

Silica coated magnetic nanoparticles grafted graphene oxide for protein separation

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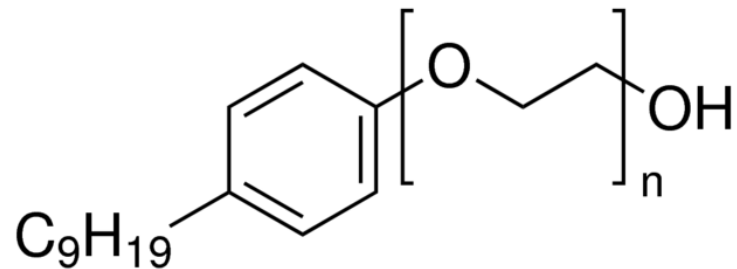


Figure S1. Molecular structure of Igepal®CO-520.

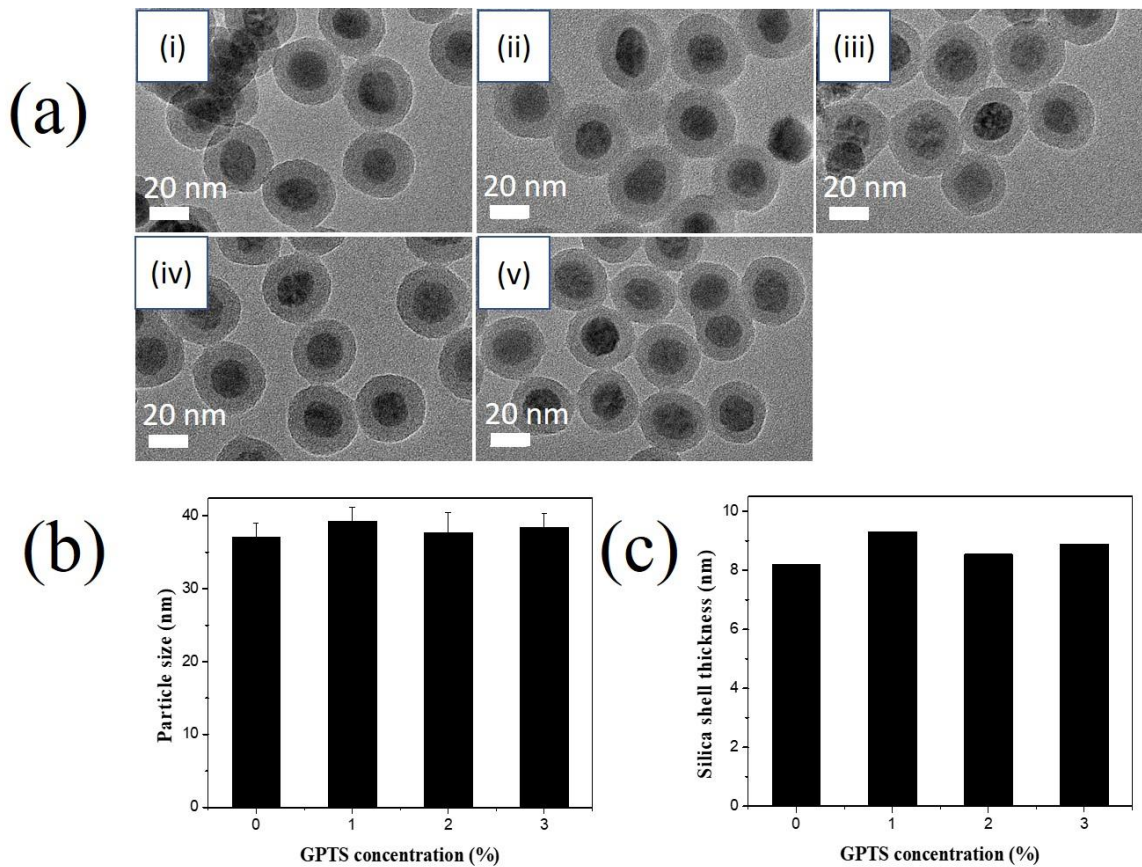


Figure S2. Effects of GPTS concentration on the silica coating of the magnetic nanoparticles. (a) TEM images (b) particle size and (c) silica shell thickness of MNP@SiO₂ synthesized at different GPTS concentration: (i) 0 %, (ii) 1%, (iii) 2%, (iv) 3%, and (v) 5% in the presence of 0.3 mL Igepal®CO-520, 5 mg MNP, 100 μ L TEOS and 100 μ L NH₄OH.

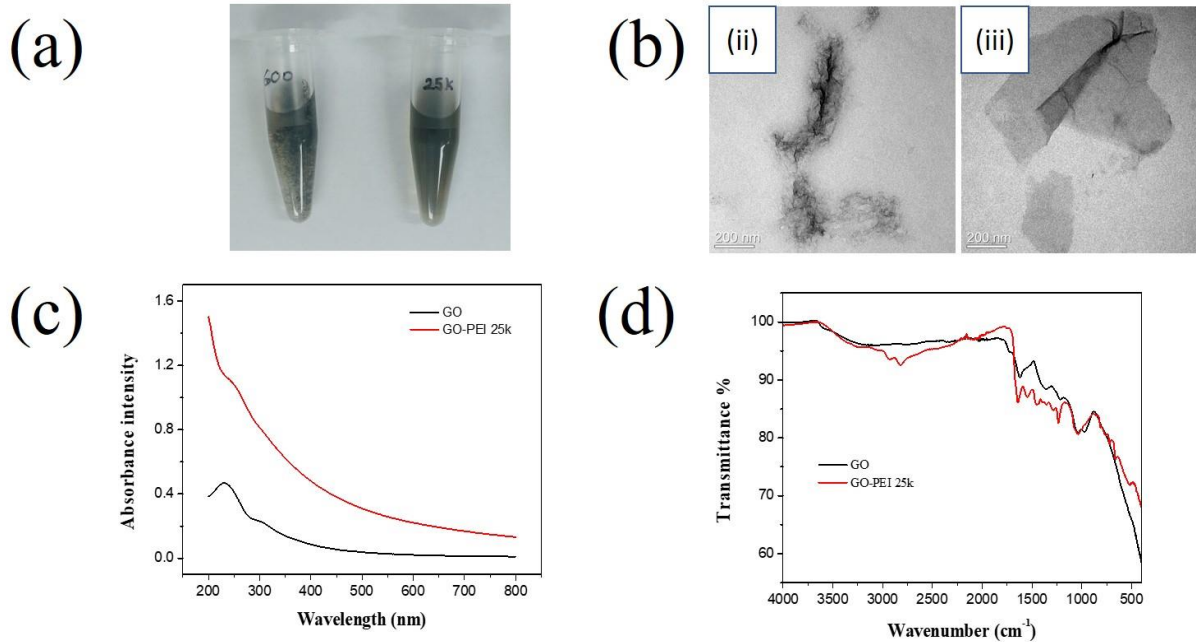


Figure S3. (a) Optical images of GO incubated with PEI 600, PEI 25k. (b) TEM images, (c) UV-Vis absorbance and (d) ATR-FTIR of (i) GO, (ii) PEI 25k grafted GO.

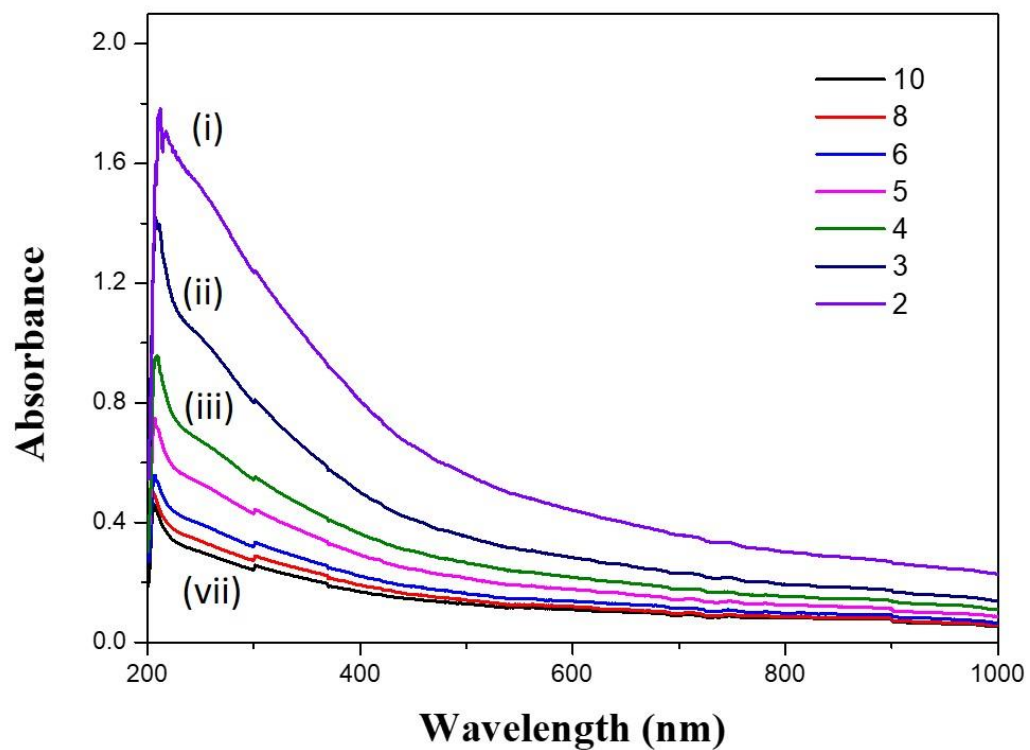


Figure S4. Absorbance spectra of GO/MNP@SiO₂ with various ratio of PEI grafted GO and GPTS coated MNP@SiO₂-GPTS. (i) 2:1, (ii) 3:1, (iii) 4:1, (iv) 5:1%, (v) 6:1, (vi) 8:1 and (vii) 10:1.

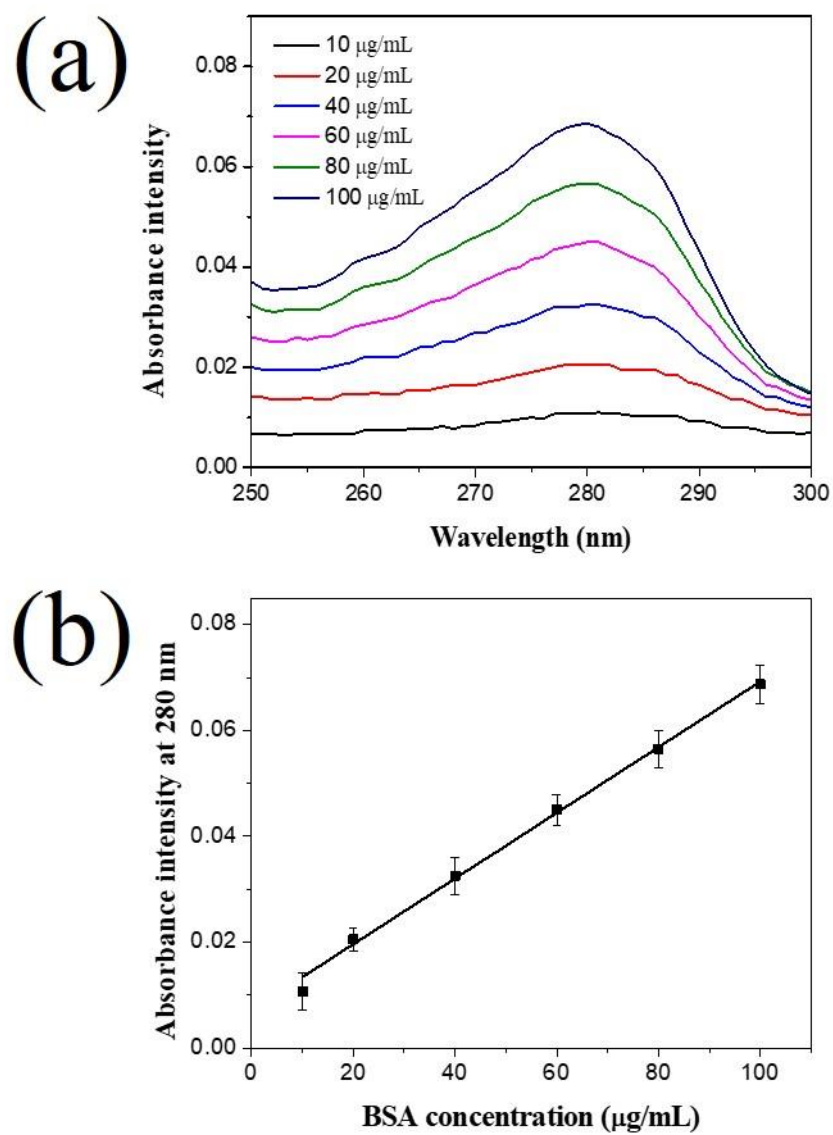


Figure S5. (a) Absorbance spectra and (b) calibration curves of BSA protein at different concentration.