Supporting Information for

Preparation of mesoporous graphitic carbon nitride using hexamethylenetetramine as a new precursor and catalytic application in the transesterification of β-keto esters

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Preparation of SBA-15 and MCF materials

SBA-15 was synthesized using a Pluronic P123 ($EO_{20}PO_{70}EO_{20}$, M_{av}=5800, Sigma-Aldrich) triblock copolymer surfactant. In a typical preparation process, 4 g of P123 was dissolved into 150 mL of 1.6 mol·L^{-1} HCl solution at room temperature. After that, 8.8 g of tetraethyl orthosilicate was added, and the mixture was further stirred at 40 °C for 20 h. Afterwards, the obtained milky solution was transferred into an autoclave and heated in an oven at 130 °C for 24 h. The white precipitate was filtered off and dried overnight at 60 °C, and then calcined at 550 °C for 5 h to remove the surfactant.

MCF was synthesized using a Pluronic P123 triblock copolymer surfactant, and 1,3,5-trimethylbenzene (TMB) as an organic swelling agent. In a typical preparation process, 4 g of P123 was dissolved into 150 mL of 1.6 mol·L^{-1} HCl solution at room temperature. After that, 4.0 g of 1,3,5-trimethylbenzene and 0.046 g of NH_4F were added into the solution, followed by an increase of the reaction temperature to 40 °C for 1 h under vigorous stirring. Next, 8.8 g of tetraethyl orthosilicate was added, and the mixture was further stirred at 40 °C for 20 h. Afterwards, the obtained milky solution was transferred into an autoclave and heated in an oven at 130 °C for 24 h. The white precipitate was filtered off and dried overnight at 60 °C, and then calcined at 550 °C for 5 h to remove the surfactant.

Table S1 Textural parameters of SBA-15 and MCF materials.

Sample	S_{BET} ($m^2 \cdot g^{-1}$)	Cell size	Window size [a] (nm)	Pore volume ($cm^3 \cdot g^{-1}$)
SBA-15	518	10.8	-	1.1
MCF	373	39.5	20.7	2.05

[a] Determined from the adsorption branch.

[b] Determined from the desorption branch.

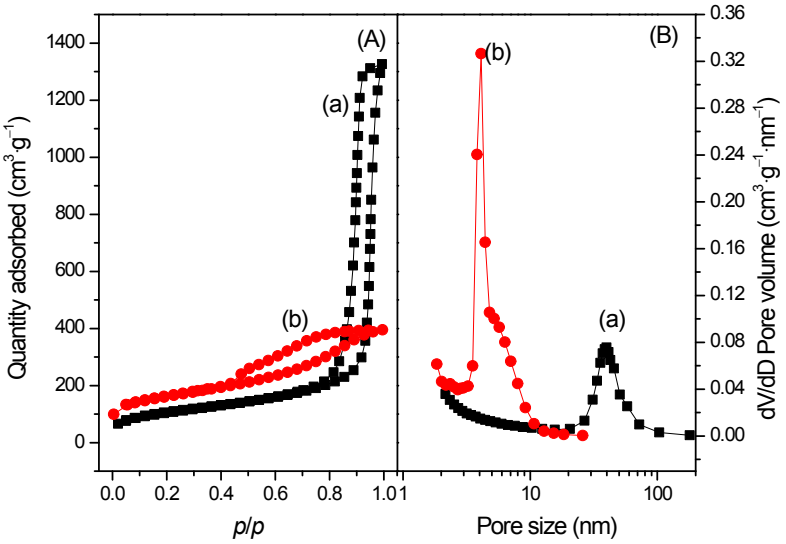
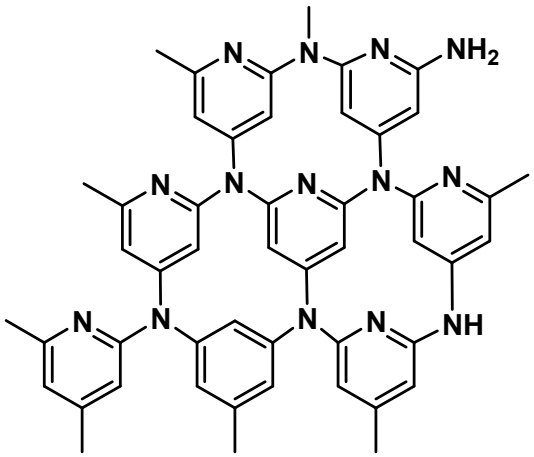


Fig. S1 N_2 adsorption–desorption isotherms (A) and pore size distributions (B) of MCF (a) and CN-H-MCF (b) materials.



Scheme S1 A possible structure of CN-H-SBA15 based on the building blocks of pyridine-like aromatic rings.