

Supporting Information

Multi-level encryption of information in morphing hydrogel with patterned fluorescence

Li Xin Hou,[†] Hongyao Ding,[†] Xing Peng Hao, Chao Nan Zhu, Miao Du, and Zi Liang Wu,^{*}
and Qiang Zheng^{*}

Ministry of Education Key Laboratory of Macromolecular Synthesis and Functionalization,
Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027,
China

[†] They contributed equally to this work.

^{*} Corresponding author. E-mail: wuziliang@zju.edu.cn (Z.L.W.), zhengqiang@zju.edu.cn
(Q.Z.)

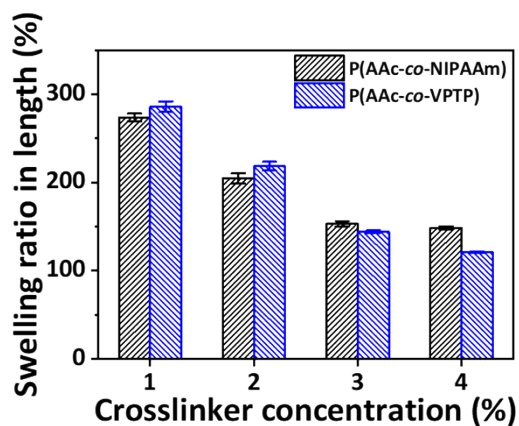


Figure S1. Swelling ratio in length of the PAV and PAN hydrogels prepared with different feeding concentration of chemical crosslinker (mol%, relative to the total monomers).

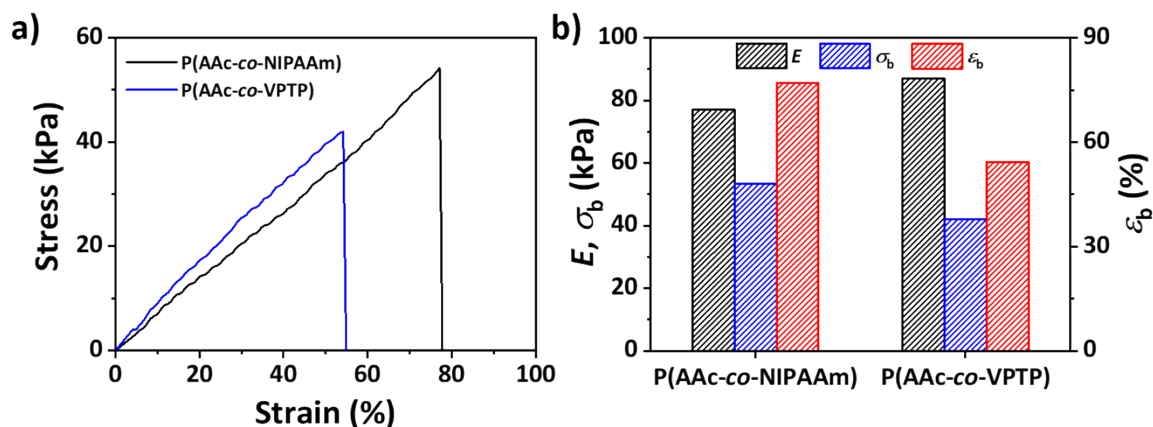


Figure S2. Stress-strain curves (a) and corresponding Young's modulus (E), tensile breaking stress (σ_b) and breaking strain (ϵ_b) (b) of the PAV and PAN hydrogels at room temperature.

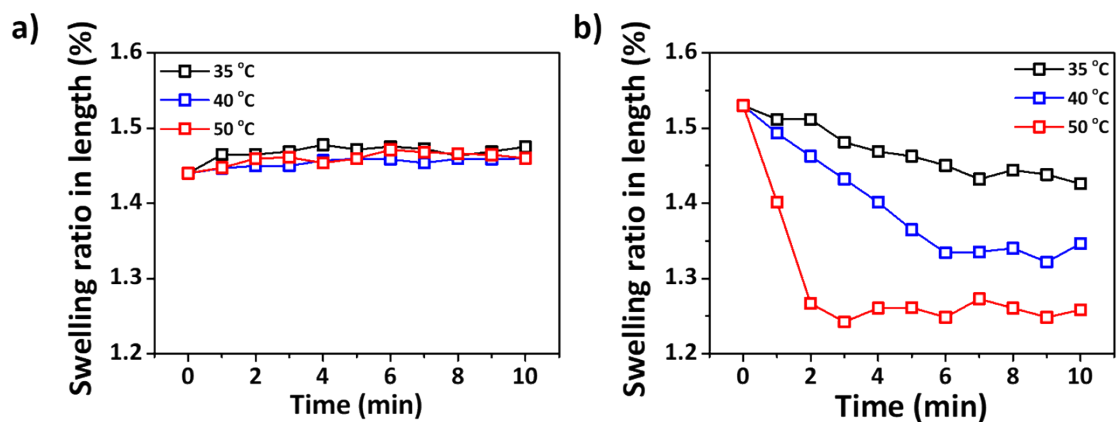


Figure S3. Variations of the swelling ratio in length of the PAV (a) and the PAN (b) hydrogels as a function of time after being transferred from 25 °C to 35, 40, or 50 °C water bath.

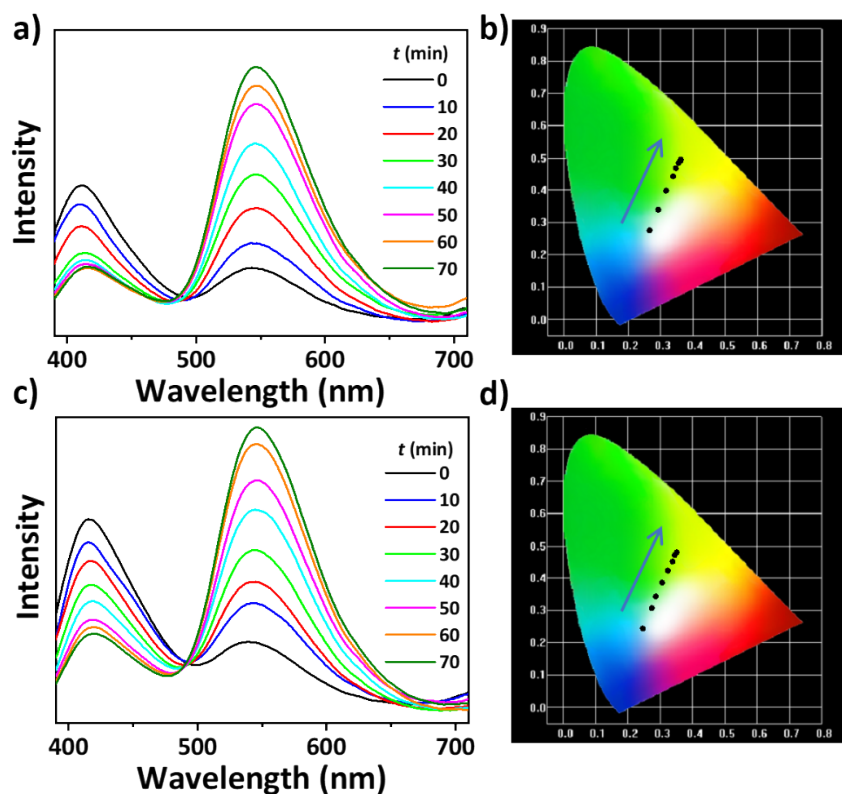


Figure S4. Fluorescence spectra (a,c) and corresponding CIE chromaticity diagrams (b,d) of the PAV hydrogels with different feeding concentration of VPTP under 365 nm UV light irradiation for different periods of time. Feeding concentration of VPTP: (a,b) 2 mg/mL; (c,d) 5 mg/mL.

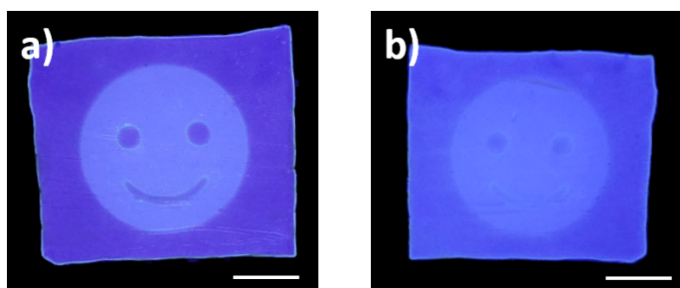


Figure S5. Photos of the bilayer hydrogel with fluorescent pattern (the smile face) in the passive PAV layer and without UV-326 in the active PAN layer under UV light irradiation from the side of PAV layer (a) and PAN layer (b). The fluorescent pattern was still datable from the side of PAN layer, indicating the partial leaking of the information in the bilayer gel without the incorporation of UV-absorbing agents. Scale bar, 1 cm.