

## Supplementary Materials

### Synthesis and Biological Activity Evaluation of Benzothiazole-isoquinoline Derivatives

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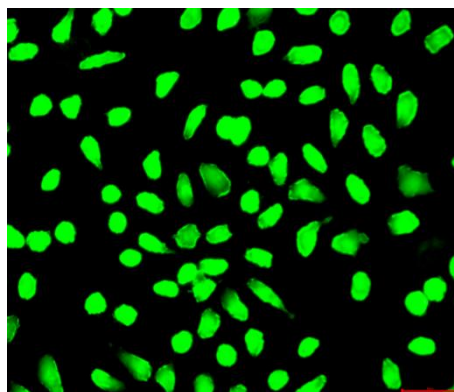
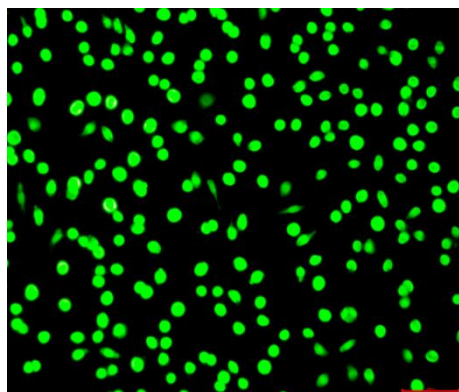
1. AO Fluorescent Staining Analysis Derivatives (**4b-4d, 4f,4j,4i**)
2. HPLC Data of Derivatives (**4a-4p**)
3. NMR Data of Derivatives (**4a-4p**)

1. AO Fluorescent Staining Analysis of Derivatives (**4b-4d**, **4f,4j,4i**)

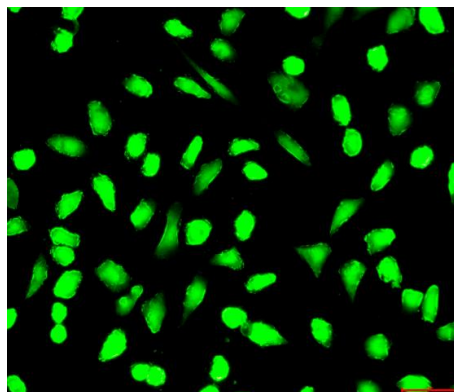
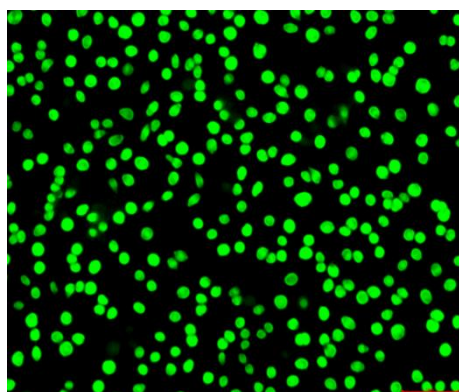
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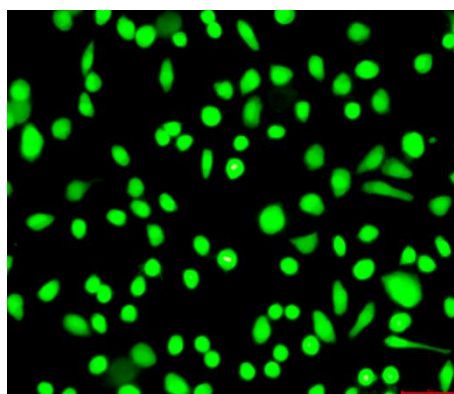
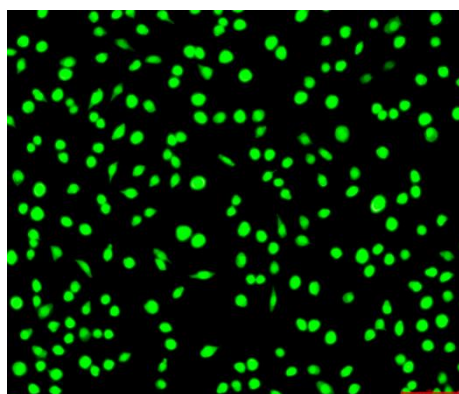
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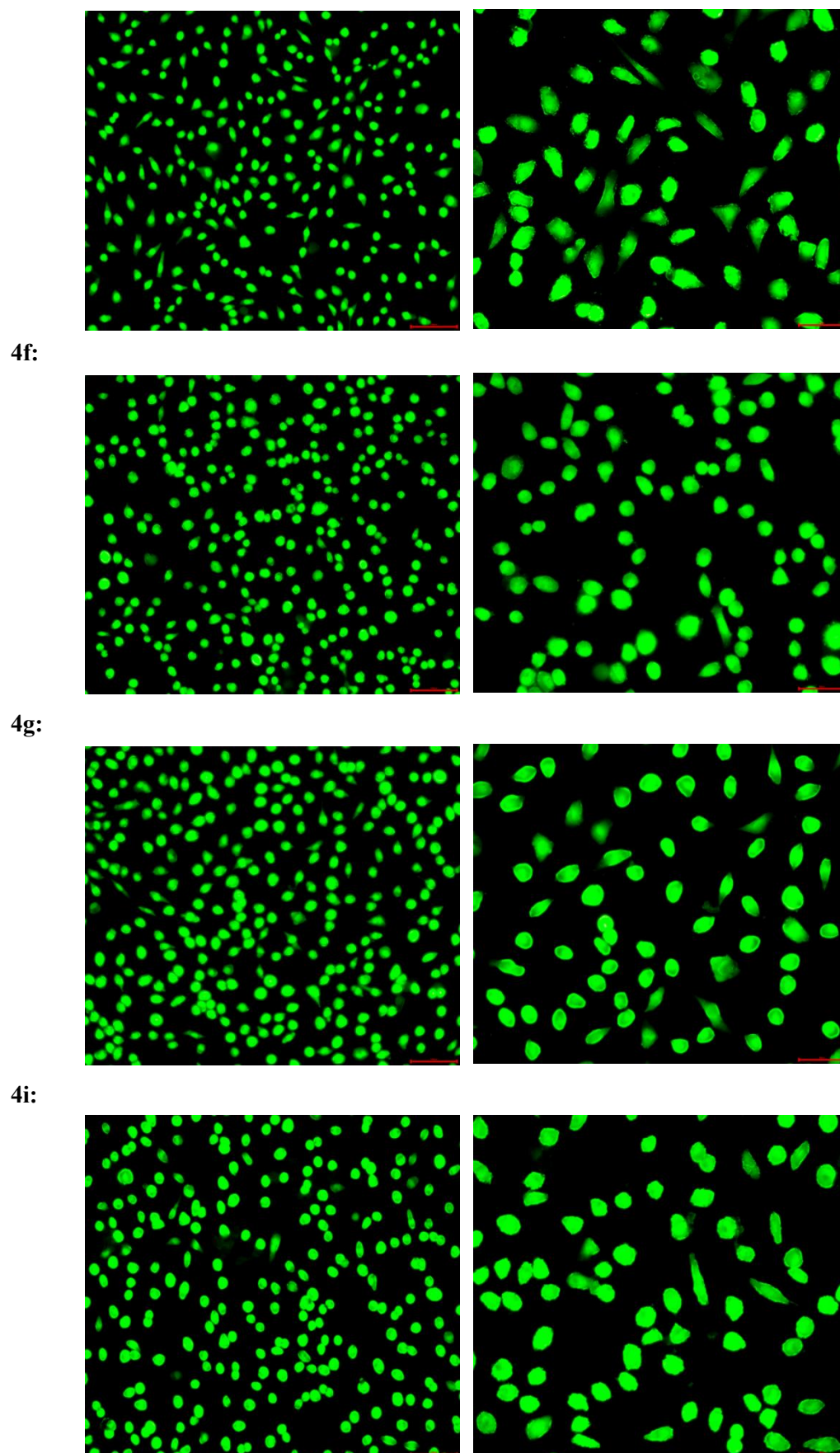
**4b:**



**4c:**



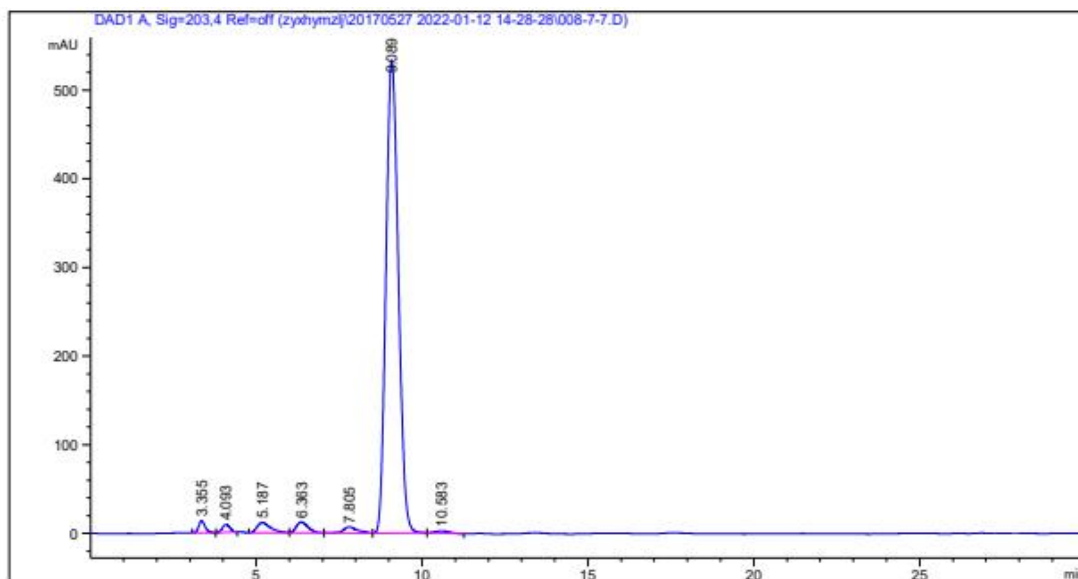
**4d:**



*Figure S1. The effect of benzothiazole-isoquinoline derivatives (4b-4d, 4f, 4g, 4i) on the proliferation of L929 cells*

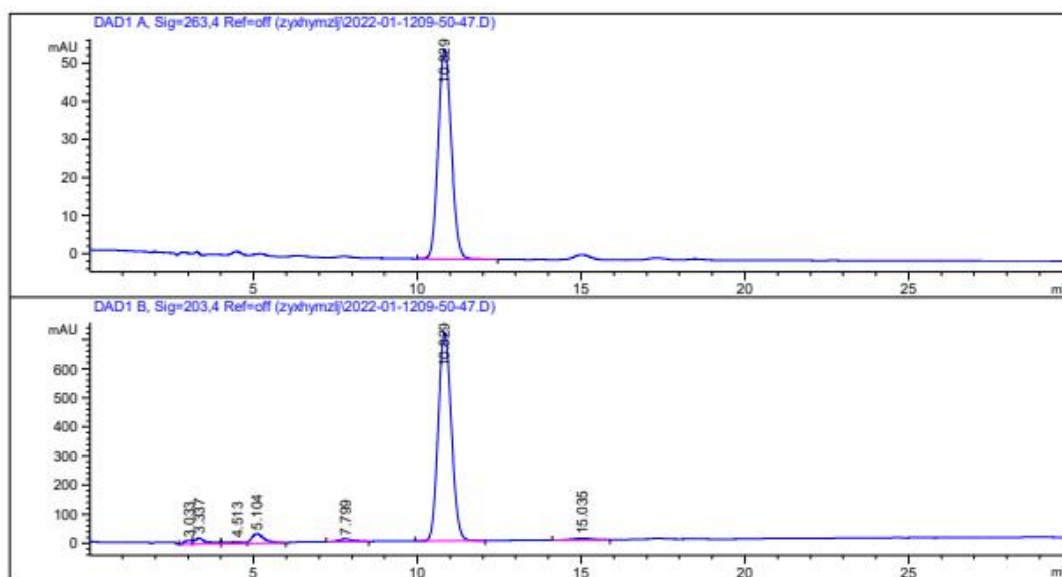
## 2. HPLC Data of Derivatives (**4a-4p**)

**4a:**



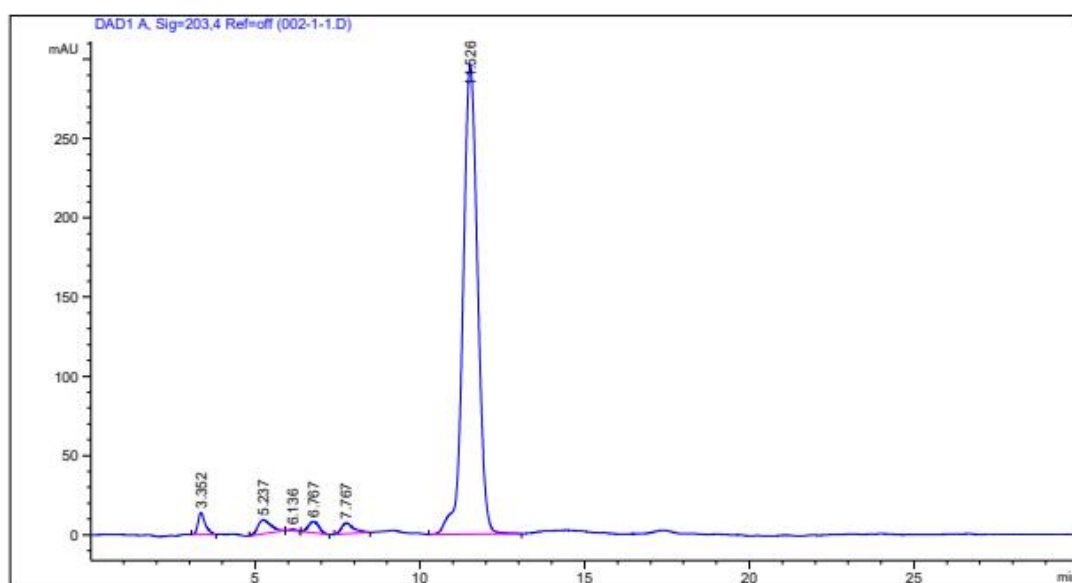
*Figure S2. The HPLC data of 4a*

**4b**



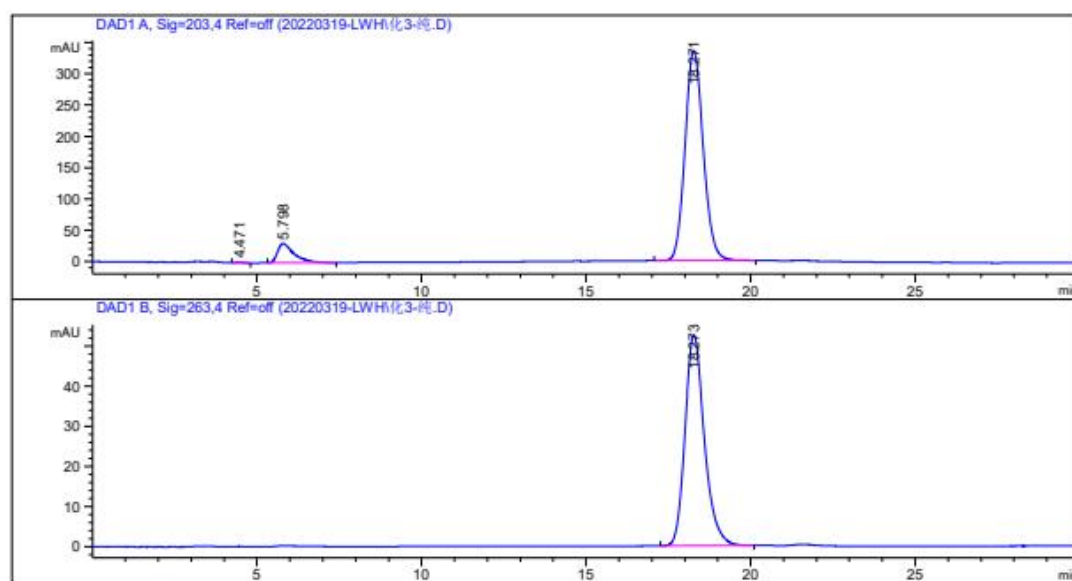
*Figure S3. The HPLC data of 4b*

4c:



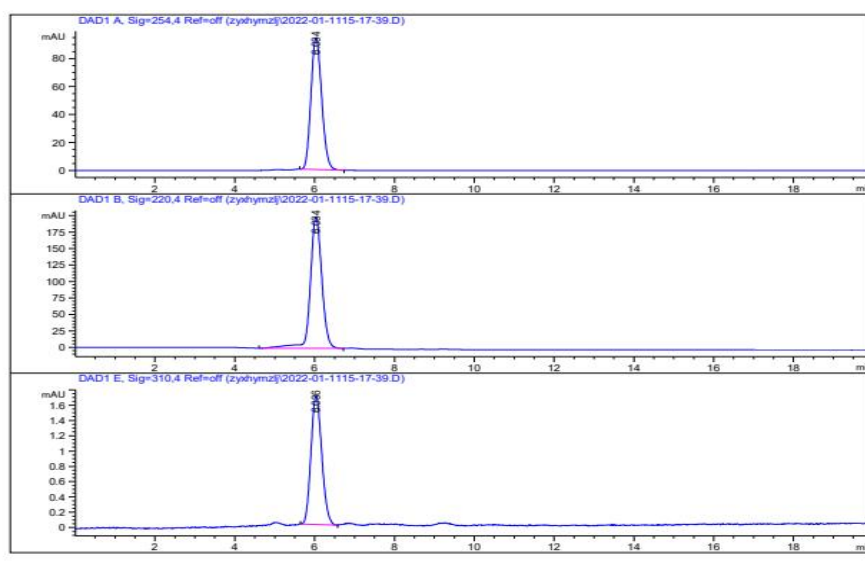
*Figure S4. The HPLC data of 4c*

4d:



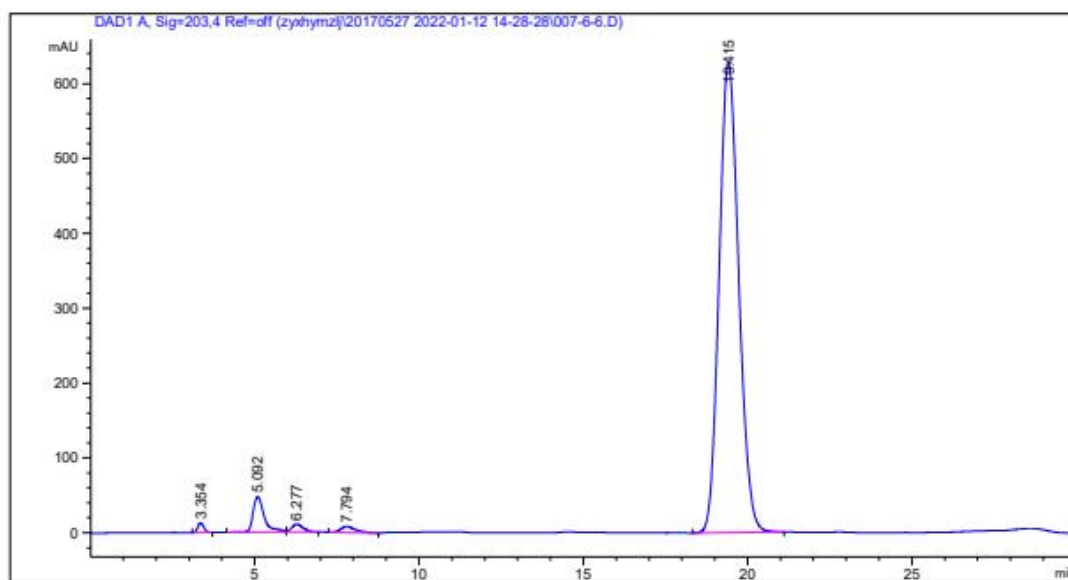
*Figure S5. The HPLC data of 4d*

4e:

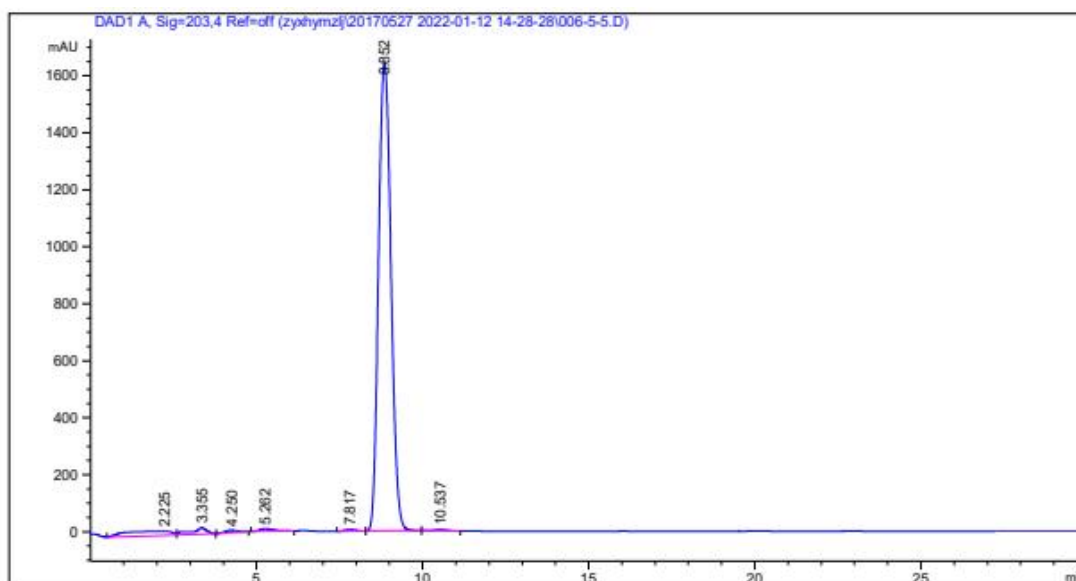


*Figure S6. The HPLC data of 4e*

4f:

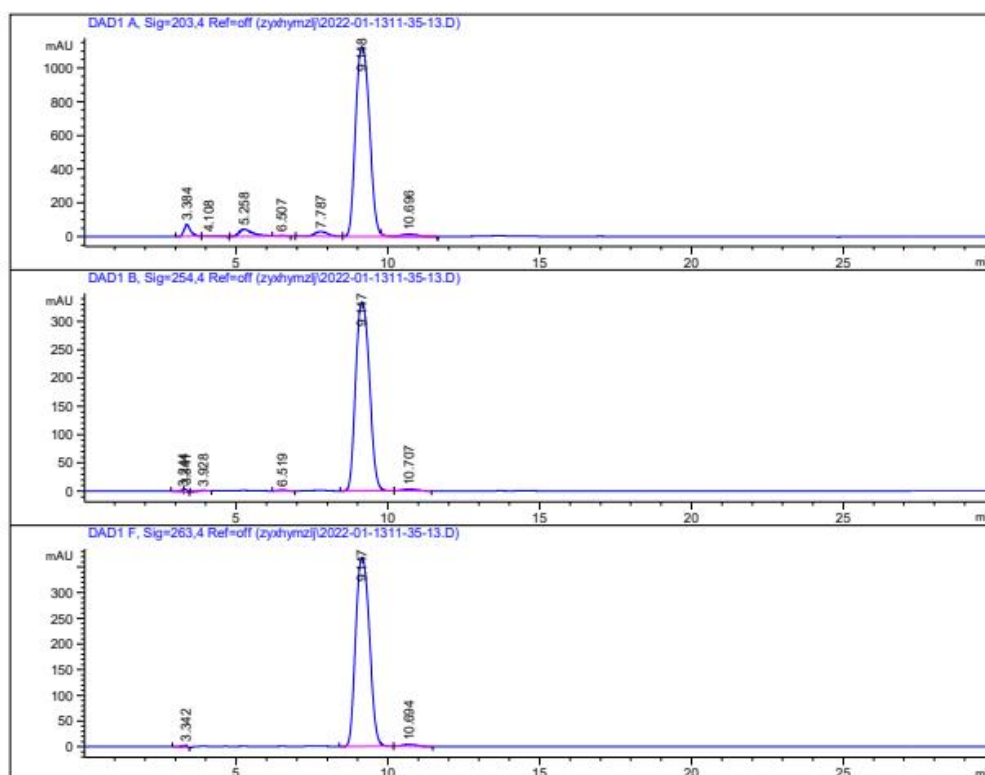


*Figure S7. The HPLC data of 4f*



**Figure S8.** The HPLC data of **4g**

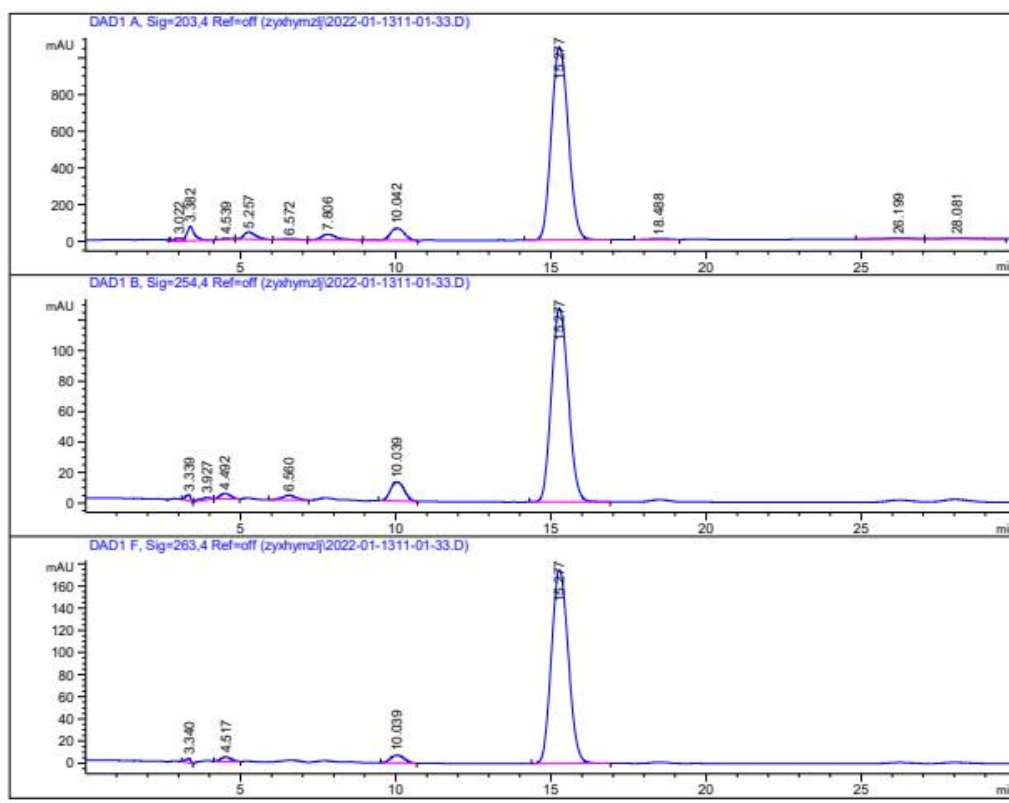
**4h:**



**Figure S9.** The HPLC data of **4h**

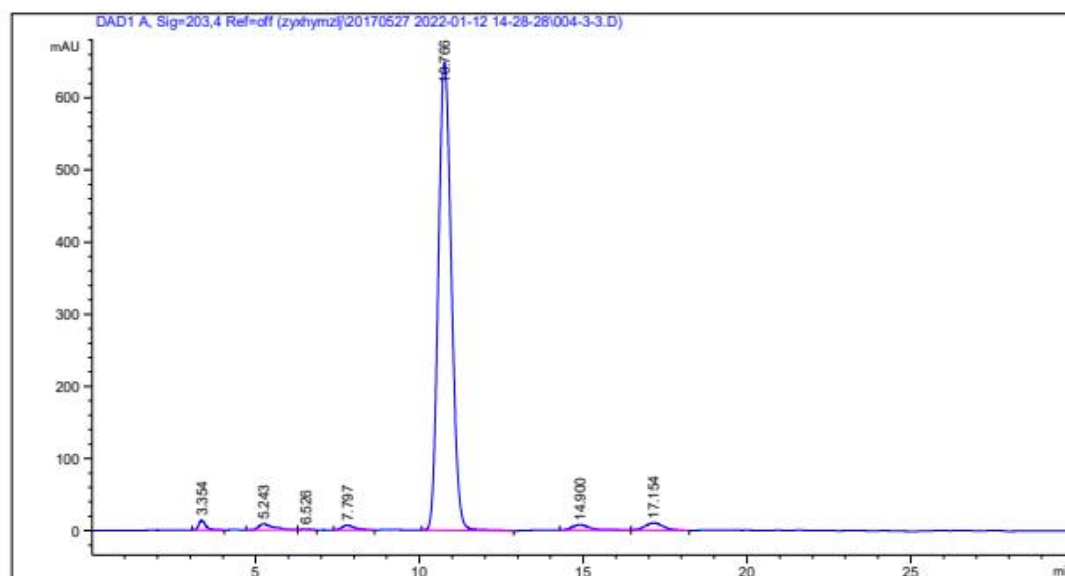


4i:



*Figure S10. The HPLC data of 4i*

4j:



*Figure S11. The HPLC data of 4k*

4k:

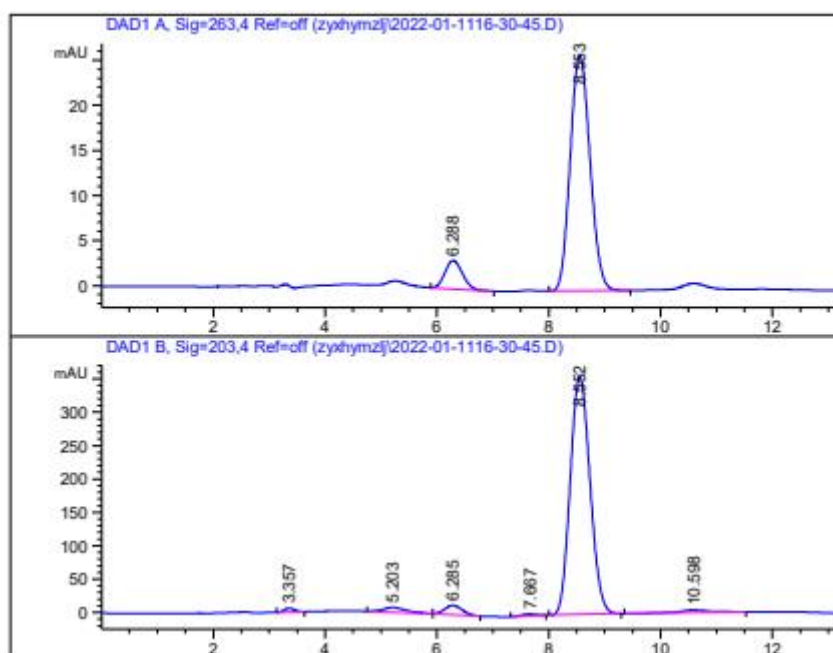


Figure S12. The HPLC data of 4k

4l:

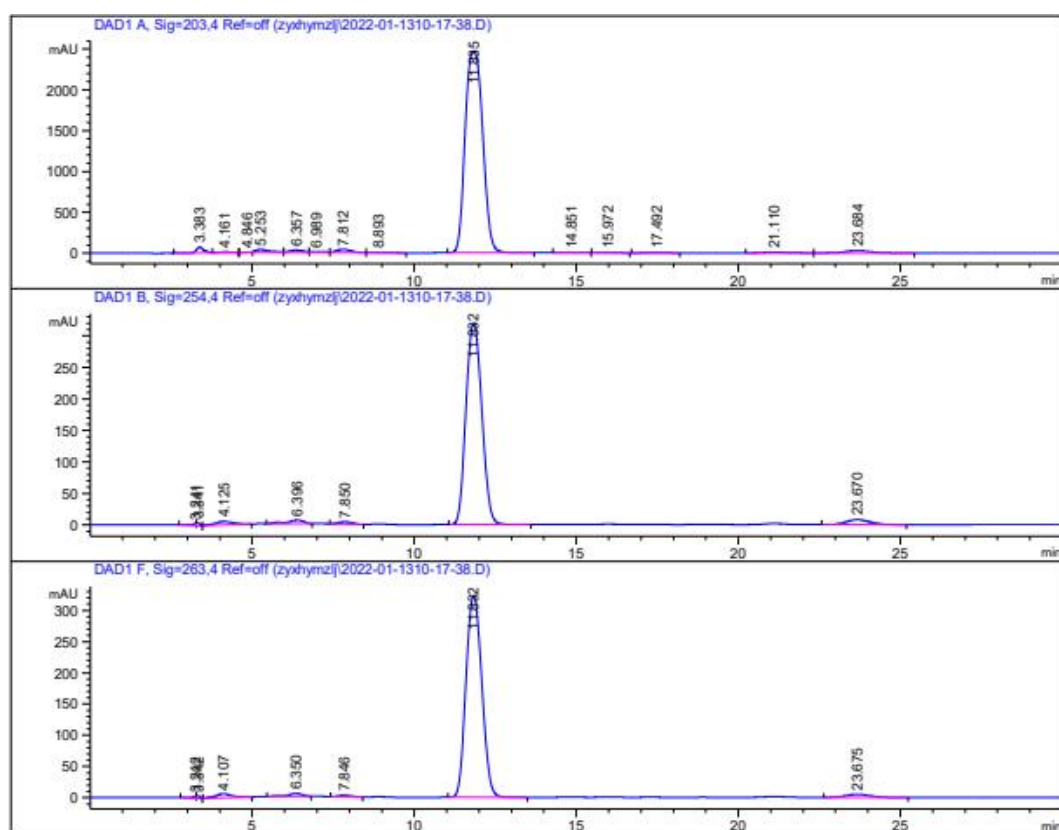
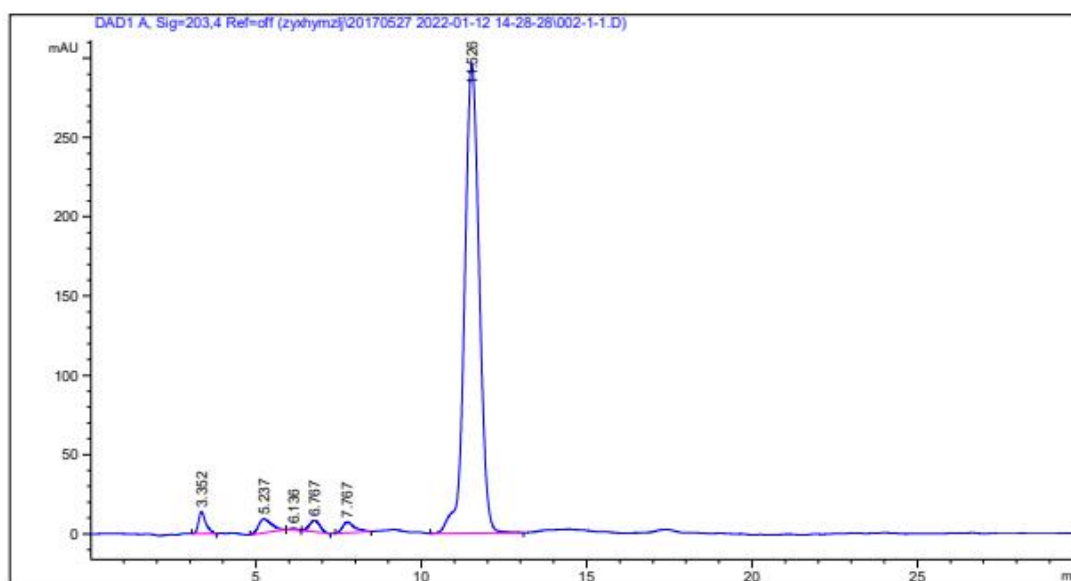


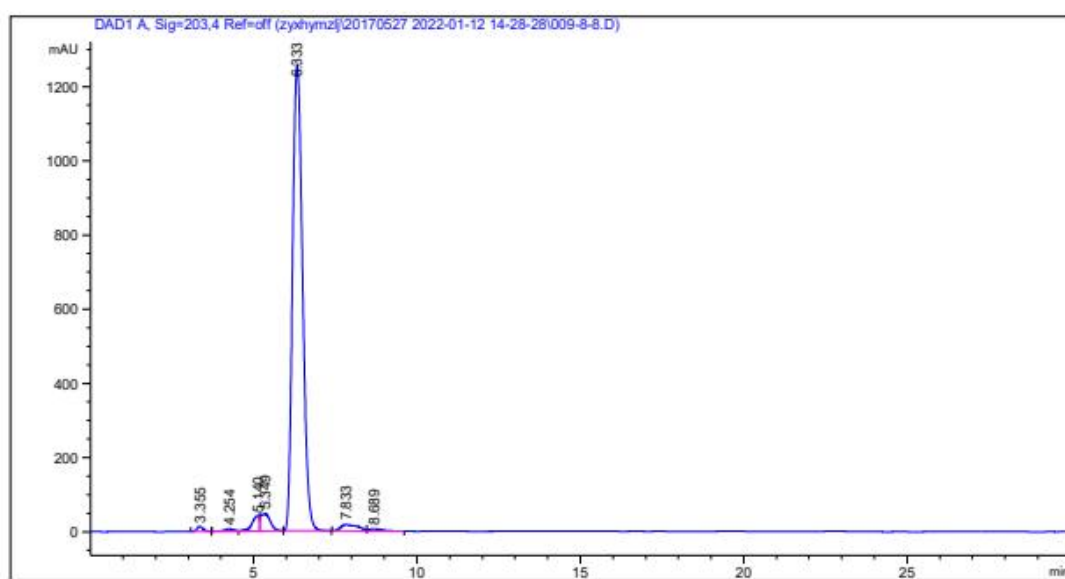
Figure S13. The HPLC data of 4l

4m:



*Figure S14. The HPLC data of 4m*

4n:



*Figure S15. The HPLC data of 4n*

4o:

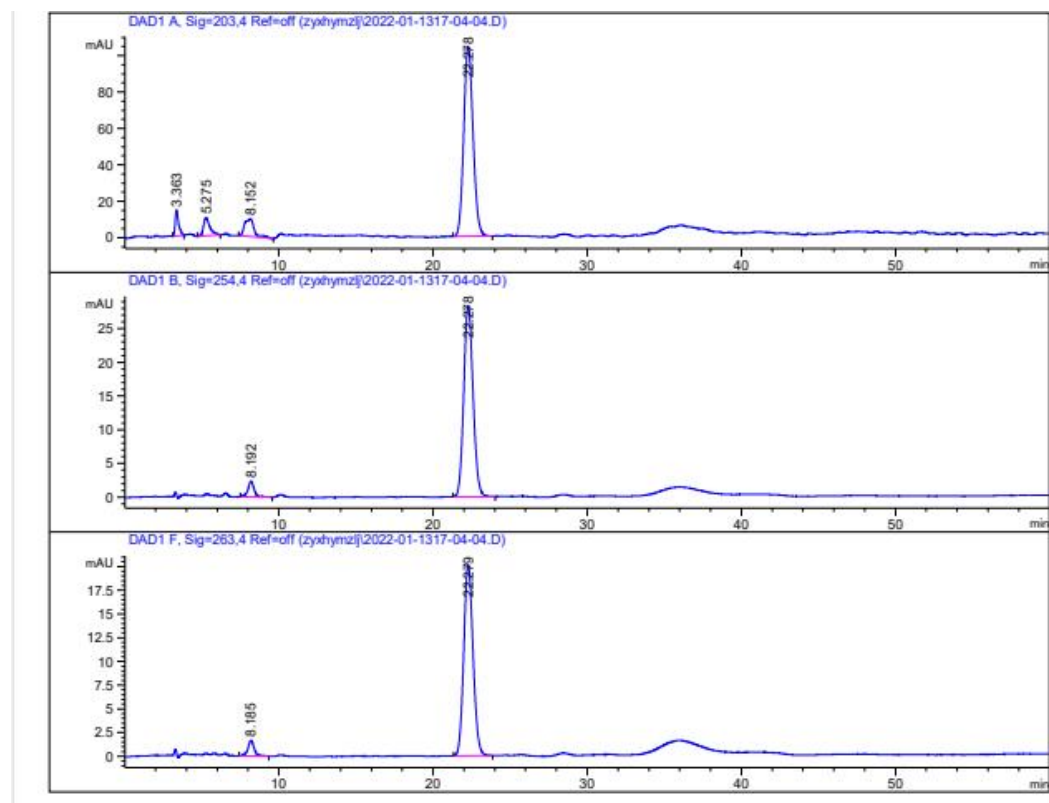


Figure S16. The HPLC data of 4o

4p:

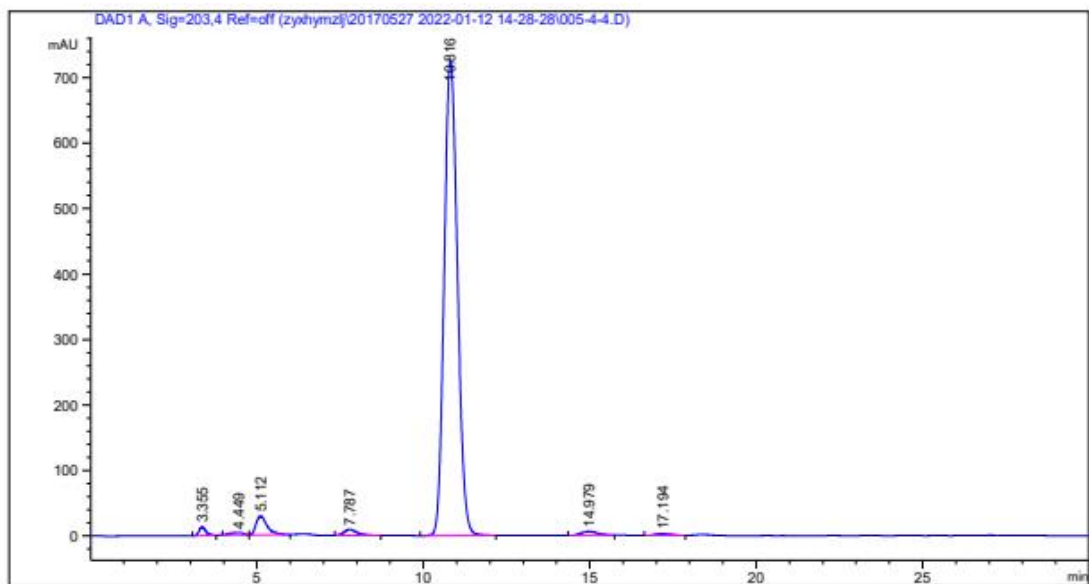
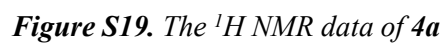
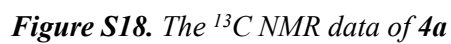


Figure S17. The HPLC data of 4p

**4a:**



10072021  
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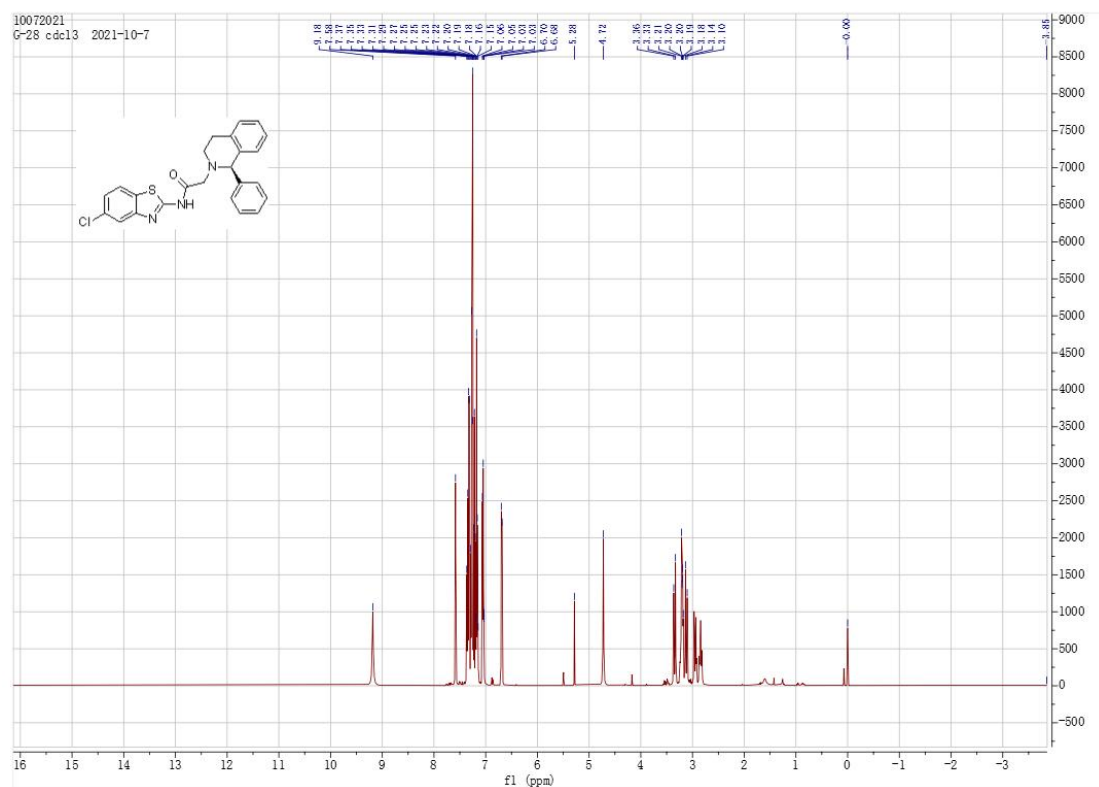
Clc1ccc2nc(NC(=O)CN(Cc3ccccc3)c4ccccc4)nc2s1

142.60, 138.78, 134.70, 133.62, 129.95, 128.95, 128.72, 128.10, 126.22, 124.17, 119.28, 111.28, 100.03, 77.30, 77.05, 76.79, 53.95, 49.58, 29.40

1200, 1100, 1000, 900, 800, 700, 600, 500, 400, 300, 200, 100, 0, -100

f1 (ppm)

**Figure S20.** The  $^{13}\text{C}$  NMR data of **4b**



**Figure S21.** The  $^1\text{H}$  NMR data of **4b**

4c:

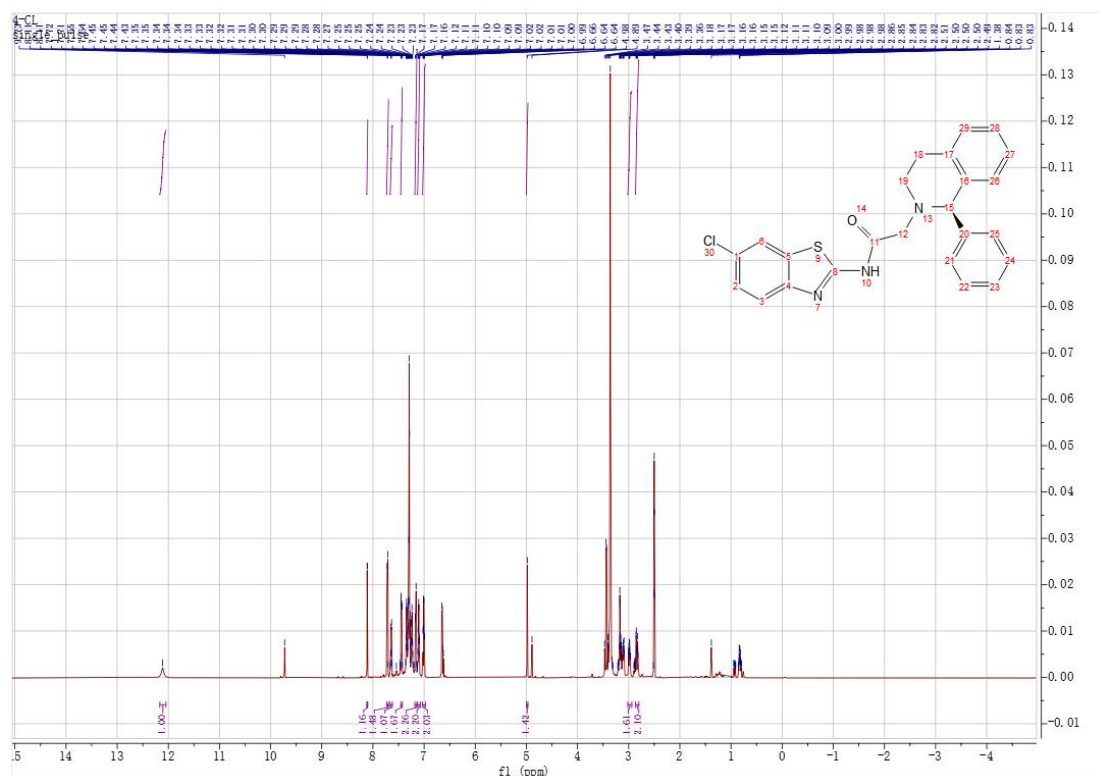


Figure S22. The  $^{13}\text{C}$  NMR data of 4c

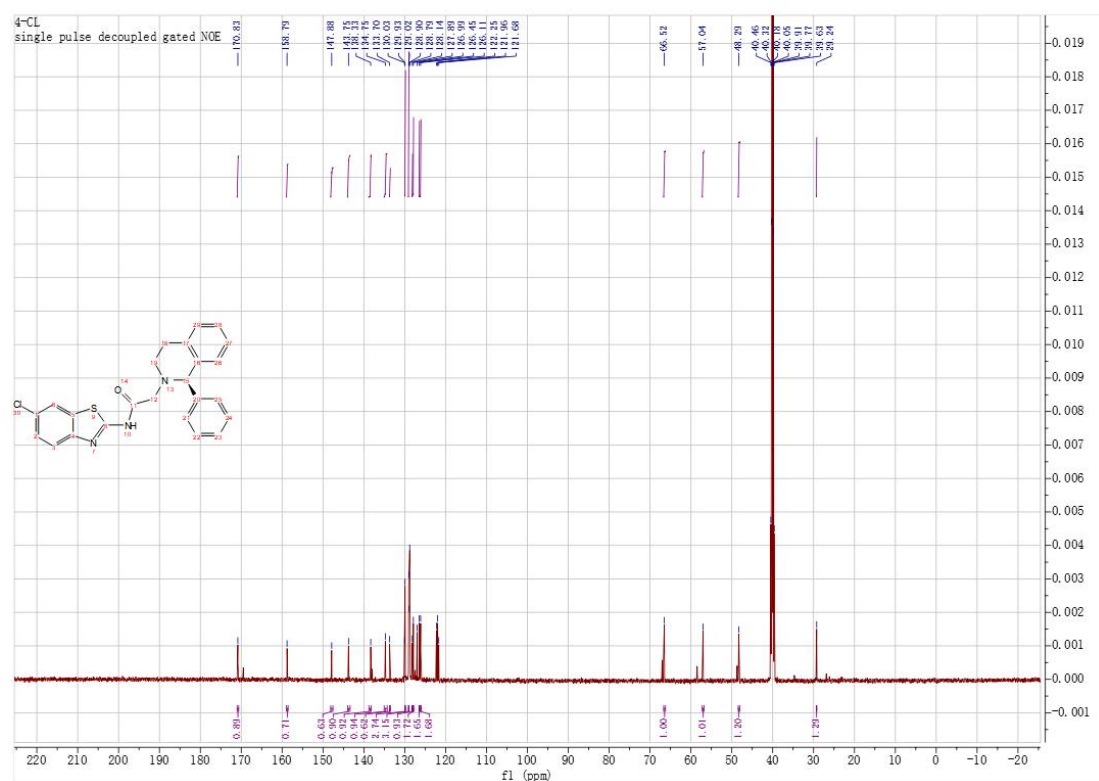
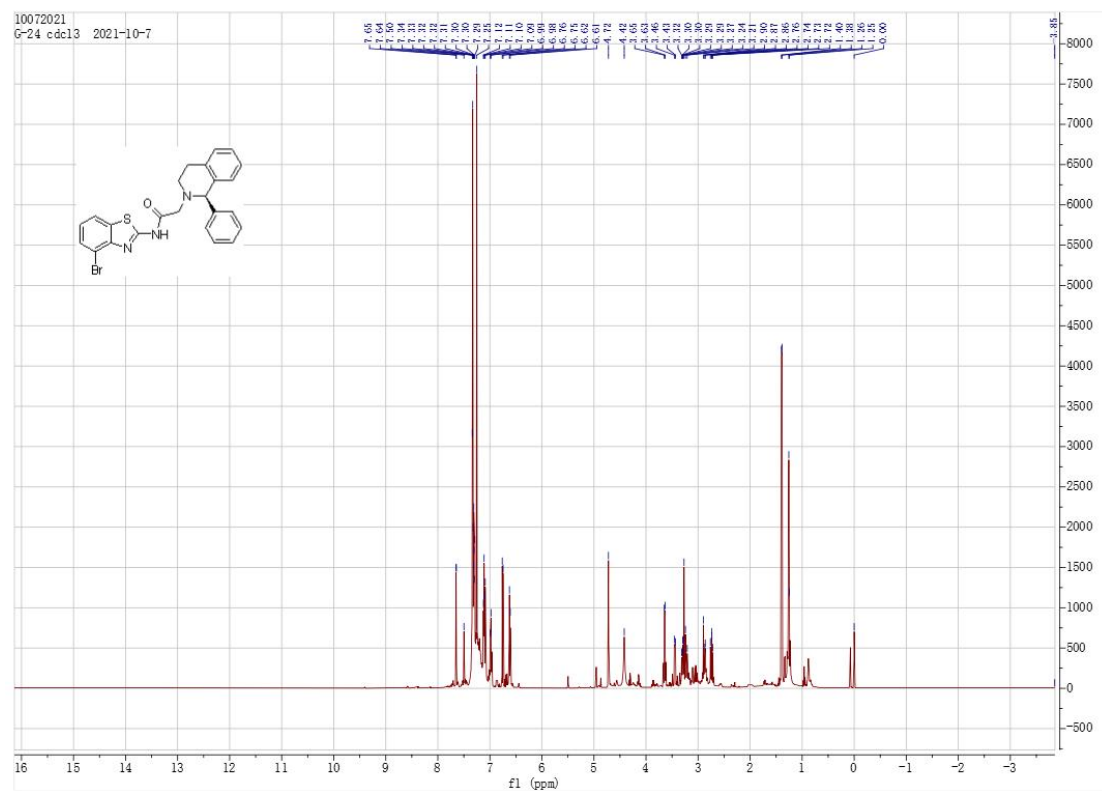


Figure S23. The  $^1\text{H}$  NMR data of 4c



[illegible]

**Figure S24.** The  $^{13}\text{C}$  NMR data of **4d**



**Figure S25.** The  $^1\text{H}$  NMR data of **4d**



4e:

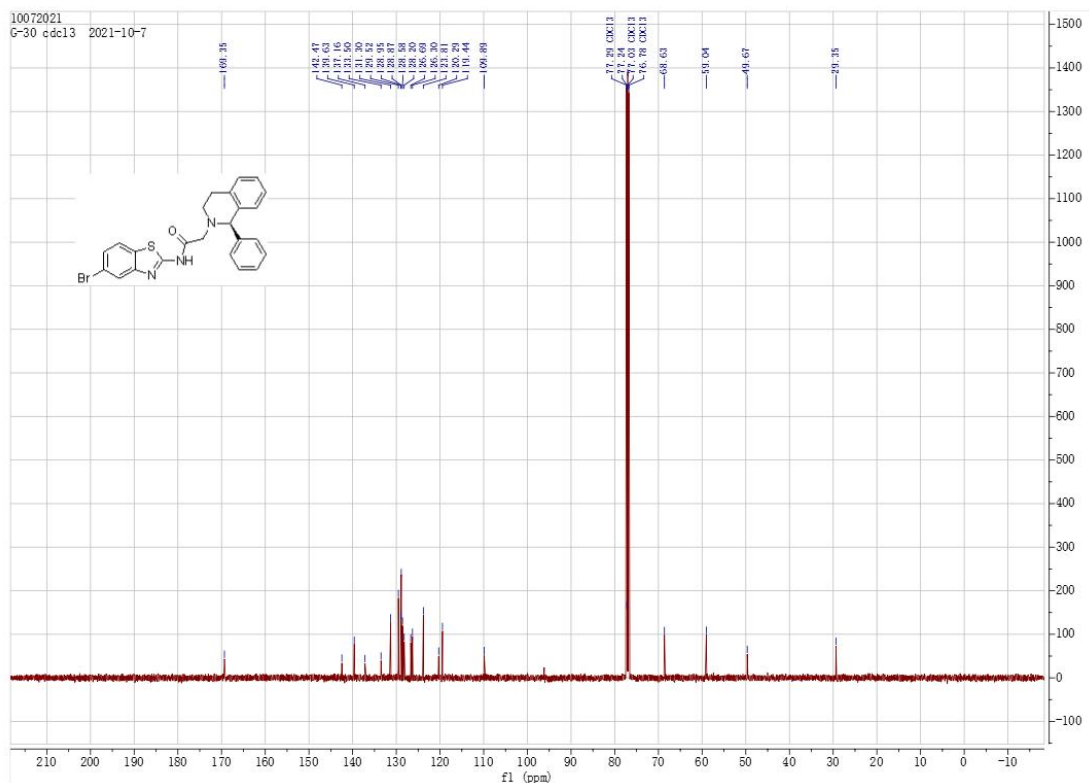


Figure S26. The  $^{13}\text{C}$  NMR data of 4e

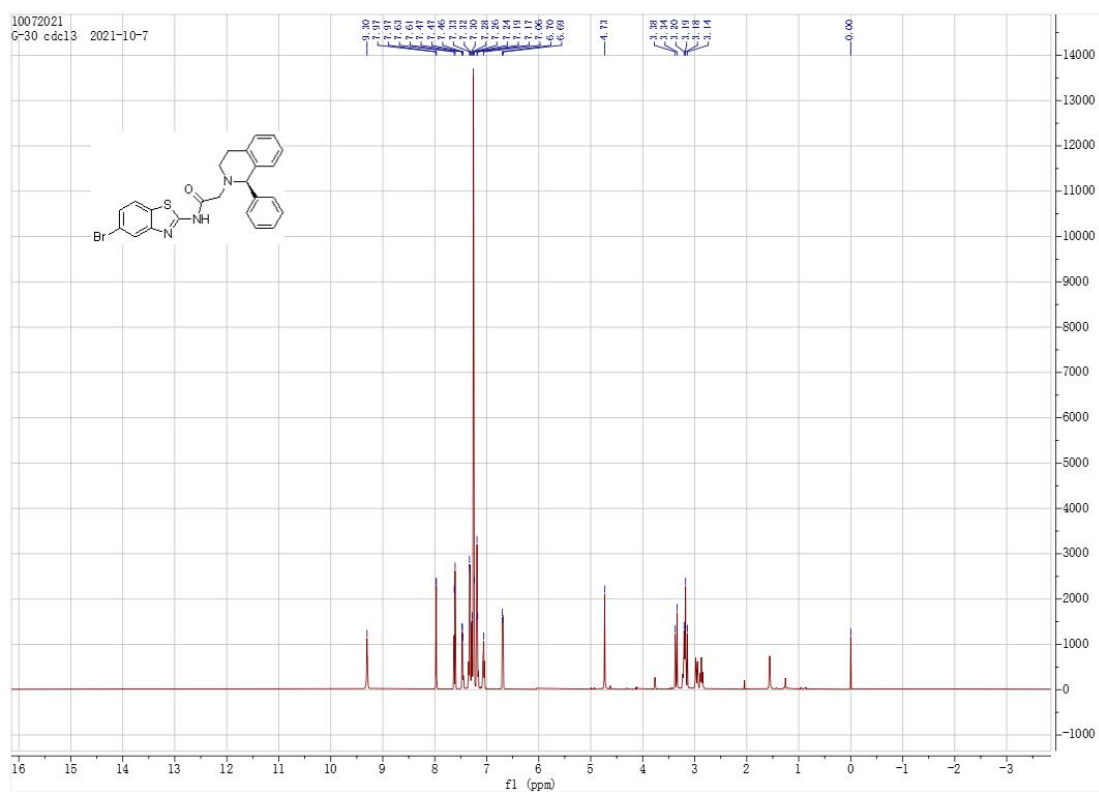
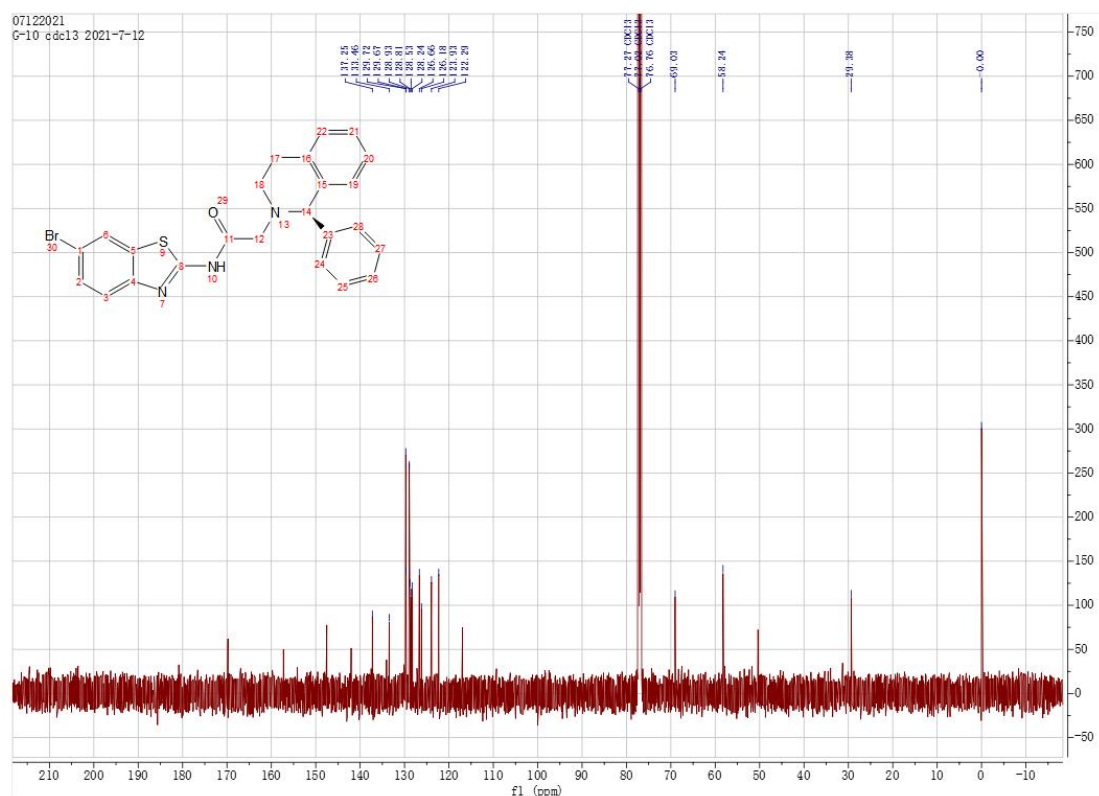
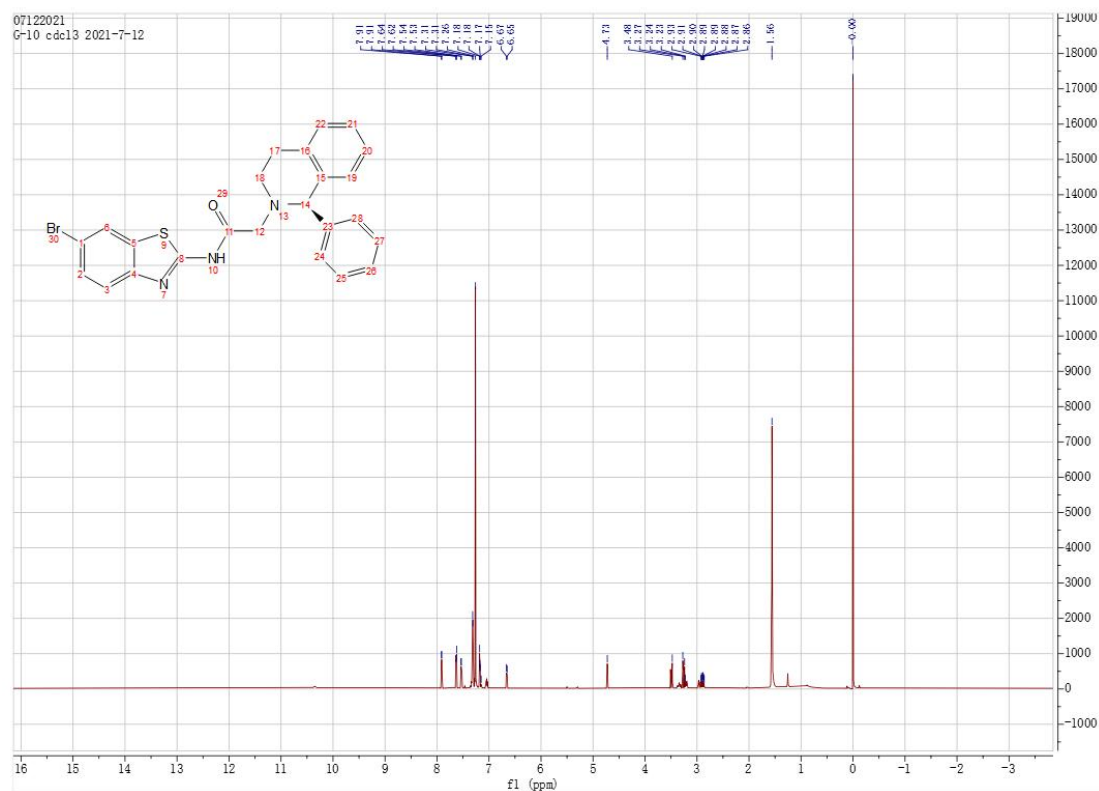


Figure S27. The  $^1\text{H}$  NMR data of 4e

**4f:**

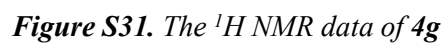
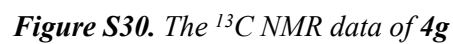


**Figure S28.** The  $^{13}\text{C}$  NMR data of **4f**

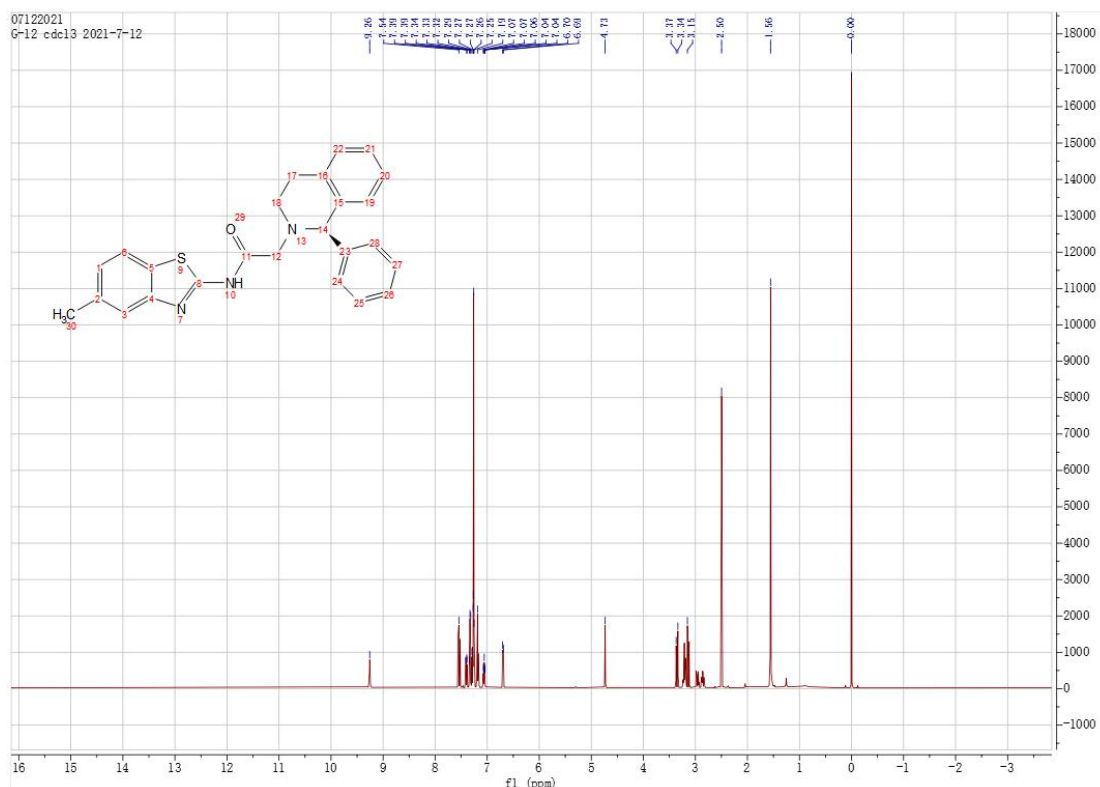


**Figure S29.** The  $^1\text{H}$  NMR data of **4f**

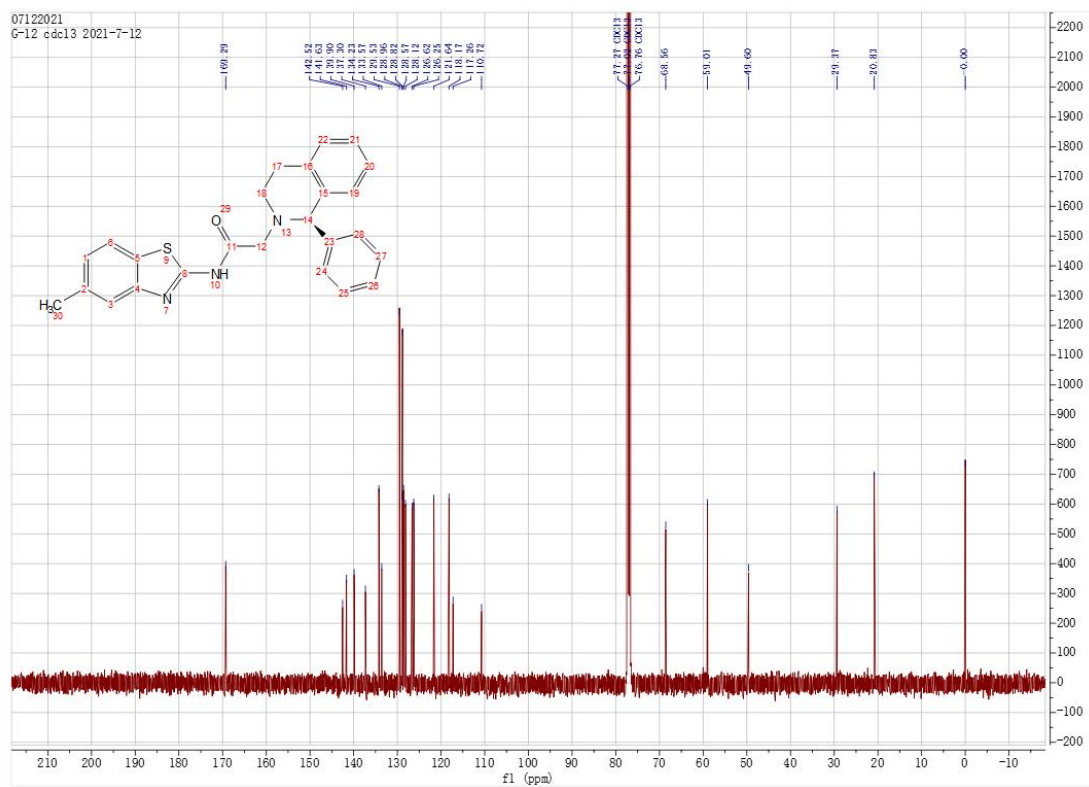
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**4h:**



**Figure S32.** The  $^{13}\text{C}$  NMR data of **4h**



**Figure S33.** The  $^1\text{H}$  NMR data of **4h**

4i:

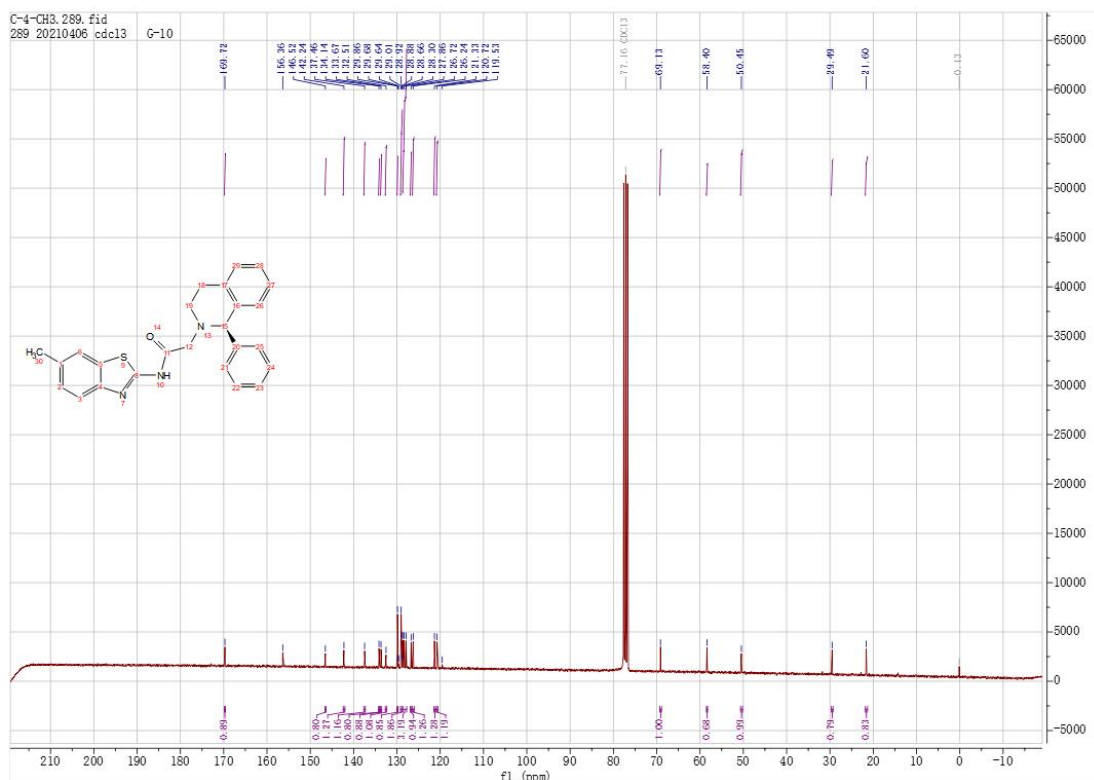
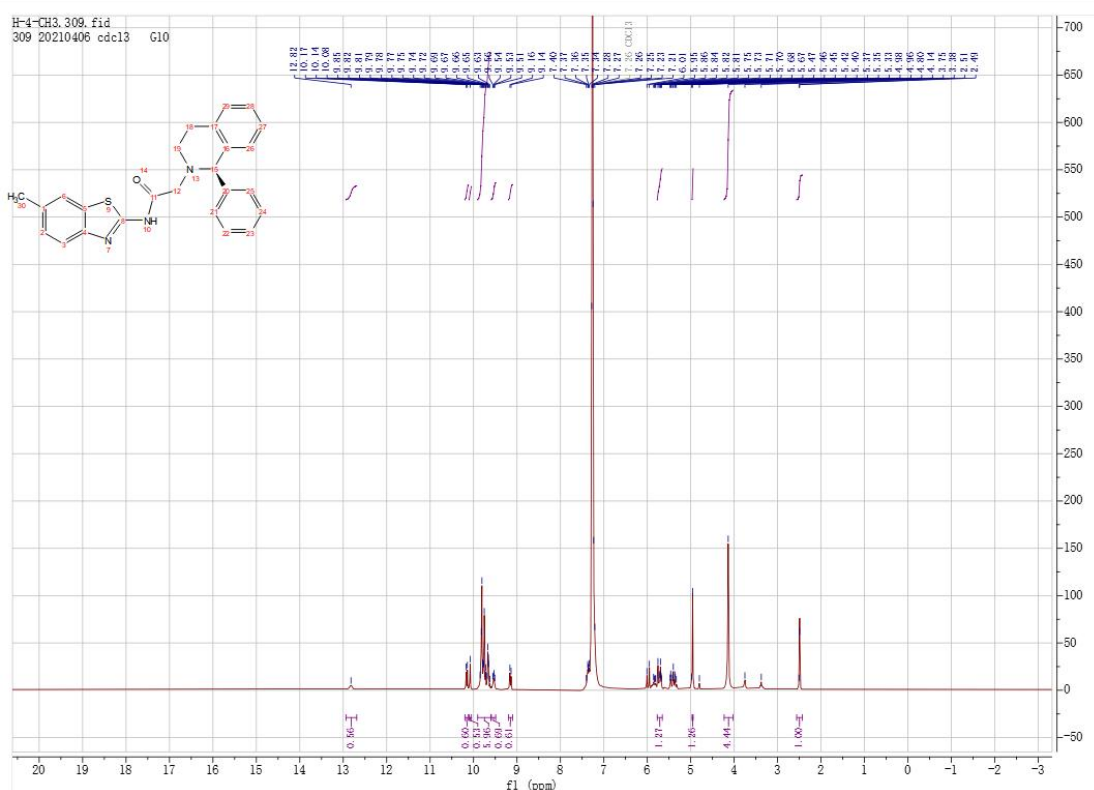


Figure S34. The  $^{13}\text{C}$  NMR data of 4i



4j:

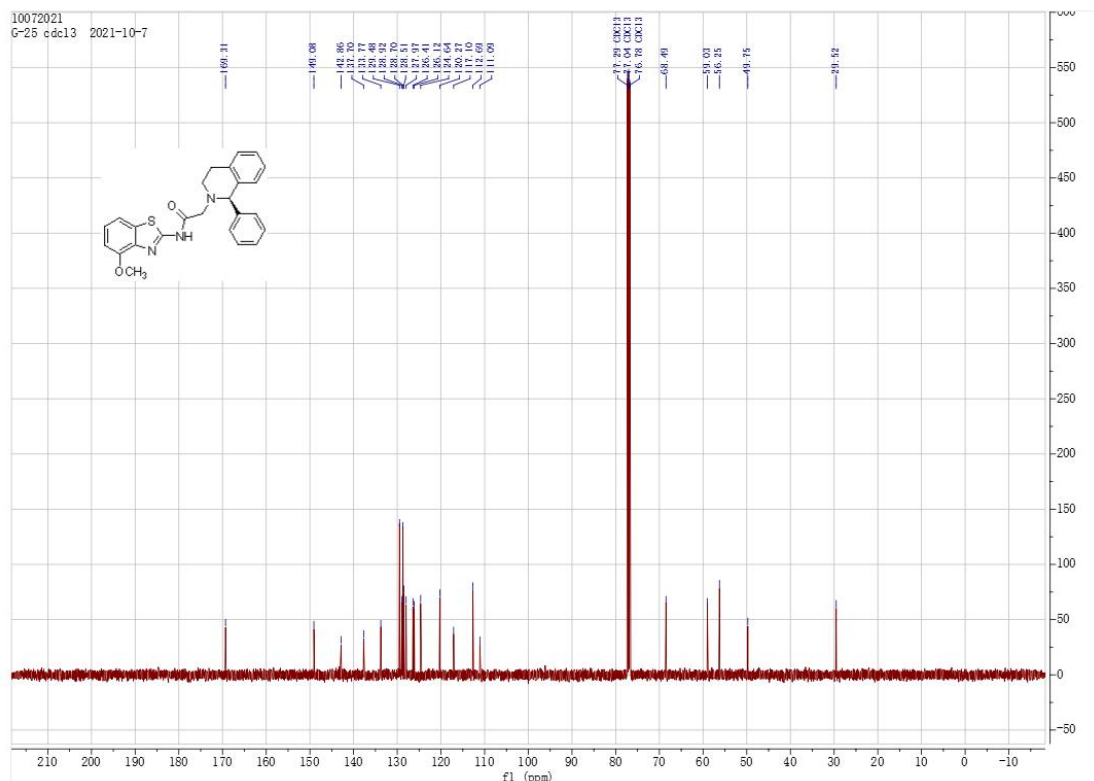


Figure S36. The  $^{13}\text{C}$  NMR data of 4j

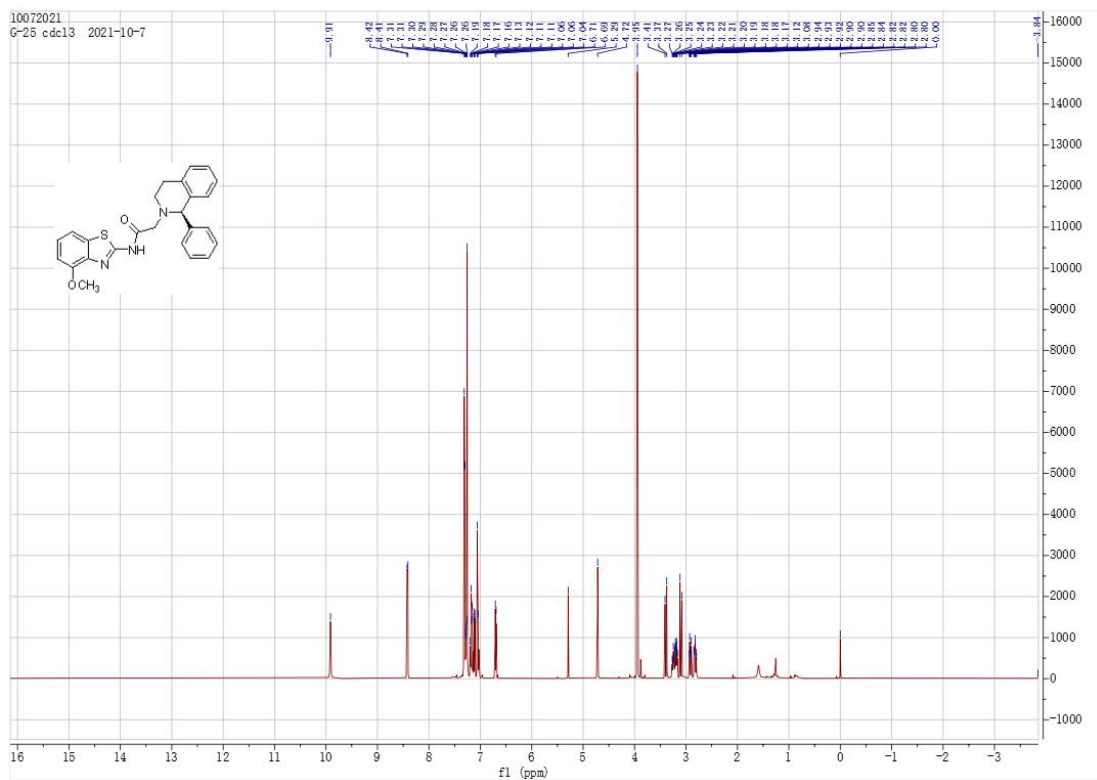


Figure S37. The  $^1\text{H}$  NMR data of 4j

10072021  
G-26 cdc13 2021-10-7

COc1ccc2nc(NC(=O)CN(c3ccccc3)c4ccccc4)sc2c1

160.34  
128.38  
125.71  
125.05  
124.95  
123.78  
123.67  
123.54  
111.50  
110.00  
105.07  
77.26 CDC13  
77.01 CDC13  
76.76 CDC13  
68.40  
58.50  
55.35  
49.46  
23.37

f1 (ppm)

10072021  
G-26 cdc13 2021-10-7

COC1=CC=C2C(=C1)N=C(NC(=O)CN(C2)C3=CC=CC=C3)C4=CC=CC=C4

9.15  
7.31  
7.27  
7.28  
7.27  
7.21  
7.21  
7.20  
7.18  
7.16  
7.09  
4.73  
3.80  
3.36  
3.23  
3.23  
3.22  
3.19  
3.18  
3.18  
3.09  
0.00  
-3.85

f1 (ppm)

**Figure S39.** The  $^1\text{H}$  NMR data of **4k**



4l:

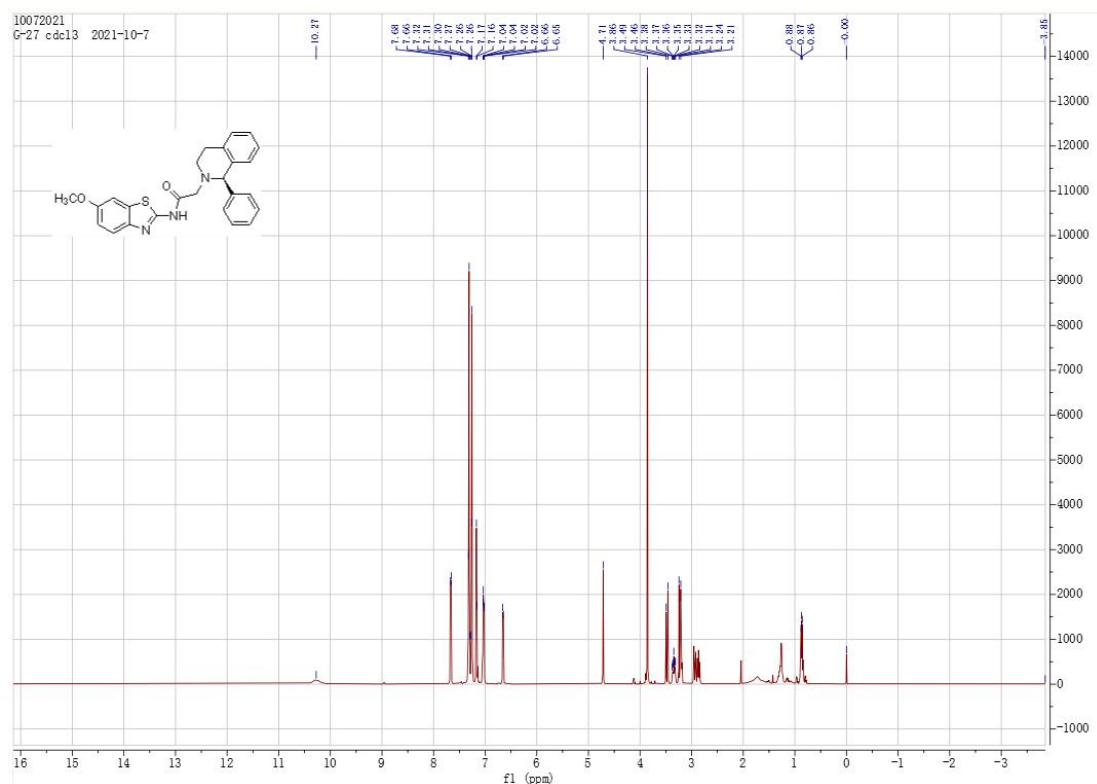


Figure S40. The  $^{13}\text{C}$  NMR data of 4l

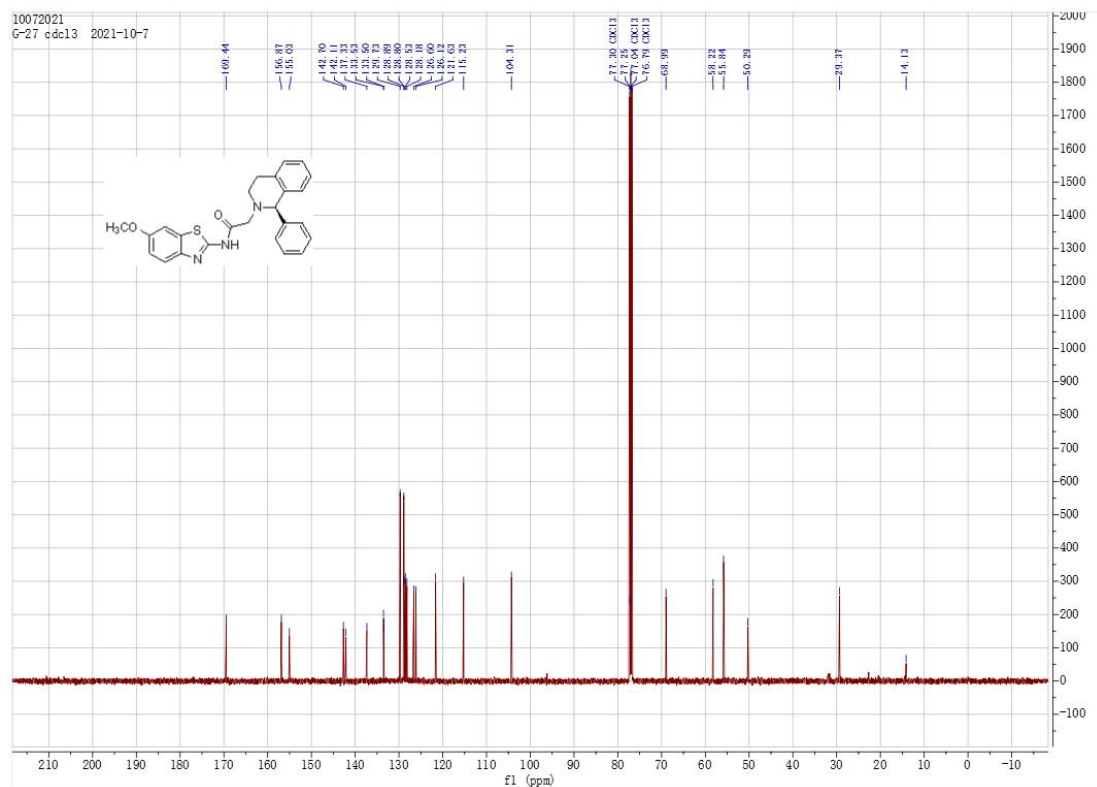
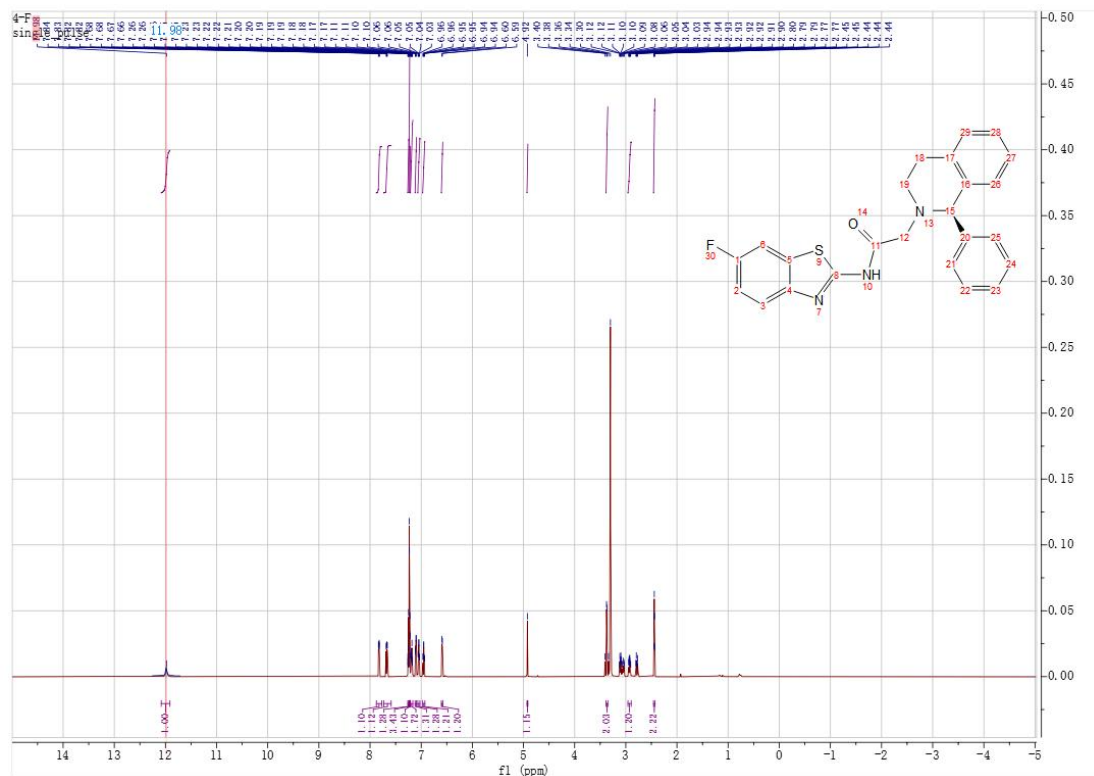


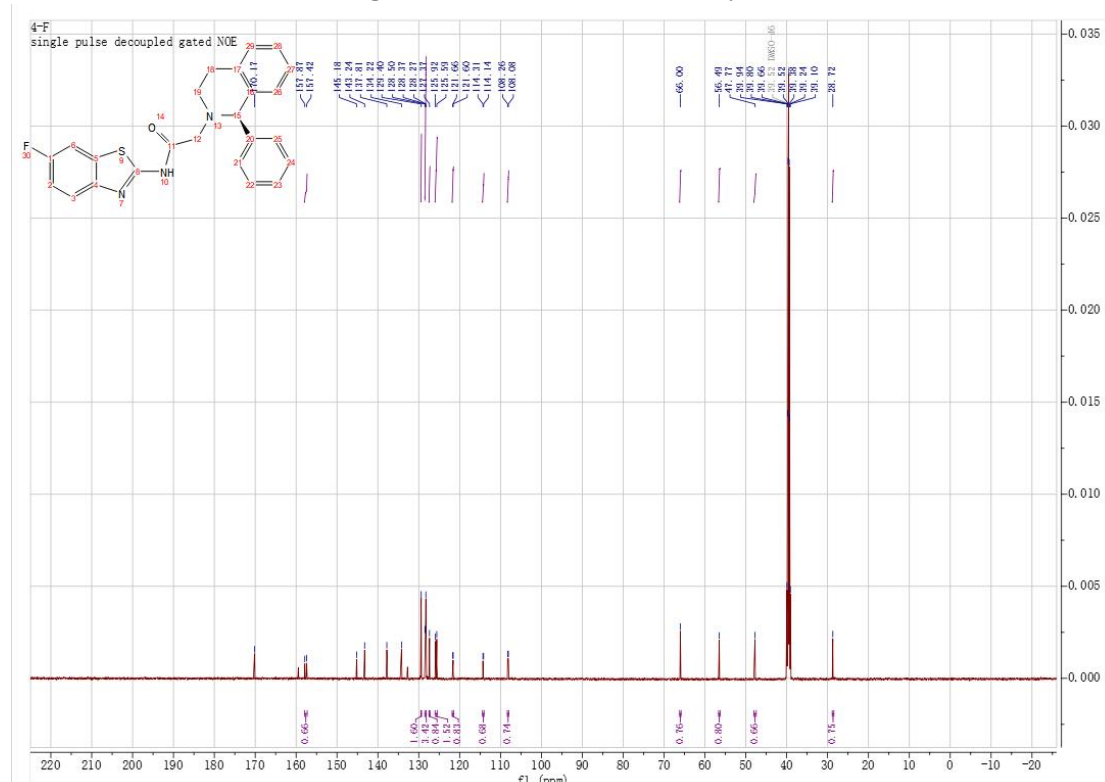
Figure S41. The  $^1\text{H}$  NMR data of 4l



**4m:**



**Figure S42.** The  $^{13}\text{C}$  NMR data of **4m**



**Figure S43.** The  $^1\text{H}$  NMR data of **4m**

4n:

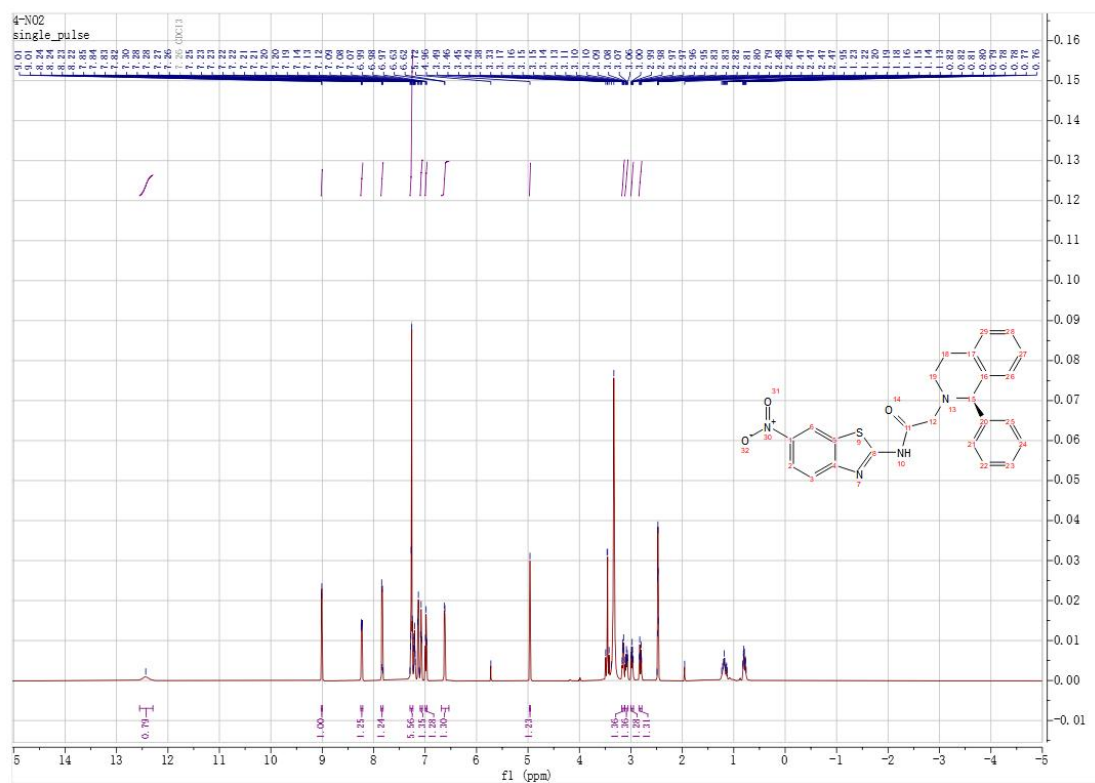


Figure S44. The  $^{13}\text{C}$  NMR data of 4n

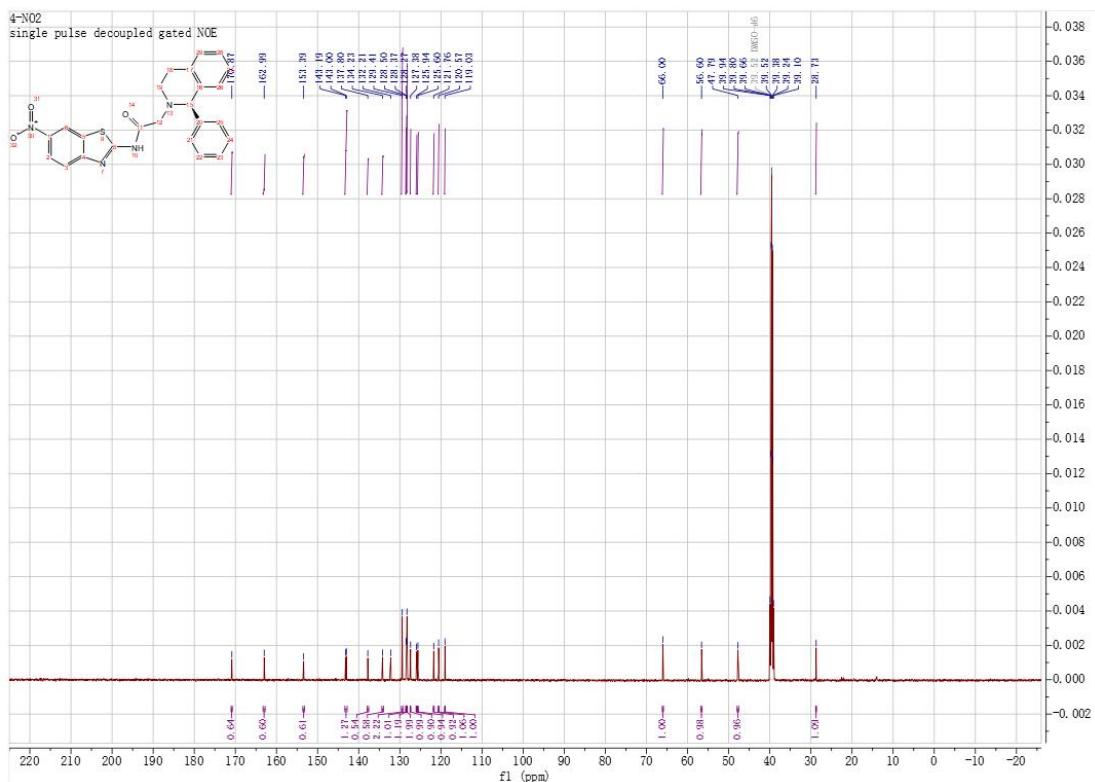
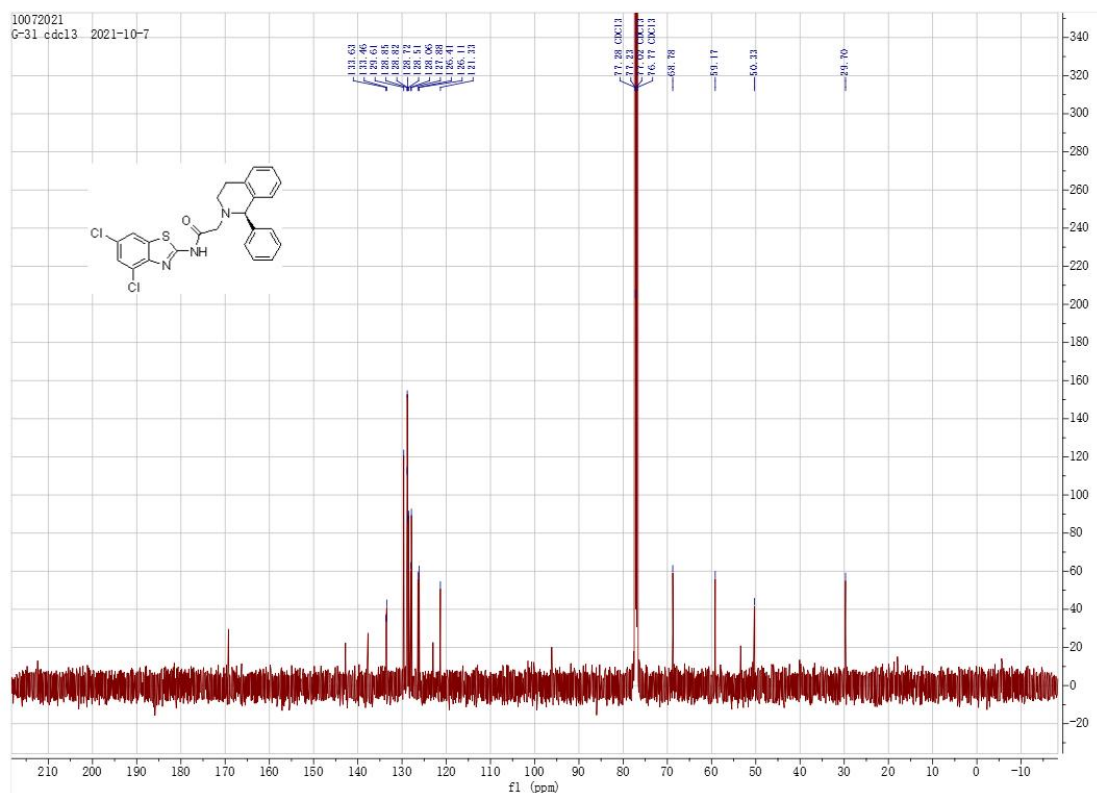
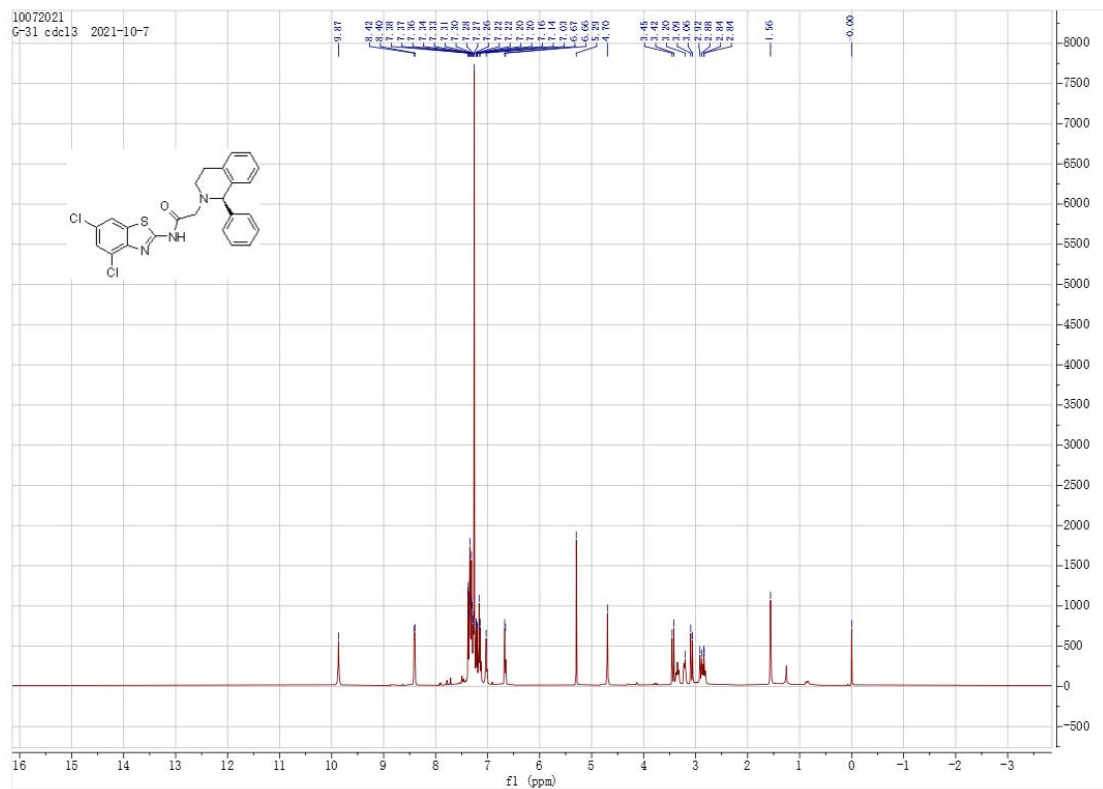


Figure S45. The  $^1\text{H}$  NMR data of 4n

**4o:**



**Figure S46.** The  $^{13}\text{C}$  NMR data of **4o**



**Figure S47.** The  $^1\text{H}$  NMR data of **4o**

4p:

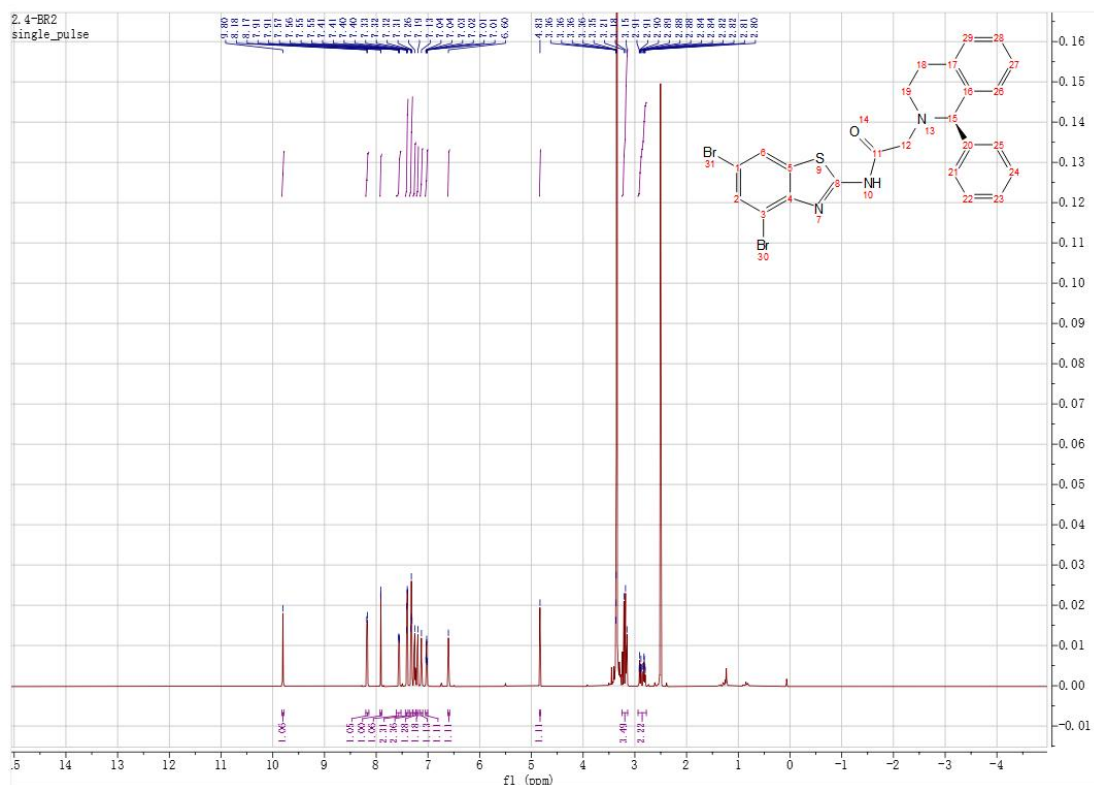


Figure S48. The  $^{13}\text{C}$  NMR data of 4p

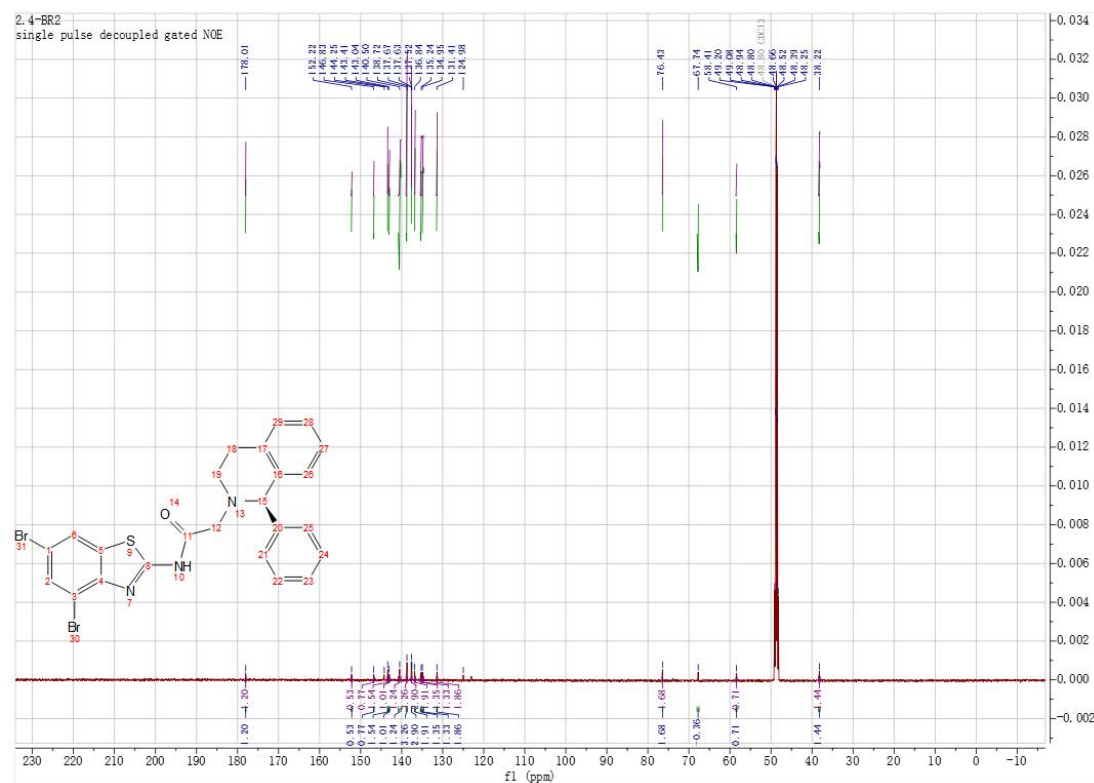


Figure S49. The  $^1\text{H}$  NMR data of 4p