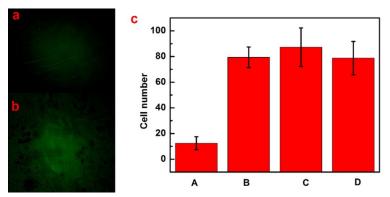
## Photodegradable Hydrogels for External Manipulation of Cellular

## Microenvironments with Real-time Monitoring

Hanxu Ji<sup>a</sup>, Kai Xi<sup>b</sup>, Qiuhong Zhang<sup>b</sup> and Xudong Jia<sup>a</sup>\*

Correspondence to: Xudong Jia (E-mail: jiaxd@nju.edu.cn)

Figure S1 The mechanism of the structure change of compound 1 under UV light



**Figure S2** (a) the spotted hydrogel before A549 cell adhesion (b) the spotted hydrogel after A549 cell adhesion (c) the cell numbers incubated on different place of hydrogels: A: A549 cells on soft area, B: A549 cells on stiff area, C: Hela cells on soft area, D: Hela cells on stiff area.

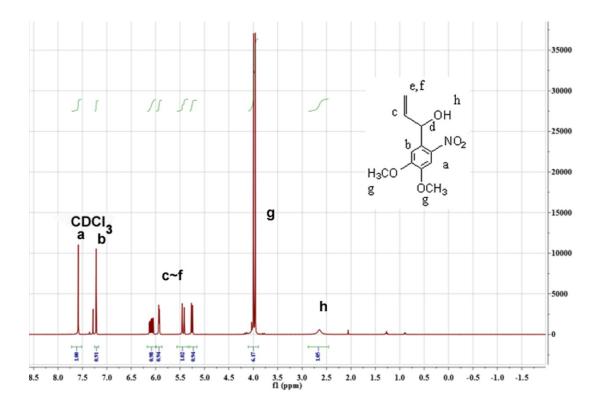
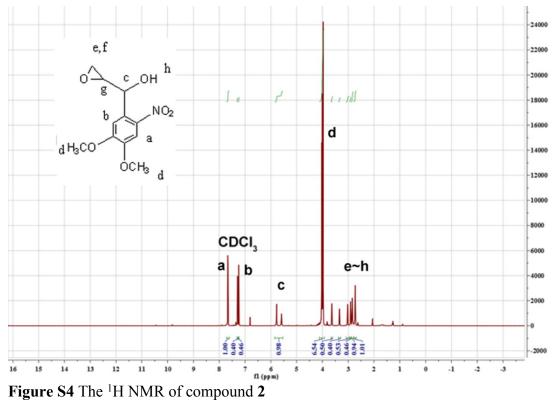


Figure S3 The <sup>1</sup>H NMR of compound 1



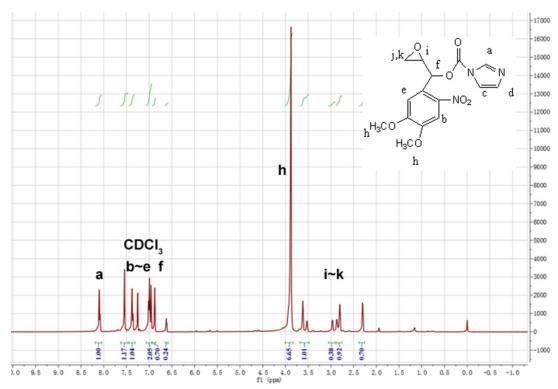


Figure S5 The <sup>1</sup>H NMR of compound 3

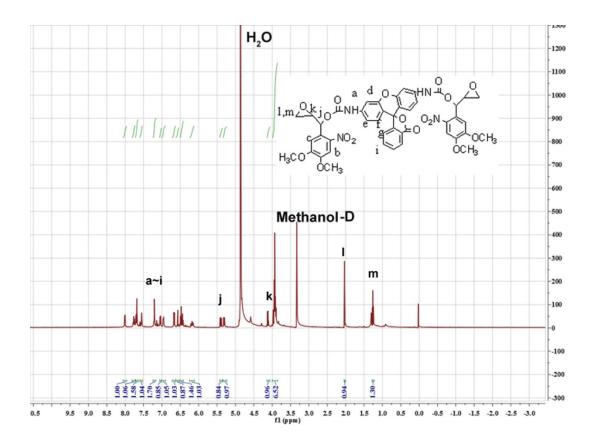


Figure S6 The <sup>1</sup>H NMR of compound 4

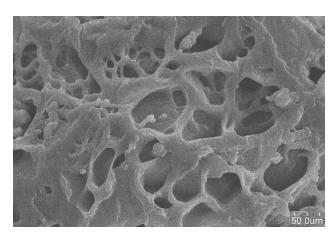


Figure S7 The SEM picture of hydrogel.

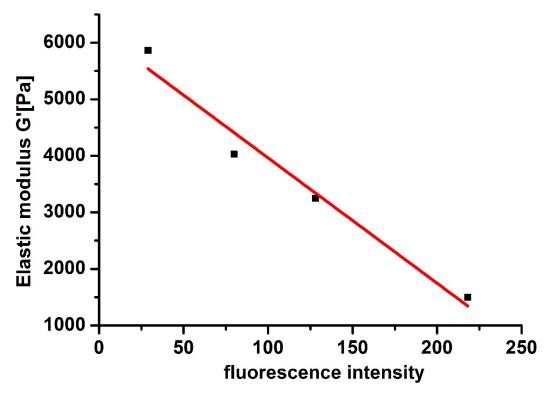


Figure S8 The relationship between the increasing of fluorescence and the decreasing of stiffness of hydrogel.