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Supplement of

Impact of seawater carbonate chemistry on the calcification of marine bivalves

J. Thomsen et al.

Correspondence to: J. Thomsen (jothomsen@ucsd.edu)

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Table S1 Meta-analysis of larval calcification responses expressed as % of control shell length and the corresponding carbonate chemistry.

pH	$p\text{CO}_2$	$[\text{CO}_3^{2-}]$	shell length	reference	species
total scale	$[\mu\text{atm}]$	$(\mu\text{mol kg}^{-1})$	% of control		
7.99	510	78	100	this study	<i>M. edulis</i>
7.49	1778	27	79		
7.63	544	16	79		
7.72	1775	77	99		
8.03	468	166	100	Gazeau et al. 2010	<i>M. edulis</i>
7.69	1124	84	95		
7.97	537	144	99		
7.46	1929	49	87		
7.90	642	135	97		
8.17	254	159	100	Sunday et al. 2011	<i>M. trossulus</i>
7.86	571	87	97		
8.04	398	152	100	Frieder et al. 2014	<i>M. californianus</i>
7.51	1531	51	91		
7.64	1113	68	94		
8.00	443	141	100		
7.90	576	116	100		
7.68	1008	73	98		
8.02	380	120	100	Kurihara et al. 2009	<i>M. galloprovincialis</i>
7.31	2000	27	69		
7.95	506	128	100	Frieder et al. 2014	<i>M. galloprovincialis</i>
7.54	1423	54	92		
7.56	1355	57	93		
7.91	561	118	100		
7.61	1199	63	95		
7.95	506	128	100		
7.59	1259	61	96		
8.10	490	197	100	Vihtakari et al. 2013	<i>M. galloprovincialis</i>
7.73	1210	87	96		
8.08	348	161	100	Kurihara et al. 2007	<i>C. gigas</i>
7.29	2268	36	93		
8.08	348	161	100		
7.29	2268	36	89		
8.03	449	182	100	Gazeau et al. 2011	<i>C. gigas</i>
7.72	1020	97	99		
7.41	2171	50	95		
7.67	494	40	90		
7.62	3730	226	100		

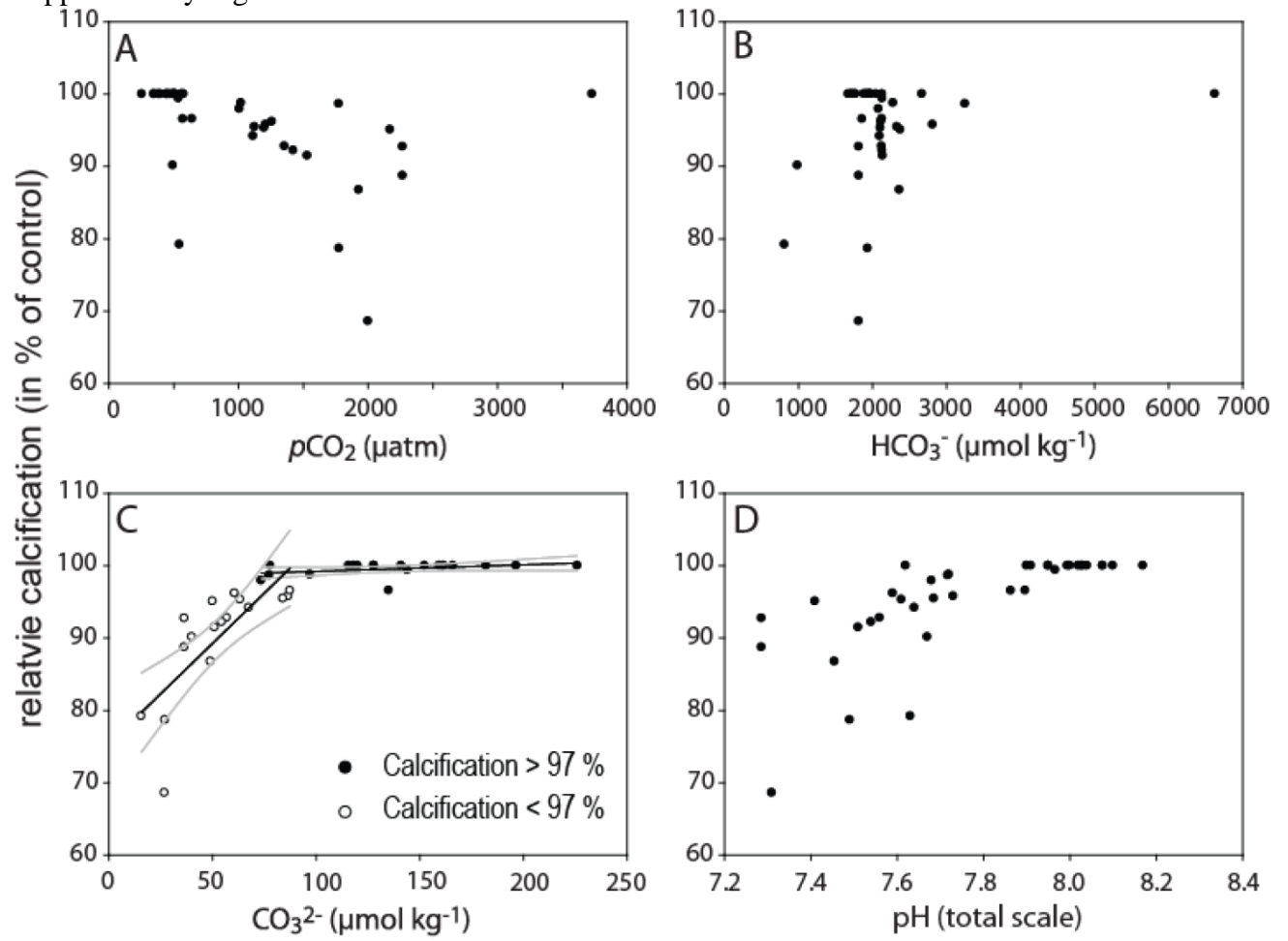
Table S2 Meta-analysis of juvenile calcification responses expressed as % of control shell mass growth and the corresponding carbonate chemistry.

pH	$p\text{CO}_2$	$[\text{CO}_3^{2-}]$	shell mass growth	reference	species
total scale	$[\mu\text{atm}]$	$(\mu\text{mol kg}^{-1})$	% of control		
8.13	501	82	100	this study	<i>M. edulis</i>
7.16	5214	10	66		
7.74	564	15	50		
7.57	5649	71	106		
8.01	479	73	100	Thomsen et al. 2010	<i>M. edulis</i>
7.60	1287	30	97		
7.13	3912	11	65		
8.01	479	73	100		
7.60	1287	30	91		
7.13	3912	11	56		
8.02	449	73	100	Thomsen and Melzner 2010	<i>M. edulis</i>
7.74	886	40	90		
7.41	1978	19	77		
7.14	3685	10	64		
7.95	508	44	100	Melzner et al. 2011	<i>M. edulis</i>
7.61	1138	21	103		
7.26	2540	10	57		
7.08	3859	6	63		
8.01	460	77	100	Thomsen et al. 2013	<i>M. edulis</i>
7.70	1006	40	76		
7.40	2078	21	75		
7.19	3417	13	58		

Supplementary Fig. 1. Meta-analysis of the calcification response (measured as shell length) in % of control of bivalve larvae kept under modified carbonate chemistry during the lecithotrophic phase. Calcification response is plotted against seawater (A) $p\text{CO}_2$, (B) $[\text{HCO}_3^-]$, (C) $[\text{CO}_3^{2-}]$ and (D) pH.

Supplementary Fig. 2. Delay of shell formation in *M. edulis* larvae two days after fertilization. Carbonate chemistry corresponds to the treatments ($p\text{CO}_2/[\text{CO}_3^{2-}]$) given in Table 1: (A) 390/78, B) 2400/20, C) 390/20, D) 2400/78.

Supplementary Fig.1



Supplementary Fig.2

