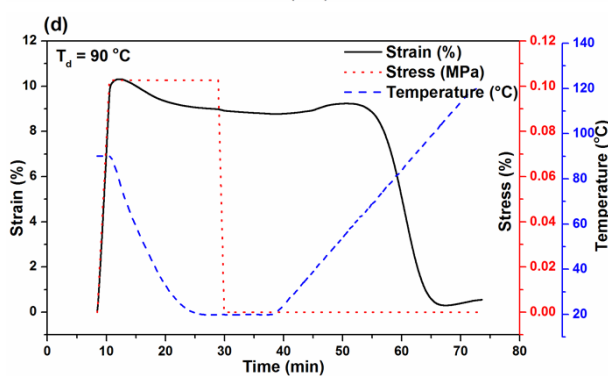
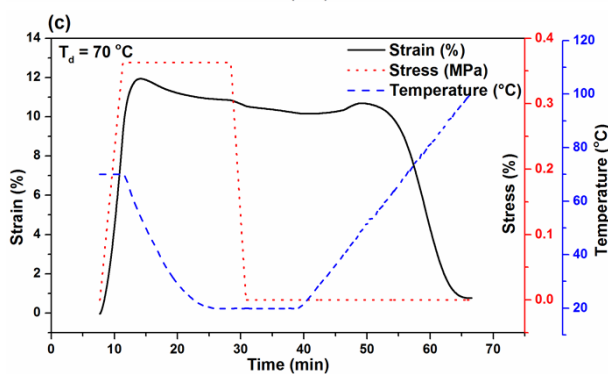
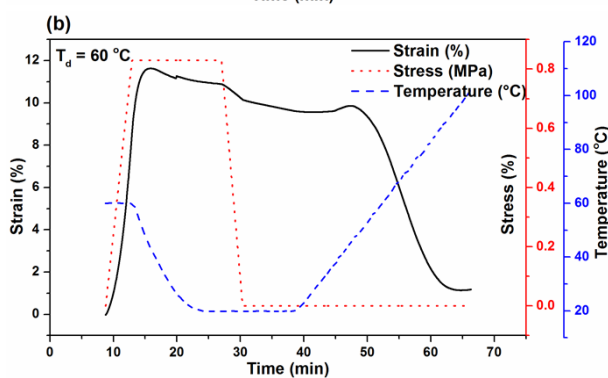
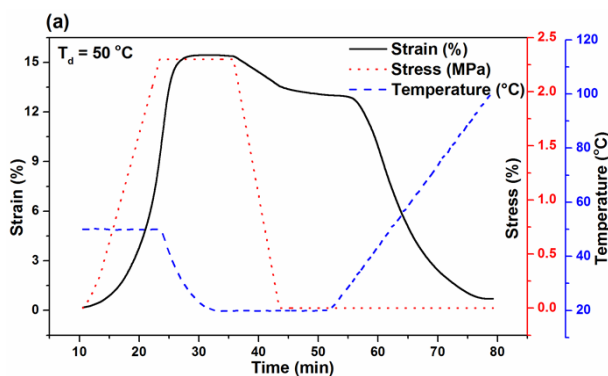


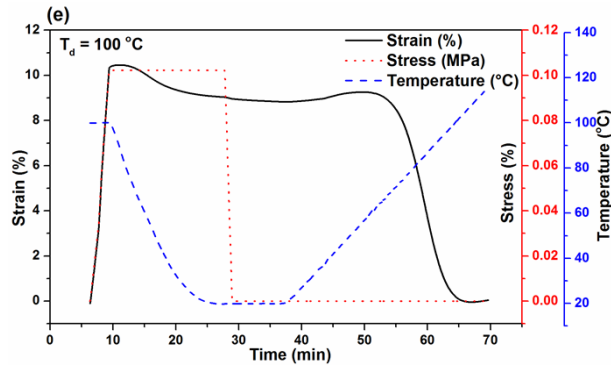
## Electronic Supplementary Information

### Relation between Temperature Memory Effect and Multiple-Shape Memory

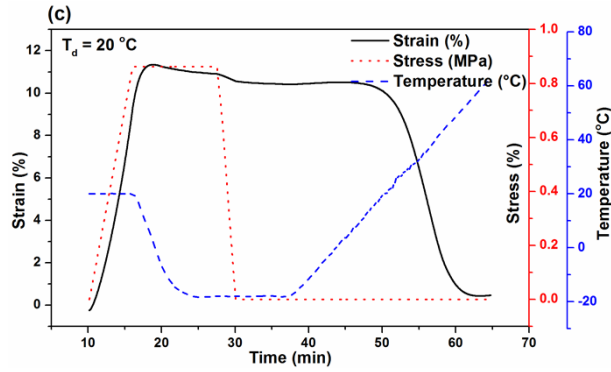
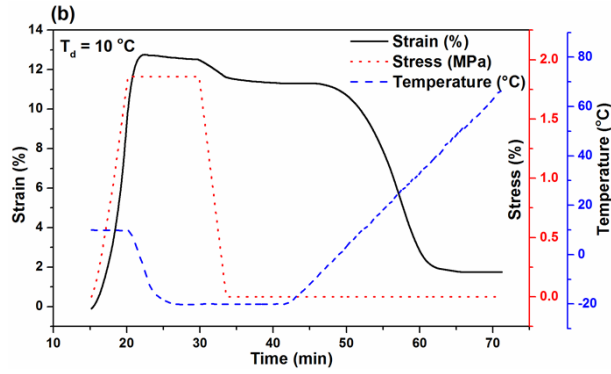
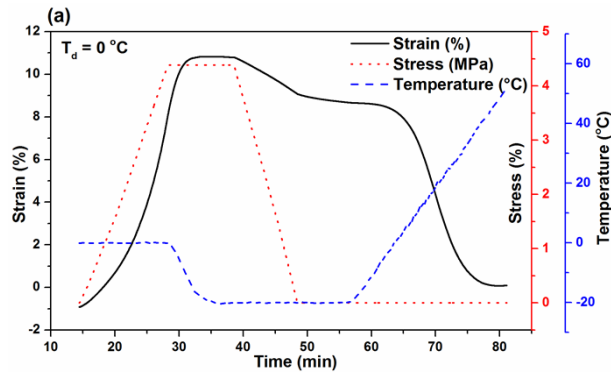
#### Behaviors Based on Polymer Networks

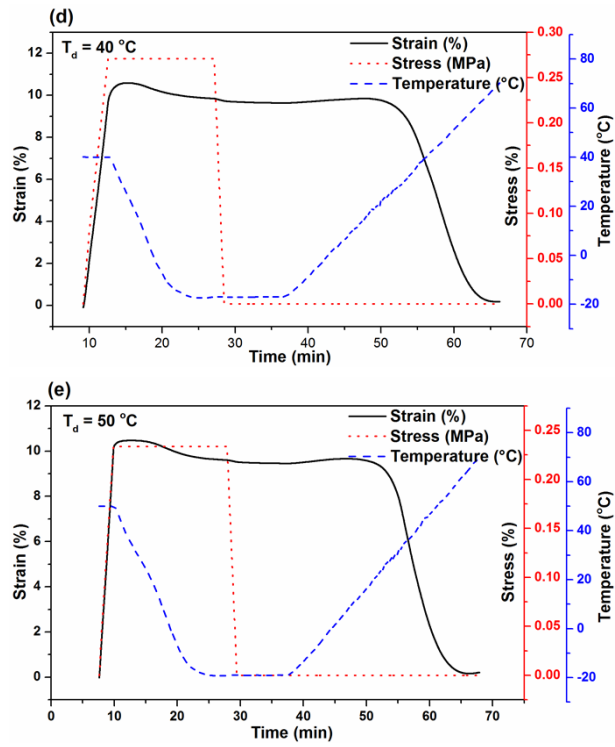
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**Figure S1.** Dual-shape memory properties of PMMA/PEG semi-IPN at different  $T_d$ . (a)  $T_d = 50\text{ }^\circ\text{C}$ ,  $R_f = 85.1\%$ ,  $R_r = 95.4\%$ . (b)  $T_d = 60\text{ }^\circ\text{C}$ ,  $R_f = 88.3\%$ ,  $R_r = 89.2\%$ . (c)  $T_d = 70\text{ }^\circ\text{C}$ ,  $R_f = 93.9\%$ ,  $R_r = 93.0\%$ . (d)  $T_d = 90\text{ }^\circ\text{C}$ ,  $R_f = 97.7\%$ ,  $R_r = 93.9\%$ . (e)  $T_d = 100\text{ }^\circ\text{C}$ ,  $R_f = 97.7\%$ ,  $R_r = 99.5\%$ .





**Figure S2.** Dual-shape memory properties of PMMA-PCL CPN at different  $T_d$ . (a)  $T_d = 0\text{ }^\circ\text{C}$ ,  $R_f = 85.1\%$ ,  $R_r = 91.3\%$ . (b)  $T_d = 10\text{ }^\circ\text{C}$ ,  $R_f = 90.5\%$ ,  $R_r = 85.4\%$ . (c)  $T_d = 20\text{ }^\circ\text{C}$ ,  $R_f = 95.7\%$ ,  $R_r = 93.6\%$ . (d)  $T_d = 40\text{ }^\circ\text{C}$ ,  $R_f = 97.9\%$ ,  $R_r = 98.1\%$ . (e)  $T_d = 50\text{ }^\circ\text{C}$ ,  $R_f = 98.5\%$ ,  $R_r = 97.8\%$ .