Supplementary Information

Aromatic poly(ether ester)s derived from a naturally occurring building block nipagin and linear aliphatic α, ω -diols

Keling Hu,[†] Dongping Zhao,[†] Guolin Wu*[†] and Jianbiao Ma*[‡]

[†]Key Laboratory of Functional Polymer Materials of MOE, Institute of Polymer

Chemistry, Nankai University, Tianjin 300071, P. R. China

[‡]School of Chemistry and Chemical Engineering, Tianjin University of Technology,

Tianjin 300191, P. R. China

Correspondence to: guolinwu@hotmail.com



Fig. S3 ¹H NMR spectra of N2.



Fig. S5 SEC traces of PN1-ws performed in THF.



Fig. S6 SEC traces of PN2-ωs performed in CHCl₃.



Fig. S7 ¹H NMR spectra of PN1-ωs.



Fig. S8 ¹³C NMR spectra of PN1-ωs.



Fig. S9 ¹H NMR spectra of **PN2-ωs**.



Fig. S10 ¹³C NMR spectra of PN2-ωs.



Fig. S11 FTIR spectra of PN1-ωs.



Fig. S12 FTIR spectra of PN2-ωs.



Fig. S13 The splitting situations of the methylenes adjacent to the hydroxy-oxygen with the indications of the dyads to which they are assigned in PN2-ωs.



Fig. S14 TGA derivative curves of PN1-ωs.



Fig. S15 TGA curves of PN2-ωs.



Fig. S16 TGA derivative curves of $PN2-\omega s$.



Fig. S17 Glass-transition temperatures of **PN1-ωs** taken as the inflection points of the heating DSC traces of melt-quenched samples recorded at 20 °C min⁻¹.



Fig. S18 Glass-transition temperatures of **PN2-ωs** taken as the inflection points of the heating DSC traces of melt-quenched samples recorded at 20 °C min⁻¹.



Fig. S19 Wide angle X-ray diffraction polts of PN1-ws.



Fig. S20 Wide angle X-ray diffraction polts of PN2-ωs.

	X-ray diffraction data										
Polyester	2θ (°) ^a										
PEN1	17.34 m	18.50 s	21.88 m	25.82 s			0.36				
PPN1	16.34 s	21.12 m	22.42 s	23.56 m	25.36 m		0.39				
PBN1	16.46 s	19.86 m	21.12 m	23.78 s	29.06 m		0.42				
PHN1	19.04 w	21.92 w	25.66 s				0.39				
PDN1	17.54 s	19.82 s	22.42 w	24.02 s	28.12 w		0.45				
PDD1	17.80 s	19.68 s	21.24 w	22.44 w	23.96 s	27.72 w	0.46				

Table S1 Powder X-ray diffraction data of PN1-ωs

^a The diffraction angles measured in powder diffraction patterns for samples coming directly from synthesis. Intensities visually estimated as follows: m, medium; s, strong; w, weak. ^b Crystallinity index calculated as the quotient between crystalline area and total area. Crystalline and amorphous areas in the X-ray diffraction pattern were quantified using Peak Fit v4.12 software.

Table S2 Powder X-ray diffraction data of PN2-ωs

	X-ray diffraction data									
Polyester	20 (°) ^a									
PEN2	21.12 s	22.70 m	26.70 m	29.16 m					0.45	
PPN2	16.28 s	17.88 s	22.14 s	23.90 s	25.90 s				0.45	
PBN2	16.76 s	18.22 s	20.66 m	23.74 s	24.74 s	26.36 m	27.68 w	43.88 w	0.50	
PHN2	16.84 m	24.66 s							0.43	
PDN2	14.56 w	16.22 w	17.64 m	19.24 m	20.32 m	24.08 s			0.48	
PDDN2	13.26 w	15.46 w	16.74 w	18.68 m	20.38 s	23.98 s			0.52	

^a The diffraction angles measured in powder diffraction patterns for samples coming directly from synthesis. Intensities visually estimated as follows: m, medium; s, strong; w, weak. ^b Crystallinity index calculated as the quotient between crystalline area and total area. Crystalline and amorphous areas in the X-ray diffraction pattern were quantified using PeakFit v4.12 software.



Fig. S21 Isothermal crystallization of **PDDN1**, **PEN2** and **PHN2** at the indicated temperatures. Relative crystallinity versus time plots (A), and $Ln[-Ln(1-X_t)]$ versus $Ln(t-t_0)$ plots (B).