

Self-Assembled Monolayers in the direction of Crystal engineering

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Self-Assembled Monolayers in the direction of Crystal engineering: Nucleation and growth studies

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Self-assembled monolayers (SAMs) are organic assemblies formed by adsorbates on the metal surface.[1] Generally, adsorbates alkane thiols and metal as gold are well studied. SAMs mostly use to control the order and the direction of the layers and face growth.[2] SAMs are useful to tune the physical properties and also use to study nucleation.[3] In the case of the MOFs SAMs are mostly prominent to study the layer by layer self-assembly.[4] Finally, SAMs can assist promising opportunity to target nucleolus on the surface and also useful to control them. Here we will study the nucleation and polymorphic phase transformations of the different small molecules drugs on SAMs surface with embedded MOFs (Scheme 1).

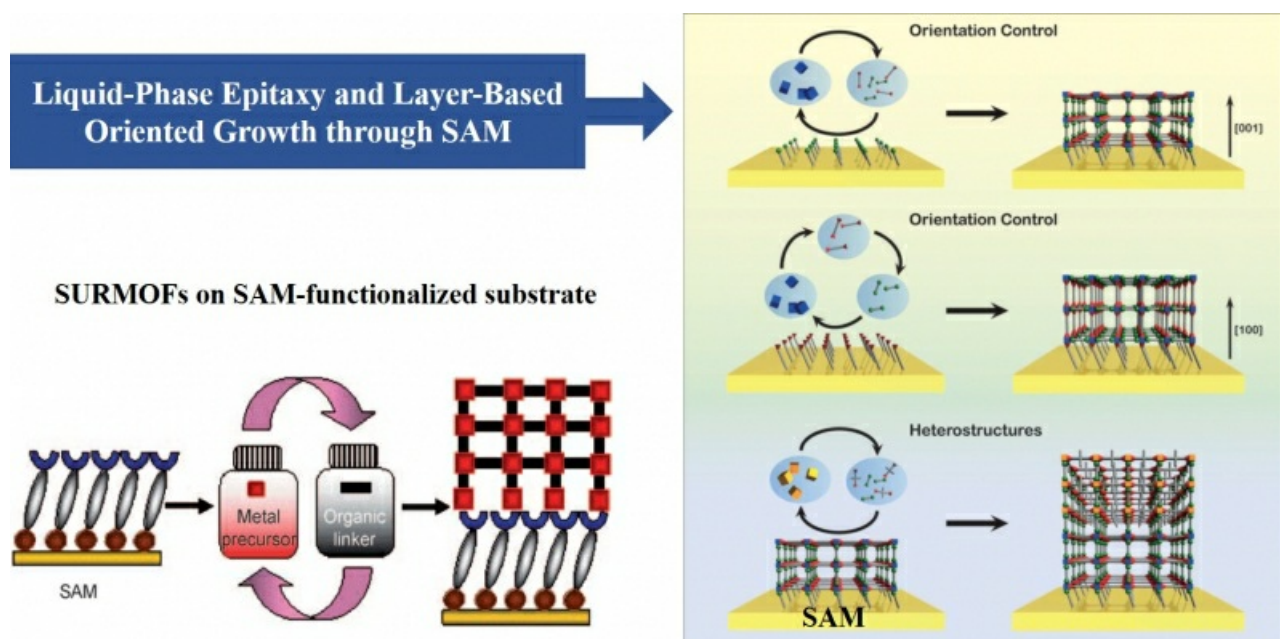
Scheme 1. SAM to control the layer growth

[1] Love, J. C. Estroff, L. A. Kriebel, J. K. R. G. Nuzzo, & Whitesides, G. M. (2005). Chem. Rev. 105, 1103–1169.

[2] Kang, J. F. Zaccaro, J. Ulman, A. & Myerson. A. (2000). Langmuir 16, 3791–3796.

[3] Yang, X. Sarma, B. & Myerson. A. S. (2012). Cryst. Growth Des. 12, 5521–5528.

[4] Arslan, H. K. Shekhah, Wohlgemuth, O. J. Franzreb, M. R. Fischer, A. & Wöll, C. (2011). Adv. Funct. Mater. 21, 4228–4231.



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