

## Electronic supplementary information

# **Fluorescent Signaling Molecularly Imprinted Polymers for Antibiotics Prepared via Site-Directed Post-Imprinting Introduction of Plural Fluorescent Reporters within the Recognition Cavity**

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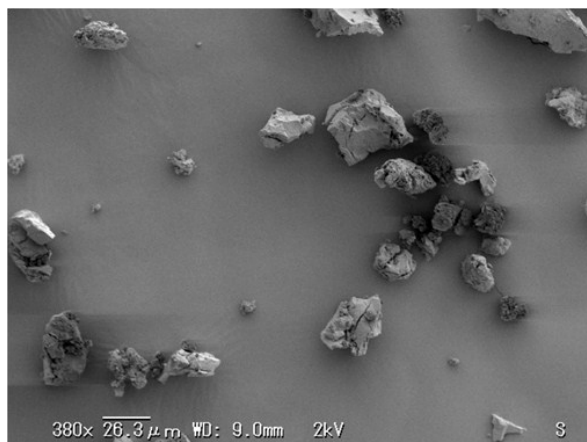
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### S1. Scanning electron microscope (SEM) measurement of PRECURSOR particles.

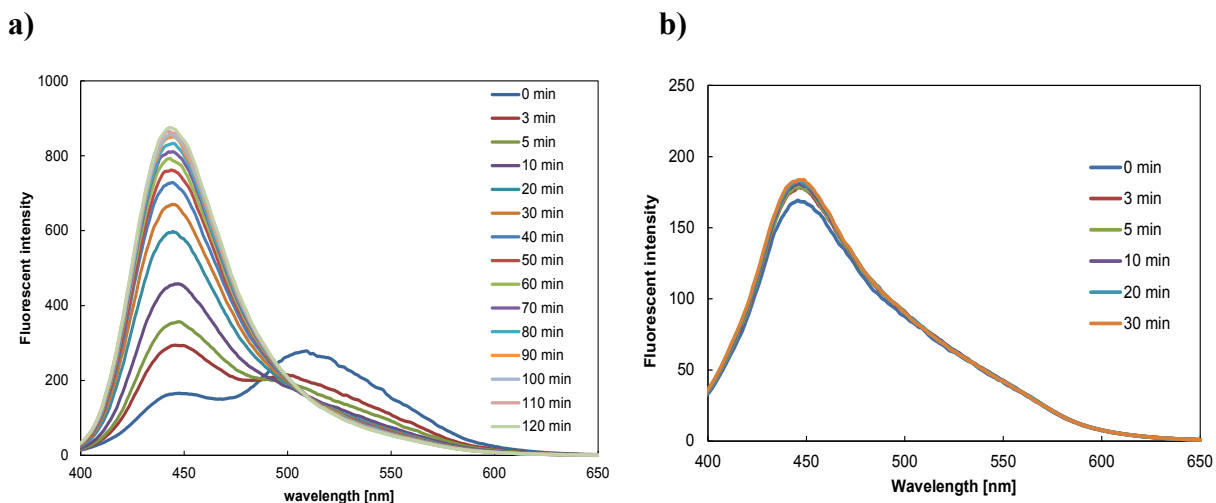
The size and morphology of PRECURSOR polymer particles were observed by using scanning electron microscope (SEM) (VE-9800, Keyence, Japan).



**Figure S1.** SEM image of PRECURSOR particles.

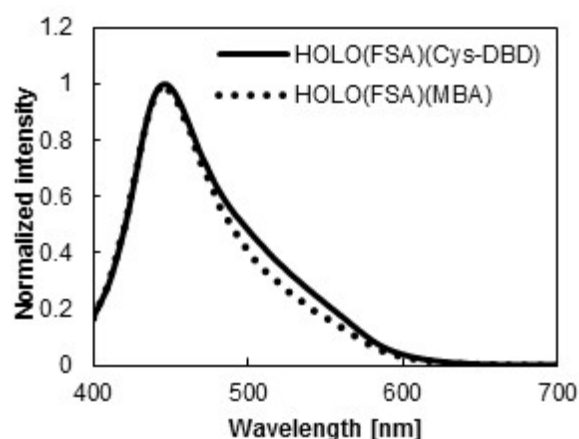
### S2. Fluorescence stability test of T-HOLO(FSA)(Cys-DBD) and HOLO(FSA)(Cys-DBD)

T-HOLO(FSA)(Cys-DBD), or HOLO(FSA)(Cys-DBD), (3 mg) was dispersed in DMSO (3 mL) and stirred at 20 °C. Fluorescent spectra ( $\lambda_{\text{ex}} = 365 \text{ nm}$ ) were measured after incubation at various time periods (HOLO(FSA)(Cys-DBD): 0–30 min, T-HOLO(FSA)(Cys-DBD): 0–120 min).



**Figure S2.** Fluorescence stability test of a) T-HOLO(FSA)(Cys-DBD) and b) HOLO(FSA)(Cys-DBD).

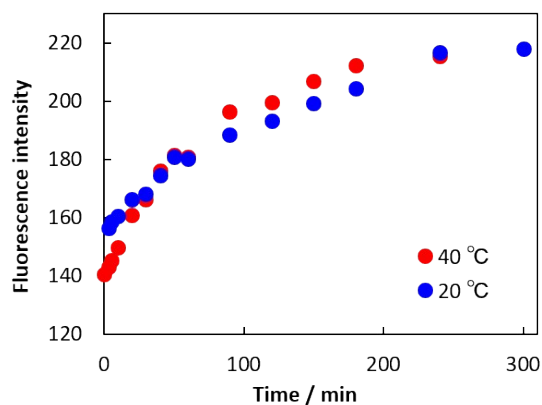
### S3. Fluorescent measurement of HOLO(FSA)(Cys-DBD) and HOLO(FSA)(MBA)



**Figure S3.** Normalized fluorescence spectra, HOLO(FSA)(Cys-DBD) (solid line) and HOLO(FSA)(MBA) (dashed line).

#### S4. Temperature dependence of ampicillin binding

3.0 mg of T-HOLO(FSA)(MBA) was dispersed in DMSO (3.0 mL) and incubated for 30 min at 20 °C or 40 °C to stabilize the fluorescent intensity. Then, 2.5  $\mu$ L of 37.5 mM ampicillin solution was added to the solution. The fluorescent intensity at 446 nm ( $\lambda_{\text{ex}} = 365$  nm) was measured after each incubation time (0, 3, 5, 10, 20, 30, 40, 50, 60, 90, 120, 150, 180, 240 and 300 min).



**Figure S4.** Fluorescence intensity changes of T-HOLO(FSA)(MBA) after addition of ampicillin (final conc.; 31.25  $\mu$ M) at 20 °C or 40 °C.