

## Chiral, thermal-responsive hydrogels containing helical hydrophilic polyacetylene: preparation and enantio-differentiating release ability

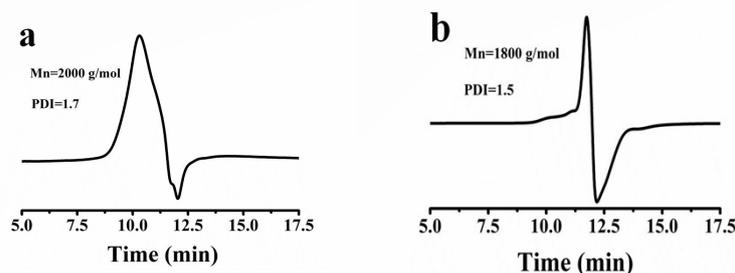
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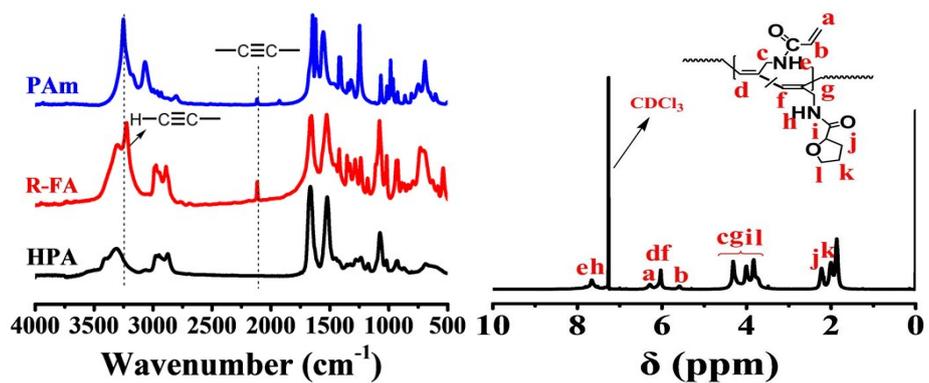
<sup>b</sup>State Key Laboratory of Chemical Resource Engineering, College of Materials Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

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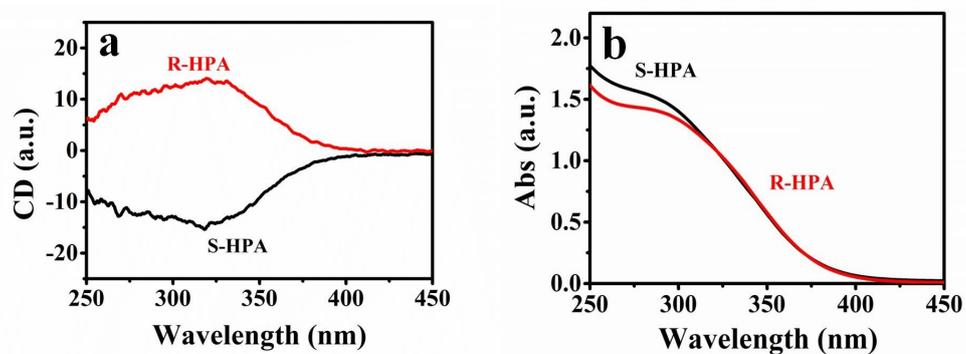
E-mail: wuyp@mail.buct.edu.cn (Wu) ; dengjp@mail.buct.edu.cn (Deng)



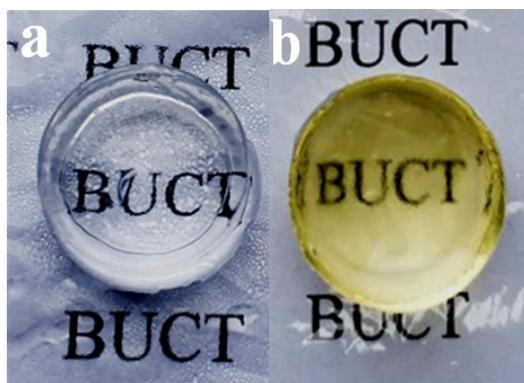
**Figure S1.** GPC traces of R-HPA and S-HPA in THF.



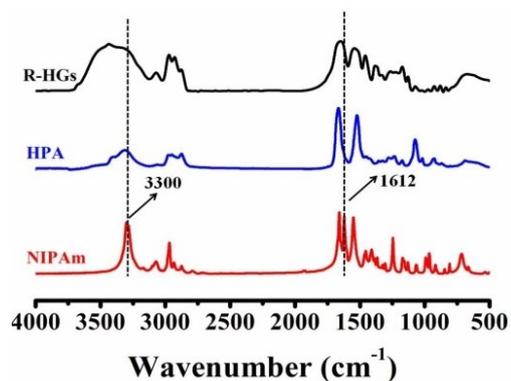
**Figure S2.** FT-IR and <sup>1</sup>H NMR of HPA



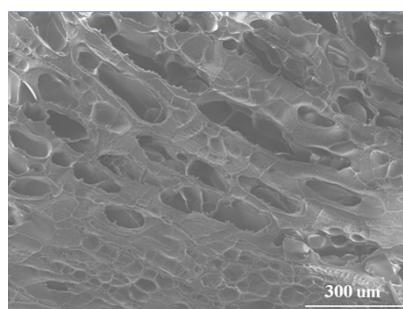
**Figure S3.** (a) CD and (b) UV-vis absorption spectra of HPA (R or S) measured in aqueous solution at a specific concentration (100 mg/L)



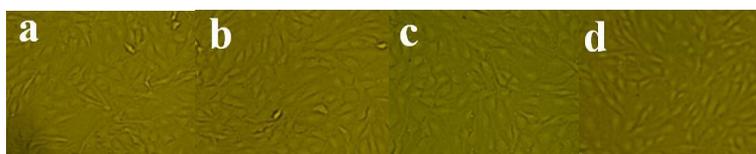
**Figure S4.** Photographs of the prepared chiral hydrogels (a) N-HGs and (b) R-HGs.



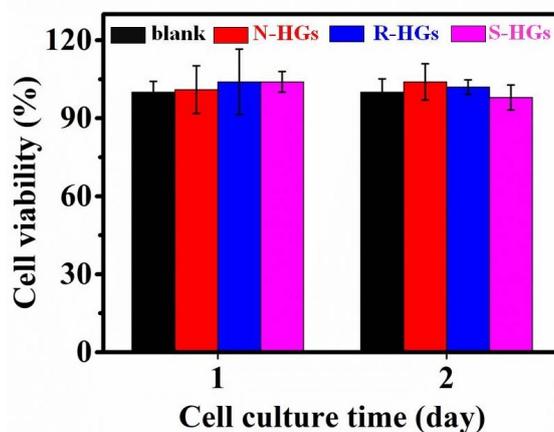
**Figure S5.** FT-IR spectra of NIPAm, HPA and and R-HGs. (KBr tablet).



**Figure S6.** Typical SEM image of S-HGs.



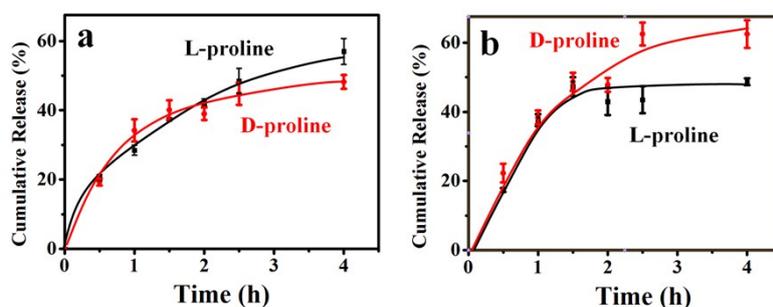
**Figure S7.** Photomicrographs of MC3T3-E1 cells cultured for 2 days in the extracts of (a) blank (b) N-HGs (c) R-HGs and (d) S-HGs.



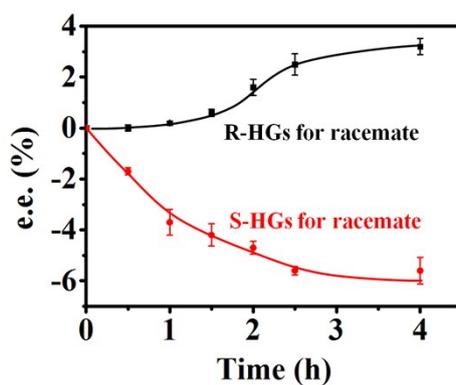
**Figure S8.** Viability of MC3T3-E1 cells for 1 and 2 days in the extracts of N-HGs, R-HGs and S-HGs, tested by using CCK-8 assay.



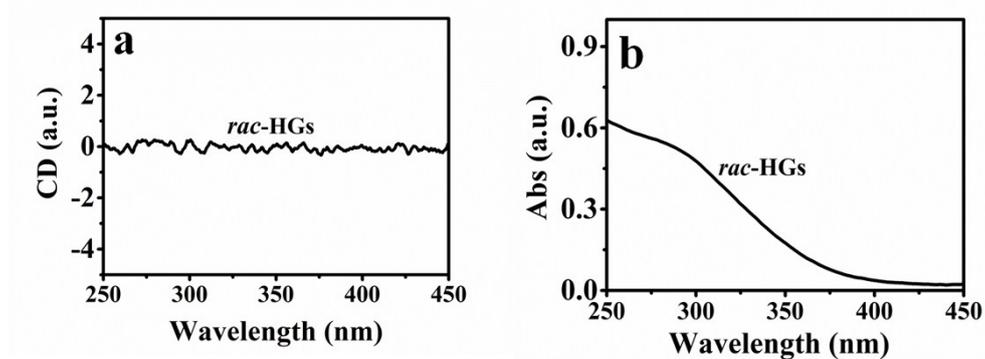
**Figure S9.** Photomicrographs of MC3T3-E1 cells cultured for 3 days using hydrogels of (a) blank (b) N-HGs, (c) R-HGs and (d) S-HGs.



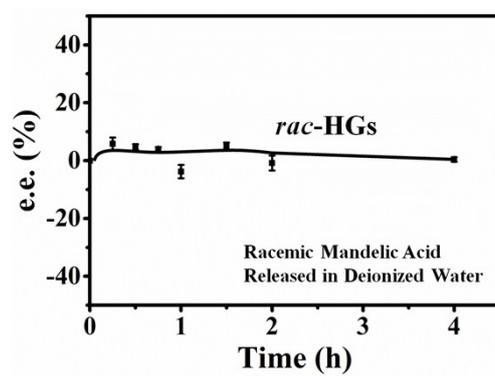
**Figure S10.** Time-release profiles of D-proline and L-proline released by (a) R-HGs and (b) S-HGs.



**Figure S11.** e.e.-time profiles of racemic proline released from R-HGs and S-HGs.



**Figure S12.** (a) CD and (b) UV-vis spectra of *rac*-HG<sub>s</sub> measured through compressing method.



**Figure S13.** e.e.-time releasing profile of racemic mandelic acid from *rac*-HG<sub>s</sub>.