.57
81	6.31	71.16	7.75	45.74	1.38	47.56
82	6.34	NA	9.33	24.98	0.03	35.36
83	6.71	286.80	1.32	14.26	0.03	22.67
84	7.05	234.88	3.96	11.15	0.03	11.40
85	6.37	405.13	2.41	3.65	0.87	13.72
86	6.32	233.92	2.34	2.13	0.03	21.94
87	5.65	128.08	7.21	2.41	0.68	9.57
88	6.89	74.05	2.54	1.37	0.74	48.90
89	6.43	NA	4.49	1.24	0.34	18.35
90	6.65	137.23	16.86	9.33	0.81	31.51
91	6.78	76.67	1.55	25.42	0.45	22.32
92	7.01	177.55	2.08	3.85	0.03	6.93
93	6.90	70.28	1.03	0.03	0.03	4.02
94	6.65	136.43	7.16	3.28	0.89	24.66
95	7.56	31.97	0.33	0.03	0.03	8.75
96	7.24	362.43	2.45	2.32	0.03	8.27
97	7.16	78.50	2.68	1.41	0.36	11.38
98	7.30	119.42	0.03	0.03	0.03	8.43
99	6.83	441.45	2.17	1.63	0.03	12.30
100	7.29	156.53	0.03	1.51	0.29	6.00
101	6.44	166.48	2.53	12.78	0.03	5.92
102	6.98	NA	1.21	2.79	0.66	72.58
103	6.76	338.96	2.23	4.65	0.03	13.93
104	6.64	332.29	1.97	4.72	0.60	12.03
105	6.84	26.58	1.67	2.19	0.03	6.42
106	6.96	801.81	1.24	1.42	0.97	30.86
107	6.53	NA	4.96	5.87	0.03	6.87
108	6.45	132.83	NA	NA	NA	NA
109	6.83	404.57	2.68	0.03	0.03	8.35
110	6.72	350.07	9.96	5.60	0.03	11.37
111	6.79	211.72	2.42	3.05	0.24	10.77
112	7.32	161.83	1.03	0.03	0.03	3.99
113	6.72	281.01	8.28	21.24	0.57	10.68
114	6.83	262.88	1.78	0.86	0.03	12.67
115	6.03	76.28	5.89	3.70	0.49	9.90

Supplementary Data S2. List of target genes used for mining 3G study fecal metagenomes

Source database	Accession Number/Gene ID	Gene [Species]	Name in database
ref	WP_011107821.1	tryptophanase [Bacteroidesthetaiotaomicron]	>tnaA;WP_011107821.1;Bacteroides;th etaiotaomicron
ref	WP_044918741.1	tryptophanase [Bacteroides ovatus]	>tnaA;WP_044918741.1;Bacteroides;ov atus
EMBL-EBI	CUO00988.1	tryptophanase [Bacteroides xylanisolvens]	>tnaA;CUO00988;Bacteroides;xylaniso lvens
ref	WP_044533394.1	tryptophanase [Bacteroides intestinalis]	>tnaA;WP_044533394.1;Bacteroides;in testinalis
ref	WP_055204240.1	tryptophanase [Alistipes spp]	>tnaA;WP_055204240.1;Alistipes;sp.
NIH Gene	GeneID29256096	tryptophanase [Porphyromonas gingivalis]	>tnaA;GeneID29256096;Porphyromona s;gingivalis
ref	WP_025882908.1	tryptophanase [Porphyromonas uenonis]	>tnaA;WP_025882908.1;Porphyromon as;uenonis
ref	WP_021432272.1	tryptophanase [Clostridium bifermentans]	>tnaA;WP_021432272.1;Paraclostridiu m;bifermentans
ref	WP_027640017.1	tryptophanase [Clostridium cadaveris]	>tnaA;WP_027640017.1;Clostridium;c adaveris
EMBL-EBI	CEQ30853.1	tryptophanase [Clostridium sordellii]	>tnaA;CEQ30853.1;Paeniclostridium;s ordellii
NIH Gene	GeneID24254145	tryptophanase [Clostridiumtetani]	taniE88
NIH Gene	GeneID66319699	tryptophanase [Clostridium novyi B str. ATCC 27606]	>tnaA;GeneID66319699;Clostridium;n ovyi
ref	WP_004616858.1	tryptophanase [Clostridium papyrosolvens]	>tnaA;WP_004616858.1;Ruminiclostri dium;papyrosolvens
ref	WP_007715862.1	tryptophanase [Clostridium asparagiforme]	>tnaA;WP_007715862.1;Enterocloster; asparagiformis
ref	WP_035916129.1	tryptophanase [Fusobacterium necrophorum]	>tnaA;WP_035916129.1;Fusobacteriu m;necrophorum;BFTR-2
ref	WP_004815386.1	tryptophanase [Anaerococcus hydrogenalis]	>tnaA;WP_004815386.1;Anaerococcus ;hydrogenalis
ref	WP_006905127.1	tryptophanase [Shuttleworthia satellites]	>tnaA;WP_006905127.1;Shuttleworthe lla;satellites;DSM14600
ref	WP_040648888.1	tryptophanase [Oribacterium sinus]	>tnaA;WP_040648888.1;Oribacterium; sinus
EMBL-EBI	CDX01341.1	tryptophanase [Desulfitobacterium hafniense]	>tnaA;CDX01341.1;Desulfitobacteriu m;hafniense
EMBL-EBI	CDX04261.1	tryptophanase [Desulfitobacterium hafniense]	>tnaA;CDX04261.1;Desulfitobacteriu m;hafniense
gb	KLI62526.1	tryptophanase [Brachyspira hyodysenteriae]	>tnaA;GeneID63963011;Brachyspira;h yodysenteriae
NIH Gene	GeneID948221	tryptophanase [Escherichia coli]	K-12MG1655
EMBL-EBI	QMN09087.1	tryptophanase [Escherichia coli]	>tnaA;QMN09087.1;Escherichia;coli
NIH Gene	GeneID915393	tryptophanase [Escherichia coli]	O157:H7;Sakai
NIH Gene	GeneID93219703	tryptophanase [Haemophilus influenzae]	>tnaA;GeneID93219703;Haemophilus;i nfluenza
ref	WP_039061171.1	tryptophanase [Shigella flexneri]	eri
EMBL-EBI	CSN78035.1	tryptophanase [Shigella sonnei]	>tnaA;CSN78035.1;Shigella;sonnei
NIH Gene	GeneID60881581	tryptophanase [Akkermansia muciniphila ATCC BAA-835]	>tnaA;GeneID60881581;Akkermansia; muciniphila
ref	WP_016273374.1	tryptophanase [Bacteroides uniformis]	>tnaA;WP_016273374.1;Bacteroides;u niformis
ref	WP_012340430.1	tryptophanase [Histophilus somni]	>tnaA;WP_012340430.1;Histophilus;so mni
NIH Gene	GeneID67471945	tryptophanase [Paraclostridiu bifermentans]	>tnaA;GeneID67471945;Paraclostridiu m;bifermentans
NIH Gene	GeneID73803429	beta-eliminating lyase [Alistipes putredinis DSM 17216]	>beta;eliminlyase;GeneID73803429;Ali stipes;putredinis

EMBL-EBI	MBA4507163.1	acdA[Clostridium sporogenes]	>acdA;MBA4507163;Clostridium;sporogenes
EMBL-EBI	BFF73464.1	acdA[Peptostreptococcus porci]	>acdA;BFF73464;Peptostreptococcus;porci
NIH Gene	GeneID947570	dnaG[Escherichia coli K-12MG1655]	>dnaG;GeneID947570;Escherichia;coli;K-12MG1655
EMBL-EBI	EU906427	secA[Escherichia coli]	>secA;EU906427;Escherichia;coli
ecocyc	NA	gyrA[Escherichia coliK-12MG1655]	>gyrA;ecocyc;Escherichia;coliK-12MG1655
ecocyc	NA	secA[Escherichia coli GCF_900096795.1]	>secA;ecocyc;Escherichia;coli;GCF_900096795.1
ecocyc	NA	dnaG[Escherichia coli GCF_900096795.1]	>dnaG;ecocyc;Escherichia;coli;GCF_900096795.1
ecocyc	NA	dnaG[Bacteroides thetaiotaomicron 1_1_6]	>dnaG;ecocyc;Bacteroides;thetaitaomicron;1_1_6
ecocyc	NA	secA[Bacteroides thetaiotaomicron 1_1_6]	>secA;ecocyc;Bacteroides;thetaitaomicron;1_1_6
ecocyc	NA	gyrA[Bacteroides thetaiotaomicron 1_1_6]	>gyrA;ecocyc;Bacteroides;thetaitaomicron;1_1_6
ecocyc	NA	dnaG[Bacteroides thetaiotaomicron VPI-5482]	>dnaG;ecocyc;Bacteroides;thetaitaomicron;VPI-5482
ecocyc	NA	secA[Bacteroides thetaiotaomicron VPI-5482]	>secA;ecocyc;Bacteroides;thetaitaomicron;VPI-5482
NIH Gene	GeneID60923313	dnaA[Bacteroides thetaiotaomicron]	>dnaA;GeneID60923313;Bacteroides;thetaitaomicron
NIH Gene	GeneID60925539	secA[Bacteroides thetaiotaomicron]	>secA;GeneID60925539;Bacteroides;thetaitaomicron

Supplementary Data S3. Fecal pH and concentrations (relative) of tryptophan metabolites in the PRIMA cohort study

Sample	Sample ID	Study day	Fecal pH	IS (urine)	IG (urine)	ILA (urine)	Trp (feces)
1	1	1	6.38	24191.98	91.29	835.50	9039.49
2	1	2	6.70	42536.66	101.52	1191.90	6341.19
3	1	3	6.76	35254.51	163.49	460.42	9244.70
4	1	4	6.51	18774.93	40.94	447.36	10618.86
5	1	5	6.57	25559.35	89.52	937.05	6050.50
6	1	6	6.56	50113.20	141.69	469.50	9941.23
7	1	7	6.60	37276.67	221.72	719.95	6873.23
8	1	8	6.61	76442.19	368.10	719.84	6316.31
9	1	9	6.63	29114.51	64.87	229.74	5376.34
10	2	1	6.65	50712.52	361.86	1098.03	7443.61
11	2	2	7.10	142534.40	292.77	1477.52	8824.64
12	2	3	6.86	67471.19	238.90	150.50	2001.79
13	2	4	6.96	76009.01	221.03	779.57	5023.09
14	2	5	7.04	58868.26	108.69	774.64	8956.49
15	2	6	6.70	136914.73	149.24	1573.13	12633.03
16	2	7	6.38	125658.32	544.13	1785.68	7215.07
17	2	8	6.56	148950.10	914.66	1588.73	9489.11
18	2	9	NA	78332.80	86.55	845.33	4970.72
19	3	1	5.98	107370.19	360.92	1406.64	6173.24
20	3	2	6.54	51394.18	142.43	1395.35	5138.03
21	3	3	6.61	57825.92	81.12	1038.56	2958.36
22	3	4	6.71	58272.21	226.39	1684.83	5768.25
23	3	5	6.73	121058.74	152.55	1621.74	3186.89
24	3	6	6.63	77648.79	126.78	1278.41	1940.02
25	3	7	6.78	115176.79	350.25	1324.56	1381.11
26	3	8	6.54	65510.27	129.02	2712.89	2789.48
27	3	9	NA	42060.06	77.38	1153.98	2089.19
28	4	1	6.59	54657.52	106.69	448.16	2539.58
29	4	2	6.55	18998.31	12.45	334.80	2670.89
30	4	3	6.62	33978.29	97.92	252.60	2499.49
31	4	4	6.60	38920.56	35.66	421.74	2248.30
32	4	5	6.55	33927.24	37.33	310.43	2508.63
33	4	6	6.72	82700.87	89.72	295.03	2072.03
34	4	7	6.76	12450.15	NA	126.16	799.53
35	4	8	6.62	39339.31	48.50	109.26	1435.70
36	4	9	6.57	14336.80	18.48	279.62	1145.04
37	5	1	6.46	193726.25	430.62	1010.08	4961.39
38	5	2	6.61	77050.77	382.55	1666.51	2163.20
39	5	3	6.71	123190.79	210.85	699.80	1478.54
40	5	4	6.47	216551.62	509.64	1502.10	4188.67
41	5	5	NA	83541.22	346.43	904.58	1301.45
42	5	6	6.81	146949.76	221.54	1001.44	1888.11
43	5	7	6.63	168147.46	325.23	1433.35	2808.26
44	5	8	6.53	124061.95	117.87	675.99	1727.15
45	5	9	NA	85042.30	155.91	305.60	1521.75
46	6	1	6.51	27934.25	29.55	352.65	4570.54
47	6	2	5.69	72418.43	31.71	298.96	7026.49
48	6	3	6.20	111986.33	74.72	37.75	3676.74
49	6	4	6.62	NA	NA	NA	NA
50	6	5	6.04	63075.60	47.50	247.40	4270.78
51	6	6	7.03	130153.64	NA	31.10	4146.69
52	6	7	6.56	143052.54	57.30	53.88	6089.41
53	6	8	6.89	214516.02	119.76	364.90	7268.16
54	6	9	NA	25872.76	21.35	527.71	4332.80
55	7	1	6.67	46572.10	15.37	190.13	1524.99
56	7	2	6.84	32370.65	31.97	535.84	919.99

57	7	3	6.60	65669.08	NA	155.87	1065.85
58	7	4	NA	31506.70	1.42	661.69	1582.39
59	7	5	6.40	55566.24	5.39	2085.82	3026.31
60	7	6	5.43	37715.70	4.84	2419.13	592.26
61	7	7	NA	20154.47	6.19	108.46	1328.54
62	7	8	6.71	58863.47	7.91	395.44	886.05
63	7	9	NA	38465.54	NA	423.20	734.93
64	8	1	6.64	30101.80	166.91	1994.36	1037.67
65	8	2	6.82	59817.33	509.27	1393.11	7834.96
66	8	3	6.60	33307.84	147.37	1337.06	3167.92
67	8	4	6.73	13866.47	33.57	4409.29	1336.84
68	8	5	6.66	65174.19	295.72	2022.42	4671.70
69	8	6	6.64	27112.61	65.68	1017.51	3323.44
70	8	7	6.91	33046.24	145.47	2316.64	1966.04
71	8	8	6.63	31500.53	99.74	1834.77	4232.29
72	8	9	NA	8305.40	32.53	1994.79	2232.63
73	9	1	NA	88346.05	298.43	1050.41	3792.11
74	9	2	6.80	187084.68	225.88	1487.12	3477.57
75	9	3	6.92	116060.66	171.23	1249.24	2177.62
76	9	4	6.89	129741.78	365.17	874.68	2707.86
77	9	5	NA	85585.42	124.28	1706.07	3272.01
78	9	6	6.94	122017.91	204.85	1520.38	3154.98
79	9	7	6.88	93239.55	96.13	1680.33	2312.31
80	9	8	NA	216579.01	299.54	1953.59	4722.60
81	9	9	NA	39618.48	34.98	977.79	2552.69
82	10	1	6.88	376507.67	149.45	2972.69	3852.06
83	10	2	6.84	112632.39	80.43	705.63	497.90
84	10	3	NA	264459.95	178.37	893.36	2373.46
85	10	4	6.87	321485.29	261.22	1498.60	3394.58
86	10	5	6.90	179111.39	91.44	4139.85	3060.52
87	10	6	6.89	129979.09	77.27	2425.88	820.26
88	10	7	6.86	260002.37	68.81	7369.73	3253.32
89	10	8	NA	108245.98	43.88	1144.51	2351.67
90	10	9	NA	63962.17	40.75	2640.45	767.20
91	11	1	6.32	35346.62	167.00	700.77	3893.20
92	11	2	6.66	62222.15	468.62	763.67	4607.35
93	11	3	6.62	32245.61	81.06	583.39	1923.89
94	11	4	NA	58275.06	236.22	1899.50	9095.17
95	11	5	6.06	63243.80	248.51	1568.10	4696.26
96	11	6	NA	42001.74	340.98	2919.43	5146.62
97	11	7	6.62	35415.43	162.72	1879.11	2512.10
98	11	8	6.70	40461.02	163.28	632.87	1159.61
99	11	9	NA	27529.68	153.60	514.08	1276.82
100	12	1	7.05	157269.96	650.92	2220.20	1450.92
101	12	2	6.92	78249.70	130.85	702.91	3745.40
102	12	3	6.86	45689.12	63.32	406.69	518.68
103	12	4	6.97	99065.33	396.25	1302.71	2103.22
104	12	5	7.09	72535.16	216.89	924.89	1630.71
105	12	6	6.89	119483.00	443.54	1343.11	1584.22
106	12	7	6.98	80336.83	210.39	955.25	1759.97
107	12	8	7.07	65350.34	145.86	561.47	3363.39
108	12	9	6.79	63742.30	33.61	711.37	727.37
109	13	1	NA	112754.92	293.09	572.17	2620.22
110	13	2	6.81	31868.47	134.25	965.05	863.85
111	13	3	6.78	45421.59	126.04	511.68	764.41
112	13	4	7.14	62201.08	323.83	1090.37	3026.74
113	13	5	6.95	168502.17	388.23	799.66	4043.41
114	13	6	6.91	110014.41	225.47	609.71	1974.68
115	13	7	6.99	214956.64	252.00	92.43	4430.98

116	13	8	7.02	147555.44	227.82	951.85	3761.61
117	13	9	6.98	33395.69	129.14	599.11	658.24
118	14	1	6.96	88229.79	160.98	4449.60	5817.03
119	14	2	6.84	70209.10	390.50	3176.41	7839.40
120	14	3	6.89	87541.30	248.46	797.88	4037.34
121	14	4	6.84	38001.14	3.33	6492.62	7107.08
122	14	5	6.56	64584.67	82.40	2371.61	7028.72
123	14	6	6.73	57878.40	74.91	2759.60	2717.57
124	14	7	6.76	41469.88	49.70	4291.14	2479.23
125	14	8	6.71	106649.00	284.16	832.25	4340.95
126	14	9	6.89	55900.55	93.83	972.11	2380.01
127	15	1	6.63	112551.44	454.09	1398.33	2523.19
128	15	2	6.89	67447.38	133.40	2951.56	2686.76
129	15	3	6.88	72062.50	67.66	536.07	639.17
130	15	4	6.76	56782.44	232.70	4185.70	2241.47
131	15	5	6.76	92348.02	140.17	2414.11	1612.35
132	15	6	6.78	67541.16	207.64	3762.60	1020.84
133	15	7	6.95	22680.13	156.84	3122.14	1016.17
134	15	8	6.80	113767.79	520.12	3463.33	3404.14
135	15	9	6.73	42655.37	187.77	1986.07	508.30
136	16	1	6.95	101616.42	41.04	1452.83	1793.88
137	16	2	NA	146032.18	137.45	1124.88	3117.16
138	16	3	6.75	126367.31	47.64	556.22	3257.96
139	16	4	6.92	142993.36	37.89	1118.67	3459.16
140	16	5	6.83	213518.39	131.14	1392.80	4740.01
141	16	6	6.91	122718.34	28.82	68.17	1675.60
142	16	7	NA	183024.69	48.53	928.64	2650.25
143	16	8	6.80	238569.67	58.81	2526.49	4272.76
144	16	9	6.80	138098.09	12.45	854.01	1873.78
145	17	1	6.74	467310.24	345.75	1140.59	4653.96
146	17	2	6.63	156797.16	191.44	1441.15	3520.37
147	17	3	6.49	84098.16	15.49	274.95	2845.37
148	17	4	6.86	124396.43	72.78	576.69	3380.51
149	17	5	6.65	257404.54	103.07	1067.15	3086.70
150	17	6	6.69	112534.41	50.00	429.12	4432.42
151	17	7	6.57	151423.86	21.07	25384.48	3197.85
152	17	8	6.54	162918.69	57.59	2260.00	2439.42
153	17	9	6.58	14138.54	NA	959.74	1917.44
154	18	1	NA	50518.49	209.67	1849.56	2583.11
155	18	2	6.84	75848.48	115.72	1115.76	1685.07
156	18	3	7.06	56991.41	121.64	994.33	1413.67
157	18	4	NA	43524.27	67.53	1346.47	2321.80
158	18	5	6.88	53997.41	142.71	1392.10	3857.51
159	18	6	6.91	65262.07	253.18	1324.61	3108.31
160	18	7	NA	51914.38	127.01	1366.34	1452.91
161	18	8	6.82	60282.55	184.74	779.63	2200.57
162	18	9	NA	42904.90	79.09	1096.25	1305.22
163	19	1	7.08	109557.50	26.05	1621.55	785.17
164	19	2	7.04	332404.51	227.20	2551.34	2066.50
165	19	3	7.01	315739.19	284.72	1613.91	1773.08
166	19	4	NA	126087.35	65.29	2453.20	2357.55
167	19	5	6.98	154818.28	122.08	1750.11	3552.14
168	19	6	NA	356113.21	108.03	1145.99	2992.98
169	19	7	6.80	193741.19	NA	1718.41	1715.58
170	19	8	6.74	155912.88	162.70	1570.17	2247.22
171	19	9	6.91	160049.11	66.42	1421.72	1323.12
172	20	1	NA	77583.52	85.56	2597.75	4367.87
173	20	2	6.78	120260.86	168.61	1192.30	5450.55
174	20	3	6.85	124810.78	325.58	646.68	3303.45

175	20	4	6.87	78436.47	438.67	1227.90	5020.93
176	20	5	6.99	82384.21	451.90	2299.01	5321.39
177	20	6	6.71	154216.35	447.11	1080.30	5968.70
178	20	7	6.78	77773.43	144.13	651.62	3791.80
179	20	8	6.67	NA	NA	NA	NA
180	20	9	6.90	121195.30	343.23	1950.42	4373.32
181	21	1	6.84	127159.84	120.99	3446.89	861.64
182	21	2	6.81	127192.46	171.29	1813.12	669.59
183	21	3	6.64	137520.80	130.25	450.37	637.87
184	21	4	6.84	111155.56	55.10	428.95	1143.12
185	21	5	6.92	65309.90	69.95	1126.60	799.96
186	21	6	7.08	379693.34	222.42	2470.67	1321.30
187	21	7	7.16	311384.60	112.00	1523.29	2383.42
188	21	8	7.09	212672.16	214.77	2257.30	784.01
189	21	9	7.21	165812.74	50.72	1150.21	1476.94
190	22	1	7.14	76104.10	20.04	327.42	1708.25
191	22	2	7.20	92161.28	53.54	773.31	1329.42
192	22	3	7.18	161033.68	87.59	1264.18	1052.71
193	22	4	7.16	231172.39	285.00	1102.57	2092.89
194	22	5	7.03	110059.63	38.68	1823.03	971.95
195	22	6	7.00	113337.25	NA	64.10	932.13
196	22	7	7.09	128305.94	157.51	639.42	1610.02
197	22	8	7.04	150968.35	104.86	651.41	1355.60
198	22	9	NA	79836.60	146.52	351.05	975.89
199	23	1	6.76	54704.33	94.14	1275.32	3897.28
200	23	2	6.27	59356.10	110.56	1198.53	3157.78
201	23	3	6.17	29591.56	24.88	598.07	1995.53
202	23	4	6.38	104999.52	207.24	1312.21	2592.87
203	23	5	6.56	138355.34	343.59	1012.56	2749.26
204	23	6	6.26	141962.46	92.41	876.87	5590.88
205	23	7	6.22	84644.80	172.00	1355.37	3997.27
206	23	8	6.72	51025.01	125.43	1215.29	2898.08
207	23	9	6.36	36612.61	12.10	885.76	1500.30
208	24	1	6.45	308150.94	58.67	1906.99	4059.27
209	24	2	6.45	257758.95	58.66	2228.93	2546.15
210	24	3	6.40	70079.50	9.01	469.60	1451.19
211	24	4	NA	87931.30	66.73	244.61	2397.90
212	24	5	6.51	196557.88	21.23	21078.12	3482.25
213	24	6	6.24	152940.65	131.50	1640.72	2528.76
214	24	7	6.69	96725.77	44.26	5349.54	2915.50
215	24	8	6.57	413755.32	288.31	1379.72	3027.57
216	24	9	6.72	160965.99	34.37	274.15	2330.28
217	25	1	6.71	NA	NA	NA	NA
218	25	2	6.68	84795.55	99.01	863.51	1440.74
219	25	3	6.71	103467.27	129.35	1003.06	1512.09
220	25	4	6.49	112236.25	142.67	356.15	1127.40
221	25	5	6.64	180964.75	401.20	825.22	1435.32
222	25	6	6.36	32733.82	73.77	3952.38	2746.25
223	25	7	NA	98206.32	139.91	717.24	2398.63
224	25	8	6.56	150994.16	681.04	1057.57	5208.57
225	25	9	NA	103631.84	132.18	1370.74	1228.56
226	26	1	6.85	51732.54	26.40	2276.93	365.81
227	26	2	6.76	90322.45	13.24	3355.02	421.35
228	26	3	NA	129609.16	157.86	2481.06	312.28
229	26	4	6.60	45918.65	130.36	3169.69	772.48
230	26	5	6.87	224230.62	56.51	4821.66	926.79
231	26	6	6.82	104922.02	197.72	2198.74	813.56
232	26	7	6.78	176694.35	126.87	3087.38	443.48
233	26	8	NA	288287.49	438.48	3705.84	791.55

234	26	9	6.67	201845.41	284.53	3422.61	660.28
235	27	1	6.94	111448.53	104.45	5444.68	1796.37
236	27	2	7.18	87610.96	132.22	3929.17	894.17
237	27	3	7.23	87890.02	95.39	935.19	384.66
238	27	4	7.02	100653.66	52.28	3543.37	1135.33
239	27	5	7.04	55945.68	58.98	5775.22	992.88
240	27	6	6.91	47224.01	40.04	1748.95	310.80
241	27	7	6.97	47249.69	34.14	1946.71	878.65
242	27	8	6.87	35167.76	NA	1768.21	134.50
243	27	9	NA	96533.87	NA	2646.35	555.56
244	28	1	6.64	121915.56	269.54	1338.55	3047.55
245	28	2	6.68	91165.28	171.95	1785.38	2346.23
246	28	3	6.59	81570.41	158.70	749.32	2895.91
247	28	4	6.67	60304.16	154.72	1361.47	1751.20
248	28	5	6.43	100902.74	261.03	1226.60	2183.05
249	28	6	6.70	139278.90	172.51	1374.50	5343.46
250	28	7	6.51	141513.51	303.82	1974.53	4978.58
251	28	8	6.54	155697.54	293.52	1181.58	5320.82
252	28	9	6.70	43311.90	21.32	1544.96	303.47
253	29	1	NA	83639.29	204.84	949.09	1231.46
254	29	2	6.80	146850.09	574.35	1222.82	1839.81
255	29	3	6.80	81727.51	526.60	717.53	1419.67
256	29	4	6.57	340028.19	661.72	695.02	NA
257	29	5	NA	129221.65	211.64	1630.67	2773.39
258	29	6	6.64	167425.49	582.65	1927.93	5704.07
259	29	7	6.42	182302.74	358.29	1306.45	5828.84
260	29	8	6.90	251122.21	1114.05	1558.43	3696.39
261	29	9	6.91	168269.10	663.94	1144.59	2702.90
262	30	1	6.33	119518.59	663.47	2350.14	4835.18
263	30	2	6.78	114825.16	377.74	3526.39	2332.76
264	30	3	6.99	99789.47	580.66	1393.38	1566.57
265	30	4	6.94	62952.33	245.72	1963.50	1923.87
266	30	5	6.74	48006.11	135.02	1892.93	1304.43
267	30	6	6.69	64134.87	370.60	2939.00	1275.22
268	30	7	6.94	60353.74	479.18	3458.02	1046.90
269	30	8	6.60	130527.91	732.53	4209.69	5206.53
270	30	9	6.81	119143.08	689.29	1467.62	4113.81
271	31	1	6.92	255157.53	402.25	2907.59	1352.02
272	31	2	6.89	153399.58	1042.75	2462.10	1904.45
273	31	3	6.98	119659.24	252.96	978.60	891.92
274	31	4	7.04	176263.77	623.59	2645.88	1321.75
275	31	5	6.80	145692.57	233.20	2093.30	926.72
276	31	6	6.86	184284.59	757.92	2489.16	867.97
277	31	7	7.00	81162.21	107.77	2742.98	837.11
278	31	8	6.92	112197.97	917.62	2498.71	2046.63
279	31	9	6.80	79314.14	360.50	1109.30	806.90
280	32	1	NA	84061.06	535.17	2924.23	4659.31
281	32	2	7.08	91536.19	914.59	3126.52	1995.21
282	32	3	7.09	72470.09	371.42	1279.96	491.84
283	32	4	7.27	29593.42	261.46	319.93	3199.95
284	32	5	7.17	44670.74	365.22	594.64	4158.67
285	32	6	7.10	115093.40	781.35	589.94	4228.10
286	32	7	7.10	132119.31	774.07	2131.36	2288.86
287	32	8	6.96	53231.04	316.30	290.00	1951.28
288	32	9	NA	77927.67	612.35	1312.75	3681.88
289	33	1	6.90	26882.84	43.91	988.52	746.15
290	33	2	7.01	36943.77	98.40	1805.46	1290.17
291	33	3	7.04	68939.06	101.08	1344.05	586.33
292	33	4	7.07	83972.83	195.08	2144.44	1191.70

293	33	5	6.98	31379.28	68.31	2817.68	732.42
294	33	6	7.05	71853.59	271.70	1750.00	831.47
295	33	7	6.94	24267.54	24.83	2410.06	702.59
296	33	8	6.73	50237.12	211.12	2849.06	856.27
297	33	9	NA	46177.11	104.24	2196.32	654.37
298	34	1	6.71	43459.19	103.40	410.72	4872.29
299	34	2	6.44	28153.01	21.93	835.69	4012.57
300	34	3	6.20	30565.25	44.51	342.25	3656.28
301	34	4	5.77	108513.34	382.36	1197.91	4354.89
302	34	5	6.92	21171.47	46.89	242.97	4297.55
303	34	6	6.76	56282.79	60.05	432.88	5807.13
304	34	7	6.96	26355.33	94.33	704.28	3186.42
305	34	8	6.96	16506.10	30.41	234.62	3624.19
306	34	9	6.57	20014.31	27.58	395.72	1818.67
307	35	1	7.02	98777.29	108.43	1063.58	848.20
308	35	2	6.86	123074.27	219.85	2158.17	932.84
309	35	3	6.89	85105.08	127.62	1473.69	364.72
310	35	4	6.80	52584.06	134.41	1156.24	1279.61
311	35	5	6.92	93136.35	156.66	1678.64	553.24
312	35	6	6.47	97290.47	127.07	1439.51	558.63
313	35	7	6.34	73895.95	111.41	1915.69	795.58
314	35	8	6.14	37159.80	50.04	1162.97	393.79
315	35	9	6.77	33276.36	54.54	1039.19	262.57
316	36	1	6.36	116527.34	572.81	561.65	3450.12
317	36	2	6.73	153856.72	417.19	581.84	1945.58
318	36	3	6.81	92246.11	259.85	389.58	1631.27
319	36	4	6.35	133558.02	228.30	686.92	3428.72
320	36	5	NA	117919.95	293.30	1620.67	3352.40
321	36	6	5.64	120838.19	326.08	2512.55	4599.87
322	36	7	6.87	239629.51	939.74	1135.49	3553.98
323	36	8	5.70	101705.33	326.41	624.70	1726.68
324	36	9	NA	48332.42	45.69	445.86	1008.82
325	37	1	6.40	59425.46	76.35	786.97	5814.14
326	37	2	6.24	40051.58	88.34	961.88	2678.21
327	37	3	6.79	60857.08	121.35	699.80	2249.81
328	37	4	6.56	40717.98	36.91	844.30	1938.32
329	37	5	6.01	NA	NA	NA	NA
330	37	6	5.71	NA	NA	NA	NA
331	37	7	5.83	61520.46	203.28	555.78	4424.52
332	37	8	5.60	38652.11	67.60	568.55	3210.08
333	37	9	6.10	20317.82	35.13	1019.44	2014.09
334	38	1	6.71	26283.37	111.60	288.44	2207.08
335	38	2	7.01	74455.34	266.93	638.38	2619.62
336	38	3	7.03	119493.44	182.82	105.25	2995.89
337	38	4	6.69	54238.41	147.10	634.04	6183.45
338	38	5	6.88	88171.99	44.19	538.98	2531.49
339	38	6	6.94	61031.12	16.00	420.75	602.95
340	38	7	6.98	157398.52	347.02	228.17	4174.36
341	38	8	6.86	151734.87	218.27	432.67	3656.28
342	38	9	6.91	81018.87	191.62	544.96	1785.14
343	39	1	6.52	222367.73	834.92	8860.08	3676.55
344	39	2	7.06	158355.44	666.78	2131.22	1895.67
345	39	3	6.41	51885.43	141.99	884.44	1494.41
346	39	4	6.88	51820.31	188.14	1427.37	2899.11
347	39	5	7.06	77459.25	248.00	1227.10	1371.43
348	39	6	6.90	83176.28	201.02	1493.10	759.14
349	39	7	6.97	161798.64	562.72	2077.17	3502.75
350	39	8	6.78	110070.22	492.00	1225.70	2371.38
351	39	9	NA	43408.91	89.70	2302.44	995.36

352	40	1	7.14	108178.64	161.17	1733.73	808.83
353	40	2	7.08	152691.93	257.04	1767.76	2308.08
354	40	3	6.98	95799.07	45.52	1035.67	1306.48
355	40	4	7.05	181110.11	288.82	2138.75	2100.11
356	40	5	7.04	183209.06	174.26	1478.21	2234.73
357	40	6	6.97	234312.19	148.74	2499.17	2466.49
358	40	7	7.04	NA	NA	NA	NA
359	40	8	7.07	266115.02	478.60	2063.10	2767.22
360	40	9	NA	109341.38	129.55	1340.71	591.91
361	41	1	7.24	82068.08	267.90	83.21	1588.71
362	41	2	7.14	71284.03	118.70	275.00	1525.62
363	41	3	6.97	50078.42	156.41	162.47	826.44
364	41	4	6.90	105179.58	367.38	259.93	1200.05
365	41	5	6.86	127126.59	380.65	461.21	2286.86
366	41	6	6.94	34753.58	130.04	133.58	923.99
367	41	7	7.06	72396.67	80.32	306.89	1753.07
368	41	8	7.08	54698.12	128.82	304.02	1084.46
369	41	9	7.15	72059.13	183.03	80.52	1082.75
370	42	1	6.75	34963.57	2.23	1946.46	537.91
371	42	2	6.97	62867.68	147.04	2278.76	411.86
372	42	3	6.95	48058.77	64.37	1018.92	138.95
373	42	4	6.96	129840.60	394.11	1305.77	516.86
374	42	5	6.84	161045.24	314.26	1977.30	638.10
375	42	6	6.83	66309.14	283.02	1667.05	1007.23
376	42	7	6.78	89099.59	219.91	1953.73	683.16
377	42	8	6.98	93952.46	548.43	2048.35	1114.16
378	42	9	NA	52754.55	251.34	1924.32	287.93
379	43	1	6.56	227435.14	612.73	3150.07	5777.02
380	43	2	6.29	132790.70	240.22	3593.11	3105.06
381	43	3	6.80	103090.96	331.80	2131.68	1133.76
382	43	4	6.73	185073.56	470.33	3566.82	6851.08
383	43	5	6.78	141784.46	330.82	754.53	2437.34
384	43	6	6.80	140338.60	236.66	2345.71	2093.92
385	43	7	6.88	181346.62	446.80	1676.49	4061.21
386	43	8	6.63	328282.44	920.18	2382.07	6781.37
387	43	9	6.71	61307.94	163.14	879.80	1634.92
388	44	1	6.73	221787.35	NA	7459.49	3885.31
389	44	2	6.40	59787.20	105.70	456.81	3138.35
390	44	3	6.39	197499.52	111.77	469.70	2169.49
391	44	4	6.66	62525.53	59.05	978.66	2853.81
392	44	5	6.58	391051.07	563.82	3717.86	5077.17
393	44	6	6.82	398190.34	519.86	2481.33	3982.31
394	44	7	6.81	236971.24	211.57	2838.60	3568.74
395	44	8	6.81	181045.47	222.63	1049.55	2659.44
396	44	9	6.64	131657.30	106.72	338.85	2053.04
397	45	1	6.63	128754.12	311.54	793.73	2863.63
398	45	2	6.75	66089.10	261.75	1416.67	1645.64
399	45	3	6.84	71612.02	172.17	789.64	1280.76
400	45	4	6.31	58922.89	122.81	943.36	4645.23
401	45	5	6.51	38522.96	96.41	304.23	2041.65
402	45	6	6.76	53670.40	235.58	437.94	1623.14
403	45	7	6.89	222656.54	646.40	1240.22	3329.06
404	45	8	6.68	136051.11	537.18	1666.31	2642.65
405	45	9	NA	66859.69	275.90	1635.40	971.81
406	46	1	7.03	52354.07	206.08	1358.41	1754.06
407	46	2	6.63	24196.50	12.27	1479.76	1498.92
408	46	3	7.06	27845.52	23.44	914.54	855.01
409	46	4	6.96	49769.23	122.83	1564.10	965.18
410	46	5	6.83	43593.26	49.00	1789.81	2531.16

411	46	6	6.72	42977.96	85.86	1193.84	2154.71
412	46	7	6.64	58711.82	106.15	606.74	876.97
413	46	8	6.57	33473.55	58.51	1199.72	838.64
414	46	9	NA	29876.58	39.02	1331.30	1081.82
415	47	1	7.13	62215.04	938.48	3070.31	3382.51
416	47	2	6.90	NA	NA	NA	NA
417	47	3	6.99	55725.15	321.72	1500.48	1281.45
418	47	4	6.92	117393.66	974.22	2632.05	3247.19
419	47	5	7.11	61380.93	785.72	2651.76	4037.25
420	47	6	6.89	100833.53	717.61	3050.84	3460.72
421	47	7	7.19	46577.66	271.21	2641.42	3067.71
422	47	8	6.95	63384.52	811.15	1582.68	5511.72
423	47	9	NA	53329.27	294.32	1895.78	2358.81
424	48	1	6.51	426785.34	1884.61	2029.10	5376.48
425	48	2	NA	104943.28	412.47	336.70	1631.21
426	48	3	6.38	123148.71	601.65	635.10	1700.78
427	48	4	6.47	69217.74	338.15	1295.89	1003.60
428	48	5	6.14	63218.39	268.32	564.44	2183.35
429	48	6	6.51	80628.77	423.50	525.00	1624.64
430	48	7	6.08	67638.24	436.49	3285.09	2388.51
431	48	8	6.36	63331.20	522.05	988.53	3682.45
432	48	9	NA	65721.14	215.62	513.99	1957.11
433	49	1	7.16	178781.61	397.84	2297.02	501.11
434	49	2	7.19	331315.93	484.02	3495.81	454.99
435	49	3	7.22	199935.77	445.74	853.96	343.03
436	49	4	6.89	167081.64	310.33	2951.06	515.71
437	49	5	6.95	224287.42	503.84	3959.10	946.99
438	49	6	6.75	348846.59	773.32	1962.41	820.31
439	49	7	6.90	356318.48	380.59	3892.85	529.91
440	49	8	7.21	273318.48	408.99	2777.80	1314.18
441	49	9	7.16	250227.86	350.93	4622.66	575.92
442	50	1	6.94	179974.83	346.96	8494.46	1373.71
443	50	2	7.10	175970.08	531.49	9827.76	1569.32
444	50	3	6.73	134023.18	215.16	2464.07	869.35
445	50	4	7.08	167386.73	496.11	3542.76	1756.99
446	50	5	7.18	307559.06	599.14	1780.46	1435.00
447	50	6	7.23	80106.32	352.36	7731.68	2860.10
448	50	7	6.94	95018.82	150.53	5837.28	1418.47
449	50	8	7.01	114122.38	112.36	3127.25	1764.28
450	50	9	7.00	97247.73	167.32	5267.25	1533.05
451	51	1	6.89	250835.48	373.08	1424.75	2709.16
452	51	2	NA	176067.89	420.19	1950.23	2986.15
453	51	3	6.96	77743.49	87.71	861.39	978.02
454	51	4	6.85	166652.27	384.11	3397.05	2283.35
455	51	5	6.67	137599.72	303.18	646.80	2349.71
456	51	6	6.51	141837.00	311.77	1407.34	2160.59
457	51	7	6.84	228098.16	662.47	2684.99	2092.44
458	51	8	6.86	188691.69	422.76	1108.69	2008.16
459	51	9	NA	113957.98	236.23	261.70	1786.79
460	52	1	7.12	61056.27	21.00	997.32	3107.03
461	52	2	7.13	62350.62	98.38	741.08	4584.24
462	52	3	7.06	59525.60	46.20	667.59	2590.98
463	52	4	7.08	92747.60	76.53	886.93	5897.28
464	52	5	7.08	60215.04	107.64	1317.11	3197.95
465	52	6	7.10	66870.33	101.93	1337.18	3665.37
466	52	7	NA	78340.19	77.33	1978.12	3639.83
467	52	8	7.11	70512.40	85.23	1319.68	3443.51
468	52	9	NA	36385.42	8.68	247.51	1473.70
469	53	1	6.55	62461.59	197.15	1440.81	1316.56

470	53	2	6.58	73662.58	227.78	1413.17	1983.97
471	53	3	6.91	64155.80	95.85	670.15	826.16
472	53	4	6.79	95138.37	301.63	810.56	1421.32
473	53	5	6.88	80484.42	108.92	820.77	2392.61
474	53	6	7.03	102443.16	179.96	679.92	1540.26
475	53	7	6.79	59681.93	110.84	1572.36	2585.50
476	53	8	6.88	72428.89	450.65	2207.84	1251.27
477	53	9	NA	111211.94	214.10	794.40	386.87
478	54	1	6.62	106368.02	662.82	178.76	5601.78
479	54	2	6.11	31801.78	180.39	153.14	1476.85
480	54	3	6.76	31098.02	193.66	116.42	1538.66
481	54	4	6.71	94660.88	631.43	699.71	4759.16
482	54	5	6.86	84021.27	301.70	296.39	3993.55
483	54	6	6.84	157800.27	803.67	529.42	5476.75
484	54	7	6.54	76142.93	664.16	735.70	4488.90
485	54	8	6.61	55768.97	438.24	295.30	6561.84
486	54	9	NA	84595.71	512.48	404.19	6421.77
487	55	1	7.02	147927.26	606.91	2794.76	2745.31
488	55	2	NA	75894.78	431.15	2561.27	5404.49
489	55	3	6.94	101866.84	390.19	939.26	2298.41
490	55	4	NA	127523.97	273.56	5375.77	4068.87
491	55	5	7.15	76204.71	311.90	4075.98	2124.95
492	55	6	7.08	101126.17	229.62	2008.64	1729.31
493	55	7	6.98	115071.42	303.95	3350.47	3998.83
494	55	8	6.96	108596.64	216.34	4971.73	4919.68
495	55	9	NA	82700.10	98.93	2573.08	1892.26
496	56	1	6.99	34255.63	8.74	784.85	810.22
497	56	2	6.99	95171.33	125.29	533.01	667.61
498	56	3	7.07	41167.24	106.26	474.39	632.09
499	56	4	7.03	41714.80	40.87	740.45	1184.81
500	56	5	6.72	29719.70	4.84	737.49	728.66
501	56	6	6.84	46686.55	19.71	339.62	655.10
502	56	7	6.96	86907.57	5.92	681.27	1195.51
503	56	8	7.16	NA	NA	NA	NA
504	56	9	NA	63374.57	25.91	773.72	634.21
505	57	1	NA	262514.53	896.94	782.57	1108.80
506	57	2	7.09	102603.06	1288.39	572.71	1187.39
507	57	3	7.05	120649.98	260.02	1014.07	464.15
508	57	4	6.89	365322.52	1250.58	626.39	2205.51
509	57	5	6.98	95712.08	774.28	3823.77	1257.65
510	57	6	6.95	250123.39	2207.91	1006.34	2757.10
511	57	7	6.73	253124.28	467.62	3552.73	2496.35
512	57	8	6.76	98529.41	628.73	1850.86	1572.04
513	57	9	NA	82199.95	226.69	365.93	843.73
514	58	1	6.69	171570.53	714.58	216.13	3266.22
515	58	2	6.87	138511.92	525.14	1363.10	1621.61
516	58	3	6.69	76432.76	135.88	510.17	449.68
517	58	4	6.59	141611.45	317.24	1214.20	1564.41
518	58	5	6.51	91764.64	187.73	370.46	1766.68
519	58	6	6.63	168432.36	682.01	1495.08	1833.35
520	58	7	6.54	87699.63	669.22	651.12	2898.55
521	58	8	6.54	94657.68	388.76	1367.00	780.48
522	58	9	NA	46305.40	100.66	852.40	416.27
523	59	1	NA	74543.39	347.73	1173.05	2692.06
524	59	2	7.06	55820.90	194.73	772.31	1557.00
525	59	3	7.00	45198.58	88.81	1040.06	903.25
526	59	4	6.73	34921.25	144.72	675.30	1913.03
527	59	5	6.70	52385.12	303.45	830.87	3104.42
528	59	6	6.73	27623.60	107.86	548.35	2340.68

529	59	7	6.80	34991.73	225.39	341.04	4154.97
530	59	8	6.96	82290.07	71.91	1412.05	2042.03
531	59	9	NA	68696.67	234.79	1134.70	1948.62
532	60	1	7.12	89724.27	163.85	2103.11	1968.00
533	60	2	7.12	158972.31	319.44	1262.44	2056.51
534	60	3	7.09	110153.79	195.56	1162.34	1219.81
535	60	4	6.90	102684.80	117.46	2116.31	1934.58
536	60	5	6.88	121813.40	373.06	2757.73	2013.99
537	60	6	6.67	42898.20	33.53	2050.60	842.63
538	60	7	6.81	132216.06	228.68	1796.88	2450.12
539	60	8	6.84	74237.94	208.89	1715.81	1160.75
540	60	9	NA	97616.52	219.84	4311.62	1543.60
541	61	1	6.68	68488.79	160.41	305.73	2836.93
542	61	2	NA	84429.14	223.08	1744.81	3078.44
543	61	3	6.95	66470.73	133.91	905.08	1262.13
544	61	4	6.82	111966.35	364.17	2120.62	3876.41
545	61	5	6.98	106648.31	371.71	67.34	1417.17
546	61	6	7.12	267671.31	822.12	205.20	4954.53
547	61	7	NA	111337.95	199.68	456.77	1472.44
548	61	8	7.08	137521.19	838.91	1025.01	6410.54
549	61	9	NA	83831.78	233.38	1342.81	976.51

Supplementary Data S4. Linear mixed models of sampling day and tryptophan metabolites in the PRIMA cohort study

feature	metadata	value	coef	stderr	N	N.not.0	pval	qval
Indoxyl_Sulphate	StudyDay	StudyDay	0.03	0.03	439.00	439.00	0.31	0.50
Indoxyl_glucuronide	StudyDay	StudyDay	0.01	0.05	439.00	439.00	0.79	0.81
Tryptophan	StudyDay	StudyDay	0.01	0.03	439.00	439.00	0.81	0.81

Supplementary Data S5. ASV_0012 BLAST result

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. ident	Acc. Len	Accession
tepidum strain IEH 97212 16S								
ribosomal	Clostridium tepidum	250	250	100.00%	2e-66	100.00	1512	NR_157639.1
sporogenes strain DSM 795 16S								
ribosomal	Clostridium sporogenes	250	250	100.00%	2e-66	100.00	1081	NR_118630.1
sporogenes strain McClung 2004 16S								
ribosomal	Clostridium sporogenes	250	250	100.00%	2e-66	100.00	1503	NR_029231.1
sporogenes strain JCM 1416 16S								
ribosomal	Clostridium sporogenes	250	250	100.00%	2e-66	100.00	1473	NR_113245.1
botulinum strain ELTDK 103 16S								
ribosomal	Clostridium botulinum	250	250	100.00%	2e-66	100.00	1507	NR_036786.1
botulinum A strain ELTDK 103 16S								
ribosomal	Clostridium botulinum A	241	241	100.00%	1e-63	98.52	1453	NR_029157.1
rectalis strain Marseille- P4200 16S								
ribosomal	Clostridium rectalis	239	239	100.00%	4e-63	98.52	1499	NR_179639.1
niameyense strain MT5 16S								
ribosomal	Clostridium niameyense	239	239	100.00%	4e-63	98.52	1475	NR_179407.1
liquoris strain BEY10 16S								
ribosomal	Clostridium liquoris	239	239	100.00%	4e-63	98.52	1474	NR_148617.1
combesii strain ATCC 25545 16S ribosomal RNA, partial								
	Clostridium combesii	239	239	100.00%	4e-63	98.52	1434	NR_042951.1
tetanomorphum strain DSM 4474 16S								
ribosomal	Clostridium tetanomorphum	239	239	100.00%	4e-63	98.52	1407	NR_043671.1
mobile strain MSJ-11 16S								
ribosomal	Clostridium mobile	233	233	100.00%	2e-61	97.78	1378	NR_181762.1
tetani strain NCTC 279 16S								
ribosomal	Clostridium tetani	233	233	100.00%	2e-61	97.78	1508	NR_029260.1
lundense strain DSM 17049 16S ribosomal								
	Clostridium lundense	233	233	100.00%	2e-61	97.78	1439	NR_043235.1
malenominatu m strain DSM 1127 16S								
ribosomal	Clostridium malenominatum	233	233	100.00%	2e-61	97.78	1498	NR_104780.1

oceanicum strain DSM 1290 16S ribosomal	Clostridium oceanicum	228	228	100.00% 8e-60	97.04	1507 NR_117134.2
oceanicum strain DSM 1290 16S ribosomal	Clostridium oceanicum	228	228	100.00% 8e-60	97.04	1504 NR_117133.2
oceanicum strain DSM 1290 16S ribosomal	Clostridium oceanicum	228	228	100.00% 8e-60	97.04	1505 NR_117132.2
cochlearium strain ATCC 17787 16S ribosomal	Clostridium cochlearium	228	228	100.00% 8e-60	97.04	1460 NR_044717.2
cochlearium strain JCM 1396 16S ribosomal	Clostridium cochlearium	228	228	100.00% 8e-60	97.04	1474 NR_113026.1
oceanicum strain DSM 1290 16S ribosomal	Clostridium oceanicum	222	222	100.00% 4e-58	96.30	1503 NR_117136.2
oceanicum strain DSM 1290 16S ribosomal	Clostridium oceanicum	222	222	100.00% 4e-58	96.30	1505 NR_117135.2
aestuarii strain HY-45-18 16S ribosomal	Clostridium aestuarii	222	222	100.00% 4e-58	96.30	1390 NR_043569.1
limosa strain CECT 4329 16S ribosomal	Hathewayia limosa	222	222	100.00% 4e-58	96.30	1500 NR_104825.1
pascui strain DSM 10365 16S ribosomal	Clostridium pascui	222	222	100.00% 4e-58	96.30	1471 NR_026322.1
peptidivorans strain TMC4 16S ribosomal	Clostridium peptidivorans	222	222	100.00% 4e-58	96.30	1481 NR_025019.1
massiliensis strain Mt13 16S ribosomal	Haloimpatiens massiliensis	217	217	100.00% 2e-56	95.56	1476 NR_179413.1
histolytica strain ATCC 19401 16S ribosomal	Hathewayia histolytica	217	217	100.00% 2e-56	95.56	1460 NR_104889.1
lingqiaonensis strain ZC-CMC3 16S ribosomal	Haloimpatiens lingqiaonensis	217	217	100.00% 2e-56	95.56	1476 NR_148615.1
histolytica strain JCM 1403 16S ribosomal	Hathewayia histolytica	217	217	100.00% 2e-56	95.56	1476 NR_113187.1
collagenovorans strain SG 16S ribosomal RNA, partial	Clostridium collagenovorans	217	217	100.00% 2e-56	95.56	1500 NR_029246.1

delafieldii strain 10cr1 16S ribosomal	Ilyobacter delafieldii	217	217	100.00% 2e-56	95.56	1499 NR_104743.1
guangxiense strain ZGM211 16S ribosomal RNA, partial	Clostridium guangxiense	211	211	100.00% 8e-55	94.81	1502 NR_156155.1
hydrogenum strain CUEA01 16S ribosomal RNA, partial	Clostridium hydrogenum	211	211	100.00% 8e-55	94.81	892 NR_181925.1
sediminicola strain NH-JN4 16S ribosomal RNA, partial	Oceanirhabdus sediminicola	211	211	100.00% 8e-55	94.81	1473 NR_109625.1
bowmanii strain DSM 14206 16S	Clostridium bowmanii	211	211	100.00% 8e-55	94.81	1474 NR_114879.1
bowmanii strain A-1/C- an/C1 16S	Clostridium bowmanii	211	211	100.00% 8e-55	94.81	1402 NR_114765.1
thermobutyricu m strain JW171K 16S ribosomal	Clostridium thermobutyricum	211	211	100.00% 8e-55	94.81	1495 NR_044849.1
estertheticum subsp. laramiense strain DSM	Clostridium estertheticum subsp. laramiense	211	211	100.00% 8e-55	94.81	1473 NR_042153.1
bowmanii strain A-1/C- an/C1 16S	Clostridium bowmanii	211	211	100.00% 8e-55	94.81	1477 NR_037091.1
frigoris strain D-1/D-an/II 16S ribosomal	Clostridium frigoris	211	211	100.00% 8e-55	94.81	1477 NR_036822.1
lacusfryxellens e strain C/C- an/B1 16S ribosomal	Clostridium lacusfryxellense	211	211	100.00% 8e-55	94.81	1418 NR_025558.1
homopropionic um strain DSM 5847 16S ribosomal	Clostridium homopropionicum	211	211	100.00% 8e-55	94.81	1461 NR_026148.1
bovifaecis strain BXX 16S ribosomal	Clostridium bovifaecis	206	206	100.00% 4e-53	94.07	1502 NR_180085.1
bovifaecis strain BXX 16S ribosomal	Clostridium bovifaecis	206	206	100.00% 4e-53	94.07	1321 NR_179076.1
algifaecis strain MB9-7 16S ribosomal	Clostridium algifaecis	206	206	100.00% 4e-53	94.07	1476 NR_134004.1
fermenticellae strain JN500901 16S ribosomal	Clostridium fermenticellae	206	206	100.00% 4e-53	94.07	1513 NR_171405.1

fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	206	206	100.00% 4e-53	94.07	1513	NR_171400.1
huakuii strain							
LAM1030 16S							
ribosomal	Clostridium huakuii	206	206	100.00% 4e-53	94.07	1394	NR_134006.1
subterminale							
strain JCM							
1417 16S	Clostridium						
ribosomal	subterminale	206	206	100.00% 4e-53	94.07	1470	NR_113027.1
thiosulfatireduc							
ens strain DSM							
13105 16S	Clostridium						
ribosomal	thiosulfatireducens	206	206	100.00% 4e-53	94.07	1357	NR_112656.1
subterminale							
strain DSM							
6970 16S	Clostridium						
ribosomal	subterminale	206	206	100.00% 4e-53	94.07	1452	NR_112653.1
sulfidigenes							
strain SGB2							
16S ribosomal	Clostridium						
	sulfidigenes	206	206	100.00% 4e-53	94.07	1504	NR_044161.1
tepidiprofund							
DSM 19306							
strain SG 508	Clostridium						
16S ribosomal	tepidiprofund DSM	206	206	100.00% 4e-53	94.07	1464	NR_044159.1
19306							
frigoris strain							
DSM 14204							
16S ribosomal	Clostridium frigoris	206	206	100.00% 4e-53	94.07	1477	NR_114878.1
algoriphilum							
strain 14D1							
16S ribosomal	Clostridium						
	algoriphilum	206	206	100.00% 4e-53	94.12	1481	NR_115146.1
tagluense strain							
A121 16S							
ribosomal	Clostridium tagluense	206	206	100.00% 4e-53	94.07	1454	NR_043698.1
ganghwense							
strain HY-42-							
06 16S	Clostridium						
ribosomal	ganghwense	206	206	100.00% 4e-53	94.07	1395	NR_043266.1
psychrophilum							
strain A-1/C-							
an/I 16S	Clostridium						
ribosomal	psychrophilum	206	206	100.00% 4e-53	94.07	1433	NR_037090.1
tunisiense							
strain TJ 16S							
ribosomal	Clostridium tunisiense	206	206	100.00% 4e-53	94.07	1475	NR_115161.1
acetireducens							
strain 30A 16S							
ribosomal	Clostridium						
	acetireducens	206	206	100.00% 4e-53	94.07	1502	NR_026179.1
thiosulfatireduc							
ens strain							
Lup21 16S	Clostridium						
ribosomal	thiosulfatireducens	206	206	100.00% 4e-53	94.07	1448	NR_042718.1
thermotolerans							
JW/YJL-S1							
16S ribosomal	Gracilibacter						
RNA, partial	thermotolerans						
	JW/YJL-S1	206	206	100.00% 4e-53	94.12	1526	NR_115693.1

thermotolerans							
JW/YJL-S1	Gracilibacter						
16S ribosomal	thermotolerans						
RNA, partial	JW/YJL-S1	206	206	100.00% 4e-53	94.12	1543	NR_115692.1
thermotolerans							
JW/YJL-S1	Gracilibacter						
16S ribosomal	thermotolerans						
RNA, partial	JW/YJL-S1	206	206	100.00% 4e-53	94.12	1538	NR_115691.1
thermotolerans							
JW/YJL-S1	Gracilibacter						
16S ribosomal	thermotolerans						
RNA, partial	JW/YJL-S1	206	206	100.00% 4e-53	94.12	1550	NR_115690.1
thermotolerans							
JW/YJL-S1	Gracilibacter						
16S ribosomal	thermotolerans						
RNA, partial	JW/YJL-S1	206	206	100.00% 4e-53	94.12	1549	NR_043559.1
estertheticum							
strain NCIMB							
12511 16S	Clostridium						
ribosomal	estertheticum	204	204	100.00% 1e-52	94.07	1428	NR_118995.1
estertheticum							
strain MT1 16S	Clostridium						
ribosomal	estertheticum	204	204	100.00% 1e-52	94.07	1427	NR_044758.1
thermopalmari							
um strain BVP							
16S ribosomal	Clostridium						
RNA, partial	thermopalmarium	202	202	100.00% 5e-52	93.33	1503	NR_026112.1
fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	200	200	100.00% 2e-51	93.33	1382	NR_171498.1
seepicola strain							
ZWT 16S	Oceanirhabdus						
ribosomal	seepicola	200	200	100.00% 2e-51	93.33	1360	NR_181655.1
bornimense							
strain M2/40							
16S ribosomal	Clostridium						
	bornimense	200	200	100.00% 2e-51	93.33	1363	NR_134005.1
fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	200	200	100.00% 2e-51	93.33	1513	NR_171406.1
fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	200	200	100.00% 2e-51	93.33	1513	NR_171404.1
fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	200	200	100.00% 2e-51	93.33	1513	NR_171403.1
fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	200	200	100.00% 2e-51	93.33	1513	NR_171402.1
fermenticellae							
strain							
JN500901 16S	Clostridium						
ribosomal	fermenticellae	200	200	100.00% 2e-51	93.33	1513	NR_171401.1

thiosulfatireducens strain							
Lup21 16S ribosomal	Clostridium thiosulfatireducens	200	200	100.00% 2e-51	93.33	1447	NR_114590.1
subterminale strain DSM 6970 16S ribosomal	Clostridium subterminale	200	200	100.00% 2e-51	93.33	1504	NR_041795.1
grantii strain A1 16S ribosomal	Clostridium grantii	200	200	100.00% 2e-51	93.33	1494	NR_026131.1
prolinivorans strain PYR-10 16S ribosomal RNA, partial	Clostridium prolinivorans	195	195	100.00% 9e-50	92.59	1364	NR_174250.1
pabulibutyricum strain MJC39 16S ribosomal	Clostridium pabulibutyricum	195	195	100.00% 9e-50	92.59	1433	NR_159224.1
massiliodielmoense strain MT26 16S ribosomal	Clostridium massiliodielmoense	195	195	100.00% 9e-50	92.59	1476	NR_144739.1
punense strain BLPYG-8 16S ribosomal	Clostridium punense	195	195	100.00% 9e-50	92.59	1497	NR_145903.1
swellfunianum strain S11-3-10 16S ribosomal RNA, partial	Clostridium swellfunianum	195	195	100.00% 9e-50	92.59	1466	NR_126179.1
haemolyticum strain DSM 5565 16S ribosomal	Clostridium haemolyticum	195	195	100.00% 9e-50	92.59	1339	NR_117767.1
haemolyticum strain DSM 5565 16S ribosomal	Clostridium haemolyticum	195	195	100.00% 9e-50	92.59	1469	NR_119281.1
haemolyticum strain JCM 1402 16S ribosomal	Clostridium haemolyticum	195	195	100.00% 9e-50	92.59	1474	NR_113381.1
haemolyticum strain ATCC 9650 16S ribosomal	Clostridium haemolyticum	195	195	100.00% 9e-50	92.59	1465	NR_024749.1
thermophila DSM 19022 strain EBR46 16S ribosomal	Lutispora thermophila DSM 19022	195	195	100.00% 9e-50	92.65	1438	NR_041236.1
amazonense strain NE08V 16S ribosomal RNA, partial	Clostridium amazonense	189	189	100.00% 4e-48	91.85	1430	NR_145540.1
ihumii AP5 16S ribosomal RNA, partial	Clostridium ihumii AP5	189	189	100.00% 4e-48	91.85	1468	NR_144705.1
culturomicium strain CL-6 16S ribosomal	Clostridium culturomicium	183	183	100.00% 2e-46	91.11	1475	NR_179390.1

thermarum							
strain SYSU							
GA15002 16S	Clostridium						
ribosomal	thermarum	183	183	100.00% 2e-46	91.11	1501 NR_178823.1	
novyi strain							
JCM 1406 16S							
ribosomal	Clostridium novyi	183	183	100.00% 2e-46	91.11	1474 NR_113022.1	
novyi strain							
JCM 1406 16S							
ribosomal	Clostridium novyi	183	183	100.00% 2e-46	91.11	1465 NR_040855.1	
senegalense							
JC122 16S	Clostridium						
ribosomal	senegalense JC122	183	183	100.00% 2e-46	91.11	1462 NR_125591.1	
indicus strain							
IndiB4 16S							
ribosomal	Caloramator indicus	178	178	100.00% 9e-45	90.37	1515 NR_026134.1	
stercorihominis							
strain WAL							
14563 16S	Anaerofustis						
ribosomal	stercorihominis	178	178	100.00% 9e-45	90.37	1462 NR_027562.1	

Supplementary Data S6. ASV_0008 BLAST result

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. ident	Acc. Len	Accession
us anaerobius strain GIFU 7882 16S ribosomal RNA, partial	Peptostreptococcus anaerobius	250	250	100%	2e-66	100	1366	NR_115512.1
us anaerobius strain NCTC 11460 16S ribosomal RNA, partial	Peptostreptococcus anaerobius	250	250	100%	2e-66	100	1473	NR_042847.1
us anaerobius strain ATCC 27337 16S ribosomal RNA, partial	Peptostreptococcus anaerobius	246	246	100%	2e-65	99.26	1462	NR_118652.1
us porci strain WCA-SAB-591-4A-A 16S ribosomal RNA, partial	Peptostreptococcus porci	244	244	100%	8e-65	99.26	1483	NR_180817.1
us stomatis strain W2278 16S ribosomal RNA, partial	Peptostreptococcus stomatis	244	244	100%	8e-65	99.26	1465	NR_043589.1
us canis strain CCUG 57081 16S ribosomal RNA, partial	Peptostreptococcus canis	239	239	100%	4e-63	98.53	1436	NR_117641.1
us russellii strain RT-10B 16S ribosomal RNA, partial	Peptostreptococcus russellii	233	233	100%	2e-61	97.78	1509	NR_115155.1
a massiliensis strain Marseille-P3303 16S ribosomal RNA, partial	Bacilliculturomica massiliensis	198	198	100%	7e-51	92.7	1440	NR_179580.1
hominis strain ZHW00191 16S ribosomal RNA, partial sequence	Peptacetobacter hominis	189	189	100%	4e-48	91.85	1408	NR_180311.1
mobilis strain M17 DMB 16S ribosomal RNA, partial	Alkalibacter mobilis	185	185	100%	5e-47	91.3	1458	NR_180525.1
saccharofermentans strain Z-79820 16S ribosomal RNA, partial	Alkalibacter saccharofermentans	180	180	100%	2e-45	90.51	1465	NR_042834.1
hiranonis strain JCM 10541 16S ribosomal RNA, partial sequence	Peptacetobacter hiranonis	178	178	100%	9e-45	90.51	1410	NR_178263.1
hiranonis strain TO-931 16S ribosomal RNA, partial	Peptacetobacter hiranonis	178	178	100%	9e-45	90.51	1393	NR_028611.1
sphenisci strain PPP2 16S ribosomal RNA, partial	Proteocatella sphenisci	178	178	100%	9e-45	90.37	1450	NR_041885.1
odorimutans strain NorPut 16S ribosomal RNA, partial	Anaerovorax odorimutans	174	174	100%	1e-43	89.93	1488	NR_028911.1
massiliense strain Mt12 16S ribosomal RNA, partial	Inediibacterium massiliense	172	172	100%	4e-43	89.71	1491	NR_179414.1

butyriciproducens strain WCA-MUC-591-APC-3H 16S	Hornefia butyriciproducens	172	172	100% 4e-43	89.71	1461 NR_180807.1
strain 68-3-10 16S ribosomal RNA, partial	Hornefia porci	172	172	100% 4e-43	89.71	1341 NR_180805.1
massiliensis strain ND1 16S ribosomal RNA,	Anaerobaculum massiliensis	172	172	100% 4e-43	89.63	1512 NR_144694.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	172	172	100% 4e-43	89.71	1553 NR_119324.1
massiliensis strain Mtl4 16S ribosomal RNA,	Nitrospira massiliensis	169	169	100% 5e-42	89.29	1488 NR_179415.1
tumoricola strain CC70A 16S ribosomal RNA,	Halobacterium tumoricola	169	169	100% 5e-42	89.29	1454 NR_189266.1
buryatiense strain Su22 16S ribosomal RNA,	Anoxybaculum buryatiense	169	169	100% 5e-42	89.13	1507 NR_159150.1
yiwenensis strain NSJ-12 16S ribosomal RNA,	Zenodermatophilus yiwenensis	169	169	100% 5e-42	89.21	1409 NR_181396.1
sibiricum strain Z-7981 16S ribosomal RNA,	Anoxybaculum sibiricum	169	169	100% 5e-42	89.13	1409 NR_025256.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1449 NR_119336.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1452 NR_119335.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1573 NR_119334.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1548 NR_119333.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1564 NR_119332.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1547 NR_119331.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1547 NR_119330.1

er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1574 NR_119329.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1589 NR_119327.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1571 NR_119326.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1572 NR_119325.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1566 NR_119323.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	167	167	100% 2e-41	88.97	1567 NR_119322.1
hydrogeniformans strain XHS1971 16S ribosomal RNA, partial	Sporanaerobium hydrogeniformans	163	163	100% 2e-40	88.49	1490 NR_189186.1
er paradoxus strain JW/YL23-2 16S ribosomal RNA, partial	Alkalithermobacter paradoxus	163	163	100% 2e-40	88.32	1465 NR_118665.1
er paradoxus strain DSM 7309 16S ribosomal RNA, partial	Alkalithermobacter paradoxus	163	163	100% 2e-40	88.32	1546 NR_117154.1
er paradoxus strain DSM 7309 16S ribosomal RNA, partial	Alkalithermobacter paradoxus	163	163	100% 2e-40	88.32	1581 NR_117153.1
massiliensis strain 9400853 16S ribosomal	Casaltella massiliensis	163	163	100% 2e-40	88.57	1480 NR_133037.1
sulci ATCC 35585 16S ribosomal RNA,	Eubacterium sulci ATCC 35585	163	163	100% 2e-40	88.41	1453 NR_025289.1
nitritogenes strain MJB2 16S ribosomal RNA,	Anaerophilus nitritogenes	161	161	100% 9e-40	88.24	1495 NR_180193.1
er thermoalcaliphilus JW-YL-7 = DSM 7308 16S	Alkalithermobacter thermoalcaliphilus JW- YL-7 = DSM 7308	161	161	100% 9e-40	88.24	1574 NR_119328.1
ferrireducens strain Q10-2 16S ribosomal RNA,	Fusibacter ferrireducens	158	158	100% 1e-38	87.68	1320 NR_181660.1

hydrogenoformans strain glu 65 16S ribosomal RNA, partial	Acidaminobacter hydrogenoformans	158	158	100% 1e-38	87.59	1468 NR_028683.1
thermoalcaliphilus JW-YL-7 = DSM 7308 16S ribosomal RNA, partial	Alkalithermobacter thermoalcaliphilus JW-YL-7 = DSM 7308	154	154	94% 1e-37	88.37	1410 NR_119337.1
Cellulosilyticum lentocellum DSM 5427 16S ribosomal RNA, partial	Cellulosilyticum lentocellum DSM 5427	152	152	100% 5e-37	87.05	1458 NR_119067.1
Cellulosilyticum lentocellum DSM 5427 16S ribosomal RNA, partial	Cellulosilyticum lentocellum DSM 5427	152	152	100% 5e-37	87.05	1512 NR_074536.1
Cellulosilyticum lentocellum DSM 5427 16S ribosomal RNA, partial	Cellulosilyticum lentocellum DSM 5427	152	152	100% 5e-37	87.05	1485 NR_125710.1
Cellulosilyticum ruminicola JCM 14822 strain H1 16S ribosomal RNA, partial	Cellulosilyticum ruminicola JCM 14822	152	152	100% 5e-37	87.05	1547 NR_116001.1
Sedimentibacter hongkongensis strain HKU2 16S ribosomal RNA, partial sequence	Sedimentibacter hongkongensis	152	152	99% 5e-37	86.96	1474 NR_114645.1
Ruminococcus champanellensis 18P13 = JCM 17042 16S ribosomal RNA, partial	Ruminococcus champanellensis 18P13 = JCM 17042	150	150	100% 2e-36	86.67	1494 NR_102884.1
[Eubacterium] brachy strain ATCC 33089 16S ribosomal RNA, partial	[Eubacterium] brachy	150	150	100% 2e-36	86.76	1438 NR_118779.1
[Eubacterium] brachy strain BR-179 16S ribosomal RNA, partial	[Eubacterium] brachy	150	150	100% 2e-36	86.76	1500 NR_036993.1
Pseudobutyribacterium xylanivorans strain Mz 5 16S ribosomal RNA, partial sequence	Pseudobutyribacterium xylanivorans	150	150	100% 2e-36	87.05	1442 NR_025524.1
Fusibacter bizertensis strain LTF Kr01 16S ribosomal RNA, partial	Fusibacter bizertensis	147	147	100% 2e-35	86.23	1516 NR_178669.1
Fusibacter fontis strain KhalAKB1 16S ribosomal RNA, partial	Fusibacter fontis	147	147	100% 2e-35	86.23	1524 NR_137378.1
Fusibacter tunisiensis strain BELH1 16S ribosomal RNA, partial	Fusibacter tunisiensis	147	147	100% 2e-35	86.23	1505 NR_108525.1
Rothia mucilaginosa strain DSM 20746 16S ribosomal RNA, partial	Rothia mucilaginosa	143	143	100% 3e-34	85.82	1467 NR_044873.1
Enterocloster aldenensis strain RMA 9741 16S ribosomal RNA, partial sequence	Enterocloster aldenensis	139	139	100% 4e-33	85.61	1395 NR_043680.1
Arenivirga flava strain HIs16-32 16S ribosomal RNA, partial	Arenivirga flava	137	137	100% 1e-32	85.11	1479 NR_158011.1

Limnoluna rubra strain MWH-EgelM2-3 16S ribosomal RNA,	Candidatus Limnoluna rubra	137	137	100% 1e-32	85.11	1409 NR_125497.1
Aquiluna rubra 16S ribosomal RNA, partial	Candidatus Aquiluna rubra	137	137	100% 1e-32	85.11	1417 NR_125489.1
paucivorans strain SEBR 4211 16S	Fusibacter paucivorans	135	135	100% 5e-32	84.78	1525 NR_024886.1
kunzii strain 22 16S ribosomal RNA, partial	Helcococcus kunzii	134	134	100% 2e-31	84.67	1465 NR_029237.1
strain s840-96-2 16S ribosomal RNA, partial	Helcococcus ovis	134	134	100% 2e-31	84.67	1423 NR_027228.1
xuchangensis strain CFH S0322 16S ribosomal RNA,	Amycolatopsis xuchangensis	132	132	100% 7e-31	84.4	1517 NR_164869.1
suaedae strain 8-3EHSu 16S ribosomal RNA,	Amycolatopsis suaedae	132	132	100% 7e-31	84.29	1491 NR_170503.1
setariae strain DD4a 16S ribosomal RNA,	Amnibacterium setariae	132	132	100% 7e-31	84.4	1441 NR_164991.1
endophyticum strain 1T4Z-3 16S ribosomal RNA, partial	Amnibacterium endophyticum	132	132	100% 7e-31	84.4	1480 NR_163620.1
jeddahense strain JCB 16S ribosomal RNA,	Corynebacterium jeddahense	132	132	100% 7e-31	84.51	1486 NR_144695.2
sediminis strain NS18 16S ribosomal RNA,	Agrococcus sediminis	132	132	100% 7e-31	84.4	1423 NR_174209.1
zeae strain 1204 16S ribosomal RNA, partial	Microbacterium zeae	132	132	100% 7e-31	84.4	1413 NR_149816.1
triazinivorans strain JW-1 16S ribosomal RNA,	Leucobacter triazinivorans	132	132	100% 7e-31	84.51	1449 NR_159263.1
guangdongense strain S01 16S ribosomal RNA, partial sequence	Corynebacterium guangdongense	132	132	100% 7e-31	84.4	1441 NR_151871.1
aquilariae strain CC-YTH161 16S ribosomal RNA,	Humibacter aquilariae	132	132	100% 7e-31	84.4	1410 NR_156867.1
albispota strain WP1 16S ribosomal RNA,	Amycolatopsis albispota	132	132	100% 7e-31	84.4	1481 NR_152021.1
acididurans strain K13G38 16S ribosomal RNA,	Amycolatopsis acididurans	132	132	100% 7e-31	84.51	1519 NR_181109.1
um composti strain BIT-GX5 16S ribosomal RNA, partial	Cellulosimicrobium composti	132	132	100% 7e-31	84.4	1482 NR_180946.1

algeriense strain G1 16S ribosomal RNA, shaanxiense strain CCNWSP60 16S ribosomal RNA, massiliensis strain 122RC15 16S ribosomal RNA, partial shaanxiense strain CCNWSP60 16S ribosomal RNA, rhizosphaerae strain YJ01 16S ribosomal RNA, monas massiliensis strain FF2 16S ribosomal RNA, physcomitrellae strain XA 16S ribosomal RNA, mangrovi strain HA11110 16S ribosomal RNA, partial sequence halimionae strain PA36 16S ribosomal RNA, flavus strain PS- 14-16 16S ribosomal RNA, r chungangensis strain CAU 59 16S ribosomal RNA, partial marina DSM 21750 strain NBRC 104352 16S ribosomal luteus strain H97- 3 16S ribosomal RNA, partial subsp. astrifaciens strain CBX151 16S ribosomal RNA, monas aerilata strain 6408J-67 16S ribosomal RNA, partial timorensis strain ID05-A0528 16S ribosomal RNA,	Microbacterium algeriense Microbacterium shaanxiense Leucobacter massiliensis Microbacterium shaanxiense Segeticoccus rhizosphaerae Diaminobutyricimona s massiliensis Cnuibacter physcomitrellae Streptomyces mangrovi Microbacterium halimionae Tropicihabitans flavus Pseudoclavibacter chungangensis Paraoerskovia marina DSM 21750 Sediminihabitans luteus Leucobacter celer subsp. astrifaciens Diaminobutyricimona s aerilata Dietzia timorensis	132	132	100% 7e-31	84.4	1426 NR_180420.1
		132	132	100% 7e-31	84.4	1391 NR_180410.1
		132	132	100% 7e-31	84.51	1490 NR_179411.1
		132	132	100% 7e-31	84.4	1425 NR_178700.1
		132	132	100% 7e-31	84.4	1487 NR_178500.1
		132	132	100% 7e-31	84.4	1485 NR_178428.1
		132	132	100% 7e-31	84.4	1490 NR_148603.1
		132	132	100% 7e-31	84.4	1373 NR_137262.1
		132	132	100% 7e-31	84.4	1438 NR_134767.1
		132	132	100% 7e-31	84.4	1475 NR_136455.1
		132	132	100% 7e-31	84.4	1424 NR_116710.1
		132	132	100% 7e-31	84.4	1478 NR_114324.1
		132	132	100% 7e-31	84.4	1475 NR_114322.1
		132	132	100% 7e-31	84.51	1161 NR_145610.1
		132	132	100% 7e-31	84.4	1464 NR_109607.1
		132	132	100% 7e-31	84.4	1455 NR_112775.1

intestinalis							
NBRC 104926	Piscicoccus						
strain Nge37-23	intestinalis NBRC						
16S ribosomal	104926	132	132	100% 7e-31	84.4	1473	NR_113144.1

magusensis strain							
KT2025 16S							
ribosomal RNA,	Amycolatopsis						
partial sequence	magusensis	132	132	100% 7e-31	84.4	1471	NR_109060.1

□

Supplementary Data S7. ASV_0018 BLAST result

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. ident	Acc. Len	Accession
Bacteroides uniformis strain JCM 5828 16S ribosomal RNA, partial sequence	Bacteroides uniformis	281	281	100%	8.00E-76	99.36	1477	NR_112945.1
Bacteroides uniformis strain JCM 5828 16S ribosomal RNA, partial sequence	Bacteroides uniformis	281	281	100%	8.00E-76	99.36	1425	NR_040866.1
Bacteroides humanifaecis strain KGMB07931 16S ribosomal RNA, partial sequence	Bacteroides humanifaecis	276	276	100%	4.00E-74	98.72	1419	NR_181532.1
Bacteroides stercoris ATCC 43183 strain JCM 9496 16S ribosomal RNA, partial sequence	Bacteroides stercoris ATCC 43183	270	270	100%	2.00E-72	98.08	1476	NR_112943.1
Bacteroides graminisolvens strain JCM 15093 16S ribosomal RNA, partial sequence	Bacteroides graminisolvens	265	265	100%	8.00E-71	97.44	1486	NR_113069.1
Bacteroides graminisolvens strain XDT-1 16S ribosomal RNA, partial sequence	Bacteroides graminisolvens	265	265	100%	8.00E-71	97.44	1415	NR_041642.1
Bacteroides stercoris ATCC 43183 16S ribosomal RNA, partial sequence	Bacteroides stercoris ATCC 43183	261	261	100%	1.00E-69	96.82	1342	NR_027196.1

Bacteroides propionigenes strain NSJ-90 16S ribosomal RNA, partial sequence	Bacteroides propionigenes	254	254	100%	2.00E-67	96.15	1387 NR_181731.1
Bacteroides zhangwenhongii strain HF-5287 16S ribosomal RNA, partial sequence	Bacteroides zhangwenhongii	254	254	100%	2.00E-67	96.15	1490 NR_180458.1
Bacteroides clarus YIT 12056 strain JCM 16067 16S ribosomal RNA, Bacteroides partial sequence YIT 12056	Bacteroides clarus	254	254	100%	2.00E-67	96.15	1488 NR_113065.1
Bacteroides cellulosilyticus strain JCM 15632 16S ribosomal RNA, Bacteroides partial sequence cellulosilyticus	Bacteroides cellulosilyticus	254	254	100%	2.00E-67	96.15	1473 NR_112933.1
Bacteroides clarus YIT 12056 16S ribosomal RNA, Bacteroides partial sequence YIT 12056	Bacteroides clarus	254	254	100%	2.00E-67	96.15	1479 NR_112893.1
Bacteroides finegoldii strain 199 16S ribosomal RNA, partial sequence Bacteroides finegoldii	Bacteroides finegoldii	254	254	100%	2.00E-67	96.15	1485 NR_041313.1
Bacteroides intestinalis strain 341 16S ribosomal RNA, Bacteroides partial sequence intestinalis	Bacteroides intestinalis	254	254	100%	2.00E-67	96.15	1484 NR_041307.1
Bacteroides faecis MAJ27 16S ribosomal RNA, partial sequence	Bacteroides faecis MAJ27	248	248	100%	8.00E-66	95.51	1458 NR_117387.1

Bacteroides gallinarum strain C35 16S ribosomal RNA, Bacteroides partial sequence gallinarum		248	248	100%	8.00E-66	95.51	1458 NR_041448.1
Bacteroides cutis strain Marseille-P4118 16S ribosomal RNA, partial sequence	Bacteroides cutis	243	243	100%	4.00E-64	94.87	1485 NR_179635.1
Phocaeicola sartorii JCM 17136 = DSM 21941 strain A- C2-0 16S Phocaeicola sartorii ribosomal RNA, JCM 17136 = DSM partial sequence 21941		243	243	100%	4.00E-64	94.87	1327 NR_117373.1
Phocaeicola sartorii JCM 17136 = DSM 21941 16S Phocaeicola sartorii ribosomal RNA, JCM 17136 = DSM partial sequence 21941		243	243	100%	4.00E-64	94.87	1490 NR_113195.1
Bacteroides faecis MAJ27 16S ribosomal RNA, partial sequence	Bacteroides faecis MAJ27	243	243	100%	4.00E-64	94.87	1475 NR_113067.1
Phocaeicola sartorii JCM 16497 16S ribosomal RNA, Phocaeicola sartorii partial sequence JCM 16497		243	243	100%	4.00E-64	94.87	1490 NR_113064.1
Phocaeicola sartorii JCM 16497 16S ribosomal RNA, Phocaeicola sartorii partial sequence JCM 16497		243	243	100%	4.00E-64	94.87	1490 NR_113015.1
Bacteroides cellulosilyticus DSM 14838 strain CRE21 16S ribosomal RNA, partial sequence	Bacteroides cellulosilyticus DSM 14838	243	243	100%	4.00E-64	94.87	1426 NR_042203.1

Bacteroides rodentium JCM 16496 16S ribosomal RNA, Bacteroides rodentium partial sequence JCM 16496	237	237	100%	2.00E-62	94.23	1488 NR_113072.1
Bacteroides rodentium JCM 16496 16S ribosomal RNA, Bacteroides rodentium partial sequence JCM 16496	237	237	100%	2.00E-62	94.23	1488 NR_113014.1
Bacteroides nordii WAL 11050 = JCM 12987 16S Bacteroides nordii ribosomal RNA, WAL 11050 = JCM partial sequence 12987	237	237	100%	2.00E-62	94.23	1473 NR_112939.1
Bacteroides nordii WAL 11050 = JCM 12987 16S Bacteroides nordii ribosomal RNA, WAL 11050 = JCM partial sequence 12987	237	237	100%	2.00E-62	94.23	1413 NR_043017.1
Bacteroides zoogloeiformans strain JCM 16136 16S ribosomal RNA, Bacteroides partial sequence zoogloeiformans	237	237	100%	2.00E-62	94.23	1489 NR_113353.1
Bacteroides luhongzhouii strain HF-5141 16S ribosomal RNA, partial Bacteroides sequence luhongzhouii	231	231	100%	8.00E-61	93.59	1492 NR_180463.1
Bacteroides ndongoniae strain Marseille- P3108 16S ribosomal RNA, Bacteroides partial sequence ndongoniae	231	231	100%	8.00E-61	93.59	1492 NR_179564.1
Bacteroides timonensis AP1 16S ribosomal RNA, partial Bacteroides sequence timonensis AP1	231	231	100%	8.00E-61	93.63	1315 NR_144704.1

Bacteroides reticulotermitis JCM 10512 16S Bacteroides ribosomal RNA, reticulotermitis JCM partial sequence 10512	231	231	100%	8.00E-61	93.63	1419 NR_114316.1
Bacteroides xylanisolvans XB1A 16S ribosomal RNA, Bacteroides partial sequence xylanisolvans XB1A	231	231	100%	8.00E-61	93.59	1465 NR_112947.1
Bacteroides caccae strain JCM 9498 16S ribosomal RNA, partial sequence Bacteroides caccae	231	231	100%	8.00E-61	93.59	1478 NR_112932.1
Bacteroides acidifaciens strain JCM 10556 16S ribosomal RNA, Bacteroides partial sequence acidifaciens	231	231	100%	8.00E-61	93.59	1490 NR_112931.1
Bacteroides acidifaciens strain A40 16S ribosomal RNA, Bacteroides partial sequence acidifaciens	231	231	100%	8.00E-61	93.59	1495 NR_028607.1
Bacteroides caccae strain ATCC 43185 16S ribosomal RNA, partial sequence Bacteroides caccae	231	231	100%	8.00E-61	93.59	1422 NR_026242.1
Bacteroides xylanisolvans XB1A 16S ribosomal RNA, Bacteroides partial sequence xylanisolvans XB1A	231	231	100%	8.00E-61	93.59	1368 NR_042499.1
Bacteroides pyogenes strain DSM 20611 16S ribosomal RNA, partial sequence Bacteroides pyogenes	228	228	100%	1.00E-59	92.95	1476 NR_113048.1

Bacteroides pyogenes strain CCUG 15419 16S ribosomal RNA, partial sequence	Bacteroides pyogenes	228	228	100%	1.00E-59	92.95	1477 NR_113047.1
Bacteroides pyogenes strain ATCC 35418 16S ribosomal RNA, partial sequence	Bacteroides pyogenes	228	228	100%	1.00E-59	92.95	1478 NR_113046.1
Bacteroides pyogenes strain JCM 6294 16S ribosomal RNA, partial sequence	Bacteroides pyogenes	228	228	100%	1.00E-59	92.95	1461 NR_041281.1
Bacteroides pyogenes strain JCM 10003 16S ribosomal RNA, partial sequence	Bacteroides pyogenes	228	228	100%	1.00E-59	92.95	1458 NR_041280.1
Bacteroides helcogenes strain P 36-108 16S ribosomal RNA, partial sequence	Bacteroides helcogenes	226	226	100%	4.00E-59	92.95	1513 NR_074546.1
Bacteroides salyersiae strain JCM 12988 16S ribosomal RNA, partial sequence	Bacteroides salyersiae	226	226	100%	4.00E-59	92.95	1473 NR_112942.1
Bacteroides eggerthii strain JCM 12986 16S ribosomal RNA, partial sequence	Bacteroides eggerthii	226	226	100%	4.00E-59	92.95	1488 NR_112935.1
Bacteroides salyersiae strain WAL 10018 16S ribosomal RNA, partial sequence	Bacteroides salyersiae	226	226	100%	4.00E-59	92.95	1419 NR_043016.1

Bacteroides eggerthii strain DSM 20697 16S ribosomal RNA, partial sequence	Bacteroides eggerthii	226	226	100%	4.00E-59	92.95	1425 NR_040864.1
Bacteroides propionificien s strain JCM 14649 16S ribosomal RNA, Bacteroides partial sequence	propionificiens	222	222	100%	5.00E-58	92.36	1480 NR_112941.1
Mediterranea massiliensis strain Marseille- P2645 16S ribosomal RNA, Mediterranea partial sequence	massiliensis	220	220	100%	2.00E-57	92.31	1491 NR_144747.1
Bacteroides togonis strain Marseille-P3166 16S ribosomal RNA, partial sequence	Bacteroides togonis	220	220	100%	2.00E-57	92.31	1450 NR_179583.1
Bacteroides bouchesdurhone nsis strain Marseille-P2653 16S ribosomal RNA, partial sequence	Bacteroides bouchesdurhonensis	220	220	100%	2.00E-57	92.41	1445 NR_179520.1
Bacteroides neonati strain MS4 16S ribosomal RNA, partial sequence	Bacteroides neonati	220	220	100%	2.00E-57	92.31	1481 NR_178430.1
Phocaeicola paurosaccharoly ticus JCM 15092 16S ribosomal RNA, paurosaccharolyticus partial sequence	Phocaeicola paurosaccharolyticus JCM 15092	220	220	100%	2.00E-57	92.31	1493 NR_113071.1
Bacteroides helcogenes strain JCM 6297 16S ribosomal RNA, Bacteroides partial sequence	helcogenes	220	220	100%	2.00E-57	92.31	1486 NR_112937.1

Phocaeicola paurosaccharoly ticus strain WK042 16S ribosomal RNA, Phocaeicola partial sequence	paurosaccharolyticus	220	220	100%	2.00E-57	92.31	1472 NR_112668.1
Bacteroides stercorisoris JCM 17103 16S Bacteroides ribosomal RNA, stercorisoris JCM partial sequence	17103	220	220	100%	2.00E-57	92.31	1484 NR_113207.1
Bacteroides faecichinchillae JCM 17102 16S Bacteroides ribosomal RNA, faecichinchillae JCM partial sequence	17102	220	220	100%	2.00E-57	92.31	1486 NR_113206.1
Bacteroides helcogenes strain JCM 6297 16S ribosomal RNA, Bacteroides partial sequence	helcogenes	220	220	100%	2.00E-57	92.31	1405 NR_041279.1
Bacteroides propionificien s strain SV434 16S ribosomal RNA, partial sequence	Bacteroides propionificiens	219	219	100%	6.00E-57	91.72	1428 NR_041485.1
Phocaeicola faecalis strain FXJYN30E22 16S ribosomal RNA, partial sequence	Phocaeicola faecalis	215	215	100%	8.00E-56	91.67	1412 NR_181010.1
Bacteroides coprosuis DSM 18011 strain PC139 16S ribosomal RNA, Bacteroides coprosuis partial sequence	DSM 18011	215	215	100%	8.00E-56	91.67	1479 NR_114887.2
Bacteroides oleiciplenus YIT 12058 strain JCM 16102 16S Bacteroides ribosomal RNA, oleiciplenus YIT partial sequence	12058	215	215	100%	8.00E-56	91.67	1485 NR_113070.1

Phocaeicola massiliensis strain B84634 16S ribosomal RNA, partial sequence	Phocaeicola massiliensis	215	215	100%	8.00E-56	91.67	1478 NR_112938.1
Bacteroides coprosuis strain JCM 13475 16S ribosomal RNA, partial sequence	Bacteroides coprosuis	215	215	100%	8.00E-56	91.67	1490 NR_112934.1
Bacteroides oleiciplenus YIT 12058 16S ribosomal RNA, partial sequence	Bacteroides oleiciplenus YIT 12058	215	215	100%	8.00E-56	91.67	1476 NR_112895.1
Bacteroides coprosuis DSM 18011 strain PC139 16S ribosomal RNA, partial sequence	Bacteroides coprosuis DSM 18011	215	215	100%	8.00E-56	91.67	1523 NR_041818.1
Phocaeicola massiliensis strain B84634 16S ribosomal RNA, partial sequence	Phocaeicola massiliensis	215	215	100%	8.00E-56	91.67	1493 NR_042745.1
Bacteroides ihuae strain Marseille-P2824 16S ribosomal RNA, partial sequence	Bacteroides ihuae	209	209	100%	4.00E-54	91.03	1482 NR_147391.1
Bacteroides caecimuris strain I48 16S ribosomal RNA, partial sequence	Bacteroides caecimuris	209	209	100%	4.00E-54	91.03	1517 NR_144606.1
Bacteroides congonensis strain Marseille- P3132 16S ribosomal RNA, partial sequence	Bacteroides congonensis	209	209	100%	4.00E-54	91.03	1493 NR_179552.1

Bacteroides thetaiotaomicron strain VPI- 5482 16S ribosomal RNA, Bacteroides partial sequence	thetaiotaomicron	209	209	100%	4.00E-54	91.08	1483 NR_074277.1
Caecibacteroides pullorum strain AN421 16S ribosomal RNA, partial sequence	Caecibacteroides pullorum	209	209	100%	4.00E-54	91.03	1525 NR_181379.1
Bacteroides fluxus YIT 12057 strain JCM 16101 16S ribosomal RNA, Bacteroides fluxus partial sequence	YIT 12057	209	209	100%	4.00E-54	91.03	1486 NR_113068.1
Bacteroides thetaiotaomicron strain JCM 5827 16S ribosomal RNA, Bacteroides partial sequence	thetaiotaomicron	209	209	100%	4.00E-54	91.08	1461 NR_112944.1
Bacteroides fluxus YIT 12057 16S ribosomal RNA, Bacteroides fluxus partial sequence	YIT 12057	209	209	100%	4.00E-54	91.03	1477 NR_112894.1
Bacteroides thetaiotaomicron strain JCM 5827 16S ribosomal RNA, Bacteroides partial sequence	thetaiotaomicron	209	209	100%	4.00E-54	91.08	1426 NR_112142.1
Bacteroides ovatus strain ATCC 8483 16S ribosomal RNA, partial sequence	Bacteroides ovatus	207	207	100%	1.00E-53	90.38	1395 NR_119165.1
Massilibacteroides vaginae strain MV12 16S ribosomal RNA, partial sequence	Massilibacteroides vaginae	206	206	100%	5.00E-53	90.38	1504 NR_179416.1

Parabacteroides pekinense strain BCGU 16S ribosomal RNA, Parabacteroides partial sequence	pekinense	204	204	100%	2.00E-52	90.38	999 NR_181277.1
Parabacteroides gordonii strain MS-1 16S ribosomal RNA, Parabacteroides partial sequence	gordonii	204	204	100%	2.00E-52	90.45	1485 NR_112835.1
Phocaeicola barnesiae strain BL2 16S ribosomal RNA, partial sequence	Phocaeicola barnesiae	204	204	100%	2.00E-52	90.38	1456 NR_041446.1
Parabacteroides faecis strain 157 16S ribosomal RNA, partial sequence	Parabacteroides faecis	200	200	100%	2.00E-51	89.81	1442 NR_134785.1
Bacteroides kribbi strain R2F3-3-3 16S ribosomal RNA, partial sequence	Bacteroides kribbi	198	198	100%	8.00E-51	89.74	1433 NR_159118.1
Bacteroides koreensis strain YS-aM39 16S ribosomal RNA, partial sequence	Bacteroides koreensis	198	198	100%	8.00E-51	89.74	1417 NR_159117.1
Bacteroides caecicola strain C13EG70 16S ribosomal RNA, partial sequence	Bacteroides caecicola	198	198	100%	8.00E-51	89.74	1492 NR_148821.1
Bacteroides faecalis strain KGMB02408 16S ribosomal RNA, partial sequence	Bacteroides faecalis	198	198	100%	8.00E-51	89.74	1455 NR_180327.1

Phocaeicola vulgatus ATCC 8482 16S ribosomal RNA, Phocaeicola vulgatus partial sequence ATCC 8482		198	198	100%	8.00E-51	89.74	1510 NR_074515.1
Tannerella forsythia strain ATCC 43037 16S ribosomal RNA, partial sequence Tannerella forsythia		198	198	100%	8.00E-51	89.74	1451 NR_074140.1
Hoylesella saccharolytica JCM 17484 strain D033B- 12-2 16S Hoylesella ribosomal RNA, saccharolytica JCM partial sequence 17484		198	198	100%	8.00E-51	89.74	1452 NR_116832.1
Bacteroides ovatus strain JCM5824 16S ribosomal RNA, partial sequence Bacteroides ovatus		198	198	100%	8.00E-51	89.74	1435 NR_116181.1
Tannerella forsythia strain JCM 10827 16S ribosomal RNA, partial sequence Tannerella forsythia		198	198	100%	8.00E-51	89.74	1486 NR_113125.1
Phocaeicola vulgatus strain JCM 5826 16S ribosomal RNA, partial sequence Phocaeicola vulgatus		198	198	100%	8.00E-51	89.74	1489 NR_112946.1
Bacteroides ovatus strain JCM 5824 16S ribosomal RNA, partial sequence Bacteroides ovatus		198	198	100%	8.00E-51	89.74	1459 NR_112940.1
Bacteroides ovatus strain CIP 103756 16S ribosomal RNA, partial sequence Bacteroides ovatus		198	198	100%	8.00E-51	89.74	1451 NR_115301.1

Tannerella forsythia strain ATCC 43037 16S ribosomal RNA, partial sequence	Tannerella forsythia	198	198	100%	8.00E-51	89.74	1466 NR_040839.1
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Hoylesella saccharolytica JCM 17484 16S Hoylesella ribosomal RNA, saccharolytica JCM partial sequence 17484		198	198	100%	8.00E-51	89.74	1491 NR_113320.1
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Bacteroides heparinolyticus strain HEP 16S ribosomal RNA, Bacteroides partial sequence heparinolyticus		198	198	100%	8.00E-51	88.54	1476 NR_044633.1
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Leyella stercorea DSM 18206 strain CB35 16S ribosomal RNA, Leyella stercorea DSM partial sequence 18206		198	198	100%	8.00E-51	89.74	1488 NR_041364.1
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Bacteroides zoogloeiformans strain ATCC 33285 16S ribosomal RNA, Bacteroides partial sequence zoogloeiformans		196	196	100%	3.00E-50	87.18	1471 NR_044634.1
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Supplementary Data S8. ASV_0021 BLAST result

Description	Scientific Name	Max Score	Total Score	Query Cover	E value	Per. ident	Acc. Len	Accession
thetaiotaomicron strain VPI-5482								
16S ribosomal RNA, partial	Bacteroides thetaiotaomicron	287	287	100%	2e-77	100	1483	NR_074277.1
thetaiotaomicron strain JCM 5827								
16S ribosomal RNA, partial	Bacteroides thetaiotaomicron	287	287	100%	2e-77	100	1461	NR_112944.1
thetaiotaomicron strain JCM 5827								
16S ribosomal RNA, partial	Bacteroides thetaiotaomicron	287	287	100%	2e-77	100	1426	NR_112142.1
faecichinchillae JCM 17102								
16S ribosomal RNA, partial	Bacteroides faecichinchillae JCM 17102	265	265	100%	8e-71	97.44	1486	NR_113206.1
luhongzhouii strain HF-5141								
16S ribosomal RNA, partial	Bacteroides luhongzhouii	259	259	100%	4e-69	96.79	1492	NR_180463.1
ovatus strain ATCC 8483								
16S ribosomal RNA, partial	Bacteroides ovatus	257	257	100%	1e-68	96.15	1395	NR_119165.1
xylanisolvans XB1A								
16S ribosomal RNA, partial	Bacteroides xylanisolvans XB1A	255	255	100%	5e-68	96.15	1465	NR_112947.1
kribbi strain R2F3-3-3								
16S ribosomal RNA, partial	Bacteroides kribbi	254	254	100%	2e-67	96.15	1433	NR_159118.1
koreensis strain YS-aM39								
16S ribosomal RNA, partial	Bacteroides koreensis	254	254	100%	2e-67	96.15	1417	NR_159117.1
ovatus strain JCM 5824								
16S ribosomal RNA, partial	Bacteroides ovatus	254	254	100%	2e-67	96.15	1459	NR_112940.1
ovatus strain CIP 103756								
16S ribosomal RNA, partial	Bacteroides ovatus	254	254	100%	2e-67	96.15	1451	NR_115301.1
xylanisolvans XB1A								
16S ribosomal RNA, partial	Bacteroides xylanisolvans XB1A	254	254	100%	2e-67	96.15	1368	NR_042499.1
faecalis strain KGMB02408								
16S ribosomal RNA, partial	Bacteroides faecalis	248	248	100%	8e-66	95.48	1455	NR_180327.1
timonensis API								
16S ribosomal RNA, partial	Bacteroides timonensis API	248	248	100%	8e-66	95.48	1315	NR_144704.1
faecis MAJ27								
16S ribosomal RNA, partial	Bacteroides faecis MAJ27	248	248	100%	8e-66	95.51	1458	NR_117387.1
faecis MAJ27								
16S ribosomal RNA, partial	Bacteroides faecis MAJ27	248	248	100%	8e-66	95.51	1475	NR_113067.1
salyersiae strain JCM 12988								
16S ribosomal RNA, partial	Bacteroides salyersiae	248	248	100%	8e-66	95.51	1473	NR_112942.1
caccae strain JCM 9498								
16S ribosomal RNA, partial	Bacteroides caccae	248	248	100%	8e-66	95.48	1478	NR_112932.1

Bacteroides acidifaciens strain JCM 10556 16S ribosomal RNA, partial sequence	Bacteroides acidifaciens	248	248	100% 8e-66	95.51	1490 NR_112931.1
Bacteroides acidifaciens strain A40 16S ribosomal RNA, partial sequence	Bacteroides acidifaciens	248	248	100% 8e-66	95.51	1495 NR_028607.1
Bacteroides salyersiae strain WAL 10018 16S ribosomal RNA, partial sequence	Bacteroides salyersiae	248	248	100% 8e-66	95.51	1419 NR_043016.1
Bacteroides caccae strain ATCC 43185 16S ribosomal RNA, partial sequence	Bacteroides caccae	248	248	100% 8e-66	95.48	1422 NR_026242.1
Bacteroides ovatus strain JCM5824 16S ribosomal RNA, partial sequence	Bacteroides ovatus	246	246	100% 3e-65	95.51	1435 NR_116181.1
Bacteroides ovatus strain JCM 5824 16S ribosomal RNA, partial sequence	Bacteroides ovatus	243	243	100% 4e-64	94.9	1455 NR_040865.1
Bacteroides zhangwenhongii strain HF-5287 16S ribosomal RNA, partial sequence	Bacteroides zhangwenhongii	237	237	100% 2e-62	94.23	1490 NR_180458.1
Bacteroides ndongoniae strain Marseille- P3108 16S ribosomal RNA, partial sequence	Bacteroides ndongoniae	237	237	100% 2e-62	94.23	1492 NR_179564.1

Phocaeicola paurosaccharolyt icus JCM 15092 16S ribosomal RNA, partial sequence	Phocaeicola paurosaccharolyticus JCM 15092	237	237	100% 2e-62	94.19	1493 NR_113071.1
Phocaeicola paurosaccharolyt icus strain WK042 16S ribosomal RNA, partial sequence	Phocaeicola paurosaccharolyticus	237	237	100% 2e-62	94.19	1472 NR_112668.1
Bacteroides propionigenes strain NSJ-90 16S ribosomal RNA, partial sequence	Bacteroides propionigenes	231	231	100% 8e-61	93.59	1387 NR_181731.1
Bacteroides cutis strain Marseille- P4118 16S ribosomal RNA, partial sequence	Bacteroides cutis	231	231	100% 8e-61	93.55	1485 NR_179635.1
Bacteroides nordii WAL 11050 = JCM 12987 16S ribosomal RNA, partial sequence	Bacteroides nordii WAL 11050 = JCM 12987	231	231	100% 8e-61	93.55	1473 NR_112939.1
Bacteroides cellulosilyticus strain JCM 15632 16S ribosomal RNA, partial sequence	Bacteroides cellulosilyticus	231	231	100% 8e-61	93.59	1473 NR_112933.1
Bacteroides finegoldii strain 199 16S ribosomal RNA, partial sequence	Bacteroides finegoldii	231	231	100% 8e-61	93.55	1485 NR_041313.1
Bacteroides intestinalis strain 341 16S ribosomal RNA, partial sequence	Bacteroides intestinalis	231	231	100% 8e-61	93.59	1484 NR_041307.1

Bacteroides nordii WAL 11050 = JCM 12987 16S ribosomal RNA, partial sequence	Bacteroides nordii WAL 11050 = JCM 12987	231	231	100% 8e-61	93.55	1413 NR_043017.1
Phocaeicola barnesiae strain BL2 16S ribosomal RNA, partial sequence	Phocaeicola barnesiae	231	231	100% 8e-61	93.59	1456 NR_041446.1
Bacteroides congonensis strain Marseille- P3132 16S ribosomal RNA, partial sequence	Bacteroides congonensis	226	226	100% 4e-59	92.9	1493 NR_179552.1
Bacteroides clarus YIT 12056 strain JCM 16067 16S ribosomal RNA, partial sequence	Bacteroides clarus YIT 12056	226	226	100% 4e-59	92.95	1488 NR_113065.1
Bacteroides stercoris ATCC 43183 strain JCM 9496 16S ribosomal RNA, partial sequence	Bacteroides stercoris ATCC 43183	226	226	100% 4e-59	92.95	1476 NR_112943.1
Bacteroides clarus YIT 12056 16S ribosomal RNA, partial sequence	Bacteroides clarus YIT 12056	226	226	100% 4e-59	92.95	1479 NR_112893.1
Bacteroides humanifacis strain KGMB07931 16S ribosomal RNA, partial sequence	Bacteroides humanifacis	220	220	100% 2e-57	92.31	1419 NR_181532.1
Bacteroides bouchesdurhone nsis strain Marseille-P2653 16S ribosomal RNA, partial sequence	Bacteroides bouchesdurhonensis	220	220	100% 2e-57	92.31	1445 NR_179520.1

Bacteroides helcogenes strain P 36-108 16S ribosomal RNA, partial sequence	Bacteroides helcogenes	220	220	100% 2e-57	92.31	1513 NR_074546.1
Bacteroides gallinarum strain C35 16S ribosomal RNA, partial sequence	Bacteroides gallinarum	220	220	100% 2e-57	92.26	1458 NR_041448.1
Bacteroides cellulosilyticus DSM 14838 strain CRE21 16S ribosomal RNA, partial sequence	Bacteroides cellulosilyticus DSM 14838	220	220	100% 2e-57	92.31	1426 NR_042203.1
Bacteroides stercoris ATCC 43183 16S ribosomal RNA, partial sequence	Bacteroides stercoris ATCC 43183	217	217	100% 2e-56	91.67	1342 NR_027196.1
Parabacteroides pacaensis strain Marseille-P4001 16S ribosomal RNA, partial sequence	Parabacteroides pacaensis	215	215	100% 8e-56	91.61	1524 NR_179662.1
Bacteroides reticulotermitis JCM 10512 16S ribosomal RNA, partial sequence	Bacteroides reticulotermitis JCM 10512	215	215	100% 8e-56	91.67	1419 NR_114316.1
Bacteroides oleiciplenus YIT 12058 strain JCM 16102 16S ribosomal RNA, partial sequence	Bacteroides oleiciplenus YIT 12058	215	215	100% 8e-56	91.88	1485 NR_113070.1
Bacteroides uniformis strain JCM 5828 16S ribosomal RNA, partial sequence	Bacteroides uniformis	215	215	100% 8e-56	91.67	1477 NR_112945.1

Bacteroides helcogenes strain JCM 6297 16S ribosomal RNA, partial sequence	Bacteroides helcogenes	215	215	100% 8e-56	91.61	1486 NR_112937.1
Bacteroides oleiciplenus YIT 12058 16S ribosomal RNA, partial sequence	Bacteroides oleiciplenus YIT 12058	215	215	100% 8e-56	91.88	1476 NR_112895.1
Bacteroides uniformis strain JCM 5828 16S ribosomal RNA, partial sequence	Bacteroides uniformis	215	215	100% 8e-56	91.67	1425 NR_040866.1
Bacteroides helcogenes strain JCM 6297 16S ribosomal RNA, partial sequence	Bacteroides helcogenes	215	215	100% 8e-56	91.61	1405 NR_041279.1
Paraprevotella clara YIT 11840 16S ribosomal RNA, partial sequence	Paraprevotella clara YIT 11840	209	209	100% 4e-54	91.03	1483 NR_041626.1
Caecibacteroides pullorum strain AN421 16S ribosomal RNA, partial sequence	Caecibacteroides pullorum	209	209	100% 4e-54	91.03	1525 NR_181379.1
Phocaeicola sartorii JCM 17136 = DSM 21941 strain A- C2-0 16S ribosomal RNA, partial sequence	Phocaeicola sartorii JCM 17136 = DSM 21941	209	209	100% 4e-54	90.97	1327 NR_117373.1
Phocaeicola sartorii JCM 17136 = DSM 21941 16S ribosomal RNA, partial sequence	Phocaeicola sartorii JCM 17136 = DSM 21941	209	209	100% 4e-54	90.97	1490 NR_113195.1

Paraprevotella clara strain JCM 14859 16S ribosomal RNA, partial sequence	Paraprevotella clara	209	209	100% 4e-54	91.03	1480 NR_113077.1
Phocaeicola sartorii JCM 16497 16S ribosomal RNA, partial sequence	Phocaeicola sartorii JCM 16497	209	209	100% 4e-54	90.97	1490 NR_113064.1
Phocaeicola sartorii JCM 16497 16S ribosomal RNA, partial sequence	Phocaeicola sartorii JCM 16497	209	209	100% 4e-54	90.97	1490 NR_113015.1
Bacteroides propionificien s strain JCM 14649 16S ribosomal RNA, partial sequence	Bacteroides propionificiens	209	209	100% 4e-54	91.08	1480 NR_112941.1
Phocaeicola coprocola DSM 17136 strain M16 16S ribosomal RNA, partial sequence	Phocaeicola coprocola DSM 17136	209	209	100% 4e-54	91.03	1490 NR_041278.1
Bacteroides zoogloformans strain JCM 16136 16S ribosomal RNA, partial sequence	Bacteroides zoogloformans	209	209	100% 4e-54	90.97	1489 NR_113353.1
Bacteroides propionificien s strain SV434 16S ribosomal RNA, partial sequence	Bacteroides propionificiens	206	206	100% 5e-53	90.45	1428 NR_041485.1
Bacteroides graminisolvens strain JCM 15093 16S ribosomal RNA, partial sequence	Bacteroides graminisolvens	204	204	100% 2e-52	90.38	1486 NR_113069.1

Bacteroides graminisolvens strain XDT-1 16S ribosomal RNA, partial sequence	Bacteroides graminisolvens	204	204	100% 2e-52	90.38	1415 NR_041642.1
Bacteroides stercorisoris JCM 17103 16S ribosomal RNA, partial sequence	Bacteroides stercorisoris JCM 17103	204	204	100% 2e-52	90.57	1484 NR_113207.1
Bacteroides mediterraneensis strain Marseille- P2644 16S ribosomal RNA, partial sequence	Bacteroides mediterraneensis	198	198	100% 8e-51	89.68	1491 NR_144744.1
Bacteroides coprosuis DSM 18011 strain PC139 16S ribosomal RNA, partial sequence	Bacteroides coprosuis DSM 18011	198	198	100% 8e-51	89.68	1479 NR_114887.2
Bacteroides coprosuis strain JCM 13475 16S ribosomal RNA, partial sequence	Bacteroides coprosuis	198	198	100% 8e-51	89.68	1490 NR_112934.1
Bacteroides coprosuis DSM 18011 strain PC139 16S ribosomal RNA, partial sequence	Bacteroides coprosuis DSM 18011	198	198	100% 8e-51	89.68	1523 NR_041818.1
Phocaeicola faecicola strain AGMB03916 16S ribosomal RNA, complete sequence	Phocaeicola faecicola	193	193	100% 4e-49	89.1	1528 NR_175548.1
Bacteroides sedimenti strain YN3PY1 16S ribosomal RNA, partial sequence	Bacteroides sedimenti	193	193	100% 4e-49	89.03	1445 NR_179258.1

Bacteroides luti strain UasXn-3 16S ribosomal RNA, partial sequence	Bacteroides luti	193	193	100% 4e-49	89.1	1442 NR_125463.1
Bacteroides rodentium JCM 16496 16S ribosomal RNA, partial sequence	Bacteroides rodentium JCM 16496	193	193	100% 4e-49	89.38	1488 NR_113072.1
Bacteroides rodentium JCM 16496 16S ribosomal RNA, partial sequence	Bacteroides rodentium JCM 16496	193	193	100% 4e-49	89.38	1488 NR_113014.1
Phocaeicola massiliensis strain B84634 16S ribosomal RNA, partial sequence	Phocaeicola massiliensis	193	193	100% 4e-49	89.1	1478 NR_112938.1
Phocaeicola massiliensis strain B84634 16S ribosomal RNA, partial sequence	Phocaeicola massiliensis	193	193	100% 4e-49	89.1	1493 NR_042745.1
Mediterranea massiliensis strain Marseille-P2645 16S ribosomal RNA, partial sequence	Mediterranea massiliensis	187	187	100% 2e-47	88.54	1491 NR_144747.1
Bacteroides ihuae strain Marseille-P2824 16S ribosomal RNA, partial sequence	Bacteroides ihuae	187	187	100% 2e-47	88.39	1482 NR_147391.1
Phocaeicola faecalis strain FXJYN30E22 16S ribosomal RNA, partial sequence	Phocaeicola faecalis	187	187	100% 2e-47	88.39	1412 NR_181010.1
Bacteroides togonis strain Marseille-P3166 16S ribosomal RNA, partial sequence	Bacteroides togonis	187	187	100% 2e-47	88.54	1450 NR_179583.1

Parabacteroides goldsteinii DSM 19448 = WAL 12034 strain JCM 13446 16S ribosomal RNA, partial sequence	Parabacteroides goldsteinii DSM 19448 = WAL 12034	187	187	100% 2e-47	88.46	1476 NR_113076.1
Bacteroides eggerthii strain JCM 12986 16S ribosomal RNA, partial sequence	Bacteroides eggerthii	187	187	100% 2e-47	88.75	1488 NR_112935.1
Parabacteroides goldsteinii strain WAL 12034 16S ribosomal RNA, partial sequence	Parabacteroides goldsteinii	187	187	100% 2e-47	88.46	1396 NR_043317.1
Bacteroides eggerthii strain DSM 20697 16S ribosomal RNA, partial sequence	Bacteroides eggerthii	187	187	100% 2e-47	88.75	1425 NR_040864.1
Bacteroides zoogloeiformans strain ATCC 33285 16S ribosomal RNA, partial sequence	Bacteroides zoogloeiformans	185	185	100% 6e-47	85.81	1471 NR_044634.1
Bacteroides caecimuris strain I48 16S ribosomal RNA, partial sequence	Bacteroides caecimuris	182	182	100% 8e-46	88.12	1517 NR_144606.1
Phocaeicola vulgatus ATCC 8482 16S ribosomal RNA, partial sequence	Phocaeicola vulgatus ATCC 8482	182	182	100% 8e-46	88.12	1510 NR_074515.1
Marinifilum fragile CECT 7942 strain JC2469 16S ribosomal RNA, partial sequence	Marinifilum fragile CECT 7942	182	182	100% 8e-46	87.82	1452 NR_044597.2

Phocaeicola vulgatus strain JCM 5826 16S ribosomal RNA, partial sequence	Phocaeicola vulgatus	182	182	100% 8e-46	88.12	1489 NR_112946.1
Phocaeicola plebeius DSM 17135 strain M12 16S ribosomal RNA, partial sequence	Phocaeicola plebeius DSM 17135	182	182	100% 8e-46	87.82	1490 NR_041277.1
Bacteroides heparinolyticus strain HEP 16S ribosomal RNA, partial sequence	Bacteroides heparinolyticus	182	182	100% 8e-46	86.54	1476 NR_044633.1
Bacteroides neonati strain MS4 16S ribosomal RNA, partial sequence	Bacteroides neonati	176	176	100% 4e-44	87.18	1481 NR_178430.1
Bacteroides caecigallinarum strain C13EG111 16S ribosomal RNA, partial sequence	Bacteroides caecigallinarum	176	176	100% 4e-44	87.26	1489 NR_145844.1
Tannerella forsythia strain ATCC 43037 16S ribosomal RNA, partial sequence	Tannerella forsythia	176	176	100% 4e-44	87.18	1451 NR_074140.1
Tannerella forsythia strain JCM 10827 16S ribosomal RNA, partial sequence	Tannerella forsythia	176	176	100% 4e-44	87.18	1486 NR_113125.1
Phocaeicola coprophilus strain CB42 16S ribosomal RNA, partial sequence	Phocaeicola coprophilus	176	176	100% 4e-44	87.26	1492 NR_041461.1
Phocaeicola vulgatus strain JCM 5826 16S ribosomal RNA, partial sequence	Phocaeicola vulgatus	176	176	100% 4e-44	87.5	1397 NR_112143.1

Supplementary Data S9. List of qPCR primers

Name	Sequence (5' - 3')	Gene	Reference
<i>Escherichia coli</i> MG1655 (NCBI Reference Sequence: NC_000913.3)			
Ec_tnaA_qPCR-F	GACTGGCTGGCTTATCGTATC	<i>tnaA</i>	Sinha et al. 2024
Ec_tnaA_qPCR-R	GTTTACCGGCATCAACGAATG		Sinha et al. 2024
Ec_dnaG_qPCR-F	GAAGGCTATATGGACGTGGTG	<i>dnaG</i>	Sinha et al. 2024
Ec_dnaG_qPCR-R	CGCCGTCATAACAGCAAATG		Sinha et al. 2024
Ec_gyrA_qPCR-F2	GTGACAAACGTCGTAAGAAATC	<i>gyrA</i>	Sinha et al. 2024
Ec_gyrA_qPCR-R2	GATACTTAACGTAGCCCTGGTG		Sinha et al. 2024
Ec_secA_qPCR-F2	GCTGGTTCTTCCCGTTTCTAC	<i>secA</i>	Sinha et al. 2024
Ec_secA_qPCR-R2	CCTGGCTTCATACCCAGTTTAC		Sinha et al. 2024
<i>Bacteroides thetaiotaomicron</i> DSM 2079 (NCBI Reference Sequence: NC_004663.1)			
Bt_tnaA_qPCR-F	GATGCTGGGTGATGAAAGTTATG	<i>tnaA</i> (BT_RS07555)	Sinha et al. 2024
Bt_tnaA_qPCR-R	CGTCCTTGATGGGTAGGAATG		Sinha et al. 2024
Bt_gyrA_qPCR-F	CGTGGGTGAAGTATTGGGTAAG	<i>gyrA</i>	Sinha et al. 2024
Bt_gyrA_qPCR-R	GGGCTATCACCATCTACAGAAC		Sinha et al. 2024
Bt_dnaG_qPCR-F	CTTCGCCCCGAAACATAATTC	<i>dnaG</i>	Sinha et al. 2024
Bt_dnaG_qPCR-R	CGTTTGATCGGATCTCTTCCC		Sinha et al. 2024
Bt_secA_qPCR-F	CGATGAGGTTGACTCGGTATTG	<i>secA</i>	Sinha et al. 2024
Bt_secA_qPCR-R	GAGCTTCTACCAGACGTTCTAC		Sinha et al. 2024