Supplementary Information for

Polyurethane diacrylate incorporated pressure-sensitive adhesives with enhanced strain recovery

Geonwoo Lee,‡ Jinhoon Lee,‡ Geonho Lee, Chihyun Seo, Myung-Jin Baek, Dong Woog Lee *

School of Energy and Chemical Engineering, Ulsan National Institute of Science and Technology, 50 UNIST-gil, Ulju-gun, Ulsan 44919, Republic of Korea.

*** Corresponding Author**

E-mail address: dongwoog.lee@unist.ac.kr (D.W.L)

‡ These authors contributed equally to this work.

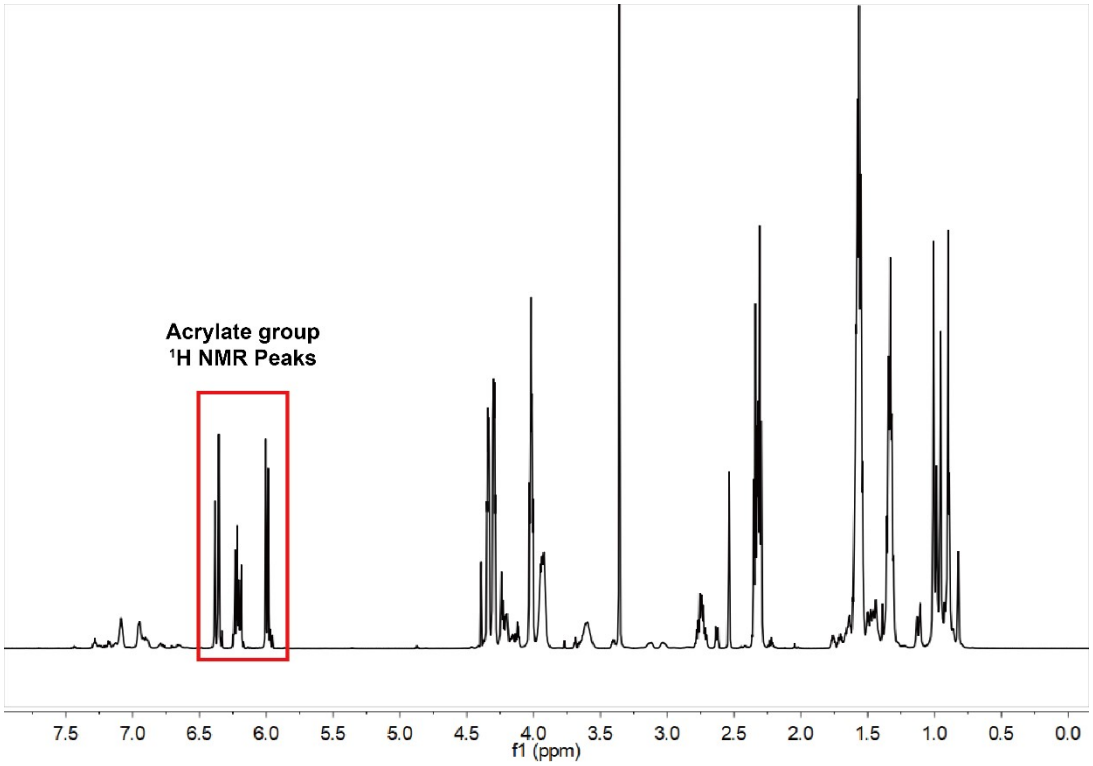

Fig. S1 1H NMR spectrum of PU2100. The peaks in red box region (5.8 – 6.5 ppm) indicates the hydrogens in acrylate group.

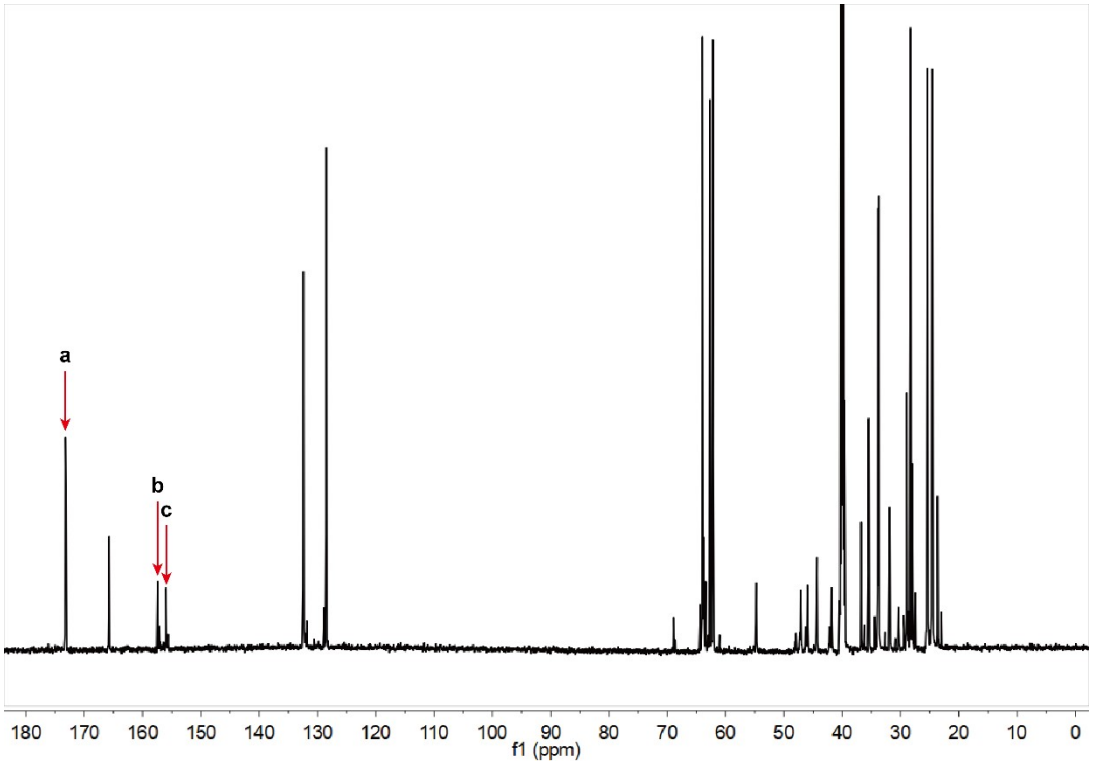

Fig. S2 13C NMR spectrum of PU2100. The peak at **a** (~173 ppm) indicates the carbons in acrylate group, the peak at **b** (~157 ppm) indicates the carbon in carbonyl group in soft segment of polyurethane, and the peak at **c** (~155 ppm) indicates the carbon in urethane bond.

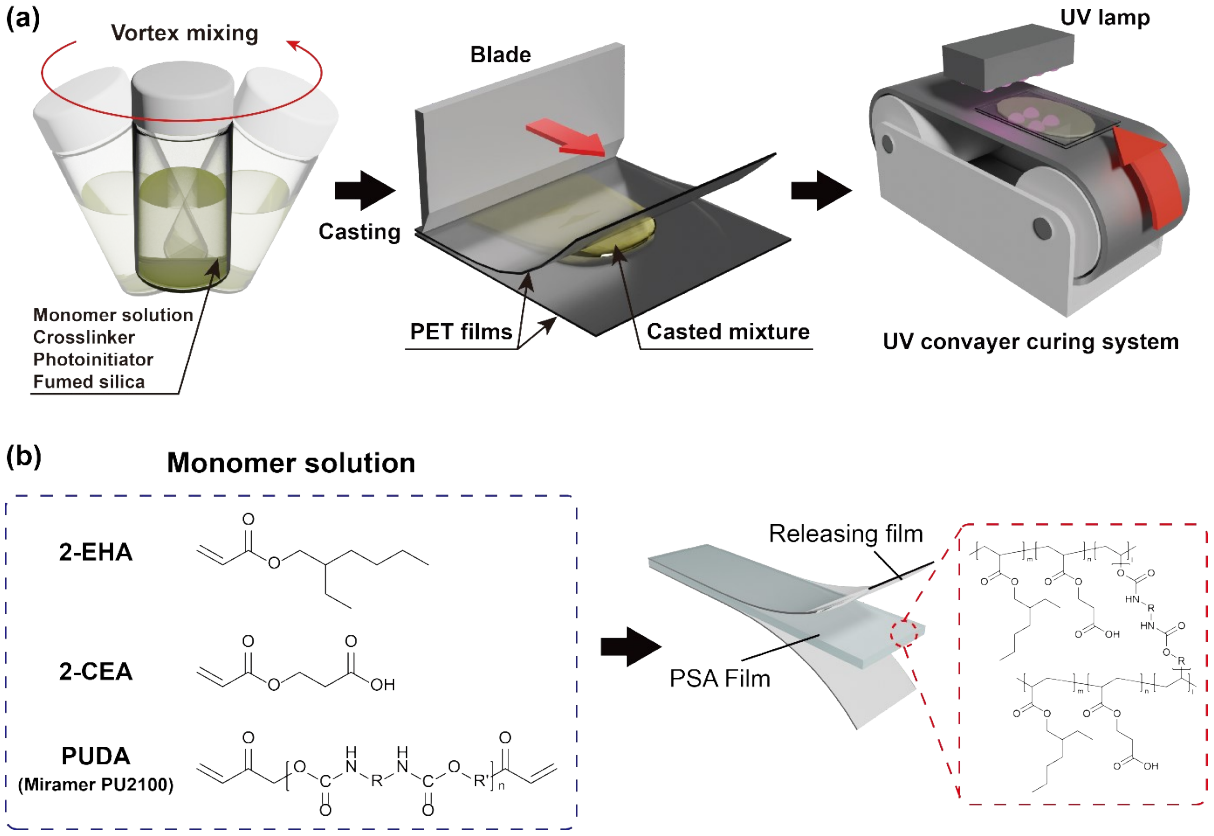

Fig. S3 (a) The experimental schematic to prepare samples. (b) The molecular structure of monomers in PUDA sample's monomer solution and polymer structure after UV curing.

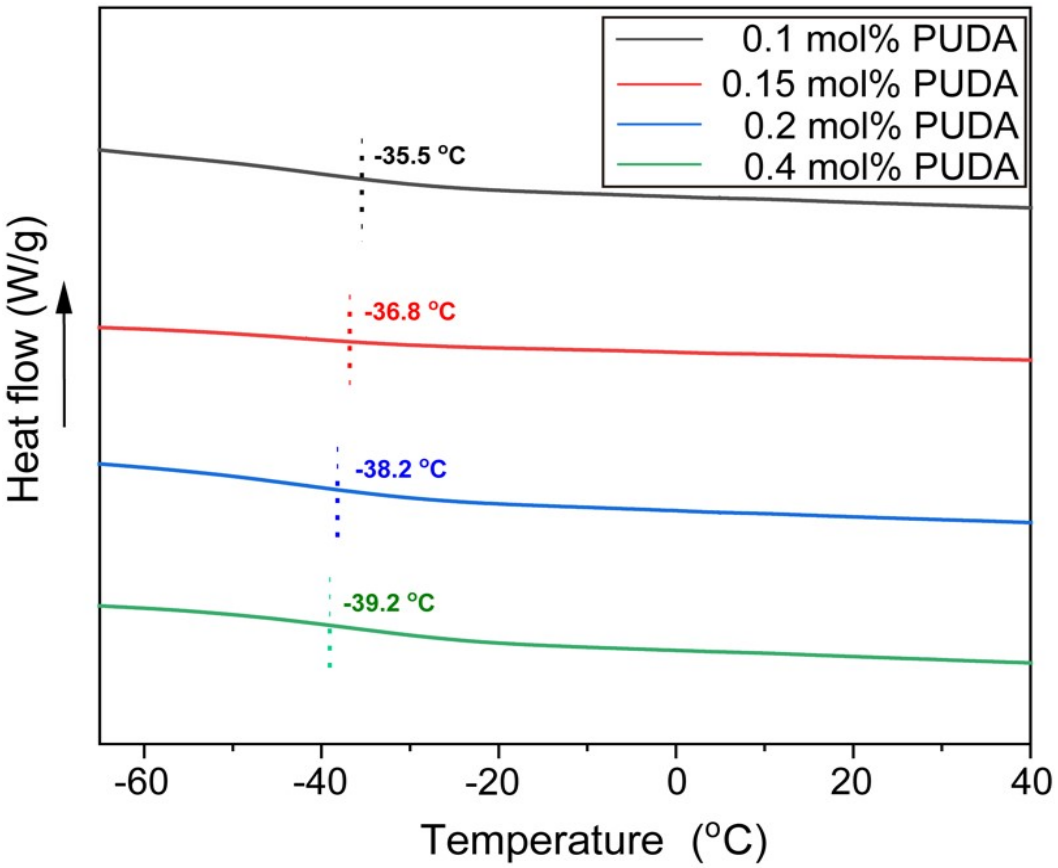

Fig. S4 DSC thermograms showing T_g of 0.1 mol% PUDA (-35.5 ℃), 0.15 mol% PUDA (-36.8 ℃), 0.2 mol% PUDA (-38.2 ℃), and 0.4 mol% PUDA (-39.2 ℃)

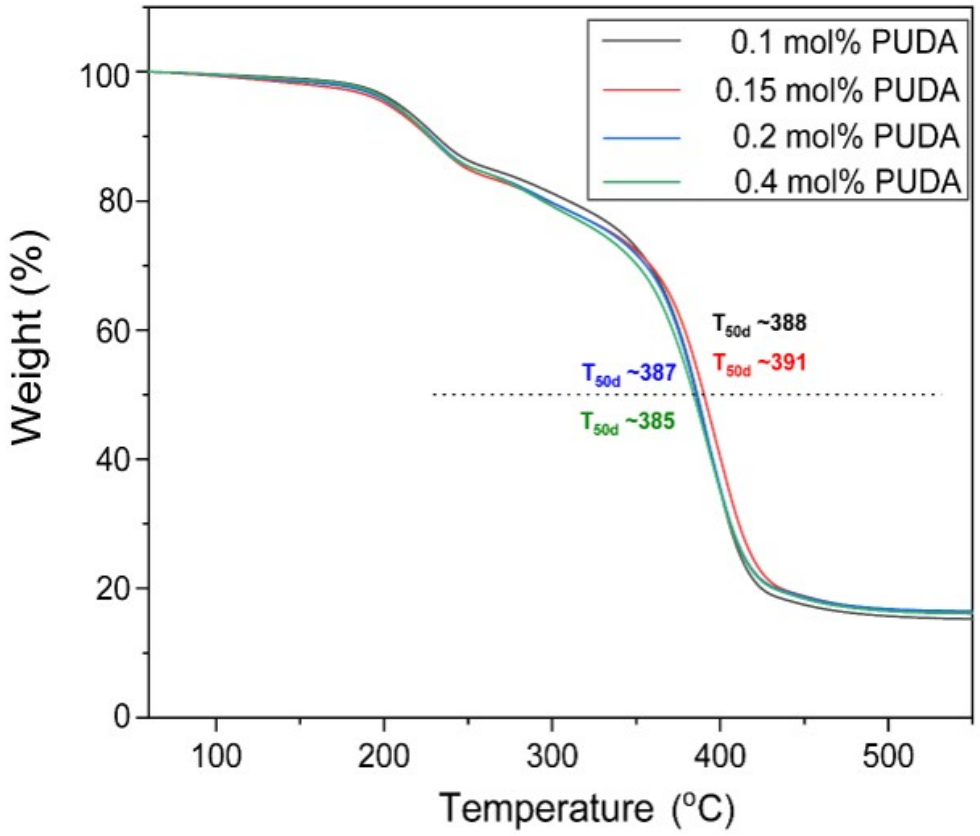

Fig. S5 TGA thermograms showing 50% degradation temperature (T_{50d}) of 0.1 mol% PUDA (388 ℃), 0.15 mol% PUDA (391 ℃), 0.2 mol% PUDA (387 ℃), and 0.4 mol% PUDA (385 ℃)

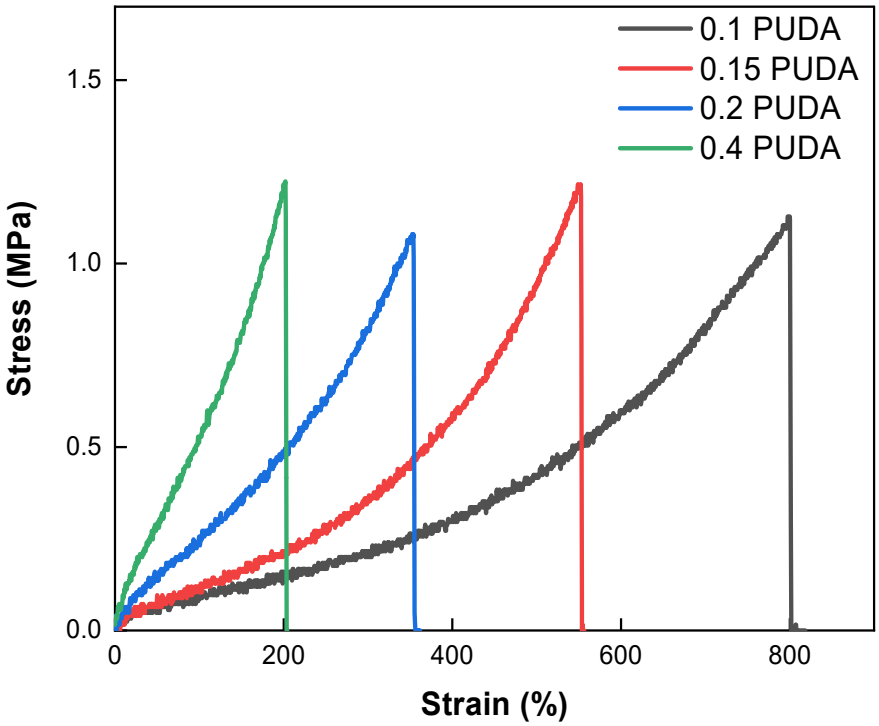

Fig. S6 Stress-strain curve of PSAs with different concentration of PUDA (0.1, 0.15, 0.2, 0.4 mol%) and PSA crosslinked with 0.15mol% HDDA