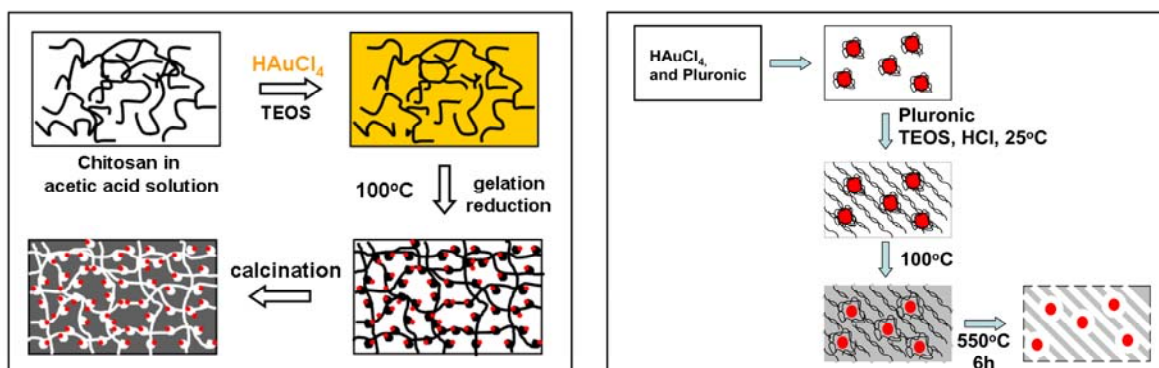


One-pot synthesis of gold nanoparticle functionalised mesoporous silica

Gold nanoparticle functionalised materials are considered as good catalysts for many reactions, especially in liquid phase. The main challenge is to obtain materials in which the nanoparticles are homogeneously dispersed, well bound to the support surface and still accessible for the substrates. To reach these goals for gold nanoparticle functionalised mesoporous silica, a one – pot synthesis comprising a tri-block copolymer and chitosan has been proposed. In this approach the polymers introduce mesoporosity into the silica material and simultaneously reduce the use of the gold precursor. After burning out of the template the nanoparticles reside in the cage like pores linked with a mesoporous network.



Schematic illustration of the synthesis

“One-pot synthesis of gold nanoparticle functionalised mesoporous silica - The double role of a tri-block copolymer and chitosan”, B. Gawel, K. Lambrechts, K. Gawel and G. Øye, Microporous and Mesoporous Materials, 164 (2012) 32.