

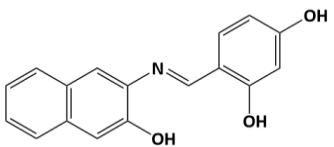
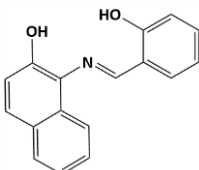
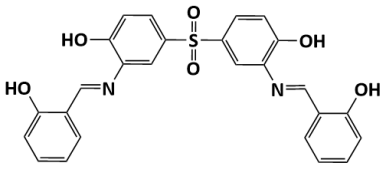
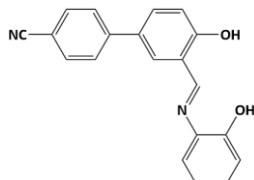
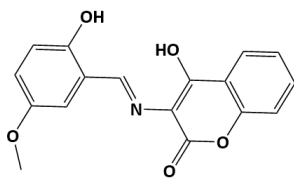
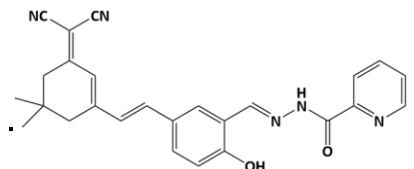
Supplementary Materials

A novel isophorone-based fluorescent probe recognizing Al³⁺ and its bioimaging in plants

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Table S1 Comparison of previously reported Al³⁺ probes with functional groups similar to *YT-AI*.

Ref.	Porbes	Detection Medium	LOD	Maximum emission wavelength	Application
35		DMF/H ₂ O (9:1)	0.49 μM	390 nm	Test strips
36		MeOH/H ₂ O (1:1)	10 μM	517 nm	Test strips Cell imaging
37		DMSO/H ₂ O (9:1)	0.22 μM	485 nm	Water sample
38		MeCN/H ₂ O (1:1)	1.37 μM	516 nm	No report
39		EtOH/H ₂ O (9:1)	1.62 μM	510 nm	Cell imaging
This work		DMSO/H ₂ O(1:1)	0.22 μM	625 nm	Water sample Plant imaging

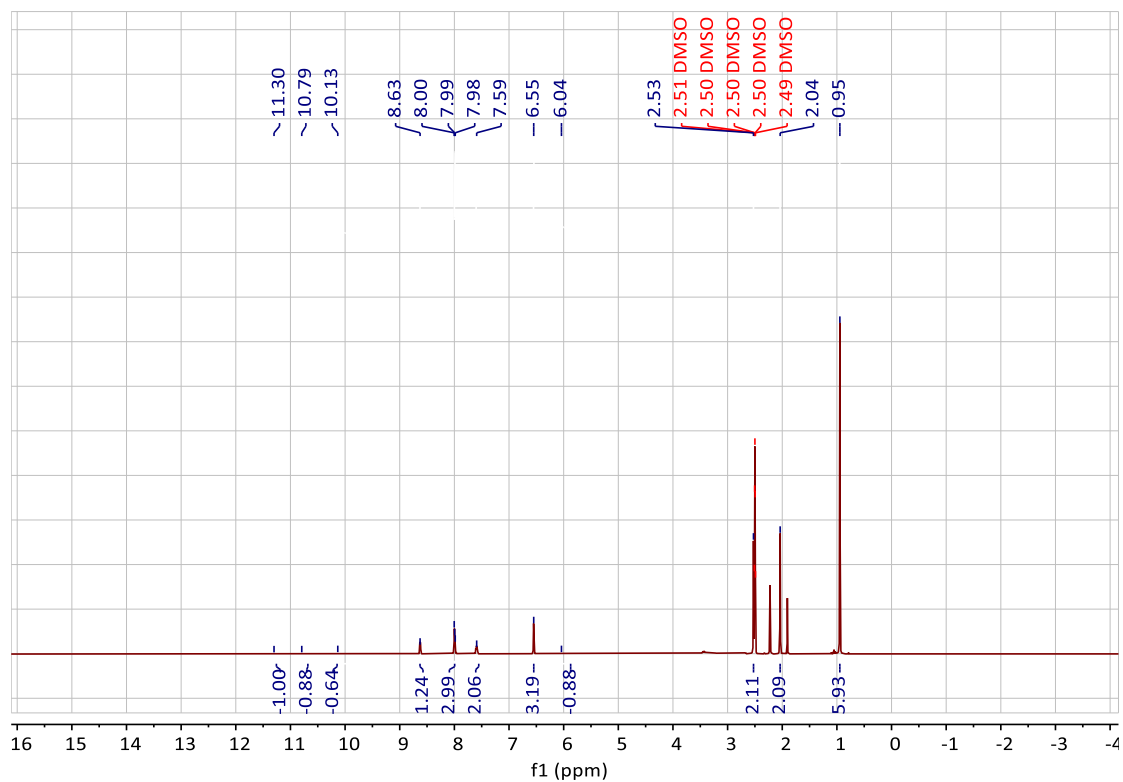


Fig. S1. ^1H NMR of probe *YT-AI* in $\text{DMSO-}d_6$.

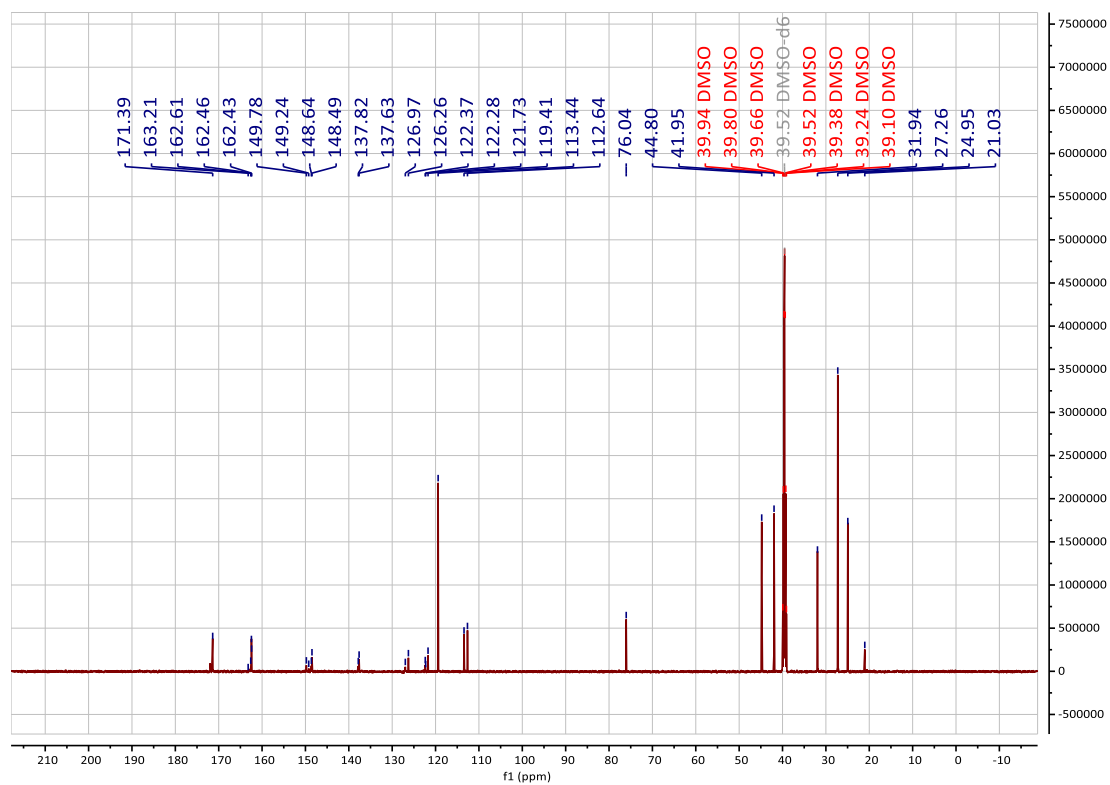


Fig. S2. ^{13}C NMR of probe *YT-AI* in $\text{DMSO-}d_6$.

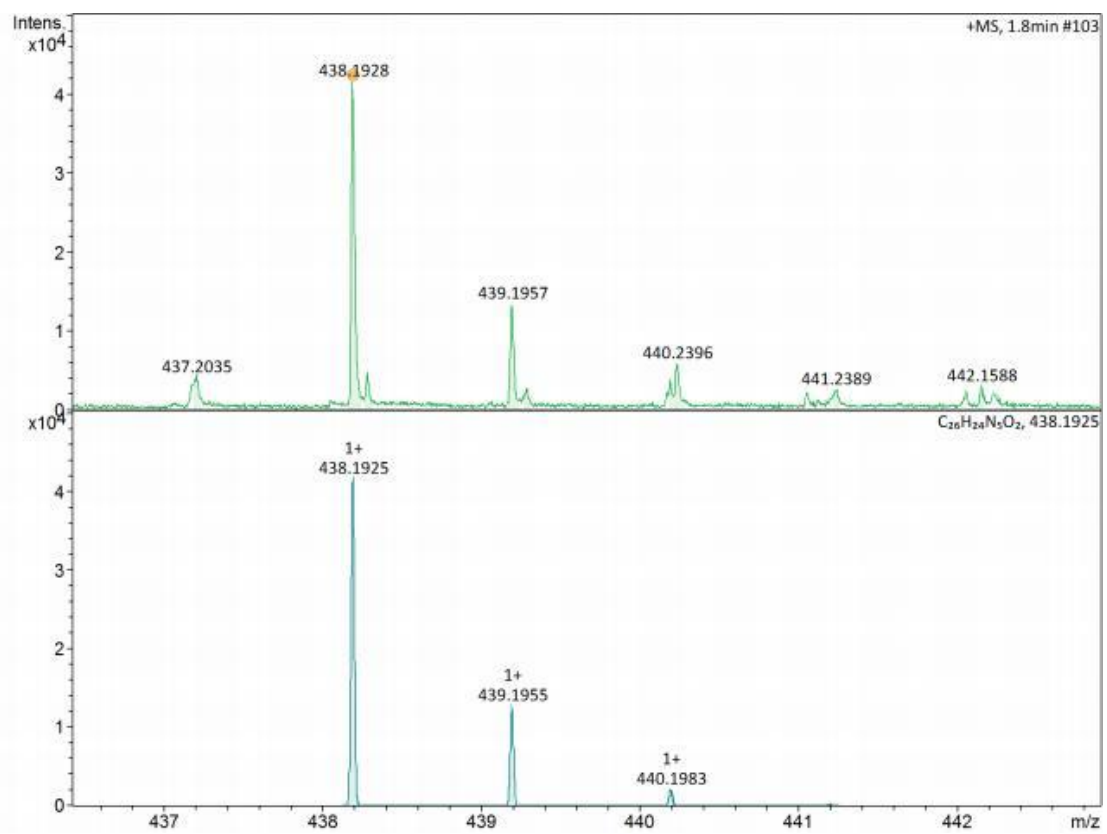


Fig. S3. HR-MS of probe *YT-AI* in CH_3CN .