Electronic Supplementary Material (ESI) for Polymer Chemistry

Supporting Information

Synthesis and evaluation of thermally-responsive coatings based upon Diels-Alder chemistry and renewable materials

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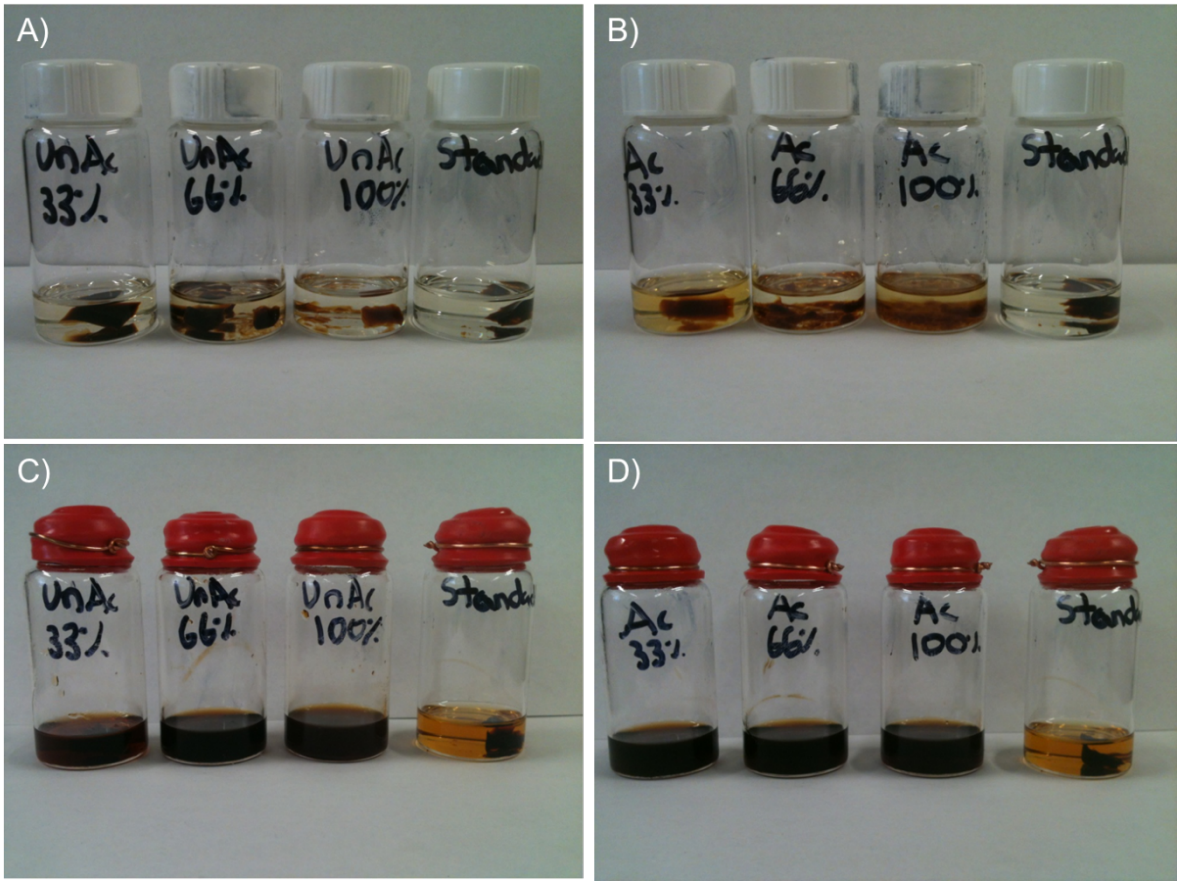

Figure S1. Pictographs of TR-SBO (Left - unacetylated; Right - acetylated) cured with IPDI in a one to one NCO:OH ratio in DMF before (Top) and after (Bottom) thermal treatment.

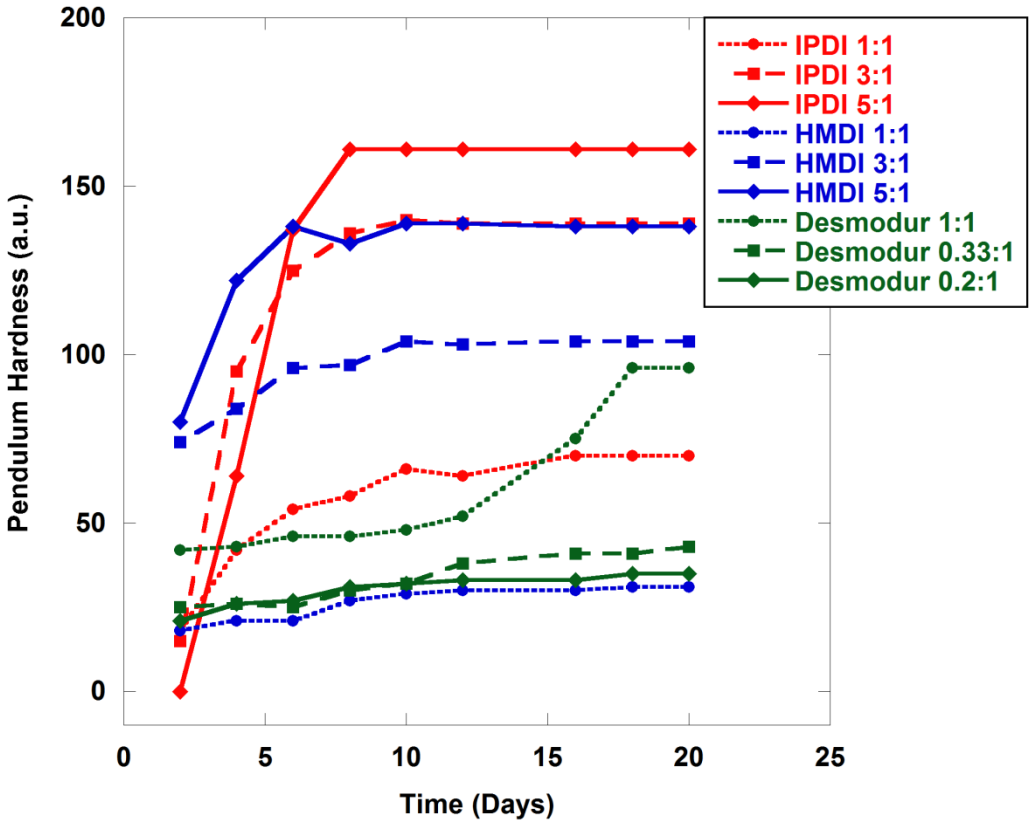

Figure S2. Hardness measurements of TR-SBO films (Sample 4) cured with various NCO:OH ratios and various curing agents.

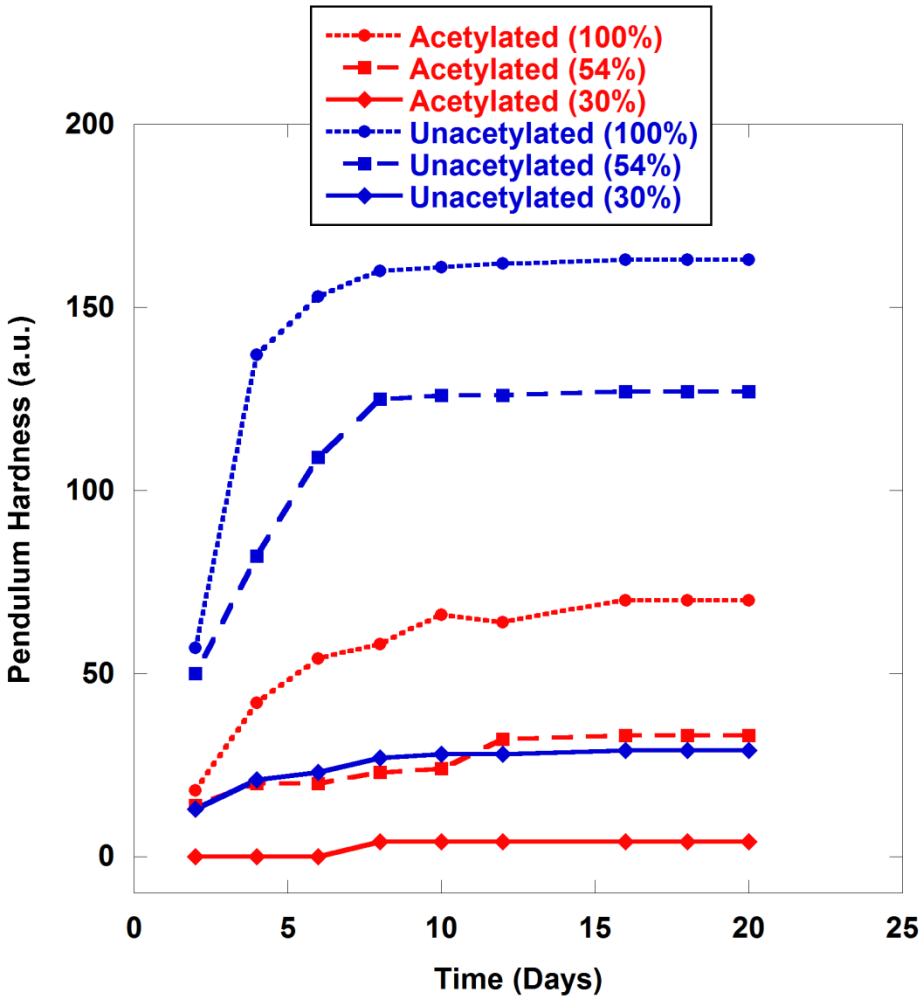

Figure S3. Hardness measurements of TR-SBO films (Unacetylated - Samples 1, 2 and 3; Acetylated - Samples 4, 5 and 6) cured with IPDI in a one to one NCO:OH ratio.

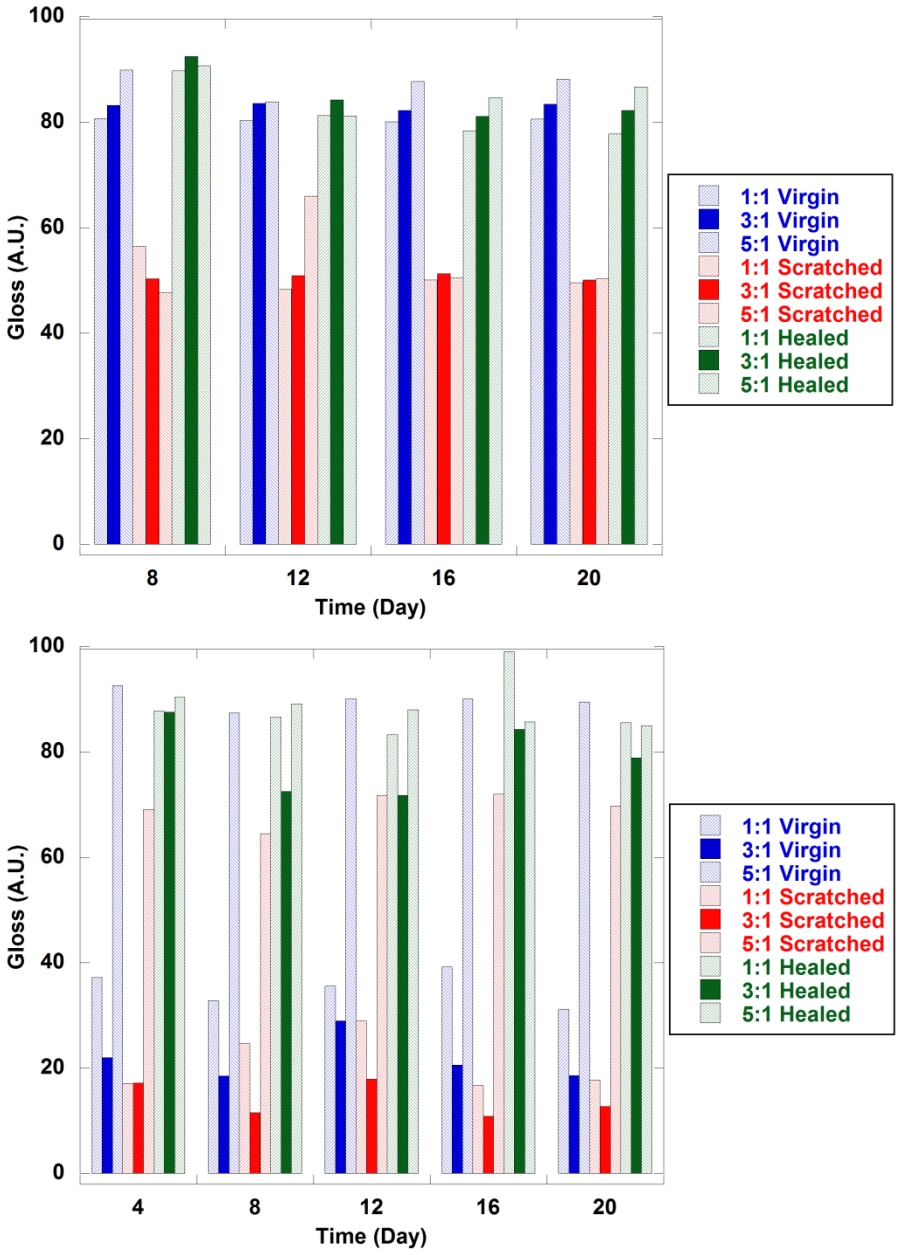

Figure S4. Gloss measurements of TR-SBO topcoat resins [Top - Sample 6 (30% Diels-Alder); Bottom - Sample 4 (100% Diels-Alder)] prepared with IPDI and various NCO:OH ratios after deformation and exposure to thermal treatment.

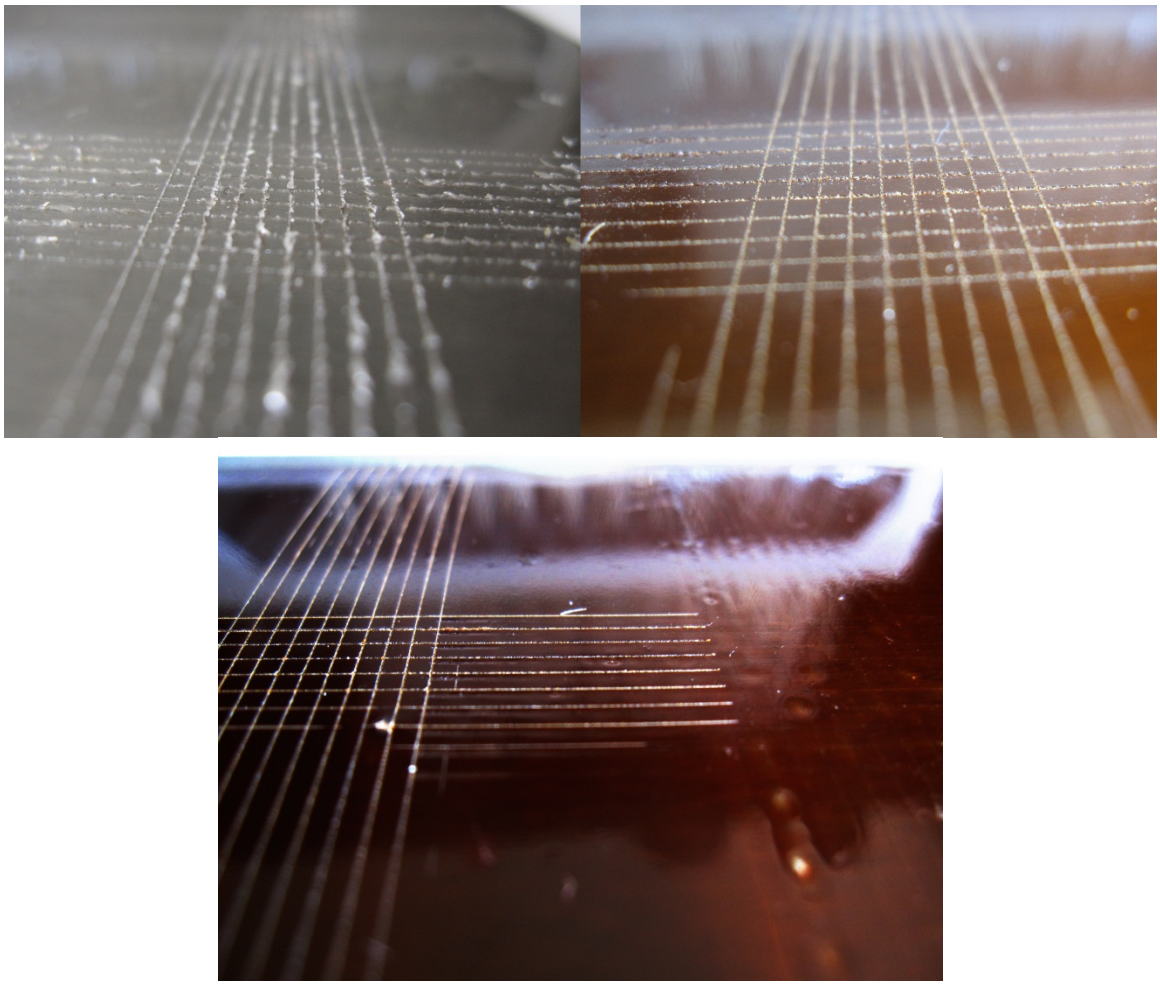

Figure S5. Pictographs of samples before and after thermal treatment following cross cut deformation. All samples cured with IPDI in a one to one NCO:OH ratio. Top left : control film (FSBO) before thermal treatment; Top right : Sample 4 (100% Diels-Alder) before thermal treatment; Bottom : Sample 4 (100% Diels-Alder) before and after thermal treatment.