

# KL 05

## **CONSTRUCTION OF HYBRID INORGANIC-ORGANIC NANOPARTICLES BASED ON MINIEMULSION POLYMERIZATION**

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Metallic structures with nanoscale dimensions exhibit interesting optical, electronic and catalytic properties, and their potential application in areas such as sensor technology and biomedicine has been widely recognized. Merging metal nanostructures with other, non-metallic, materials can yield significant advantages for such applications. In this work, a simple and scalable method for the preparation of composite polymer-metal nanoparticles, based on miniemulsion polymerization, has been developed. Using gold nanoparticles as an example, this procedure has been demonstrated to produce particles with a well-defined structure, capable of accommodating multiple metallic domains, while also retaining the useful optical properties of the metal particles. Details of the synthesis and characterization of these composite nanoparticles will be presented.