Supplementary Information

Tuning PBT vitrimer properties by controlling the dynamics of the exchangeable network

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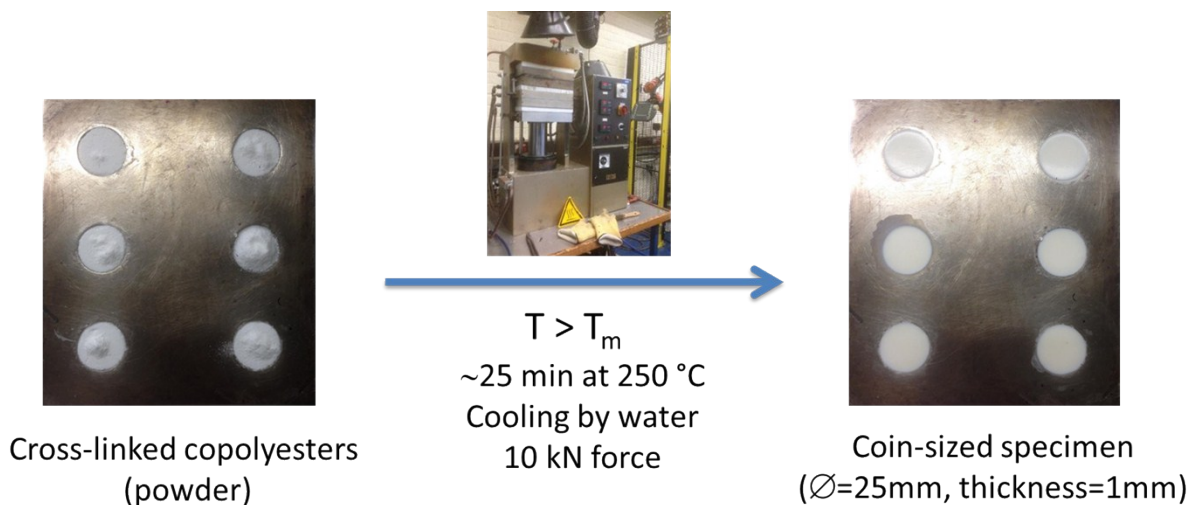Corresponding author: Email: j.p.a.heuts@tue.nl, Han.Goossens@sabic.com.

Figure S1. The compression molding process for preparing coin-sized specimen for rheological thermo-mechanical experiments.
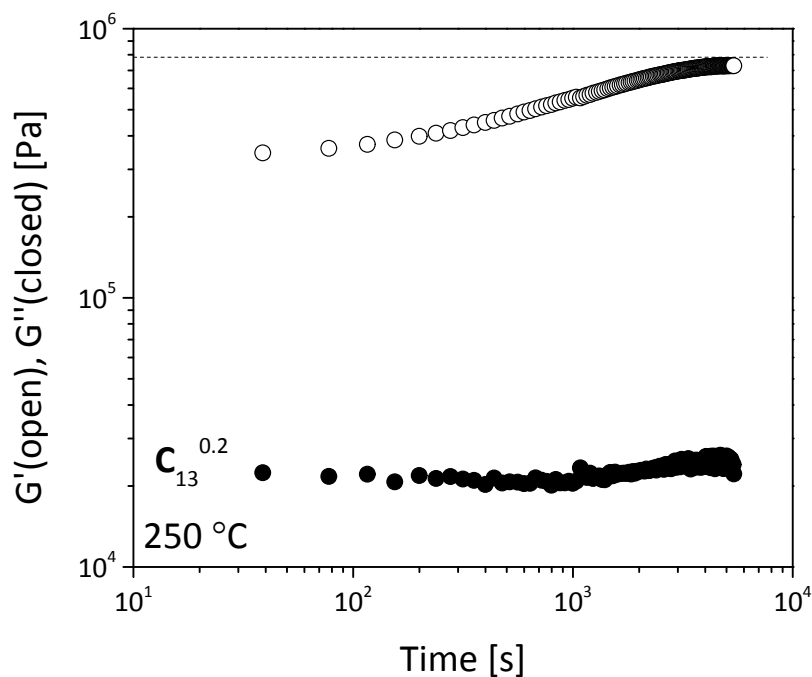

Figure S2. Time dependence of the storage modulus G′ (open symbols) and loss modulus G″ (filled symbols) at 250 °C for compression-molded sample $C_{13}^{0.2}$.
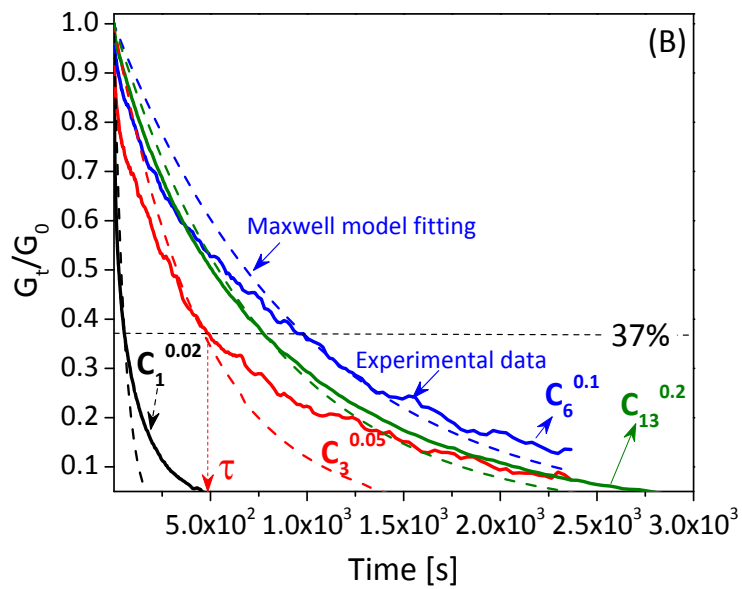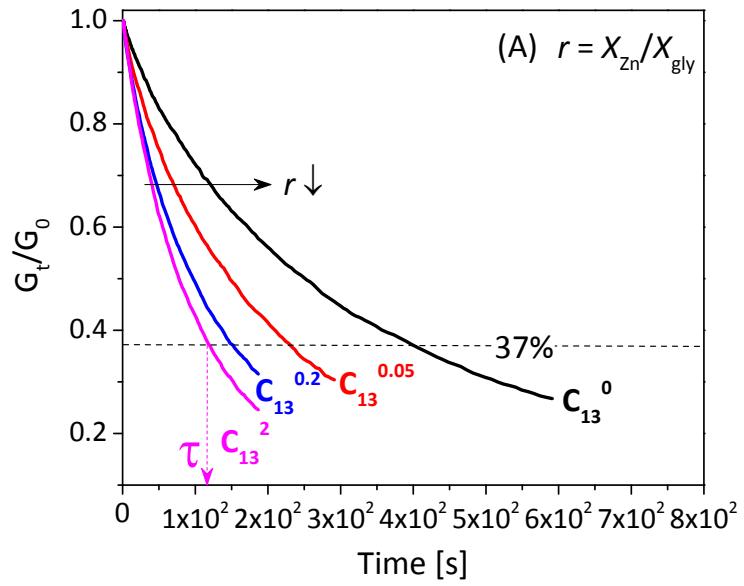
Figure S3. Linear scale normalized stress relaxation curves at 250 °C for sample set (I)(A) and Sample set (II)(B).
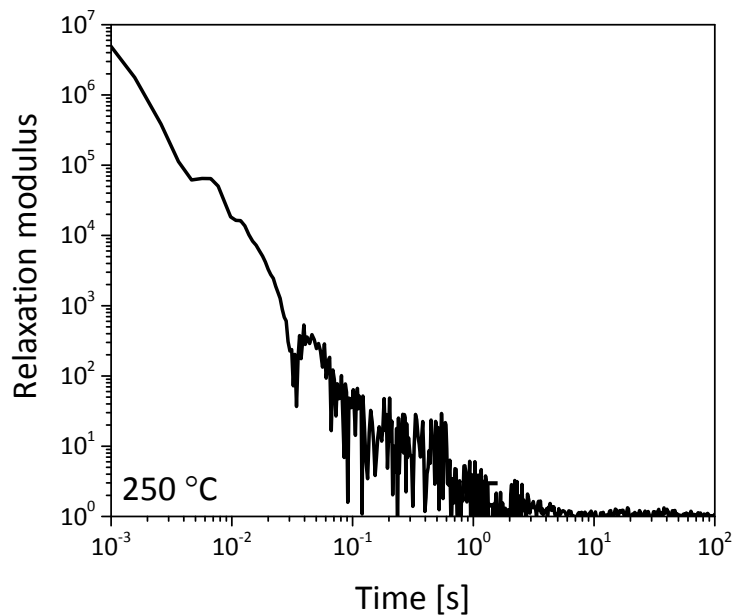
Figure S4. Non-treated stress relaxation curve of neat PBT at 250 °C with 1% strain.

Table S1. Linear fit results of activation energy (E_a) and pre-exponential factor (A) for PBT/glycerol-based vitrimers.

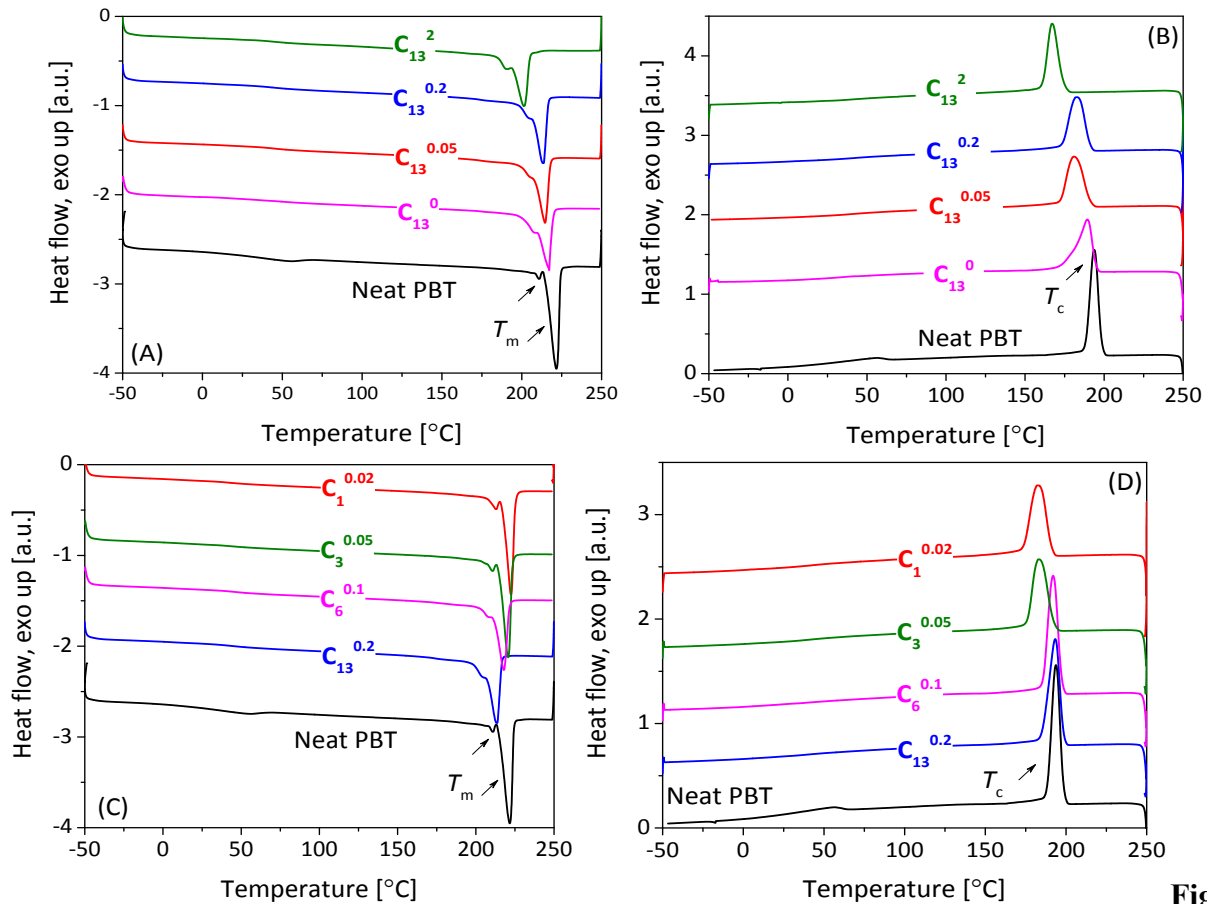| Entry	r value and Glycerol content/mol%	Activation energy /kJ/mol	pre-exponential factor/s^{-1}
Different r-value	0 (13.0)	172 ± 3	9.78×10^{13}
	0.004 (13.0)	202 ± 8	1.27×10^{17}
	0.015 (13.0)	167 ± 8	6.98×10^{13}
	0.15 (13.0)	152 ± 2	6.36×10^{12}
The same r-value	0.015 (13.0)	167 ± 8	6.98×10^{13}
	0.015 (6.2)	137 ± 3	4.66×10^{10}
	0.015 (3.2)	167 ± 8	1.01×10^{14}

re S5. DSC second heating (A) and first cooling (B) run of PBT vitrimers obtained at a heating rate of 10 °C/min from -50 to 250 °C.
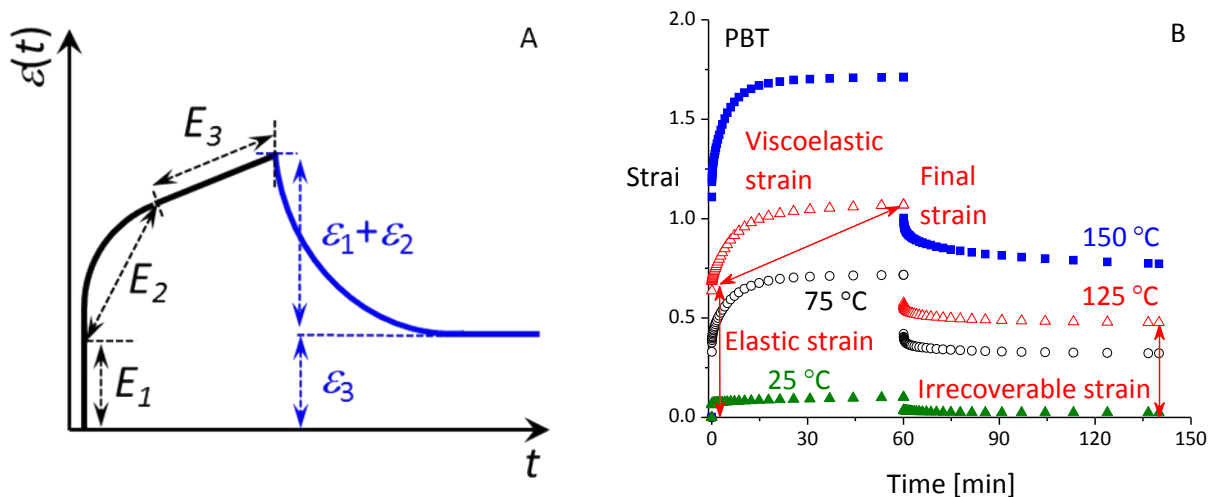

Figure S6. (A) Scheme of a creep response of polymers described by a four-parameter (Burger's) model with spring and dashpot. (B) Creep-recovery experiments of neat PBT at 2 MPa stress at different temperatures.