

Supplementary data

Table S1. Fitness. Experimental results of the change in pCO₂ (delta CO₂: second CO₂ minus first CO₂) and its impact on fitness during life stages 1=embryo, 2= larva, 3=juvenile, and 4=adult. In elasmobranch/bony fish, 1= elasmobranch and 0= bony fish. A value of 1 for fitness represents a negative impact on fish fitness.

Article code	CO ₂ first (μatm)	CO ₂ second (μatm)	Delta CO ₂ (μatm)	Elasmobranch /bony fish	Life stage	Fitness
1	405	1064	659	1	4	1
3	400	1000	600	1	3	1
4	400	1000	600	1	3	1
5	401	993	592	1	3	1
6	420	945	525	1	1	1
7	400	910	510	1	2	0
8	397	876	479	1	3	1
9	382	1481	1099	1	3	1
10	382	1481	1099	1	3	1
11	382	1481	1099	1	3	1
12	551	1060	509	1	3	1
13	411	891	480	1	3	1
14	411	891	480	1	3	1
15	465	1477	1012	0	4	1
22	397	1036	639	0	3	0
23	450	961	511	0	4	1
25	483	1125	642	0	3	1
28	459	2294	1835	0	1	1
29	422	1115	693	1	1	1
30	532	1013	481	0	3	0
32	468	885	417	0	2	1
33	464	1051	587	0	2	0
35	374	994	620	0	4	1
36	410	1121	711	1	3	1
38	549	983	434	0	3	0
42	424	1012	588	0	3	1
44	475	877	402	0	2	1
45	370	1050	680	0	4	1
46	406	945	539	0	4	0
47	356	2015	1659	0	2	1
52	400	1000	600	1	4	1
53	700	1600	900	0	4	1
55	424	1012	588	0	3	1
56	703	2290	1587	1	3	1
57	516	1489	973	0	3	1
58	386	2184	1798	1	3	1
59	404	980	576	0	3	1
60	462	959	497	0	3	1
61	400	1000	600	0	4	1
62	442	915	473	1	3	0
63	590	980	390	0	4	0
64	650	1750	1100	0	4	1

Article code	CO ₂ first (μatm)	CO ₂ second (μatm)	Delta CO ₂ (μatm)	Elasmobranch /bony fish	Life stage	Fitness
65	435	1079	644	0	4	1
66	400	1100	700	0	2	1
67	401	13000	12599	1	4	1
79	532	1013	481	0	3	0
81	385	925	540	0	4	1
87	391	876	485	0	3	1

Table S2. Mortality. Experimental results of the change in pCO₂ (delta CO₂) and its impact on mortality during life stages 1=embryo, 2= larva, 3=juvenile, or 4=adult. In elasmobranch/bony fish, 1= elasmobranch and 0= bony fish. A value of 1 for fitness represents a negative impact on fish fitness.

Article code	CO ₂ first (μatm)	CO ₂ second (μatm)	Delta CO ₂ (μatm)	Elasmobranch /bony fish	Life stage	Mortality
6	420	945	525	1	1	1
11	382	1481	1099	1	3	1
12	551	1060	509	1	3	1
13	411	891	480	1	3	0
14	411	891	480	1	3	0
22	397	1036	639	0	3	0
28	459	2294	1835	0	1	1
29	422	1115	693	1	1	1
32	468	885	417	0	2	0
44	475	877	402	0	2	1
53	700	1600	900	0	4	1
65	435	1079	644	0	4	1
66	400	1100	700	0	2	1
87	391	876	485	0	3	1

Table S3. Behavior avoidance. Experimental results of the change in pCO₂ (delta CO₂) and its impact on behavior avoidance, during life stages 1=embryo, 2= larva, 3=juvenile, and 4=adult. In elasmobranch/bony fish, 1= elasmobranch and 0= bony fish. A value of 1 for fitness represents a negative impact on fish fitness.

Article code	CO ₂ first (μatm)	CO ₂ second (μatm)	Delta CO ₂ (μatm)	Elasmobranch /bony fish	Life stage	Behavior avoidance
1	405	1064	659	1	4	1
3	400	1000	600	1	3	1
4	400	1000	600	1	3	1
5	401	993	592	1	3	1
7	400	910	510	1	2	0
11	382	1481	1099	1	3	1
12	551	1060	509	1	3	1
13	411	891	480	1	3	1
14	411	891	480	1	3	1
15	465	1477	1012	0	4	1
23	450	961	511	0	4	1
25	483	1125	642	0	3	1
33	464	1051	587	0	2	0
35	374	994	620	0	4	1
36	410	1121	711	1	3	1
38	549	983	434	0	3	0
42	424	1012	588	0	3	1
44	475	877	402	0	2	1
45	370	1050	680	0	4	1
46	406	945	539	0	4	0
47	356	2015	1659	0	2	1
53	700	1600	900	0	4	1
55	424	1012	588	0	3	1
59	404	980	576	0	3	1
60	462	959	497	0	3	1
61	400	1000	600	0	4	1
79	532	1013	481	0	3	0
81	385	925	540	0	4	1
87	391	876	485	0	3	1