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**Synthesis and Magnetic Properties of FePt@MnO Nano-*hetero*-Particles** THOMAS SCHLADT, TANJA GRAF, OSKAR KOEHLER, KERSTIN SCHNEIDER, WOLFGANG TREMEL, Johannes Gutenberg-University Mainz, Germany, INSTITUTE FOR INORGANIC AND ANALYTICAL CHEMISTRY TEAM — Monodisperse FePt@MnO nano-*hetero*-particles with different sizes and morphologies were prepared by a seed-mediated nucleation and growth technique. Both, size and morphology of the individual domains could be controlled by adjustment of the synthetic parameters. As a consequence, different particle constructs, including dimers, dumbbells and flowers, could be obtained by changing the polarity of the solvent. The FePt@MnO nano-*hetero*-particles were thoroughly characterized by (HR-)TEM- and XRD analysis and SQUID magnetometry. Due to a sufficient lattice match, the MnO NPs preferentially grow on the (111) surfaces of the *fcc*-FePt seeds. Furthermore, the surface spins of the antiferromagnetic MnO domains pin the magnetic moments of the ferromagnetic FePt NPs which leads to an exchanged biased magnetic hysteresis.

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