Shape memory characteristics of PU elastomers

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Shape memory polymer is a typical class of stimuli-responsive materials that are activated by external stimuli such as heat, light, and electricity. The polyurethane elastomer is one of the most widely investigated shape memory polymers owing to the mechanical robustness and ease of production. In this study, we used polyethylene glycol and polycarbonate polyol to synthesize shape memory polyurethane elastomers. The degree of phase separation of the polyurethane matrix, which were related to the shape memory properties of the SMPU, were tunable by varying the molar ratio of polyol mixtures.