Electronic Supplementary Material (ESI) for RSC Advances
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Supplemental Information for:

Mechanism Studies of Terpolymerization of Phthalic Anhydride, Propylene Epoxide, and Carbon Dioxide Catalyzed by ZnGA

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Supplementary figures:

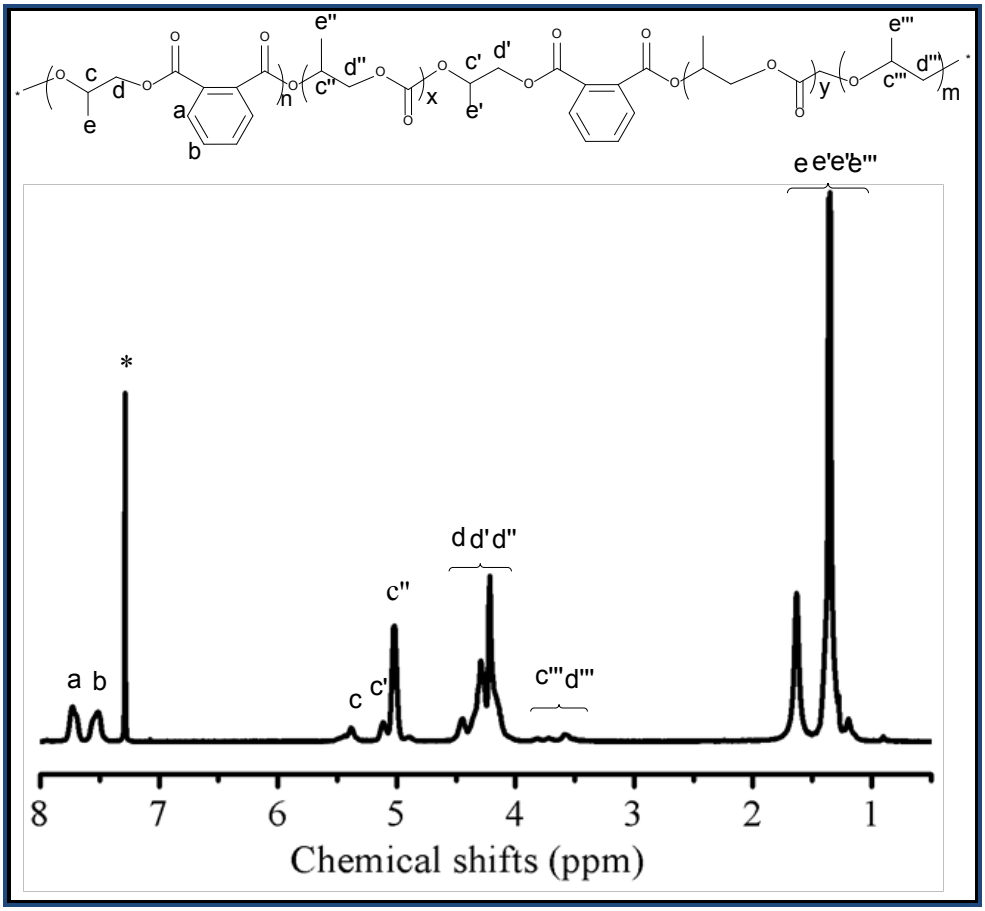

Figure S1. ^{1}H NMR spectra of PA/PO/CO_2 terpolymer

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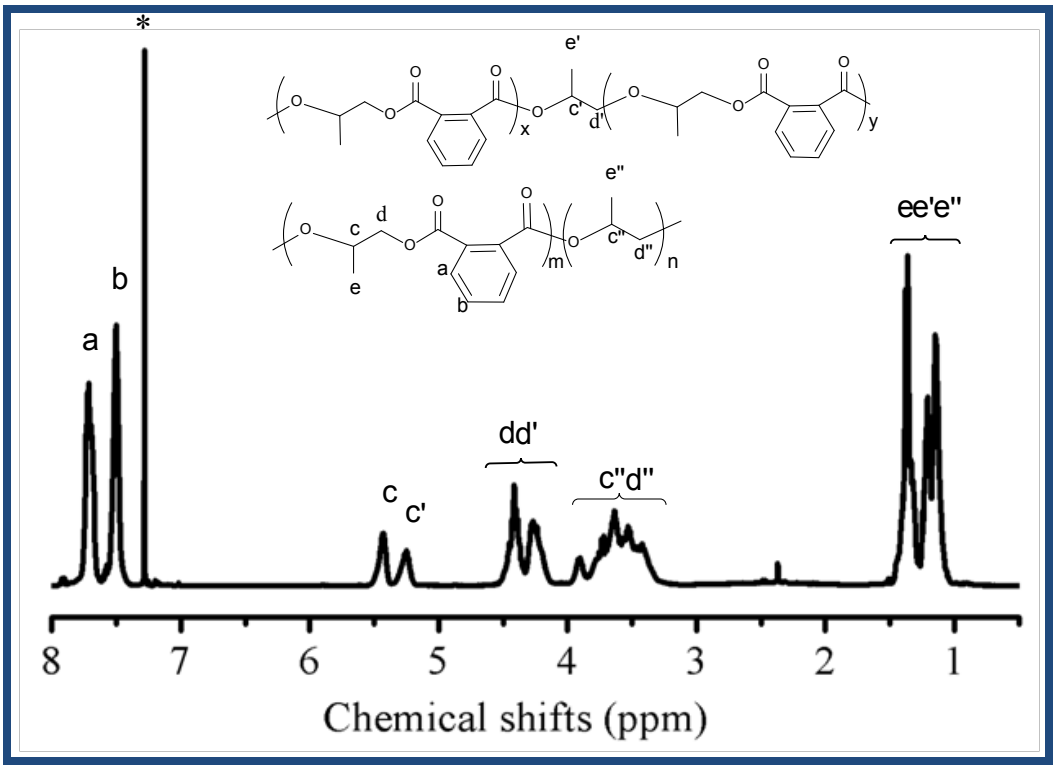

Figure S2. ^{1}H NMR spectra of PO/PA copolymer

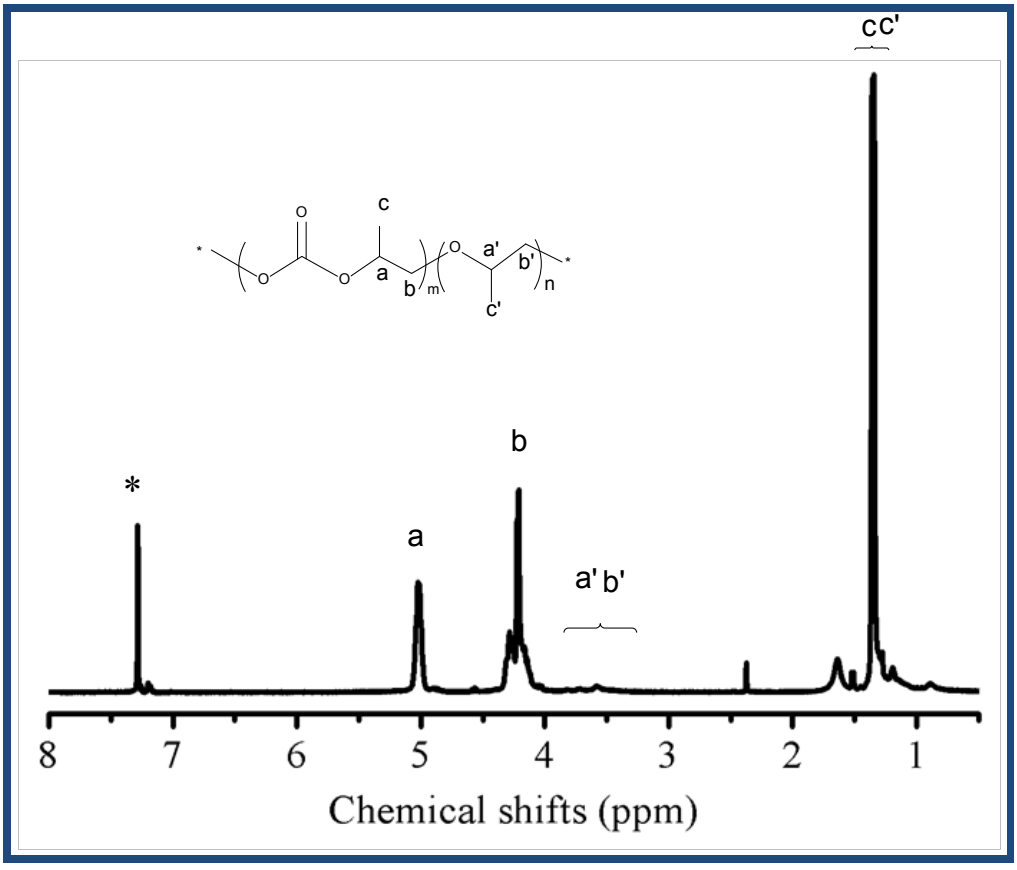

Figure S3. ^{1}H NMR spectra of PO/CO_2 copolymer

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Supplementary equations:

The compositions of PA/PO/CO_2 terpolymers were estimated according to the ^1H NMR spectra by the following equations:

PE (polyester) %=($A_{\delta(7.4\text{-}7.8)}$/4)/($A_{\delta(5.2\text{-}5.5)}$+$A_{\delta(4.8\text{-}5.2)}$+$A_{\delta(3.2\text{-}4.0)}$/3) (Eq.S1)

PPO(polyether)% = ($A_{\delta(3.2\text{-}3.6)}$/3)/($A_{\delta(5.2\text{-}5.5)}$+$A_{\delta(4.8\text{-}5.2)}$+$A_{\delta(3.2\text{-}4.0)}$/3) (Eq.S2)

PC (polycarbonate) %= 100%-PE%-PPO% (Eq.S3)

Where $A_{\delta(7.4\text{-}7.8)}$ is the total peak area of the two peaks in the range of δ=7.4-7.8ppm which is the peaks of the four protons at benzene ring; $A_{\delta(5.2\text{-}5.5)}$ is the peak area of the peak in the range of δ=5.2-5.5ppm which is the peak of CH in ester unit; $A_{\delta(4.8\text{-}5.2)}$ is the total peak area of the peaks in the range of δ=5.2-5.5ppm which is the peak of CH in carbonate unit ; $A_{\delta(3.2\text{-}4.0)}$ is the total peak area of the peaks in the range of δ=3.2-4.0ppm which is the peak of -CH-CH_2- in ether unit.