

The Record of Environmental and Microbial Signatures in Ancient Microbialites: The Terminal Carbonate Complex from the Neogene Basins of Southeastern Spain

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Table S1. GPS location (Degree; Minute; Seconds) of the eight outcrops used for this study.

Locality	Basin	Latitude	Longitude
1-Cariatiz	Sorbas	37° 8'42.95"N	2° 6'17.46"O
2-Gochar	Sorbas	37° 8'13.06"N	2° 8'37.80"O
3-Moras	Sorbas	37° 8'26.30"N	2° 7'50.82"O
4-Sorbas	Sorbas	37° 5'45.07"N	2° 7'39.30"O
5-Hueli	Sorbas	37° 3'43.96"N	2° 5'20.88"O
6-Las Negras	Agua Amarga	36°51'57.14"N	2° 0'46.64"O
7-Benejuzar	Bajo Segura	38° 2'43.86"N	0°49'23.06"O
8A-Santa Pola-Meleja	Bajo Segura	38°11'35.79"N	0°31'59.63"O
8B-Santa Pola-Urbanizacion Panorama	Bajo Segura	38°13'51.94"N	0°31'13.65"O

Table S2. Mineralogical composition (based on XRD and thin section point counting) of the microbialite samples used in this study.

Sample Ref.	Locality	Macro/Mesofabric	Microfabric	Total Carbonate (%)	Dolomite (%)	LMC (%)	HMC (%)	Siliciclastics (sand+silt; %)	Quartz	Muscovite	Paragonite	Vermiculite	Hornblende	Kaolinite	Orthoclase	Anorthite	d1.0.4 dolomite	d1.0.4 dol 2	%MgCO3 dol	%MgCO3 dol 2
Ca 9	Cariatiz	Pl/S	M, LM, LP	98	98	0	0	2	x	x	x	x		x			2.891		48.29	
Ca 20	Cariatiz	Pl/S	LM, M, LP	>99	>99	0	0	<1	x	x	x	x		x			2.884		50.53	
Ca 26	Cariatiz	Cr1/S	LP, LM	95	0	95	0	5	x	x		x			x					
Ca 34	Cariatiz	Co/T	C, CP	85	85	0	0	15	X	x	x	x	x			x	2.891		48.27	
Ca 42	Cariatiz	H3/S	LC, LP	88	88	0	0	12	X	X	x	x	x	x	x	x	2.890		48.61	
Ca C12	Cariatiz	Cr2/S	CP, C	86	0	86	0	14	X	X	x	x		x		x				
Ca D5	Cariatiz	Cr1, Cr2/S, T	CP	97	0	97	0	3	x	x							2.899		45.72	
Ca E5	Cariatiz	Ci/S	LC, C	73	73	0	0	27	X	X	x	x	x	x	x	x	2.890		48.66	
Ca H1	Cariatiz	H3/S	LM, LC	85	85	0	0	15	X	x	x	x		x			2.891		48.27	
Ca K11	Cariatiz	H1/S	LP, LM	97	0	97	0	3	x	x	x			x	x		2.891	2.902	48.27	44.75
Ca K13	Cariatiz	H3/S	LP, LC	78	0	78	0	22	X	X	x	x		x	x					
Ca W2	Cariatiz	Pl/S	M, LM, LP	99	99	0	0	1	x	x					x	x	2.889		49.14	
Hu 9	Hueli	Co/S, T	LC, C, CP	99	0	99	0	<1									2.903		44.36	
RGG 3	Gochar	H1, H2, SH/S, T	LM, LC, LP	82	0	82	0	18	X	x										
LMB 17	Las Negras	H2/S	LP, LM	98	65	33	0	2	x								2.902		44.75	
LMB 19	Las Negras	B/S	LP, LM	97	0	97	0	3									2.895		47.10	
SoB 6	Sorbas	H1/S	LP, LM	90	54	36	0	10	X	x	x	x		x		x	2.884		50.53	
SPE 28	Santa Pola	H2/S	LP, LM	100	>99	0	<1	0									2.888		49.42	
SPE 29	Santa Pola	?/T	CP	100	>99	0	<1	0									2.886		49.85	