Supplemental Information
to

Polycondensations and Cyclization of Poly(L-lactide) Ethyl Esters in the Solid State
Steffen M. Weidner, Andreas Meyer, Jana Falkenhagen and Hans R. Kricheldorf

Figure S1: MALDI-TOF mass spectra of PLAs prepared by co-polycondensation of ELA in bulk T=150 °C/6 d: (A) with SnCl₂ (1, Table 1), (B) with BuSnPhF (7, Table 1)
Figure S2 GPC elution curve of a PLA prepared with BuSnPhF at 140 °C and annealed for 1 d, with indication of fractions (4BX, Table 2)

Figure S3 MALDI TOF mass spectra of 4 GPC fractions recorded from the PLA prepared with BuSnPhF at 140 °C/ 1 d (4BX, Table 2, GPC elugram see Figure S2)
**Figure S4** MALDI-TOF mass spectra (segments) of PLAs annealed at 140 °C for 28 d: (A) SnOct₂, (B) SnCl₂, (C) BuSnPhCl and (D) BuSnOPF

**Figure S5** GPC elution curve of a PLA prepared with SnCl₂ at 140 °C/28 d (2D, Table 2) with indication of fractions taken for MALDI TOF MS
Figure S6 SEC elution curve of a PLA prepared with BuSnPhF (4D, Table 2) with indication of fractions taken for MALDI TOF MS

Figure S7 MALDI TOF mass spectra of 5 GPC fractions recorded from the fractionated PLA (see Figure S6) prepared with BuSnPhF (4D, Table 2)
Figure S8  MALDI TOF mass spectrum of a ELA-initiated PLA equilibrated with BuSnPhF (LA/Cat = 400/1) in anisole at 140°C/28d

Figure S9  GPC elution curve of an ELA-initiated PLA equilibrated with BuSnPhF (LA/Cat = 400/1) in anisole at 140 °C/28d
Figure S10 SAXS curves of PLAs prepared at 140 °C with SnCl$_2$: (A) after 1 d (2B, Table 2), (B) after 28 d (2D, Table 2)

Figure S11 ESI TOF mass spectra of PLAs annealed with SnOct$_2$: (A) at 140 °C/7d (1C, Table 2), (B) at 160 °C/6d (1B, Table 3)
**Scheme S1** Proton-catalyzed esterification of a carboxylic acid

**Scheme S2** SnOct$_2$-catalyzed alcoholytic transesterification

**Scheme S3** SnOct$_2$ catalyzed ester-ester interchange reaction
Scheme S4  Schematic illustration of the “wandering loop mechanism”.