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Facile synthesis of magnetic core-shell nanocomposites for MRI and CT bimodal imaging

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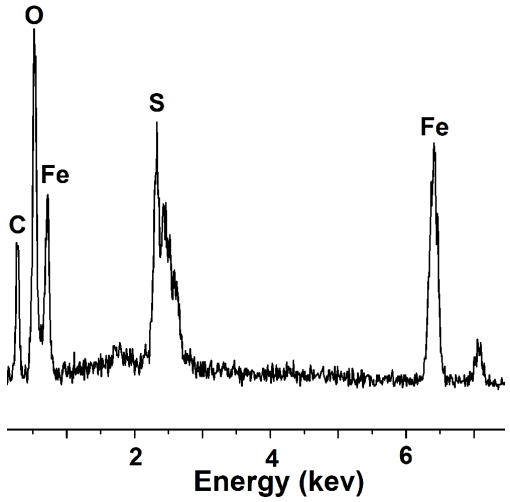

Fig. S1. EDS spectra of iron oxide@sulfur core-shell nanoparticles.

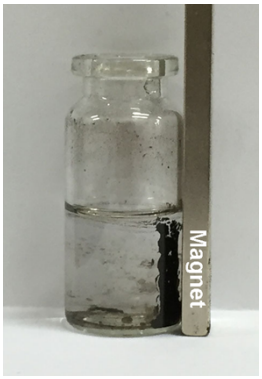

Fig. S2. A photograph was provided to show that the ION@Bi_2S_3 core-shell nanocomposites can be easily attracted by a magnet.

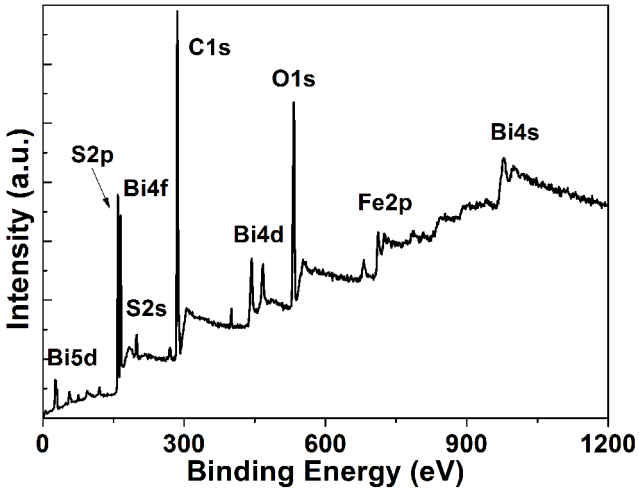

Fig. S3. XPS fully scanned spectrum of the prepared ION@Bi_2S_3 core-shell nancomposites.

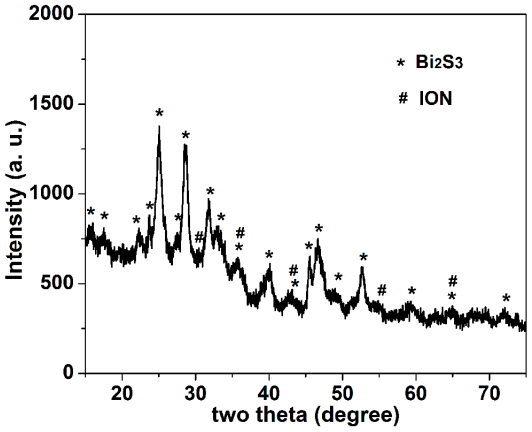

Fig. S4. XRD patterns of the as-synthesized ION@Bi_2S_3 core-shell nanocomposites.

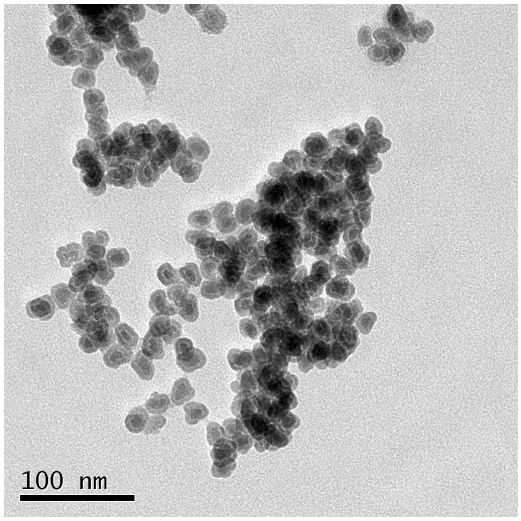

Fig. S5. TEM image of PEG-ION@Bi_2S_3 core-shell nanocomposites in water.

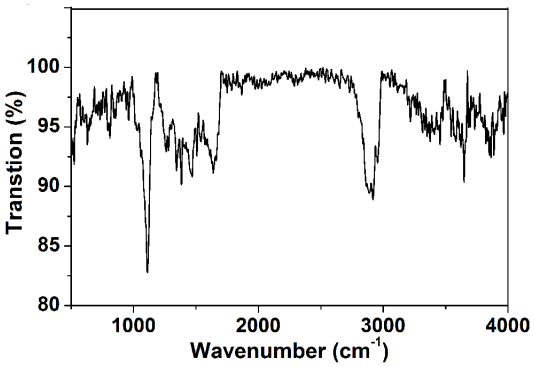

Fig. S6. FTIR spectrum of the as-synthesized PEG-ION@Bi_2S_3 core-shell nanocomposites. The IR absorption bands around 2900 cm^{-1} owing to the large amount of CH_2 groups in the PEG coating. Various additional peaks from 1000 to 1400 cm^{-1} were likely due to stretching vibrations of the C-O bond in PEG.

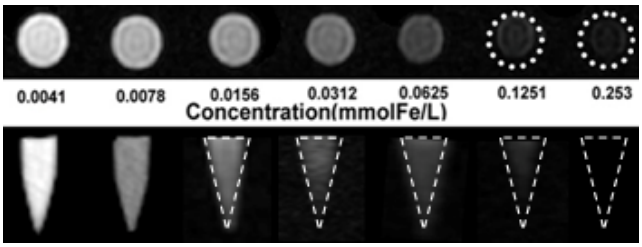

Fig. S7. *In vitro* T_2-weighted MRI images of ION@Bi_2S_3 core-shell nanocomposites at different concentrations (top: transverse view, bottom: vertical view).

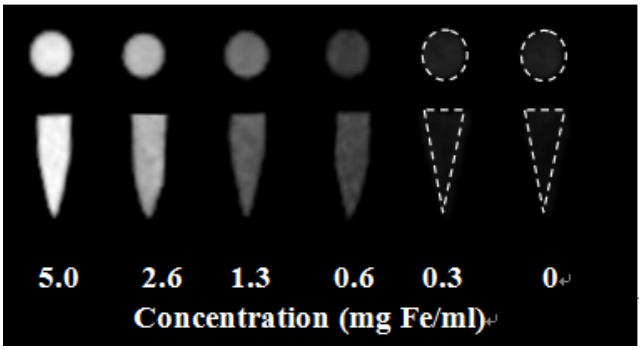

Fig. S8. *In vitro* CT images of ION@Bi_2S_3 core-shell nanocomposites at different concentrations (top: transverse view, bottom: vertical view).

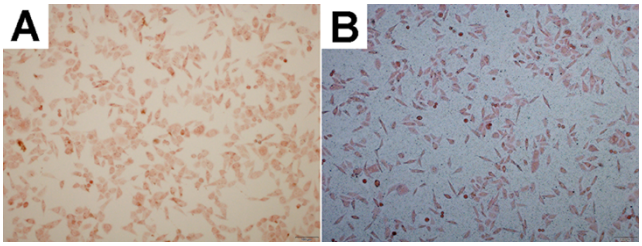

Fig. S9. Micrographs of Prussian blue stained HeLa cells with (A) control, (B) ION@Bi_2S_3 nanocomposites.