Supplementary Information

Exploring coral biomineralization in gelling environments by means of the counter diffusion system

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Figure S1. Optical microscope images of crystals. The first column corresponds with the agarose viscous sol experiments; the second column with the agarose gel experiments and the third column with the agarose viscous sol adding Mg^{2+} into the cation reservoir. (A-C) Precipitates in the absence of additives; (D-F) in the presence of *B. europaea* at concentration equal to *c* and (G-I) to 5*c*; (J-L) in the presence of *L. pruvoti* at concentration equal to *c* and (M-O) to 5*c*. Scale bars: 200 µm.



Figure S2. XRD patterns of calcium carbonate precipitates. The upper-figure corresponds with the high viscous sol experiments, the medium-figure with the gel experiments and the low-figure with the high viscous sol experiments adding Mg^{2+} into the cation reservoir. The precipitates were obtained in the absence (A) and in the presence of organic macromolecules from *B. europaea*, at concentrations equal to *c* (B) and to 5c (C), and from *L. pruvoti*, at concentrations equal to *c* (D) and to 5c (E).



Figure S3. FTIR spectra of calcium carbonate precipitated in a high viscous sol adding Mg^{2+} into the cation reservoir. The precipitates were obtained in the absence (A) and in the presence of organic macromolecules from *B. europaea*, at concentrations equal to *c* (B) and to 5*c* (C), and from *L. pruvoti*, at concentrations equal to *c* (D) and to 5*c* (E).



Figure S4. Low-magnification SEM images of calcium carbonate precipitates. The first column corresponds with the agarose viscous sol experiments; the second column with the agarose gel experiments and the third column with the agarose viscous sol adding Mg^{2+} into the cation reservoir. (A-C) Precipitates in the absence of additives; (D-F) in the presence of *B. europaea* at concentrations equal to *c* and (G-I) to 5*c*; (J-L) in the presence of *L. pruvoti* at concentrations equal to *c* and (M-O) to 5*c*.