Synthesis of 4-Hydroxyquinolines as Potential Cytotoxic Agents

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Table S1. Physical-chemical properties of the synthesised 4-hydroxyquinolines.

Compound	Melting point (°C)	Molecular weight [M + H^+]
4a	211–214	218.0808
4b	208–210	232.0964
5	294–297	279.1126
7	>350	331.1441
12	199–202	407.1756
8	221–224	204.0659
9	>350	269.1651
10a	166–169	327.1702
10b	152–155	341.1854
13a	247–251	306.1119
13b	222–225	320.1277
20	257–260	365.1129
21	233–236	338.1182
22	224–227	334.1434
23	215–218	350.1384
24	256–259	363.1700
25	262–265	370.1435
26	177–180	370.1434
28	315–319	290.0808
29	295–298	340.0966
30	>350	340.0966
14	230–233	292.0968

^{1}H NMR, ^{13}C NMR, and HRMS spectra of synthesised compounds

Methyl 2-(4-hydroxyquinolin-2-yl) acetate (4a)

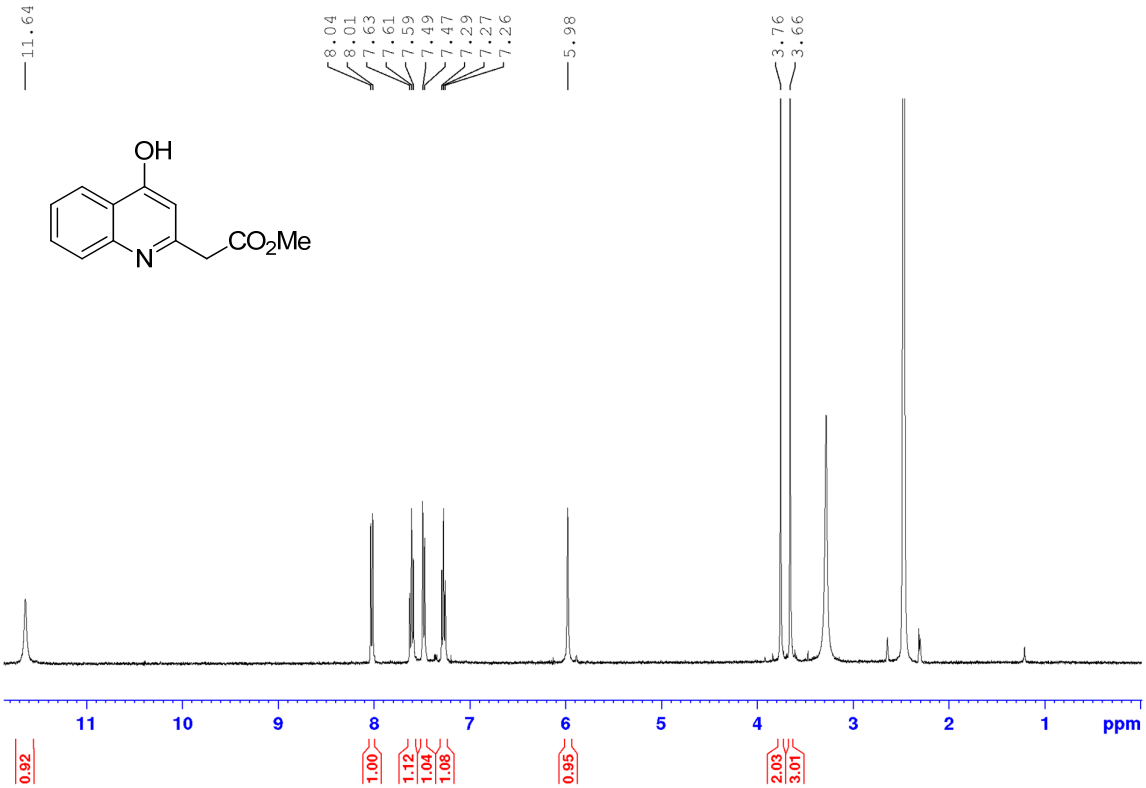

Figure S1. ^{1}H NMR spectrum of **4a**

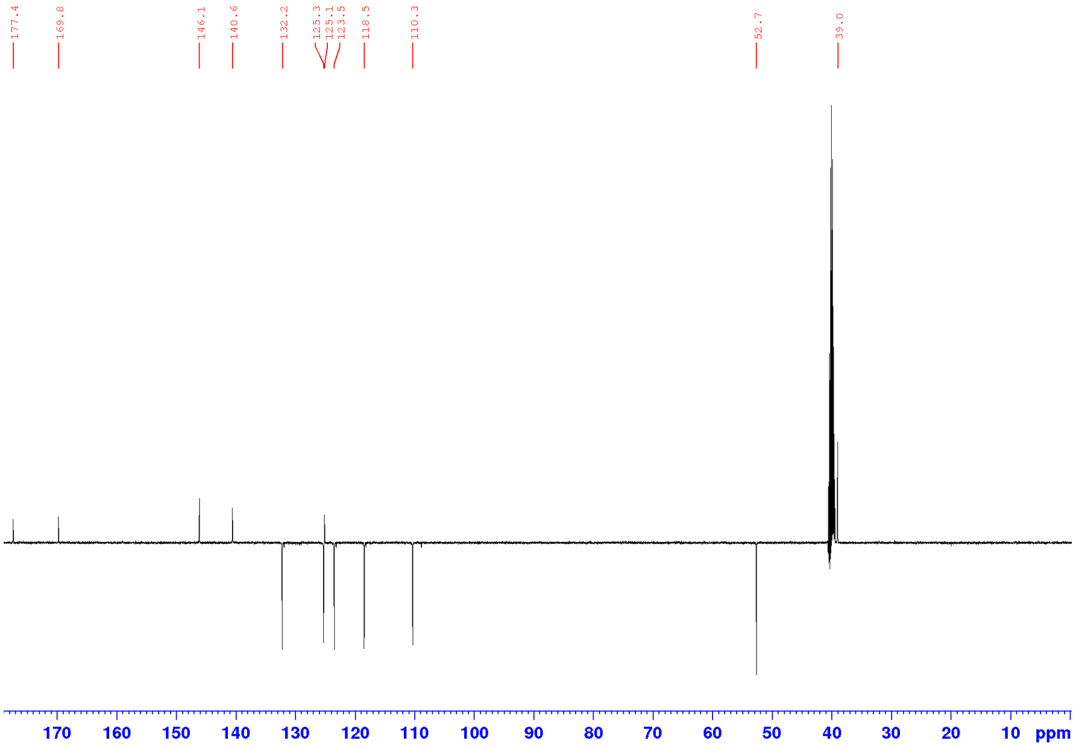

Figure S2. ^{13}C NMR spectrum of **4a**

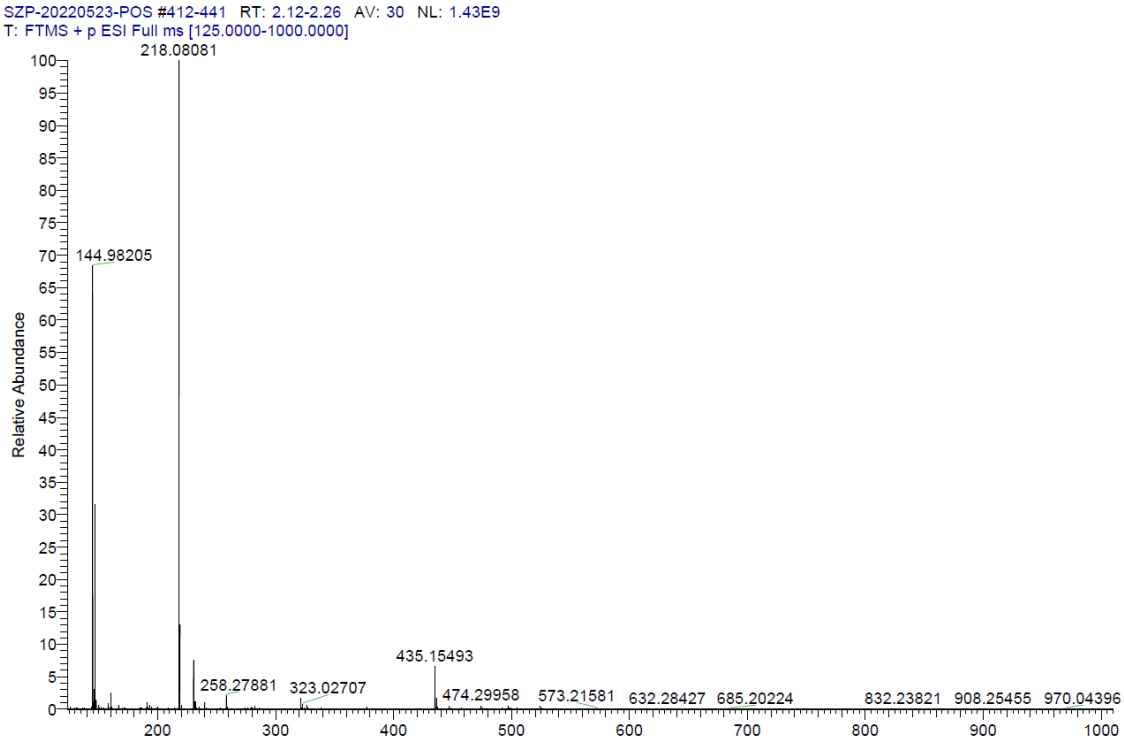

Figure S3. HRMS spectrum of **4a**

Ethyl 2-(4-hydroxyquinolin-2-yl) acetate (4b)

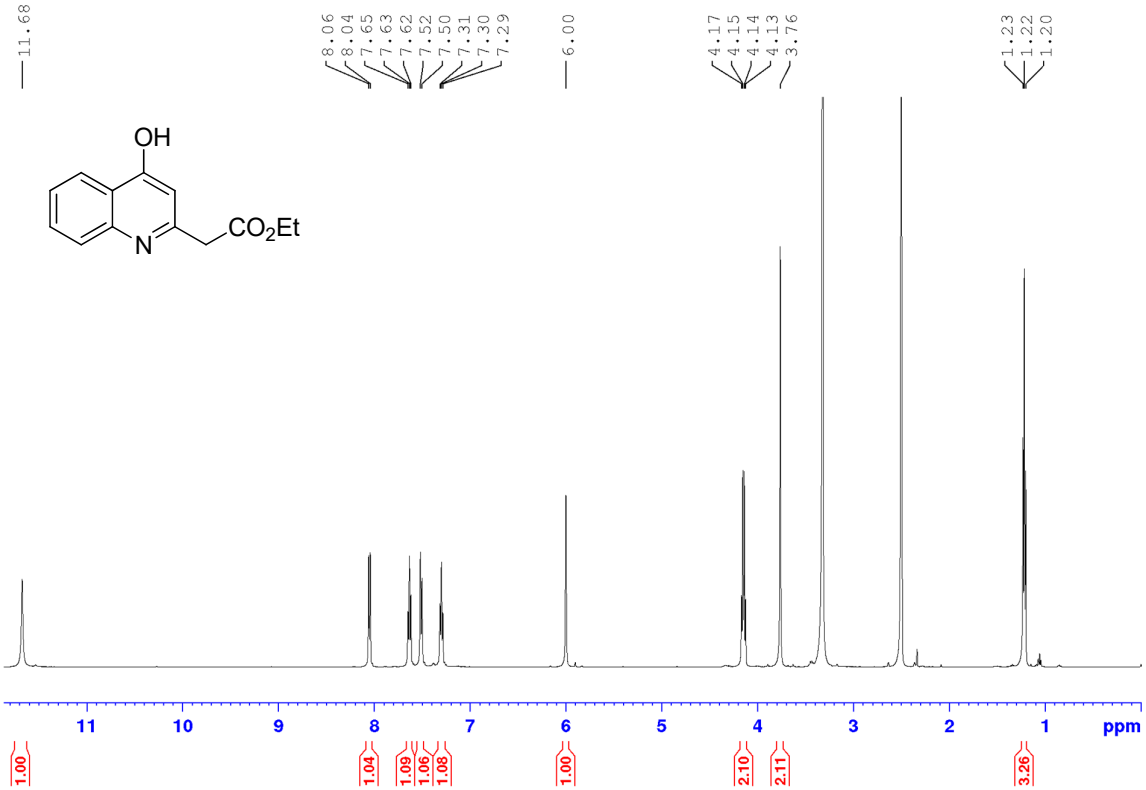

Figure S4. ^{1}H NMR spectrum of **4b**

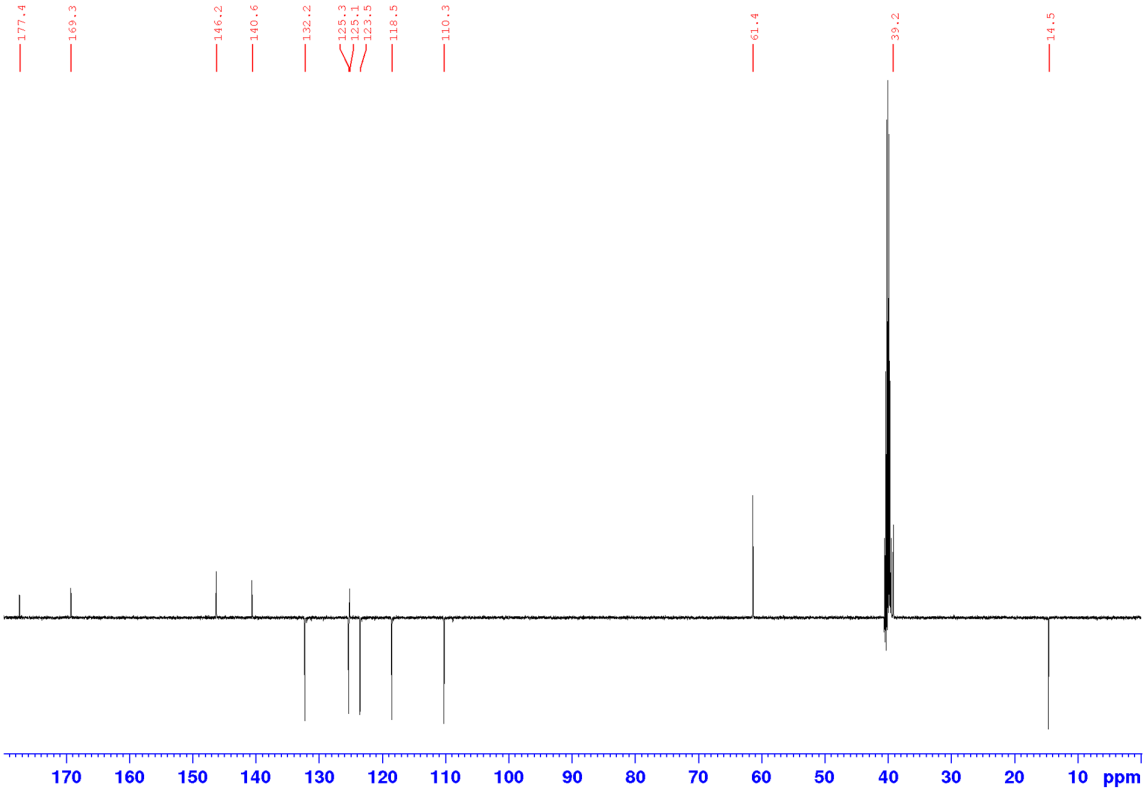

Figure S5. ^{13}C NMR spectrum of **4b**

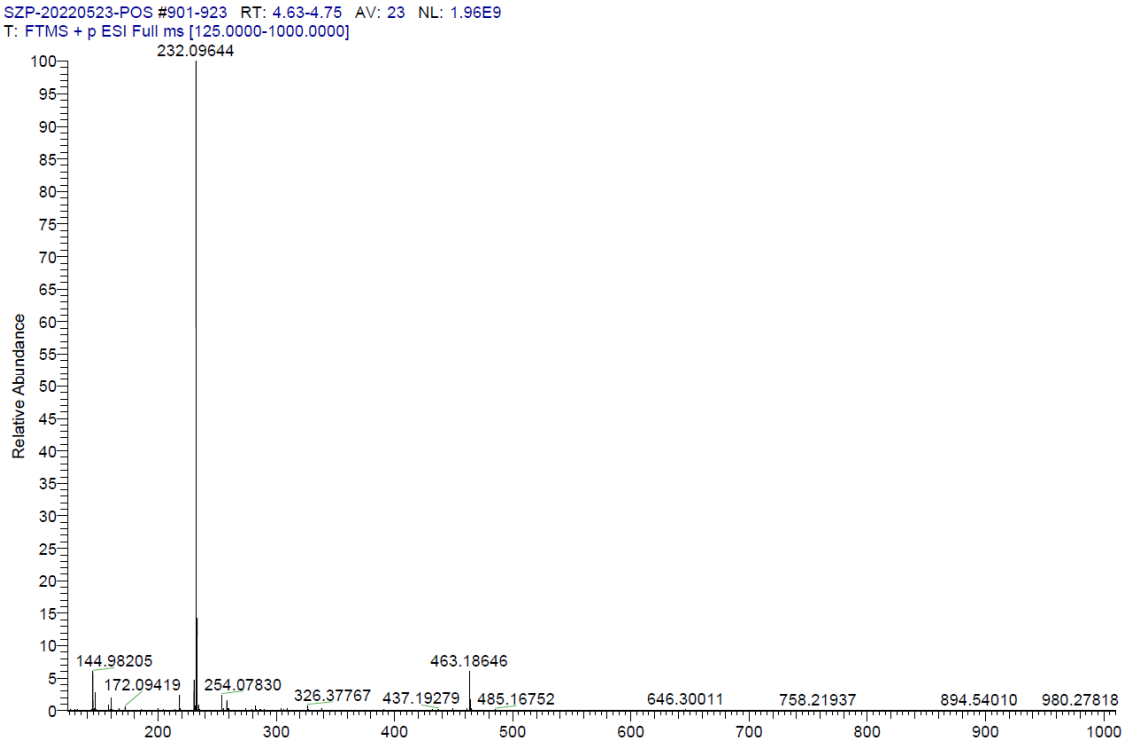

Figure S6. HRMS spectrum of **4b**

1-Phenyl-4-(phenylamino)pyridine-2,6(1*H*,3*H*)-dione (5)

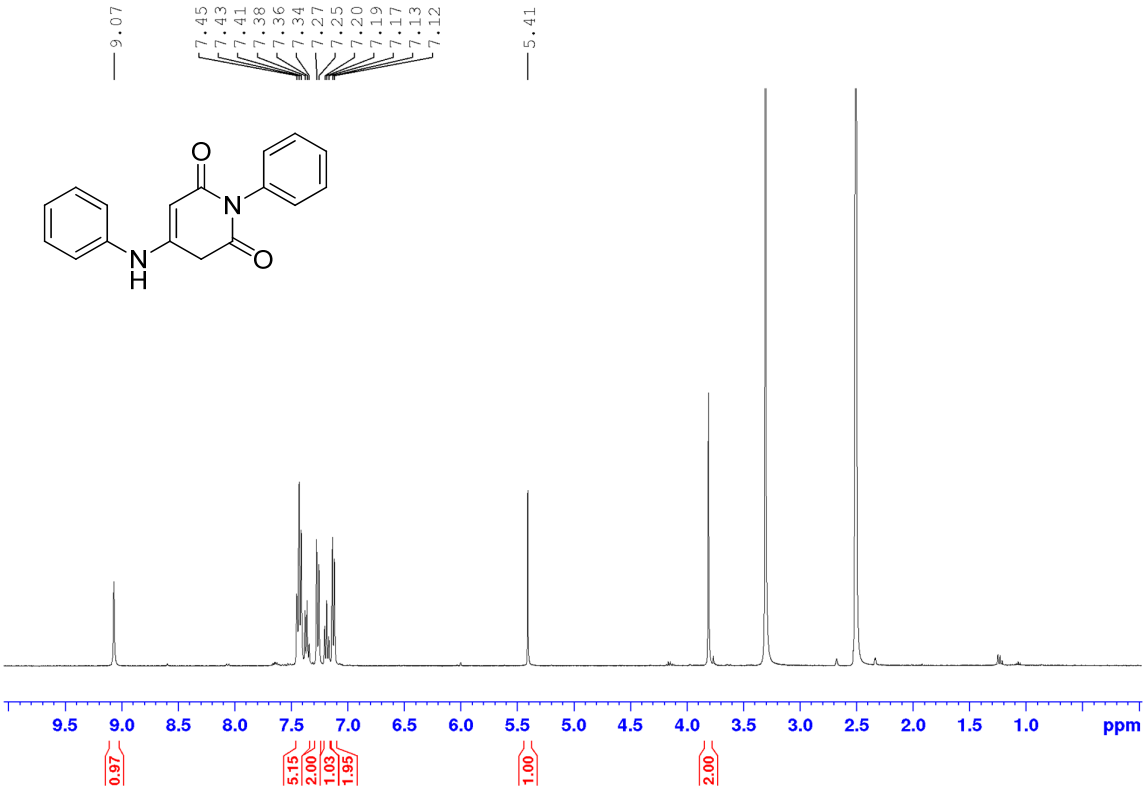

Figure S7. ^{1}H NMR spectrum of **5**

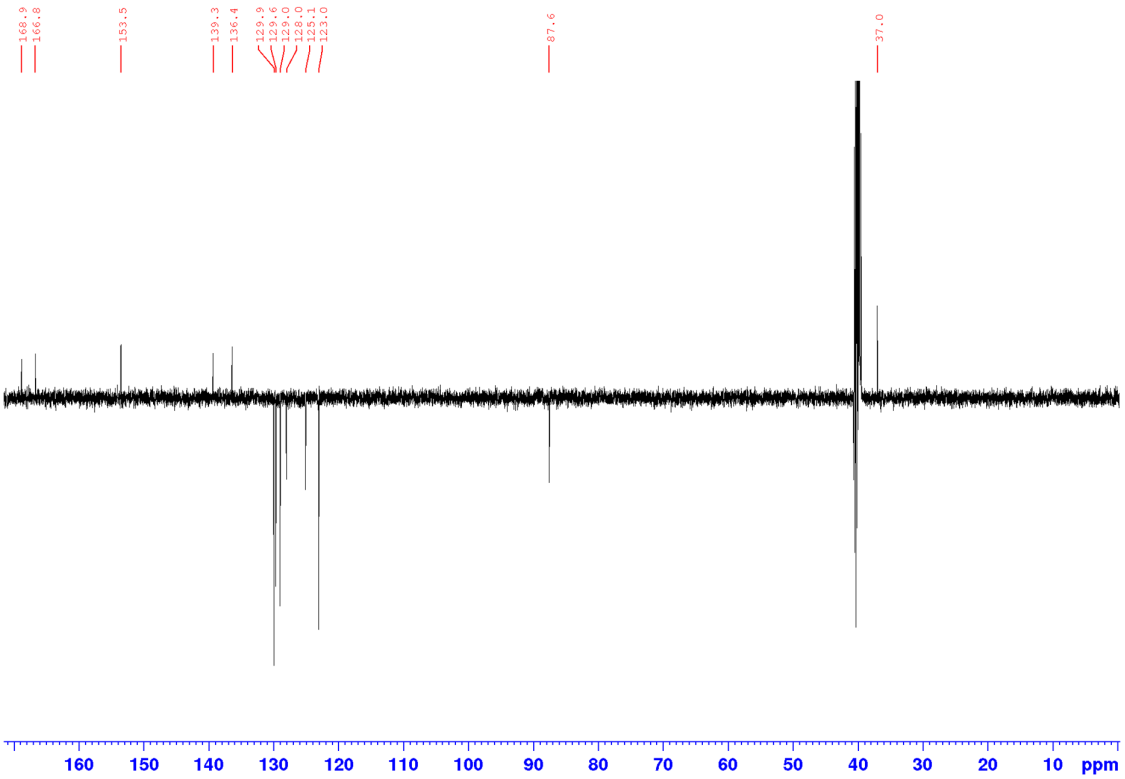

Figure S8. ^{13}C NMR spectrum of **5**

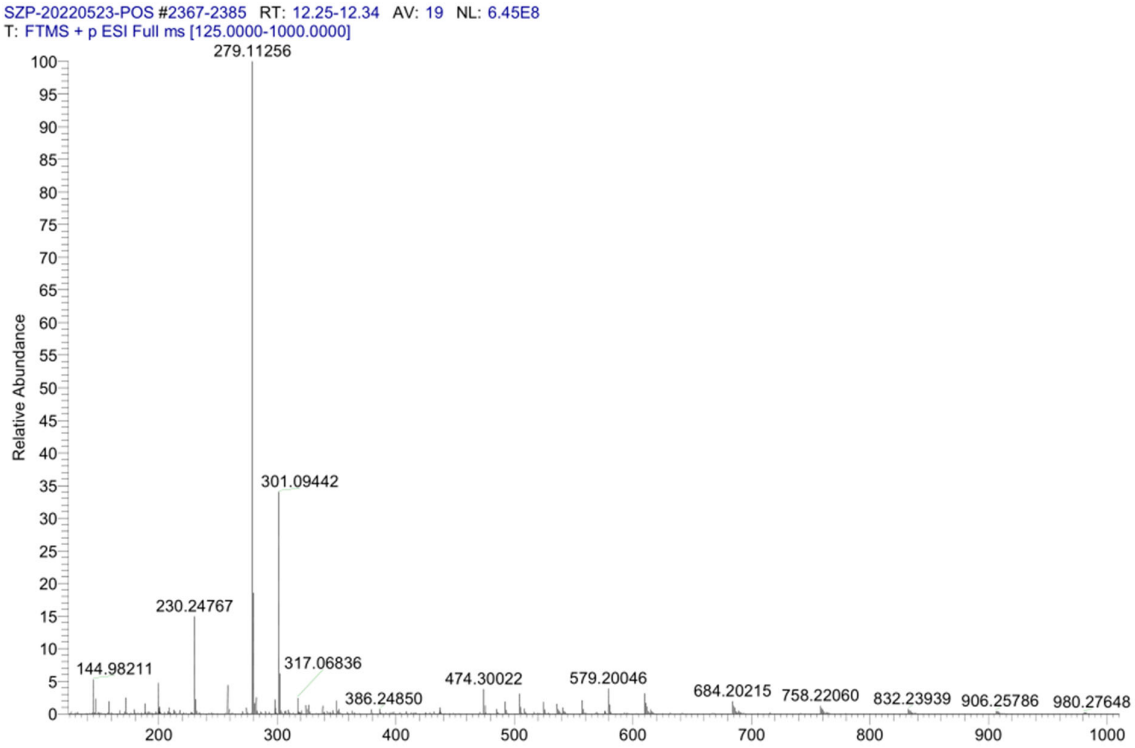

Figure S9. HRMS spectrum of **5**

2,2'-(Propane-1,3-diyl)bis(quinolin-4-ol) (7)

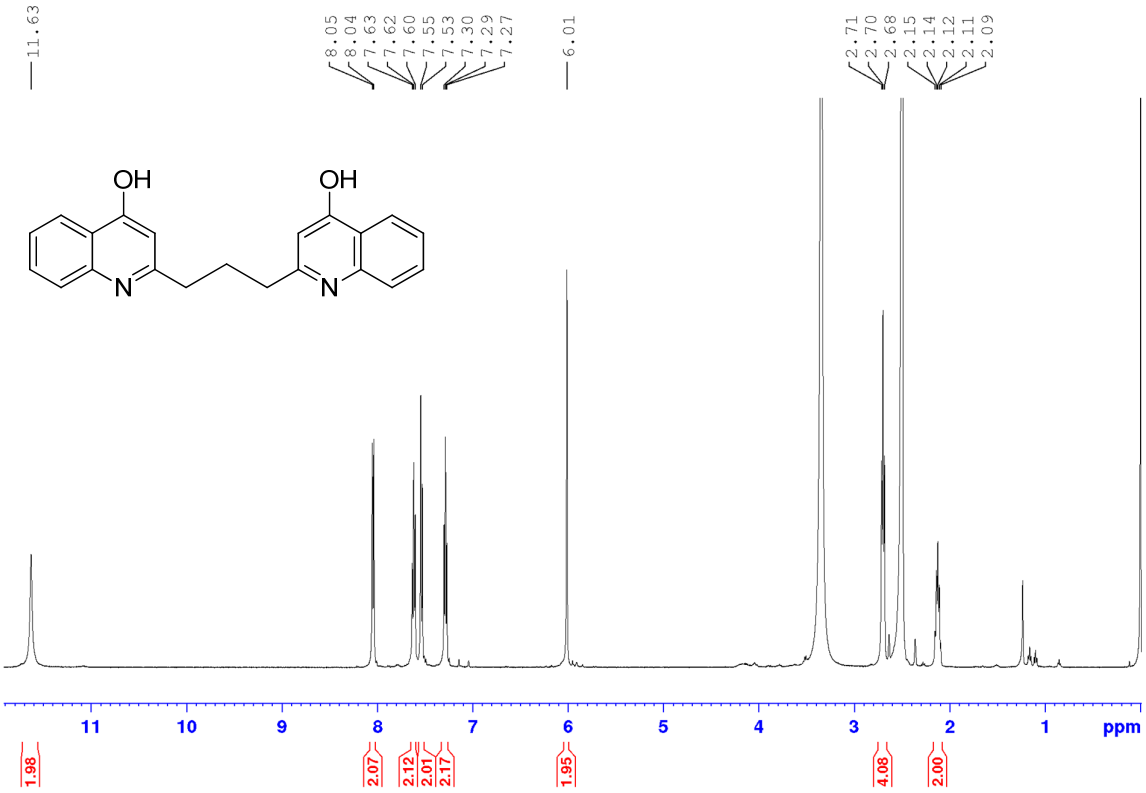

Figure S10. ^{1}H NMR spectrum of **7**

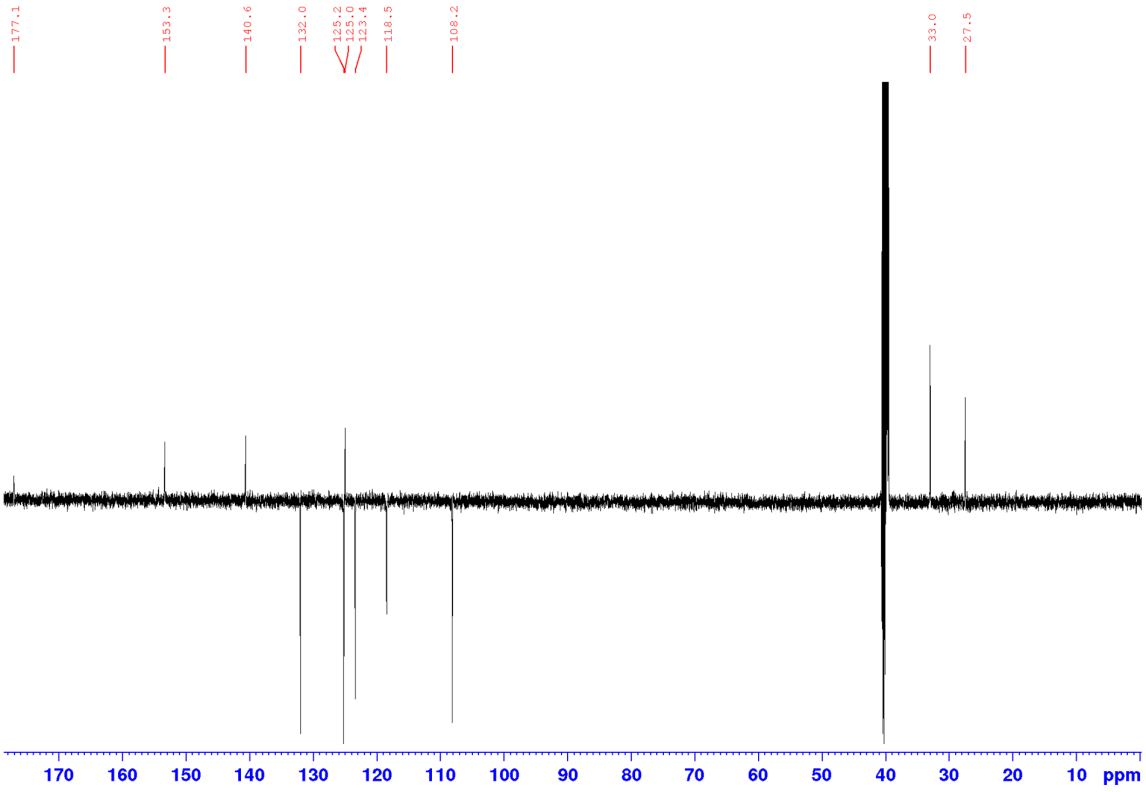

Figure S11. ^{13}C NMR spectrum of **7**

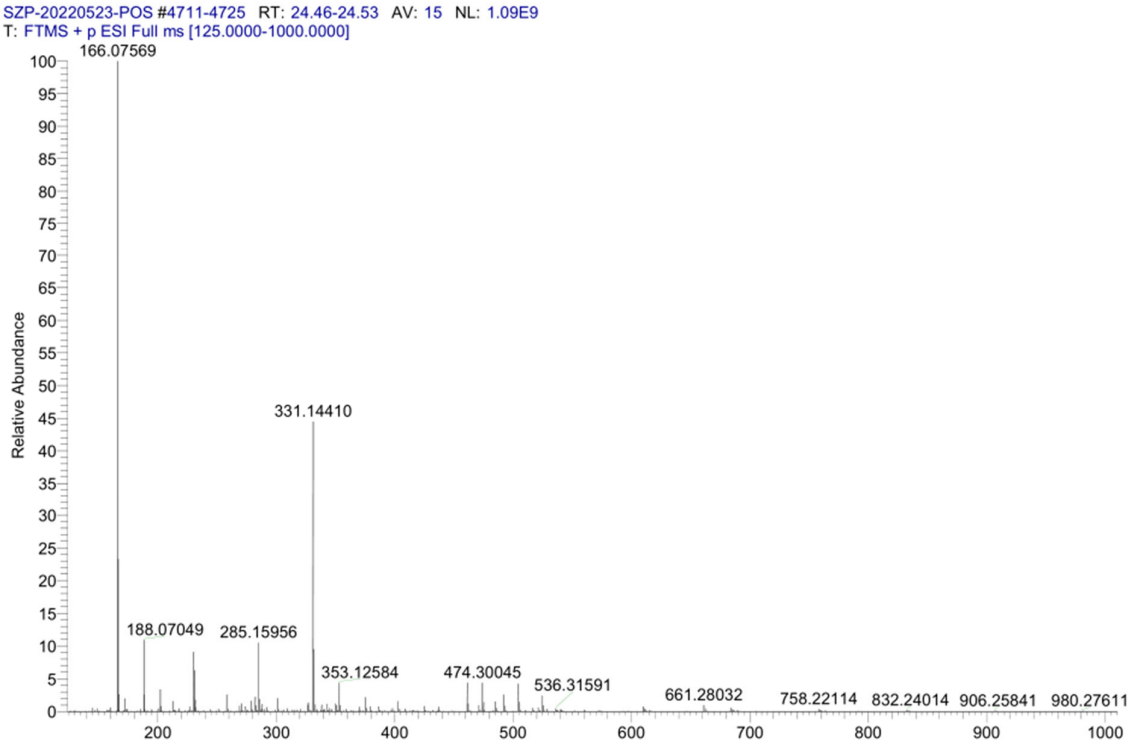

Figure S12. HRMS spectrum of **7**

2,2'-(2-Phenylpropane-1,3-diyl)bis(quinolin-4-ol) (12)

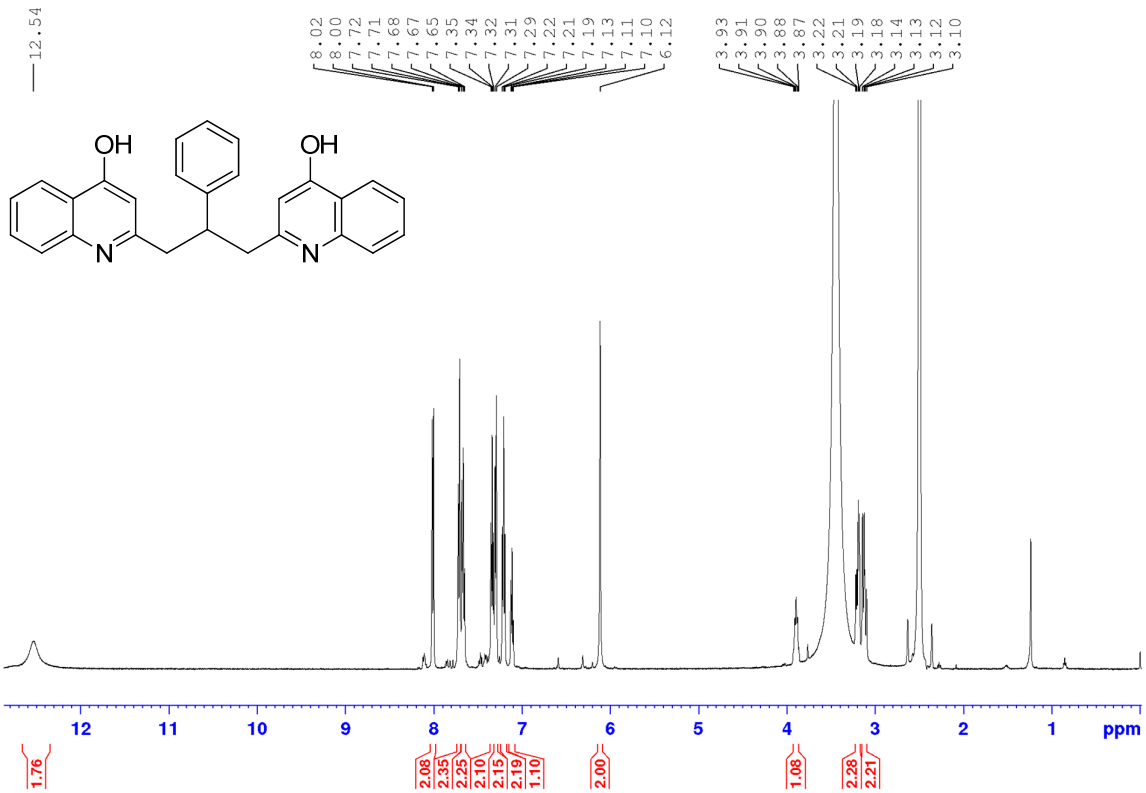

Figure S13. ^{1}H NMR spectrum of **12**

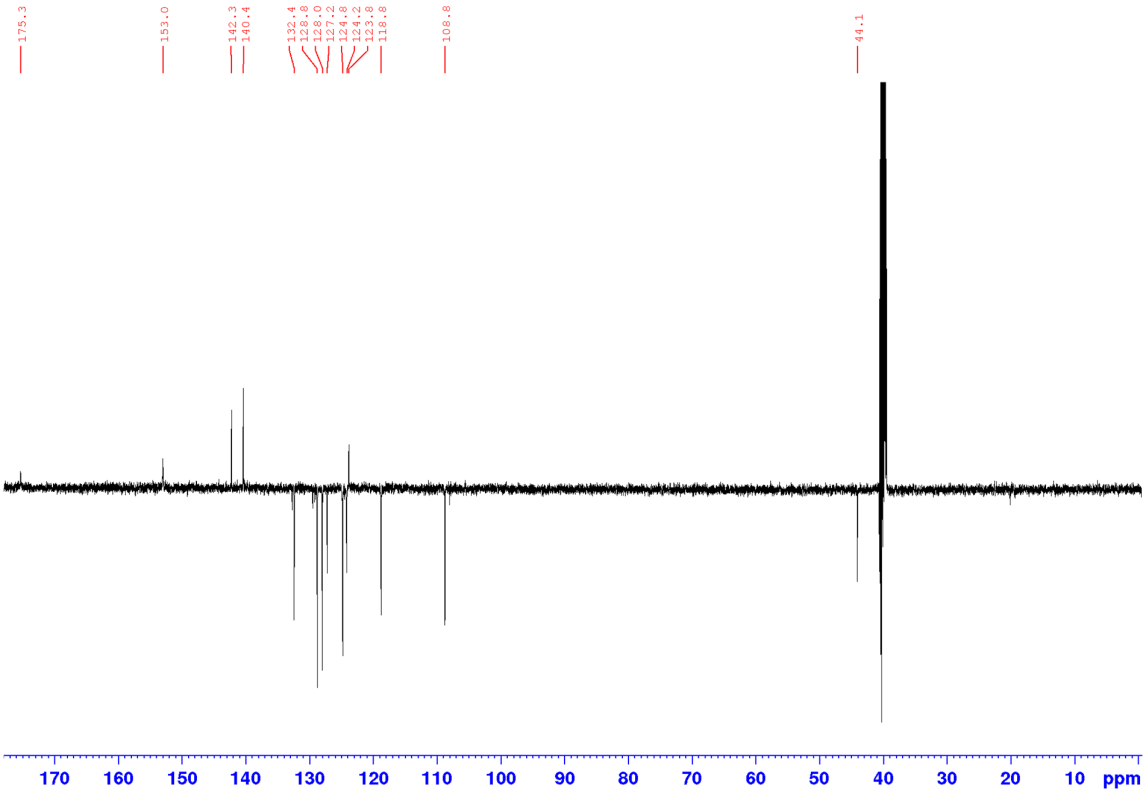

Figure S14. ^{13}C NMR spectrum of **12**

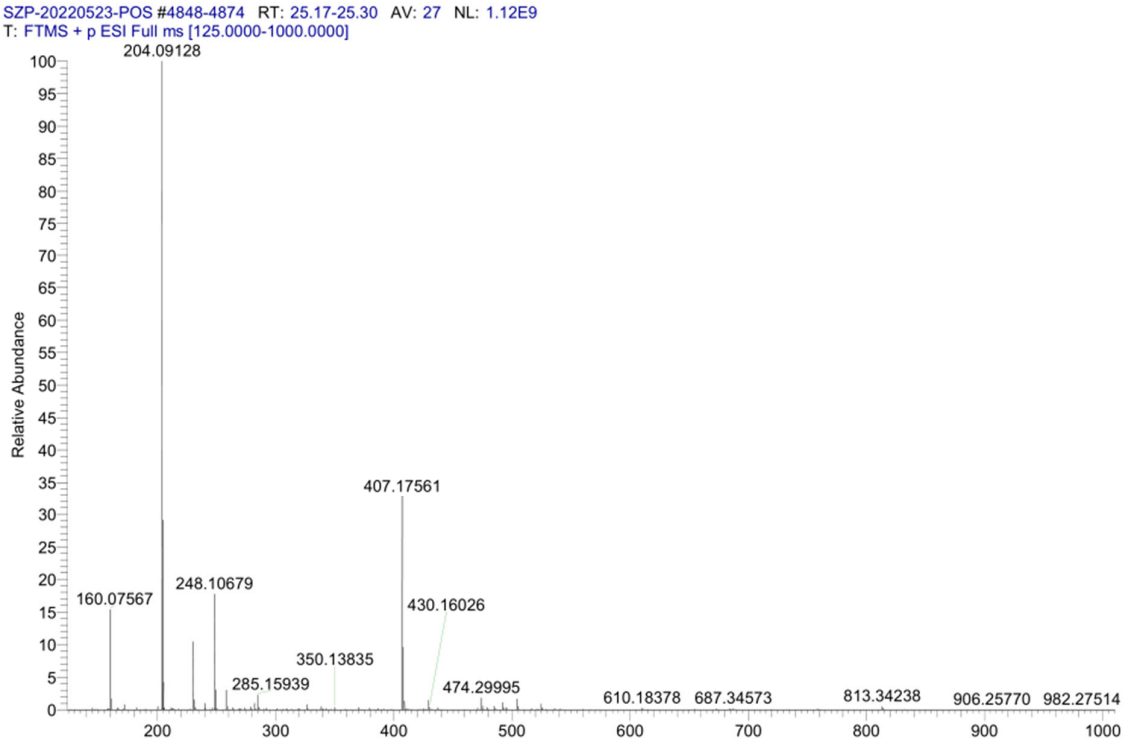

Figure S15. HRMS spectrum of **12**

2-(4-hydroxyquinolin-2-yl)acetic acid (8)

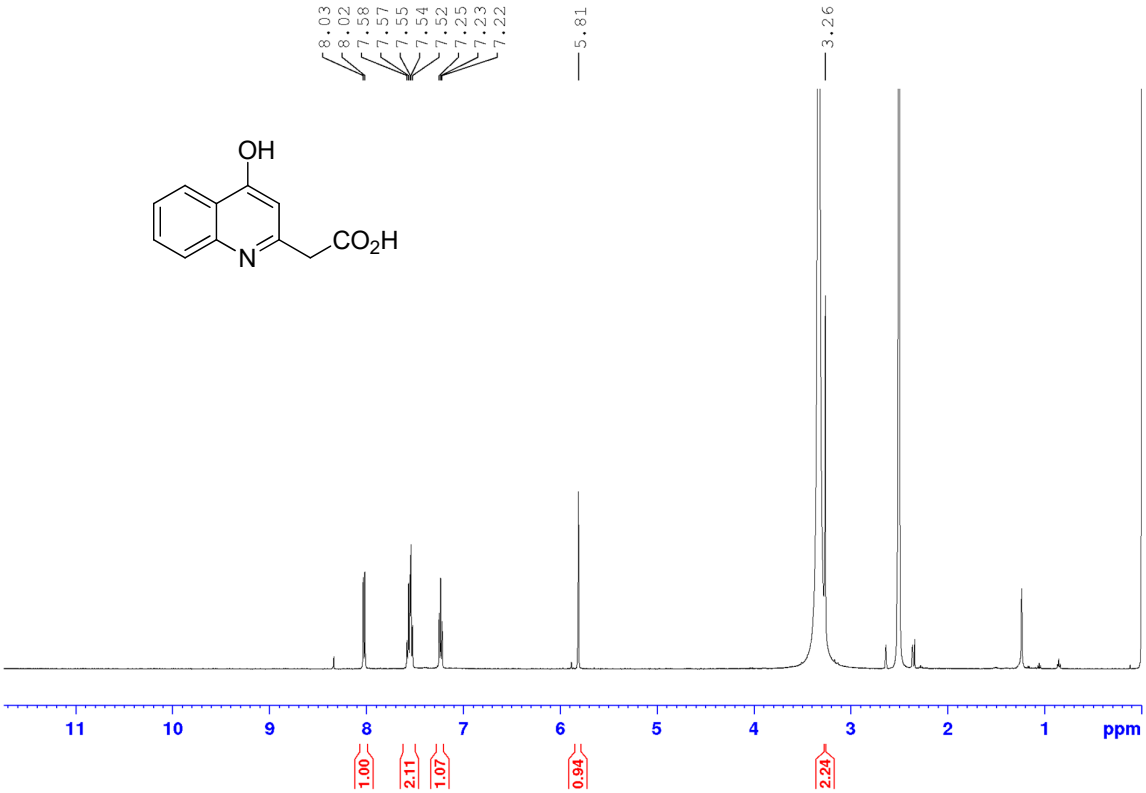

Figure S16. ^{1}H NMR spectrum of **8**

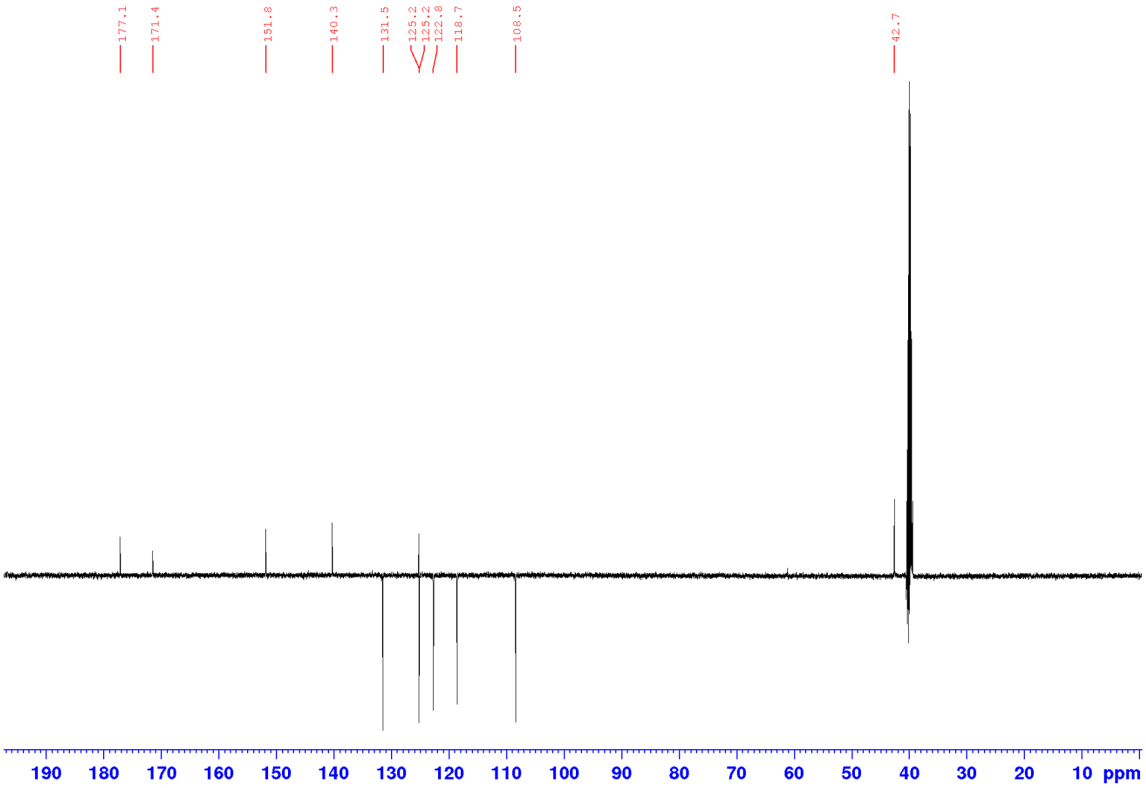

Figure S17. ^{13}C NMR spectrum of **8**

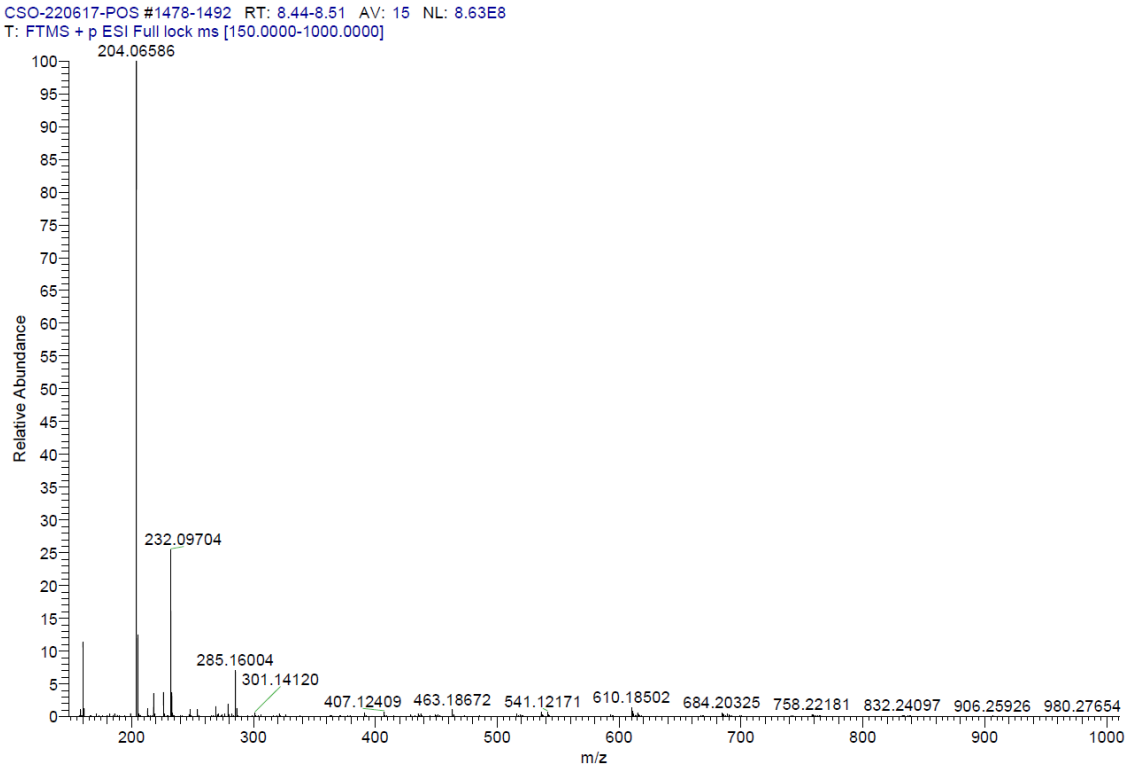

Figure S18. HRMS spectrum of **8**

3-(Piperidin-1-ylmethyl)-1*H*-azeto[1,2-*a*]quinolin-4(2*H*)-one (9)

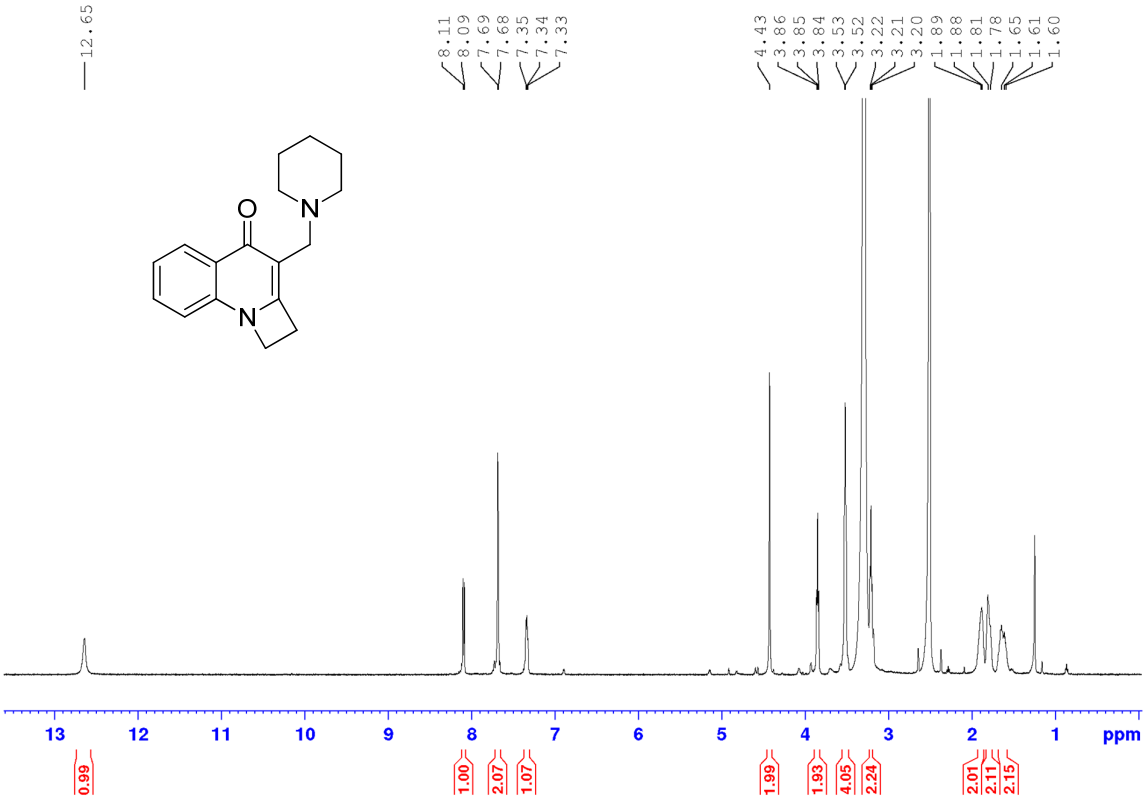

Figure S19. ^{1}H NMR spectrum of **9**

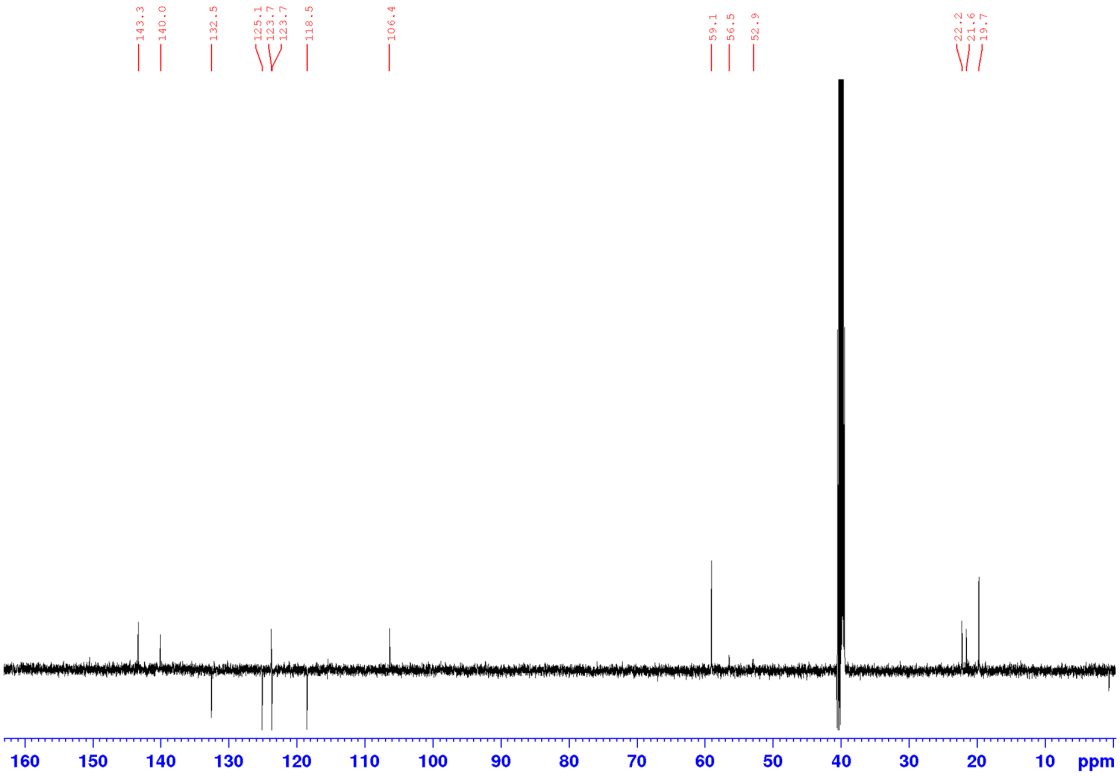

Figure S20. ^{13}C NMR spectrum of **9**

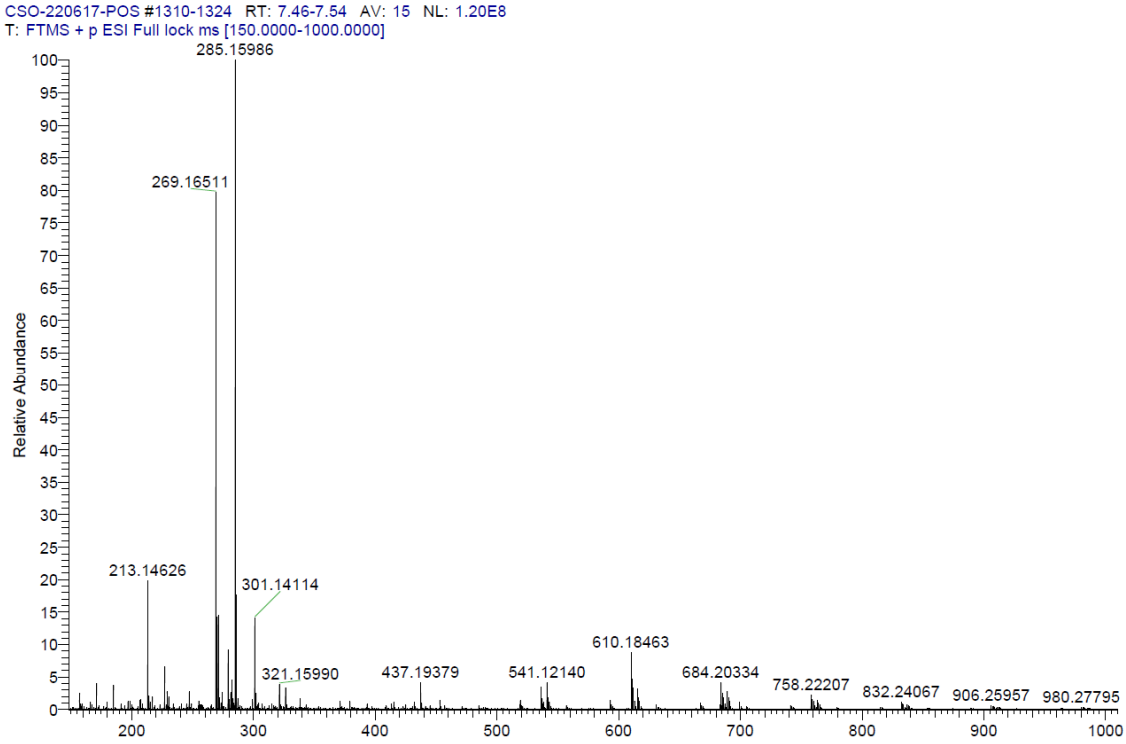

Figure S21. HRMS spectrum of **9**

Methyl 2-(4-hydroxy-3-(piperidin-1-ylmethyl)quinolin-2-yl) acetate (10a)

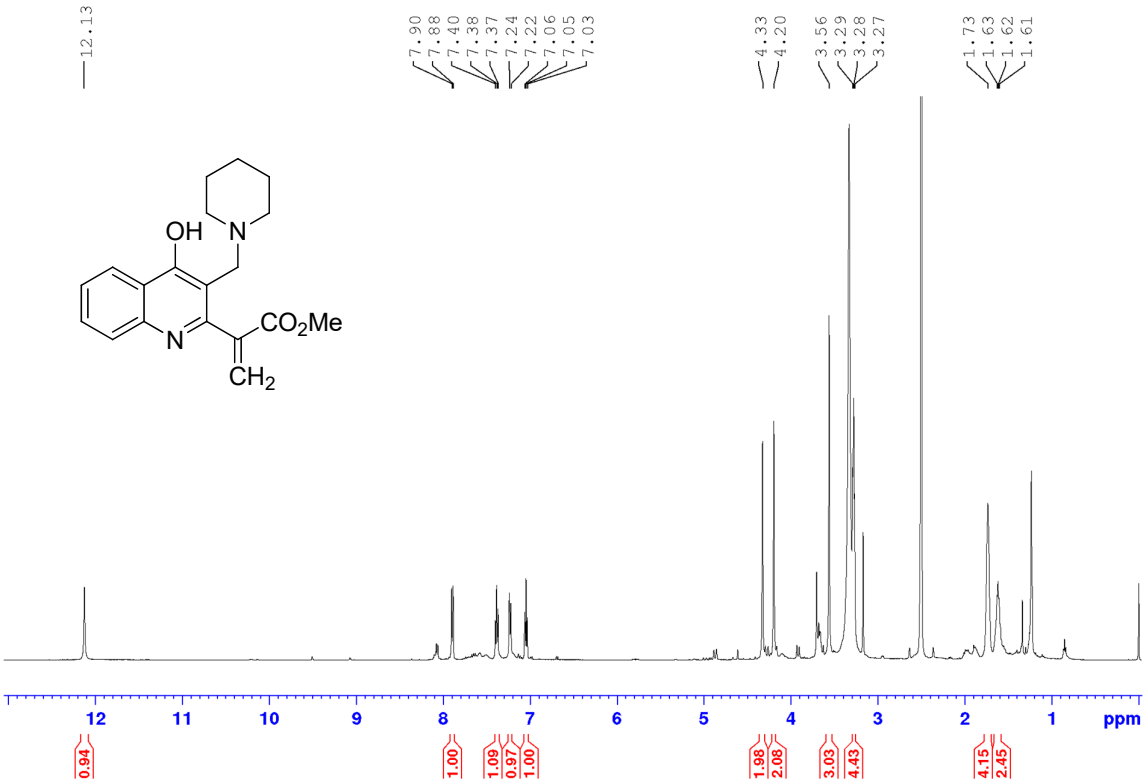

Figure S22. [1]H NMR spectrum of **10a**

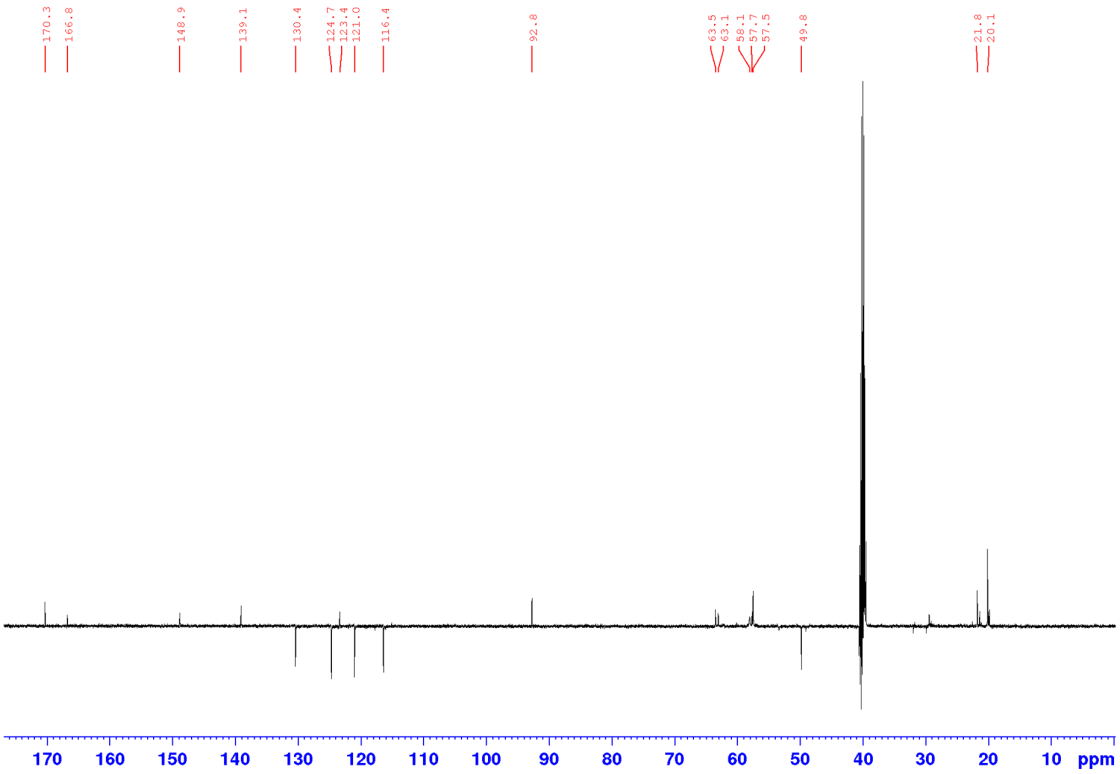

Figure S23. [13]C NMR spectrum of **10a**

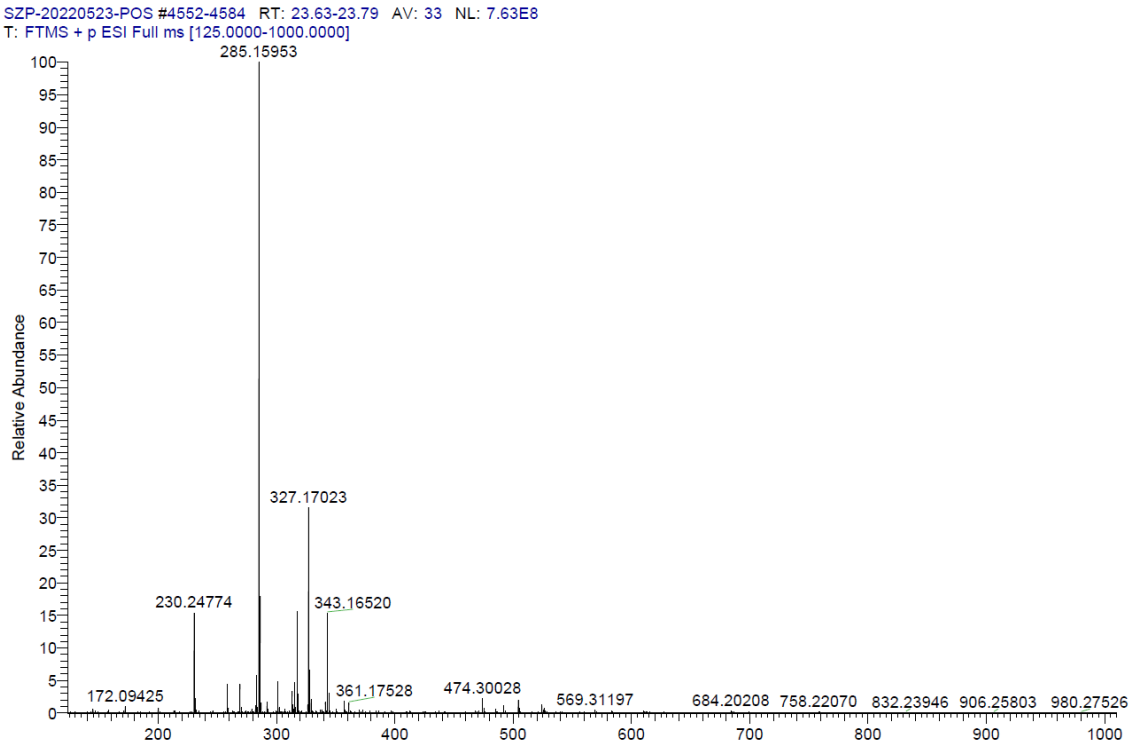

Figure S24. HRMS spectrum of **10a**

Ethyl 2-(4-hydroxy-3-(piperidin-1-ylmethyl)quinolin-2-yl) acetate (10b)

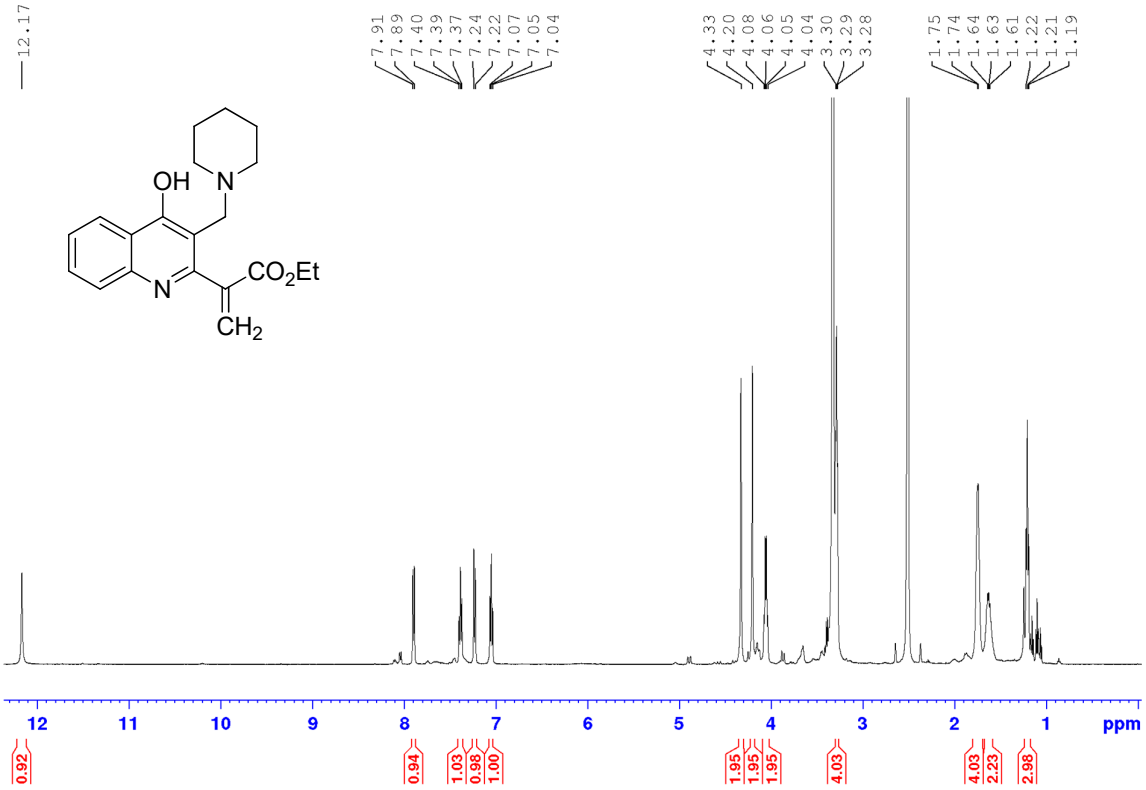

Figure S25. [1]H NMR spectrum of **10b**

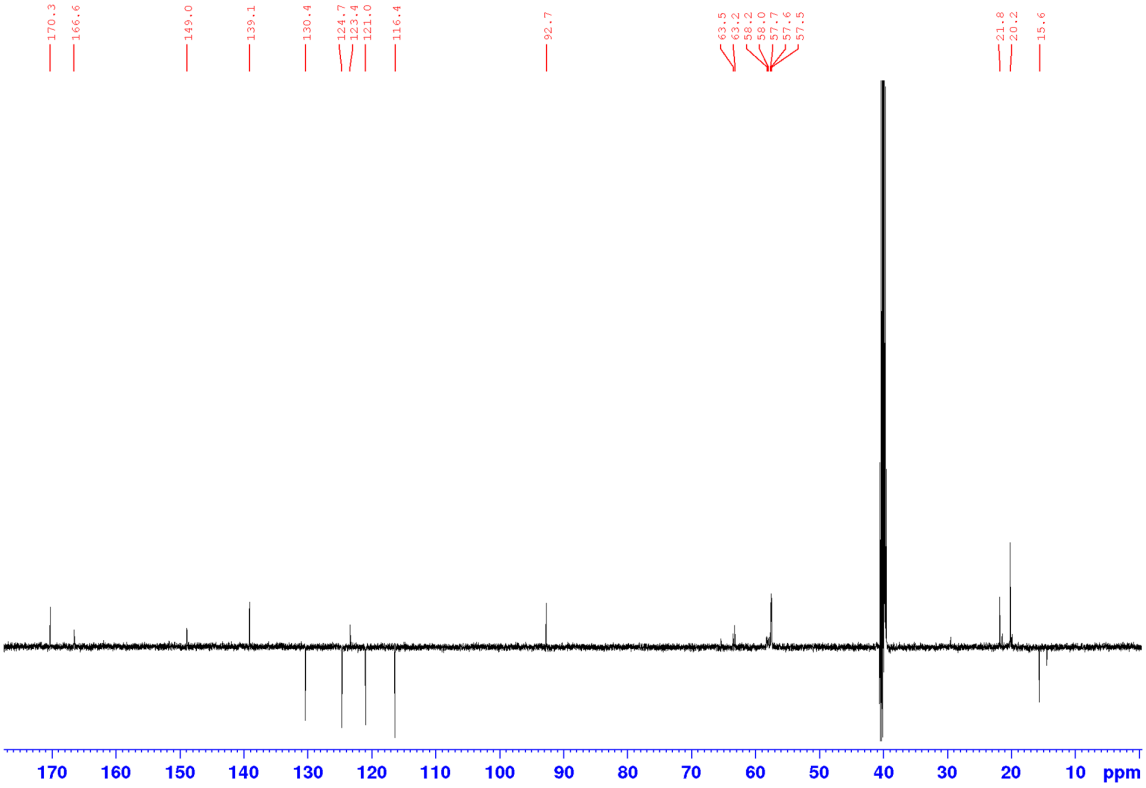

Figure S26. [13]C NMR spectrum of **10b**

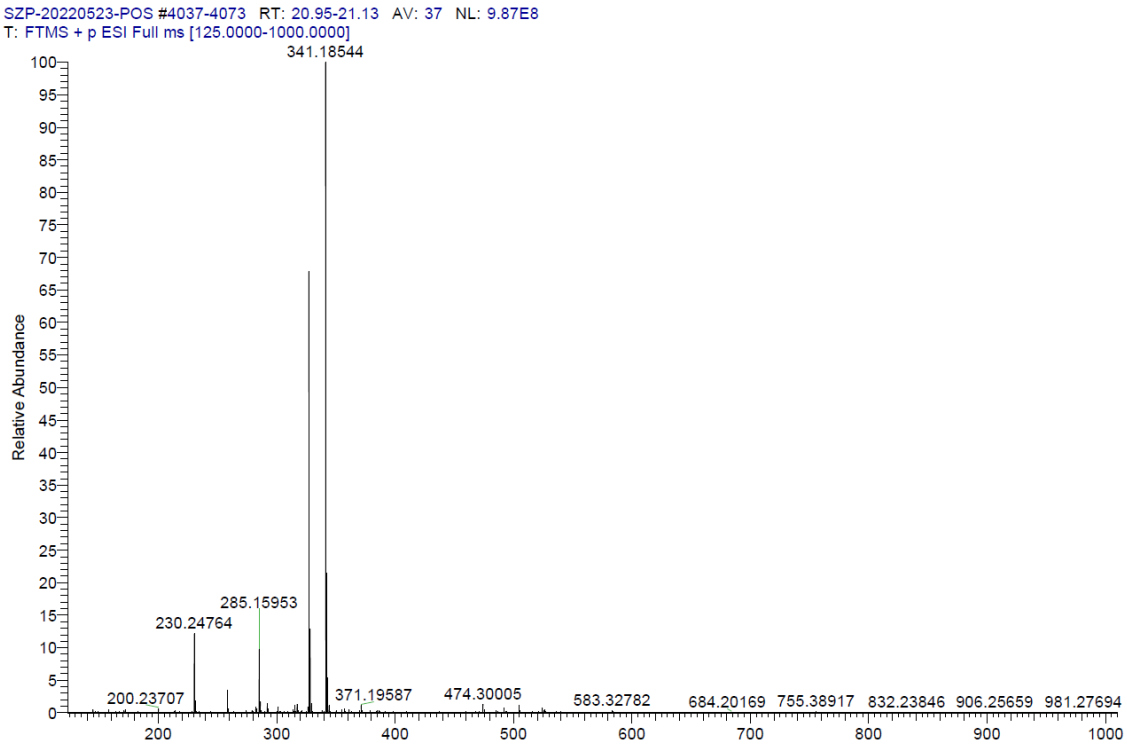

Figure S27. HRMS spectrum of **10b**

(*Z*)-methyl 2-(4-hydroxyquinolin-2-yl)-3-phenylacrylate (13a)

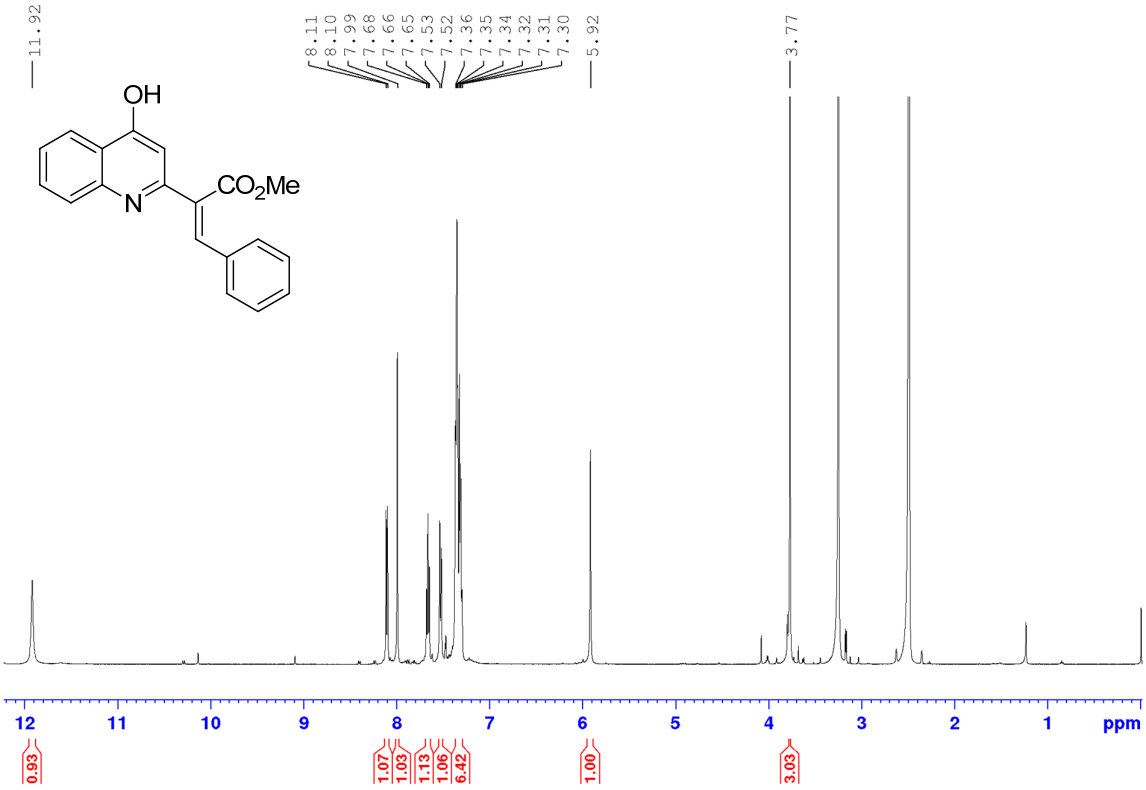

Figure S28. ^{1}H NMR spectrum of **13a**

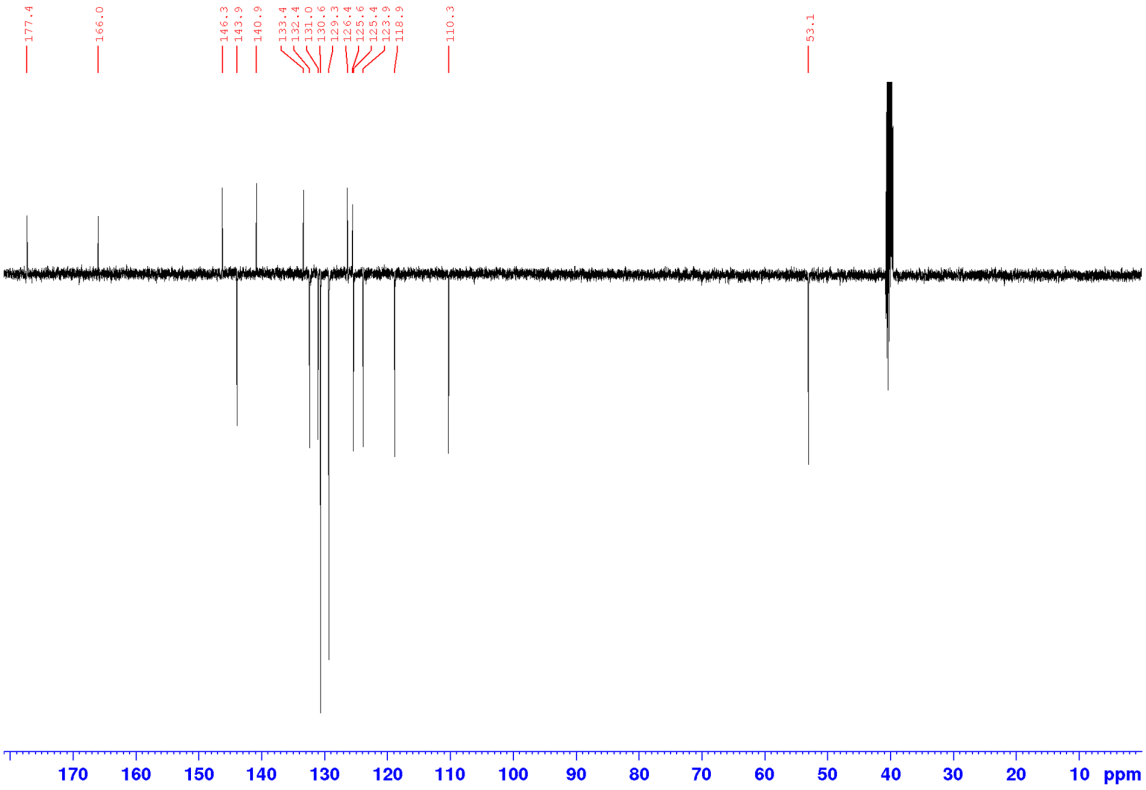

Figure S29. ^{13}C NMR spectrum of **13a**

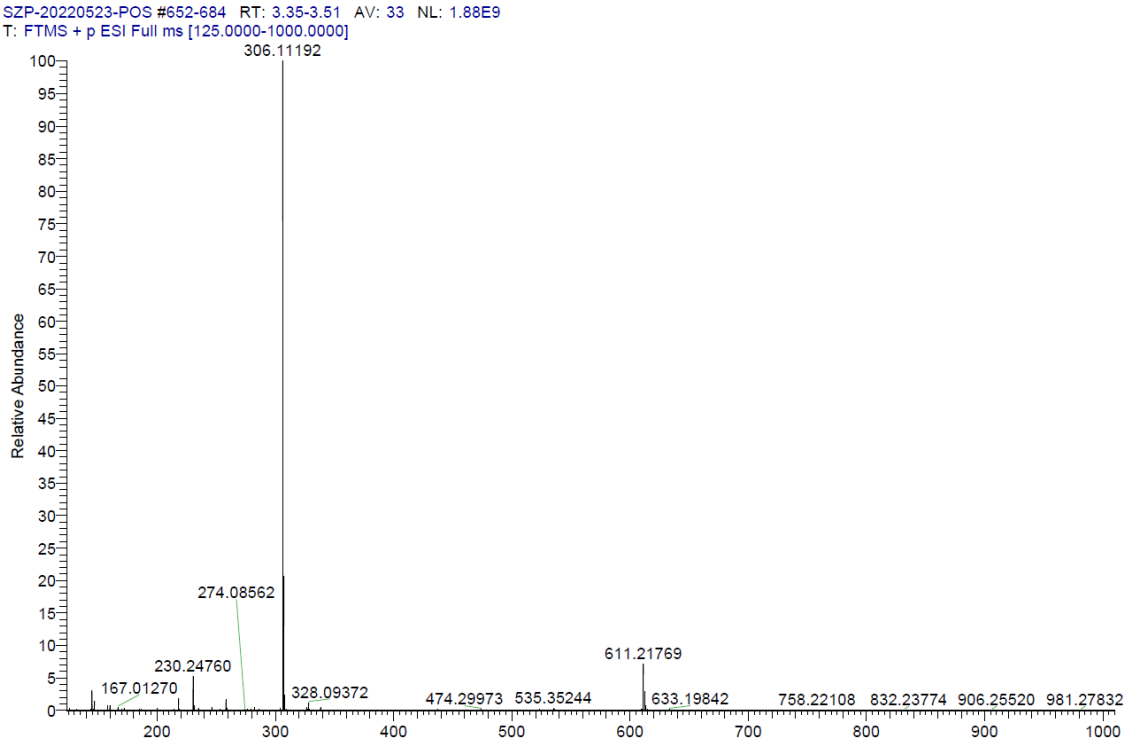

Figure S30. HRMS spectrum of **13a**

(*Z*)-ethyl 2-(4-hydroxyquinolin-2-yl)-3-phenylacrylate (13b)

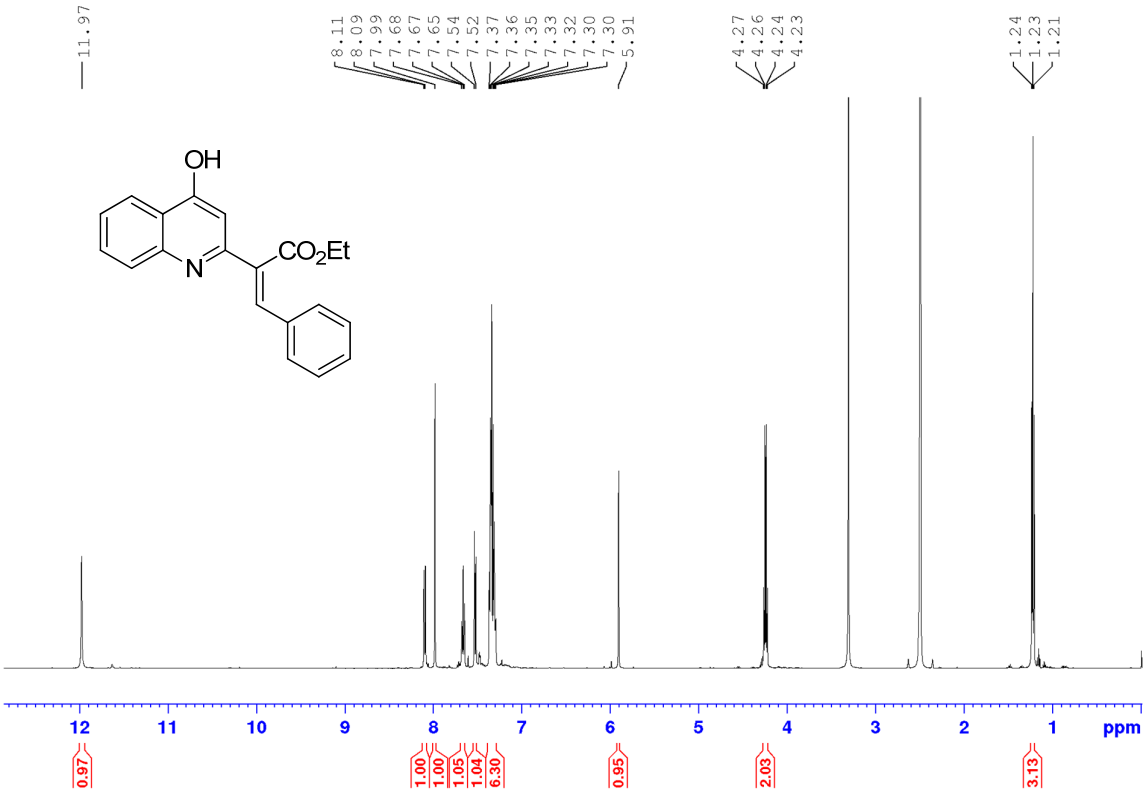

Figure S31. [1]H NMR spectrum of **13b**

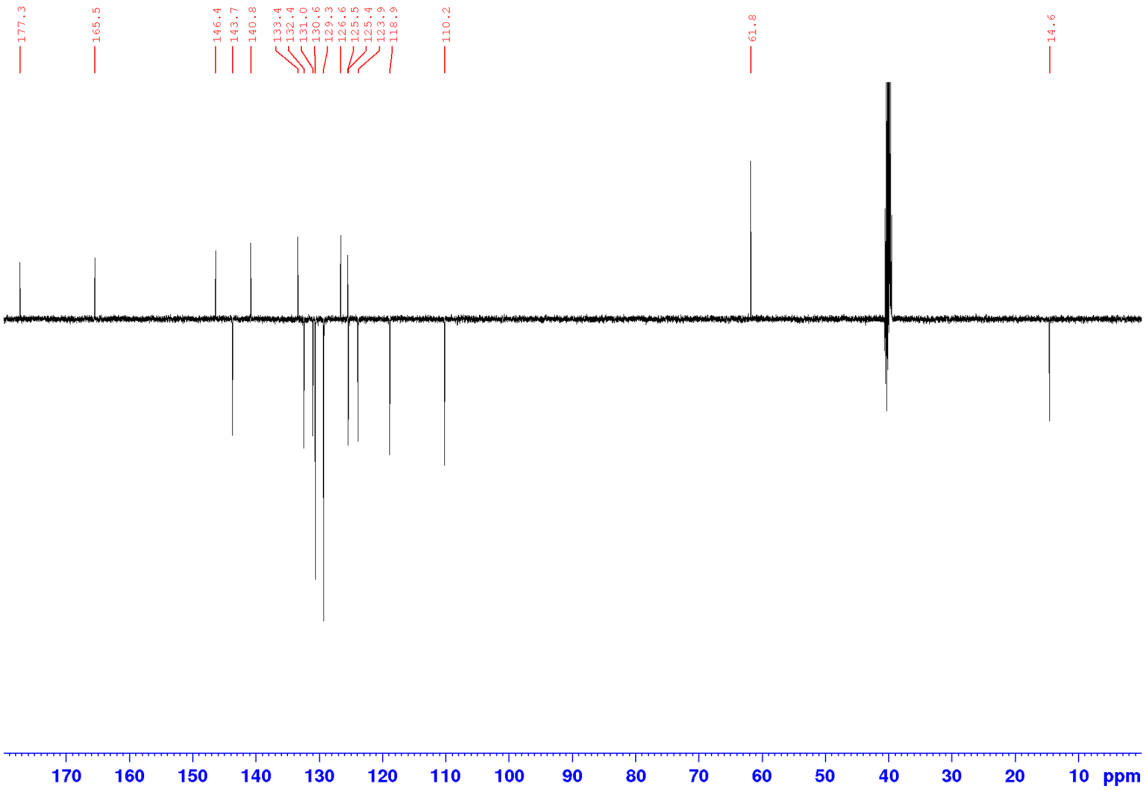

Figure S32. [13]C NMR spectrum of **13b**

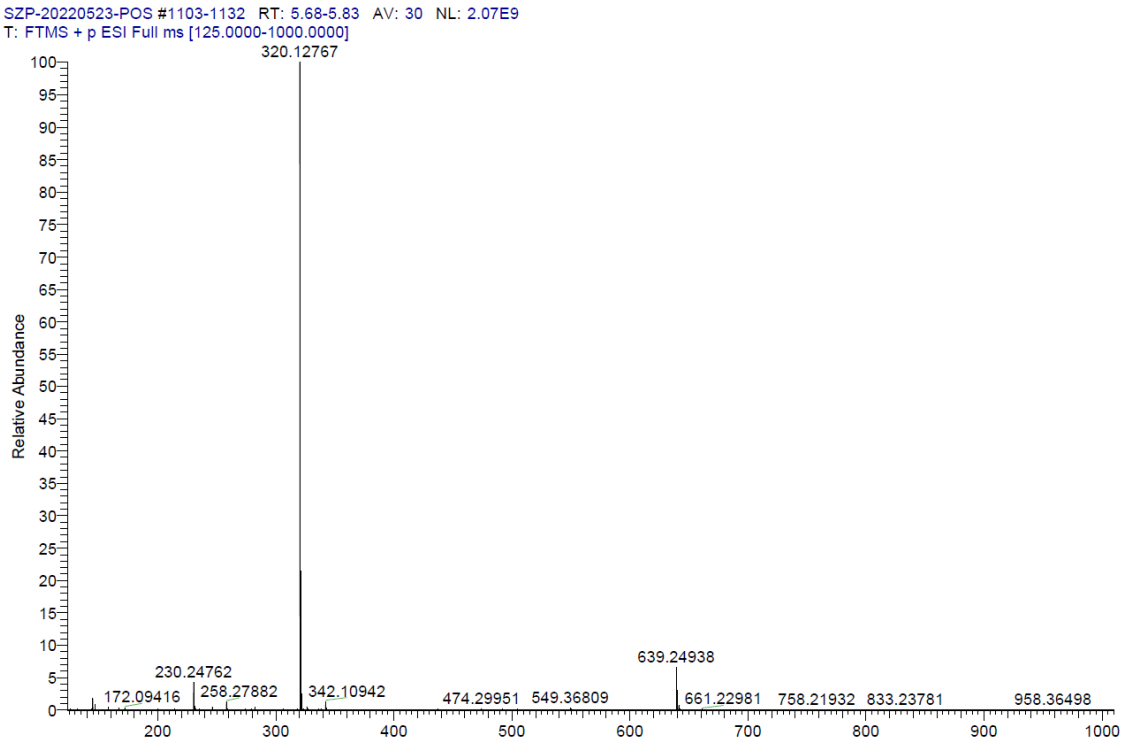

Figure S33. HRMS spectrum of **13b**

(*Z*)-ethyl 2-(4-hydroxyquinolin-2-yl)-3-(4-nitrophenyl)acrylate (20)

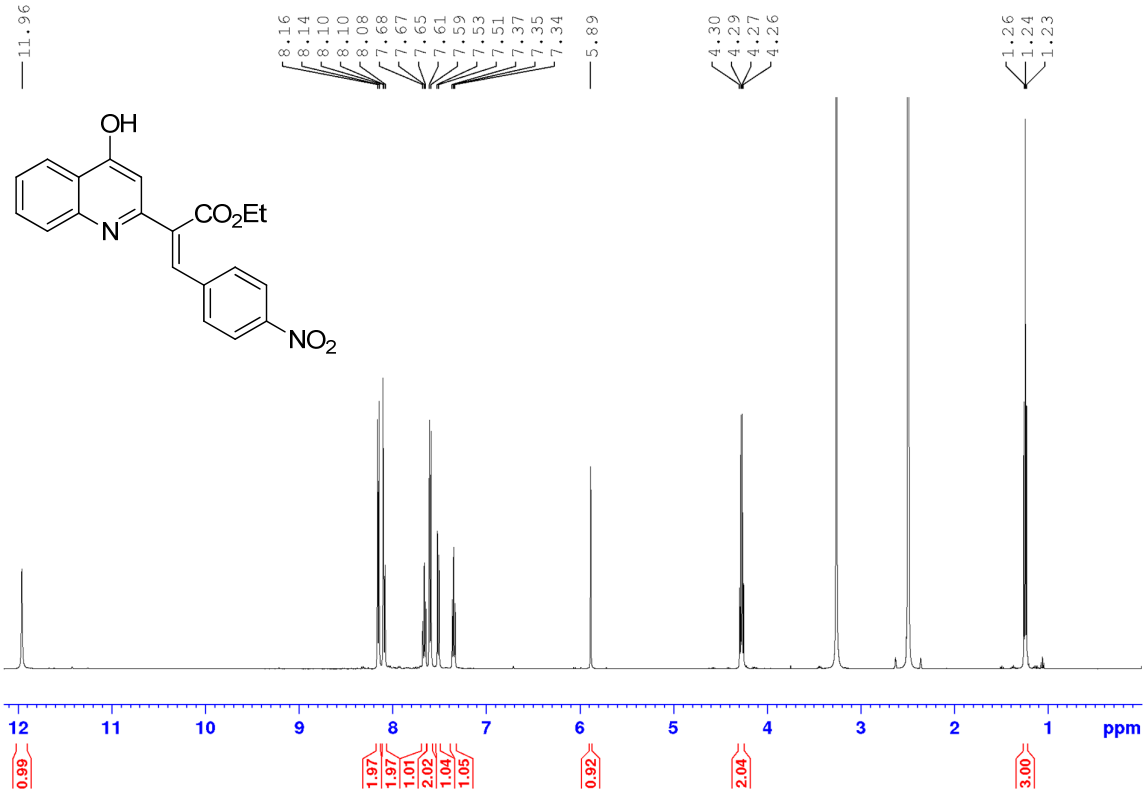

Figure S34. ^{1}H NMR spectrum of **20**

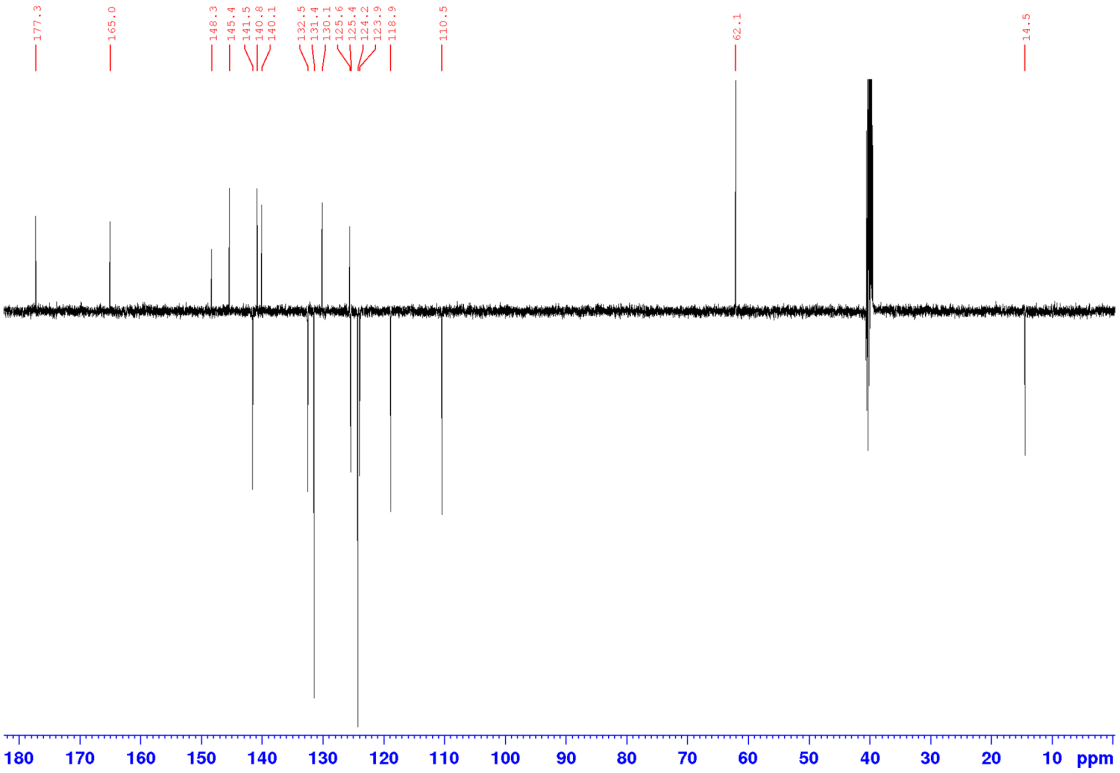

Figure S35. ^{13}C NMR spectrum of **20**

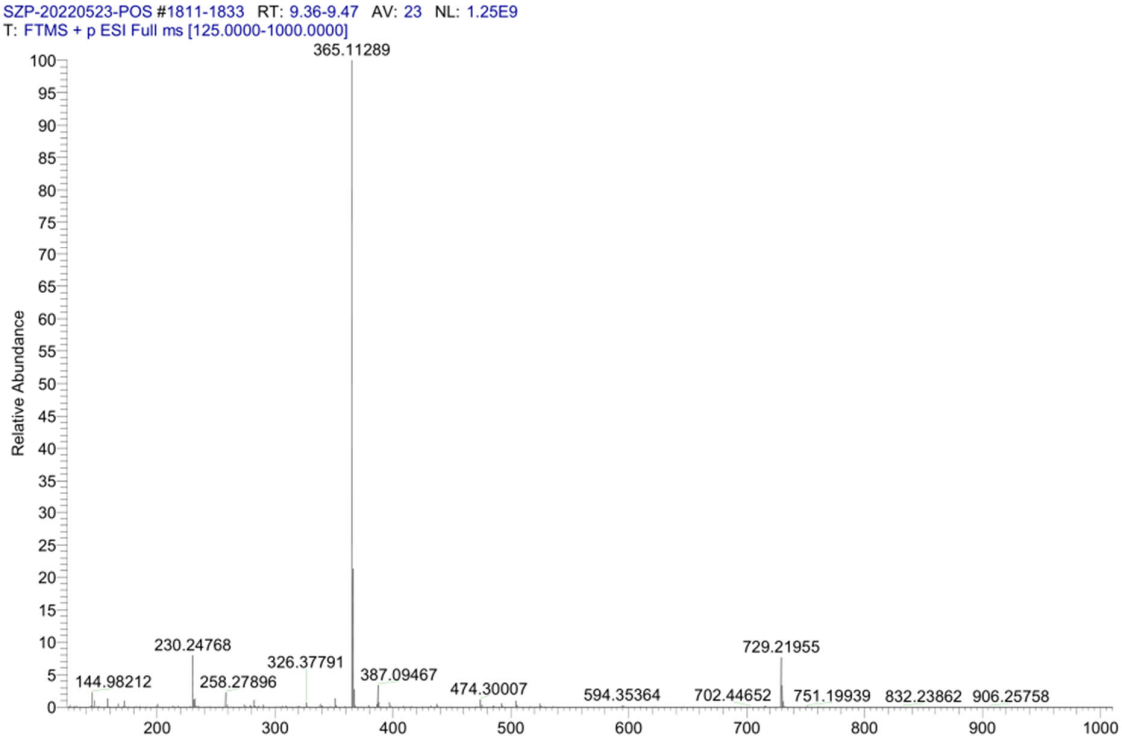

Figure S36. HRMS spectrum of **20**

(*Z*)-ethyl 3-(4-fluorophenyl)-2-(4-hydroxyquinolin-2-yl)acrylate (21)

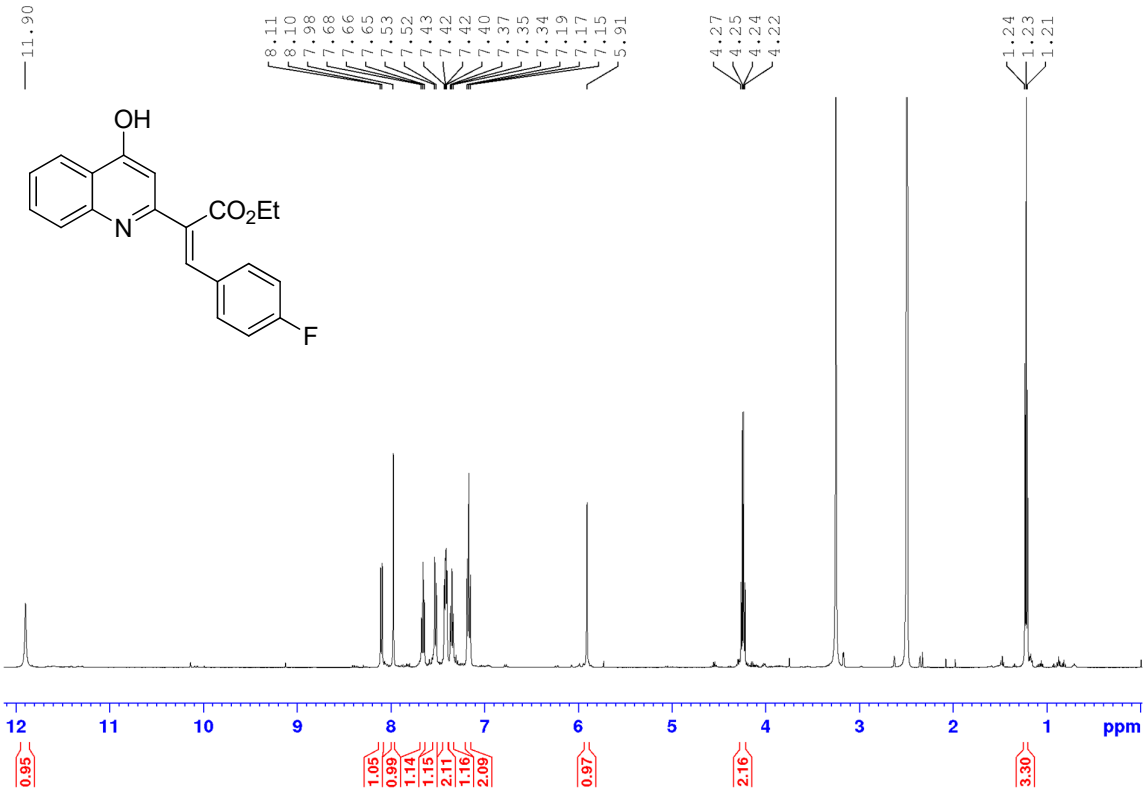

Figure S37. ^{1}H NMR spectrum of **21**

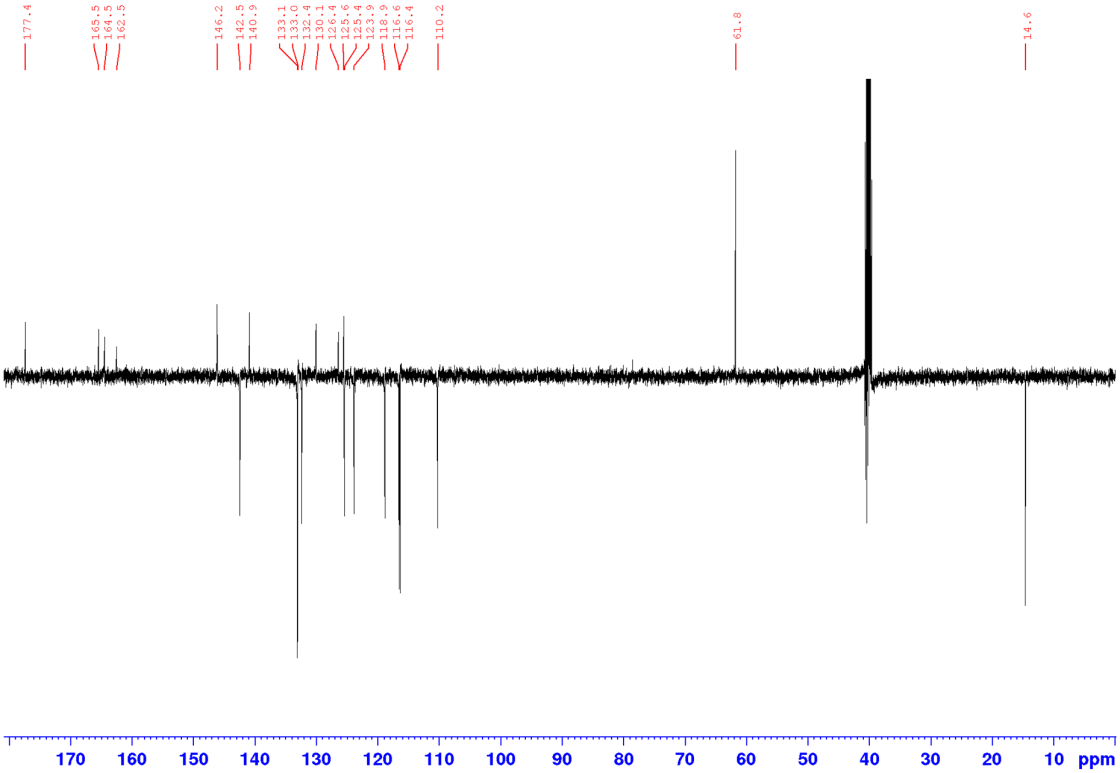

Figure S38. ^{13}C NMR spectrum of **21**

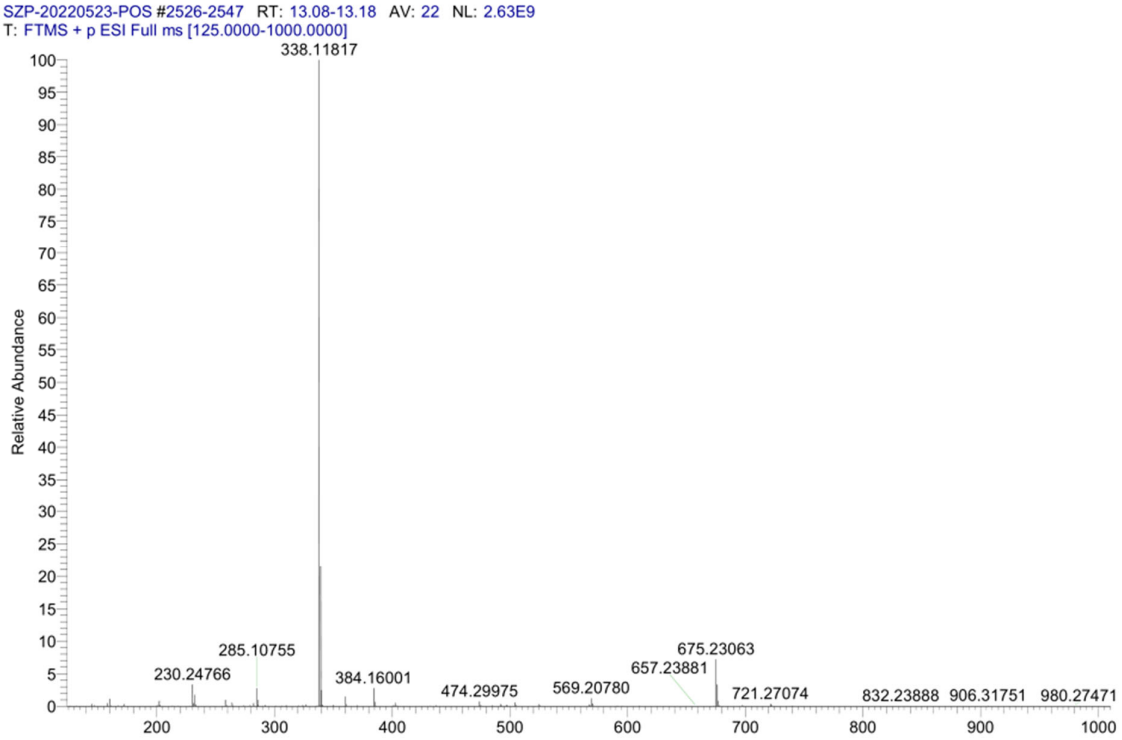

Figure S39. HRMS spectrum of **21**

(*Z*)-ethyl 2-(4-hydroxyquinolin-2-yl)-3-(*p*-tolyl)acrylate (22)

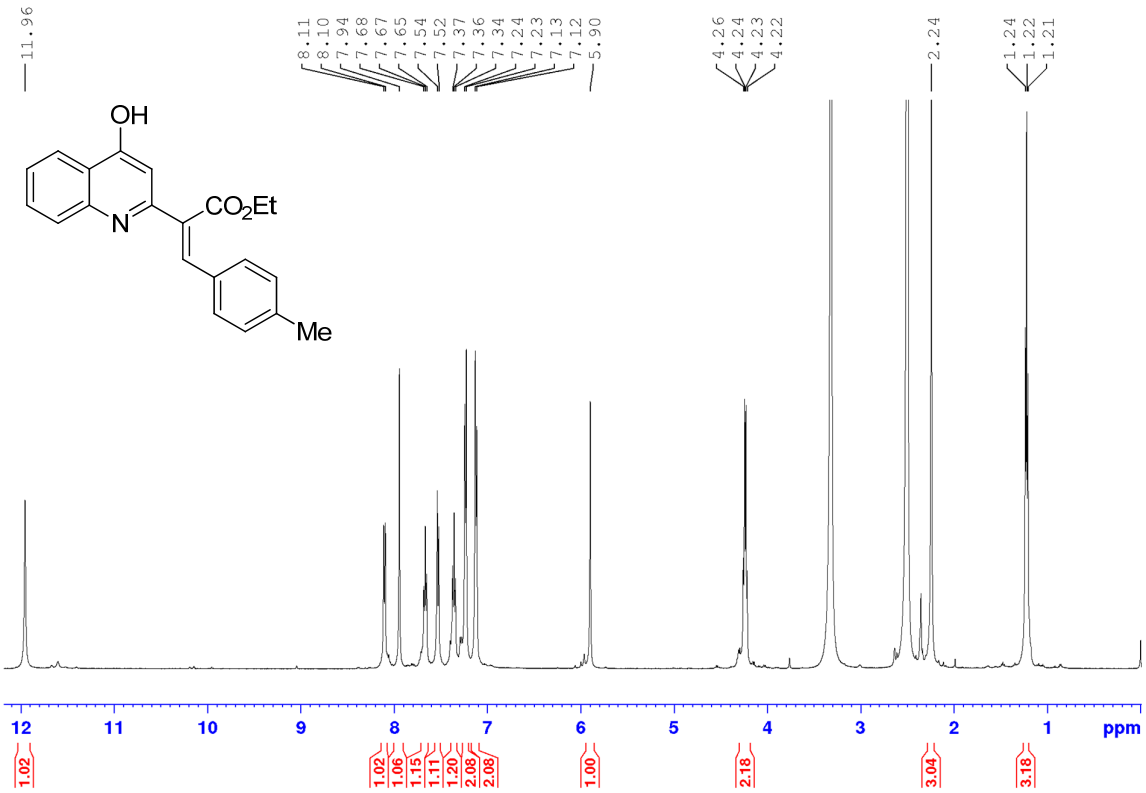

Figure S40. ^{1}H NMR spectrum of **22**

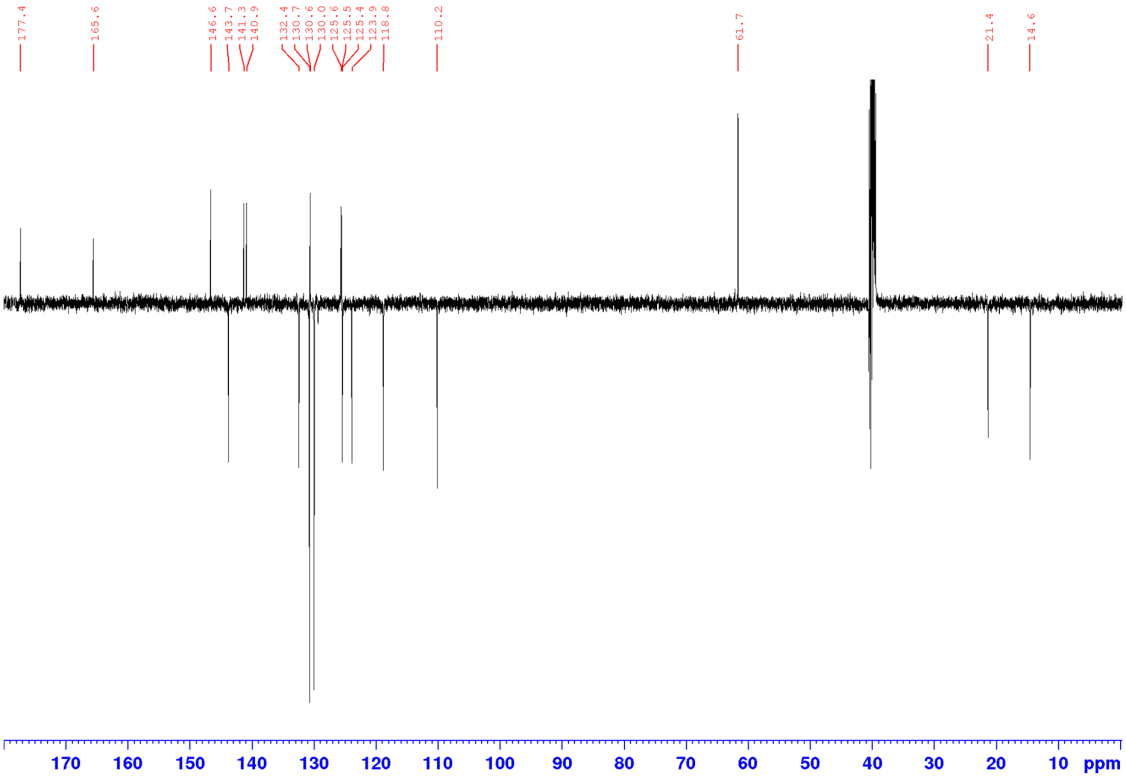

Figure S41. ^{13}C NMR spectrum of **22**

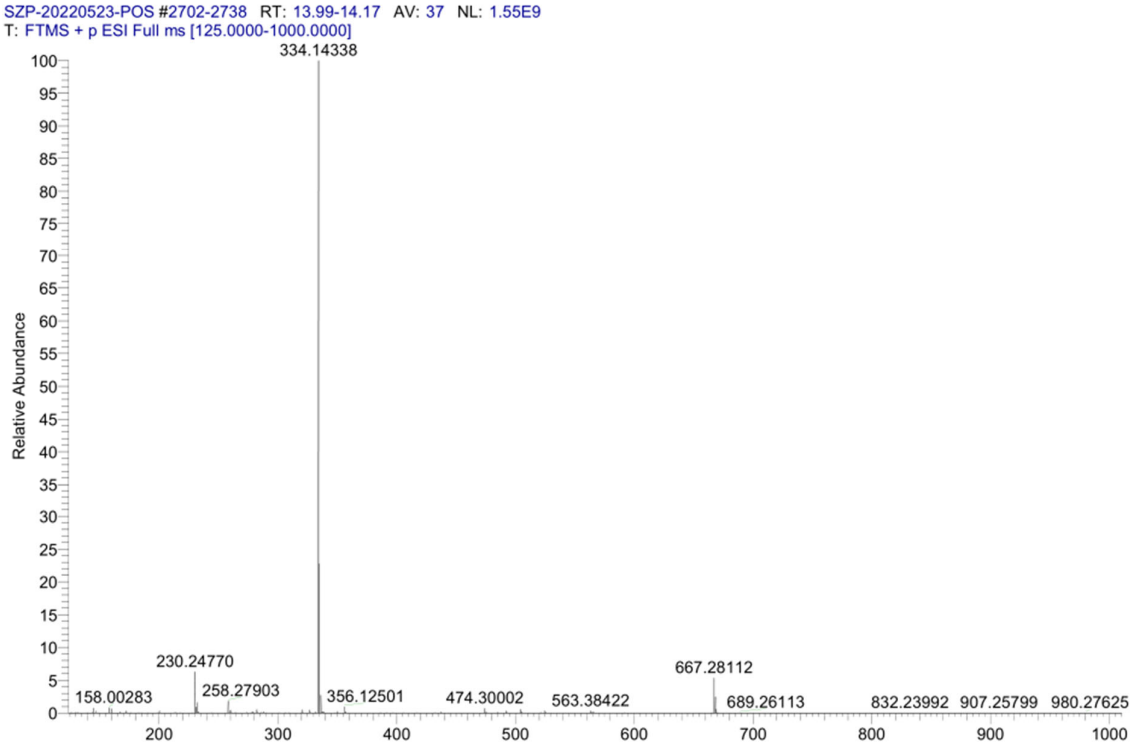

Figure S42. HRMS spectrum of **22**

(*Z*)-ethyl 2-(4-hydroxyquinolin-2-yl)-3-(4-methoxyphenyl)acrylate (23)

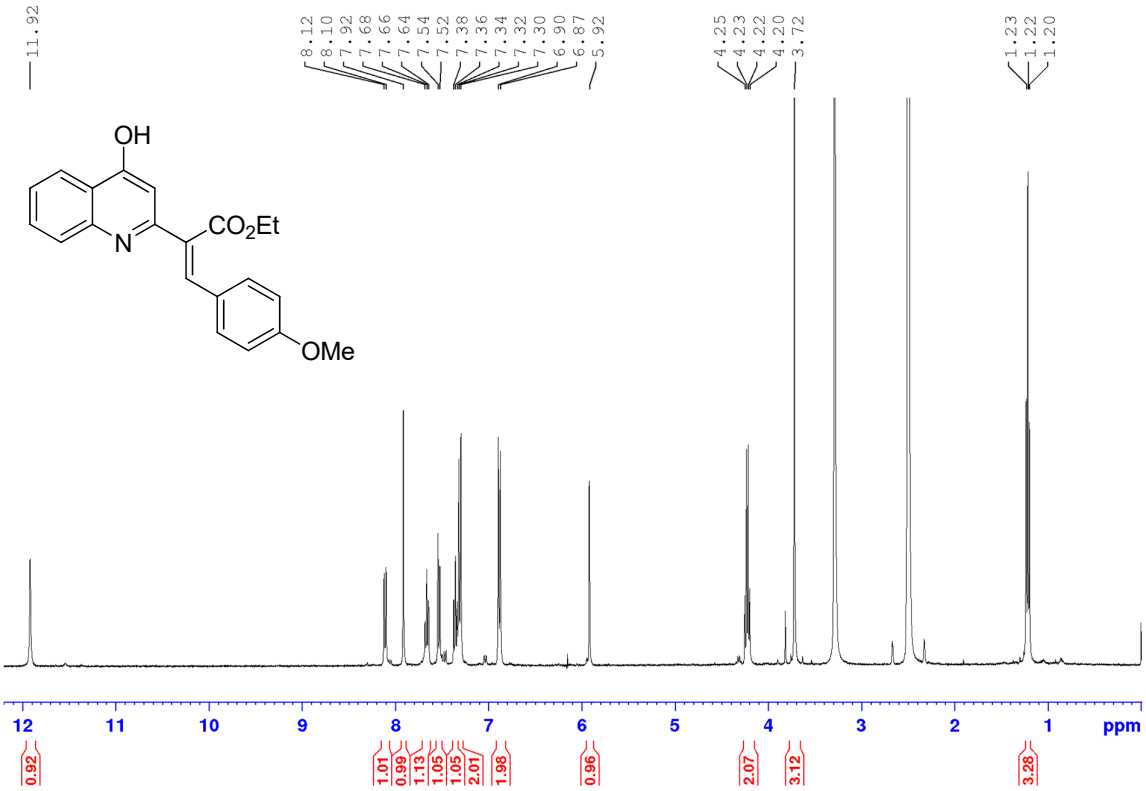

Figure S43. ^{1}H NMR spectrum of **23**

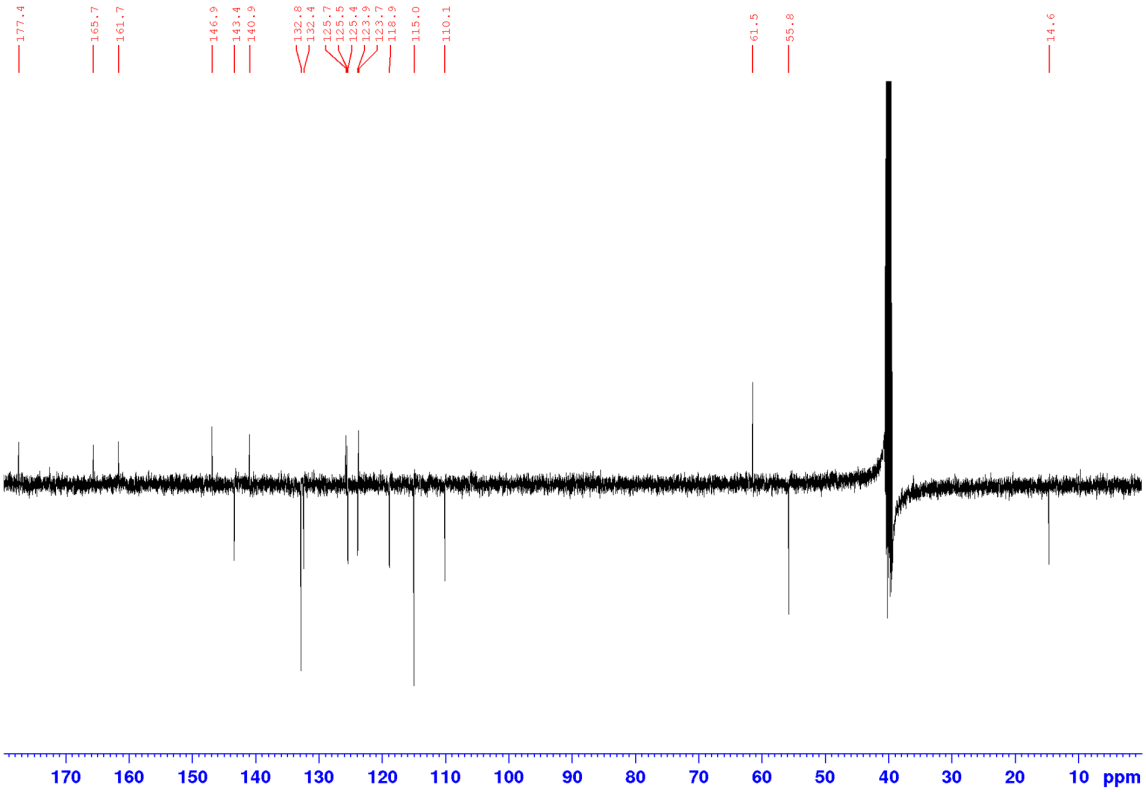

Figure S44. ^{13}C NMR spectrum of **23**

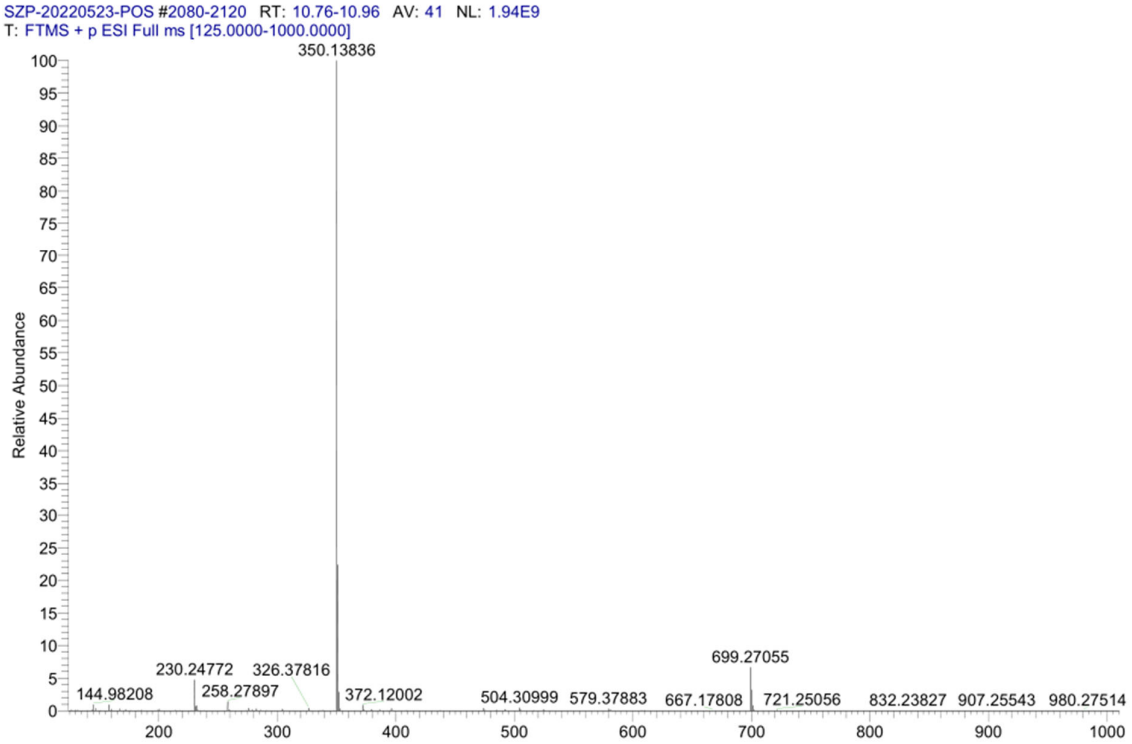

Figure S45. HRMS spectrum of **23**

(*Z*)-ethyl 3-(4-(dimethylamino)phenyl)-2-(4-hydroxyquinolin-2-yl)acrylate (24)

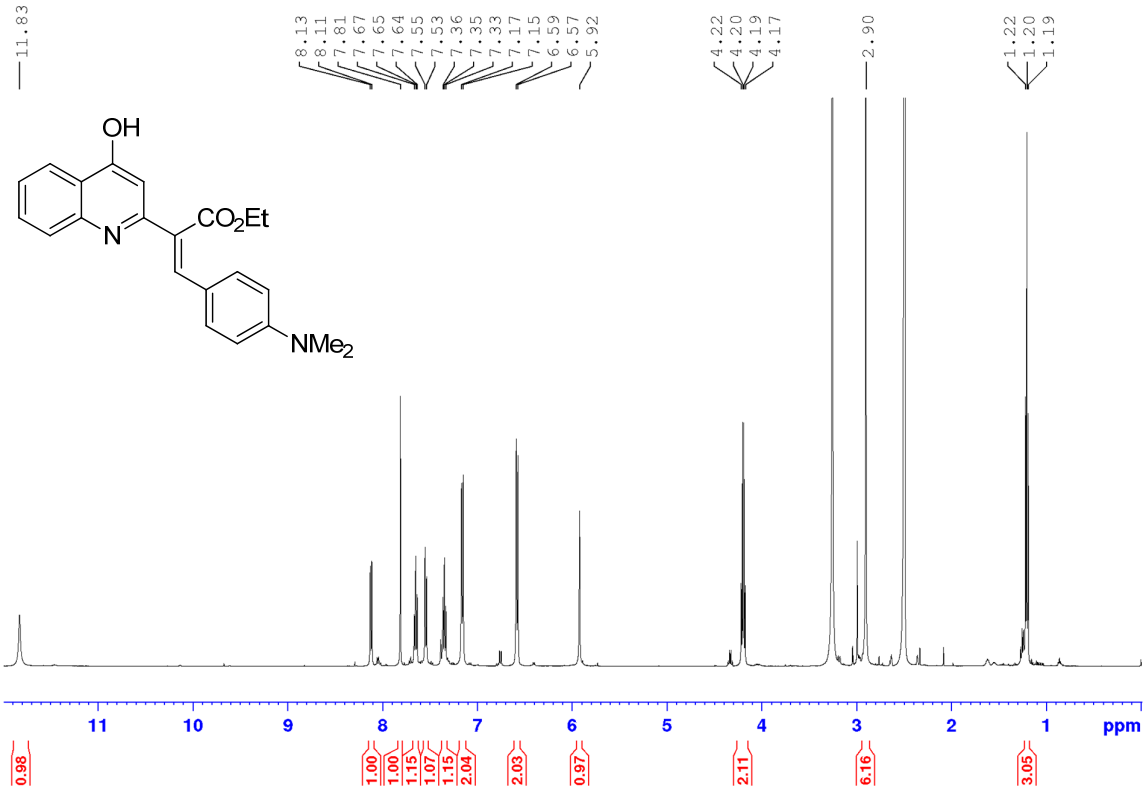

Figure S46. ^{1}H NMR spectrum of **24**

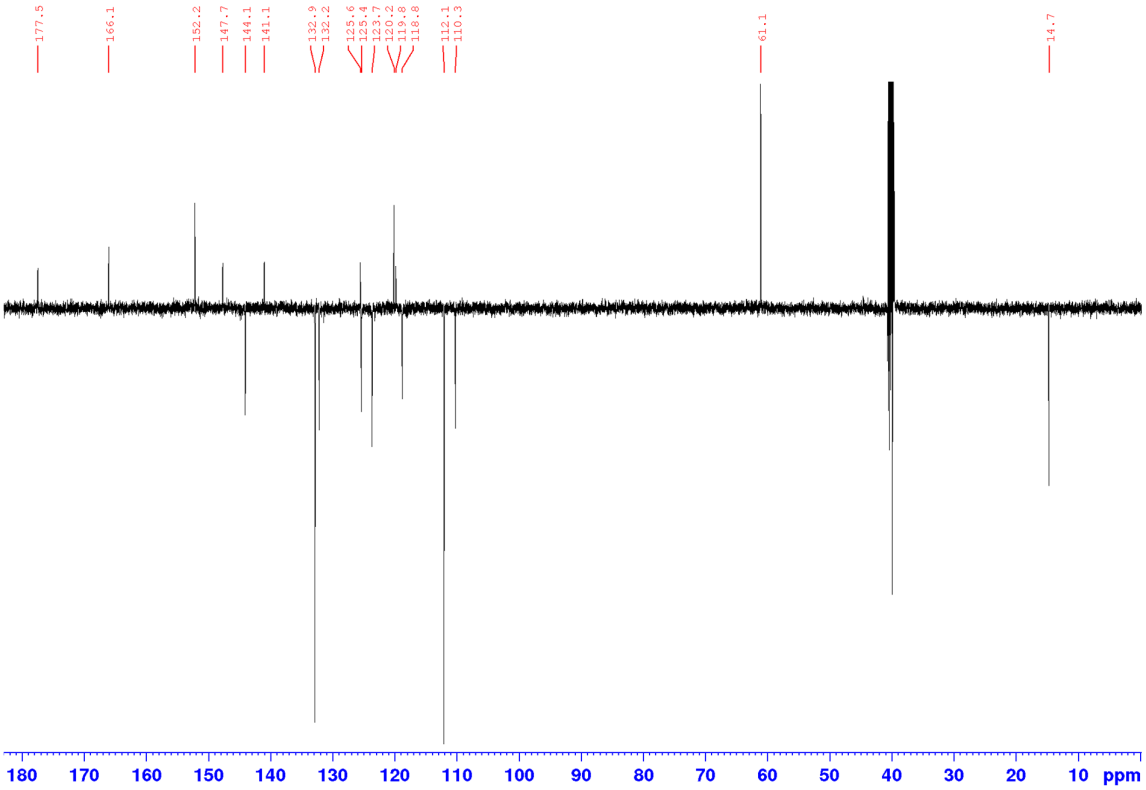

Figure S47. ^{13}C NMR spectrum of **24**

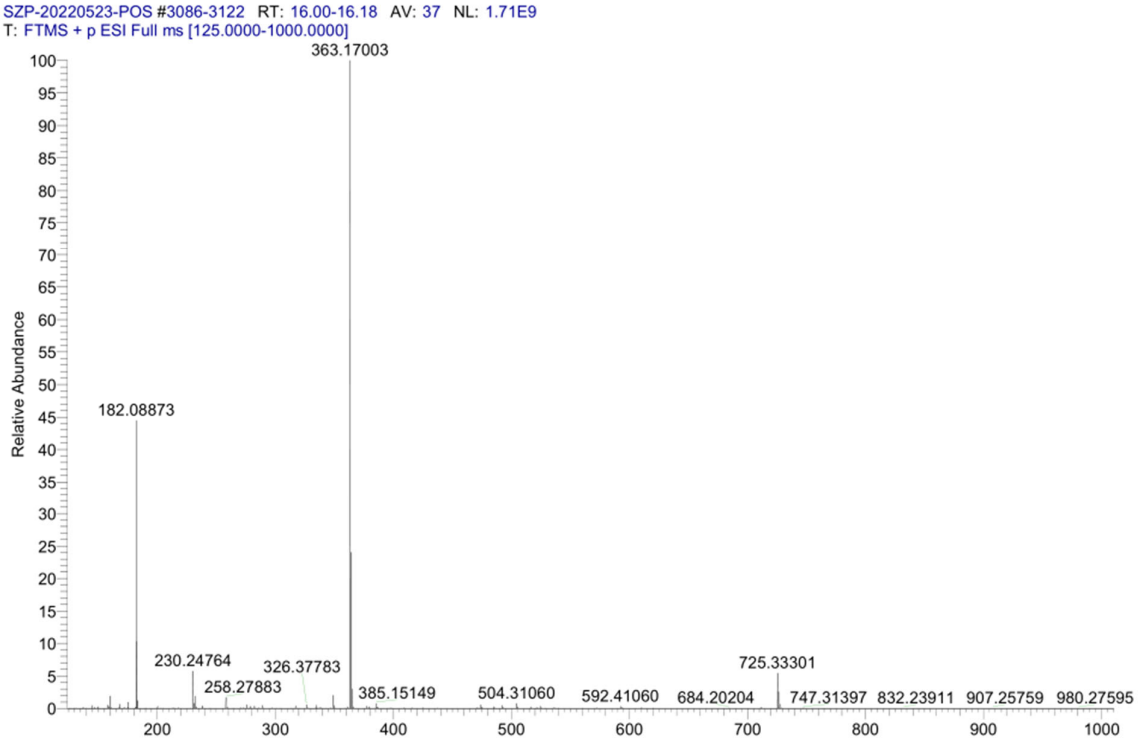

Figure S48. HRMS spectrum of **24**

(*Z*)-ethyl 2-(4-hydroxyquinolin-2-yl)-3-(naphthalen-1-yl)acrylate (25)

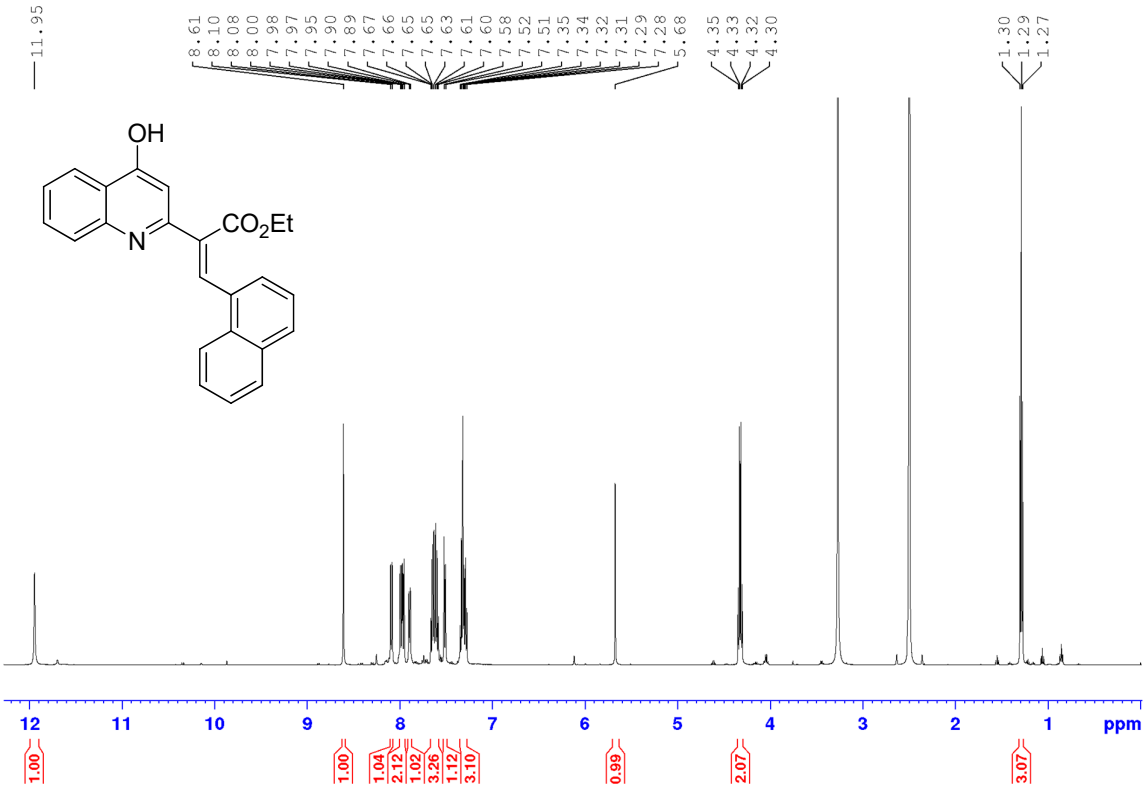

Figure S49. ^{1}H NMR spectrum of **25**

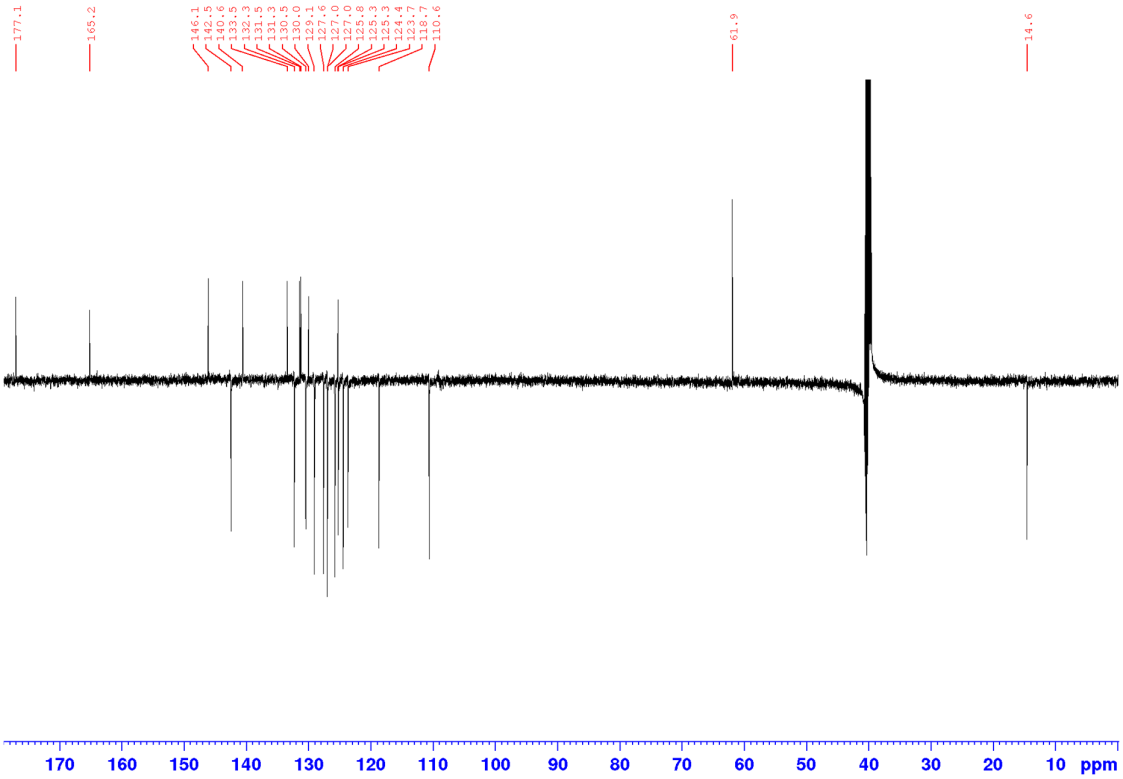

Figure S50. ^{13}C NMR spectrum of **25**

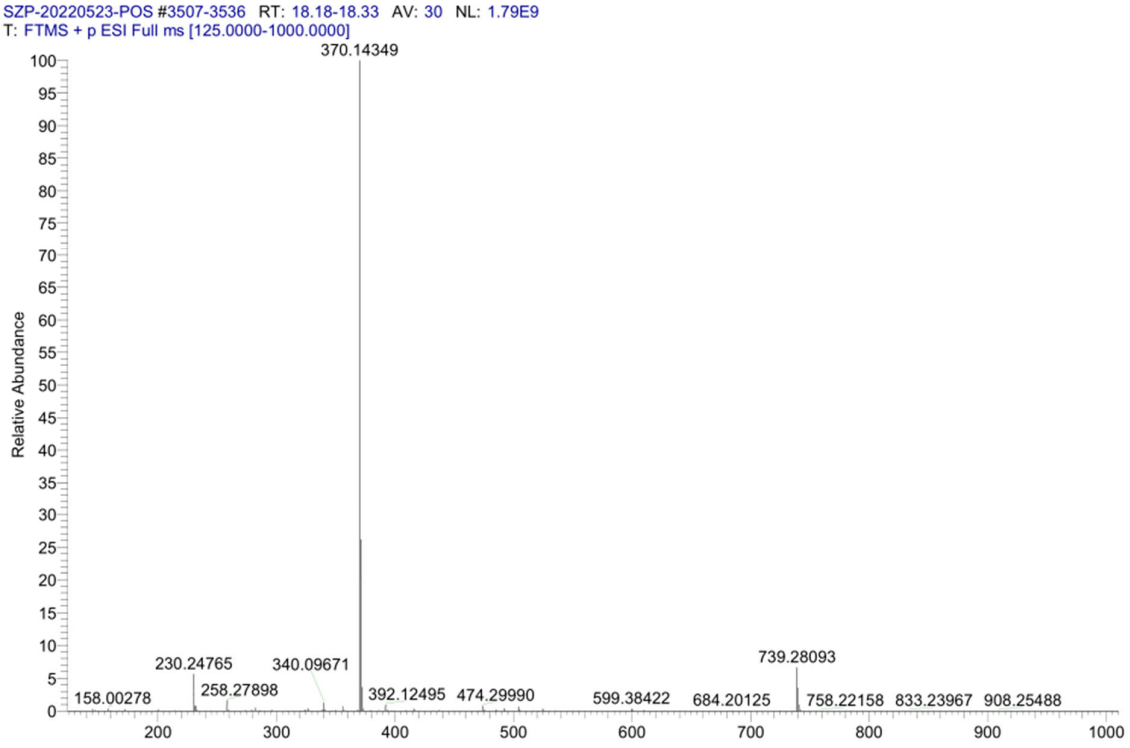

Figure S51. HRMS spectrum of **25**

(*Z*)-ethyl 2-(4-hydroxyquinolin-2-yl)-3-(naphthalen-2-yl)acrylate (26)

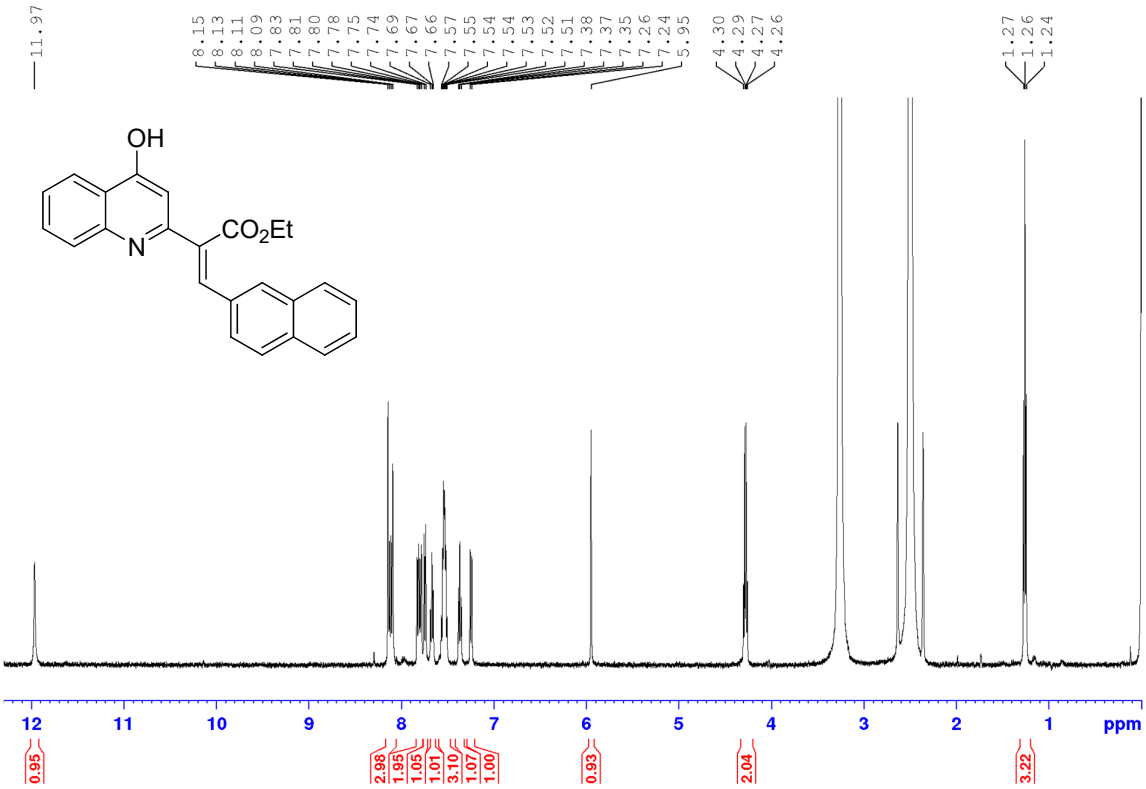

Figure S52. ^{1}H NMR spectrum of **26**

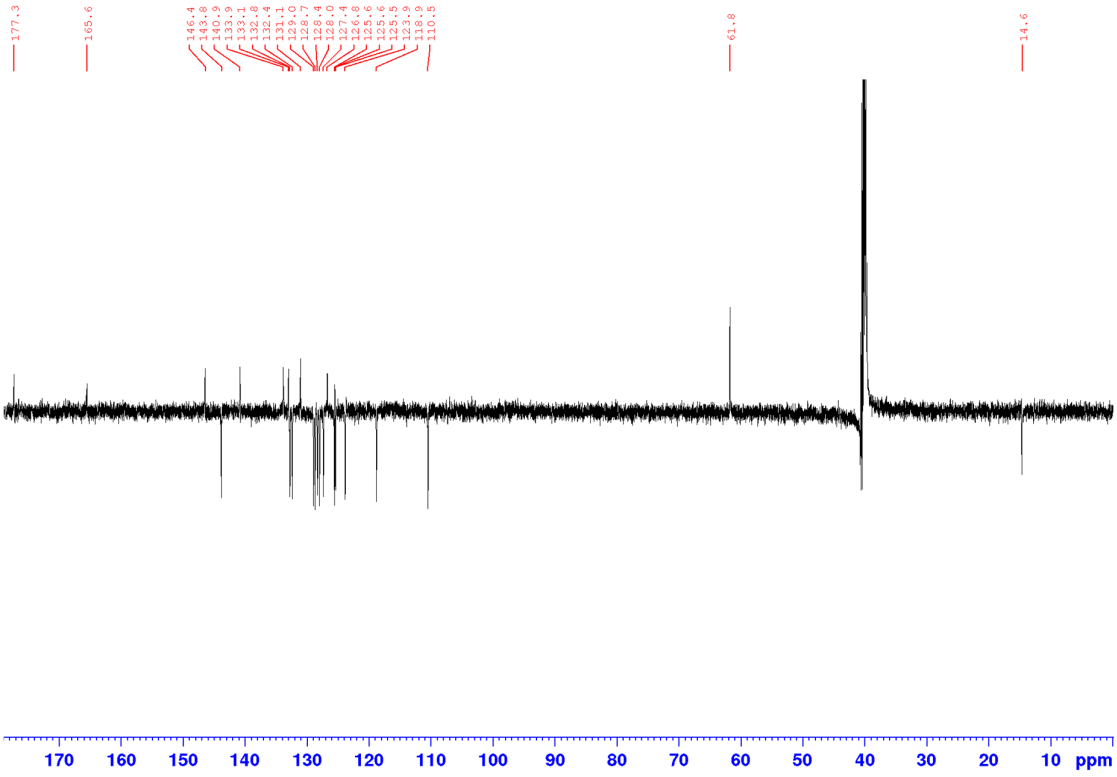

Figure S53. ^{13}C NMR spectrum of **26**

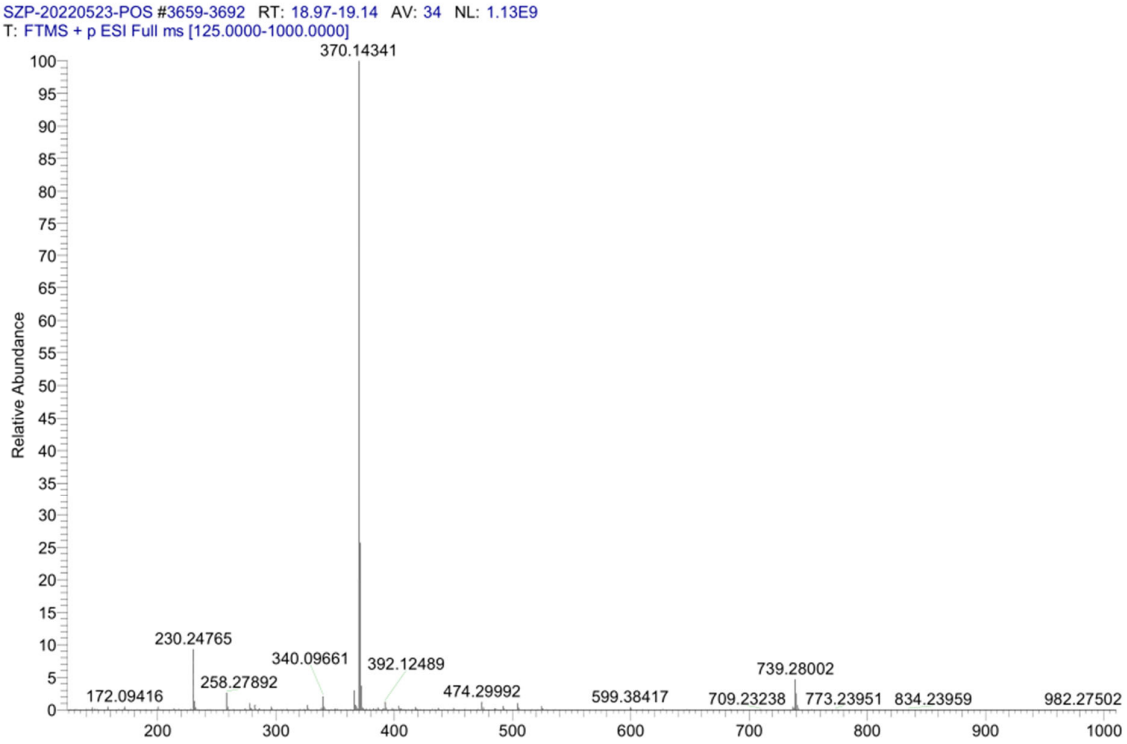

Figure S54. HRMS spectrum of **26**

3-(4-Hydroxyquinolin-2-yl)-2*H*-chromen-2-one (28)

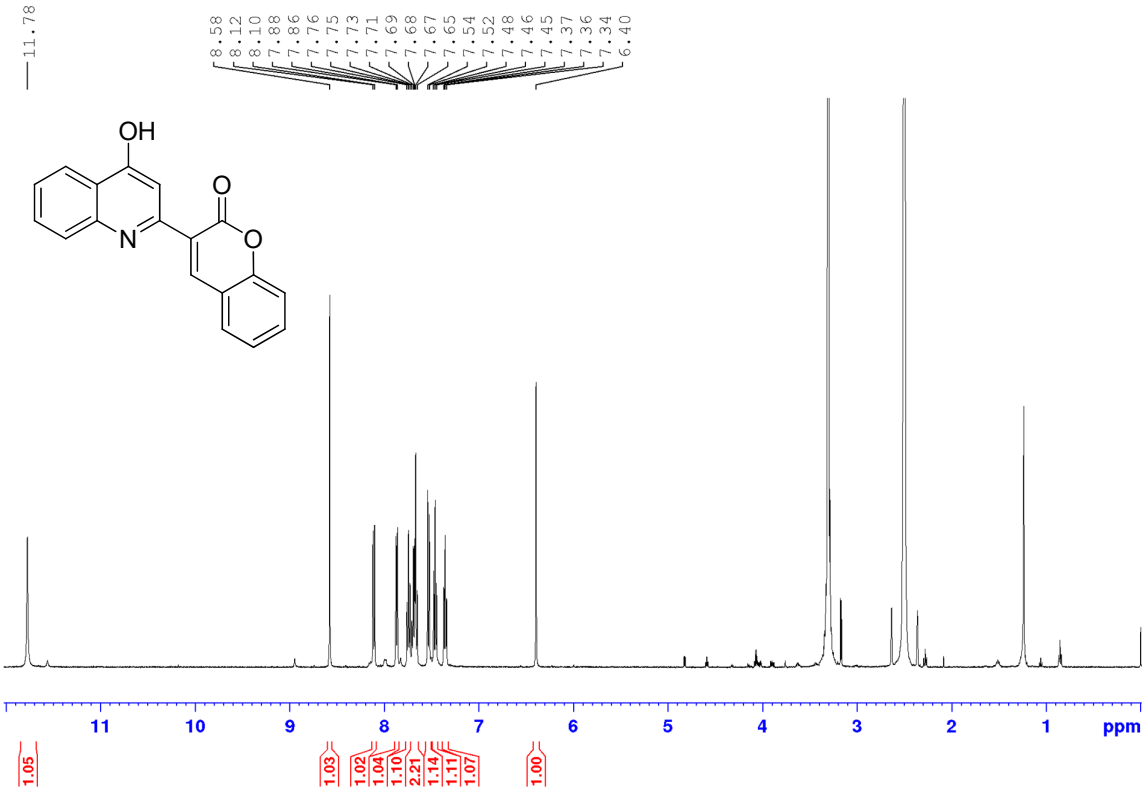

Figure S55. ^{1}H NMR spectrum of **28**

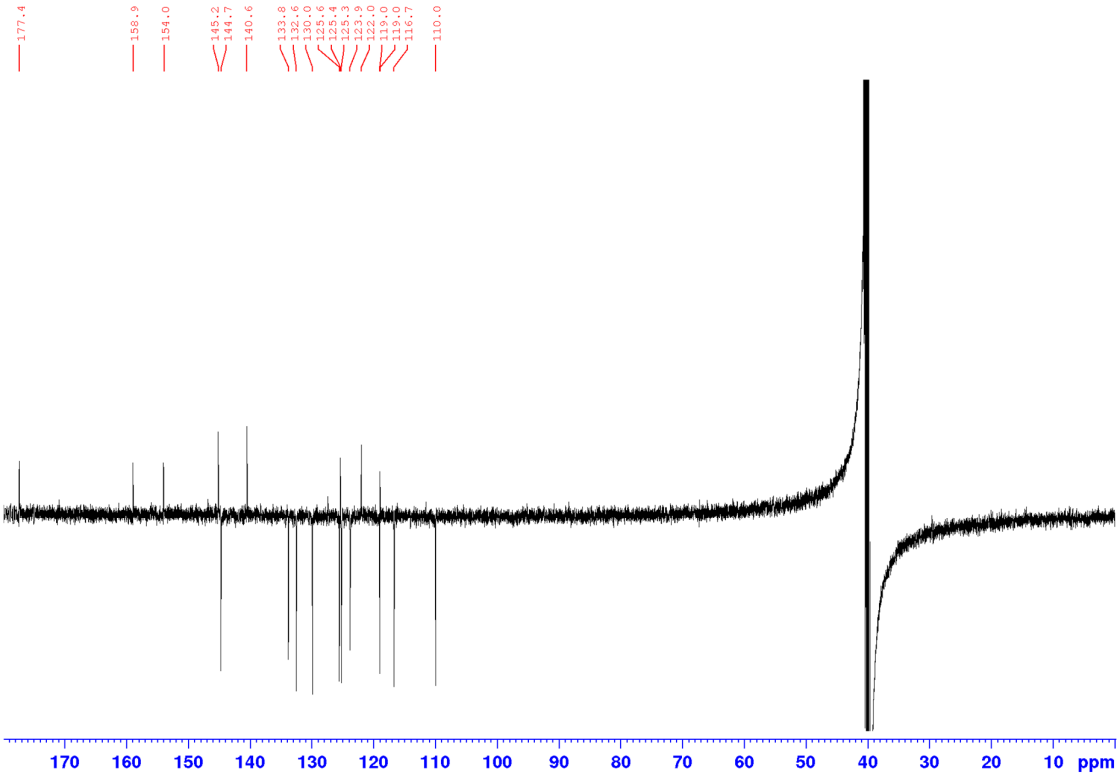

Figure S56. ^{13}C NMR spectrum of **28**

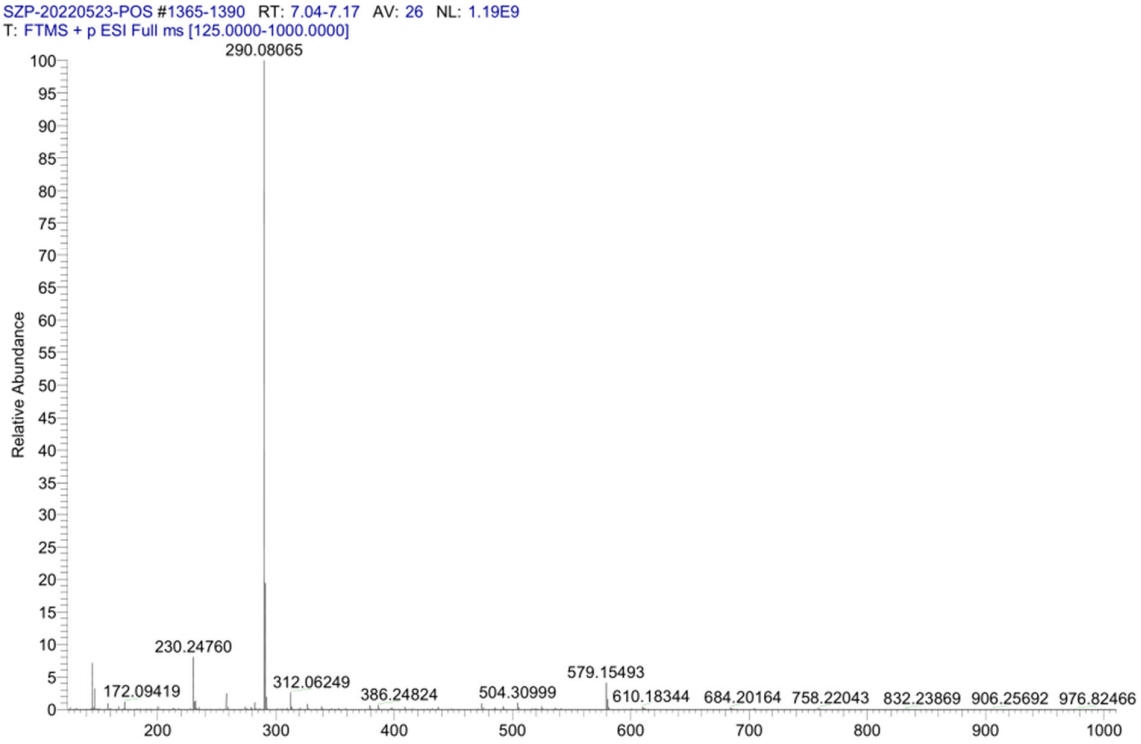

Figure S57. HRMS spectrum of **28**

2-(4-Hydroxyquinolin-2-yl)-*3H*-benzo[*f*]chromen-3-one (29)

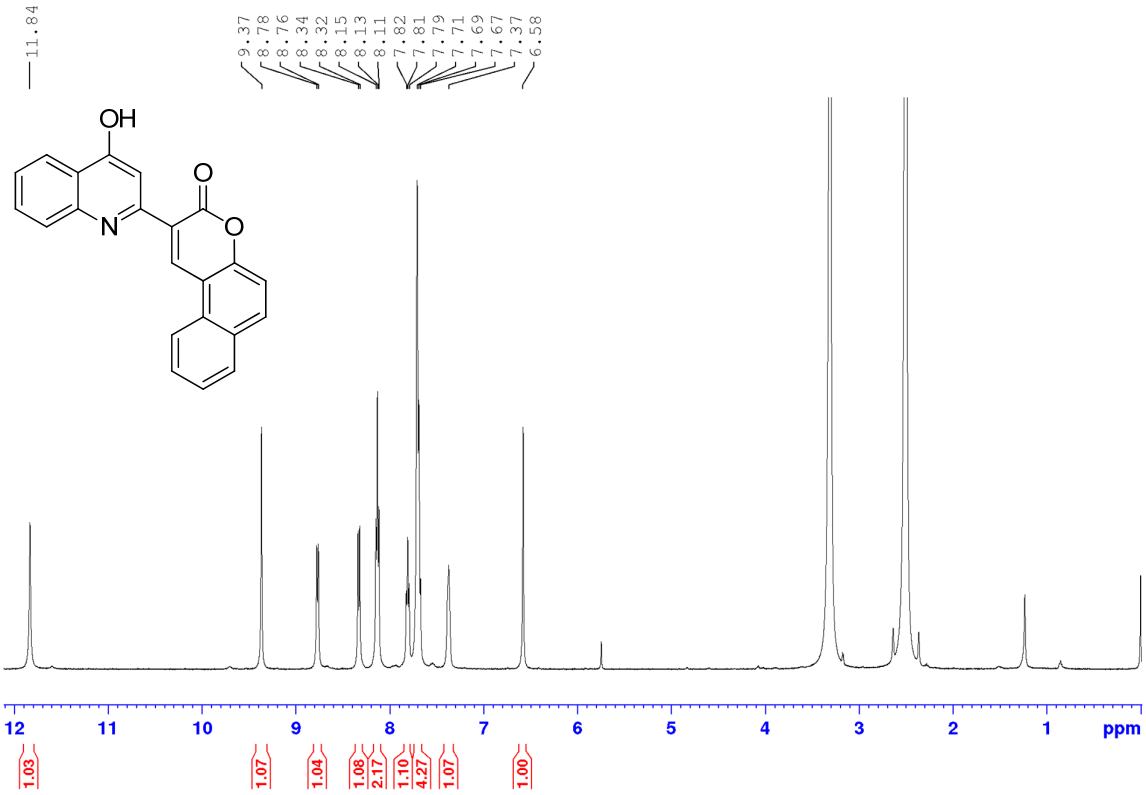

Figure S58. ^{1}H NMR spectrum of **29**

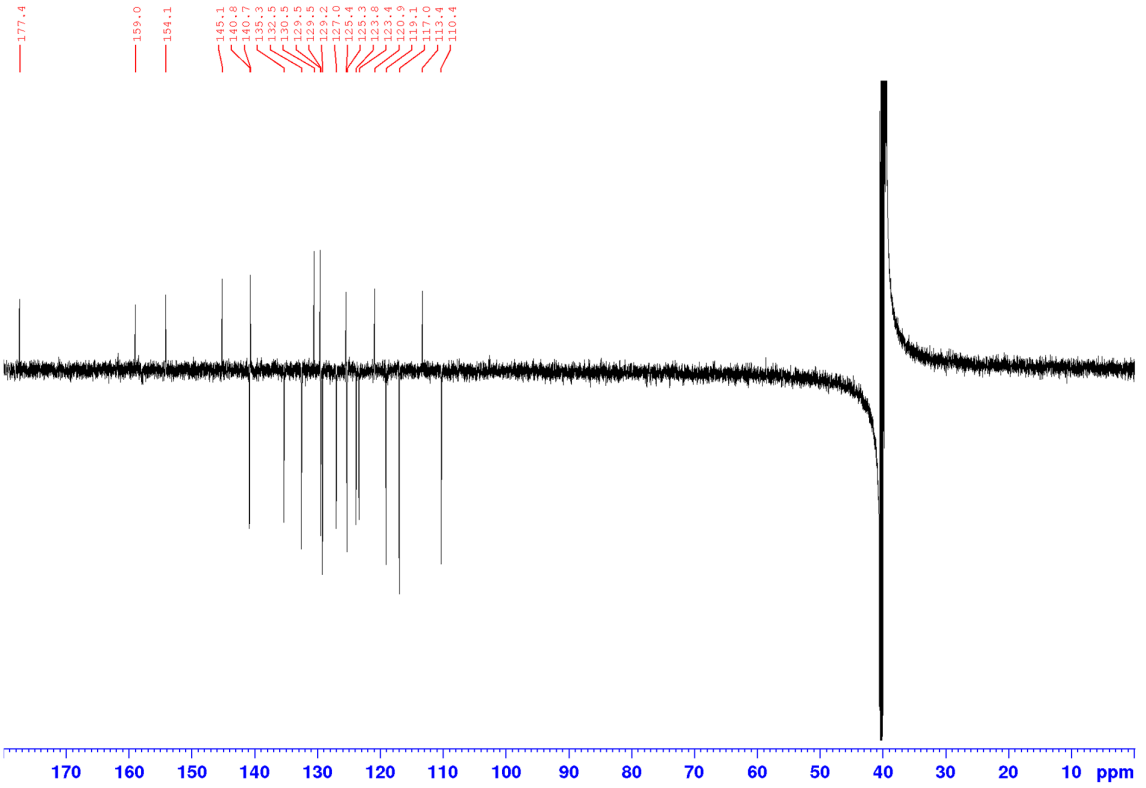

Figure S59. ^{13}C NMR spectrum of **29**

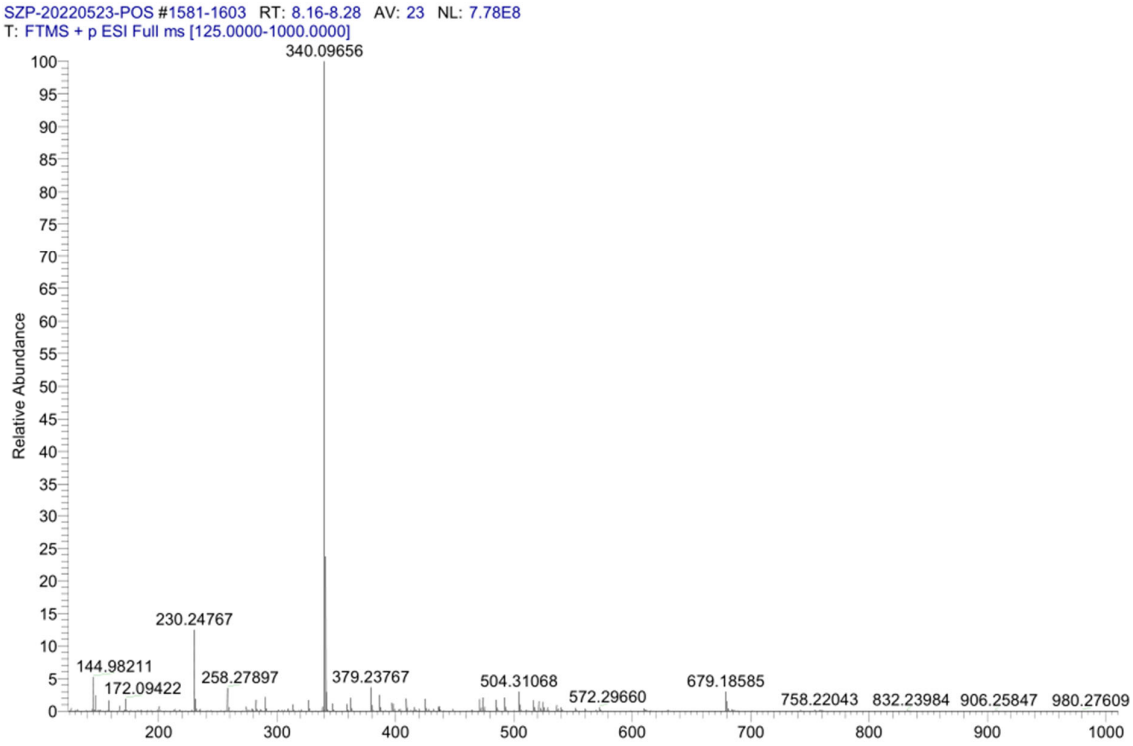

Figure S60. HRMS spectrum of **29**

3-(4-Hydroxyquinolin-2-yl)-2*H*-benzo[*h*]chromen-2-one (30)

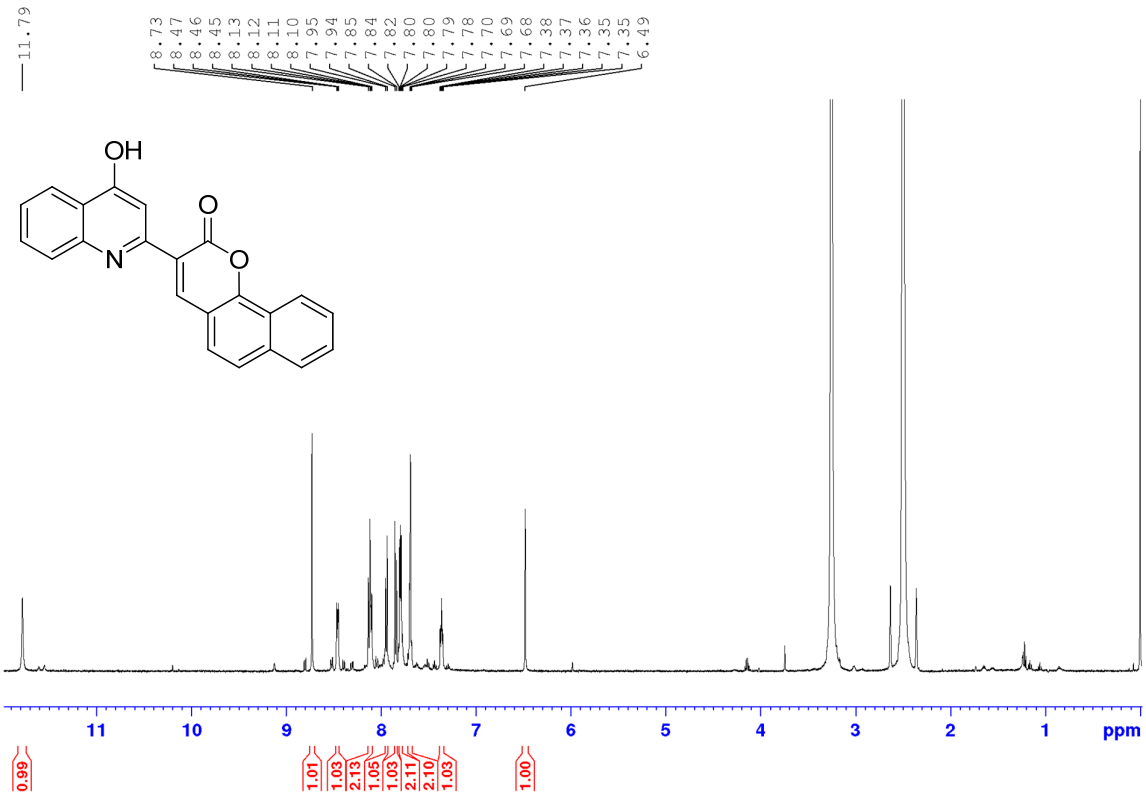

Figure S61. ^{1}H NMR spectrum of **30**

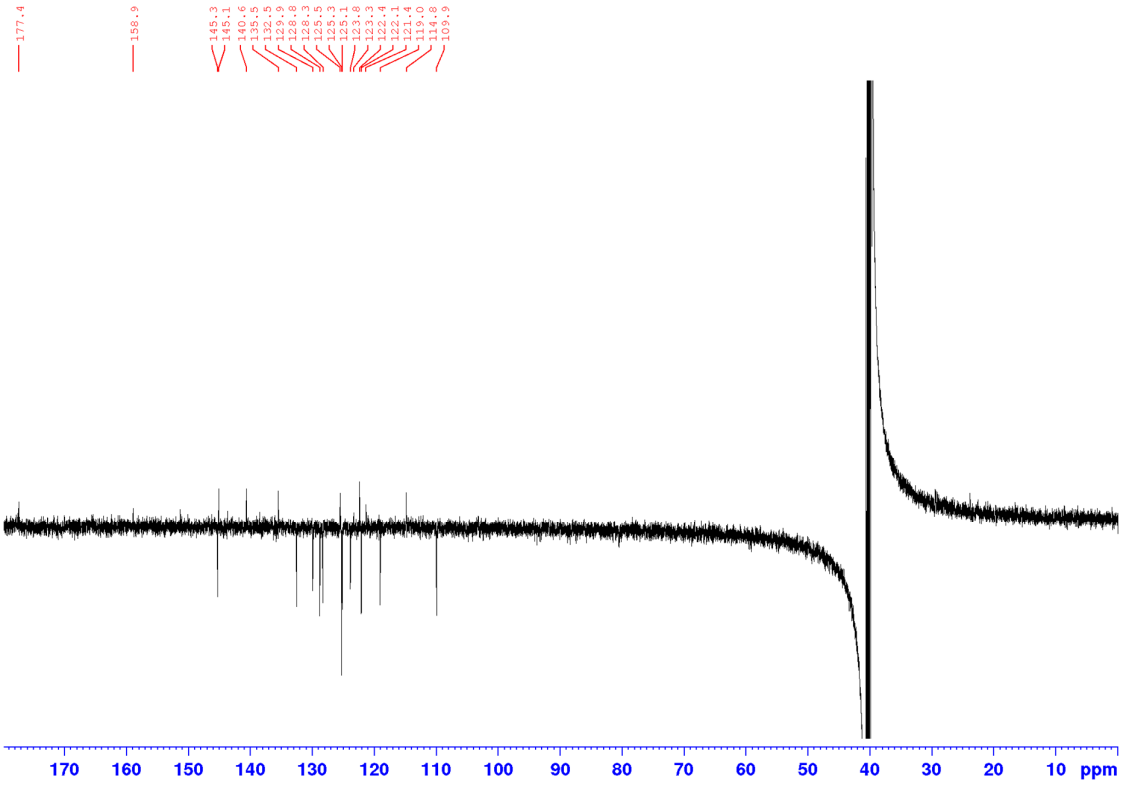

Figure S62. ^{13}C NMR spectrum of **30**

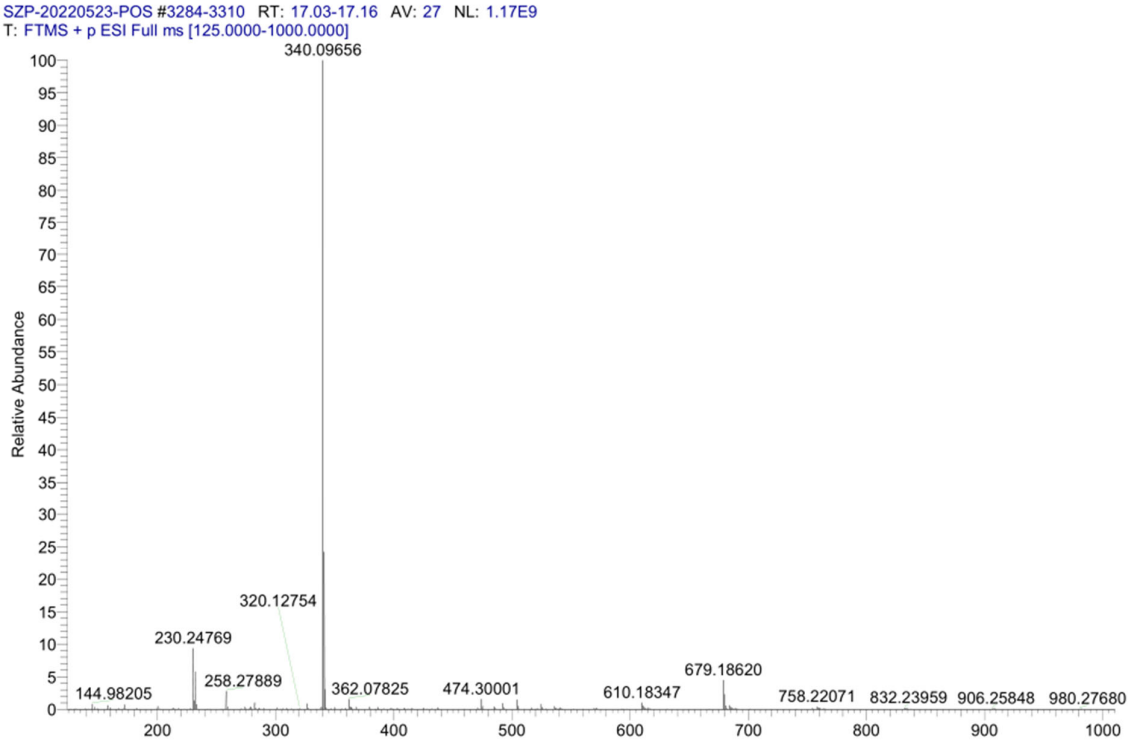

Figure S63. HRMS spectrum of **30**

2-(4-Hydroxyquinolin-2-yl)-3-phenylacrylic acid (14)

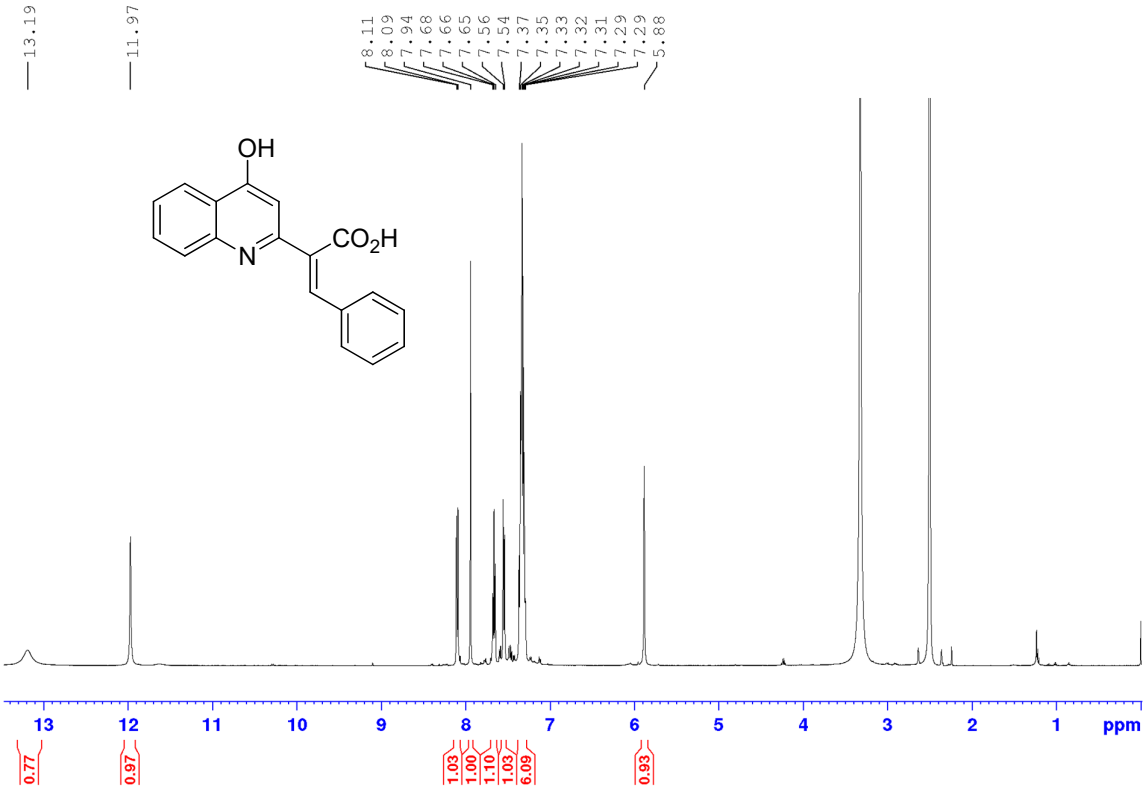

Figure S64. ^{1}H NMR spectrum of **14**

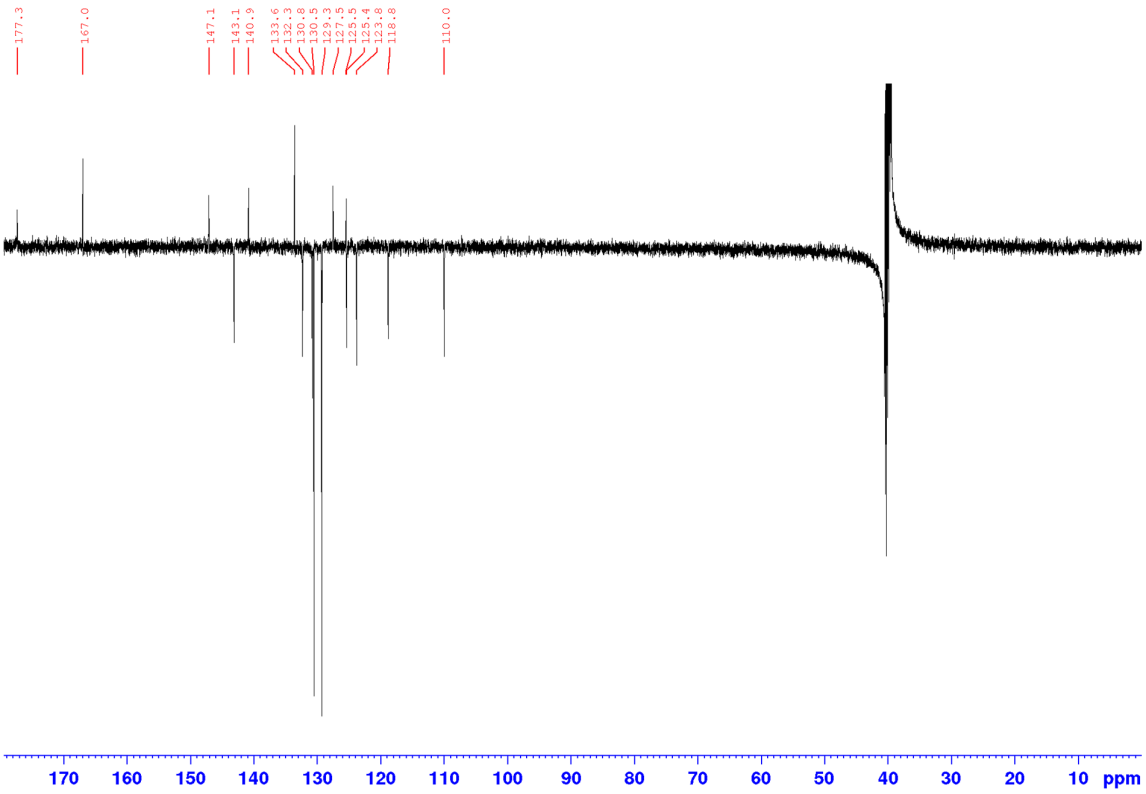

Figure S65. ^{13}C NMR spectrum of **14**

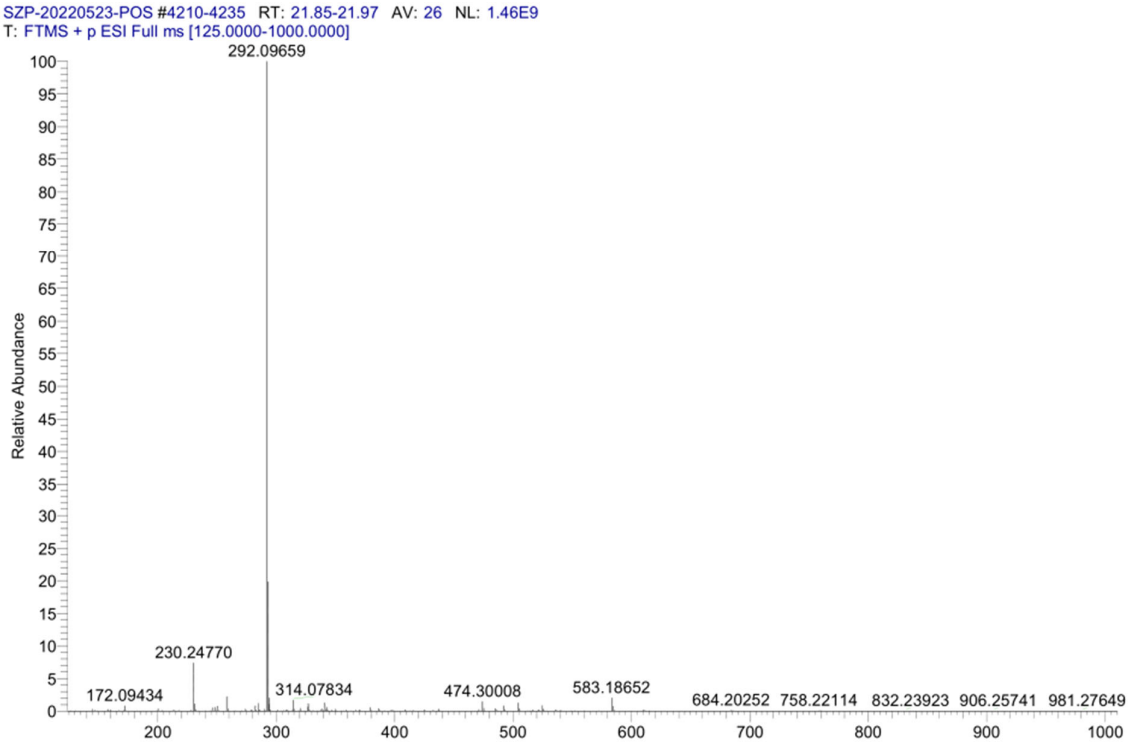

Figure S66. HRMS spectrum of **14**