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Facile surface modification of PVDF membrane via $CaCO_3$ mineralization for efficient oil/water emulsion separation

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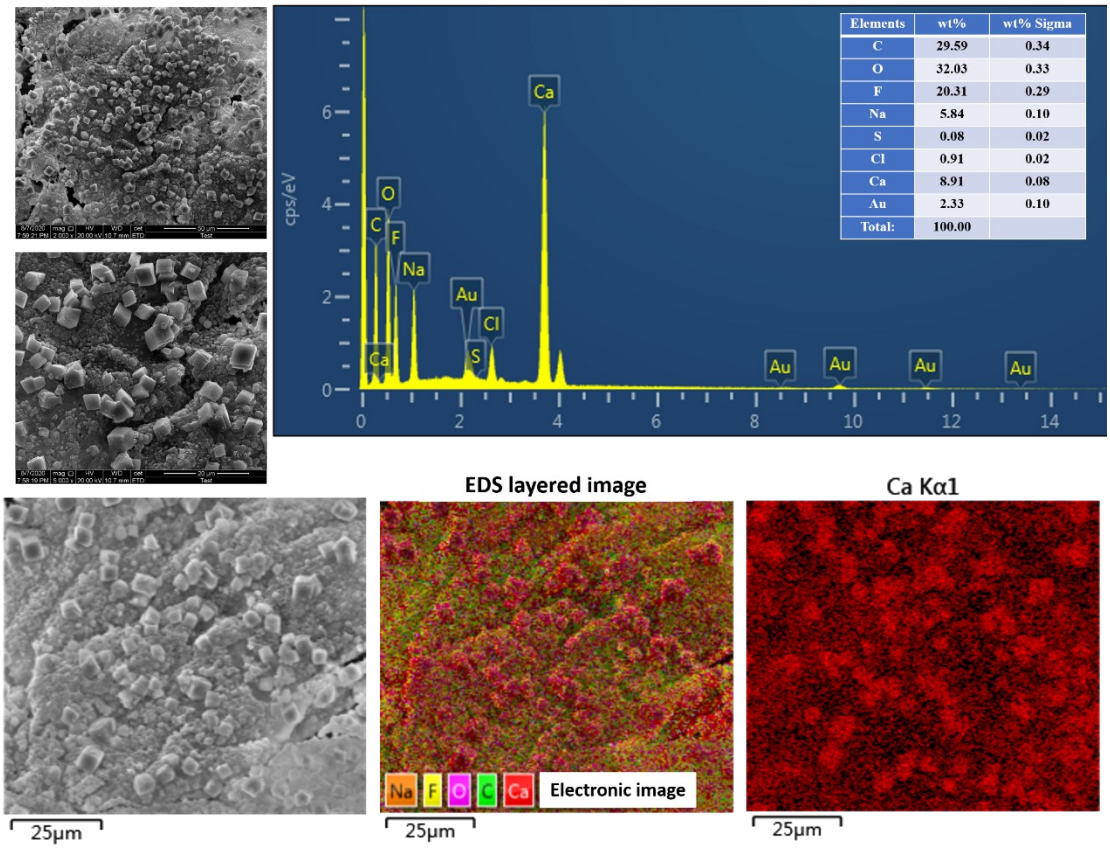

Fig. S1. SEM and EDS mapping of the PVDF@pDA@$CaCO_3$-2 composite membrane

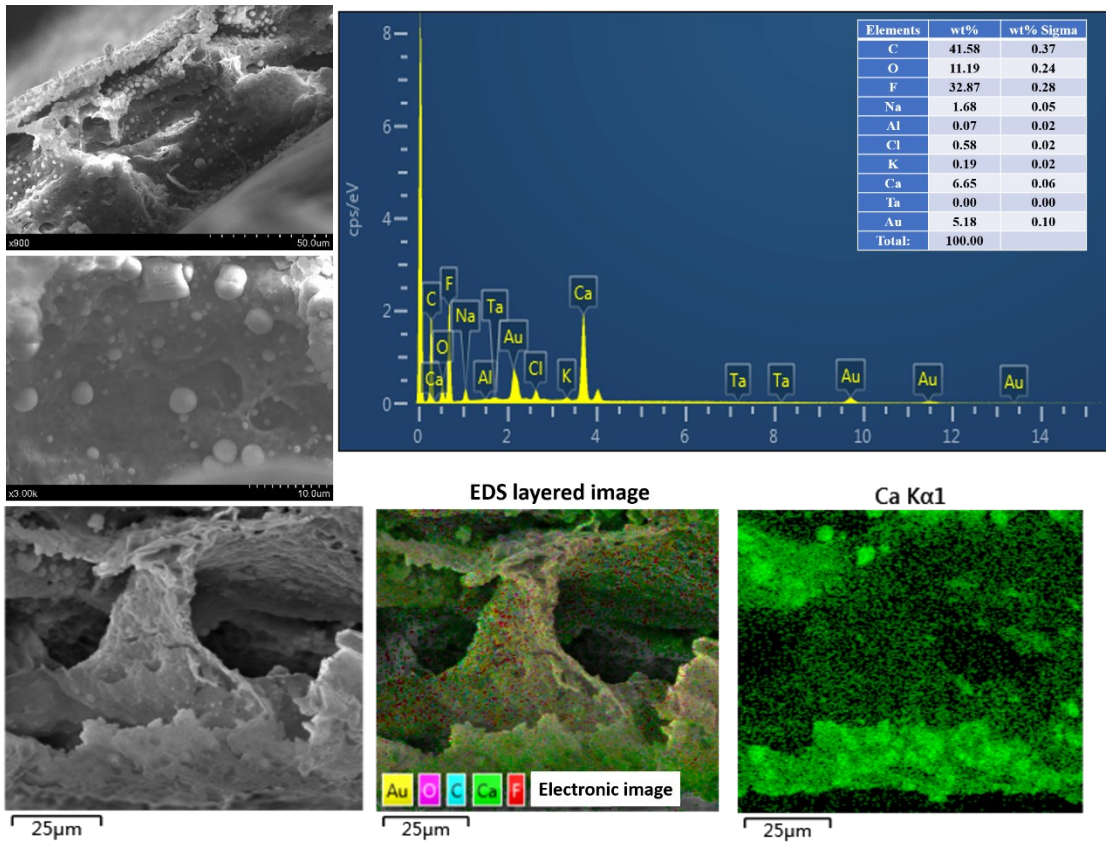

Fig. S2. The cross-section SEM and EDS mapping of the PVDF@pDA@$CaCO_3$-2 composite membrane

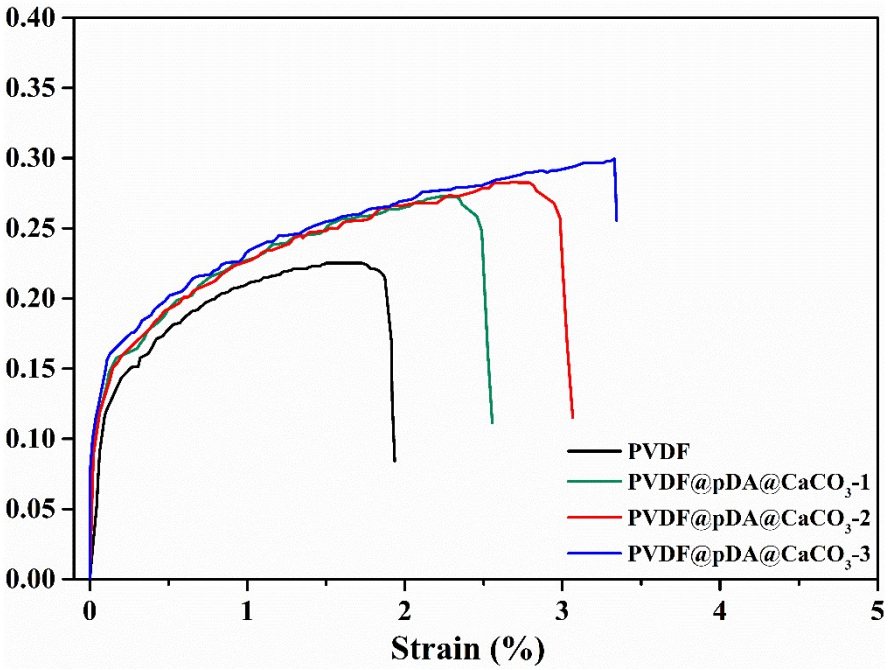

Fig. S3. The stress-strain curves of the membranes

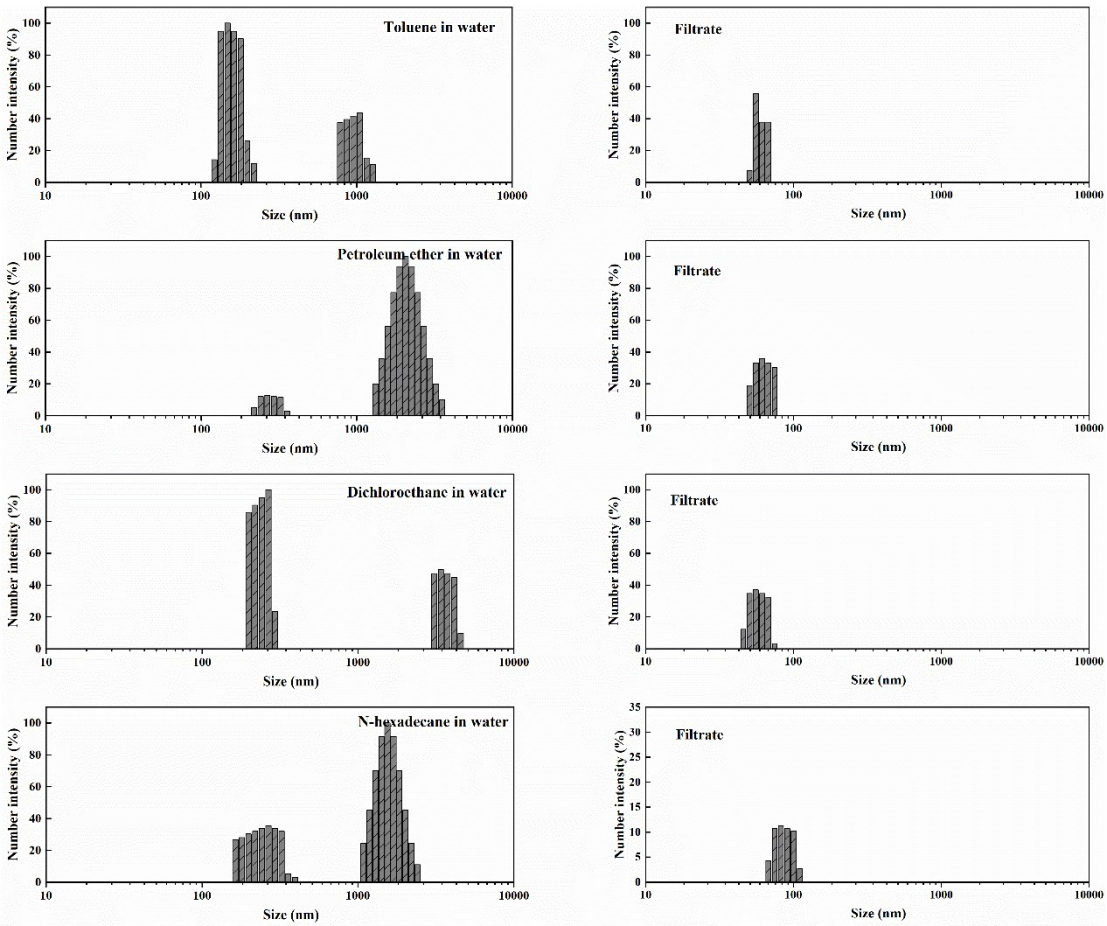

Fig. S4. The particle size distribution of various emulsions before/after the separation by PVDF@pDA@$CaCO_3$-2 membrane

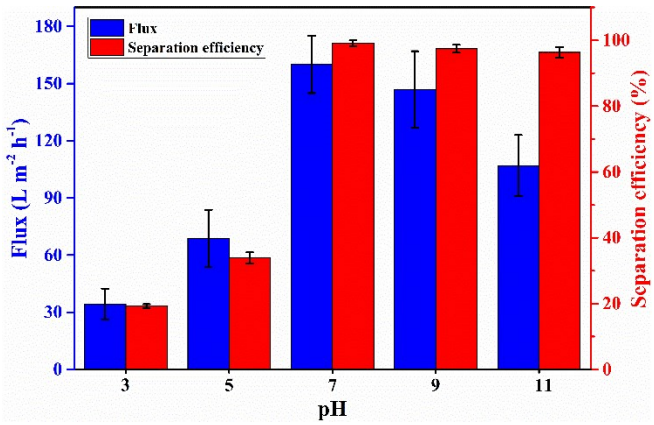

Fig. S5. Permeation flux and separation efficiency of PVDF@pDA@$CaCO_3$-2 composite membrane for petroleum ether/water emulsions with various pH