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Supporting Information

for

In-depth characterization of self-healing polymers based on π–π interactions

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Additional data

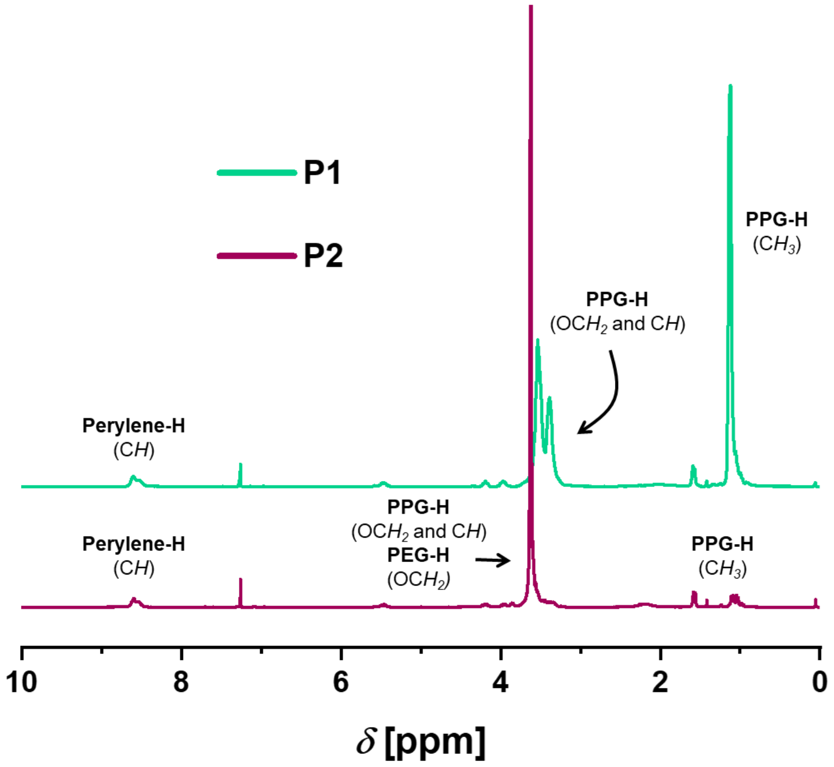

Figure S1: ^{1}H NMR spectra of **P1** and **P2** (300 MHz, $CDCl_3$).

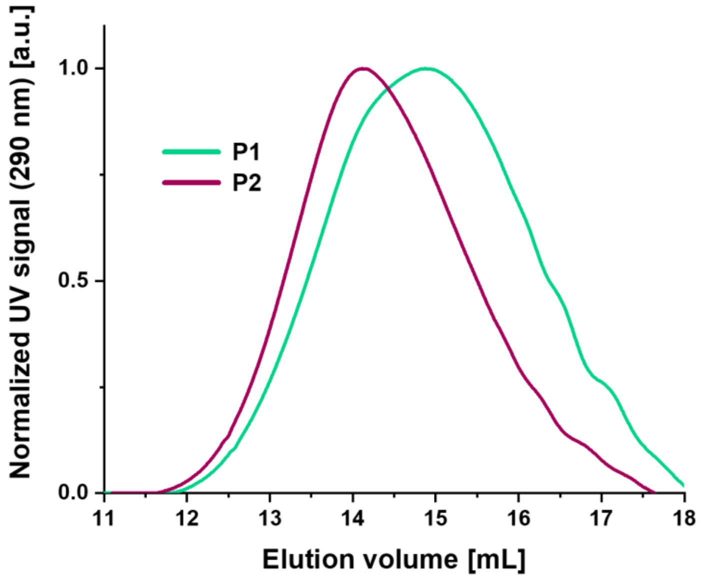

Figure S2: SEC-traces of the polymers **P1** and **P2** (chloroform/isopropanol/triethylamine [94/2/4]) revealing a molar mass of M_n = 11,400 g/mol for **P1** and M_n = 17,400 g/mol for **P2**.

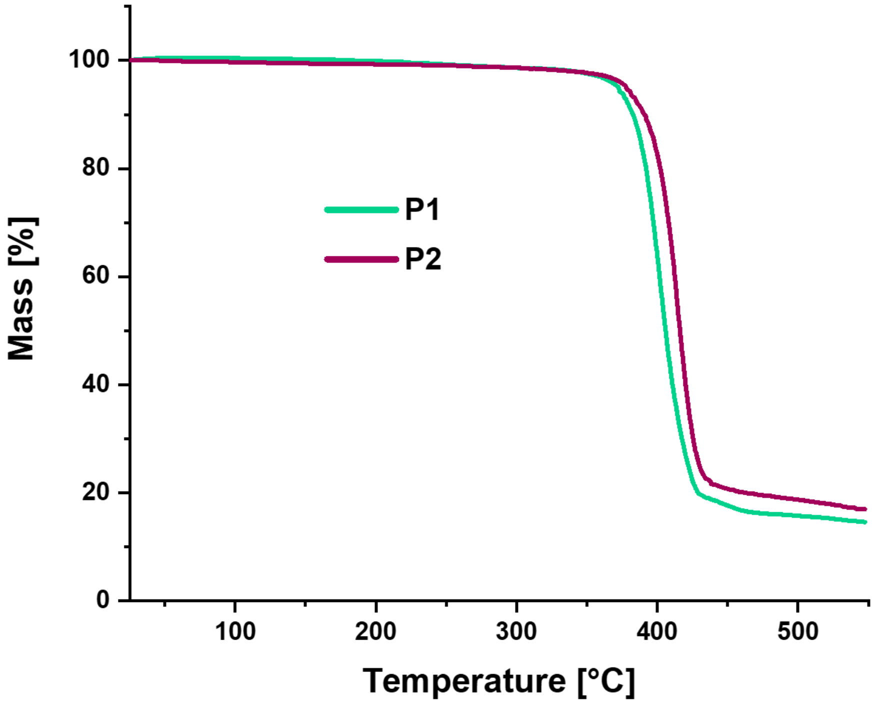

Figure S3: TGA analysis of **P1** and **P2** (heating rate 20 Kmin^{-1}).

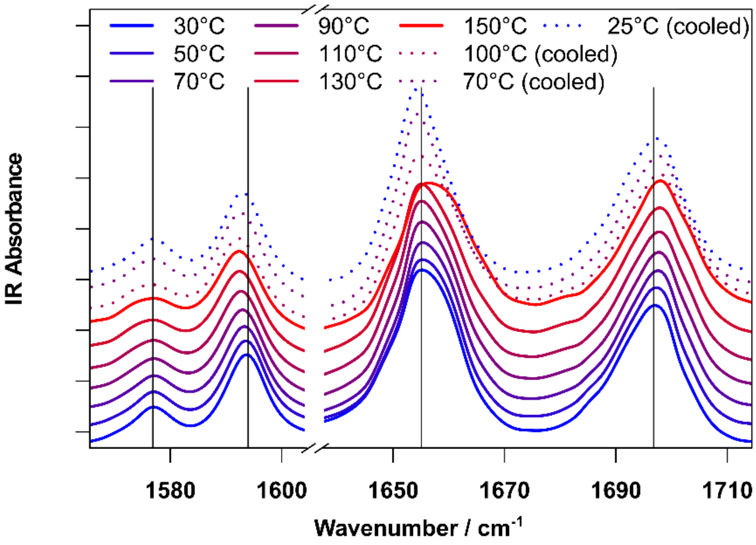

Figure S4: Temperature dependent IR spectra of **P2** drop casted on KBr in the C=C (1570–1605 cm^{-1}) and C=O stretching region (1640–1710 cm^{-1}). During heating, slight shifts in the position of all bands (1578 cm^{-1}: +0.2 cm^{-1}; 1595: −1.5 cm^{-1}; 1655 cm^{-1}: +0.4 cm^{-1}; 1696: +1.6 cm^{-1}). These shifts are partially reversed while cooling the polymer, indicating a reversible cause for the shifts. Additionally, all bands exhibit broadening during heating, especially noticeable at 150 °C, indicating a broader distribution of species contributing to the IR spectrum

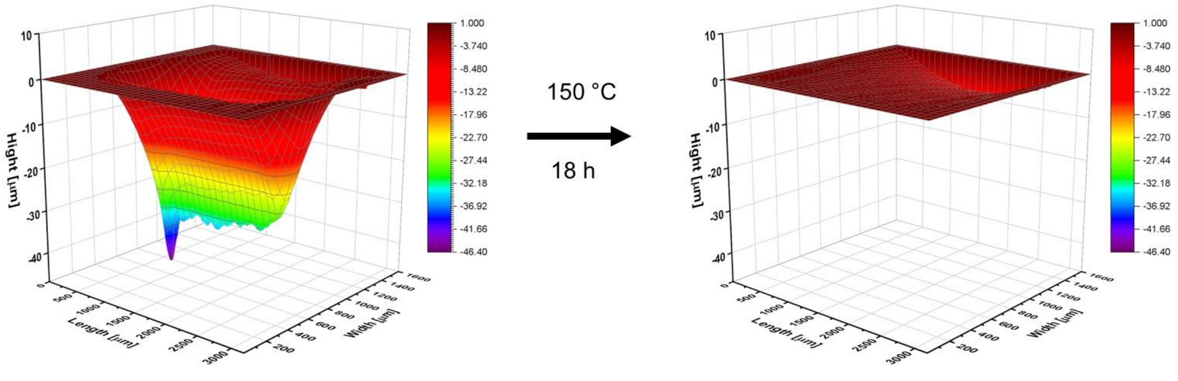

Figure S5: Self-healing of scratch two of **P1** at 150 °C for 18 h.

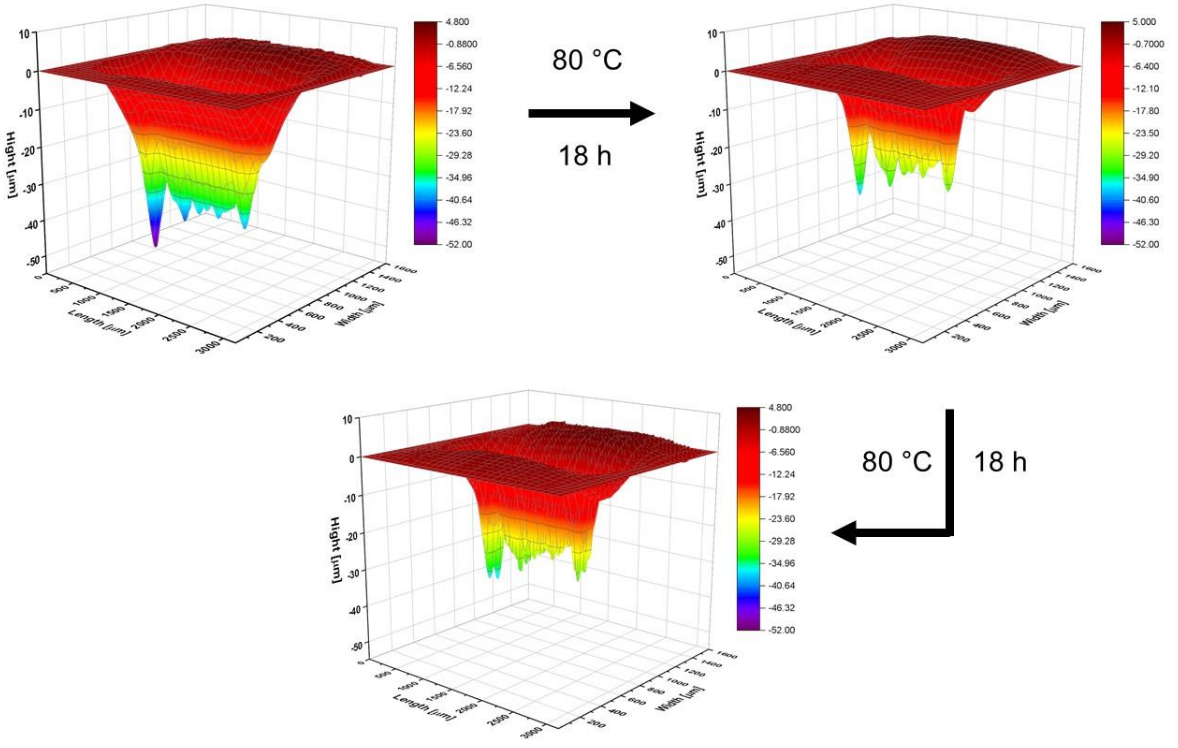

Figure S6: Self-healing of scratch three of **P1** at 80 °C for 18 h and additional 18 h.

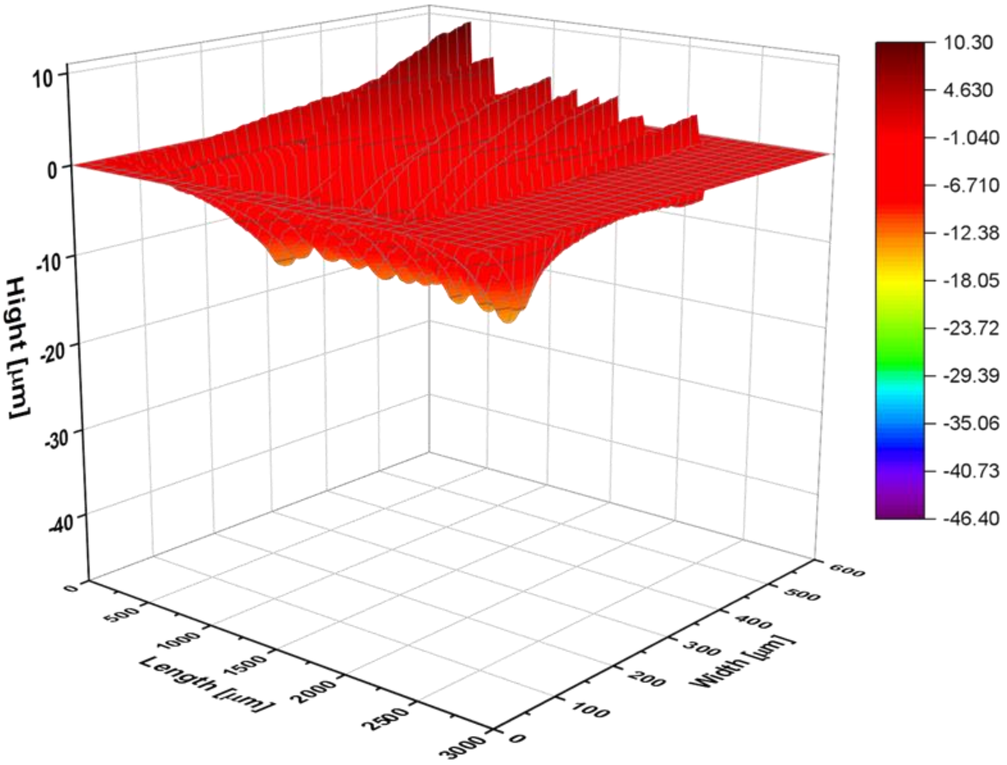

Figure S7: Analysis of the scratch of **P2** after indentation.

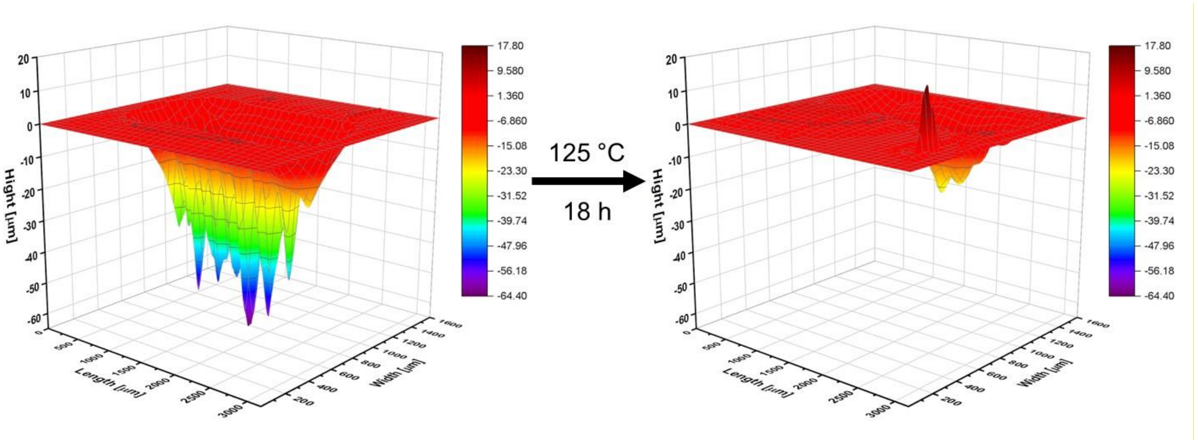

Figure S8: Self-healing of scratch three of **P1** at 125 °C for 18 h.