Bisphenols alter thermal responses and performance in zebrafish (*Danio rerio*)

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SUPPLEMENTARY INFORMATION

Supplementary tables

Table S1. Summary statistics from the U_{crit} estimated marginal means pairwise comparison for BPA, BPF, BPS. Names were ordered as acclimation temperature (18/28 °C), exposure (control/exposed), and acute temperature (18/28 °C).

	BPA				
accl temp, exposure, acute temp	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	0.01	0.02	69.6	0.55	1.00
18,control,18 - 18,BPA,18	0.02	0.02	66.3	1.09	0.96
18,control,18 - 28,BPA,18	0.02	0.02	66.9	1.06	0.96
18,control,18 - 18,control,28	-0.06	0.01	61	-4.53	0.00
18,control,18 - 28,control,28	-0.09	0.02	73.2	-5.32	<.0001
18,control,18 - 18,BPA,28	-0.05	0.02	79.1	-3.05	0.06
18,control,18 - 28,BPA,28	-0.09	0.02	75	-5.05	0.0001
28,control,18 - 18,BPA,18	0.01	0.01	67.8	0.61	1.00
28,control,18 - 28,BPA,18	0.01	0.01	66.3	0.61	1.00
28,control,18 - 18,control,28	-0.07	0.02	91.5	-3.48	0.02
28,control,18 - 28,control,28	-0.10	0.01	65.1	-7.88	<.0001
28,control,18 - 18,BPA,28	-0.06	0.02	91.4	-3.49	0.02
28,control,18 - 28,BPA,28	-0.10	0.02	89.4	-5.59	<.0001
18,BPA,18 - 28,BPA,18	0.00	0.01	66.1	-0.02	1.00
18,BPA,18 - 18,control,28	-0.08	0.02	87.1	-4.14	0.002
18,BPA,18 - 28,control,28	-0.11	0.02	80.4	-6.84	<.0001
18,BPA,18 - 18,BPA,28	-0.07	0.01	64.4	-5.70	<.0001
18,BPA,18 - 28,BPA,28	-0.11	0.02	83.3	-6.50	<.0001
28,BPA,18 - 18,control,28	-0.08	0.02	88.9	-4.00	<.0001
28,BPA,18 - 28,control,28	-0.11	0.02	83.6	-6.65	<.0001
28,BPA,18 - 18,BPA,28	-0.07	0.02	88.9	-4.11	0.002
28,BPA,18 - 28,BPA,28	-0.10	0.01	64.7	-8.53	<.0001
18,control,28 - 28,control,28	-0.03	0.02	69.8	-1.57	0.77
18,control,28 - 18,BPA,28	0.01	0.02	68.2	0.57	1.00
18,control,28 - 28,BPA,28	-0.02	0.02	67.4	-1.48	0.82
28,control,28 - 18,BPA,28	0.03	0.01	69.1	2.46	0.23
28,control,28 - 28,BPA,28	0.00	0.01	66.1	0.11	1.00
18,BPA,28 - 28,BPA,28	-0.03	0.01	67.7	-2.36	0.28

BPF					
accl temp, exposure, acute temp	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	-0.02	0.01	102	-1.75	0.66
18,control,18 - 18,BPS,18	0.01	0.01	101.4	0.86	0.99
18,control,18 - 28,BPS,18	0.00	0.01	102	-0.06	1.00
18,control,18 - 18,control,28	-0.02	0.01	68.9	-1.49	0.81
18,control,18 - 28,control,28	-0.07	0.01	101.4	-5.39	<.0001
18,control,18 - 18,BPS,28	-0.01	0.01	100.7	-0.68	1.00
18,control,18 - 28,BPS,28	-0.04	0.01	101.2	-2.87	0.09
28,control,18 - 18,BPS,18	0.03	0.01	101.7	2.57	0.18
28,control,18 - 28,BPS,18	0.02	0.01	102	1.66	0.71
28,control,18 - 18,control,28	0.00	0.01	101.9	0.02	1.00
28,control,18 - 28,control,28	-0.05	0.01	73.8	-3.96	<.0001
28,control,18 - 18,BPS,28	0.01	0.01	101.1	0.73	1.00
28,control,18 - 28,BPS,28	-0.02	0.01	101.3	-1.53	0.79
18,BPS,18 - 28,BPS,18	-0.01	0.01	101.3	-0.91	0.99
18,BPS,18 - 18,control,28	-0.03	0.01	101.2	-2.20	0.36
18,BPS,18 - 28,control,28	-0.08	0.01	100.7	-6.01	<.0001
18,BPS,18 - 18,BPS,28	-0.02	0.01	71.2	-1.46	0.83
18,BPS,18 - 28,BPS,28	-0.05	0.01	100.5	-3.51	0.01
28,BPS,18 - 18,control,28	-0.02	0.01	101.7	-1.42	0.85
28,BPS,18 - 28,control,28	-0.07	0.01	101.2	-5.28	<.0001
28,BPS,18 - 18,BPS,28	-0.01	0.01	100.2	-0.63	1.00
28,BPS,18 - 28,BPS,28	-0.04	0.01	83.2	-2.80	0.11
18,control,28 - 28,control,28	-0.05	0.01	102	-4.66	0.0002
18,control,28 - 18,BPS,28	0.01	0.01	101.5	0.80	0.99
18,control,28 - 28,BPS,28	-0.02	0.01	101.9	-1.89	0.56
28,control,28 - 18,BPS,28	0.06	0.01	101.5	5.52	<.0001
28,control,28 - 28,BPS,28	0.03	0.01	102	2.84	0.10
18,BPS,28 - 28,BPS,28	-0.03	0.01	101.5	-2.76	0.12
BPS					
accl temp, exposure, acute temp	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	-0.01	0.01	83	-1.18	0.93
18,control,18 - 18,BPF,18	0.02	0.01	82.7	1.63	0.73
18,control,18 - 28,BPF,18	0.01	0.01	83.3	0.95	0.98
18,control,18 - 18,control,28	-0.02	0.01	68.8	-2.21	0.36
18,control,18 - 28,control,28	-0.07	0.01	94	-6.13	<.0001
18,control,18 - 18,BPF,28	0.00	0.01	90.1	-0.13	1.00
18,control,18 - 28,BPF,28	-0.04	0.01	93.9	-3.44	0.02
28,control,18 - 18,BPF,18	0.03	0.01	82.1	2.76	0.12

28,control,18 - 28,BPF,18	0.02	0.01	83.1	2.17	0.38
28,control,18 - 18,control,28	-0.01	0.01	94.5	-0.81	0.99
28,control,18 - 28,control,28	-0.06	0.01	72.4	-6.15	<.0001
28,control,18 - 18,BPF,28	0.01	0.01	90.5	0.86	0.99
28,control,18 - 28,BPF,28	-0.03	0.01	94.7	-2.43	0.24
18,BPF,18 - 28,BPF,18	-0.01	0.01	82.5	-0.74	1.00
18,BPF,18 - 18,control,28	-0.04	0.01	93.7	-3.09	0.05
18,BPF,18 - 28,control,28	-0.09	0.01	93.8	-7.14	<.0001
18,BPF,18 - 18,BPF,28	-0.02	0.01	64.8	-1.92	0.54
18,BPF,18 - 28,BPF,28	-0.06	0.01	93.8	-4.62	0.0003
28,BPF,18 - 18,control,28	-0.03	0.01	95.3	-2.55	0.19
28,BPF,18 - 28,control,28	-0.08	0.01	95.7	-6.77	<.0001
28,BPF,18 - 18,BPF,28	-0.01	0.01	91.7	-0.92	0.98
28,BPF,18 - 28,BPF,28	-0.05	0.01	73.5	-4.95	0.0001
18,control,28 - 28,control,28	-0.05	0.01	84.9	-5.08	0.0001
18,control,28 - 18,BPF,28	0.02	0.01	84.4	1.85	0.59
18,control,28 - 28,BPF,28	-0.02	0.01	84.9	-1.89	0.56
28,control,28 - 18,BPF,28	0.07	0.01	82.8	6.73	<.0001
28,control,28 - 28,BPF,28	0.03	0.01	83	3.31	0.03
18,BPF,28 - 28,BPF,28	-0.04	0.01	83.1	-3.71	0.01

Table S2. Summary statistics from the CS activity estimated marginal means pairwise comparison for BPA, BPF, BPS. Names were ordered as acclimation temperature (18/28 °C), exposure (control/exposed), and acute temperature (18/28 °C).

	BPA				
contrast	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	-0.07	0.51	55.3	-0.14	1.00
18,control,18 - 18,BPA,18	-0.21	0.51	55.3	-0.42	1.00
18,control,18 - 28,BPA,18	-0.51	0.51	55.3	-1.02	0.97
18,control,18 - 18,control,28	-1.98	0.30	41	-6.63	<.0001
18,control,18 - 28,control,28	-1.27	0.51	55.3	-2.52	0.21
18,control,18 - 18,BPA,28	-1.30	0.51	55.3	-2.57	0.19
18,control,18 - 28,BPA,28	-2.12	0.51	55.3	-4.18	0.003
28,control,18 - 18,BPA,18	-0.14	0.47	55.3	-0.30	1.00
28,control,18 - 28,BPA,18	-0.44	0.47	55.3	-0.95	0.98
28,control,18 - 18,control,28	-1.91	0.51	55.3	-3.77	0.01
28,control,18 - 28,control,28	-1.20	0.26	41	-4.65	0.00
28,control,18 - 18,BPA,28	-1.23	0.47	55.3	-2.63	0.17
28,control,18 - 28,BPA,28	-2.05	0.47	55.3	-4.37	0.001
18,BPA,18 - 28,BPA,18	-0.30	0.47	55.3	-0.65	1.00

18,BPA,18 - 18,control,28	-1.77	0.51	55.3	-3.49	0.02
18,BPA,18 - 28,control,28	-1.06	0.47	55.3	-2.27	0.33
18,BPA,18 - 18,BPA,28	-1.09	0.26	41	-4.22	0.003
18,BPA,18 - 28,BPA,28	-1.91	0.47	55.3	-4.07	0.004
28,BPA,18 - 18,control,28	-1.47	0.51	55.3	-2.90	0.09
28,BPA,18 - 28,control,28	-0.76	0.47	55.3	-1.62	0.74
28,BPA,18 - 18,BPA,28	-0.79	0.47	55.3	-1.68	0.70
28,BPA,18 - 28,BPA,28	-1.61	0.26	41	-6.20	<.0001
18,control,28 - 28,control,28	0.71	0.51	55.3	1.40	0.86
18,control,28 - 18,BPA,28	0.68	0.51	55.3	1.34	0.88
18,control,28 - 28,BPA,28	-0.14	0.51	55.3	-0.27	1.00
28,control,28 - 18,BPA,28	-0.03	0.47	55.3	-0.06	1.00
28,control,28 - 28,BPA,28	-0.85	0.47	55.3	-1.80	0.62
18,BPA,28 - 28,BPA,28	-0.82	0.47	55.3	-1.74	0.66
	BPF				
contrast	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18 -	0.25	0.34	68.2	-0.73	1.00
18,control,18 - 18,BPF,18	-0.34	0.34	68.2	-1.00	0.97
18,control,18 - 28,BPF,18	0.00	0.34	68.2	-0.01	1.00
18,control,18 - 18,control,28	-1.84	0.23	44	-7.88	<.0001
18,control,18 - 28,control,28	-2.18	0.34	68.2	-6.36	<.0001
18,control,18 - 18,BPF,28	-2.19	0.34	68.2	-6.38	<.0001
18,control,18 - 28,BPF,28	-1.60	0.34	68.2	-4.67	0.0004
28,control,18 - 18,BPF,18	-0.09	0.34	68.2	-0.27	1.00
28,control,18 - 28,BPF,18	0.25	0.34	68.2	0.72	1.00
28,control,18 - 18,control,28	-1.58	0.34	68.2	-4.62	0.00
28,control,18 - 28,control,28	-1.93	0.23	44	-8.29	<.0001
28,control,18 - 18,BPF,28	-1.93	0.34	68.2	-5.64	<.0001
28,control,18 - 28,BPF,28	-1.35	0.34	68.2	-3.94	0.005
18,BPF,18 - 28,BPF,18	0.34	0.34	68.2	0.99	0.97
18,BPF,18 - 18,control,28	-1.49	0.34	68.2	-4.35	0.001
18,BPF,18 - 28,control,28	-1.84	0.34	68.2	-5.36	<.0001
18,BPF,18 - 18,BPF,28	-1.84	0.23	44	-7.91	<.0001
18,BPF,18 - 28,BPF,28	-1.26	0.34	68.2	-3.67	0.01
28,BPF,18 - 18,control,28	-1.83	0.34	68.2	-5.35	<.0001
28,BPF,18 - 28,control,28	-2.18	0.34	68.2	-6.35	<.0001
28,BPF,18 - 18,BPF,28	-2.18	0.34	68.2	-6.37	<.0001
28,BPF,18 - 28,BPF,28	-1.60	0.23	44	-6.87	<.0001
18,control,28 - 28,control,28	-0.34	0.34	68.2	-1.01	0.97
18,control,28 - 18,BPF,28	-0.35	0.34	68.2	-1.02	0.97

18,control,28 - 28,BPF,28	0.23	0.34	68.2	0.68	1.00
28,control,28 - 18,BPF,28	-0.01	0.34	68.2	-0.02	1.00
28,control,28 - 28,BPF,28	0.58	0.34	68.2	1.69	0.70
18,BPF,28 - 28,BPF,28	0.58	0.34	68.2	1.70	0.69
	BPS				
contrast	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	0.33	0.37	70.2	0.92	0.98
18,control,18 - 18,BPS,18	0.91	0.37	70.2	2.49	0.22
18,control,18 - 28,BPS,18	0.73	0.37	70.2	2.00	0.49
18,control,18 - 18,control,28	-0.92	0.26	44	-3.56	0.02
18,control,18 - 28,control,28	-0.96	0.37	70.2	-2.62	0.17
18,control,18 - 18,BPS,28	0.20	0.37	70.2	0.54	1.00
18,control,18 - 28,BPS,28	-0.21	0.37	70.2	-0.59	1.00
28,control,18 - 18,BPS,18	0.58	0.37	70.2	1.58	0.76
28,control,18 - 28,BPS,18	0.40	0.37	70.2	1.08	0.96
28,control,18 - 18,control,28	-1.25	0.37	70.2	-3.43	0.02
28,control,18 - 28,control,28	-1.29	0.26	44	-5.02	0.0002
28,control,18 - 18,BPS,28	-0.14	0.37	70.2	-0.38	1.00
28,control,18 - 28,BPS,28	-0.55	0.37	70.2	-1.50	0.80
18,BPS,18 - 28,BPS,18	-0.18	0.37	70.2	-0.49	1.00
18,BPS,18 - 18,control,28	-1.83	0.37	70.2	-5.00	0.0001
18,BPS,18 - 28,control,28	-1.87	0.37	70.2	-5.12	0.0001
18,BPS,18 - 18,BPS,28	-0.71	0.26	44	-2.77	0.13
18,BPS,18 - 28,BPS,28	-1.13	0.37	70.2	-3.08	0.06
28,BPS,18 - 18,control,28	-1.65	0.37	70.2	-4.51	0.0006
28,BPS,18 - 28,control,28	-1.69	0.37	70.2	-4.62	0.0004
28,BPS,18 - 18,BPS,28	-0.53	0.37	70.2	-1.46	0.83
28,BPS,18 - 28,BPS,28	-0.94	0.26	44	-3.67	0.01
18,control,28 - 28,control,28	-0.04	0.37	70.2	-0.11	1.00
18,control,28 - 18,BPS,28	1.11	0.37	70.2	3.05	0.06
18,control,28 - 28,BPS,28	0.70	0.37	70.2	1.92	0.54
28,control,28 - 18,BPS,28	1.15	0.37	70.2	3.16	0.05
28,control,28 - 28,BPS,28	0.74	0.37	70.2	2.03	0.47
18,BPS,28 - 28,BPS,28	-0.41	0.37	70.2	-1.13	0.95

Table S3. Summary statistics from the LDH activity estimated marginal means pairwise comparison for BPA, BPF, BPS. Names were ordered as acclimation temperature (18/28 °C), exposure (control/exposed), and acute temperature (18/28 °C).

	BPA				
contrast	**estimate**	**SE**	**df**	**t.ratio**	**p.value**

18,control,18 - 28,control,18	7.29	10.73	64	0.68	1.00
18,control,18 - 18,BPA,18	3.05	10.73	64	0.28	1.00
18,control,18 - 28,BPA,18	-10.57	10.73	64	-0.99	0.98
18,control,18 - 18,control,28	-29.19	7.87	41	-3.71	0.01
18,control,18 - 28,control,28	-24.02	10.73	64	-2.24	0.34
18,control,18 - 18,BPA,28	-13.20	10.73	64	-1.23	0.92
18,control,18 - 28,BPA,28	-45.38	10.73	64	-4.23	0.002
28,control,18 - 18,BPA,18	-4.24	9.93	64	-0.43	1.00
28,control,18 - 28,BPA,18	-17.86	9.93	64	-1.80	0.62
28,control,18 - 18,control,28	-36.48	10.73	64	-3.40	0.02
28,control,18 - 28,control,28	-31.31	6.81	41	-4.60	0.001
28,control,18 - 18,BPA,28	-20.50	9.93	64	-2.06	0.45
28,control,18 - 28,BPA,28	-52.67	9.93	64	-5.30	<.0001
18,BPA,18 - 28,BPA,18	-13.62	9.93	64	-1.37	0.87
18,BPA,18 - 18,control,28	-32.24	10.73	64	-3.01	0.07
18,BPA,18 - 28,control,28	-27.07	9.93	64	-2.73	0.13
18,BPA,18 - 18,BPA,28	-16.25	6.81	41	-2.39	0.28
18,BPA,18 - 28,BPA,28	-48.43	9.93	64	-4.88	0.0002
28,BPA,18 - 18,control,28	-18.62	10.73	64	-1.74	0.66
28,BPA,18 - 28,control,28	-13.45	9.93	64	-1.36	0.87
28,BPA,18 - 18,BPA,28	-2.64	9.93	64	-0.27	1.00
28,BPA,18 - 28,BPA,28	-34.81	6.81	41	-5.11	0.0002
18,control,28 - 28,control,28	5.17	10.73	64	0.48	1.00
18,control,28 - 18,BPA,28	15.98	10.73	64	1.49	0.81
18,control,28 - 28,BPA,28	-16.19	10.73	64	-1.51	0.80
28,control,28 - 18,BPA,28	10.81	9.93	64	1.09	0.96
28,control,28 - 28,BPA,28	-21.36	9.93	64	-2.15	0.39
18,BPA,28 - 28,BPA,28	-32.18	9.93	64	-3.24	0.04
	BPF				
contrast	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	-0.54	7.01	77.5	-0.08	1.00
18,control,18 - 18,BPF,18	11.17	7.01	77.5	1.59	0.75
18,control,18 - 28,BPF,18	4.34	7.01	77.5	0.62	1.00
18,control,18 - 18,control,28	-34.97	5.58	44	-6.27	<.0001
18,control,18 - 28,control,28	-27.02	7.01	77.5	-3.85	0.01
18,control,18 - 18,BPF,28	-19.81	7.01	77.5	-2.83	0.10
18,control,18 - 28,BPF,28	-41.18	7.01	77.5	-5.88	<.0001
28,control,18 - 18,BPF,18	11.71	7.01	77.5	1.67	0.71
28,control,18 - 28,BPF,18	4.88	7.01	77.5	0.70	1.00
28,control,18 - 18,control,28	-34.43	7.01	77.5	-4.91	0.0001

28,control,18 - 28,control,28	-26.47	5.58	44	-4.75	0.0005
28,control,18 - 18,BPF,28	-19.27	7.01	77.5	-2.75	0.12
28,control,18 - 28,BPF,28	-40.63	7.01	77.5	-5.80	<.0001
18,BPF,18 - 28,BPF,18	-6.83	7.01	77.5	-0.97	0.98
18,BPF,18 - 18,control,28	-46.14	7.01	77.5	-6.58	<.0001
18,BPF,18 - 28,control,28	-38.18	7.01	77.5	-5.45	<.0001
18,BPF,18 - 18,BPF,28	-30.98	5.58	44	-5.56	<.0001
18,BPF,18 - 28,BPF,28	-52.34	7.01	77.5	-7.47	<.0001
28,BPF,18 - 18,control,28	-39.31	7.01	77.5	-5.61	<.0001
28,BPF,18 - 28,control,28	-31.35	7.01	77.5	-4.47	0.0007
28,BPF,18 - 18,BPF,28	-24.15	7.01	77.5	-3.45	0.02
28,BPF,18 - 28,BPF,28	-45.52	5.58	44	-8.16	<.0001
18,control,28 - 28,control,28	7.95	7.01	77.5	1.14	0.95
18,control,28 - 18,BPF,28	15.16	7.01	77.5	2.16	0.39
18,control,28 - 28,BPF,28	-6.21	7.01	77.5	-0.89	0.99
28,control,28 - 18,BPF,28	7.21	7.01	77.5	1.03	0.97
28,control,28 - 28,BPF,28	-14.16	7.01	77.5	-2.02	0.48
18,BPF,28 - 28,BPF,28	-21.37	7.01	77.5	-3.05	0.06
	BPS				
contrast	**estimate**	**SE**	**df**	**t.ratio**	**p.value**
18,control,18 - 28,control,18	-5.06	7.51	64.9	-0.67	1.00
18,control,18 - 18,BPS,18	9.34	7.51	64.9	1.24	0.92
18,control,18 - 28,BPS,18	2.33	7.51	64.9	0.31	1.00
18,control,18 - 18,control,28	-31.10	4.76	44	-6.53	<.0001
18,control,18 - 28,control,28	-42.47	7.51	64.9	-5.66	<.0001
18,control,18 - 18,BPS,28	-20.42	7.51	64.9	-2.72	0.14
18,control,18 - 28,BPS,28	-32.77	7.51	64.9	-4.36	0.001
28,control,18 - 18,BPS,18	14.40	7.51	64.9	1.92	0.54
28,control,18 - 28,BPS,18	7.39	7.51	64.9	0.98	0.98
28,control,18 - 18,control,28	-26.04	7.51	64.9	-3.47	0.02
28,control,18 - 28,control,28	-37.41	4.76	44	-7.85	<.0001
28,control,18 - 18,BPS,28	-15.36	7.51	64.9	-2.05	0.46
28,control,18 - 28,BPS,28	-27.71	7.51	64.9	-3.69	0.01
18,BPS,18 - 28,BPS,18	-7.01	7.51	64.9	-0.93	0.98
18,BPS,18 - 18,control,28	-40.44	7.51	64.9	-5.39	<.0001
18,BPS,18 - 28,control,28	-51.81	7.51	64.9	-6.90	<.0001
18,BPS,18 - 18,BPS,28	-29.76	4.76	44	-6.25	<.0001
18,BPS,18 - 28,BPS,28	-42.11	7.51	64.9	-5.61	<.0001
28,BPS,18 - 18,control,28	-33.43	7.51	64.9	-4.45	0.001
28,BPS,18 - 28,control,28	-44.80	7.51	64.9	-5.97	<.0001

28,BPS,18 - 18,BPS,28	-22.75	7.51	64.9	-3.03	0.07
28,BPS,18 - 28,BPS,28	-35.10	4.76	44	-7.37	<.0001
18,control,28 - 28,control,28	-11.37	7.51	64.9	-1.51	0.80
18,control,28 - 18,BPS,28	10.68	7.51	64.9	1.42	0.84
18,control,28 - 28,BPS,28	-1.67	7.51	64.9	-0.22	1.00
28,control,28 - 18,BPS,28	22.05	7.51	64.9	2.94	0.08
28,control,28 - 28,BPS,28	9.70	7.51	64.9	1.29	0.90
18,BPS,28 - 28,BPS,28	-12.35	7.51	64.9	-1.65	0.72

Supplementary figures

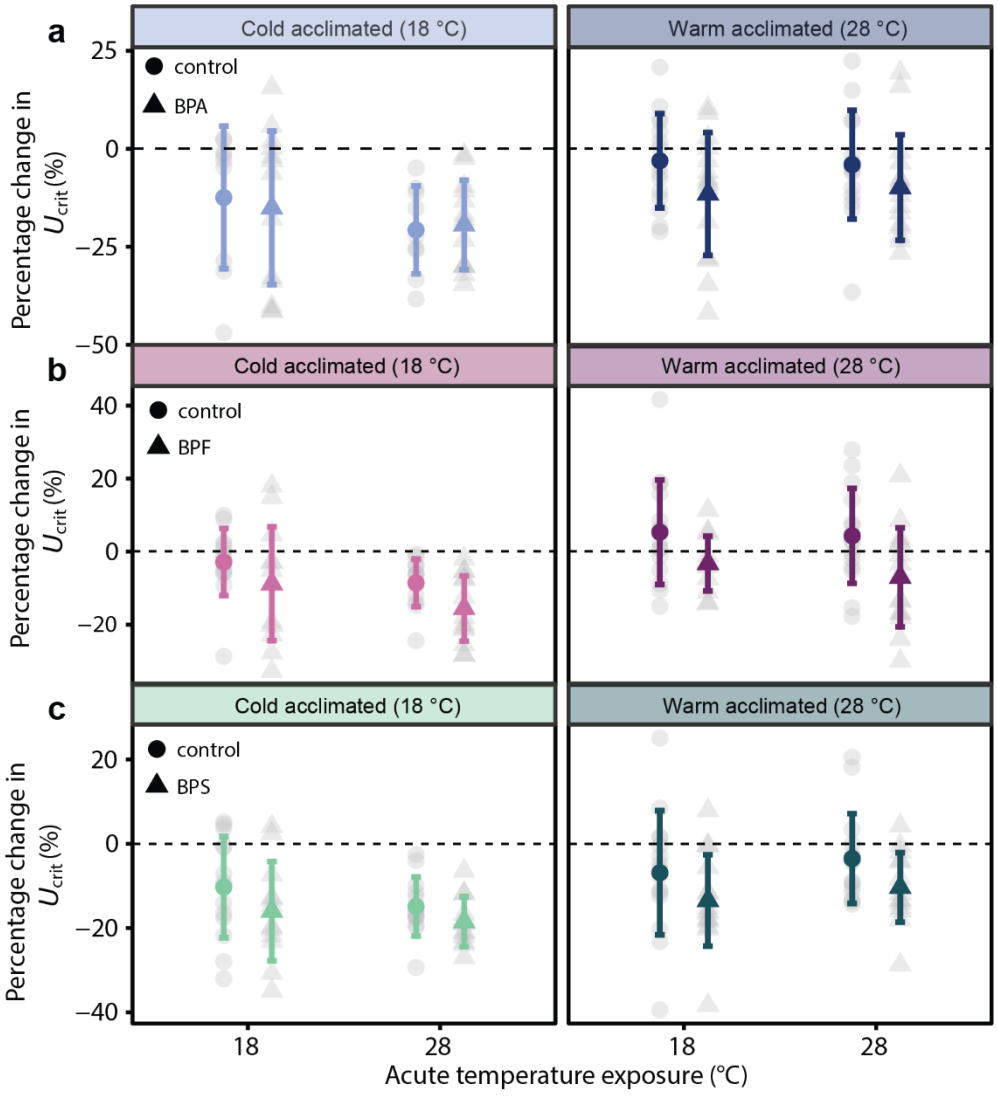

Fig. S1. Percentage change in post-exposure U_{crit} (3 weeks cold/warm with bisphenol exposure) from pre-exposure (prior to exposure). Change in U_{crit} in the bisphenol A (a), bisphenol F (b), and bisphenol S (c) treatment exposed at 18 and 28 °C acute temperature between the cold- (left plot) and warm-acclimated (right plot) treatments. Positive values indicate an increase in U_{crit} or Q_{10}, and negative values indicate a decrease in in U_{crit}. Data was presented as mean ± s.d. (n = 9–15) with individual data as grey points.