**Gd\textsuperscript{II} Functionalized Gold Nanorods for Multimodal Imaging Applications**

Hongmei Sun,\textsuperscript{a,b} Qinghai Yuan,\textsuperscript{c} Baohua Zhang,\textsuperscript{a} Kelong Ai,\textsuperscript{a} Pengguo Zhang\textsuperscript{c} and Lehui Lu*\textsuperscript{a}

\textsuperscript{a} State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, P. R. China. Fax: +86-43185262406; Tel: +86-43185262418; E-mail: lehuilu@ciac.jl.cn
\textsuperscript{b} Graduate School, Chinese Academy of Sciences, Beijing, P. R. China
\textsuperscript{c} Department of Radiology, the Second Hospital of Jilin University Norman Bethune, Changchun, P. R. China

\textbf{Fig. S1} The UV-vis spectra and photo (inset) of (a) CTAB-stabilized gold nanorods, (b) gold nanorods after exchanging the ligand with dodecanethiol, (c) the as-prepared nanoprobes.
**Fig. S2** (a) Photo and (b) the longitudinal plasmon (LP) absorbance of the as-prepared nanoprobe in aqueous solution at different salt concentrations (0, 0.1, 0.2, 0.4, 0.8, 1.5 M).
Fig. S3 (a) Photo and (b) the longitudinal plasmon (LP) absorbance of the as-prepared nanoprobes in aqueous solution at different pH values (pH= 5, 6, 7, 8, 9).
Fig. S4 The longitudinal plasmon (LP) absorbance of the as-prepared nanoprobes in fetal calf serum at different time (time = 0, 1, 2, 6, 12, 24 h).

Fig. S5 (a) MRI and (b) CT imaging of the nanoprobes, GdL, H₂O and gold nanorods. Nanoprobes contained the same concentrations of gold and Gd elements as gold nanorods and GdL, respectively.
Figure S6. The interactions between Gd\textsuperscript{III} ions and L