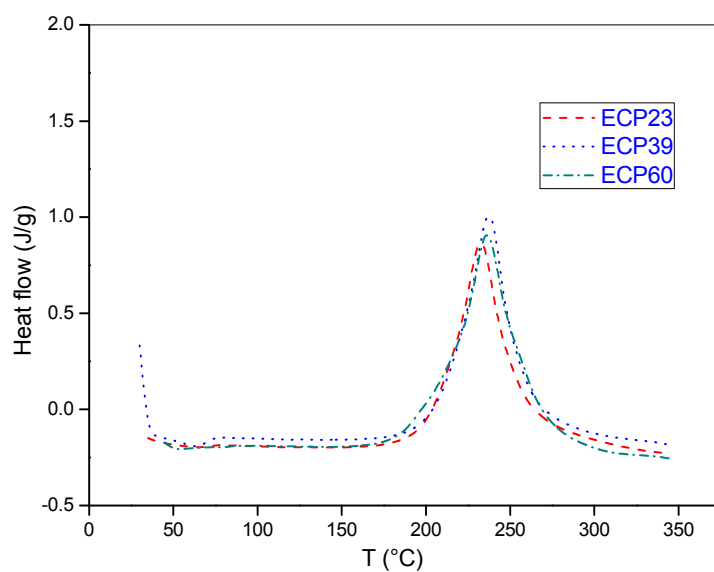
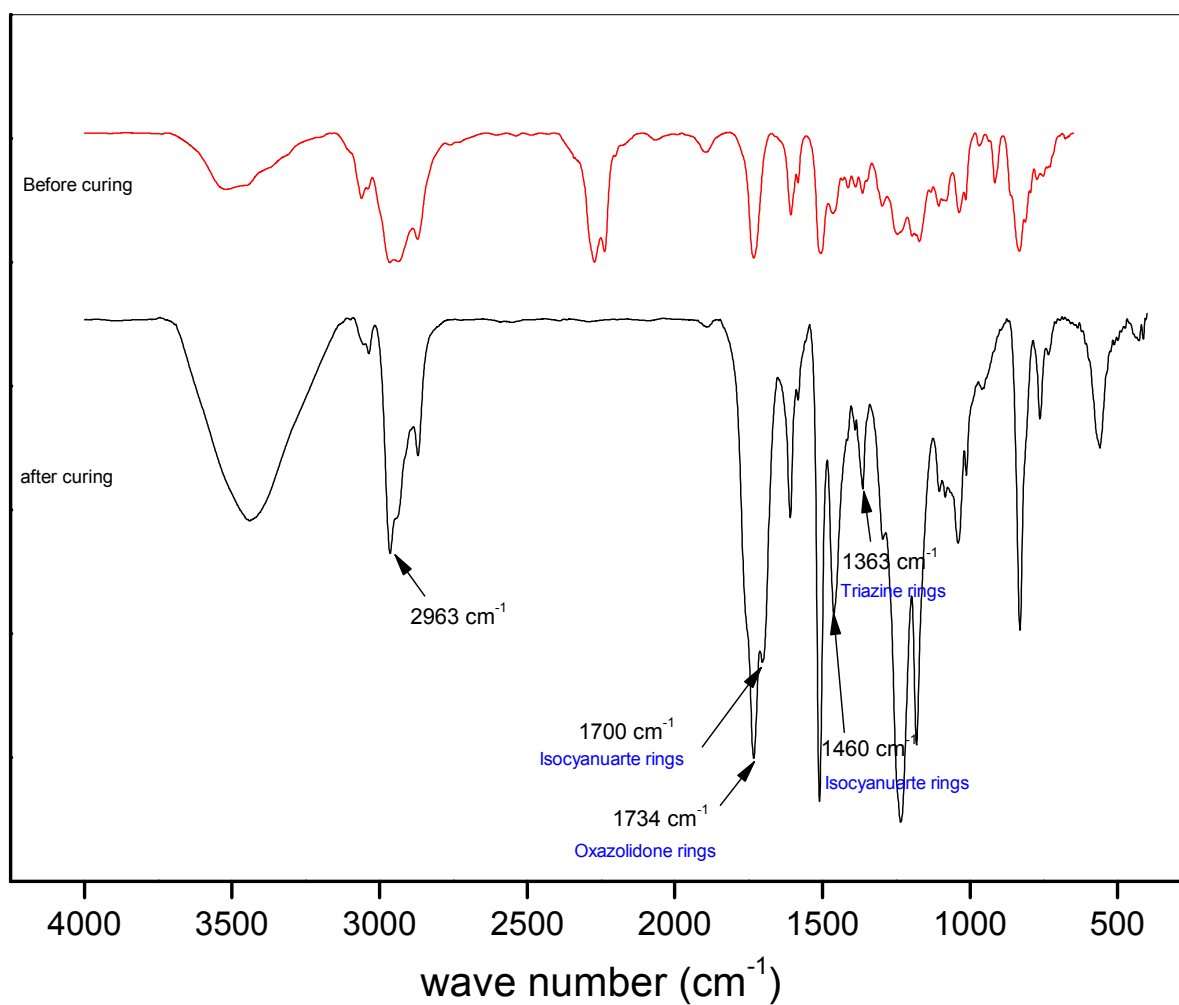


Supplementary Information



S11: DSC profiles of PCLD based SMP compositions (Heating rate-5 °C/min.)



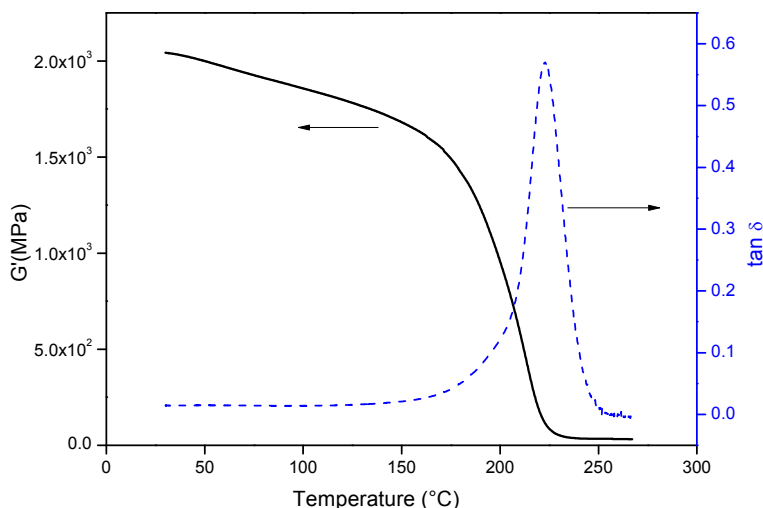
S12: FTIR spectra of ECP39 -before and after cross-linking

SI3: Fold-deploy test –Testing procedure

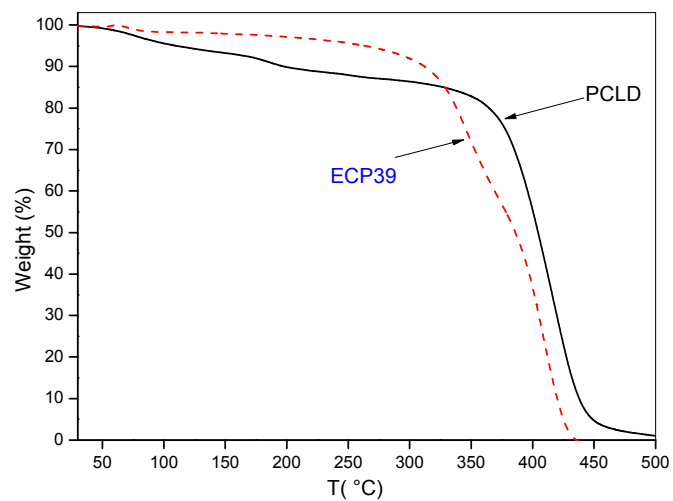
In this test, a rectangular bar of dimension 100 x 10 x 2.5 mm³ was tested for shape recovery studies. Temporary shape is made by applying a force (by hand) at T_{trans} +20 °C and the folded structure is fixed by bringing the material to a lower temperature near to ice water temperature. The SMPs are folded at T_{trans}+20 °C by applying a stress (hand pressure/force is enough for good SMPs) and the folded angle under this force is recorded θ_{max} . Then, the folded shape is plunged into water (to bring into below transition temperature) by releasing the applied hand force and the corresponding angle (without force) is measured as angle fixed (θ_{fix}). The fixed shape was heated above the T_{trans} (T_{trans} +20 °C) to recover the original shape (recovered angle= θ_{final}). By measuring the maximum angle, fixed angle and recovered angle, shape fixity and shape recovery were calculated. The experiments are repeated at least 3 times for repeatability and averages of those values are reported in the article.

$$\text{Shape fixity (\%)} = \left[\frac{\theta_{fix}}{\theta_{max}} \right] \times 100 \quad (1)$$

$$\text{Shape recovery (\%)} = \left[\frac{\theta_{fix} - \theta_{final}}{\theta_{fix}} \right] \times 100 \quad (2)$$



SI4: The DMA profile of ECP00 (without PCLD) indicates the transition temperature at 223 °C



S15: Thermogravimetric analysis of ECP39 composition (10 °C/min., N₂)