

Supplemental materials

Calcifying Bacteria Flexibility in Induction of CaCO₃ Mineralization

Darya A. Golovkina^{1,2}, Elena V. Zhurishkina^{1,2}, Lyubov A. Ivanova^{1,2}, Alexander E. Baranchikov³, Alexey Ye. Sokolov¹, Kirill S. Bobrov^{1,2}, Alexey E. Masharsky⁴, Natalia V. Tsvigun⁵, Gennady P. Kopitsa¹, Anna A. Kulminskaya^{1,2*}

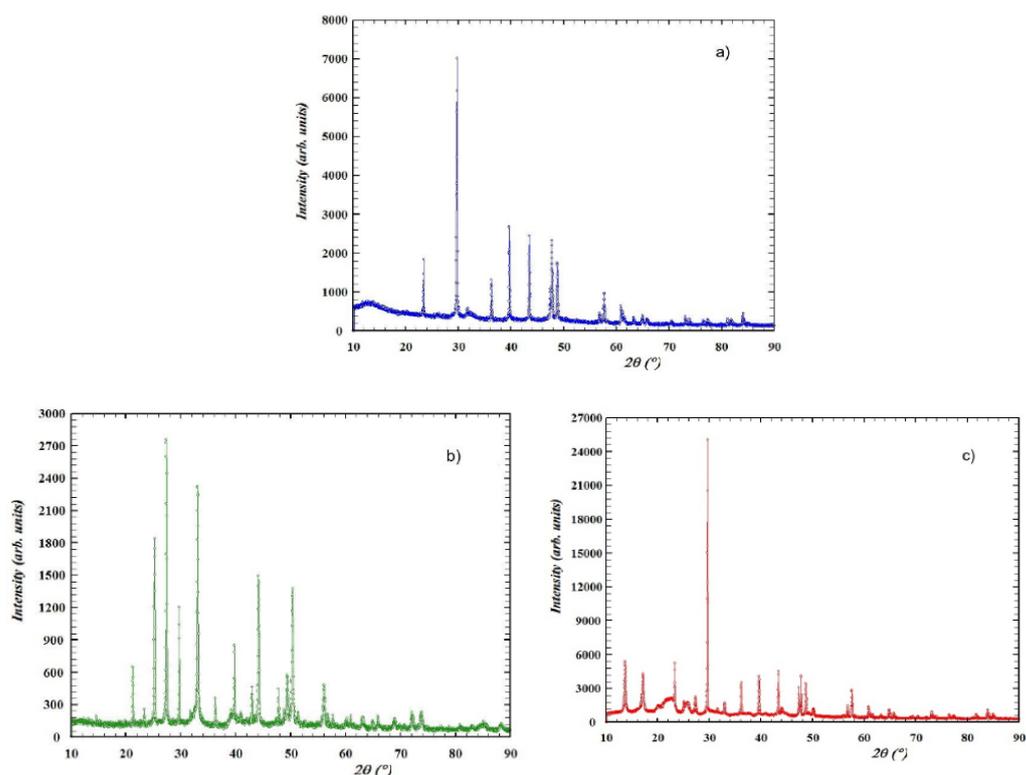


Figure S1. Typical x-ray diffraction patterns of CaCO₃ precipitates formed by representative bacterial strains under study: (a) *B. subtilis* K51 after the growth in B4-U (calcite), (b) *B. cereus* 4b after the growth in B4-AC (calcite + vaterite), (c) *M. luteus* 6 after the growth in B4-AC (calcite + vaterite + not identified phase).

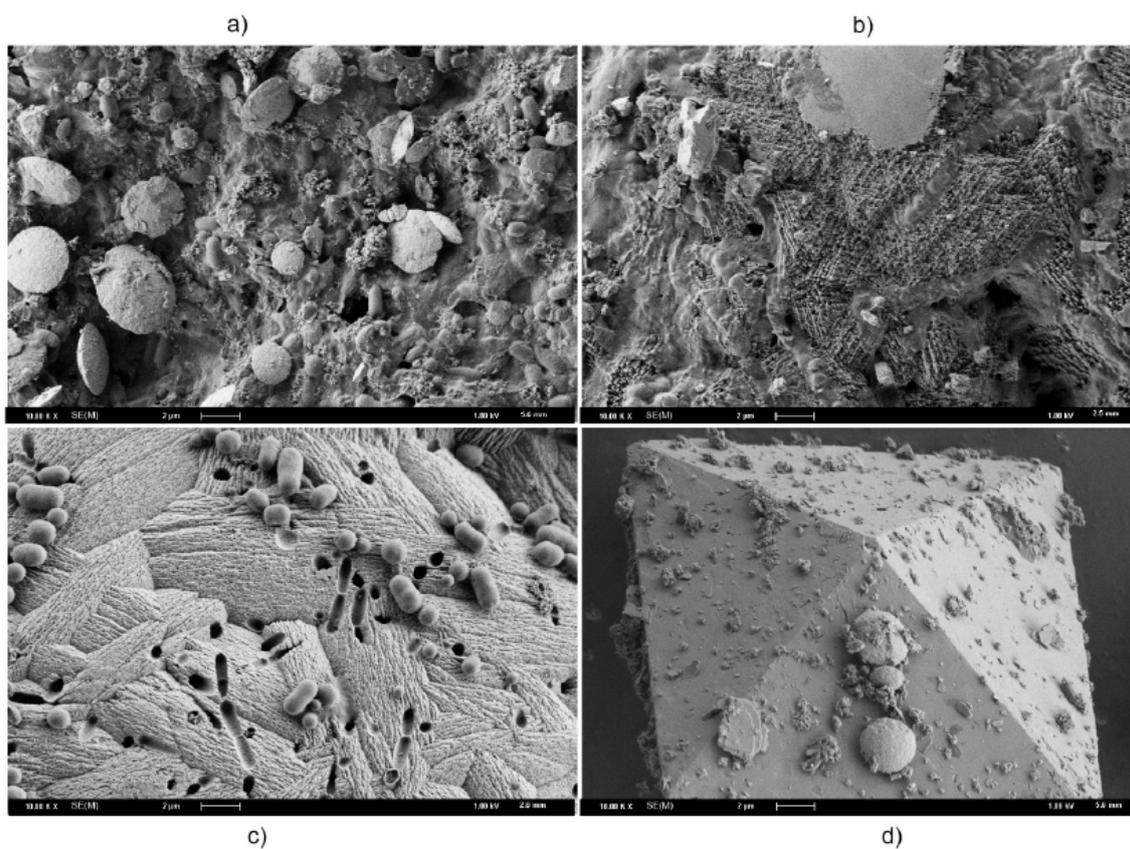


Figure S2. Representative scanning electron micrographs of CaCO_3 precipitates formed by some bacterial strains under study: (a) vaterite (ellipsoid particles) produced by *S. epidermidis* 4a in B4-AC medium; (b) calcite, *B. licheniformis* DSMZ 8782, B4-U medium; (c) vaterite, *B. subtilis* 170, B4-AC medium. Bacterial cells and imprints are seen on the surface of the crystal; (d) calcite (large faceted crystal) and vaterite (ellipsoid particles), *B. subtilis* 170, B4-AC medium.

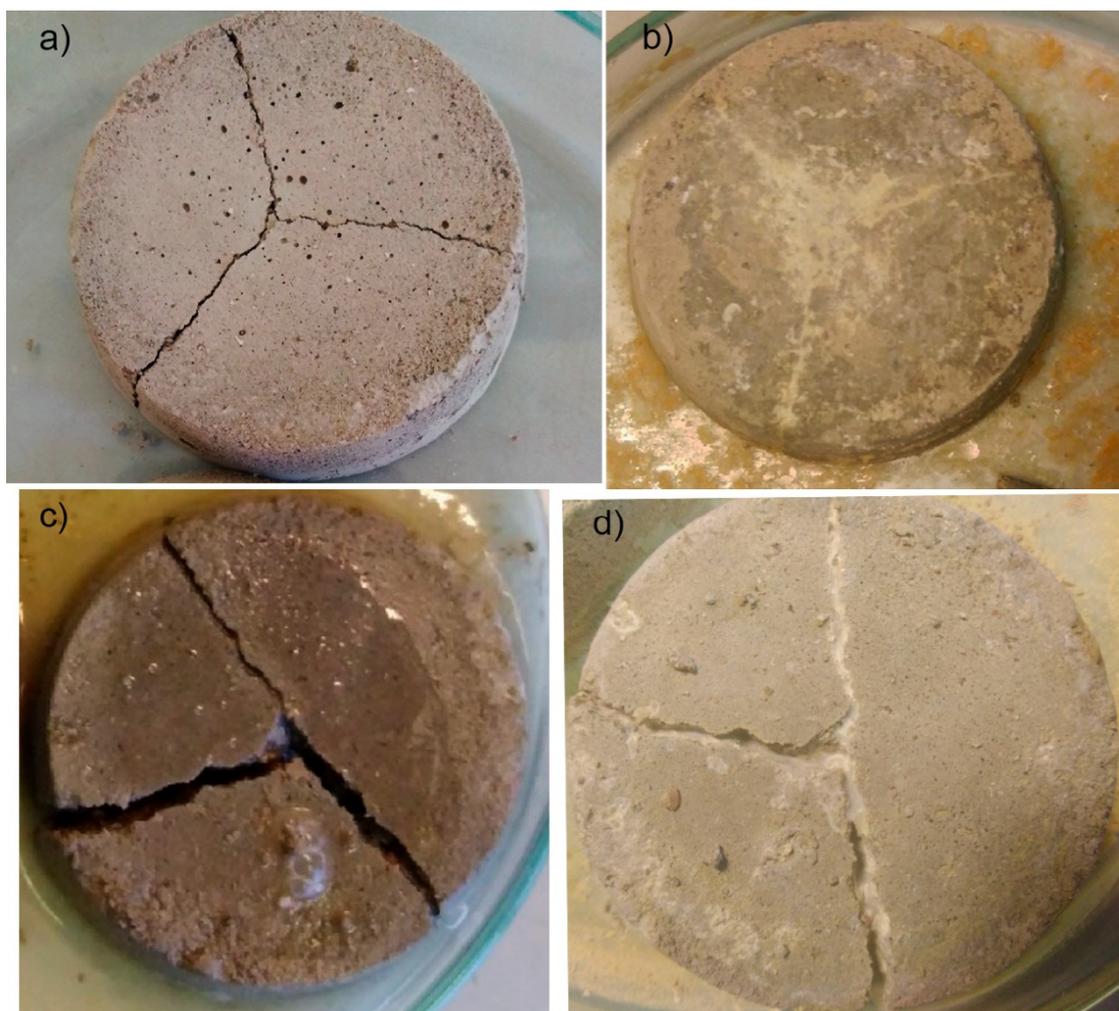


Figure S3. Typical micrographs of micro-crack filling by *B. licheniformis* DSMZ 8782 before (**a and c**) and after a month of the growth on the cement surface in B4-U medium (**a and b**) and in B4-AC medium (**c and d**).

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).