

Supporting Information

Di(2-picoyl)amine-functionalized poly(ethylene glycol) hydrogels with tailorable metal-ligand coordination crosslinking

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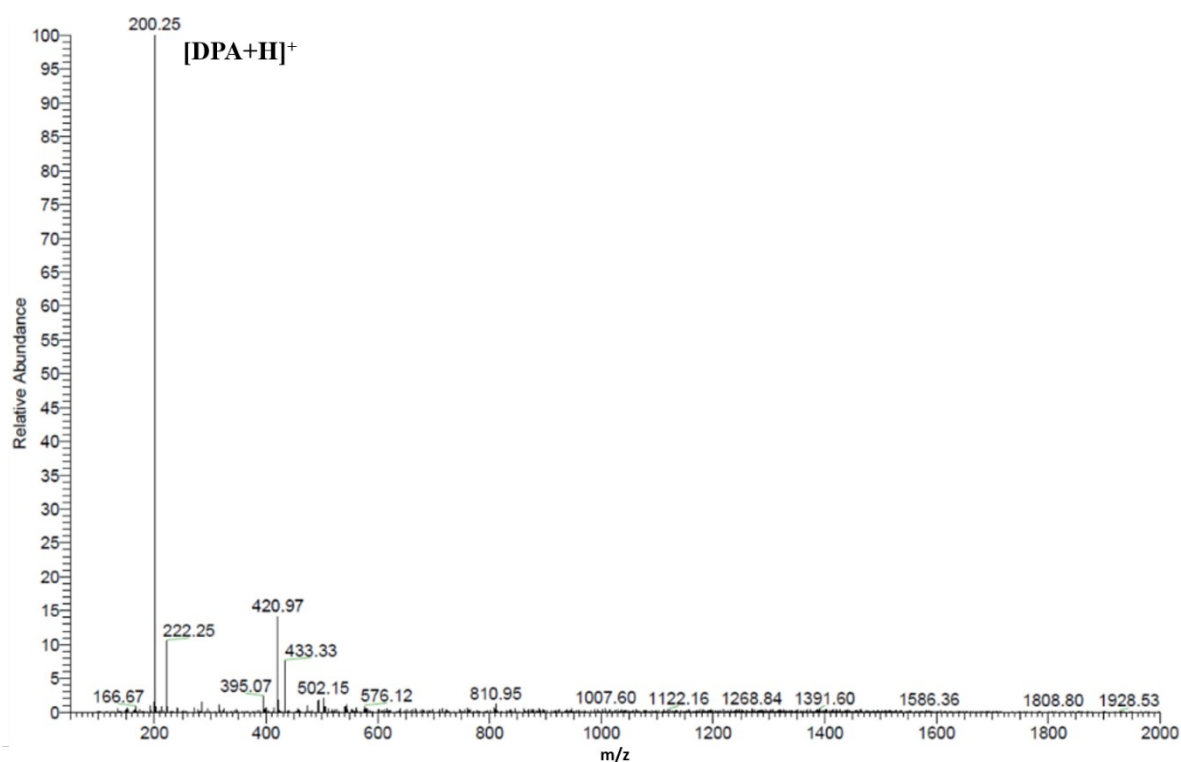


Fig. S1 ESI spectrum of DPA molecule. The molecular weight of DPA is 199.11, thus the m/z signal of 200.25 is the $[DPA+H]^+$ ion.

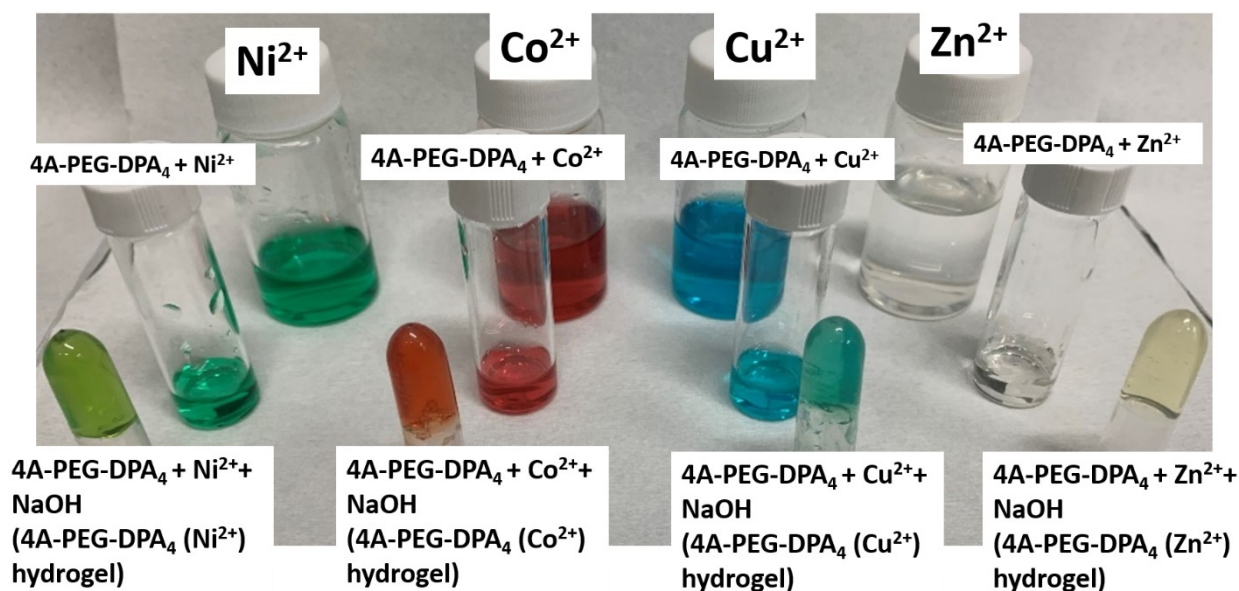


Fig. S2 Images of solutions and hydrogels.

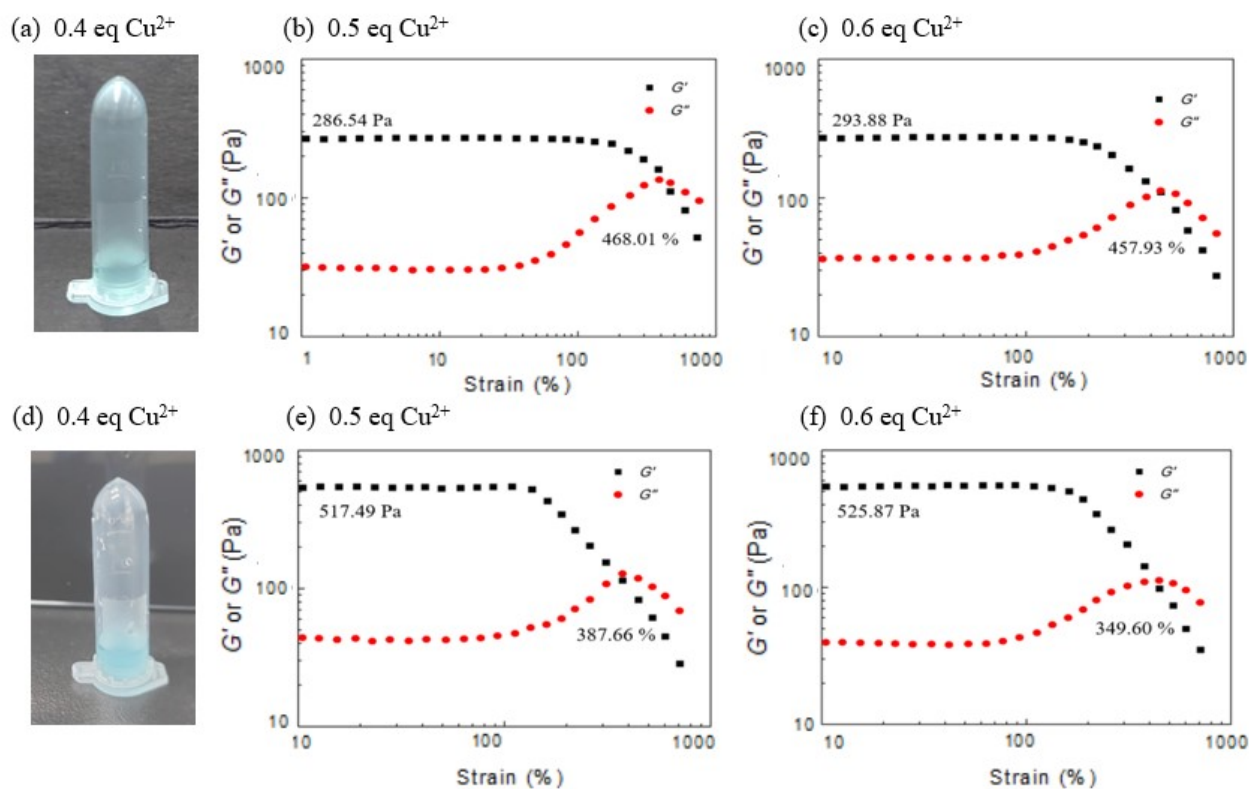


Fig. S3 (a) Images of 4A-PEG-DPA₄ (Cu²⁺) hydrogels prepared with 0.4 eq of Cu²⁺ ions. Oscillation strain sweeps of 4A-PEG-DPA₄ (Cu²⁺) hydrogel with (b) 0.5 eq and (c) 0.6 eq of Cu²⁺ ions. (d) Images of 4A-PEG-DPA₈ (Cu²⁺) hydrogels prepared with 0.4 eq of Cu²⁺ ions. Oscillation strain sweeps of 4A-PEG-DPA₈ (Cu²⁺) hydrogel with (e) 0.5 eq and (f) 0.6 eq of Cu²⁺ ions.

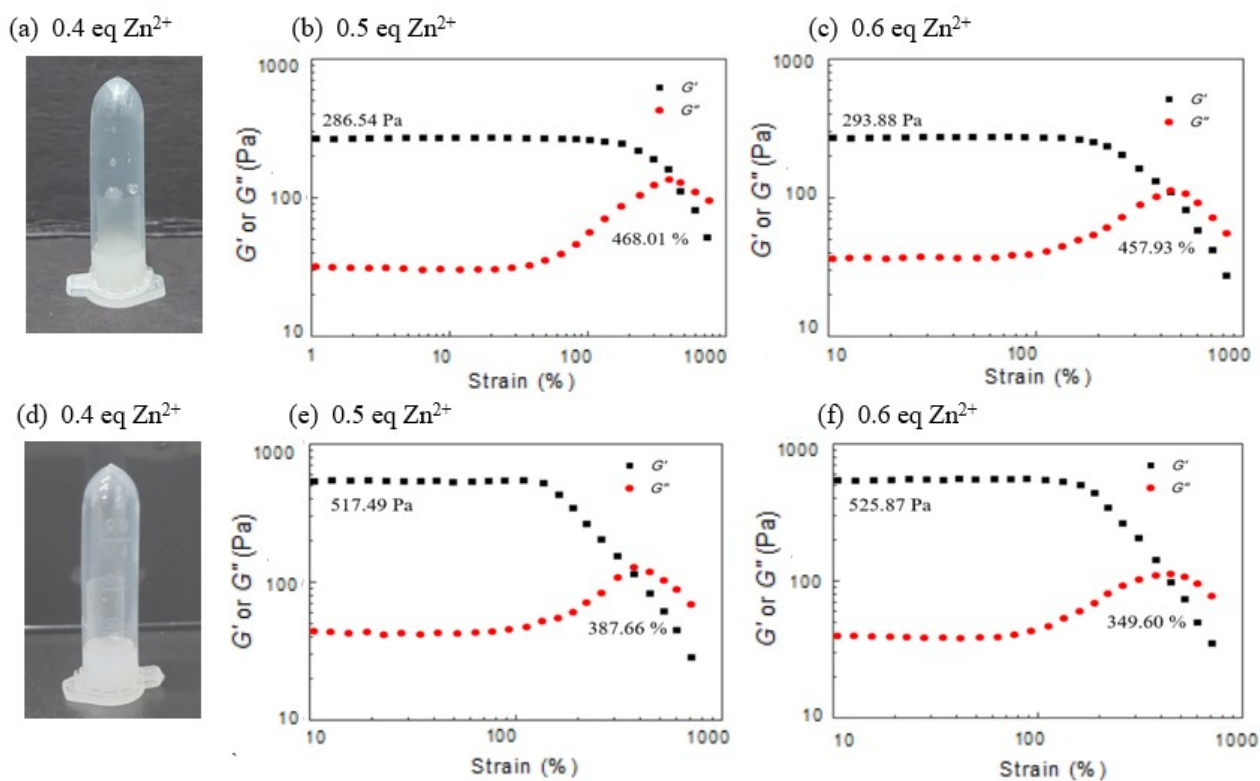


Fig. S4 (a) Images of 4A-PEG-DPA₄ (Zn²⁺) hydrogels prepared with 0.4 eq of Zn²⁺ ions. Oscillation strain sweeps of 4A-PEG-DPA₄ (Zn²⁺) hydrogel with (b) 0.5 eq and (c) 0.6 eq of Zn²⁺ ions. (d) Images of 4A-PEG-DPA₈ (Zn²⁺) hydrogels prepared with 0.4 eq of Zn²⁺ ions. Oscillation strain sweeps of 4A-PEG-DPA₈ (Zn²⁺) hydrogel with (e) 0.5 eq and (f) 0.6 eq of Zn²⁺ ions.

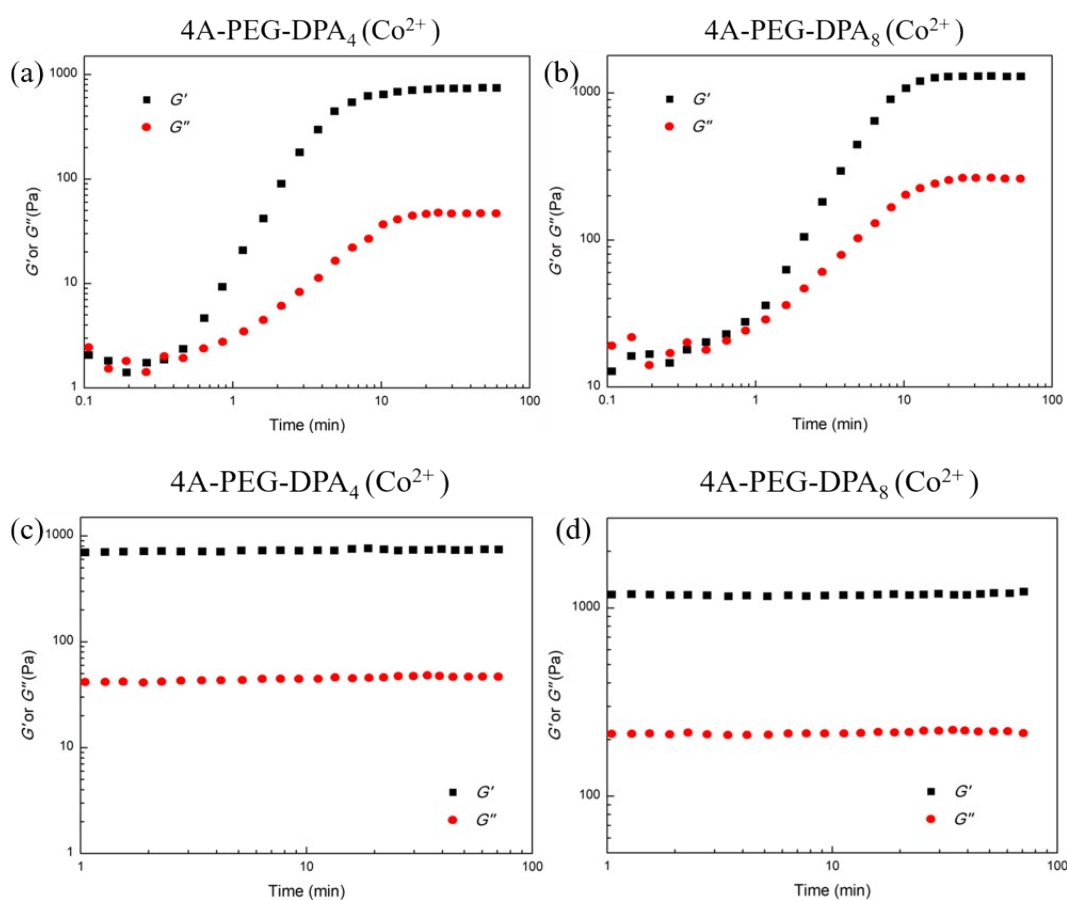


Fig. S5 Oscillation time sweeps of (b) 4A-PEG-DPA₄ (Co²⁺) and (c) 4A-PEG-DPA₈ (Co²⁺) hydrogels, where the materials were quickly mixed and transferred on the plate of the rheometer. Oscillation time sweeps of (c) 4A-PEG-DPA₄(Co²⁺) and (d) 4A-PEG-DPA₈ (Co²⁺) hydrogels, where the hydrogel was prepared and waited for 30 mins before loading on the plate of the rheometer.

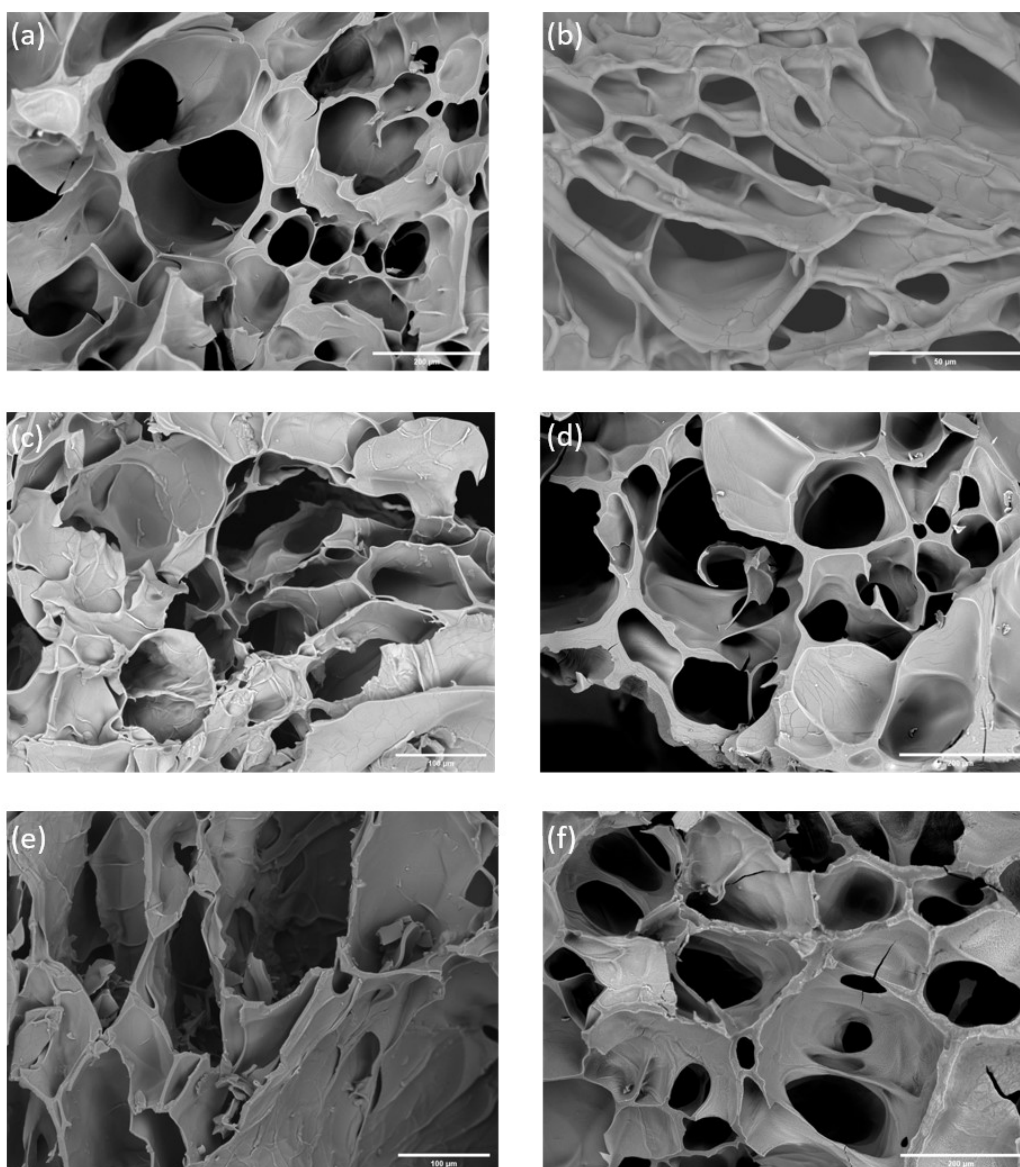


Fig. S6 Representative SEM images of (a) 4A-PEG-DPA₄ (Ni²⁺), (b) 4A-PEG-DPA₈ (Ni²⁺), (c) 4A-PEG-DPA₄ (Cu²⁺), (d) 4A-PEG-DPA₈ (Cu²⁺), (e) 4A-PEG-DPA₄ (Zn²⁺), and (f) 4A-PEG-DPA₈ (Zn²⁺) hydrogels.

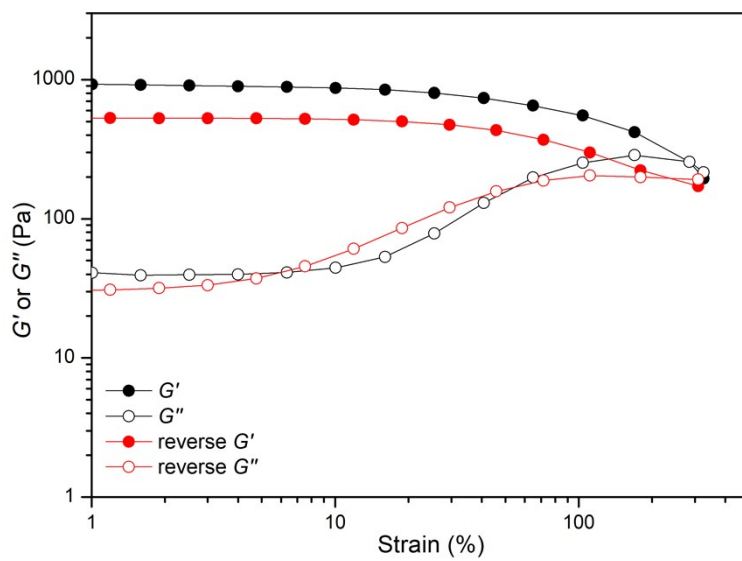


Fig. S7 The reverse strain sweep of 4A-PEG-DPA₈ (Co²⁺) hydrogel.

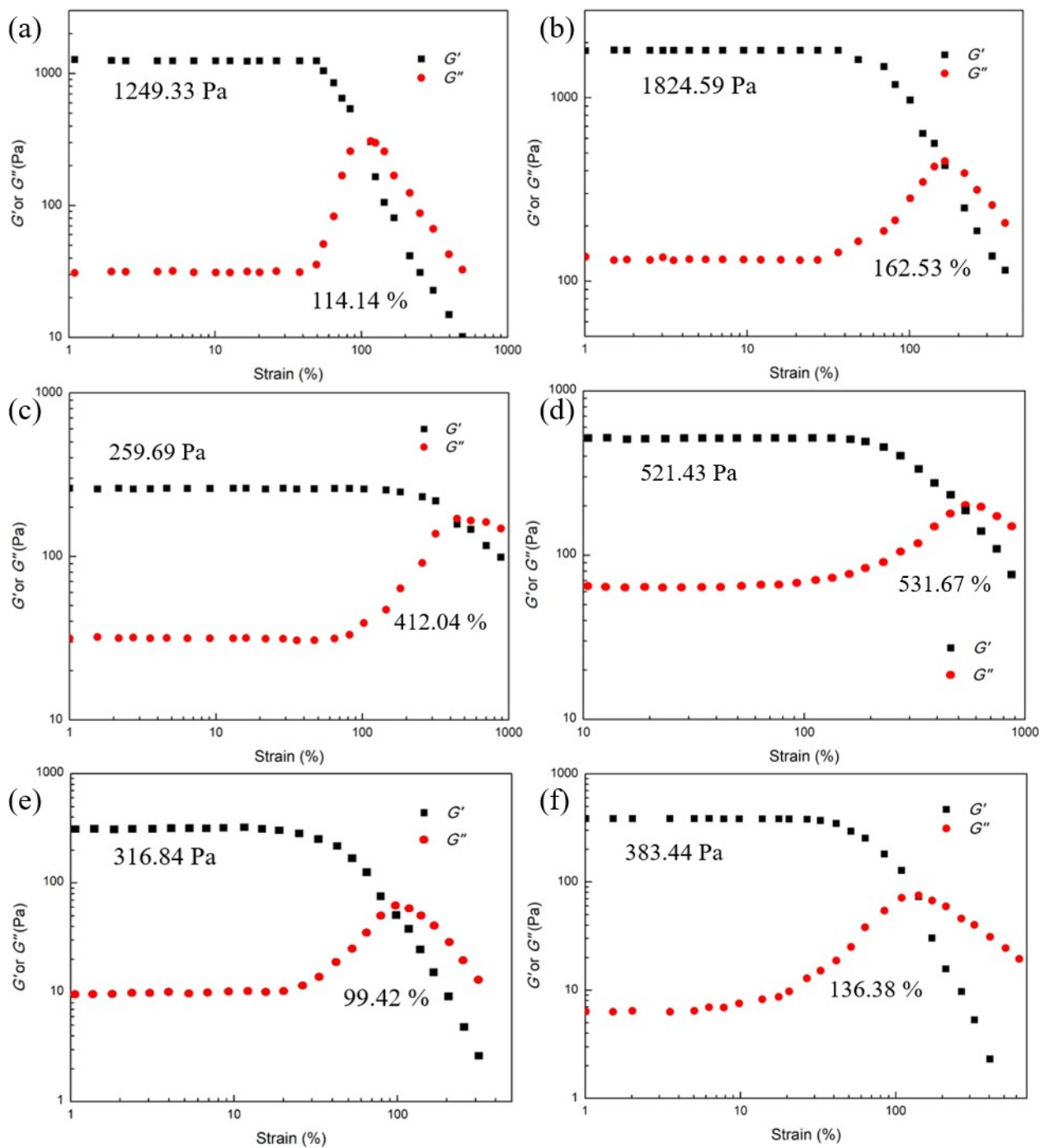


Fig. S8 Representative oscillation strain sweeps of (a) 4A-PEG-DPA₄ (Ni²⁺), (b) 4A-PEG-DPA₈ (Ni²⁺), (c) 4A-PEG-DPA₄ (Cu²⁺), (d) 4A-PEG-DPA₈ (Cu²⁺), (e) 4A-PEG-DPA₄ (Zn²⁺), and (f) 4A-PEG-DPA₈ (Zn²⁺) hydrogels.