

Preparation of gradient heterogeneous hydrogels by Pickering emulsion templating method and its trifunctional coupling of photothermal-evaporation-power generation

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Table S1 Nomenclature and proportioning of MFT-PAM hydrogels

Sample Name	CMC/CNF/CNT water dispersion (mL)	CYH (mL)	AM (g)	MBA (g)	KPS (g)	TEMED (μ L)
M2F1T1-PAM	1.6	0.4	0.16	0.0128	0.008	8
M4F2T1-PAM	1.6	0.4	0.16	0.0128	0.008	8
M1F1T1-PAM	1.6	0.4	0.16	0.0128	0.008	8
M2F2T1-PAM	1.6	0.4	0.16	0.0128	0.008	8
M1F2T2-PAM	1.6	0.4	0.16	0.0128	0.008	8
M1F2T1-PAM	1.6	0.4	0.16	0.0128	0.008	8

Table S2 Nomenclature and proportioning of FP-PAM hydrogels

Sample Name	CNF/PPy water dispersion(mL)	CYH (mL)	AM (g)	MBA (g)	KPS (g)	TEMED (μ L)
F1P1-PAM	0.8	0.2	0.08	0.0064	0.004	4
F2P1-PAM	0.8	0.2	0.08	0.0064	0.004	4

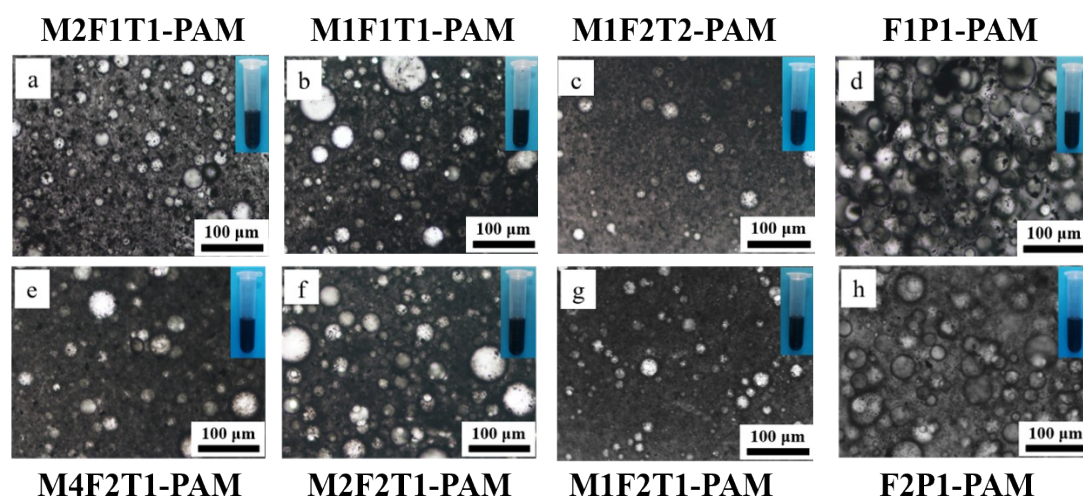


Fig. S1. POM photographs of MFT-AM and FP-AM emulsions.

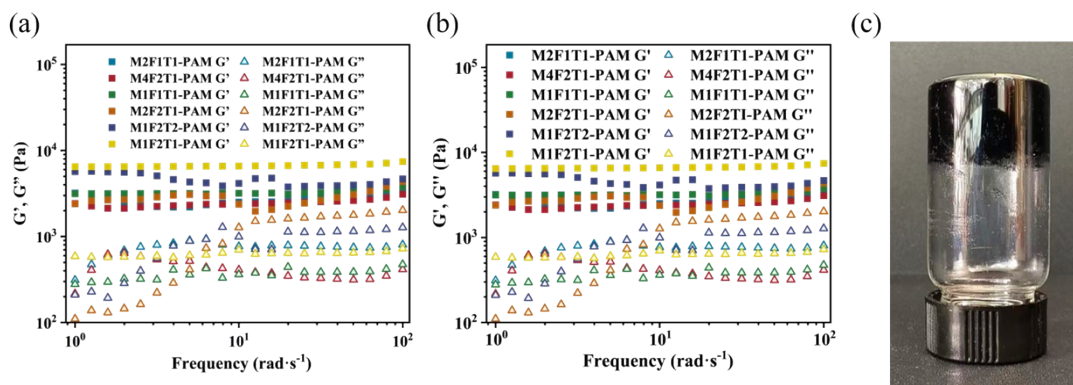


Fig. S2. Dynamic mechanical analysis of energy storage modulus (G') and loss modulus (G'') of (a) MFT-PAM hydrogel and (b) FP-PAM hydrogel, (c) Inverted hydrogel photo.

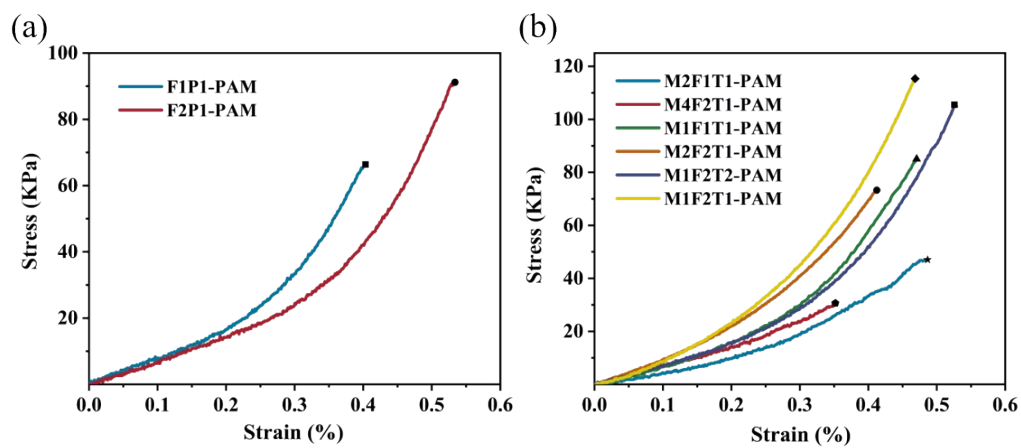


Fig. S3. Compressive stress-strain curves of (a) MFT-PAM hydrogel and (b) FP-PAM hydrogel.

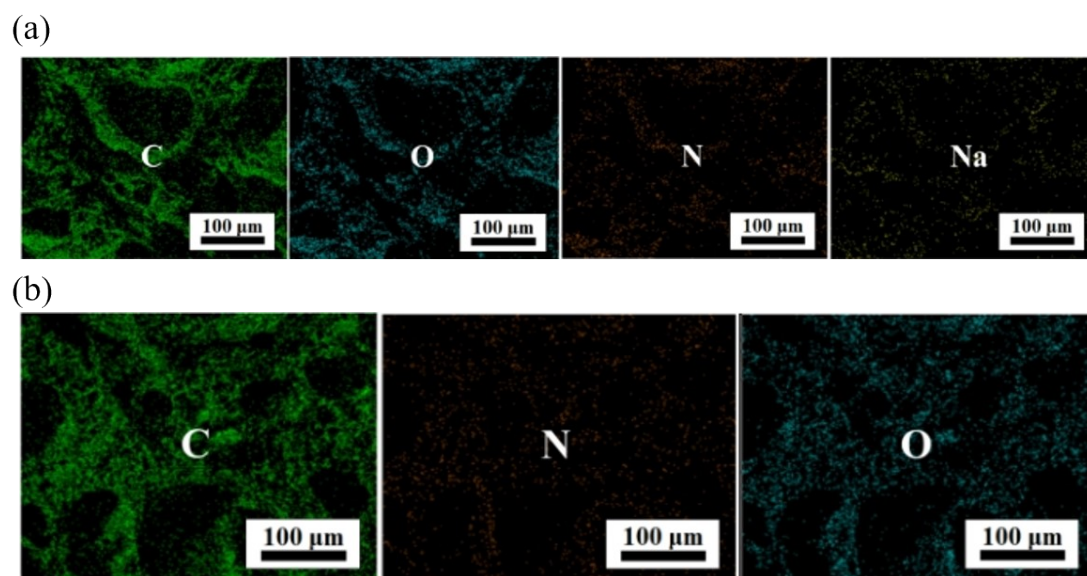


Fig. S4. SEM-Mapping images of (a) MFT-PAM and (b) FP-PAM hydrogels.

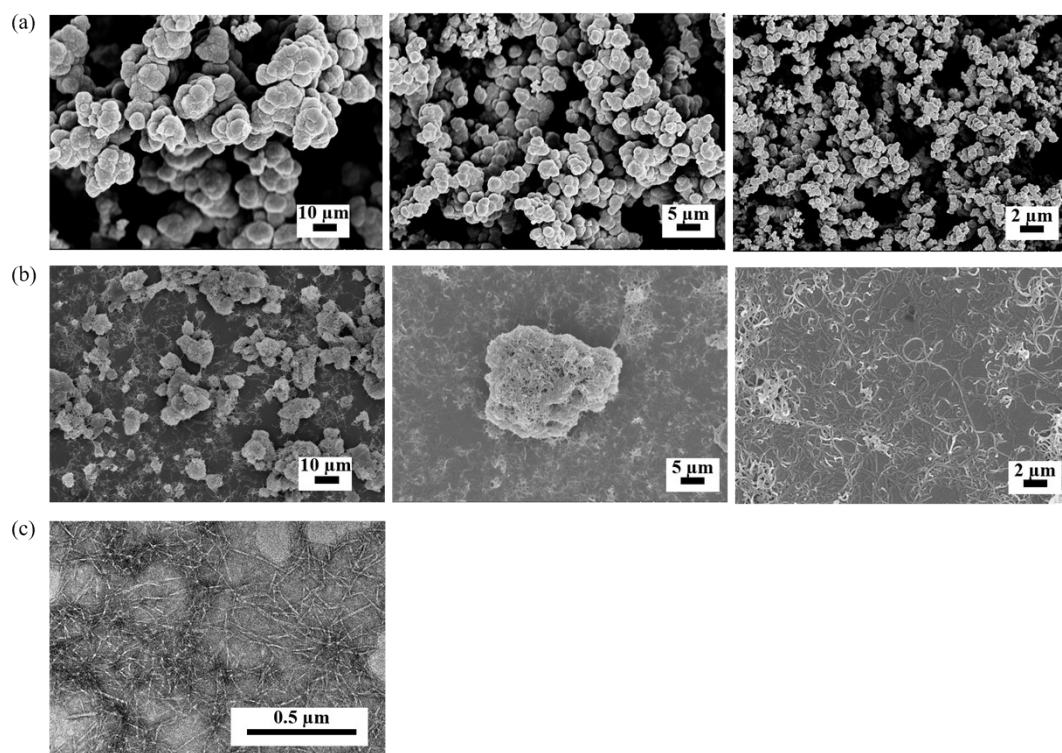


Fig. S5. SEM photograph of (a) PPy and (b) CNT, (c) Transmission photo of CNF.

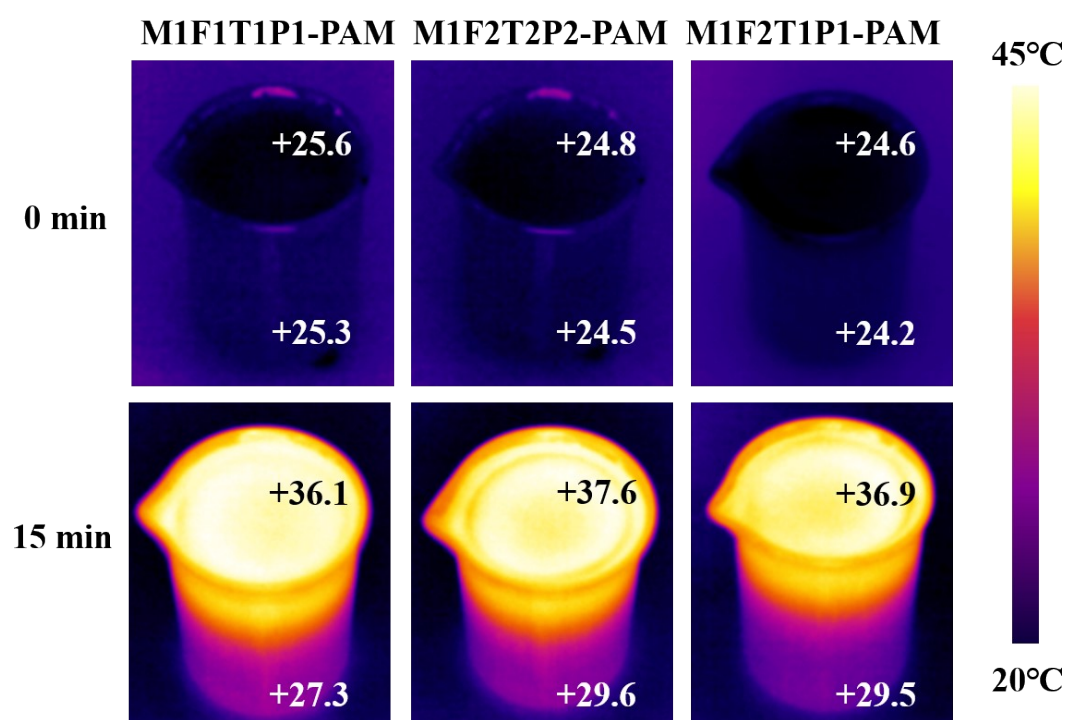


Fig. S6. Photographs of infrared thermal images of pure water and different MFTP-PAM hydrogels under 1 Sun irradiation for 900 s.

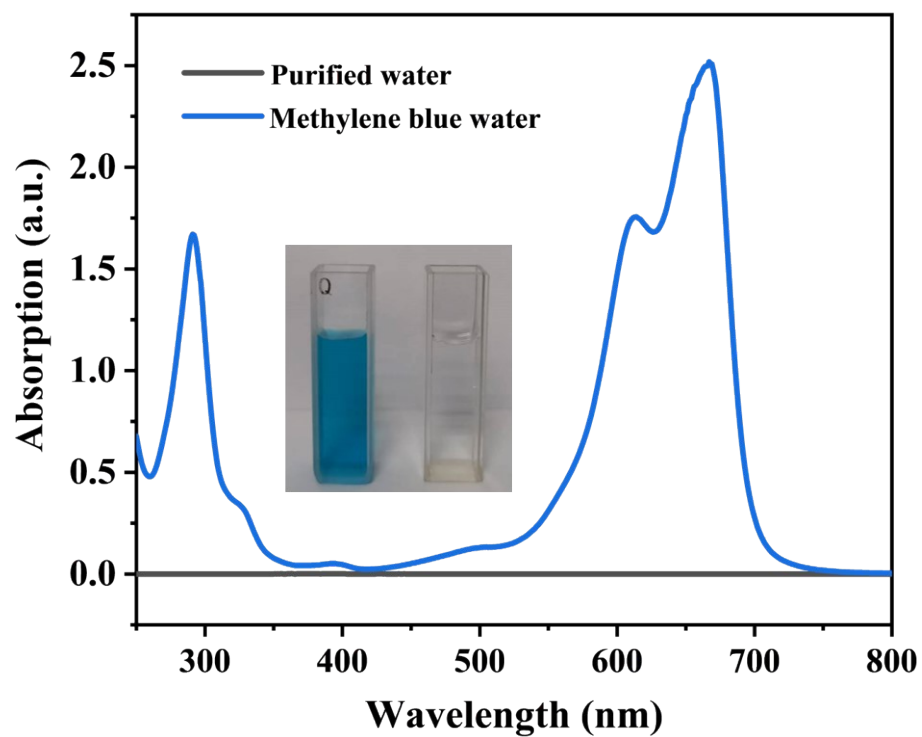


Fig. S7. Changes in color and absorption spectra of methylene blue solutions before and after purification using the M4F2T1P1-PAM hydrogel evaporator.

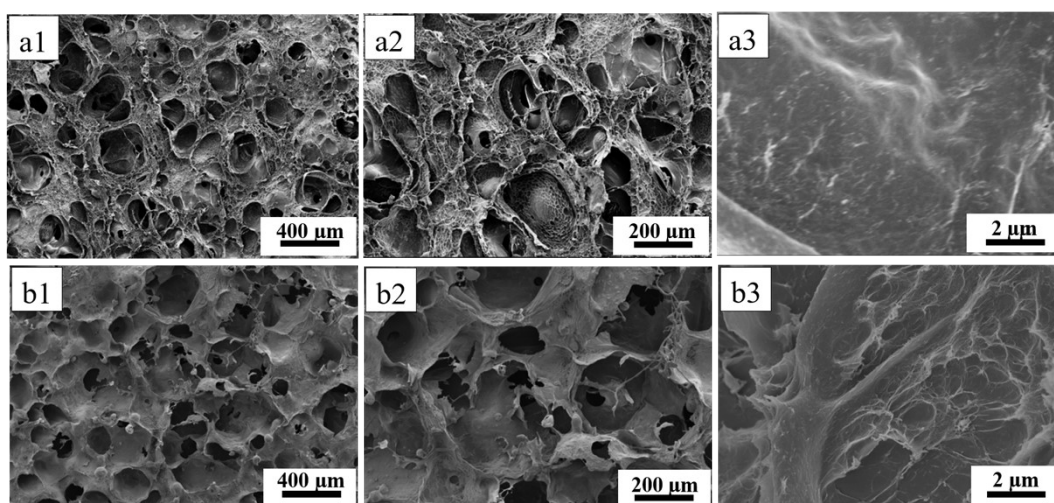


Fig. S8. SEM images of (a) M1F1T1-PAM and (b) M1F2T2 hydrogel