

Supplementary Table 2: Population Statistics

Figure	Panel	Reference Condition	Reference Population Size	Test Condition	Test Population Size	Scale factor	KS Y Statistic	KS p-value	Additional Metadata
1	b-c	20C	1280	25C	1026	0.733	0.50	0.0258994	wild type
1	b-c	20C	1280	27C	2029	0.628	1.47	0.2	wild type
1	d-e	25C	3756	33C	4643	0.042	4.19	1.18E-15	wild type
1	f-g	0 mM	1588	1.5 mM	878	0.145	1.26	0.0852	wild type
1	f-g	0 mM	1588	3 mM	846	0.064	1.49	0.0234	wild type
1	f-g	0 mM	1588	6 mM	1129	0.030	1.96	0.0009	wild type
1	g-h	UV-killed Bacteria	2462	Live Bacteria	1252	0.667	0.85	>0.2	wild type
2	a,d	wild type	1223	<i>daf-2(e1368)</i>	1163	1.414	1.57	0.0145079	25C
2	b-e	wild type	1608	<i>daf-16(mu86)</i>	1491	0.780	1.28	0.0745341	25C
2	c-f	wild type	993	<i>hsf1(sy441)</i>	1174	0.723	1.22	0.1027819	20C
2	g-j	wild type	1365	<i>eat-2(ad1116)</i>	2462	1.463	2.30	4.95E-05	20C
2	h,k	wild type	1140	<i>nuo-6(qm200)</i>	1038	1.211	4.52	3.43E-18	25C
2	i,l	20C	583	25C	1038	0.760	0.73	>0.2	nuo-6
Ex. 4	d-e	wildtype	1223	<i>age-1(hx546)</i>	1227	1.647	1.00	>0.2	
Ex. 4	f-g	wild type	501	<i>hif-1(ia4)</i>	544	1.085	0.45	>0.2	25C
Ex. 4	h-i	20C	646	22.5C	474	0.862	0.65	>0.2	eat-2
3	c	24C for 3 days	1065	26C for 3 days	547		1.13	0.015877	29C scale
3	c	24C for 3 days	1065	27.5C for 3 days	573		1.56	0.0157039	29C scale
3	c	24C for 3 days	1065	29C for 3 days	563		5.29	1.08E-24	29C scale
3	d	24C for 3 days	1065	26C for 3 days	547		0.83	>0.2	29C shift
3	d	24C for 3 days	1065	27.5C for 3 days	573		0.75	>0.2	29C shift
3	d	24C for 3 days	1065	29C for 3 days	563		0.74	>0.2	29C shift
Ex. 4	j-k	wildtype	1539	<i>daf-2(e1368)</i>	1228	1.473	0.80	>0.2	
Ex. 4	l-m	wildtype	1680	<i>daf-16(mu86)</i>	1320	0.762	1.35	0.0535522	
Ex. 4	n-o	wildtype	1574	<i>age-1(hx546)</i>	1314	1.387	1.55	0.016599	
Ex. 5	a-b	24C always	541	29C always	563		1.62	0.010686	scale
Ex. 5	b-c	24C always	541	29C always	563		6.01	9.22E-32	shift
4 and Ex. 3	a-b and a-i	wildtype	16804	<i>n/a</i>	<i>n/a</i>	Scale factors were estimated using an accelerated failure time (AFT) regression KS test statistics and p-values were estimated using the modified Kolomorogov-Smirnov test (Statistical Methods and Supplementary Note 2)			
4	c-d	wildtype	2921	<i>age-1(hx546)II.</i>	1140				
4	c-d	wildtype	2921	<i>daf-2(e1368)</i>	1059				
4	c-d	wildtype	2921	<i>daf-16(mu86) I</i>	1402				
Ex. 7	c	wildtype	5839	<i>age-1(hx546)II.</i>	1657				
Ex. 7	c	wildtype	5839	<i>daf-2(e1368)</i>	584				
Ex. 7	c	wildtype	5839	<i>daf-16(mu86) I</i>	1770				
4	e	wildtype	10811	<i>n/a</i>	<i>n/a</i>				
4	f	wildtype	5624	<i>age-1(hx546)II.</i>	3028				
4	f	wildtype	5624	<i>daf-2(e1368)</i>	2880				
4	f	wildtype	5116	<i>daf-16(mu86) I</i>	3963				
Figure	Panel	Group	Population Size	Group	Population Size				
Ex. 1	a-i	Replicate 1	1249	Replicate 2	1388				
		Replicate 3	816	Replicate 4	1230				
1 and Ex. 2	a and a-b	20.1 °C	1733	30.9 °C	1734				
		23.7 °C	4069	31.3 °C	1801				
		25.2 °C	4207	32.5 °C	1653				
		29.1 °C	1573	32.6 °C	4765				
		30 °C	1743						
Ex 4	b	0 days	381	2 days	466				
		1 day	294	3 days	388				
Ex 4	c	t-Butanol	530	t-BuOOH	580				
Ex 5	d-g	0 days	501	2 days	529				
		1 day	485	3 days	477				
Ex 9	l	1 shift	903	5 shifts	975				
		1 shift	1127	5 shifts	952				
		3 shifts	797						
		3 shifts	905						