Abstract Submitted
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**The synthesis of metal nanoparticulate catalysts within functional microgel particles**[1] MARIA KALIVA, ELENI PAVLOPOULOU, KONSTANTINOS CHRISTODOULAKIS, MARIA VAMVAKAKI, SPIROS H. ANASTASIADIS, Foundation for Research and Technology-Hellas and Univ. of Crete, Heraklion Crete, Greece — Electrostatically and sterically stabilized polymer microgel particles have been prepared containing either amino (poly(2-(diethylamino)ethyl methacrylate), PDEA) or carboxylic acid (poly(acrylic acid), PAA; poly(methacrylic acid), PMMA) functional groups. The PDEA, PAA and PMAA particles can be used for the incorporation of a large variety of metal nanoparticulate catalysts due to their functional amine and carboxylic acid groups; Pd, Ru and Ni nanoparticles have been synthesized. The more polar PAA microgels were designed as the nanocatalyst carrier system in aqueous reaction media while the less polar PMAA particles were prepared as the metal nanoparticle template for use in catalytic reactions that take place in organic solvents. The sterically and electrostatically stabilized microgel particles possess surface functional groups that can potentially interact with the microchannel walls of microfluidic catalytic reactors.

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