

Composed Micro and Nano Particles for Flow Catalysis and Miniaturized SERS-Sensing

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Composed micro and nanoparticles open a multidimensional space of combinatorial possibilities which can be regarded in analogy to the un-countable number of chemical compounds. The availability of component particles with uniform chemical composition, size and shape is an essential precondition for the assembling of well-designed composite particles. Micro fluidic techniques support the fabrication of micro and nanoparticles of narrow distribution in size and shape. Droplet-based techniques are particularly suited for the synthesis of high-quality nano particles. Different types of metal, polymer and composite particles have been prepared. A part of them promises interesting applications in labeling as well as in chemical and biomolecular sensing.