Supporting Information

## Intraoperative Diagnosis of Early Lymphatic Metastasis Using Neodymium-Based Rare-earth NIR-II Fluorescence Nanoprobe

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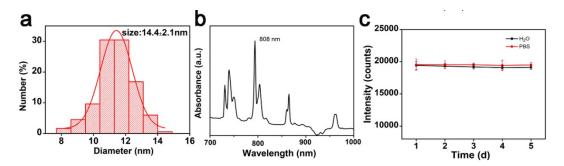


Fig. S1. Characterizations of NaGdF<sub>4</sub>:5%Nd@NaLuF<sub>4</sub> NPs. a) Diameter distribution of Gd:Nd-RENPs. b) UV-vis-NIR absorption spectrum of core/shell Gd:Nd-RENPs. c) Photostability of Gd:Nd-RENPs in  $H_2O$  and PBS.

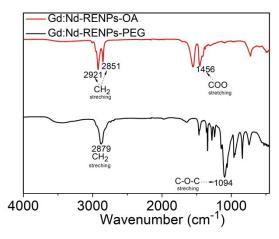
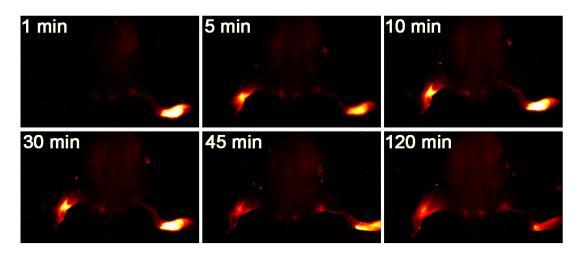


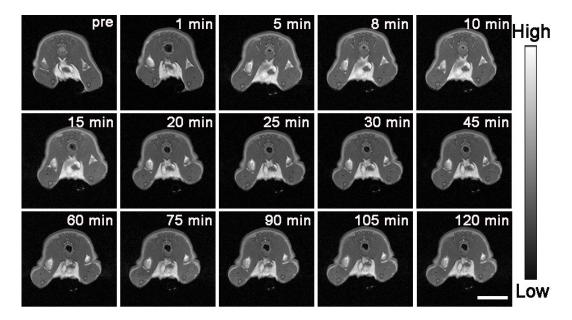
Figure S2 Fourier transform infrared spectra of OA and PEG modified Gd:Nd-RENPs nanoparticles

1 min	2 min	3 min	4 min
5 min	6 min	7 min	8 min
9 min	10 min	15 min	20 min
25 min	30 min	45 min	60 min
75 min	90 min	105 min	120 min

**Fig. S3.** NIR-II fluorescence images of early metastatic SLNs (left side) and normal LNs (right side) at different time points after injection of Gd:Nd-RENPs.



**Fig. S4.** NIR-II fluorescence images of advanced metastatic SLNs (left side) and normal LNs (right side).



**Fig. S5.** MR images of popliteal and sciatic LNs at different time points after injection of Gd:Nd-RENPs.