

Supplementary Information

3D Inkjet Printing of Star Block Copolymer

Hydrogels Cross-Linked using Various Metallic Ions

*Yoshiyuki Nakagawa,^a Seiichi Ohta,^b Makoto Nakamura,^c and Taichi Ito^{*ab}*

^a Department of Chemical System Engineering, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan

^b Center for Disease Biology and Integrative Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan. Email: taichi@m.u-tokyo.ac.jp

^c Graduate School of Science and Engineering, University of Toyama, 3190 Gofuku, Toyama, 930-8555

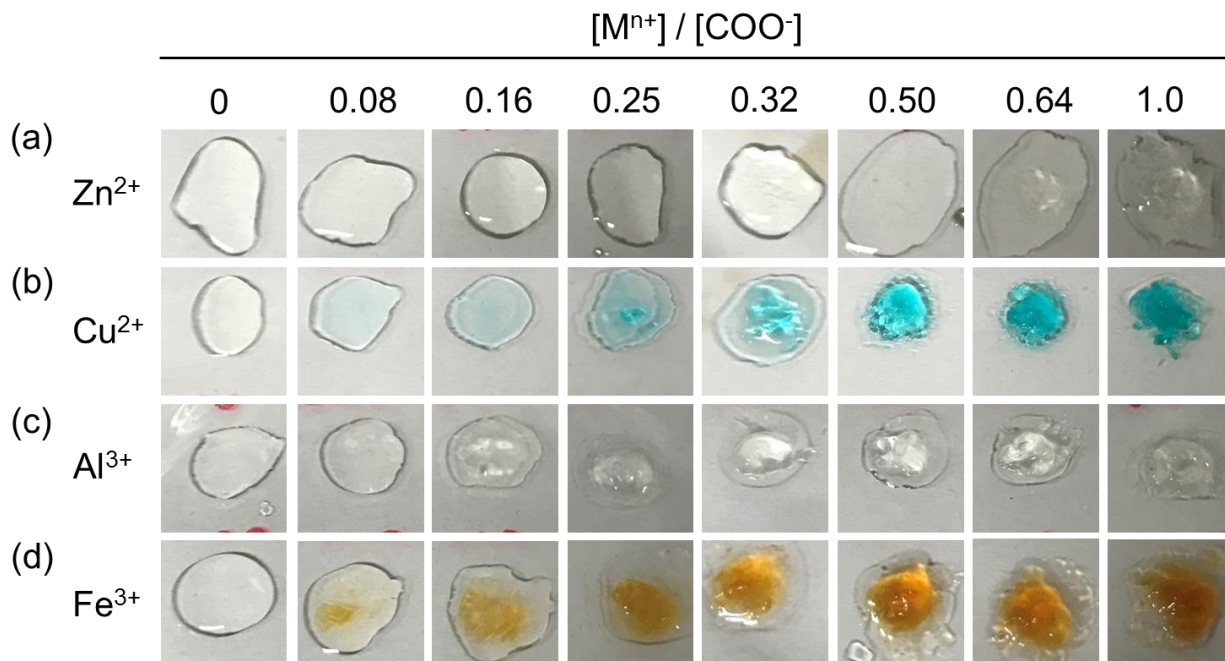


Fig. S1 Pictures of the 8.0 wt% star block copolymer in saline with added (a) $ZnCl_2$, (b) $CuCl_2$, (c) $AlCl_3$, or (d) $FeCl_3$. The ratio of the concentration of the metallic ion to that of the carboxylates in the star block copolymer ($[M^{n+}] / [COO^-]$) was varied from 0 to 1.0.

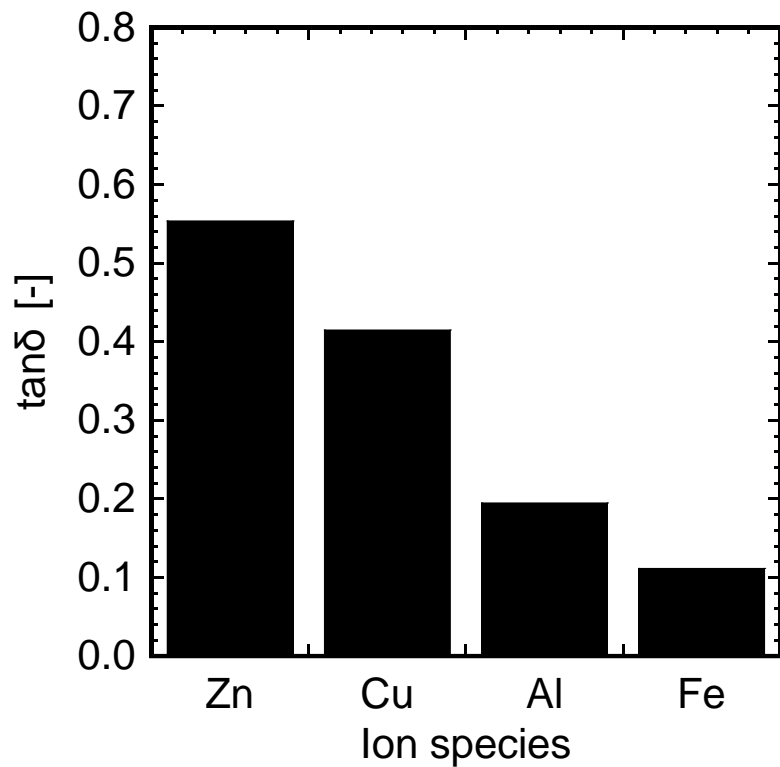


Fig. S2 Loss tangent ($\tan \delta$) of the 8.0 wt% star block copolymer hydrogel cross-linked using Zn^{2+} , Cu^{2+} , Al^{3+} , or Fe^{3+} . The ratio of the concentration of the metallic ion to that of the carboxylate ($[\text{M}^{n+}] / [\text{COO}^-]$) was fixed at 1.0.

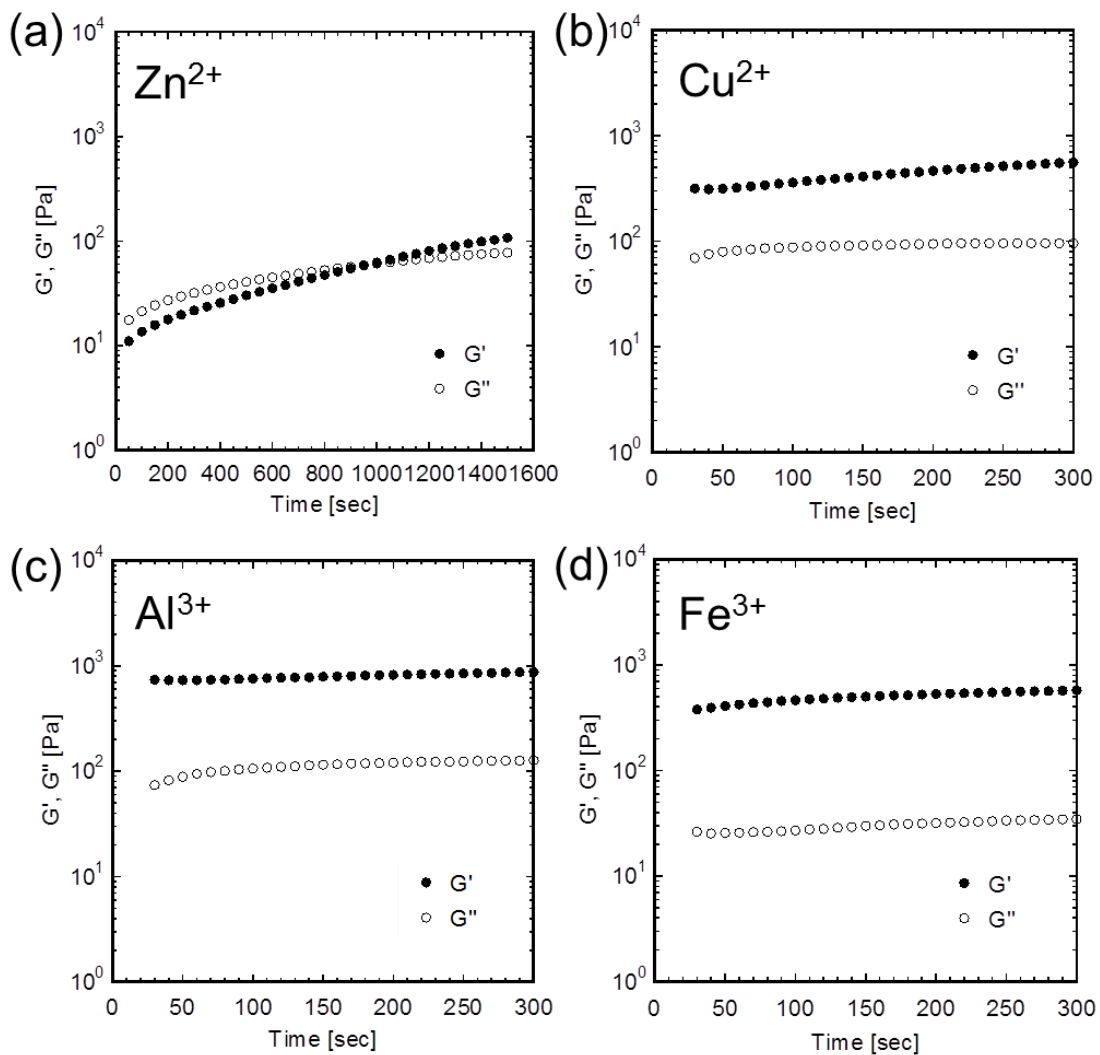


Fig. S3 Time dependence of the storage modulus (G') and loss modulus (G'') of the star block copolymer hydrogel after the addition of (a) Zn^{2+} , (b) Cu^{2+} , (c) Al^{3+} , or (d) Fe^{3+} . The strain value and the frequency were fixed at 5% and 1 Hz, respectively.