Electronic Supplementary Material (ESI) for Polymer Chemistry.

Designed synthetic strategy toward poly(isosorbide terephthalate) copolymers: A combination of temporary modification, transesterification, cyclization and polycondensation

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1 ^{1}H NMR spectra of OIC and OET

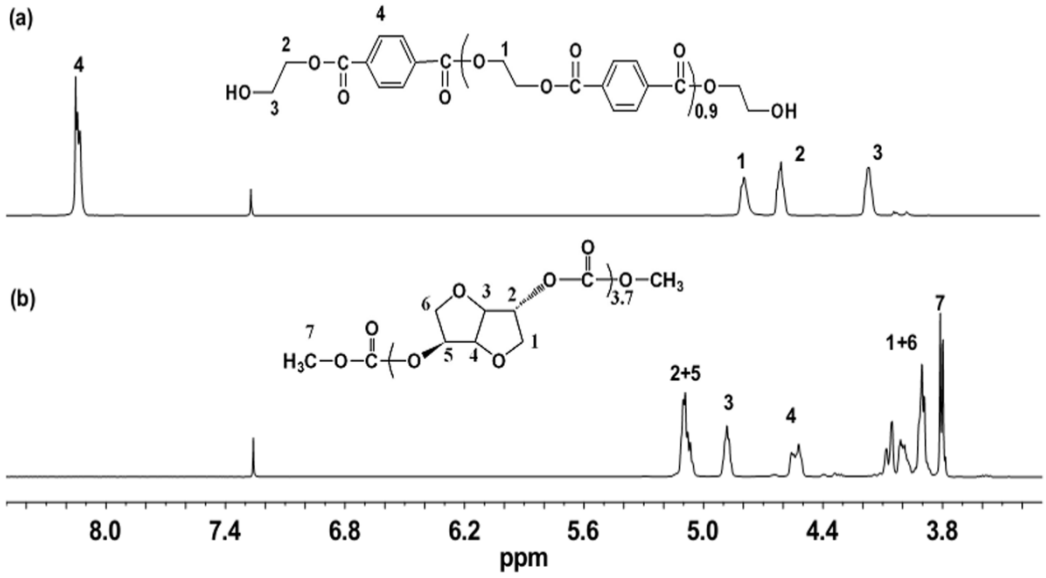
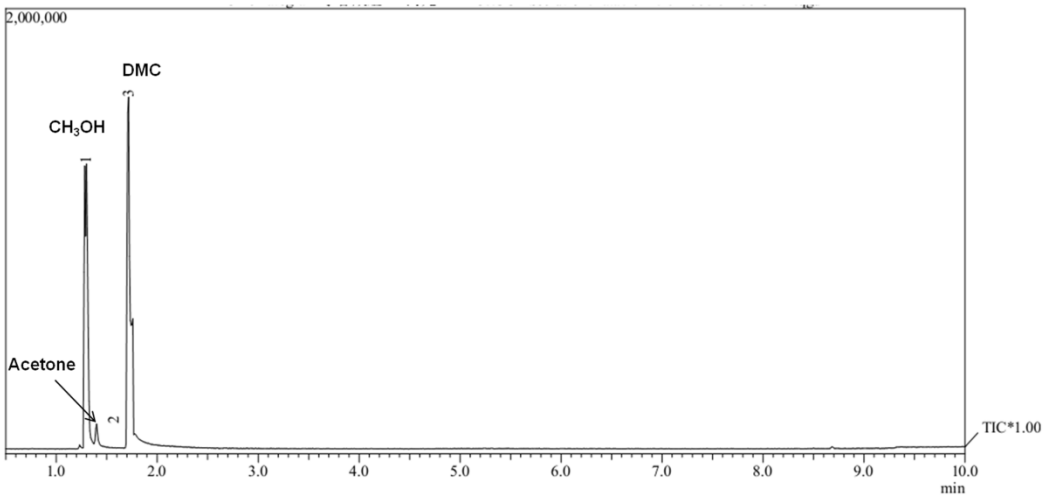


Fig. 1S. ^{1}H NMR spectra of (a) OET and (b)OIC

OET: ^{1}H NMR($CDCl_3$, δ, ppm): 8.12–8.14 (m, 4H, H4), 4.78 (t, 4H, H1), 4.60 (t,4H, H2), 4.16 (t, 4H, H3)

OIC: ^{1}H NMR($CDCl_3$, δ, ppm): 5.06–5.09 (m, 2H, H2+H5), 4.88 (m, 1H, H3), 4.52–4.56(m, 1H, H4), 3.89–4.08(m, 4H, H1+H6), 3.80 (s, 3H, H7)

2 GC-MS and ^{1}H NMR results of the volatile products removed from polycondensation system of $PI_{80}CT_{20}$



Peak Report TIC

Peak#	R.Time	I.Time	F.Time	Area	Area%	Height	Height%	A/H	Mark	Name
1	1.300	1.250	1.350	3069868	44.76	1286181	43.35	2.39	MI	
2	1.399	1.375	1.425	119034	1.74	89283	3.01	1.33	MI	
3	1.713	1.683	1.775	3670314	53.51	1591589	53.64	2.31	MI	
				6859216	100.00	2967053	100.00			

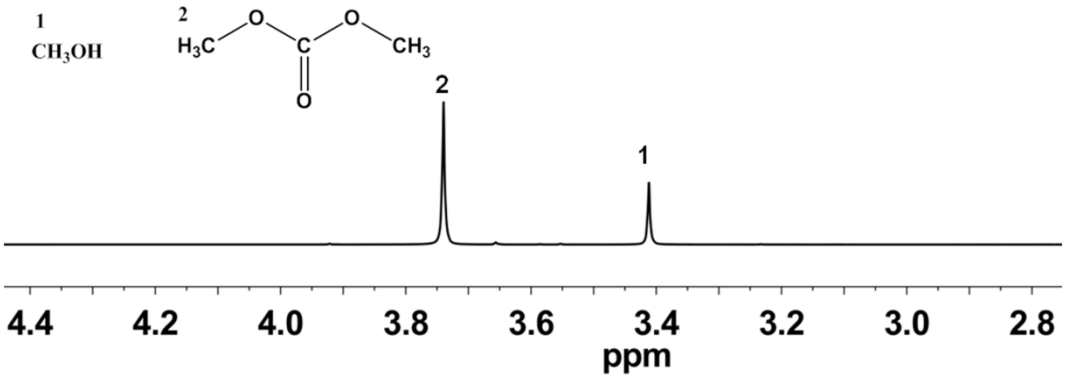


Fig. 2S. GC-MS and ^{1}H NMR spectra of the distilled liquid product after 30min of reaction

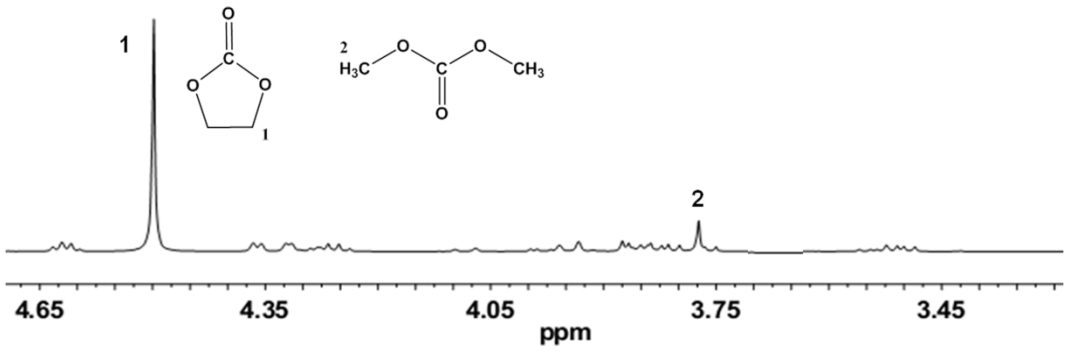


Fig. 3S. ^{1}H NMR spectra of the distilled liquid product after 50min of reaction

3 ^{1}H NMR spectra of oligo(1,3-propylene terephthalate)(OPT1) and oligo(1,2-propylene terephthalate)(OPT2)

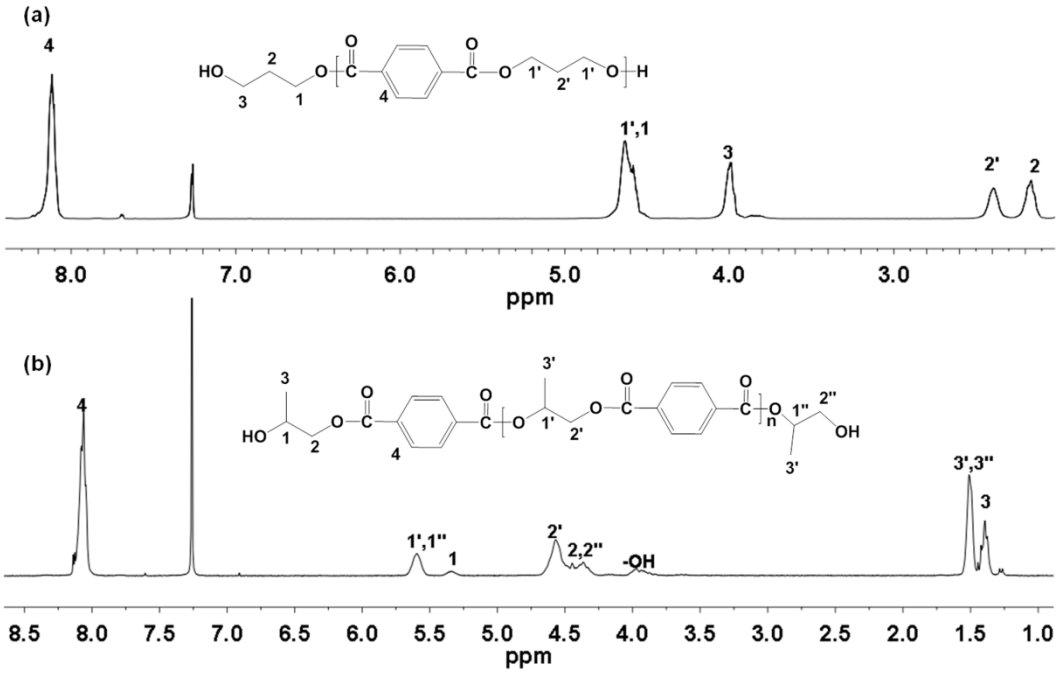


Fig. 4S ^{1}H NMR spectra of (a) OPT1 and (b)OPT2

4 ^{1}H and ^{13}C NMR spectra of $PI_{80}CT_{20}$ samples prepared by the polymerization of OIC with OPT1 and OPT2 respectively.

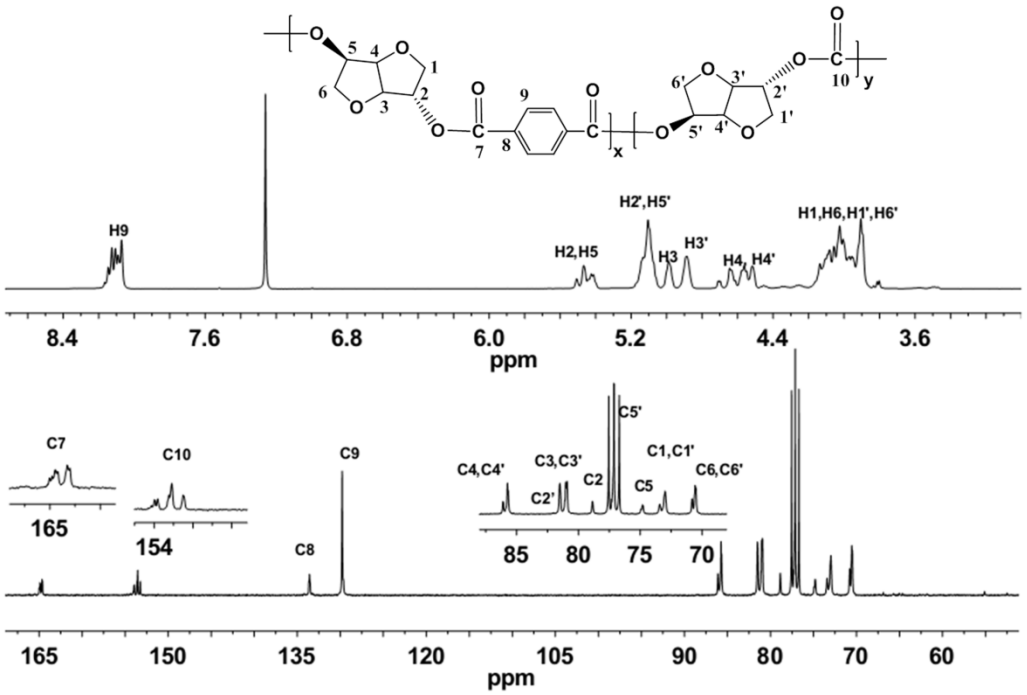


Fig. 5S ^{1}H and ^{13}C NMR spectra of $PI_{80}CT_{20}$ from OPT1 and OIC

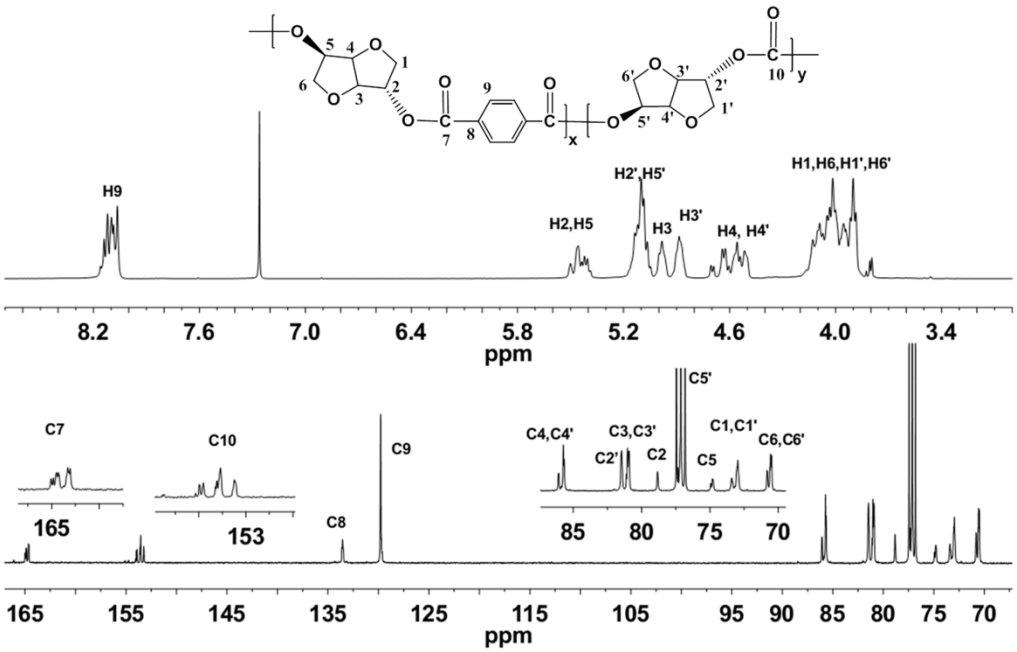


Fig. 6S ^{1}H and ^{13}C NMR spectra of $PI_{80}CT_{20}$ from OPT2 and OIC

5 ^{13}C NMR spectra of $PI_{80}CT_{20}$ samples from OPT1 and OPT2 removed from various reaction times

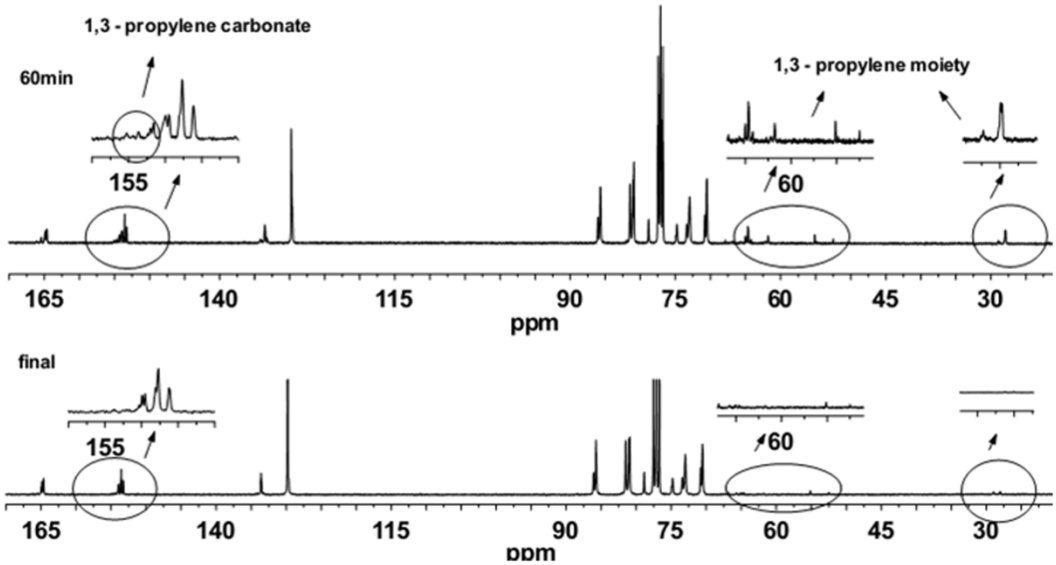


Fig. 7S ^{13}C NMR spectra of $PI_{80}CT_{20}$ from OPT1 removed from various reaction time

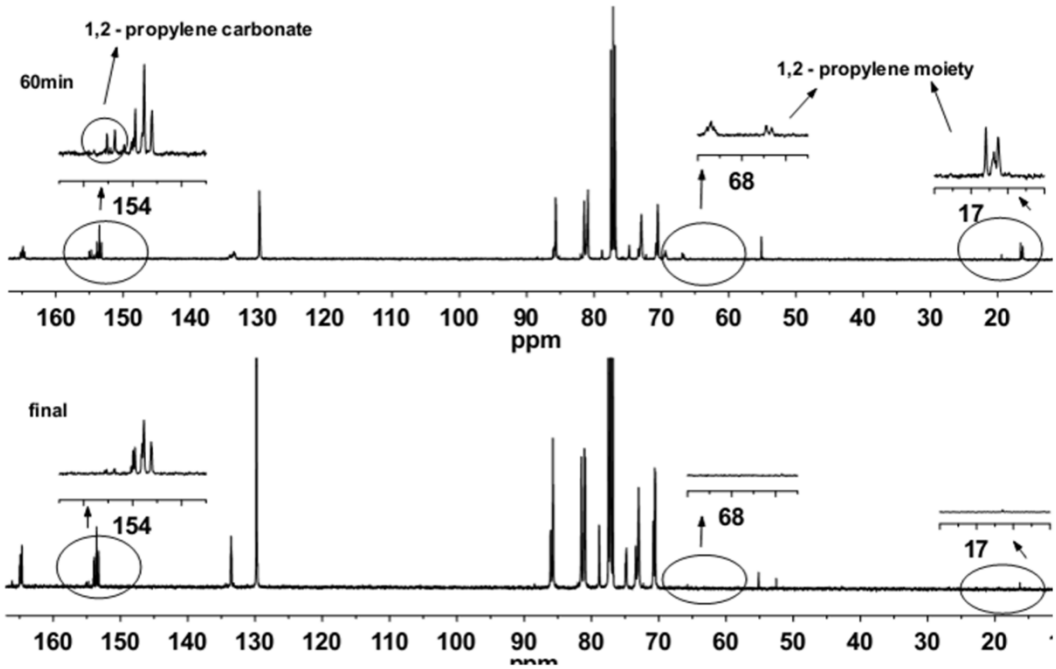


Fig. 8S ^{13}C NMR spectra of $PI_{80}CT_{20}$ from OPT2 removed from various reaction time

6 The second DSC heating traces of PIC and PICTs

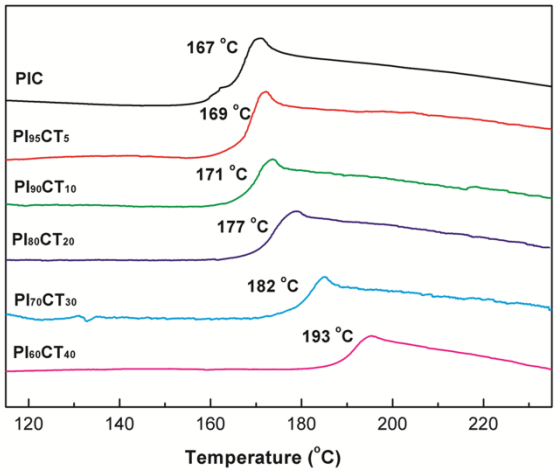


Fig. 9S. The second DSC heating traces of PIC and PICTs