

Supporting Information

Directing Sequential Self-Organization with Self-Assembled Nanocrystals

Ariane V. Mader^{1,2}, René M. Williams¹, Joanna Aizenberg^{3,4*}, Willem L. Noorduin^{1,2*}

¹ van 't Hoff Institute for Molecular Sciences (HIMS), Universiteit van Amsterdam, Science Park 904, 1098 XH Amsterdam, The Netherlands

² AMOLF, Science Park 104, 1098 XG Amsterdam, The Netherlands

³ Department of Chemistry and Chemical Biology, Harvard University, Cambridge, MA, 02138, USA

⁴ John A. Paulson School of Engineering and Applied Sciences, Harvard University, Cambridge, MA, 02138, USA

*Email: jaiz@seas.harvard.edu

*Email: w.noorduin@amolf.nl

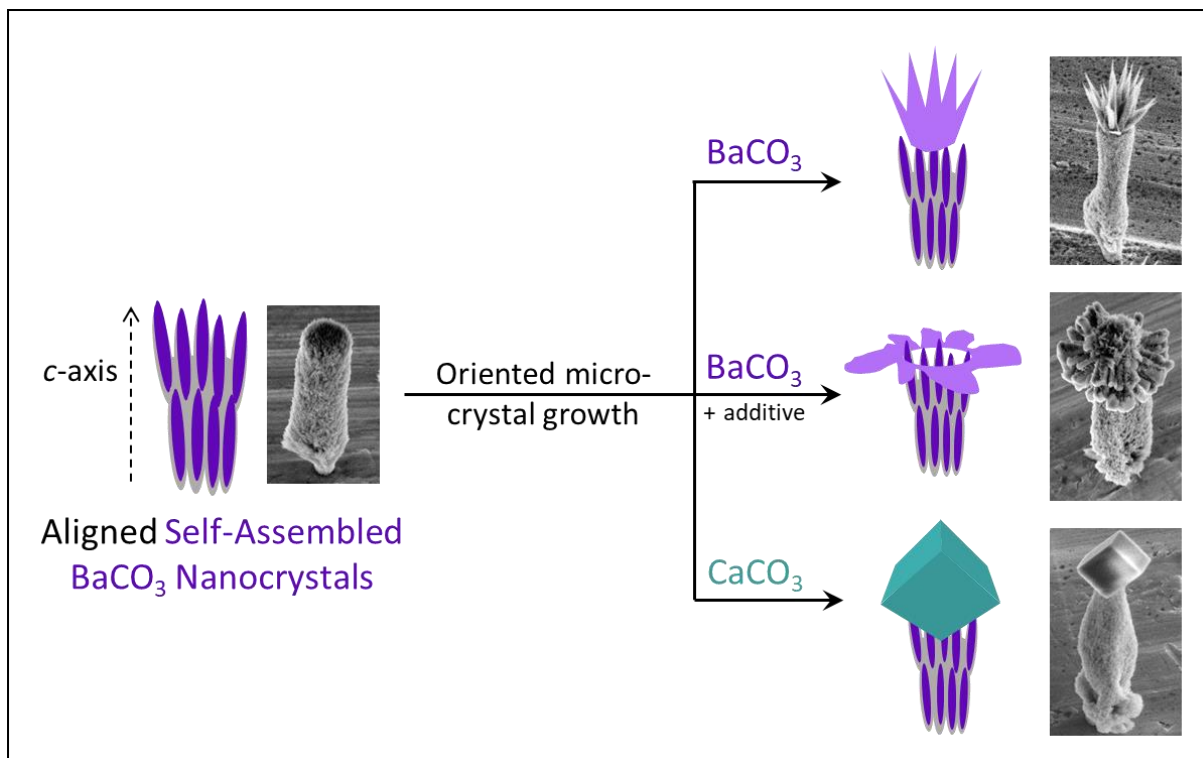


Figure S1. Concept of using self-assembled nanocrystals (SANCs) to control nucleation of microscopic crystals.

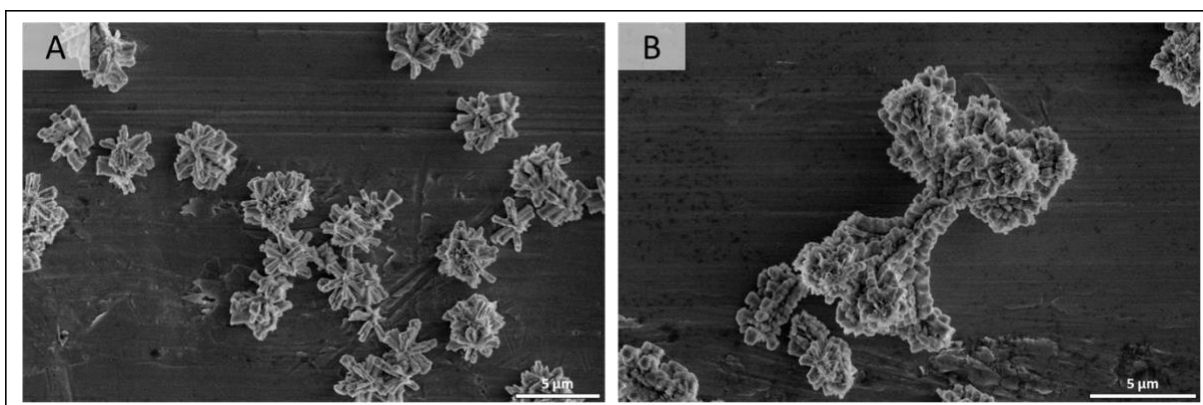


Figure S2. BaCO_3 crystals grown in presence of SiO_2 as additive. The crystal growth appears fragmented and appears enhanced in the a/b-axis direction.

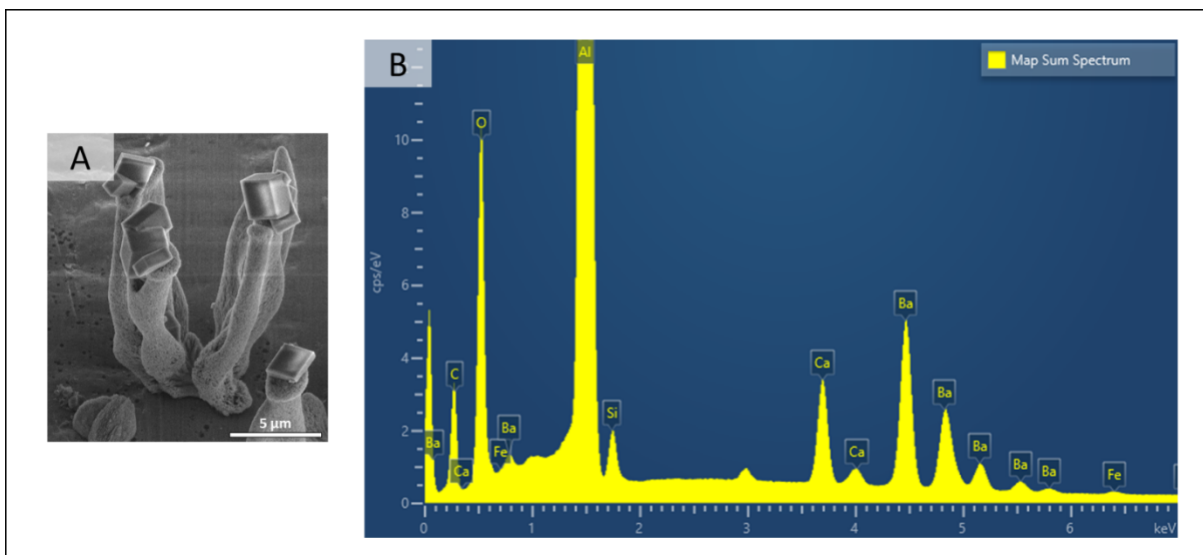


Figure S3. SEM image of a typical $\text{BaCO}_3/\text{SiO}_2$ nanocomposite structure with calcite microcrystals on top (A) and the EDS sum spectrum of the entire structure (B). The spectrum has basic corrections by the AZtec software applied.

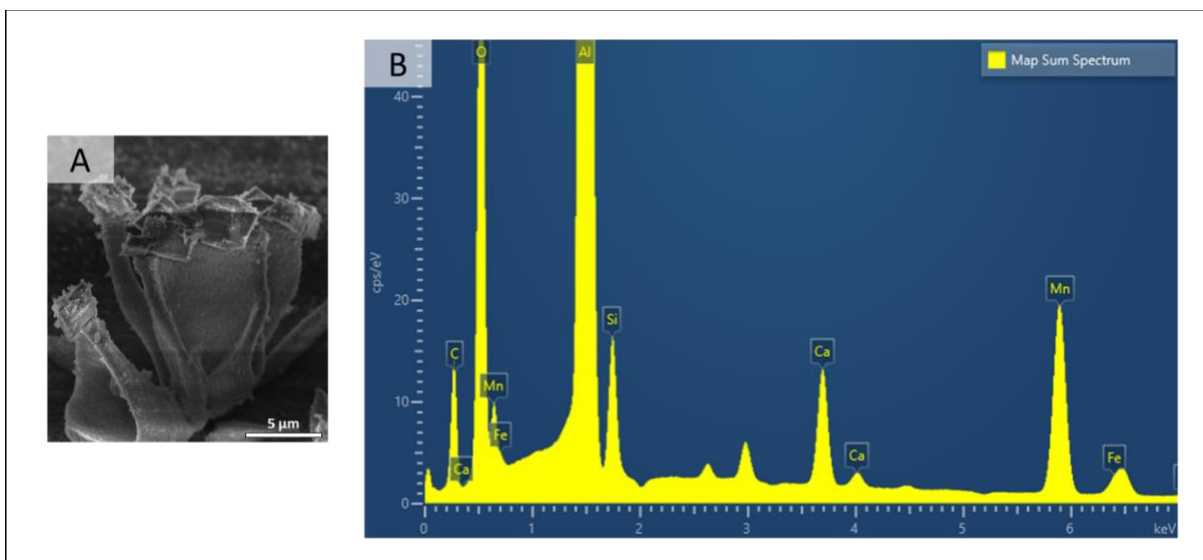


Figure S4. SEM image of a typical $\text{BaCO}_3/\text{SiO}_2$ nanocomposite structure with calcite microcrystals on top after attempted ion exchange to MnCO_3 (A) and the EDS sum spectrum of the entire structure (B). The spectrum has basic corrections by the AZtec software applied.