NANO MICRO small

Supporting Information

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Synthesis of Ultrasmall Ferromagnetic fct FePt-Graphite Core-Shell Nanocrystals**

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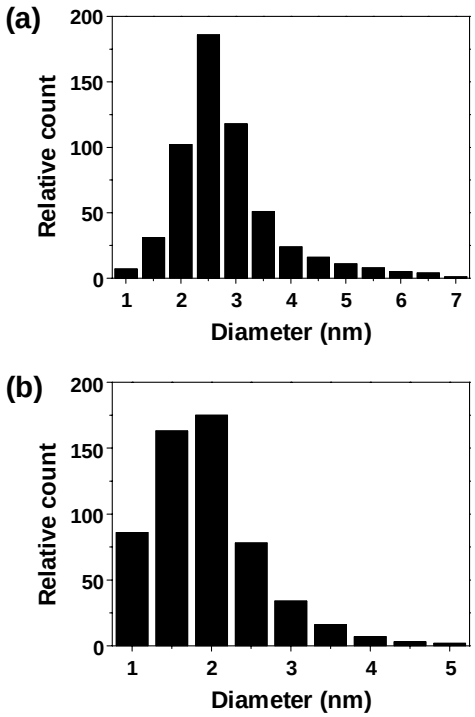

Figure S1. Particle size distribution histograms of (a) 2.8 ± 0.9 nm and (b) 1.9 ± 0.7 nm FePt/GC nanocrystals.

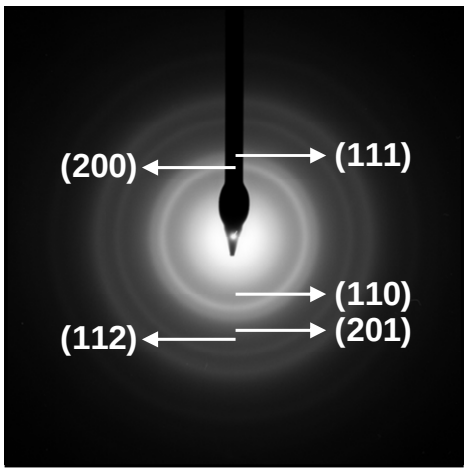

Figure S2. An ED pattern of ~1.9 nm FePt/GC nanocrystals. It shows very weak characteristics corresponding to fct FePt structures such as the (110), (201), and (112) features that are clearly seen from an ED pattern of ~2.8 nm FePt/GC nanocrystals.

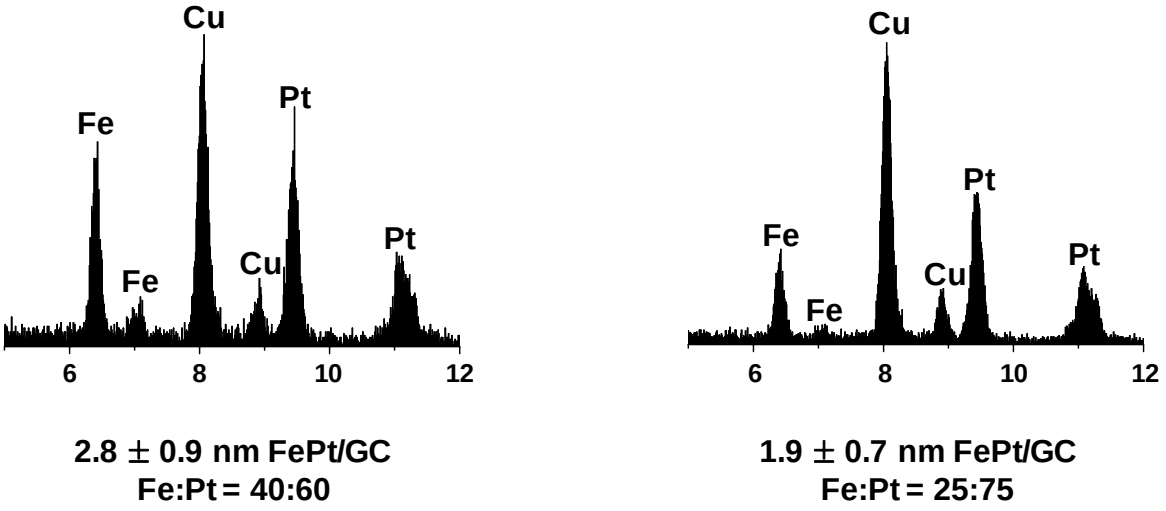

Figure S3. EDX spectra of FePt/GC nanocrystals. They were used to determine Fe:Pt ratios. Both FePt/GC nanocrystal samples have Pt richness. Cupper is from the TEM grids.

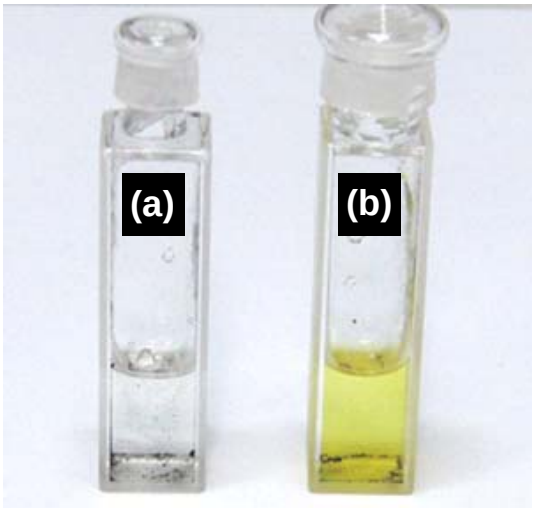

Figure S4. Photographs of ~2.8 nm (a) FePt/GC nanocrystals and (b) FePt nanocrystals having partially broken carbon shells in 35% HCl solutions. FePt/GC nanocrystals exhibited stability against HCl etching over a monitoring period of a week. However, FePt nanocrystals having partially broken carbon shells turned the color to yellow in the HCl solution right after the addition due to the Fe etching.