



Surface Patterning with Colloidal Monolayers

By Nicolas Vogel

Springer Dez 2012, 2012. Buch. Book Condition: Neu. 235x155x19 mm. This item is printed on demand - Print on Demand Neuware - How can the two dimensional crystallization of colloids be used to form highly ordered colloidal monolayers on solid substrates What application does this have in generating arrays of nanostructures These questions are addressed in Nicolas Vogel's thesis. Vogel describes a simple preparation method for the formation of uniform colloidal crystals over large areas, which he refines to yield more complex binary and non-close-packed arrangements. These monolayers can be applied to a process termed colloidal lithography which is used to prepare high quality metallic nanostructures with tailored properties defined to suit a variety of applications. Moreover, the author describes a method used to create metallic nanodot arrays with a resolution unprecedented for colloidal lithography methods. The author also outlines methodology to embed nanoparticle arrays into the substrate, which is developed and used to design robust, re-usable biosensor platforms and nanoscale patterns of biomimetic lipid bilayer membranes. The research in this thesis has led to a large number of publications in internationally renowned journals. 252 pp. Englisch.

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