

*Electronic Supplementary Information for*

# Metal-Organic Framework Tethering pH- and Thermo-Responsive Polymer for ON-OFF Controlled Release of the Guest Molecules

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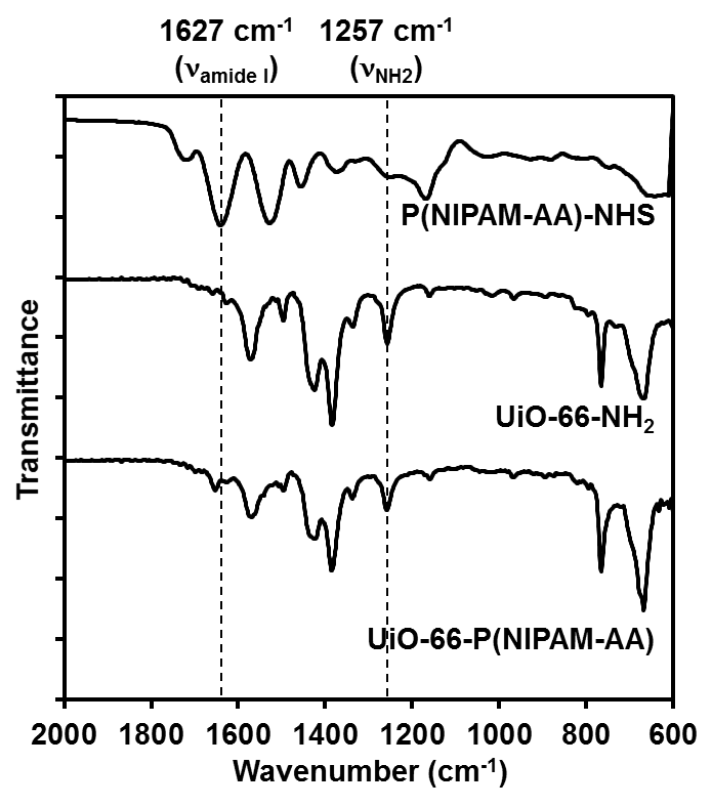
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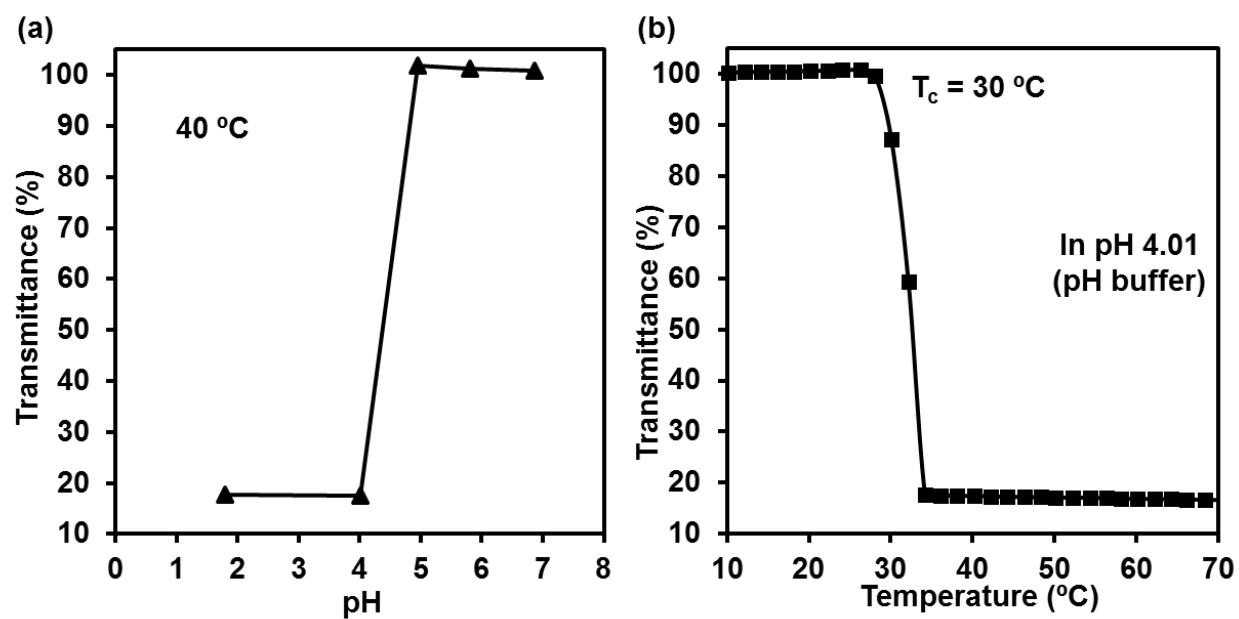
<sup>c</sup>JST-PRESTO.

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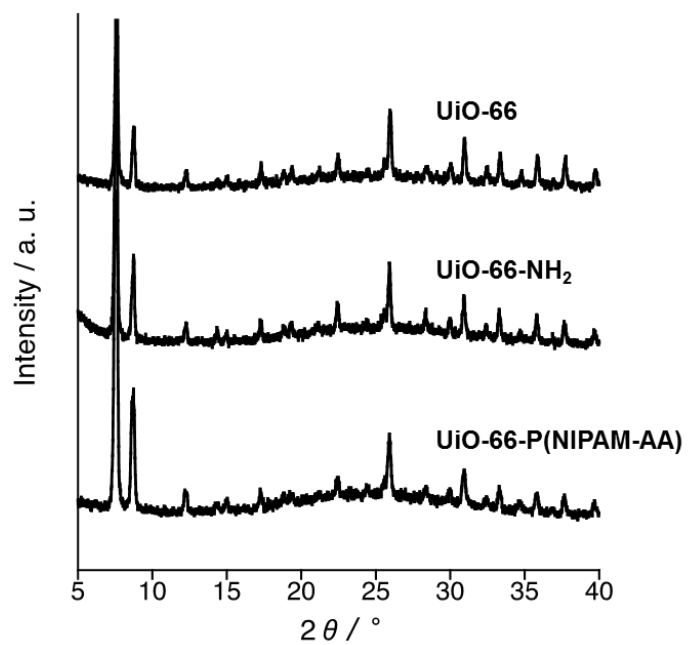
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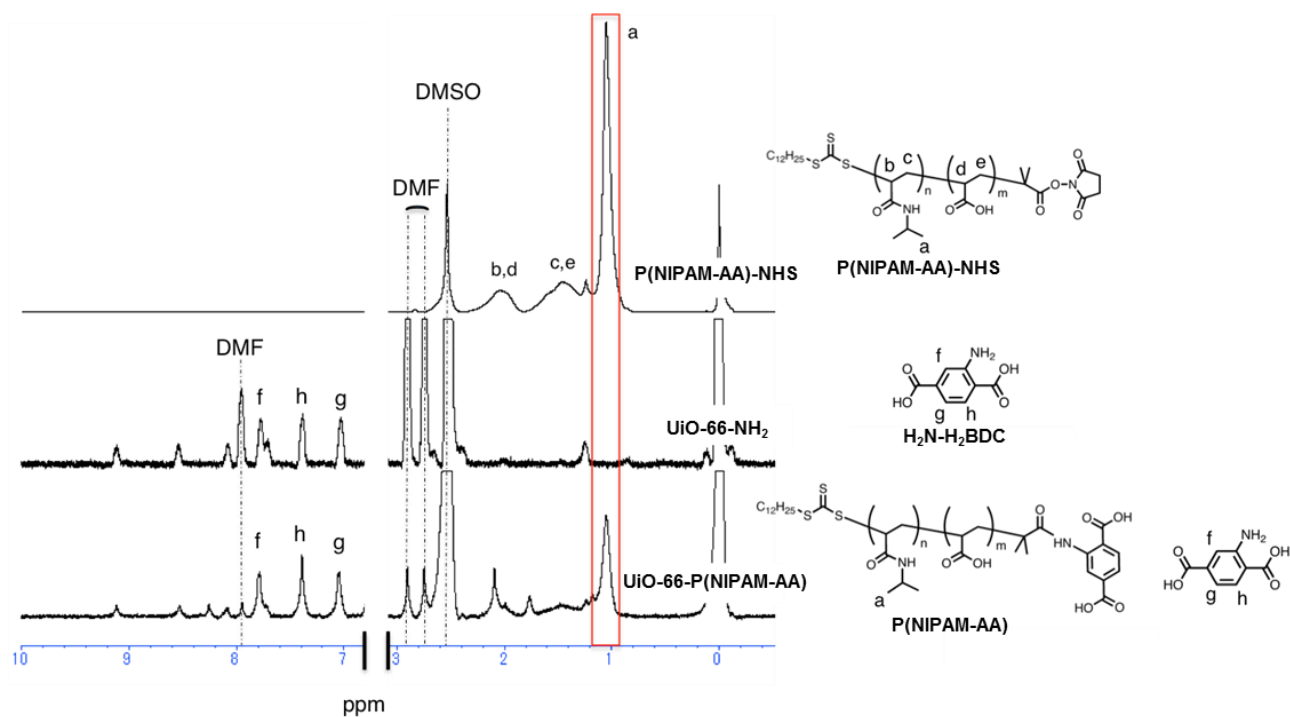
**Fig. S1** FT-IR spectra of P(NIPAM-AA)-NHS, UiO-66-NH<sub>2</sub>, and UiO-66P(NIPAM-AA).



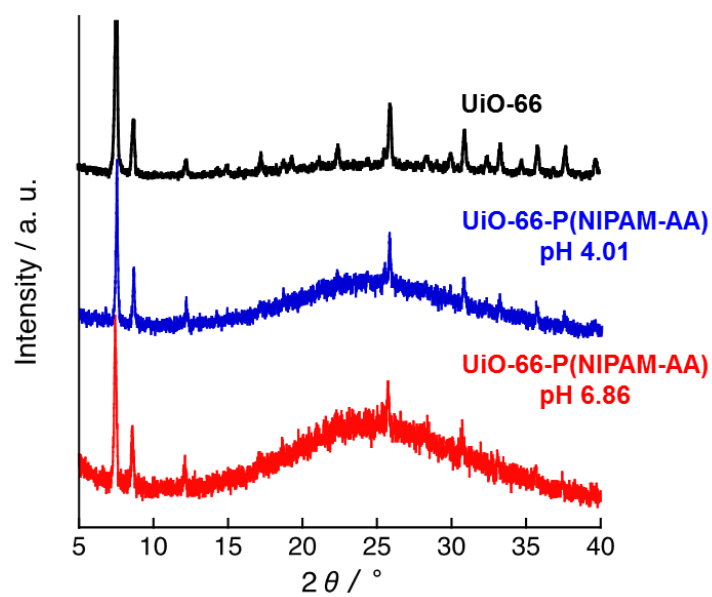
**Fig. S2** Transmittance change of P(NIPAM-AA)-NHS aqueous solution (a) at various pH and (b) at various temperature (15 g/L).



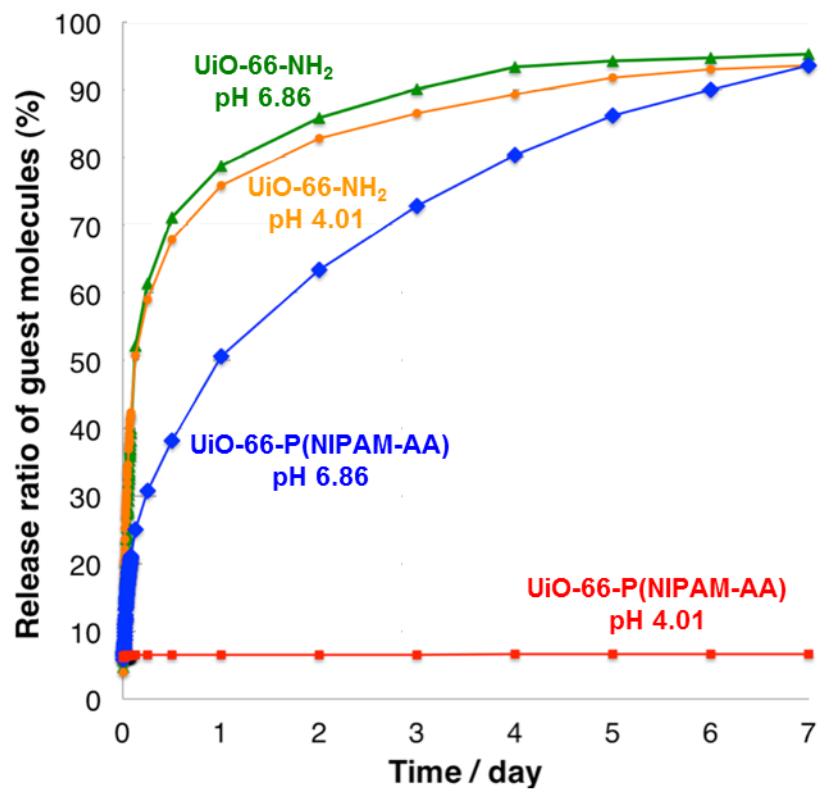
**Fig. S3** Powder X-ray diffraction patterns of UiO-66, UiO-66-NH<sub>2</sub>, and UiO-66-P(NIPAM-AA).



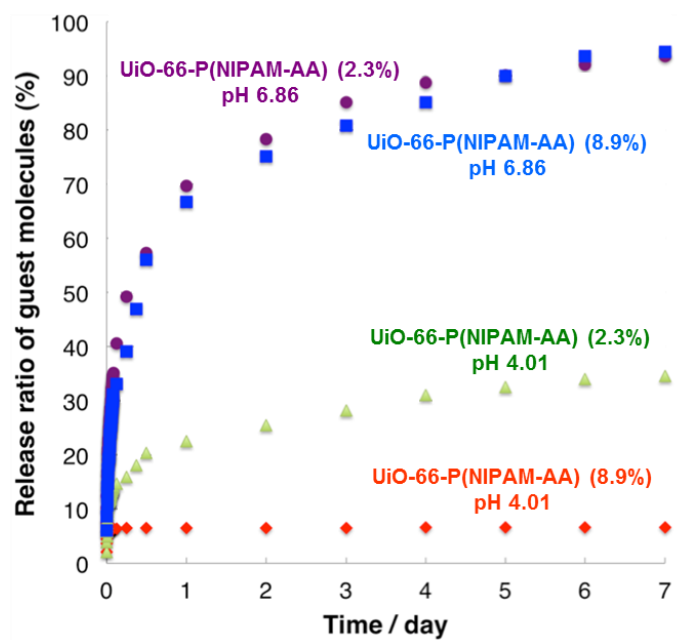
**Fig. S4**  $^1\text{H}$  NMR spectra of  $\text{P(NIPAM-AA)-NHS}$ ,  $\text{UiO-66-NH}_2$ , and  $\text{UiO-66-P(NIPAM-AA)}$  after digestion by HF aq. in  $\text{DMSO}-d_6$  (1.4 mM for HF).



**Fig. S5** Powder X-ray diffraction patterns of UiO-66, and UiO-66-P(NIPAM-AA) after one day immersion in pH buffers (6.86 and 4.01).

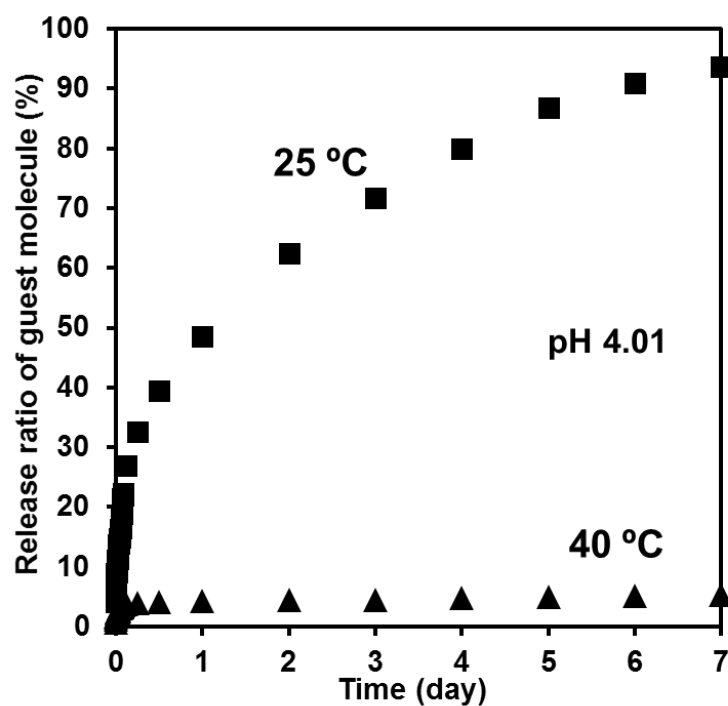


**Fig. S6** Release behaviour of guest molecule (procainamide) from UiO-66-NH<sub>2</sub> and UiO-66-P(NIPAM-AA) in pH buffers (6.86 and 4.01) at 40°C for seven days.



**Fig. S7** Release behaviour of guest molecule (procainamide) from UiO-66-P(NIPAM-AA) (2.3%) and UiO-66-P(NIPAM-AA) (8.9%) in pH buffers (6.86 and 4.01) at 40°C for seven days.





**Fig. S8** Release behaviour of guest molecule (procainamide) from UiO-66-P(NIPAM-AA) at 25°C and 40°C in pH buffer (4.01) for seven days.