

Samplename	Location	Species	Coordinates	Waterdepth [m]	Temperature [°C]	Salinity [PSU]	Reference
A1 - A4	Traenadjupet, Norwegian Sea	L	66°58.400'N 11°06.529'E	300	7.2	35.2	Dullo et al. (2008), Rüggeberg et al. (2011)
B1 - B2	Whittard Canyon, Celtic Sea	L	48°46.79'N 10°34.20'W	835	9.79	35.5	Raddatz et al. (2013)
C1 - C2	Stjernsund Fjord, Norwegian Sea	L	70°16.04'N 22°27.37'E	295	5.9	35	Rüggeberg et al. (2011)
D1 - D4	Little Galway Mound, Belgica Mound Province	L	51°26.51'N 11°45.43'W	881	8.96	35.53	Dullo et al. (2008), Rüggeberg et al. (2011)
E1 - E3	Santa Maria di Leuca, Ionic Sea	L	39°125.00'N 18°127.00'E	560-750	13.66	38.66	Flögel et al. (2014)
F1 - F4	Guilvinec Canyon, Bay of Biscay	L	46°56.20'N 5°21.60'W	800	10.29	35.6	Raddatz et al. (2013)
G1 - G4	Sotbakken, Norwegian Sea	L	70°45.35'N 18°40.04'E	265	6.6	35.2	Raddatz et al. (2013)
H1 - H3	Galway Mound, Belgica Mound Province	L	51°26.94'N 11°45.16'E	837	9.54	35.53	Dullo et al. (2008), Rüggeberg et al. (2011)
I1 - I3	Urania Bank, Strait of Sicily	L	36°50.32'N 13°09.35'E	559	13.5	38.8	Raddatz et al. (2013), López Correa et al. (2010)
J1 - J2	Meknes Carbonate Mound Province, Gulf of Cadiz	L	34.59.98'N 7°04.51'W	738	10.28	35.7	Raddatz et al. (2013)
K1 - K5	Trondheimfjord, Norwegian Sea	L	63°28.61'N 9°59.72'E	240	8.1	31.2	Dullo et al. (2008), Rüggeberg et al. (2011)
LO1	Bari Canyon, Adriatic Sea	L	41°18.00'N 17°12.00'E	315-650	13.49	38.62	Flögel et al. (2014)
MSS1	Santa Maria di Leuca, Ionic Sea	L	39°25.00'N 18°27.00'E	560-750	13.66	38.66	Flögel et al. (2014)
MA1	Bari Canyon, Adriatic Sea	M	41°18.00'N 17°12.00'E	315-650	13.49	38.62	Flögel et al. (2014)
MSM1	Campeche Bank, Gulf of Mexico	L	23°50.121'N 87°10.484'W	565	10.59	35.24	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
MSM2	Great Bahama Bank Mound E, Northwest Atlantic	L	24°35.623'N 79°16.808'W	579	9.24	35.084	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)

MSM3	Great Bahama Bank Mound B, Northwest Atlantic	M	24°33.848'N 79°19.811'W	616	9.27	35.1	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
MSM4	Southwest Florida, Gulf of Mexico	L	24°58.164'N 84°17.973'W	483	8.29	35.17	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
ALB1	El Idrissi Bank, Alboran Sea	L	36°06.31'N 3°29.33'E	647	12.98	38.464	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
KRS1	Northeastern Red Sea	C	27°42.306'N 35°09.046'E	954	21.66	40.55	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
KRS2	Northeastern Red Sea	C	27°42.306'N 35°09.046'E	580	21.66	40.55	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
KRS3	Northeastern Red Sea	C	27°42.306'N 35°09.046'E	954	21.66	40.55	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
KRS4	Northeastern Red Sea	C	27°42.306'N 35°09.046'E	954	21.66	40.55	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
KRS5	Northeastern Red Sea	C	27°42.306'N 35°09.046'E	954	21.66	40.55	WOA 2013 (Locarnini et al., 2013; Zweng et al., 2013)
L10-1	Tautra Reef, Norwegian Sea	L	63°35.36'N 10°31.23'E	39	6	30.1	Neulinger (2008)
L2-1 – L2-2	Lopphavet, Norwegian Sea	L	70°26.80'N 21°10.38'E	230	6.5	35.1	Raddatz et al. (2013)
L3-1 – L3-2	Lopphavet, Norwegian Sea	L	70°26.80'N 21°10.38'E	230	6.5	35.1	Raddatz et al. (2013)
L5-1 – L5-2	Stjernesund Fjord, Norwegian Sea	L	70°16.04'N 22°27.37'E	295	5.9	35	Rüggeberg et al. (2011)
L6-1 – L6-2	Sula Reef, Norwegian Sea	L	64°05.93'N 8°05.47'E	286	7.6	35.3	Raddatz et al. (2013)
L7-1 – L7-2	Sula Reef, Norwegian Sea	L	64°05.93'N 8°05.47'E	286	7.6	35.3	Raddatz et al. (2013)
L8-1 – L8-2	Nordleksa, Norwegian Sea	L	63°36.43'N 9°22.66'E	155	7.8	35	Dr. S. Flögel
LR1 – LR6	Lopphavet, Norwegian Sea	L	70°26.59'N 21°10.00'E	230	6.5	35.1	Raddatz et al. (2013)
LW1 – LW5	Lopphavet, Norwegian Sea	L	70°26.59'N 21°10.00'E	230	6.5	35.1	Raddatz et al. (2013)
NL-1 – NL6	Nordleksa, Norwegian Sea	L	63°36.43'N 9°22.66'E	155	7.8	35	Dr. S. Flögel

OS1 – OS6	Oslo Fjord, North Sea	L	59°04.01'N 10°44.31'E	115	8.2	35.2	Raddatz et al. (2013)
P391-1 – P391-3	LoppHAVet, Norwegian Sea	L	70°26.59'N 21°10.00'E	230	6.5	35.1	Raddatz et al. (2013)
RL1-1 – RL1-4	Trondheimfjord, Norwegian Sea	L	63°28.61'N 9°59.72'E	240	8.1	31.2	Dullo et al. (2008), Rüggeberg et al. (2011)
RL4-1 – RL4-4	Trondheimfjord, Norwegian Sea	L	63°28.61'N 9°59.72'E	240	8.1	31.2	Dullo et al. (2008), Rüggeberg et al. (2011)
RL9-1 – RL9-5	Trondheimfjord, Norwegian Sea	L	63°28.61'N 9°59.72'E	240	8.1	31.2	Dullo et al. (2008), Rüggeberg et al. (2011)
SJ1 – SJ6	Stjernesund Fjord, Norwegian Sea	L	70°16.04'N 22°27.37'E	295	5.9	35	Rüggeberg et al. (2011)
SJ2-1 – SJ2-4	Stjernesund Fjord, Norwegian Sea	L	70°16.04'N 22°27.37'E	295	5.9	35	Rüggeberg et al. (2011)
TF1 – TF2	Tautra Reef, Norwegian Sea	L	63°35.36'N 10°31.23'E	39	6	30.1	Neulinger (2008)
TF2-1 – TF2-6	Trondheimfjord, Norwegian Sea	L	63°28.61'N 9°59.72'E	240	8.1	31.2	Dullo et al. (2008), Rüggeberg et al. (2011)
EFC1 – EFC6	Sula Reef, Norwegian Sea	L	64°05.93'N 8°05.47'E	286	7.6	35.3	Raddatz et al. (2013)
EFE1 – EFE4	Sula Reef, Norwegian Sea	L	64°05.93'N 8°05.47'E	286	7.6	35.3	Raddatz et al. (2013)

**Table S1** Sample ident and location Metadata. Species abbreviations stand for L=*Lophelia pertusa*, M=*Madrepora oculata* and C=*Caryophyllia* sp.. Sample names such as A1-A4 relate to multiple samples that derive from the same coral specimen/calice.