

Supplementary Information

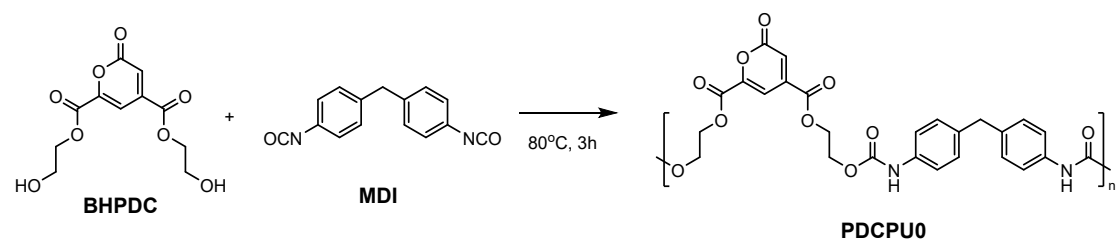
Polyurethanes based on lignin-derived metabolic intermediate
with strong adhesion to metals

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Scheme S1 Synthesis of PDCPU0.

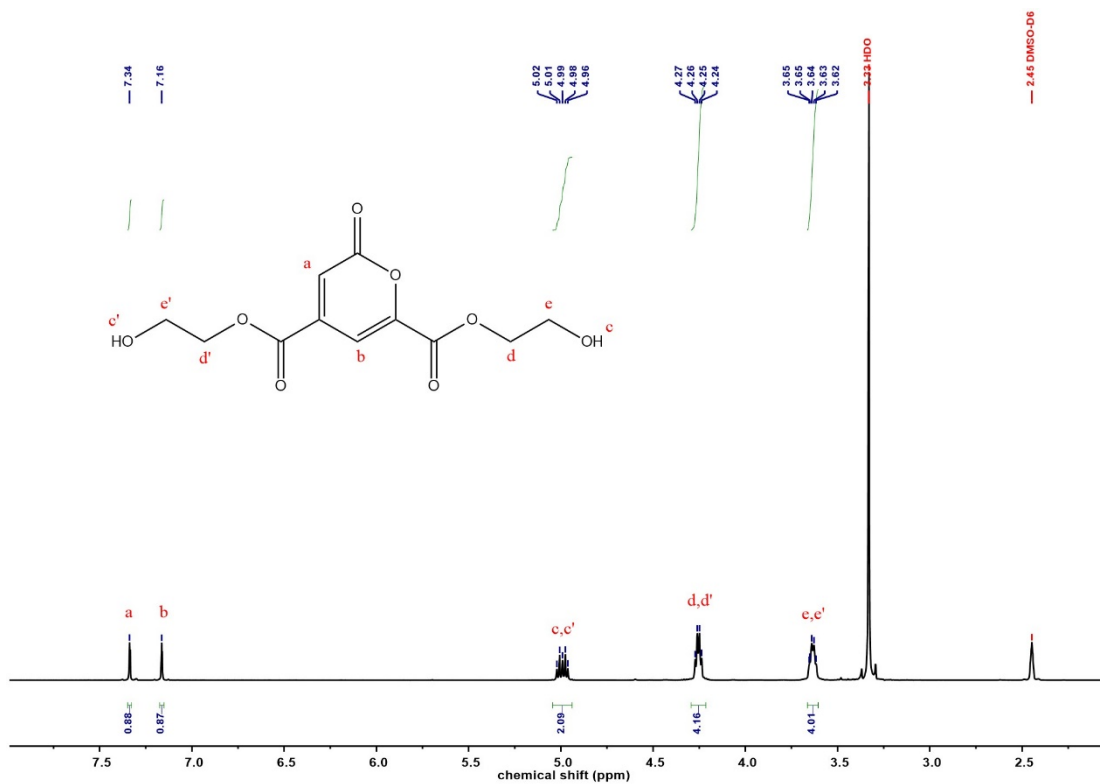


Fig. S1 ¹H NMR spectrum (400 MHz, DMSO-*d*₆, 298 K) of bis(2-hydroxyethyl) 2-oxo-2H-pyran-4,6-dicarboxylate (BHPDC).

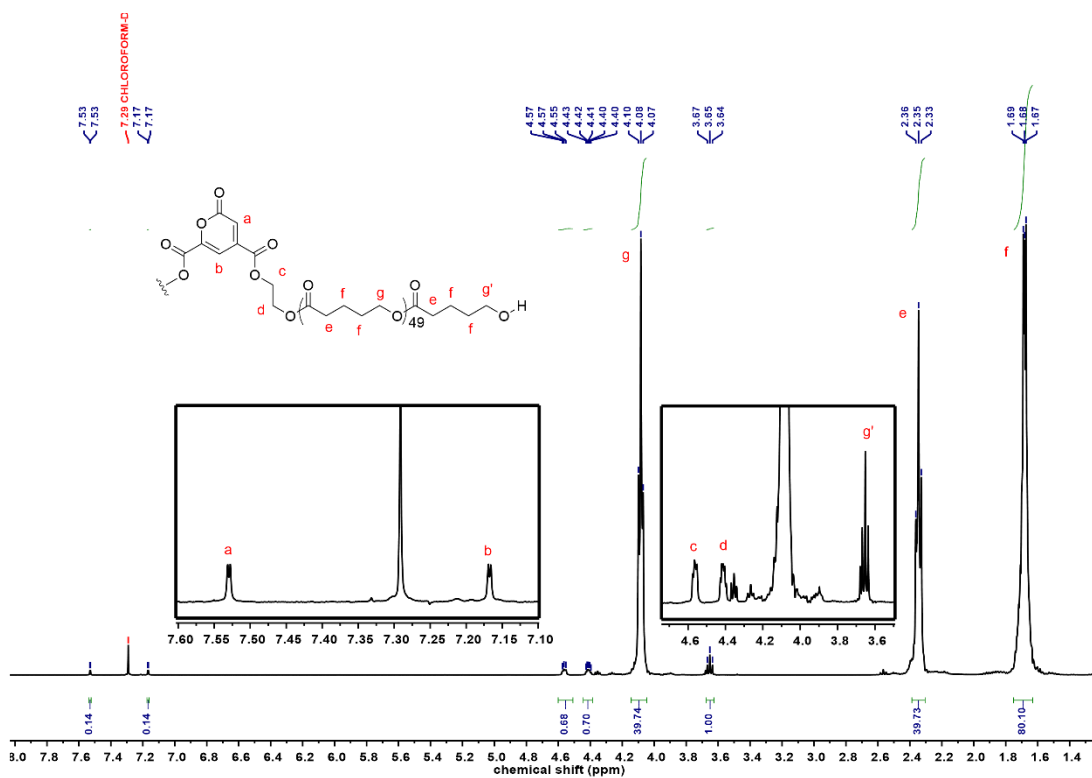


Fig. S2 ¹H NMR spectrum (400 MHz, CDCl₃, 298 K) of PVL50.

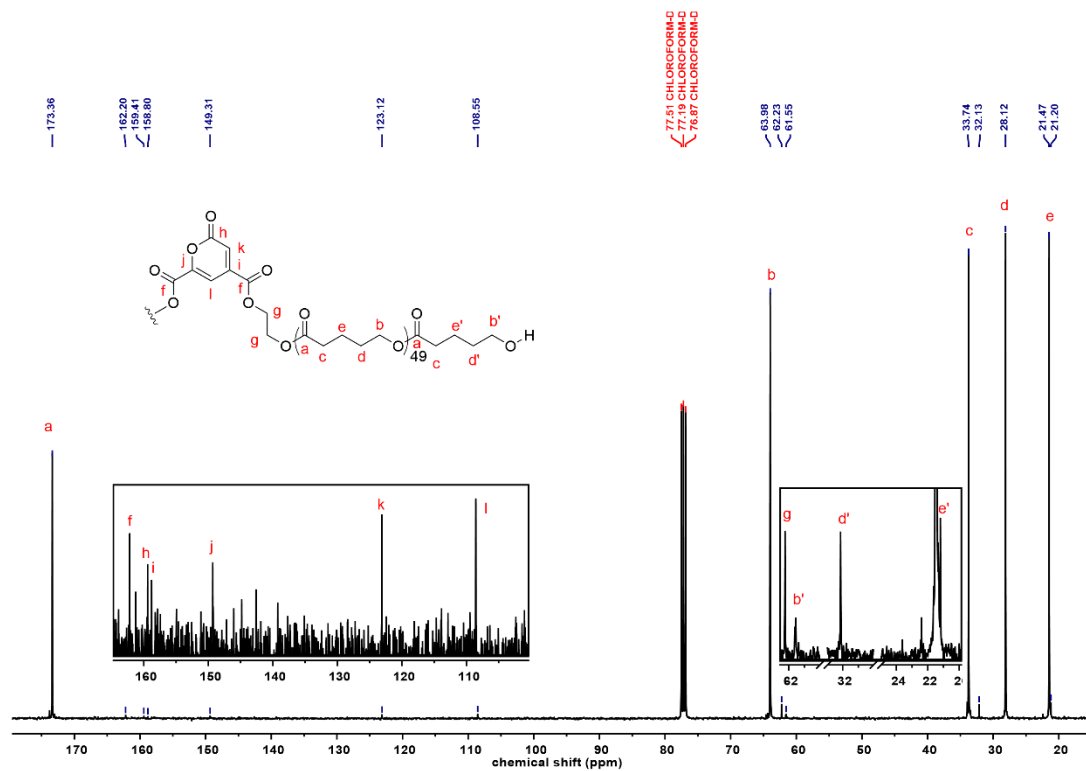


Fig. S3 ¹³C NMR spectrum (400 MHz, CDCl₃, 298 K) of PVL50.

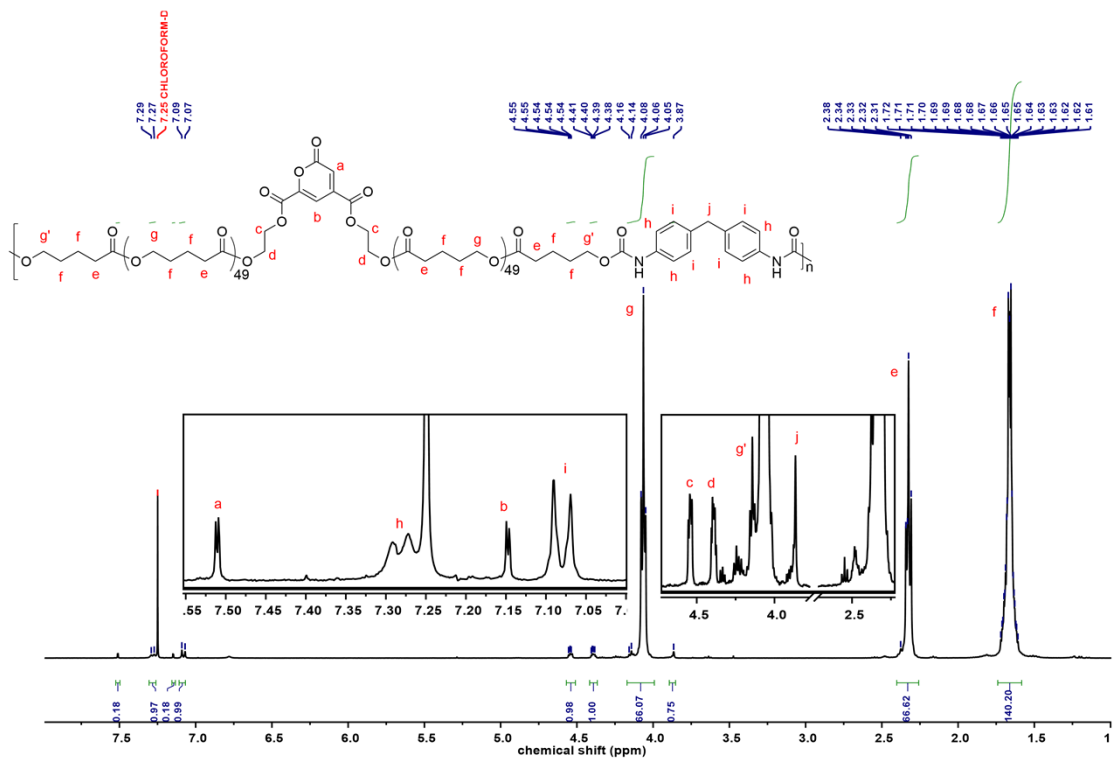


Fig. S4 ^1H NMR spectrum (400 MHz, CDCl_3 , 298 K) of PDCPU50.

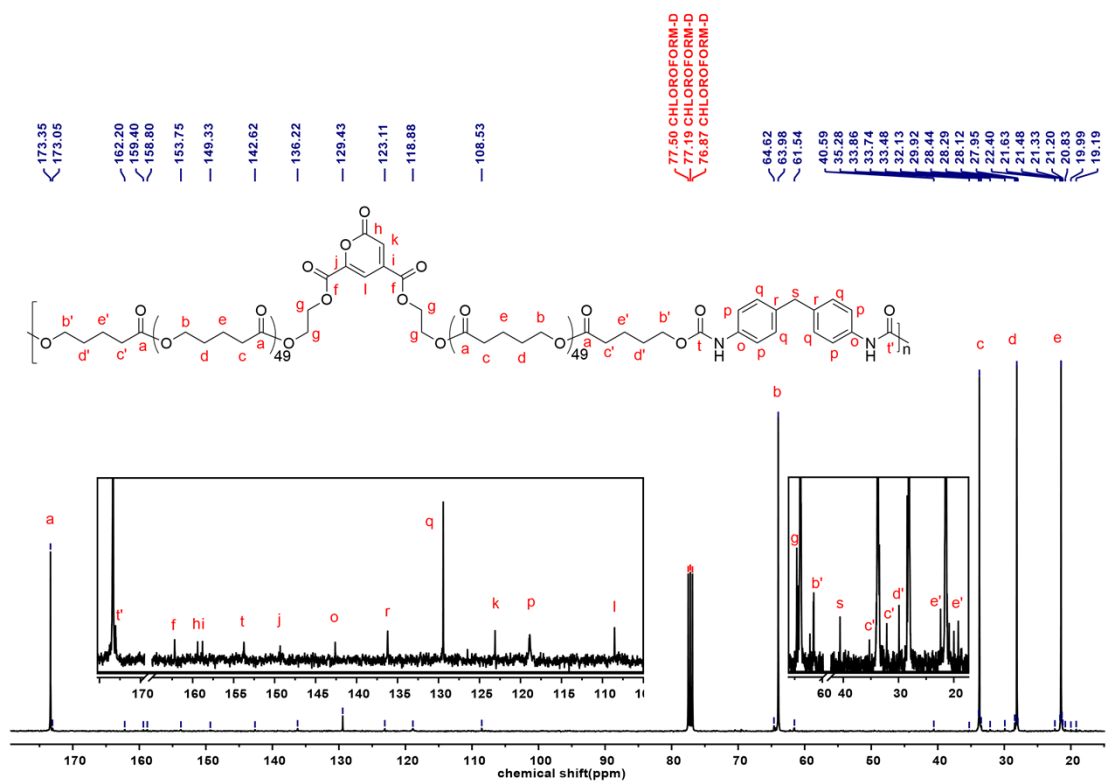


Fig. S5 ^{13}C NMR spectrum (400 MHz, CDCl_3 , 298 K) of PDCPU50.



Fig. S6 PU films formed by solvent casting: (a) PDCPU20; (b) PDCPU30; (c) PDCPU50; (d) EGPU20.

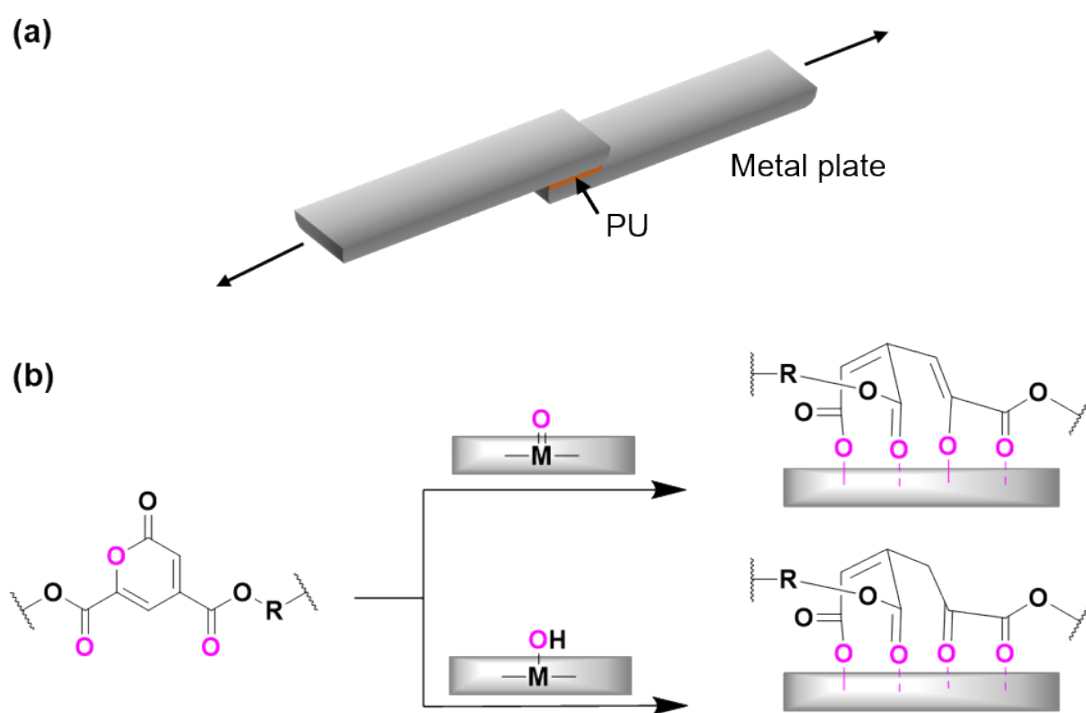


Fig. S7 (a) Illustration of adhesive measurement and (b) anticipated reaction mechanism at the adhesion interface.