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Supplementary Material

Specific Recognition of Methanol Using a Symmetric Tetramethylcucurbit[6]uril-Based Porous Supramolecular Assembly Incorporating Adsorbed Dyes

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EXPERIMENTAL SECTION

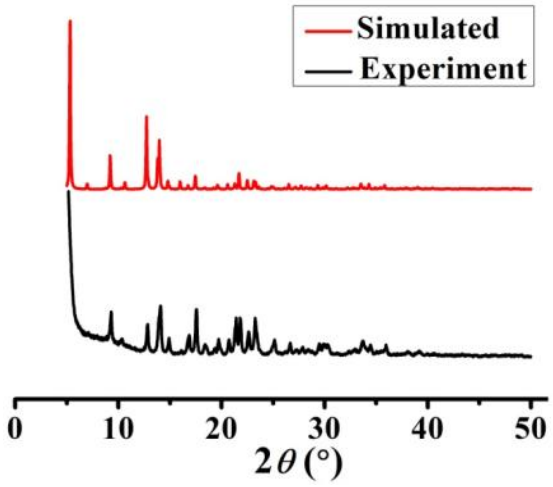


Fig. S1 Powder X-ray diffraction analysis of **A** (a) simulation and (b) experiment.

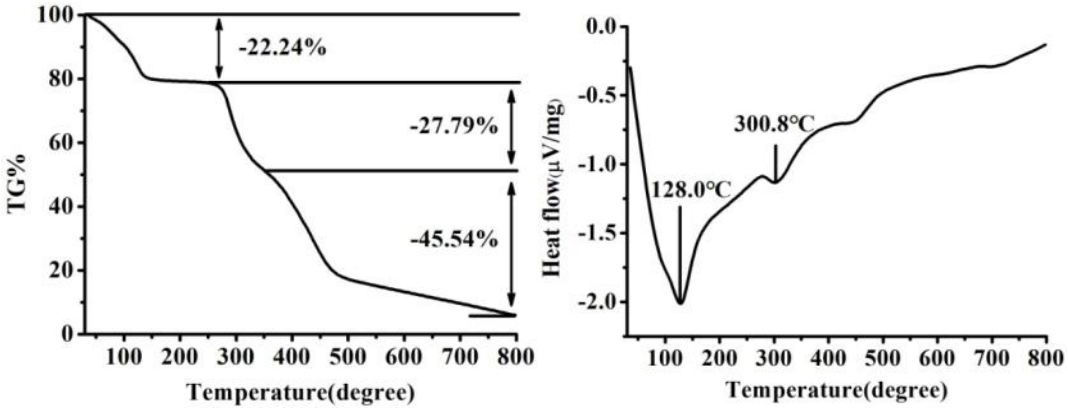


Fig. S2 TG (top) and DTA (bottom) curves obtained for **A** under N_2.

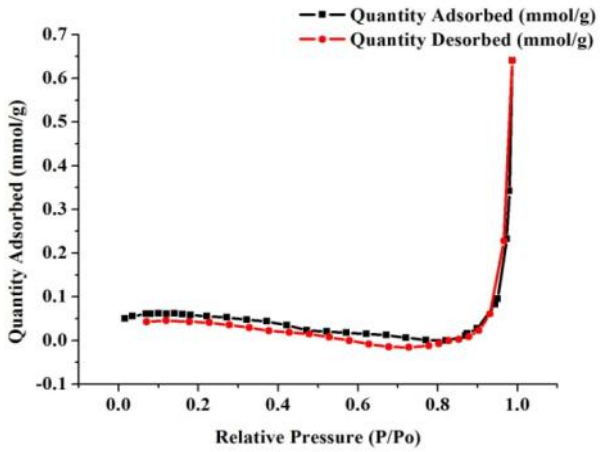
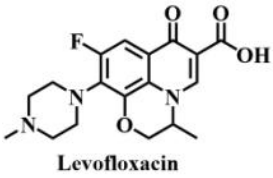
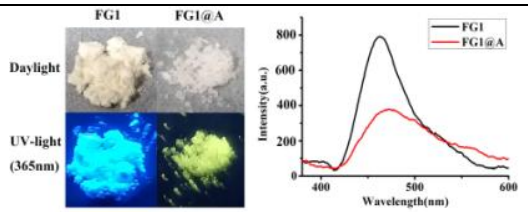
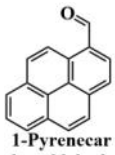
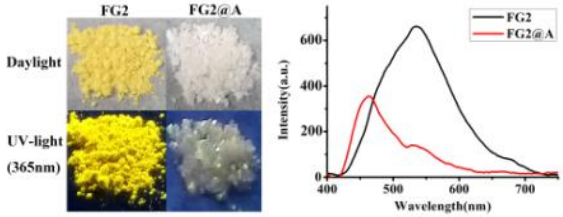
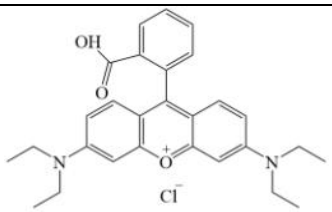
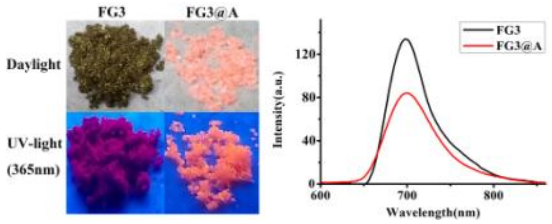
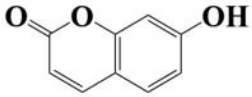
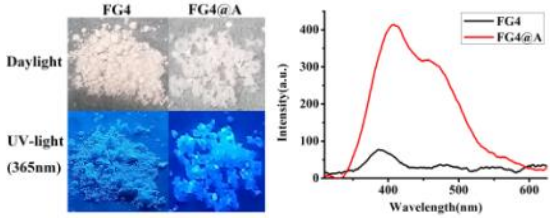
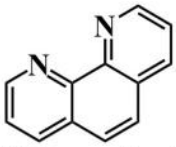
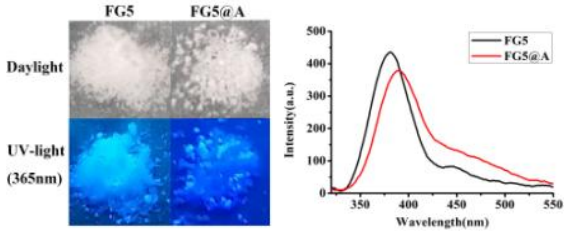
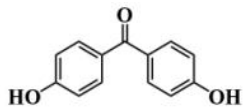
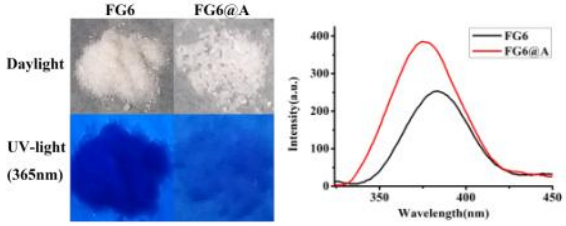
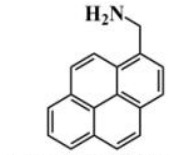
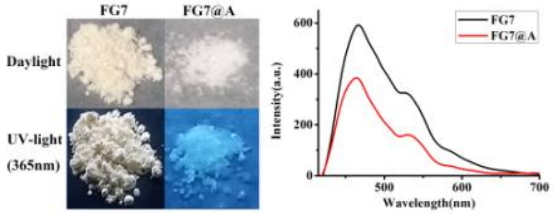
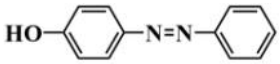
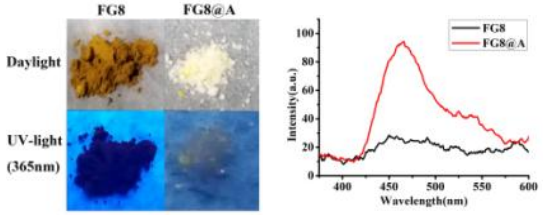
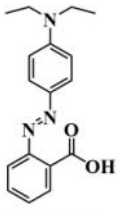
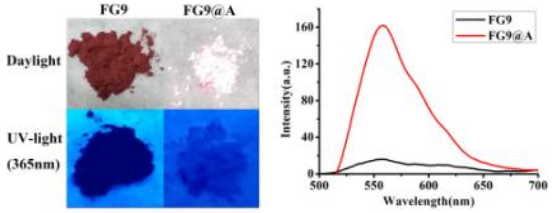
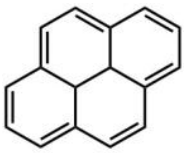
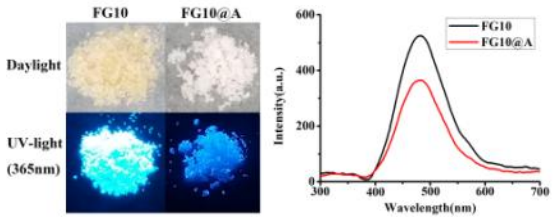
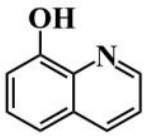
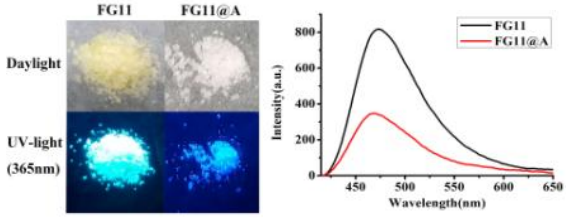
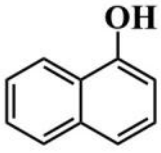
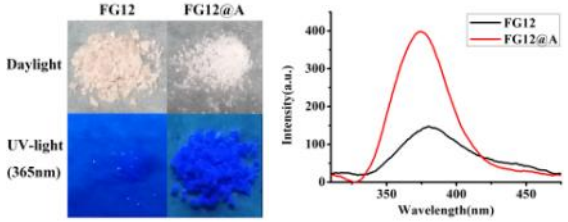
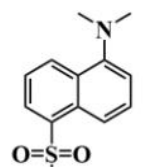
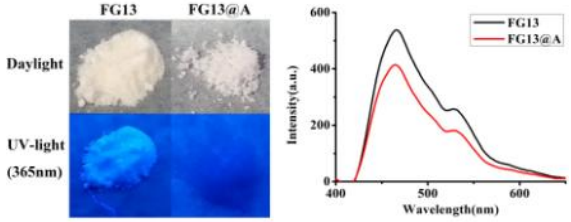
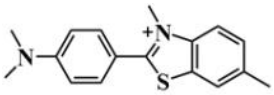
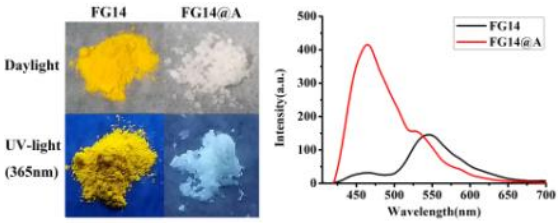
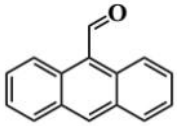
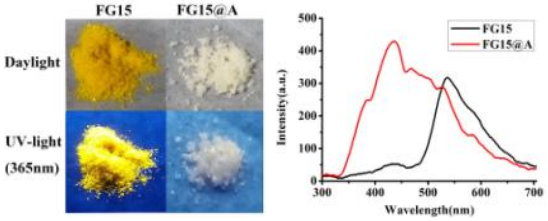


Fig. S3 The sorption isotherms of N_2 at 77 K using a micrometrics ASAP2020HD88 automated sorption analyzer. (■ symbol=adsorption and, ●=desorption of **A**.)

Table S1 A general survey of loading **A** with 15 **FG**s to form luminescent assemblies **FG@A**s: (first column) **FG**s and (second column) the fluorescence spectra of the solid **FG**s, **FG@A**s.

FGs	Survey of loading **A** with **FG**s (saturated absorption)
 Levofloxacin **FG1**	
 1-Pyrenecar boxaldehyde **FG2**	
 **FG3**	
 7-Hydroxycoumarin **FG4**	
 1,10-Phenanthroline **FG5**	
 4,4'-Dihydroxybenzophenone **FG6**	

 1-Pyrenemethylamine hydrochloride **FG7**	
 4-Phenylazophenol **FG8**	
 Ethyl Red **FG9**	
 Pyrene **FG10**	
 8-Hydroxyquinoline **FG11**	
 1-Naphthol **FG12**	
 Dansyl Choride **FG13**	

 **Thioflavin T** **FG14**	
 **9-Anthraldehyde** **FG15**	

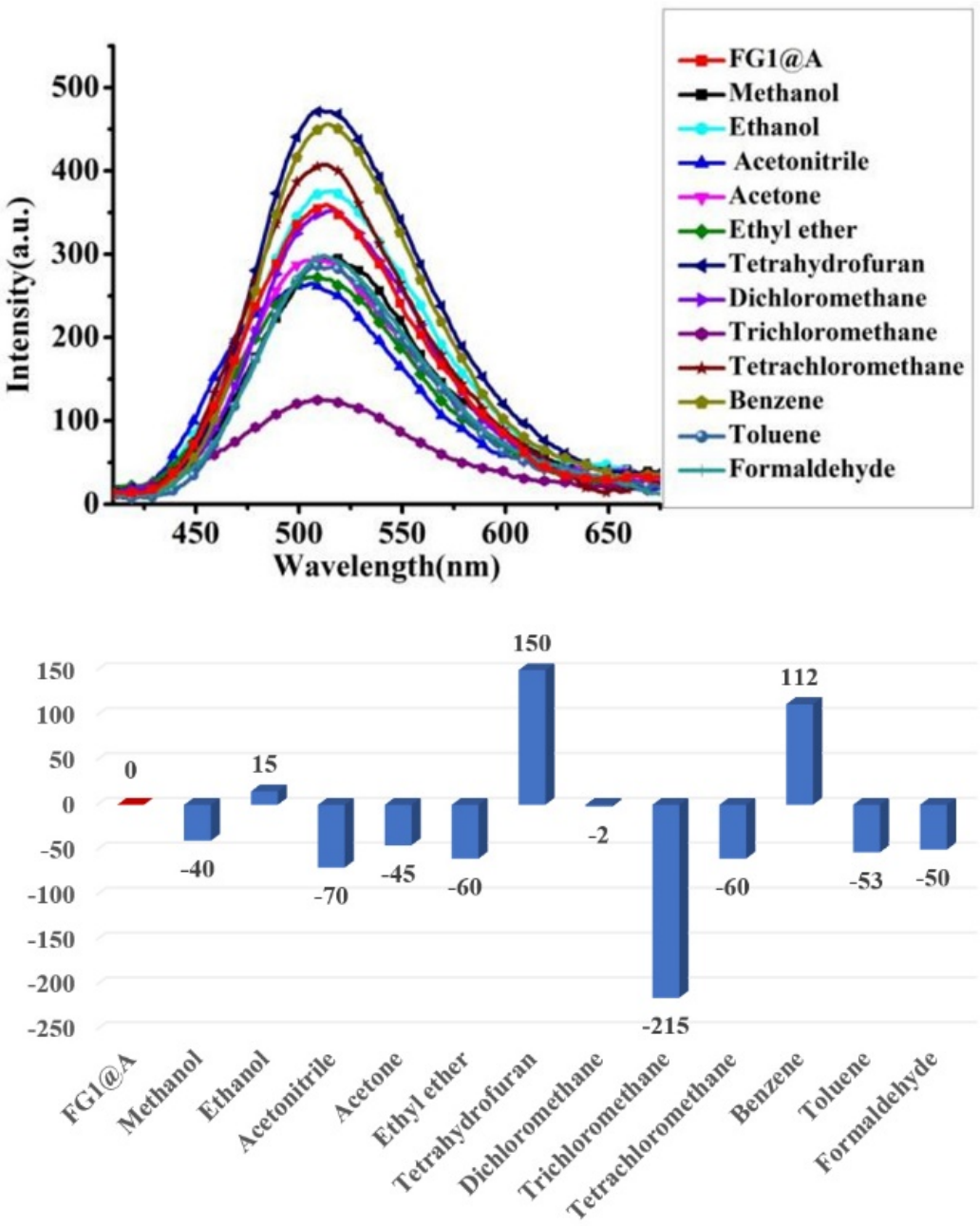


Fig. S4 A general survey of the fluorescence spectra of **FG**1**@A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**1**@A** in response to the 12 selected **VOC**s.

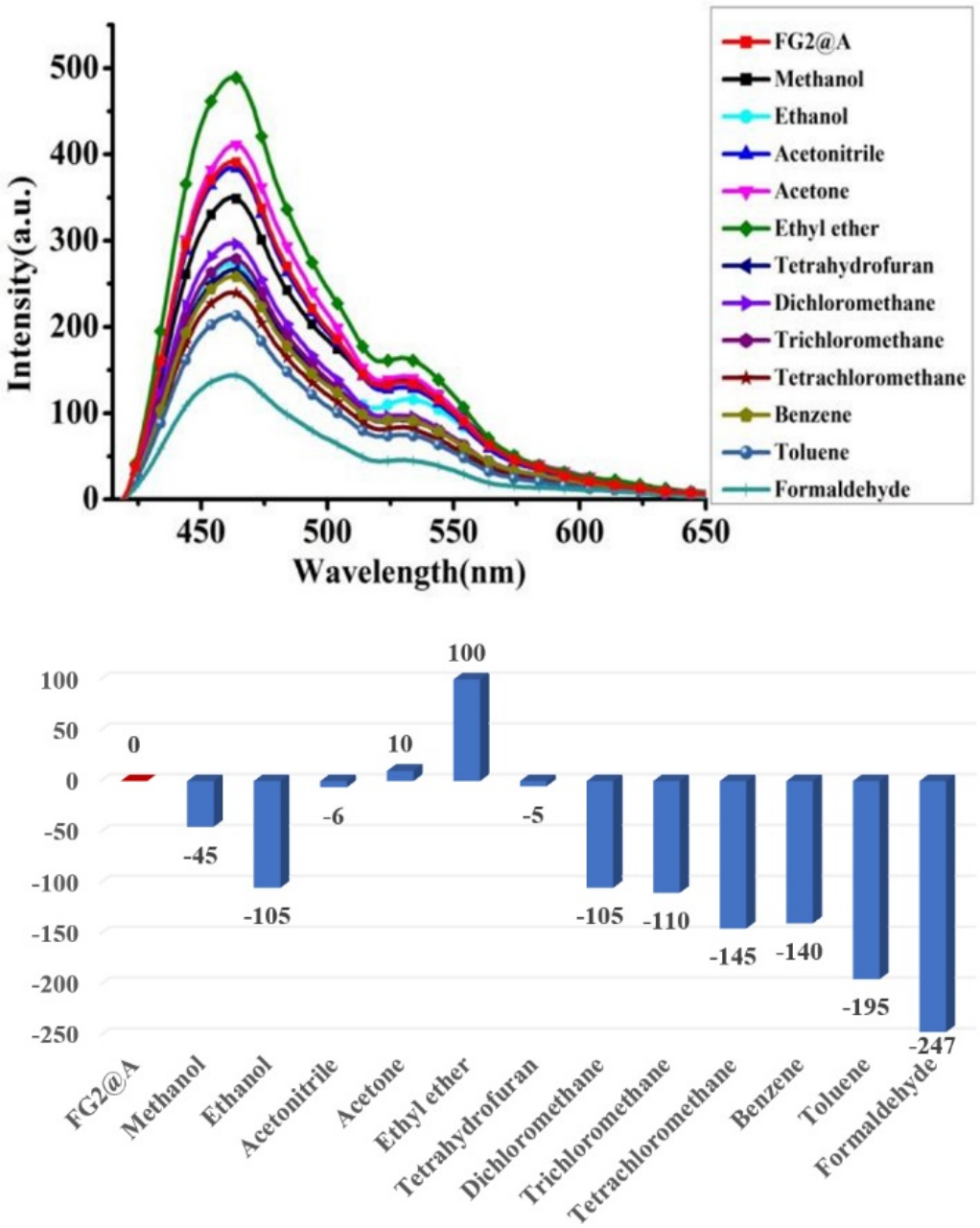


Fig. S5 A general survey of the fluorescence spectra of **FG**2@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**2@**A** in response to the 12 selected **VOC**s.

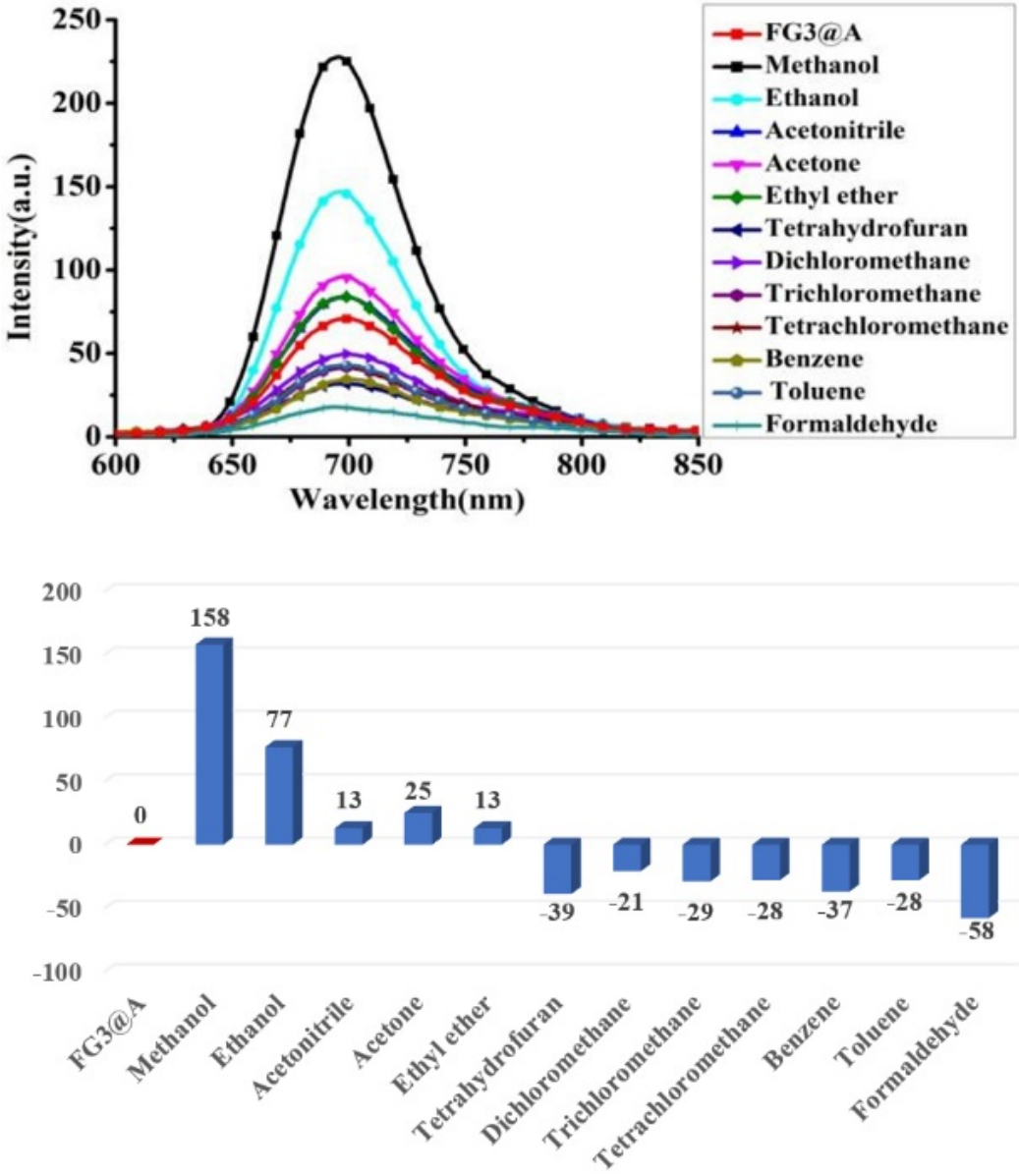


Fig. S6 A general survey of the fluorescence spectra of **FG**3**@A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**3**@A** in response to the 12 selected **VOC**s.

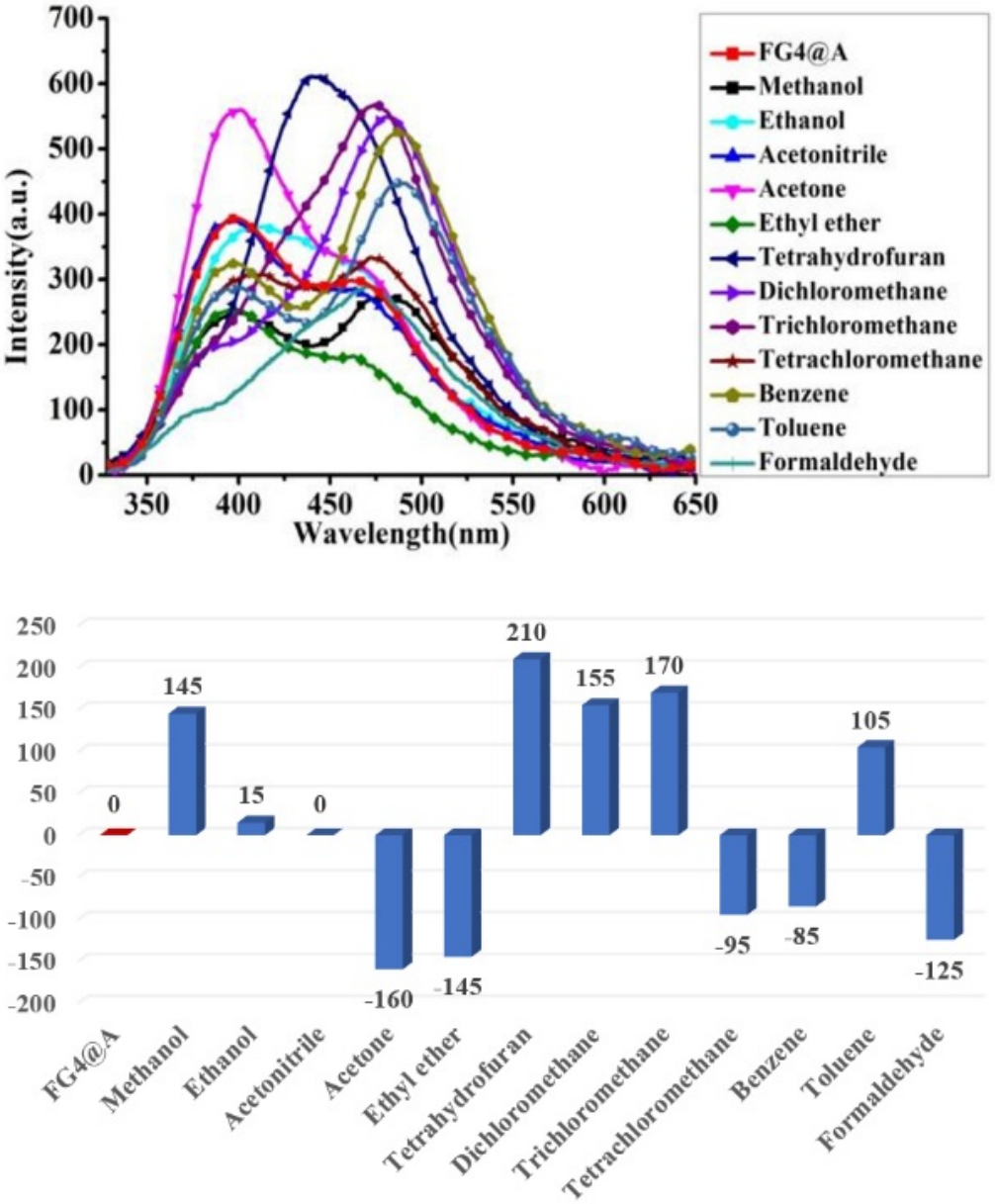


Fig. S7 A general survey of the fluorescence spectra of **FG**4@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**4@**A** in response to the 12 selected **VOC**s.

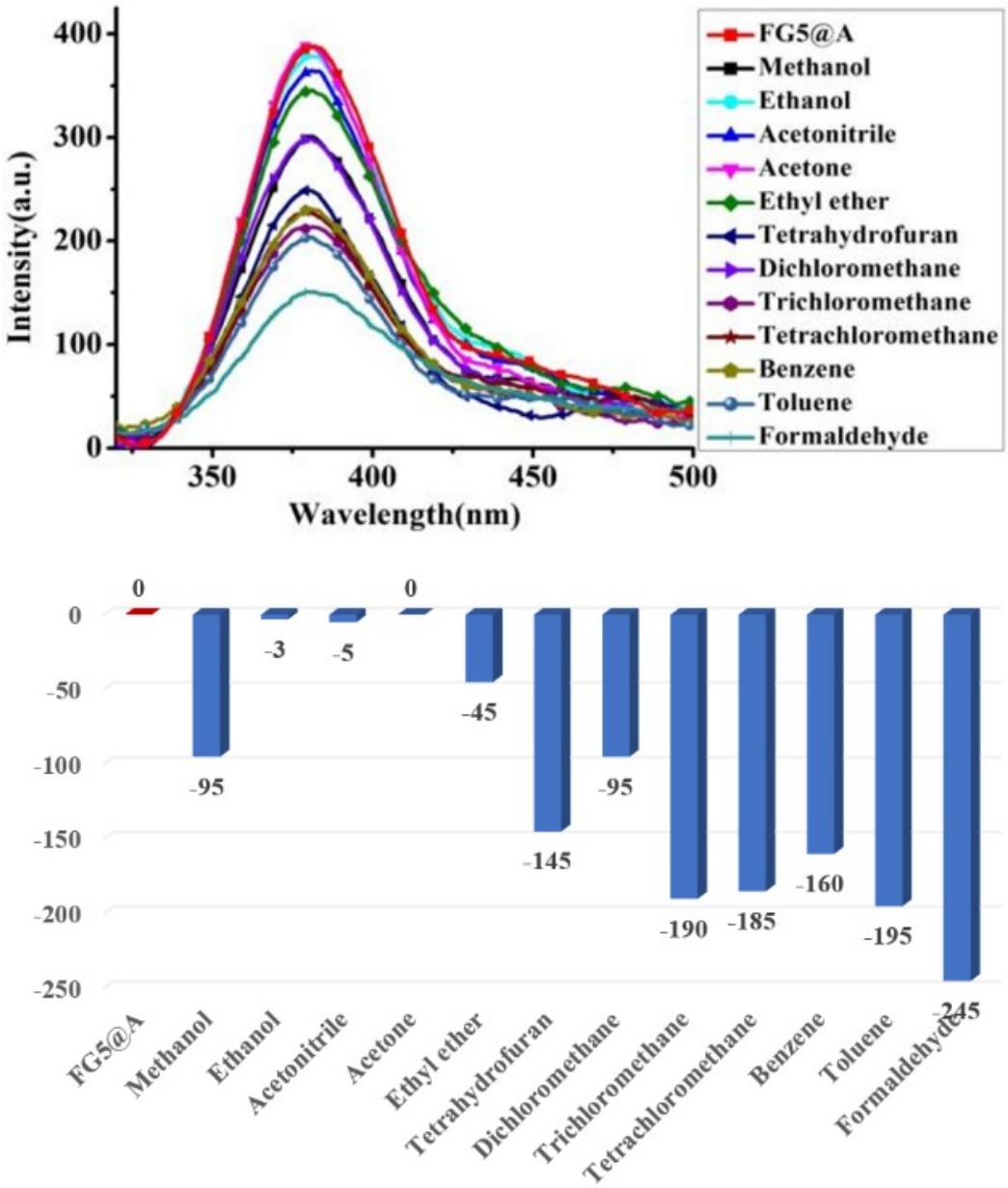


Fig. S8 A general survey of the fluorescence spectra of **FG**5**@A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**5**@A** in response to the 12 selected **VOC**s.

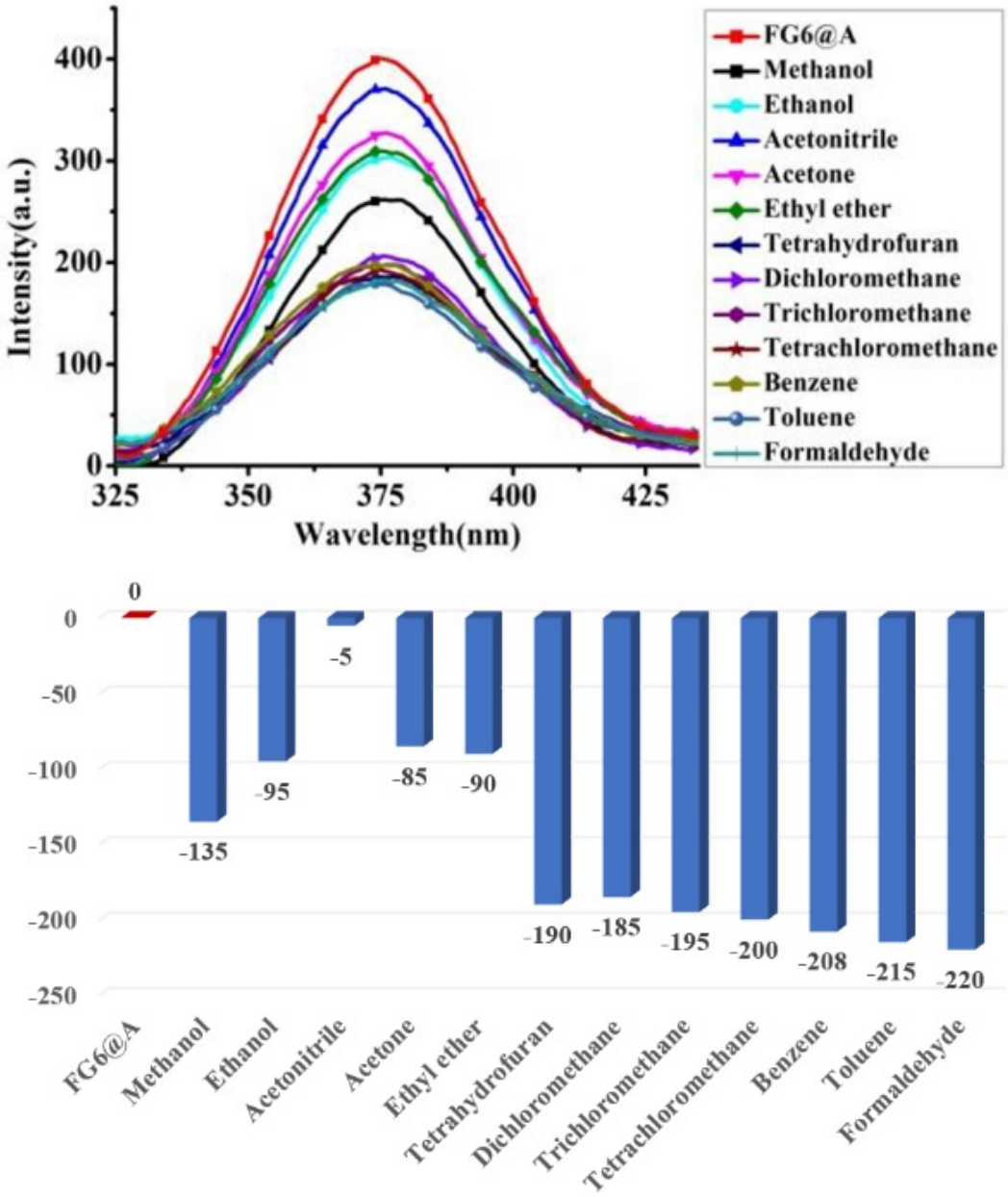


Fig. S9 A general survey of the fluorescence spectra of **FG**6@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**6@**A** in response to the 12 selected **VOC**s.

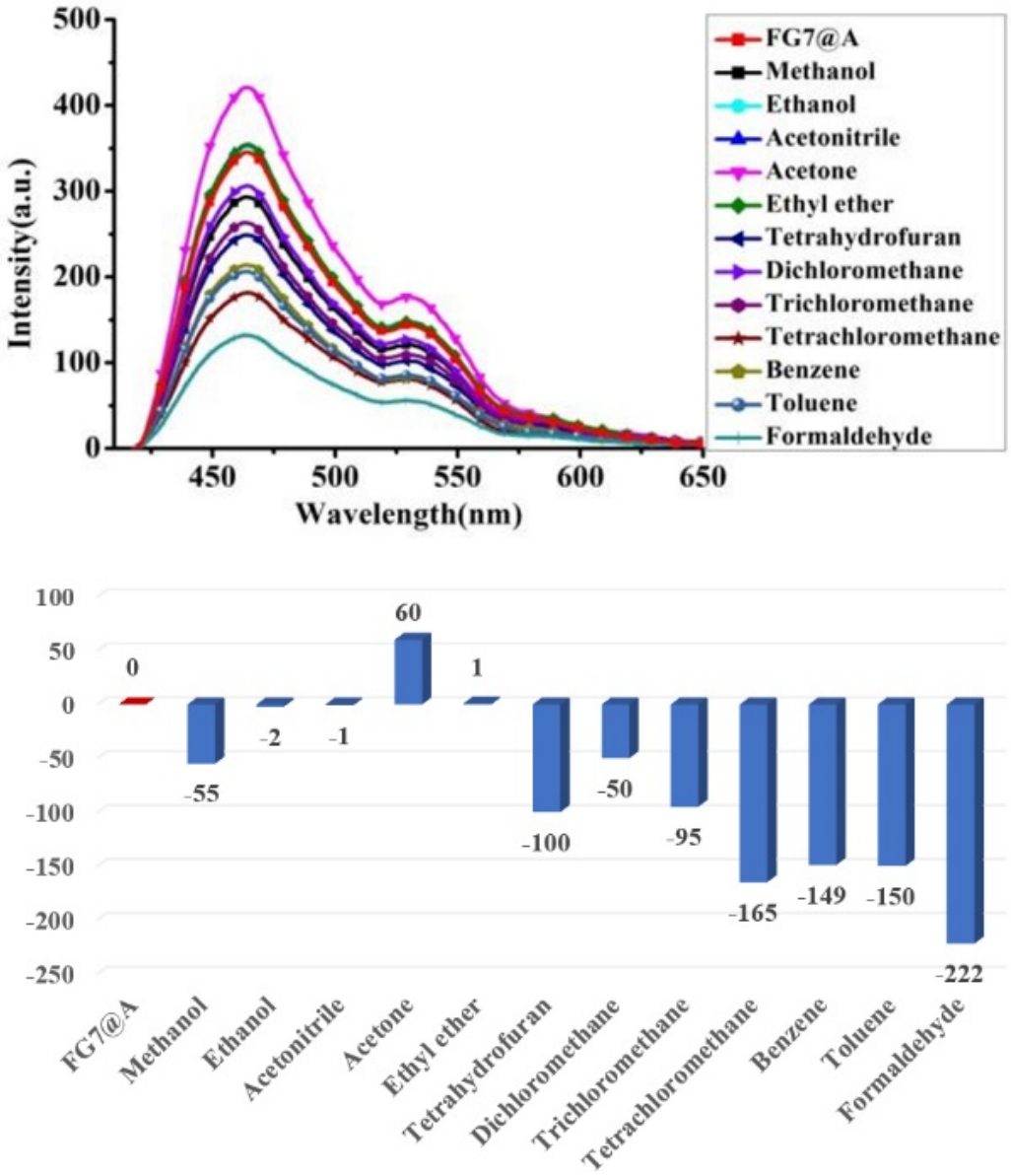


Fig. S10 A general survey of the fluorescence spectra of **FG**7@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**7@**A** in response to the 12 selected **VOC**s.

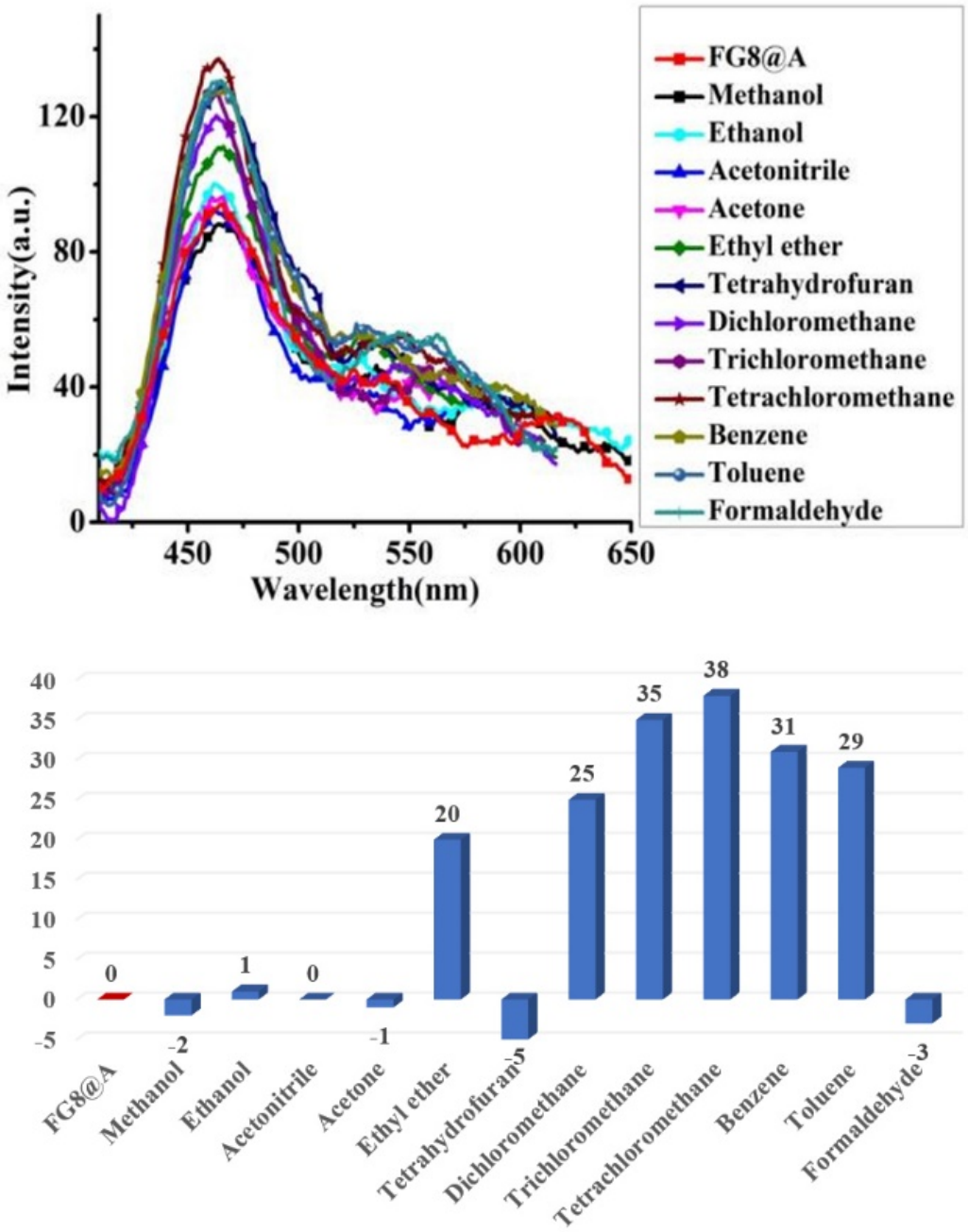


Fig. S11 A general survey of the fluorescence spectra of **FG**8@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**8@**A** in response to the 12 selected **VOC**s.

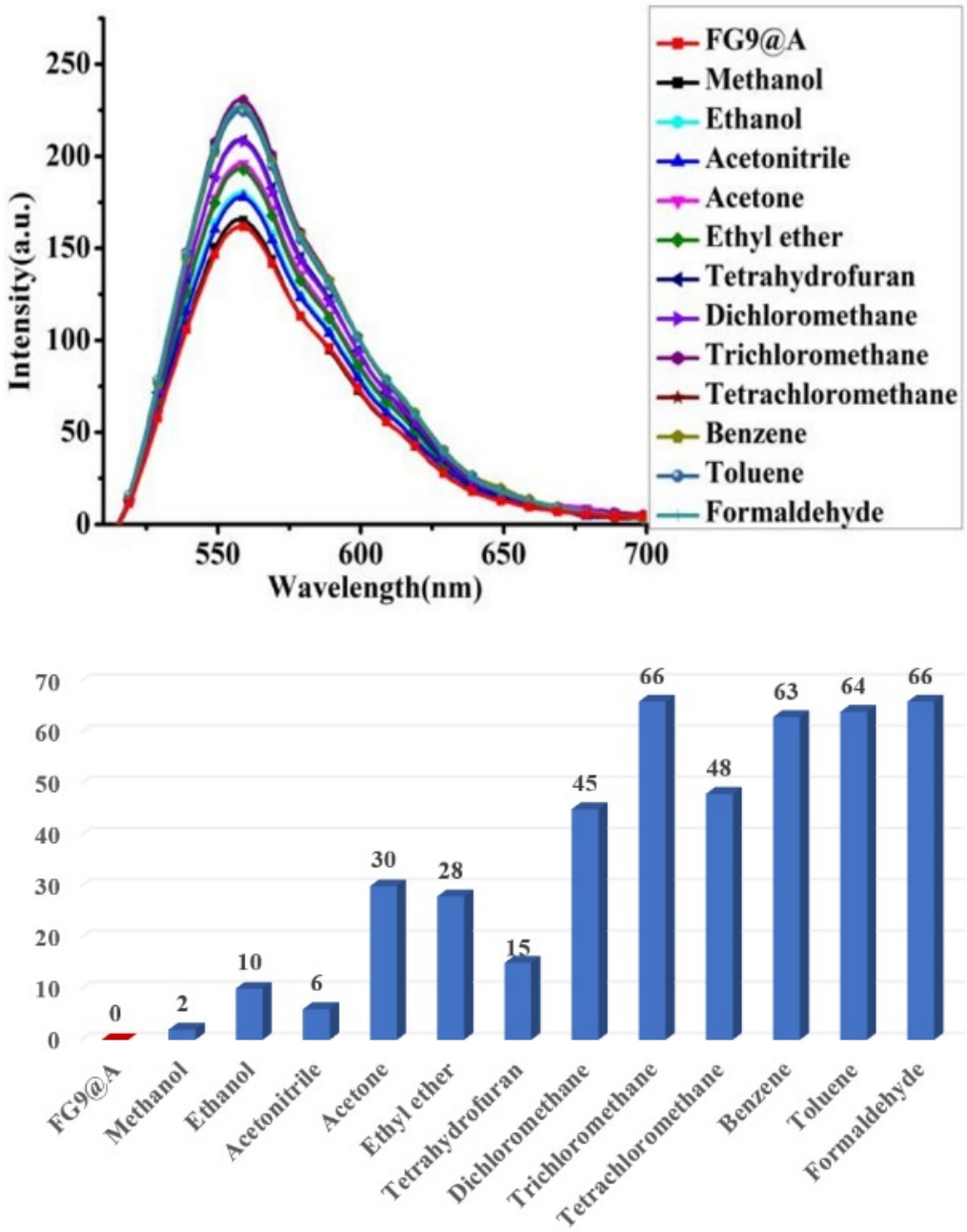


Fig. S12 A general survey of the fluorescence spectra of **FG**9@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**9@**A** in response to the 12 selected **VOC**s.

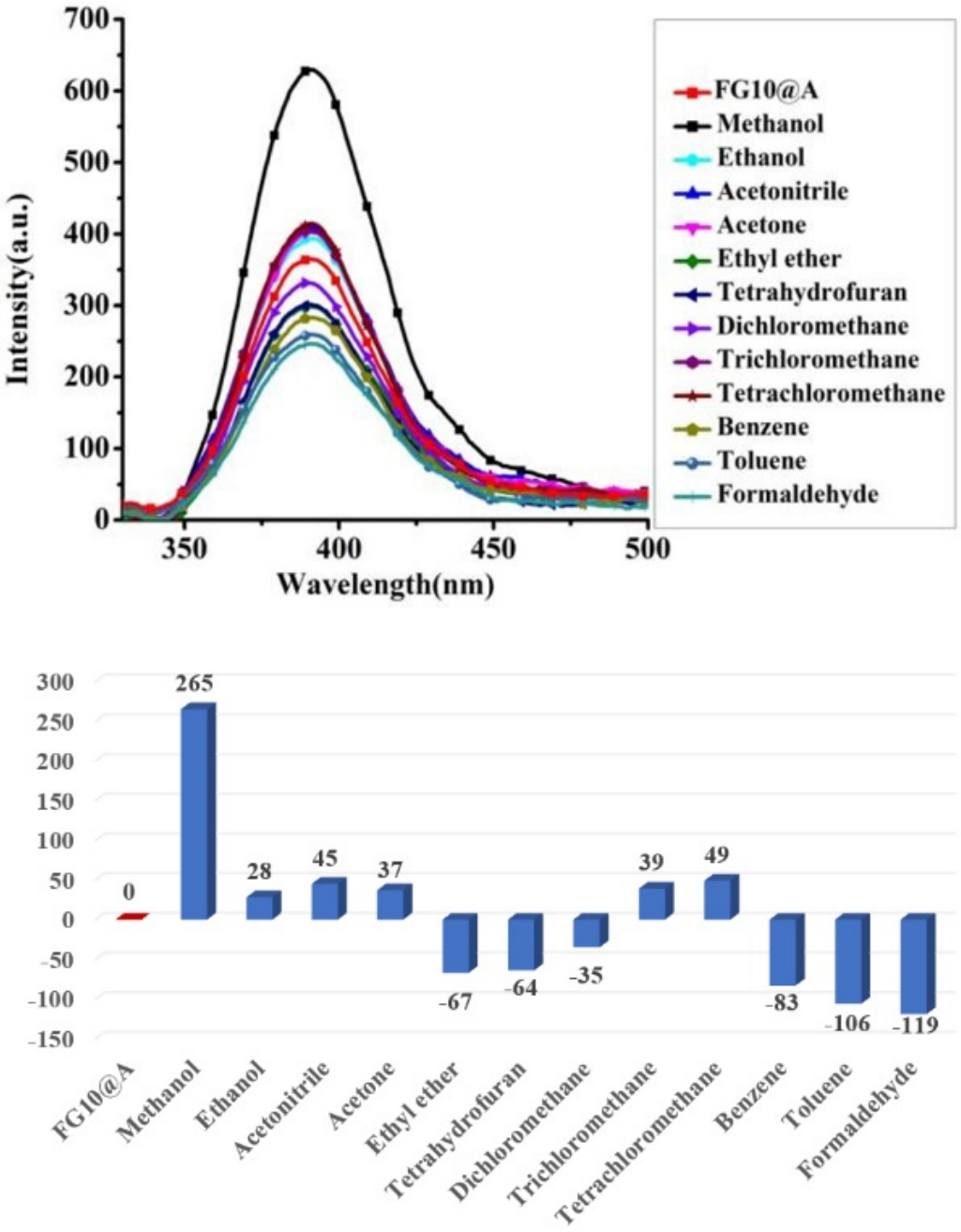


Fig. S13 A general survey of the fluorescence spectra of **FG**10@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**10@**A** in response to the 12 selected **VOC**s.

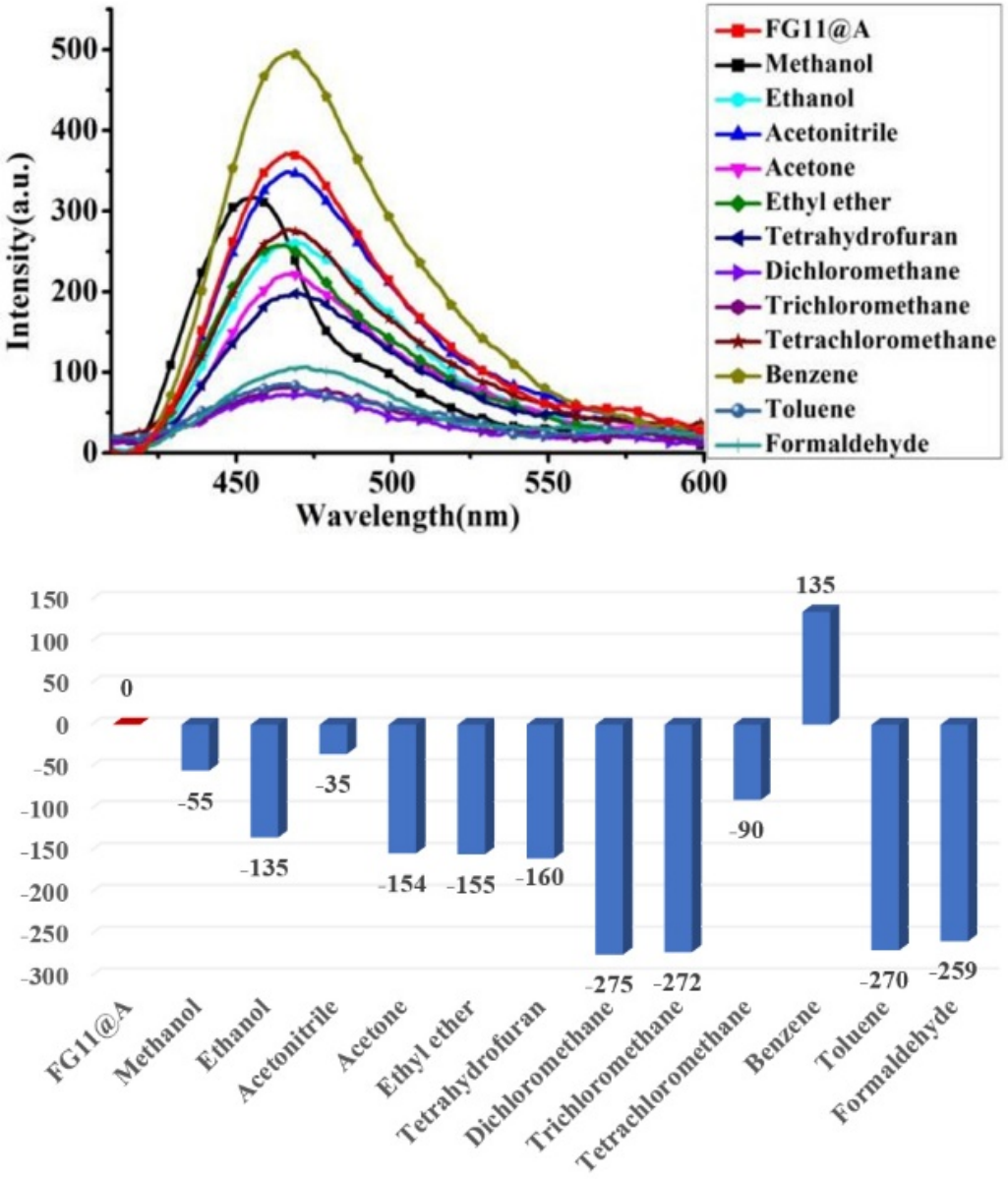


Fig. S14 A general survey of the fluorescence spectra of **FG**11@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**11@**A** in response to the 12 selected **VOC**s.

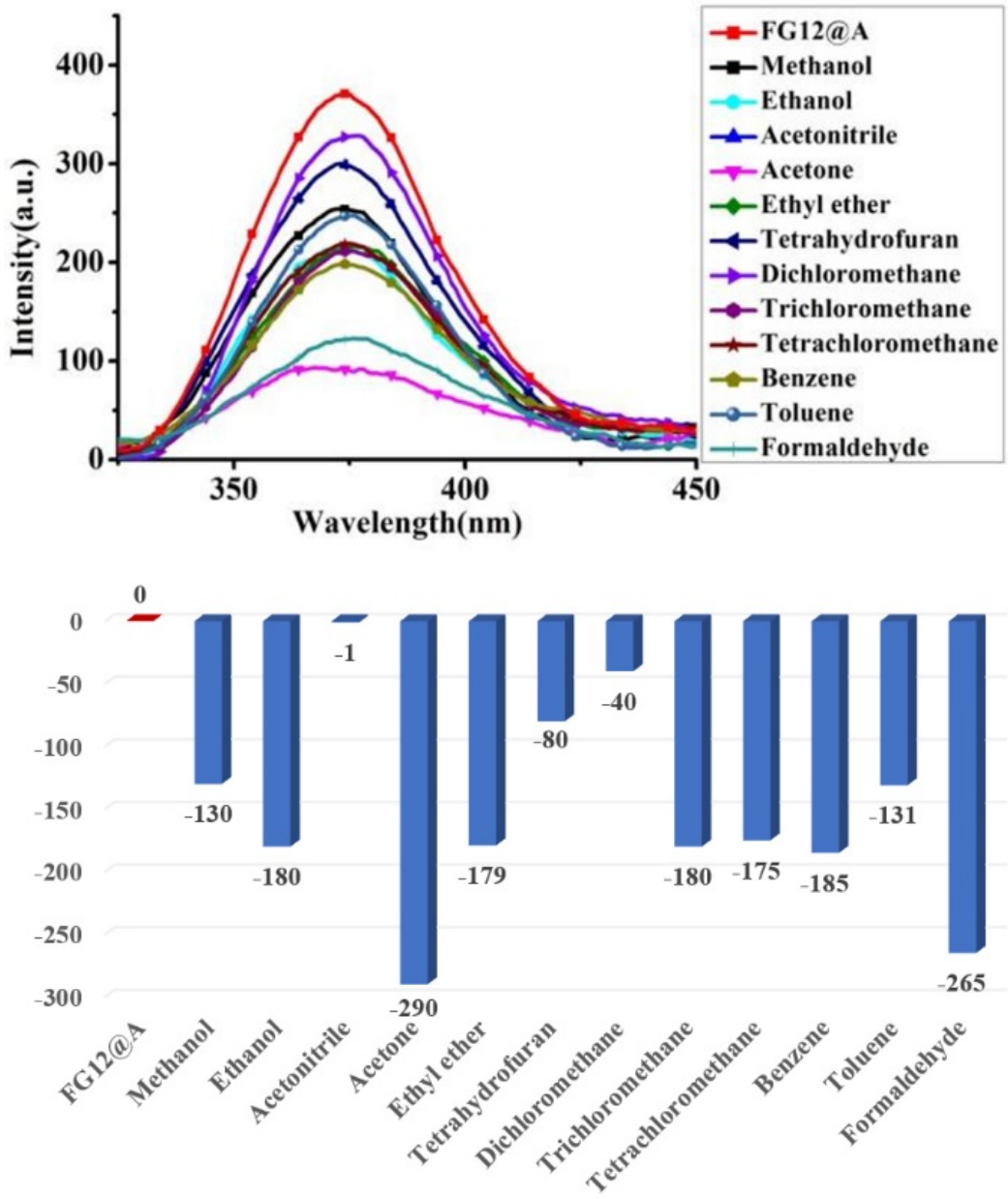


Fig. S15 A general survey of the fluorescence spectra of **FG**12@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**12@**A** in response to the 12 selected **VOC**s.

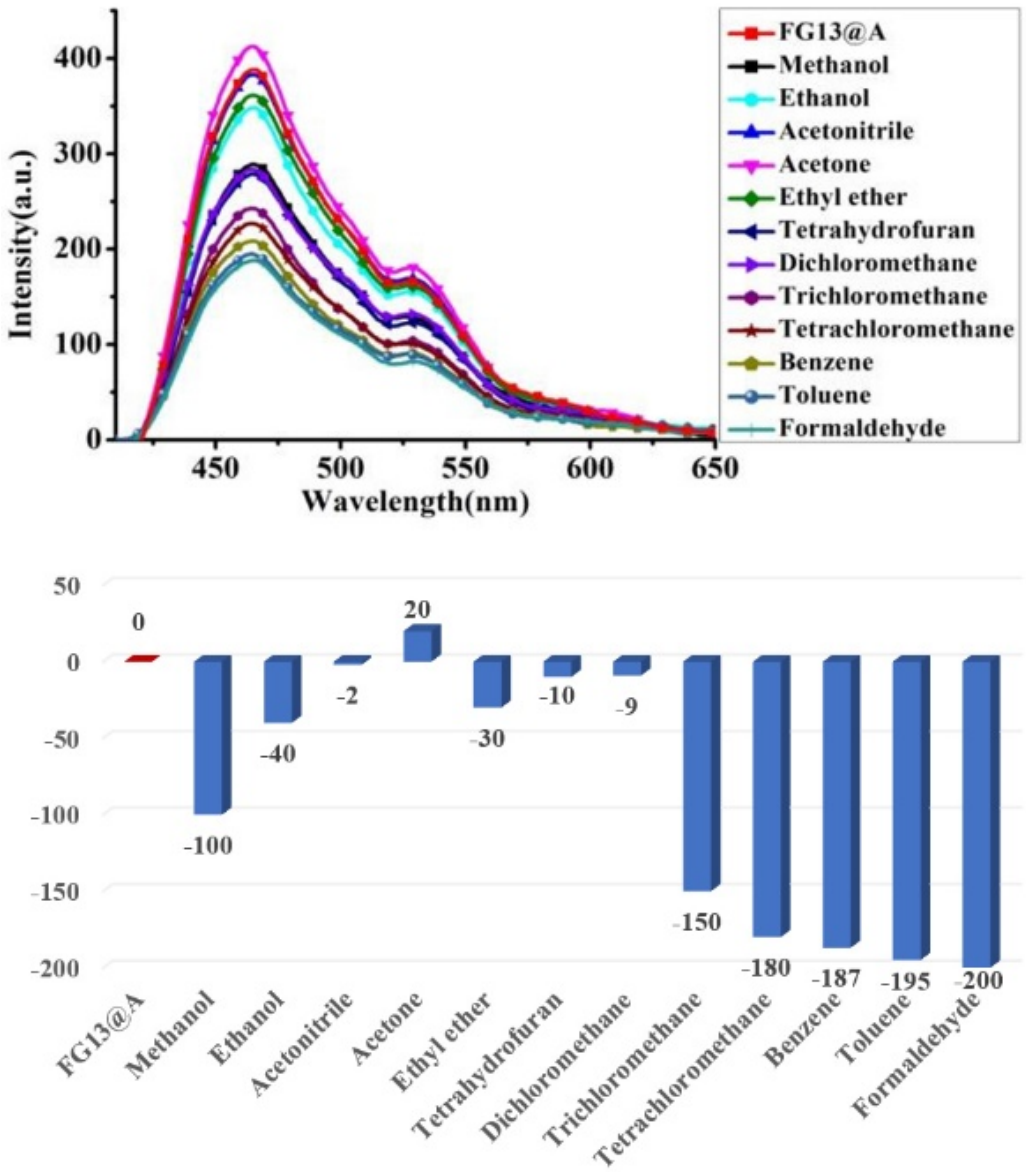


Fig. S16 A general survey of the fluorescence spectra of **FG**13@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**13@**A** in response to the 12 selected **VOC**s.

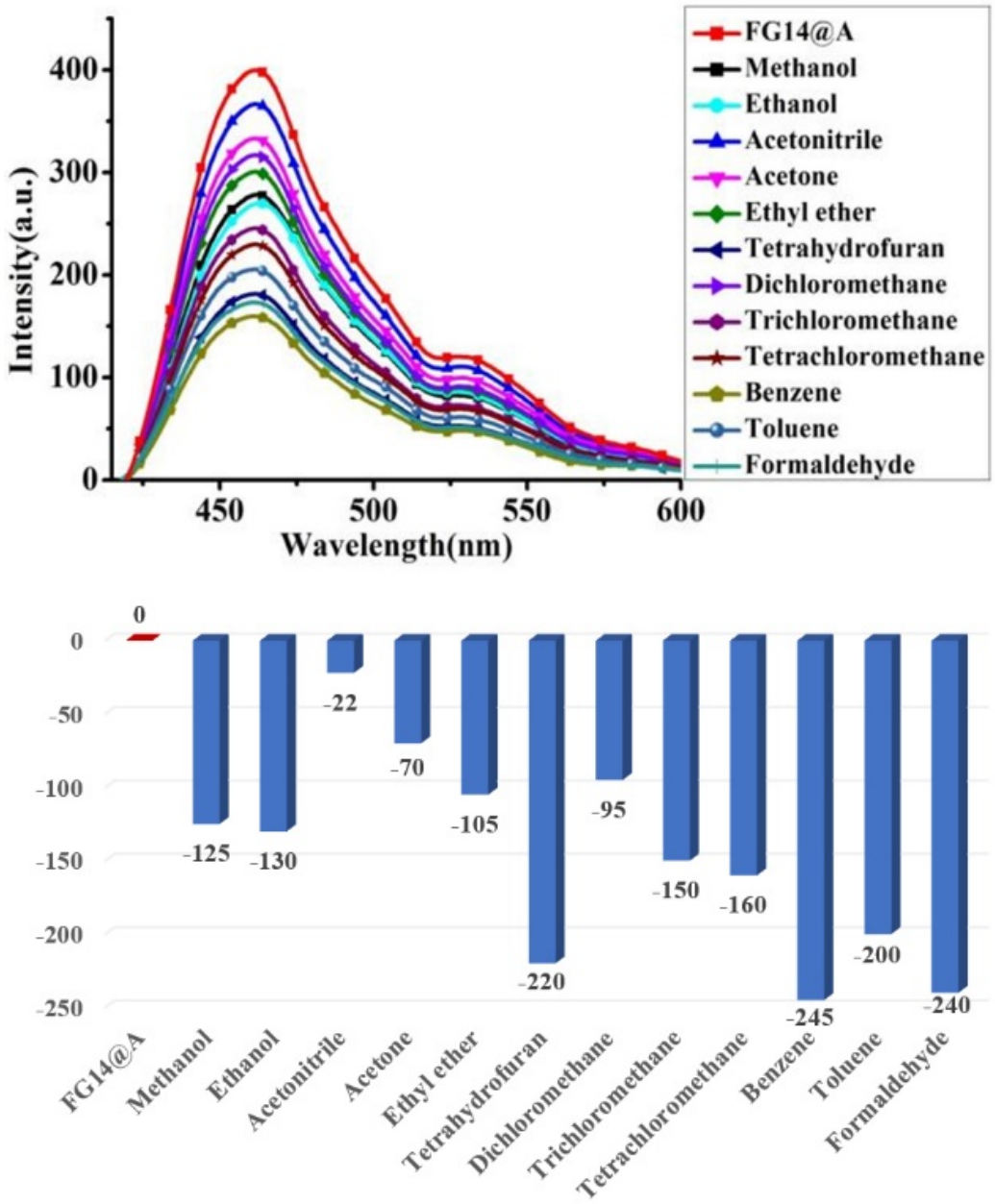


Fig. S17 A general survey of the fluorescence spectra of **FG**14@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**14@**A** in response to the 12 selected **VOC**s.

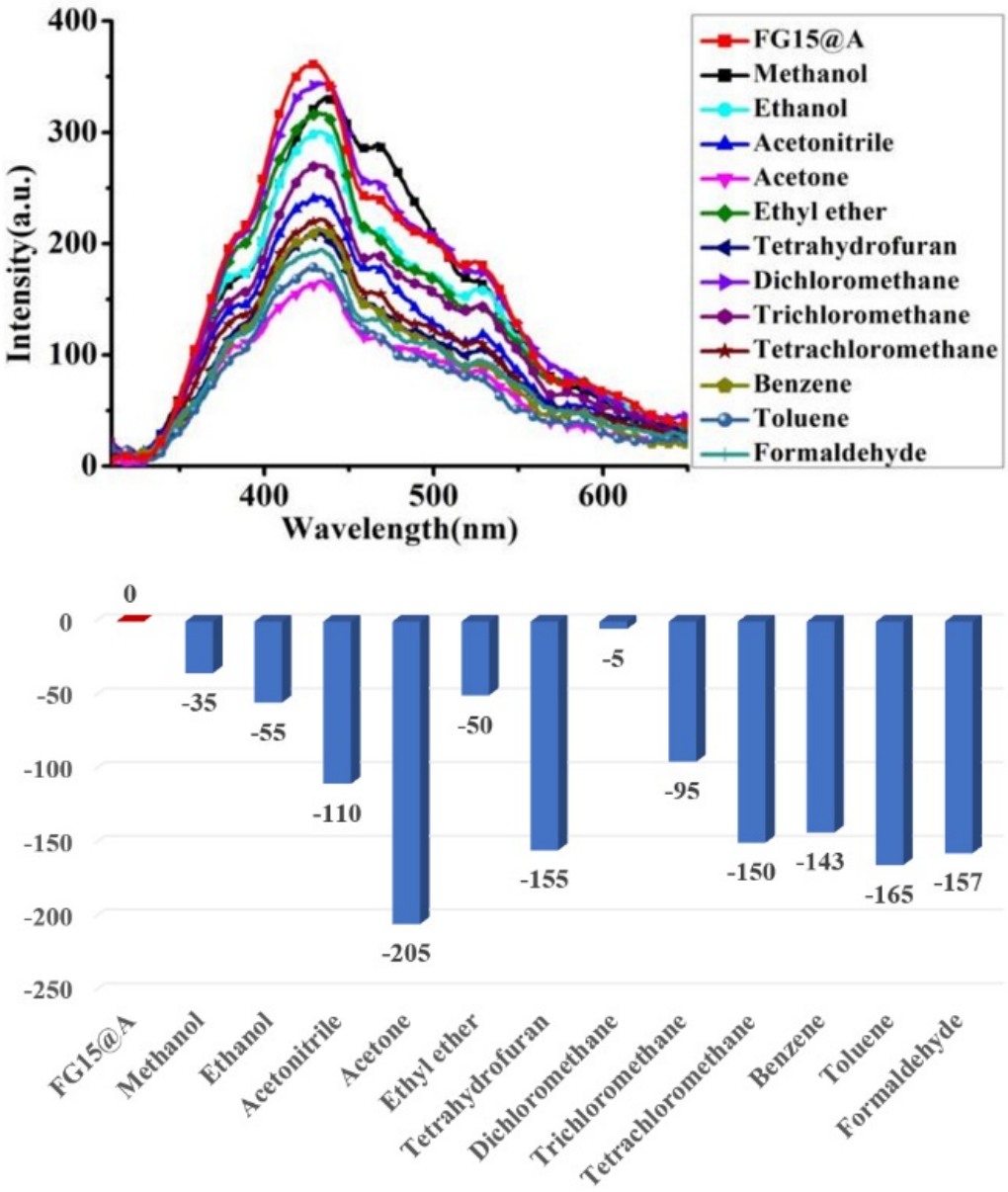


Fig. S18 A general survey of the fluorescence spectra of **FG**15@**A** loaded with the 12 selected **VOC**s. The relative fluorescence intensities of **FG**15@**A** in response to the 12 selected **VOC**s.

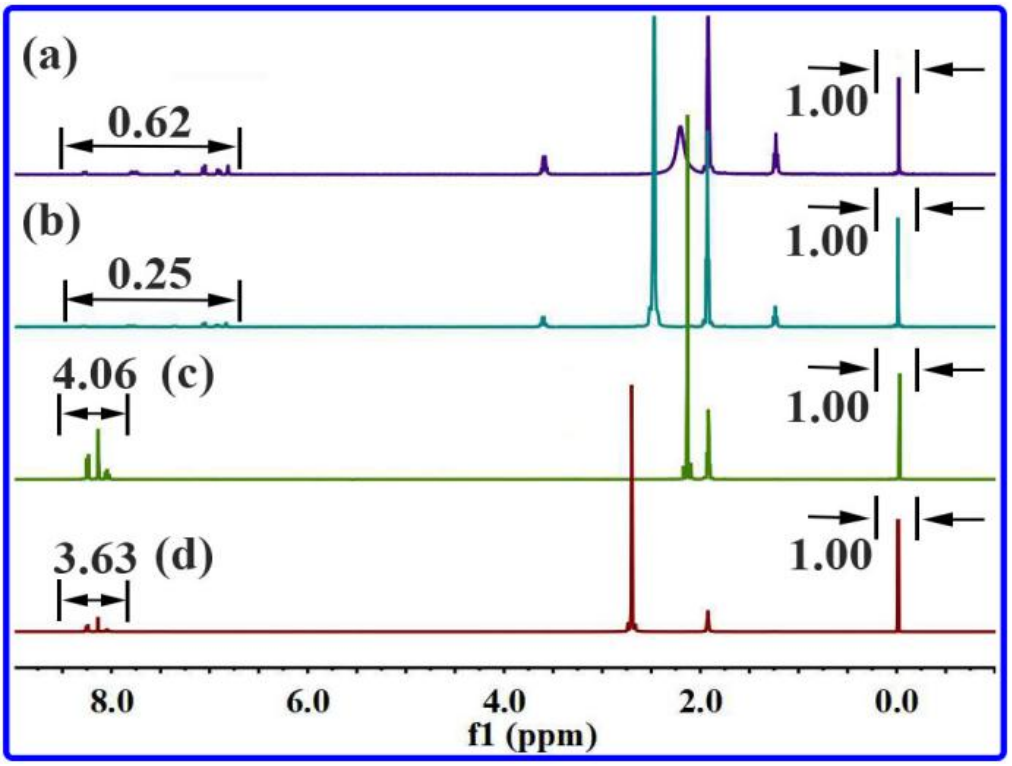


Fig. S19 The ^{1}H NMR spectra recorded in deuterated acetonitrile of: (a) 0.5 mL of 0.01 M **FG**3, (b) 0.5 mL of 0.01 M **FG**3+10 mg **A**; (c) 0.5 mL of 0.01 M **FG10** and (d) 0.5 mL of 0.01 M **FG10**+10 mg **A**.

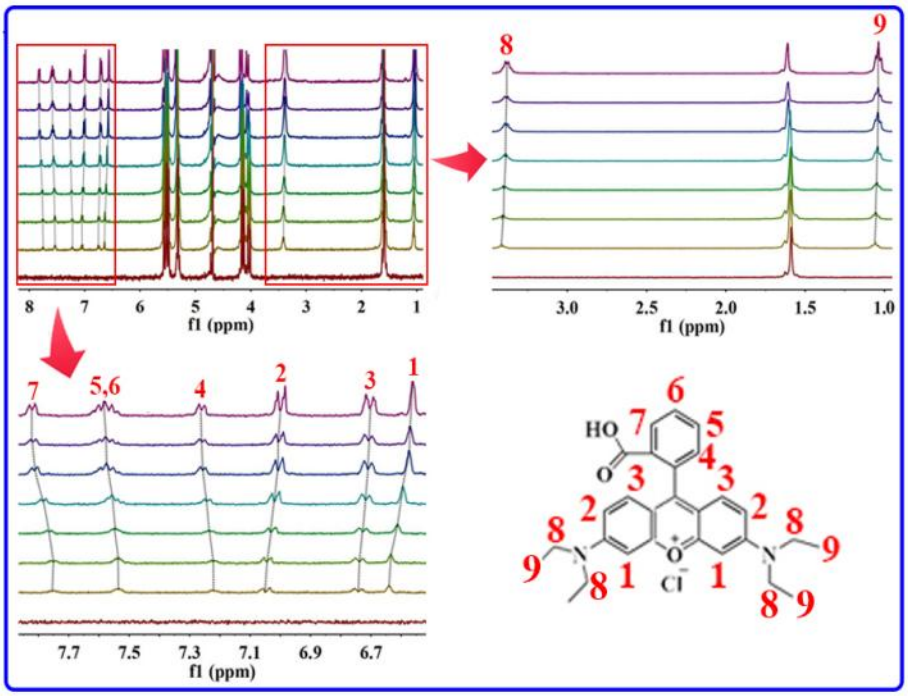


Fig. S20 Titration ^{1}H NMR spectra of TMeQ[6] with a gradual increase of **FG**3.

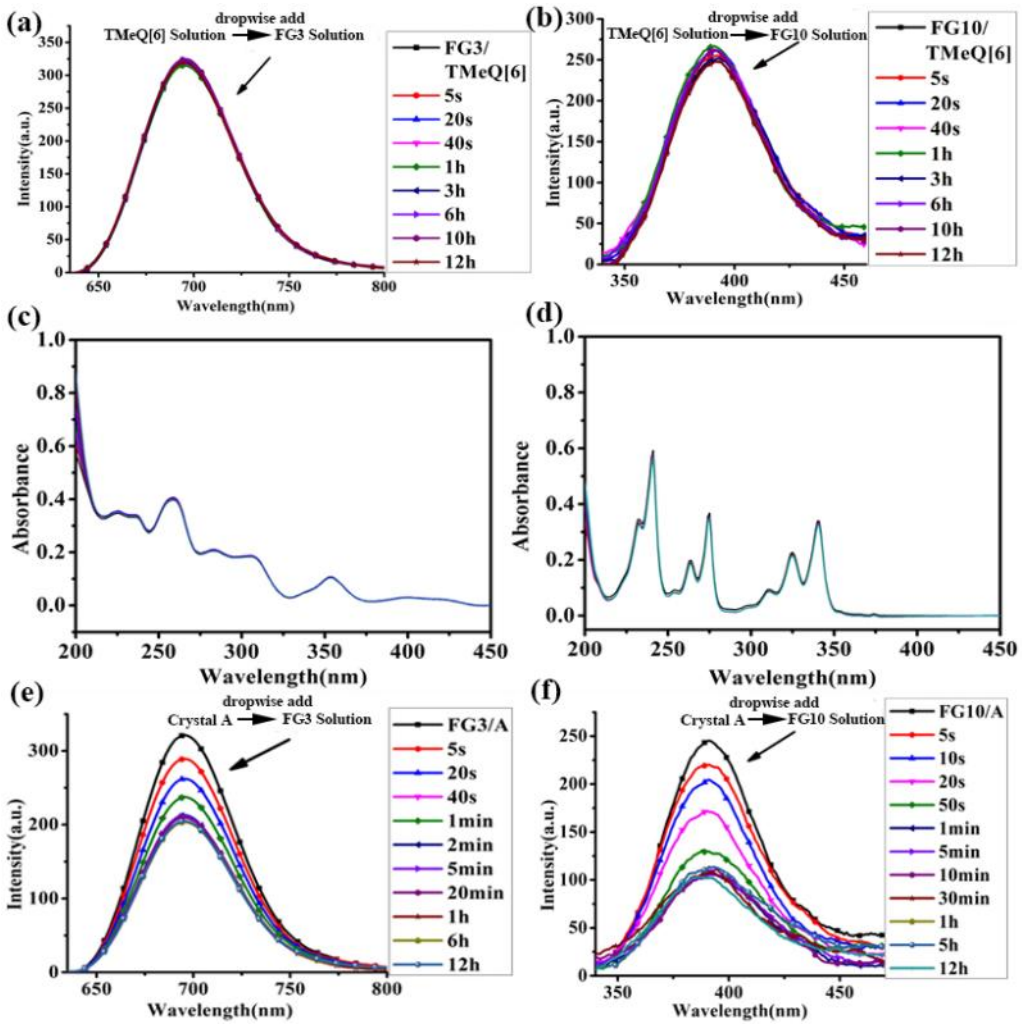


Fig. S21 Titration fluorescence spectra of (a) **FG**3 and (b) **FG**10 with gradual increase of TMeQ[6]; titration absorption spectra of (c) **FG**3 and (d) **FG**10 with gradual increase of TMeQ[6]; titration fluorescence spectra of (e) **FG**3 and (f) **FG**10 with gradual increase of the solid assembly **A**, respectively.

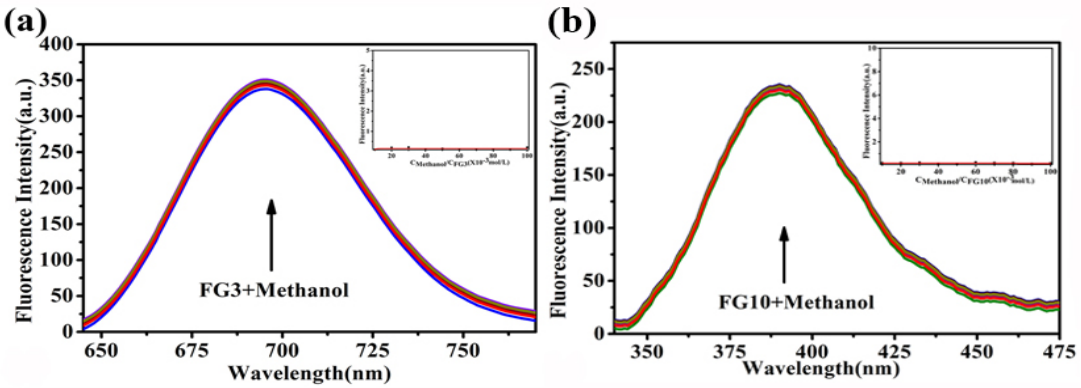


Fig. S22 Titration fluorescence spectra of (a) **FG**3 and (b) **FG**10 with a gradual increase of methanol.

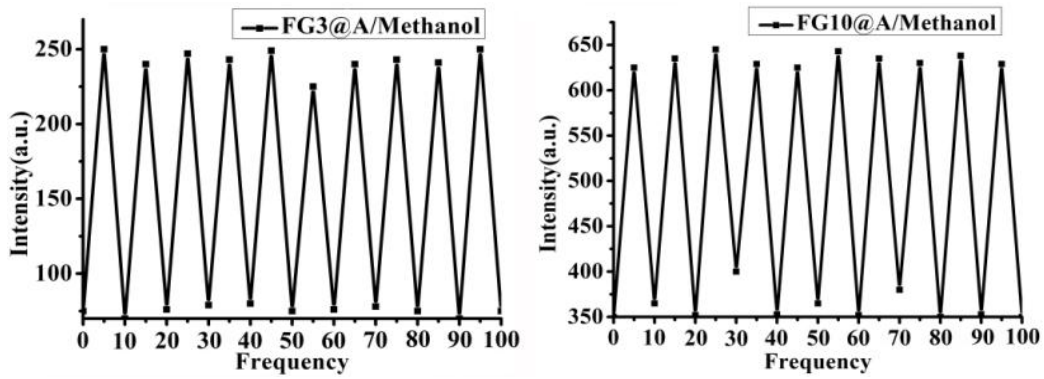


Fig. S23 Lifetime experiments for the change in the fluorescence emission of (a) **FG**3@**A** and (b) **FG**10@**A**.

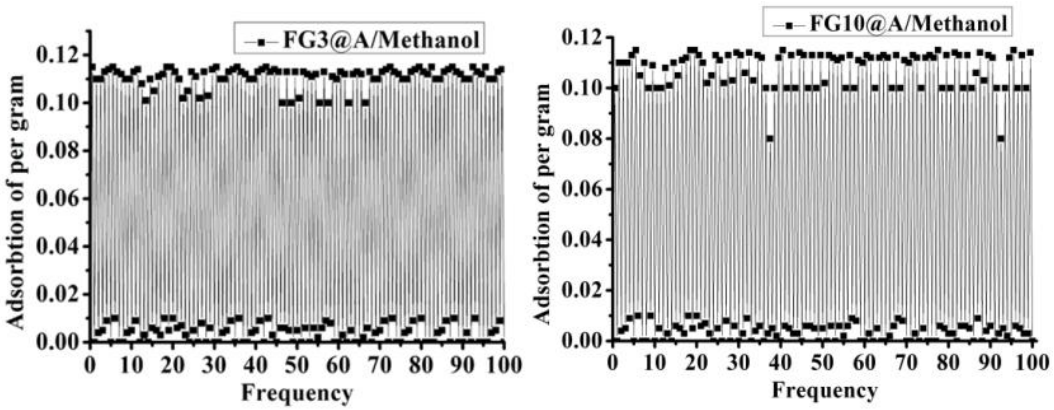


Fig. S24 Lifetime experiments for methanol adsorption using (a) **FG**3@**A** and (b) **FG**10@**A**.

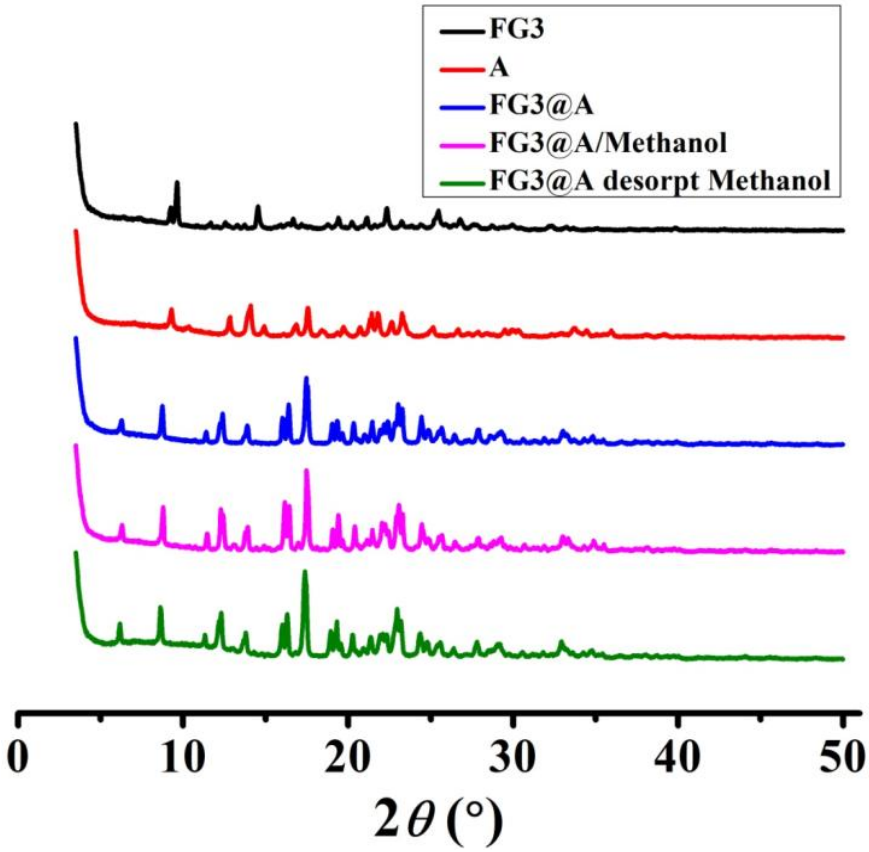


Fig. S25 The XRD spectra of **FG**3, assembly **A**, **FG**3@**A** and **FG**3@**A** during the adsorption and desorption of methanol.

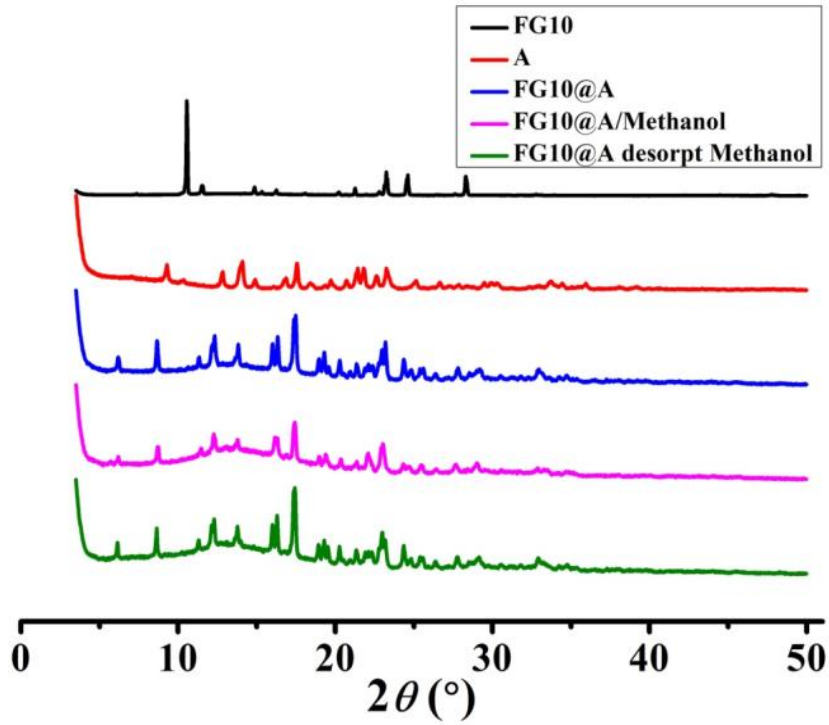


Fig. S26 The XRD spectra of **FG**10, assembly **A**, **FG**10@**A** and **FG**10@**A** during the adsorption and desorption of methanol.