

Supplementary Information

ICG-Loaded and ^{125}I -Labeled Theranostic Nanosystem for Multimodality

Imaging-Guided Phototherapy of Breast Cancer

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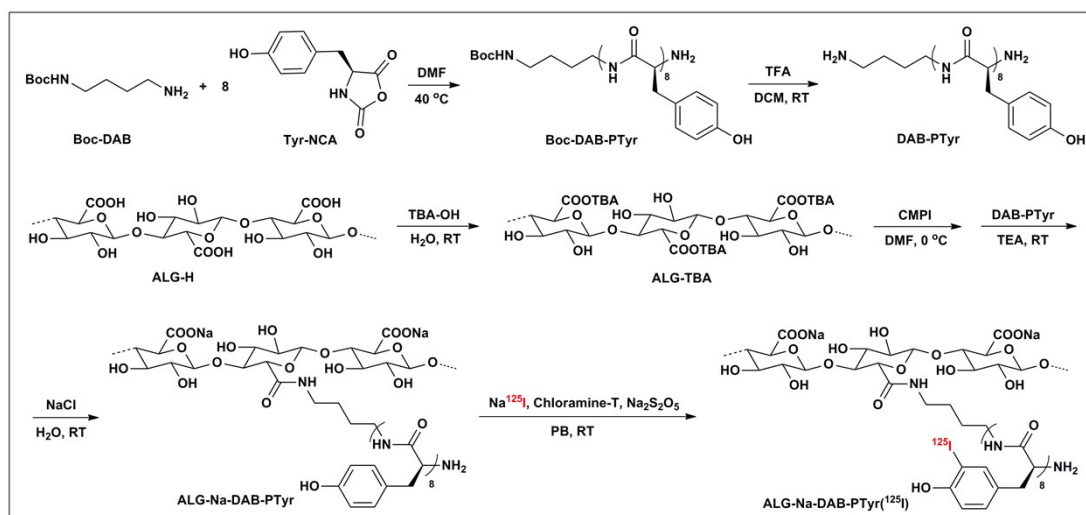


Fig. S1 The synthesis route for ALG-Na-DAB-PTyr(¹²⁵I).

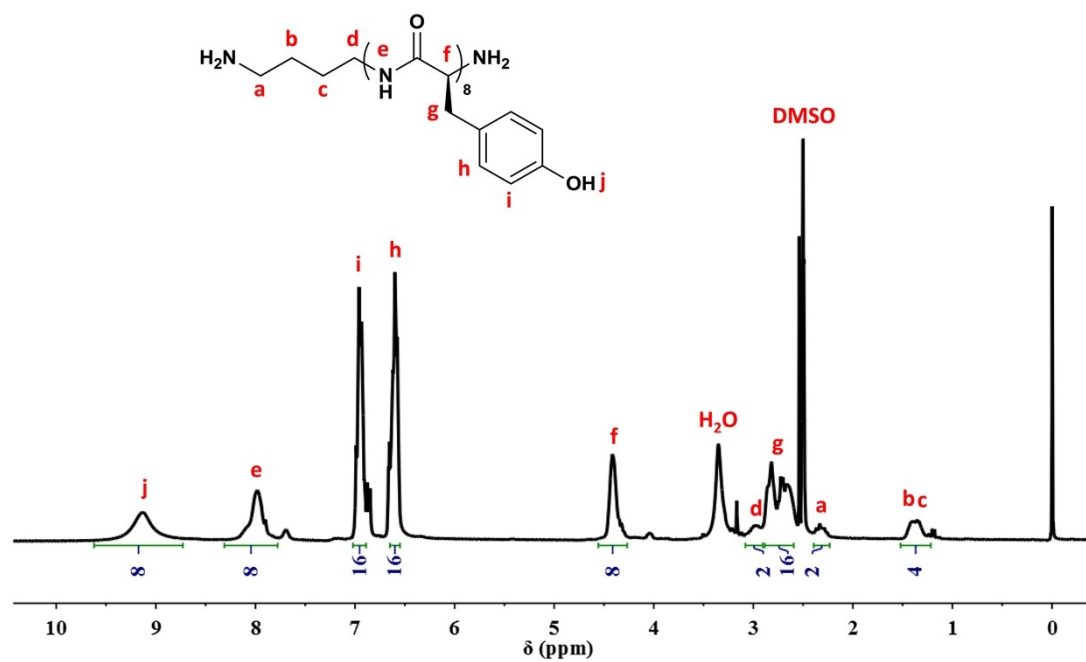


Fig. S2 ¹H NMR spectrum of DAB-PTyr in DMSO-d₆.

| Element | C% | H% | N% |
|---------|-------|------|------|
| Content | 34.31 | 5.52 | 1.13 |

Fig. S3 The elemental analysis of ALG-Na-DAB-PTyr.

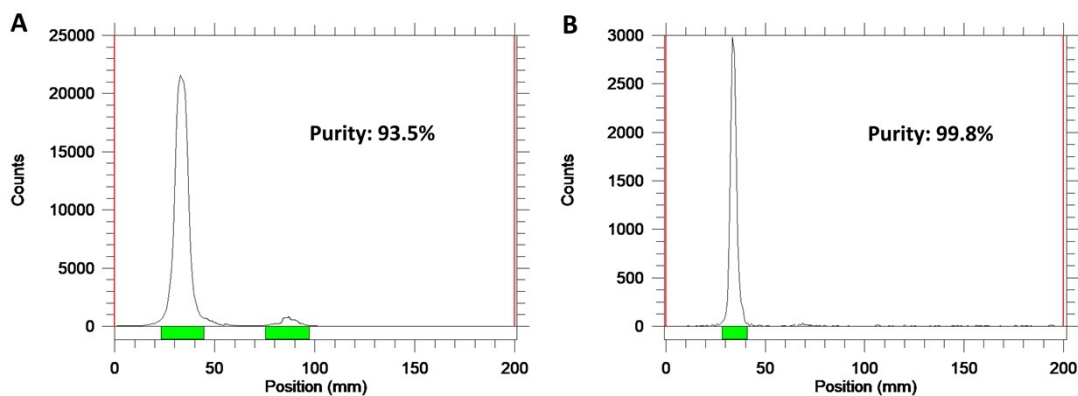


Fig. S4 The radiolabeling rate (A) and the radiochemical purity (B) of ALG-Na-DAB-PTyr(¹²⁵I) determined by a radioactive TLC scanner.

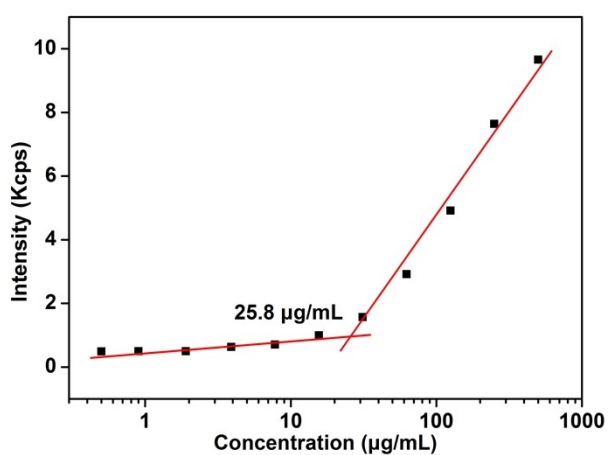


Fig. S5 The CMC of ADY(¹²⁵I) NPs determined by using Nile Red as the fluorescence probe.

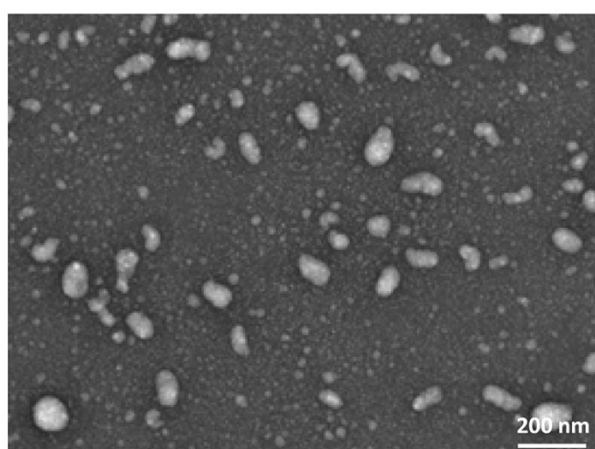


Fig. S6 The representative TEM image of ADY(¹²⁵I) NPs.

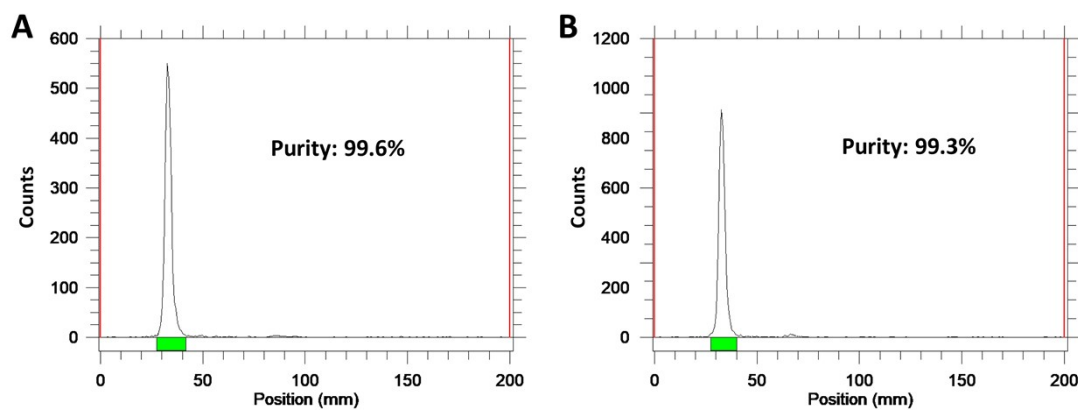


Fig. S7 The radiochemical purity of ICG@ADY(¹²⁵I) NPs before (A) and after (B) 48 h of incubation with mouse plasma.

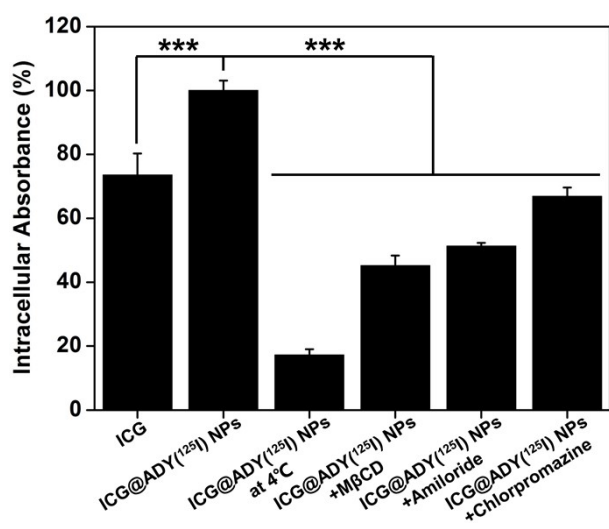


Fig. S8 Quantitative analysis of ICG in 4T1 cells after the treatment with ICG or ICG@ADY(¹²⁵I) NPs with or without various inhibitors using a UV-visible spectrophotometer. The data are presented as the mean \pm SD (n = 3). *** stands for $P < 0.001$.

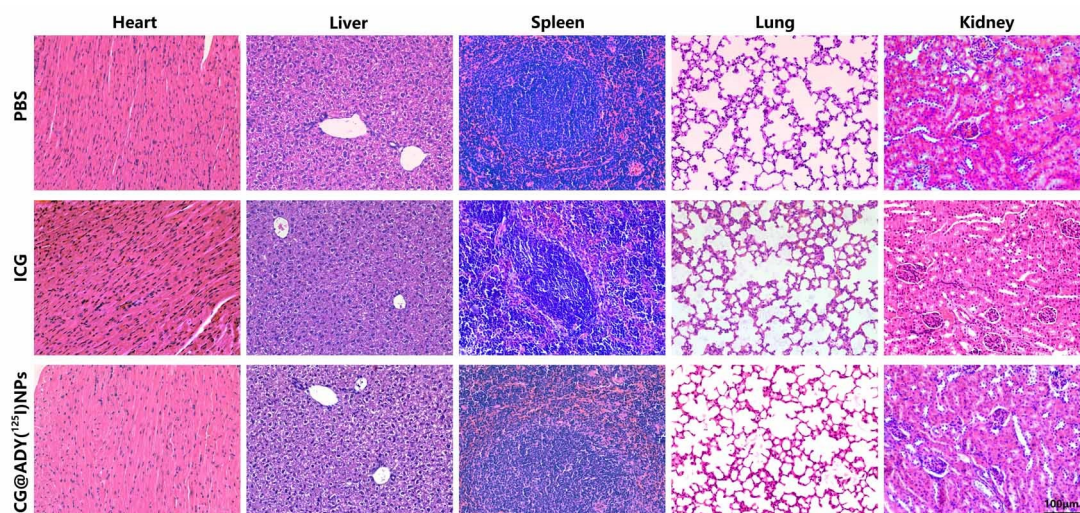


Fig. S9 H&E stained tissue sections from the heart, liver, spleen, lung, and kidney of the healthy BALB/c mice one week after the two successive days of administration of PBS, ICG, or ICG@ADY(¹²⁵I) NPs.

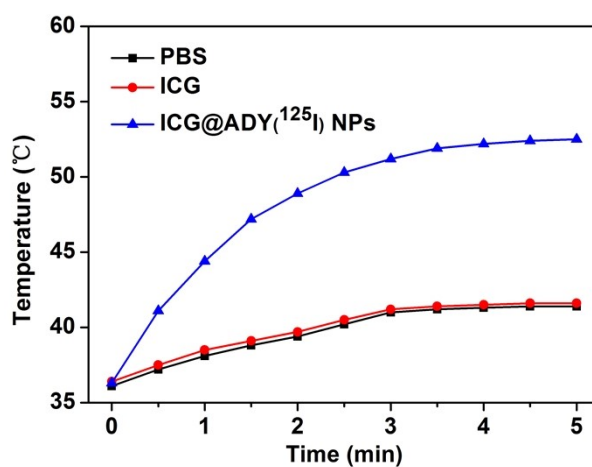


Fig. S10 The intratumoral temperatures of the 4T1 tumor-bearing mice during an 808 nm laser (1 W/cm²) irradiation 24 h after the intravenous administration of PBS, ICG, or ICG@ADY(¹²⁵I) NPs.

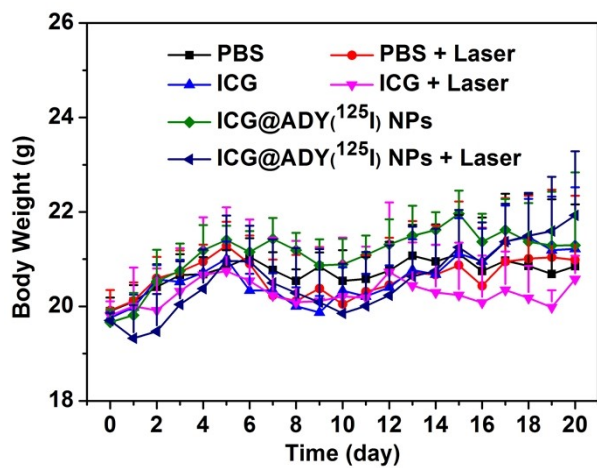


Fig. S11 Body weight changes in the tumor-bearing mice with various treatments.

The data are presented as the mean \pm SD (n = 5).

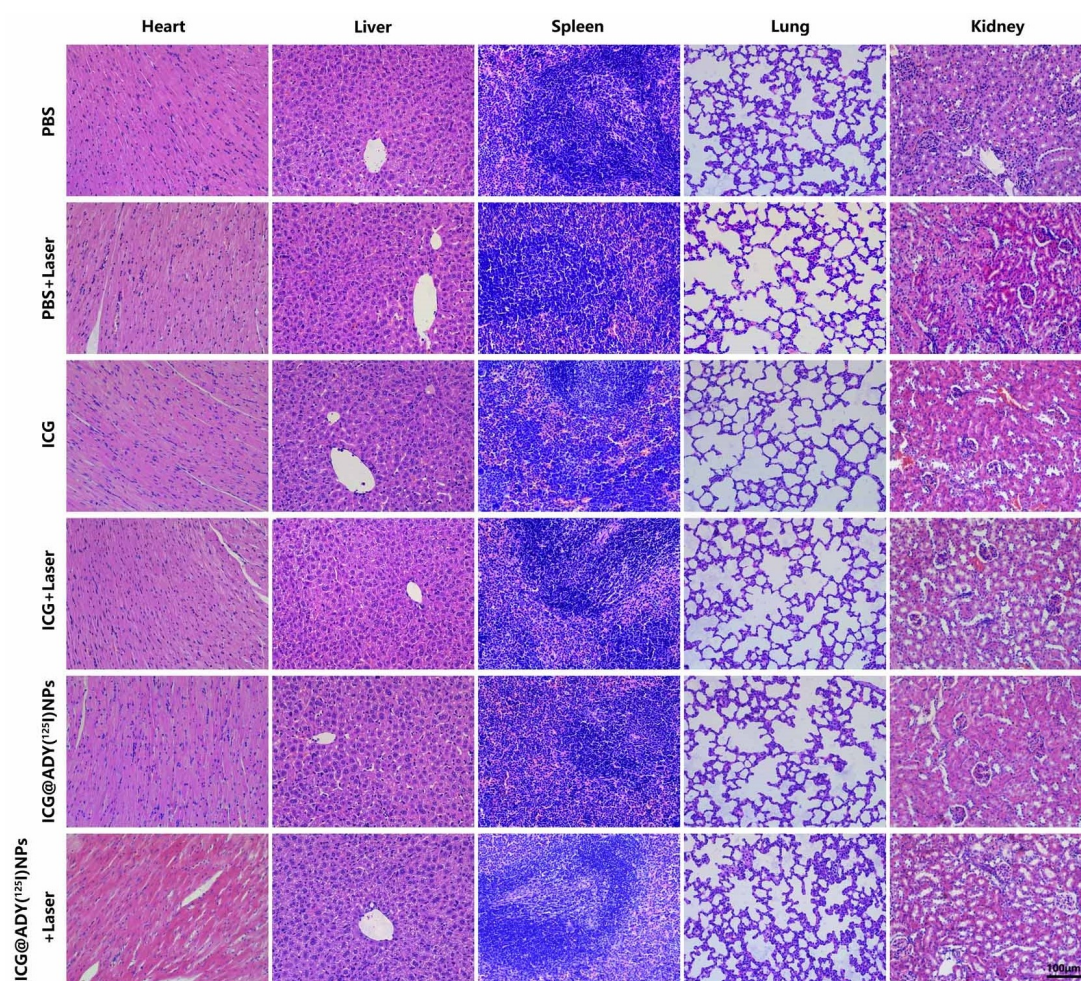


Fig. S12 H&E-stained tissue sections from the heart, liver, spleen, lung, and kidney of the 4T1 tumor-bearing nude mice on the 20th day after PTT/PDT.