

### Self-assembled 3D architectures of blade-shaped hierarchical hollow microspheres from cristobalite nanosheets with dominant (101) facets

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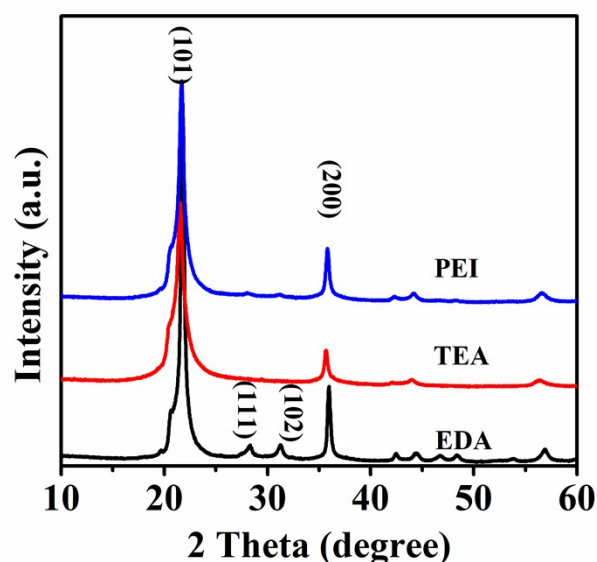


Fig. S1 XRD images of samples prepared using three different organic bases under hydrothermal conditions, pH value of the PEI, TEA and EDA are 11.8, 11.3 and 14.0.

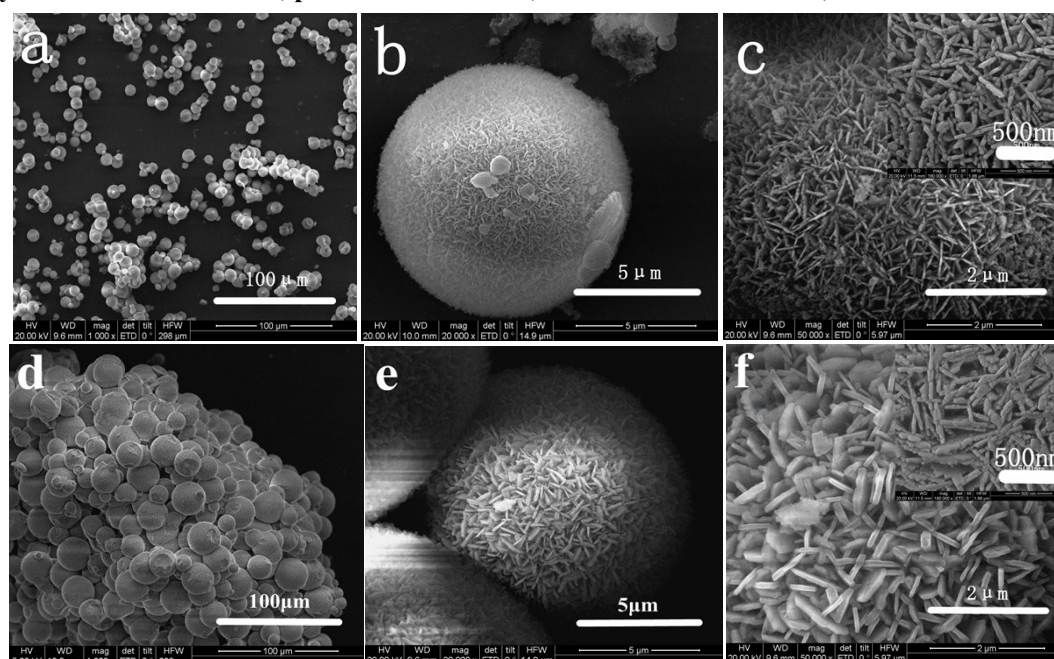


Fig. S2 SEM images of samples prepared using three different organic bases under hydrothermal conditions

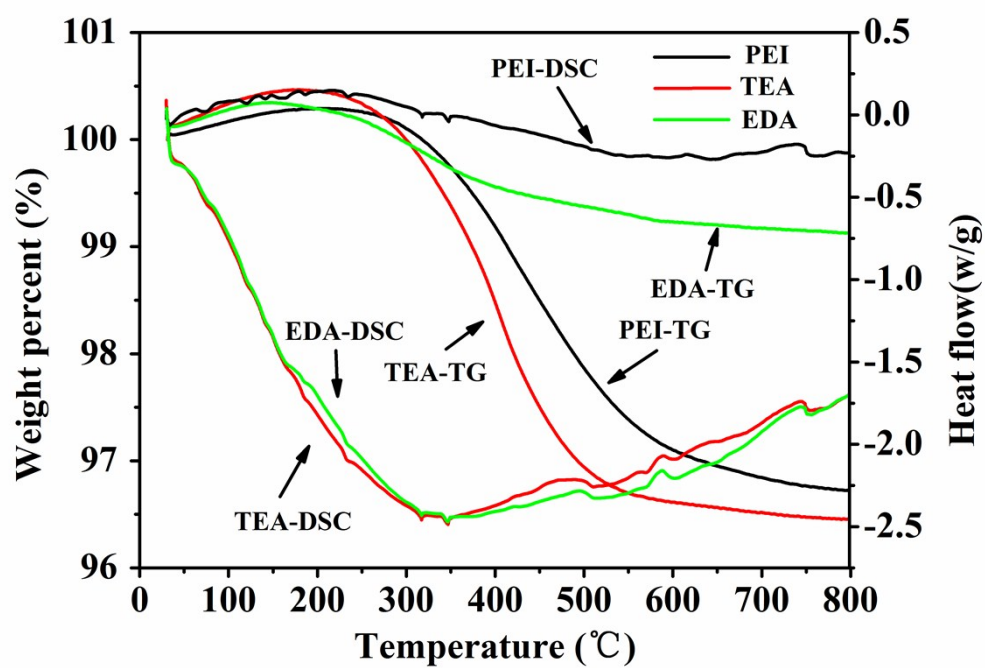


Fig. S3 TG/DSC analysis for cristobalite silica particles. The analysis was carried out in air with a temperature increase rate of 10 °C/min.

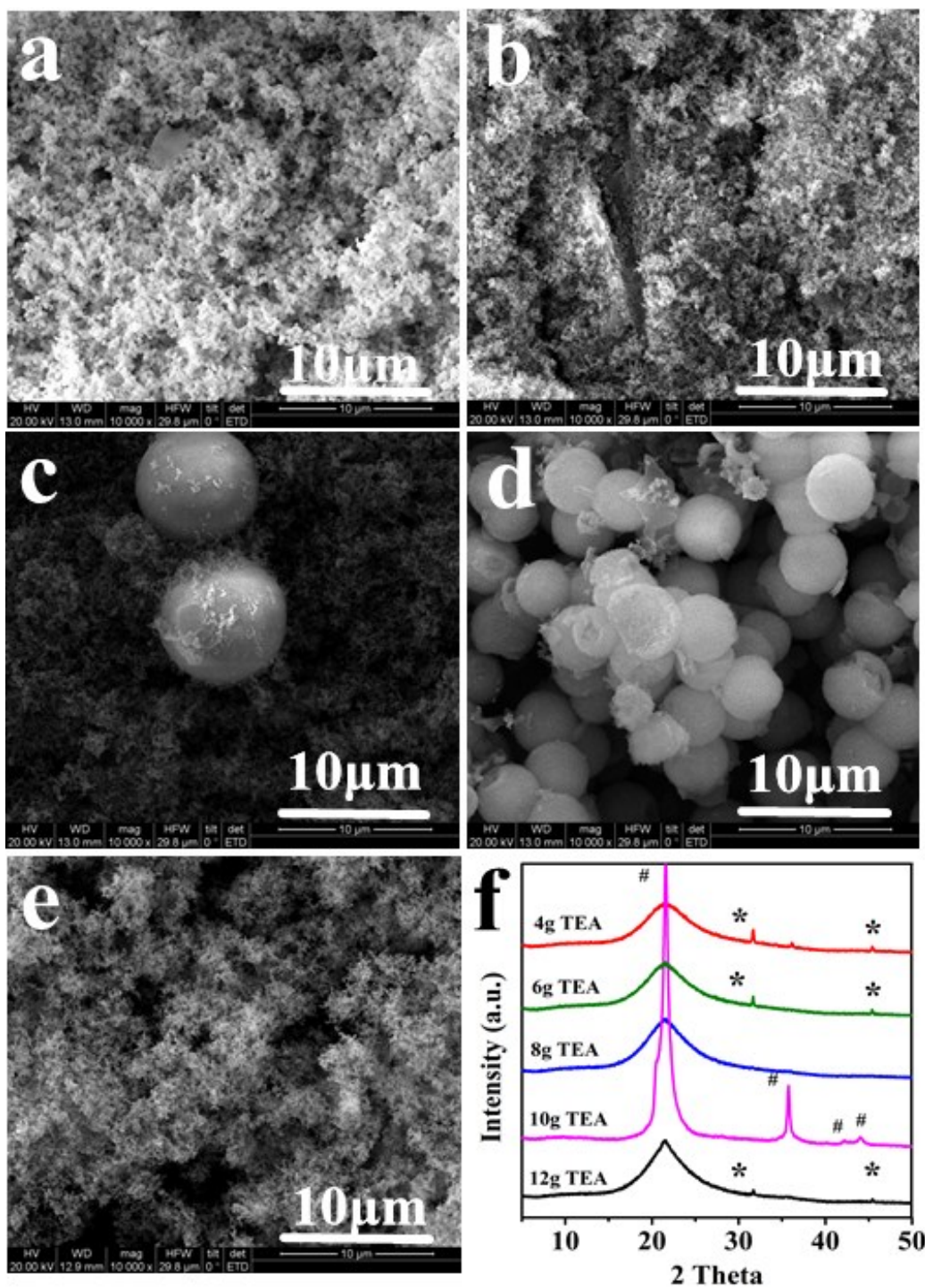
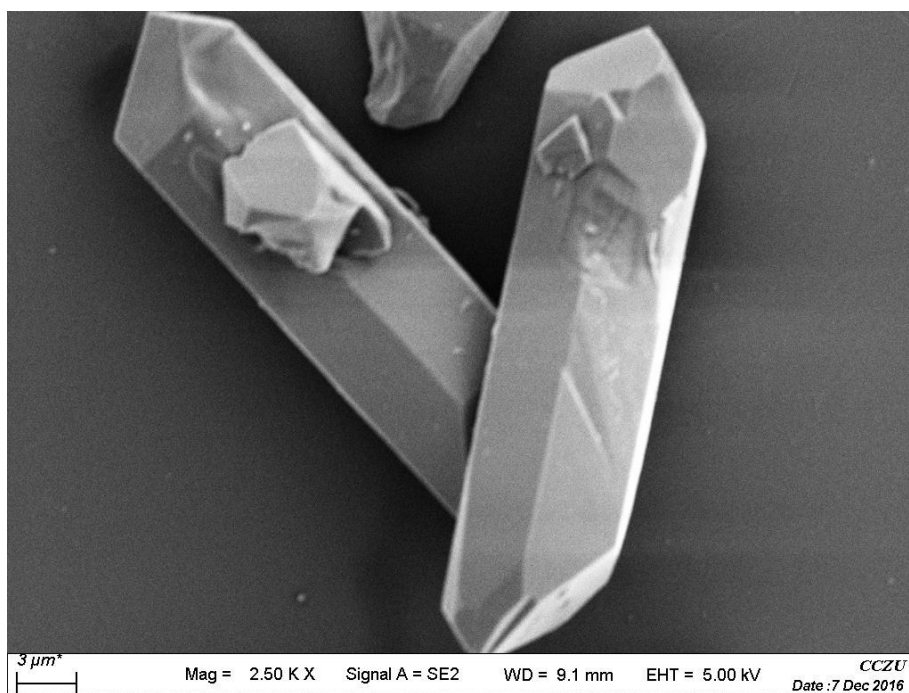


Fig. S4 SEM images of samples prepared under different amount of TEA. (a):4 g (b): 6 g (c): 8 g (d): 10 g (e): 12 g and (f): XRD patterns of sample (a)-(e). And the pH value of (a)-(e) are 9.7, 10.32, 11.10 11.30 and 11.54, respectively.



**Fig. S5 Morphology of samples under the condition of using inorganic sodium hydroxide**