

Electronic Supplementary Information

Hierarchical bulky ZSM-5 zeolite synthesized *via* glycerol-mediated crystallization using a mesoporous steam-treated dry gel as precursor

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Table S1 Textural properties obtained by nitrogen physisorption experiments^a

Sample	S_{BET} (m ² /g)	V_{total} (mL/g)	V_{micro} (mL/g)	V_{meso} (mL/g)
DG (0)	552	0.26	0.21	0.05
DG (W2)	714	0.92	0.08	0.84
DG (W3)	639	0.76	0.13	0.63
ZSM-5 (W72)	415	0.28	0.12	0.16
ZSM-5 (W2+G70)	501	0.93	0.09	0.84
ZSM-5 (W2+G70) (treated) ^b	467	0.85	0.08	0.77

^a BET surface area (S_{BET}) is calculated from Brunauer–Emmett–Teller method; the micropore volume (V_{micro}) is calculated from t -plot method; the total pore volume (V_{total}) is evaluated at $P/P_0=0.99$; the mesopore volume (V_{meso}) is calculated according to $V_{\text{total}}-V_{\text{micro}}$. ^bObtained by treating ZSM-5 (W2+G70) in boiling water for 50 h.

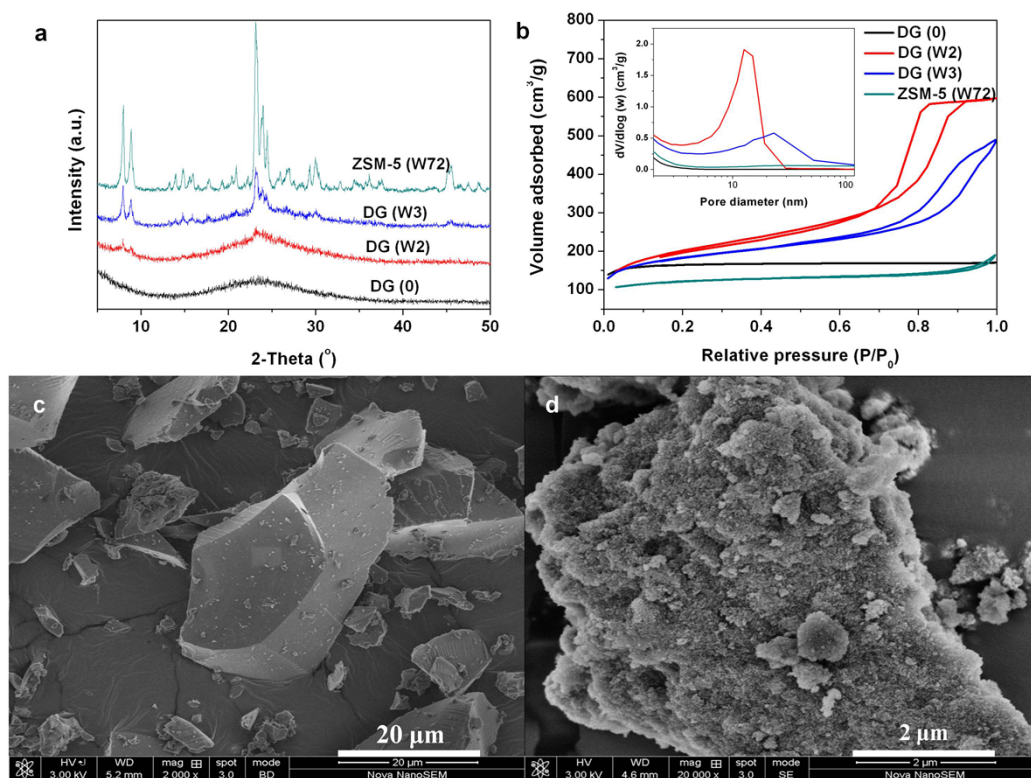


Fig. S1 (a) XRD patterns and (b) N₂ adsorption-desorption isotherms and the corresponding pore size distribution (inset in b) of DG (0), DG (W2), DG (W3) and ZSM-5 (W72); SEM images of (c) DG (0) and (d) DG (W2).

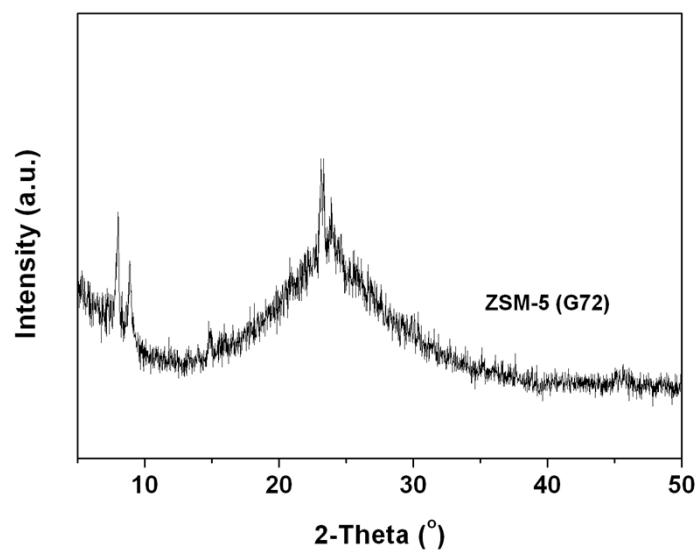


Fig. S2 XRD pattern of ZSM-5 (G72)

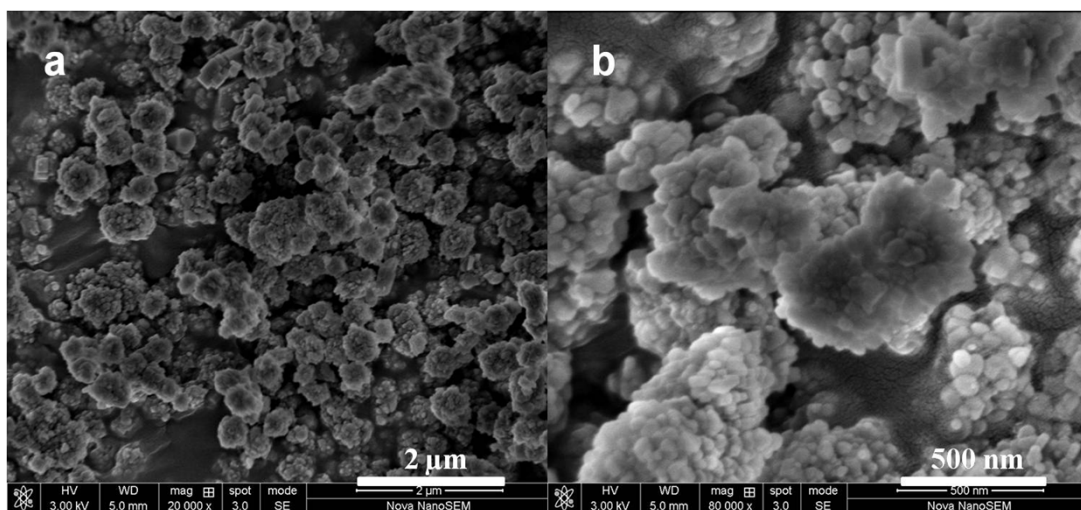


Fig. S3 SEM images of ZSM-5 (W72)

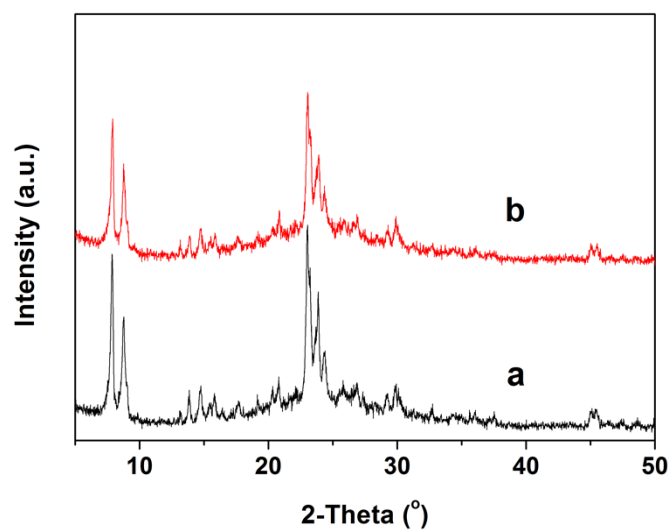


Fig. S4 XRD patterns of ZSM-5 (W2+G70) before (a) and after (b) the treatment in boiling water for 50 h.

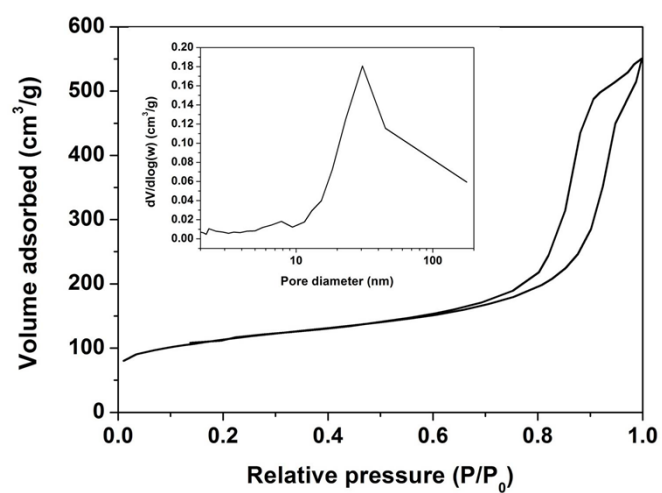


Fig. S5 N_2 adsorption-desorption isotherms and the corresponding pore size distribution (inset) of ZSM-5 (W2+G70) after the treatment in boiling water for 50 h.