Supplementary Information

Environmentally Tough and Stretchable MXene Organohydrogel with Exceptionally Enhanced Electromagnetic Interference Shielding Performances

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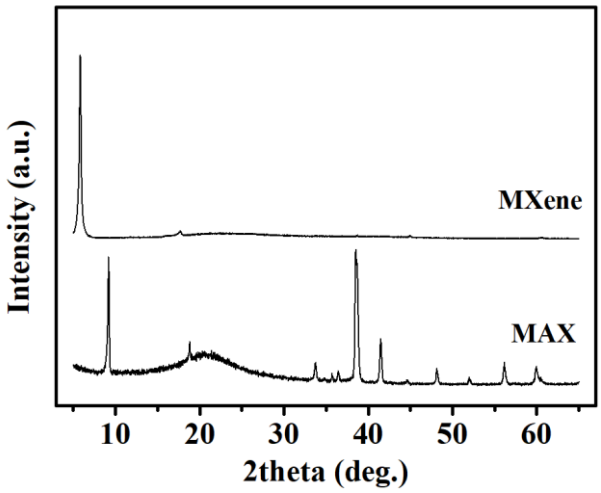

Fig. S1 XRD patterns of MAX powder and MXene nanosheets.

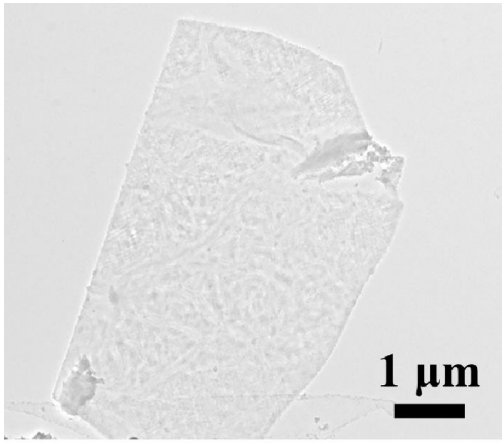

Fig. S2 TEM image of MXene nanosheet.

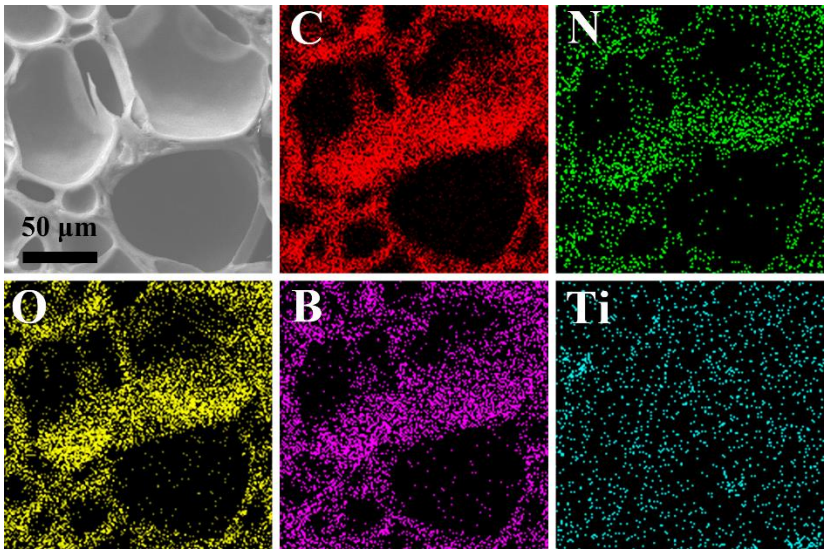

Fig. S3 SEM and elemental mapping images of MXene hydrogel (MXene content of 0.4 wt%).

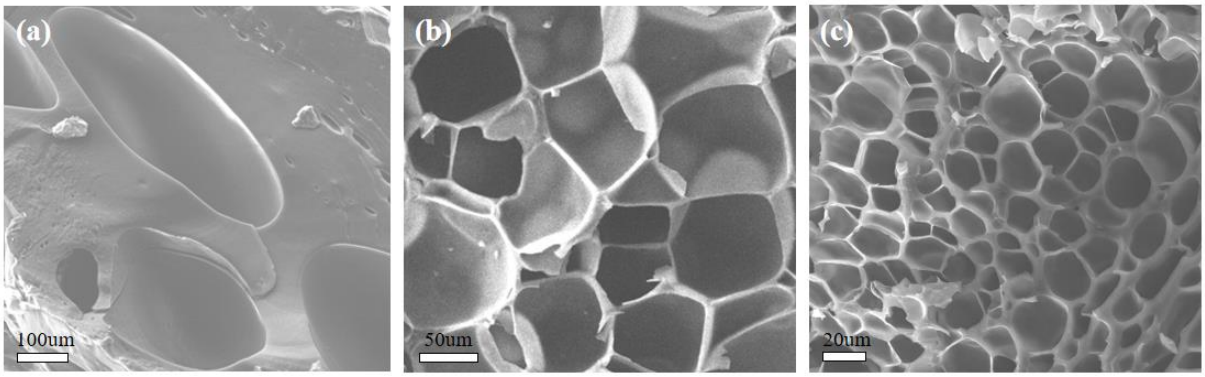

Fig. S4 SEM images of (a) pure hydrogel, (b) MXene hydrogel with MXene content of 0.4 wt%, and (c) MXene hydrogel with MXene content of 2.2 wt%.

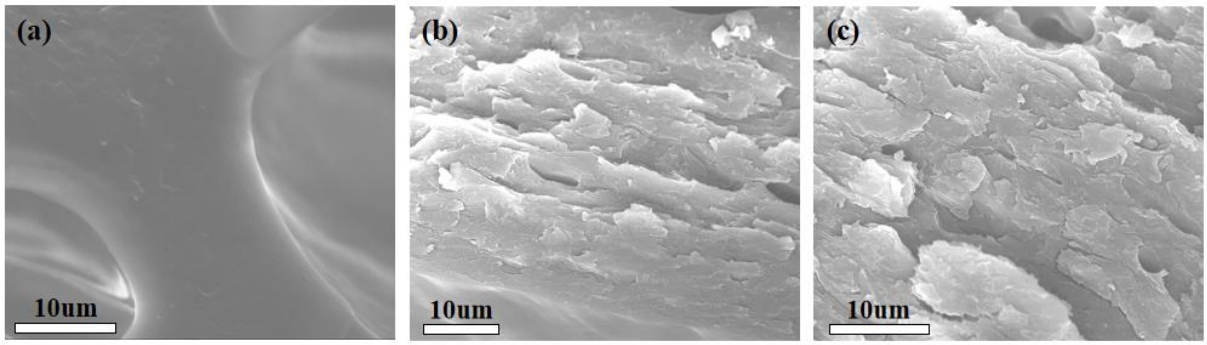

Fig. S5 High magnification SEM images of (a) pure hydrogel, (b) MXene hydrogel with MXene content of 0.4 wt% and (c) MXene hydrogel with MXene content of 2.2 wt%.

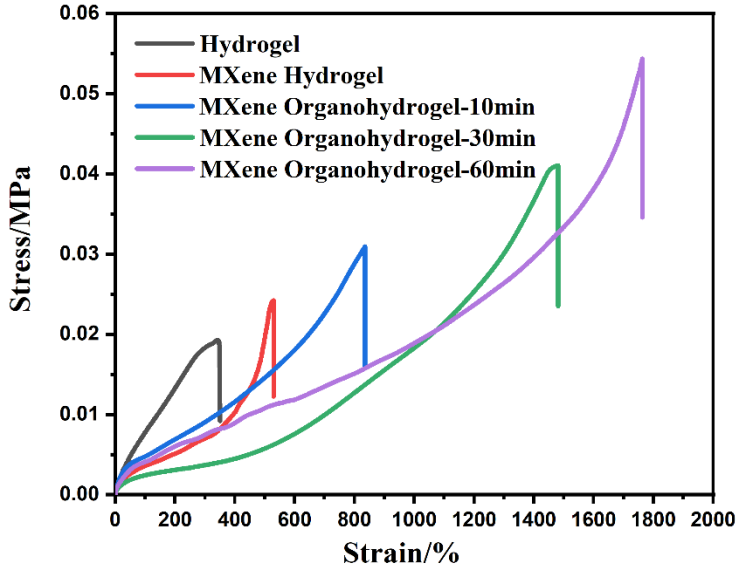

Fig. S6 Stress-strain curves of pure hydrogel, MXene hydrogel and MXene organohydrogels.

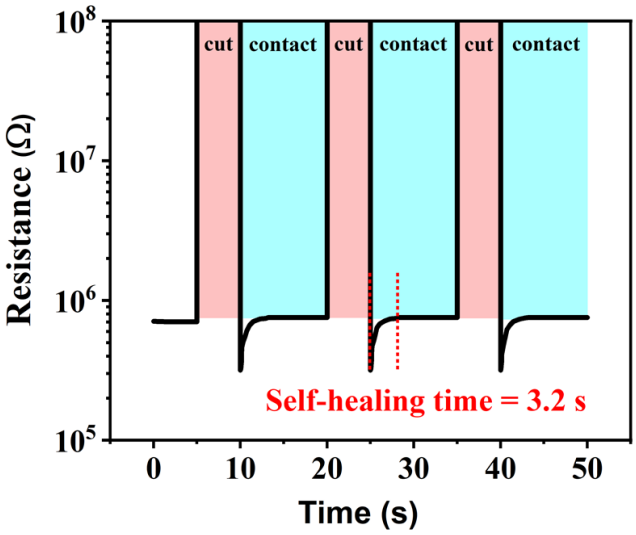

Fig. S7 Change of resistance of MXene organohydrogel during several self-healing processes.

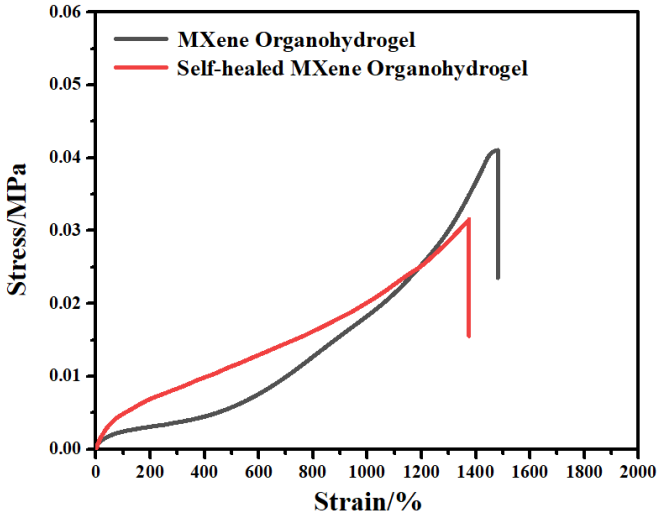

Fig. S8 Stress-strain curves of original and self-healed MXene organohydrogels.

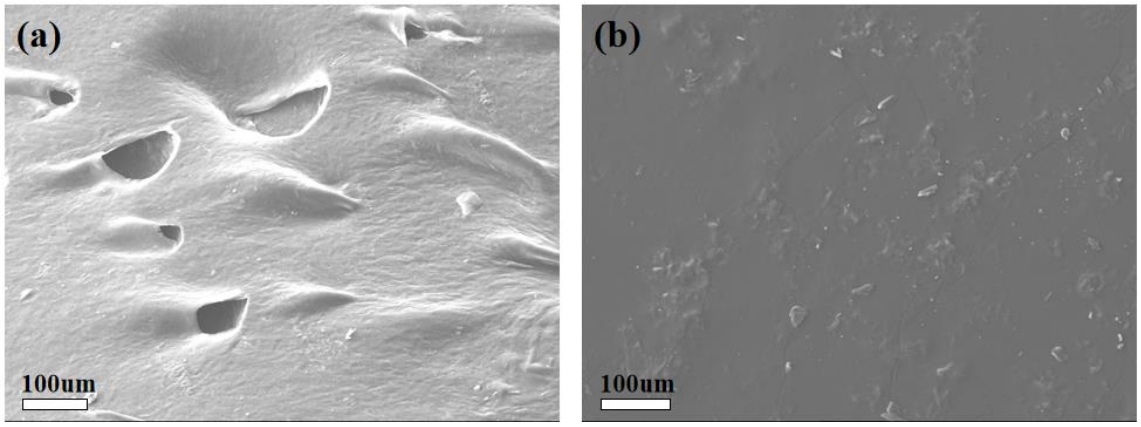

Fig. S9 SEM images of (a) MXene hydrogel stored for 7 days and (b) MXene organohydrogel stored for 7 days.

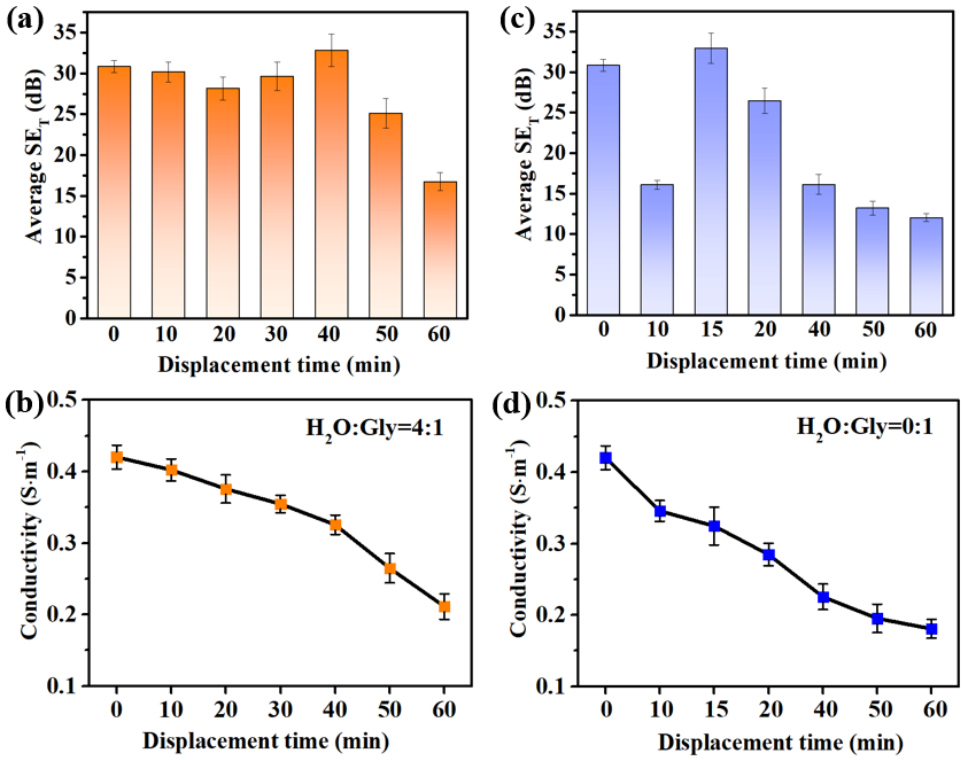

Fig. S10 Variations of (a) average SE_T and (b) conductivity of MXene organohydrogel (water:Gly=4:1) with displacement time. Variations of (c) average SE_T and (d) conductivity of MXene organohydrogel (water:Gly=0:1) with displacement time.

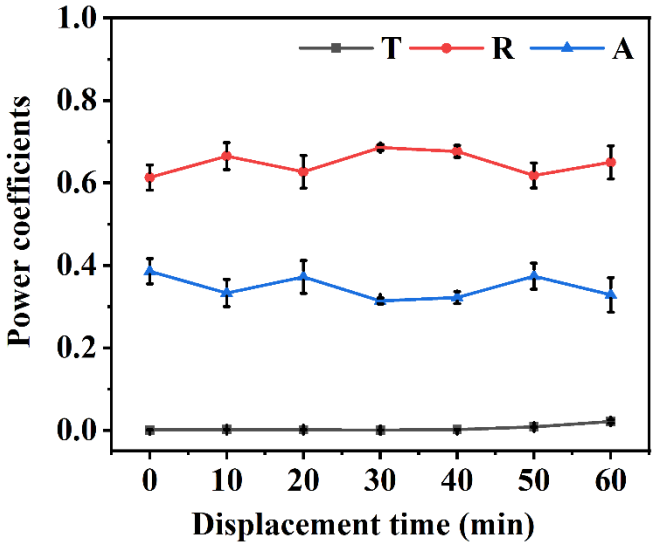

Fig. S11 The absorption (A), reflection (R) and transmission (T) coefficients of MXene organohydrogels with different water-Gly (1:1) displacement time.

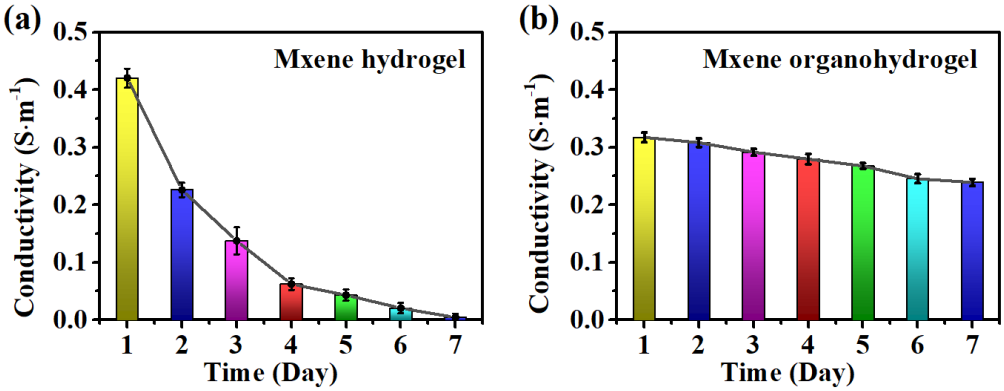

Fig. S12 Variations of conductivity during storage: (a) MXene hydrogel, (b) MXene organohydrogel.

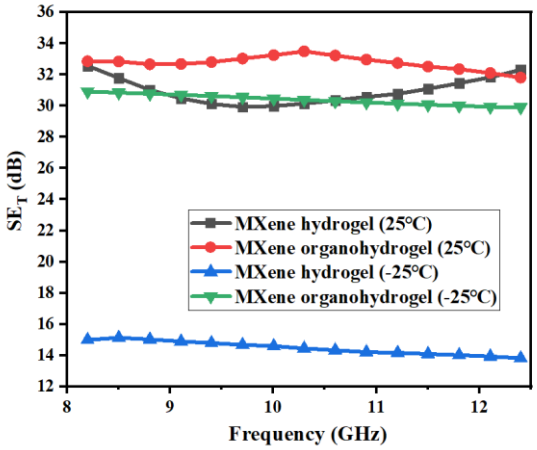

Fig. S13 SE_T curves of MXene hydrogel and MXene organohydrogel before and after freezing.

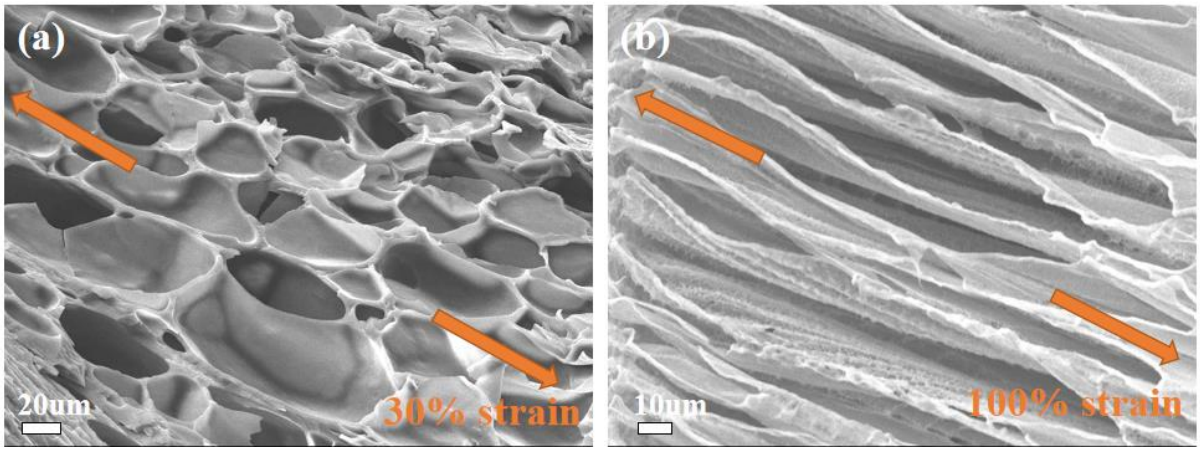

Fig. S14 SEM images of freeze-dried MXene organohydrogels (MXene content of 0.4 wt%, Gly displacement time of 30 min) under (a) 30% and (b) 100% strains.

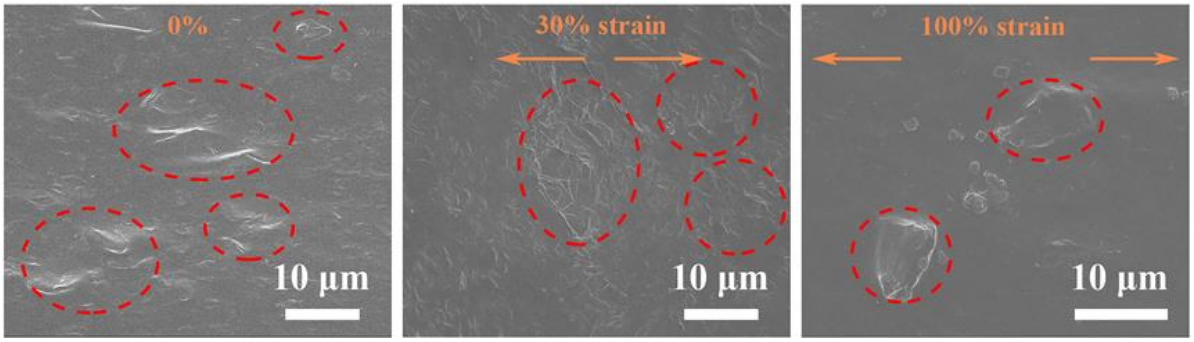

Fig. S15 SEM images of MXene organohydrogel under 0%, 30% and 100% strains.