

Inorganic/organic nanocomposite ion gels with well dispersed secondary silica nanoparticles

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(1) Differential stress–strain curves of inorganic/organic NC and PDMAAm SN ion gels

The differential stress–strain curves of inorganic/organic NC and PDMAAm SN ion gels are shown in Fig. S1.

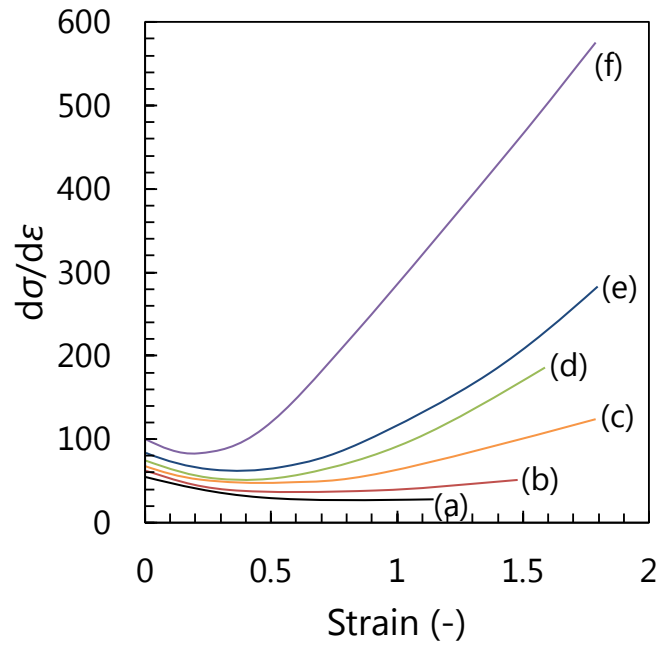


Fig. S1 Differential stress–strain curves of the inorganic/organic NC ion gels. $\text{SiO}_2/\text{PDMAAm}$ (weight ratio) = 0 (a), 0.07 (b), 0.11 (c), 0.16 (d), 0.22 (e), and 0.32 (f). Line (a) corresponds to PDMAAm SN ion gel.

(2) TEM image of inorganic/organic DN ion gel

The TEM image of inorganic/organic DN ion gel is shown in Fig. S2.

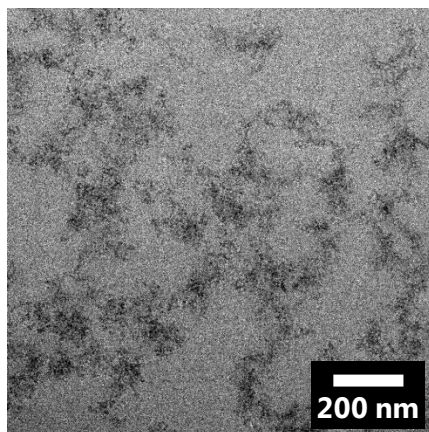


Fig. S2 Electron microscopy image of silica particle in inorganic/organic DN ion gel with $\text{SiO}_2/\text{PDMAAm}$ weight ratio = 0.20.

(3) Photographs of inorganic/organic NC ion gel, inorganic/organic DN ion gel, and PDMAAm SN ion gel

Photographs of inorganic/organic NC ion gel, inorganic/organic DN ion gel, and PDMAAm SN ion gel are shown in Fig. S3.

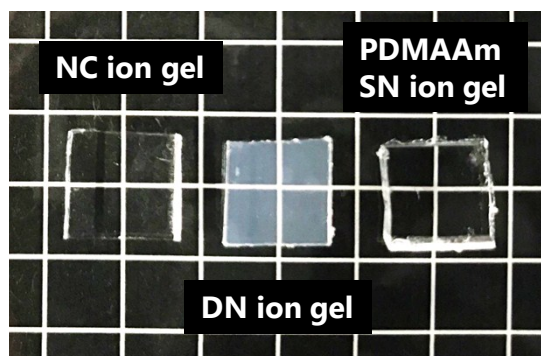


Fig. S3 Photographs of inorganic/organic NC ion gel, inorganic/organic DN ion gel, and PDMAAm SN ion gel. The SiO_2 /PDMAAm weight ratio of the inorganic/organic NC and DN ion gels are 0.22 and 0.20, respectively.

(4) Toughening mechanism of inorganic/organic NC ion gel

The schematics of the estimated network structure of the inorganic/organic NC ion gel are as shown in Fig. S4.

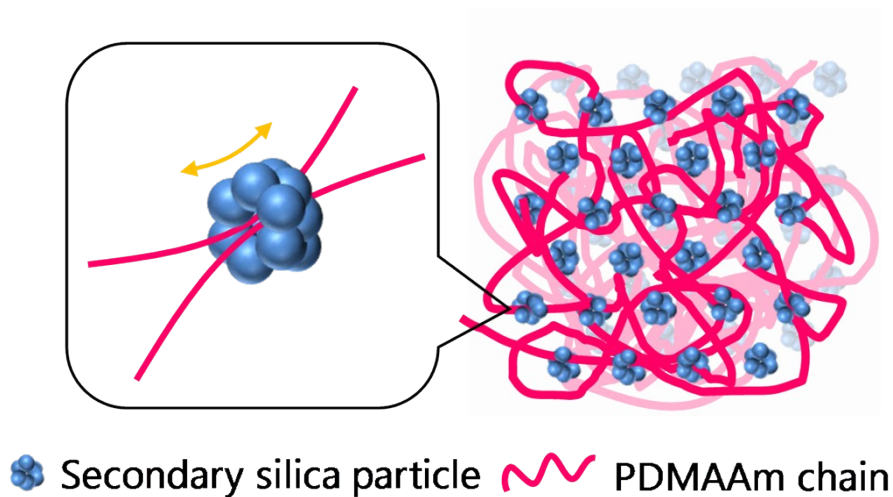


Fig. S4 Schematics of network structure in inorganic/organic NC ion gel.