

**Geochemistry of bulk carbonates in the sediments of the Sea of Marmara:
Implications for paleo-oceanographic event in Late-Pleistocene/ Holocene
transition**

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Introduction

Data include in the three tables below are new in this research. Ca, Mg, Fe, Mn, Sr concentrations and Sr isotopes were measured on selected extractions of carbonate-bound elements, using Spectro Blue Sop Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES, BLUE SOP) and Nu plasma Multi-Collector Inductively Coupled Plasma Mass Spectrometer (MC-ICP-MS) respectively. $\delta^{13}\text{C}$ and $d^{18}\text{O}$ are measured for carbonate fractions on sediments, using an automated carbonate-preparation device (GasBenchII) coupled to a stable isotope ratio mass spectrometer (Thermo Delta V

Advantages). Scanning electron microscope (SEM) imaging was carried out using an FEI Quanta 650 FEG scanning electron microscope.

Table S1. Ca (mg/g), Mg (mg/g), Mg/Ca (mg/mg), Fe (mg/g) and Mn (mg/g) of bulk carbonates in Cores MAS-CS-05 and MAS-CS-16

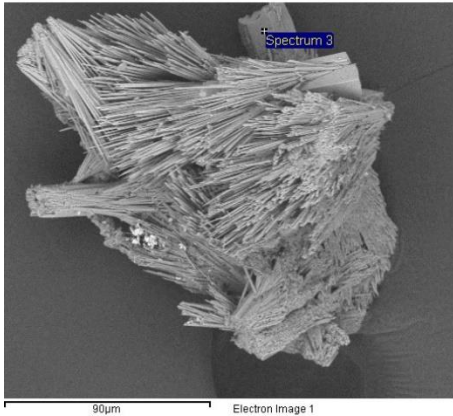
Depth (cmbsf)	MRS-CS-05					Depth (cmbsf)	MRS-CS-16				
	Ca	Mg	Mg/Ca	Fe	Mn		Ca	Mg	Mg/Ca	Fe	Mn
0	20.66	2.01	0.097	1.19	0.52	100	39.62	3.94	0.100	1.36	4.97
100	5.26	1.25	0.237	0.70	0.25	200	38.47	4.15	0.108	1.86	2.93
200	2.09	1.13	0.544	1.11	0.18	300	37.20	3.73	0.100	0.62	2.56
300	16.49	1.71	0.104	1.56	0.47	400	40.16	3.70	0.092	0.55	2.72
400	7.93	1.60	0.202	29.24	4.99	500	31.87	3.22	0.101	0.70	3.84
500	15.17	1.40	0.092	0.98	0.37	600	44.61	4.05	0.091	0.49	2.17
700	18.93	1.61	0.085	1.41	0.49	700	42.76	3.98	0.093	1.18	2.63
800	26.85	1.58	0.059	0.67	0.41	800	37.63	3.68	0.098	0.72	1.50
1000	60.86	3.58	0.059	1.39	0.72	900	38.88	3.39	0.087	0.61	8.13
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Table S2. $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ of bulk carbonates in Cores MAS-CS-05 and MAS-CS-16

Sample	$\delta^{13}\text{C}_{\text{VPDB}} \text{‰}$	$\delta^{18}\text{O}_{\text{VPDB}} \text{‰}$
MRS-CS-05		
0	3.2	-2.8
100	2.6	-3.4
200	4.7	-2.2
300	-1.7	0.1
400	24.3	-1.6
500	3.2	-4.3
700	2.0	-3.8
800	1.5	-3.2
1000	-0.9	0.9
MRS-CS-16		
100	-1.5	0.5
200	-3.1	0.9
300	-2.5	0.5
400	-3.9	0.5
500	-3.0	0.0
600	-3.3	0.1
700	-3.0	-0.4
800	-3.3	-0.6
900	-3.5	0.1
1000	-2.3	-1.3

Table S3. $^{87}\text{Sr}/^{86}\text{Sr}$ of sediments in Cores MAS-CS-05 and MAS-CS-16

$^{87}\text{Sr}/^{86}\text{Sr}$			
cmbsf	MRS-CS-05	cmbsf	MRS-CS-16
0	0.70832	100	0.70888
100	0.70844	200	0.70884
200	0.70862	300	0.70885
300	0.70892	400	0.70889
400	0.70843	500	0.70881
500	0.70846	600	0.70880
700	0.70838	700	0.70884
800	0.70848	800	0.70880
1000	0.70904	900	0.70884
		1000	0.70891



Element	Weight%	Atomic%
C	12.71	21.03
O	48.22	59.92
Ca	37.86	18.78
Sr	1.21	0.28

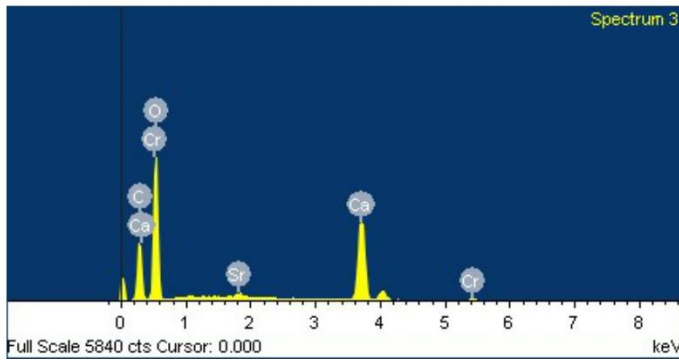
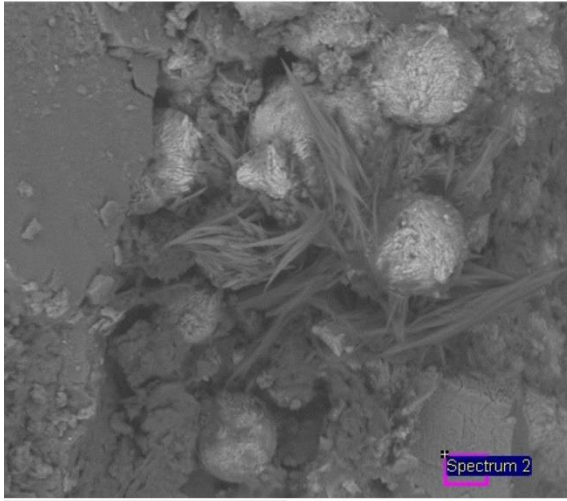


Figure S1. The experimental position of SEM-EDS and the corresponding energy dispersion spectrum data for aragonite (Fig.7a).



Element	Weight%	Atomic%
C	13.21	21.08
O	51.41	61.59
Mg	1.22	0.97
S	0.03	0.2
Ca	33.81	16.17

40µm Electron Image 1

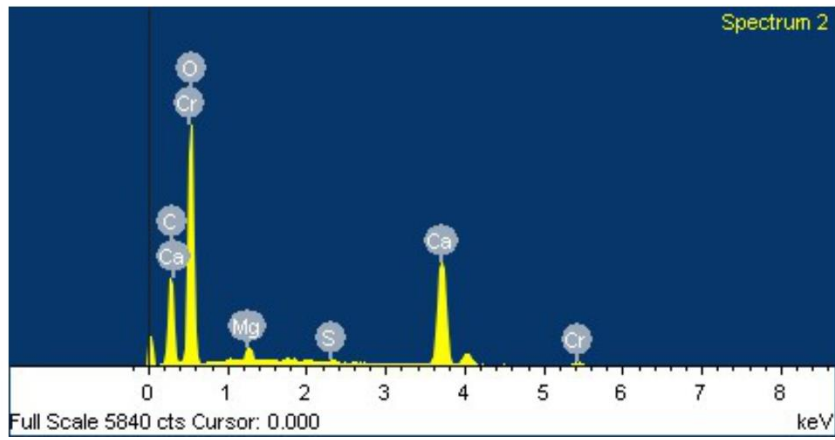
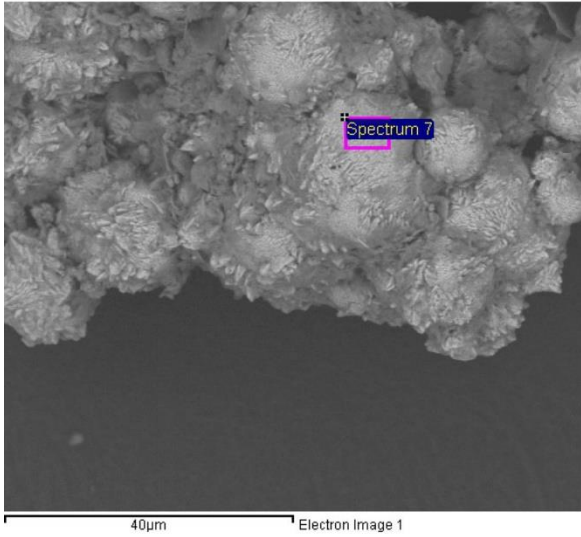


Figure S2. The experimental position of SEM-EDS and the corresponding energy dispersion spectrum data for high-Mg calcite.



Element	Weight%	Atomic%
C	7.00	19.74
O	6.15	13.00
Si	0.37	0.45
S	32.17	33.94
Fe	54.30	32.88

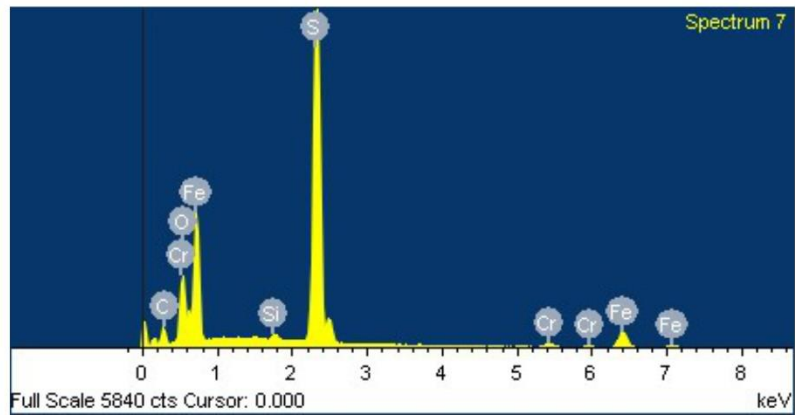
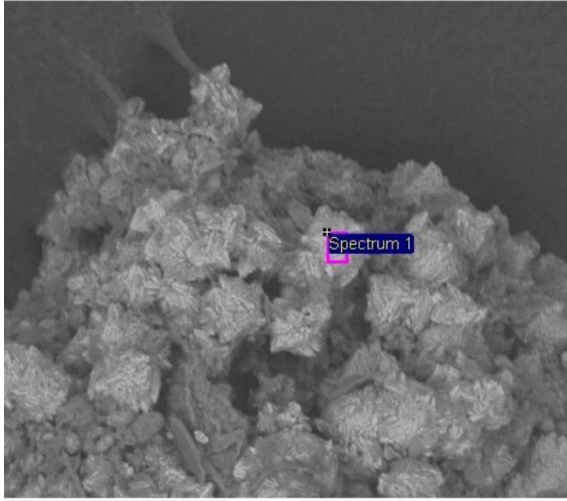


Figure S3. The experimental position of SEM-EDS and the corresponding energy dispersion spectrum data for siderite (Fig.7b).



Element	Weight%	Atomic%
C	7.07	18.84
O	10.20	20.40
Si	0.55	0.61
S	30.64	30.59
Fe	51.56	29.55

30µm Electron Image 1

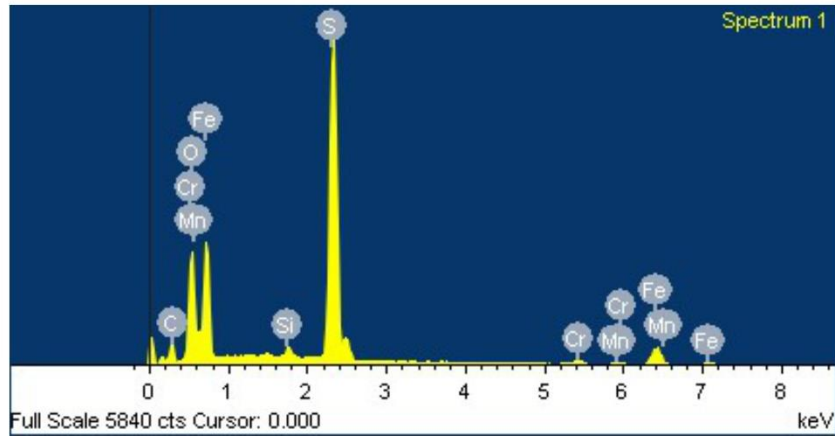


Figure S4. The experimental position of SEM-EDS and the corresponding energy dispersion spectrum data for siderite (Fig.7c).