Supporting Information for

Acid-Base Sites Synergistic Catalysis over Mg-Zr-Al Mixed Metal Oxide toward Synthesis of Diethyl Carbonate

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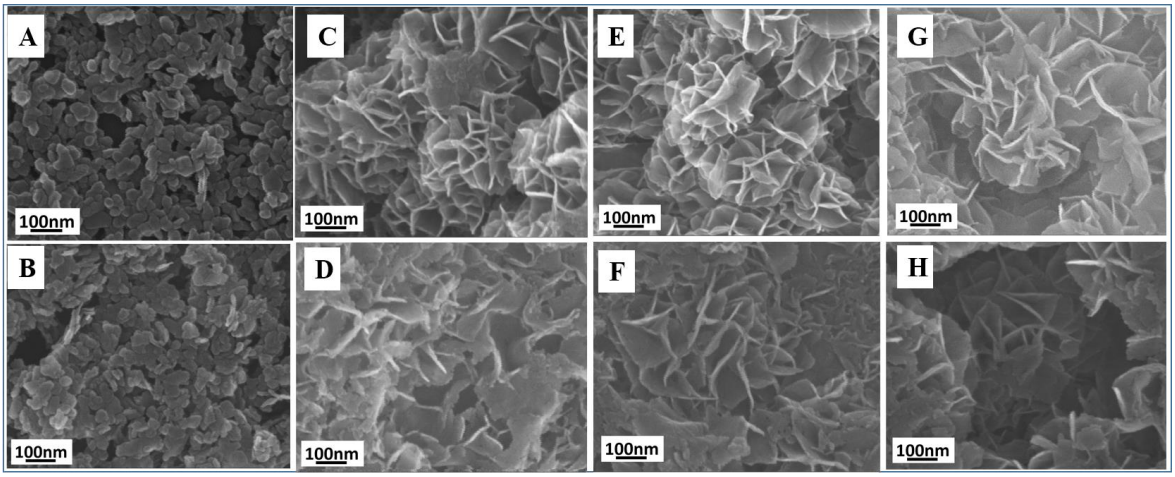

Figure S1. SEM images of (A) Mg_2Al-LDH, (B) Mg_2Al-MMO, (C) $Mg_2Zr_{0.22}Al_{0.78}$-LDH, (D) $Mg_2Zr_{0.22}Al_{0.78}$-MMO, (E) $Mg_2Zr_{0.33}Al_{0.67}$-LDH, (F) $Mg_2Zr_{0.33}Al_{0.67}$-MMO, (G) $Mg_2Zr0_{.67}Al_{0.33}$-LDH, (H) $Mg_2Zr0_{.67}Al_{0.33}$-MMO.

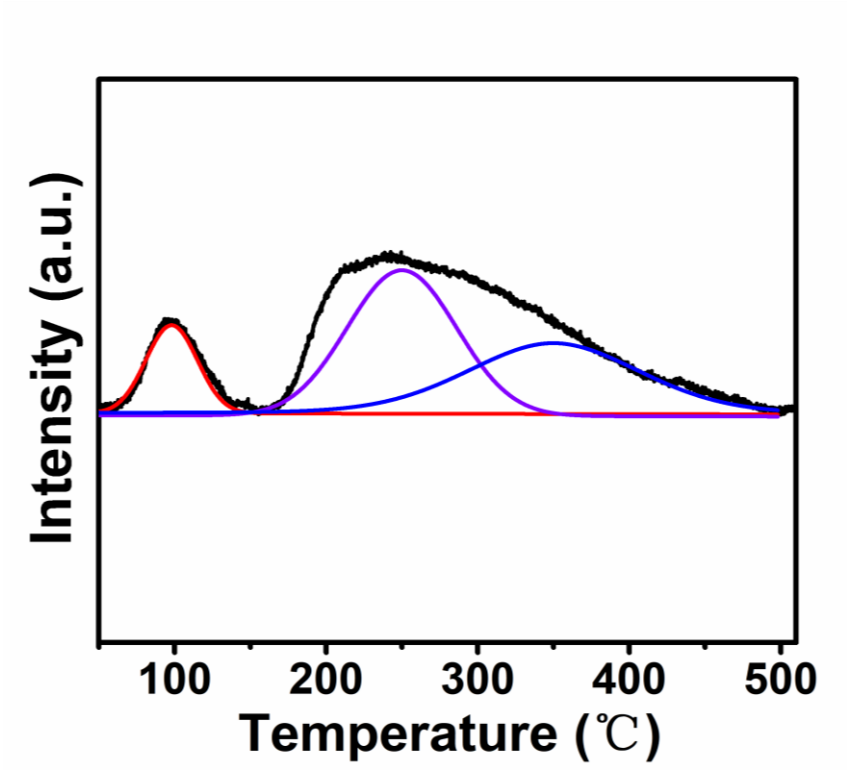

Figure S2. NH_3-TPD profiles of Mg_2Al-MMO sample.

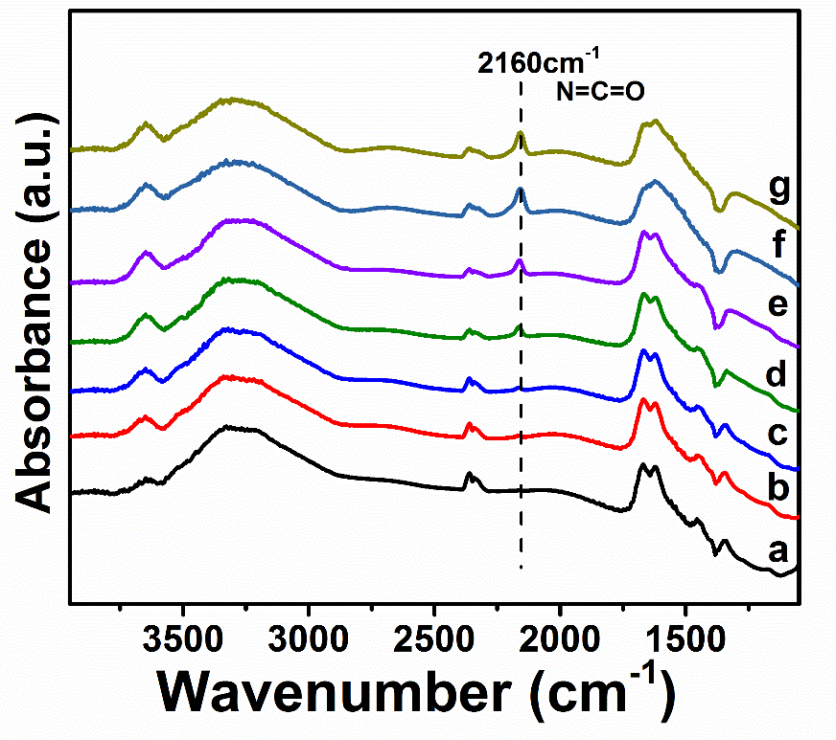

Figure S3. *In situ* FTIR spectra evolution of urea over Mg_2Al-MMO sample at: (a) 30 °C, (b) 100 °C, (c) 130 °C, (d) 150 °C, (e) 180 °C, (f) 200 °C, (g) 210 °C, respectively.

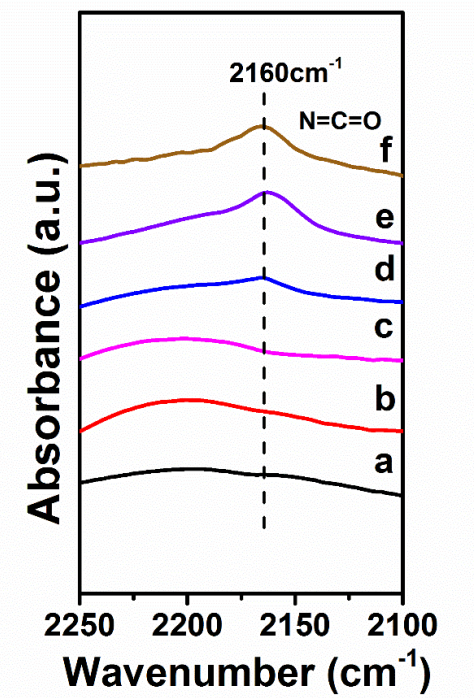

Figure S4. *In situ* FTIR spectra evolution of EC over Mg_2Al-MMO sample at: (a) 100° C, (b) 120 °C, (c) 150 °C, (d) 180 °C, (e) 200 °C, (f) 210 °C, respectively.

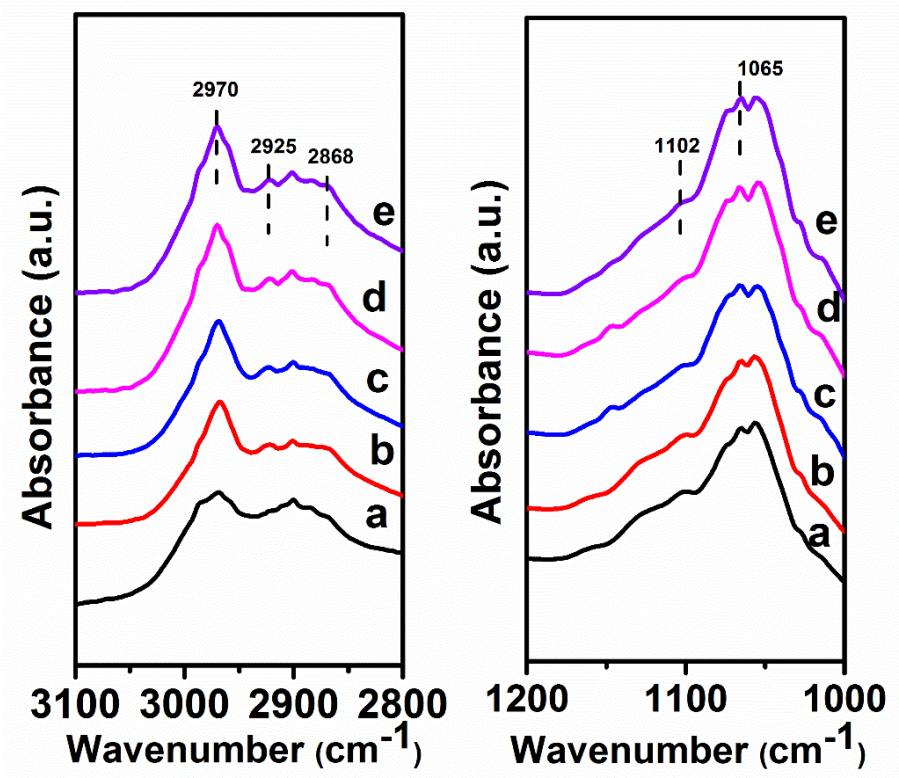

Figure S5. *In situ* FTIR spectra evolution of ethanol over Mg_2Al-MMO sample at: (a) 100 °C, (b) 120 °C, (c) 150 °C, (d) 180 °C, (e) 200 °C, respectively.