

Supporting Information

AIEE-type fluorescent benzoxazine-derivatived macromolecule: catalyst-free synthesis and its preliminary application for aqueous picric acid detection

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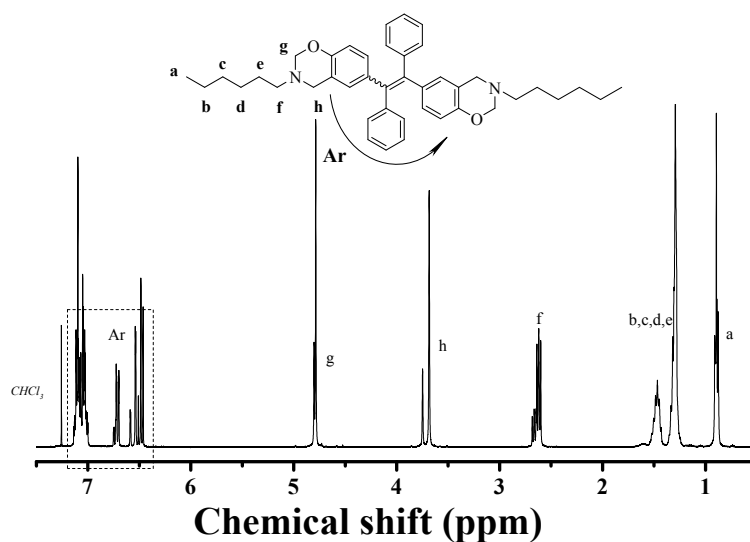
Fig.S10 Visual photographs of **TPE-BOZ** adsorbed on a TLC plate (a) and with a spot of water (b) and PA solution (10^{-3}M) (c) under hand-held UV lamp (365 nm).

Table S1. Calculated HOMO/LUMO values of **TPE-BOZ** and other analytes.

	TPE-BOZ	PA	DNP	PNP	ONP	PNT	NB	NM	PhOH
HOMO	-4.90	-8.59	-7.91	-7.16	-7.02	-7.50	-7.74	-8.35	-6.14
LUMO	-1.32	-4.19	-3.56	-2.45	-2.93	-2.50	-2.62	-2.16	-0.08

Table S2 Summarization about reported macromolecules-based fluorescence probes for PA.

Probing platform	Detection limit	Detection medium	Catalyst utilized in preparation	Synthetic time	References
Urotropine-MOF	$\sim 7.1 \times 10^{-6}$ M	water	Free	24h	[52]
Triphenylamine-based analogous carboxylic acid	1.14×10^{-6} M	CHCl ₃ /DMAC	CuI	>24h	[53]
Biphenyl-containing hexaphenylbenzene derivative	1.57×10^{-6} M	V _{water} /V _{THF} = 4/6	Pd(PPh ₃) ₂ Cl ₂	>24h	[54]
Thiophene-containing pentacenequinone derivative	1.5×10^{-8} M	V _{water} /V _{THF} = 9/1	Pd(PPh ₃) ₄	>24h	[55]
Hexa-peri-hexabenzocoronene-based derivatives	4×10^{-9} M	V _{water} /V _{THF} = 4/6	Pd(PPh ₃) ₂ Cl ₂	>12h	[56]
TPE-containing hyperbranched polytriazoles	4.5×10^{-5} M	V _{water} /V _{THF} = 9/1	Cu(PPh ₃) ₃ Br	7h	[48]
TPE-based benzoxazine macromolecules	4.7×10^{-9} M	V _{water} /V _{EtOH} = 9/1	Free	6h	This work

**Fig. S1** ¹H NMR spectrum of **M3** in CDCl₃.

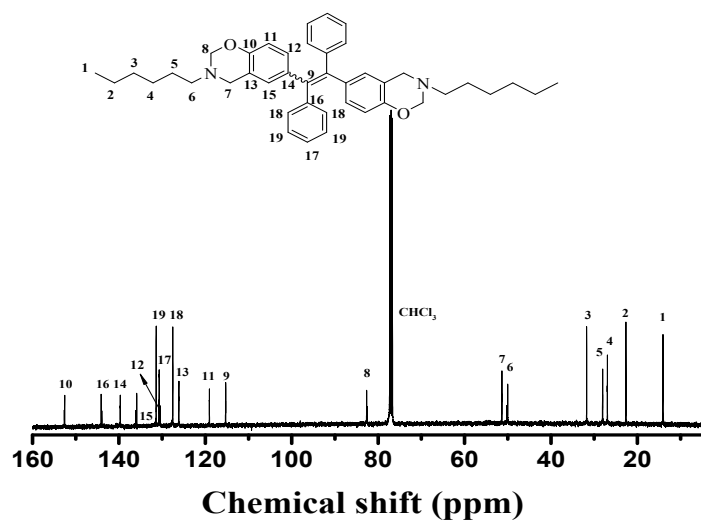


Fig. S2 ^{13}C NMR spectrum of M3 in CDCl_3 .

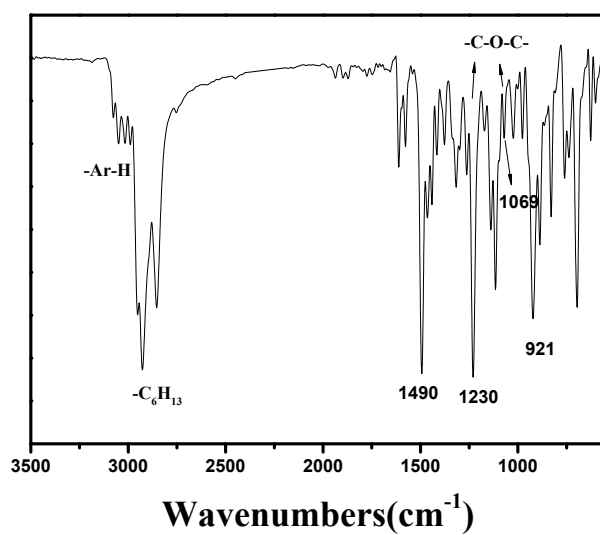


Fig. S3 FT-IR spectrum of M3.

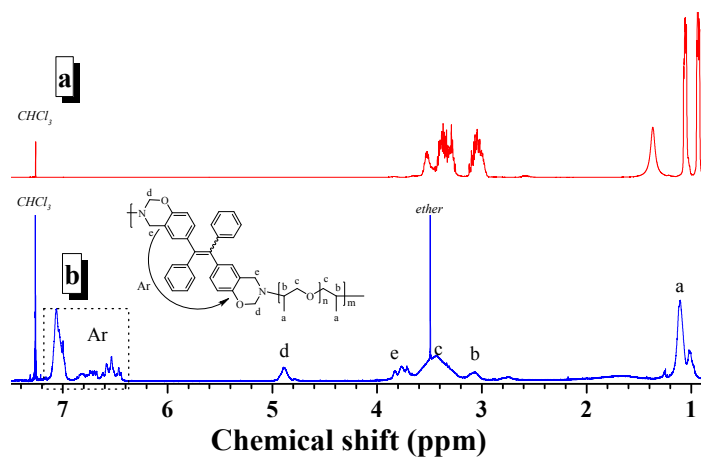


Fig. S4 ^1H NMR spectra of PEA (a) and TPE-BOZ (b) in CDCl_3 .

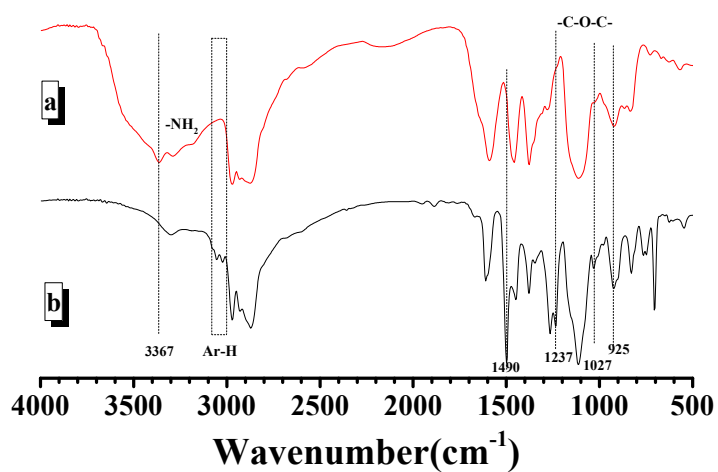


Fig. S5 FT-IR spectra of PEA (a) and TPE-BOZ (b).

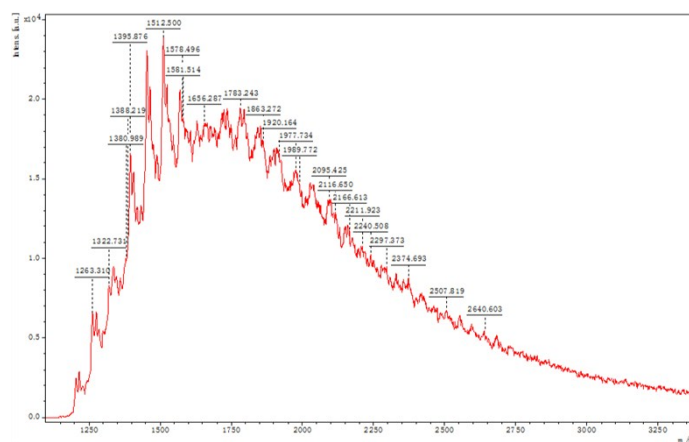


Fig. S6 TOF-MS of TPE-BOZ.

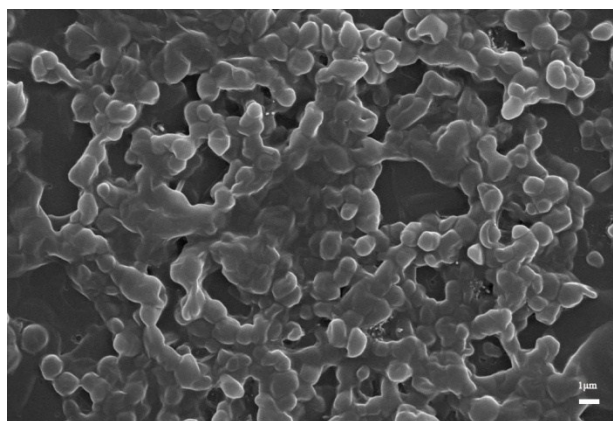


Fig. S7 SEM of TPE-BOZ (1×10^{-5} M) in ETOH/water (v/v=1/9) co-solvent system.

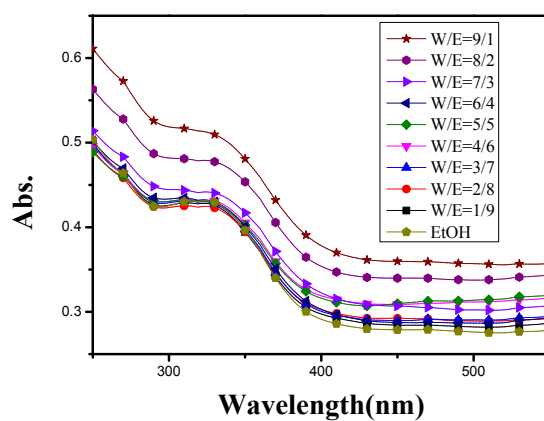


Fig. S8 UV spectra of TPE-BOZ (1.0×10^{-5} M) in EtOH/water mixtures with different fractions of water.

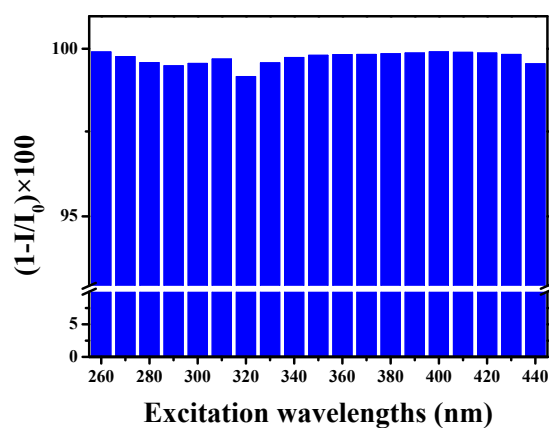


Fig. S9 Fluorescence quenching of TPE-BOZ by PA under different λ_{ex} .



Fig. S10 Visual photographs of **TPE-BOZ** adsorbed on a TLC plate (a) and with a spot of water (b) and PA solution (10^{-3}M) (c) under hand-held UV lamp (365 nm).