Supplementary Information

One-pot Synthesis and Characterization of Well Defined Core@Shell Structure of FePt@CdSe Nanoparticles

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Figure S1. TEM image of the super lattice of 3.2nm FePt MNPs.

Figure S2. TGA performed for Fe₃(CO)₁₂. The sample was heated under a N₂ atmosphere at a rate of 10 °C/min from 25 °C to 600 °C. The mass loss was 64 % of an initial sample mass, which can be explained based upon formation of 73 % of Fe and 27 % of iron oxide.
Figure S3. XPS spectra of FePt (A), FePt@CdO₅ (B) and FePt@CdSe260 (C) NPs. (a), (b) and (d) are Pt 4f spectra for A, B and C, respectively. (c) and (e) are Se 3d spectra for B and C, respectively.
Figure S4. TEM images of FePt@CdSe260 NPs formed at different $X = [\text{Cd(OAc)}_2] + [\text{Se-TOP}]$. 

a) $X = 0.5$ mmol, b) 1.1 mmol and c) 2.1 mmol.

Figure S5. TEM images of FePt@CdSe260 NPs formed in reactions lasting a) 5 min, b) 10 min, c) 30 min and d) 60 min.