

# Novel Dual-Target Kinase Inhibitors of EGFR and ALK Were Designed, Synthesized, and Induced Cell Apoptosis in Non-Small Cell Lung Cancer

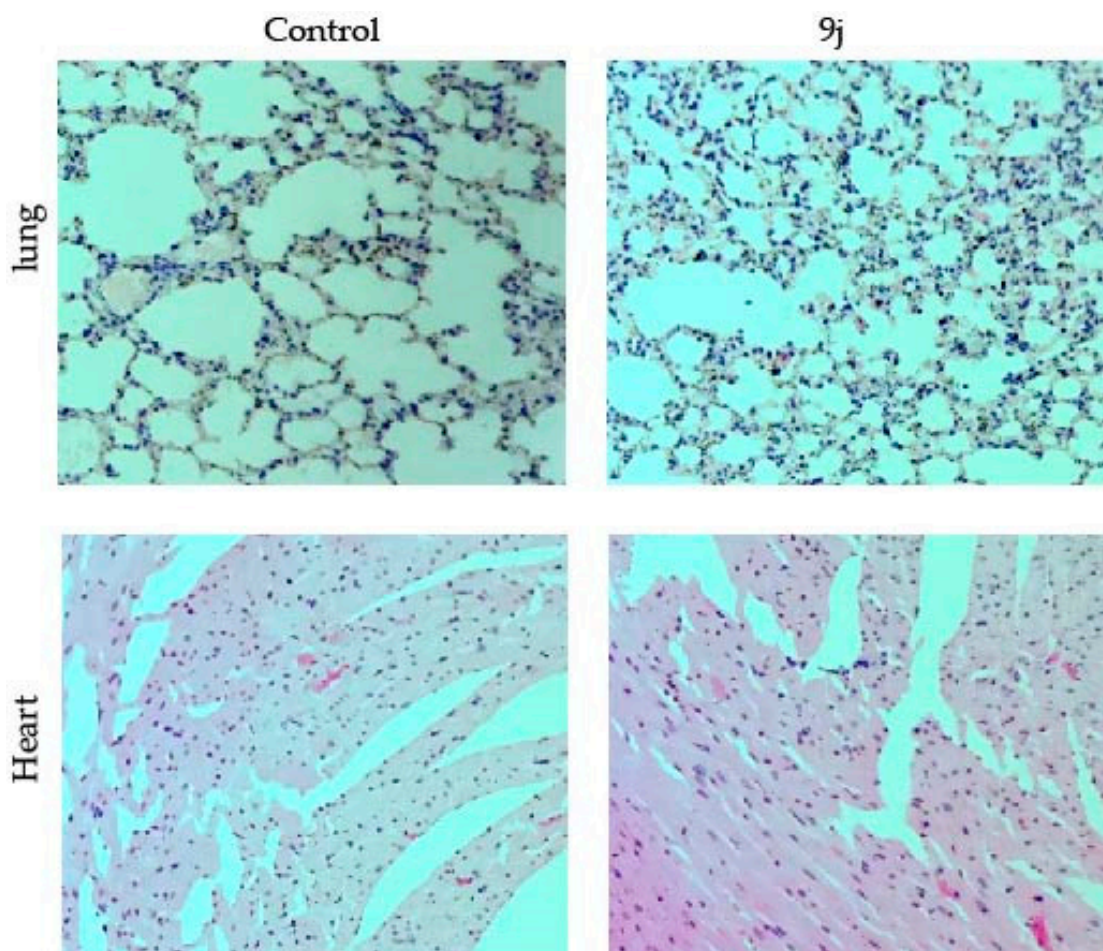
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## Supplementary Contents



**Figure S1.** HE staining of mouse lungs and hearts

## NMR spectra of compounds

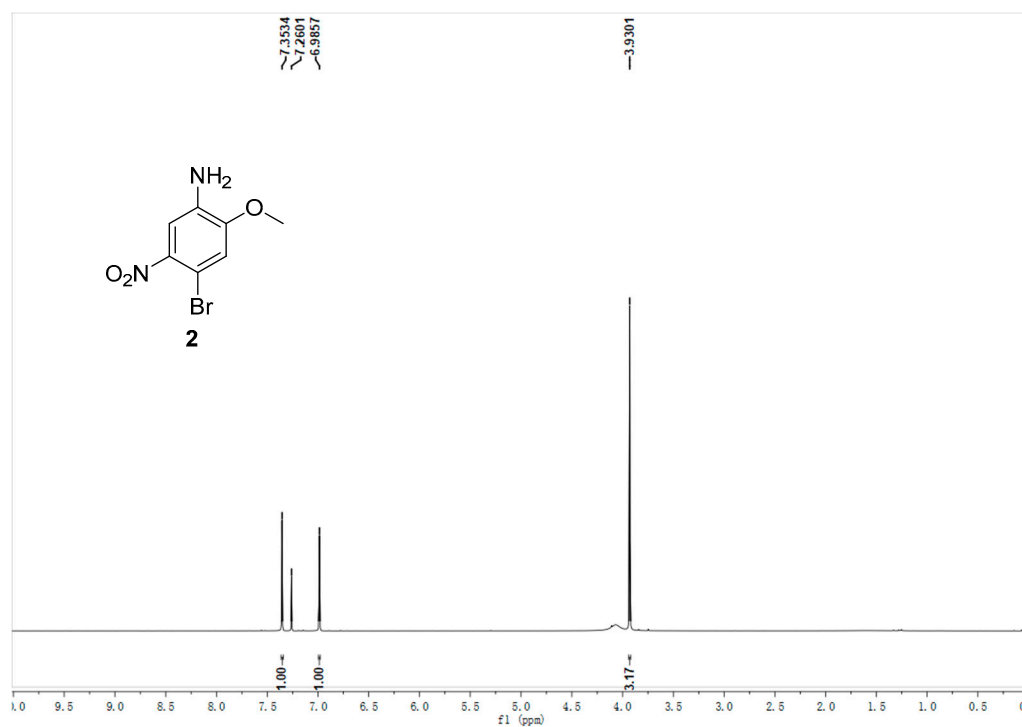


Figure S2. <sup>1</sup>H NMR Spectrum of **2** in CDCl<sub>3</sub>

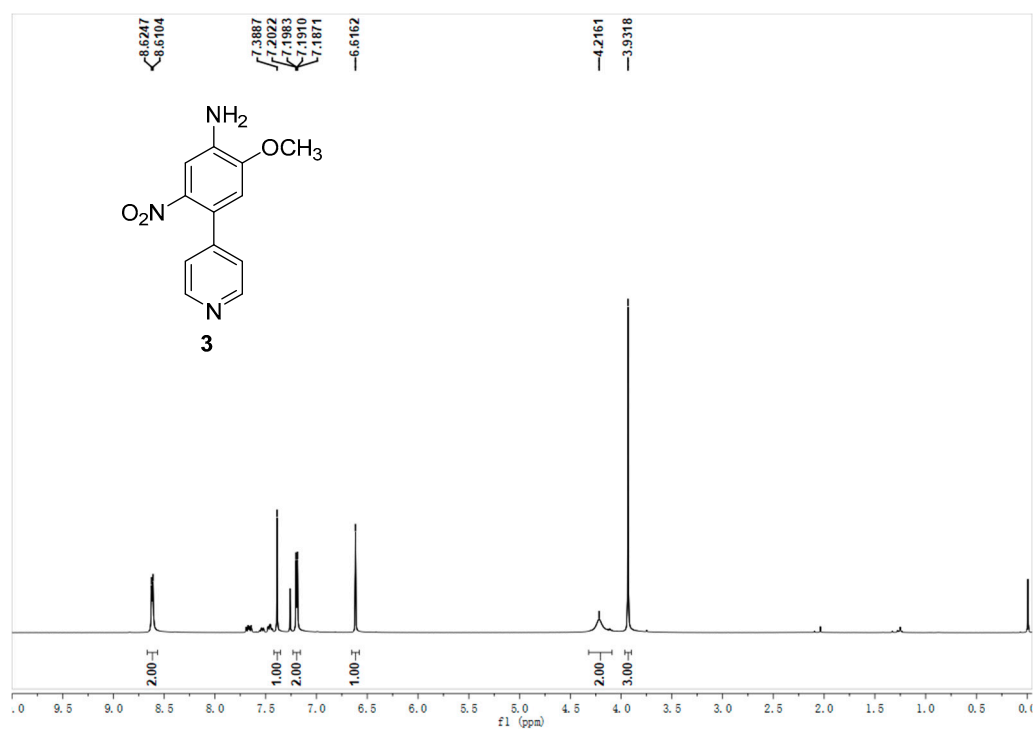


Figure S3. <sup>1</sup>H NMR Spectrum of **3** in CDCl<sub>3</sub>

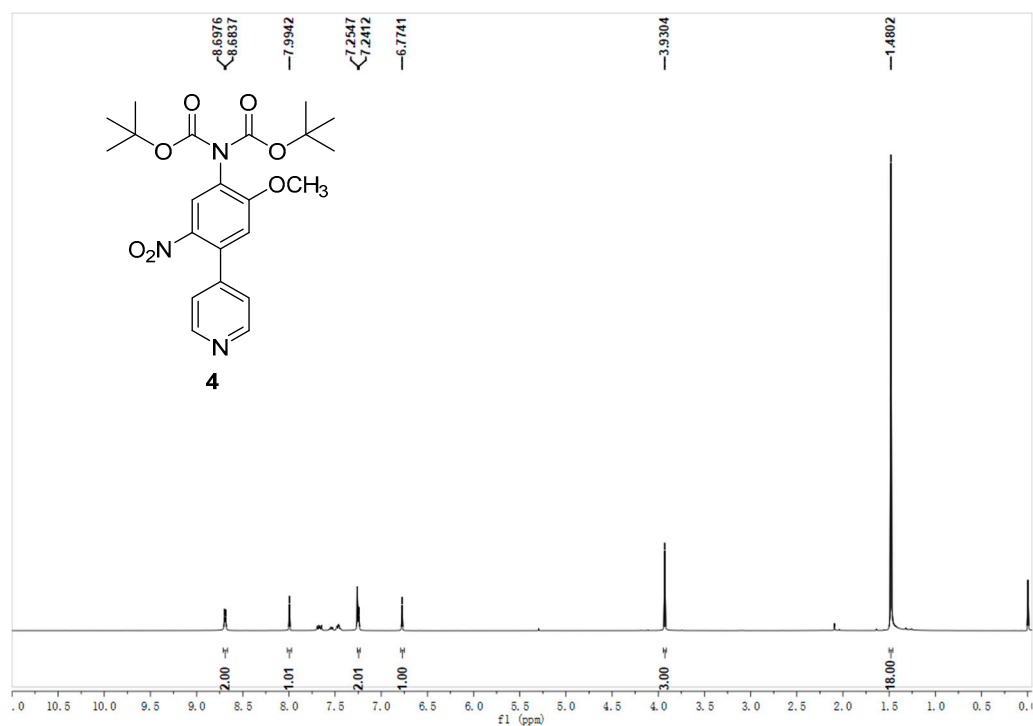


Figure S4. <sup>1</sup>H NMR Spectrum of **4** in CDCl<sub>3</sub>

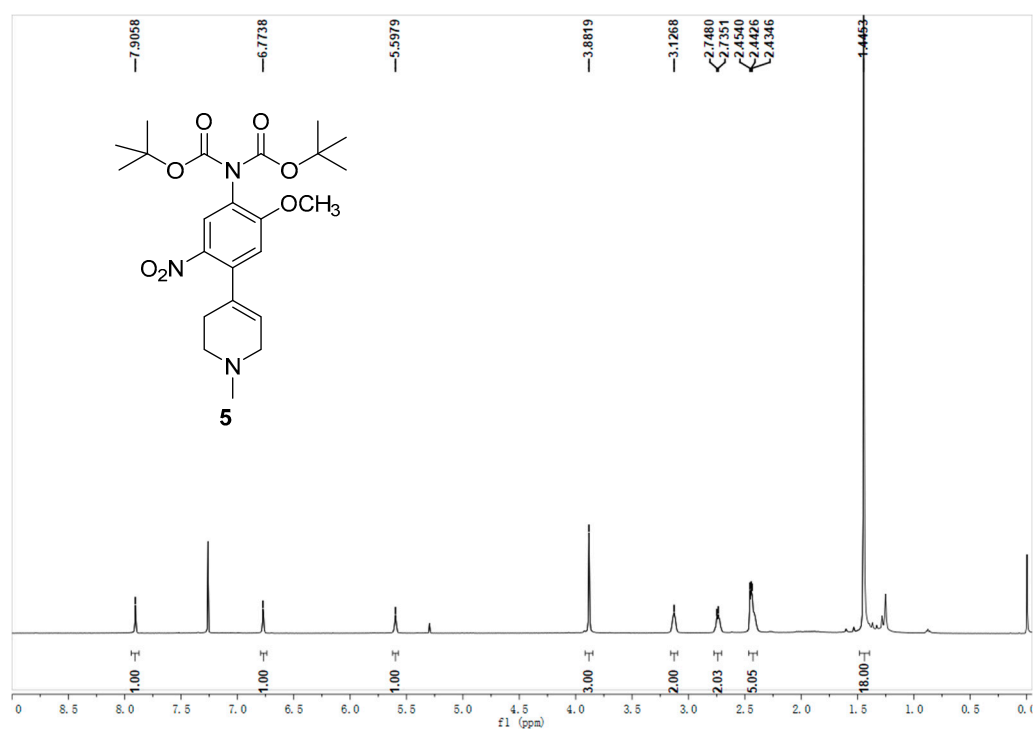


Figure S5. <sup>1</sup>H NMR Spectrum of **5** in CDCl<sub>3</sub>

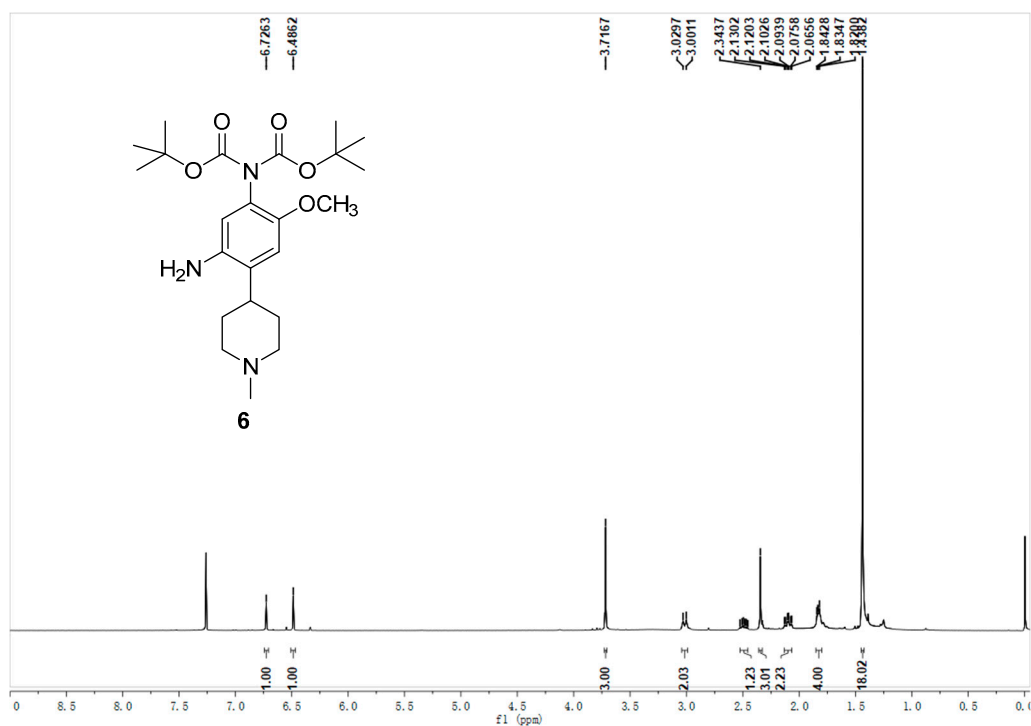


Figure S6. <sup>1</sup>H NMR Spectrum of **6** in CDCl<sub>3</sub>

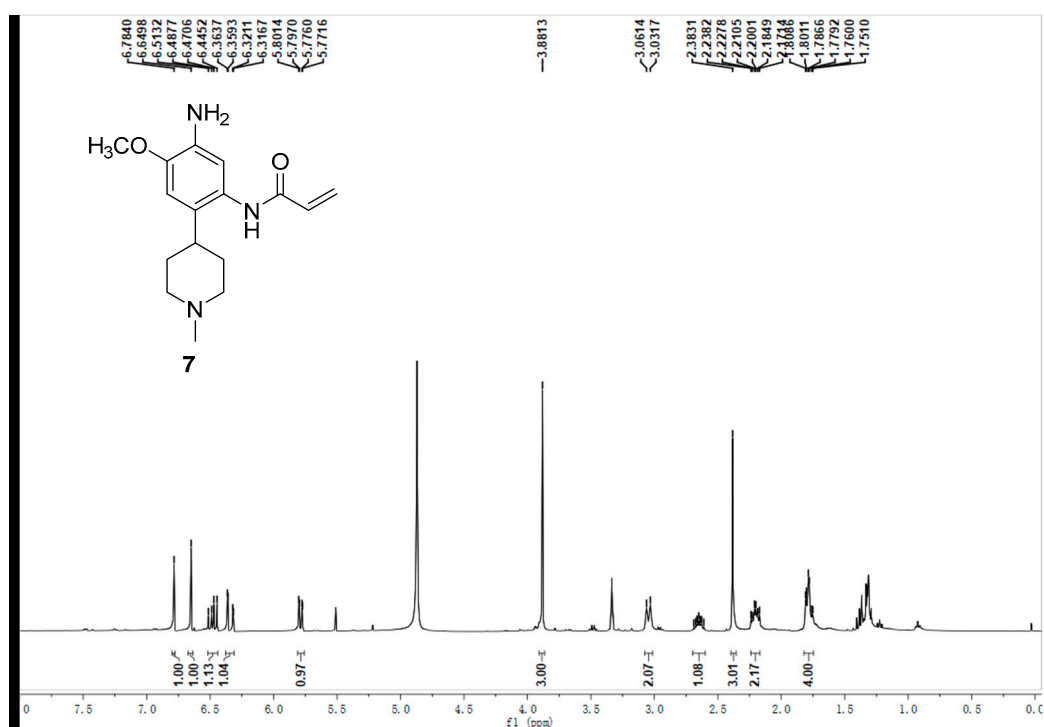
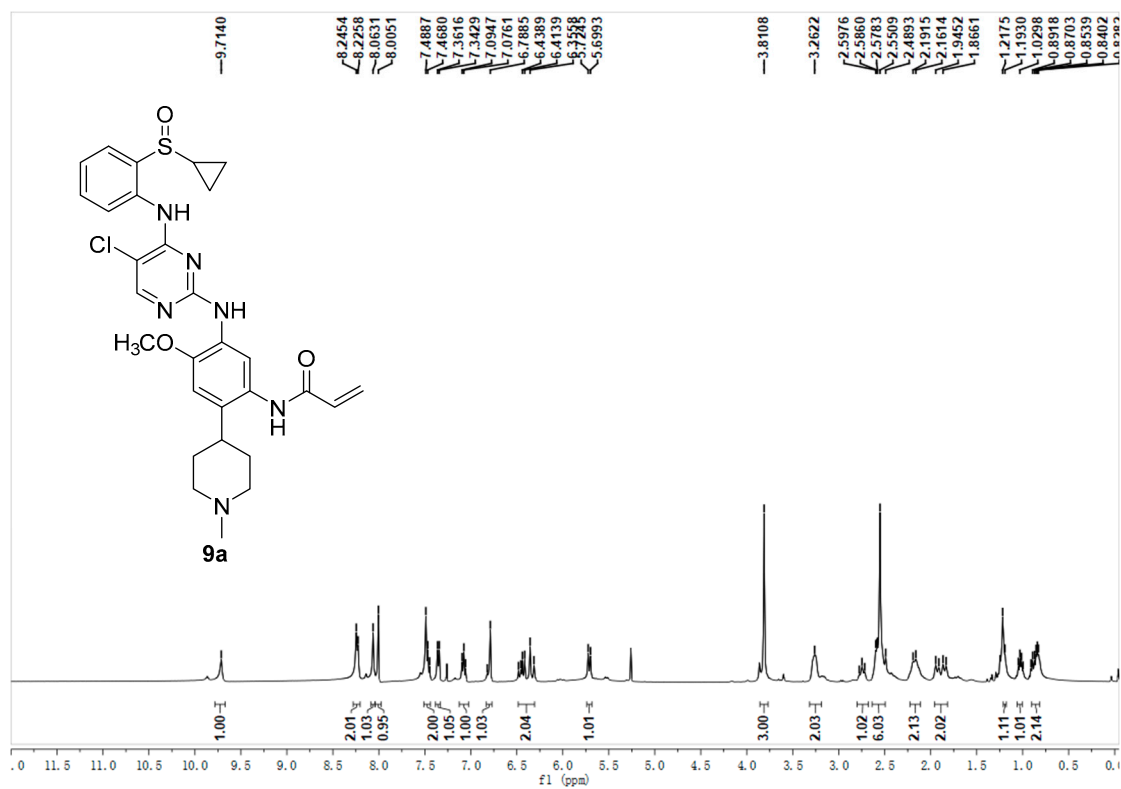
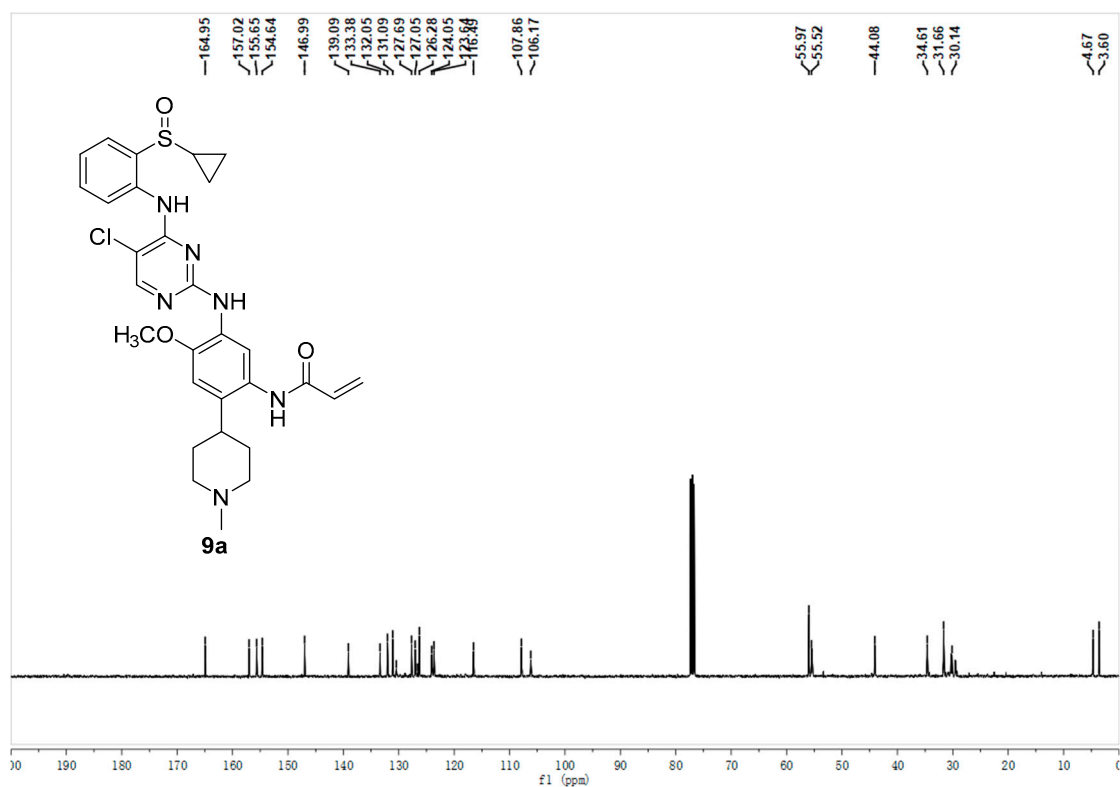


Figure S7. <sup>1</sup>H NMR Spectrum of **7** in CD<sub>3</sub>OD



**Figure S8.** <sup>1</sup>H NMR Spectrum of **9a** in CDCl<sub>3</sub>



**Figure S9.** <sup>13</sup>C NMR Spectrum of **9a** in CDCl<sub>3</sub>

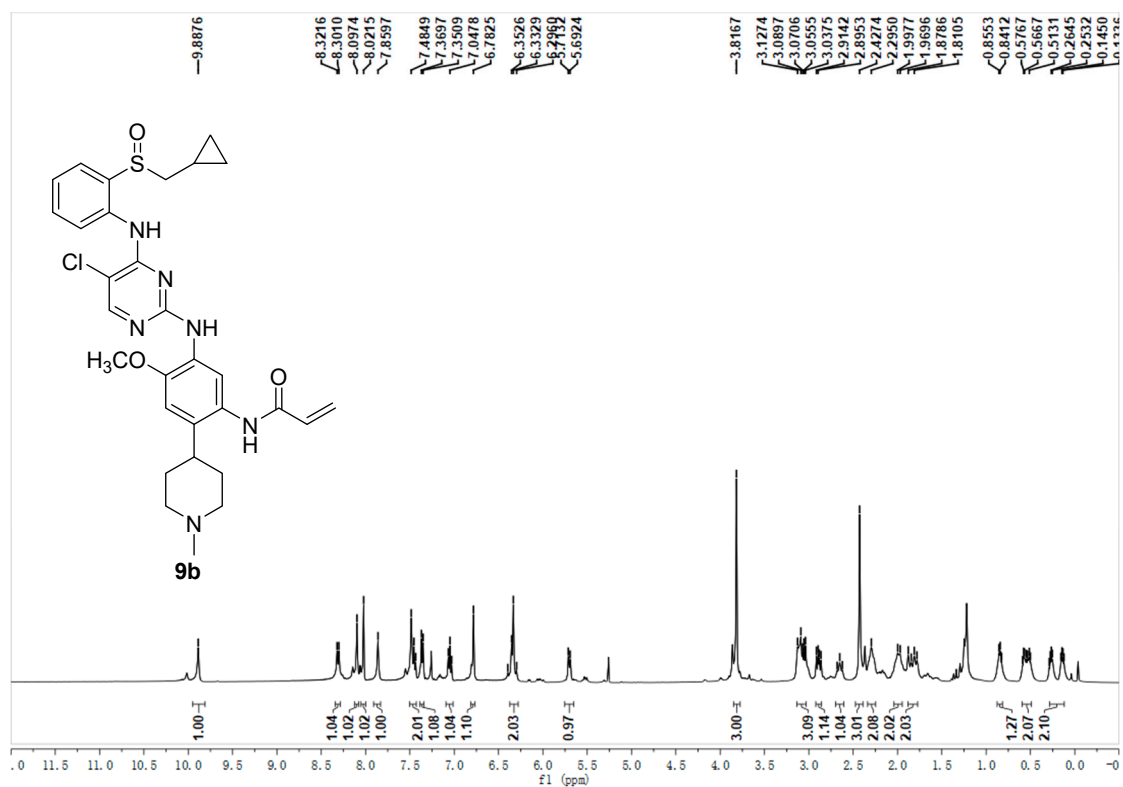


Figure S10. <sup>1</sup>H NMR Spectrum of **9b** in CDCl<sub>3</sub>

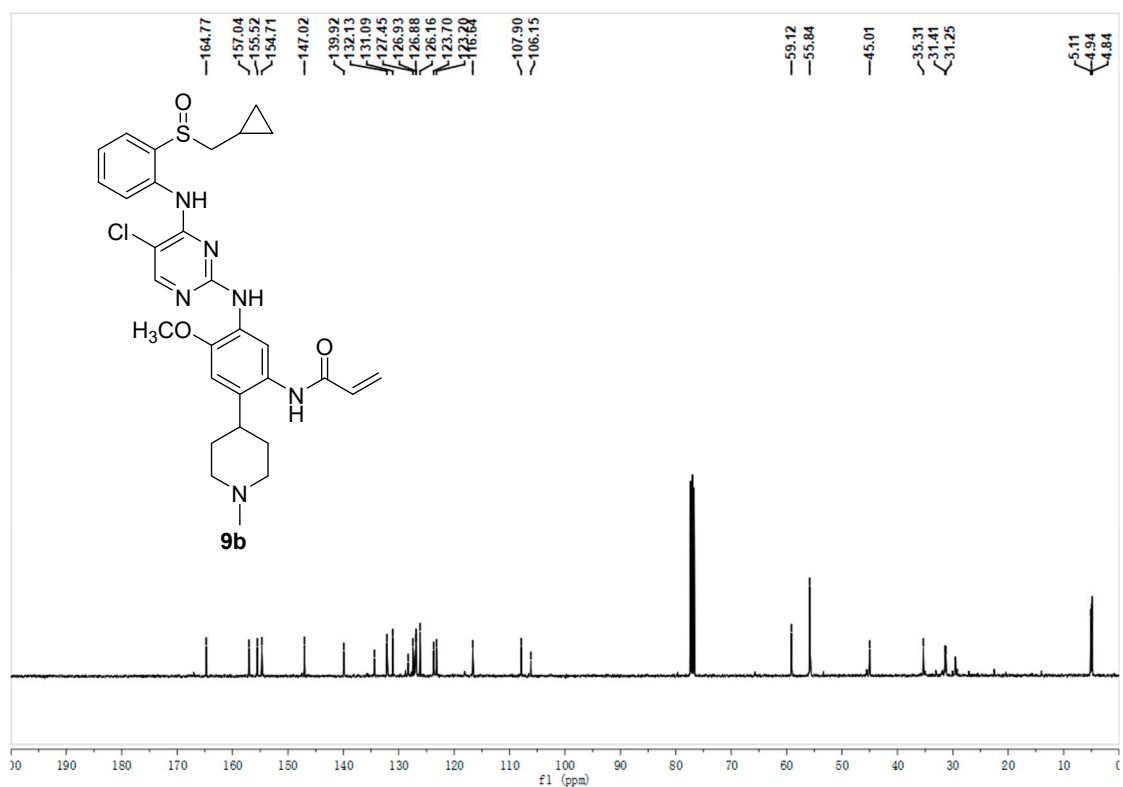
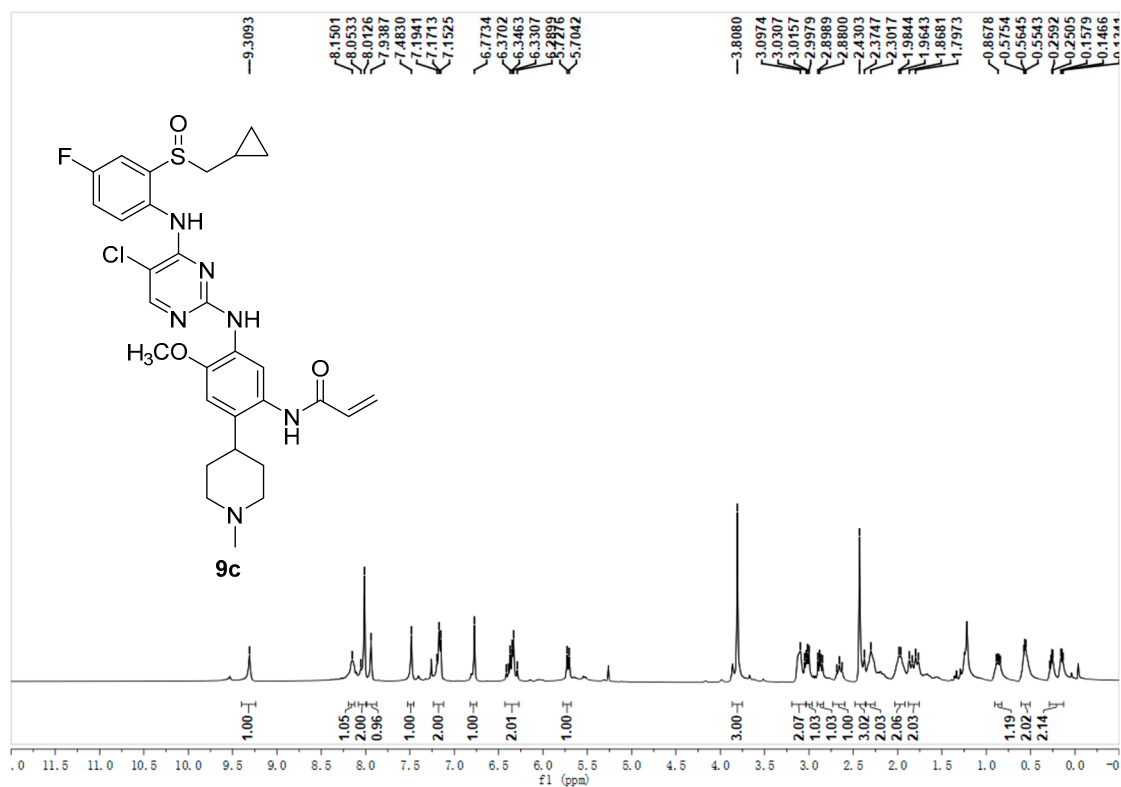
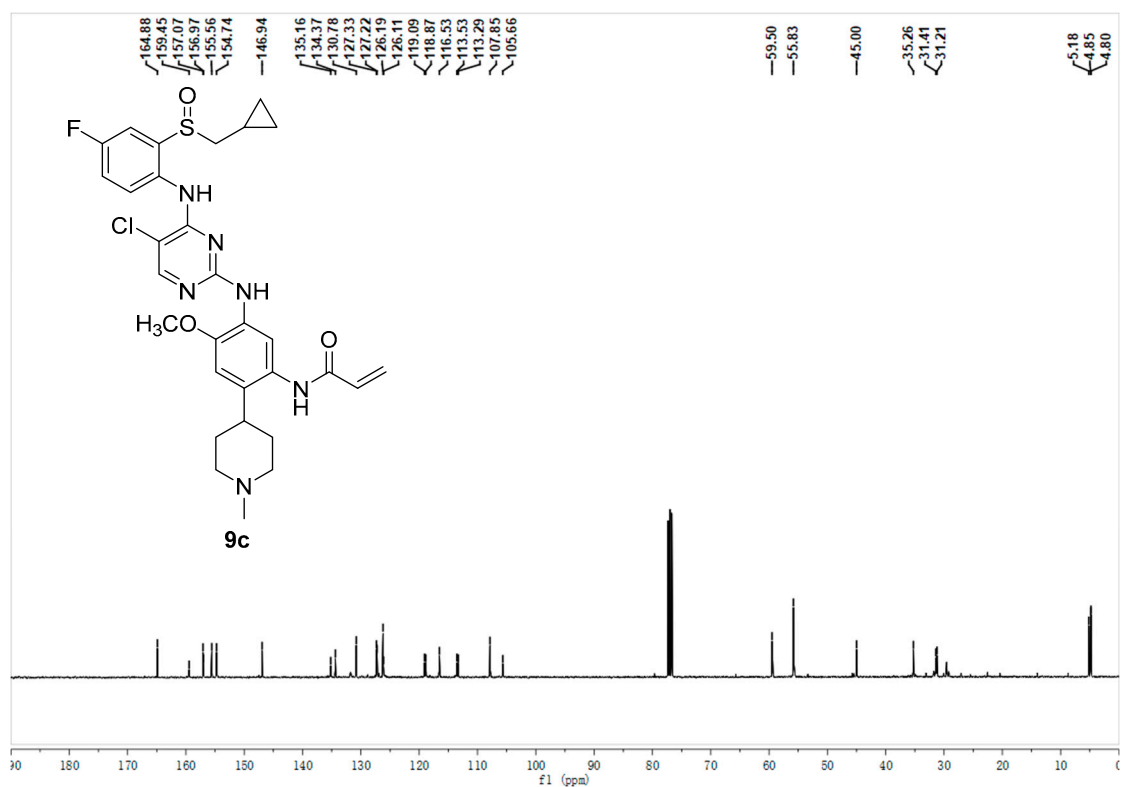


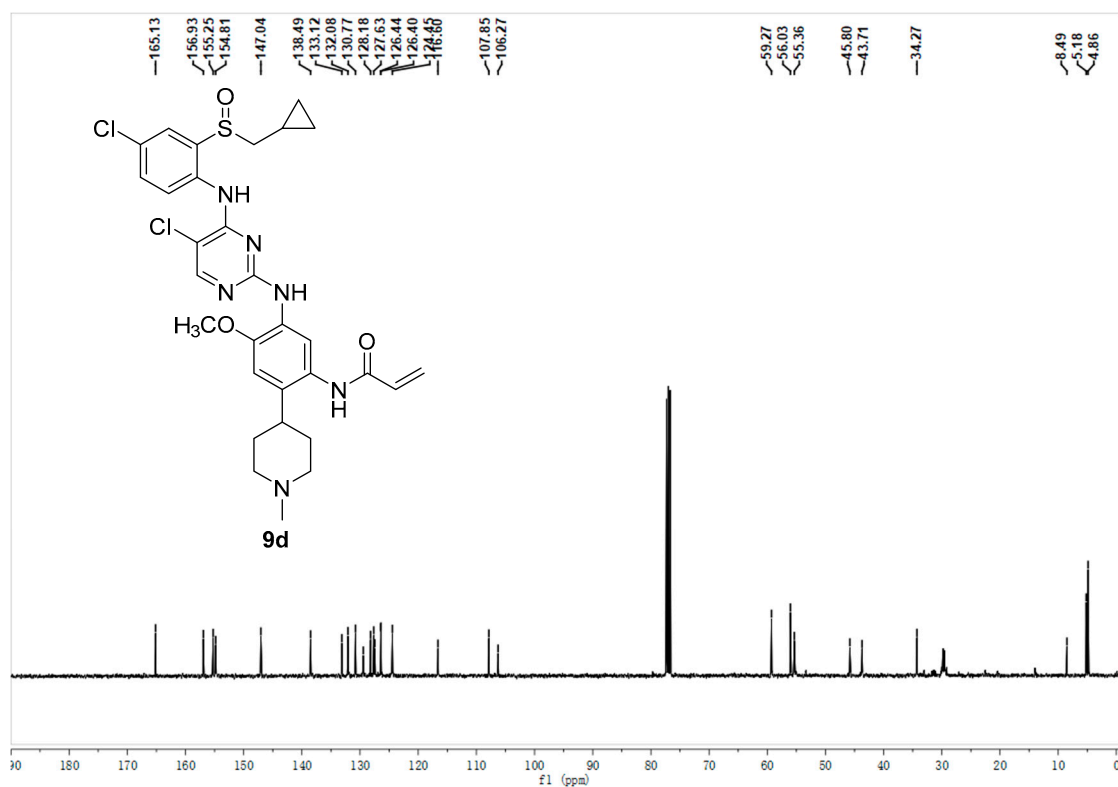
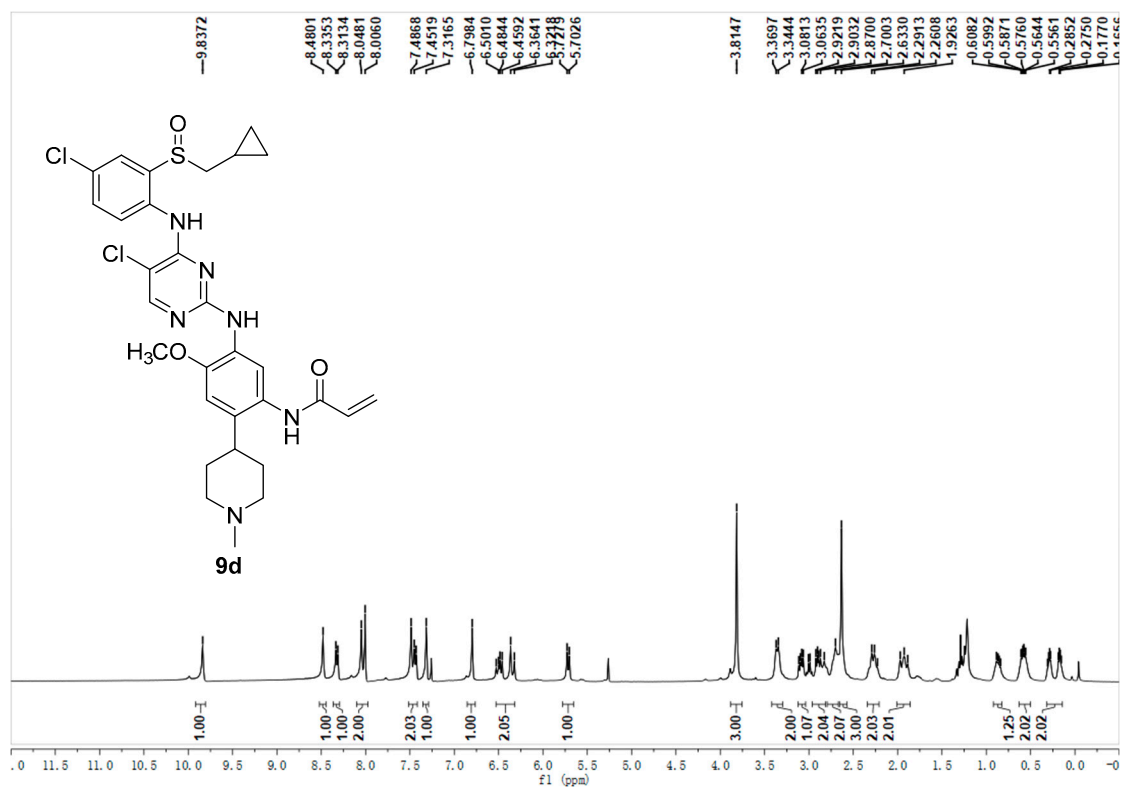
Figure S11. <sup>13</sup>C NMR Spectrum of **9b** in CDCl<sub>3</sub>



**Figure S12.** <sup>1</sup>H NMR Spectrum of **9c** in CDCl<sub>3</sub>



**Figure S13.** <sup>13</sup>C NMR Spectrum of **9c** in CDCl<sub>3</sub>





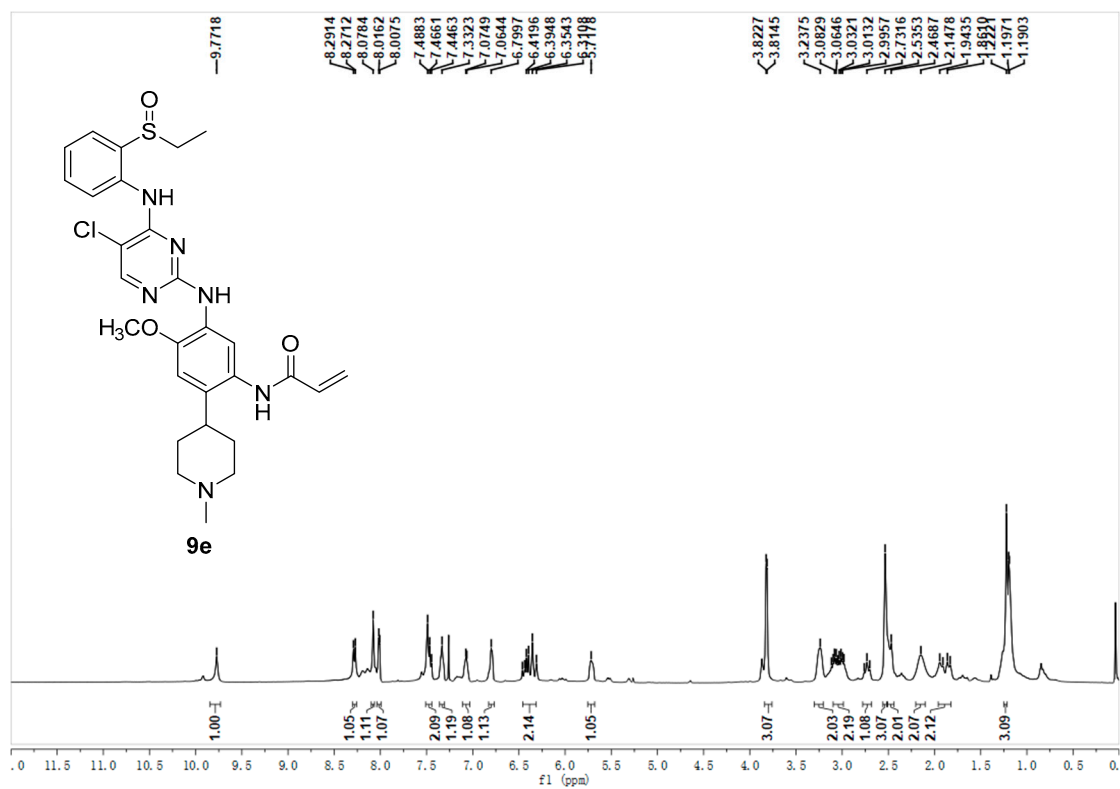


Figure S16. <sup>1</sup>H NMR Spectrum of **9e** in CDCl<sub>3</sub>

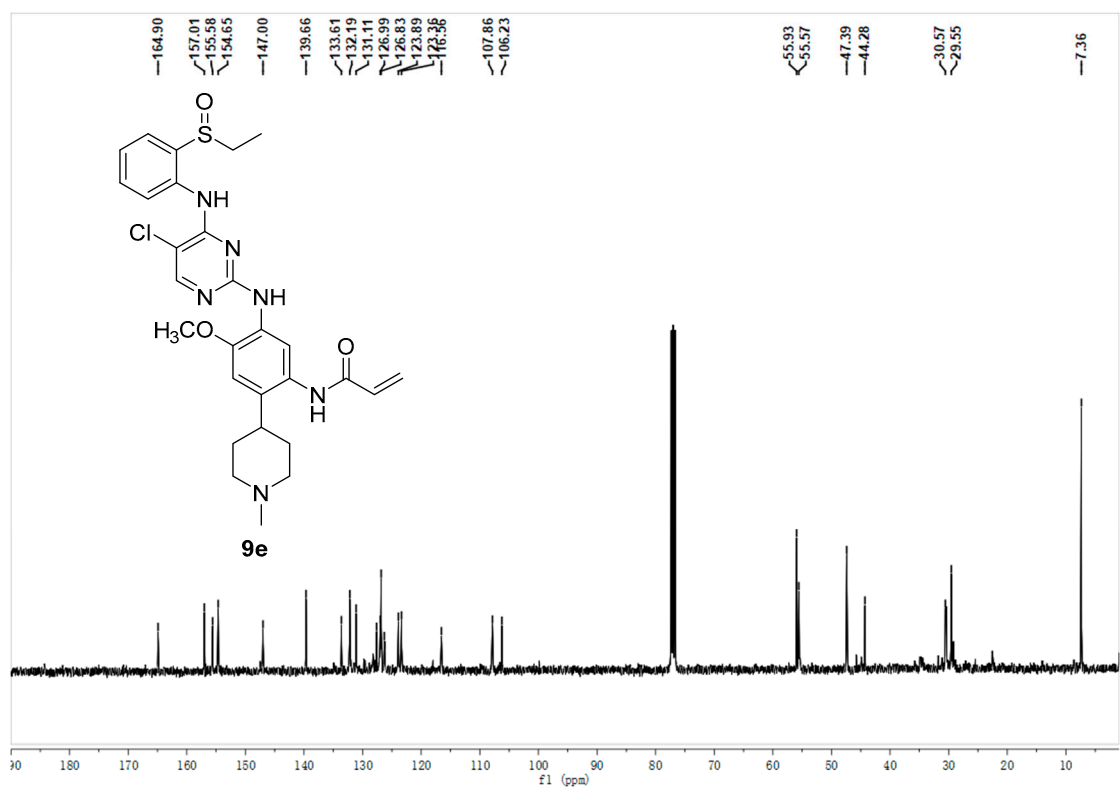
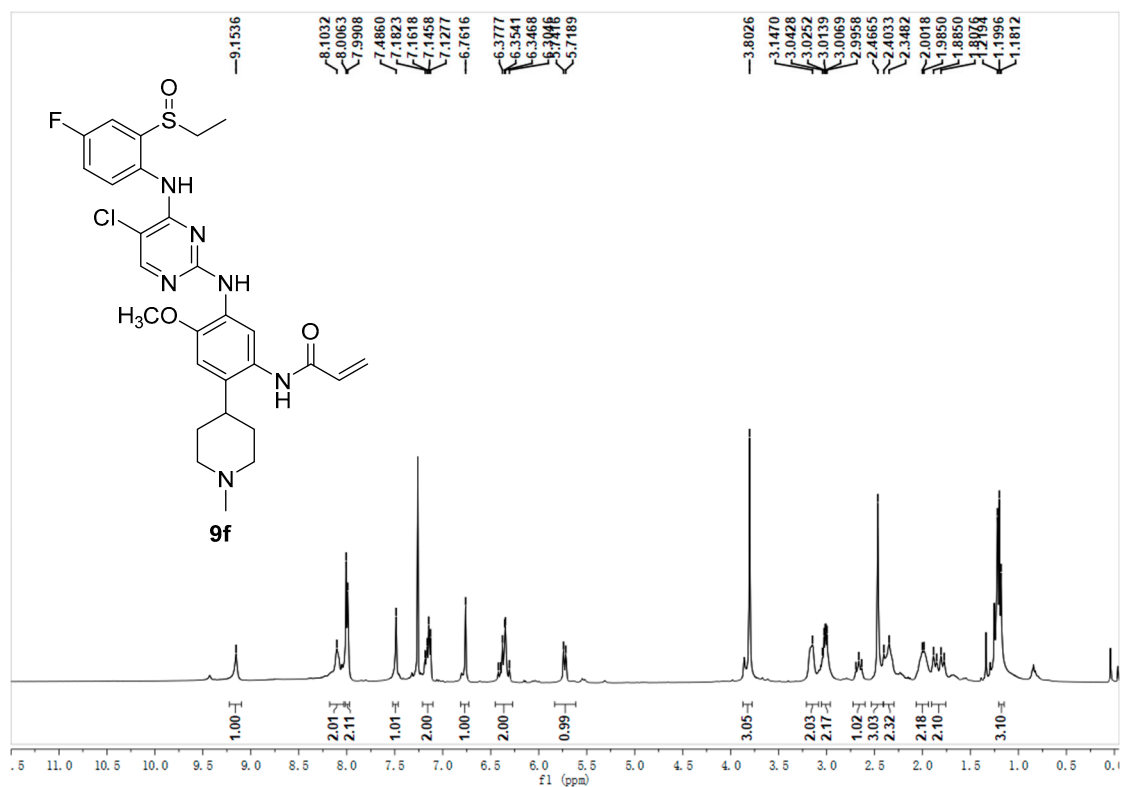
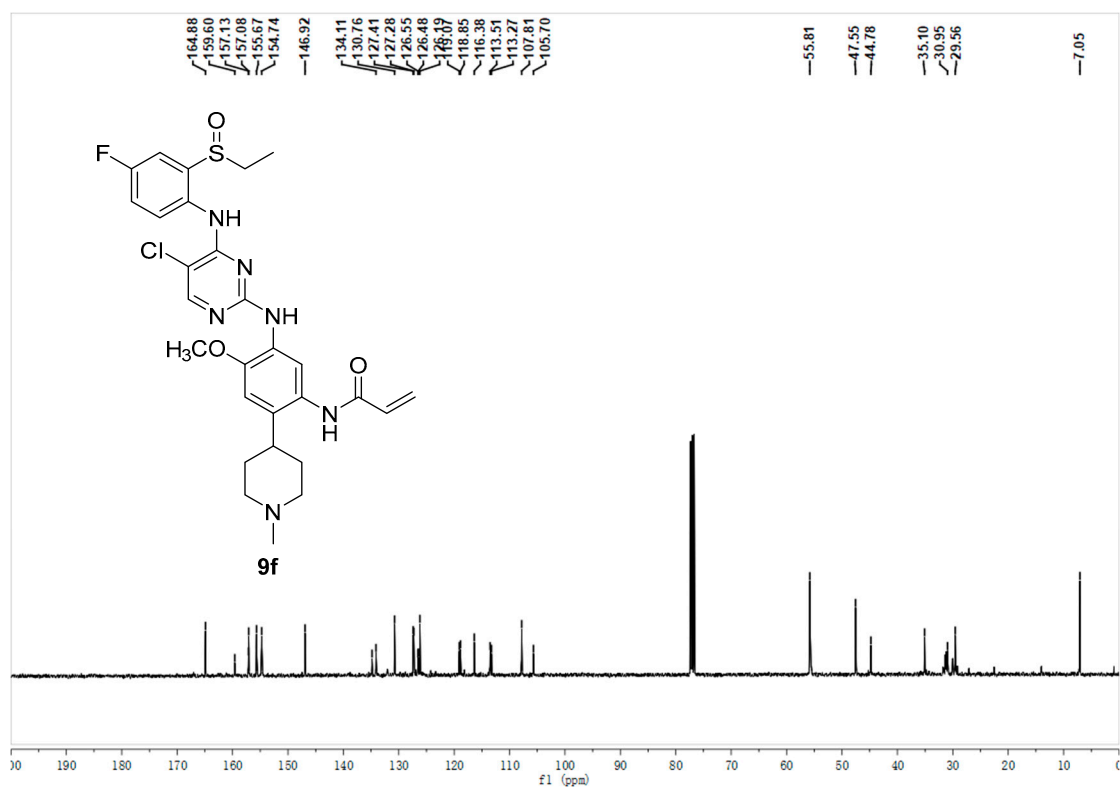


Figure S17. <sup>13</sup>C NMR Spectrum of **9e** in CDCl<sub>3</sub>



**Figure S18.** <sup>1</sup>H NMR Spectrum of **9f** in CDCl<sub>3</sub>



**Figure S19.** <sup>13</sup>C NMR Spectrum of **9f** in CDCl<sub>3</sub>

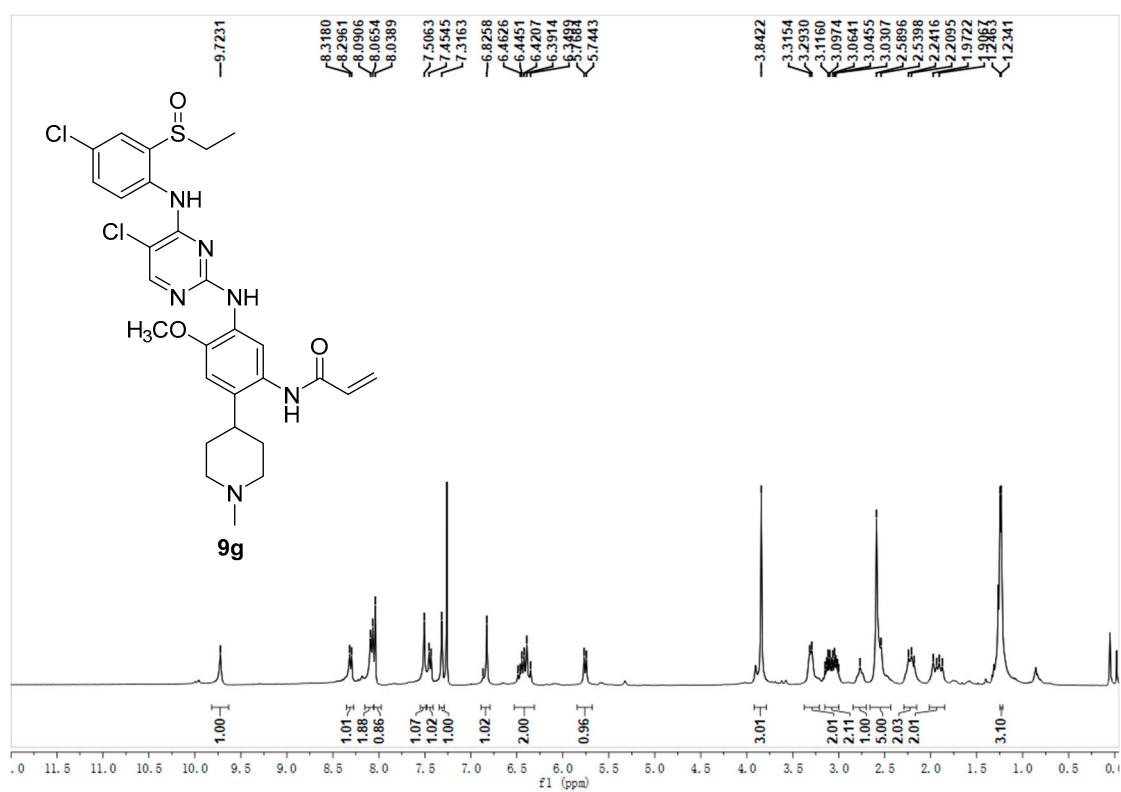


Figure S20. <sup>1</sup>H NMR Spectrum of **9g** in CDCl<sub>3</sub>

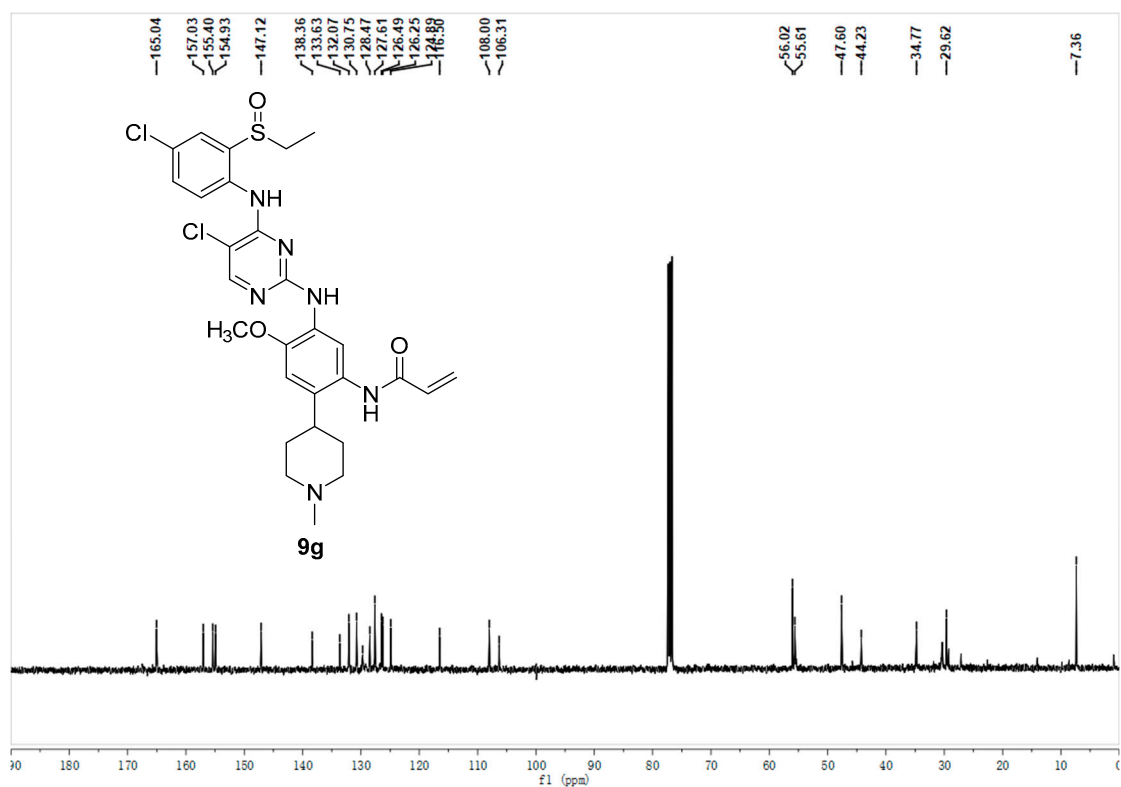
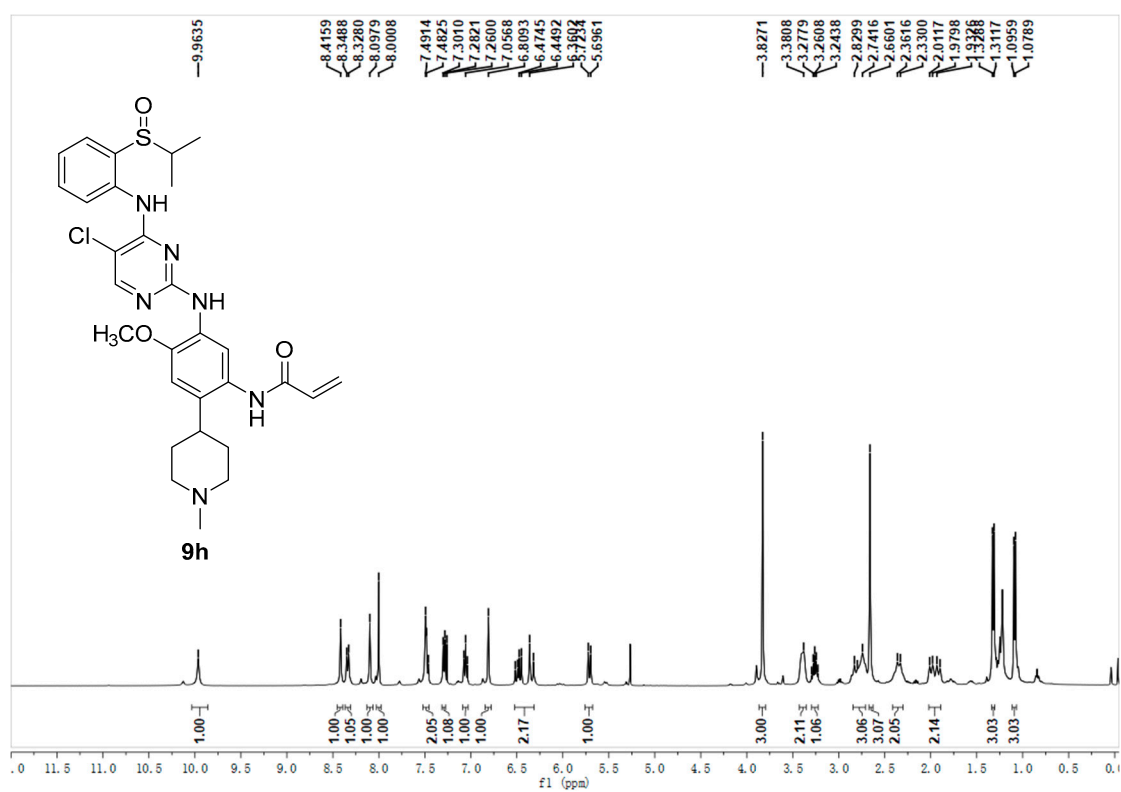
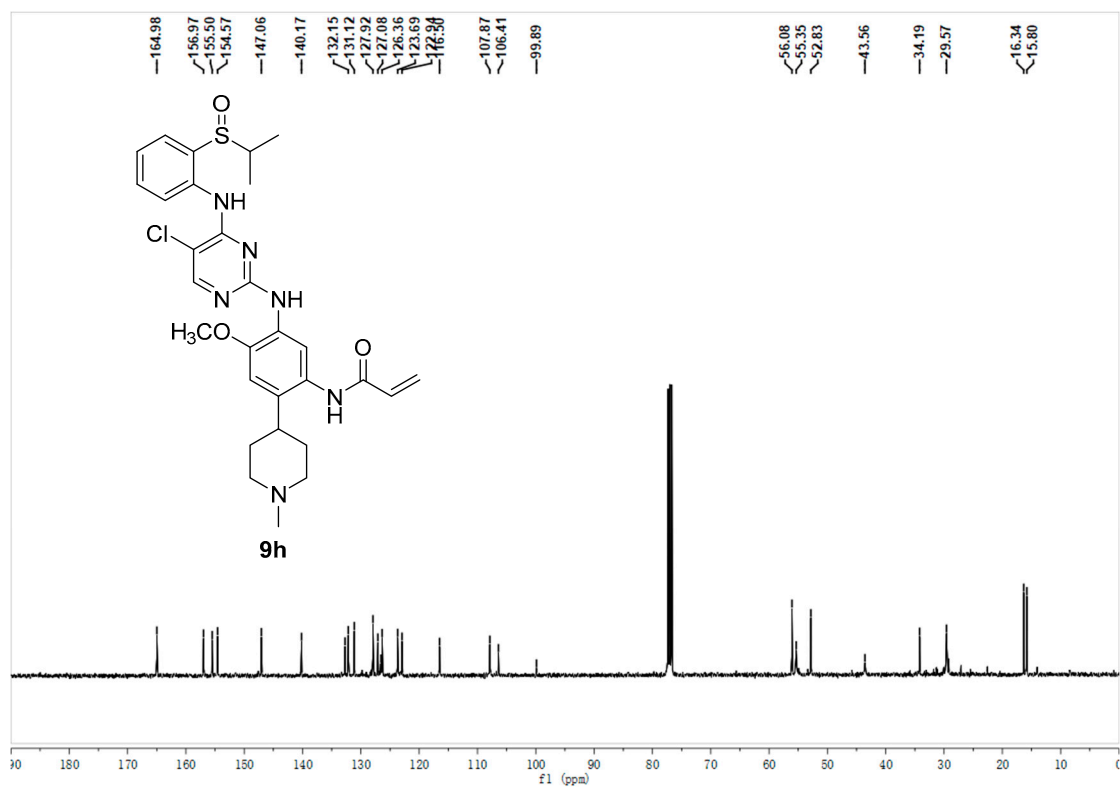


Figure S21. <sup>13</sup>C NMR Spectrum of **9g** in CDCl<sub>3</sub>



**Figure S22.** <sup>1</sup>H NMR Spectrum of **9h** in CDCl<sub>3</sub>



**Figure S23.** <sup>13</sup>C NMR Spectrum of **9h** in CDCl<sub>3</sub>

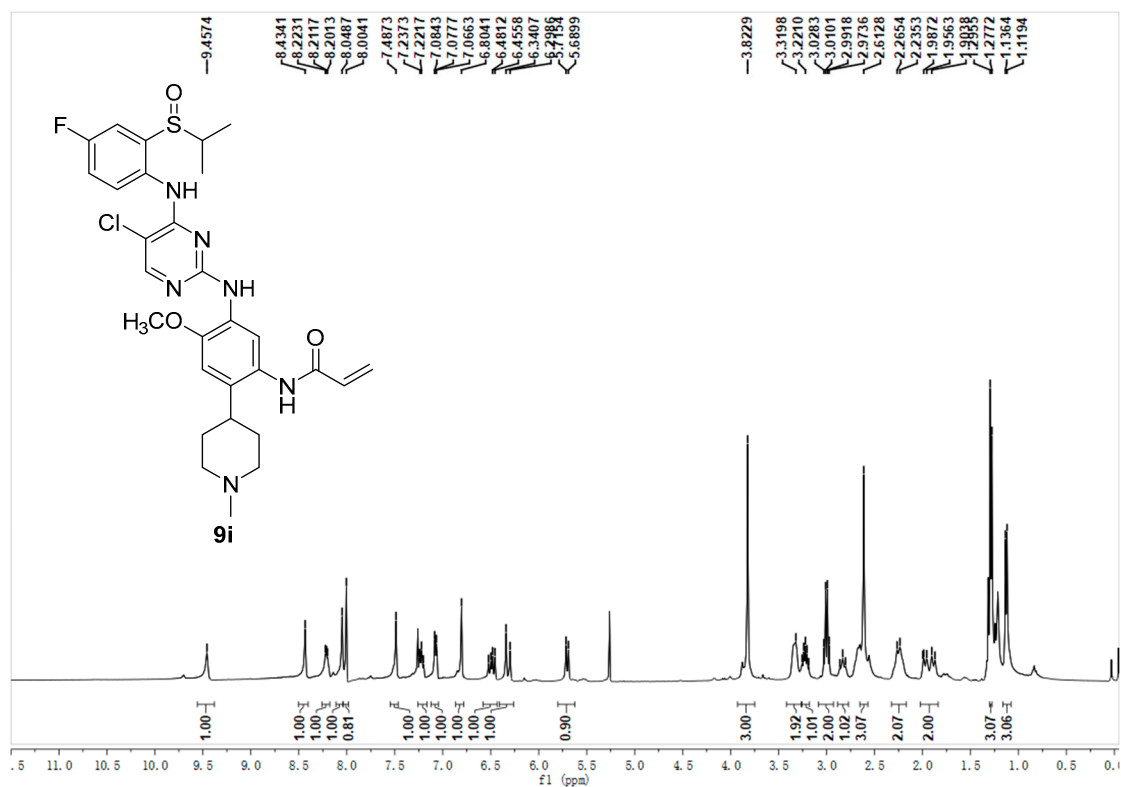


Figure S24. <sup>1</sup>H NMR Spectrum of **9i** in CDCl<sub>3</sub>

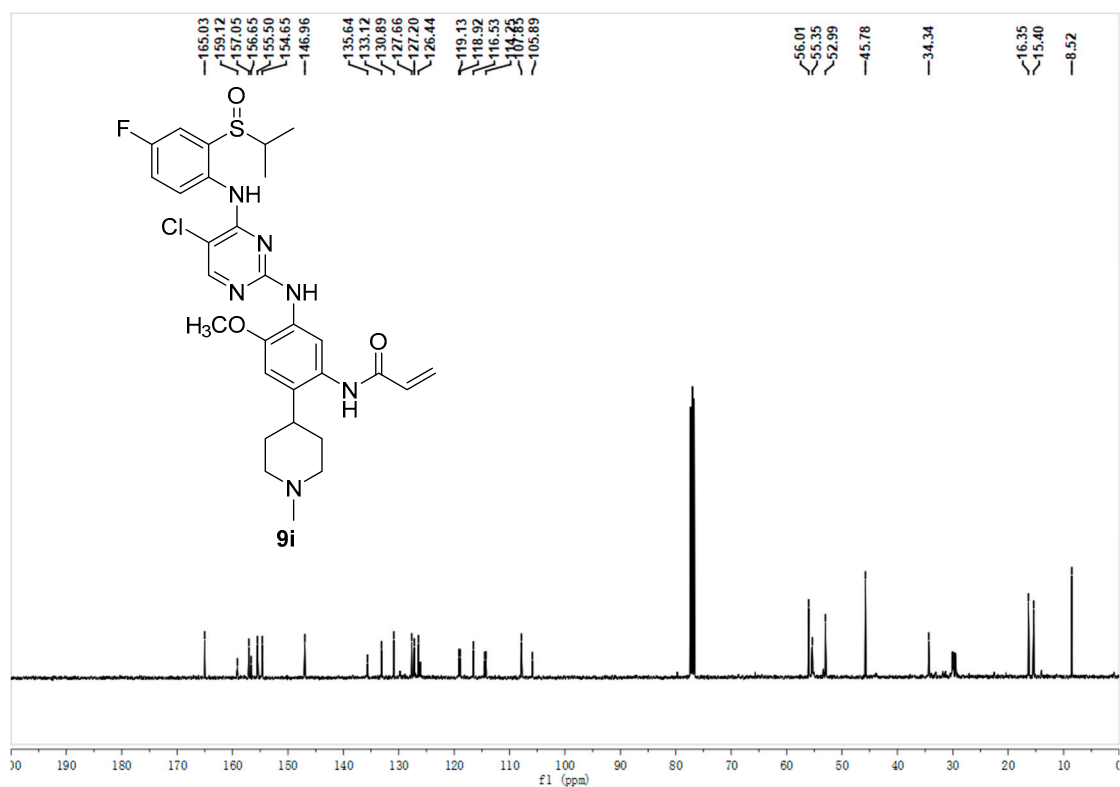


Figure S25. <sup>13</sup>C NMR Spectrum of **9i** in CDCl<sub>3</sub>

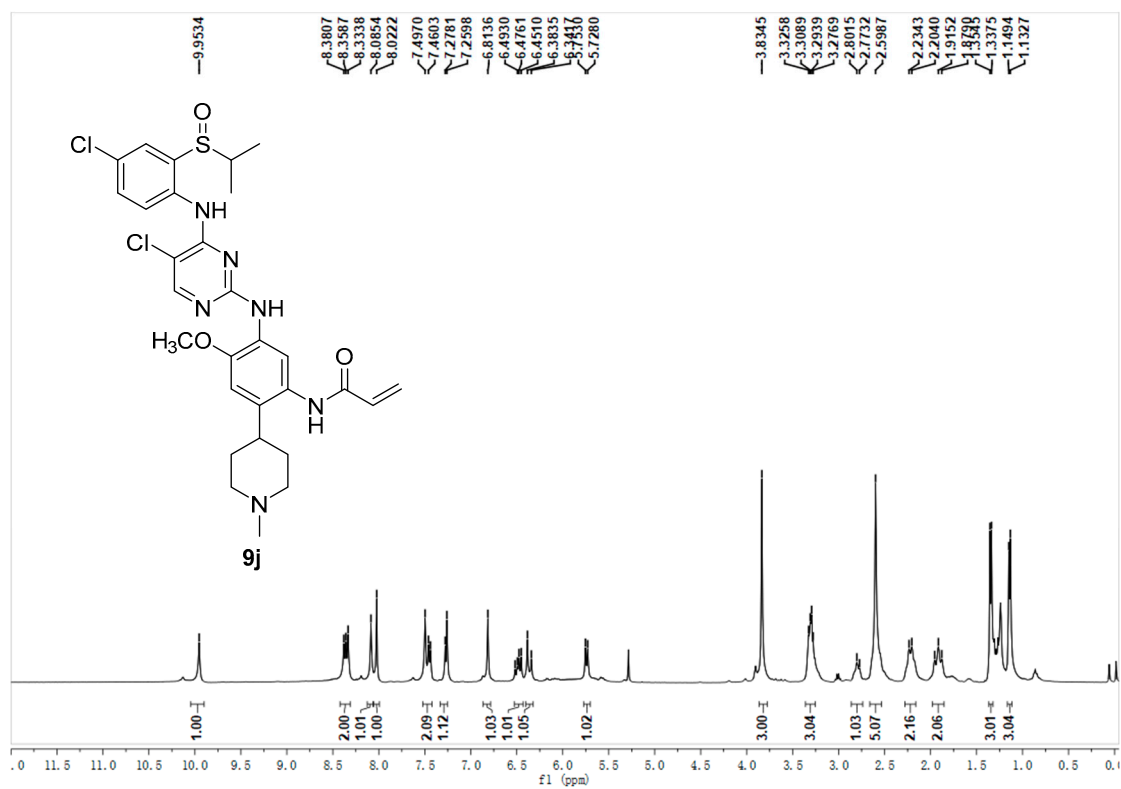


Figure S26. <sup>1</sup>H NMR Spectrum of **9j** in CDCl<sub>3</sub>

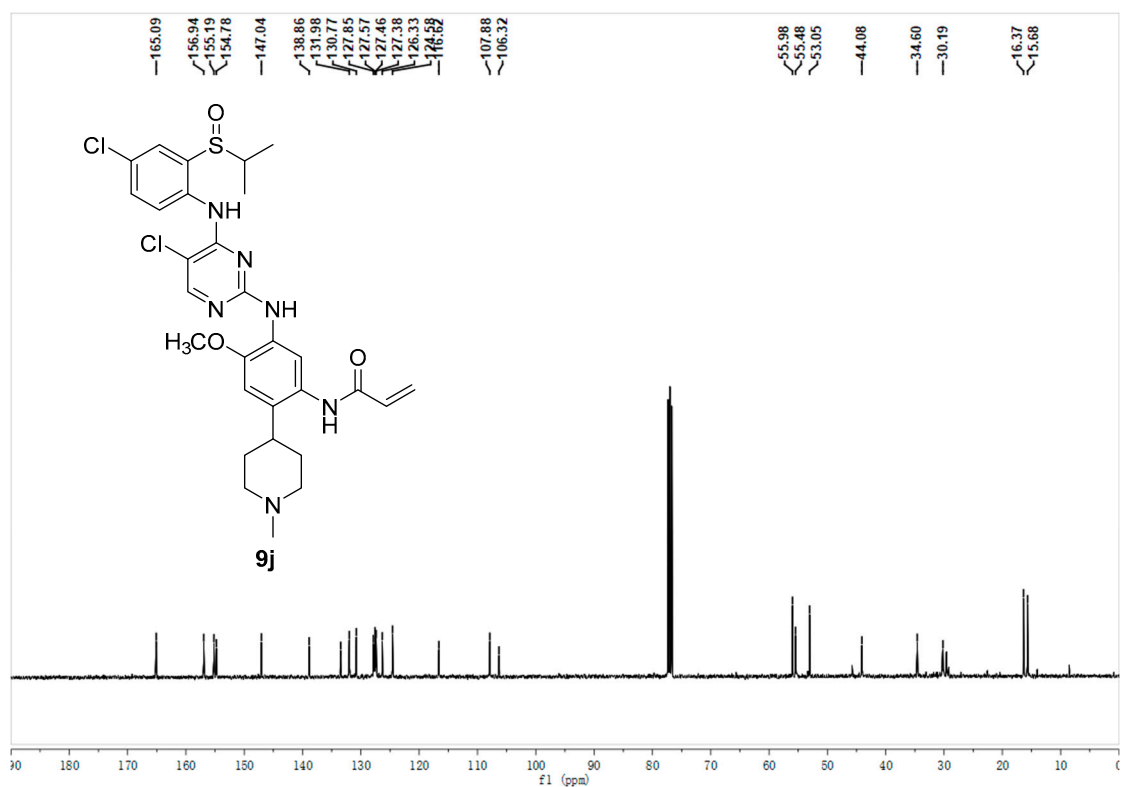


Figure S27. <sup>13</sup>C NMR Spectrum of **9j** in CDCl<sub>3</sub>

## HRMS spectra of compounds

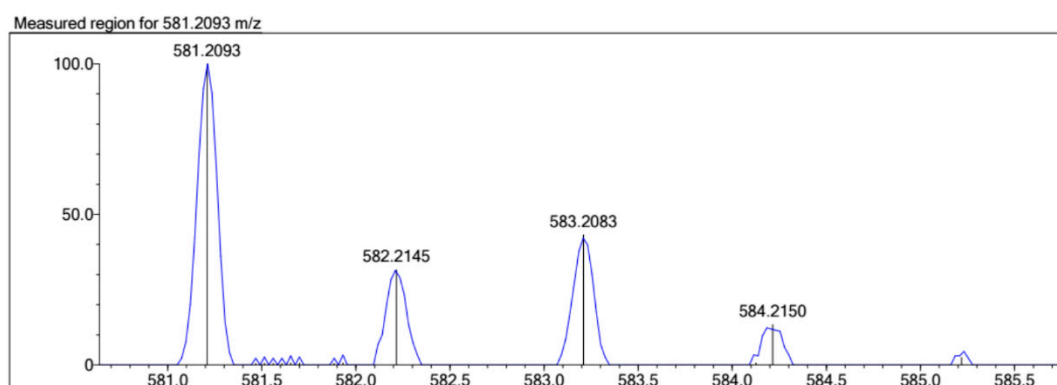


Figure S28. HRMS spectrum of **9a**

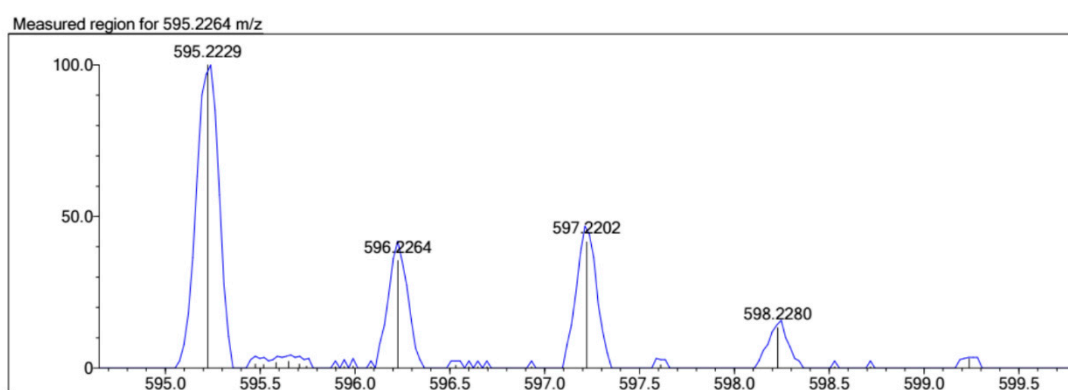


Figure S29. HRMS spectrum of **9b**

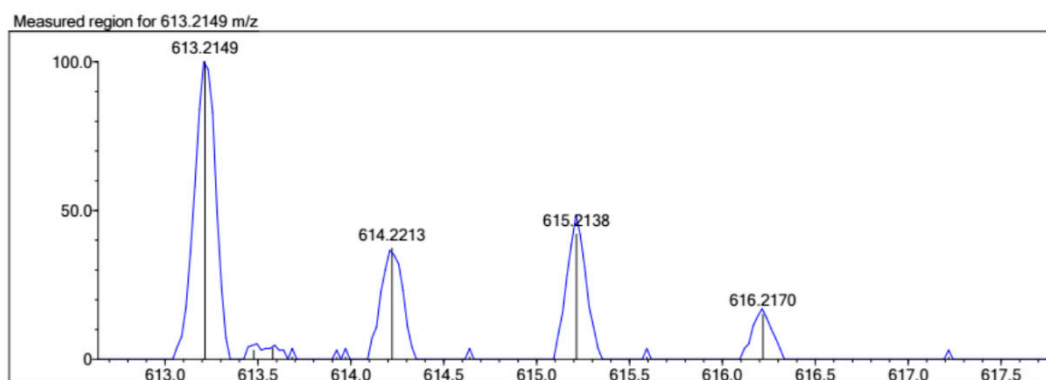


Figure S30. HRMS spectrum of **9c**

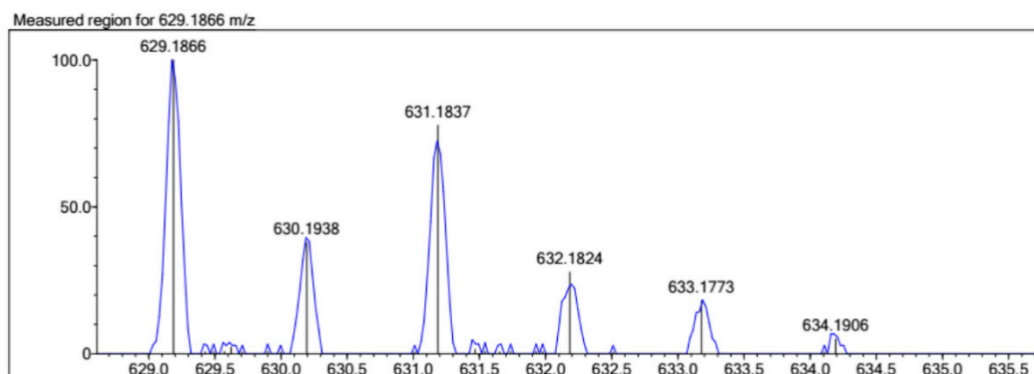


Figure S31. HRMS spectrum of **9d**

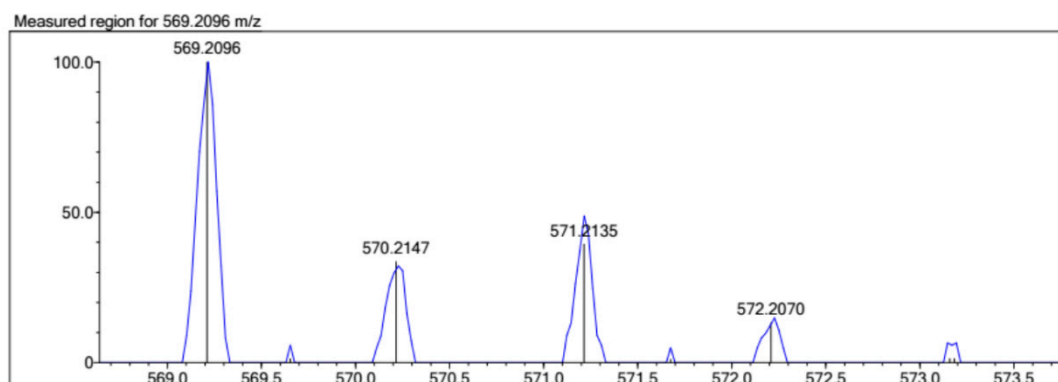


Figure S32. HRMS spectrum of **9e**

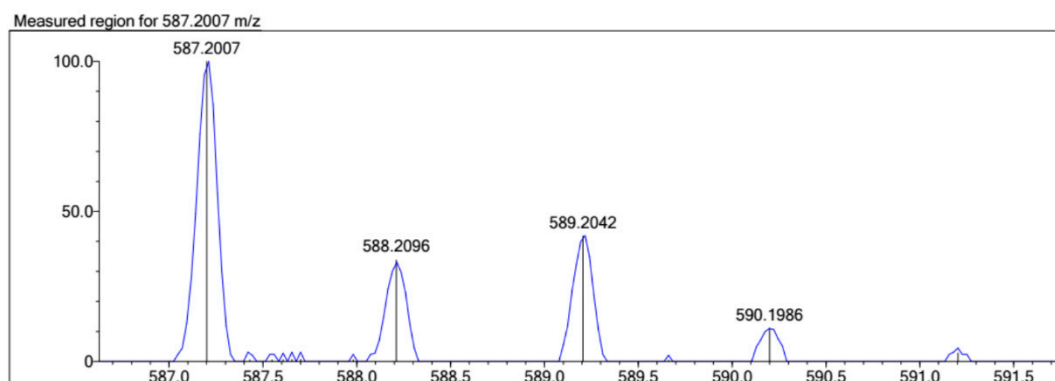
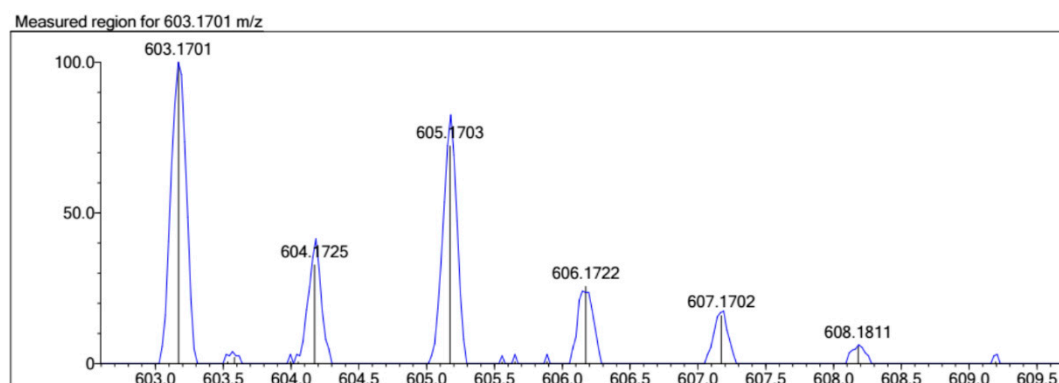
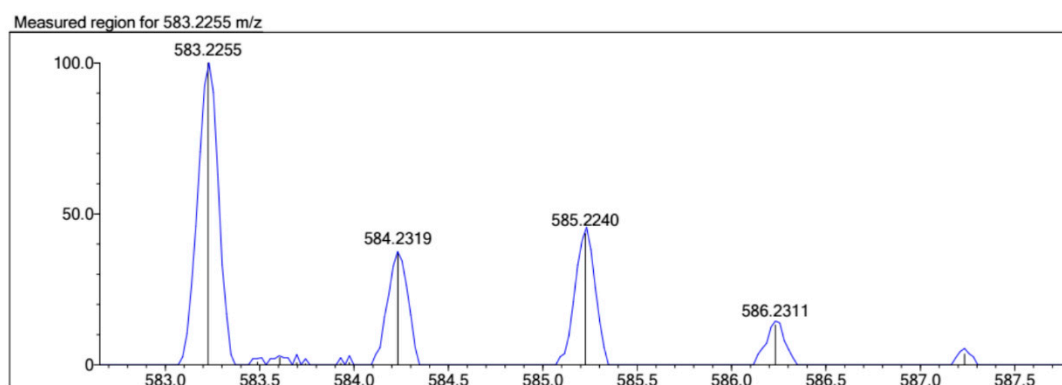


Figure S33. HRMS spectrum of **9f**

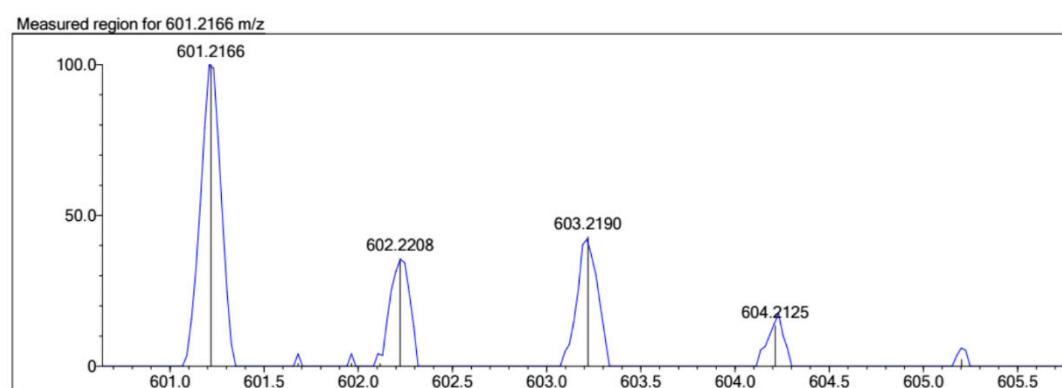




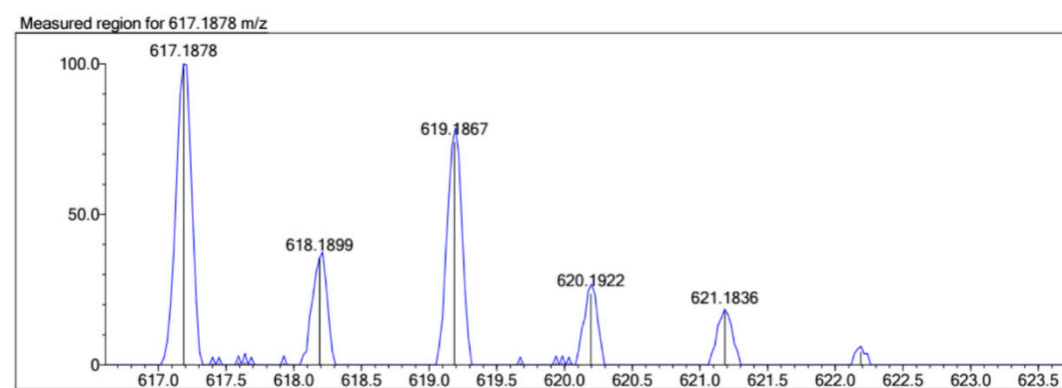
**Figure S34.** HRMS spectrum of **9g**



**Figure S35.** HRMS spectrum of **9h**



**Figure S36.** HRMS spectrum of **9i**



**Figure S37.** HRMS spectrum of **9j**

HPLC of compounds

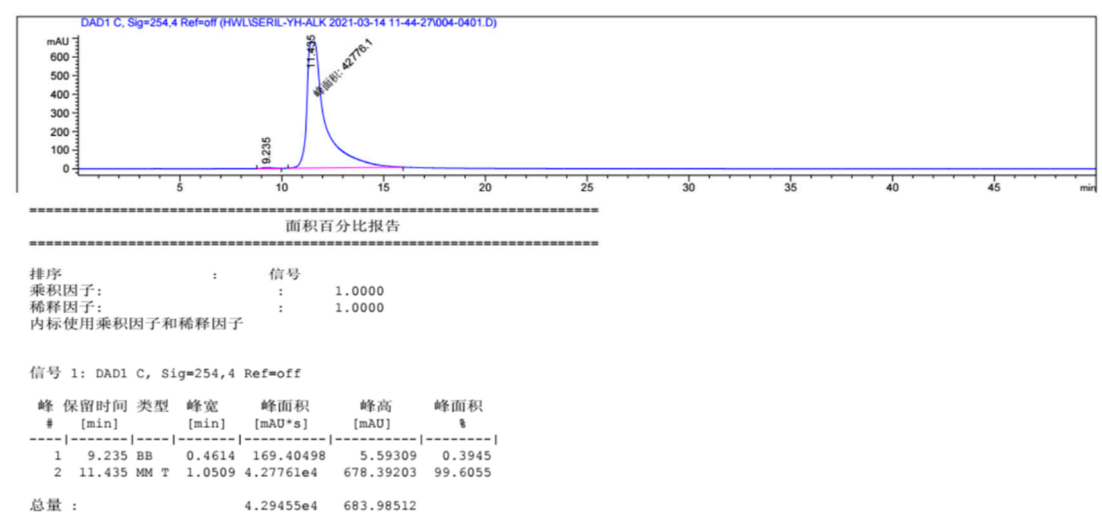


Figure S38. HPLC of 9a

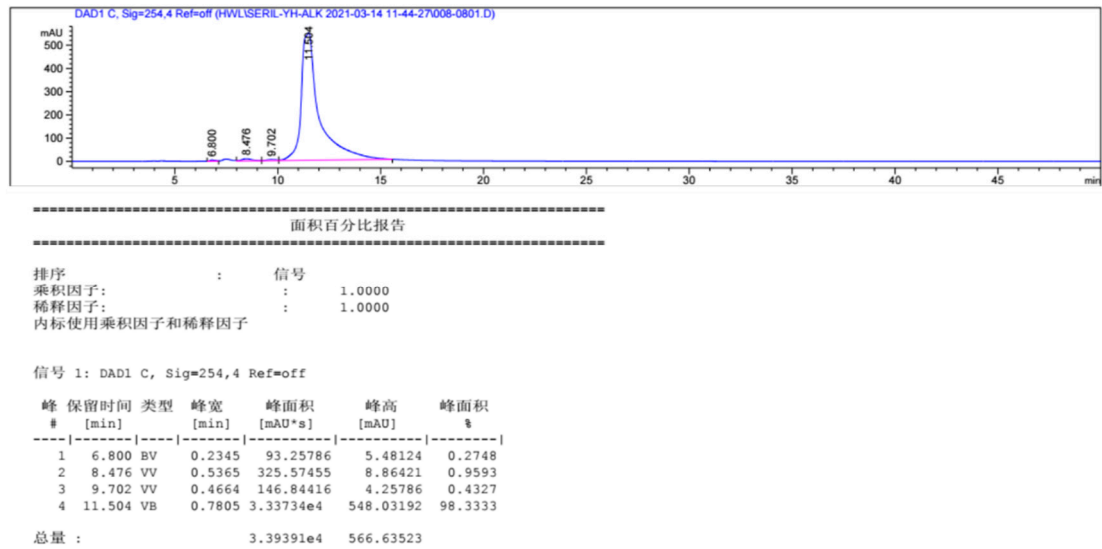


Figure S39. HPLC of 9b

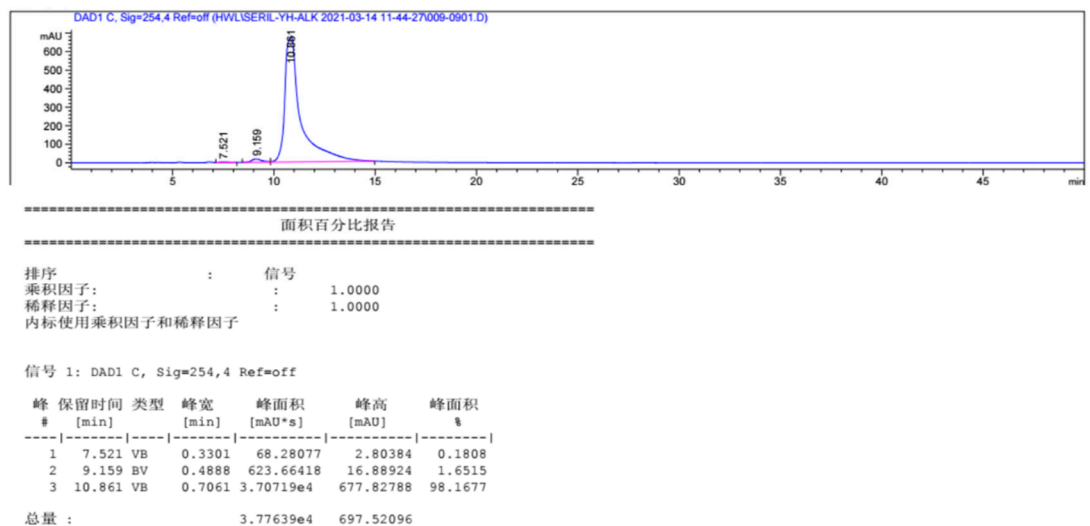


Figure S40. HPLC of 9c

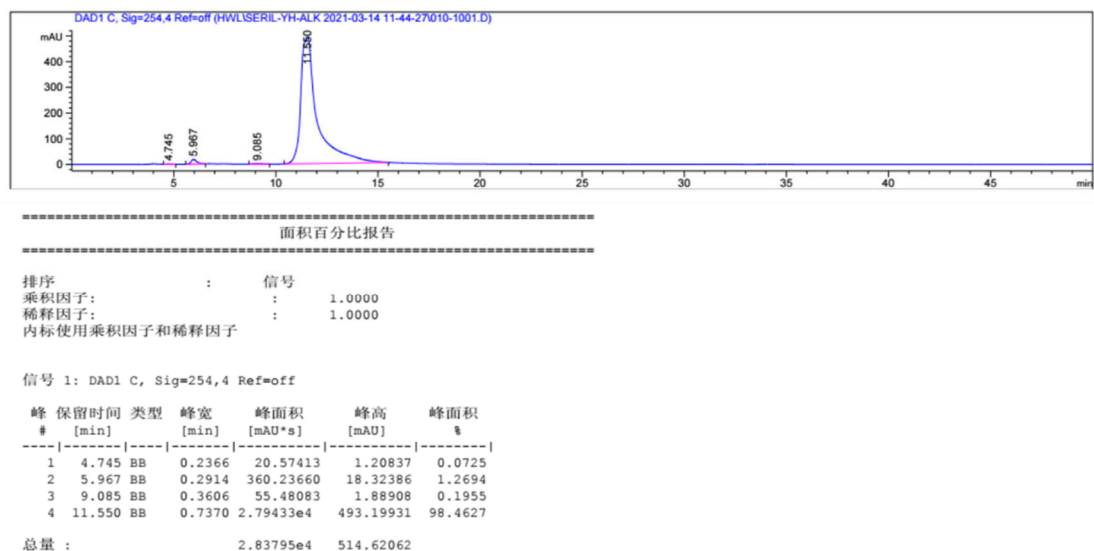


Figure S41. HPLC of 9d

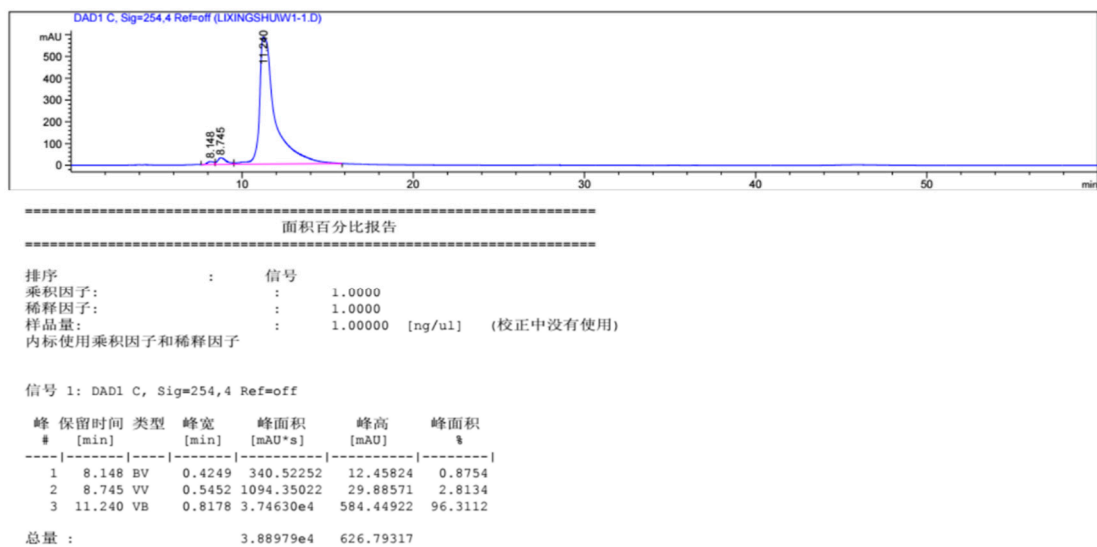


Figure S42. HPLC of 9e

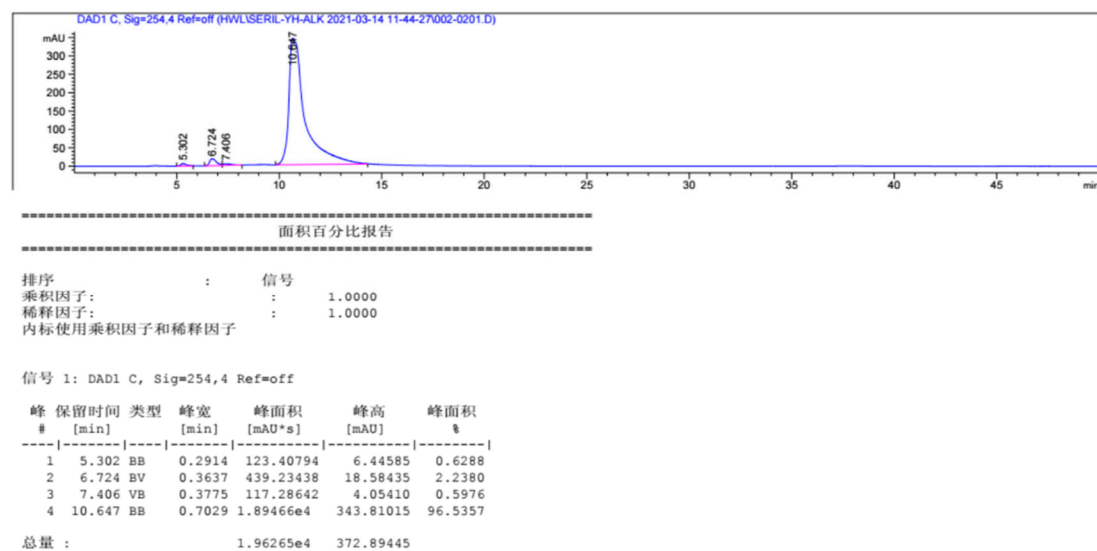


Figure S43. HPLC of 9f

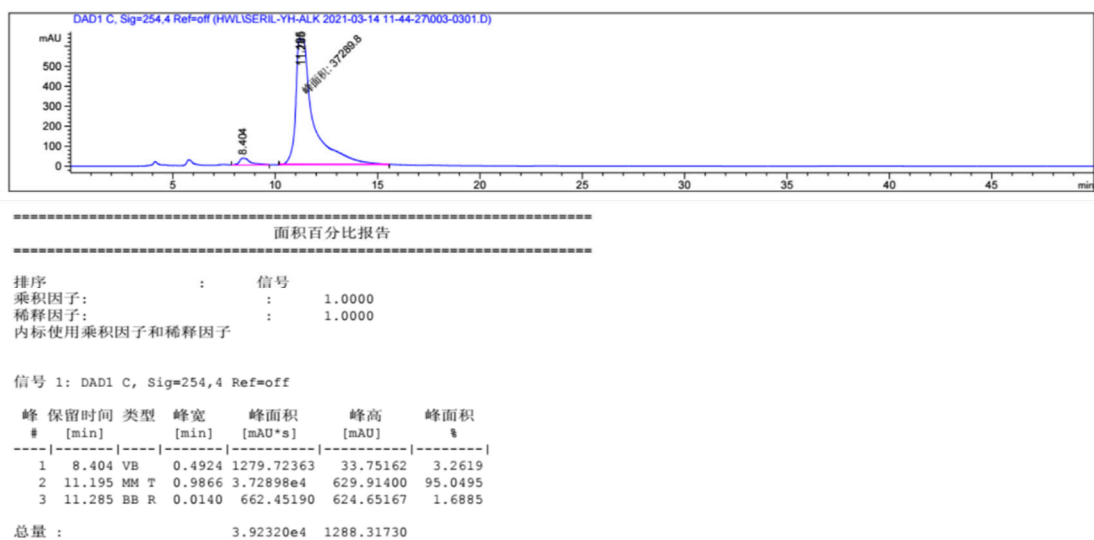


Figure S44. HPLC of 9g

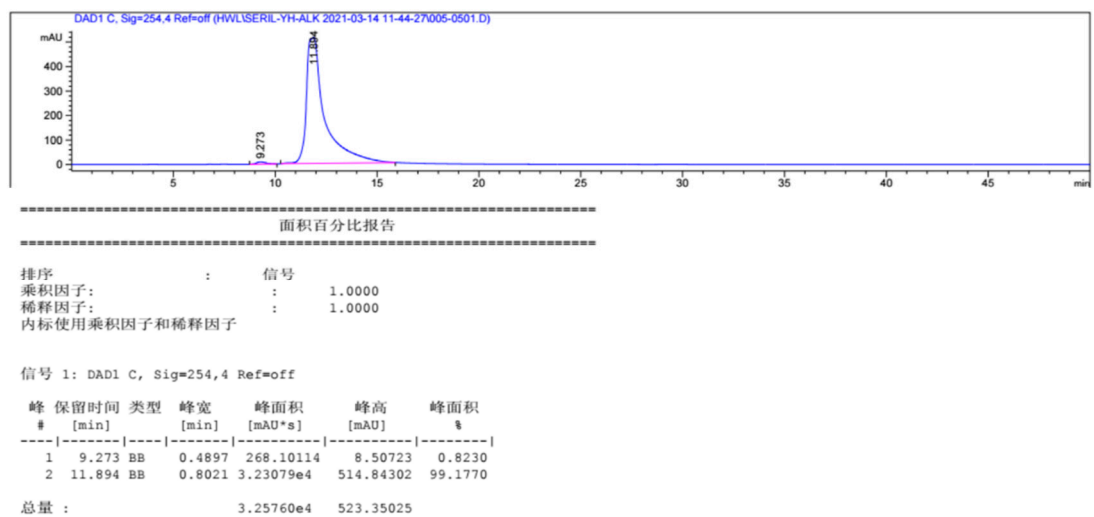


Figure S45. HPLC of 9h

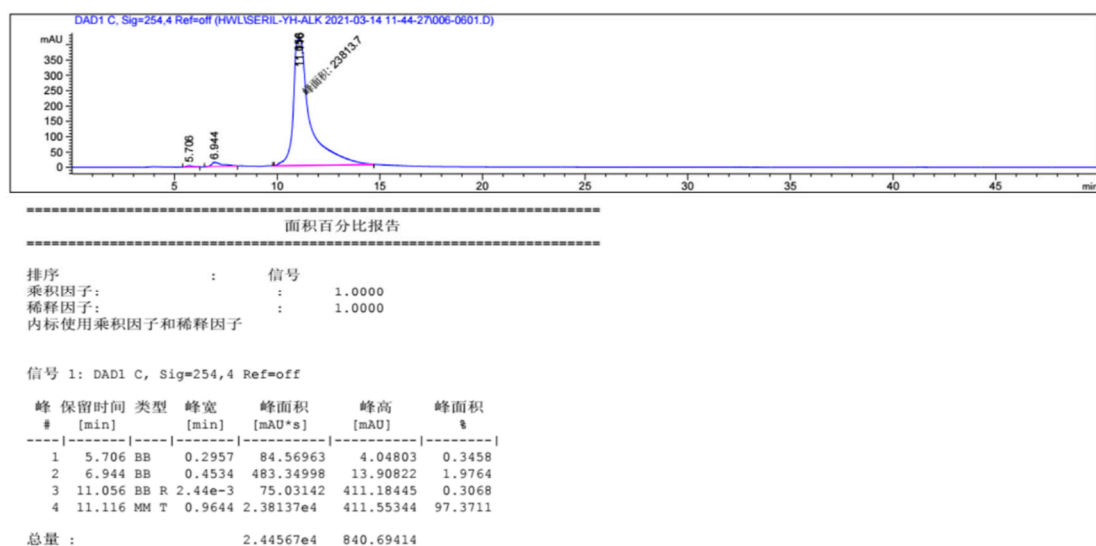


Figure S46. HPLC of 9i

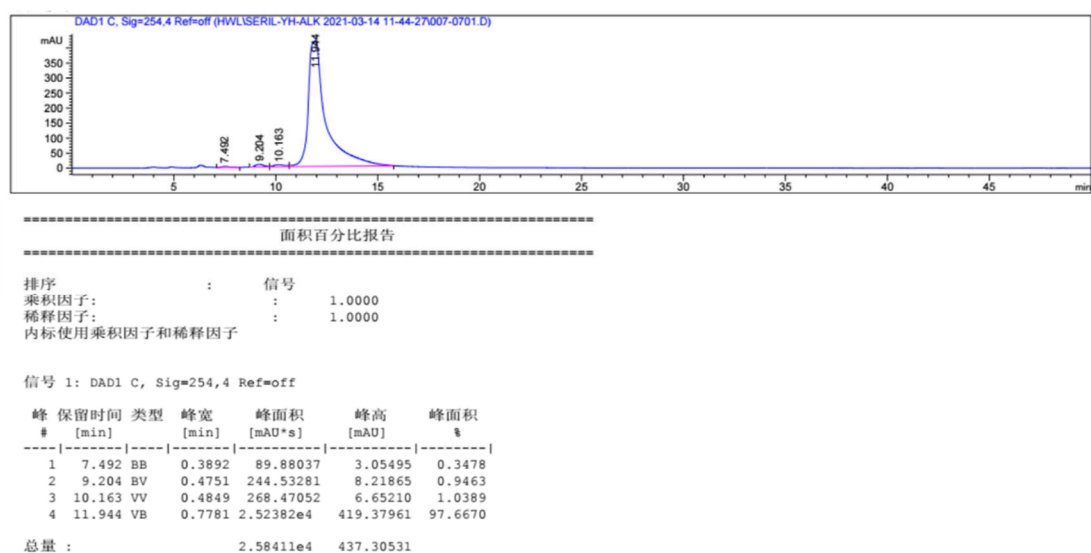


Figure S47. HPLC of 9j