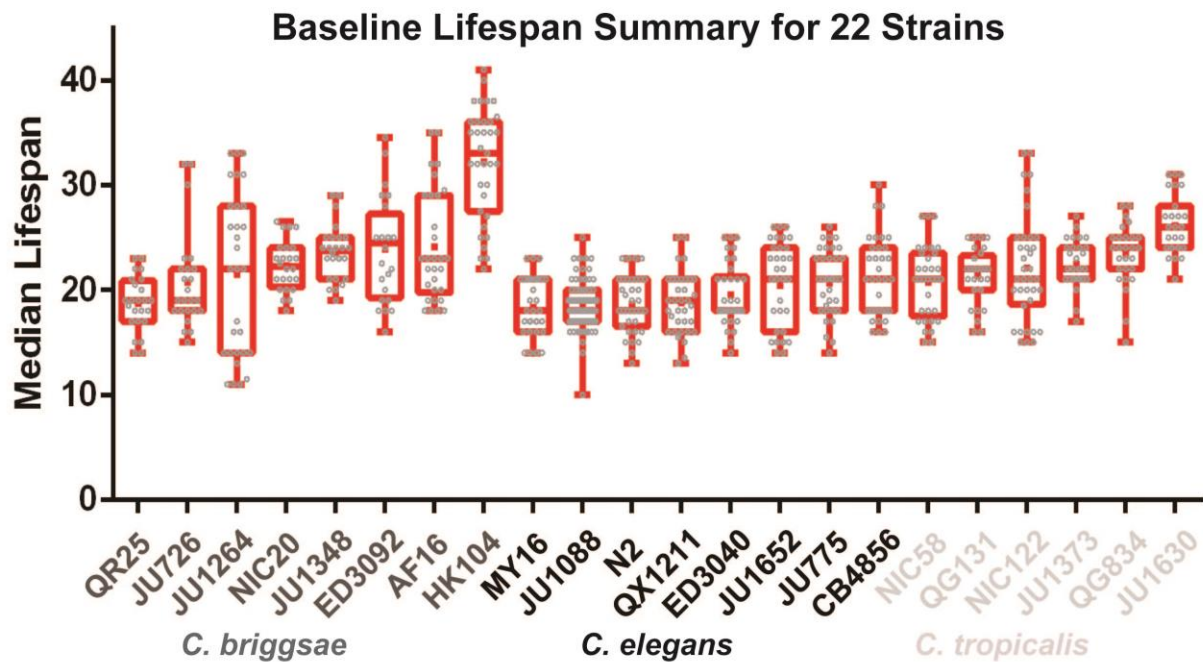


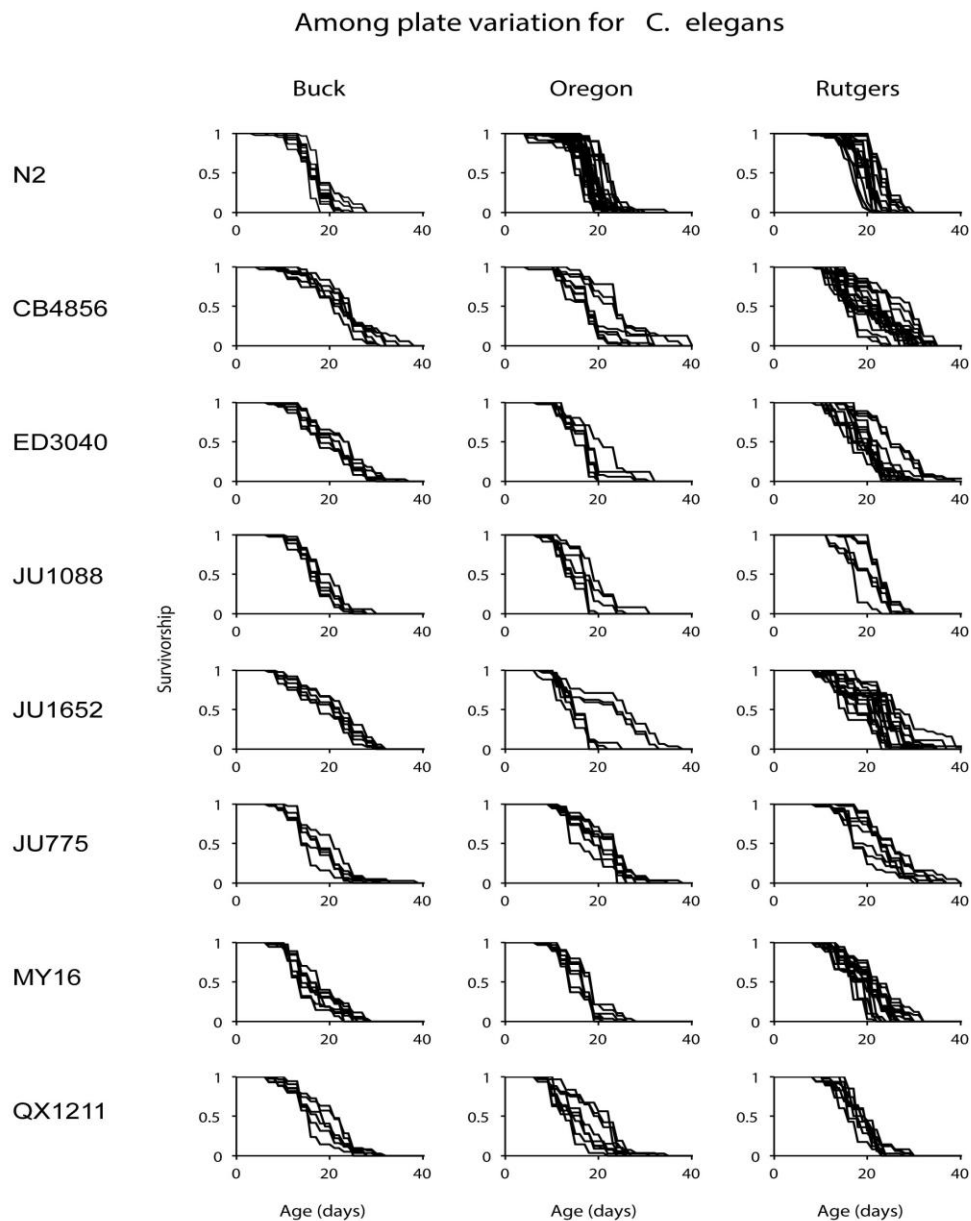
Supplementary Information (Figures 1-8 and Tables 1-4):  
Supplementary Figure 1:



Supplementary Figure 1: Summary of median lifespans for 22 *Caenorhabditis* strains

Graphical summary of the median lifespans of 22 *Caenorhabditis* strains. Median lifespans shown represent single plate populations (single plate lifespan assays starting with 35-40 animals) assessed at 3 geographically distinct sites. For this graph, censored values were not included in the median lifespan calculations. Graph is segregated by species, such that 8 *C. briggsae* strains are indicated in gray text, 8 *C. elegans* strains are shown in black text and 6 *C. tropicalis* strains are shown in off white text. Each plotted value is shown in grey, with red 'box and whisker' plots overlaid. Red boxes encompass the 25<sup>th</sup> to 75<sup>th</sup> percentiles of the values and whiskers denote the minimum to maximum. Red bar inside the box labels the median of the plotted values, while the red dot marks the mean. Statistical analysis of the parent data used to generate this graph is presented in table 1, while lifespan curves are shown in main text figures 2-3. Sample sizes and summary statistics for individual replicates are provided in Supplementary Table 7.

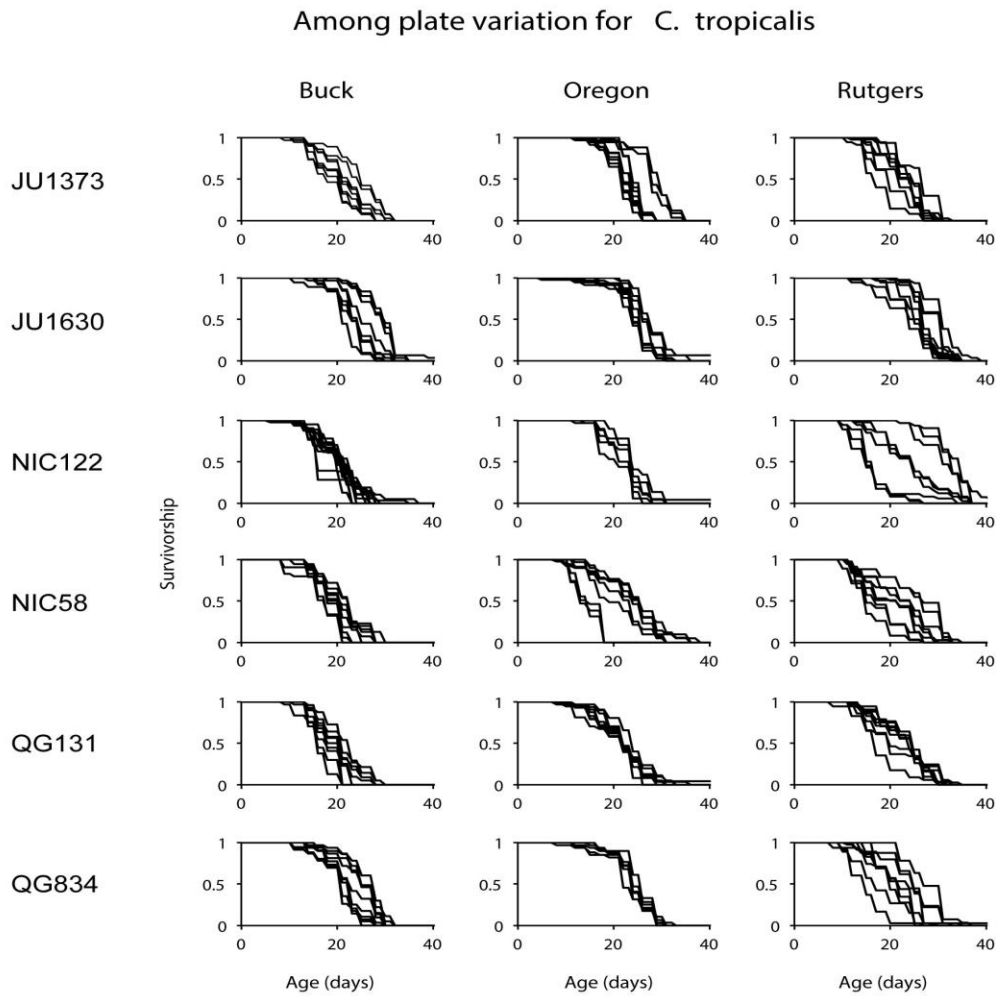
## Supplementary Figure 2:



### Supplementary Figure 2: Variation in longevity within labs for each replicate plate for laboratory and natural isolates of *C. elegans*

Graphs show the survivorship curves for each plate population tested for all of the *C. elegans* strains assessed. Curves are segregated into panels according to the strain and site where the assay was performed. Each plate was initiated with  $n = 35$  animals.

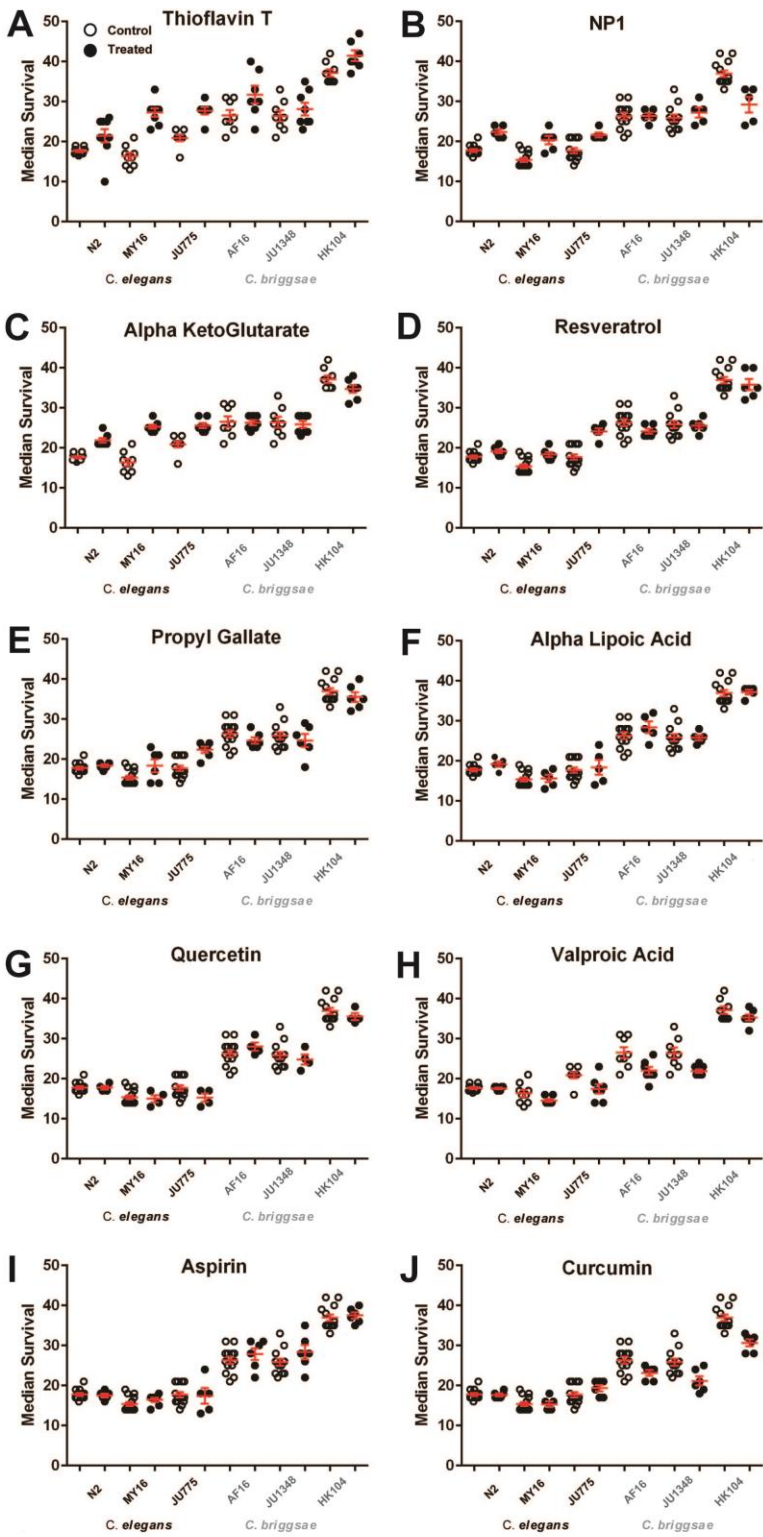
### Supplementary Figure 3:



### Supplementary Figure 3: Variation in longevity within labs for each replicate plate for six natural isolates of *C. tropicalis*

Graphs show the survivorship curves for each plate population tested for all of the *C. tropicalis* strains assessed. Curves are segregated into panels according to the strain and site where the assay was performed. Each plate was initiated with  $n = 35$  animals.

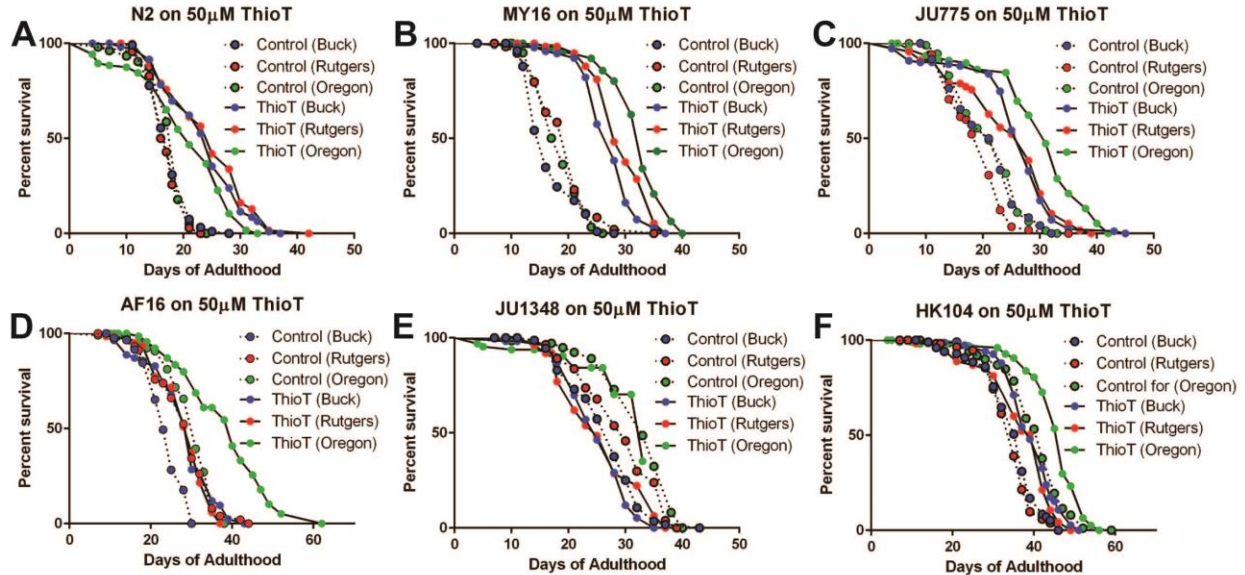
Supplementary Figure 4:



#### **Supplementary Figure 4: Summary of median lifespans for chemical and control lifespan assays**

Each panel (A-J) presents a graph of the observed median lifespans of 6 *Caenorhabditis* strains treated chronically from the first day of adulthood with either solvent control (H<sub>2</sub>O or DMSO) or a specific chemical (chemical is defined above each graph). Data is presented in a 'by trial' format (each trial consisted of 3 replicate plates of a generational cohort, initiated with a total of 105-120 animals). In this figure control values are over represented relative to individual compounds since every control trial is shown for each chemical that used that control. As multiple chemicals used the same type control (particularly DMSO controls), more control experiments were performed than any given chemical. Points are color coded to indicate whether values are from control or chemical treated animals, as indicated in legend on panel (A). Censored animals were not included when calculating the median lifespans shown in this graph, which can result in underestimation of the median lifespan. Large red bars represent the mean with small red bars indicating the standard error. Summaries from the statistical analysis of the parent data used to generate these graphs is included in table 2 and supplementary tables 2-4. Sample sizes and summary statistics for individual replicates are provided in Supplementary Table 8.

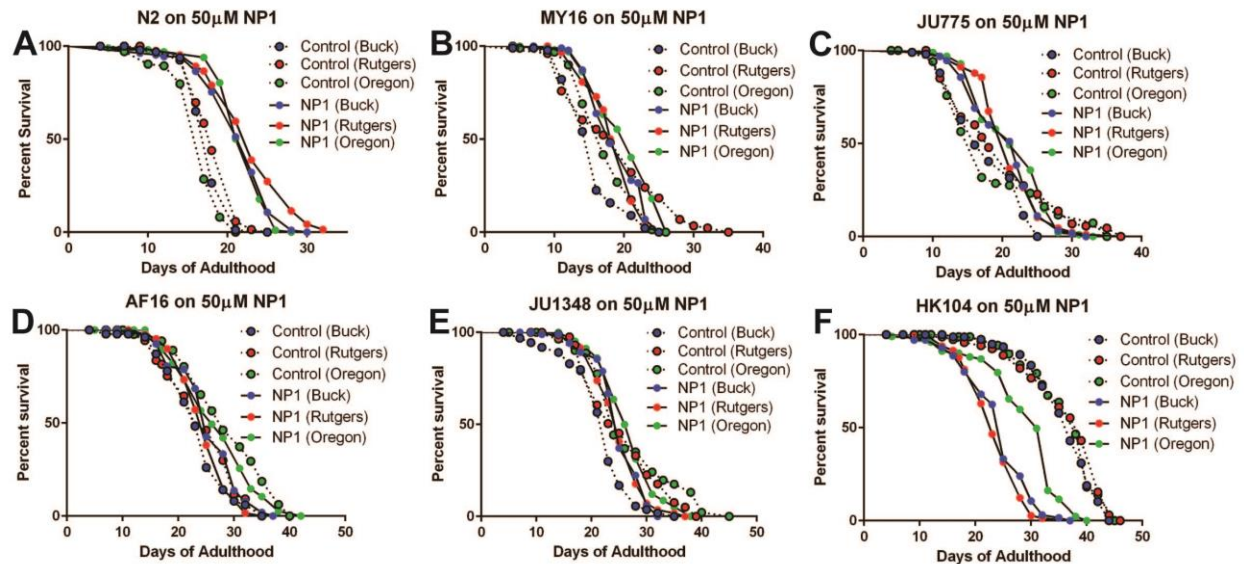
## Supplementary Figure 5:



## Supplementary Figure 5: Representative survivorship curves from control and Thioflavin T treated generational cohorts

Each panel (A-F) shows representative survivorship plots for a *Caenorhabditis* strain (indicated above panel) treated chronically from the first day of adulthood with either solvent control (H<sub>2</sub>O) or Thioflavin T (ThioT). Data is presented in a 'by trial' format (each trial consisted of 3 replicate plates initiated with a total of 105-120 animals). For each strain, 1 trial is shown from each research site (color coded and described in each panel key) consisting of both the treated animals (solid lines) and their specific matched controls (same generational cohort scored in parallel, dotted lines). This data was also included in figure 4 and summaries from the statistical analysis of the parent data used to generate these graphs is included in table 2 and supplementary tables 2-4. Sample sizes and summary statistics for individual replicates are provided in Supplementary Table 8.

## Supplementary Figure 6:

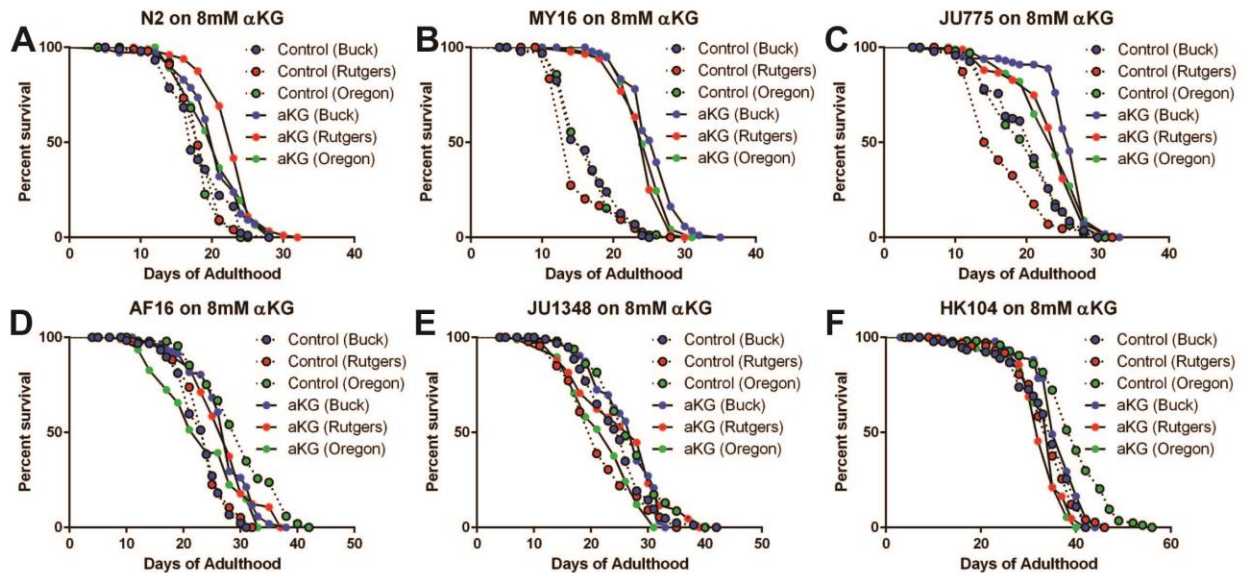


## Supplementary Figure 6: Representative survivorship curves from control and NP1 treated generational cohorts

Each panel (A-F) shows representative survivorship plots for a *Caenorhabditis* strain (indicated above panel) treated chronically from the first day of adulthood with either solvent control (DMSO) or NP1. Data is presented in a 'by trial' format (each trial consisted of 3 replicate plates initiated with a total of 105-120 animals). For each strain, 1 trial is shown from each research site (color coded and described in each panel key) consisting of both the treated animals (solid lines) and their specific matched controls (same generational cohort scored in parallel, dotted lines). Sample sizes and summary statistics for individual replicates are provided in Supplementary Table 8.



## Supplementary Figure 7:

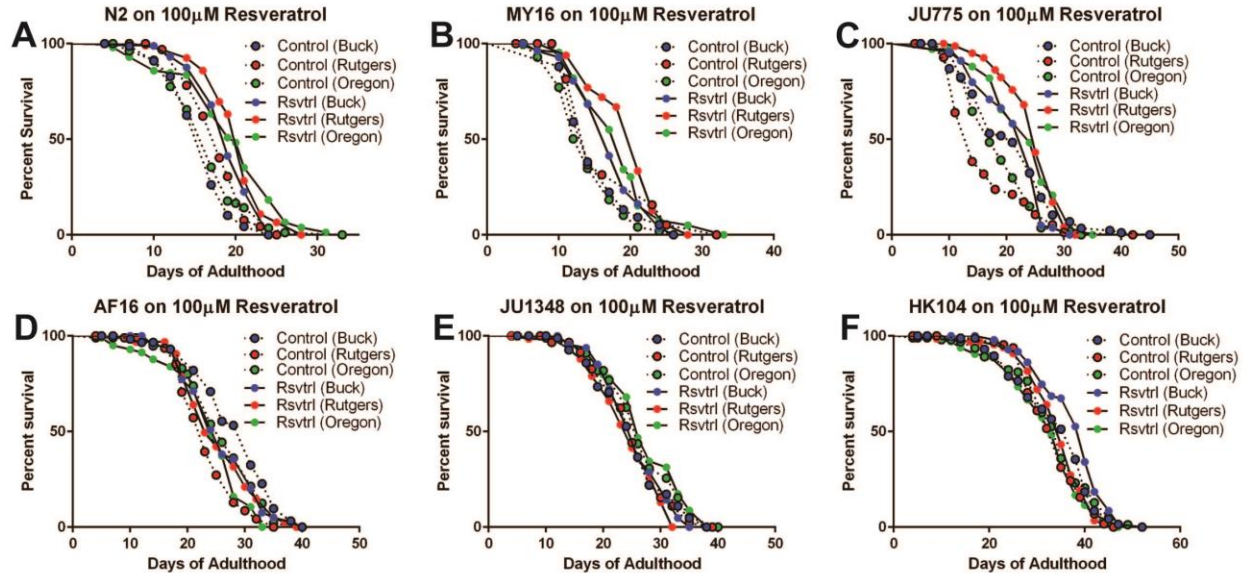


## Supplementary Figure 7: Representative survivorship curves from control and $\alpha$ Ketoglutarate treated generational cohorts

Each panel (A-F) shows representative survivorship plots for a *Caenorhabditis* strain (indicated above panel) treated chronically from the first day of adulthood with either solvent control ( $H_2O$ ) or  $\alpha$ Ketoglutarate ( $\alpha$ KG). Data is presented in a 'by trial' format (each trial consisted of 3 replicate plates initiated with a total of 105-120 animals). For each strain, 1 trial is shown from each research site (color coded and described in each panel key) consisting of both the treated animals (solid lines) and their specific matched controls (same generational cohort scored in parallel, dotted lines). Sample sizes and summary statistics for individual replicates are provided in Supplementary Table 8.



## Supplementary Figure 8:



## Supplementary Figure 8: Representative survivorship curves from control and Resveratrol treated generational cohorts

Each panel (A-F) shows representative survivorship plots for a *Caenorhabditis* strain (indicated above panel) treated chronically from the first day of adulthood with either solvent control (DMSO) or Resveratrol (rsvtrl). Data is presented in a 'by trial' format (each trial consisted of 3 replicate plates initiated with a total of 105-120 animals). For each strain, 1 trial is shown from each research site (color coded and described in each panel key) consisting of both the treated animals (solid lines) and their specific matched controls (same generational cohort scored in parallel, dotted lines). Sample sizes and summary statistics for individual replicates are provided in Supplementary Table 8.

**Supplementary Table 1.** Partitioning of variation for developmental rate and fertility across genetic background and experimental replicates within and among labs. Variance components were estimated as a randomized block design using a restricted maximum likelihood (REML) general linear model using the *lme4* package in R. All factors were treated as random effects.

A. Variance component estimates for developmental rate (i.e., the inverse of the age at first reproduction). Sample sizes and summary statistics are presented in Supplementary Table 5.

| Source      | Variance Component | Lower 95% CI | Upper 95% CI | Percent of Total |
|-------------|--------------------|--------------|--------------|------------------|
| Species     | 1.70E-06           | 2.68E-07     | 1.01517E-05  | 77.8             |
| Strain      | 1.16E-07           | 4.77E-08     | 2.71E-07     | 5.3              |
| Lab         | 0.0                | 0            | 2.82E-07     | 0.0              |
| Species*Lab | 9.04E-08           | 1.45E-08     | 4.52E-07     | 4.2              |
| Strain*Lab  | 8.88E-08           | 5.51E-08     | 1.51E-07     | 4.1              |
| Trial[Lab]  | 8.34E-08           | 4.53E-08     | 1.68E-07     | 3.8              |
| Residual    | 1.06E-07           | 9.89E-08     | 1.13E-07     | 4.8              |
| Total       | 2.18E-06           |              |              | 100.0            |

B. Variance component estimates for lifetime fertility. Estimates for the GLM with normally distributed errors are given in the left columns and those from a GLM with Poisson distributed errors are given in the right columns. Sample sizes and summary statistics are presented in Supplementary Table 6.

| Source      | Variance Component (Normal) | Lower 95% CI | Upper 95% CI | Percent of Total | Variance Component (Poisson-sqrt) | Lower 95% CI | Upper 95% CI |
|-------------|-----------------------------|--------------|--------------|------------------|-----------------------------------|--------------|--------------|
| Species     | 4361                        | 635          | 26803        | 50.9             | 4.27                              | 0.97         | 39.67        |
| Strain      | 1058                        | 456          | 2481         | 12.3             | 1.46                              | 0.62         | 3.4          |
| Lab         | 115                         | 0            | 2600         | 1.4              | 0.09                              | 0            | 2.80         |
| Species*Lab | 0                           | 0            | 397          | 0.0              | 0                                 | 0            | 0.49         |
| Strain*Lab  | 560                         | 324          | 995          | 6.5              | 0.94                              | 0.61         | 1.57         |
| Trial[Lab]  | 476                         | 245          | 983          | 5.6              | 0.61                              | 0.35         | 1.20         |
| Residual    | 1992                        | 1859         | 2137         | 23.26            |                                   |              |              |
| Total       | 8746                        | 3829         | 36059        | 100.0            |                                   |              |              |

**Supplementary Table 2.** Partitioning of variation for longevity across genetic background and experimental replicates within and among labs. Variance components were estimated as a randomized block design using a restricted maximum likelihood (REML) general linear model using the *lme4* package of R. All factors were treated as random effects except for “compound” in Table S1B. Tests involving the fixed compound effects are reported in Supplementary Table 4.

A. Variance component estimates for the natural log of individual lifespan from the 22-strain, 3-species baseline longevity experiments. Sample sizes and summary statistics are presented in Supplementary Table 7.

| Source                          | Variance Component | Lower 95% CI | Upper 95% CI | Percent of Total |
|---------------------------------|--------------------|--------------|--------------|------------------|
| Species                         | 1.22E-02           | 5.37E-04     | 8.12E-02     | 11.7             |
| Strain                          | 8.41E-03           | 3.22E-03     | 2.00E-02     | 8.0              |
| Lab                             | 0.0                | 0.0          | 9.90E-03     | 0.0              |
| Species*Lab                     | 5.85E-04           | 0.0          | 7.46E-03     | 0.6              |
| Strain*Lab                      | 7.21E-03           | 4.32E-03     | 1.25E-02     | 6.9              |
| Experimenter[Lab]               | 0.0                | 0.0          | 3.53E-03     | 0.0              |
| Trial[Lab, Experimenter]        | 9.74E-03           | 6.41E-03     | 1.52E-02     | 9.3              |
| Plate[Lab, Experimenter, Trial] | 6.42E-03           | 5.51E-03     | 7.48E-03     | 6.1              |
| Residual                        | 6.00E-02           | 5.89E-02     | 6.12E-02     | 57.4             |
| Total                           | 1.05E-01           |              |              | 100.0            |

B. Average variance component estimates for the natural log of individual lifespan from the six-strain, ten-compound experiments. See Supplementary Table 3 for a per-strain analysis of replication. Sample sizes and summary statistics are presented in Supplementary Table 8.

| Source                        | Variance Component | Lower 95% CI | Upper 95% CI | Percent of Total |
|-------------------------------|--------------------|--------------|--------------|------------------|
| Species                       | 5.31E-02           | 0.0          | 5.15E-01     | 30.00            |
| Species*Compound              | 6.18E-03           | 2.96E-04     | 6.42E-02     | 3.49             |
| Strain[Species]               | 1.53E-02           | 4.38E-03     | 9.56E-02     | 8.63             |
| Strain*Compound[Species]      | 5.01E-03           | 3.10E-03     | 8.34E-03     | 2.83             |
| Lab                           | 0.0                | 0.0          | 1.17E-02     | 0.00             |
| Lab*Compound                  | 6.85E-04           | 9.19E-05     | 1.64E-03     | 0.39             |
| Lab*Species                   | 2.00E-04           | 0.0          | 4.75E-03     | 0.11             |
| Lab*Strain[Species]           | 8.46E-04           | 0.0          | 2.98E-03     | 0.48             |
| Experimenter[Lab]             | 2.80E-03           | 0.0          | 8.88E-03     | 1.58             |
| Trial[Lab,Experimenter]       | 3.10E-03           | 1.69E-03     | 5.93E-03     | 1.75             |
| Plate[Lab,Experimenter,Trial] | 1.12E-02           | 1.00E-02     | 1.26E-02     | 6.34             |
| Residual                      | 7.86E-02           | 7.74E-02     | 7.99E-02     | 44.40            |
| Total                         | 1.77E-01           |              |              | 100.00           |

**Supplementary Table 3.** Variance components estimates for longevity for the 10-compound experiments, analyzed separately for each strain. Values are from a hierarchical randomized block design estimated either via a restricted maximum likelihood general linear model using the *lme4* package (v. 1.1-12) or via a random effects Cox Proportional Hazards model as implemented by the *coxme* package (v. 2.2-5) in R (Therneau 2012).

**A. *C. elegans* N2 ( $n = 7,962$ )**

| Source                  | General Linear Model |              |              |               | Cox Prop Hazard |
|-------------------------|----------------------|--------------|--------------|---------------|-----------------|
|                         | Var Comp             | Lower 95% CI | Upper 95% CI | Percent Total | Var Comp        |
| Lab                     | 0.88                 | 0.07         | 5.79         | 4.4           | 0.03            |
| Experimenter[Lab]       | 0.14                 | 0            | 1.39         | 0.7           | 0.01            |
| Trial[Lab,Expter]       | 0.67                 | 0.08         | 1.51         | 3.3           | 0.03            |
| Plate[Lab,Expter,Trial] | 2.13                 | 1.49         | 2.63         | 10.7          | 0.10            |
| Residual                | 16.18                | 15.6         | 16.7         | 80.9          |                 |
| Total                   | 20.00                |              |              | 100.0         |                 |

**B. *C. elegans* MY16 ( $n = 7,284$ )**

| Source                  | General Linear Model |              |              |               | Cox Prop Hazard |
|-------------------------|----------------------|--------------|--------------|---------------|-----------------|
|                         | Var Comp             | Lower 95% CI | Upper 95% CI | Percent Total | Var Comp        |
| Lab                     | 0.25                 | 0.0          | 2.14         | 1.2           | 0.02            |
| Experimenter[Lab]       | 0.0                  | 0.0          | 1.30         | 0.0           | 0.0             |
| Trial[Lab,Expter]       | 1.73                 | 0.89         | 2.93         | 8.3           | 0.10            |
| Plate[Lab,Expter,Trial] | 1.53                 | 0.98         | 1.93         | 7.33          | 0.05            |
| Residual                | 17.30                | 16.64        | 17.97        | 83.1          |                 |
| Total                   | 20.79                |              |              | 100.0         |                 |

**C. *C. elegans* JU775 ( $n = 7,245$ )**

| Source                  | General Linear Model |              |              |               | Cox Prop Hazard |
|-------------------------|----------------------|--------------|--------------|---------------|-----------------|
|                         | Var Comp             | Lower 95% CI | Upper 95% CI | Percent Total | Var Comp        |
| Lab                     | 0.0                  | 0.0          | 0.80         | 0.0           | 0.03            |
| Experimenter[Lab]       | 0.18                 | 0.0          | 1.78         | 0.5           | 0.01            |
| Trial[Lab,Expter]       | 2.24                 | 0.98         | 4.05         | 6.0           | 0.06            |
| Plate[Lab,Expter,Trial] | 2.48                 | 1.57         | 3.16         | 6.6           | 0.05            |
| Residual                | 32.57                | 31.40        | 33.81        | 86.9          |                 |
| Total                   | 37.47                |              |              | 100.0         |                 |

**D. C. briggsae AF16** ( $n = 7,459$ )

| Source                  | General Linear Model |              |              |               | Cox Prop Hazard |
|-------------------------|----------------------|--------------|--------------|---------------|-----------------|
|                         | Var Comp             | Lower 95% CI | Upper 95% CI | Percent Total | Var Comp        |
| Lab                     | 0.78                 | 0.0          | 5.83         | 1.6           | 0.26            |
| Experimenter[Lab]       | 0.50                 | 0.0          | 3.04         | 1.1           | 0.09            |
| Trial[Lab,Expter]       | 0.36                 | 0.0          | 1.96         | 0.8           | 0.02            |
| Plate[Lab,Expter,Trial] | 5.53                 | 3.44         | 7.08         | 11.5          | 0.36            |
| Residual                | 40.77                | 38.96        | 42.71        | 85.0          |                 |
| Total                   | 47.90                |              |              | 100.0         |                 |

**E. C. briggsae HK104** ( $n = 7,340$ )

| Source                  | General Linear Model |              |              |               | Cox Prop Hazard |
|-------------------------|----------------------|--------------|--------------|---------------|-----------------|
|                         | Var Comp             | Lower 95% CI | Upper 95% CI | Percent Total | Var Comp        |
| Lab                     | 0.0                  | 0.0          | 6.82         | 0.0           | 0.06            |
| Experimenter[Lab]       | 5.71                 | 0.0          | 18.34        | 7.5           | 0.00            |
| Trial[Lab,Expter]       | 7.61                 | 3.78         | 14.70        | 10.0          | 0.09            |
| Plate[Lab,Expter,Trial] | 7.02                 | 4.73         | 8.74         | 11.5          | 0.20            |
| Residual                | 55.69                | 53.58        | 57.93        | 73.2          |                 |
| Total                   | 76.95                |              |              | 100.0         |                 |

**F. C. briggsae JU1348** ( $n = 7,629$ )

| Source                  | General Linear Model |              |              |               | Cox Prop Hazard |
|-------------------------|----------------------|--------------|--------------|---------------|-----------------|
|                         | Var Comp             | Lower 95% CI | Upper 95% CI | Percent Total | Var Comp        |
| Lab                     | 0.0                  | 0.0          | 0.65         | 0.0           | 0.03            |
| Experimenter[Lab]       | 0.0                  | 0.0          | 0.83         | 0.0           | 0.01            |
| Trial[Lab,Expter]       | 2.22                 | 0.89         | 4.16         | 5.0           | 0.06            |
| Plate[Lab,Expter,Trial] | 5.02                 | 3.24         | 6.31         | 11.3          | 0.13            |
| Residual                | 37.07                | 35.51        | 38.74        | 83.7          |                 |
| Total                   | 44.53                |              |              | 100.0         |                 |

**Supplementary Table 4.** Significance tests for compound interventions effects on longevity. Each effect is tested using both a general linear model of age at death and random effects Cox Proportional Hazard Model. Each compound is tested as a planned comparison against its appropriate carrier control. Variance components estimates for the randomized-block effects that were included in the overall model are presented in Supplementary Table 3.

**A. *C. elegans* N2**

| Compound            | General linear model |        |         |         | Random effects Cox Proportional Hazard |        |         |         |
|---------------------|----------------------|--------|---------|---------|----------------------------------------|--------|---------|---------|
|                     | Effect               | Stderr | z-value | p-value | Effect                                 | Stderr | z-value | p-value |
| Alpha ketoglutarate | 3.78                 | 0.51   | 7.42    | <1E-05  | 1.06                                   | 0.11   | 9.33    | <1E-05  |
| Alpha lipoic acid   | 1.49                 | 0.54   | 2.74    | 0.0401  | 0.44                                   | 0.12   | 3.67    | 0.0017  |
| Aspirin             | 0.25                 | 0.51   | 0.49    | 0.9983  | 0.03                                   | 0.11   | 0.23    | 1.0     |
| Curcumin            | 0.04                 | 0.50   | 0.08    | 1.0     | -0.07                                  | 0.11   | -0.66   | 0.9898  |
| NP1                 | 4.11                 | 0.53   | 7.69    | <1E-04  | 1.10                                   | 0.12   | 9.43    | <1E-04  |
| Propyl gallate      | 1.79                 | 0.50   | 3.59    | 0.0023  | 0.55                                   | 0.11   | 4.98    | <1E-04  |
| Quercitin           | 0.51                 | 0.56   | 0.91    | 0.9422  | 0.12                                   | 0.13   | 0.95    | 0.9286  |
| Resveratrol         | 1.93                 | 0.50   | 3.84    | 0.0008  | 0.71                                   | 0.11   | 6.41    | <1E-04  |
| Thioflavin T        | 3.26                 | 0.38   | 8.55    | <1E-05  | 1.49                                   | 0.09   | 16.46   | <1E-05  |
| Valproic acid       | -0.37                | 0.51   | -0.72   | 0.8330  | -0.06                                  | 0.12   | -0.52   | 0.9290  |

**B. *C. elegans* MY16**

| Compound            | General linear model |        |         |         | Random effects Cox Proportional Hazard |        |         |         |
|---------------------|----------------------|--------|---------|---------|----------------------------------------|--------|---------|---------|
|                     | Effect               | Stderr | z-value | p-value | Effect                                 | Stderr | z-value | p-value |
| Alpha ketoglutarate | 8.01                 | 0.50   | 16.03   | <1E-06  | 1.66                                   | 0.10   | 16.08   | <1E-10  |
| Alpha lipoic acid   | -0.20                | 0.55   | 0.35    | 0.9998  | 0.02                                   | 0.12   | 0.20    | 1.0     |
| Aspirin             | 0.41                 | 0.49   | 0.85    | 0.9607  | 0.05                                   | 0.10   | 0.51    | 0.9980  |
| Curcumin            | -0.47                | 0.50   | -0.93   | 0.9371  | -0.25                                  | 0.10   | -2.39   | 0.106   |
| NP1                 | 3.65                 | 0.49   | 7.47    | <1E-05  | 0.86                                   | 0.10   | 8.54    | <1E-04  |
| Propyl gallate      | 2.21                 | 0.50   | 4.41    | <1E-04  | 0.55                                   | 0.10   | 5.35    | <1E-04  |
| Quercitin           | -0.22                | 0.55   | -0.39   | 0.9996  | -0.10                                  | 0.11   | -0.84   | 0.9630  |
| Resveratrol         | 2.13                 | 0.50   | 4.24    | 0.0002  | 0.52                                   | 0.10   | 4.93    | <1E-04  |
| Thioflavin T        | 9.97                 | 0.45   | 22.05   | <1E-06  | 2.40                                   | 0.10   | 25.00   | <1E-10  |
| Valproic acid       | -2.48                | 0.50   | -4.95   | <1E-05  | -0.82                                  | 0.10   | -7.99   | <1E-10  |

**C. C. elegans JU775**

| Compound            | General linear model |        |         |         | Random effects Cox Proportional Hazard |        |         |         |
|---------------------|----------------------|--------|---------|---------|----------------------------------------|--------|---------|---------|
|                     | Effect               | Stderr | z-value | p-value | Effect                                 | Stderr | z-value | p-value |
| Alpha ketoglutarate | 4.77                 | 0.66   | 7.25    | <0.001  | 0.77                                   | 0.10   | 7.53    | <1E-04  |
| Alpha lipoic acid   | -0.53                | 0.68   | -0.79   | 0.9735  | -0.22                                  | 0.11   | -2.09   | 0.2112  |
| Aspirin             | -0.33                | 0.62   | -0.53   | 0.9973  | -0.09                                  | 0.10   | -0.88   | 0.9526  |
| Curcumin            | 0.71                 | 0.62   | 1.14    | 0.8411  | -0.01                                  | 0.10   | -0.15   | 1.0     |
| NP1                 | 3.45                 | 0.62   | 5.54    | <1E-04  | 0.48                                   | 0.10   | 5.00    | <1E-04  |
| Propyl gallate      | 2.27                 | 0.62   | 3.67    | 0.0005  | 0.39                                   | 0.10   | 4.01    | 0.0004  |
| Quercitin           | -0.74                | 0.67   | -1.11   | 0.8617  | -0.14                                  | 0.10   | -1.30   | 0.7387  |
| Resveratrol         | 3.97                 | 0.63   | 6.30    | <1E-04  | 0.56                                   | 0.10   | 5.71    | <1E-04  |
| Thioflavin T        | 5.20                 | 0.65   | 7.98    | <0.001  | 1.12                                   | 0.10   | 11.16   | <1E-04  |
| Valproic acid       | -1.89                | 0.64   | -2.93   | 0.0094  | -0.39                                  | 0.10   | -3.97   | 0.0002  |

**D. C. briggsae AF16**

| Compound            | General linear model |        |         |         | Random effects Cox Proportional Hazard |        |         |         |
|---------------------|----------------------|--------|---------|---------|----------------------------------------|--------|---------|---------|
|                     | Effect               | Stderr | z-value | p-value | Effect                                 | Stderr | z-value | p-value |
| Alpha ketoglutarate | -1.08                | 0.94   | -1.15   | 0.5370  | 0.03                                   | 0.15   | 0.23    | 0.9920  |
| Alpha lipoic acid   | 1.06                 | 0.92   | 1.15    | 0.8320  | 0.14                                   | 0.14   | 1.01    | 0.9020  |
| Aspirin             | -0.20                | 0.87   | -0.24   | 1.0     | 0.07                                   | 0.13   | 0.50    | 0.9980  |
| Curcumin            | -4.67                | 0.87   | -5.37   | <1E-04  | -0.72                                  | 0.13   | -5.44   | <1E-04  |
| NP1                 | -0.09                | 0.88   | -0.11   | 1.0     | -0.04                                  | 0.13   | -0.26   | 1.0     |
| Propyl gallate      | -1.33                | 0.83   | -1.61   | 0.5040  | 0.13                                   | 0.13   | -1.30   | 0.7350  |
| Quercitin           | 0.38                 | 0.97   | 0.39    | 1.0     | 0.12                                   | 0.15   | 0.78    | 0.9730  |
| Resveratrol         | -1.89                | 0.85   | -2.21   | 0.1580  | -0.17                                  | 0.13   | -1.32   | 0.7180  |
| Thioflavin T        | 4.45                 | 0.95   | 4.70    | <1E-04  | 0.92                                   | 0.14   | 6.43    | <1E-06  |
| Valproic acid       | -4.83                | 1.00   | -4.86   | <1E-04  | -0.81                                  | 0.15   | -5.26   | <1E-06  |



**E. C. briggsae HK104**

| Compound            | General linear model |        |         |         | Random effects Cox Proportional Hazard |        |         |         |
|---------------------|----------------------|--------|---------|---------|----------------------------------------|--------|---------|---------|
|                     | Effect               | Stderr | z-value | p-value | Effect                                 | Stderr | z-value | p-value |
| Alpha ketoglutarate | -3.17                | 1.03   | -3.09   | 0.0056  | -0.63                                  | 0.17   | -3.83   | <0.001  |
| Alpha lipoic acid   | 0.07                 | 1.09   | 0.07    | 1.0     | -0.02                                  | 0.17   | -0.13   | 1.0     |
| Aspirin             | 0.52                 | 0.99   | 0.52    | 1.0     | 0.13                                   | 0.16   | 0.80    | 0.9705  |
| Curcumin            | -3.53                | 1.12   | -3.55   | 0.0026  | -0.75                                  | 0.16   | -4.81   | <1E-04  |
| NP1                 | -8.63                | 1.00   | 8.64    | <1E-4   | -1.53                                  | 0.15   | -10.05  | <1E-04  |
| Propyl gallate      | -1.41                | 1.00   | 1.42    | 0.6517  | -0.22                                  | 0.16   | -1.38   | 0.6795  |
| Quercetin           | -3.45                | 1.12   | -3.08   | 0.0139  | -0.66                                  | 0.18   | -3.69   | 0.0016  |
| Resveratrol         | -1.04                | 1.01   | -1.03   | 0.9006  | -0.18                                  | 0.16   | -1.08   | 0.8737  |
| Thioflavin T        | 3.49                 | 1.02   | 3.43    | 0.0018  | 0.61                                   | 0.17   | 3.69    | <0.001  |
| Valproic acid       | -3.02                | 1.02   | -2.95   | 0.0091  | -0.46                                  | 0.17   | -2.79   | 0.0150  |

**F. C. briggsae JU1348**

| Compound            | General linear model |        |         |         | Random effects Cox Proportional Hazard |        |         |         |
|---------------------|----------------------|--------|---------|---------|----------------------------------------|--------|---------|---------|
|                     | Effect               | Stderr | z-value | p-value | Effect                                 | Stderr | z-value | p-value |
| Alpha ketoglutarate | -2.04                | 0.88   | -2.31   | 0.0552  | -0.31                                  | 0.14   | -2.14   | 0.0833  |
| Alpha lipoic acid   | 1.04                 | 0.93   | 1.11    | 0.8560  | 0.15                                   | 0.15   | 0.96    | 0.9280  |
| Aspirin             | 0.73                 | 0.86   | 0.85    | 0.9600  | 0.19                                   | 0.14   | 1.34    | 0.7100  |
| Curcumin            | -4.14                | 0.84   | -4.96   | <1E-4   | -0.90                                  | 0.14   | -6.63   | <1E-04  |
| NP1                 | 1.96                 | 0.84   | 2.33    | 0.1210  | 0.00                                   | 0.14   | 0.02    | 1.0     |
| Propyl gallate      | -0.91                | 0.83   | 1.09    | 0.8700  | -0.17                                  | 0.14   | -1.25   | 0.7730  |
| Quercetin           | 0.42                 | 0.94   | 0.45    | 0.9990  | -0.13                                  | 0.15   | -0.85   | 0.9590  |
| Resveratrol         | -0.20                | 0.86   | -0.24   | 1.0     | 0.00                                   | 0.14   | 0.00    | 1.0     |
| Thioflavin T        | 1.04                 | 0.90   | 1.16    | 0.5104  | 0.21                                   | 0.15   | 1.45    | 0.3324  |
| Valproic acid       | -4.18                | 0.88   | -4.74   | <0.001  | -0.84                                  | 0.14   | -5.87   | <0.001  |