

Electronic Supplementary Information

Nacre-Like Composite Films Based on Mussle-Inspired ‘Glue’ and Nanoclay

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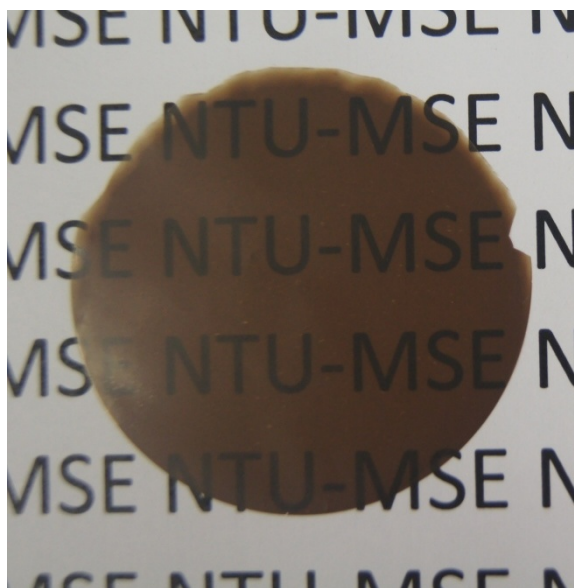


Fig. S1 Photograph of a semitransparent D-clay film with a thickness of 7 μm.

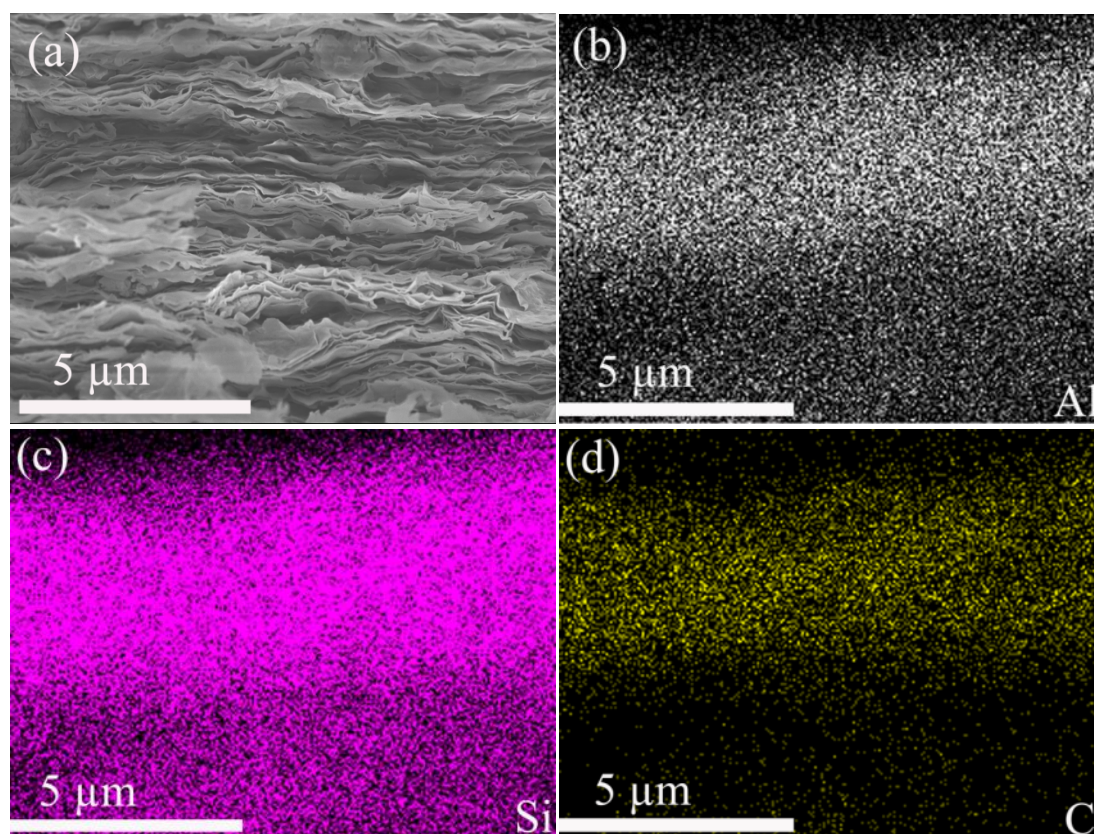


Fig. S2 (a) Cross-section FESEM image of D-clay film, and (b-d) the corresponding EDX elemental mappings of Al, Si and C, respectively.

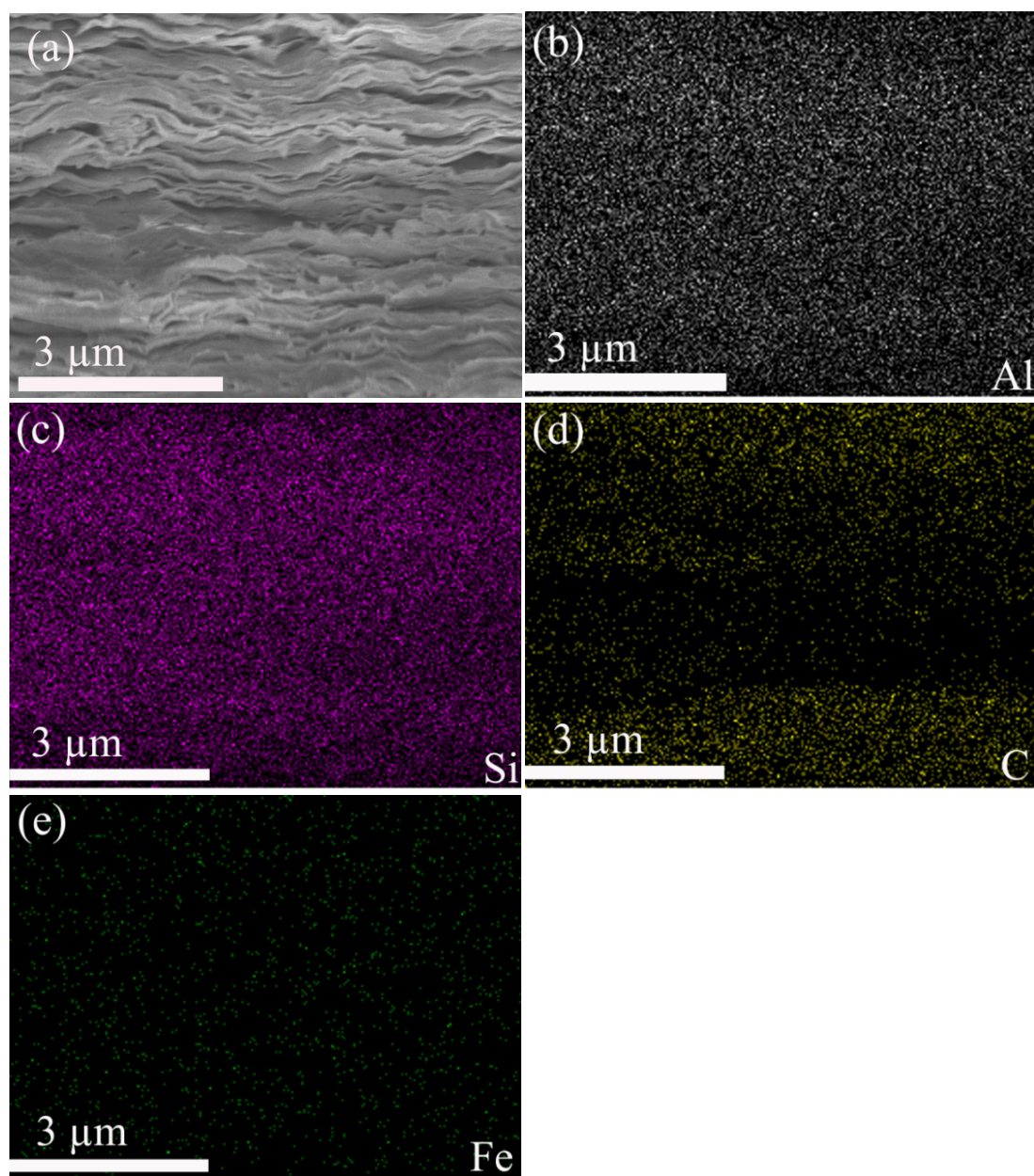


Fig. S3 (a) Cross-section FESEM image of D-clay/Fe³⁺ film, and (b-e) the corresponding EDX elemental mappings of Al, Si and C, Fe, respectively.

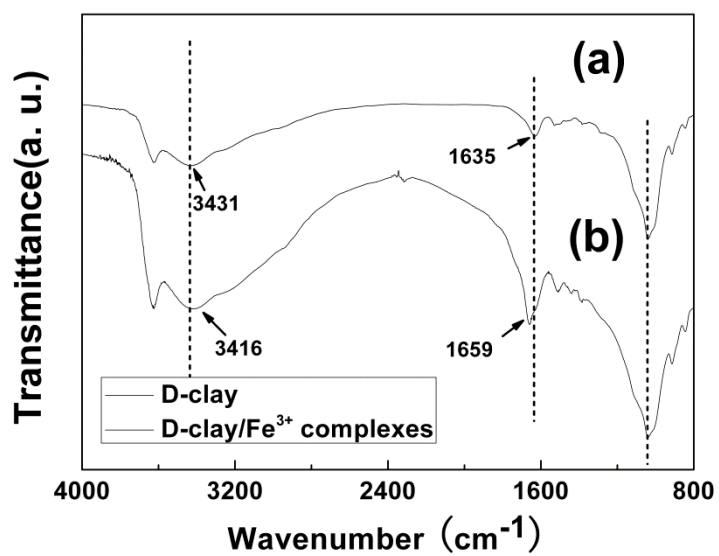


Fig. S4. FTIR spectra of (a) D-clay, (b) D-clay/Fe³⁺ complex.

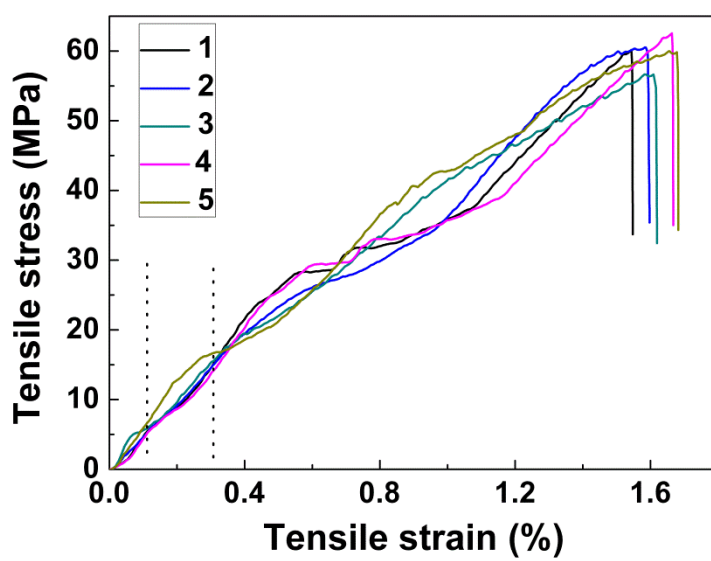


Fig. S5 Five representative tensile curves for D-clay film samples.

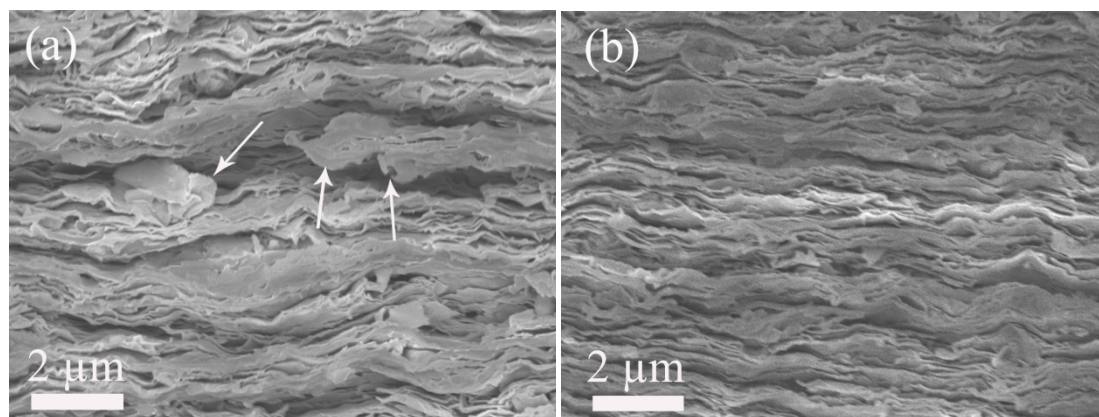


Fig. S6 SEM fractographs of fractured (a) D-clay film (b) D-clay/Fe³⁺ film.

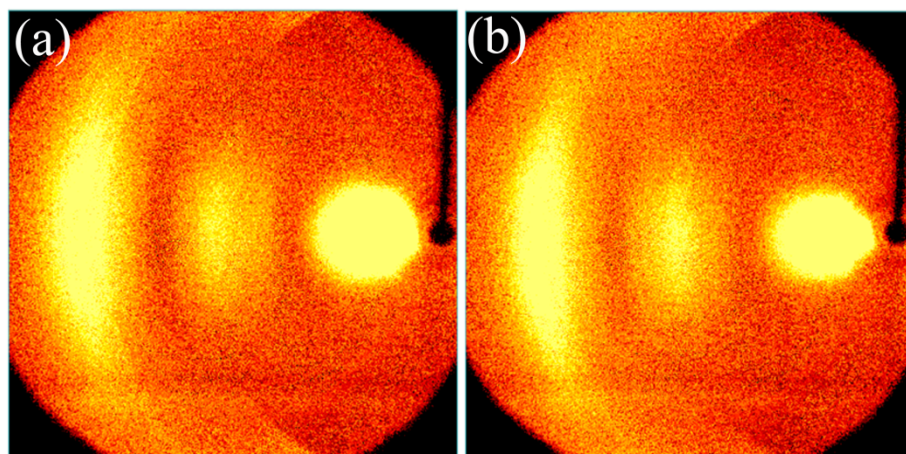


Fig. S7 2D WAXD patterns of (a) D-clay film, (b) D-clay/Fe³⁺ film.

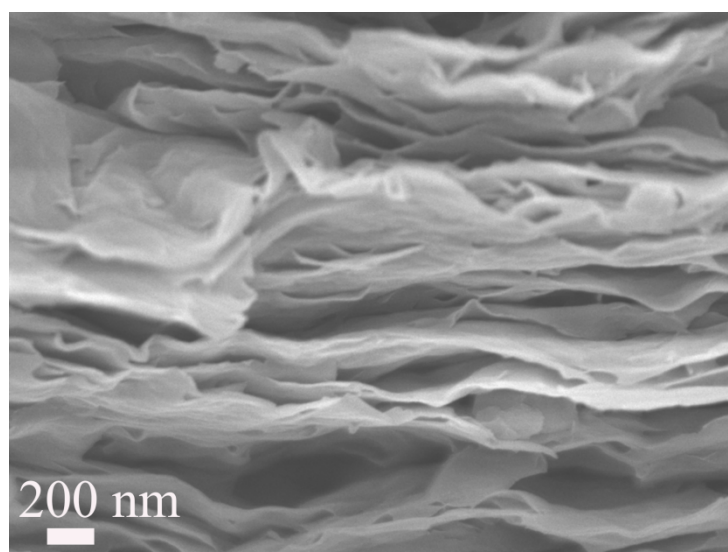


Fig. S8 A FESEM image of DI water-treated D-clay film.



Fig. S9 Photograph of the burnt D-clay film after bending.

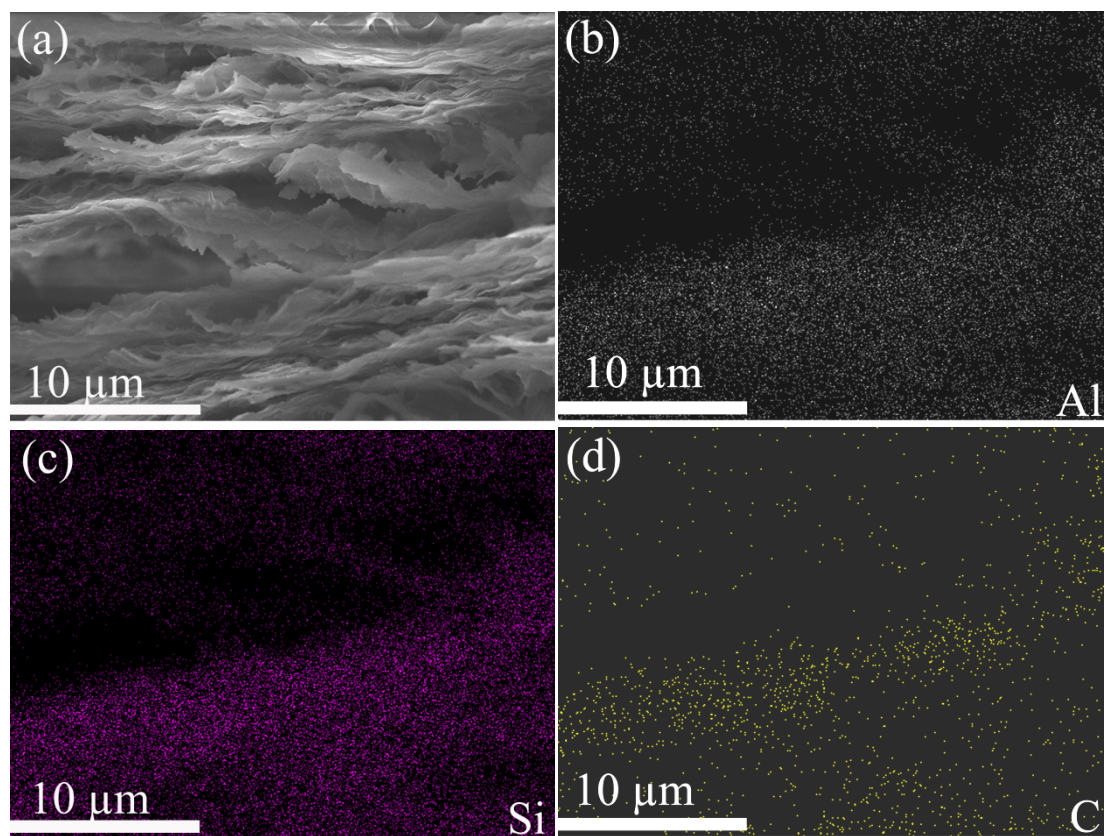


Fig. S10 (a) Cross-section FESEM image of D-clay film after flame treatment, and (b-d) the corresponding EDX elemental mappings of Al, Si and C, respectively.

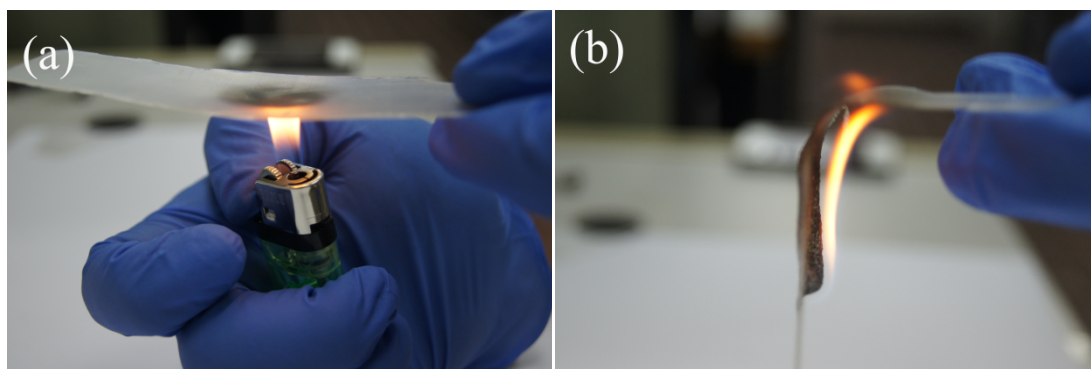


Fig. S11 (a) Pure PMMA film (a) was exposed to open flame and (b) started to burn after 12 seconds.