Electronic Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

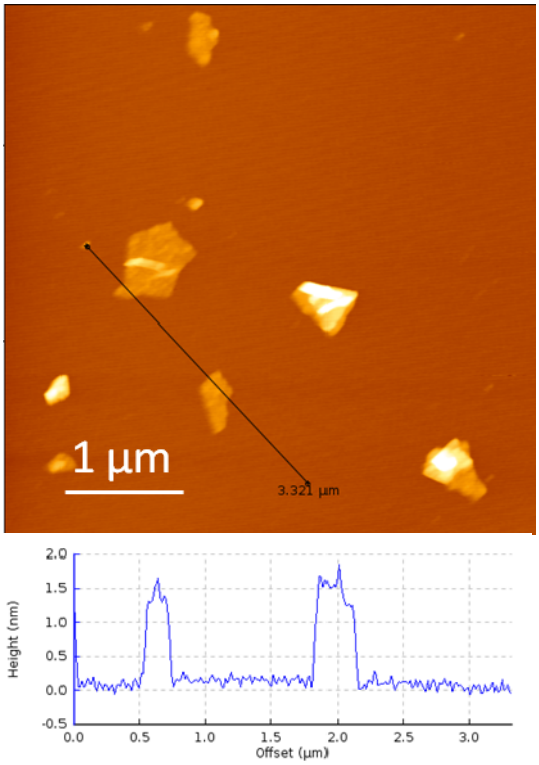

Fig. S1. AFM height image of GN-PNHS and section analysis.

GNs were modified with PNHS to provide the reaction groups with biomolecules (proteins and peptides). AFM was utilized to characterize the height change of GNs before and after PNHS modification. Fig. S1 shows the typical AFM height image of GN-PNHS. The section analysis indicates that the thickness of GN-PNHS is about 1.5 nm, which is larger than that of GO (1.2 nm) and GNs (1.1 nm). The increased thickness is ascribed to the adsorption of PNHS molecules on the GN surface.

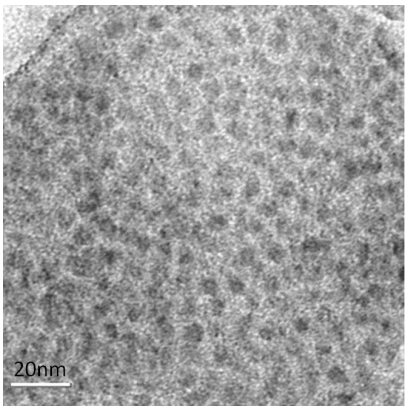

Fig. S2. TEM image of FePt NPs prepared by Fr-biomimetic synthesis.

Synthesis of FePt NPs by Frs: 0.5 mL $FeCl_2$ (25 mM) and 0.5 mL K_2PtCl_6 (25 mM) were added into 1.0 mL Fr aqueous solution (0.1 mg mL^{-1}) with vigorous stirring. The pH value of the mixture was adjusted to 4.0. After 24 hs, the mixture was centrifuged twice and diluted to 1.0 mL with water. FePt NPs were synthesized by adding $NaBH_4$ (1%, m/m) into mixed solution.

TEM characterization of FePt NPs: TEM image indicates the created FePt NPs are monodispersed and the size of NPs was about 5.5 ± 0.5 nm (N=40).