Supporting Information for

Synthesis of Mesoporous Carbon Nitride via a Novel Detemplation and its Superior Performance for Base-catalyzed Reactions

Jie Xu *, Yue Wang, Jie-Kun Shang, Quan Jiang, Yong-Xin Li *

Jiangsu Key Laboratory of Advanced Catalytic Materials and Technology, School of Petrochemical Engineering, Changzhou University, Gehu Road 1, Changzhou, Jiangsu 213164, PR China

Preparation of mesoporous FDU-12

The FDU-12 material was synthesized using a Pluronic F127 ($EO_{106}PO_{70}EO_{106}$, Sigma–Aldrich) triblock copolymer surfactant, and 1,3,5-trimethylbenzene (TMB) as an organic swelling agent. In a typical synthesis, 2.0 g of F127, and 5.0 g of KCl were dissolved in 120 mL of 2 M HCl solution at room temperature. After that, 2.4 g of TMB and 8.3 g of tetraethyl orthosilicate were added, and the mixture was further stirred at 38 °C for 24 h. The obtained milky solution was transferred into an autoclave and heated in an oven at 140 °C for 24 h. Afterwards, the white precipitate was filtered off, and then rinsed with distilled water for three times to remove KCl. After drying overnight at 60 °C, the resultant solid was calcined at 550 °C for 5 h to remove the surfactant. Finally, FDU-12 was obtained with a mass of *ca.* 2.2 g.

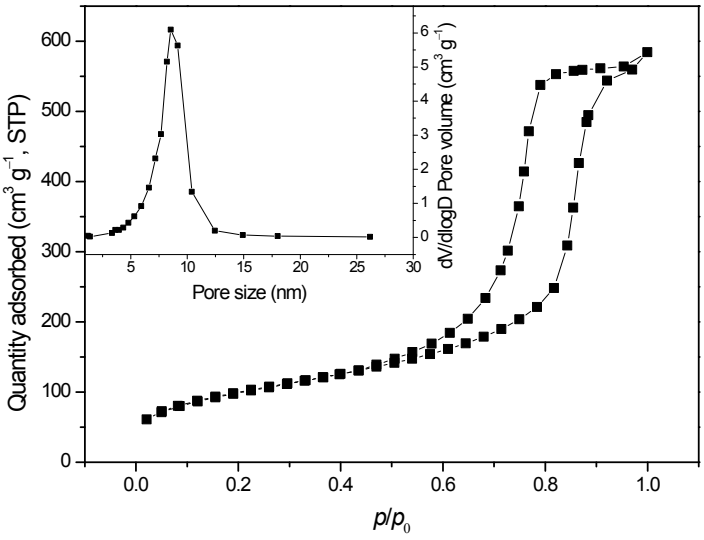

Fig. S1 N_2 adsorption–desorption isotherms and the pore size distribution (the inset) of FDU-12.

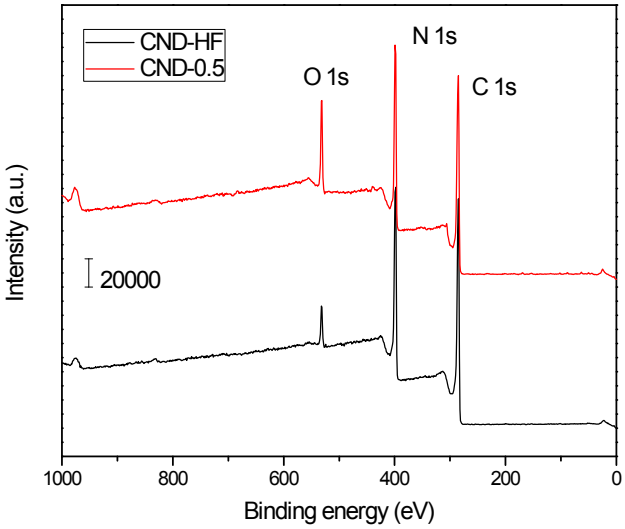

Fig. S2 XPS surveys of CND-HF and CND-0.5M.

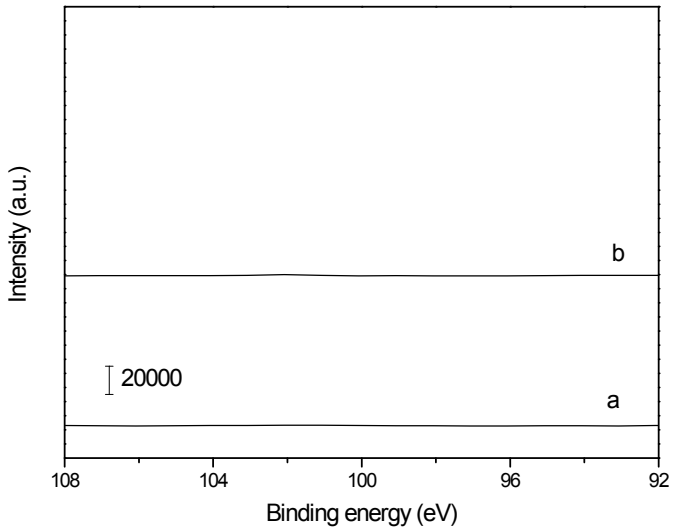

Fig. S3 Si 2p region of XPS surveys of CND-HF (a) and CND-0.5M (b).

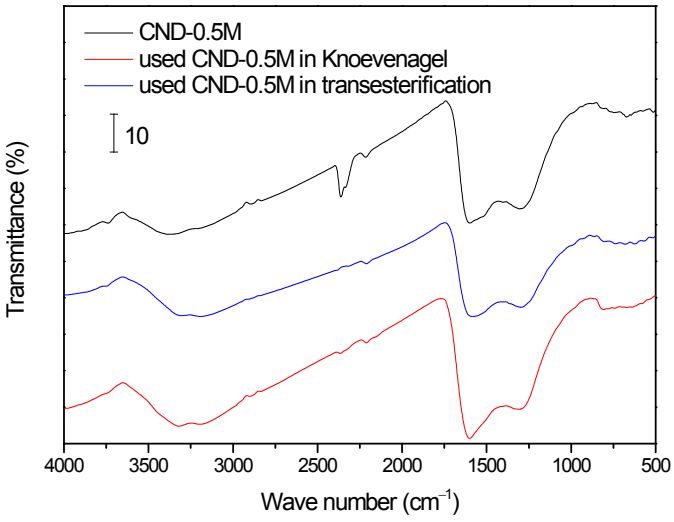

Fig. S4 FT-IR spectra of the fresh and spent CND-0.5M catalysts subjected to four runs in Knoevenagel condensation and transesterification reactions.

Table S1 Chemical compositions of CND-HF & CND-0.5M materials. The values, represented by weigh percentage, were based on the results of EA characterization (CHN mode).

Sample	C (wt%)	N (wt%)	H (wt%)	Chemical composition
CND-HF	49.76	33.11	2.692	$C_{1.75}NH_{0.06}$
CND-0.5M	42.30	32.33	3.202	$C_{1.52}NH_{0.08}$

Table S2 Recycling tests of Knoevenagel condensation reactions between benzaldehyde and malononitrile catalyzed by CND-0.5M [a].

Run	Conv. (%)	Sel. (%)
1	93.6	97.4
2	93.2	97.0
3	93.0	96.9
4	93.3	97.2

[a] Reaction conditions:10 mmol of benzaldehyde, 10 mmol of malononitrile, 0.4 mL of *n*-decane, 5 mL of acetonitrile as solvent. $W_{catal.}$ = 100 mg. T = 70 °C, t = 4 h.