Electronic Supplementary Material (ESI) for New Journal of Chemistry.

A potential naphthyl-thiazole-based organic dye and a ditopic chromogenic probe for CN- and Fe3+ with molecular logic functions

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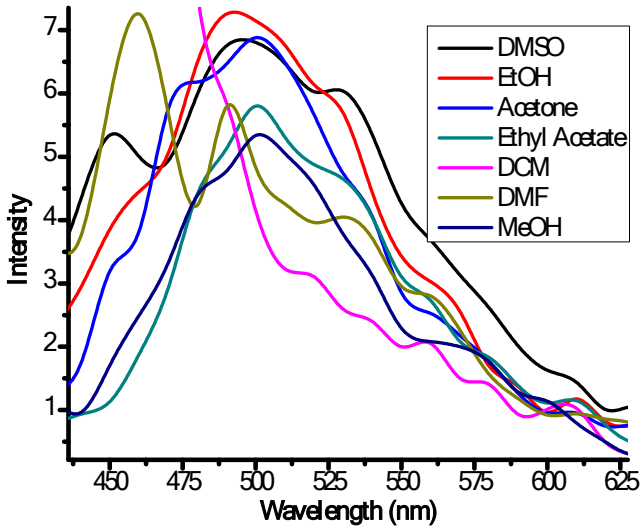


Figure S1: Fluorescence spectra of **J** (1 x 10^{-5} M) in different solvents, for solvatochromism (400 nm_{ex}), at room temperature

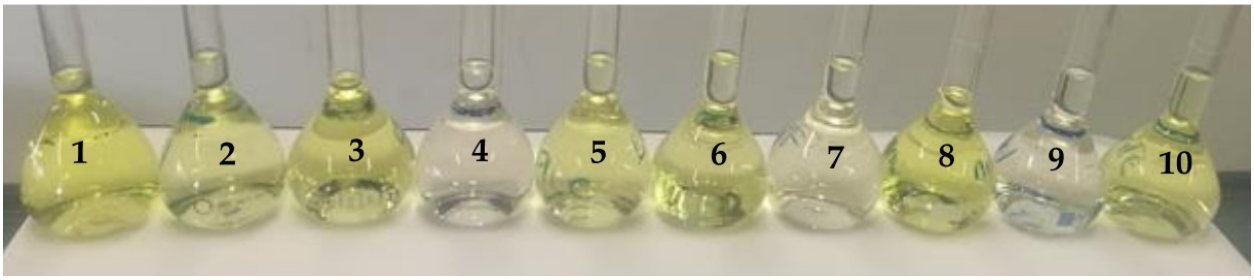


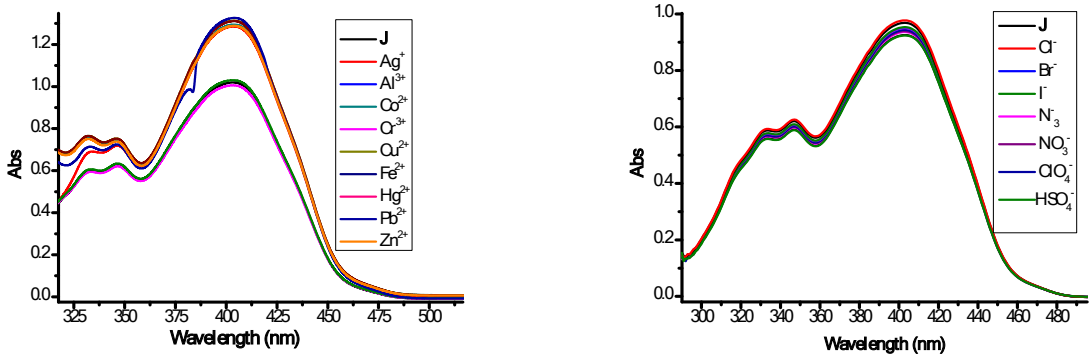
Figure S2: Photographic pictures of **J** in different solvents: (1) EtOH, (2) MeOH, (3) Chloroform, (4) DMF, (5) Ethyl acetate, (6) DMSO, (7) THF, (8) DCM, (9) Isopropyl Alcohol, (10) Ch_3CN, all at room temperature

E_g (eV) = hν = hc/λ -------- (1)

Or

$E_{H\text{-}L}$ (eV) = 1240/λ (nm) ------- (2)

Figure S3: Equations to estimate the HOMO-LUMO gap



(a) (b)

Figure S4: UV-vis changes of **J** (1 x 10^{-5} M) in CH_3CN of all other (a) cations and (b) anions (5 equiv.), combined in one graph

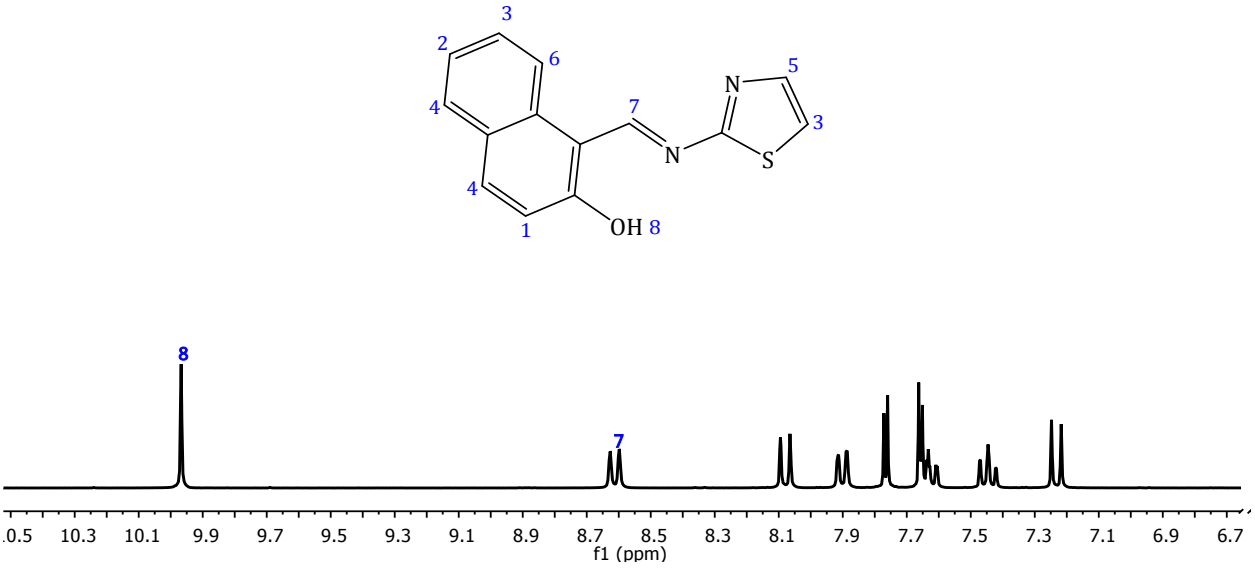
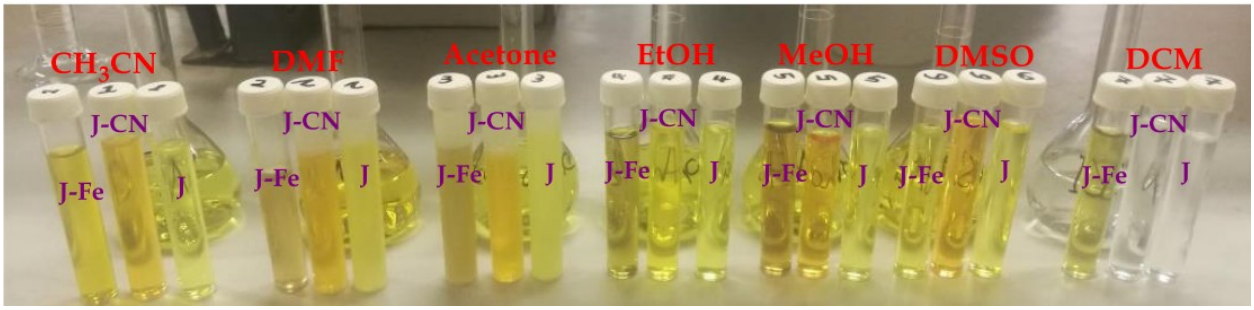
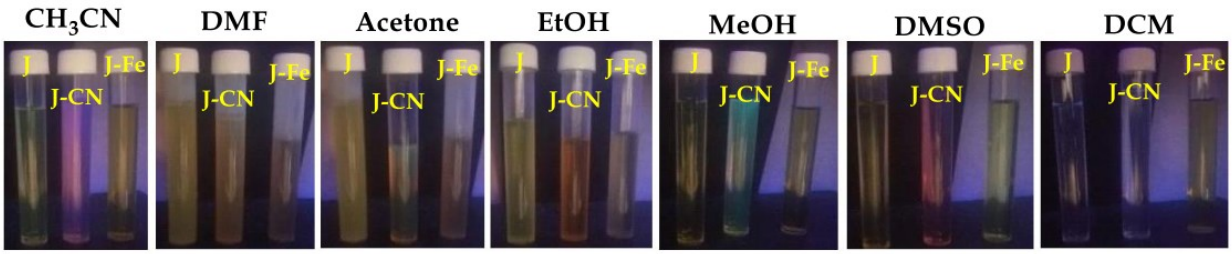


Figure S5: The plot of ^{1}H NMR titration spectra for **J** (1×10^{-2} M) in DMSO-d_6 at 25°C



(a)



(b)

Figure S5: Comparisons of photographic pictures of **J** (1×10^{-5} M) displaying colour changes upon equimolar (5 equiv.) of CN^{-} and Fe^{3+} respectively, under (a) daylight and (b) UV-light conditions, displayed in different solvents