

Electronic Supplementary Information

Xanthene-based fluorescence turn-on detection of phosgene via analyte-triggered isocyanate formation

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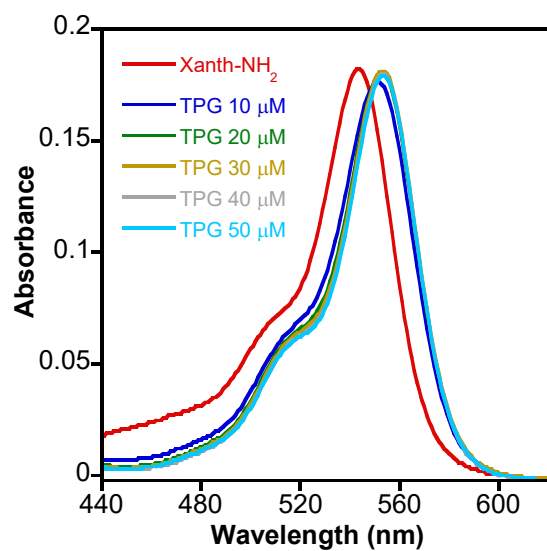


Figure. S1. UV-visible response of Xanth-NH₂ (5 μM) with addition of 50 μM of TPG in acetonitrile containing 100 μM of 1% TEA.

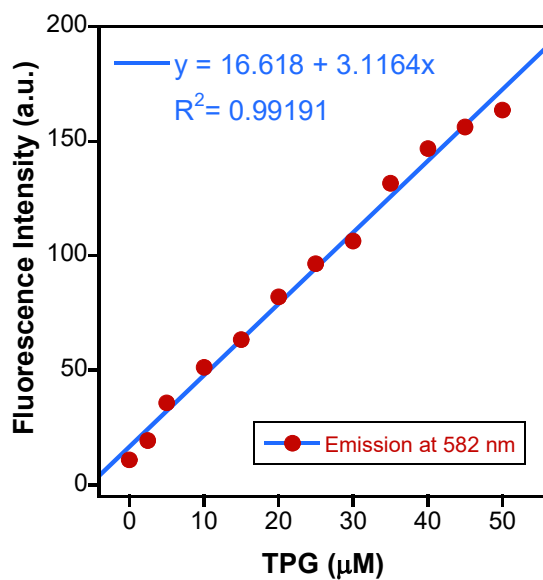


Figure S2. Plot of a linear relationship between fluorescence intensity at 582 nm and concentration of TPG.

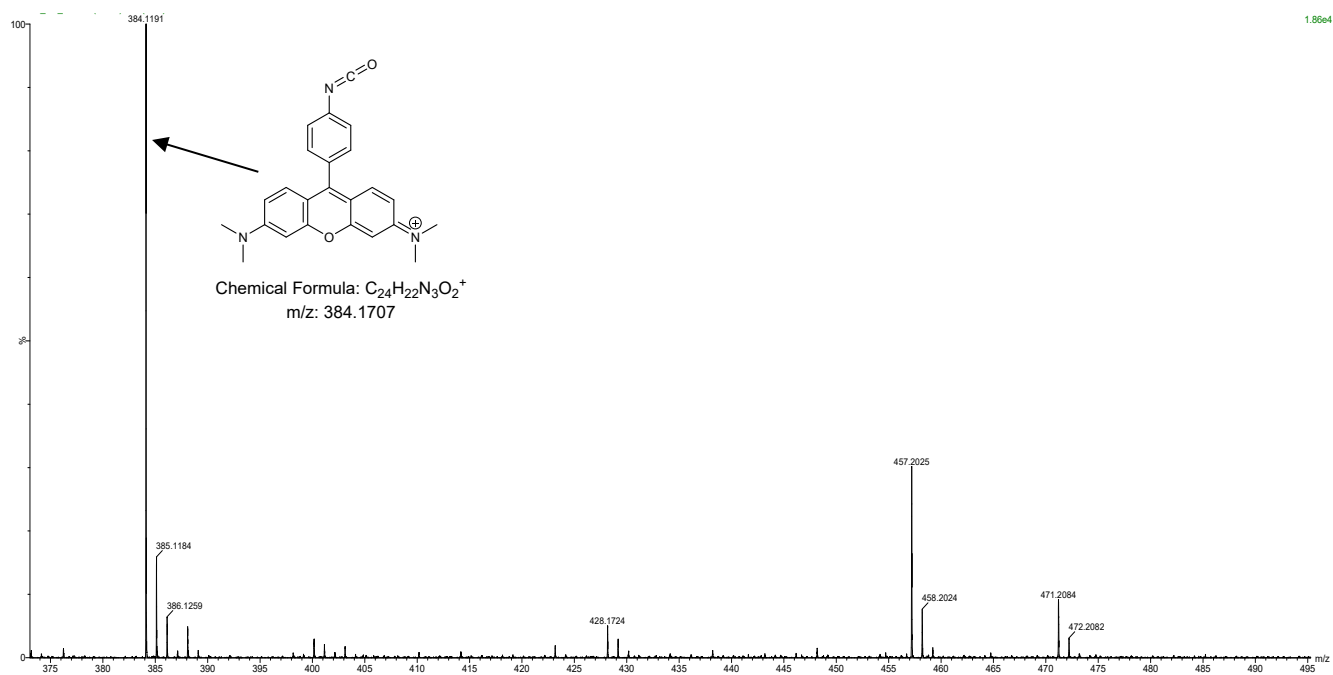
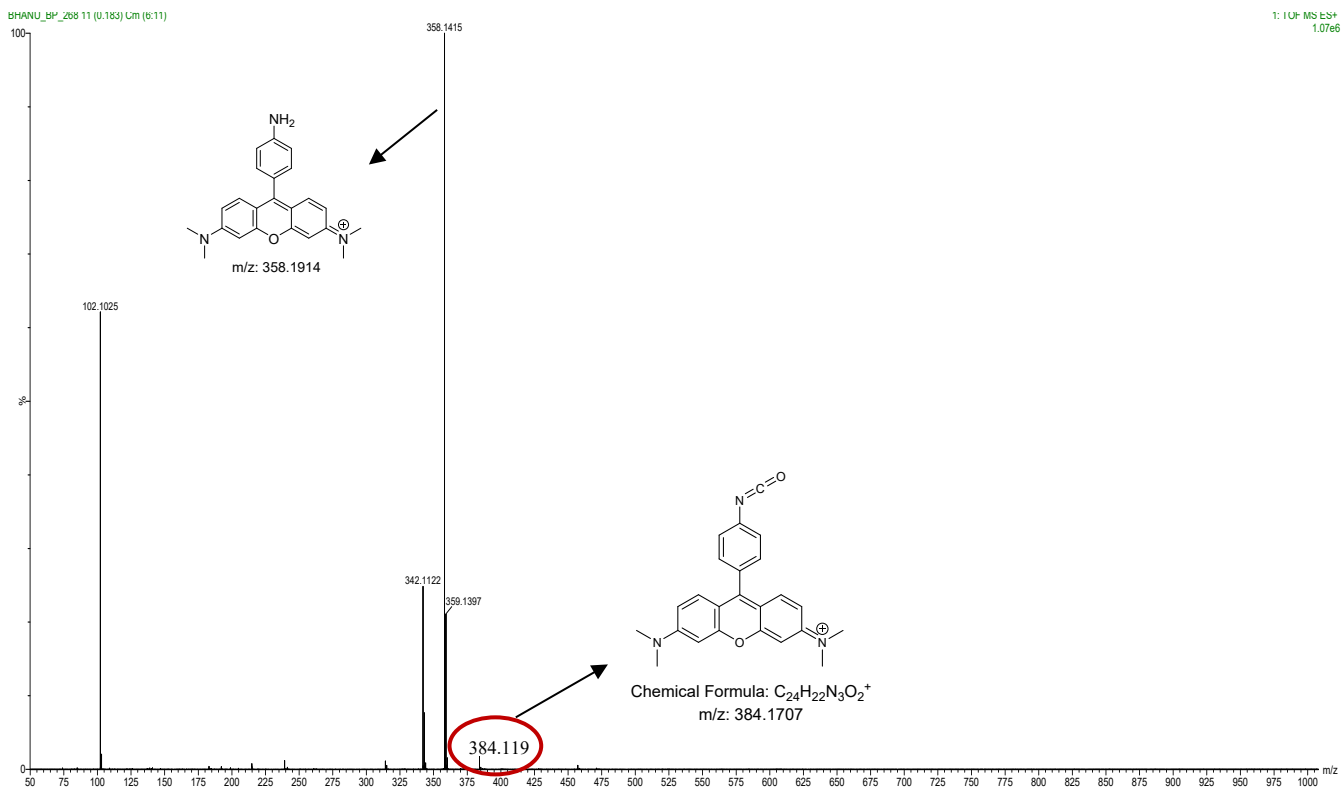


Figure S3. Mass spectrum of Xanth-NH₂ in the presence of phosgene.

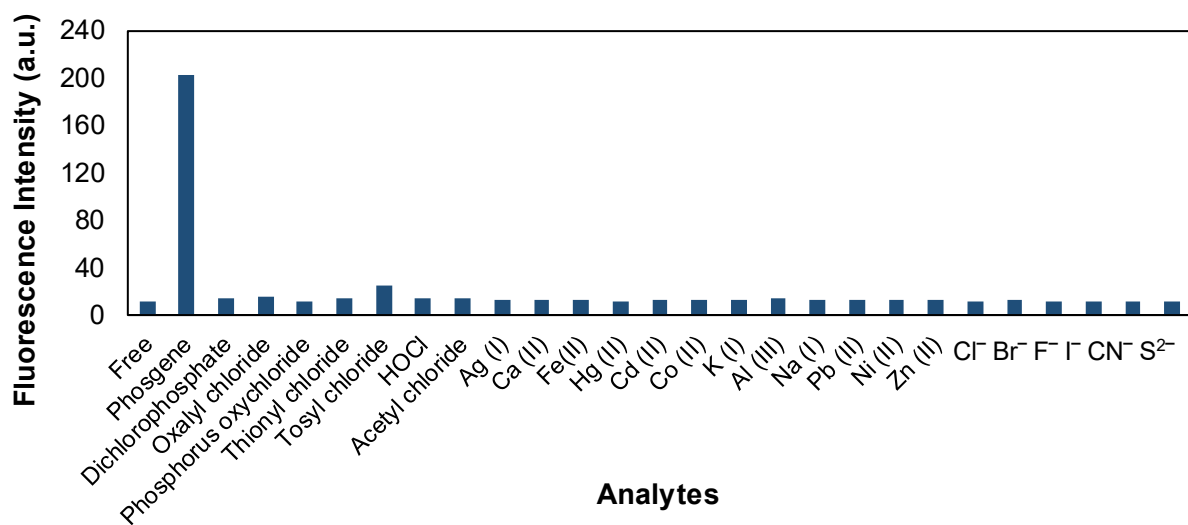


Figure S4: Selectivity profile of Xanth-NH₂ (5 μM) upon addition of phosgene (100 μM TPG/100 μM of 1%TEA) and other analytes (250 μM each). Data reported after 2 min of addition. Solvent CH₃CN, λ_{ex/em} = 540 nm/582 nm.

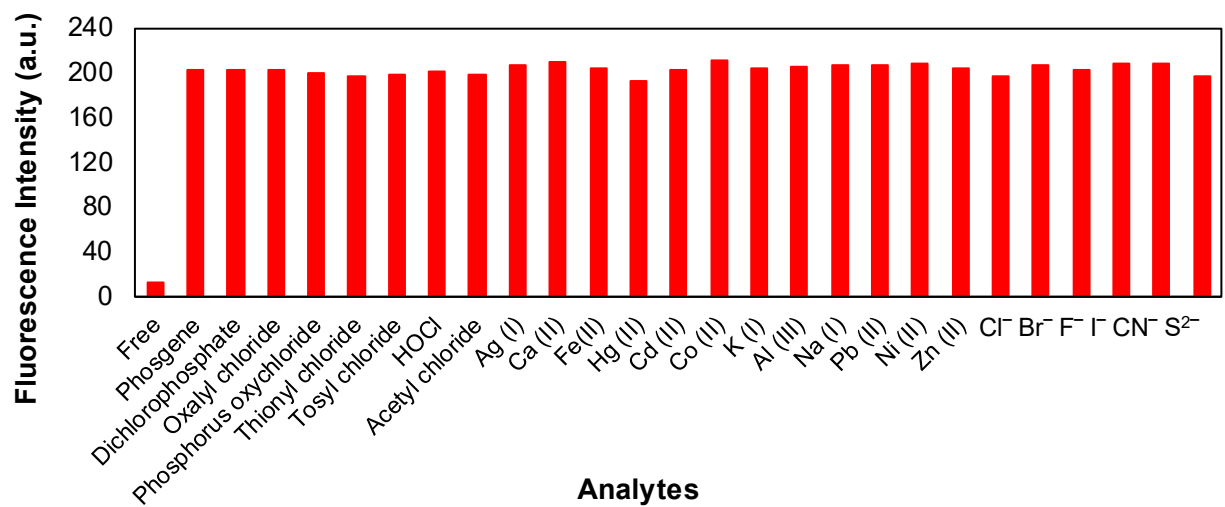


Figure S5. Competitive selectivity profile of Xanth-NH₂ (5 μM) for phosgene (100 μM TPG/100 μM of 1%TEA) in the presence of different analytes. Data reported after 2 min of addition. Solvent CH₃CN, λ_{ex/em} = 540 nm/582 nm.

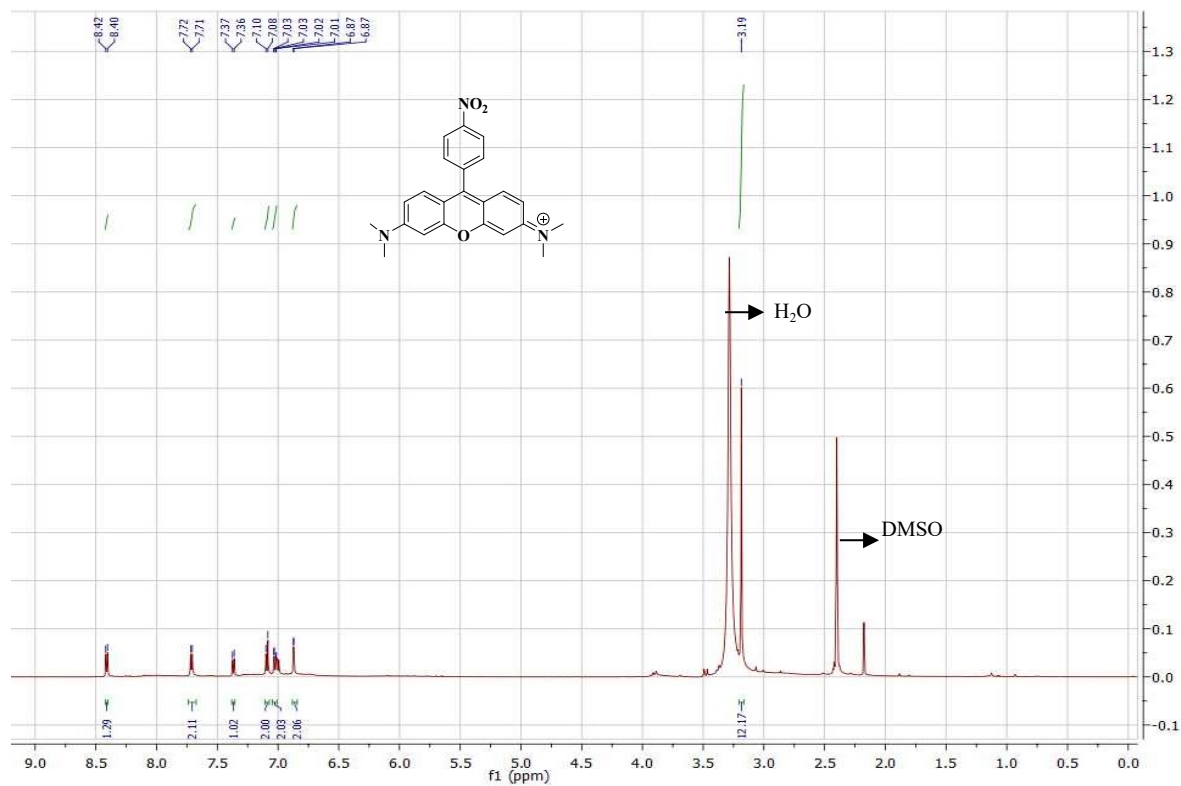


Figure S6: ¹H NMR spectrum of compound Xanth-NO₂ in DMSO-*d*₆.

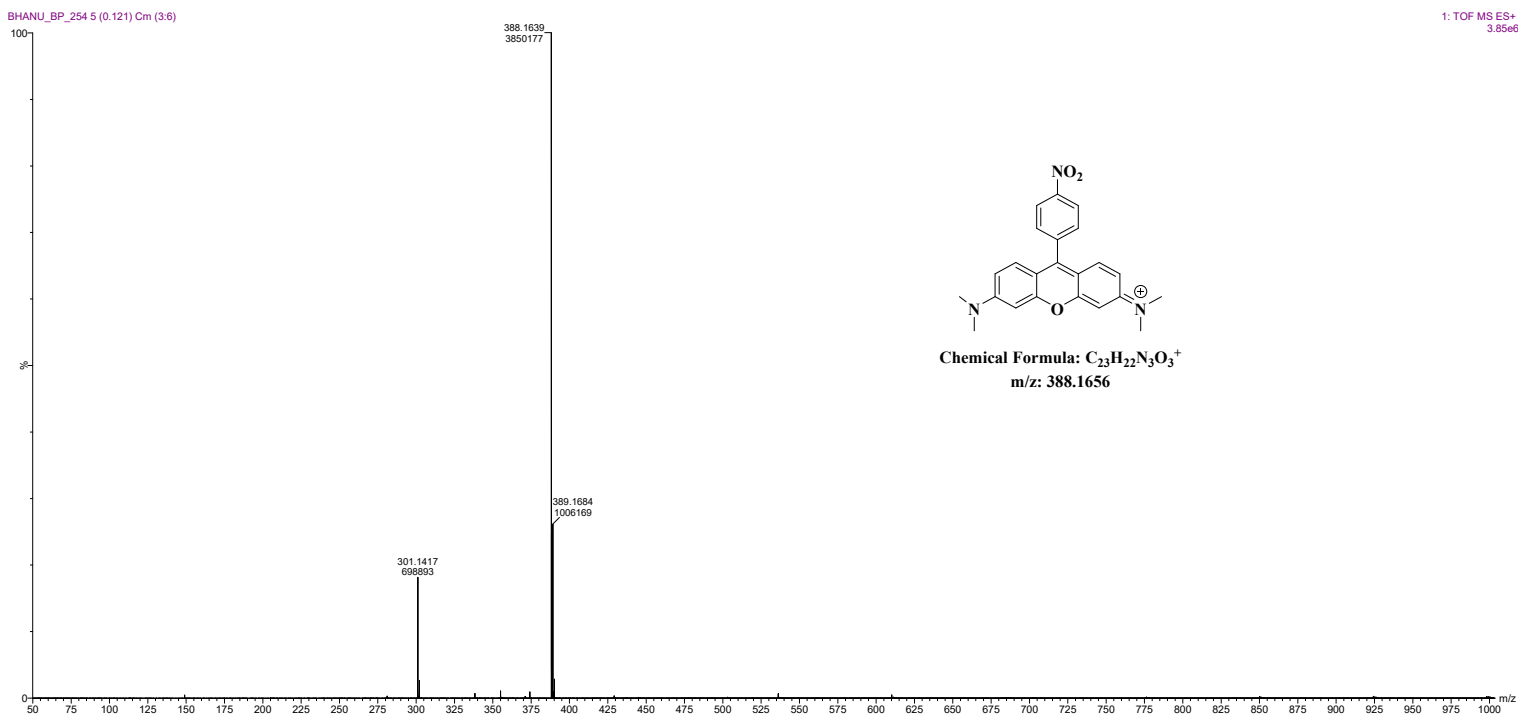


Figure S7: HRMS spectrum of compound Xanth-NO₂.

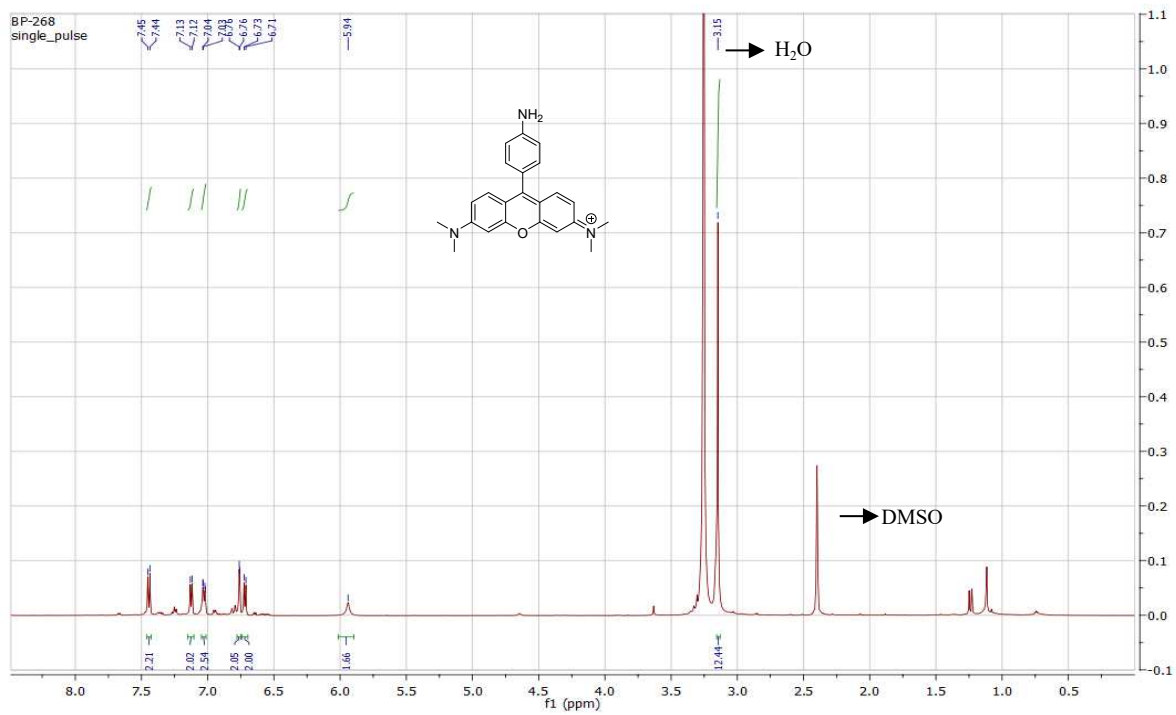


Figure S8: ¹H NMR spectrum of compound Xanth-NH₂ in DMSO-*d*₆.

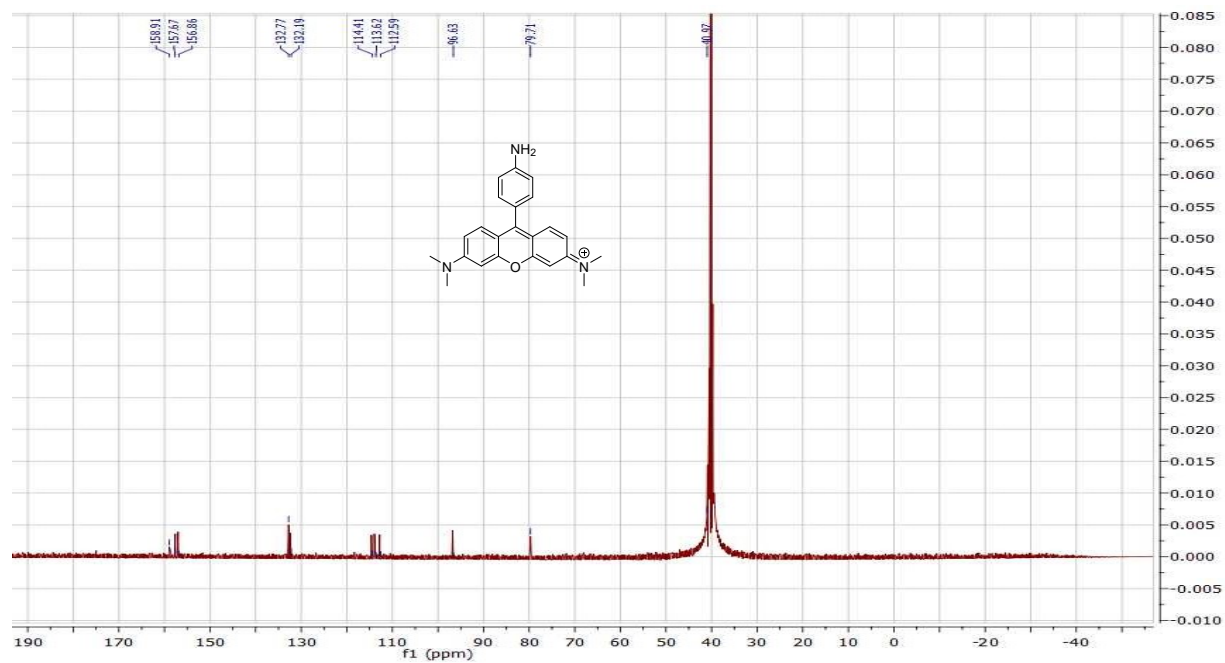
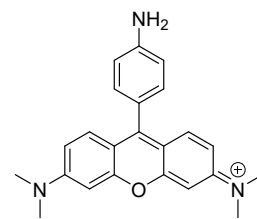
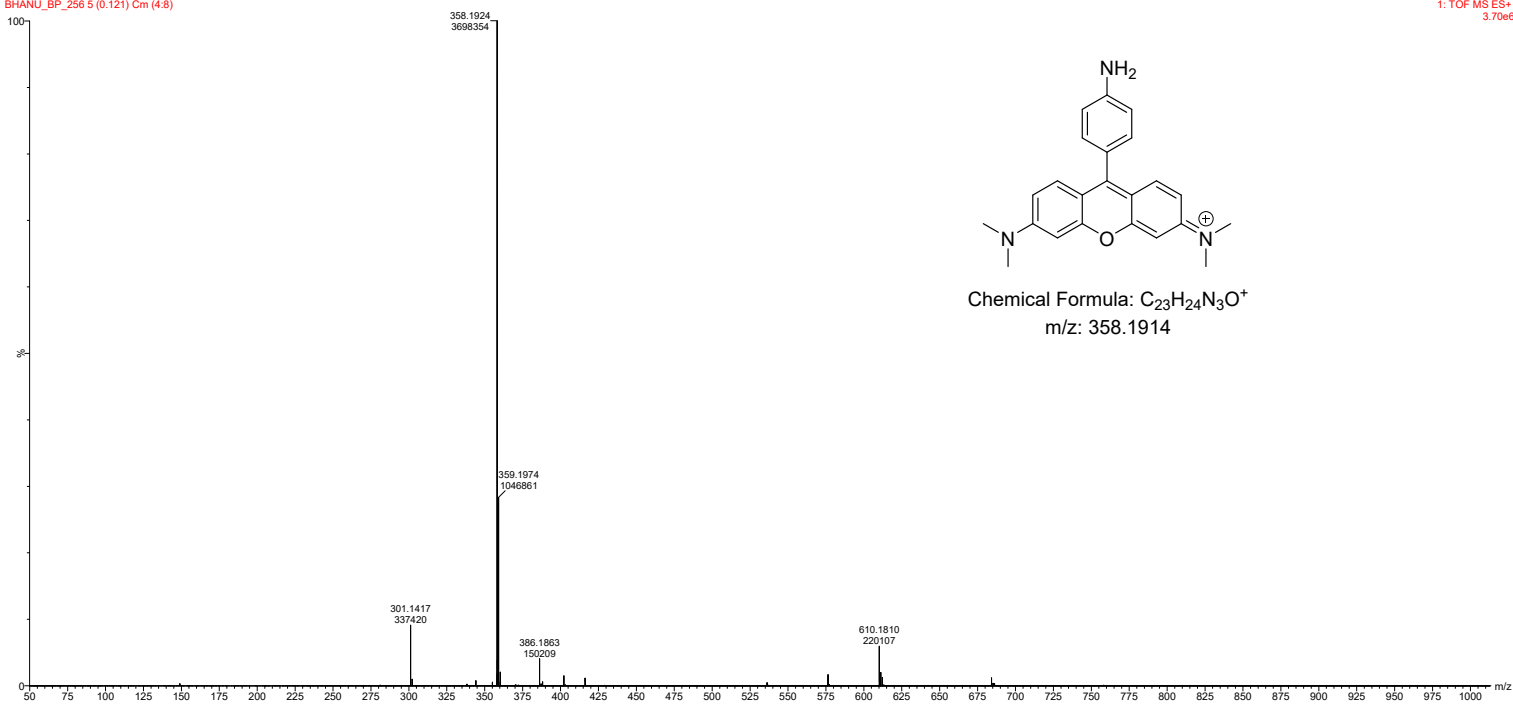


Figure S9: ¹³C NMR spectrum of compound Xanth-NH₂ in DMSO-*d*₆.

BHANU_BP_256 5 (0.121) Cm (4.8)

IV-33-11
1: TOF-MS ES+
3.7066



Chemical Formula: $C_{23}H_{24}N_3O^+$
m/z: 358.1914

Figure S10: HRMS spectrum of compound Xanth-NH₂.