

Design, Synthesis and Characterization of Vitrimers with Low Topology Freezing Transition Temperature

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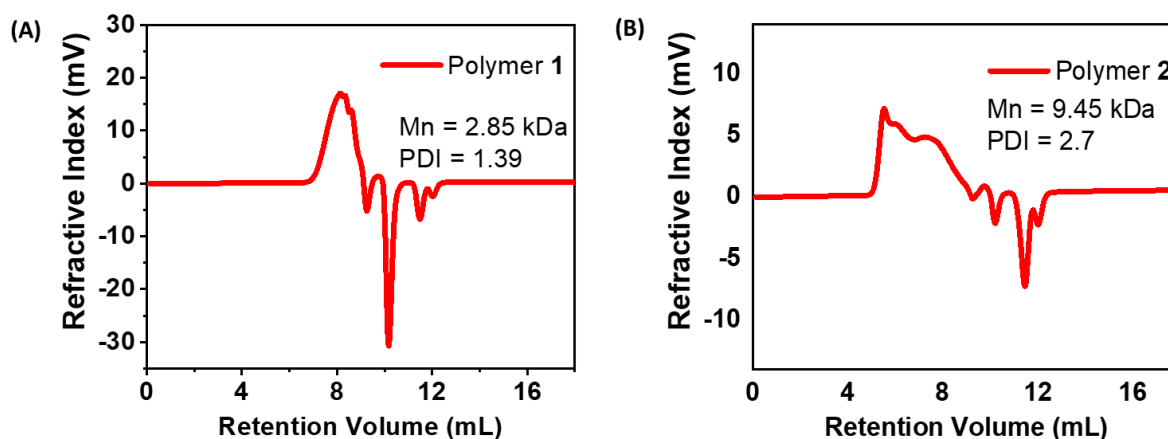
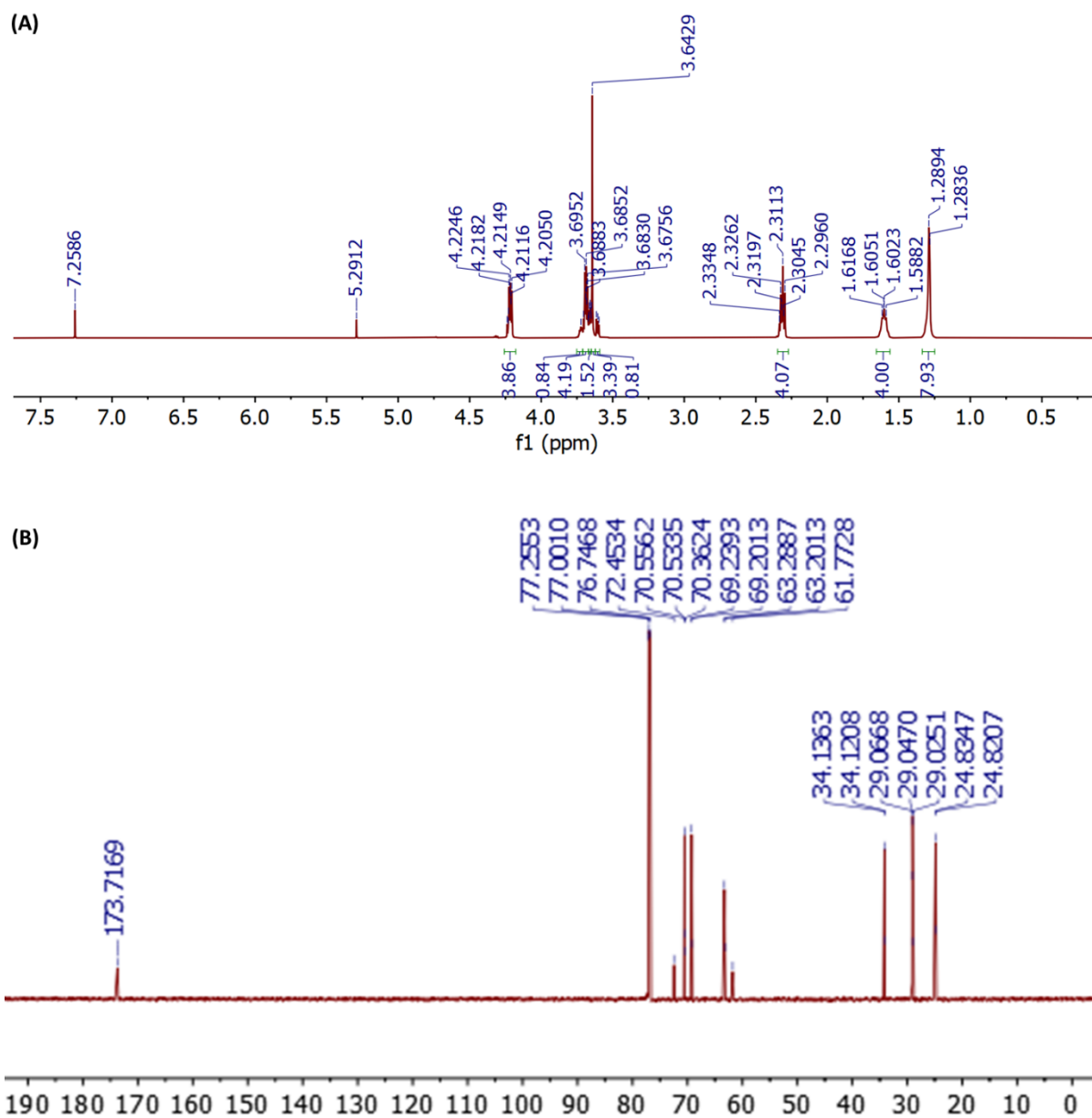


Figure S1. GPC analysis of polymer 1 (A) and 2 (B).



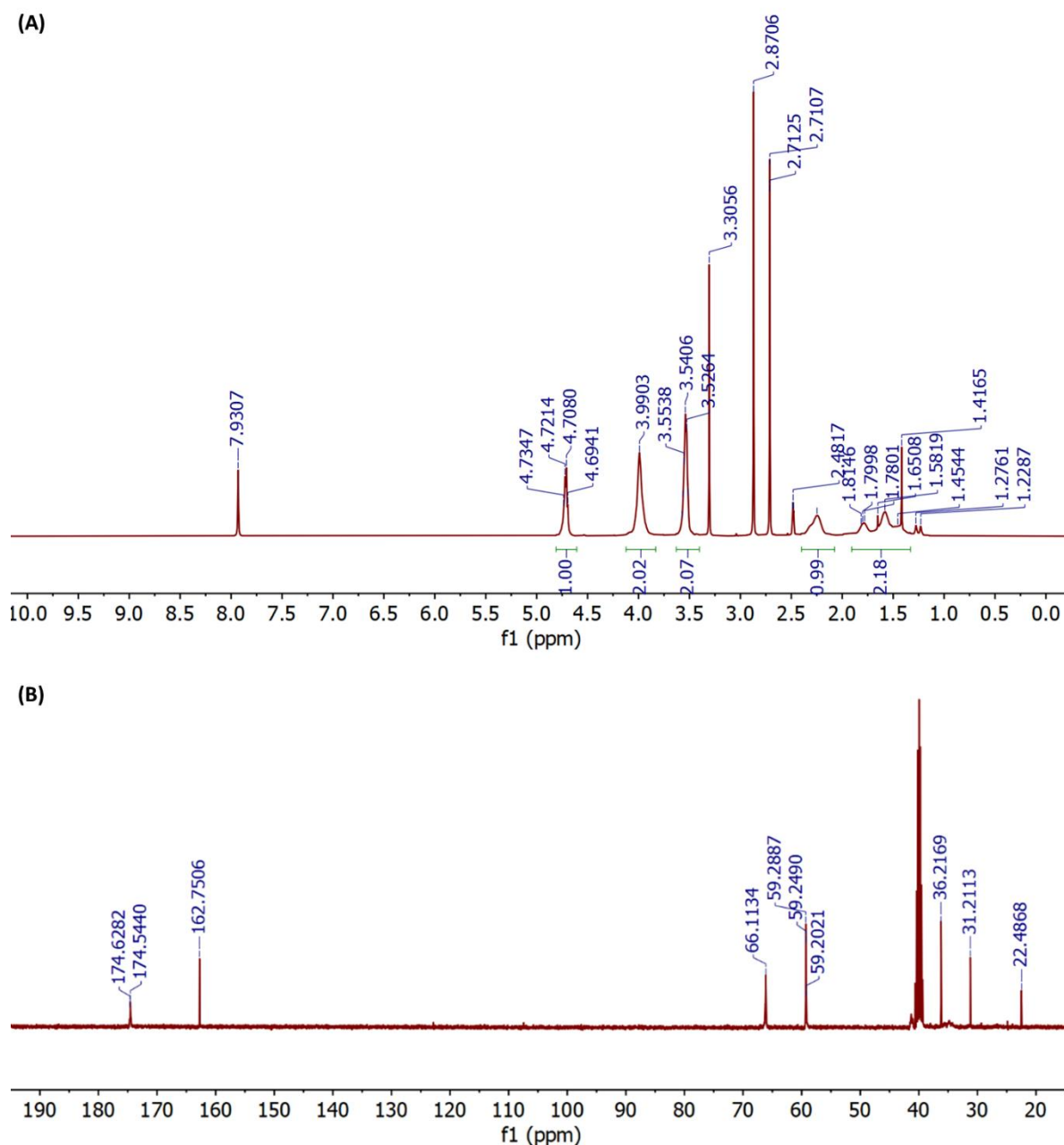


Figure S3. (A) ^1H and (B) ^{13}C NMRs of polymer 2.

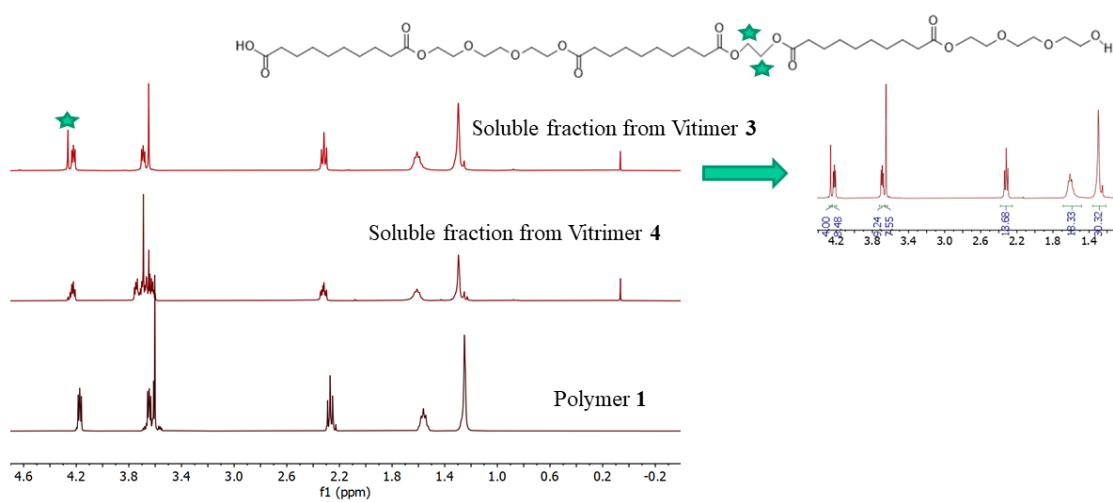


Figure S4. ^1H comparison of Polymer **1** with those of soluble fractions obtained from Vitrimer **3** and **4**. The possible structure of transesterification product obtained from Vitrimer **3** was shown on the top. ^1H NMR of soluble fraction from Vitrimer **3** with proton integration was shown in the right.

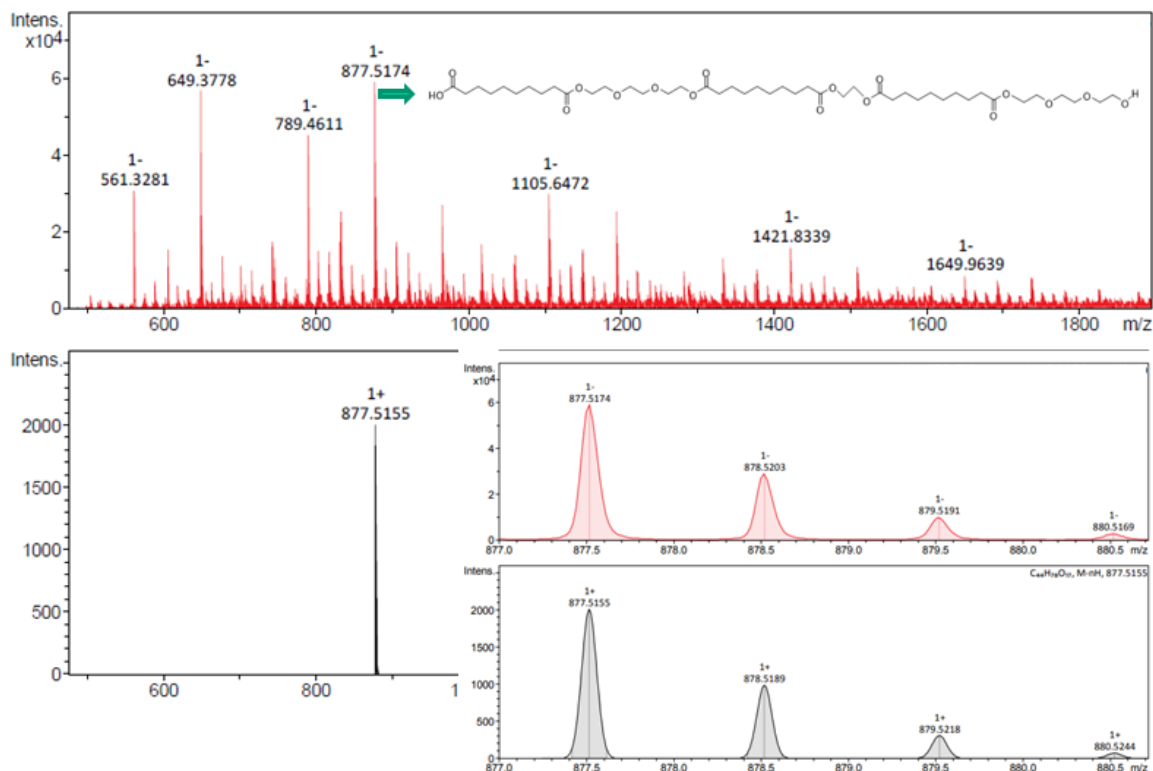


Figure S5. ESI-TOF-MS of soluble fraction obtained from Vitrimer **3**. The chemical structure of component identified was shown and it was observed at m/z value of 877.5155. Bottom left figure showed isotopic pattern of peak at 877.5155 (black) which was well matched simulated pattern (red).

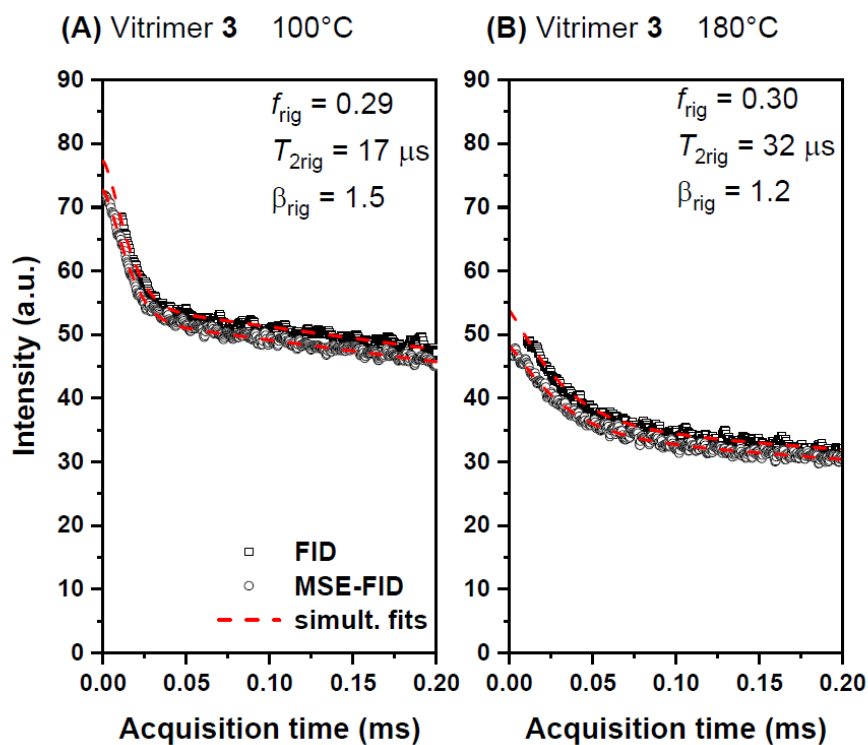


Figure S6. Free induction decay (FID) and MSE refocused FID analyses of Vitrimer **3** at 100 °C (A) and 180 °C (B).

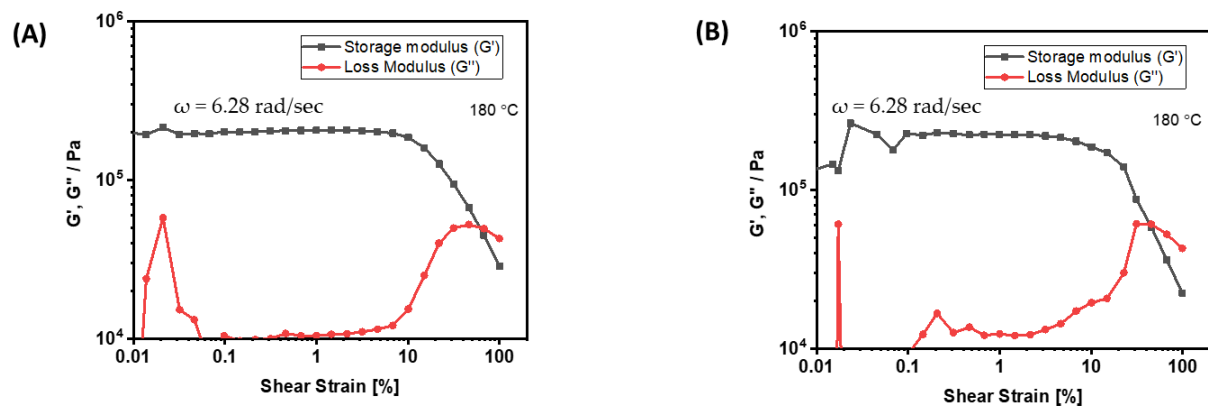


Figure S7. G' and G'' plot vs shear strain of Vitrimers 3 (A) and 4 (B) measured at 180 °C. Note that these measurements were done after experiments of Figure 7. The somewhat increased storage modulus may be due to settling of the sample in the rheometer tool and/or aging.