

Abstract Submitted
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Selective crystal nucleation at a soft organic template. SUMIT KEWALRAMANI, KYUNGIL KIM, GUENNADI EVMENENKO, PULAK DUTTA, Northwestern University, PULAK DUTTA GROUP AT NORTHWESTERN UNIVERSITY TEAM — Langmuir monolayers floating on supersaturated aqueous solutions can guide the growth of oriented inorganic crystals.¹ Although, oriented crystal growth under such monolayers has been observed for a variety of inorganic species, barium fluoride and strontium fluoride are the only systems where an epitaxial match between the organic and inorganic lattices is directly observed.² We have studied different growth stages of this model system by varying the subphase conditions. We find that, in the earliest nucleation stages, strained epitaxial thin films of barium fluoride and barium fluoride chloride can be grown under the same organic structures. We will also discuss late crystal growth stages, specifically orientation/misorientation effects in thick films, which are governed by reorganization of preformed crystals. 1. S. Mann, *Biomaterialization Principles and Concepts in Bioinorganic Materials Chemistry*, Oxford University Press, Oxford, 2001. 2. J. Kmetko et al. *Phys. Rev. Lett.* **89**, 186102-1 (2002).

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