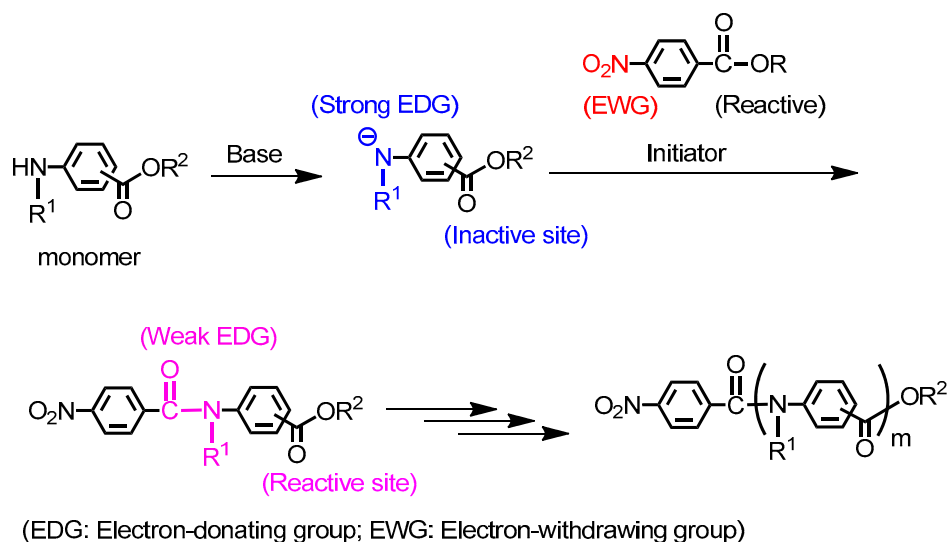


Supplementary Materials: Synthesis of Well-Defined Poly(*N*-H Benzamide-co-*N*-Octyl Benzamide)s and the Study of their Blends with Nylon 6

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Scheme S1. Chain-growth condensation polymerization (CGCP) mechanism for the synthesis of well-defined.

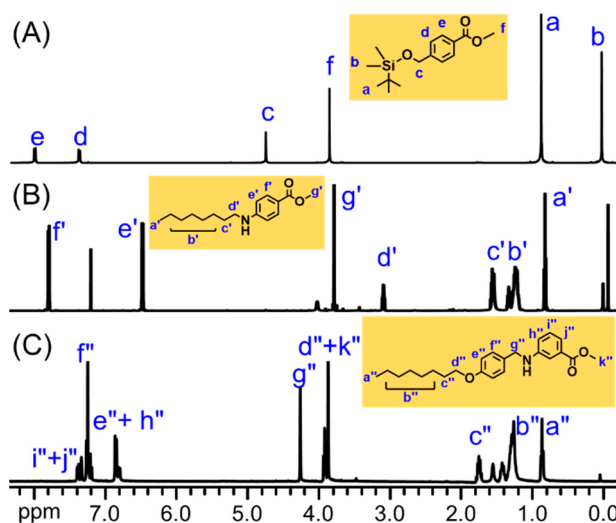


Figure S1. ^1H NMR spectra (400 MHz, CDCl_3) for the (A) initiator 4-(((*tert*-butyl)dimethylsilyl)oxy)methyl)benzoate, (B) monomer methyl 4-(octylamino)benzoate (M4OB) and (C) methyl 3-(4-(octyloxy)benzylamino)benzoate (M3OOB).

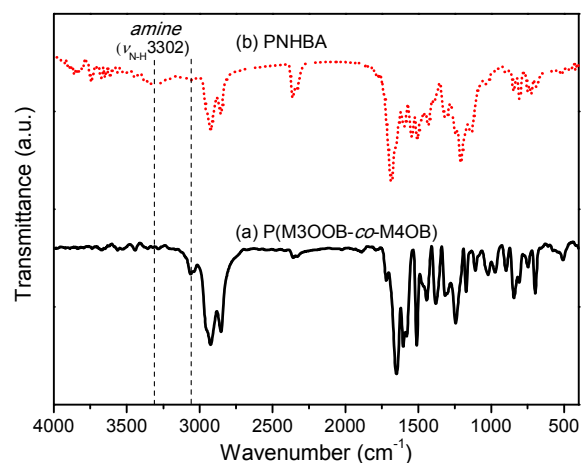


Figure S2. Representative FT-IR spectra of (a) P(M3OOB-co-M4OB) and (b) the resulting PNHBA after deprotection of the OOB group.

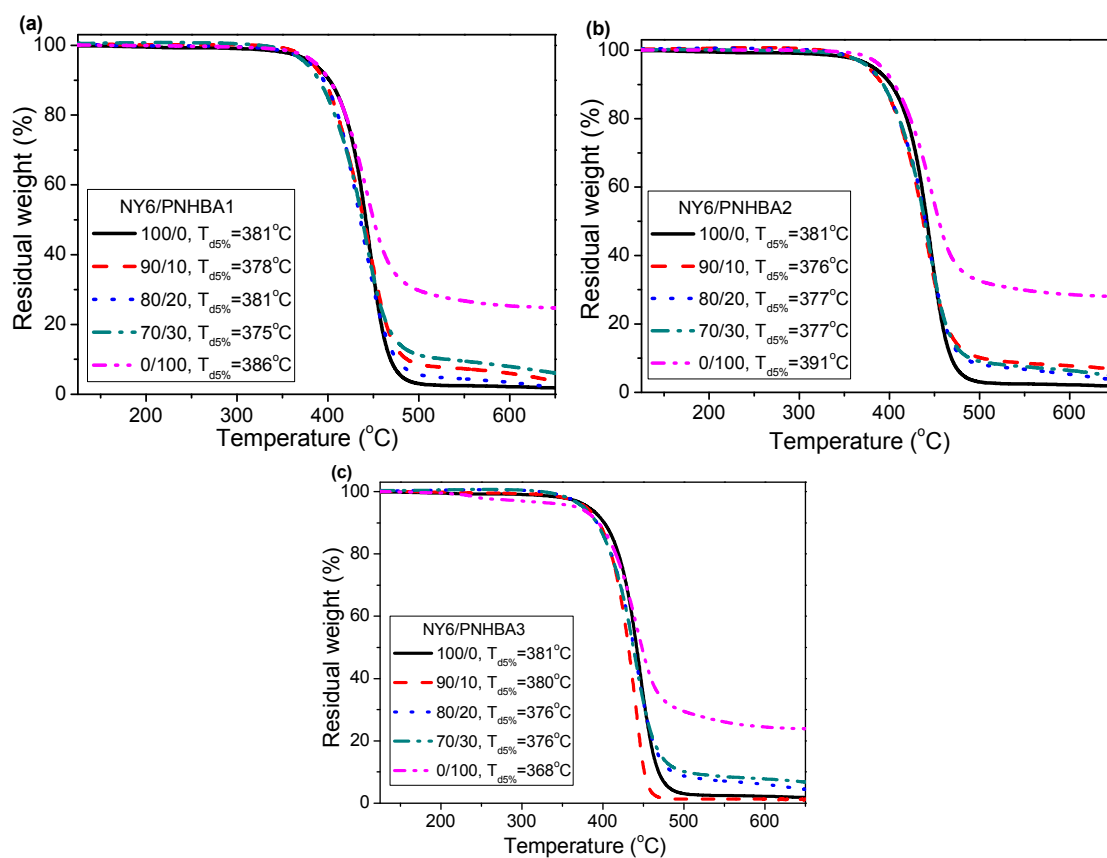


Figure S3. TGA traces and $T_{d5\%}$ s of (a–c) NY6/PNHBA1–3 blends with different weight ratios.

Table S1. Characteristics of polybenzamide copolymers (PBAs).

Samples	Feeds Ratios (M3OOB/M4OB)	I_a/I_b ^α (from ¹ H NMR)	Unit Ratios in Copolymers (M3OOB/M4OB) ^β
PBA1	90/10	1.00/0.11	90/10
PBA2	70/30	1.00/0.42	70/30
PBA3	50/50	1.00/0.88	48/52
PBA4	30/70	1.00/2.23	30/70
PBA5	10/90	1.00/9.49	10/90

^α I_a : intensity from 4.73 ppm and I_b : intensity from 3.79 ppm; ^β Estimated from the ratios of I_a/I_b corresponding to the resulting amounts of M3OOB/M4OB in copolymers.