

Supporting information for

**Fabrication of MXene-Based Shape Memory Hydrogel and Its
Application in Skin Wound Repair**

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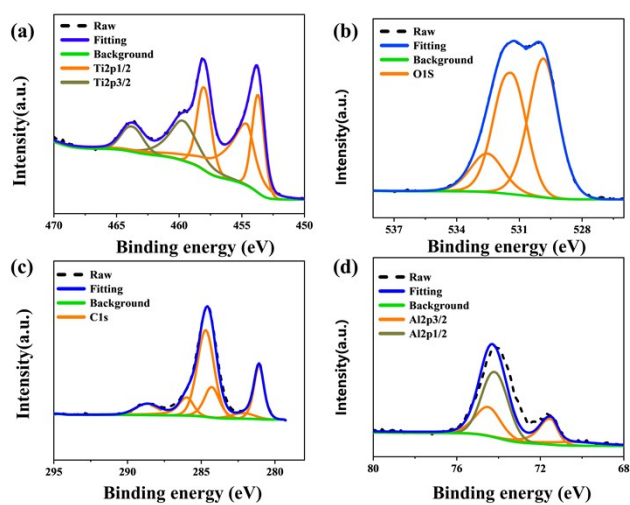


Figure S1 XPS high-resolution spectra of (a) Ti2p, (b) C1s, (c) O1s, and (d) Al2p regions.

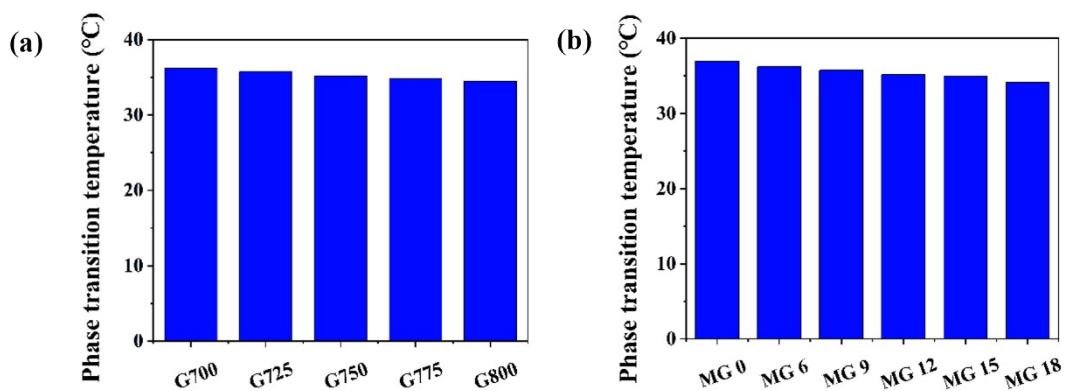


Figure S2 The summarization of the phase transition temperature (T_p). (a) The phase transition temperature (T_p) of the hydrogel without MXene of G700, G725, G750, G775 and G800. (b) The phase transition temperature (T_p) of the MXene-based shape memory hydrogel for MG0, MG6, MG9, MG12, MG15 and MG18.

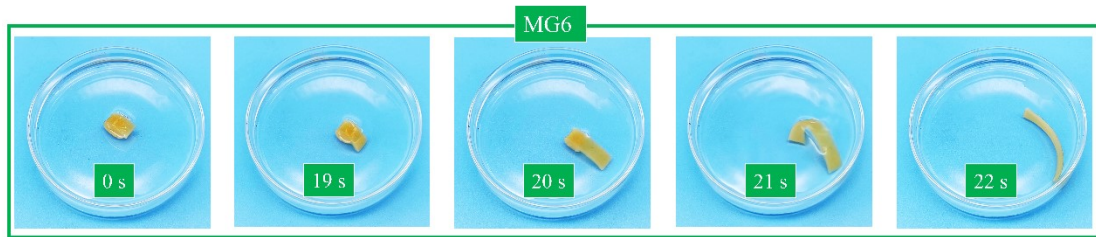


Figure S3 Shape recovery behavior of the MXene-based shape memory hydrogel. Shape recovery process of the MG6 under 60 °C at the time interval of 0s, 19s, 20s, 21s, and 22s

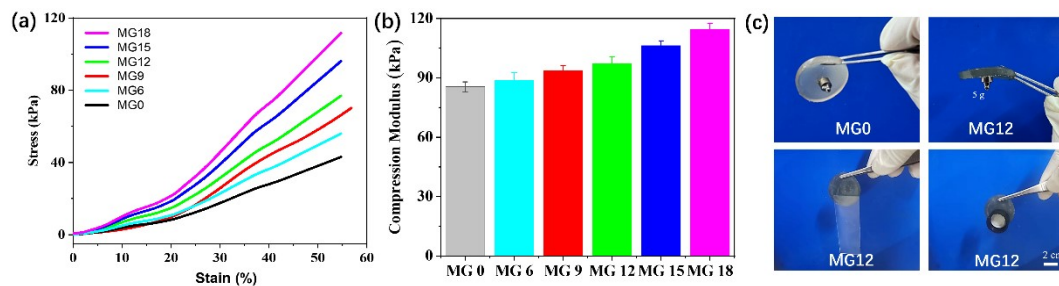


Figure S4 Compressive and adhesive properties of MXene-based hydrogel: (a) Compressive stress-strain curve of MXene-based hydrogel. (b) Summarization of the Compression modulus of MXene-based hydrogel. (c) Adhesive of MG0 and MG12 with 5g weight, on glass and plastic surface.

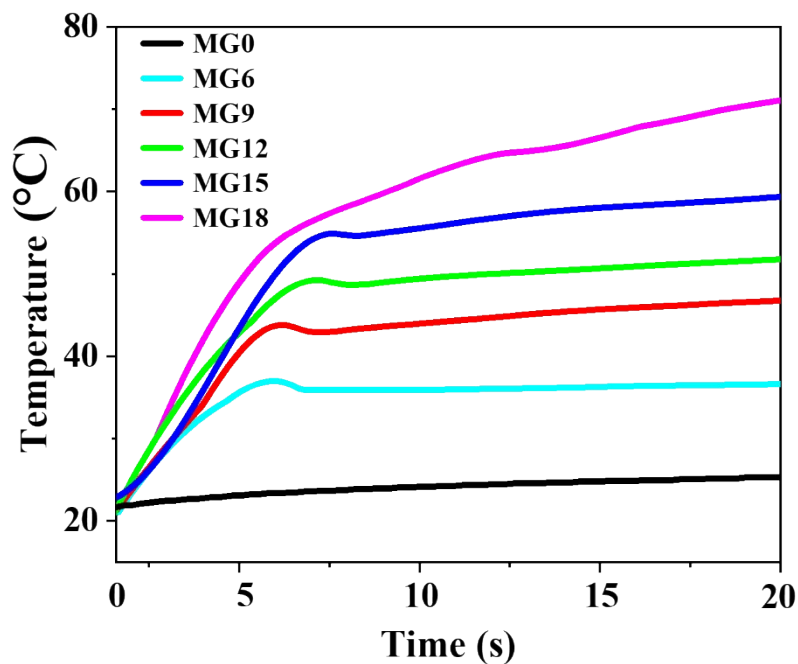


Figure S5 Photo thermal curve of the MXene-based hydrogel from room temperature.

Movie S1 The permanent shape of the MG0 can recovery in 24 s after immersing in water (60 °C)

Movie S2 The permanent shape of the MG12 can recovery in 16 s after immersing in

water (60 °C)

Movie S3 The permanent shape of the MG6 can recovery in 5.3 min after the NIR irradiation in water.

Movie S4 The permanent shape of the MG12 can recovery in 3.7 min after the NIR irradiation in water.