Supporting information

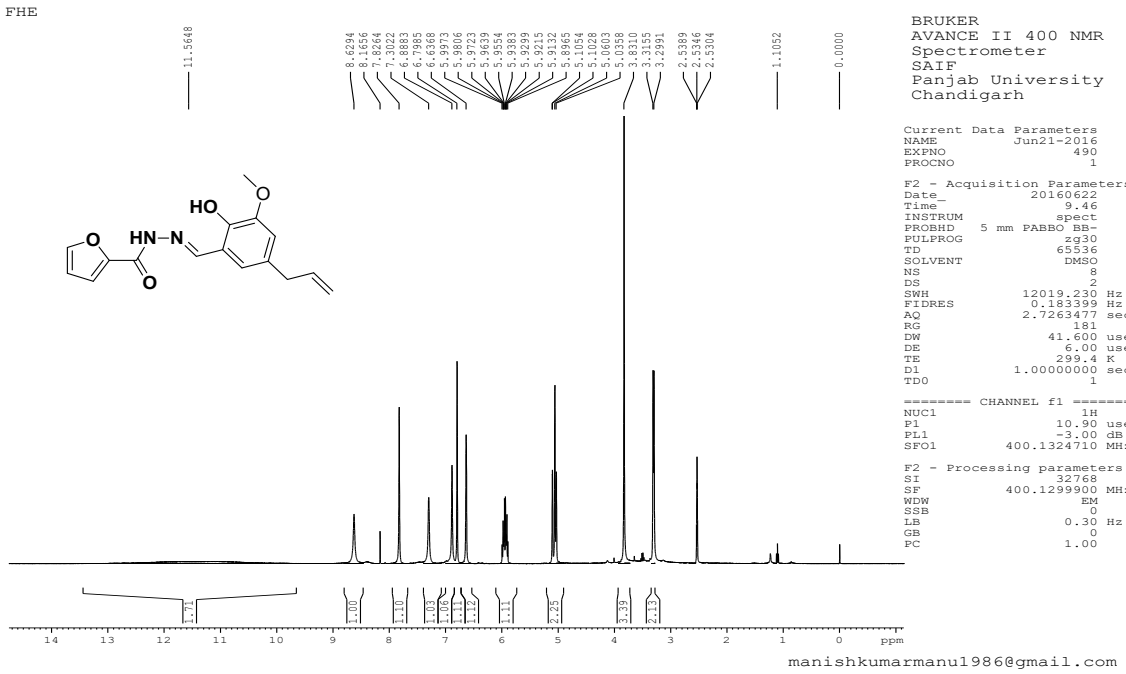


Figure S1. ^{1}H-NMR spectrum of **FHE**

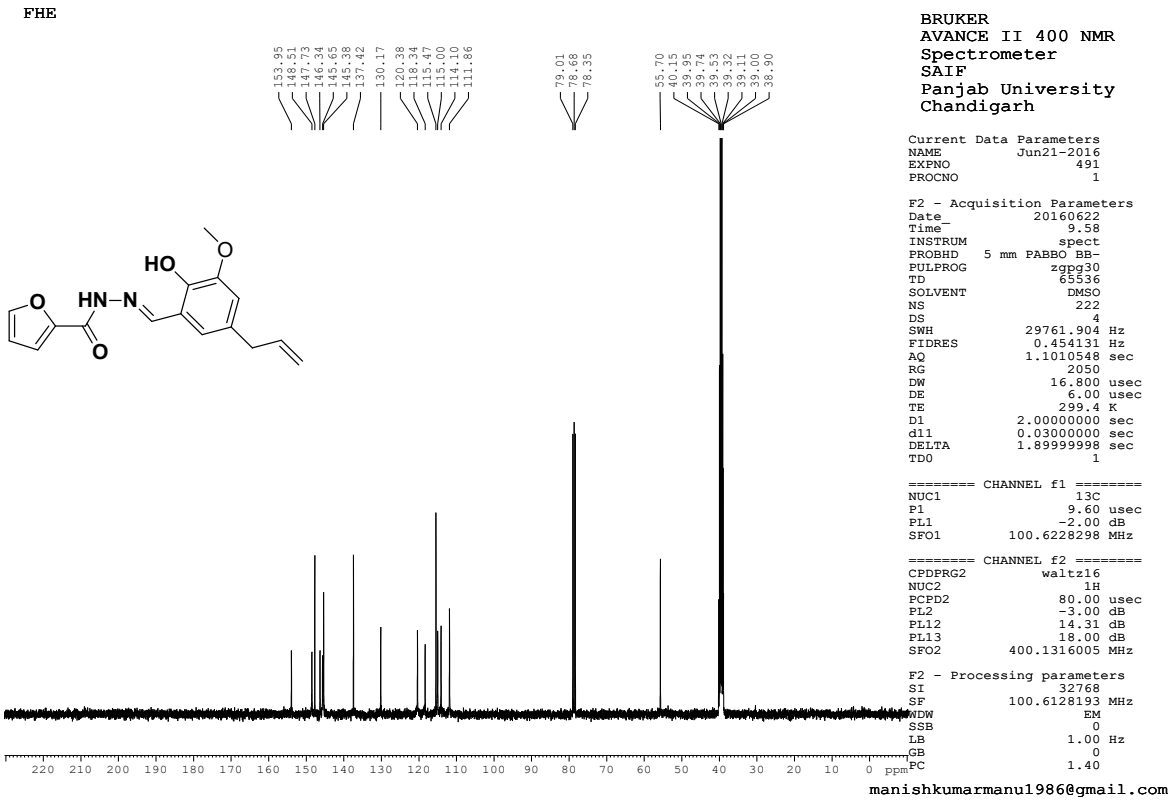


Figure S2. ^{13}C-NMR spectrum of **FHE**

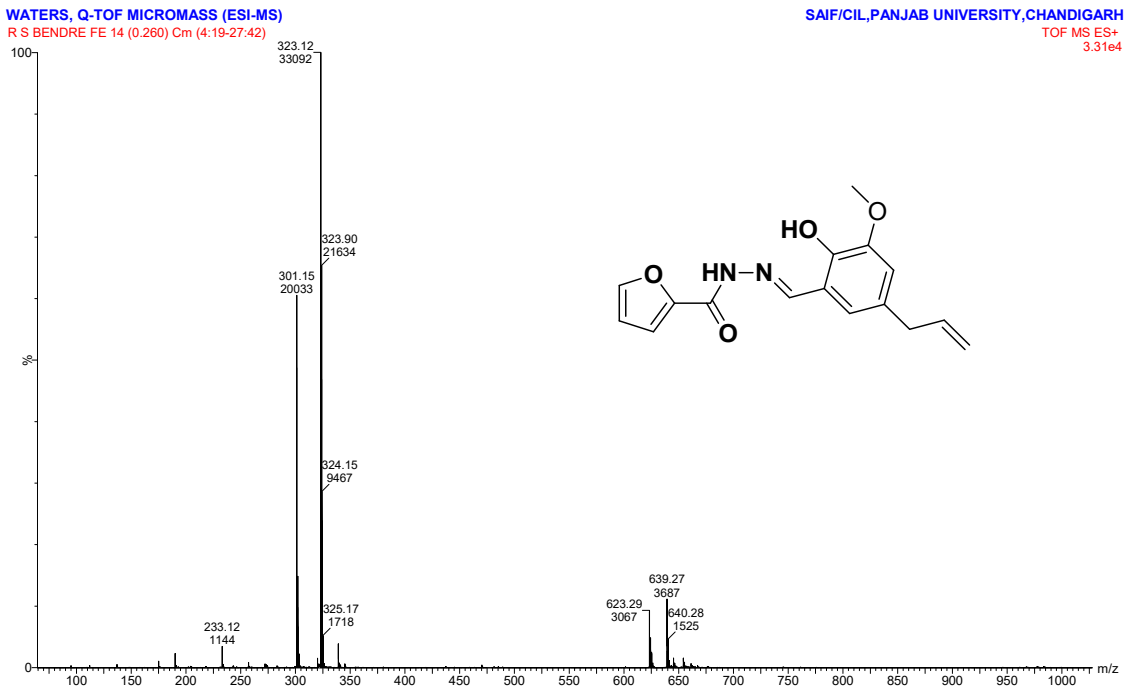


Figure S3. An HR-Mass spectrum of **FHE**

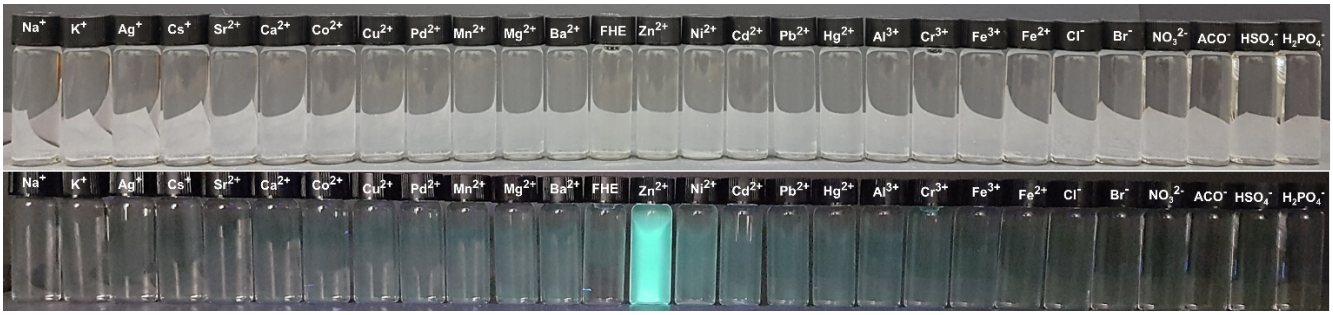


Figure S4. Changes in photophysical properties of **FHE** upon interaction with various cations and anions observed under visible light (top) and UV lamp with the wavelength 315 nm (bottom).

Benesi-Hildebrand equation

$$\frac{1}{(F-F_0)} = \frac{1}{K_a(F_{max}-F_0)}\frac{1}{[Zn^{2+}]} + \frac{1}{(F_{max}-F_0)} \qquad (Eq.S1)$$

Where,

F_0 is the fluorescence of **FHE** (λex = 305 nm, λem = 503 nm)

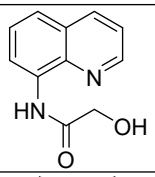
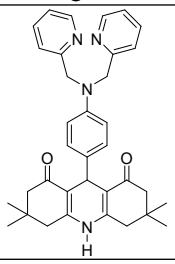
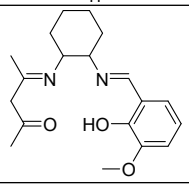
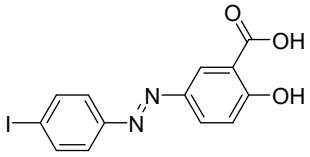
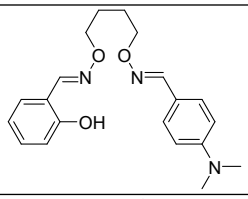
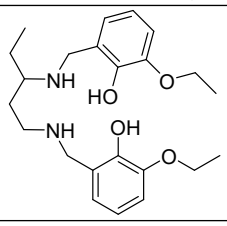
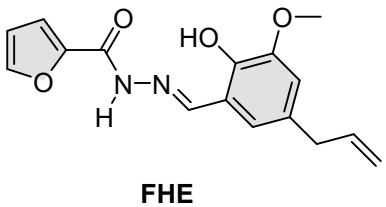
F is the fluorescence intensity in the presence of the varying [Zn^{2+}]

F_{max} is the maximum fluorescence intensity (λex = 305 nm, λem = 503 nm) up on titration with [Zn^{2+}]

K_a is the association constant (M^{-1})

[Zn^{2+}] is the concentration of the Zn^{2+} ion added during titration study

Table S1. Comparison of **FHE** and reported probes used for the Zn^{2+} detection

Probe Structure	Stokes shift (nm)	LOD (nM)	Detection mechanism	Solvent	Application		Ref.
					Water sample analysis	Cell imaging	
	140	650	CHEF	H_2O/ethanol (8 : 2, v/v)	×	✓	1
	135	98	PET	ACN	×	×	2
	135	95	CHEF	Ethanol	×	×	3
	129	5070	CHEF	THF/H_2O (8:2, v/v)	×	✓	4
	88	284	PET	CH_3OH/H_2O, (9:1, v/v)	×	×	5
	114	77.4	PET	CH_3OH	×	×	6
 **FHE**	**198**	**12.7**	**CHEF**	**HEPES Buffer (pH = 7.4, ACN 50%, v/v)**	✓	✓	**This work**

LOD, limit of detection; CHEF, complexation induced fluorescence enhancement; ACN, acetonitrile; PET, photoinduced electron transfer;

References

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