Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics

Supporting Information

Preparation of C_3N_4-C-1.6

8 g of cyanamide solution (aqueous, 50*wt*%, Shanghai Aladdin Regent Co.) dissolved in 10 g of 40% aqueous suspensions of 12-nm silica spheres (Ludox HS40, Aldrich) under vigorous stirring. The mixture was heated in an oil bath at 50 °C under stirring overnight to remove water. Next, the resultant white solid was ground in a mortar, transferred into a crucible, and heated under Ar (30 mL·min^{-1}) at 3 °C·min^{-1} up to 550 °C and then treated for further 4 h. Afterwards, the as-synthesized yellow powder was ground and immersed into 200 mL of NH_4HF_2 aqueous solution (4 mol·L^{-1}, 100 mL) for 2 d to remove the template. Then, the dispersion was centrifuged and the yellow precipitate was washed with distilled water (100 mL for each time) and ethanol (50 mL for each time) for three and two times, respectively. Finally, the yellow sample was dried at 50 °C under vacuum overnight and the mass of the obtained g-C3N4 was *ca.* 1.8 g. The resulting g-C_3N_4 samples were designated as C_3N_4-C-*r*, where *r* indicated the weight ratios of silica template to cyanamide.

Characterization of C_3N_4-C-1.0

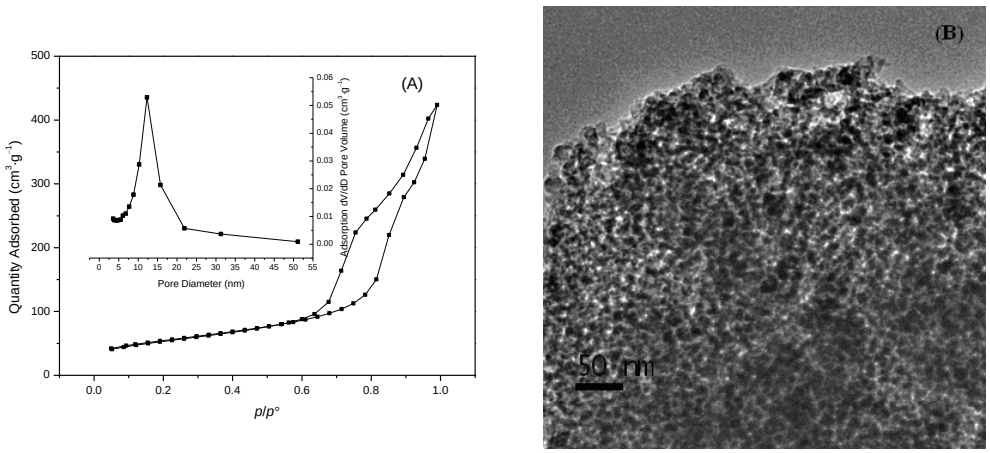

Fig. S1 N_2 adsorption-desorption isotherms (A) and corresponding pore size distribution (inset) and TEM image (B) of C_3N_4-C-1.0.