

Supplementary Table 3: Parameter estimates from the temperature and tBuOOH scaling functions

AFT Regression Parameters									Arrhenius Energy Estimates				Predicted Temporal Scaling Across Thermal Range					
20-29 °C (Figure 4.d)		β_T	β_T	β_g	β_g	β_x	β_x	$p(\beta_x)$	Wild Type	Mutant	Wild Type	Mutant	Offset used	T_1	T_2	wild type	mutant	mutant
Regime		stderr	stderr	stderr	stderr	stderr	stderr	<.001?	(KJ/Kmol)	(KJ/Kmol)	(eV)	(eV)	to center T			lambda	lambda	relative to wild type
<i>daf-16 (mu86)</i>	I.a	7298.3	235	-0.31	0.005	1073.4	399	N	61	70	0.63	0.72	-3.4E-03	20	24.4	0.69	0.66	0.95
<i>daf-2(e1368)</i>	I.a	7438.9	245	0.34	0.006	-3995.0	407	Y	62	29	0.64	0.30	-3.4E-03	20	24.4	0.69	0.84	1.22
<i>age-1(hx546)</i>	I.a	7350.0	231	0.34	0.011	-3643.8	683	Y	61	31	0.63	0.32	-3.4E-03	20	24.4	0.69	0.83	1.20
<i>daf-16 (mu86)</i>	I.b	19280.7	270	-0.31	0.005	-1586.4	380	Y	160	147	1.66	1.52	-3.3E-03	24.4	29.1	0.36	0.40	1.09
<i>daf-2(e1368)</i>	I.b	18815.2	287	0.46	0.006	-309.7	358	Y	156	154	1.62	1.59	-3.3E-03	24.4	29.1	0.37	0.38	1.02
<i>age-1(hx546)</i>	I.b	20206.4	272	0.48	0.006	-1740.7	358	Y	168	154	1.74	1.59	-3.3E-03	24.4	29.1	0.35	0.38	1.10
29-35 °C (Extended Data 6c)																		
<i>daf-16 (mu86)</i>	II	62846.2	642	-0.18	0.008	-15033.0	766	Y	523	398	5.42	4.12	-3.3E-03	29.1	32.1	0.13	0.21	1.63
<i>daf-2(e1368)</i>	II	66551.5	772	0.24	0.010	1039.2	1268	N	553	562	5.73	5.82	-3.3E-03	29.1	32.1	0.11	0.11	0.97
<i>age-1(hx546)</i>	II	65173.8	760	0.32	0.010	-1853.2	1202	N	542	526	5.62	5.46	-3.3E-03	29.1	32.1	0.12	0.13	1.06
<i>daf-16 (mu86)</i>	III	28838.0	515	-0.11	0.008	4541.2	658	Y	240	278	2.48	2.88	-3.3E-03	32.1	35	0.41	0.36	0.87
<i>daf-2(e1368)</i>	III	28893.2	531	0.34	0.012	2629.5	890	Y	240	262	2.49	2.72	-3.3E-03	32.1	35	0.41	0.38	0.92
<i>age-1(hx546)</i>	III	28876.9	496	0.30	0.008	3479.1	666	Y	240	269	2.49	2.79	-3.3E-03	32.1	35	0.41	0.37	0.90

Details on the regressions are provided in Statistical Methods

tBuOOH (Figure 4e)	β_C	β_B	β_r	β_r	β_r	β_r	β_X	β_X	β_X	β_X
	stderr	stderr	1	1	stderr	stderr	1	1	stderr	stderr
			stderr	stderr			stderr	stderr		
			r	r			r	r		
wild type	-1.84	0.0219	0.06	0.04	0.23	0.0	0.22	0.22	0.126	0.126

Details on the regressions are provided in Statistical Methods