

Supplementary Materials

for

Depolymerization of PET with *n*-Hexylamine, *n*-Octylamine, and with 3-Amino-1-Propanol Affording Terephthalamides

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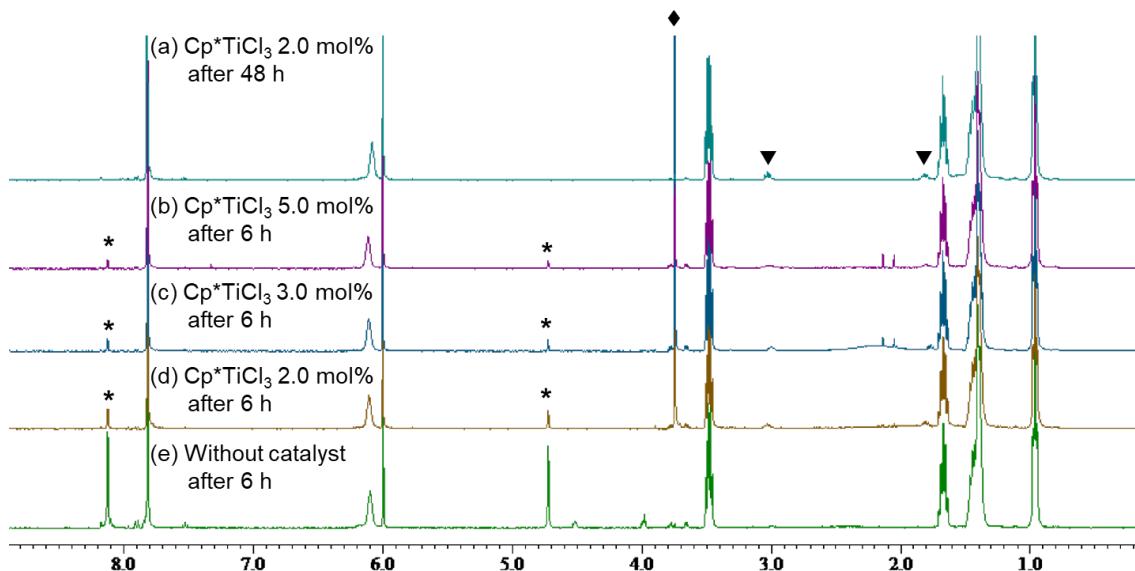


Figure S1. ^1H NMR spectra (in tetrachloroethane- d_2 at 100 °C) of the reaction mixture (after removal of volatiles) in the reaction of PET with *n*-hexylamine (130 °C) in the presence of Cp^*TiCl_3 . Conditions: (a) Cp^*TiCl_3 2.0 mol% after 48 h, (b) Cp^*TiCl_3 5.0 mol% after 6 h, (c) Cp^*TiCl_3 3.0 mol% after 6 h, (d) Cp^*TiCl_3 2.0 mol% after 6 h, (e) without catalyst after 6 h. Resonances marked with * were corresponded to byproduct (PET oligomers) and peaks marked with ♦, ▼ are impurity (♦ ethylene glycol; ▼ THF in NMR solvent).

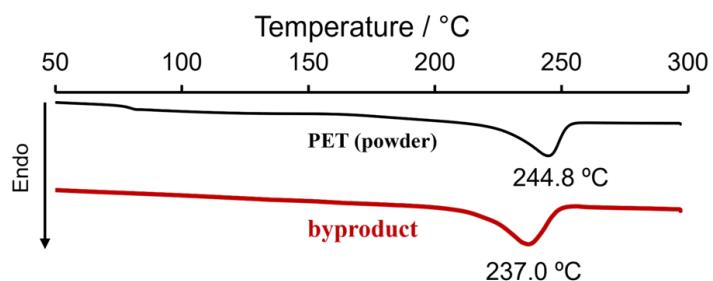


Figure S2. DSC thermograms for PET and byproduct (PET oligomer) isolated from the reaction mixture (runs 8,9).

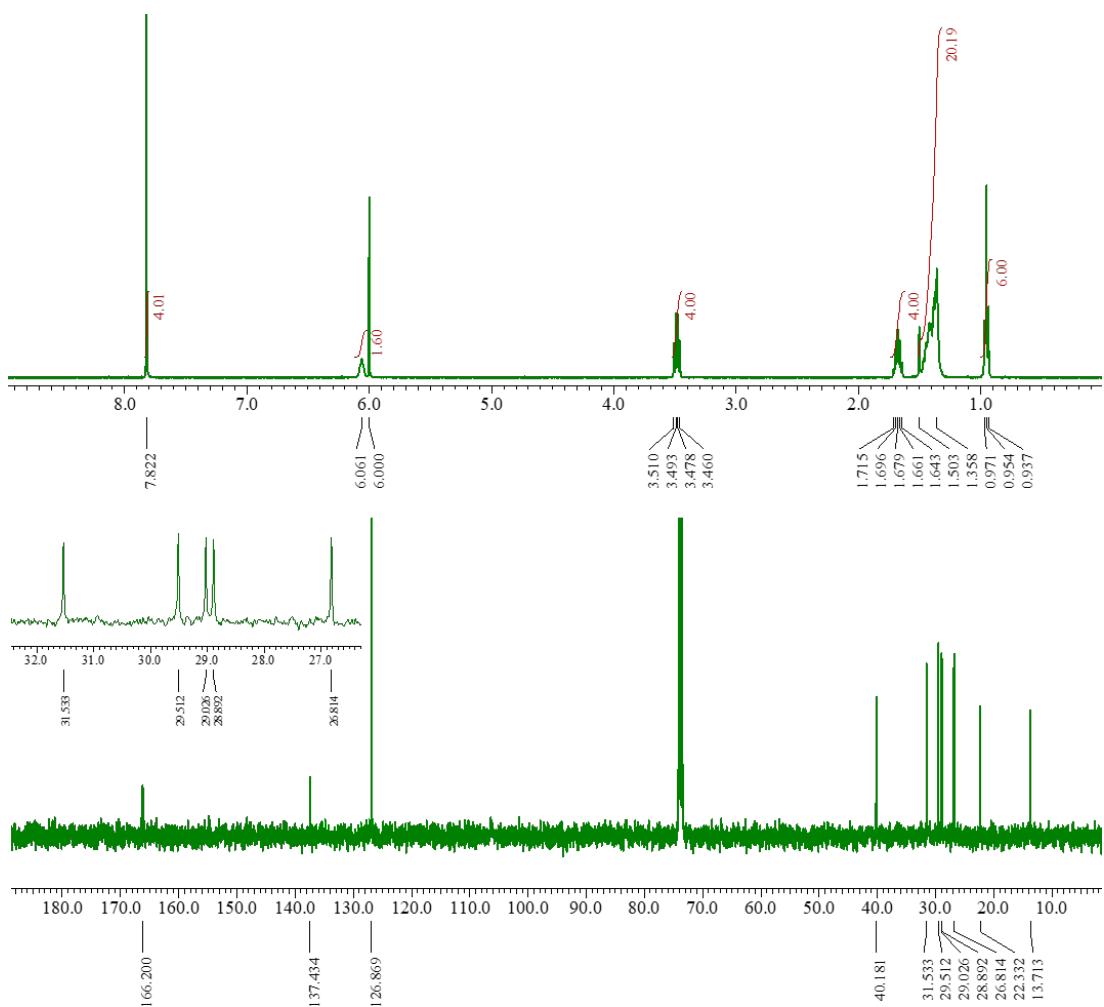


Figure S3. (top) ^1H -NMR spectrum and (bottom) ^{13}C -NMR spectrum for di(*n*-octyl) terephthalimide (in tetrachloroethane- d_2 at 100 °C).

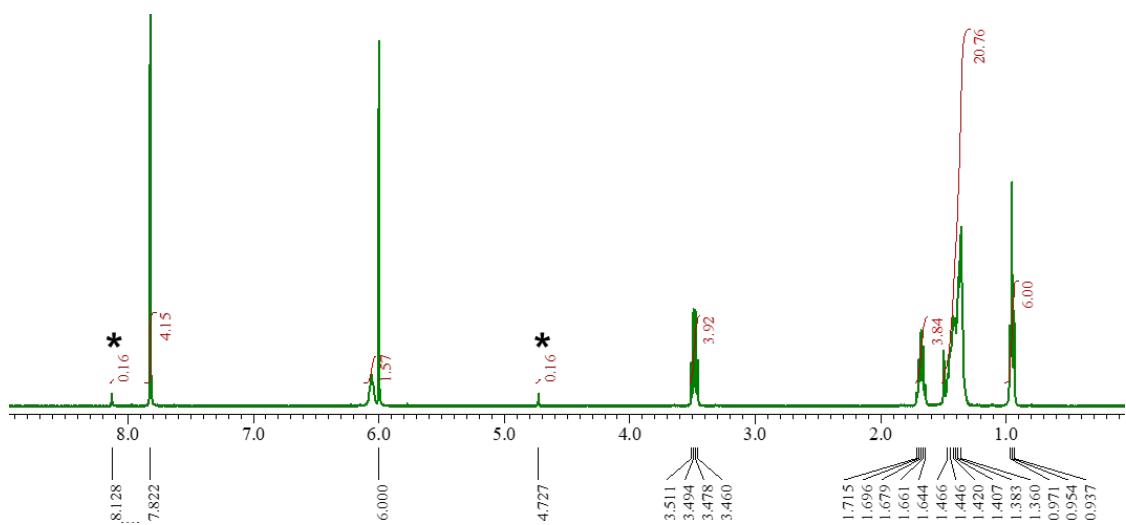


Figure S4. ^1H -NMR spectrum (in tetrachloroethane- d_2 at 100 °C) for di(*n*-octyl) terephthalimide isolated from the mixture after 16 h (run 12). Resonances marked with * were corresponded to byproduct (PET oligomers).

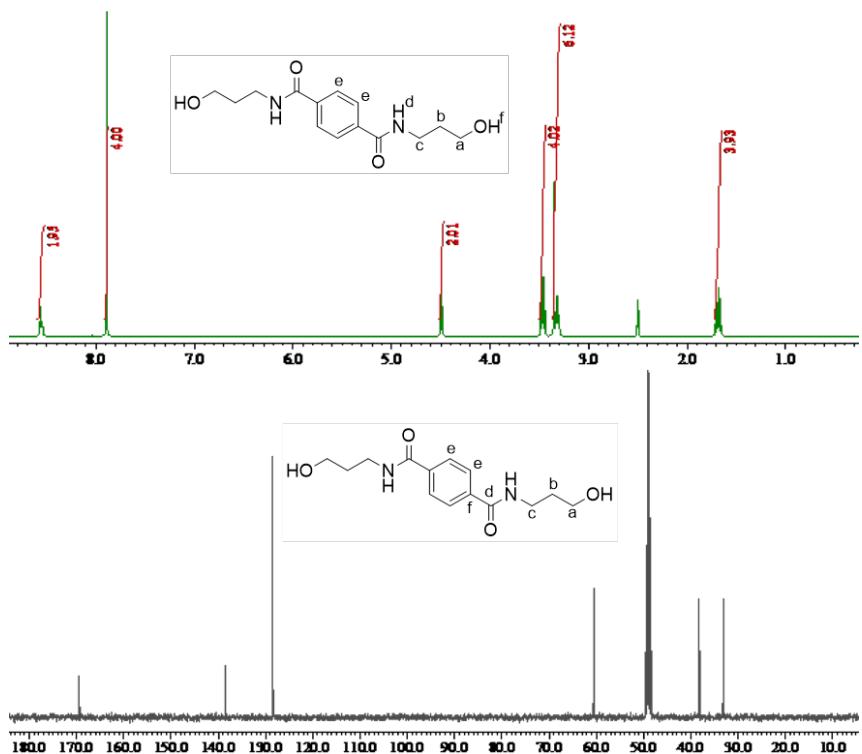


Figure S5. (top) ^1H -NMR spectrum (in DMSO- d_6 at 25 °C) and (bottom) ^{13}C -NMR spectrum for bis(3-hydroxypropyl) terephthalimide (in methanol- d_4 at 25 °C).