Electronic Supplementary Material

A tri-responsive and fast self-healing organogel with stretchability based on multiple dynamic covalent bonds

Shujing Ren[a], Huiqin Liang[b], Panpan Sun[a], Yanan Gao[c]* and Liqiang Zheng[a]*

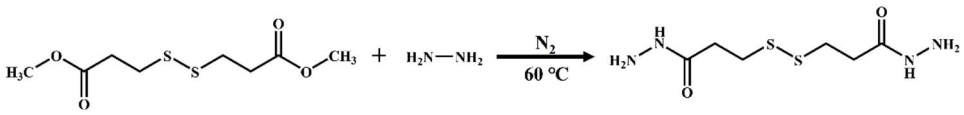
[a]Key Laboratory of Colloid and Interface Chemistry, Shandong University, Ministry of Education, Jinan 250100, P. R. China.

[b]China Research Institute of Daily Chemistry Co., Ltd, Taiyuan 030001, P. R. China.

[c]Key Laboratory of Ministry of Education for Advanced Materials in Tropical Island Resources, Hainan University, No 58, Renmin Avenue, Haikou 570228, P. R. China.

Experimental Section

Synthesis route of 3,3'-dithiobis (propionohydrazide) (DPH)



Scheme S1. The synthesis route for DPH.

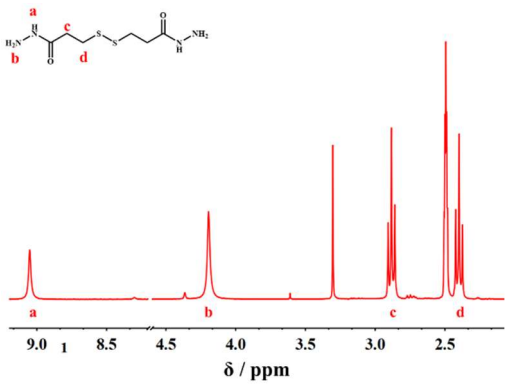


Figure S1. ^{1}H NMR spectrum of DPH in DMSO-d6.

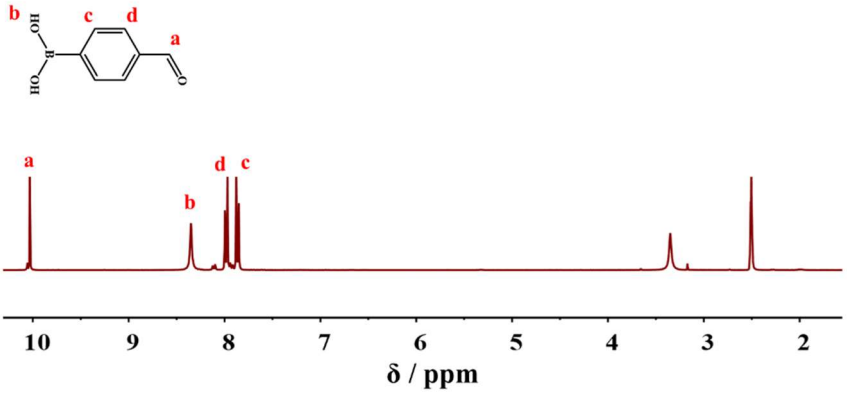


Figure S2. The ^{1}H NMR spectrum of FPBA DMSO-d6.

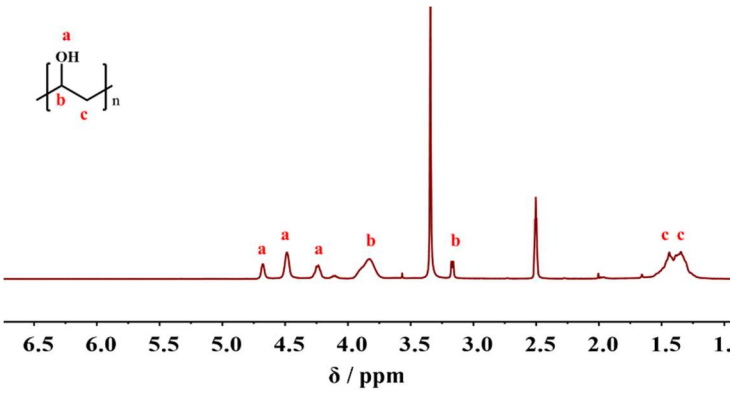


Figure S3. The ^{1}H NMR spectrum of PVA in DMSO-d6.

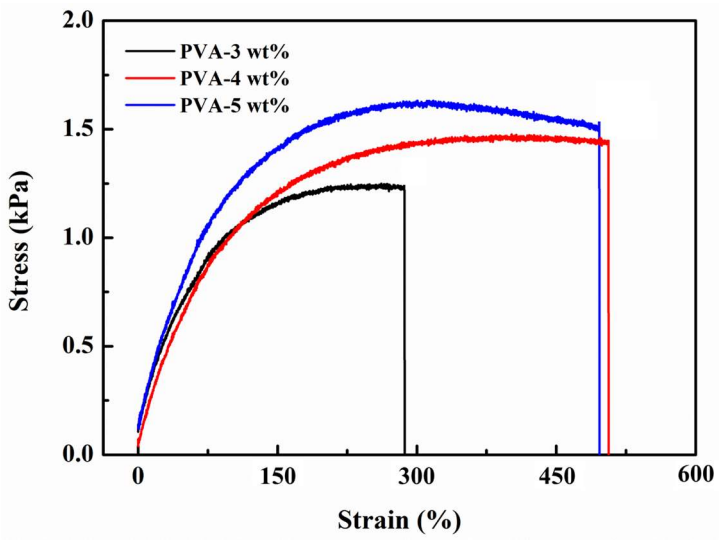


Figure S4. Tensile stress curves of $G_{P\text{-}B\text{-}H}$ made from different concentrations of PVA, 3 wt%, 4 wt% and 5wt%, and the molecular ratio of FPBA to DPH was 2:1.

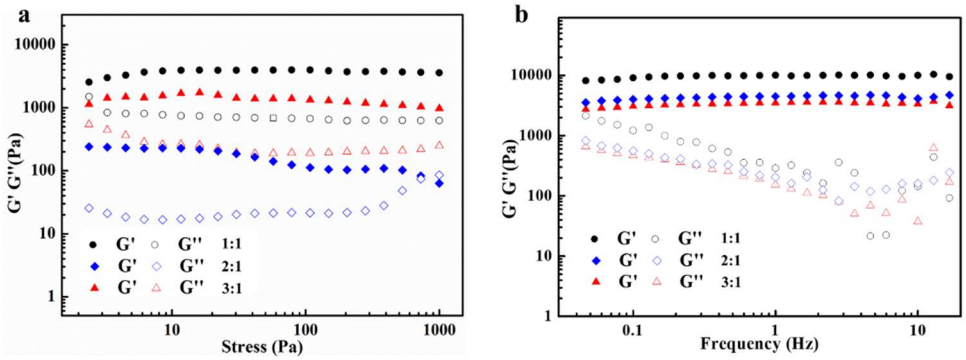


Figure S5. Rheological curves of organogels prepared at the molecular ratio of FPBA : DPH is 1:1, 2:1 and 3:1.