

UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

SYNTHESIS OF POLYMER NANOSTRUCTURES VIA THE USE OF
SURFACTANT SURFACE AGGREGATES AS TEMPLATES

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
Doctor of Philosophy

By
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2007

Synthesis Of Polymer Nanostructures Via The Use Of Surfactant Surface Aggregates As Templates

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Summary : Free synthesis of polymer nanostructures via the use of surfactant surface aggregates as templates pdf download - in chapter 4 an in-depth study of the factors affecting taap is presented for three different monomers aniline pyrrole and methyl methacrylate and three different surfaces highly ordered pyrolytic graphite hopg gold and sio2 among the parameters discussed are the effect of monomer and surfactant concentration surfactant chain length polymerization time and temperature solution ionic strength substrate choice and surface treatment control over these parameters allowed the synthesis of polymer nanopillars nanorings honeycombs and honeytubes experimental results showed that the nanostructures morphology can be effectively modified by changing the length of the hydrophobic chain of the surfactant nanostructures with fewer defects were found for surfactants with the longest hydrophobic tails i e 12 carbon atoms the hydrophobic nature of the monomer also seemed to affect the morphology of the nanostructure poly methyl methacrylate pmma honeycombs showed thicker walls compared to polyaniline pani and polypyrrole ppy in general hopg seems to be a better choice of substrate for taap compared to gold-coated glass and sio2 wafers preliminary results on the formation of layered polymer nanostructures via multiple taap sequences were also presented

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solution-stable colloidal gold nanoparticles via ... - solution-stable colloidal gold nanoparticles via surfactant-free, ... non-micelle templating of nanostructures via ... their synthesis via uncatalyzed ring opening ...

shape and aggregation control of nanoparticles: not shaken ... - shape and aggregation control of nanoparticles: not shaken, not stirred dan li and richard b. kaner* contribution from the department of chemistry and biochemistry ...

platinum nanoscale lattice on a graphite surface using ... - the templates are a surface micellar strip of ... methods for the synthesis of metal nanostructures are ... surface aggregates.30–36 the temperature was ...

computer simulation of template polymerization using a ... - computer simulation of template polymerization using ... include synthesis of ladder-like polymers, or surface-based ... surfactant aggregates (i.e., templates) ...

university of oklahoma jonathan e. peters, dimitrios v ... - ... ph.d. tructures via the use of surfactant surface aggregates as physikalische chemie ... templates. (d) x ... bioengineering. 1967, university of oklahoma; m ...

synthesis of poly(3,4-ethylenedioxythiophene) microspheres ... - using templates such as surfactant micelles,5–15 mesoporous ... limited use, however, for the synthesis of ... aggregates of linear polymer intermingle ...

journal of materials chemistry c - arttrvergata - cally include the use of template-guided synthesis with (1) hard physical templates like ... loosely bound aggregates when ... the use of any partic-ular surfactant ...

surface chemistry research laboratory - iust - achieved via the motion of charged cnts ... anodized aluminum oxide templates, f. hekmat, b ... application in nanoporous pores synthesis, colloid and surface, 436 ...

noble metal nanoparticles and their ordered self-assembly ... - making ordered nanostructures via a controlled in situ synthesis of noble metal ... surface-based templates. ... aggregates. examples of such ...

“single-” and “multi-core” fept nanoparticles: from ... - “single-” and “multi-core” fept nanoparticles: from controlled synthesis via zwitterionic and silica bio-functionalization to ... the surfactant ...

what is rss? - xiamen university - what is rss? > heart cut ... zsemiconductor microcapsules from polymer templates ... zstereoselective synthesis of unsaturated carboxylic acids

nanoporous materials: science and engineering : a novel ... - chemistry developed in our laboratories for the synthesis of nonporous polymer ... (i.e. as aggregates or ... and the use of mixtures of nonsurfactant templates ...

brenda l. sanchez-gaytan and so-jung park* - brenda l. sanchez-gaytan and so-jung park* ... and polymer beads as templates for the growth of spiky nanoshells. ... surfactant-directed synthesis. j.

potential applications of nanoparticles - ijpbs - potential applications of nanoparticles 1 ... their surface to mass ratio, ... nanocrystals are aggregates of around hundreds or

sunday sept. 28 - university of ioannina - sunday sept. 28 17:00 ... physical properties of polymers via hierarchical modeling ... polymer synthesis presiding: j. kallitsis, ...

facile fabrication of hollow mesoporous silica ... - preparation of the other biomineral nanostructures that ... called hard templates such as polymer ... be tuned separately with the assistance of surfactant templates.

, nanowalls,... - leung.uwaterloo - ... may not get desired nanostructures ... contain polymer sub-structure with aggregates of sub ... as templates for materials synthesis _ t ...

a one-pot approach to coaxial ... - **polymer.fudan** - surface of which, tetraethoxysilane ... organic templates has been popularized to form hybrid silica ... a surfactant template in the presence of chiral dopant to ...

#1 nanochannel laboratory based on porous coordination ... - nanochannel laboratory based on porous coordination polymers ... self-assembly in nanomaterial synthesis and property ... surface functionalization of non-woven ...