Electronic Supplementary Material (ESI) for Polymer Chemistry

Supporting information

Thermoplastic polyurethane elastomers from bio-based poly(δ-decalactone) diols

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Figure S1. ^{1}H-NMR spectra of the monomer dDL (top), the PdDL before (middle) and after (bottom) purification.

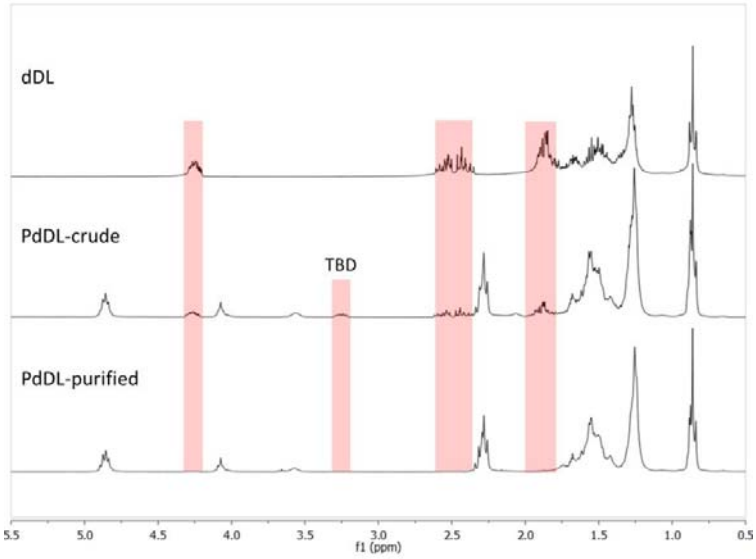
Figure S2. DSC traces of the PdDLs (second heating cycles; heating rate = 20 °C/min).

Figure S3. SEC traces of the PdDL-based TPUs.

Figure S4. Infrared spectra of the TPUs.

Figure S5. 50 Percent, 5 cycle hysteresis curves of the PdDL-based TPUs (crosshead speed: 60 mm/min).

Table S1 Some supplemental information of the TPUs derived from DMA data.



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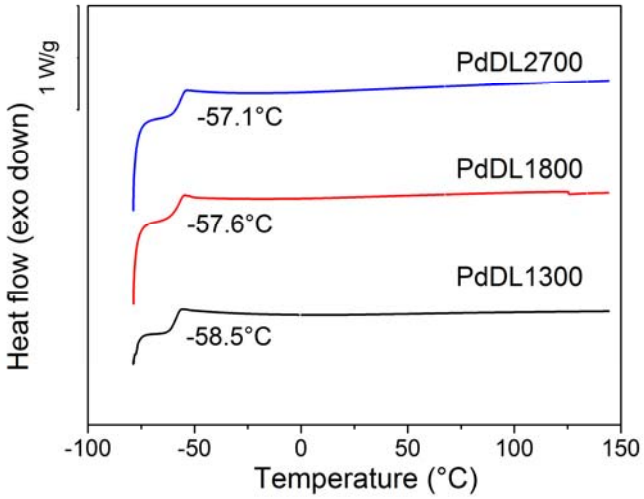

Figure S2. DSC traces of the PdDLs (second heating cycles; heating rate = 20 °C/min).

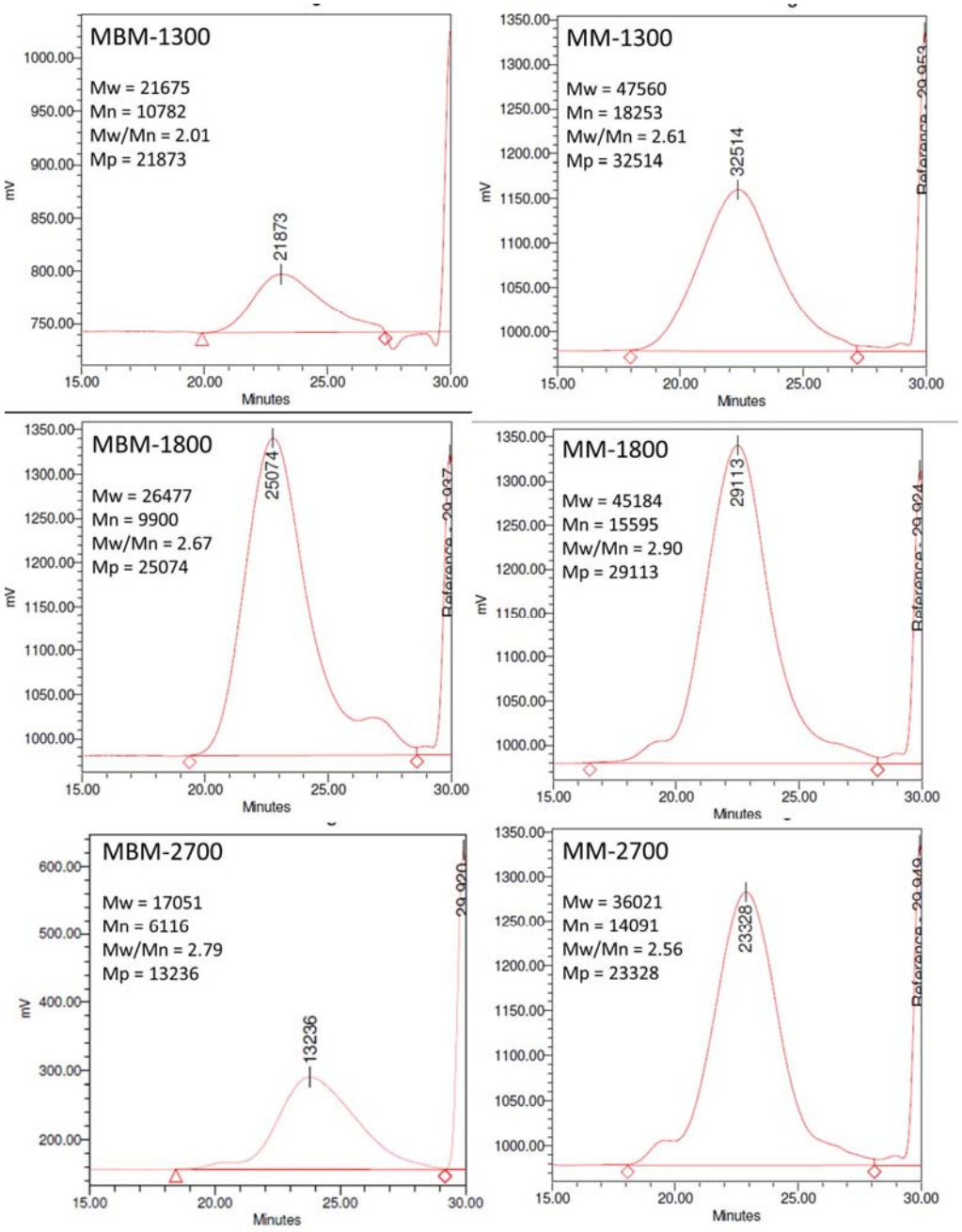

Figure S3. SEC traces of the PdDL-based TPUs.

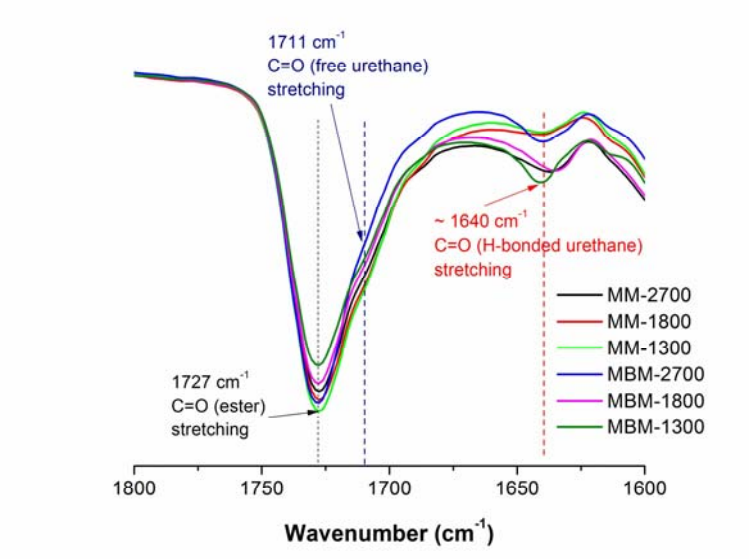

Figure S4. Infrared spectra of the TPUs.

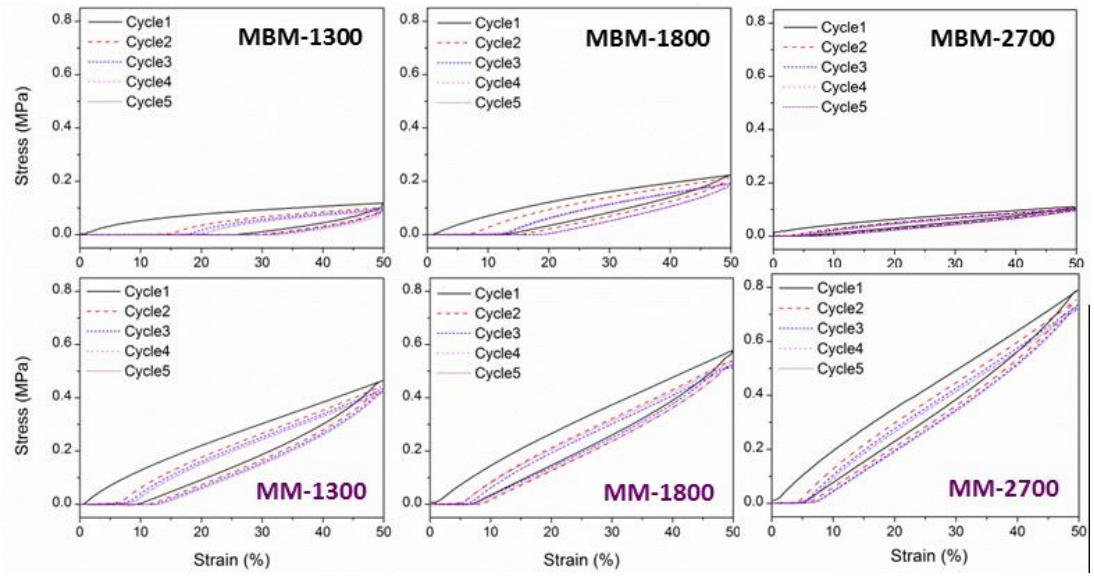

Figure S5. 50 Percent, 5 cycle hysteresis curves of the PdDL-based TPUs (crosshead speed: 60 mm/min).

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	DMA		**Tensile test**
	Δ(logE')/ΔT $^{75\sim125\ ^{o}C}$ $10^{-3}\cdot MPa\cdot K^{-1}$	**Tan δ** $^{25\ ^{o}C}$	**Hysteresis** $^{1st\ cycle}$
MBM-1300	7.6	0.61	0.75
MBM-1800	1.8	0.25	0.46
MBM-2700	8.2	0.35	0.36
MM-1300	3.3	0.36	0.37
MM-1800	2.7	0.18	0.29
MM-2700	2.8	0.16	0.22