

Electronic Supplementary Material

Excellent lubricating hydrogels with rapid photothermal sterilization for medical catheters coating

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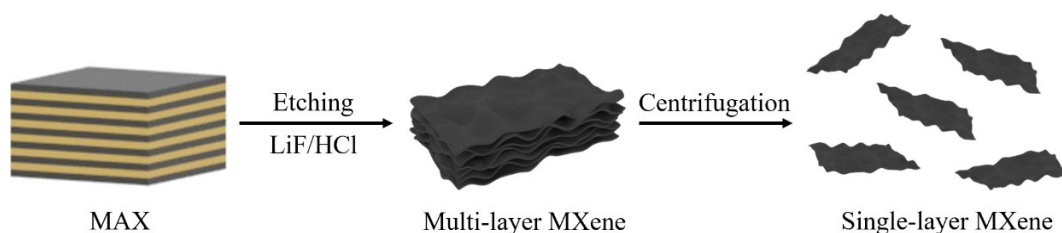


Fig. S1 Preparation process of MXene nanosheets.

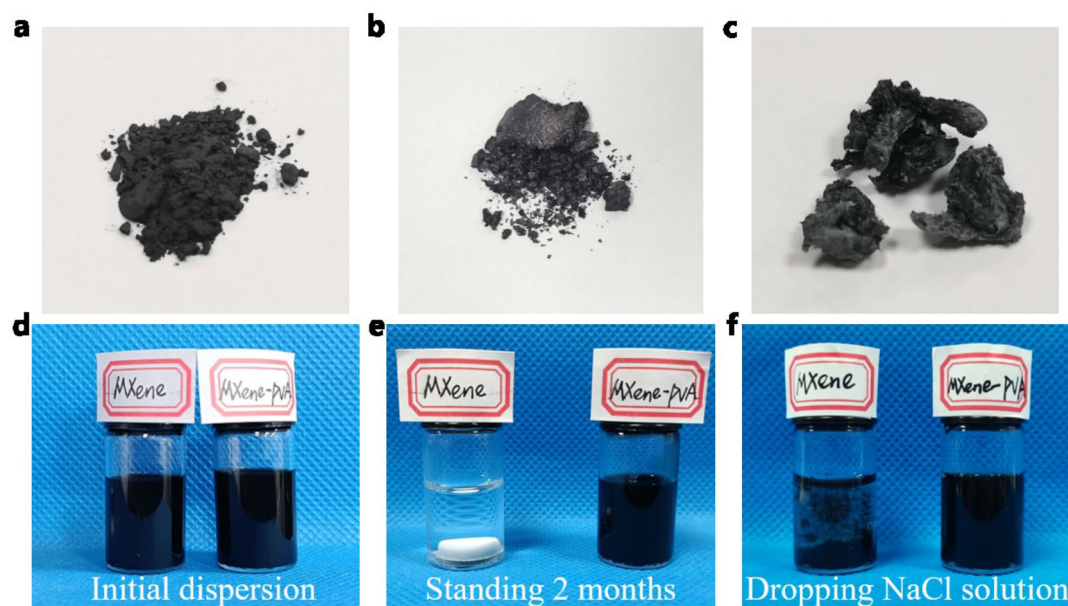


Fig. S2 Optical pictures of (a) MAX, (b) MXene and (c) PVA/MXene after freeze-drying. Aqueous dispersibility of MXene and PVA/MXene (d) initially, (e) after standing for 2 months, (f) after dropping NaCl solution.

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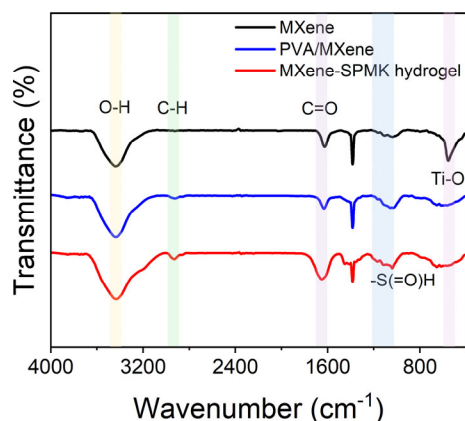


Fig. S3 FTIR spectra of MXene, PVA/MXene, and MXene-SPMK hydrogel.

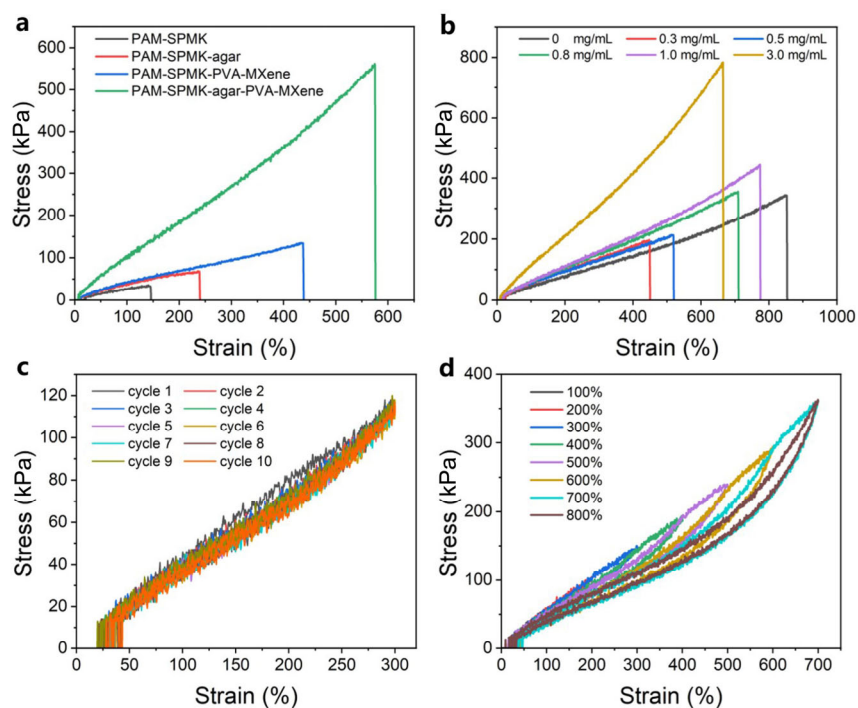


Fig. S4 Mechanical strength of hydrogels. Stress-strain curves of (a) different kinds of hydrogels and (b) hydrogels with different MXene contents. Loading-unloading curves of 0.8 mg/mL MXene hydrogel (c) with a constant strain of 300% and (d) different strain.

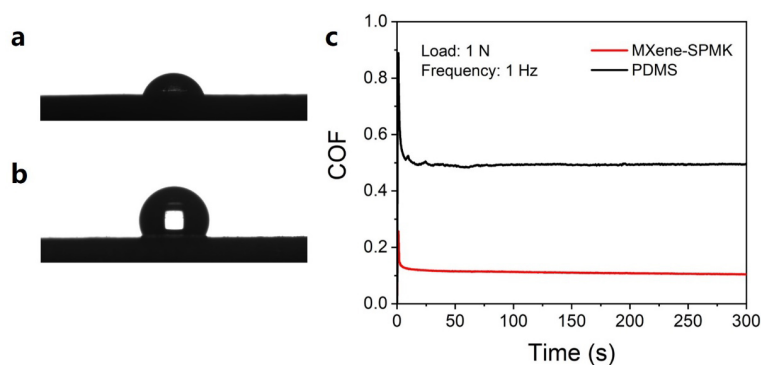


Fig. S5 The effect of hydrogels wettability on lubrication. Static water contact angle of (a) MXene-SPMK hydrogel and (b) PDMS. (c) COF curves comparison between MXene-SPMK hydrogel and PDMS (normal load: 1 N, sliding frequency: 1 Hz).