

Supplementary Materials: Atom-Economic Synthesis of 4-Pyrones from Dinyones and Water

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1. Copies of ^1H -NMR and ^{13}C -NMR Spectra of Products

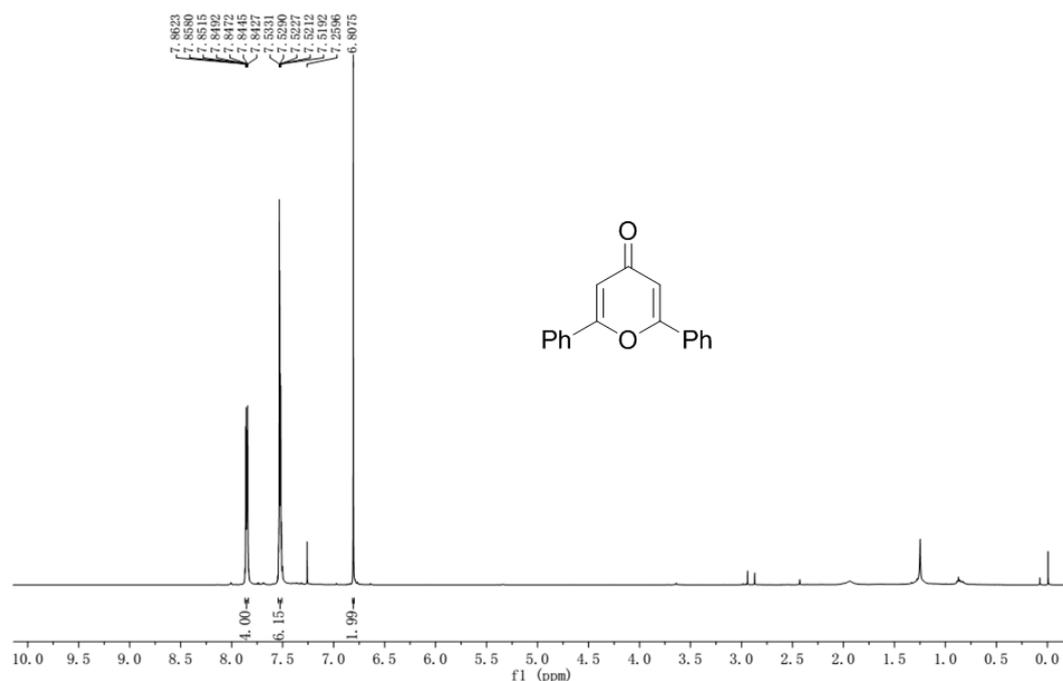


Figure S1. ^1H -NMR Spectra of 2a.

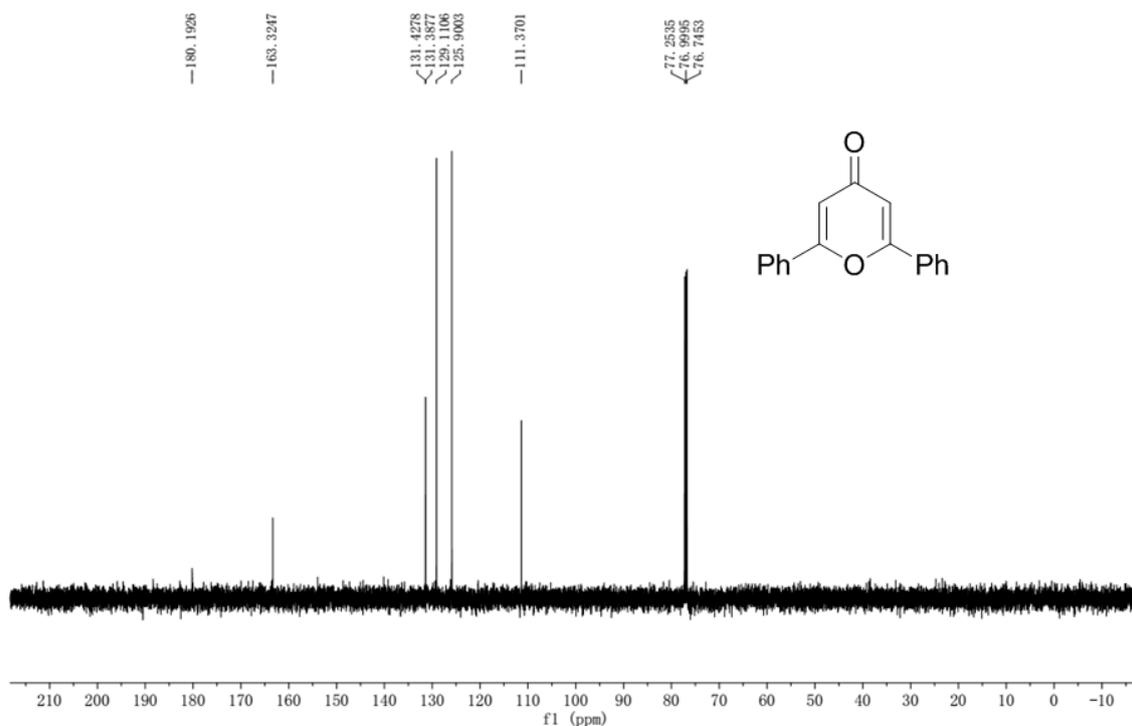
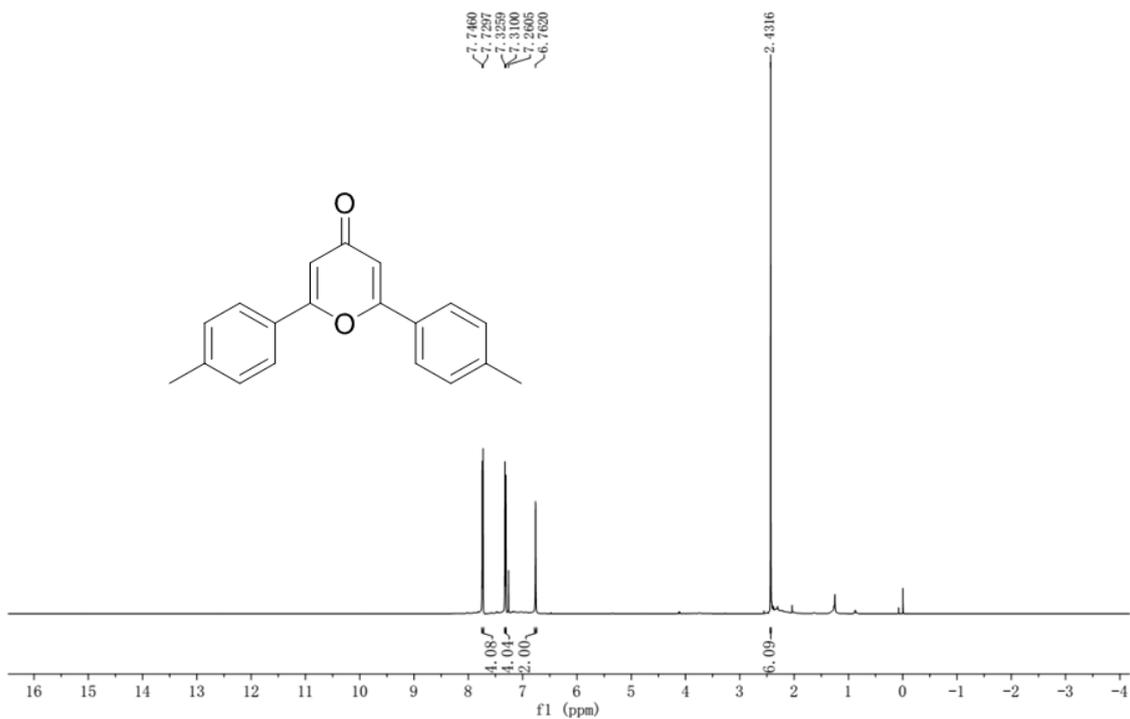
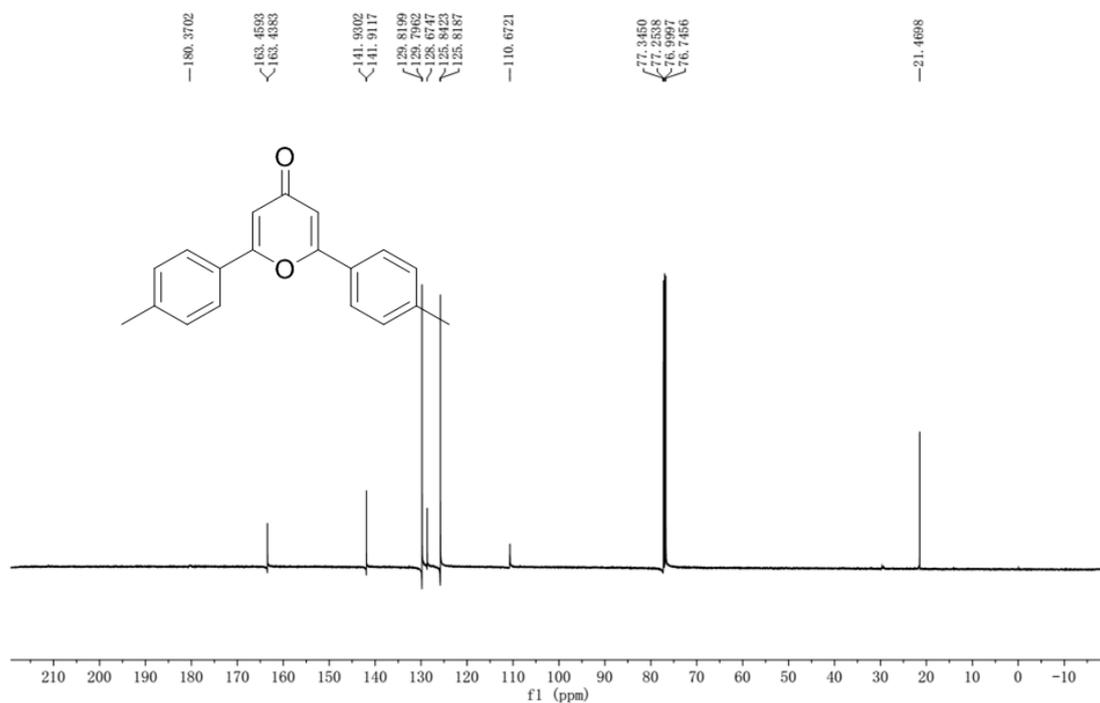
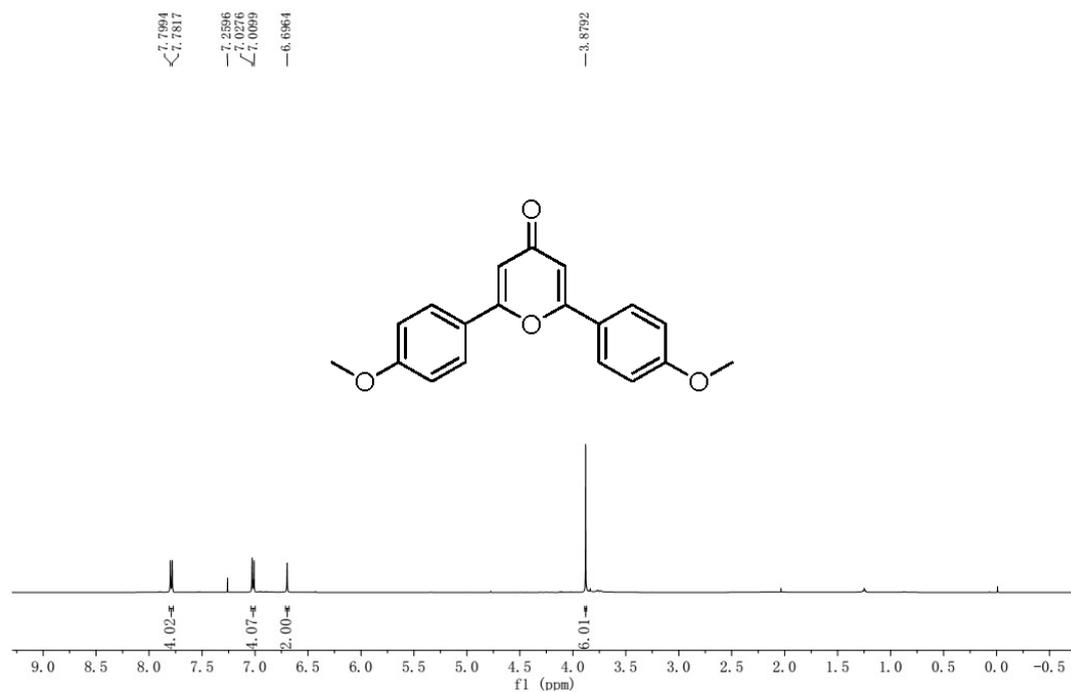
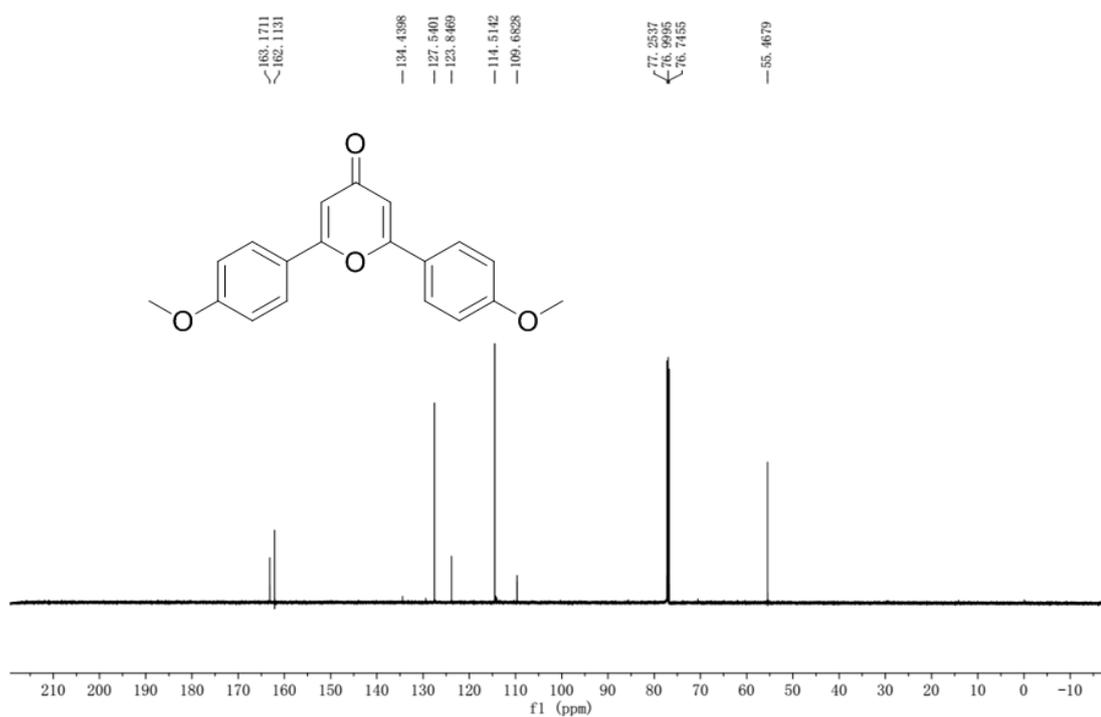


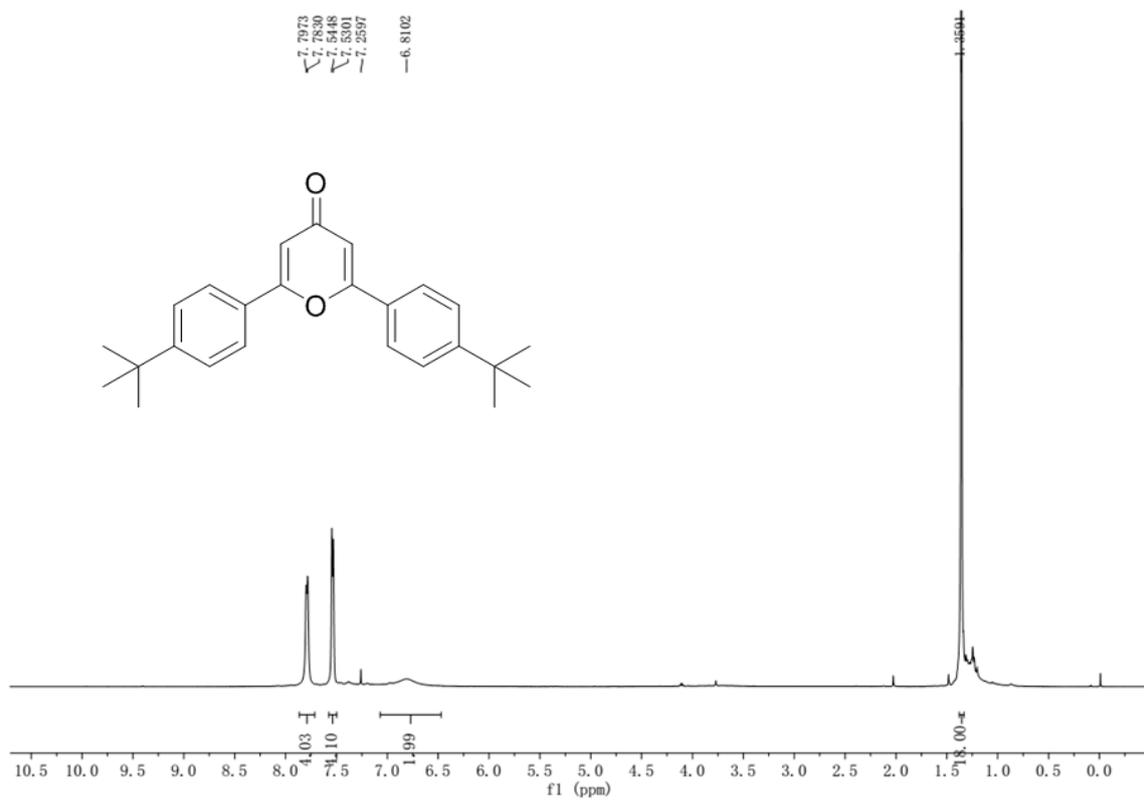
Figure S2. ^{13}C -NMR Spectra of 2a.

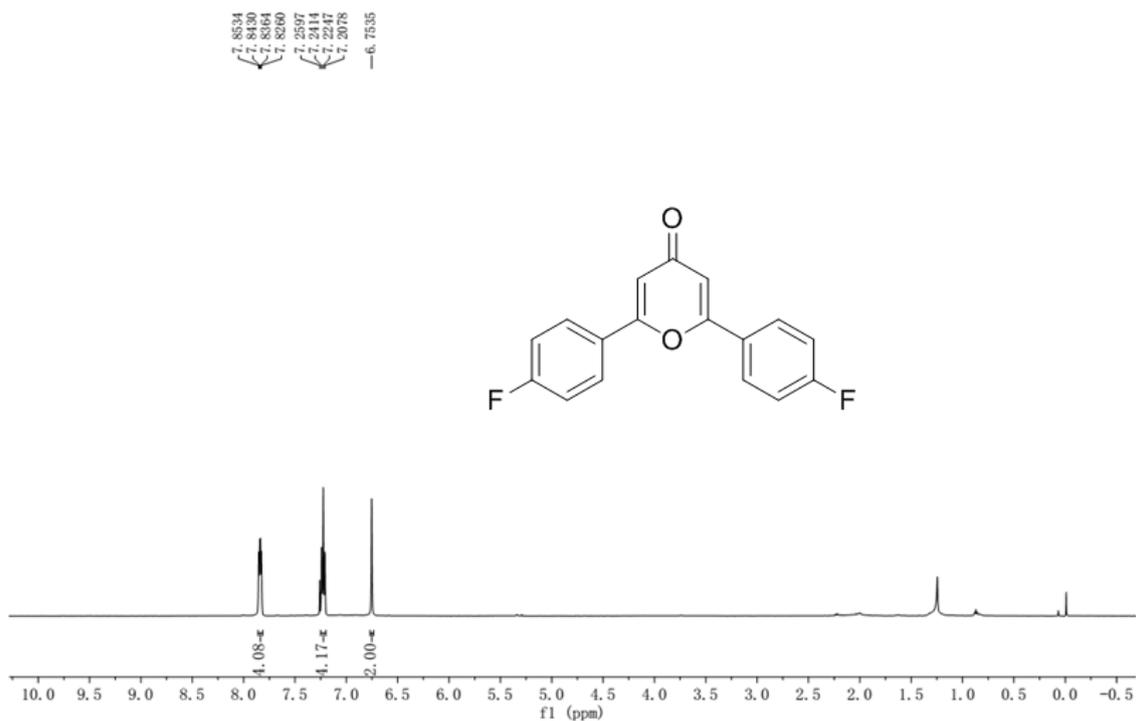
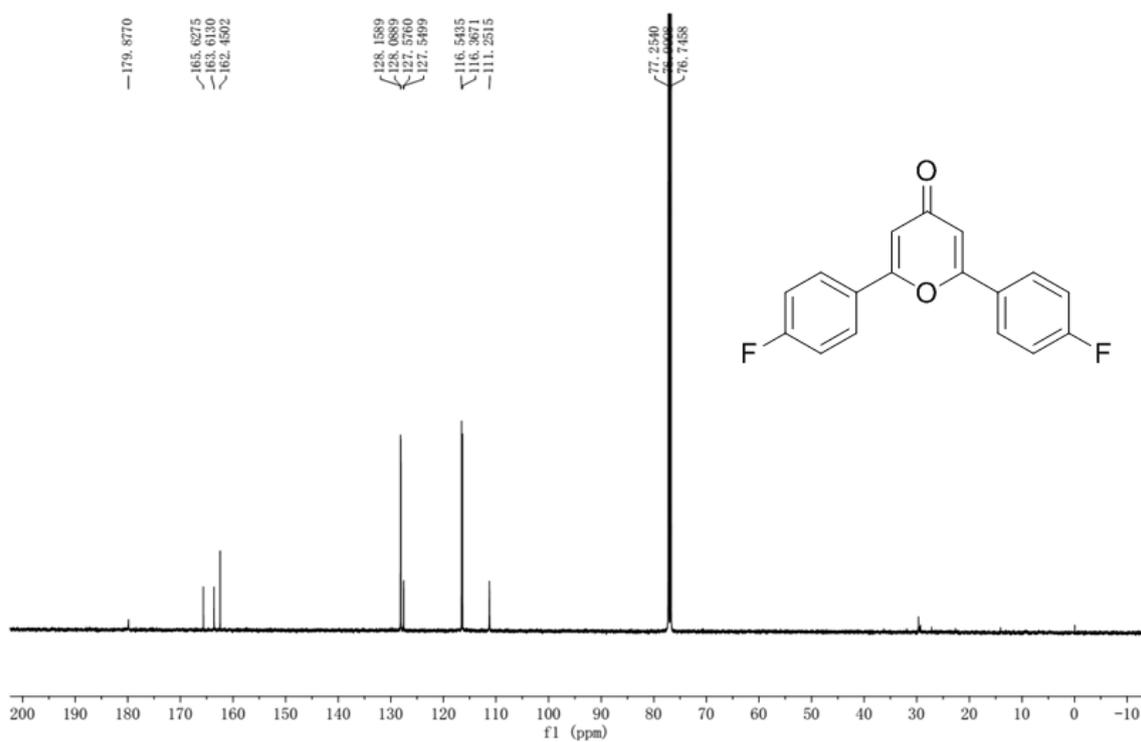
Figure S3. ¹H-NMR Spectra of 2b.Figure S4. ¹³C-NMR Spectra of 2b.



Figure

S5. ¹H-NMR Spectra of 2c.Figure S6. ¹³C-NMR Spectra of 2c.

Figure S7. ¹H-NMR Spectra of 2d.Figure S8. ¹³C-NMR Spectra of 2d.

Figure S9. ¹H-NMR Spectra of 2e.Figure S10. ¹³C-NMR Spectra of 2e.

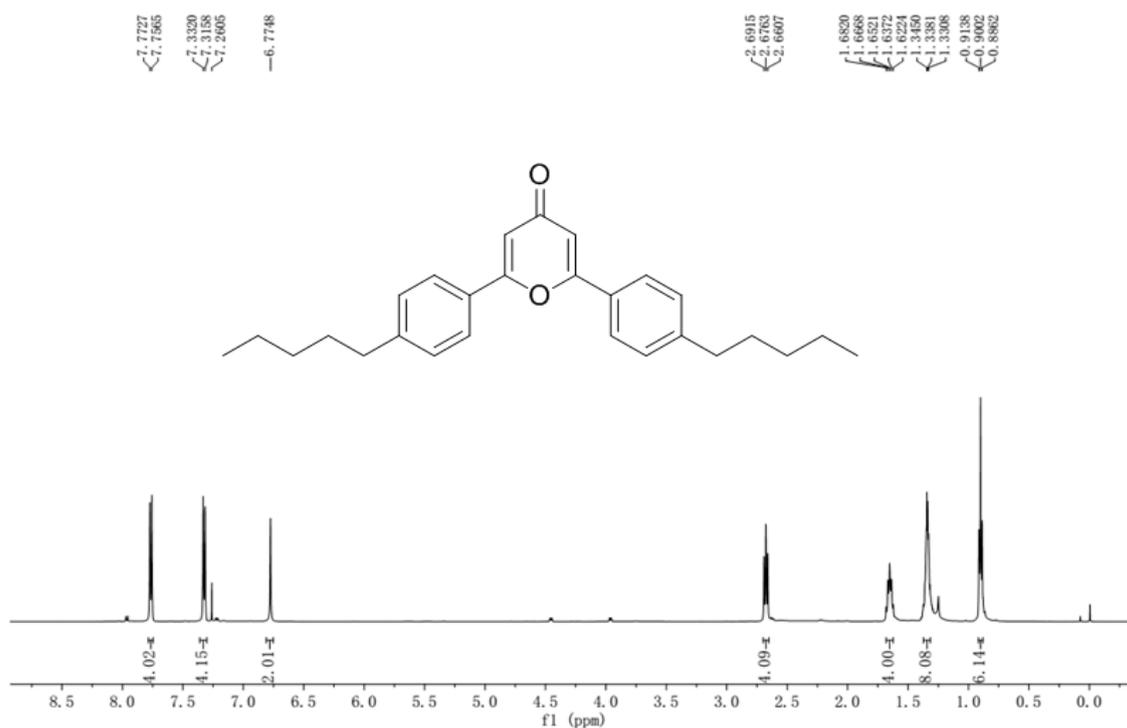
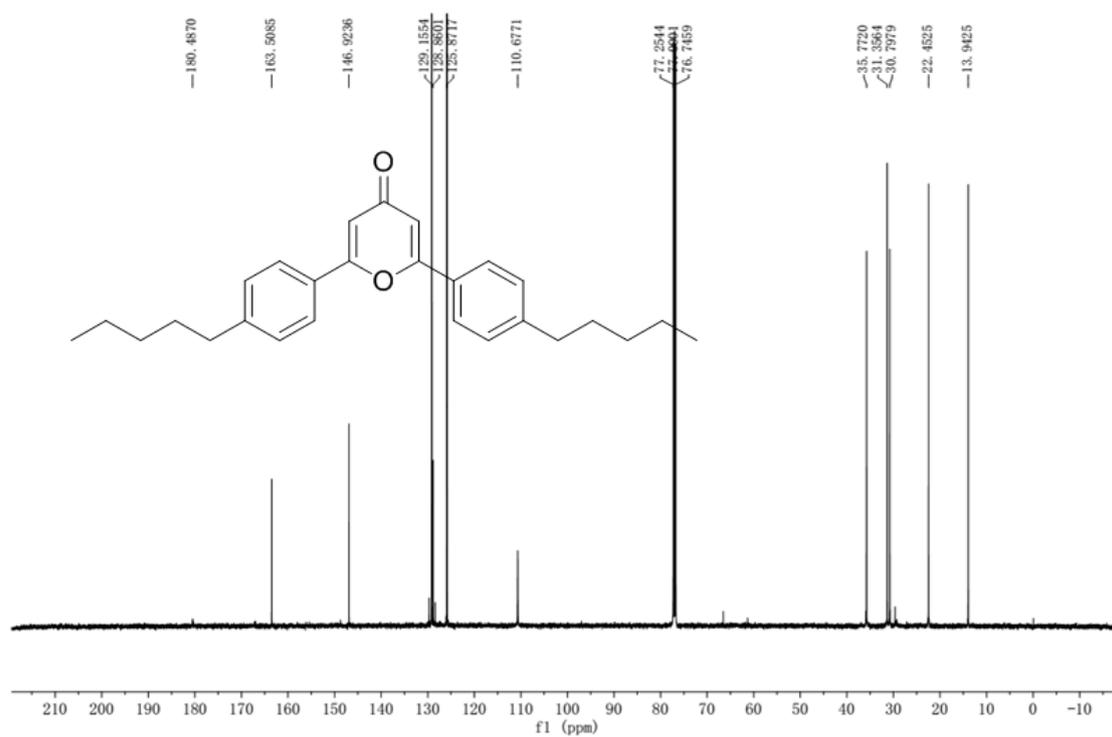
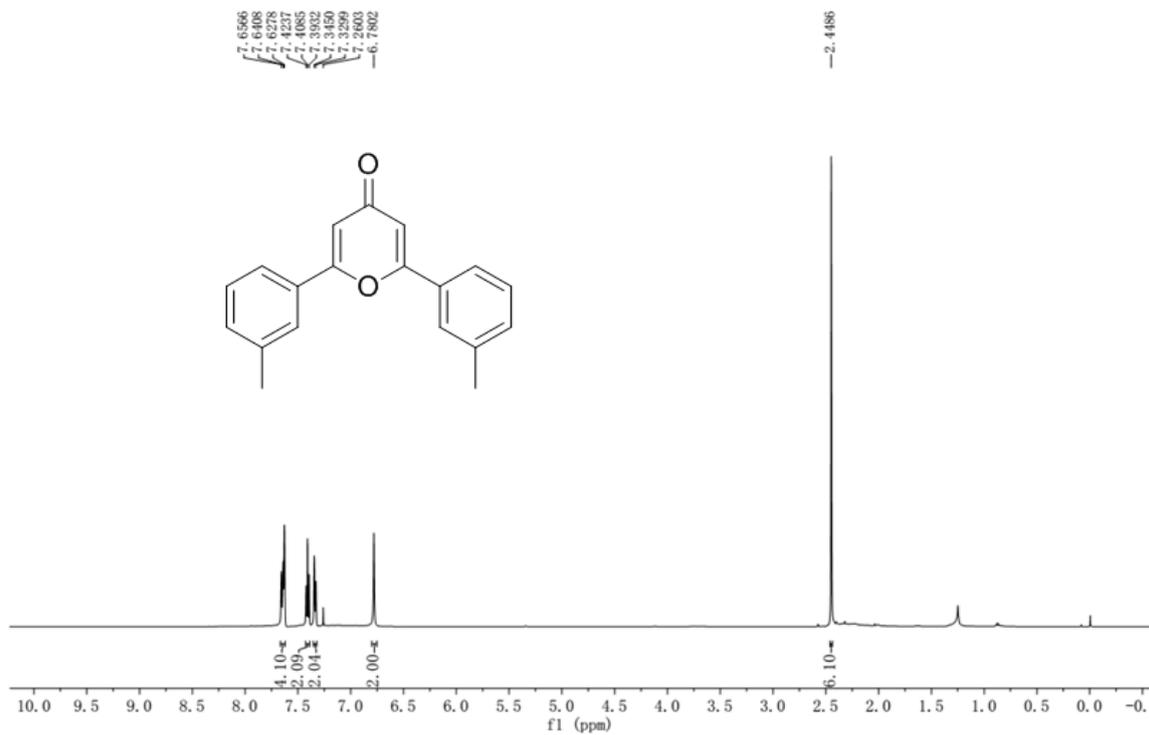
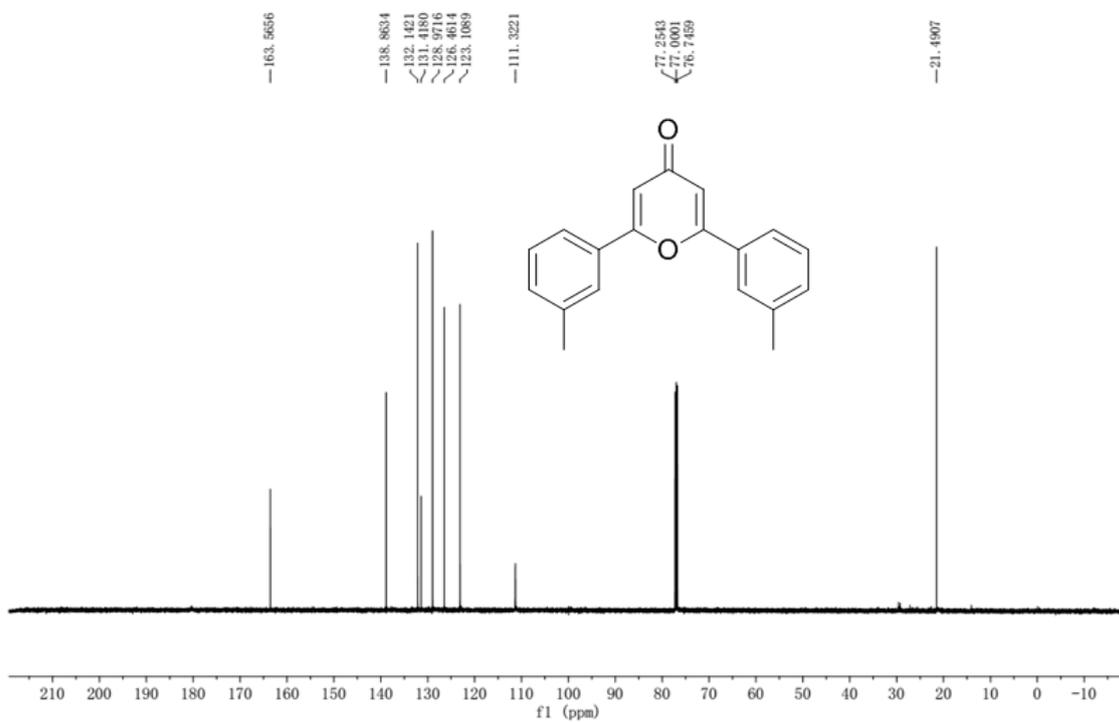
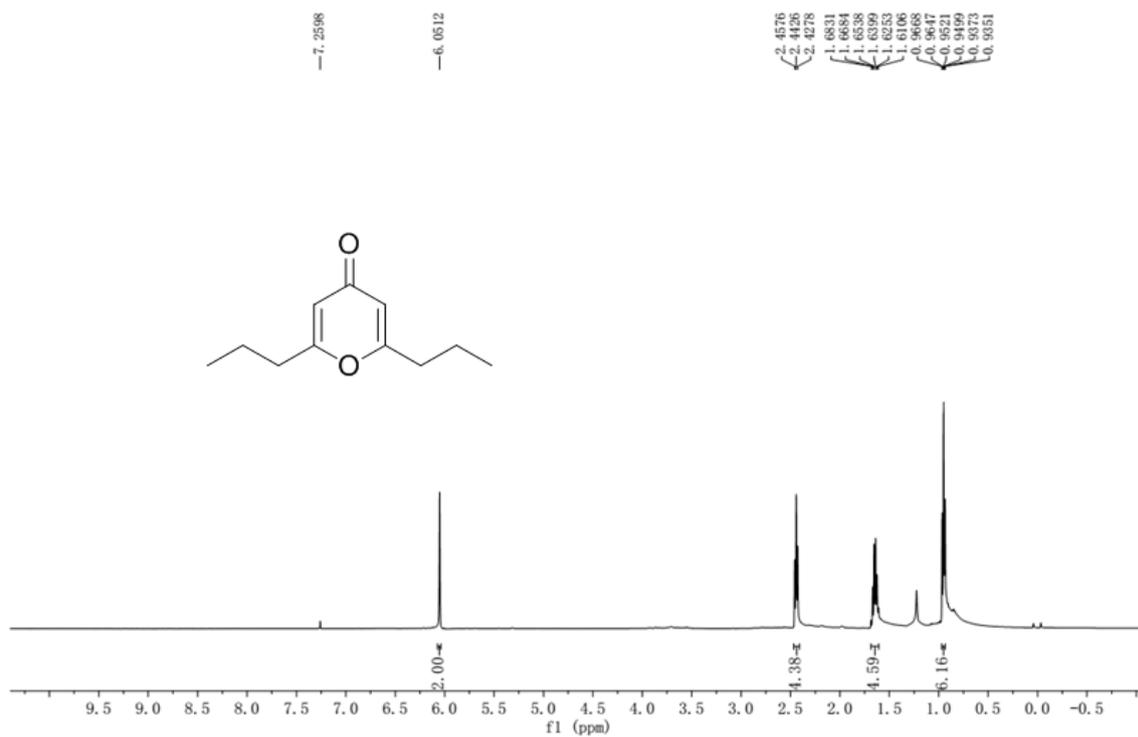
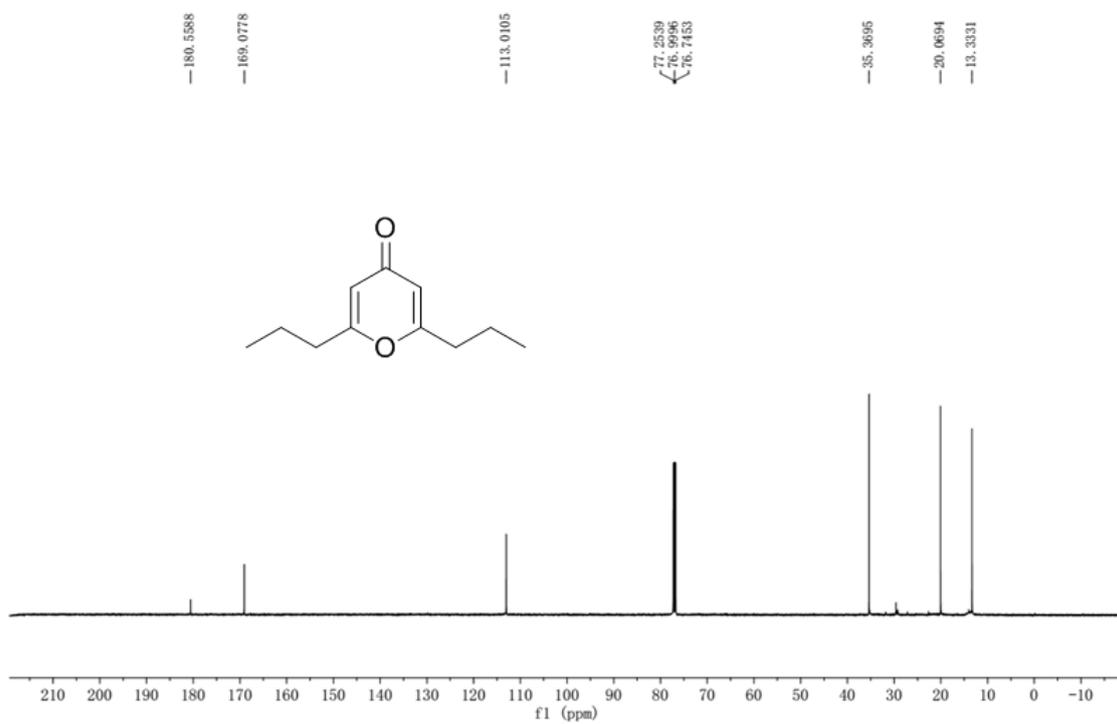
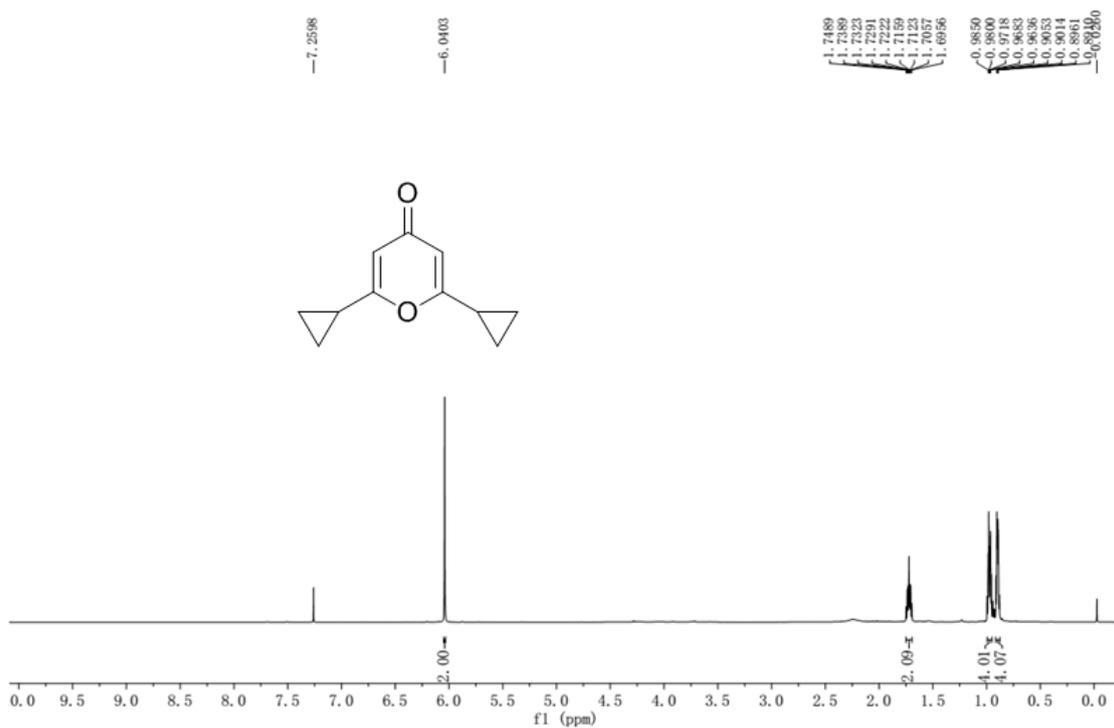
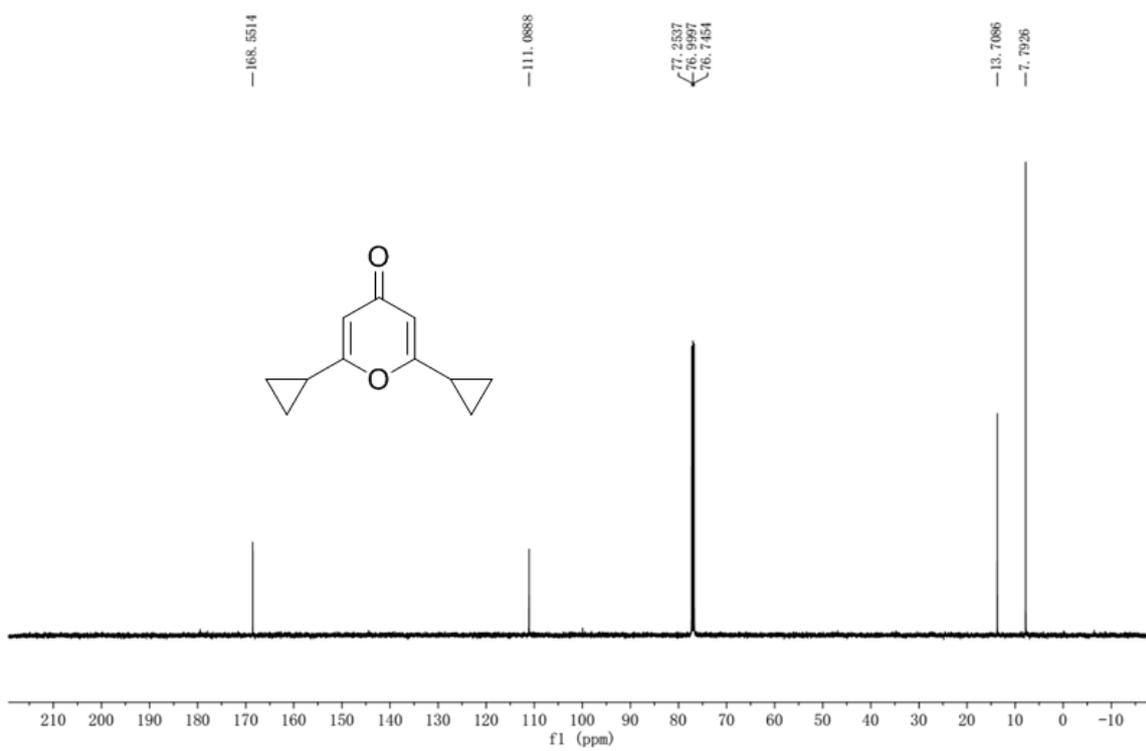
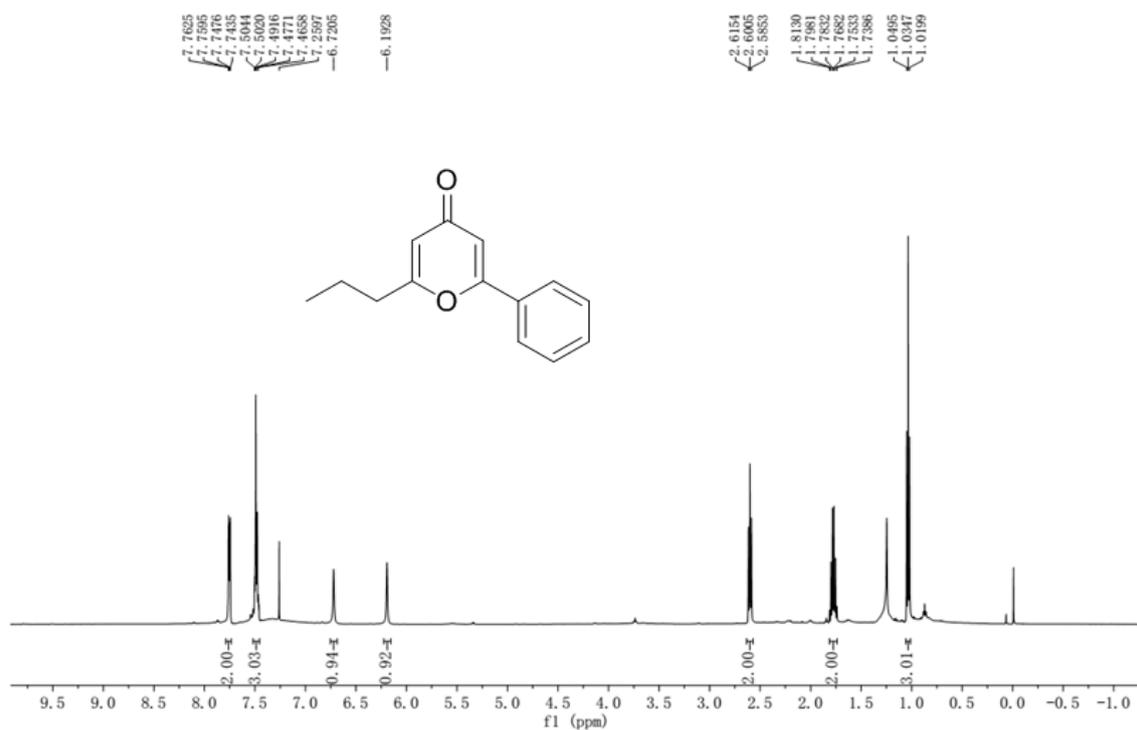
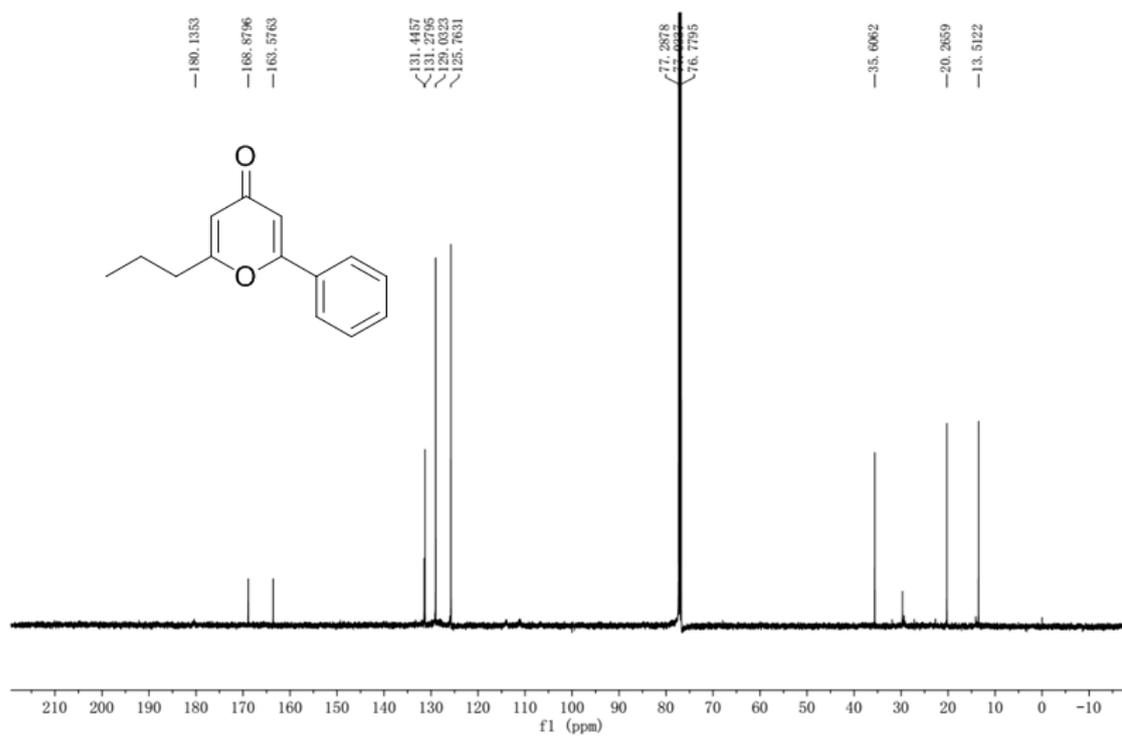
Figure S11. ¹H-NMR Spectra of 2f.Figure S12. ¹³C-NMR Spectra of 2f.

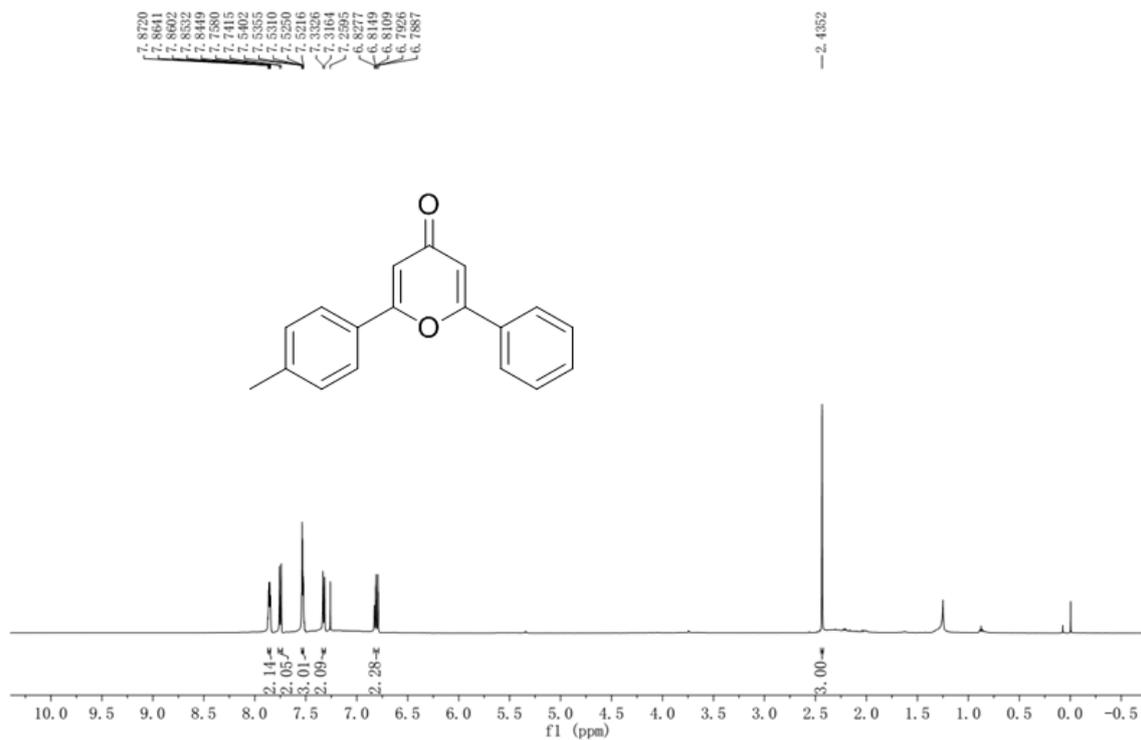
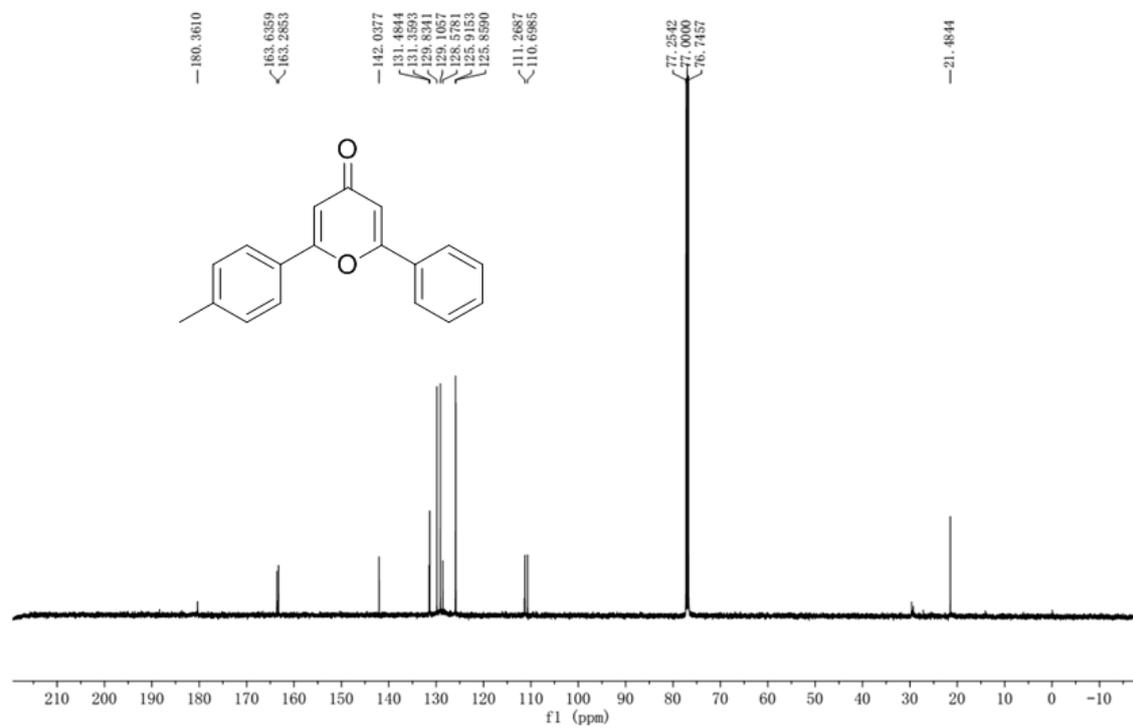
Figure S13. ¹H-NMR Spectra of 2g.Figure S14. ¹³C-NMR Spectra of 2g.

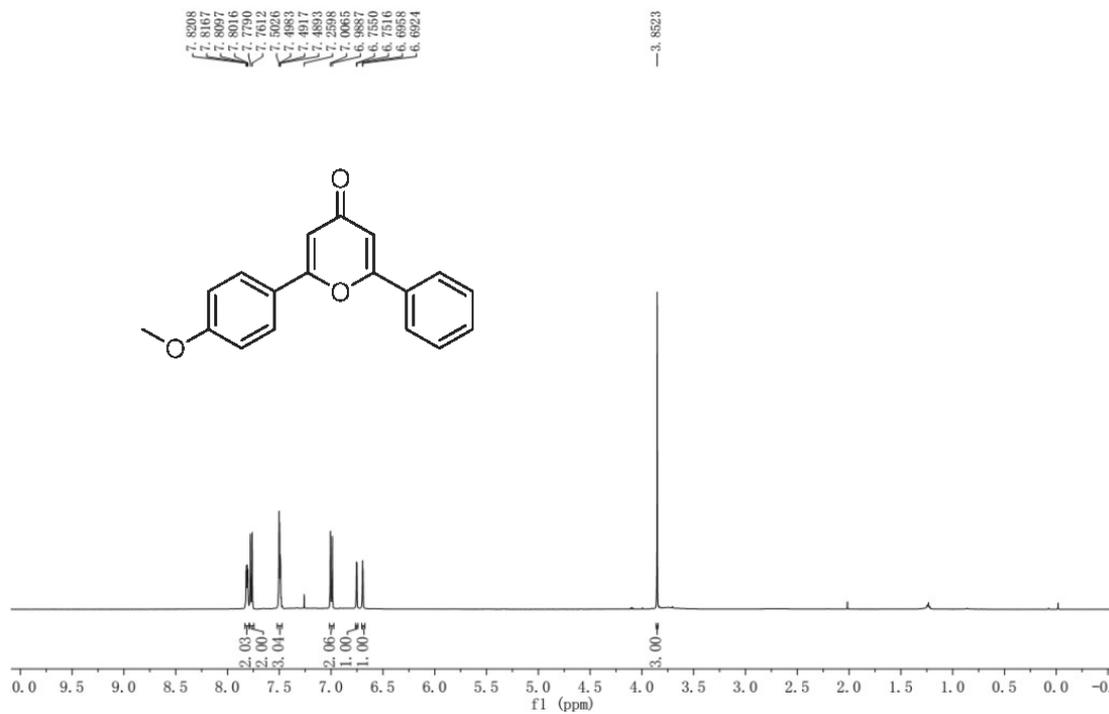
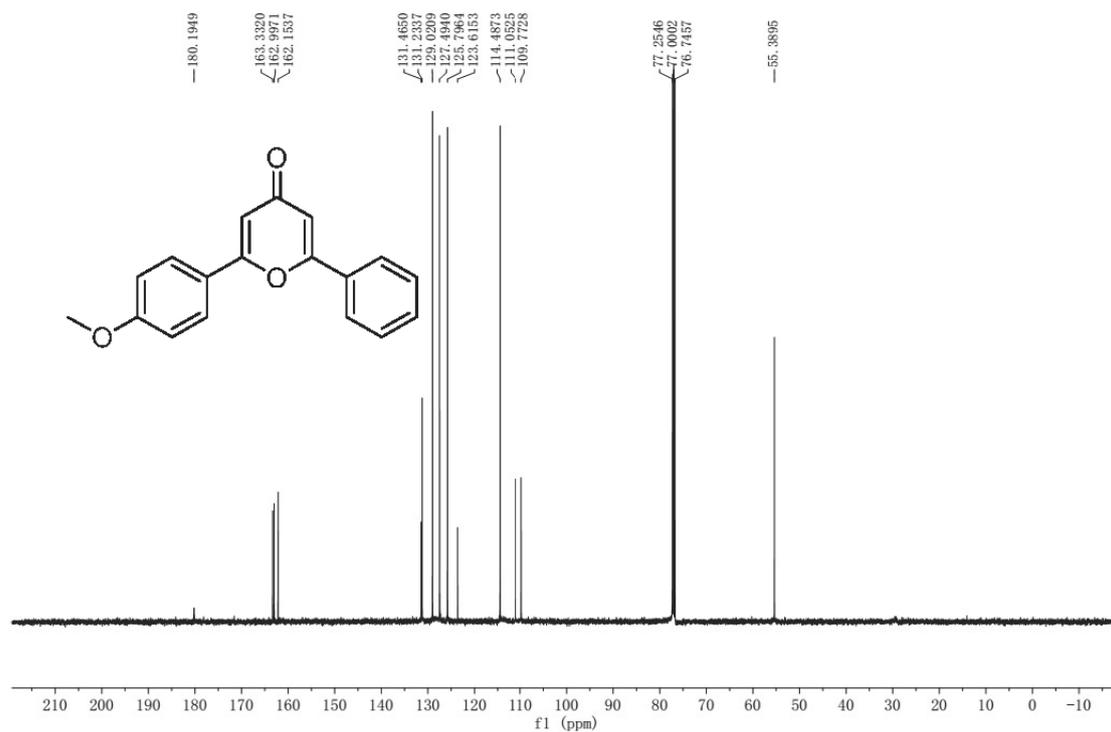
Figure S15. ¹H-NMR Spectra of 2h.Figure S16. ¹³C-NMR Spectra of 2h.

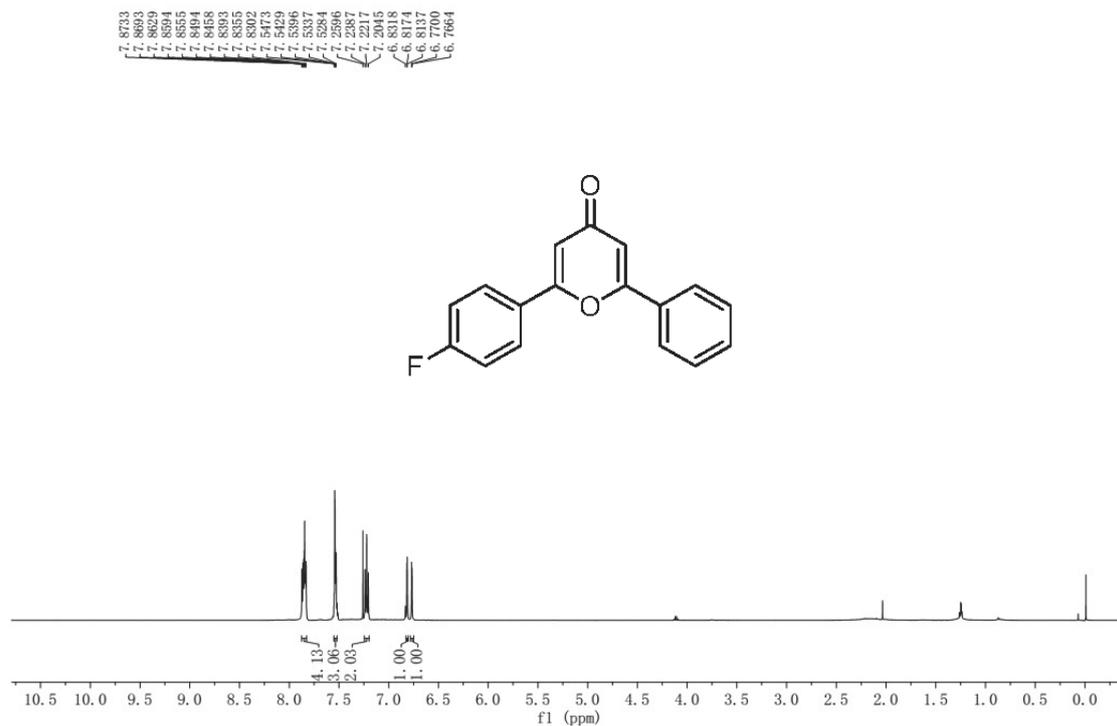
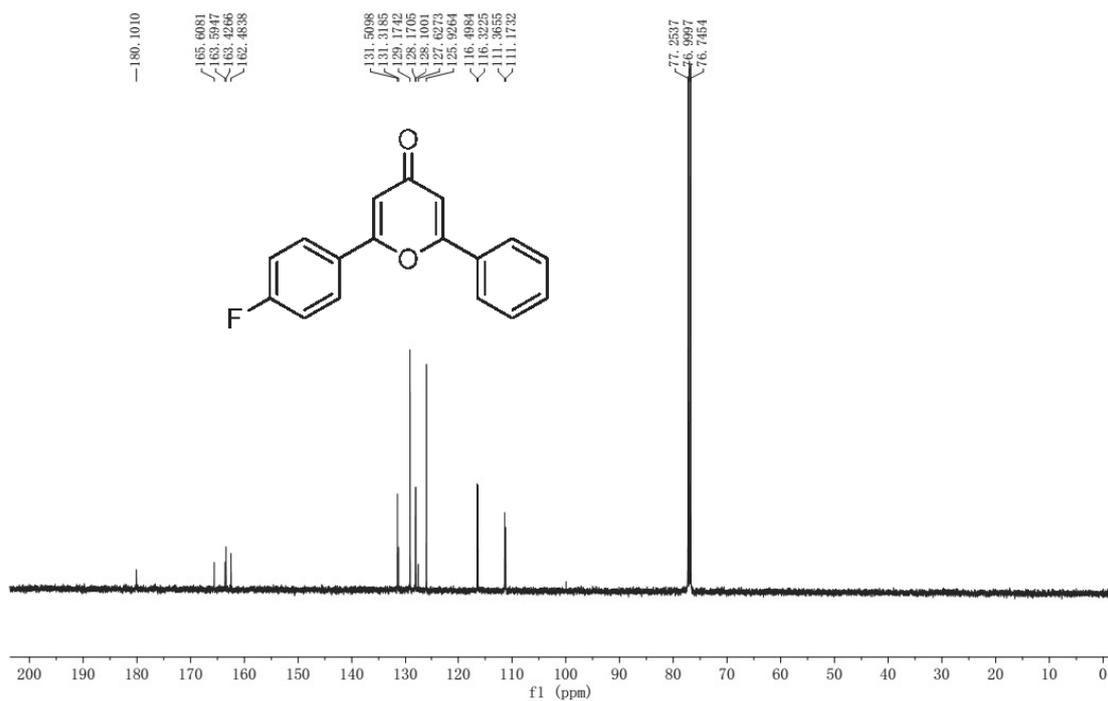
Figure S17. ¹H-NMR Spectra of 2i.Figure S18. ¹³C-NMR Spectra of 2i.

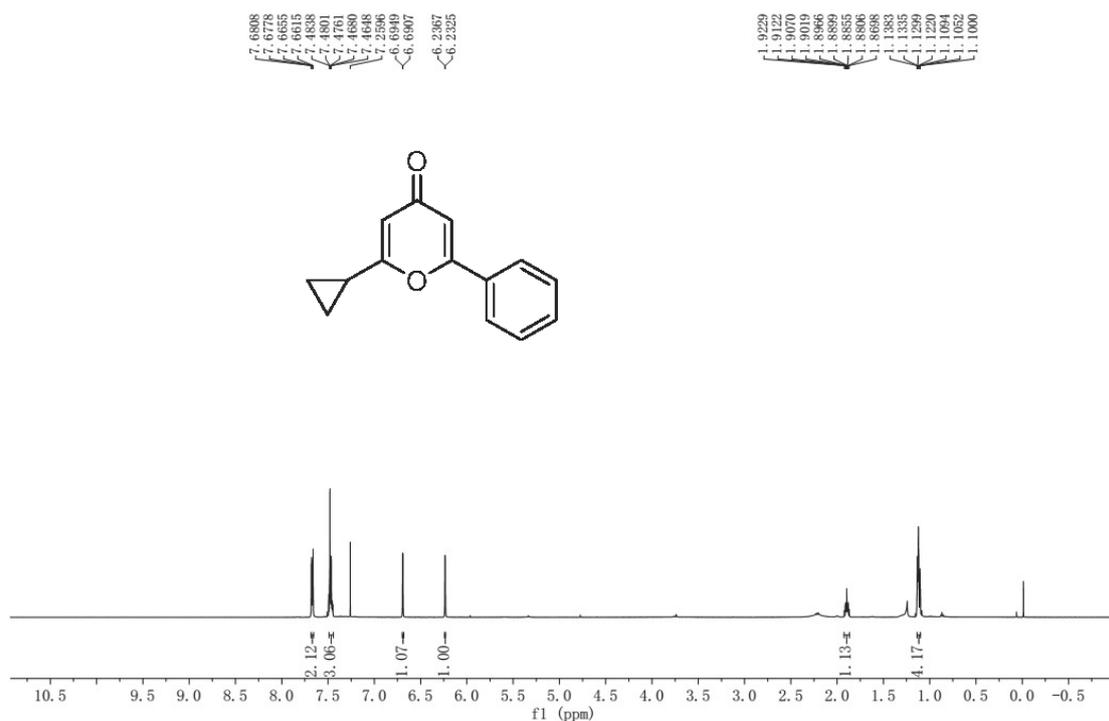
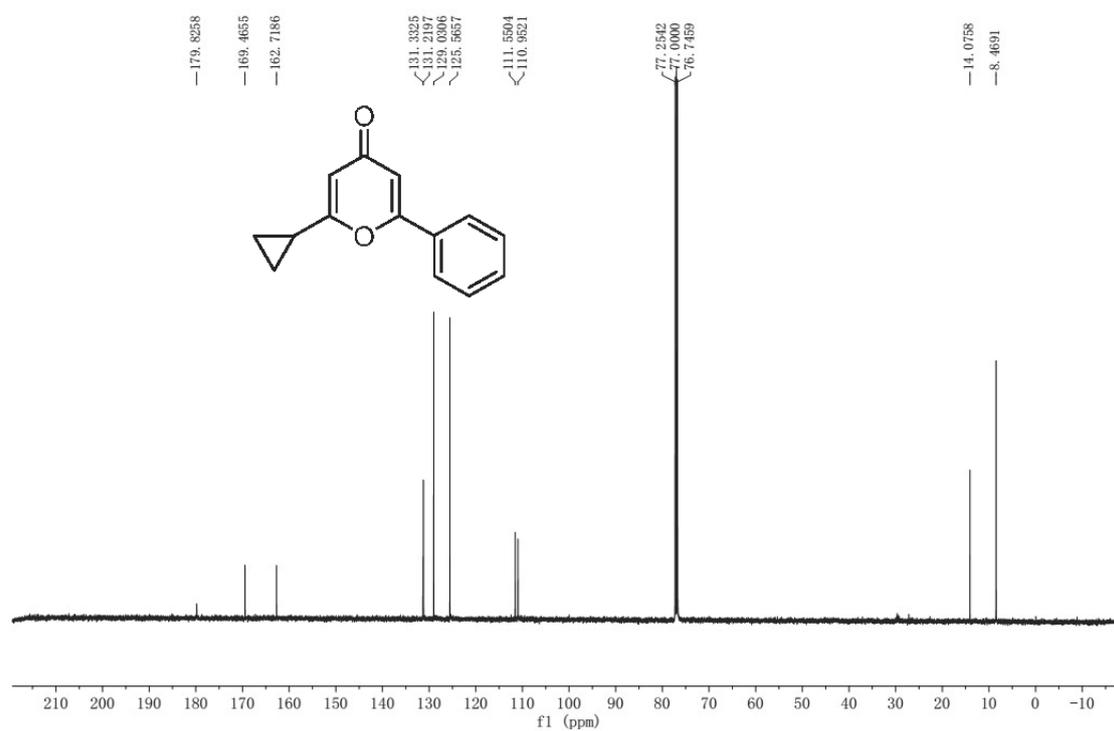
Figure S19. ¹H-NMR Spectra of 2j.Figure S20. ¹³C-NMR Spectra of 2j.

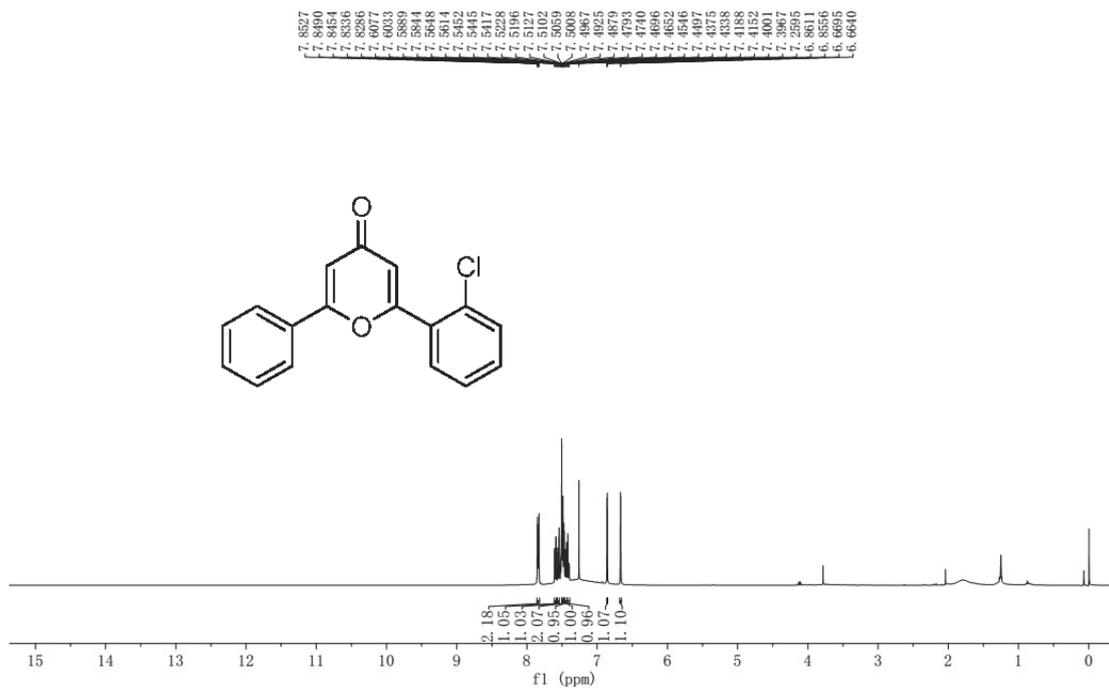
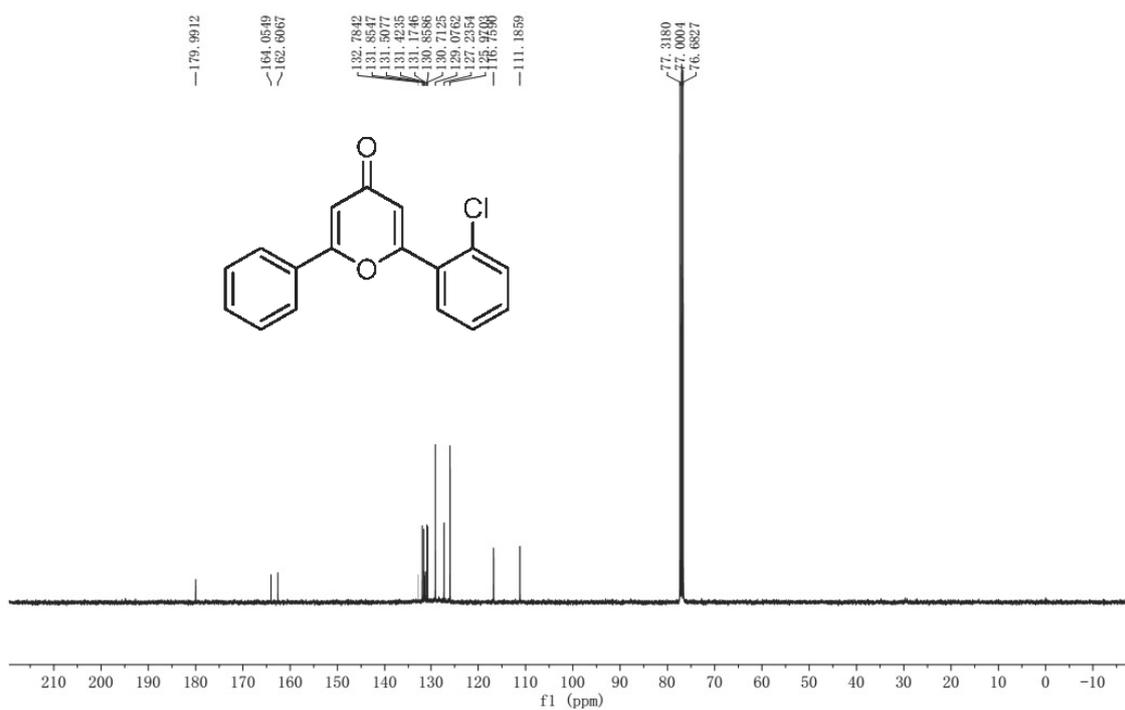
Figure S21. ¹H-NMR Spectra of 2k.Figure S22. ¹³C-NMR Spectra of 2k.

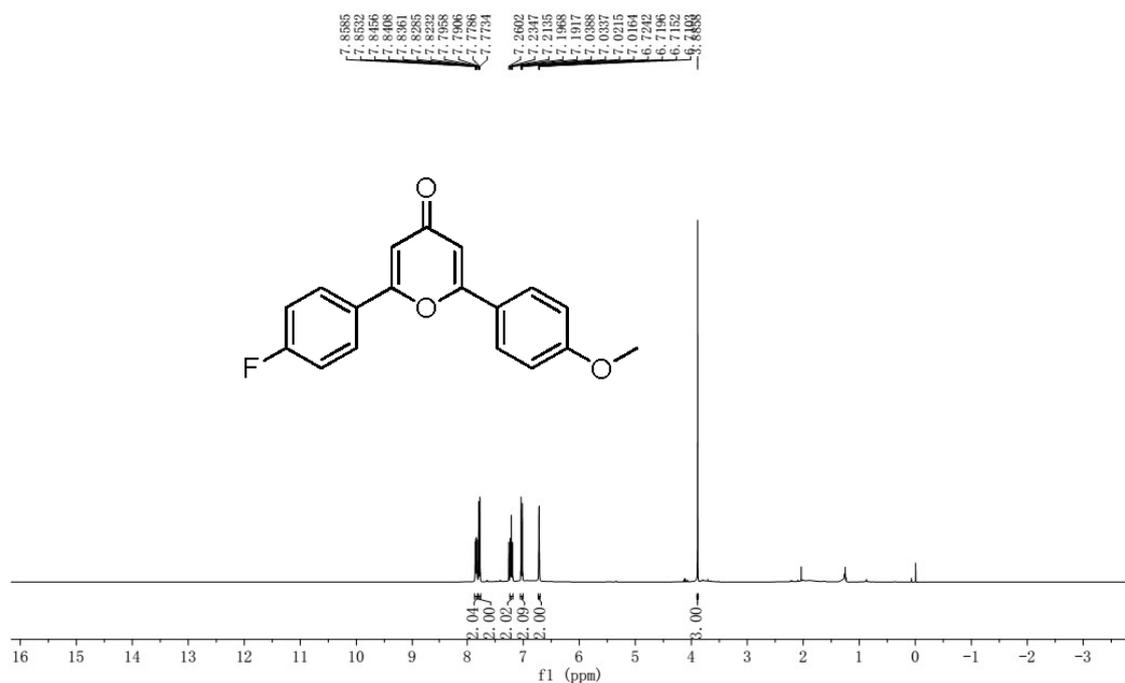
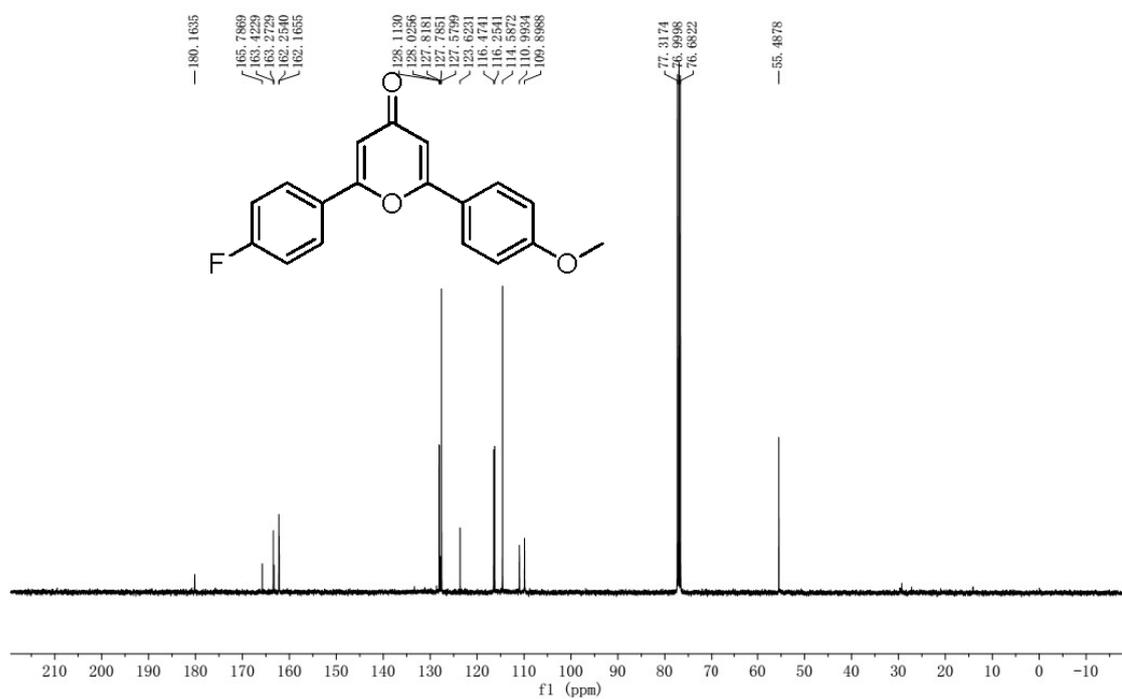
Figure S23. ¹H-NMR Spectra of 21.Figure S24. ¹³C-NMR Spectra of 21.

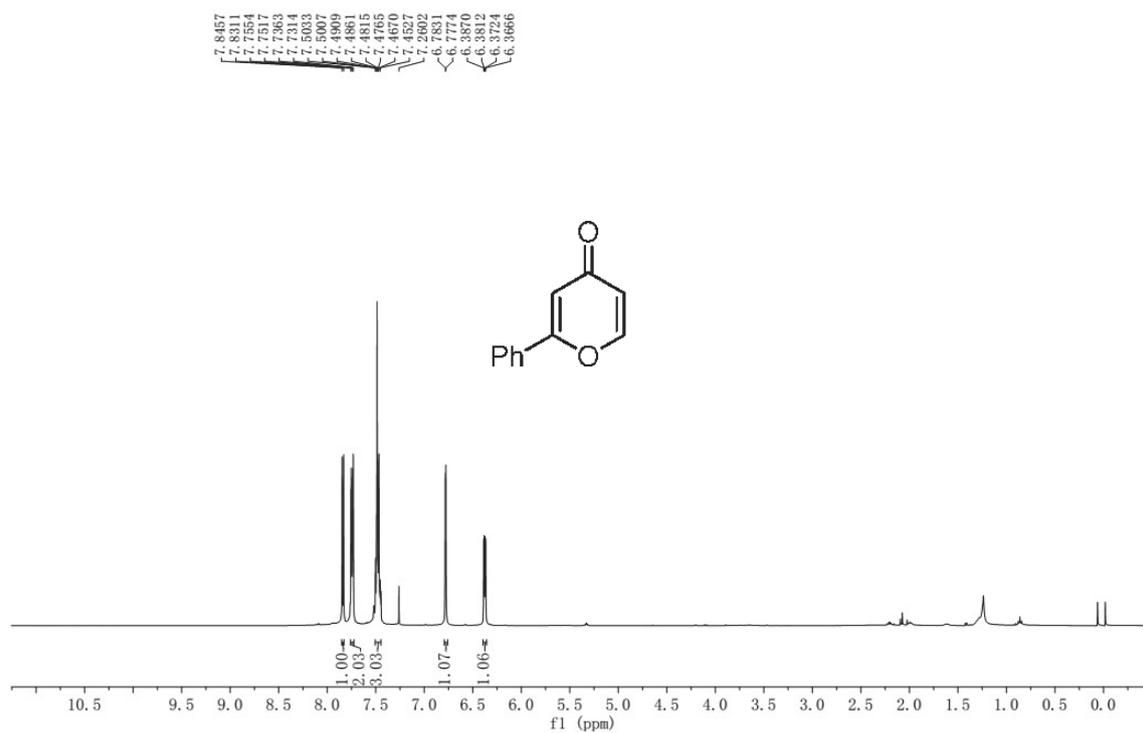
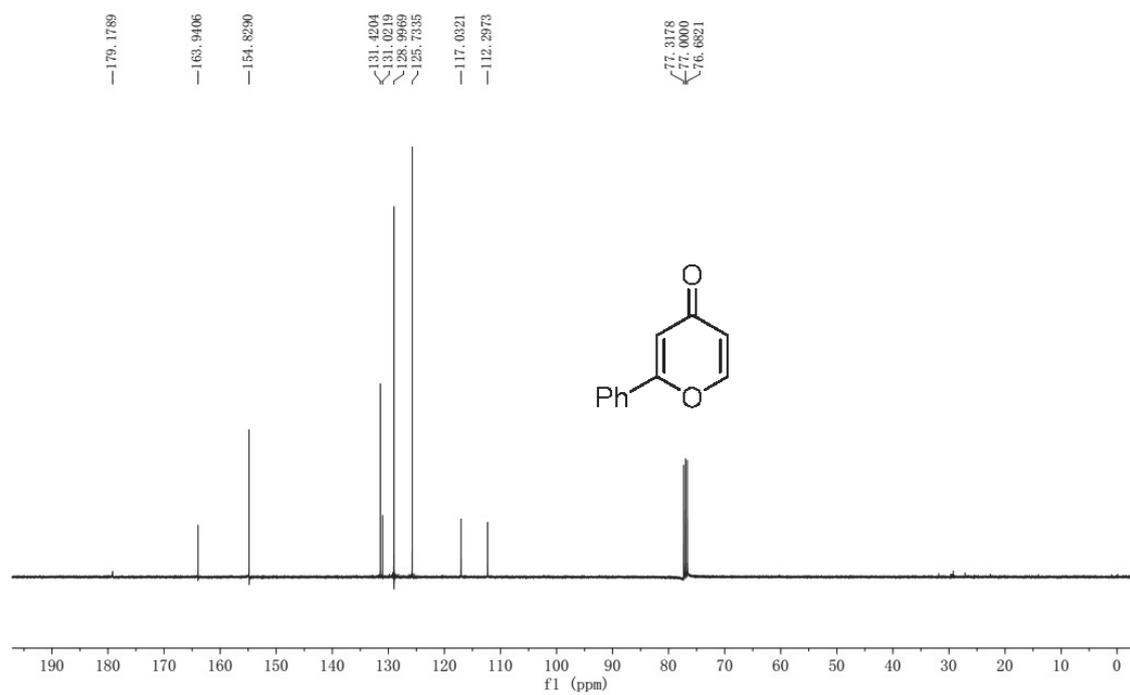
Figure S25. ¹H-NMR Spectra of 2m.Figure S26. ¹³C-NMR Spectra of 2m.

Figure S27. ¹H-NMR Spectra of 2n.Figure S28. ¹³C-NMR Spectra of 2n.

Figure S29. ¹H-NMR Spectra of 2o.Figure S30. ¹³C-NMR Spectra of 2o.

Figure S31. ¹H-NMR Spectra of 2p.Figure S32. ¹³C-NMR Spectra of 2p.

Figure S33. ¹H-NMR Spectra of 2q.Figure S34. ¹³C-NMR Spectra of 2q.

Figure S35. ¹H-NMR Spectra of 2r.Figure S36. ¹³C-NMR Spectra of 2r.

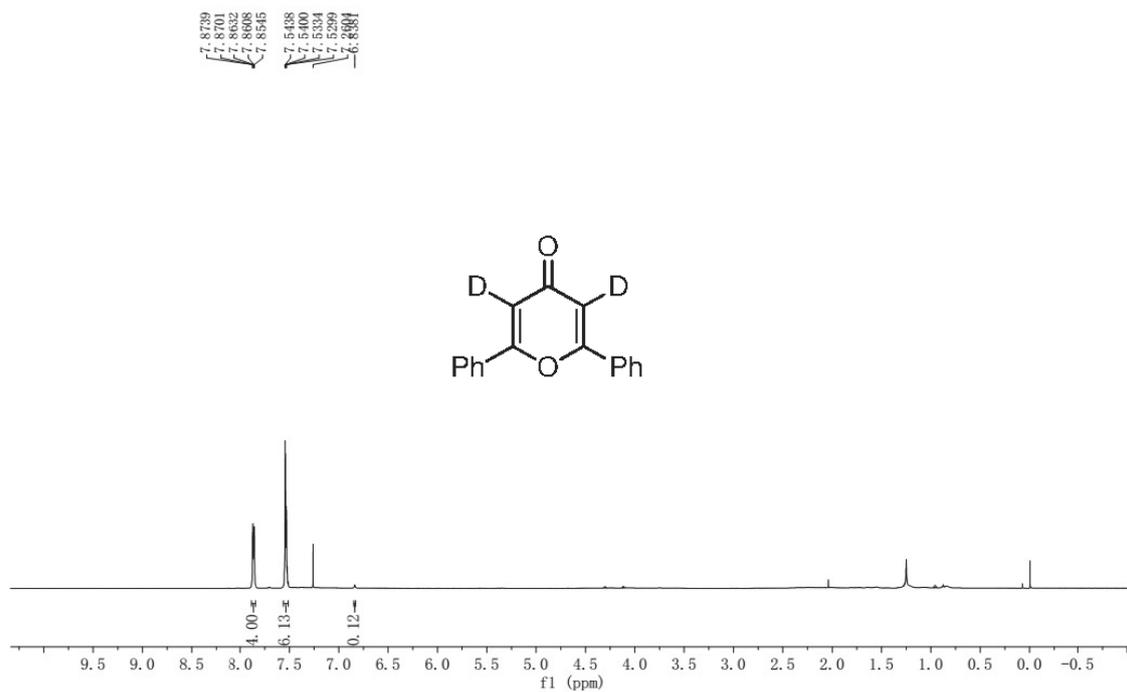


Figure S37. ¹H-NMR Spectra of 2a-d.

2. Copies of HRMS Spectra of Products

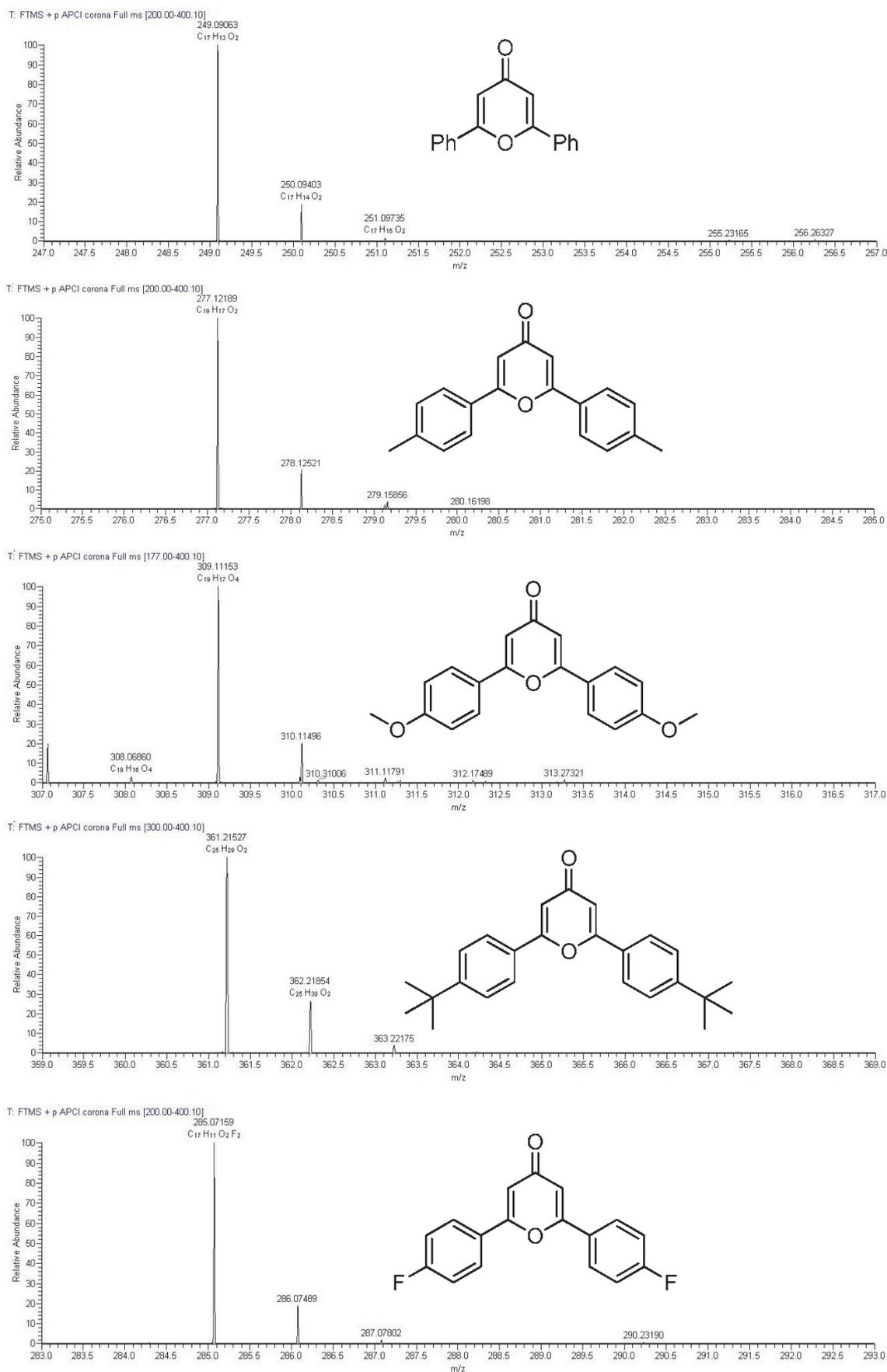


Figure S38. HRMS Spectra of 2a, 2b, 2c, 2d, 2e.

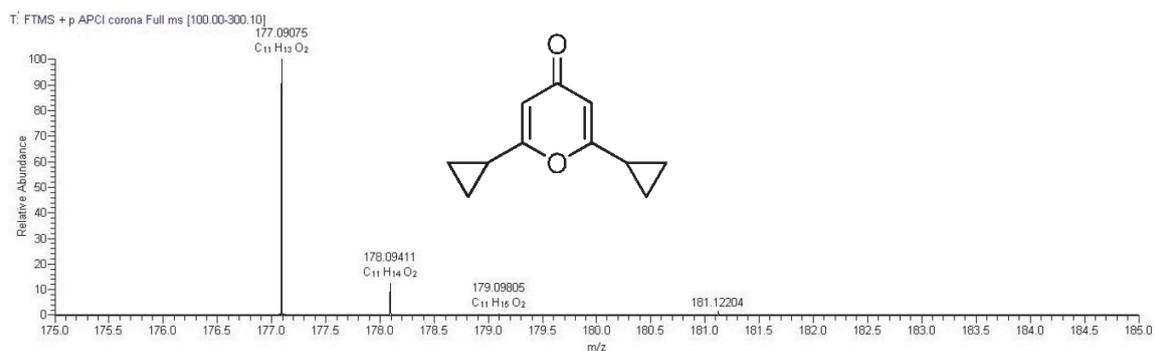
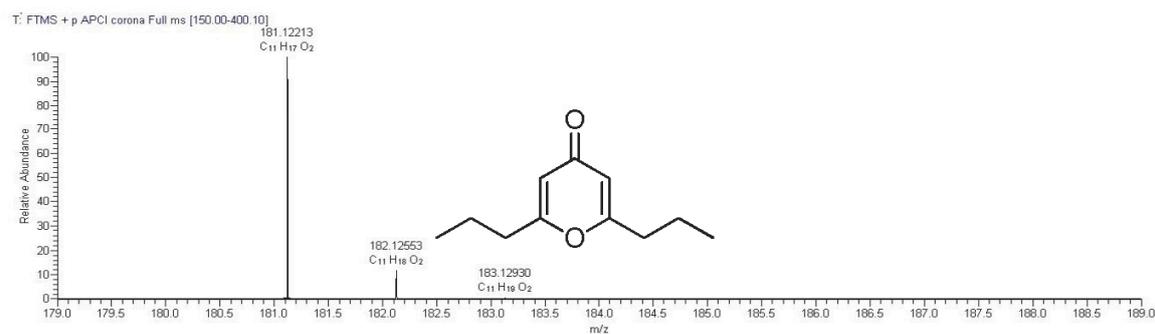
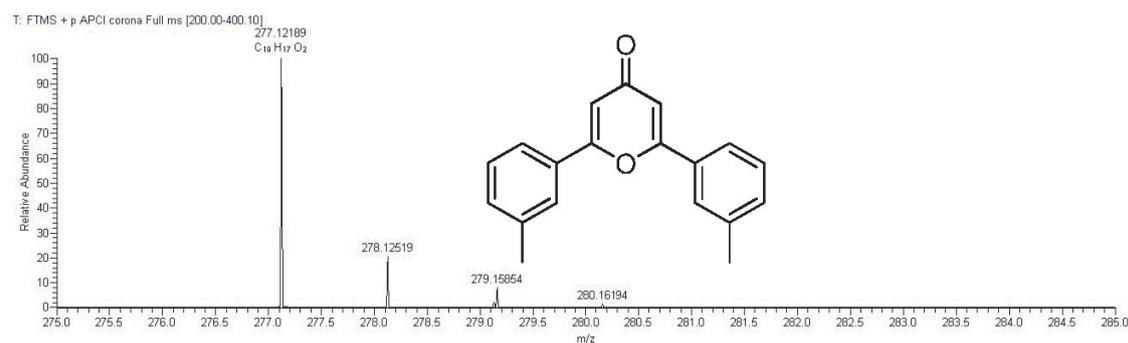
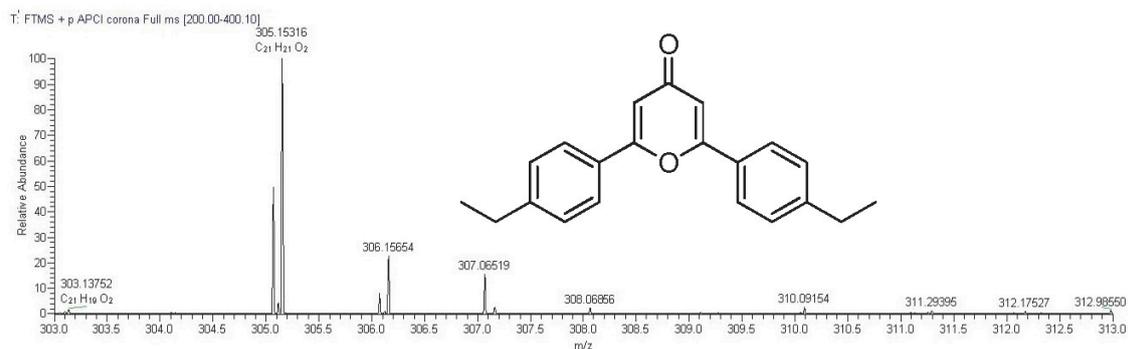
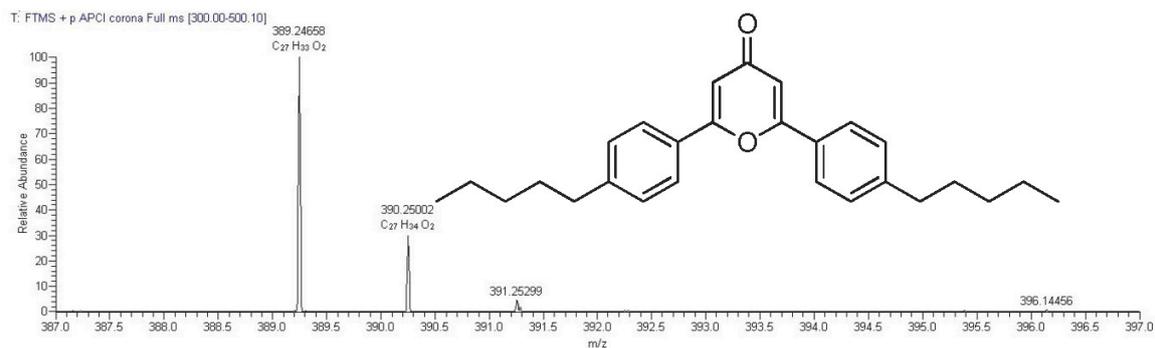


Figure S39. HRMS Spectra of 2f, 2g, 2h, 2i, 2j.

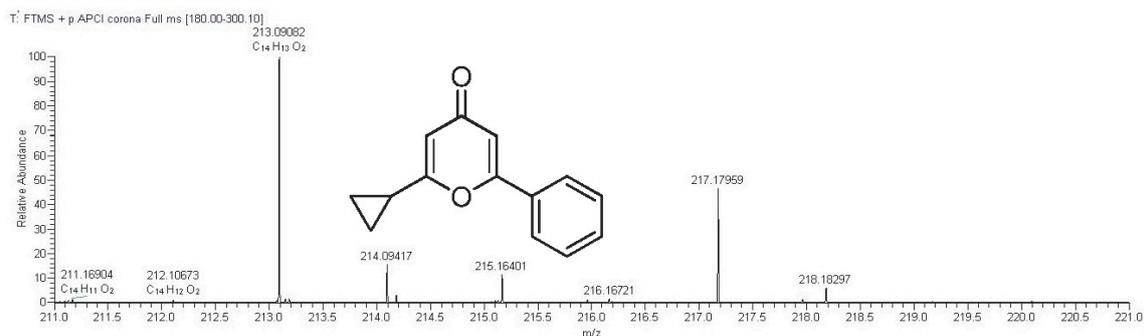
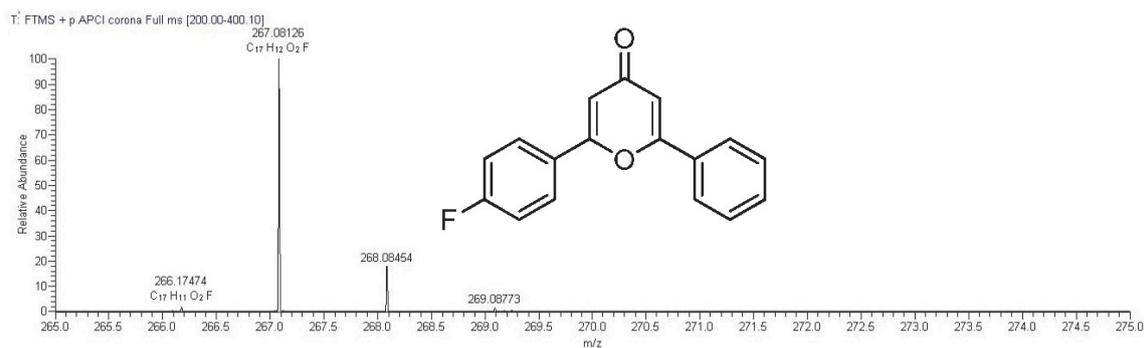
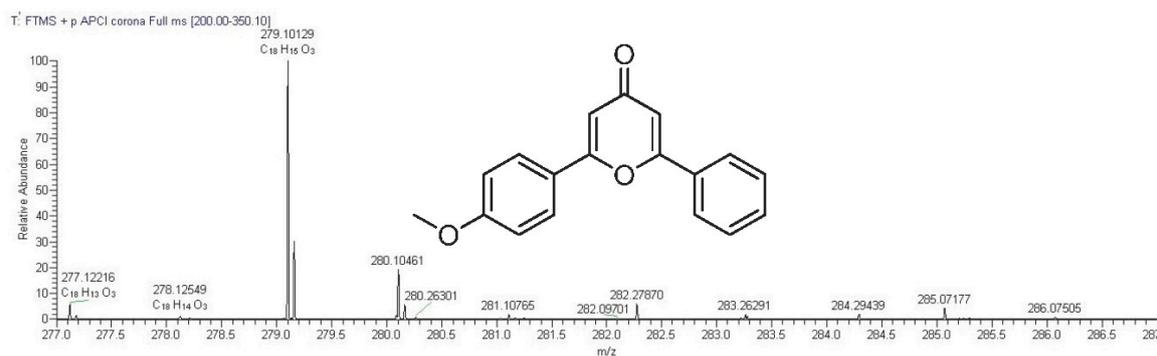
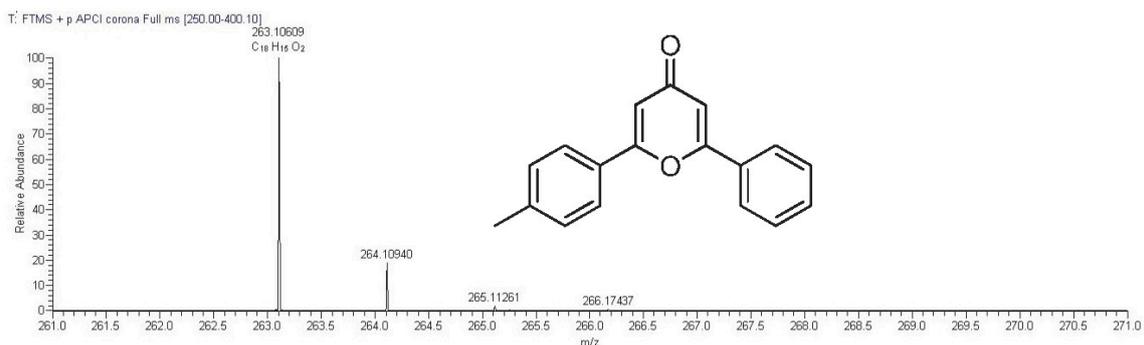
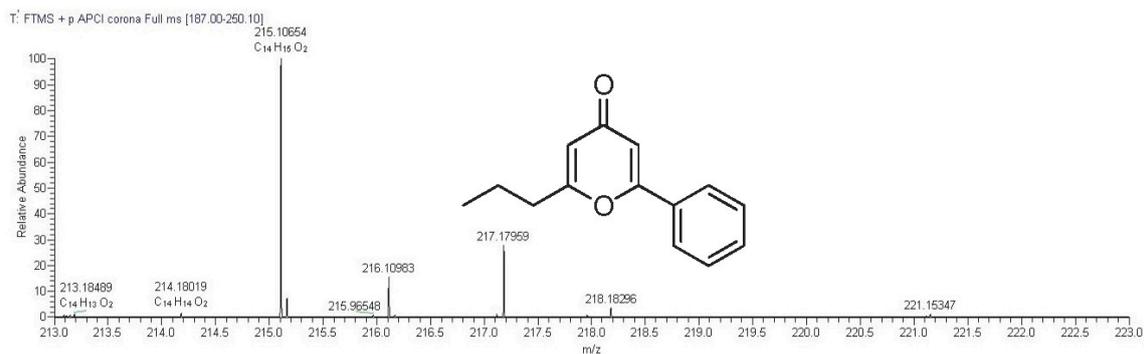
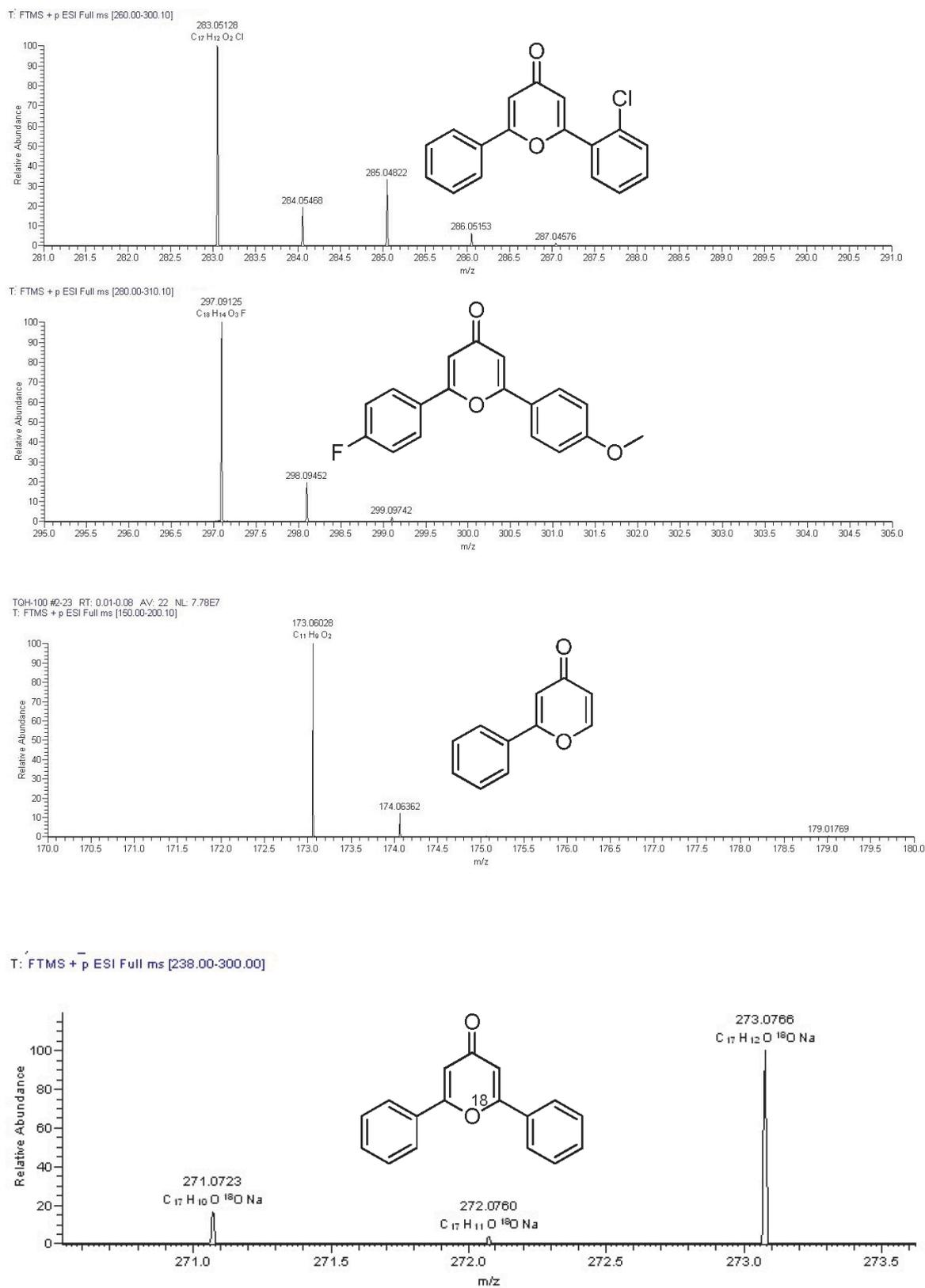


Figure S40. HRMS Spectra of 2k, 2l, 2m, 2n, 2o.

Figure S41. HRMS Spectra of 2p, 2q, 2r, O¹⁸-2a.