Electronic Supplementary Material (ESI) for Soft Matter

Supplementary Information for

Supramolecular gels based on monopyrrolotetrathiafulvalene and its TCNQ charge-transfer complex

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1. FT-IR spectra of compounds 1c with TCNQ

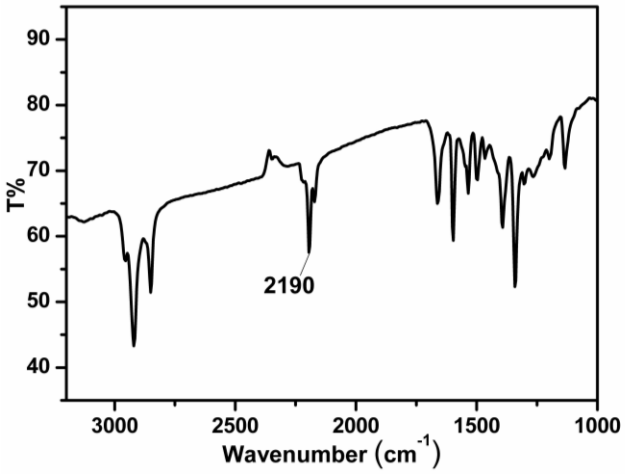


Figure S1 FT-IR spectra of the mixture of **1c** with TCNQ (1:1) in $CHCl_3$.

2. Gels photograph

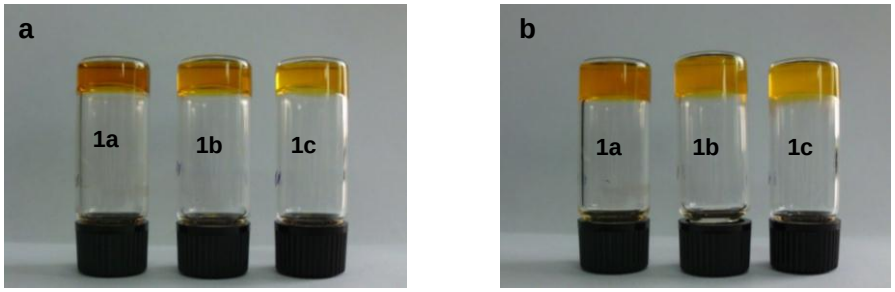


Figure S2 The photographs of gelators **1a-c** in (a) cyclohexane; (b) *n*-hexane.

3. Gelation properties of the compounds

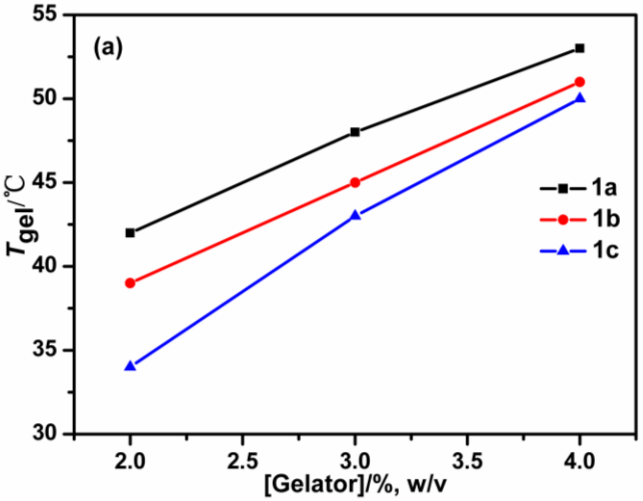
Table S1 Gelation properties of **1a-c** in various solvents.

Solvent	**1a**	**1b**	**1c**
Cyclohexane	TG[a] (3.9)[b]	TG(2.9)	TG(2.5)
n-Hexane	OG(1.4)	OG(1.5)	OG (1.9)
n-Heptane	OG(1.3)	OG (1.4)	OG (1.85)
n-Octane	OG(1.25)	OG (1.35)	OG (1.82)
CH_3CN	P	P	P
Methanol	P	P	P
Ethanol	OG(28)	OG(5.28)	OG(3.83)
n-Buthanol	S	OG(18.3)	OG(12.8)
n-Pathanol	S	OG(34)	OG(20.4)
EtOAc	S	S	S
Toluene	S	S	S
CH_2Cl_2	S	S	S
$CHCl_3$	S	S	S
Acetone	S	S	S
DMF	S	S	S
THF	S	S	S

[a]TG: transparent gel, OG: opaque gel, S: soluble, P:precipitate.

[b]CGC is the critical gelation concentration at which gelation was observed to restrict the flow of the medium at room temperature.

4. Gel-sol transition temperature



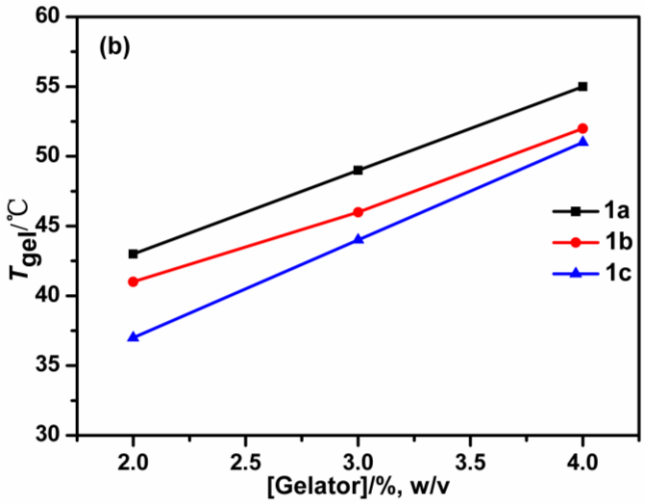


Figure S3 Plots of T_{gel} *versus* the concentration of **1a-c** in (a) *n*-heptane and (b) *n*-octane.

5. Gelation properties of the CT complexes

Table S2 Gelation properties of CT complexes.

Solvent	**1a**	**1b**	**1c**
Cyclohexane	OG(5.4)	OG(3.53)	OG(3.24)
n-Hexane	OG(3.97)	OG(4.15)	OG (4.22)
n-Heptane	OG(3.95)	OG (4.1)	OG (4.15)
n-Octane	OG(3.95)	OG (4.08)	OG (4.12)

6. XRD of gel 1c and 1c/TCNQ CT complex gel

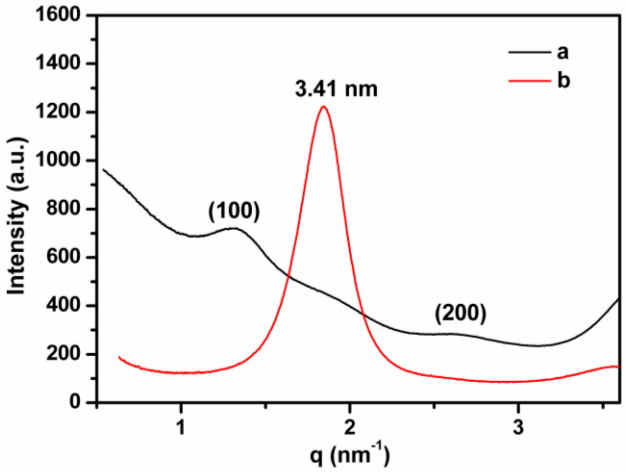


Figure S4 XRD patterns of xerogel **1c** from *n*-hexane (a) and xerogel **1c/TCNQ** (mole ratio = 1:1) from *n*-hexane (b).

7. FT-IR of the gels

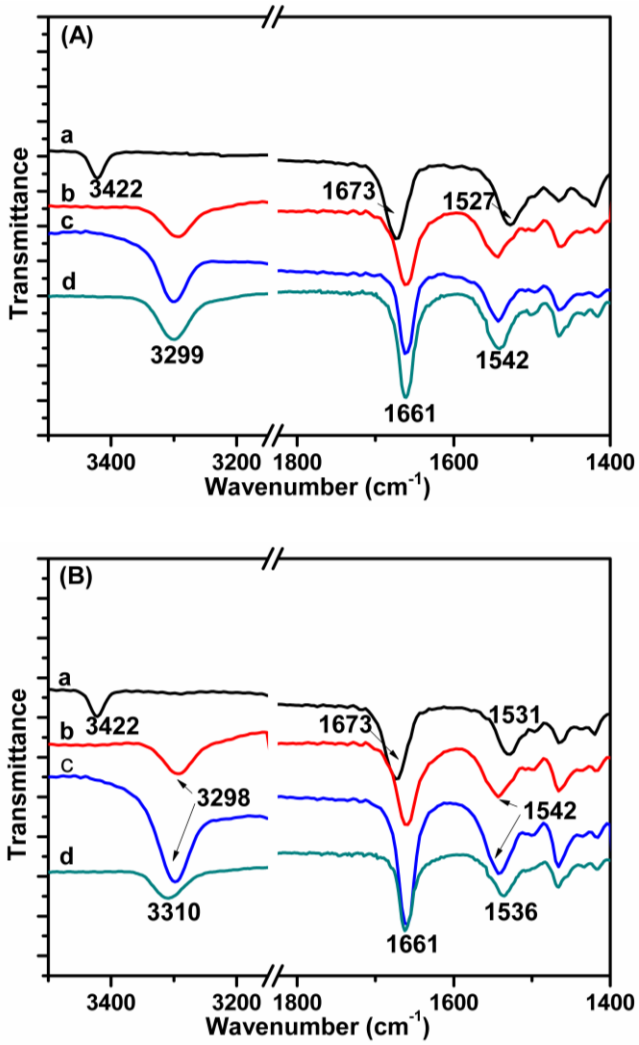
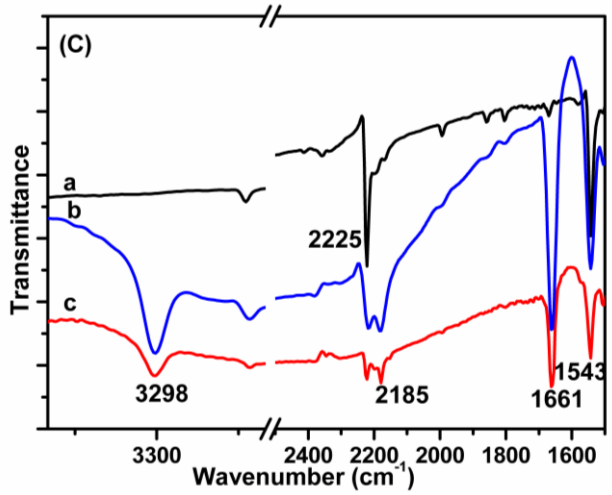


Figure S5 FT-IR spectra of **1a** (A) and **1b** (B) (a) in $CHCl_3$ solution; (b) cyclohexane gel; (c) *n*-hexane gel; (d) powder.



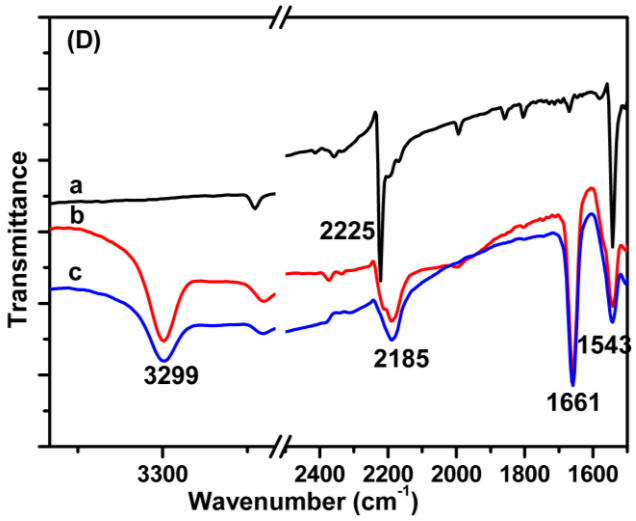


Figure S6 FT-IR spectra of xerogel of (C) **1a**; (D) **1b** and TCNQ 1: l CT complex (a) TCNQ; (b) from cyclohexane; (c) from *n*-hexane, which were measured by using KBr pellet.

8. Anions responsive

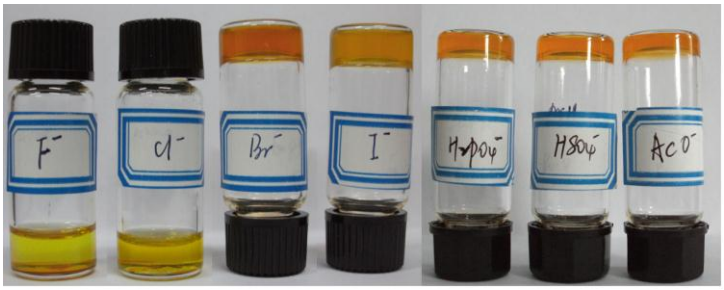


Figure S7 The variety of the gel **1c** in cyclohexane or n-hexane by anions stimulation.

9. ^{1}H NMR spectra

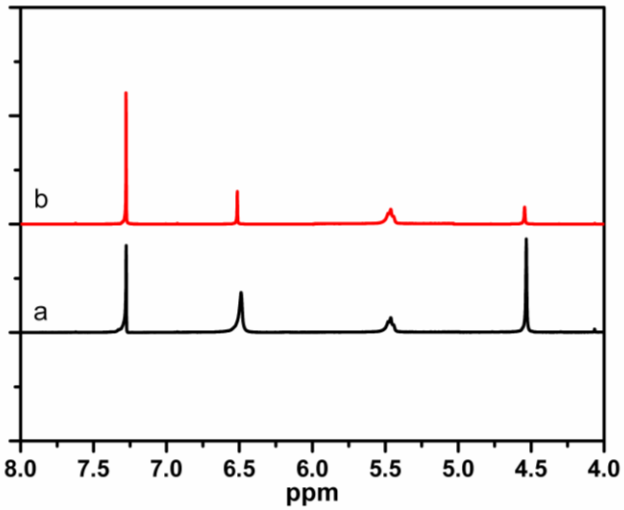


Figure S8 Partial ^{1}H NMR spectra of **1c** (2mM) in $CDCl_3$ upon the addition of AcO^- : (a) free; (b) 1.0 equiv.