

Electronic Supplementary Information for

**Neodymium-doped NaHoF₄ Nanoparticles as Near-infrared luminescent/T₂-
weighted MR Dual-modal Imaging Agents In Vivo†**

Yamin Feng,^{ab} Qingbo Xiao*,^b Yanhui Zhang,^{ac} Fujin Li,^b Yanfang Li,^b Chunyan Li,^b

Qiangbin Wang,^b Liyi Shi*^{ad} and Hongzhen Lin*^b

^aDepartment of Chemistry, Collage of Sciences, Shanghai University, 99 Shangda Road, Shanghai 200444, China. Email: shiliyi@shu.edu.cn

^bInternational Laboratory for Adaptive Bio-nanotechnology, Suzhou Institute of Nano-tech and Nano-bionics (SINANO), Chinese Academy of Science, Suzhou, 215123, China. Email: qbxiao2011@sinano.ac.cn, hzlin2010@sinano.ac.cn

^cKey Laboratory of Nano-Biological Interface and Division of Nanobionics, Suzhou Institute of Nano-tech and Nano-bionics, Chinese Academy of Sciences, Suzhou 215123, P.R. China

^dShanghai Univ, Res Ctr Nanosci & Nanotechnol, Shanghai 200444, Peoples R China

*Corresponding authors,

Email: qbxiao2011@sinano.ac.cn, shiliyi@shu.edu.cn, hzlin2010@sinano.ac.cn

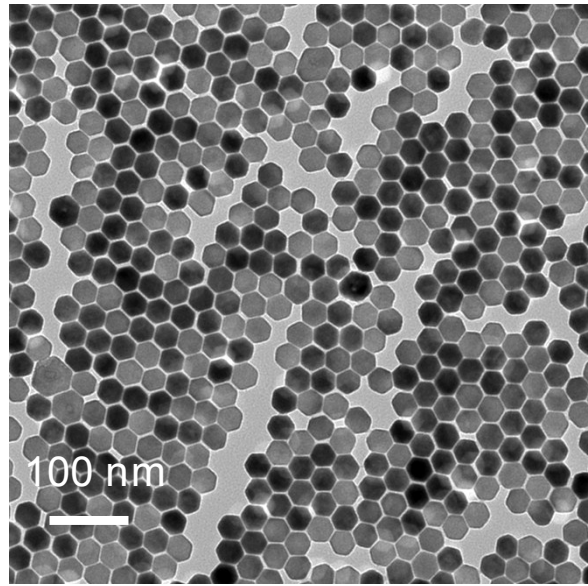


Fig. S1. Large-scale TEM image of the $\text{NaHoF}_4:\text{Nd}^{3+}$ NPs.

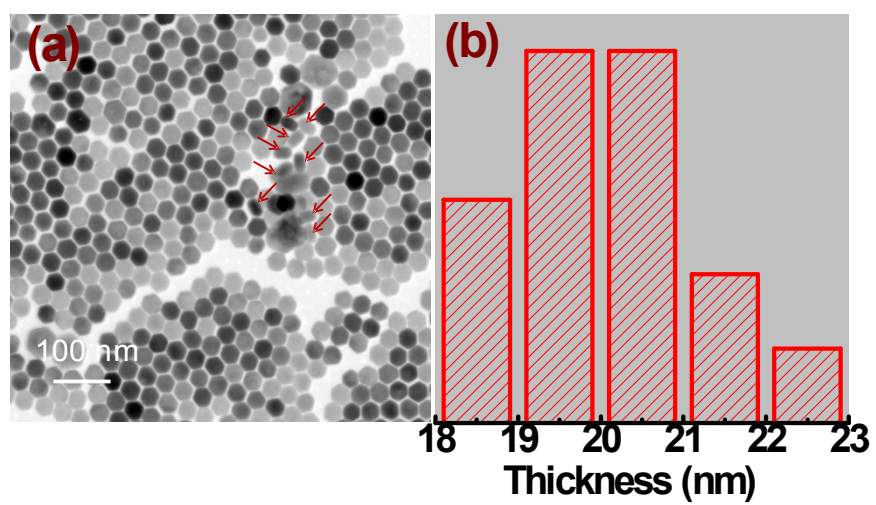


Fig. S2. (a) TEM image of the $\text{NaHoF}_4:\text{Nd}^{3+}$ NPs showing the side faces (arrows) and (b) the size distribution of nanoplate thickness.

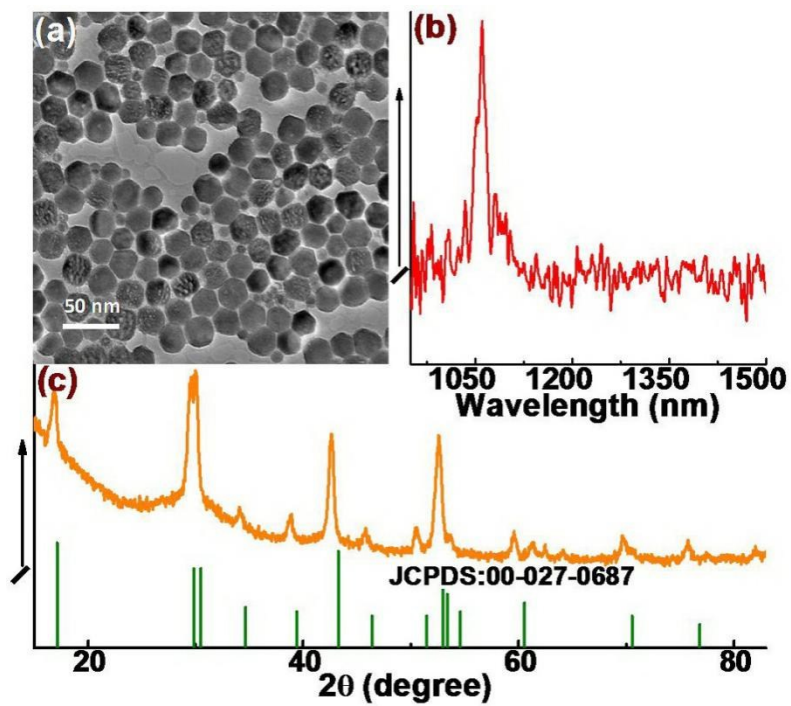


Fig. S3. (a) TEM image, (b) NIR emission spectra and (c) XRD pattern of NaDyF₄:Nd³⁺NPs.

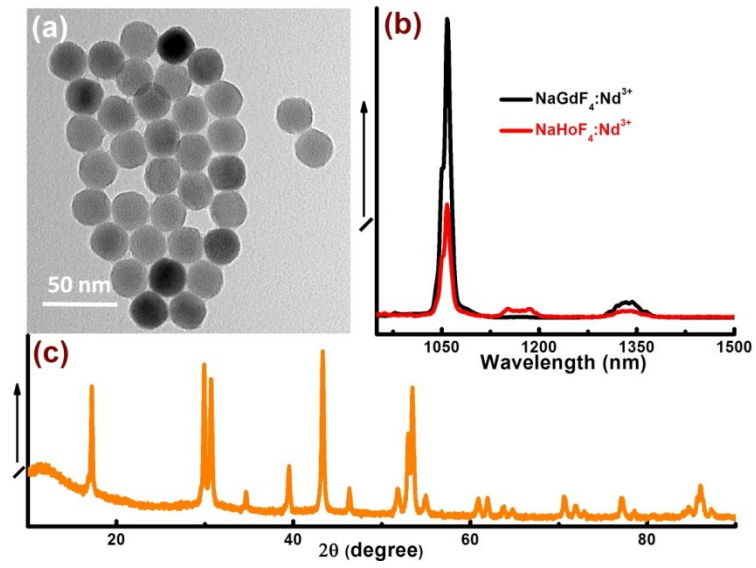


Fig. S4. (a) TEM image, (b) comparison of the NIR luminescence intensity with that of the NaHoF₄: Nd³⁺ NPs, and (c) XRD pattern for the NaGdF₄: (15 mol%)Nd³⁺NPs.

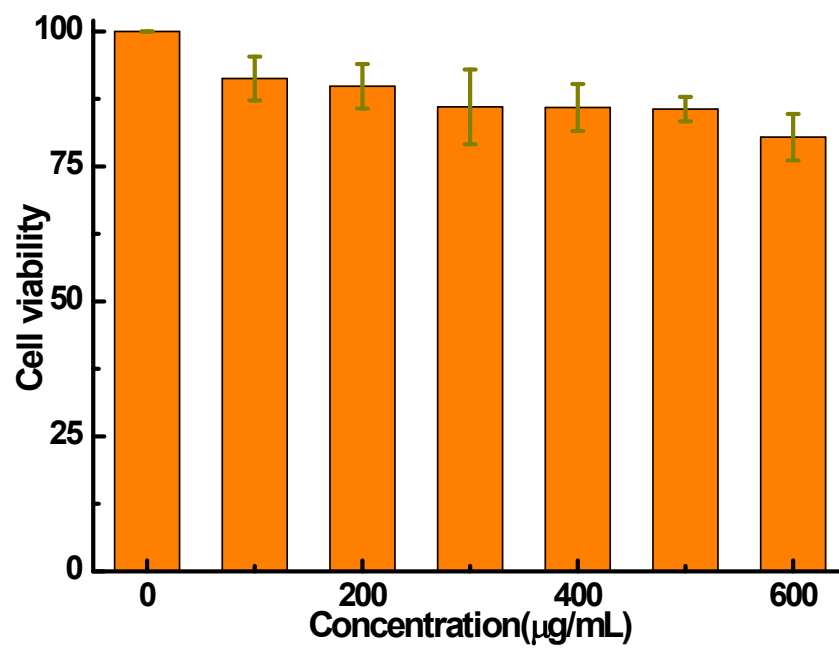


Fig. S5. Cell viability of hMSCs with different concentrations of the NPs.

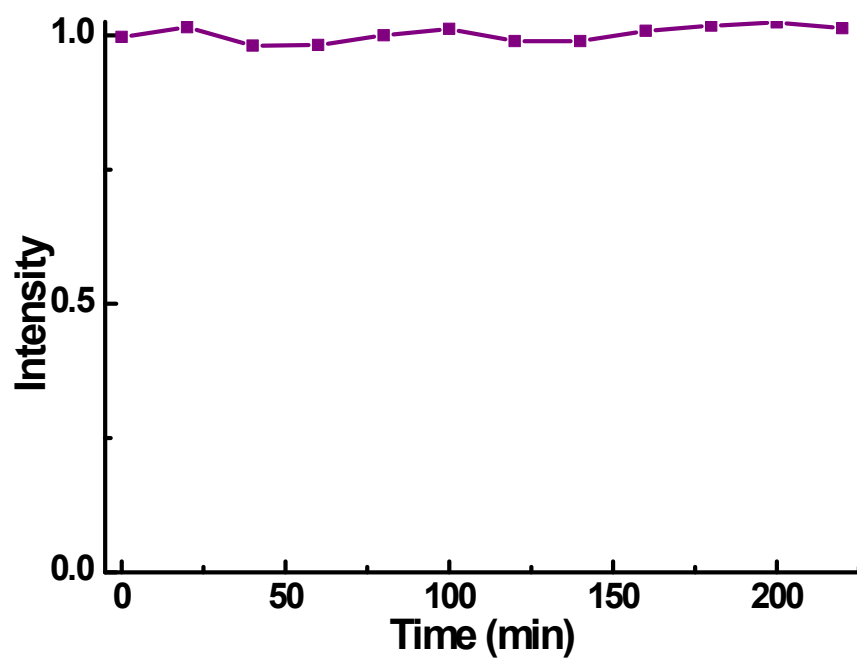


Fig. S6. The dependence of luminescence intensity of the 1056-nm peak of NaHoF₄:Nd³⁺ NPs referred to the irradiation time of 808 nm laser light.