minerals

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Supplementary Materials

Biomineralization of Monohydrocalcite Induced by Halophile *Halomonas smyrnensis* WMS-3

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Table S1. FWHM (°) of monohydrocalcite induced by *H. smyrnensis* WMS-3 bacteria at Mg/Ca ratios 7 and 9.

Mg/Ca Ratios	Mineral Phase	FWHM (°)			
		(111)	(112)	(222)	(411)
7	Monohydrocalcite	0.291	0.293	0.336	0.448
9	Monohydrocalcite	0.274	0.284	0.283	0.417

Table S2. Stable carbon isotope $\delta^{13}C_{PDB}$ (‰) values of the biominerals.

Mg/Ca Molar Ratio	Biotic Carbonate Minerals	$\delta^{13}C$ (‰, PDB)
0	Calcite	−17.91
2	Mg-rich Calcite, Monohydrocalcite	−17.21
5	Aragonite, Hydromagnesite,Monohydrocalcite	−16.91
7	Hydromagnesite,Monohydrocalcite	−17.29
9	Hydromagnesite,Monohydrocalcite	−17.73

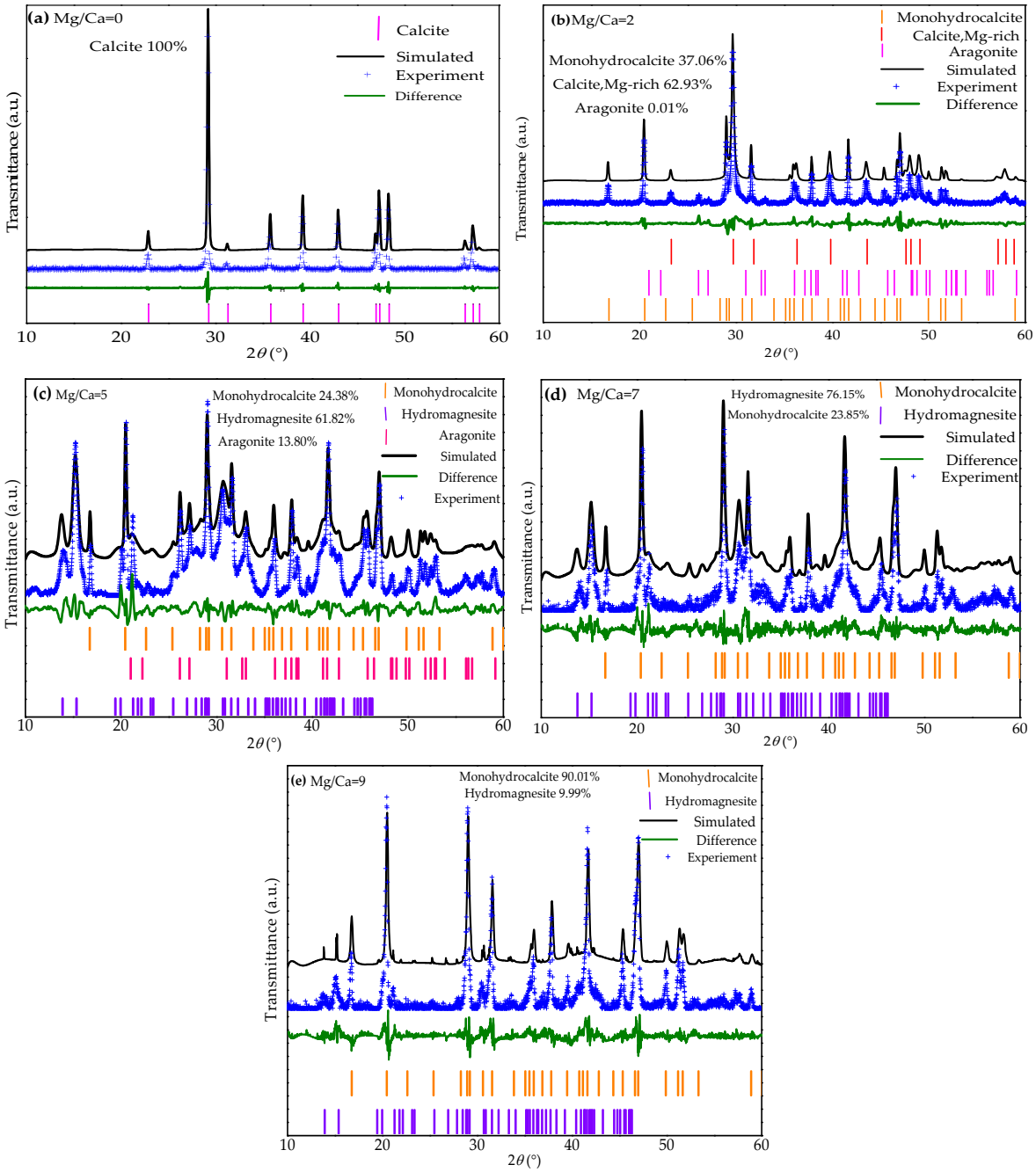

Figure S1. Rietveld refinement of XRD data. ((**a–e**) represent Mg/Ca molar ratios of 0, 2, 5, 7, and 9, respectively).

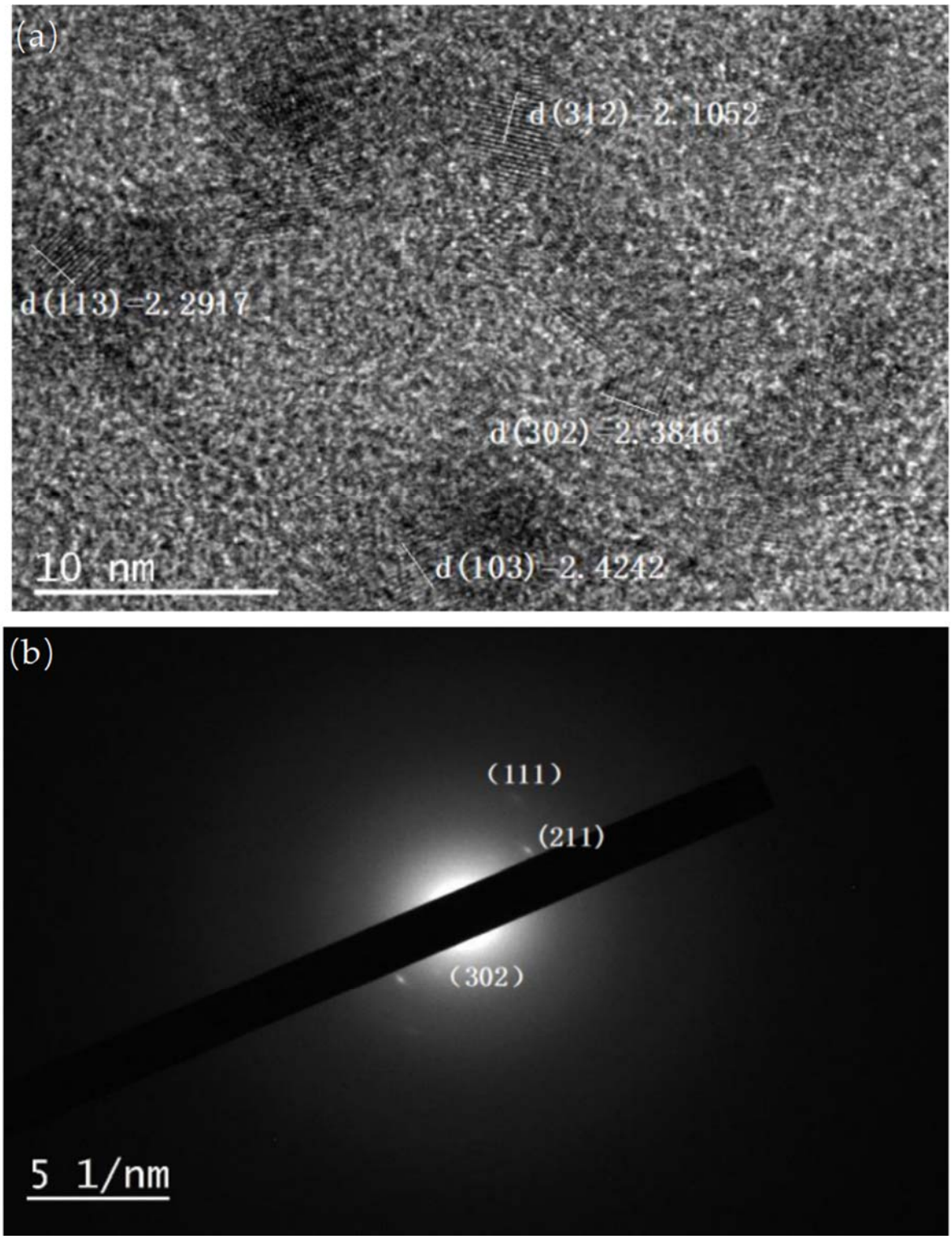

Figure S2. HRTEM analysis of minerals marked by the yellow circle in Figure 11(c3) image (**a**) and SAED analysis of minerals marked by the yellow circle in Figure 11(d3) image (**b**).

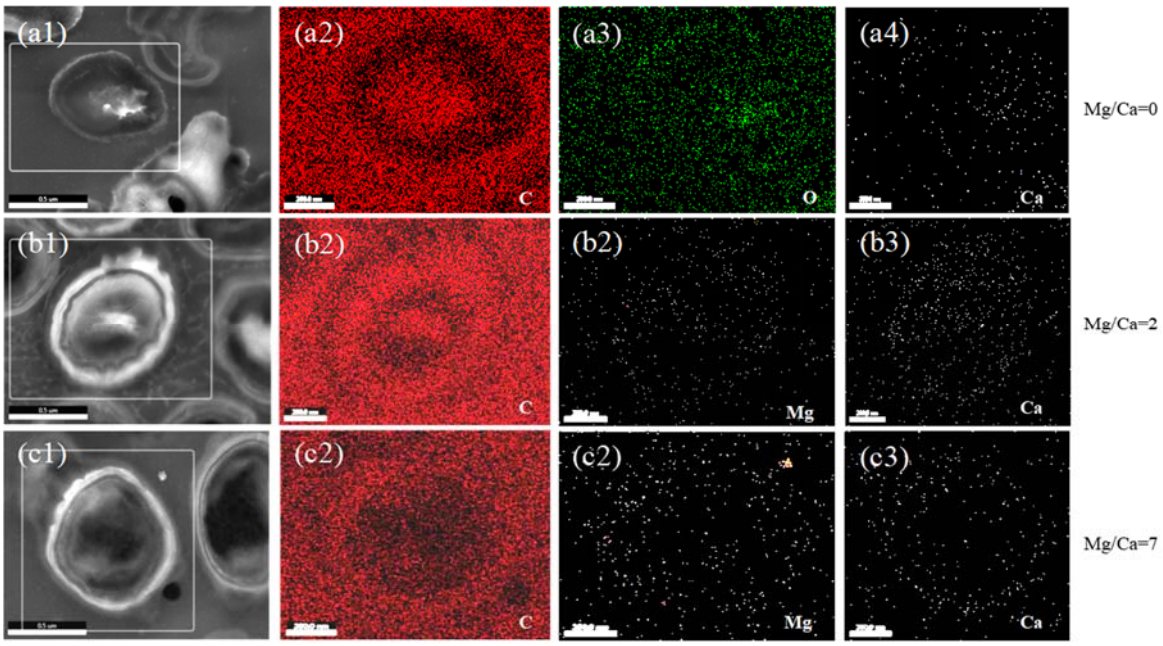

Figure S3. STEM and elemental mapping of *H. smyrnensis* WMS-3. ((**a–c**) represent Mg/Ca molar ratios of 0, 2 and 7, respectively).

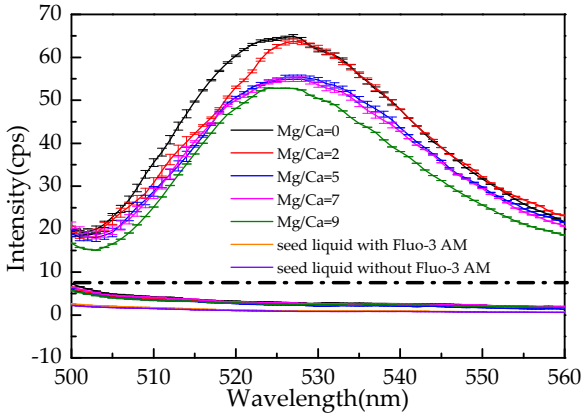

Figure S4. Fluorescence intensity of intracellular Ca^{2+} ions of *H. smyrnensis* WMS-3.