Lamellae evolution of poly(butylene succinate-*co*-terephthalate) copolymer induced by uniaxial stretching and subsequent heating

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Figure S1.(a)Differential scanning calorimeter (DSC) curves of PBST copolymer. About 7 mg sample sealed in an aluminum pan was heated to 210 °C at a rate of 20 °C/min (the first heating) and kept for 3 min before cooling at a rate of 10 °C/min to 50 °C under N₂ atmosphere. Subsequently, the sample was reheated up to 210 °C at a rate of 20 °C/min (the second heating). Temperature corresponding to the peak in the second heating cycle was defined as the melting point. (b) Dynamic mechanical analysis (DMA) was performed on TA Q800 dynamic mechanical analyser. The tests were carried out in tensile mode over a temperature range from -50 to 90 °C at a frequency of 1 Hz and heating rate of 5 °C/min. Temperature corresponding to the peak in tanð curve was defined as glass transition temperature.



Figure S2.The stress relaxation curve of PBST copolymer during the heating process as a function of time.



(a)

-🛱 Current Profile Parameters & Refinement Options - [T-0.txt]										23 6
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3.0 Estimate Crystallites from: 📀 FWHM C Breadth 🥅 Hide ESD Values 🦳 Centroids -> Peak Locations										
@ 2-Theta	d(A)	Centroid	Height	Area	1%	Shape	Skew	FWHM	Breadth	XS(A)
20.585(0.220)	4.3111(0.0911)	20.919	2815(196)	713010(45671)	100.0	4.000p	-0.144	9.206(0.176)	10.377	9(1)
9.097(0.030)	9.7133(0.0642)	9.051	254(11)	10254(473)	1.4	1.297p	0.146	1.245(0.052)	1.654	64(4)
16.002(0.022)	5.5340(0.0149)	16.081	1520(63)	50300(2324)	7.1	1.826p	-0.281	1.097(0.043)	1.356	73(4)
17.369(0.012)	5.1014(0.0069)	17.385	2491(139)	66012(3428)	9.3	1.037p	-0.087	0.720(0.040)	1.086	113(7)
20.626(0.039)	4.3026(0.0163)	20.553	783(120)	24877(3991)	3.5	4.000p	0.248	1.158(0.108)	1.302	70(8)
23.439(0.014)	3.7922(0.0045)	23.444	3120(218)	137266(8560)	19.3	0.955p	-0.017	1.132(0.080)	1.802	72(6)
25.279(0.020)	3.5203(0.0055)	25.125	2054(94)	84657(3731)	11.9	1.630p	0.438	1.331(0.043)	1.689	61(3)
29.714(0.063)	3.0041(0.0124)	30.232	426(25)	29743(2569)	4.2	4.000p	-0.697	2.550(0.197)	2.860	32(3)
31.307(0.066)	2.8548(0.0118)	31.816	407(134)	19508(6426)	2.7	4.000p	-0.870	1.751(0.288)	1.964	47(9)
Total Area = 1135627(47479) Area = 62.79(4.80)% crystallinity = 37.21(2.85)% Residual Error of Fit = 5.53% 9 Profiles and 47 Variat										

(b)

Figure S3.(a) Peak fitting of XRD curve of PBST copolymer using the software of

JADE 5.0 and (b) corresponding result of crystallinity calculated using

the equation X_c = area of crystals peak / total area. The left tick in (b) is

the fitted amorphous peak.