Electronic Supplementary Material (ESI) for Polymer Chemistry.

Supplementary Information

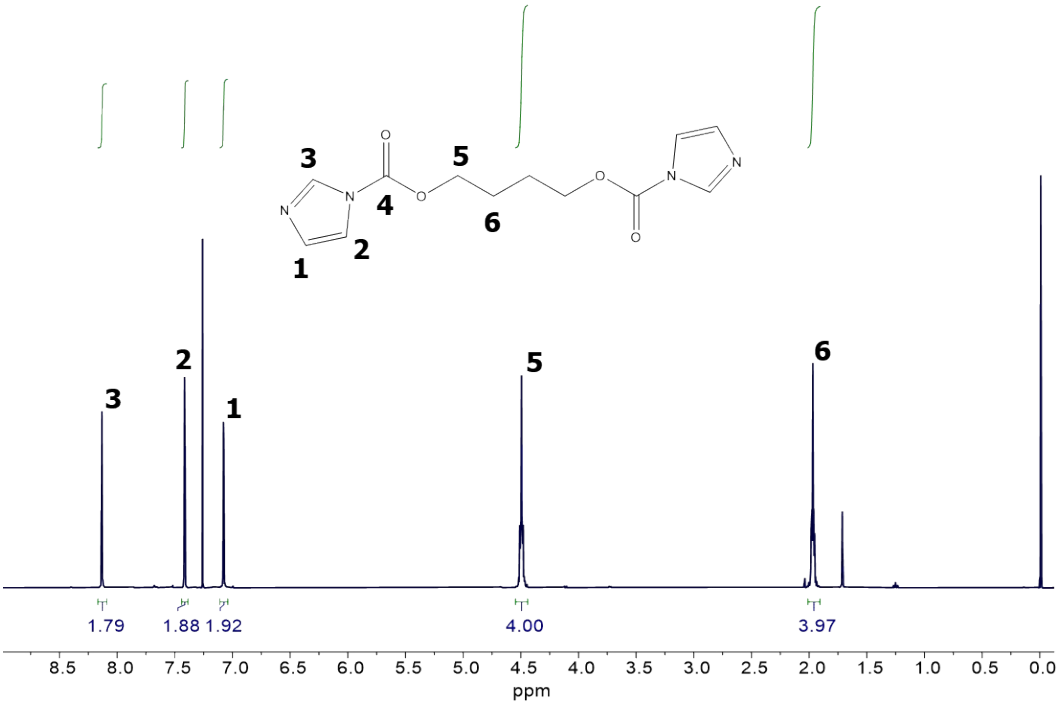


Figure S1. ^{1}H NMR, in $CDCl_3$, confirmed the structure and purity of the 1,4-butyl(bis-carbonylimidazolide) (1,4-BBCI).

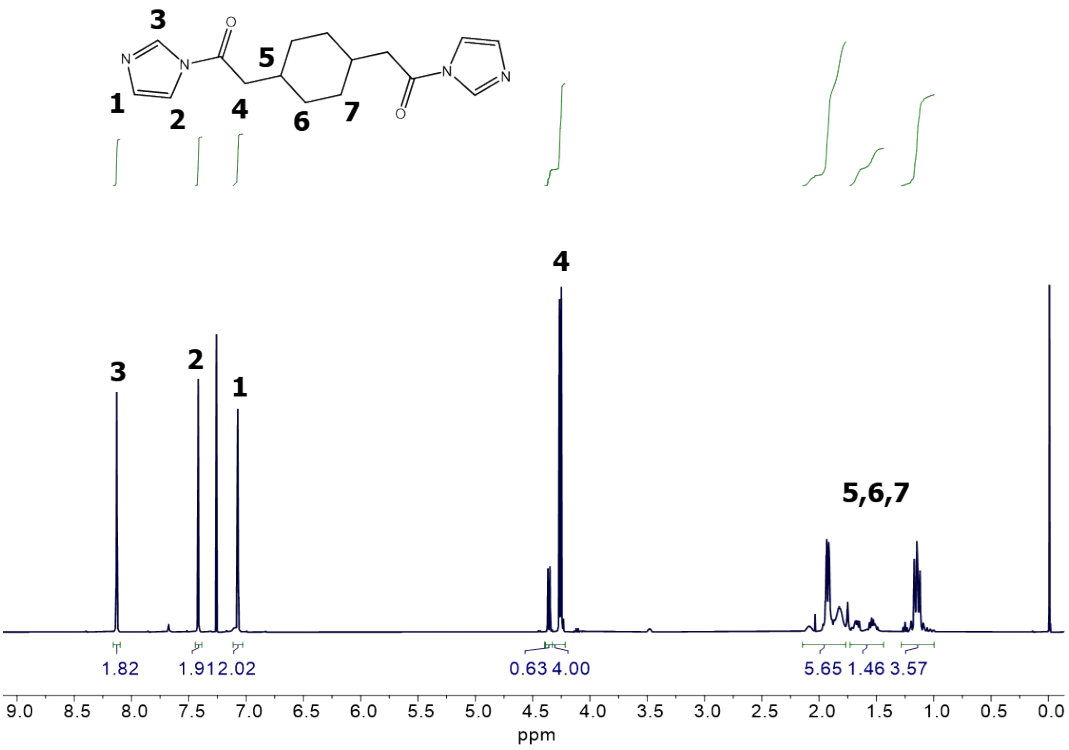


Figure S2. ^{1}H NMR, in $CDCl_3$, confirmed the structure and purity of the 1,4-cyclohexanedimethanol(bis-carbonylimidazolide) (1,4-CHDMBCI).

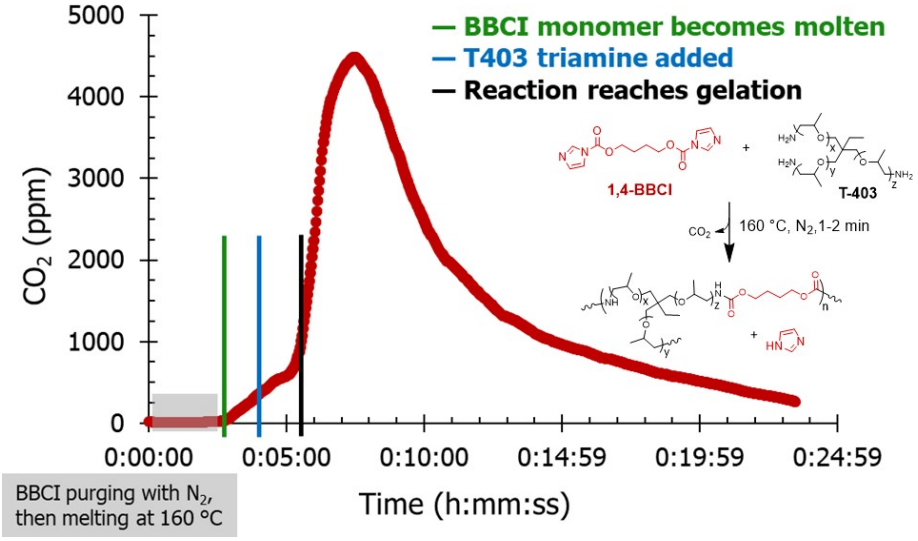
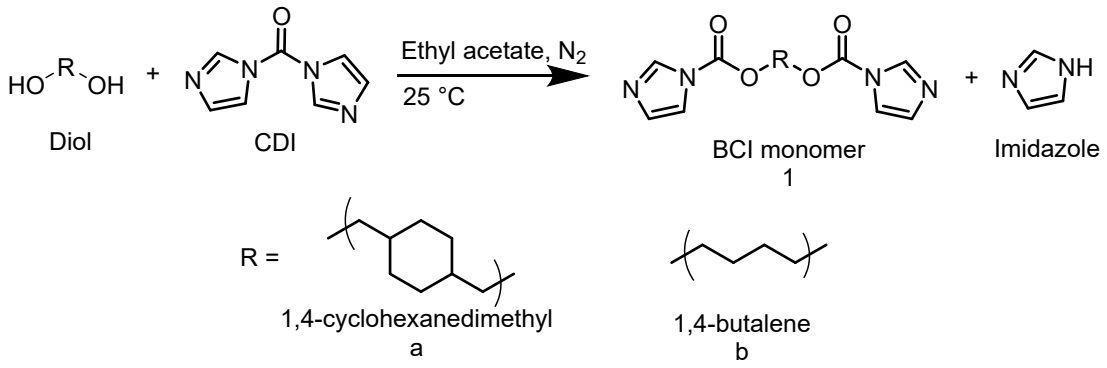


Figure S3. CO_2 generation occurred rapidly once monomers were in the melt-state and increased exponentially upon gelation.



Scheme S1. Ethyl acetate facilitated high conversion of 1,4-butanediol, **b**, and 1,4-cyclohexanedimethanol, **a**, to 1,4-butyl(bis-carbonylimidazolide) (1,4-BBCI), **1b**, and 1,4-cyclohexanedimethyl(bis-carbonylimidazolide) (1,4-CHDMBCI), **1a**, respectively.

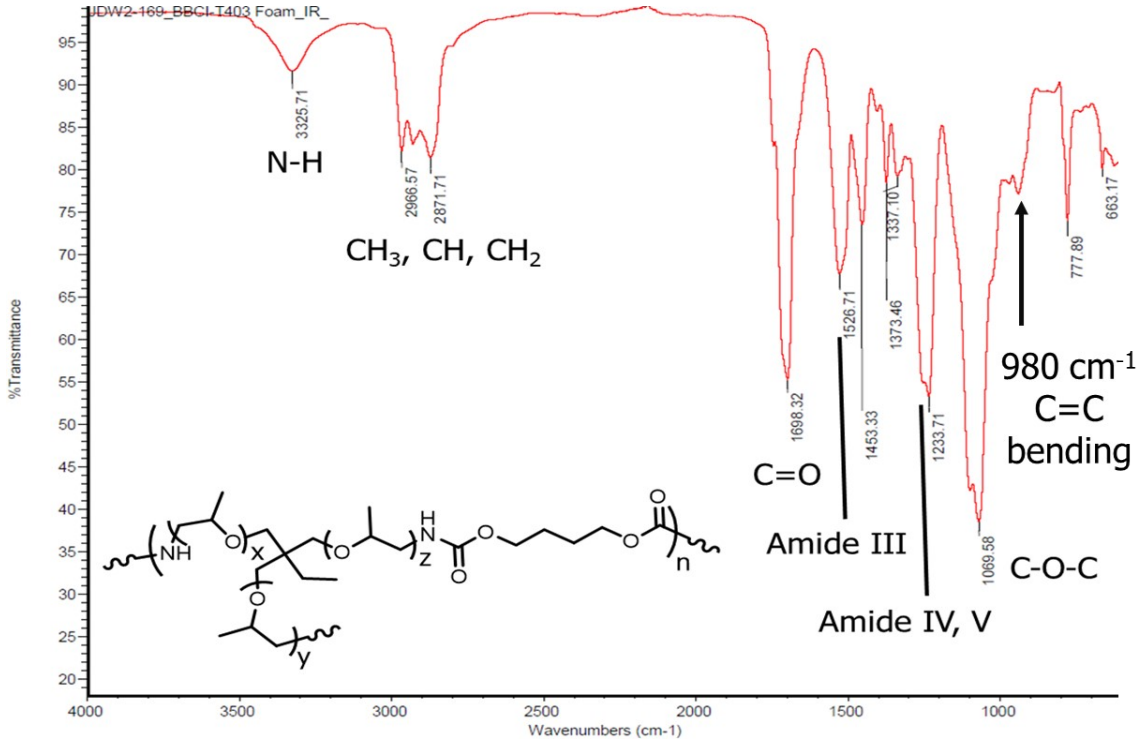


Figure S4. ATR-IR confirmed presence of urethane linkages and alkene moieties of PU foams.

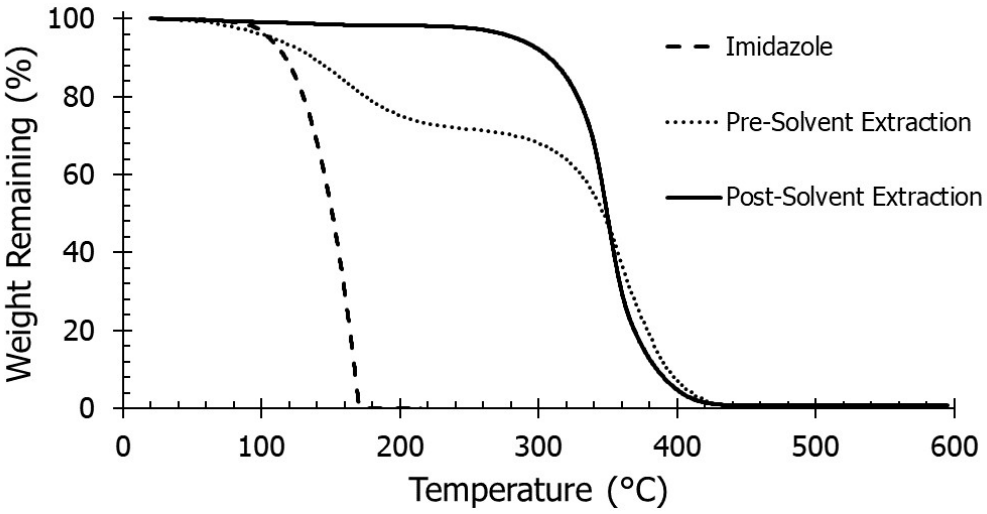


Figure S5. TGA temperature ramp experiment with imidazole small molecule (dashed line) and BBCI-MDA:T-403 0:100 PU foam before (dotted line) and after (solid line) solvent extraction.

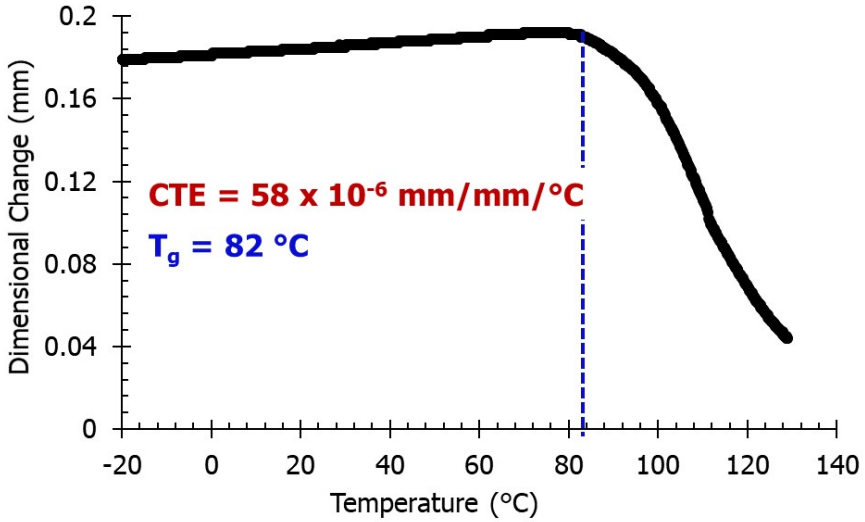


Figure S6. Select TMA temperature ramp of BBCI-TADE:T-403 90:10 provided CTE from slope and T_g from onset point.

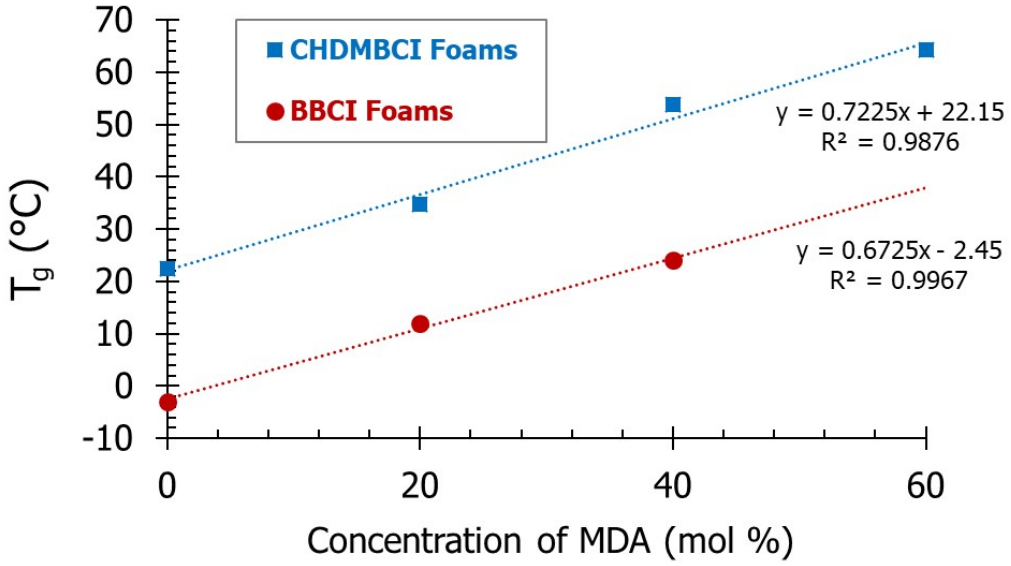


Figure S7. DSC analysis indicated that the addition of MDA increased the T_g of T-403-based PU foams.

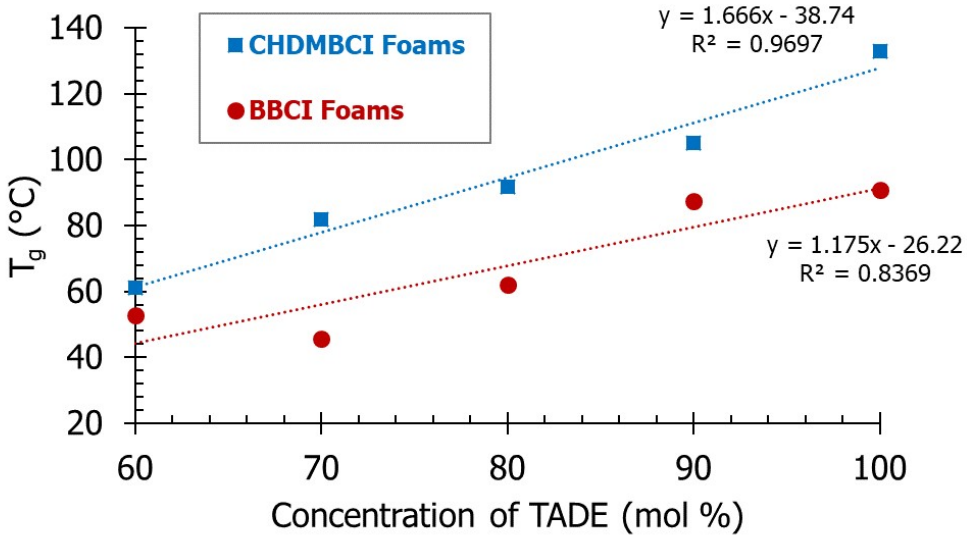


Figure S8. The incorporation of T-403 reduced the T_g for TADE-based PU foams according to DSC analysis.

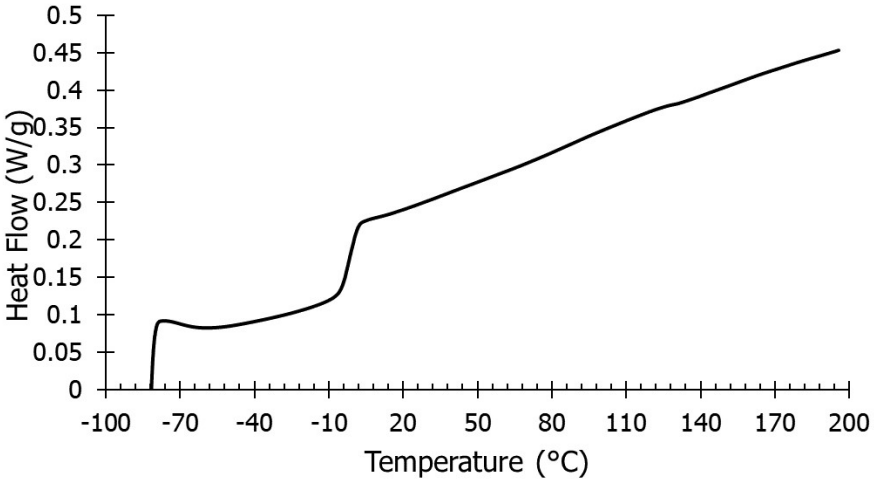


Figure S9. Select DSC trace of BBCI-MDA:T-403 0:100 PU foam with an observed T_g of -3 °C.

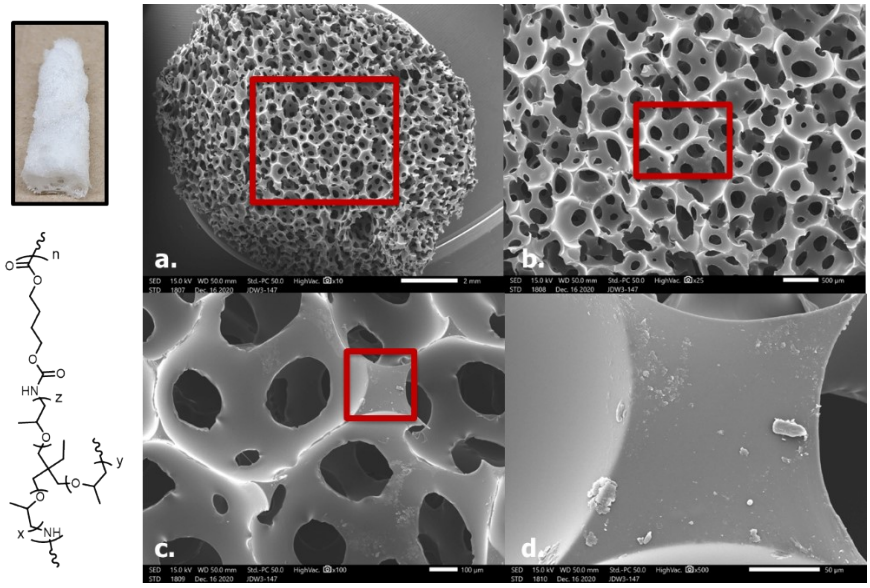


Figure S10. Introduction of surfactant (0.8 wt % Dabco® DC193) into BBCI-MDA:T-403 0:100 produced more open cells than without surfactant.

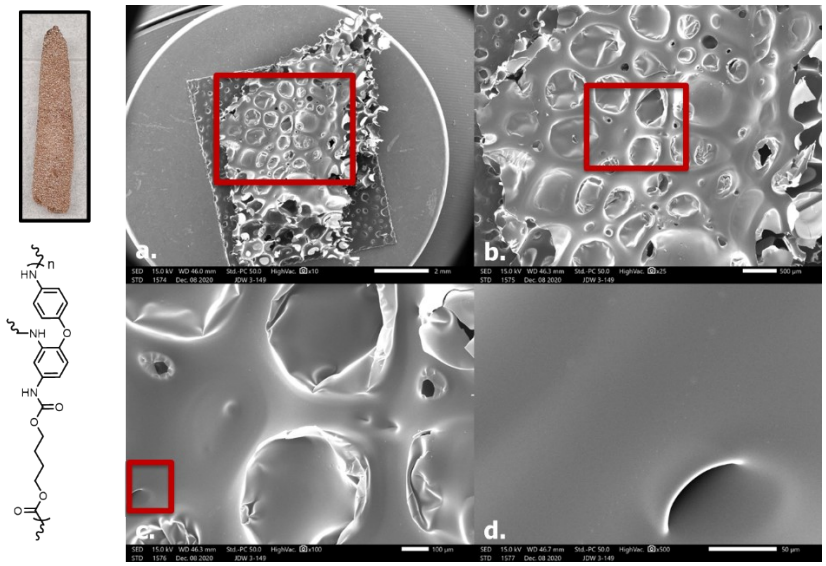


Figure S11. Introduction of surfactant (0.8 wt % Dabco® DC193) into BBCI-TADE:T-403 100:0 produced a more homogeneous distribution of cells than without surfactant.