

Support Information

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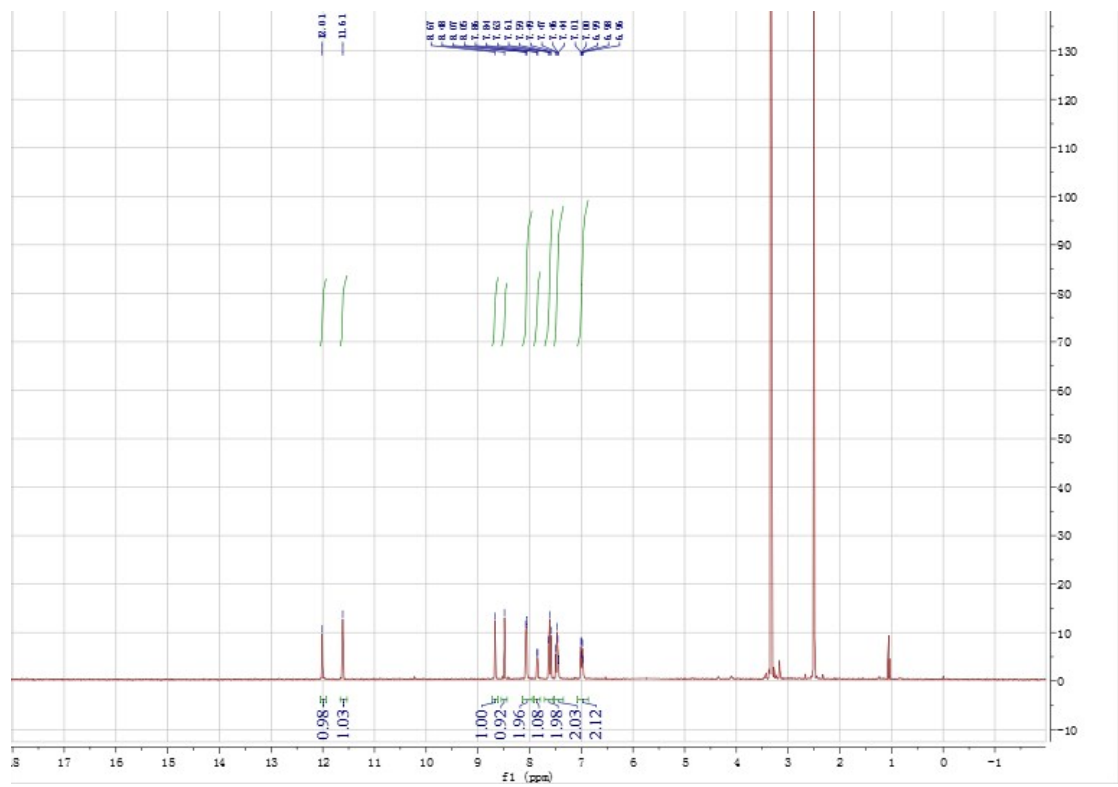


Figure S1 ^1H NMR chart of M1 (DMSO-d_6)

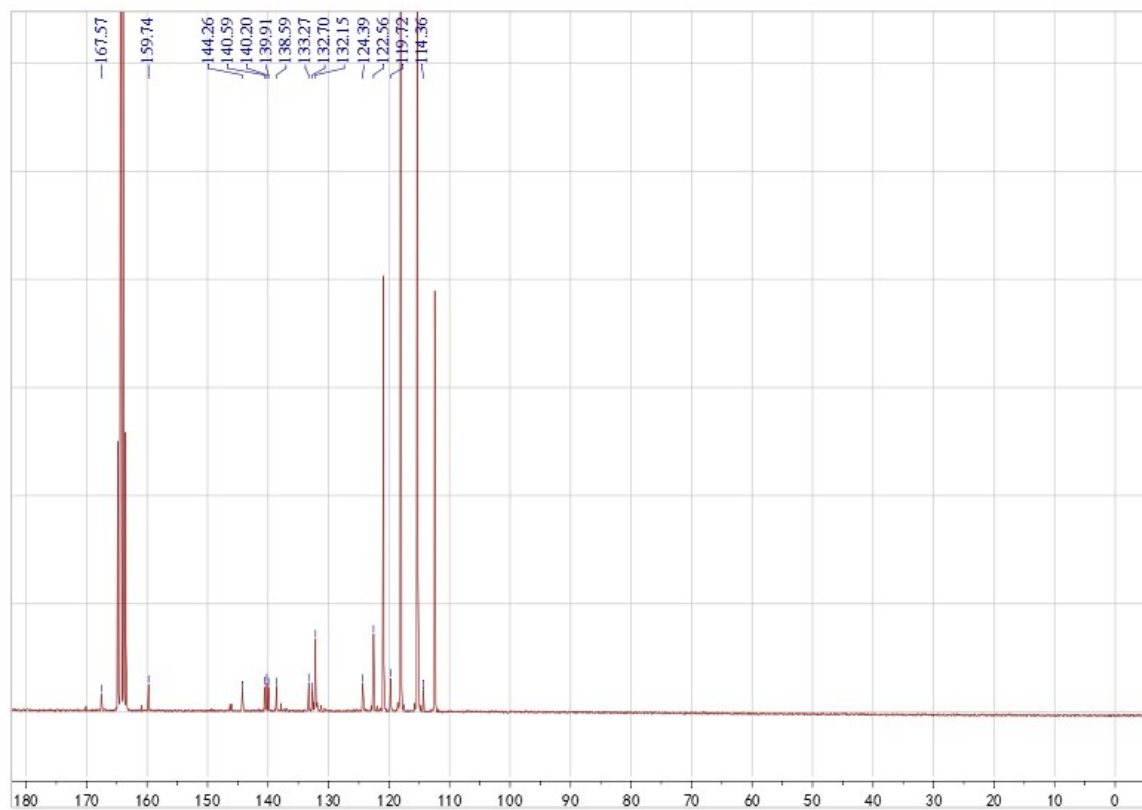


Figure S2 ¹³C NMR chart of M1 (CF₃COOD)

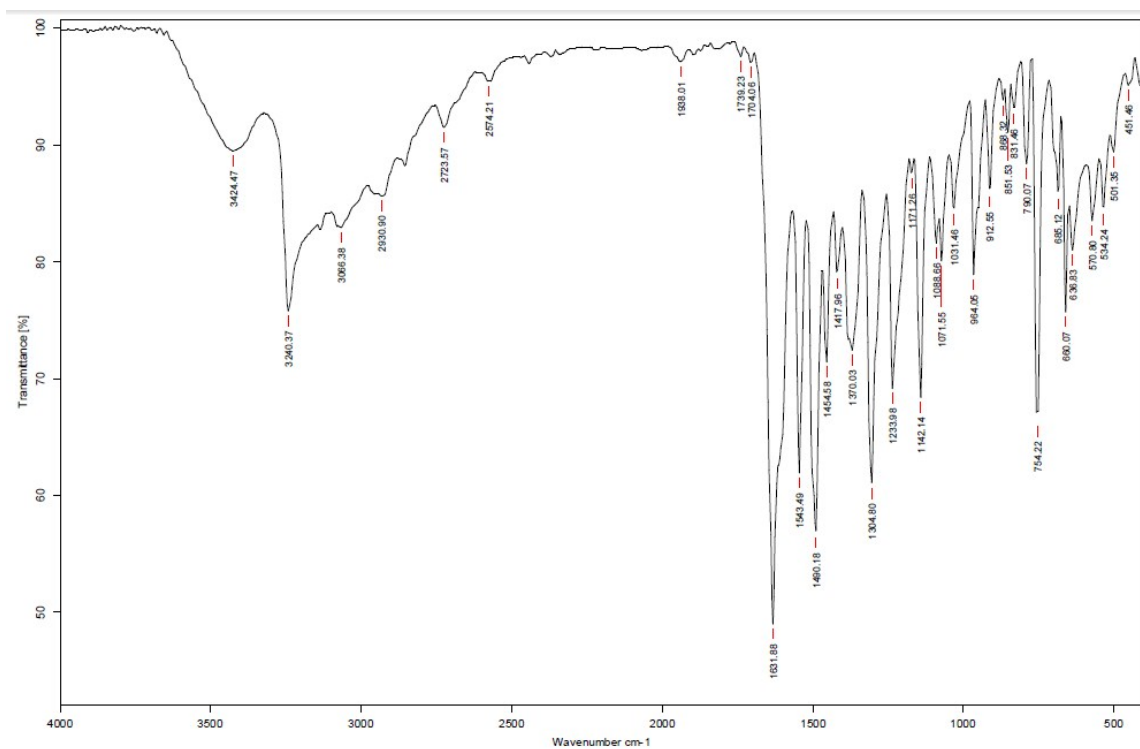


Figure S3 The IR spectra of M1

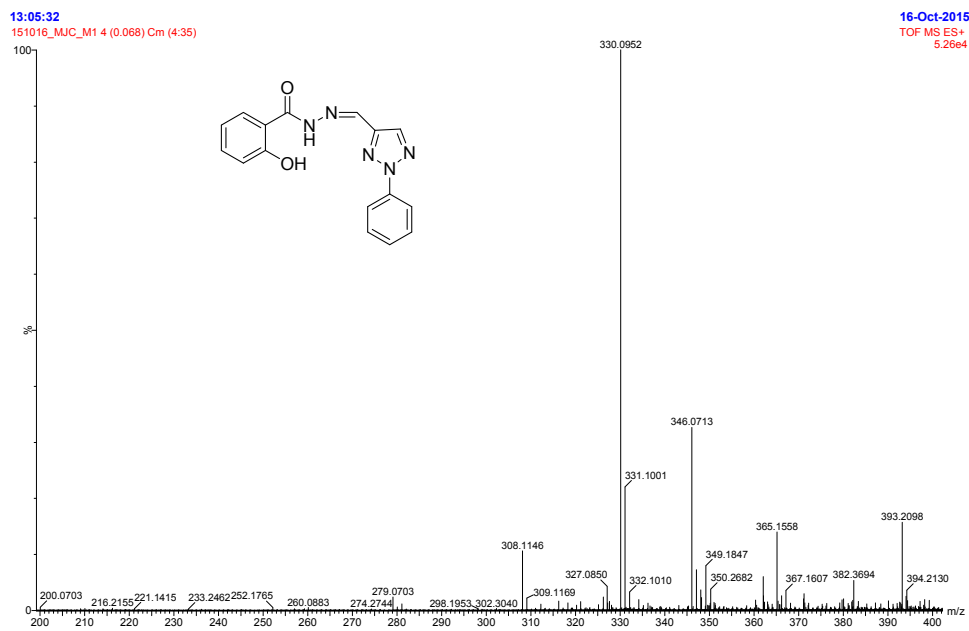


Figure S4 HR-MS Spectra of M1, M=307

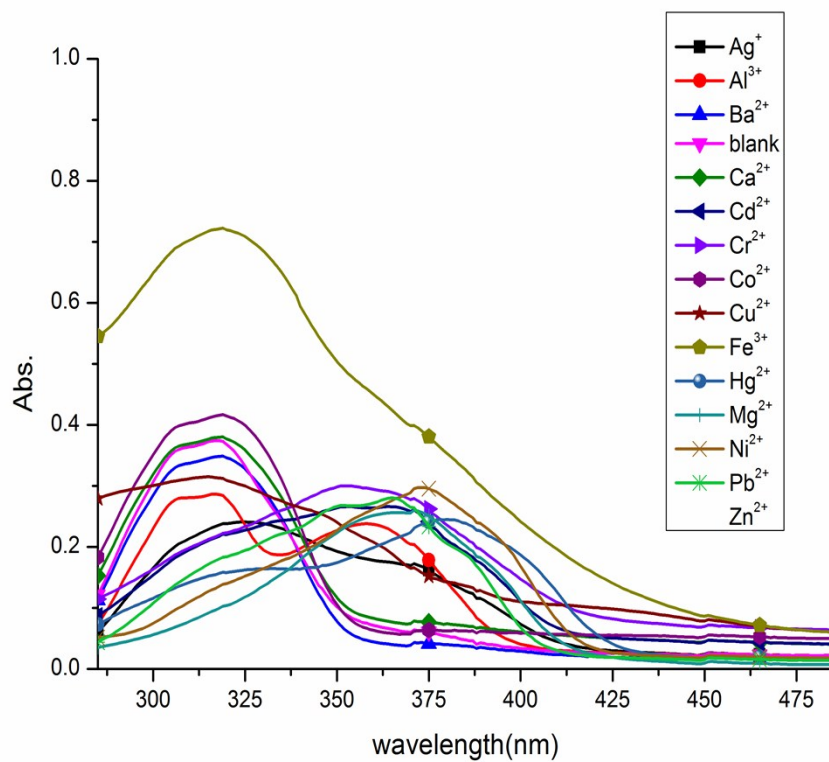


Figure S5 UV-vis spectral changes of M1 upon addition of Al³⁺ and other metal ions in ethanol at room temperature ($[M1] = 10.0 \mu\text{M}$, $[M^{n+}] = 10.0 \text{equiv.}$).

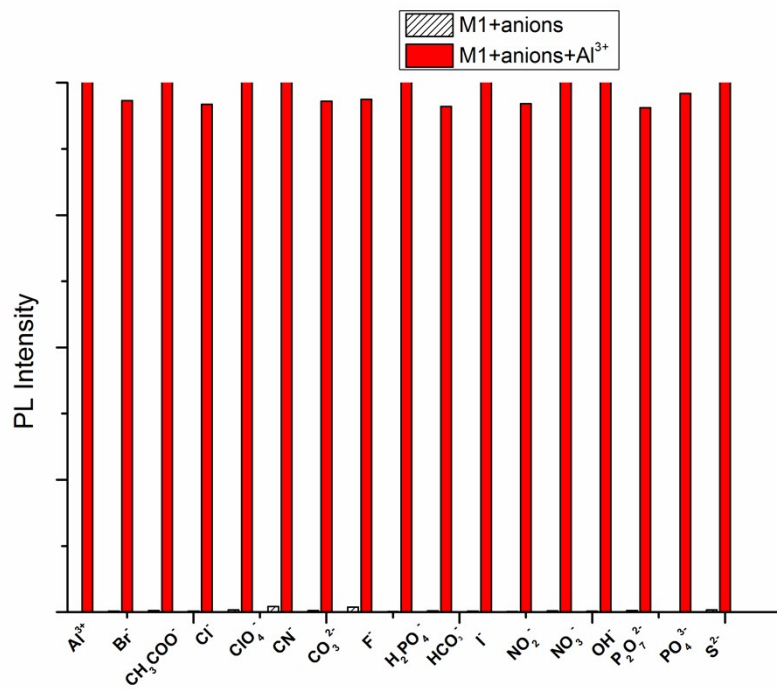


Figure S6. Interference from anions in a binary mixture: M1 (10.0 μ M) + Al³⁺ (10.0 equiv.) + Aⁿ⁻ (10.0 equiv.), where Aⁿ⁻=Br⁻, CH₃COO⁻, Cl⁻, ClO₄⁻, CN⁻, CO₃²⁻, F⁻, H₂PO₄⁻, HCO₃⁻, I⁻, NO₂⁻, NO₃⁻, OH⁻, P₂O₇²⁻, PO₄³⁻, S²⁻ (λ_{ex} = 358 nm, ethanol).

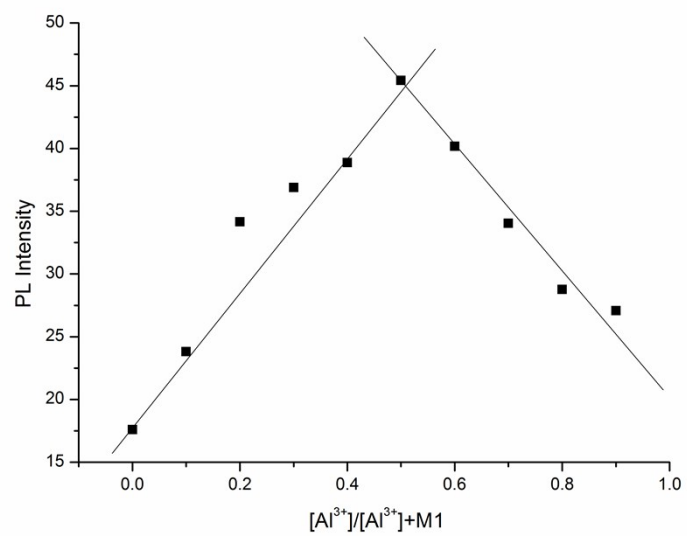


Figure S7. Job's plot of M1 and Al^{3+} in ethanol at 442nm

160304_XNSY 43 (0.548) Cm (1:48)

Scan ES+
5.51e6

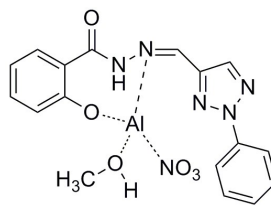
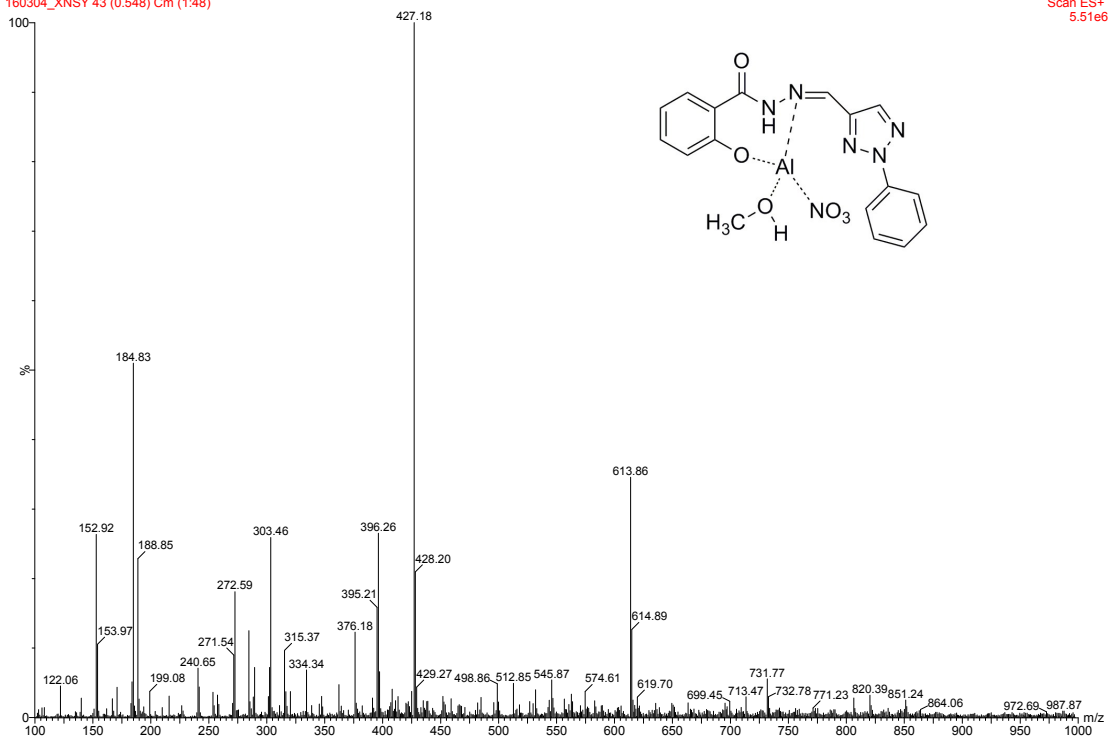


Figure S8. Mass spectrum of complex M1-Al³⁺, M=427