

Supporting Information

An o-Phthalimide-based Multistimuli-Responsive Aggregation-Induced Emission (AIE) System

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1. Selected spectra referred in the paper

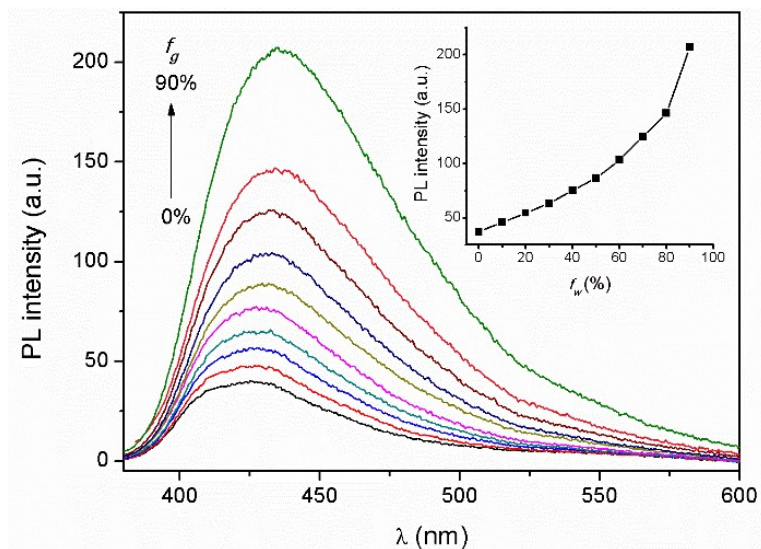


Fig. S1 Fluorescence spectra of 50 $\mu\text{mol/L}$ **2** in glycerin/ethanol mixtures with different glycerin fractions (f_g).

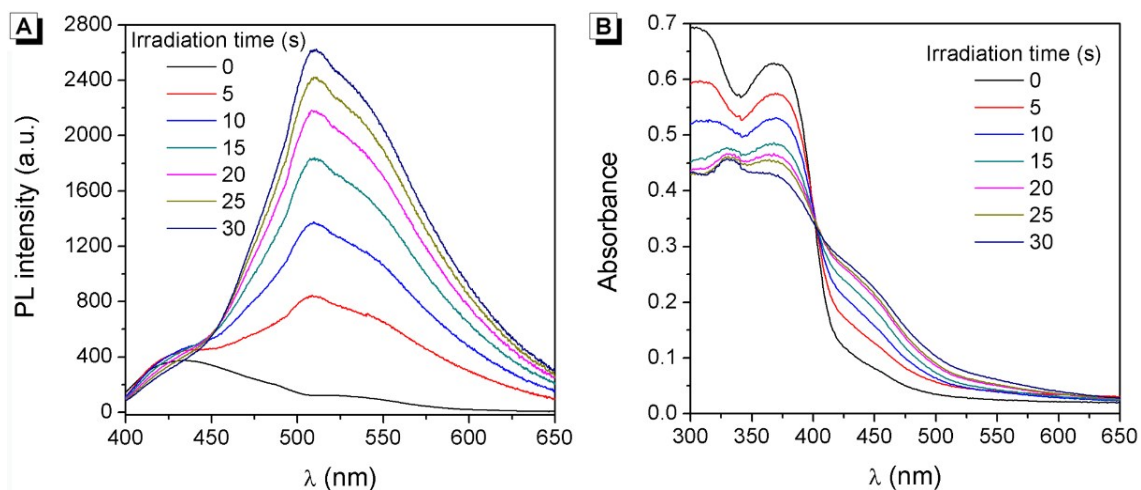


Fig. S2 A) Fluorescence and B) absorption spectra of **2** in PEO before and after light irradiation. The mass fraction of **2** was 1%.

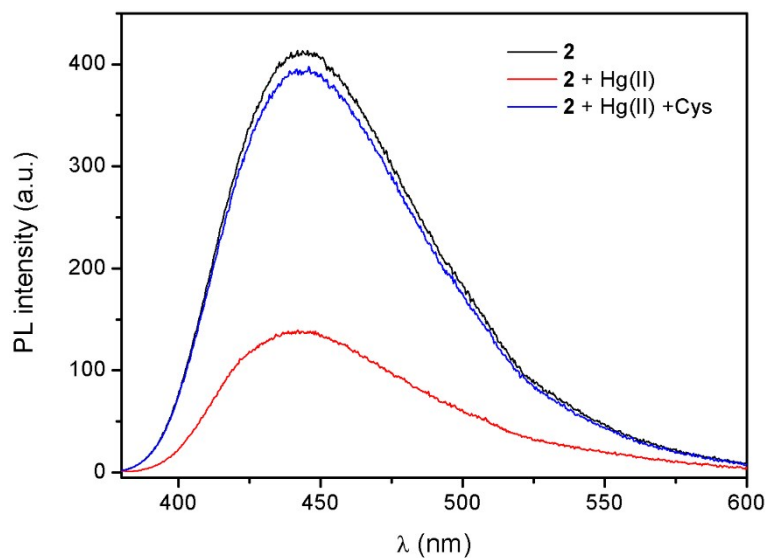


Fig. S3 Fluorescence spectra of 10 $\mu\text{mol/L}$ **2** in the absence and presence of 0.5 equiv. Hg(II) and 1 equiv. Cys. 99% water/DMSO (v/v) at pH 7.0 buffered by 10 mmol/L Tris solution.

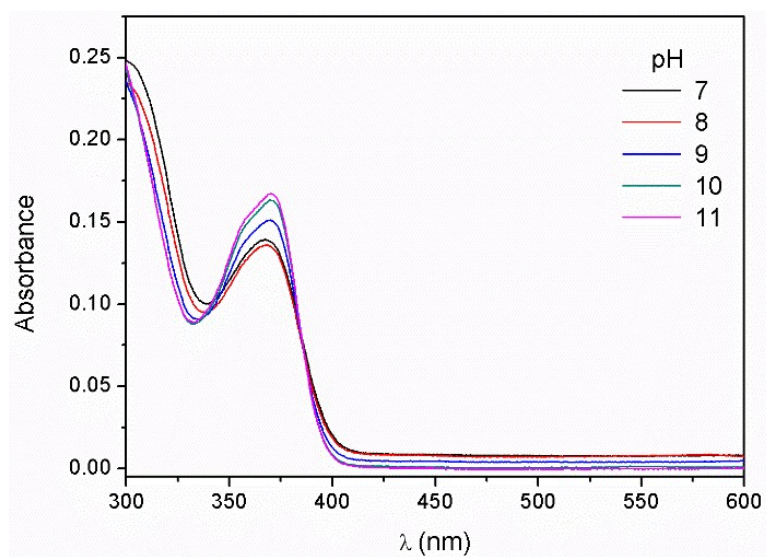


Fig. S4 Absorption spectra of **2** in different pHs.

2. NMR spectra

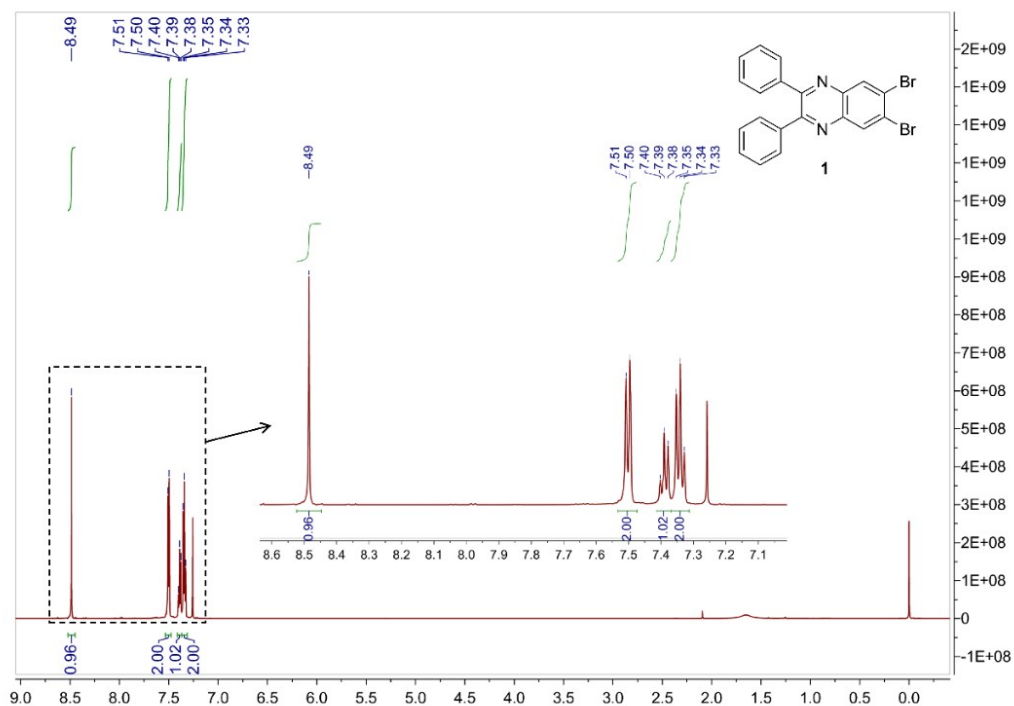


Fig. S5 ¹H-NMR spectra of **1** in CDCl₃.

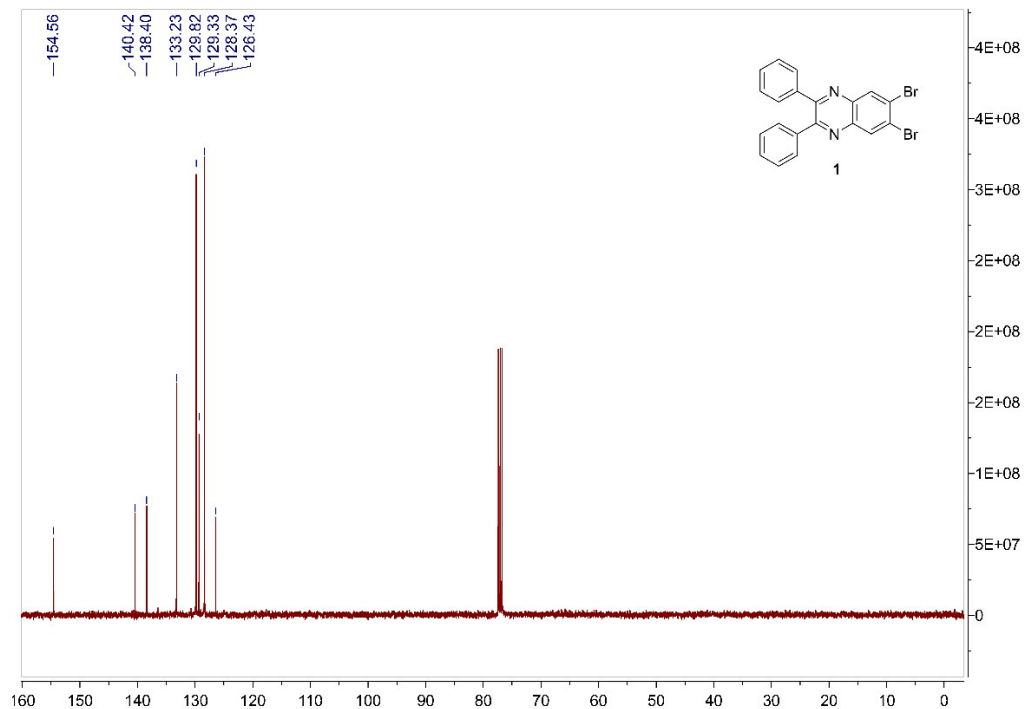


Fig. S6 ¹³C-NMR spectra of **1** in CDCl₃.

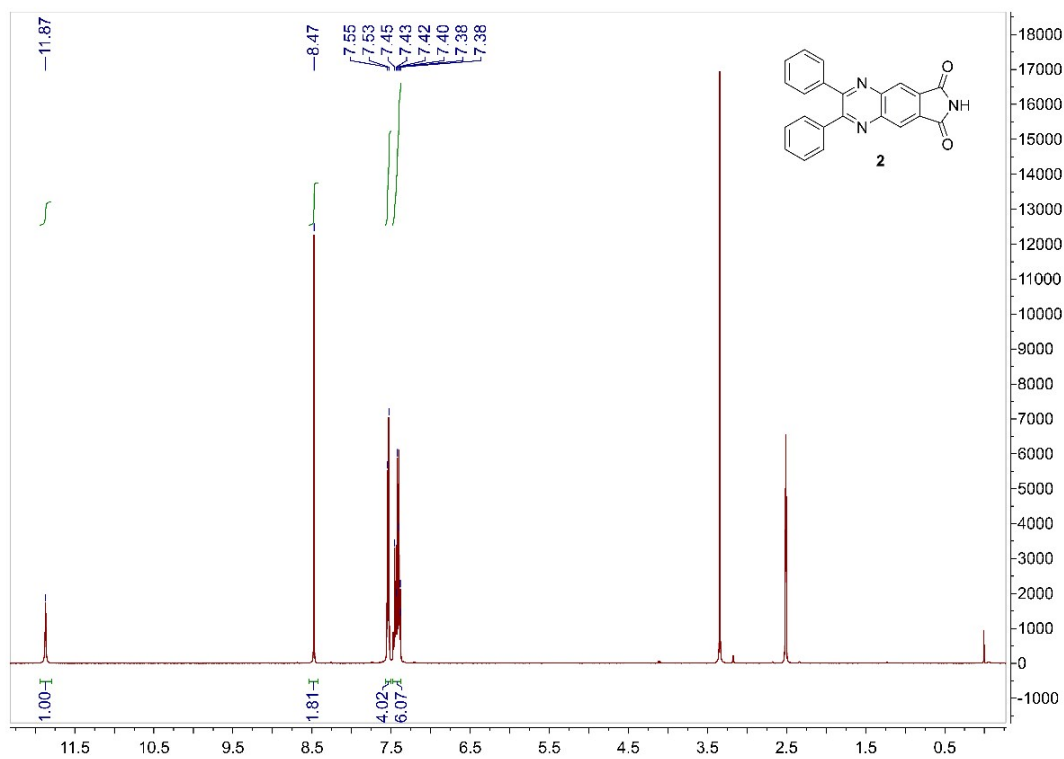


Fig. S7 ^1H -NMR spectra of **2** in $\text{DMSO-}d_6$.

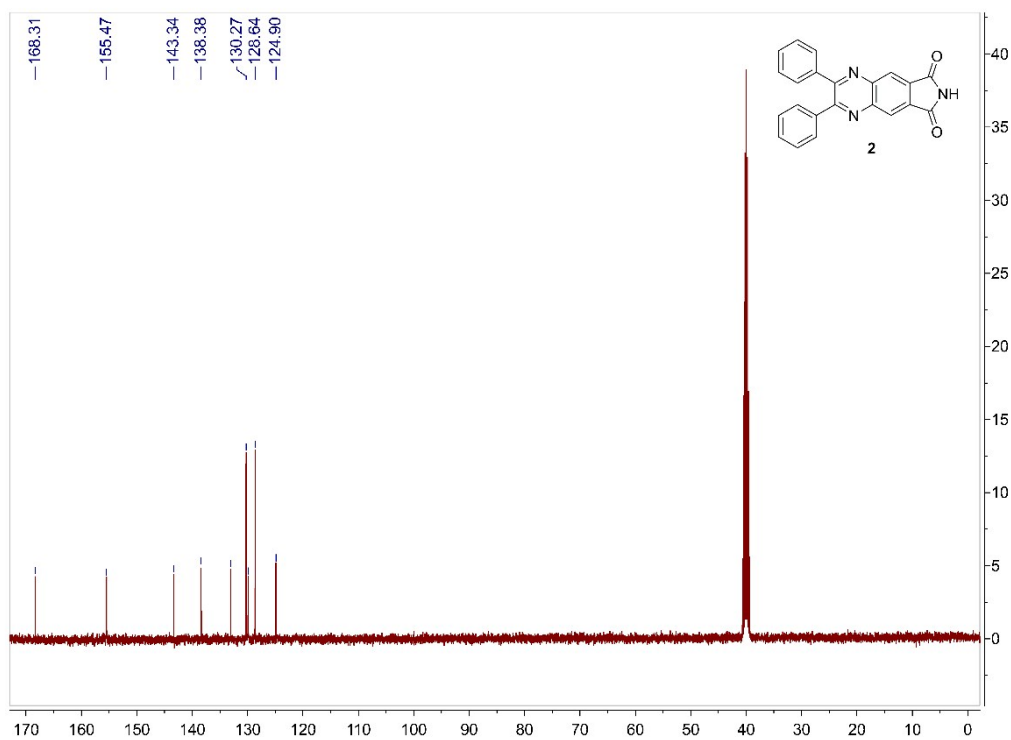


Fig. S8 ^{13}C -NMR spectra of **2** in $\text{DMSO-}d_6$.

3. Tables

Table S1 The influence of different wavelength light to the photo-response of **2**.

Wavelength (nm)	365	400	425	450	475
photo-response	Yes	Yes	No	No	No

Table S2 Crystallographic data and structure refinement

Compound	2
CCDC number	1859465
Empirical formula	C ₂₃ H ₁₇ N ₃ O ₃
Formula weigh	383.39
Temperature/K	298(2)
Wavelength	0.71073
Crystal system	monoclinic
Space group	P2 ₁
a/Å	10.830(8)
b/Å	7.650(6)
c/Å	12.063(9)
α /°	90
β /°	103.07(3)
γ /°	90
Volume/Å ³	973.5(12)
Z	2
Density(calculated)	1.308
Reflections collected	12044
Independent reflections	3285 [$R_{\text{int}} = 0.0407$, $R_{\text{sigma}} = 0.0381$]
Data/restraints/parameters	3285/1/264
Goodness-of-fit on F ²	1.126
Final R indexes [$I \geq 2\sigma(I)$]	$R_1 = 0.0423$, $wR_2 = 0.1071$
Final R indexes [all data]	$R_1 = 0.0550$, $wR_2 = 0.1139$

4. Caption of videos

Video 1. A video of photo-response of **2** in THF.

Video 2. A video of letters recording on **2** in PEO. The mass fraction of **2** was 1%.