Supporting Information for

Metal-free Synthesis of Dimethyl Carbonate via Transesterification of Ethylene Carbonate Catalyzed by Graphitic Carbon Nitride Materials

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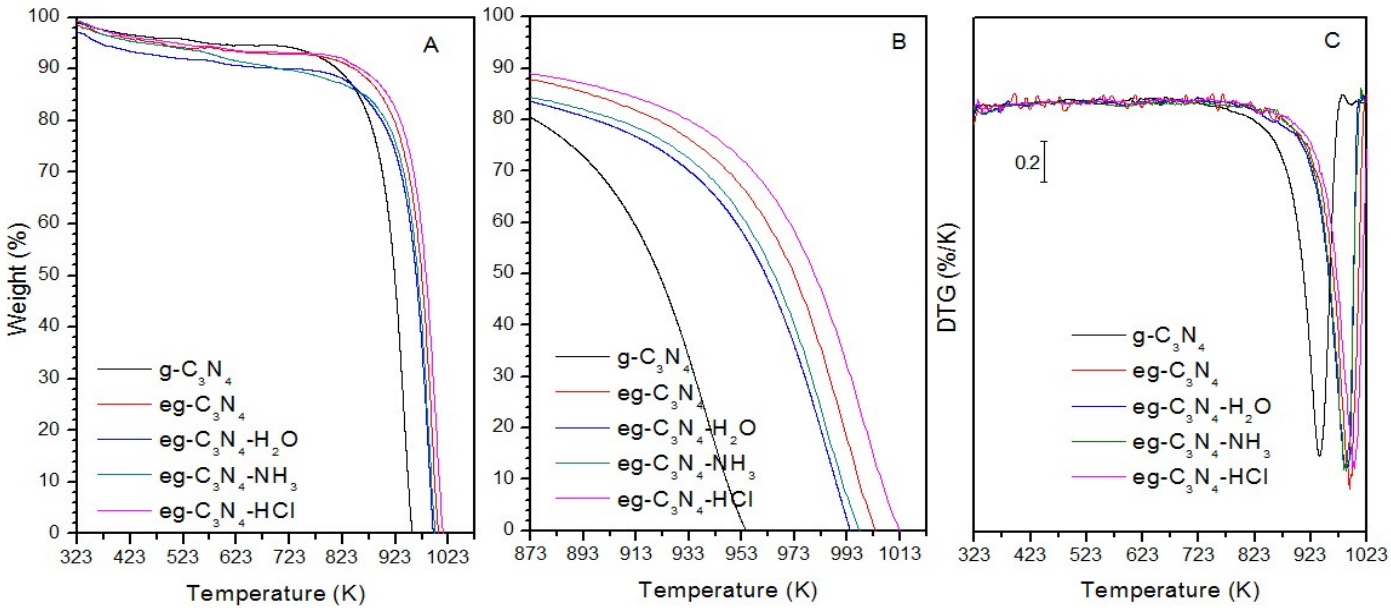


Fig. S1 TG curves (A) of g-C_3N_4, eg-C_3N_4, eg-C_3N_4-H_2O, eg-C_3N_4-NH_3, and eg-C_3N_4-HCl materials. The middle (B) is the magnified region between 873–1023 K. The right (C) is DTG curves of the materials.

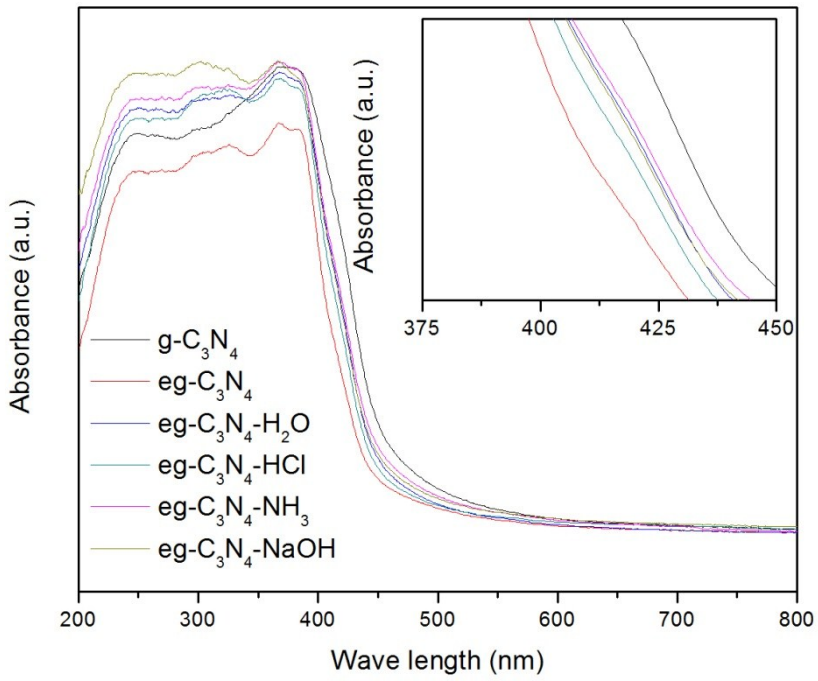


Fig. S2 UV−vis spectra of g-C_3N_4, eg-C_3N_4, eg-C_3N_4-H_2O (c), eg-C_3N_4-HCl (d), eg-C_3N_4-NH_3 (e), and eg-C_3N_4- NaOH (f) materials.

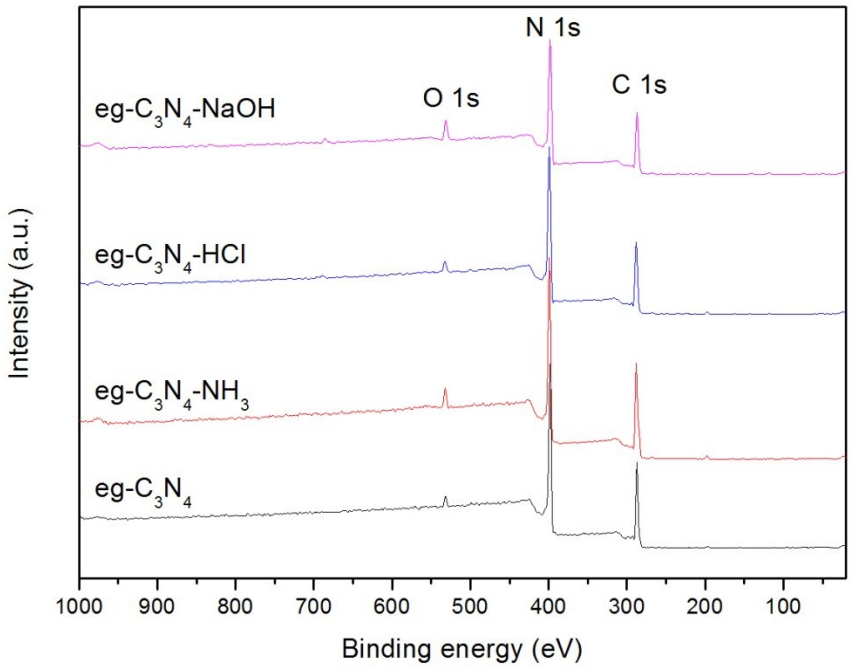
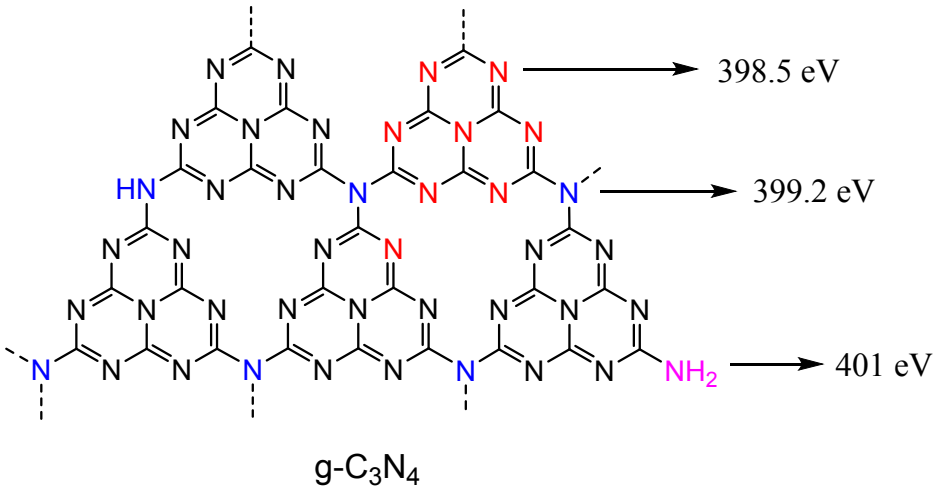


Fig. S3 XPS surveys of eg-C_3N_4, eg-C_3N_4-NH_3, eg-C_3N_4-HCl, and eg-C_3N_4-NaOH materials.



Scheme S1 A schematic structure of g-C_3N_4 containing various nitrogen species.

Table S1 Catalytic results of eg-C_3N_4-NH_3 in transesterification reaction with different molar ratios of EC and CH_3OH [a].

EC (mmol)	CH_3OH (mmol)	Conv. (%)	Sel. (%)	Yield (%)
15	260	75	65	49
25	250	85	71	60
30	245	80	65	52
40	235	78	56	44
45	230	73	47	34

[a] Reaction conditions: T = 393 K, n(EC) = 25 mmol, n(CH_3OH) = 250 mmol, $W_{catal.}$ = 200 mg, and t = 4 h.