Fachübergreifenden Kolloquium:

Chemical and biochemical processes at surfaces and interfaces: Integral treatment from a chemical, physical & technical point of view

Montag, den 25.01.2016 um 17:00 (AR-F002)

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Titel: *Nanofabrication via Self-assembled Hybrid Nanomaterials*

Abstract

Tuning the physical properties of low dimensional structures via control the assembly of hybrid building blocks to construct (multi)functional materials is a key challenge in nano(bio)technology.[1] In this presentation, the bottom-up nanofabrication based on the assembly of functional building blocks will be discussed as an alternative to conventional top-down methods to fabricate well-defined functional nanostructured hybrid materials.[2,3] We explore the potential of nanostructured hybrid materials based on varieties of inorganic components developed in-situ within self-assembled soft polymeric matrix into low dimensional structures.[1,2,4] The main advantage of the in-situ preparation is that the size and the size-distribution of the inorganic moieties can be controlled within the soft (bio)polymeric matrix.[3-5] Moreover, the ability of the polymeric matrix to self-assemble into one dimensional nanostructures can be exploited to direct the spatial arrangement of the inorganic components.[5-7] A mechanism will be proposed with respect to direct the self-assembly process under ambient conditions. As well as a description of the driving forces leading to the fabrication of ordered domains will be discussed.

References

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