**Supporting Information** 

## UV-Triggered thiol-disulfide exchange reaction towards tailored biodegradable hydrogels

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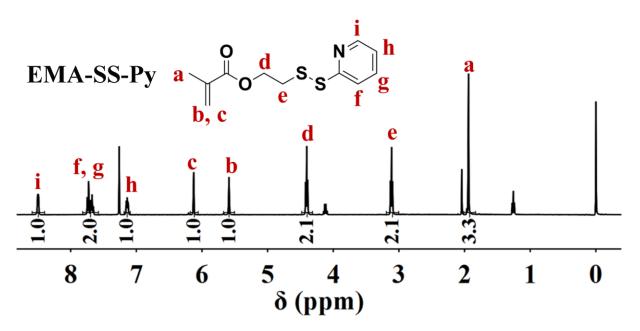


Figure S1. <sup>1</sup>H NMR spectrum of EMA-SS-Py in CDCl<sub>3</sub>.

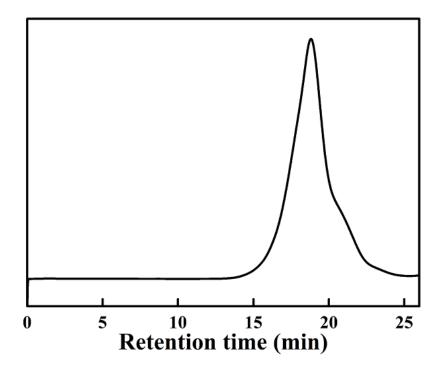


Figure S2. GPC curve of P(EMA-SS-PEG).

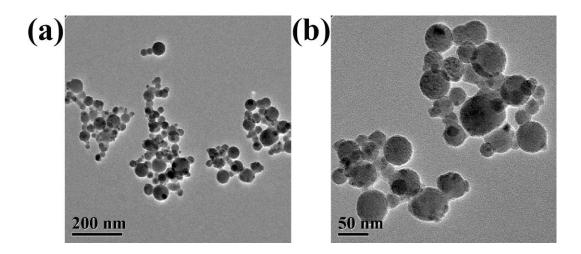


Figure S3. TEM images of nanoaggregates with mcelle-like structures after 30 min gelation.

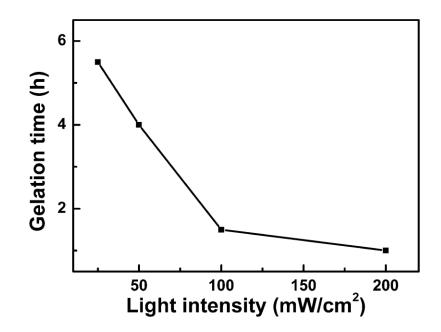
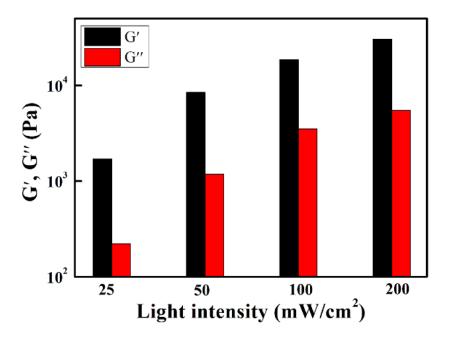


Figure S4. The gelation time of hydrogels under various UV intensities.



**Figure S5**. Elastic (G') and viscous (G") moduli of hydrogels with radiation times of 6 h under

diverse UV light intensities.

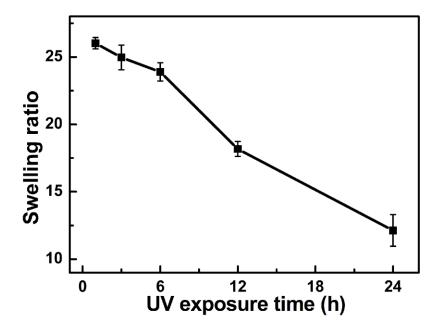
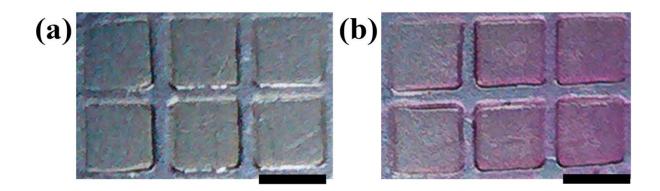
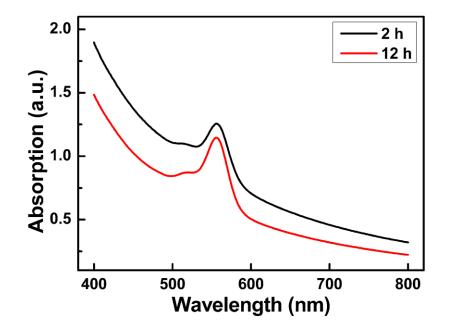


Figure S6. Swelling ratio of hydrogels with irradiation of diverse hours.



**Figure S7**. Images of the patterned hydrogels on silicon wafer (a) without and (b) with RB dye under the UV exposure of 10 min (Scale bar = 2 mm).



**Figure S8**. Absorption curves of the release system with 2 h and 12 h hydrogels respectively, after immersing in the DTT solution (10 mM, PBS) for 30 h.

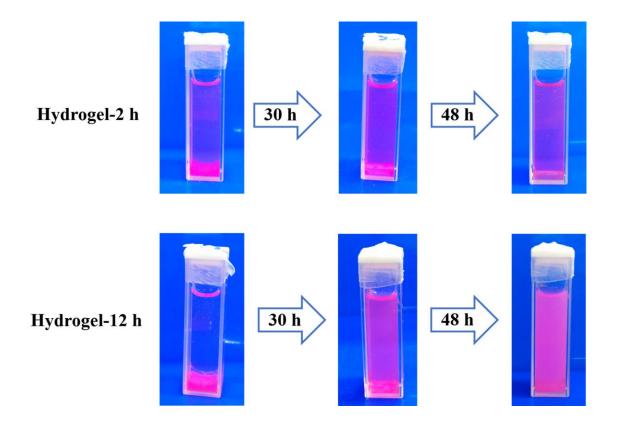


Figure S9. Images of the release system in DTT solution (10 mM, PBS).