

## Supporting Information

### Effect of Enantiomeric Structure of Hydrophobic Polymer on Encapsulation Property of the Second Near Infrared (NIR-II) Fluorescent Dye for *In Vivo* Deep Imaging

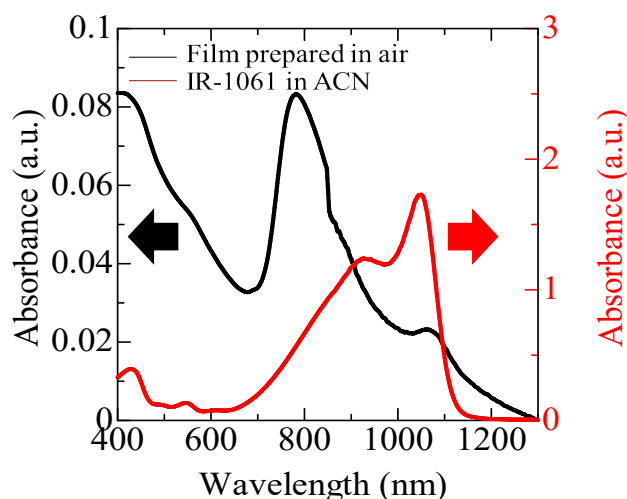
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#### 1. Characterization of IR-1061-Loaded Polymer Film and in Acetonitrile (ACN) Prepared in Air Containing Water

Poly(lactide-*co*-glycolic acid) (PLGA, Mw: 7,000–17,000, 5 mg; Sigma-Aldrich, MO, USA) and IR-1061 (0.05 mg) were dissolved in 0.5 mL of ACN and placed on a glass slide (S1112, Matsunami Glass Ind., Ltd., Japan) in the air. The films were prepared on the glass slide by removing ACN by evaporation for 30 min. The absorption spectra of IR-1061-loaded PLGA films were measured using an ultraviolet-visible-NIR (UV-VIS-NIR) spectrophotometer V-770 (JASCO, Japan).



**Supplementary Fig. S1.** Absorption spectra of IR-1061 dissolved in ACN (red) and loaded in a polymer (PLGA) film prepared in air (black). The absorption spectrum of the dye-loaded polymer film in the air was peaked at 780 nm, suggesting that IR-1061 was majorly coupled with hydroxyl ions derived from water (Y. Ueya et al., *RSC Adv.*, 2021, **11**, 18930<sup>31</sup>; *Anal. Sci.*, 2021, in press<sup>33</sup>). Therefore, the dye-loaded polymer films were prepared under nitrogen atmosphere in the glove box in following experiments in this study.