Supporting information

Figures:

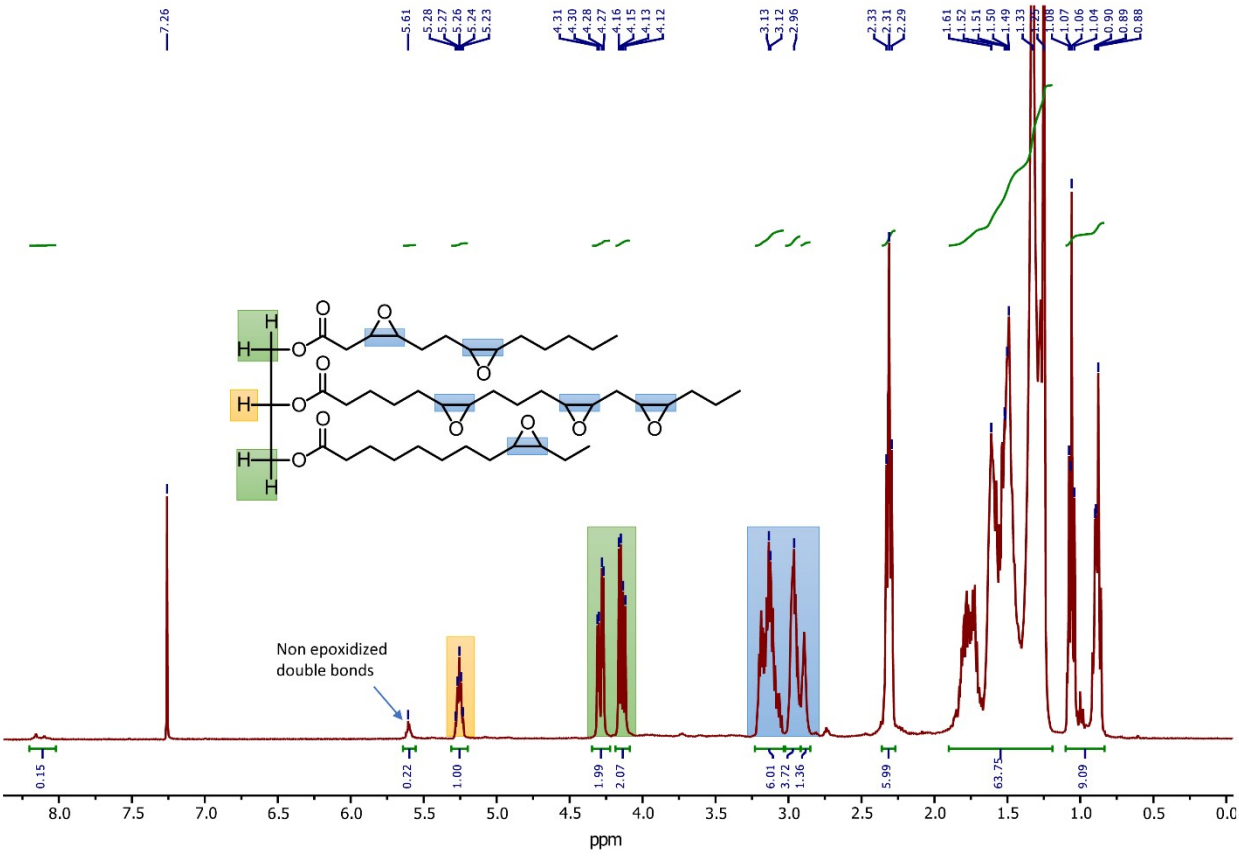

Figure S1. ^{1}H-NMR spectrum (400 Mhz. RT, $CDCl_3$) of the ELO batch used in this study.

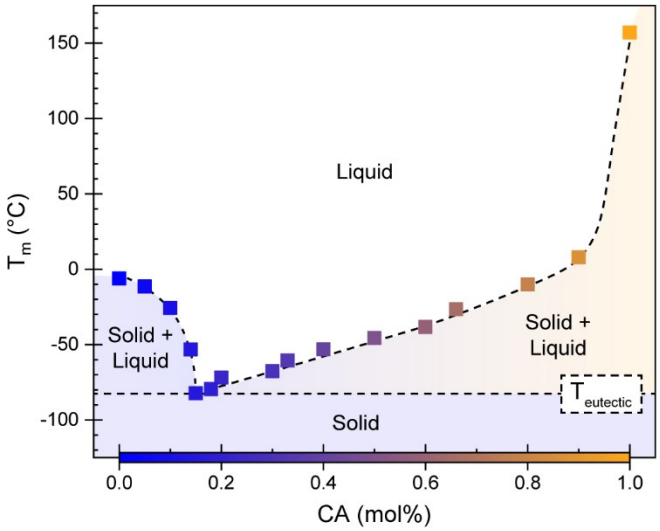

Figure S2. Binary phase diagram of CA/EL mixtures. The x-axis shows the part of CA in mol%, with the remaining part being made up of EL completely.

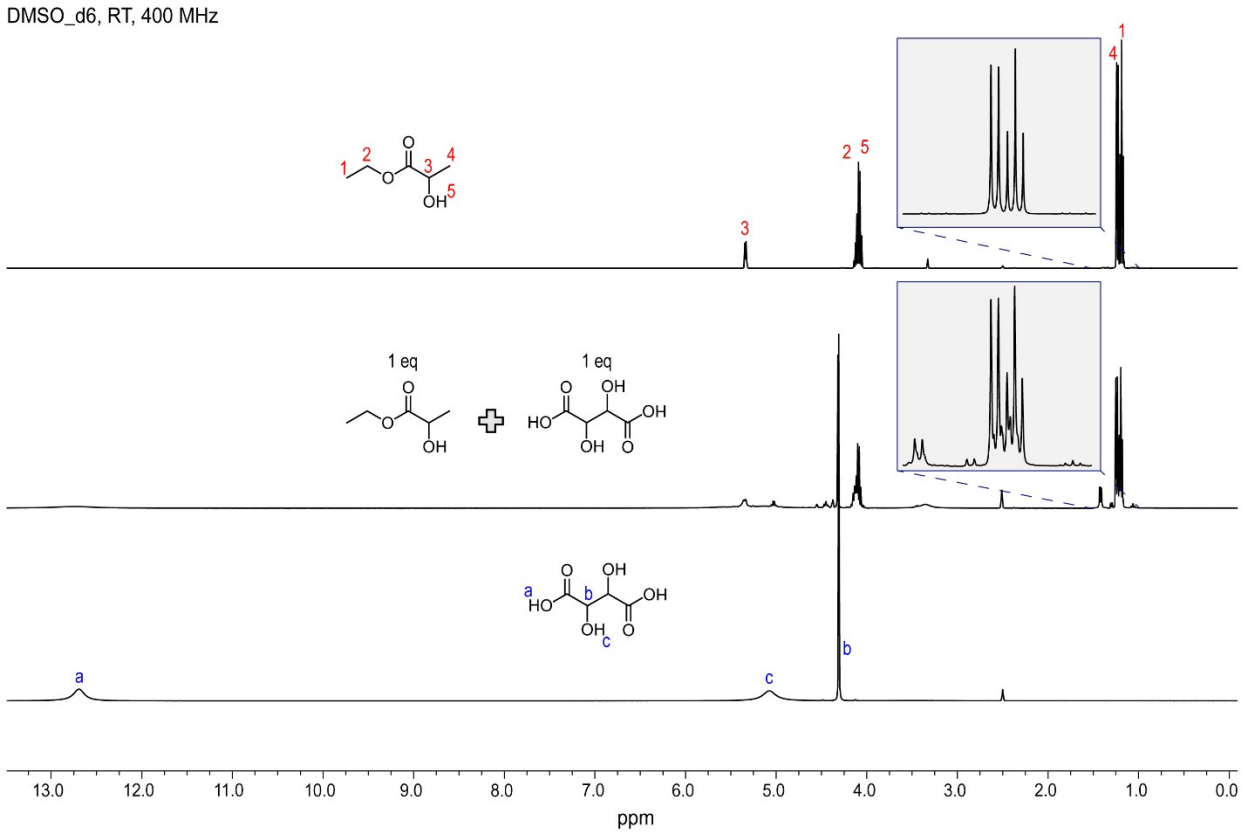

Figure S3. NMR spectrum (DMSO_d6, RT, 400 MHz) of a 1:1 molar mixture of TA and EL heated for 30 minutes at 140 °C.

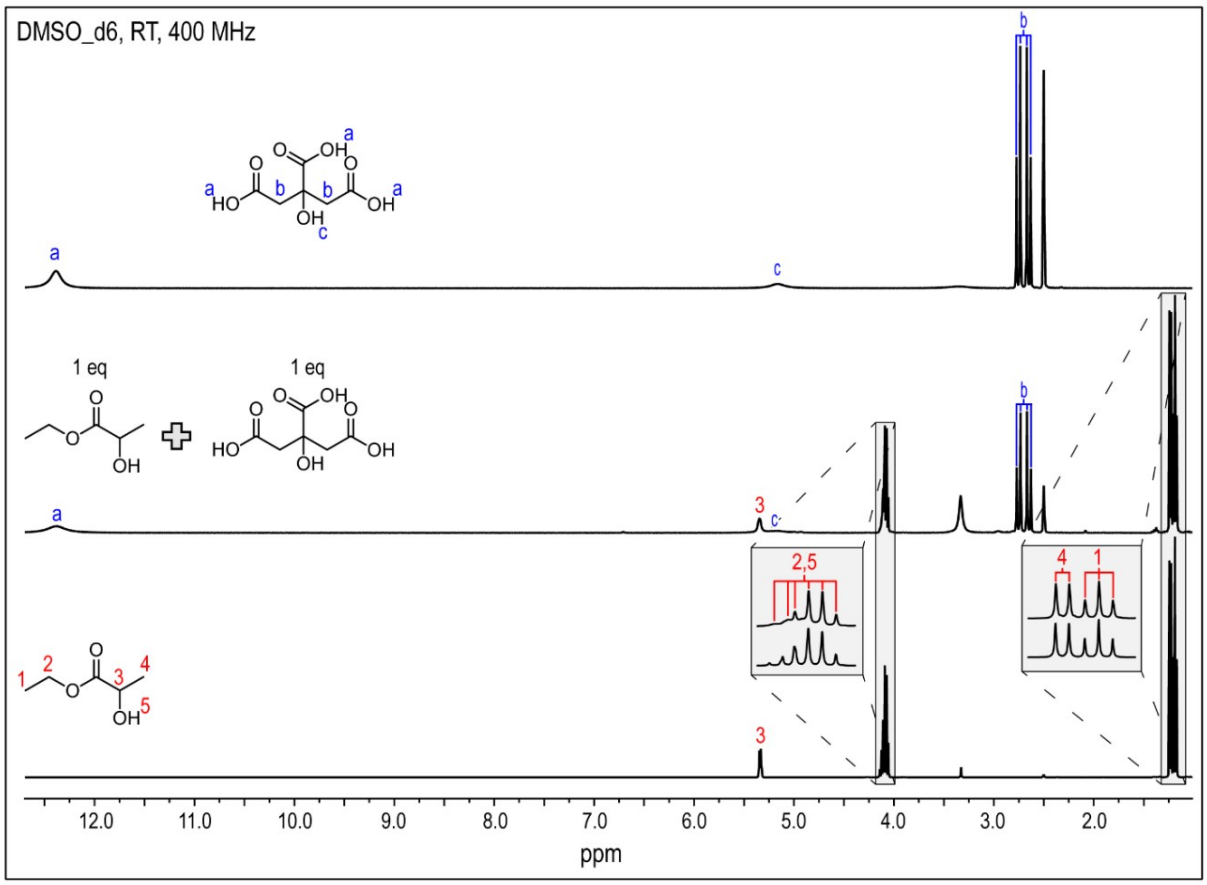

Figure S4. NMR spectrum (DMSO_d6, RT, 400 MHz) of a 1:1 molar mixture of CA and EL heated for 5 minutes at 140 °C.

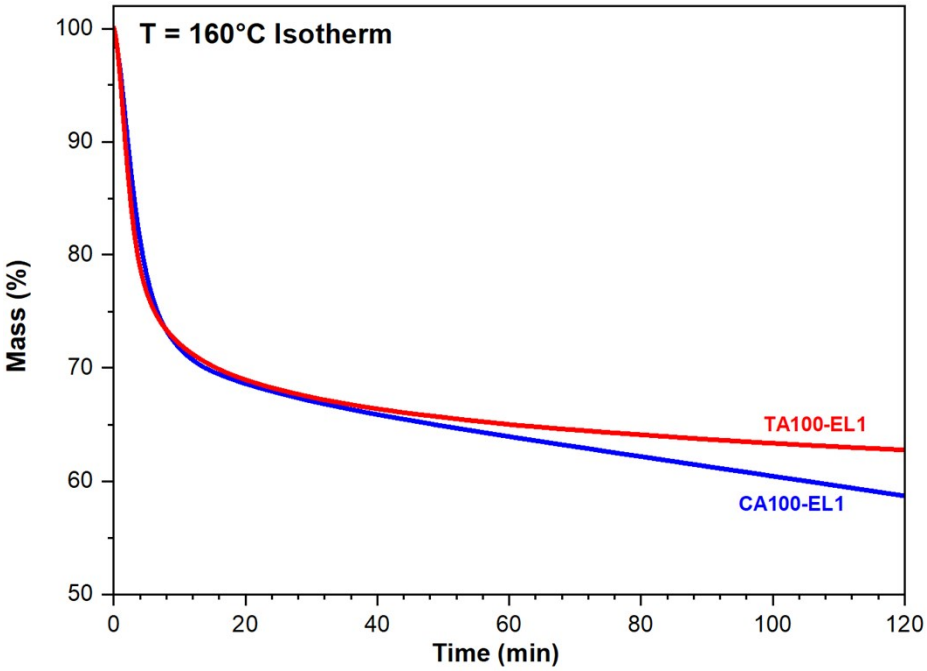

Figure S5. Isothermal TGA (T = 160 °C) of Eutectic hardeners TA100EL1 and CA100EL1 (100 mol% of the respective acid and one mol% of EL added.

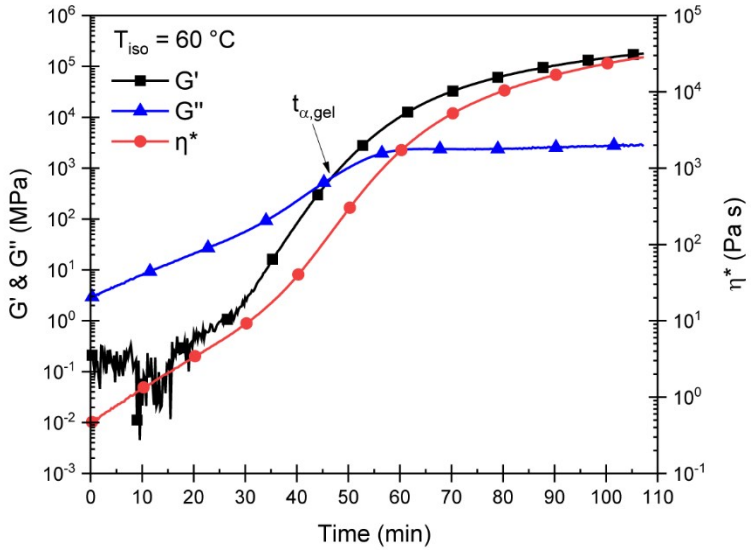

Figure S6. Rheology data obtained from isothermal curing experiments of a CA100 EL mixture with ELO. Storage (*G*') and Loss (*G*'') modulus and viscosity were monitored as a function of time during isothermal curing at 60 °C.

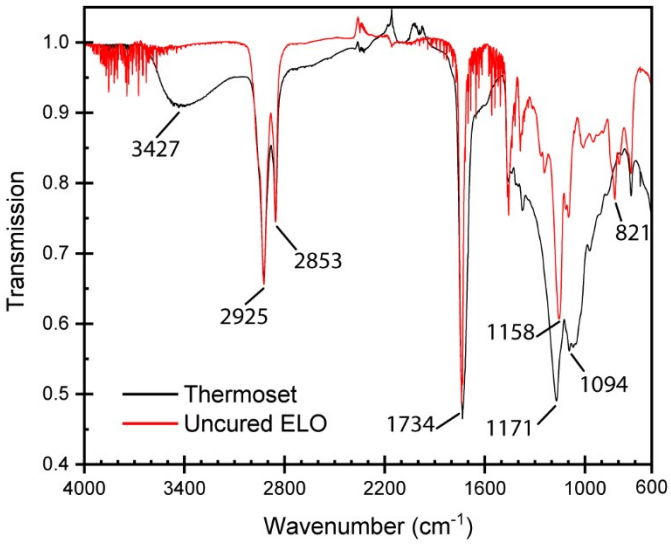

Figure S7. IR spectrum of pristine uncured ELO (red curve) and ELO thermoset cured with CA100 EL hardener (black). The appearance of the OH band at 3427 cm^{-1} and disappearance of the oxirane band at 821 cm^{-1} confirms completion of the reaction.

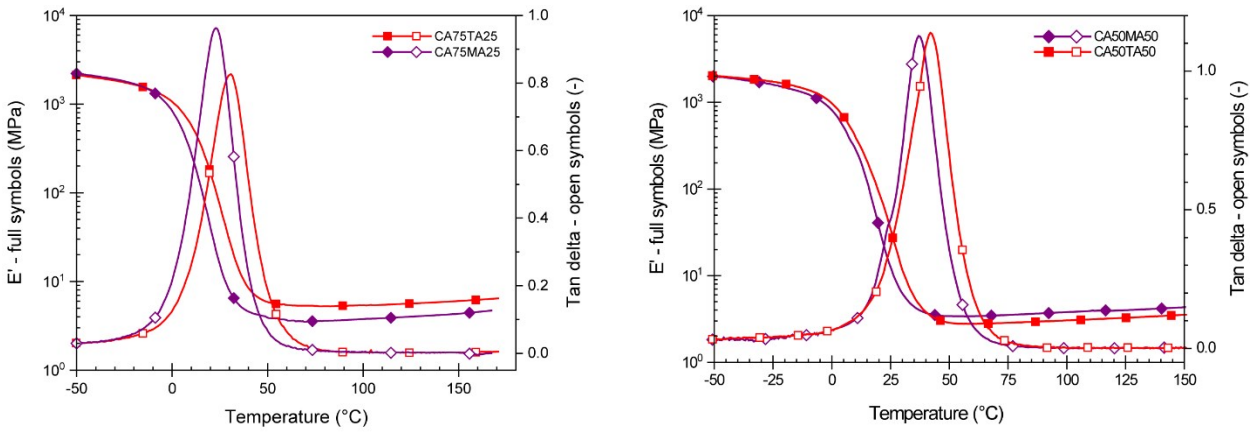

Figure S8. DMTA data (-50 °C to 150 °C, 1 Hz, 0.1 % strain) of thermosets cured with $R_{Eutectic}$ $\left(\frac{n(EL)}{n(Acid)}\right) = 1$ and EH using a fixed COOH/Oxirane group-ratio of 0.8. The numbers behind the acid abbreviation represent the molar percentage of acid used. The symbols are intended to help differentiate the curves and do not represent the data points.

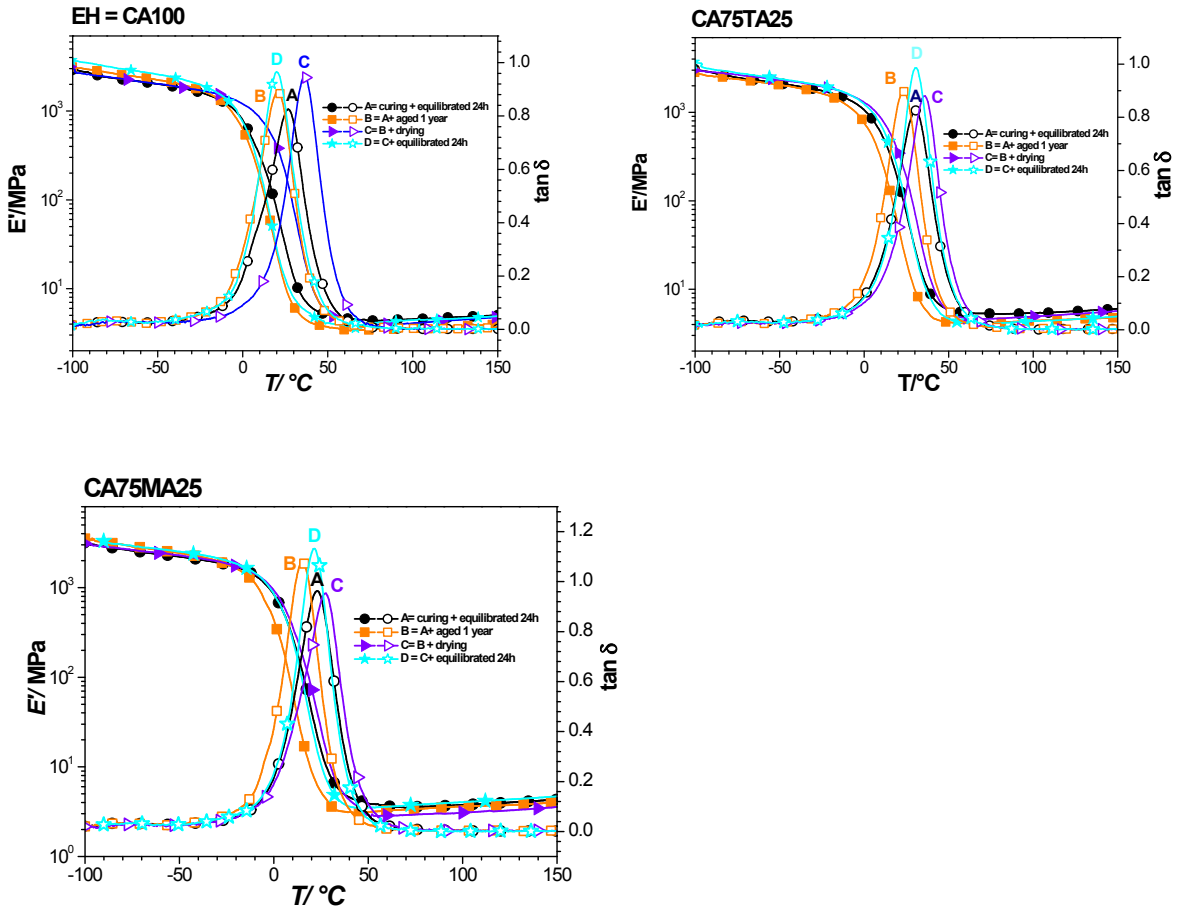

Figure S9. Aging test using DMTA data (-50 °C to 150 °C, 1 Hz, 0.1 % strain) of thermosets cured with $R_{Eutectic}$ $\left(\frac{n(EL)}{n(Acid)}\right) = 1$ and EH using a fixed COOH/Oxirane group-ratio of 0.8. The numbers behind the acid abbreviation represent the molar percentage of acid used (top left, CA100, top right CA75TA25, bottom left CA75MA25). The symbols are intended to help differentiate the curves and do not represent the data points. The curves represent the mean curves from four measurements, representing (A) the original cured sample let equilibrated at room temperature during 24 h (~50 % RH), (B) sample A + aging 1 year on a laboratory shelf, (C) sample B after vacuum drying in the oven for 2 h at 100 °C, (D) sample C + re-equilibrated 24 h at room temperature (~50 % RH).

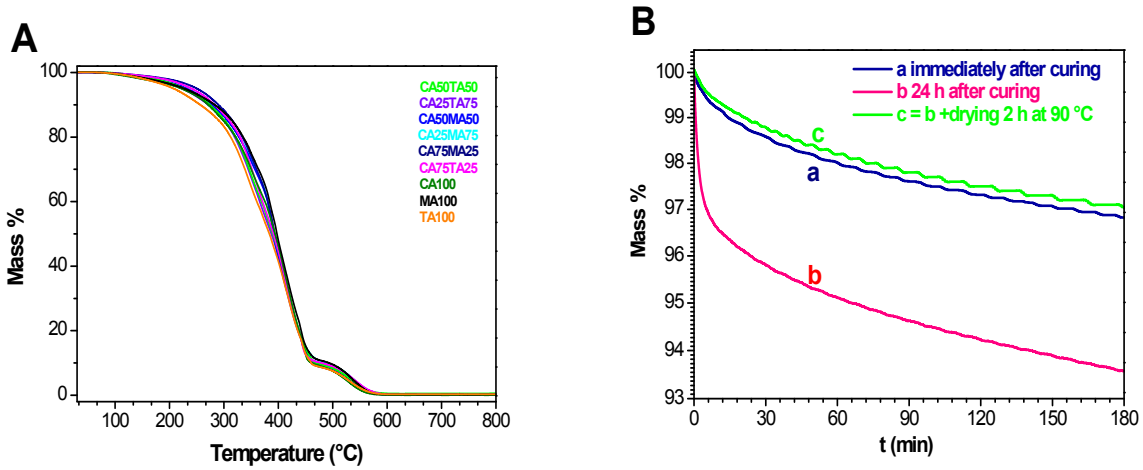

Figure S10. A: TGA of samples cured with different EH mixtures after 1+ year storage. The numbers behind the acid abbreviation represent the molar percentage of acid used. **B:** Isothermal (T = 160 °C) TGA of freshly cured sample (a), sample a (not tested) after 24 h storage at room temperature (~50 % RH) (b), and sample b (not tested) then dried for 2 h at 90 °C (c).

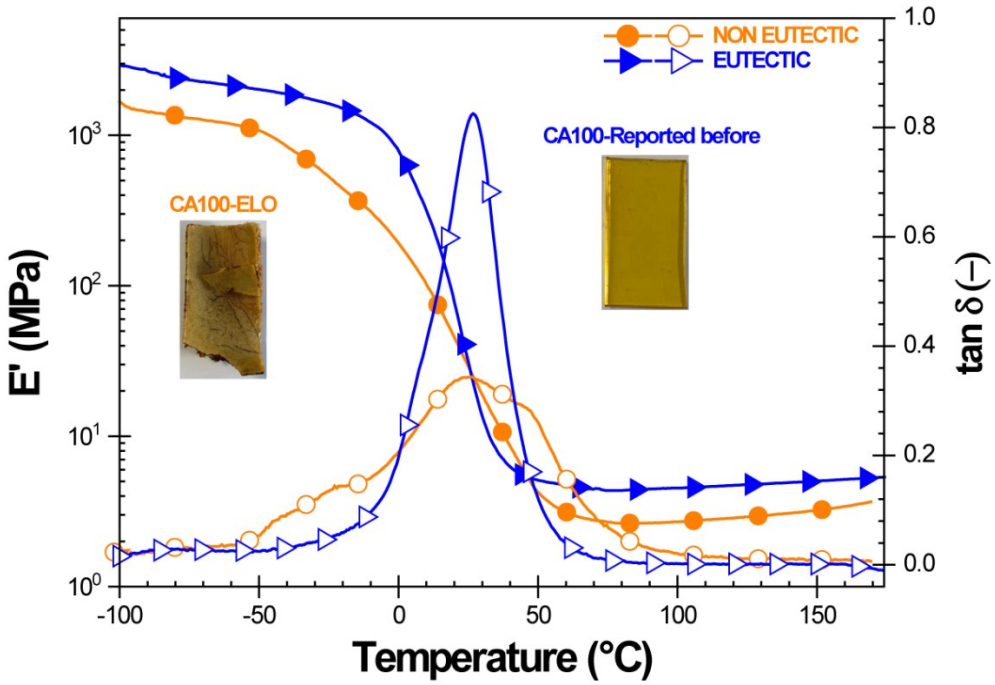

Figure S11. DMTA data (-50 °C to 150 °C, 1 Hz, 0.1 % strain) of thermosets cured with EH ($R_{Eutectic}\left(\frac{n(EL)}{n(Acid)}\right)=1$) and using just the acid (100 mol% CA with ELO, CA100-ELO; non Eutectic) using a fixed COOH/Oxirane group-ratio of 0.8. The symbols are intended to help differentiate the curves and do not represent the data points. The curves represent the mean curves from four measurements (was it 4 measurements for CA100-ELO, or just one?.

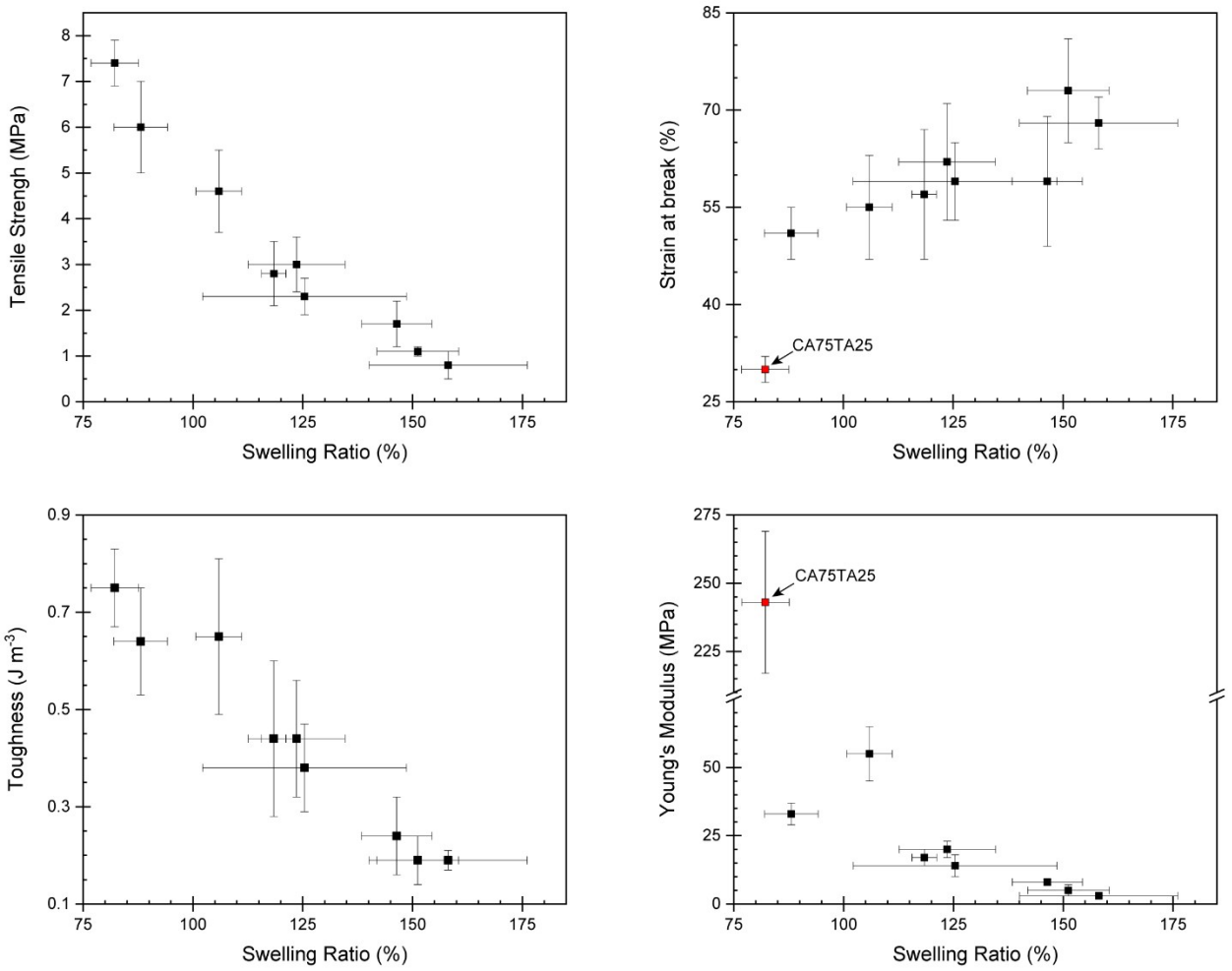

Figure S12. Plots of data of tensile testing data vs swelling ratio of corresponding materials. Data taken from Table 1 of the main manuscript.