Electronic Supplementary Material (ESI) for RSC Advances.

Supplemental

About the Transformation of low T_m into high T_m Poly(L-lactide)s by Means of Cyclic Tin Catalysts

Steffen M. Weidner[a], Andreas Meyer[b], Saber Chatti[c] and Hans R. Kricheldorf[d,#],

Table S1 Annealing of cyclic poly(l-lactide)s with SnBiph as catalyst at 130°C and Lac/Cat ratio of 1 000/1

Exp. No.	Lac/Cat	T (°C)	t (h)	M_n	M_w	T_m (°C)	ΔH_m (-J g^{-1})	Cryst. (%)
1	1 000/1	120	2	63 000	187 000	176.0	42.4	40
2A	1 000/1	130	24	62 000	173 500	179.0	67.0	63
2B[a)]	1 000/1	130	24	75 000	157 000	190.5	70.5	65
3	1 000/1	130	48	61 000	170 000	181.5	66.0	62
4	1 000/1	130	96	56 000	167 000	181.5	67.5	63
5A	1 000/1	130	192	39 000	144 000	182.5	66.0	62
5B[a)]	1 000/1	130	192	28 000	92 000	191.5	91.7	87

a) direct polymerization in bulk at 130°C

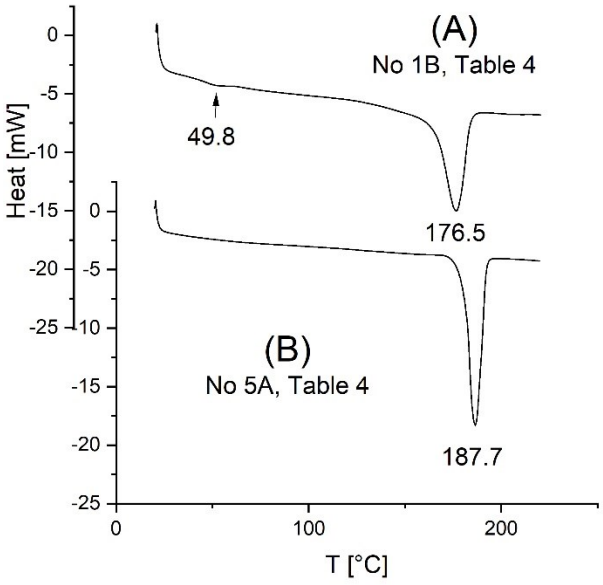


Figure S1 DSC traces of polylactides prepared and annealed with DSTL:(A) 120°C/2h (No. 1B, Tab. 4), (B) 170°C/2d No. 5A, Tab. 4)

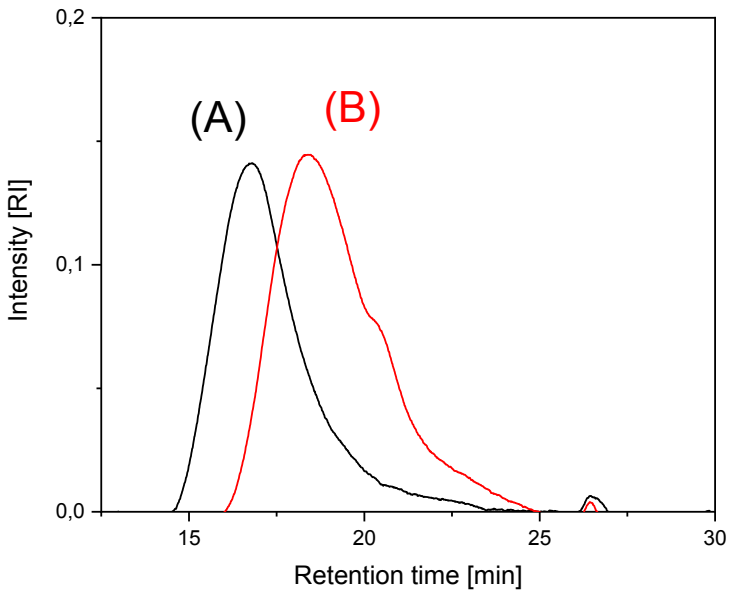
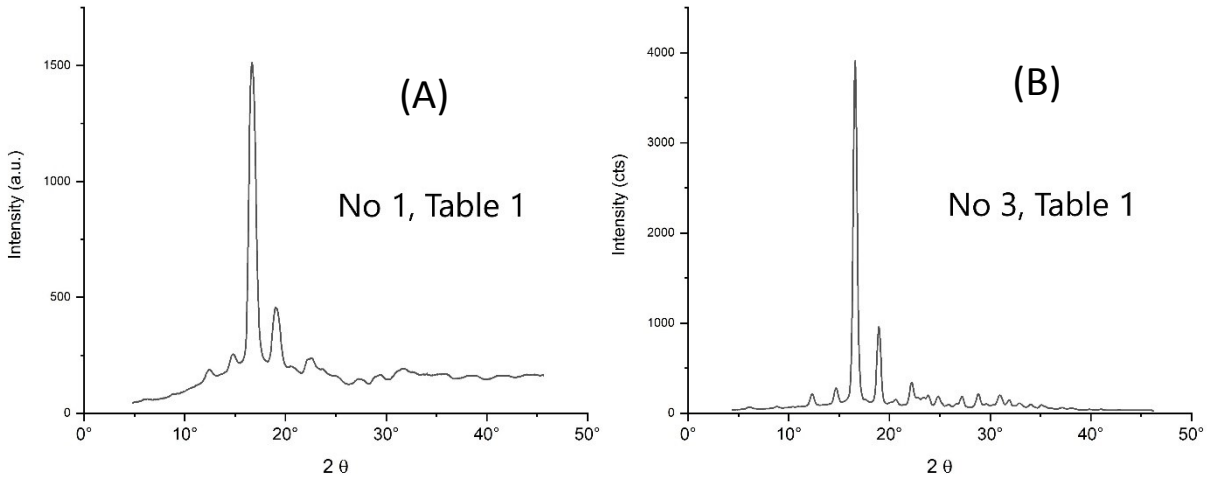


Figure S2 SEC curves of polylactides prepared and annealed with BuSnBuca: (A) 120°C/2h (No. 1, Tab. 5), (B) BuSnBuca 170°C/2d (No. 3, Tab. 5)



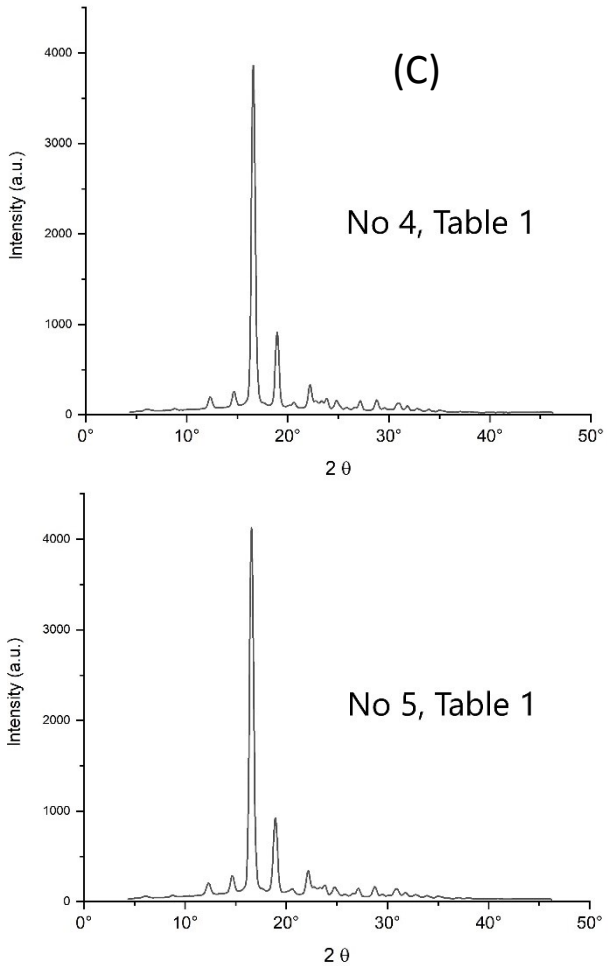


Figure S3 WAXS powder pattern of polylactides prepared and annealed with SnBiph: (A) 120°C/2h (No.1, Tab. 1), (B) 170°C/8h (No. 3, Tab. 1), (C) 170°C/1d (No. 4, Tab. 1), (D) 170°C/2d (No.5, Tab.1)

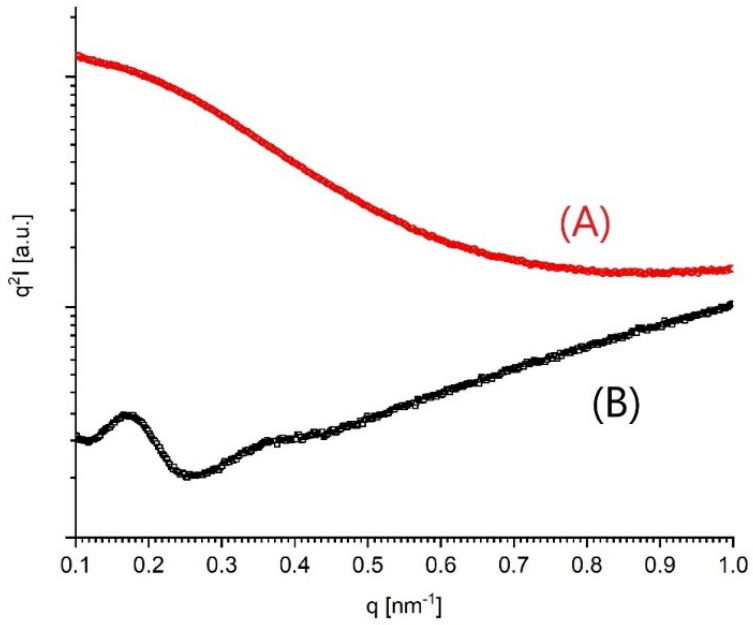


Figure S4 SAXS Kratky plots of polylactides prepared and annealed with SnBiph: (A) 120°C/2h (No.1, Tab. 1),(B) 170°C/8h, No. 3, Table 1)

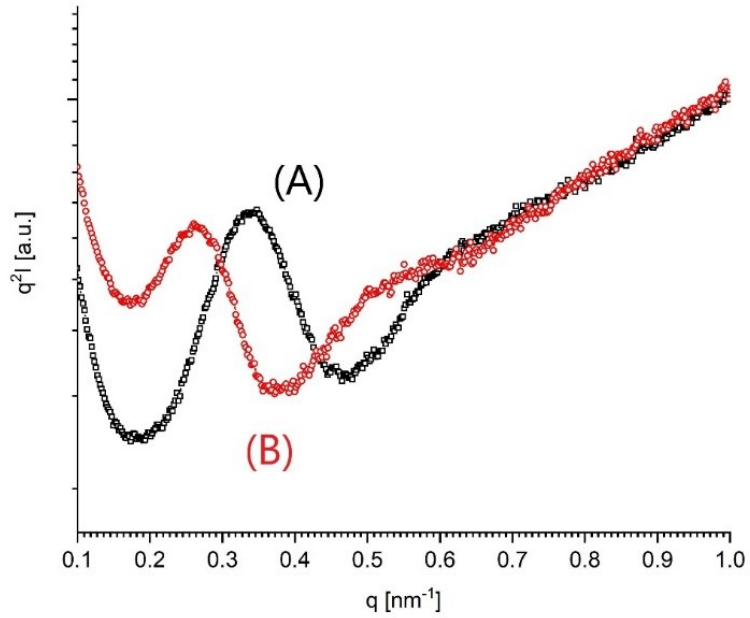


Figure S5 SAXS Kratky plots of polylactides prepared and annealed with BuSnBiph: (A) 120/2h (No. 4, Tab. 5); (B) 170°C/1d (No. 5, Tab. 5)

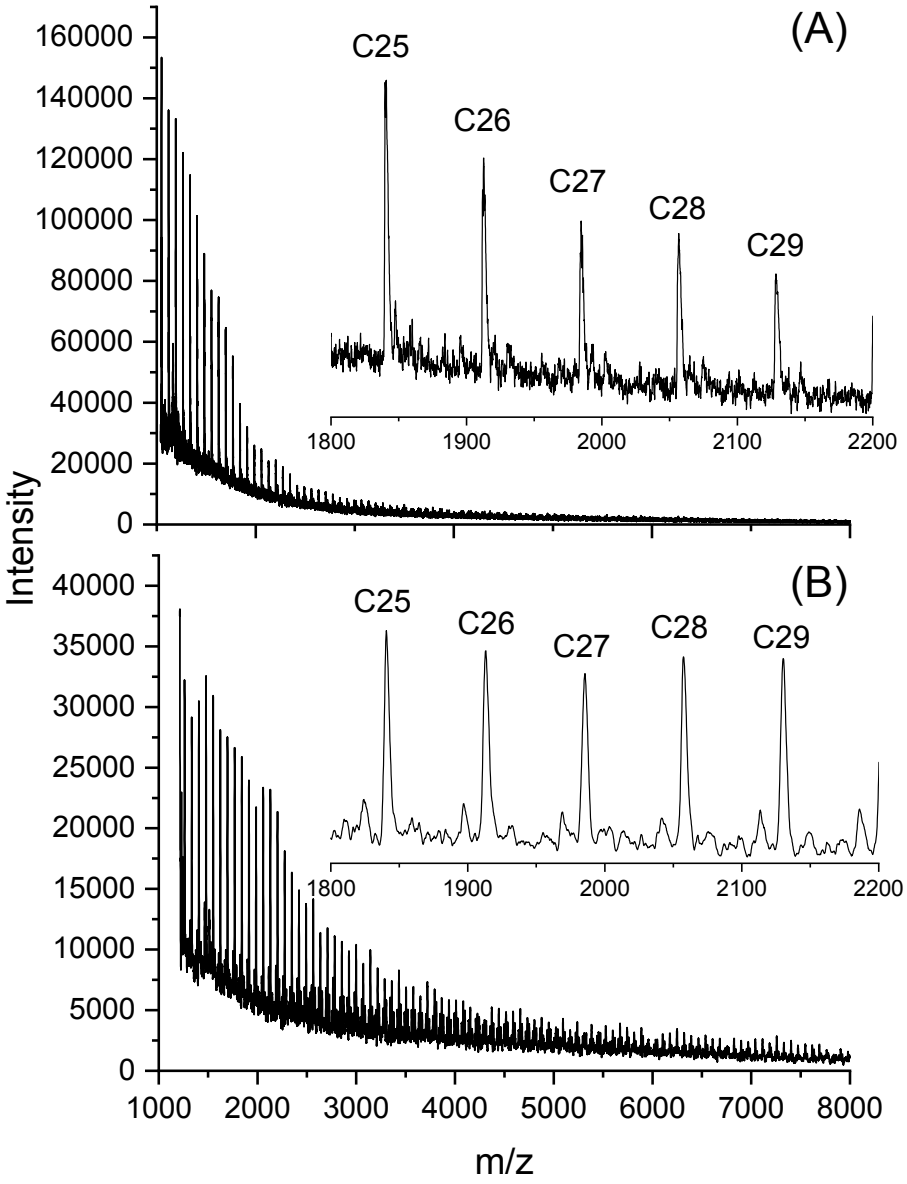


Figure S6 MALDI-TOF mass spectra of polylactides prepared and annealed with BuSnBiph: (A) 120°C/2h (No. 4, Table 5), (B) 170°C/48h (No. 6, Tab. 5)