

Supporting Information

Reaction Induced Supramolecular Gelation with Evolution of Circularly Polarized Luminescence

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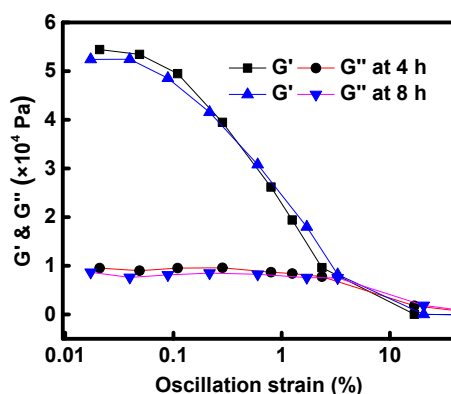


Figure S1. Strain sweep rheometry of 2-NLG after addition of NaBH_4 4 h and 8 h, respectively, in air at room temperature ($[\text{2-NLG}] = 1.0 \times 10^{-2}$ M, the molar ratio of 2-NLG to NaBH_4 was 1:2). The measurement frequency was fixed as 1 Hz.

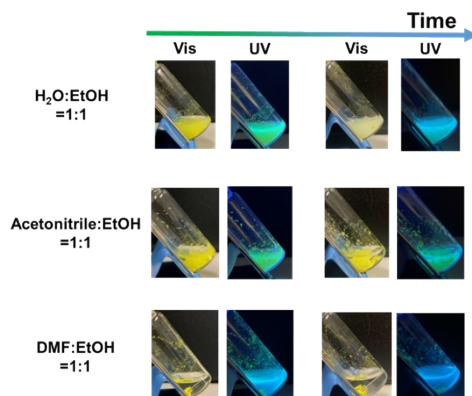


Figure S2. Evolution of 2-NLG systems in the mixed solvents with the addition of NaBH_4 ($[\text{2-NLG}] = 1.0 \times 10^{-2}$ M, and the molar ratio of NLG to NaBH_4 was 1:2).

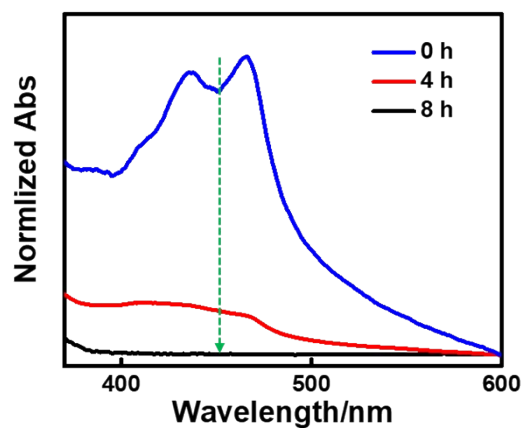


Figure S3. Normalized absorption of 2-NLG systems (Blue: 2-NLG reacted with NaBH_4 for 0 h. Red: 2-NLG reacted with NaBH_4 for 4 h. Black: 2-NLG reacted with NaBH_4 for 8 h). The concentration of 2-NLG was $1.0 \times 10^{-2} \text{ M}$, and the molar ratio of 2-NLG to NaBH_4 was 1:2.

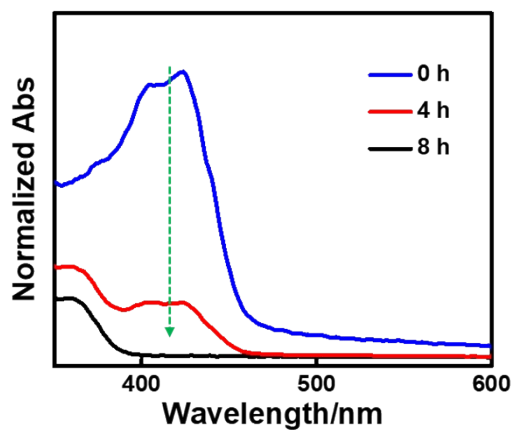


Figure S4. Normalized absorption of 1-NLG systems (Blue: 1-NLG reacted with NaBH_4 for 0 h. Red: 1-NLG reacted with NaBH_4 for 4 h. Black: 1-NLG reacted with NaBH_4 for 8 h). The concentration of 1-NLG was $1.0 \times 10^{-2} \text{ M}$, and the molar ratio of 1-NLG to NaBH_4 was 1:2.

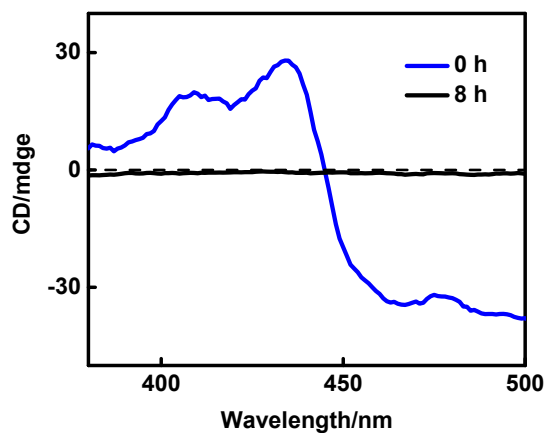


Figure S5. CD spectrum of 1-NLG systems (Blue: 1-NLG reacted with NaBH_4 for 0 h. Black: 1-NLG reacted with NaBH_4 for 8 h). The concentration of 1-NLG was $1 \times 10^{-2} \text{ M}$, and the molar ratio of 1-NLG to

NaBH₄ was 1:2.

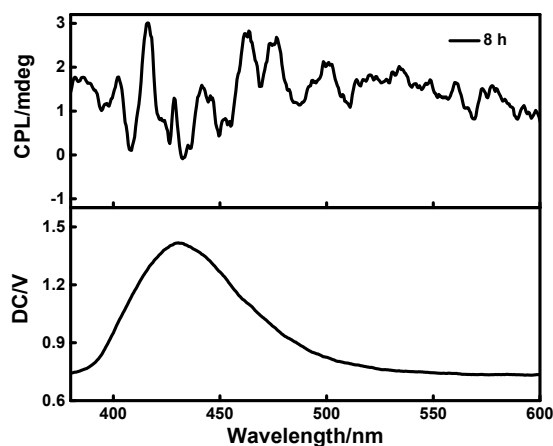


Figure S6. CPL spectra of 1-NLG systems when 1-NLG reacted with NaBH₄ for 8 h. The concentration of 1-NLG was 1.0×10^{-2} M, and the molar ratio of 1-NLG to NaBH₄ was 1:2.

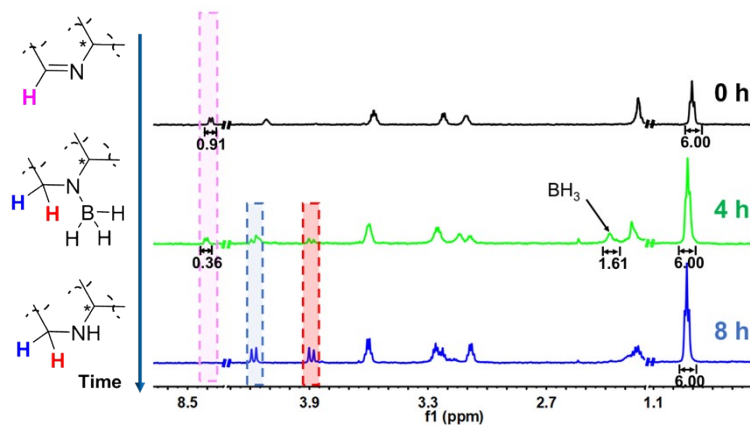


Figure S7. Variation of ¹H NMR spectra (acetonitrile-d₃, 600 MHz, 343 K) of 2-NLG on reduction time upon addition of NaBH₄.

We use integration of methyl groups in the alkyl chains of 2-NLG as the reference, and the conversion of imine to secondary amine group is given by the following equation:

$$C = 100 \times \left(\frac{A_0 - A}{A_1} \right)$$

where C is the percentage conversion of imine to secondary amine group; A₀ is the integration of proton in CH=N at 8.06 ppm in the beginning. A is the integration of proton in CH=N at 8.06 ppm after addition of NaBH₄ for 4 h and 8 h, respectively. Therefore, the conversion of imine to secondary amine group is calculated as about 60% at 4 h and approaching 100% at 8 h.

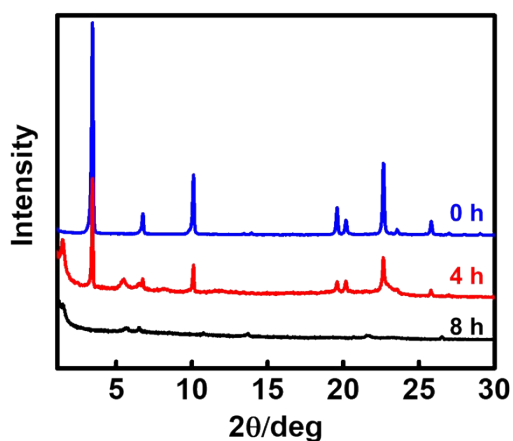


Figure S8. XRD patterns of 1-NLG systems in ethanol (Blue: 1-NLG reacted with NaBH_4 for 0 h. Red: 1-NLG reacted with NaBH_4 for 4 h. Black: 1-NLG reacted with NaBH_4 for 8 h).

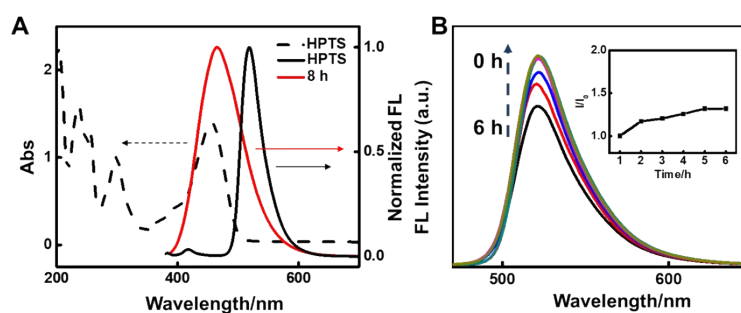


Figure S9. (A) UV spectrum of HPTS (black dot line) and FL spectra of HPTS solution (black solid line) and 2-NLG upon addition of NaBH_4 for 8 h (red solid line). (B) Time dependence of fluorescence spectra of 2-NLG/HPTS systems upon addition of NaBH_4 ($\lambda_{\text{ex}}=450$ nm). Inset: plot of the changes of emission intensity at 515 nm (I_0 : the fluorescence intensity at 0 h; I : the fluorescence intensity at 0-6 h).

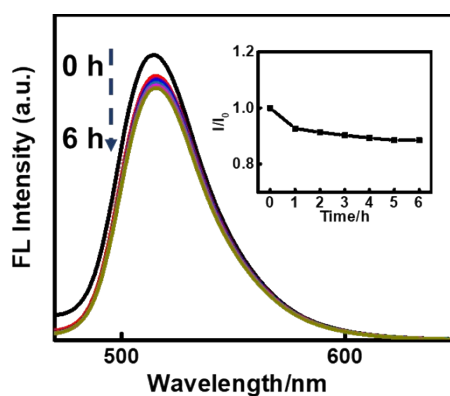


Figure S10. Variation of fluorescence spectra of HPTS in ethanol under addition of NaBH_4 (without 2-NLG, $\lambda_{\text{ex}}=360$ nm). Inset: plot of the changes of emission intensity at 515 nm (I_0 : the fluorescence intensity at 0 h; I : the fluorescence intensity at 0-6 h).