

## **Supplementary Information**

### **The precipitation of calcium carbonate in the presence of macromolecules isolated from corals**

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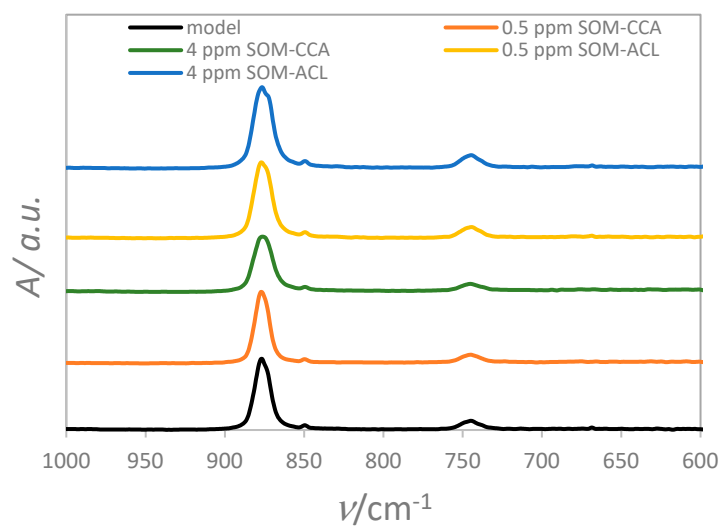
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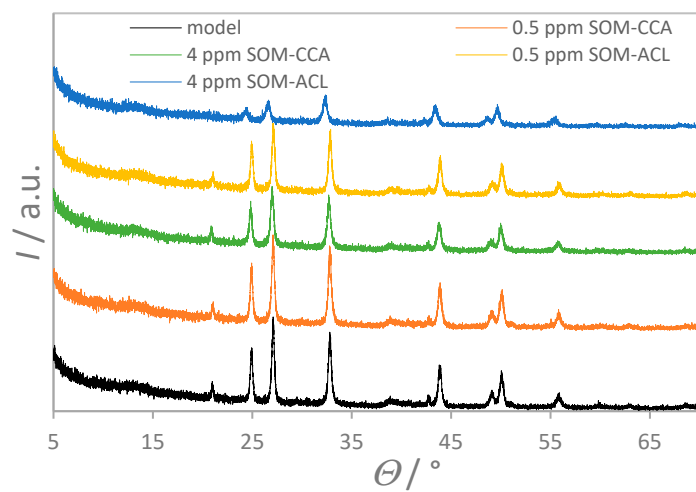
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The Supplementary Information contains: IR spectra and X-ray diffractograms of CaCO<sub>3</sub> precipitated in the presence of SOMs (Figure S1), IR spectra and X-ray diffractograms of CaCO<sub>3</sub> precipitated in the presence of Mg<sup>2+</sup> and SOMs (Figure S2)

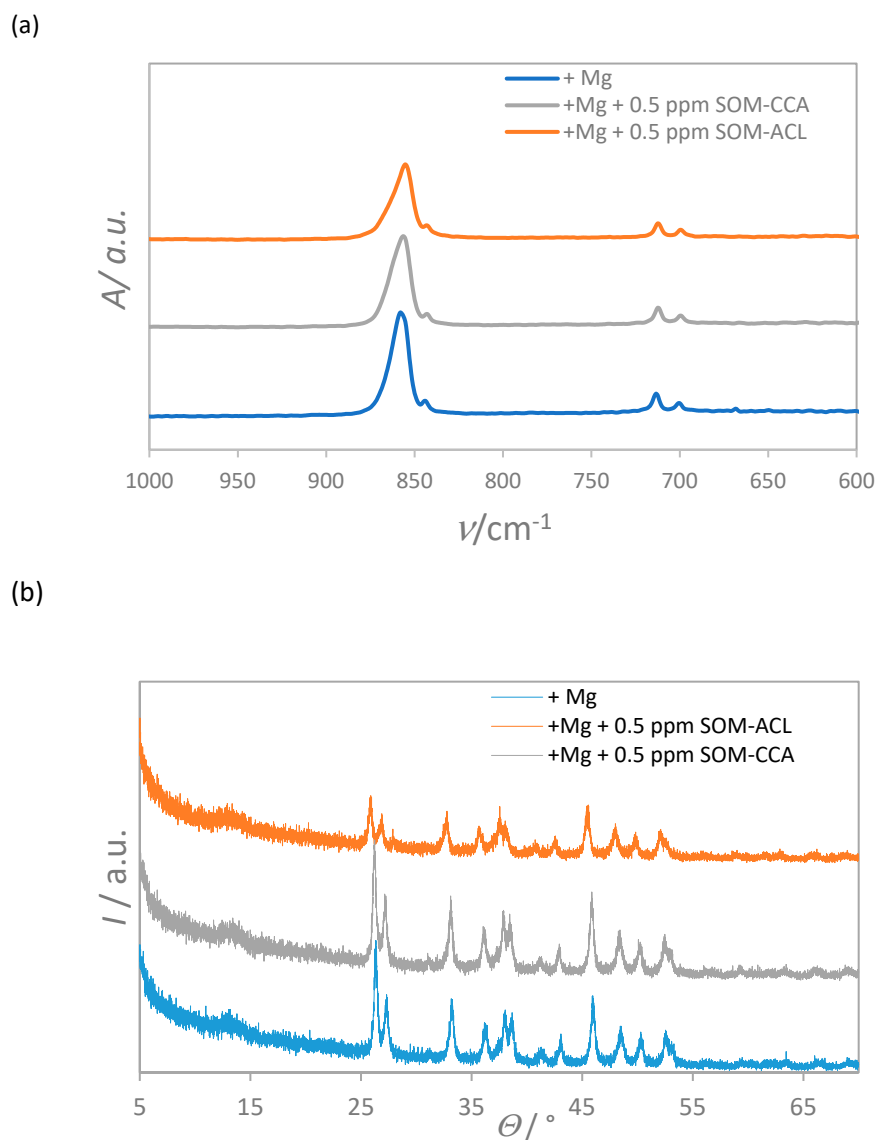
(a)



(b)



**Figure S1.** IR spectra (a) and X-ray diffractograms (b), of spontaneously precipitated calcium carbonate in the system without  $\text{Mg}^{2+}$  and with addition of SOMs with initial reactant concentrations  $c_0(\text{Ca}^{2+}) = 0.010 \text{ mol dm}^{-3}$ ,  $c_0(\text{CO}_3^{2-}) = 0.005 \text{ mol dm}^{-3}$ .



**Figure S2.** IR spectra and (a) X-ray diffractograms (b) of spontaneously precipitated calcium carbonate in the system with initial reactant concentrations  $c_0(\text{Ca}^{2+}) = 0.010 \text{ mol dm}^{-3}$  and  $c_0(\text{CO}_3^{2-}) = 0.005 \text{ mol dm}^{-3}$  and with addition of  $\text{Mg}^{2+}$ ,  $\text{Mg}^{2+} + \text{SOM-CCA}$  and  $\text{Mg}^{2+} + \text{SOM-ACL}$ .