Electronic Supplementary Material (ESI) for RSC Advances.

Supporting online materials for

A Newly Designed Softoxometalate $[Bmim]_2[Dmim][\alpha\text{-}PW_{12}O_{40}]$@Hydrocalumite that Control the Chain Length of Polyacrylic Acid in Presence of Light

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Content

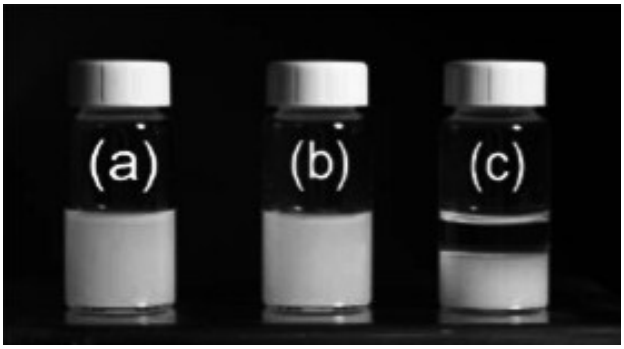

Fig S1. a) Dispersion of hydrocalumite. b) Formation of composite $[BMIm]_2[DMIm][\ \alpha\text{-}PW_{12}O_{40}]$@Hydrocalumite (SOM **2**). c) gelation of SOM 2 indicates formation of composite material.

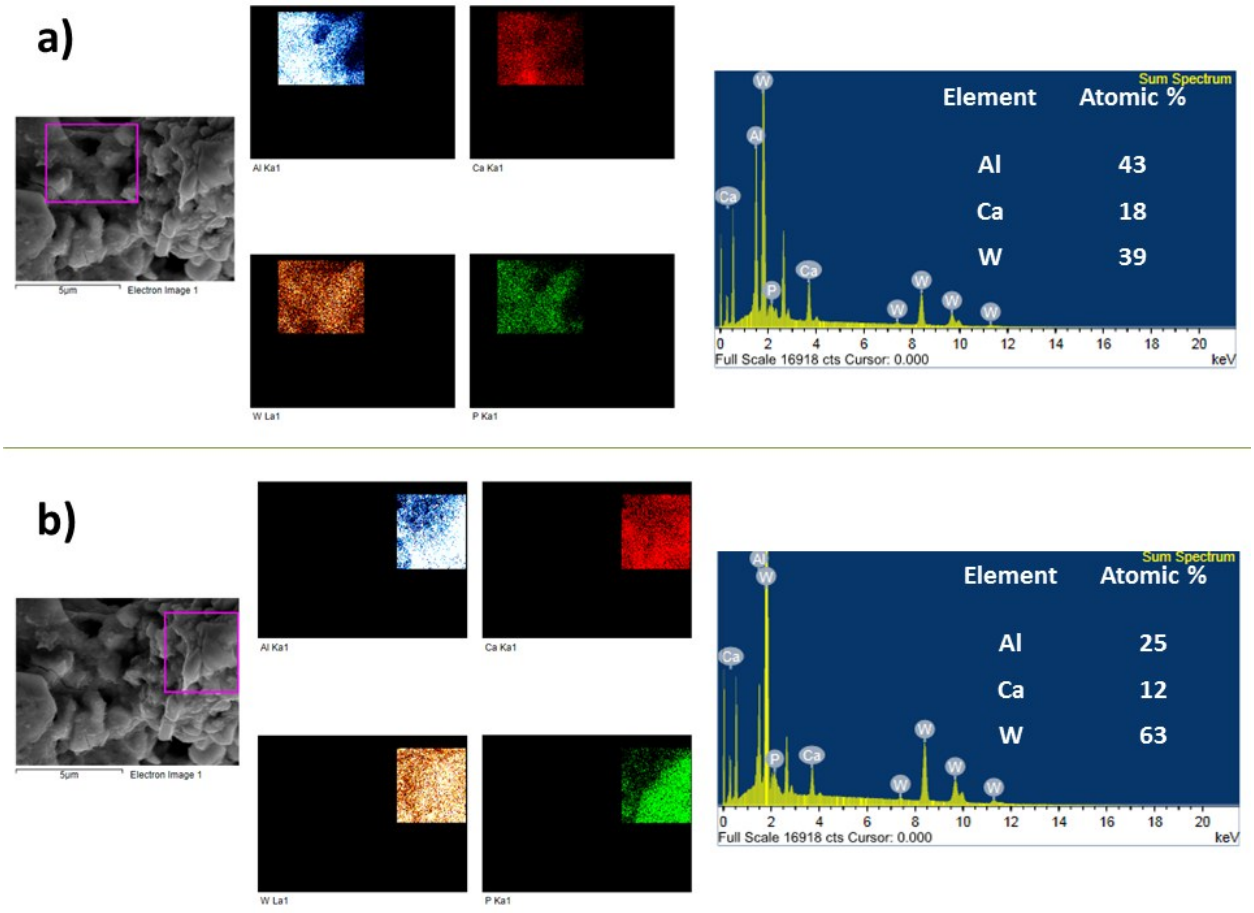

Fig S2. EDS mapping image of SOM **2** a) selective mapping around pore of hydrocalumite. Where concentration of **1** is less. b) Selective mapping around the surface of SOM **2** where catalyst loaded on hydrocalumite pore. Indicates **1** loaded on surface of hydrocalumite.

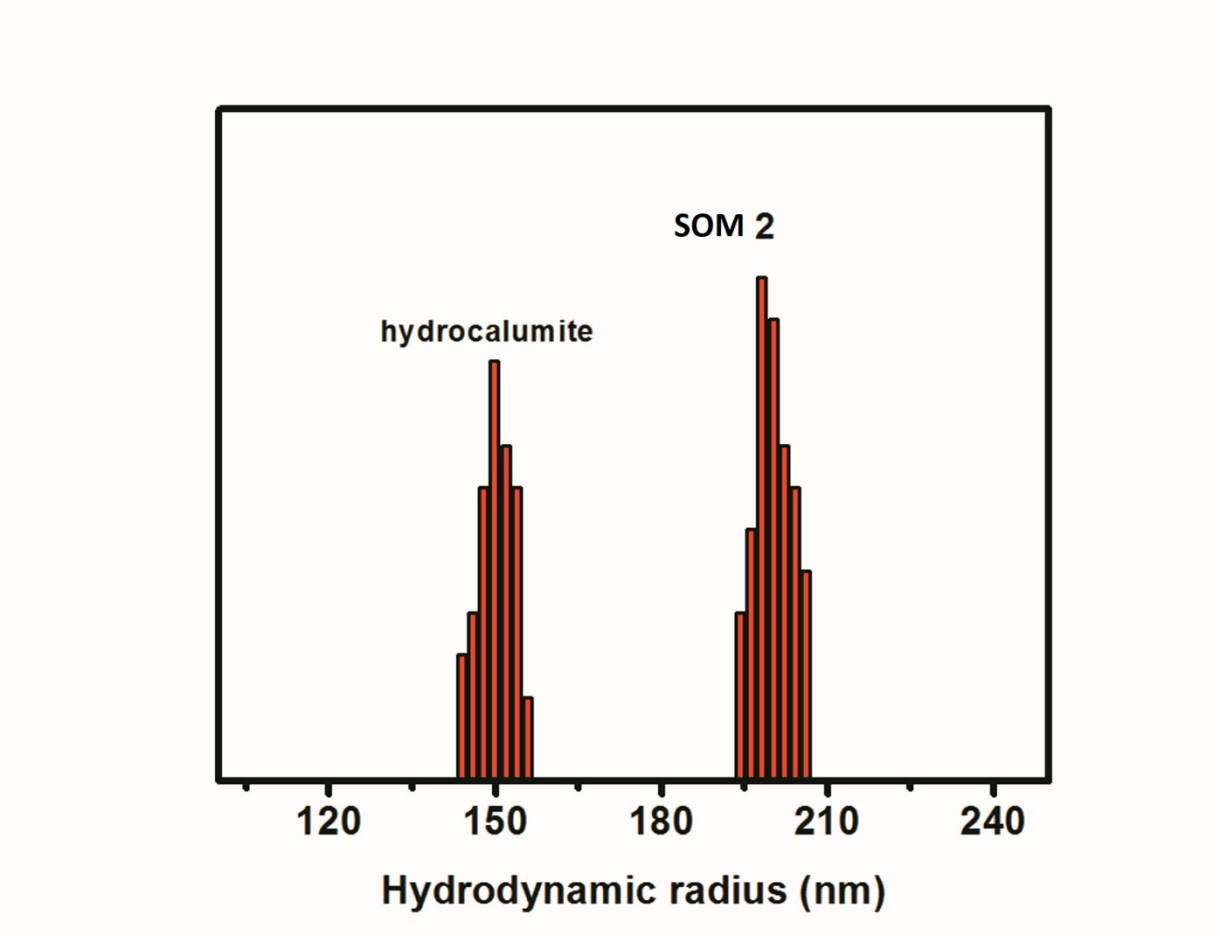

Fig S3. Hydrodynamic radius of hydrocalumite and SOM **2**, indicates SOM **2** has larger radius compare to hydrocalumite.

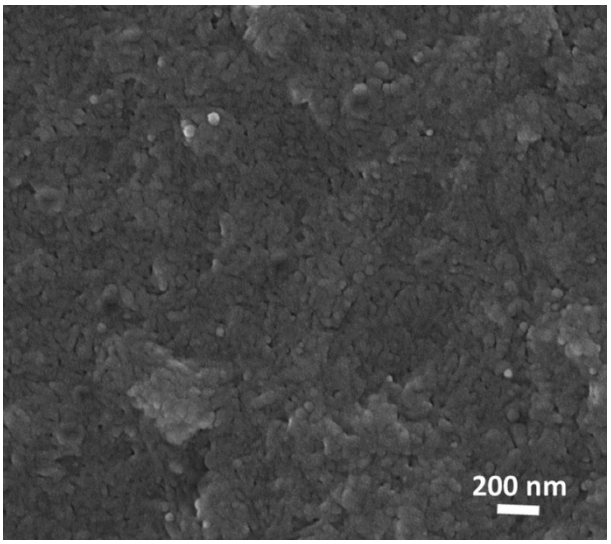

Fig S4. SEM image of synthesized polyacrylic acid.

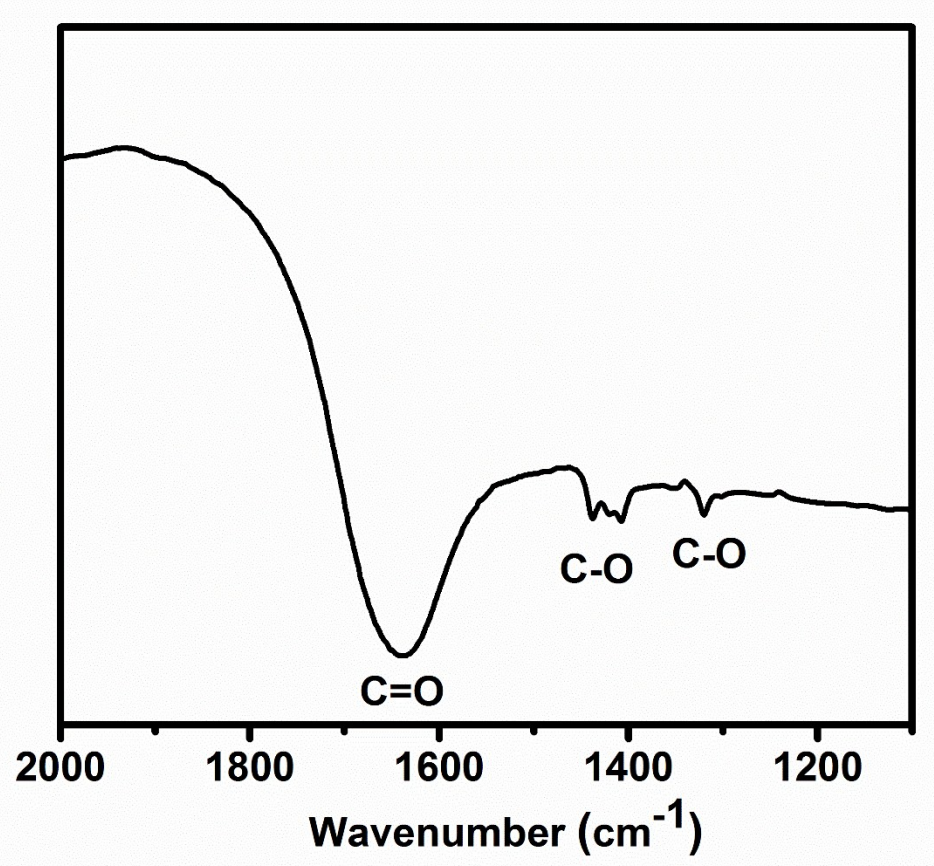

Fig S5. HATR-IR spectrum of synthesized polyacrylic acid.

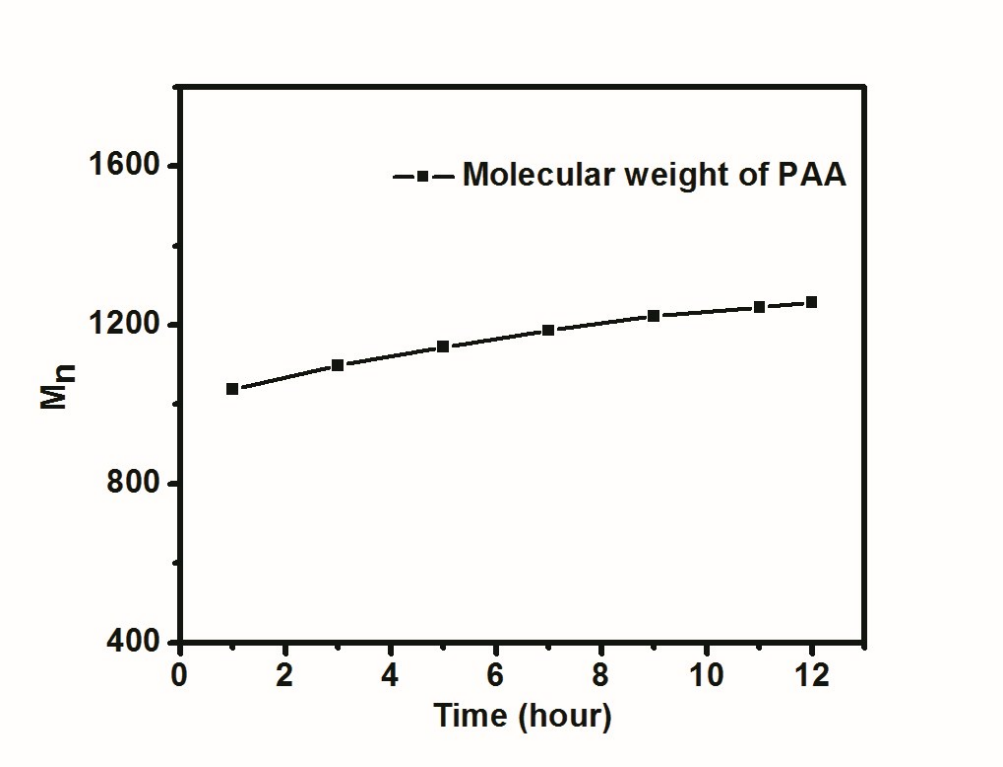

Fig S6. Variation of molecular weight of PAA with time.

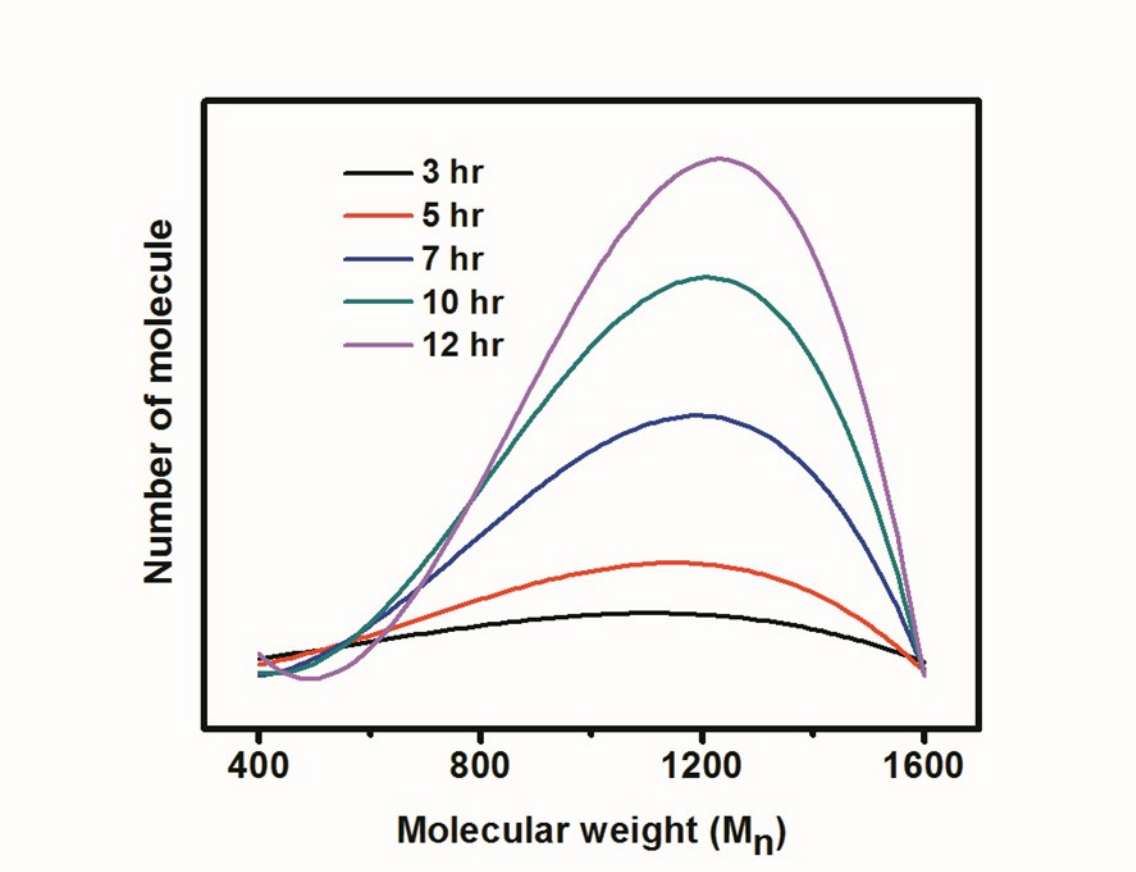

Fig S7. Molecular weight distribution of PAA with time.