Supplementary Materials: Influence of Nucleating Agents on the Crystallization, Thermal, and Mechanical Properties of Poly(3-hydroxybutyrate-*co*-3-hydroxyhexanoate) (P3HBHHx)

Anyi Jin, Germán Pérez, Luis J. del Valle and Jordi Puiggalí

Table S1. Thermal and crystallization properties of P3HBHHx with different nucleating agents (2%) during the non-isothermal process.

Samples	T_c (°C)	ΔH_c (J/g)	T_g (°C)	T_{cc} (°C)	ΔH_{cc} (°C)	T_{m1} (°C)	T_{m2} (°C)	ΔH_f (J/g)
P3HBHHx	36.4	8.6	1.4	44.7	31.5	130.0	150.2	55.6
PHH_2LAK	45.4	16.8	1.3	45.2	29.9	129.5	149.3	56.2
PHH_2UFC	66.0	47.4	4.0	-	-	132.9	149.8	52.9
PHH_2Talc	72.6	57.1	3.5	-	-	134.1	150.2	59.9
PHH_2PHB	86.4	64.3	3.0	-	-	137.2	151.4	66.6
PHH_2BN	87.8	61.4	3.5	-	-	137.3	150.7	60.1

Table S2. Molecular weights (Mw and Mn) and polydispersity index (PDI) of P3HBHHx with different nucleating agents.

Samples	M_w (g/mol)	M_n (g/mol)	PDI
P3HBHHx	245280 ± 20050	122440 ± 1230	2.0
PHH_05UFC	300520 ± 52550	124650 ± 1250	2.4
PHH_05PHB	257440 ± 17350	112380 ± 1460	2.3
PHH_05BN	257860 ± 26750	118100 ± 1250	2.2
PHH_05Talc	265500 ± 21400	105120 ± 1350	2.5
PHH_2Talc	252600 ± 25470	116870 ± 1460	2.2
PHH_05LAK	242590 ± 24470	106390 ± 1430	2.3

Table S3. Avrami fitting parameters obtained from isothermal crystallization of P3HBHHx samples.

Samples	Temperature (°C)	Avrami exponent (n) ± SD	log Z ± SD	R^2
P3HBHHx	70	2.10 ± 0.01	-1.05 ± 0.01	0.999
	80	2.34 ± 0.03	-1.88 ± 0.03	0.997
	85	2.54 ± 0.03	-2.82 ± 0.04	0.996
	95	2.75 ± 0.04	-3.89 ± 0.04	0.996
PHH_05BN	100	2.39 ± 0.02	-0.67 ± 0.01	0.999
	105	2.20 ± 0.01	-1.16 ± 0.01	0.999
	110	2.39 ± 0.03	-1.82 ±0.02	0.999
PHH_05PHB	90	2.29 ± 0.02	-1.17 ± 0.01	0.997
	95	2.10 ± 0.01	-1.21 ± 0.01	0.999
	100	2.12 ± 0.02	-1.46 ± 0.01	0.997
PHH_2Talc	95	2.32 ± 0.02	-0.95 ± 0.01	0.999
	100	2.68 ± 0.01	-1.80 ± 0.01	0.999
	105	2.88 ± 0.02	-2.63 ± 0.02	0.998

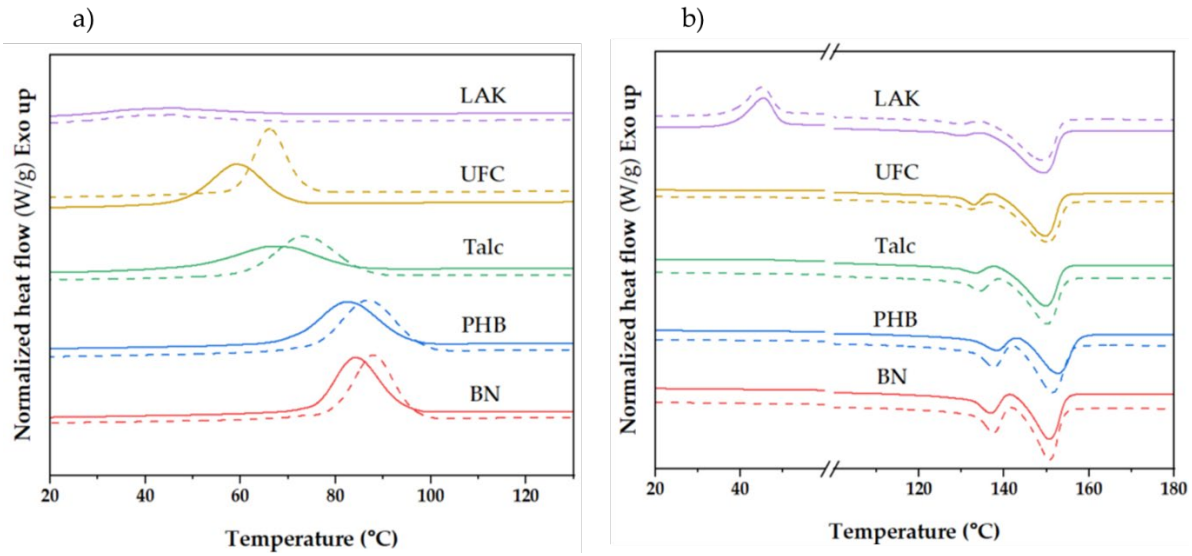

Figure S1: DSC thermograms of P3HBHHx samples with different nucleating agents during **(a)** cooling and **(b)** second heating runs. Solid lines represent samples with 0.5 wt% nucleating agents, while dashed lines represent samples with 2 wt% nucleating agents.