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Supplementary material

Biogeochemistry of dimethylsulfoniopropionate, dimethylsulfide and acrylic acid in the Yellow Sea and the Bohai Sea during autumn

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Table S1. Summary of sampling stations and their chlorophyll-*a* (Chl-*a*), dimethylsulfide (DMS), total dimethylsulfoniopropionate (DMSPt), dissolved dimethylsulfoniopropionate (DMSPd) and acrylic acid (AA) concentrations as well as sea-to-air fluxes of DMS in autumn

Station	Longitude (°E)	Latitude (°N)	*T* (°C)	Salinity	Wind speed ($m\ s^{-1}$)	Chl-*a* ($\mu g\ L^{-1}$)	DMS ($nmol\ L^{-1}$)	DMSPt ($nmol\ L^{-1}$)	DMSPd ($nmol\ L^{-1}$)	AA ($nmol\ L^{-1}$)	DMS Flux ($\mu mol\ m^{-2}\ day^{-1}$)	
											LM86	W92
A1	123.00	31.20	20.4	30.38	7.1	0.64	2.03	38.20	3.38	19.3	4.18	8.20
A3	123.88	31.74	21.4	33.42	9.2	0.21	0.67	2.84	2.88	29.7	2.22	4.67
A5	124.78	32.27	21.1	32.92	7.1	0.24	0.83	18.34	2.66	17.3	1.73	3.40
A7	125.67	32.80	19.9	32.75	5.9	0.17	3.45	122.51	0.93	13.8	4.74	9.50
B3	122.99	32.20	20.9	32.94	6.3	0.15	0.91	3.17	1.73	18.1	1.49	2.94
C2	122.22	32.47	19.1	31.30	5.4	0.43	1.86	11.48	4.65	34.3	2.01	4.22
D3	122.33	32.80	19.0	31.24	14.6	0.09	1.32	20.10	5.81	17.0	7.93	21.75
D5	123.00	32.93	19.2	32.10	6.7	0.09	0.64	3.99	3.47	27.7	1.15	2.25
D7	124.00	33.13	13.3	32.81	10.9	0.67	1.05	9.80	1.28	–	4.26	9.73
D9	125.00	33.33	19.0	32.47	6.2	0.32	0.61	8.50	3.81	18.9	0.91	1.81
E1	121.00	34.00	17.4	30.43	8.4	0.18	1.64	1.07	0.85	17.7	4.23	8.61
E3	121.99	34.00	17.4	30.80	6.9	0.18	1.17	6.60	2.75	15.9	2.11	4.14
E5	122.99	34.00	17.7	31.58	6.3	0.41	1.41	11.95	0.86	13.8	2.13	4.21
E7	124.00	34.00	18.7	31.63	2.7	0.12	1.51	8.55	5.39	17.1	0.12	0.85
F4	122.02	35.00	17.7	30.91	0.3	0.82	0.92	21.24	3.86	23.1	0.01	0.01
F6	123.00	35.00	17.4	31.22	3.1	0.28	2.84	44.47	6.70	13.8	0.25	2.03
F8	124.00	35.00	17.3	31.86	3.8	0.49	3.05	81.20	5.34	17.1	0.62	3.27
G1	121.00	36.00	18.3	30.70	5.2	0.13	0.88	29.01	5.11	15.0	0.83	1.81
G3	121.99	36.00	18.3	30.20	8.1	0.23	1.23	95.89	3.73	14.2	3.05	6.13
G5	123.00	36.00	17.5	30.95	7.9	0.73	0.53	27.86	8.03	17.2	1.24	2.49
G7	124.00	36.00	17.4	31.41	11.8	0.24	1.21	36.79	8.71	15.1	5.24	12.55
H1	122.66	37.00	15.8	30.17	5.7	0.36	1.02	8.99	4.12	24.2	1.16	2.37

Station	Longitude (°E)	Latitude (°N)	*T* (°C)	Salinity	Wind speed ($m\ s^{-1}$)	Chl-*a* ($\mu g\ L^{-1}$)	DMS ($nmol\ L^{-1}$)	DMSPt ($nmol\ L^{-1}$)	DMSPd ($nmol\ L^{-1}$)	AA ($nmol\ L^{-1}$)	DMS Flux ($\mu mol\ m^{-2}\ day^{-1}$)	
											LM86	W92
H3	123.00	37.00	14.7	30.64	8.9	0.49	5.32	14.31	1.63	17.9	14.08	29.32
H5	123.52	37.00	15.5	30.87	11.0	0.69	1.32	45.82	7.05	78.1	4.92	11.32
H7	124.25	37.00	13.9	31.21	7.2	0.37	1.10	8.51	2.90	14.2	1.96	3.87
I5	124.00	39.41	13.5	29.95	15.0	0.72	1.57	115.10	3.25	53.2	8.46	23.73
J1	124.07	39.18	12.6	29.90	7.7	0.62	1.59	63.29	11.19	13.8	3.09	6.18
J3	123.62	38.61	12.0	31.49	13.4	1.04	3.04	44.80	22.76	16.6	13.58	35.32
J4	123.40	38.00	9.6	31.63	8.7	0.81	1.15	10.19	5.70	18.7	2.55	5.28
J5	123.19	38.04	12.1	31.28	10.7	0.26	1.57	38.05	0.91	16.8	5.13	11.65
J7	122.63	37.49	13.7	30.38	8.2	0.29	1.10	3.80	7.42	308.5	2.48	5.03
K3	121.99	38.52	13.3	31.05	9.1	0.04	1.72	80.67	35.67	21.4	4.53	9.52
k5	122.18	38.19	12.8	31.19	3.8	0.98	1.92	38.49	31.09	–	0.34	1.84
K7	122.47	37.76	12.7	30.40	7.7	2.94	1.12	49.23	19.79	352.8	2.19	4.37
L3	121.06	38.52	12.3	31.20	4.6	0.68	1.68	30.71	7.79	25.3	0.90	2.32
L6	122.71	38.09	12.6	30.90	3.0	0.48	0.94	11.22	11.89	25.4	0.07	0.55
M2	119.31	38.43	12.8	29.80	6.6	0.60	0.77	9.50	3.13	150.4	1.12	2.21
M3	119.54	38.67	13.1	30.21	6.4	0.71	0.89	98.28	2.80	54.0	1.22	2.42
M5	120.00	39.09	12.1	30.06	8.3	0.72	1.03	8.31	0.98	67.8	2.26	4.61
M7	120.47	39.54	12.2	29.85	10.4	0.57	1.04	35.83	5.01	29.6	3.26	7.30
N1	120.12	39.85	11.3	29.90	11.7	0.58	1.51	20.81	11.86	21.1	5.49	13.12
N5	121.00	39.03	11.7	30.56	10.2	0.53	–	4.33	1.71	80.6	–	–
O1	118.89	39.02	11.2	29.96	6.0	0.67	–	21.98	3.17	13.8	–	–
P1	119.30	38.08	12.3	29.03	4.4	0.58	–	17.76	2.89	17.0	–	–
P2	119.49	37.96	12.2	28.79	3.2	0.95	0.54	8.16	2.03		0.04	0.36
P4	119.88	37.71	11.5	27.19	0.6	2.23	1.74	32.75	14.79	18.4	0.02	0.04
Average	–	–	15.3	30.90	7.31	0.56	1.47	30.97	6.60	42.2	3.01	6.91

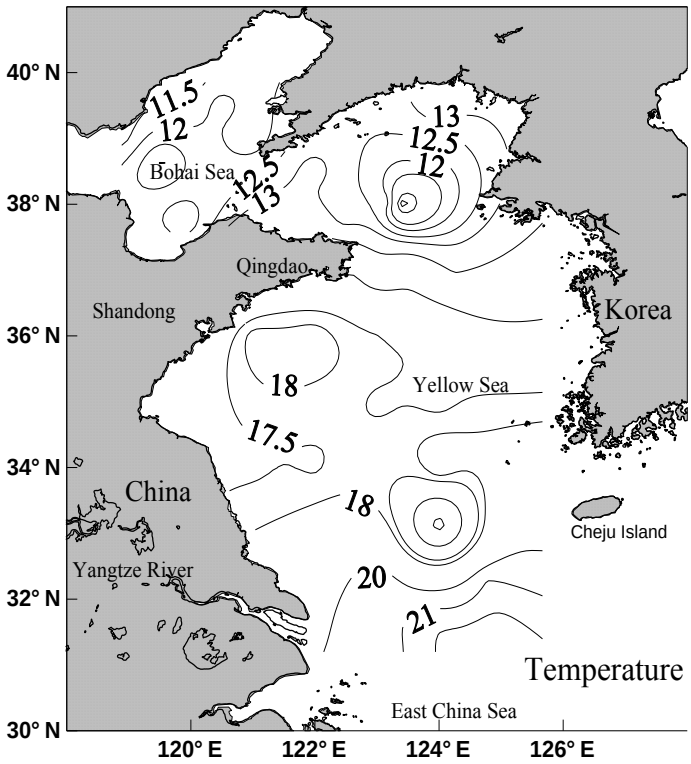
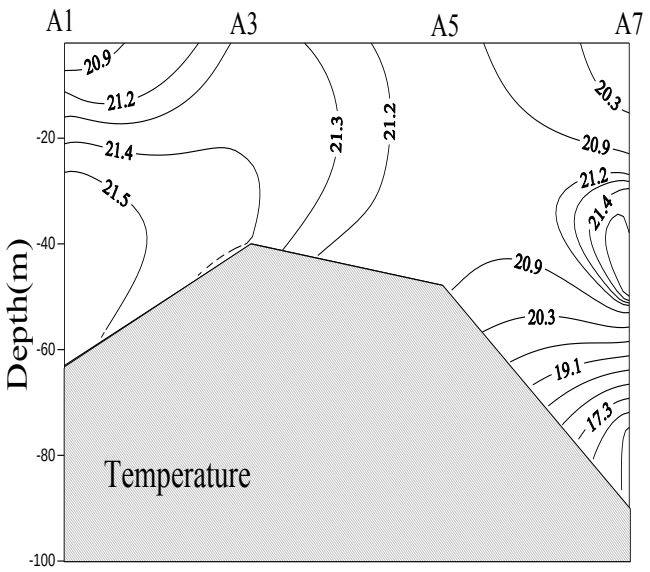


Fig. S1. Horizontal distributions of temperature (°C) in the Yellow Sea (YS) and the Bohai Sea (BS) during autumn.

Transect A



Transect J

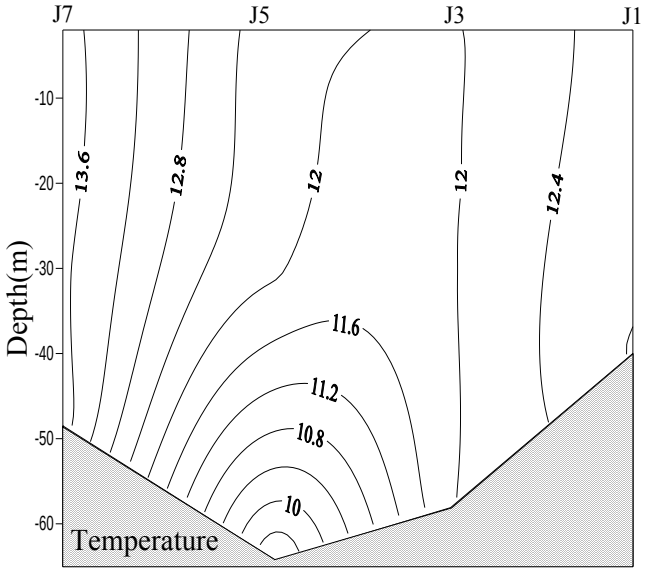


Fig. S2. Vertical profiles of temperature (°C) along Transect A and J during autumn.