Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Switchable circularly polarized luminescence from a photoacid co-assembled organic nanotube

Huahua Fan[a,b], Hejin Jiang[a], Xuefeng Zhu*[a], Zongxia Guo[c], Li Zhang*[a] and Minghua Liu*[a,b]

[a] Beijing National Laboratory for Molecular Science, CAS Key Laboratory of Colloid, Interface and Chemical Thermodynamics, Institute of Chemistry, Chinese Academy of Sciences, Zhongguancun North First Street 2, Beijing 100190, China. E-mail: zhuxf06@iccas.ac.cn, zhangli@iccas.ac.cn, liumh@iccas.ac.cn.
[b] University of Chinese Academy of Sciences, Beijing 100049, China.
[c] School of Polymer Science and Engineering, Qingdao University of Science and Technology, Qingdao 266042, P. R. China

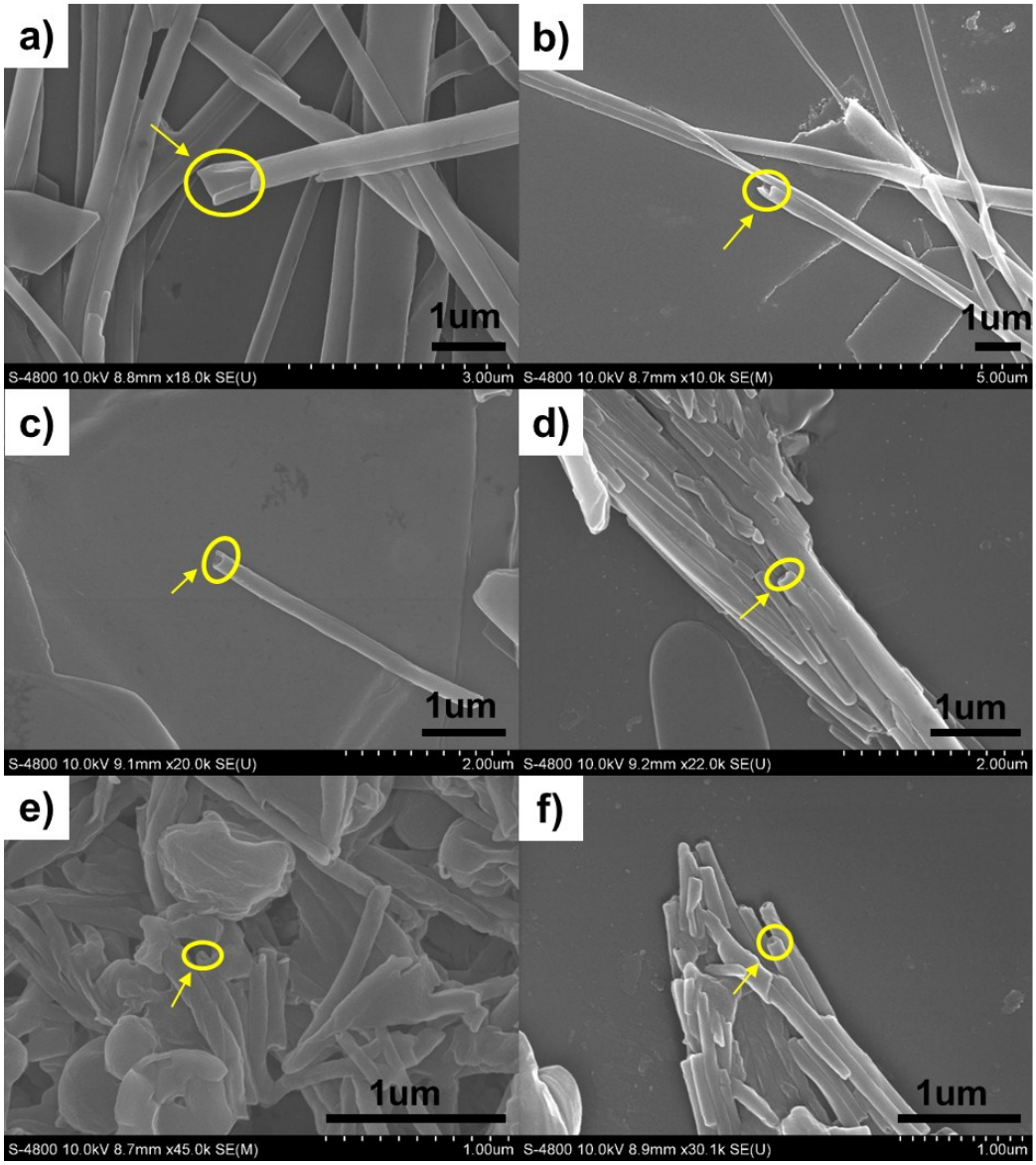

Figure S1. SEM images of LG in different volume ratio of DMF/H_2O (a) 10:0 (b) 9:1 (c) 8:2 (d) 7:3 (e) 6:4 (f) 5:5.

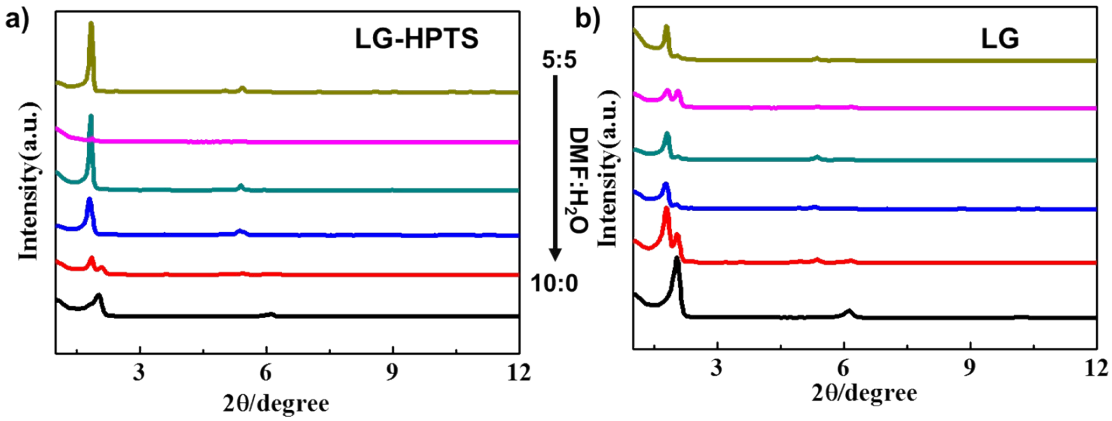

Figure S2. X-ray diffraction patterns of (a) LG/HPTS and (b) LG in the mixed solvents of DMF and water.

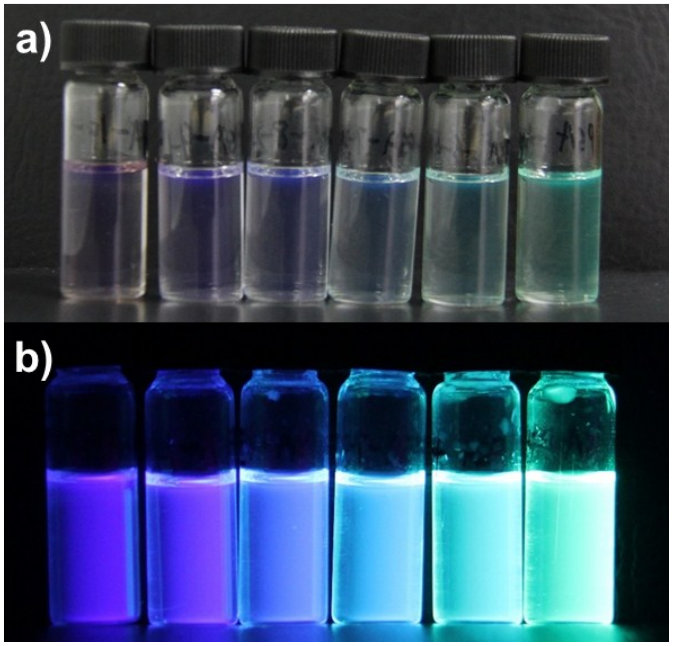

Figure S3. The photographic images of HPTS in different volume ratio of DMF/H_2O (a) on visible light and (b) 365 nm UV irradiation (C =1 × 10^{-5} M).

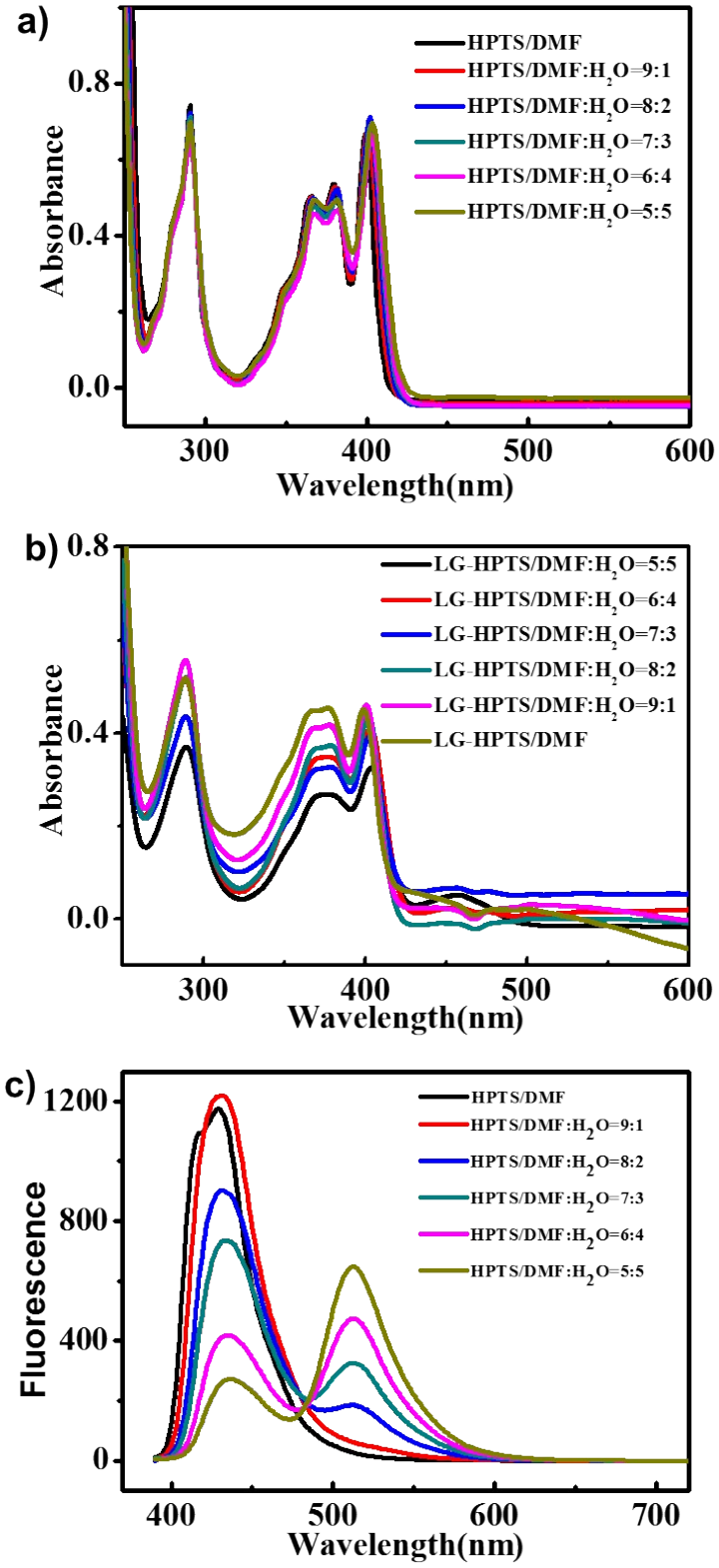

Figure S4. UV-vis spectra of (a) HPTS and (b) LG/HPTS in different volume ratio of DMF/H_2O. (c) FL spectra of HPTS in different volume ratio of DMF/H_2O under identical excitation intensity at 370 nm at room temperature.

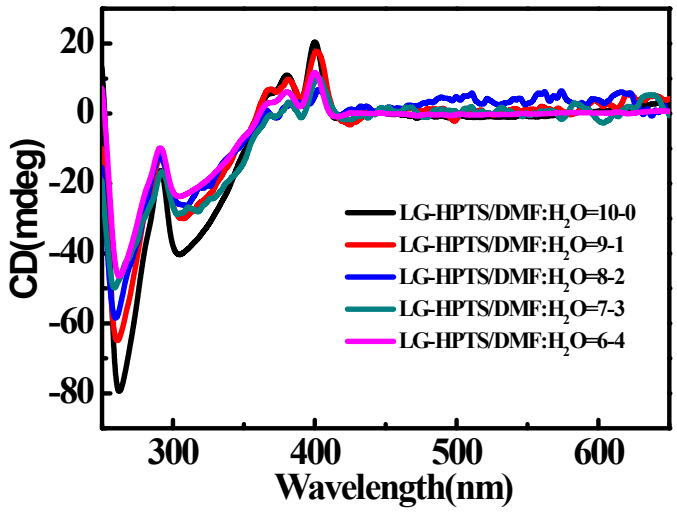

Figure S5. CD spectra of LG/HPTS gels in different volume ratio of DMF/H_2O.

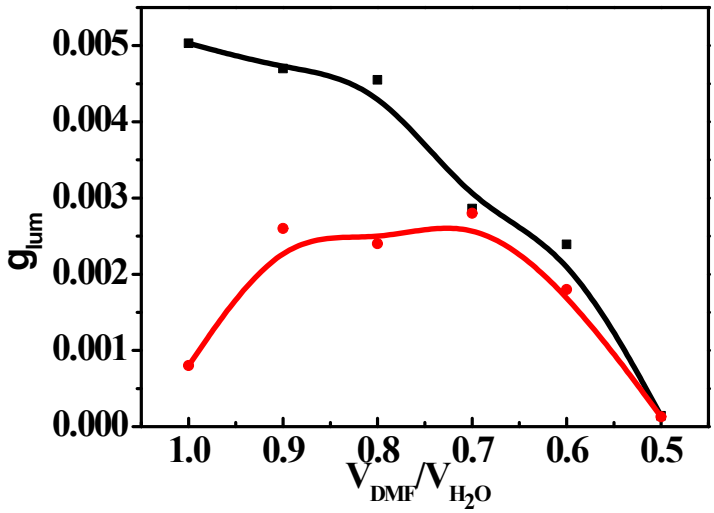

Figure S6. The CPL g_{lum} of LG/HPTS gels in different volume ratio of DMF/H_2O at 420 nm (black line) and 520 nm (red line).

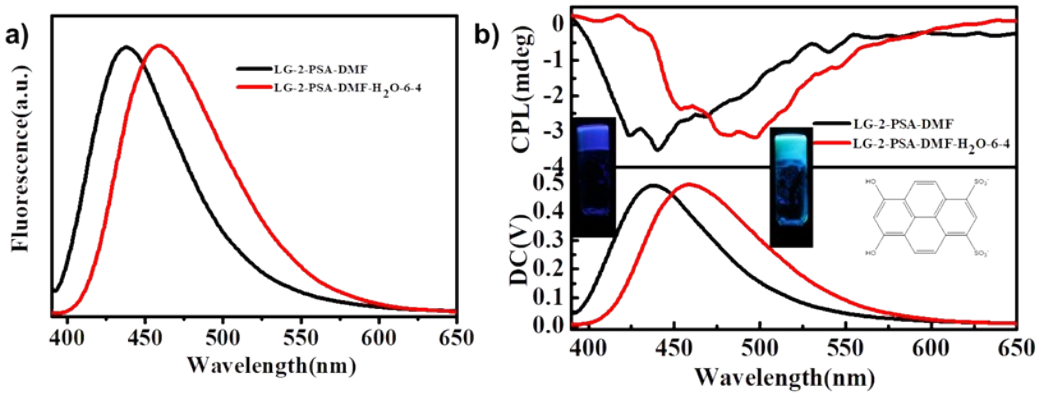

Figure S7. (a) Fluorescence spectra and (b) CPL spectra of LG/2-PSA (6,8-dihydroxy-1,3-pyrenedisulfonic acid disodium salt) in different volume ratio of DMF/H_2O.

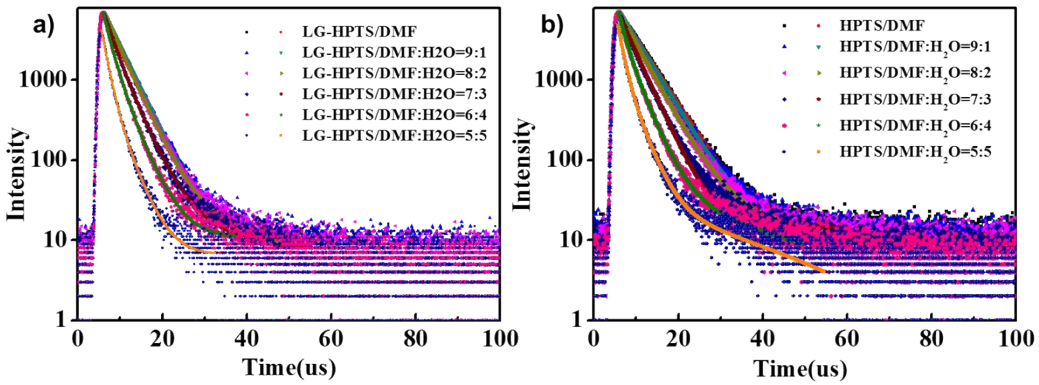

Figure S8. Time-resolved emission of the ROH form of (a) LG/HPTS composites and (b) HPTS in different volume ratio of DMF/H_2O, semilogarithmic scale, detected at 420 nm. λ_{ex} = 360 nm.

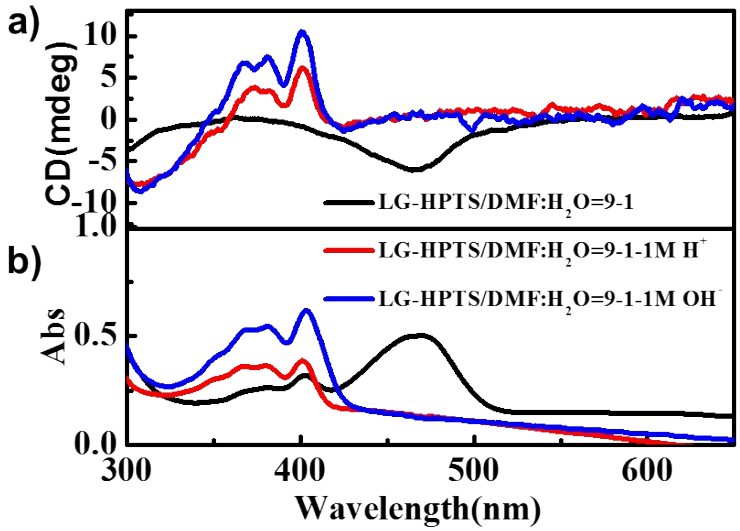

Figure S9. (a) CD spectra and (b) UV-vis spectra of LG/HPTS gels and LG/HPTS gels in the presence of acid and base.

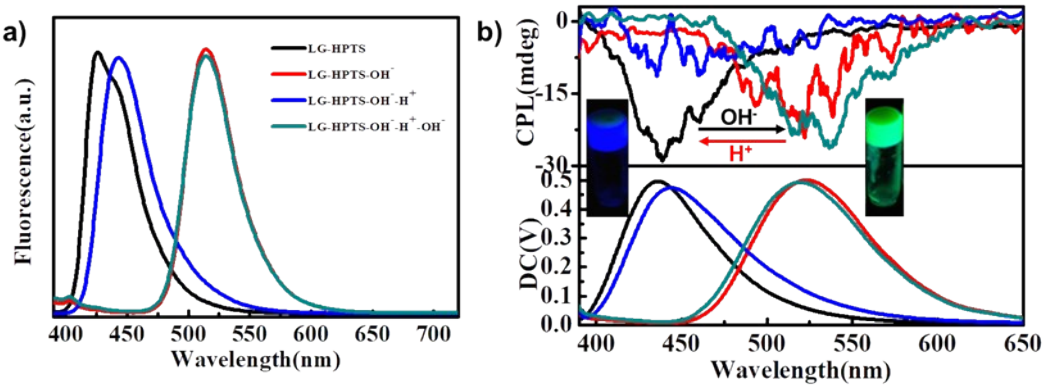

Figure S10. (a) Fluorescence spectra and (b) CPL spectra of LG/HPTS in ethanol gels by alternately adding acid and base.

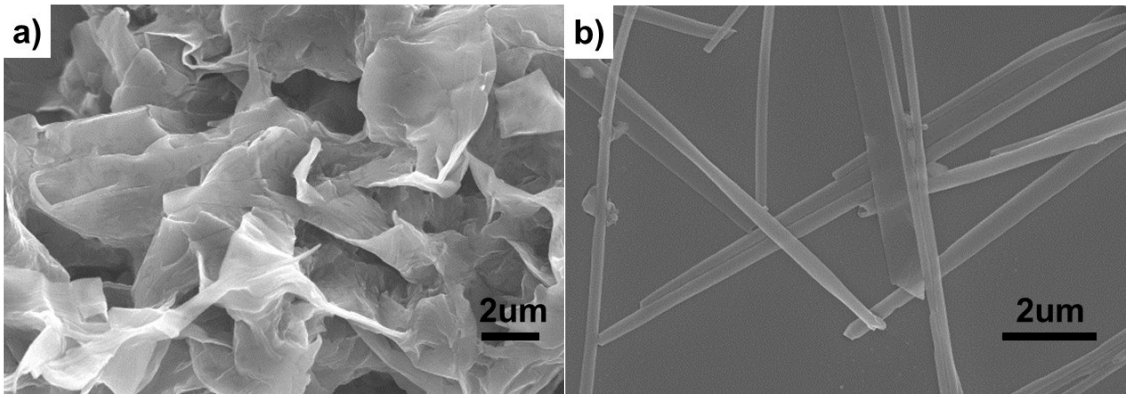

Figure S11. SEM images of LG (a) under acid and (b) under base in DMF/H_2O (9:1).

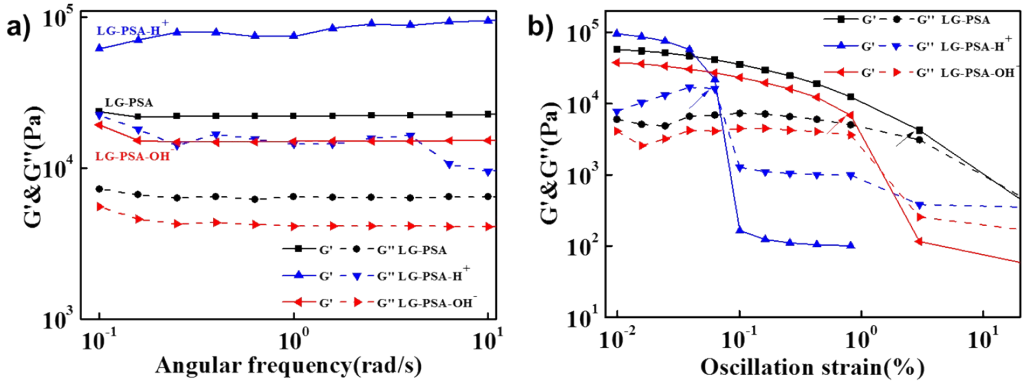

Figure S12. (a) Frequency and (b) strain sweep rheometry of the multicomponent gels containing LG/HPTS (DMF/H_2O=9:1) in the presence of acid and base.

Table S1 The quantum yield (Φ_F) of HPTS in the solution and in the gel.

QY	HPTS-Em420	HPTS-Em520	LG-HPTS-Em420	LG-HPTS-Em520
10:0	49.20%	4.36%	65.27%	6.33%
9:1	56.19%	9.49%	75.07%	14.49%

8:2	48.18%	18.58%	59.90%	28.33%
7:3	36.71%	37.80%	41.48%	51.60%
6:4	19.87%	50.92%	23.03%	68.22%
5:5	10.78%	60.65%	8.06%	80.45%