

SAMs's Formation in Hexagonally ordered Mesoporous silica with the Functionalized Organosilane

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Hybrid nanoporous materials involve the formation of molecular monolayers in confined spaces with imensions appoaching the sizes of the silane molecules. The work describes the formation of molecular monolayers in tailored nanoporous substrates as a function of surface coverage and provides a simple, efficient method for self-assembly of alkoxy silanes onto nanoporous substrates, which contains uniform cylindrical pore channels with wide and narrow regions. Direct evidence of a new step-growth mechanism in which the silane molecules are first deposited in the wide region was demonstrated.