

# Supporting Information: Synthesis, molecular docking analysis, and carbonic anhydrase IX inhibitory evaluations of benzenesulfonamide derivatives containing thiazolidinone

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**Table S1. Crystal data and structure refinement for compound 13.**

Identification code	ZZP1112
Empirical formula	C <sub>26</sub> H <sub>25</sub> N <sub>3</sub> O <sub>3</sub> S <sub>2</sub>
Formula weight	491.61
Temperature/K	100.00(10)
Crystal system	triclinic
Space group	P-1
a/Å	11.3246(7)
b/Å	11.3412(8)
c/Å	12.4507(8)
α/°	66.290(7)
β/°	89.665(5)
γ/°	67.305(6)
Volume/Å <sup>3</sup>	1329.49(17)
Z	2
ρ <sub>calc</sub> /cm <sup>3</sup>	1.228
μ/mm <sup>-1</sup>	0.231
F(000)	516.0
Crystal size/mm <sup>3</sup>	0.13 × 0.12 × 0.11
Radiation	MoKα (λ = 0.71073)
2θ range for data collection/°	3.96 to 58.972
Index ranges	-15 ≤ h ≤ 14, -14 ≤ k ≤ 15, -16 ≤ l ≤ 16
Reflections collected	17723
Independent reflections	6410 [R <sub>int</sub> = 0.0362, R <sub>sigma</sub> = 0.0469]
Data/restraints/parameters	6410/9/316
Goodness-of-fit on F <sup>2</sup>	1.077
Final R indexes [I ≥ 2σ (I)]	R <sub>1</sub> = 0.0645, wR <sub>2</sub> = 0.1657
Final R indexes [all data]	R <sub>1</sub> = 0.0773, wR <sub>2</sub> = 0.1765
Largest diff. peak/hole / e Å <sup>-3</sup>	0.72/-0.68

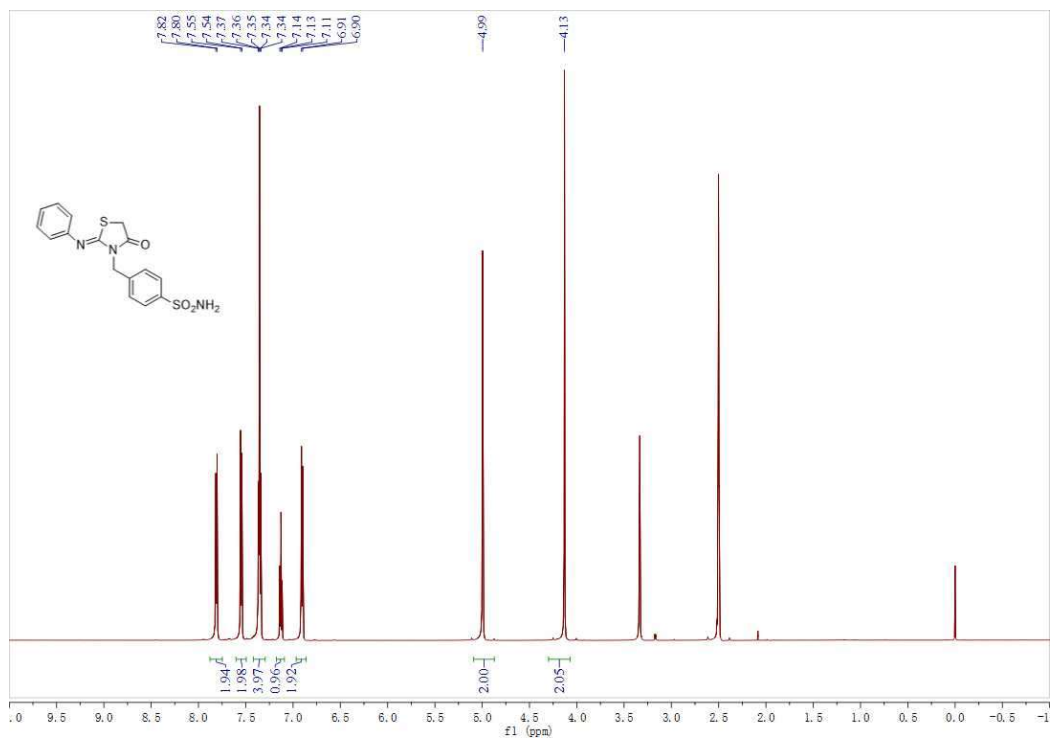


Figure S1. The <sup>1</sup>H-NMR of compound 2

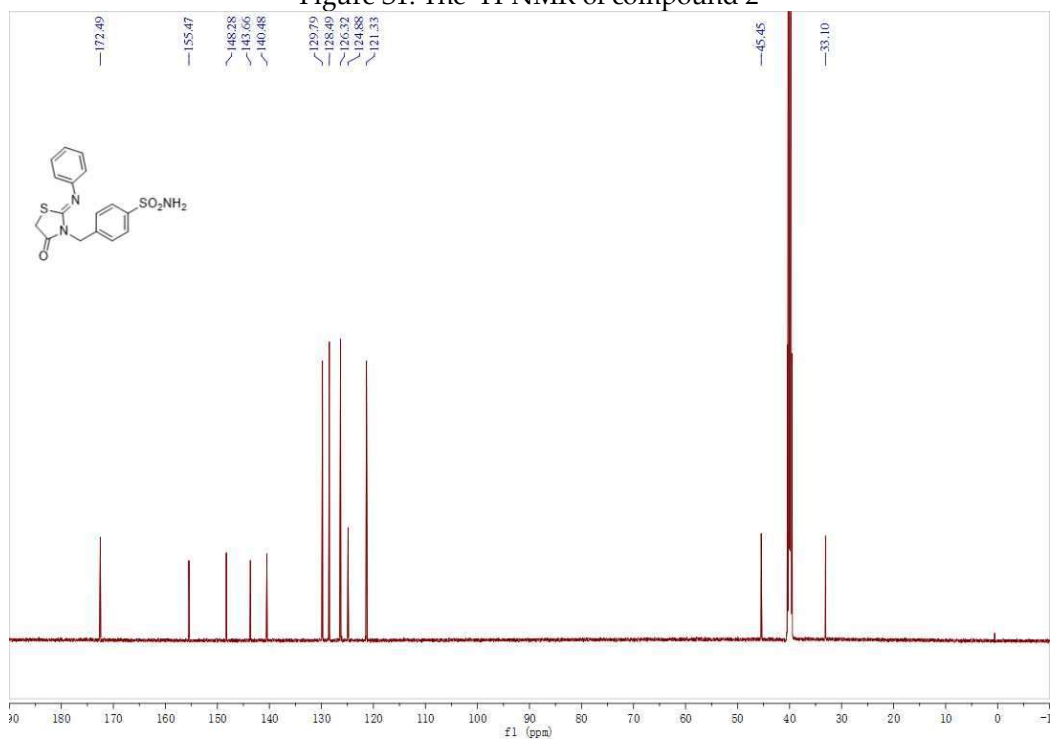


Figure S2. The <sup>13</sup>C-NMR of compound 2

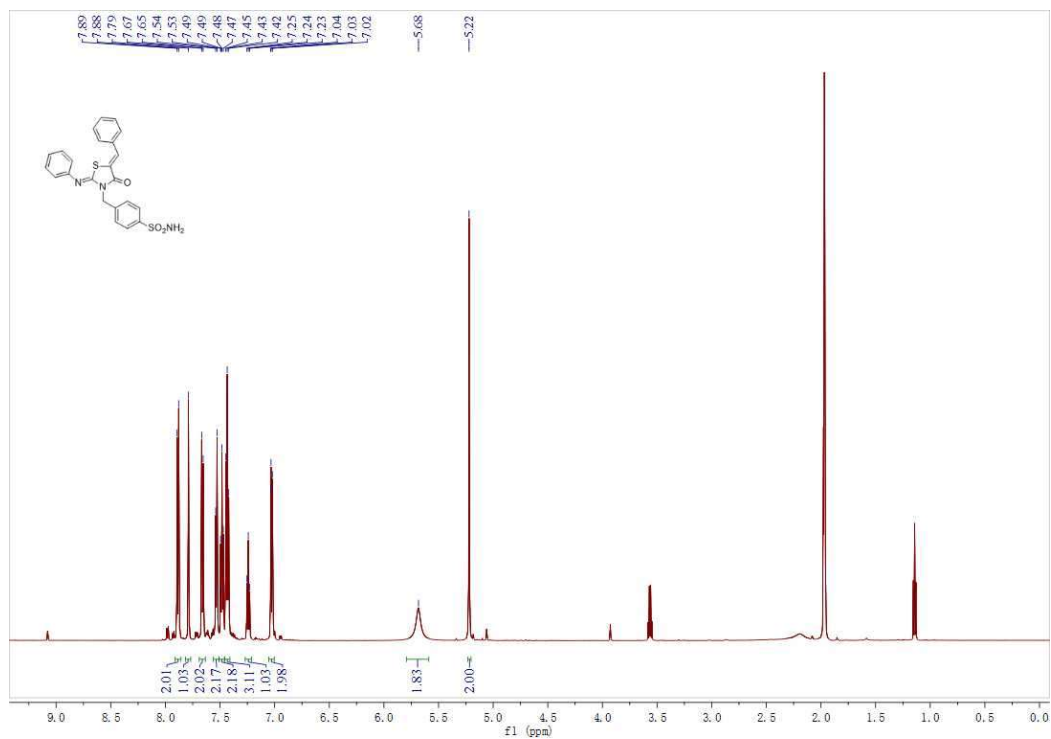


Figure S3. The <sup>1</sup>H-NMR of compound 3

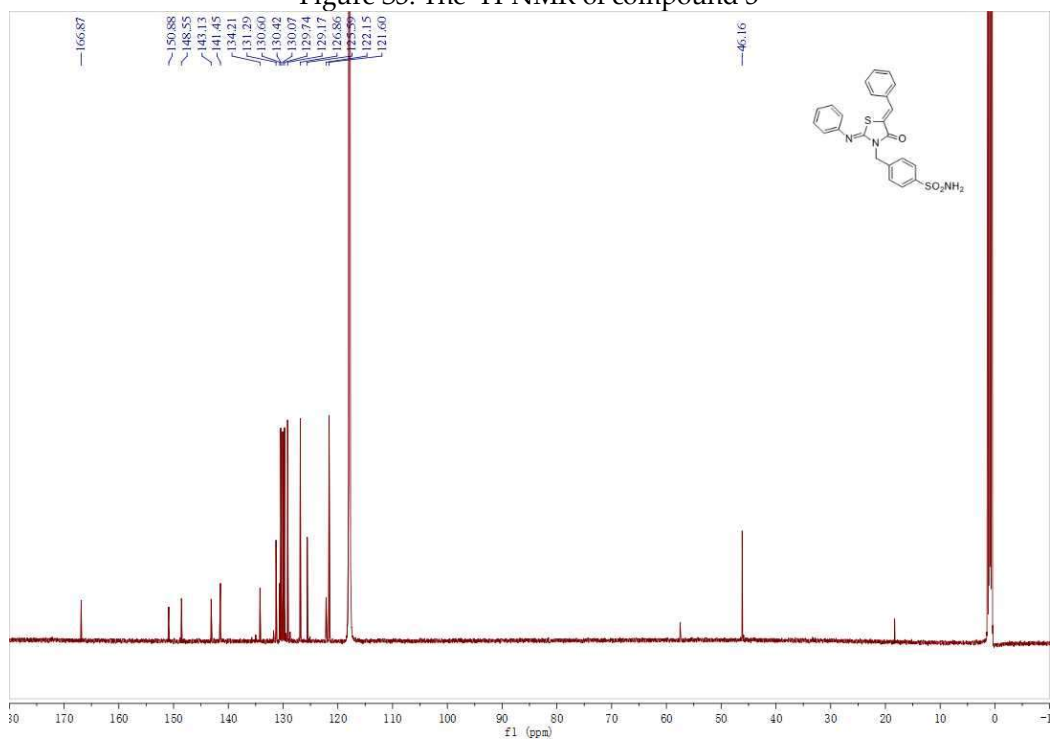


Figure S4. The <sup>13</sup>C-NMR of compound 3

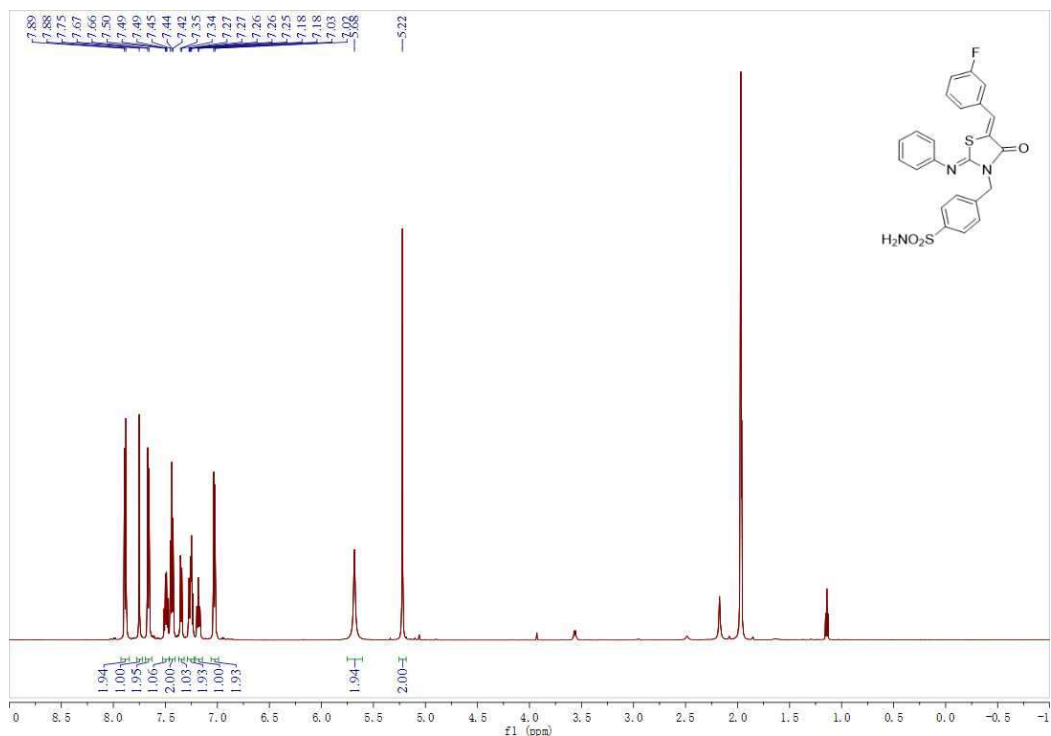


Figure S5. The <sup>1</sup>H-NMR of compound 4

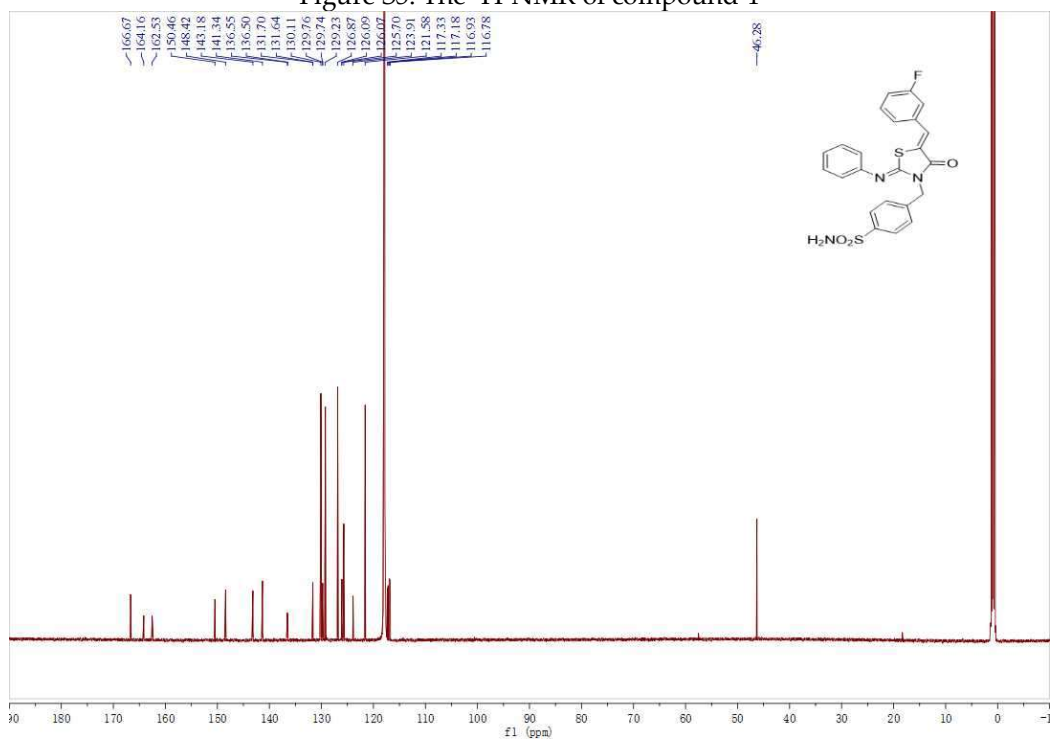


Figure S6. The <sup>13</sup>C-NMR of compound 4

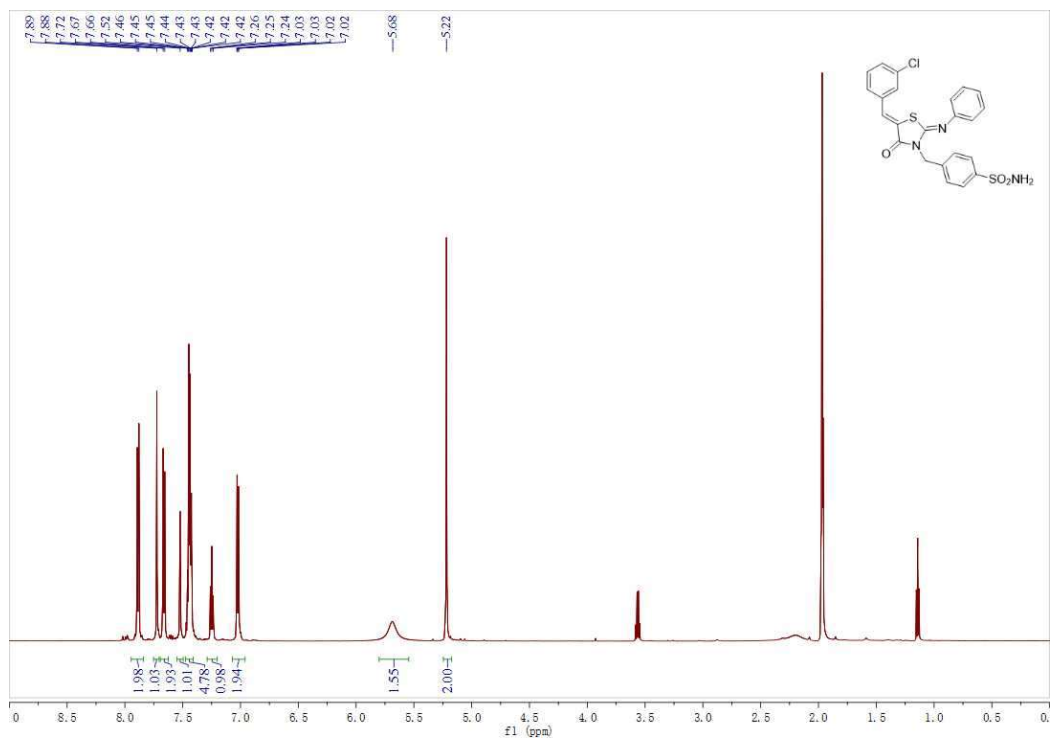


Figure S7. The <sup>1</sup>H-NMR of compound 5

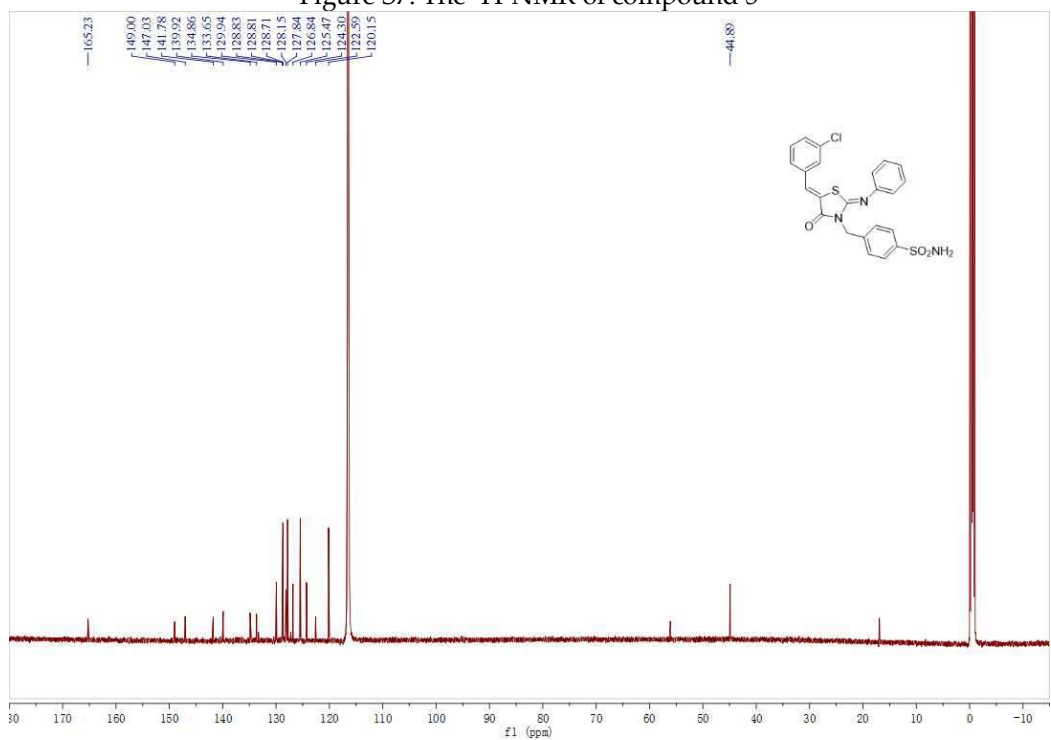


Figure S8. The <sup>13</sup>C-NMR of compound 5

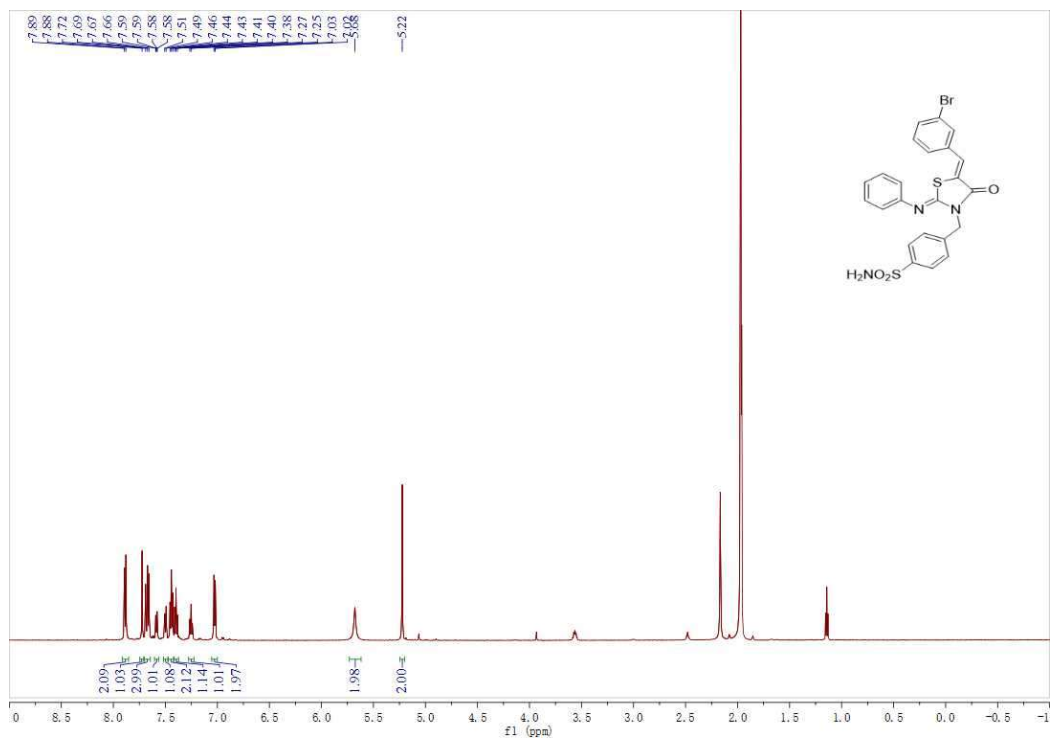


Figure S9. The <sup>1</sup>H-NMR of compound 6

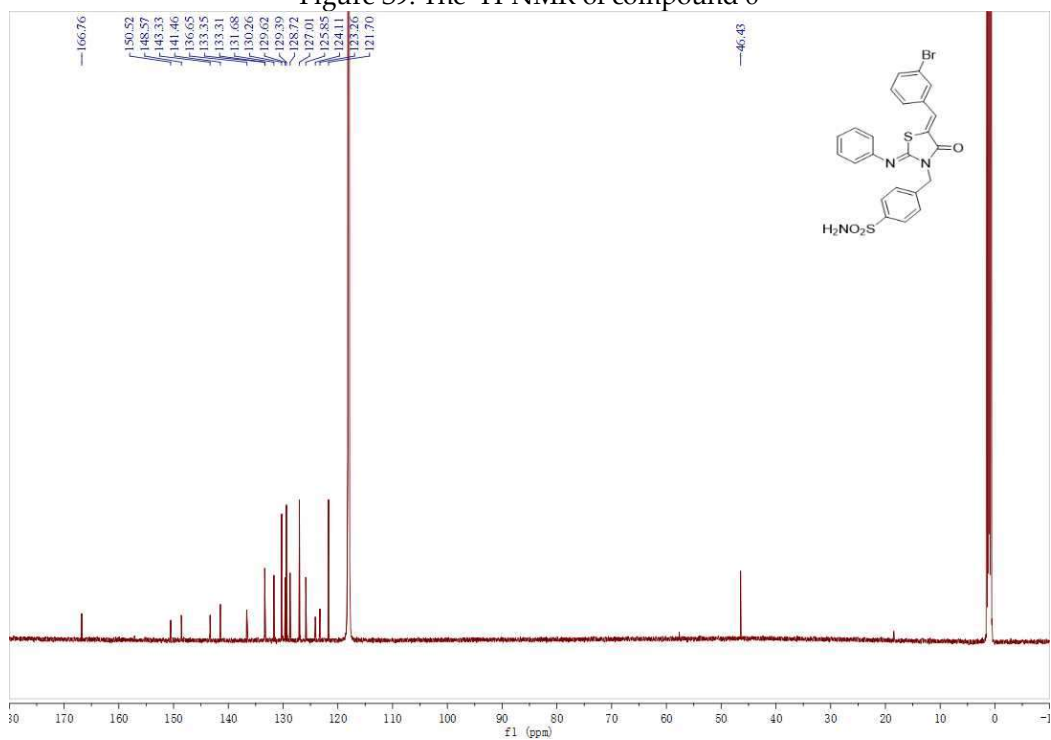


Figure S10. The <sup>13</sup>C-NMR of compound 6

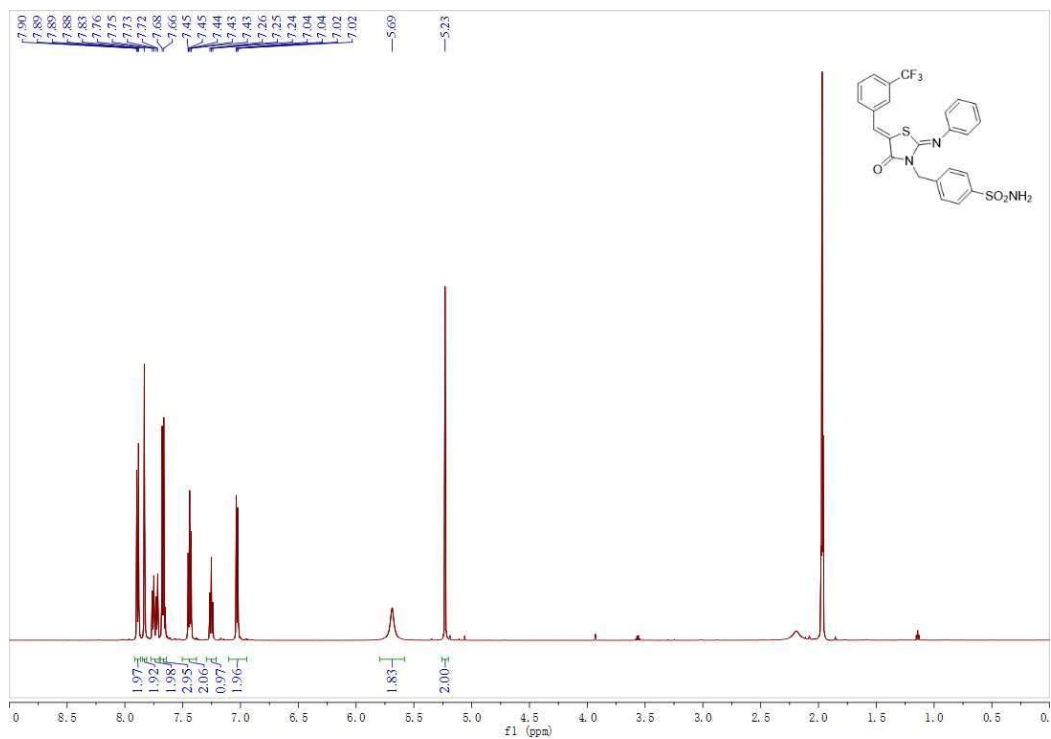


Figure S11. The  $^1\text{H}$ -NMR of compound 7

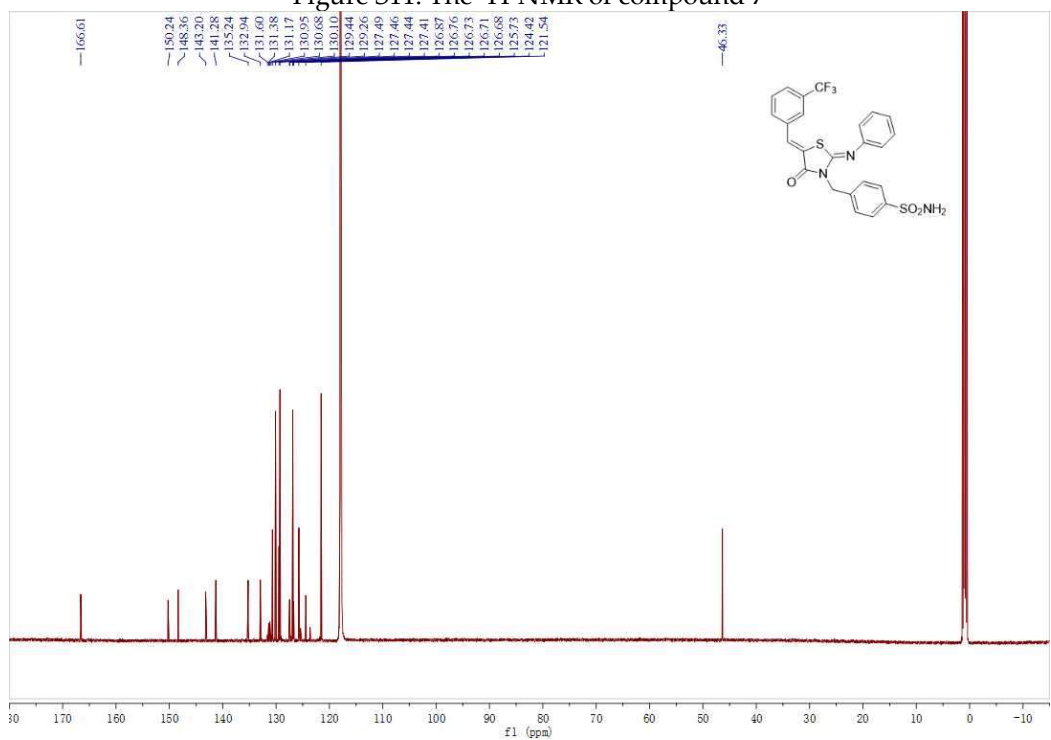


Figure S12. The  $^{13}\text{C}$ -NMR of compound 7

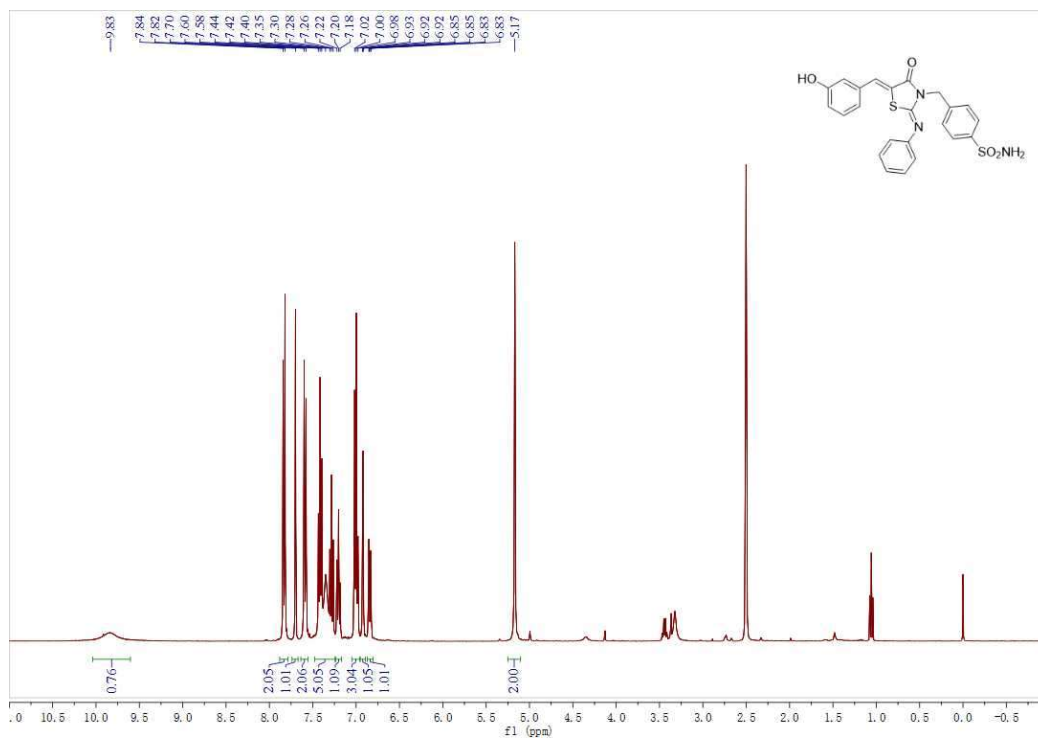


Figure S13. The <sup>1</sup>H-NMR of compound 8

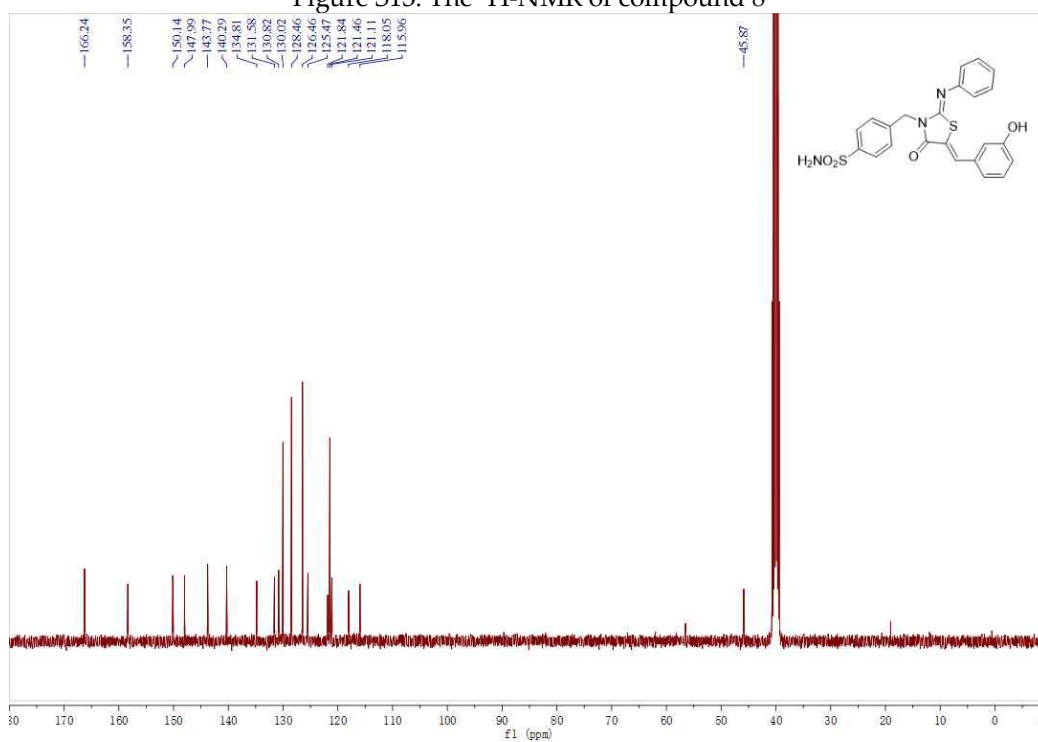


Figure S14. The <sup>13</sup>C-NMR of compound 8



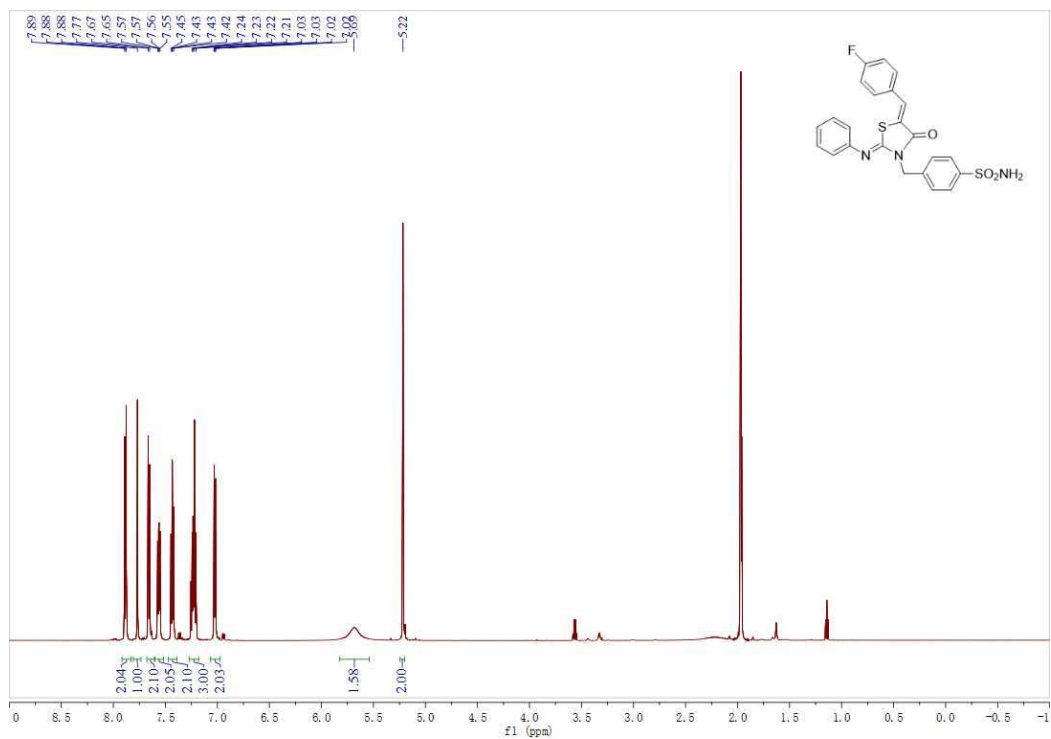


Figure S15. The <sup>1</sup>H-NMR of compound 9

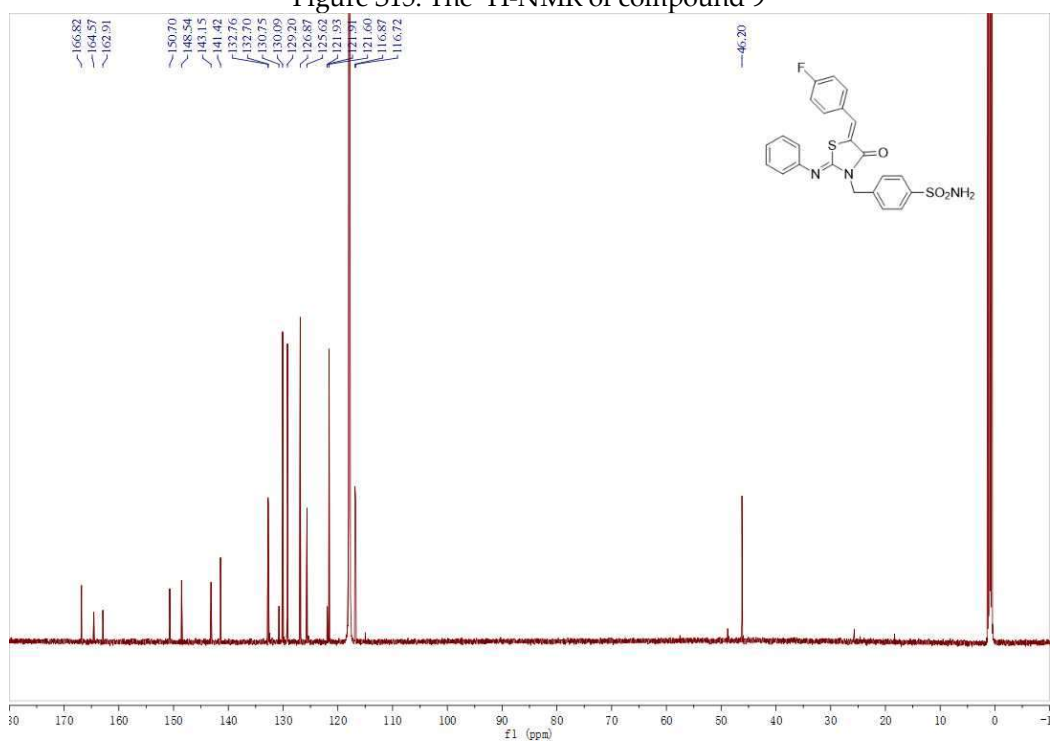


Figure S16. The <sup>13</sup>C-NMR of compound 9

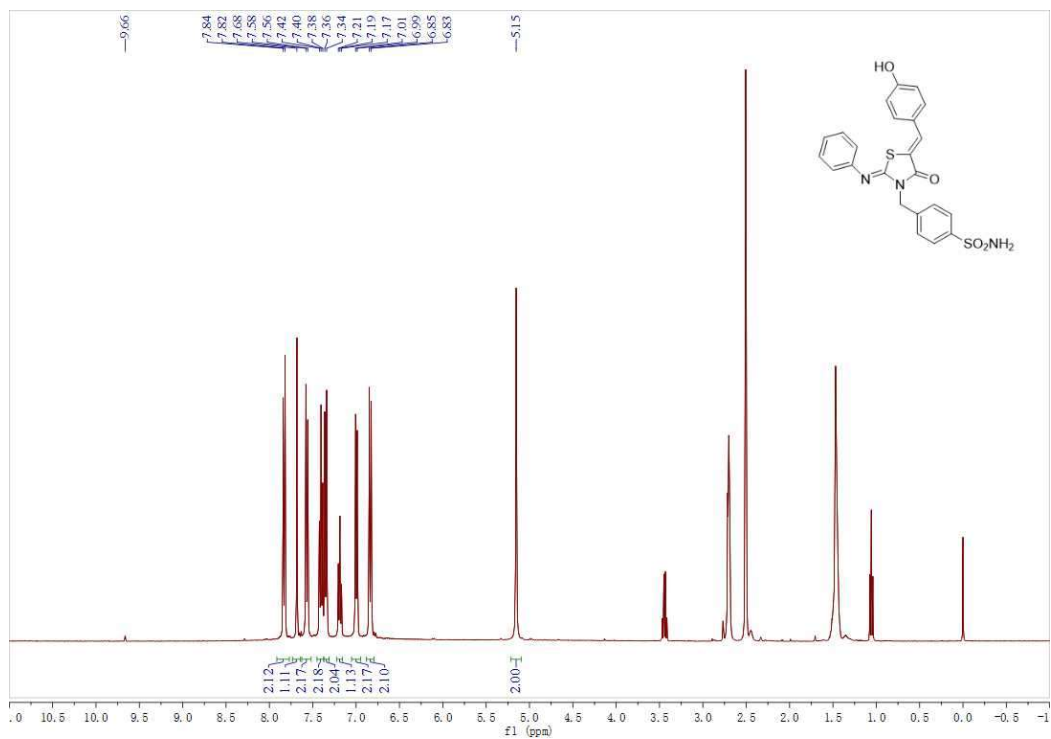


Figure S17. The <sup>1</sup>H-NMR of compound 10

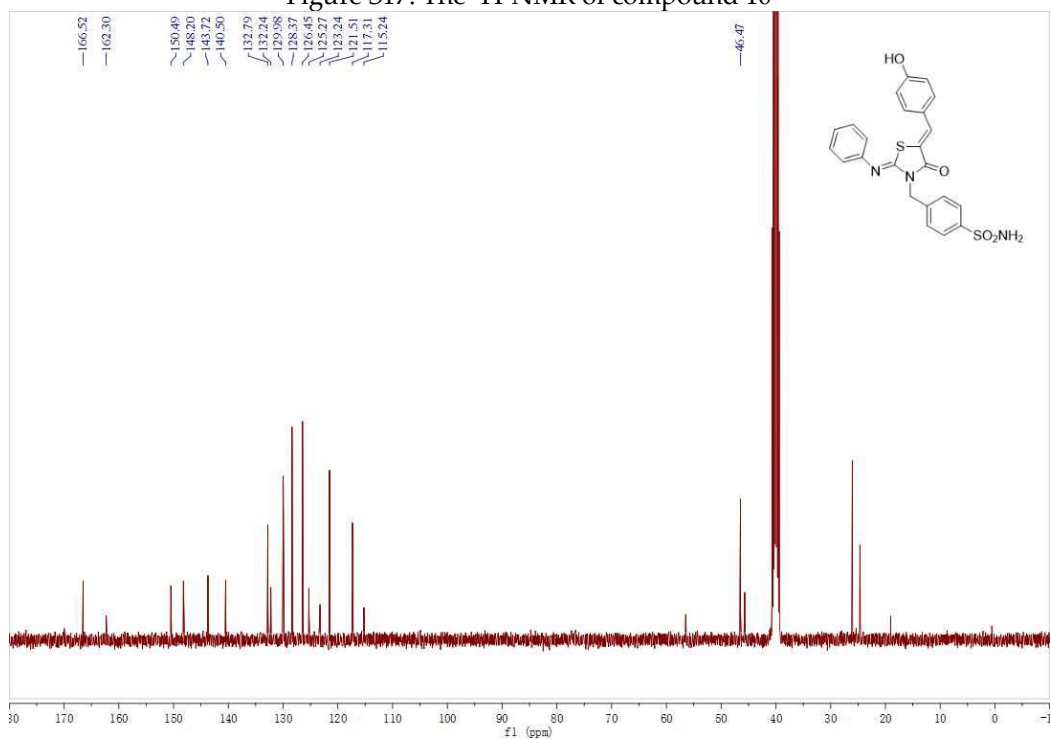


Figure S18. The <sup>13</sup>C-NMR of compound 10

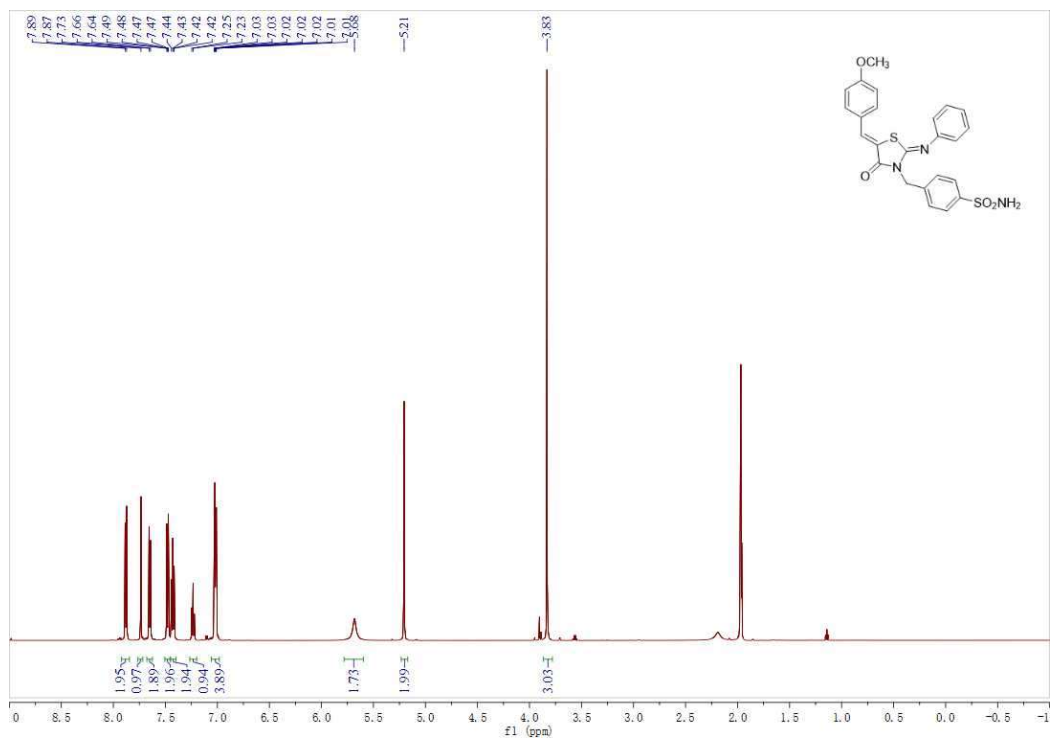


Figure S19. The <sup>1</sup>H-NMR of compound 11

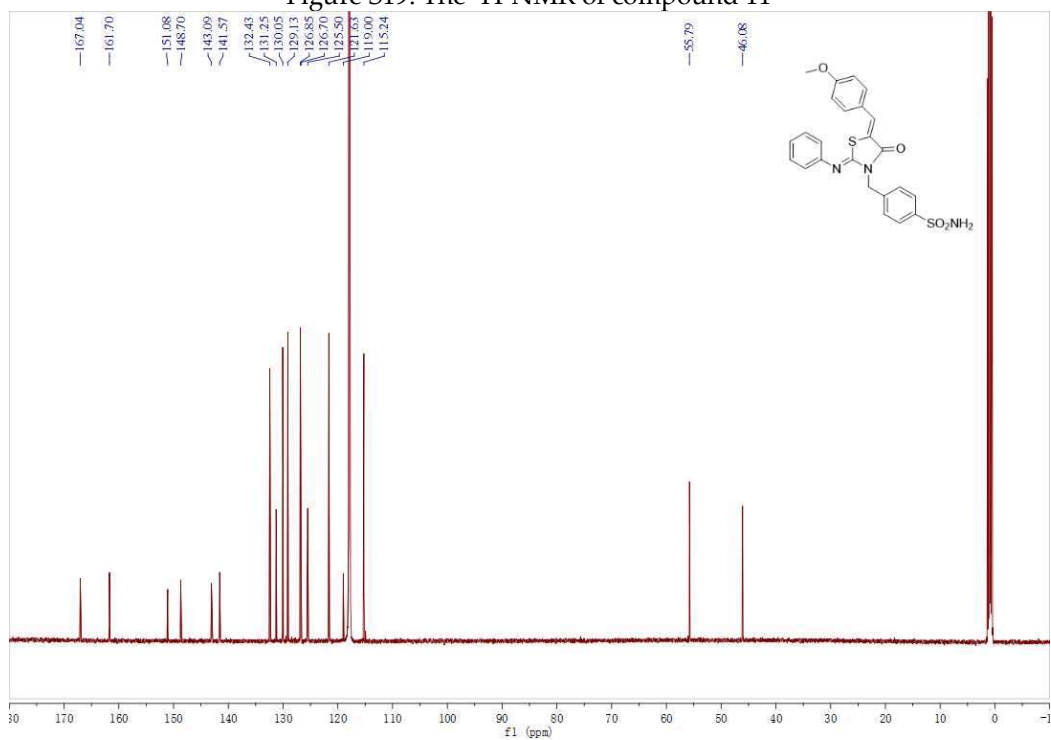
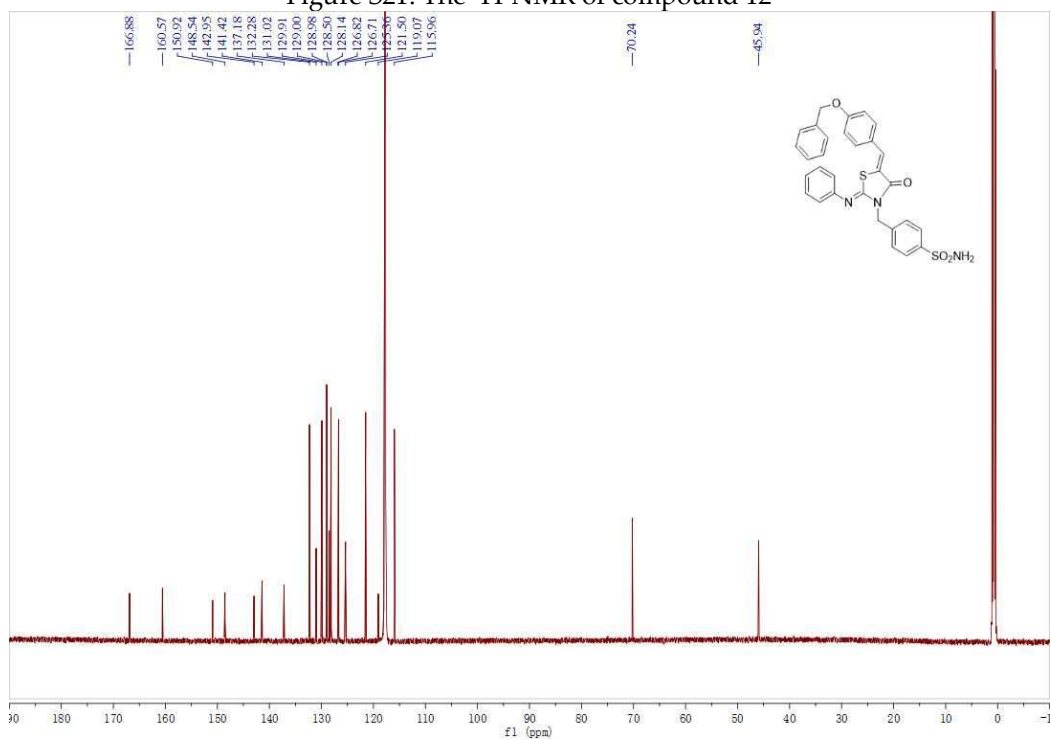
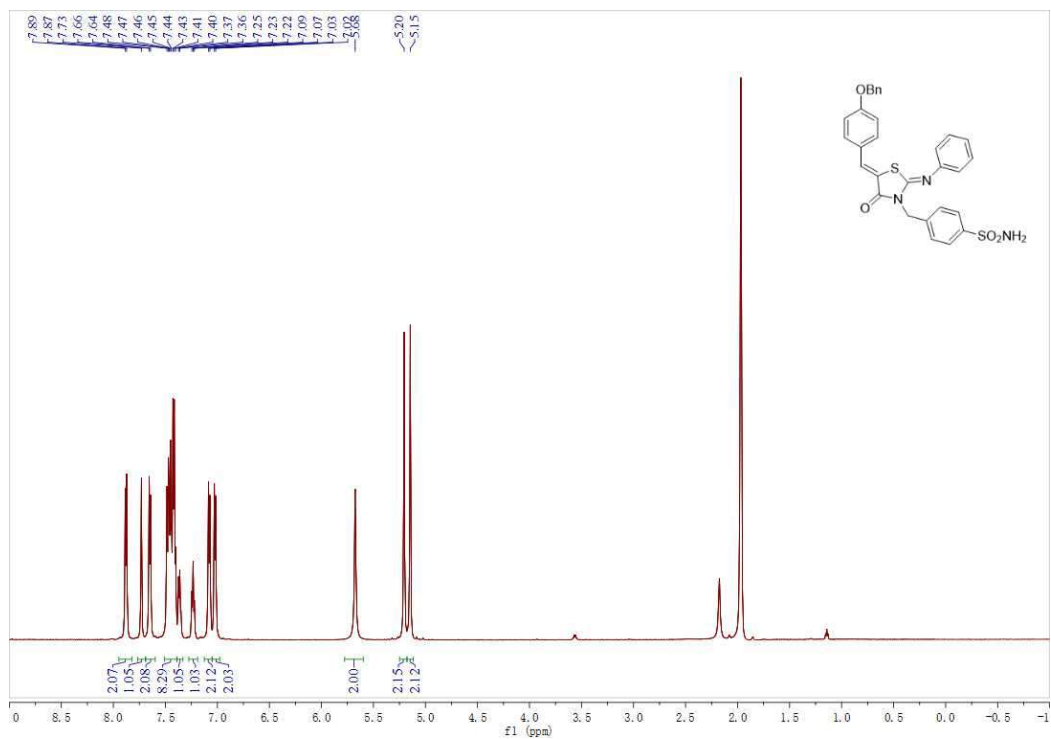


Figure S20. The <sup>13</sup>C-NMR of compound 11



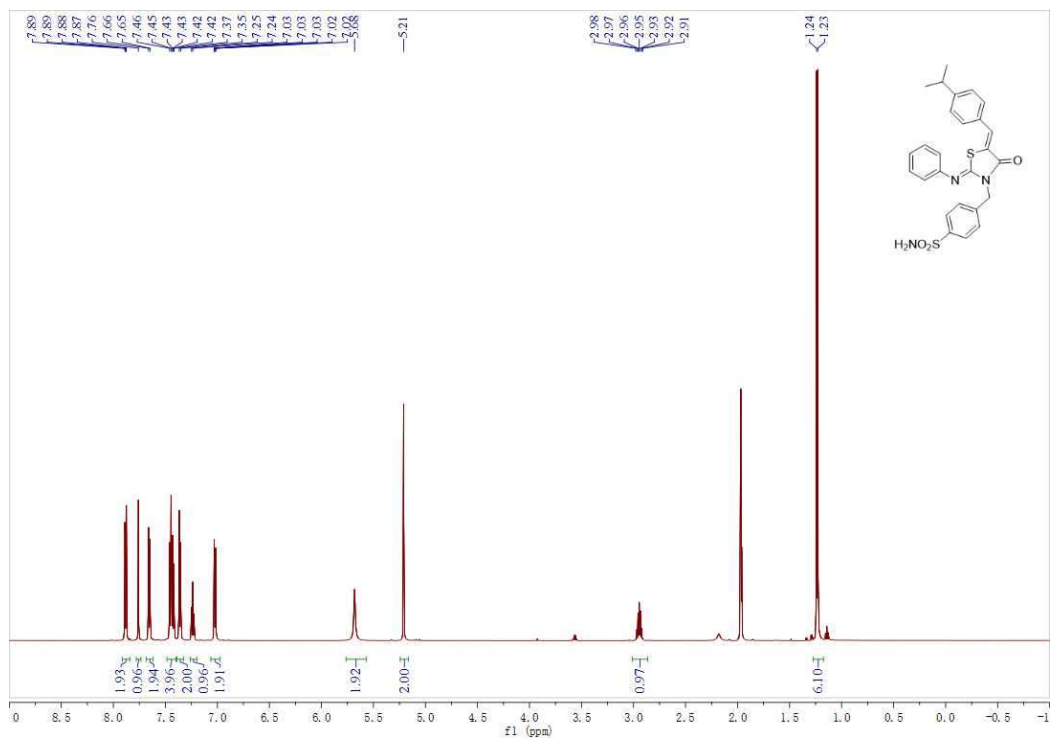


Figure S23. The  $^1\text{H}$ -NMR of compound 13

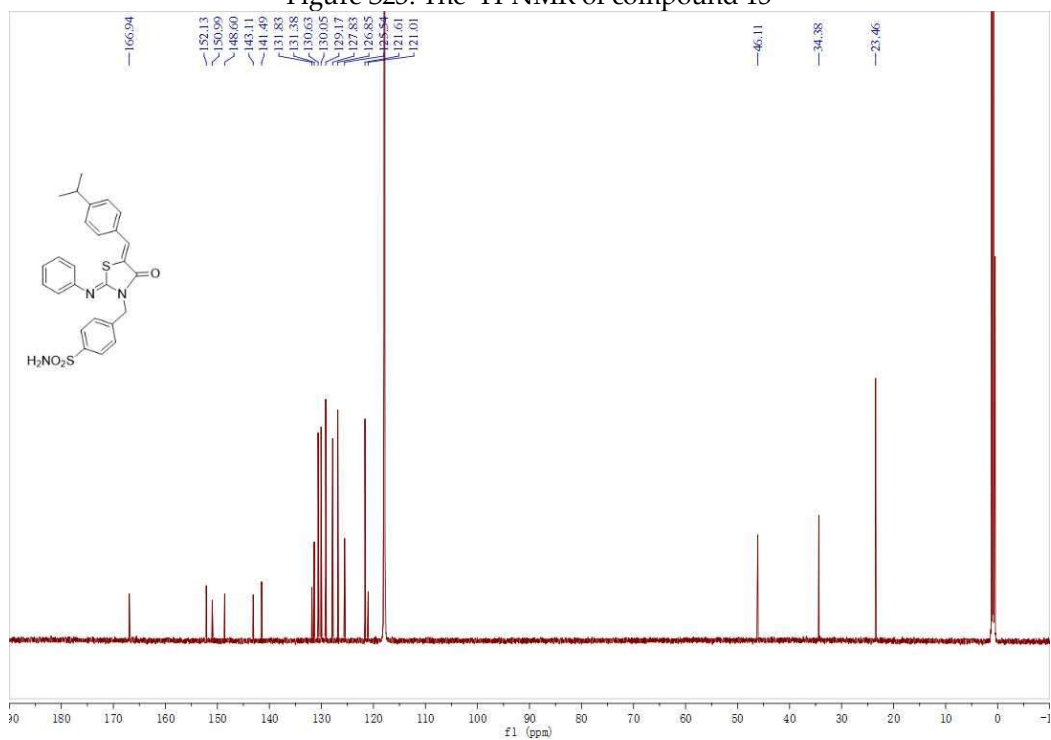


Figure S24. The  $^{13}\text{C}$ -NMR of compound 13

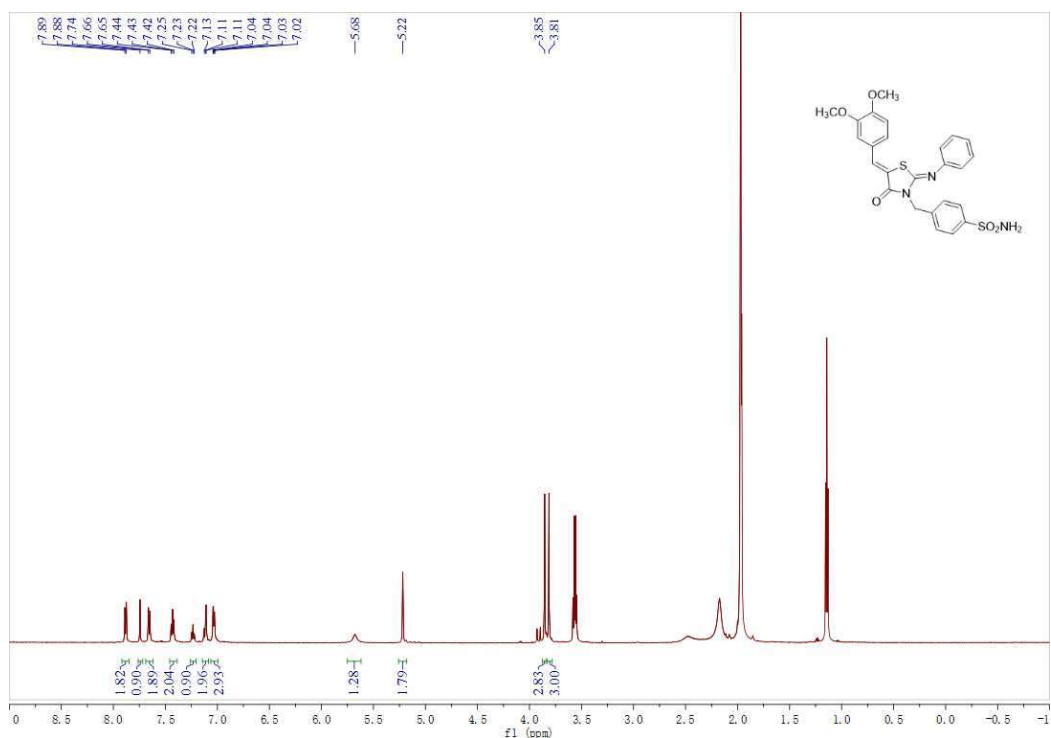


Figure S25. The  $^1\text{H}$ -NMR of compound 14

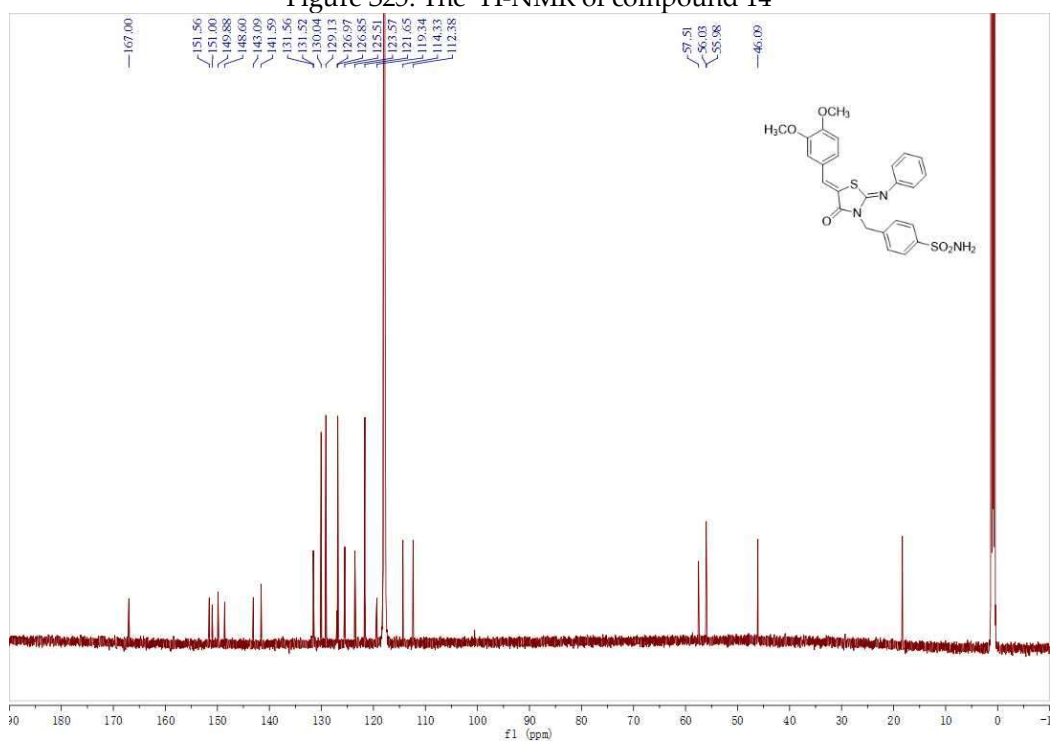


Figure S26. The  $^{13}\text{C}$ -NMR of compound 14