

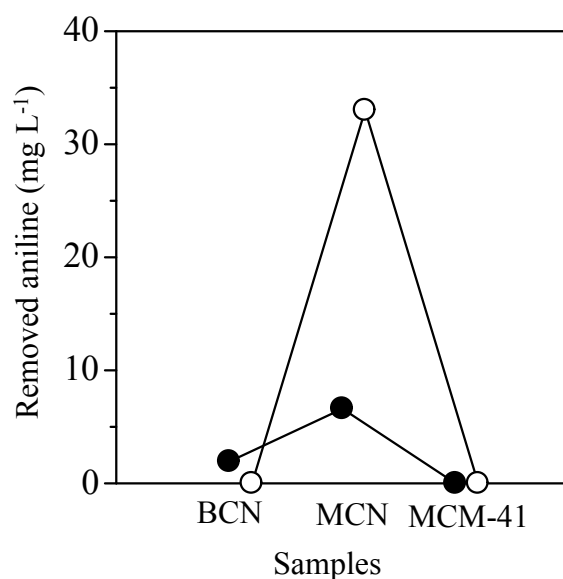
Supporting Information for

**Mesoporous Carbon Nitride as A Metal-free Catalyst for Removal of Aniline**

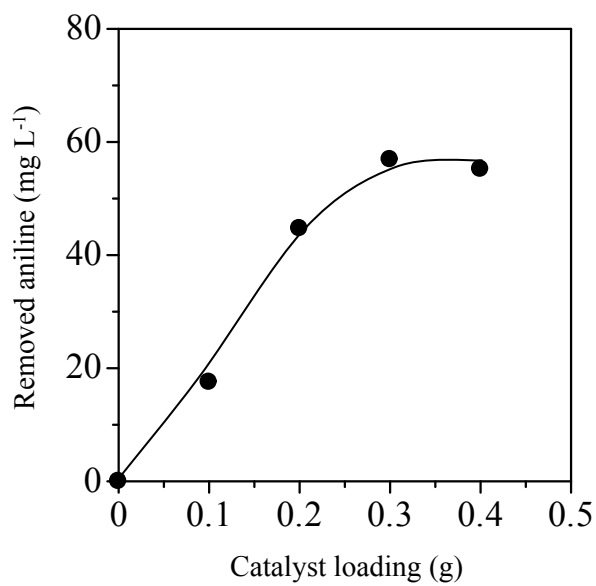
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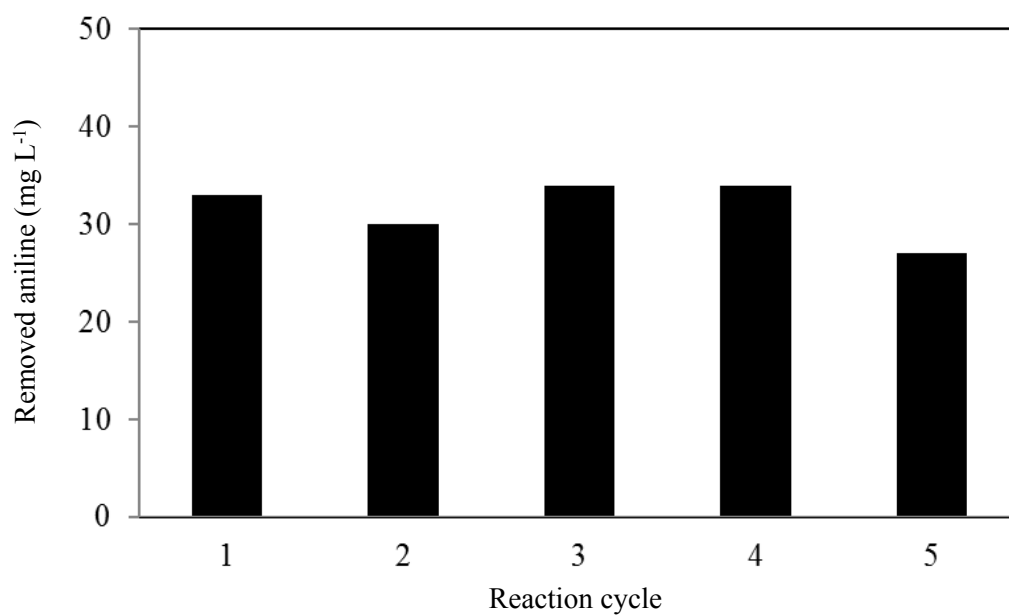
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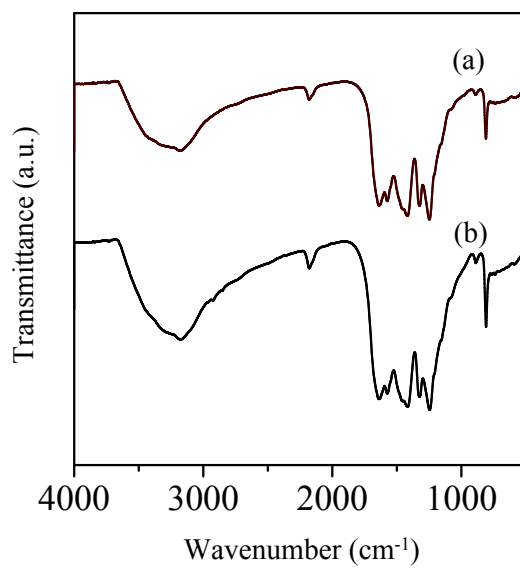
**Fig. S1** Adsorption of aniline (●) at room temperature and catalytic removal of aniline (○) at 398 K for 24 h.



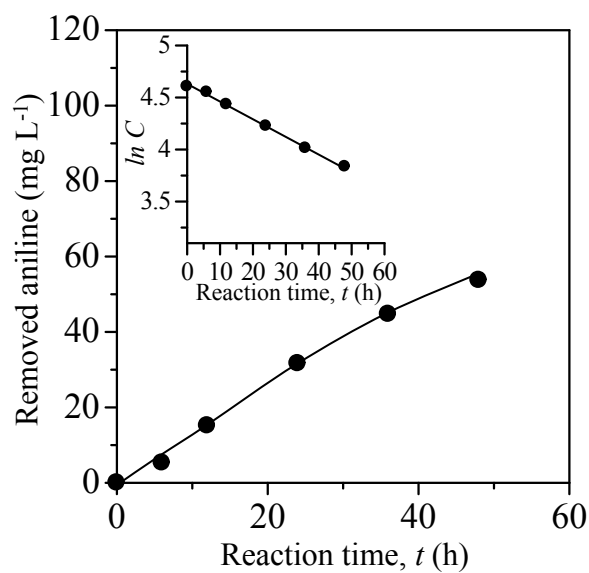
**Fig. S2** Effect of catalyst loading for the removal of aniline on the MCN at 398 K after 36 h.



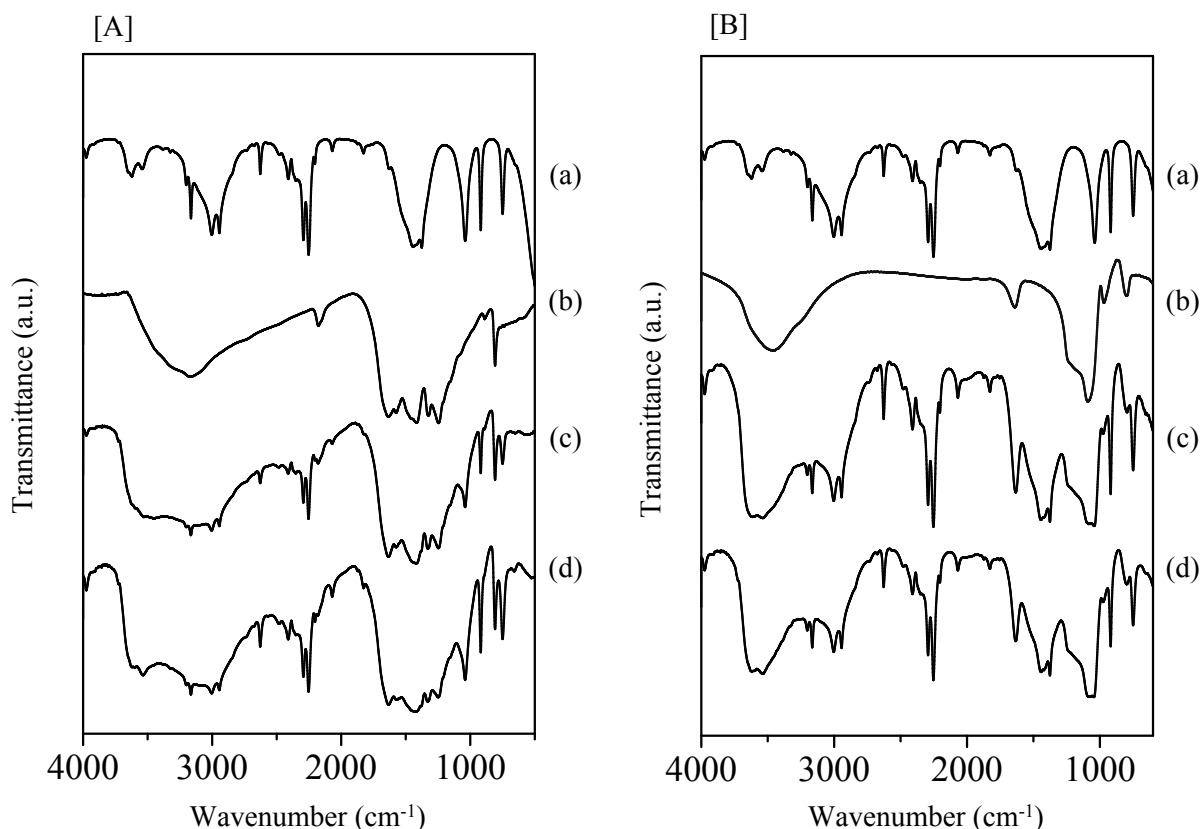
**Fig. S3** Reusability tests on the MCN catalyst for five cycle reactions. Fore each cycle, the reaction was carried out at 398 K for 24 h.



**Fig. S4** FTIR spectra of (a) fresh MCN and (b) after second cycle reaction.



**Fig. S5** Effect of reaction time and the kinetic plot (inset) for the removal of aniline on the MCN.



**Fig. S6** [A] FTIR spectra of (a) aniline solution, (b) BCN, (c) BCN with 0.017  $\mu\text{mol}$ , and (d) BCN with 0.043  $\mu\text{mol}$  of aniline solution, [B] FTIR spectra of (a) aniline solution, (b) MCM-41, (c) MCM-41 with 0.017  $\mu\text{mol}$ , and (d) MCM-41 with 0.043  $\mu\text{mol}$  of aniline solution.

**Table S1** Comparison on the intensity ratio for the improvement of N-H adsorption peaks after interactions with 0.043  $\mu\text{mol}$  of aniline solution.

Sample	Condition	Ratio of intensity for formation of N-H bonds to fixed wavelength <sup>a</sup>	Normalized ratio to initial condition <sup>b</sup>
BCN	Fresh	0.15	1.0
	With aniline	1.26	8.4
MCN	Fresh	0.29	1.0
	With aniline	3.73	12.9
MCM-41	Fresh	1.38	1.0
	With aniline	3.41	2.5

<sup>a</sup>The intensity for formation of N-H bonds was determined from the peak at 3618  $\text{cm}^{-1}$ . The intensity for the fixed wavelength was determined from the peak at 810  $\text{cm}^{-1}$  for BCN and MCM (the 1,3,5-substituted aromatic rings), and at 800  $\text{cm}^{-1}$  for MCM-41 (the Si-O symmetric stretching). <sup>b</sup>The normalized ratio showed the improved ratio as compared to the fresh condition.