Electronic Supplementary Material (ESI) for RSC Advances.

Supporting information

One-Pot Synthesis of Highly Mechanical and Redox-Degradable Polyurathane Hydrogels Based-on Tetra-PEG and Disulfide/thiol Chemistry

Haiyan Jia, Zhangjun Huang, Zhao Li, Zhen Zheng, Xinling Wang[a]*

School of Chemistry and Chemical Engineering, State Key Laboratory of Metal Matrix Composites, Shanghai Jiao Tong University, Shanghai 200240, China;
E-mail: xlwang@sjtu.edu.cn; Fax: +86 21 5474 1297; Tel: +86 21 5474 5817

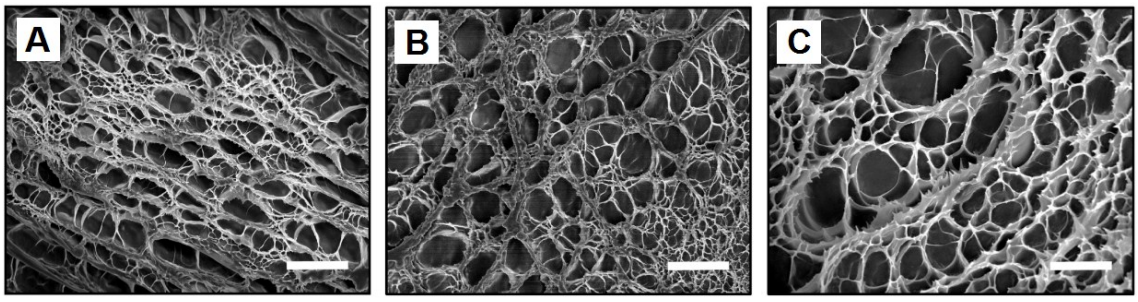

Figure S1. Network morphology of X1(A), X2(A), X3(A) hydrogels by SEM. Scale bar: 10 μm.

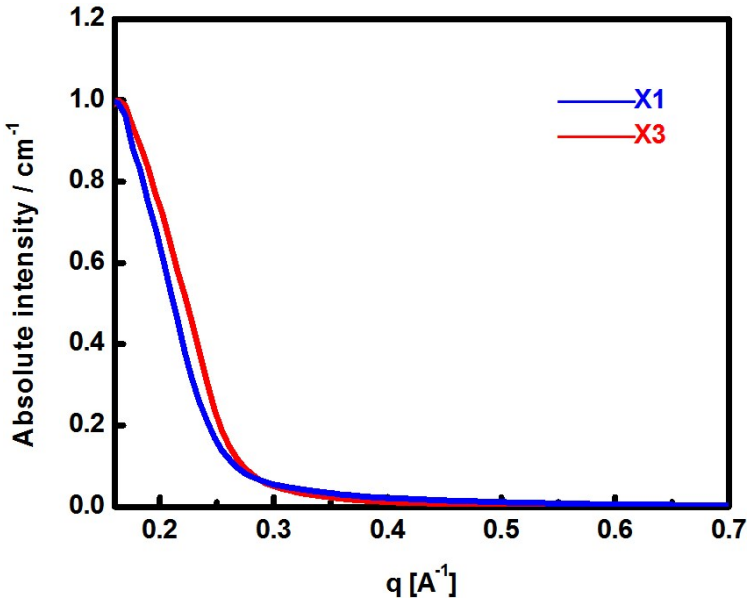

Figure S2. SAXS spectra of X1 and X3.

The background corrected SAXS intensities of X1, X3 were displayed in Figure S2. In a polt of scattered intensity (I(q)) versus scattering vector (q). The peak maxima (q_{max}) are related to the mean spacing between the phase separated hard domains (d), $d=2\pi/q_{max}$. However, there is no obvious peak in the SAXS data, but signal from 0.15 nm^{-1} to 0.6 nm^{-1}, which means the microphase separation of these polyurethane hydrogels is random, not in a regular form. Consequently, the extents of microphase separation cannot be calculated. The calculation method was explained particularly in *refer 1, 2.*

Reference

[1] Macromolecules, 2007, 40, 5441-5449.

[2] Journal of polymer science part B, 2011, 49, 865 – 872.