

Supplementary Information

Design, synthesis and antiproliferative effects evaluation of ferritin-targeted degraders

Yi Ai,^a Changqi Wang,^a Jiayi Zhu,^a and Hang Zhong ^{*a,c}

a. School of Pharmaceutical Sciences/ Guizhou Engineering Laboratory for Synthetic Drugs, Guizhou University, Guiyang, 550025, China.

b. Chemical Engineering Center, Guizhou University, Guiyang, 550025, China

c. Guizhou Provincial Key Laboratory of Innovation and Manufacturing for Pharmaceuticals, Zunyi Medical University, Zunyi, 563000, China

E-mail address: hzhong_gzu_edu@126.com (H. Zhong)

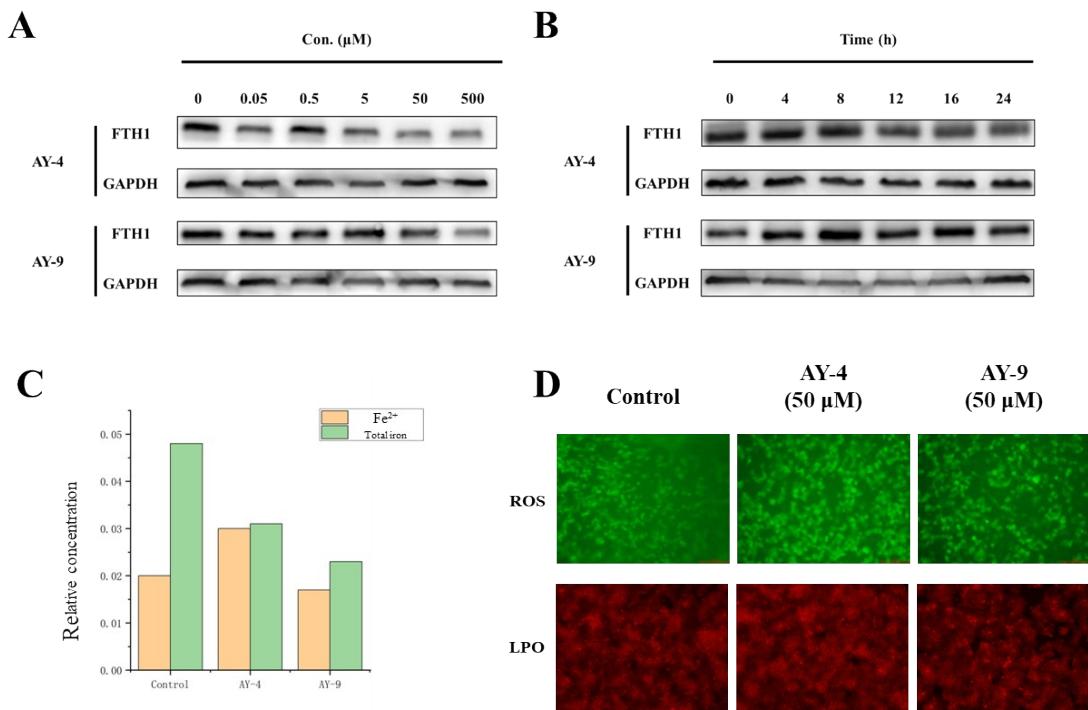


Figure S1. (A) The Western blot analysis of FTH1 in MCF-7 cells treated with AY-4 and AY-9 at 0, 0.05, 0.5, 5, 50, and 500 μ M for 12 h. (B) in MCF-7 cells treated with AY-4 and AY-9 at 50 μ M for 0, 4, 8, 12, 16, and 24 h. (C) Concentration of ferric ions in cell lysates after 12 h of treatment of MCF-7 cells with AY-4 (50 μ M) and AY-9 (50 μ M). (D) Levels of reactive oxygen species and lipid peroxides after 12 h treatment of MCF-7 cells with AY-4 (50 μ M) and AY-9 (50 μ M).

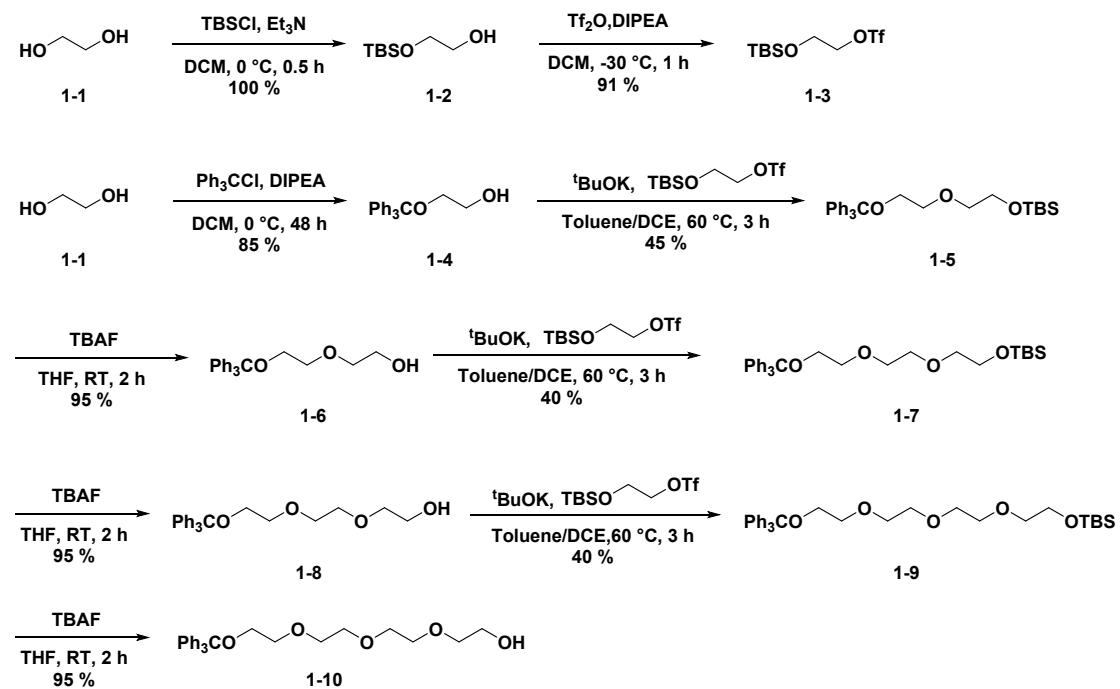


Figure S2. Polyethylene glycol chain synthesis route

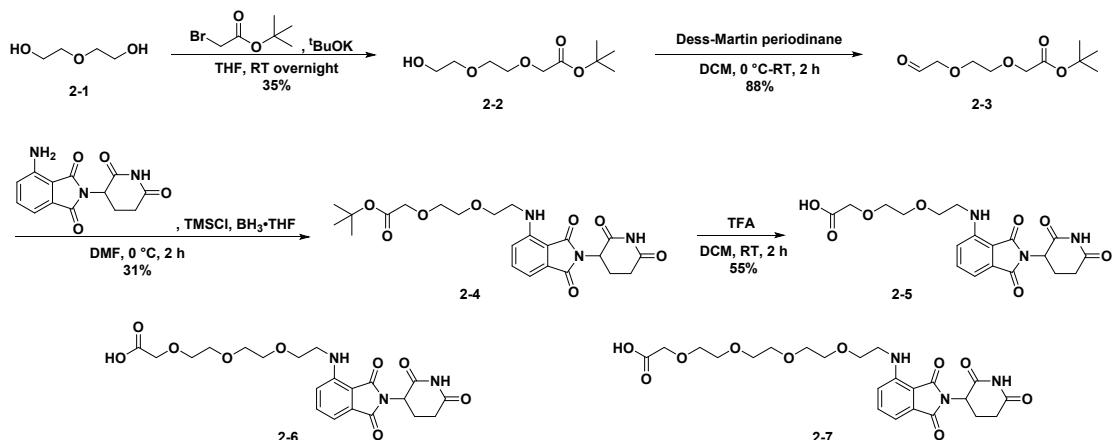


Figure S3. Pomalidomide linker synthetic route

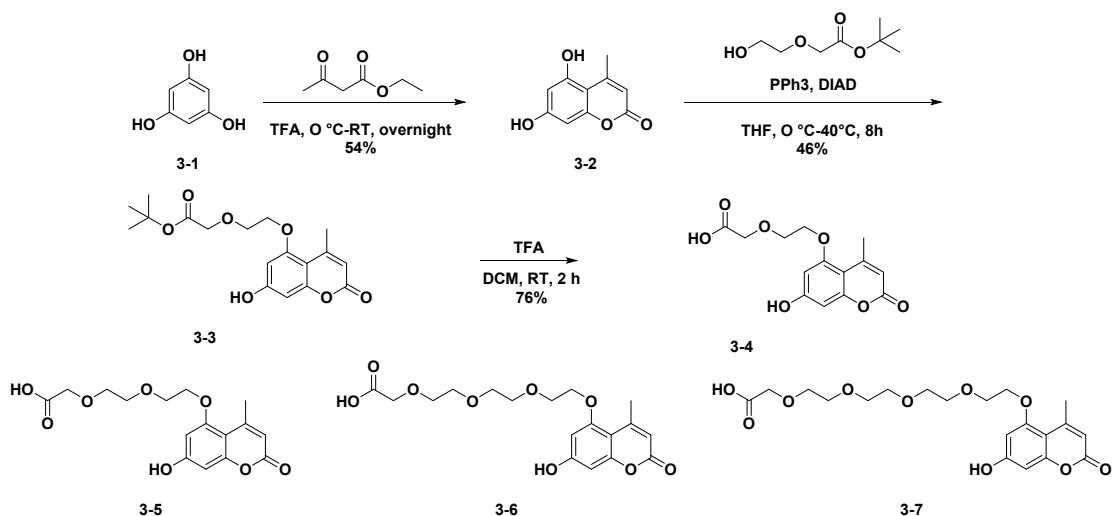


Figure S4. Route of coumarin analog linker synthesis

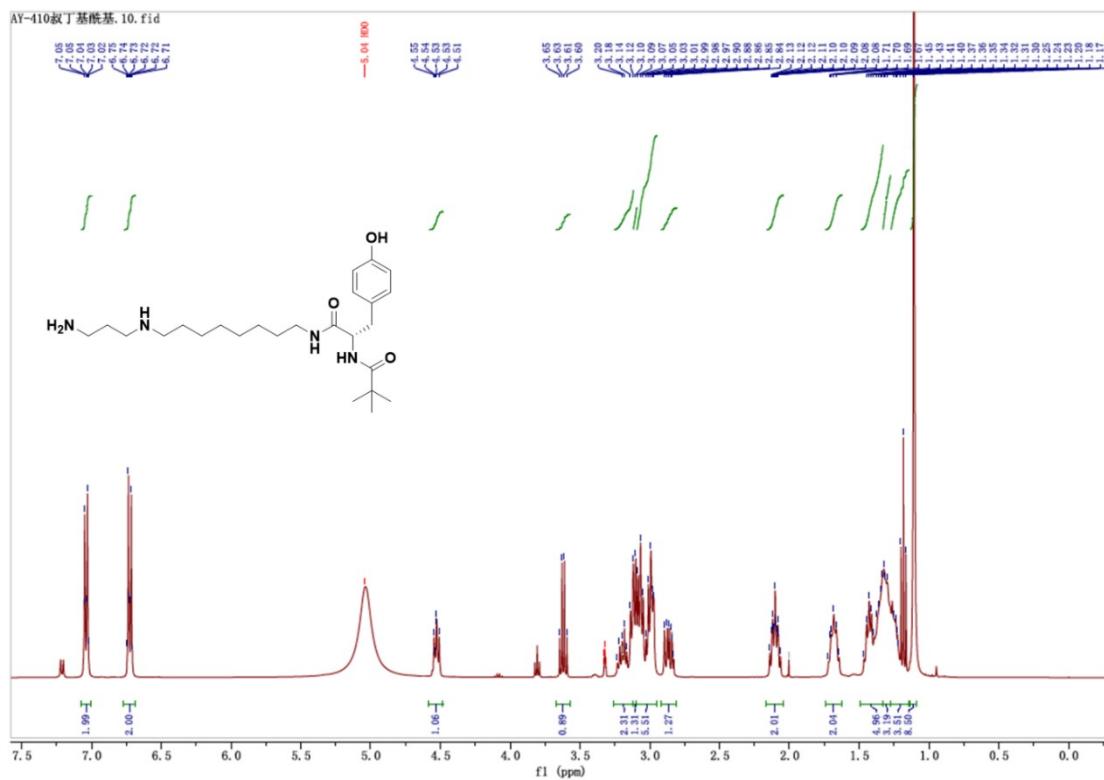


Figure S5. The ^1H -NMR (Methanol-d₄) spectrum of AY-1.

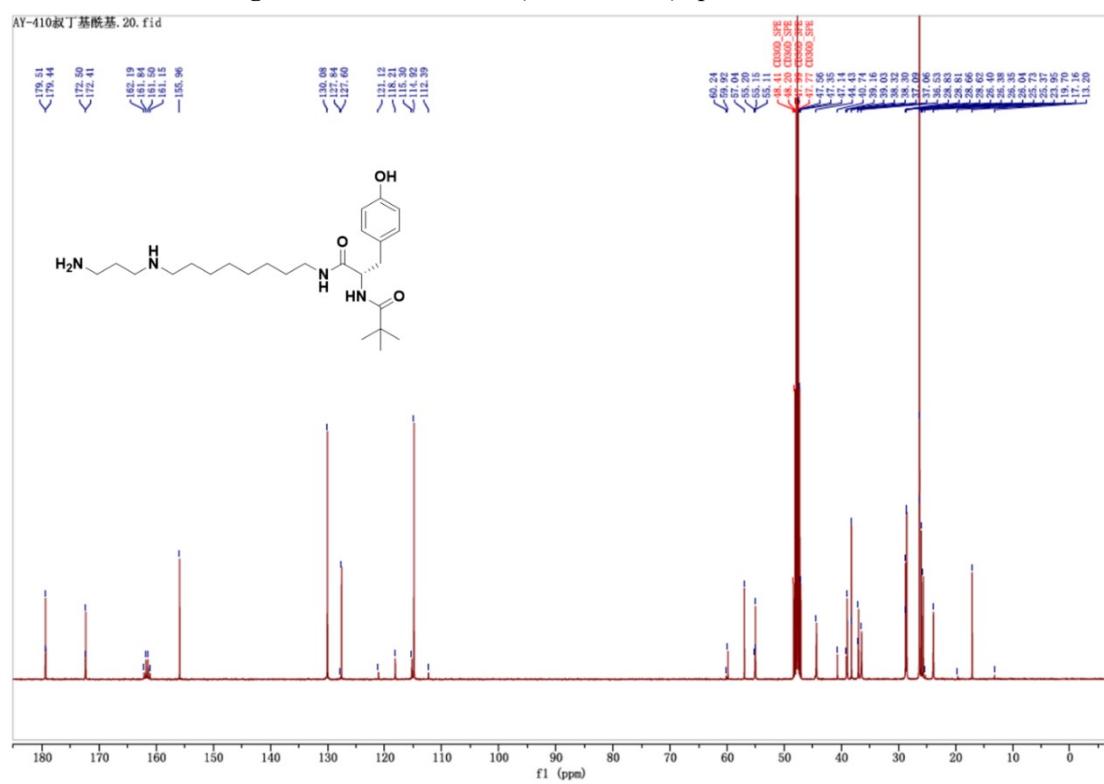


Figure S6. The ^{13}C -NMR (Methanol-d4) spectrum of AY-1.

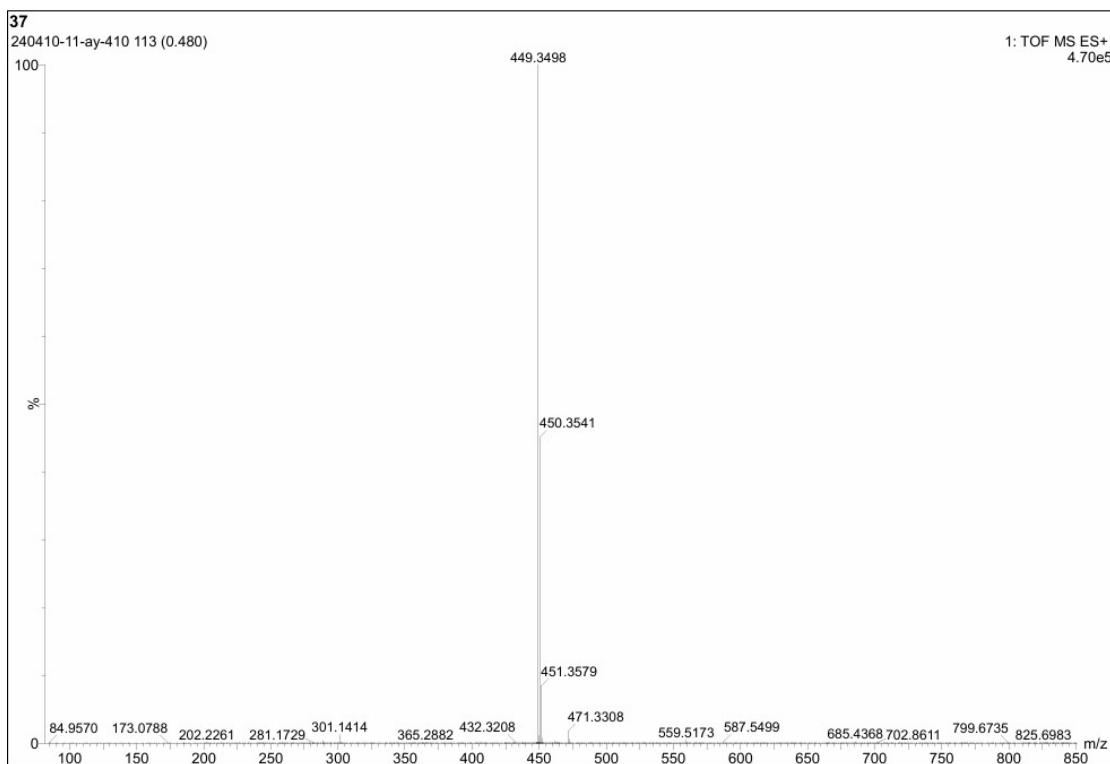


Figure S7. The HRMS spectrum of AY-1.

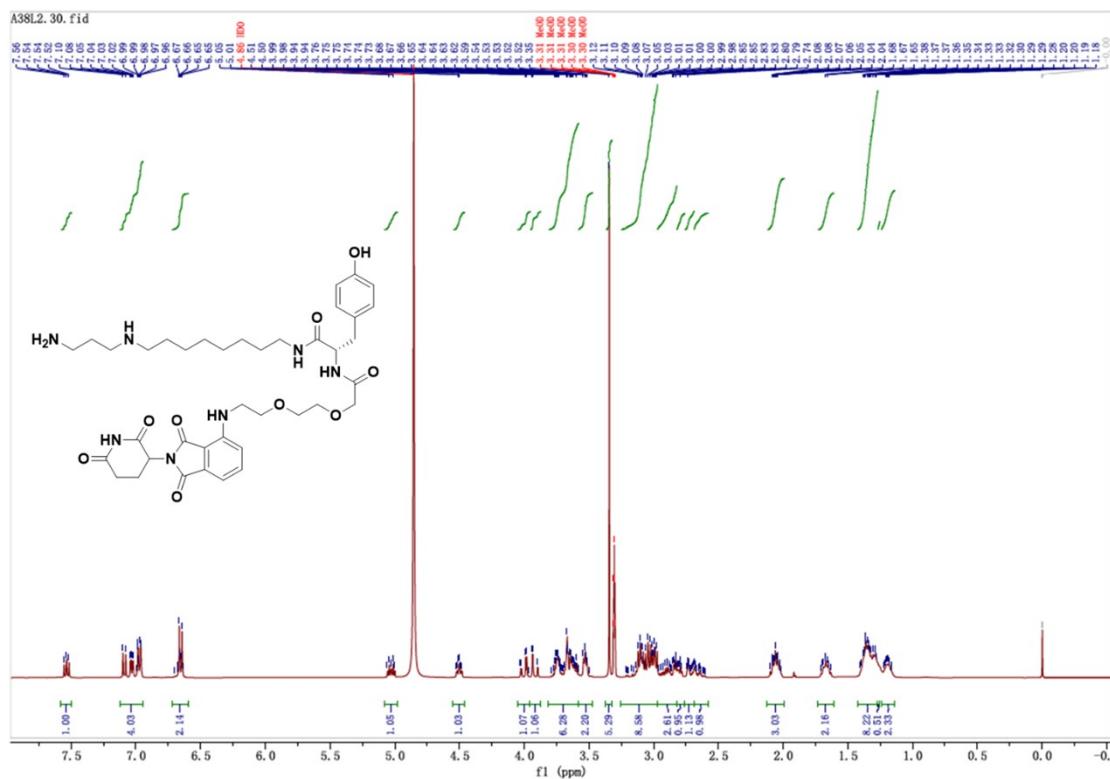


Figure S8. The ^1H -NMR (Methanol-d4) spectrum of AY-3.

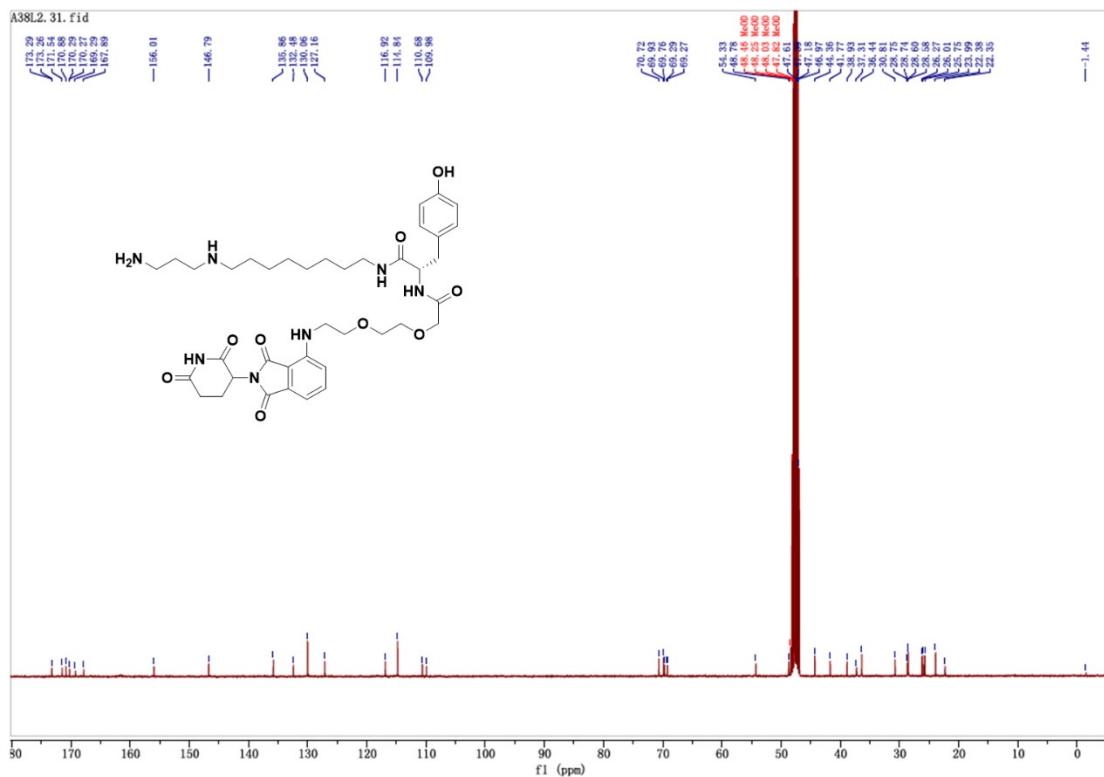


Figure S9. The ^{13}C -NMR (Methanol-d4) spectrum of AY-3.

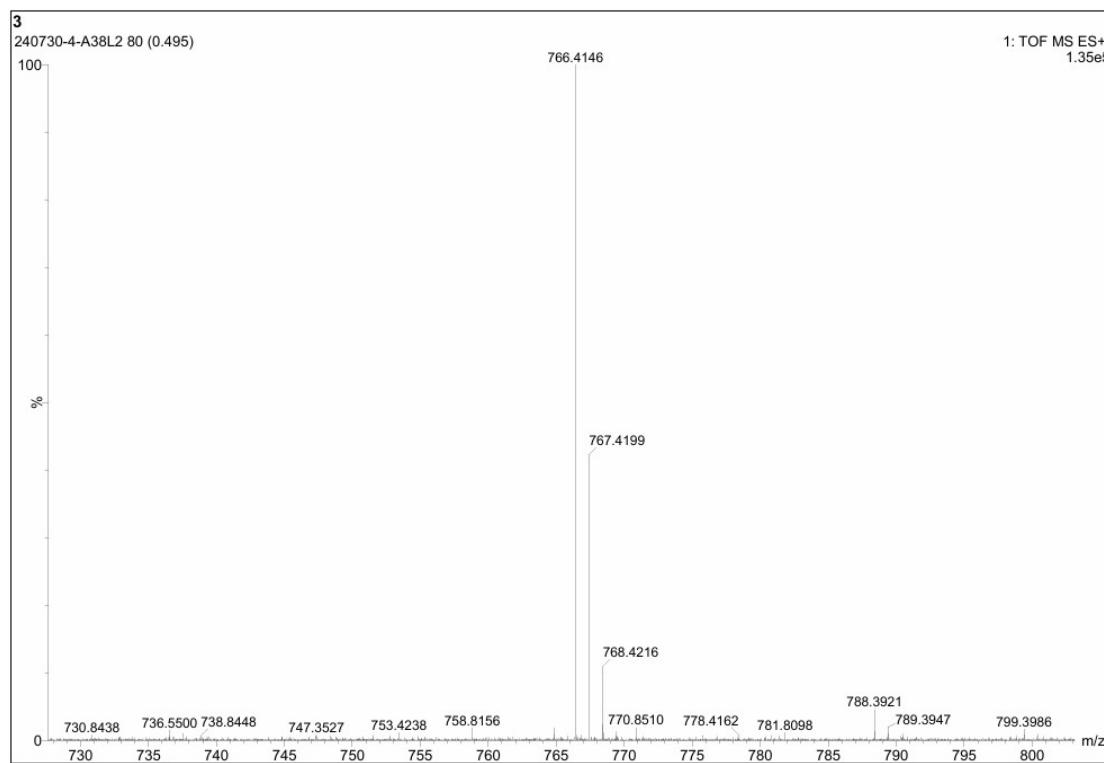


Figure S10. The HRMS spectrum of AY-3.

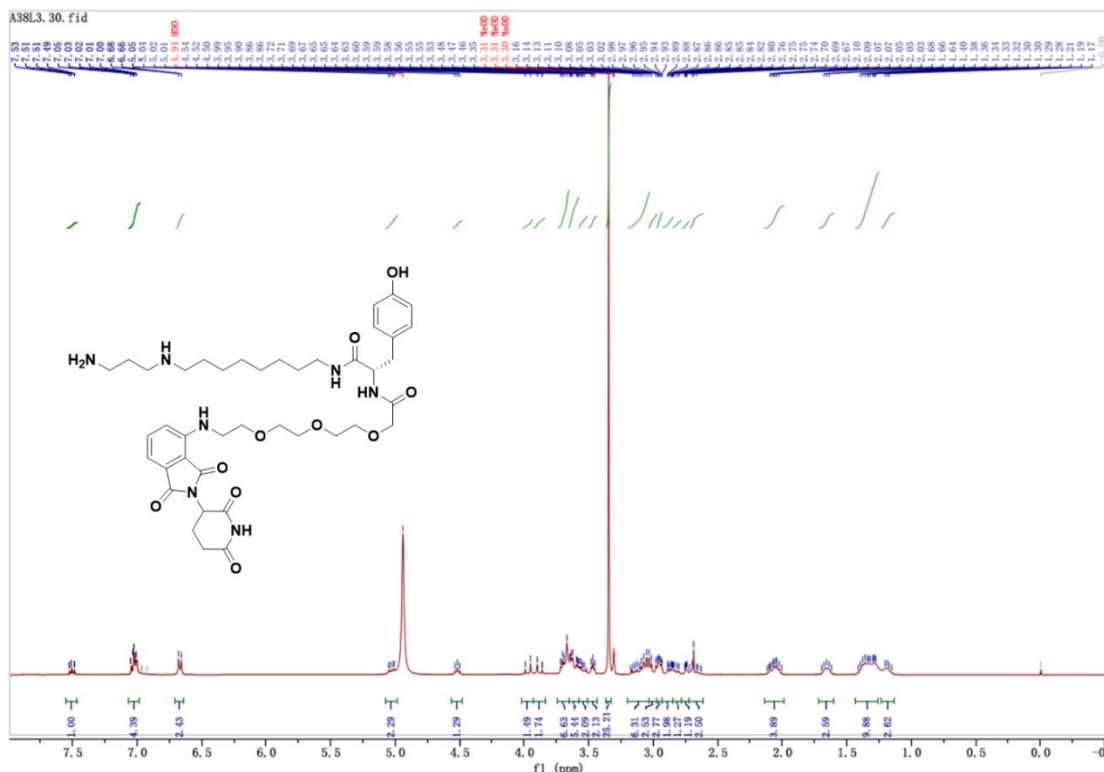


Figure S11. The ¹H-NMR (Methanol-d₄) spectrum of AY-4.

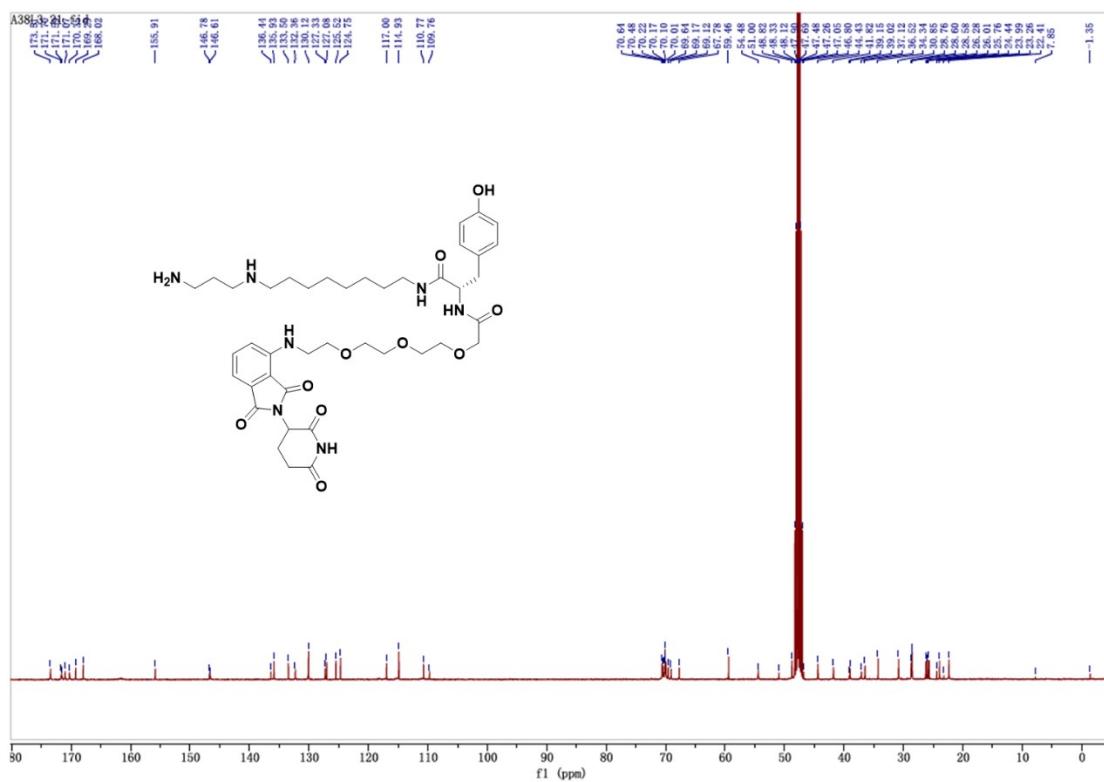


Figure S12. The ¹³C-NMR (Methanol-d₄) spectrum of AY-4.

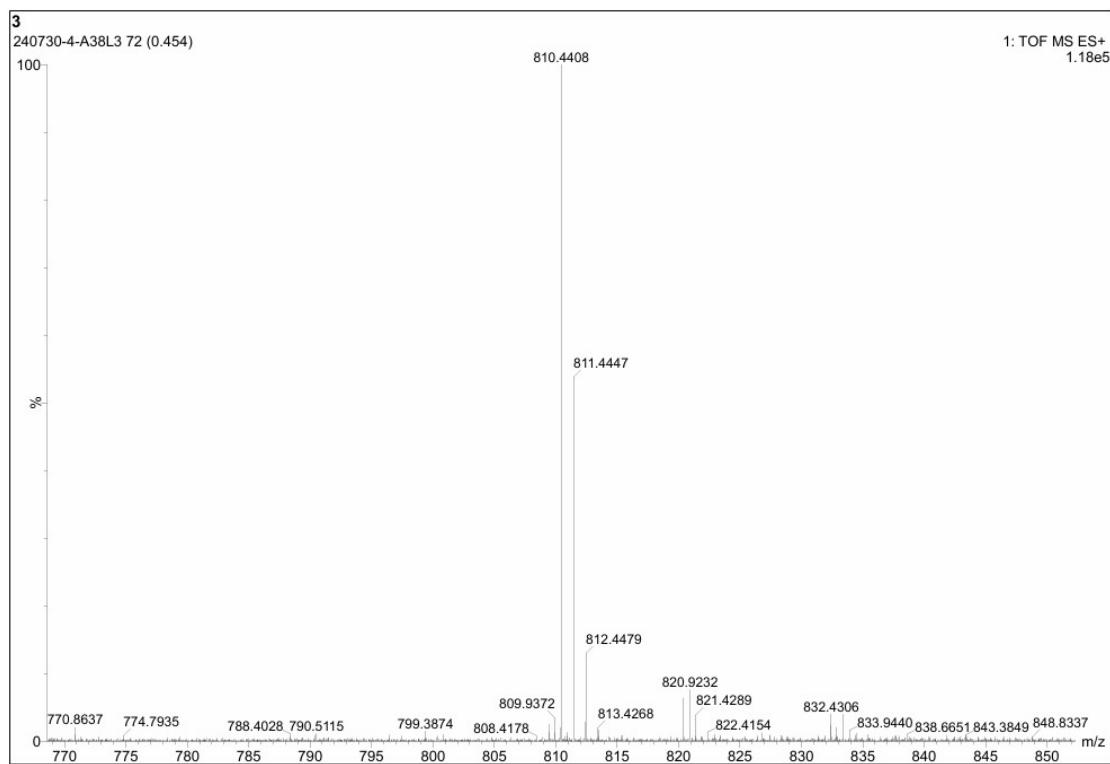


Figure S13. The HRMS spectrum of AY-4.

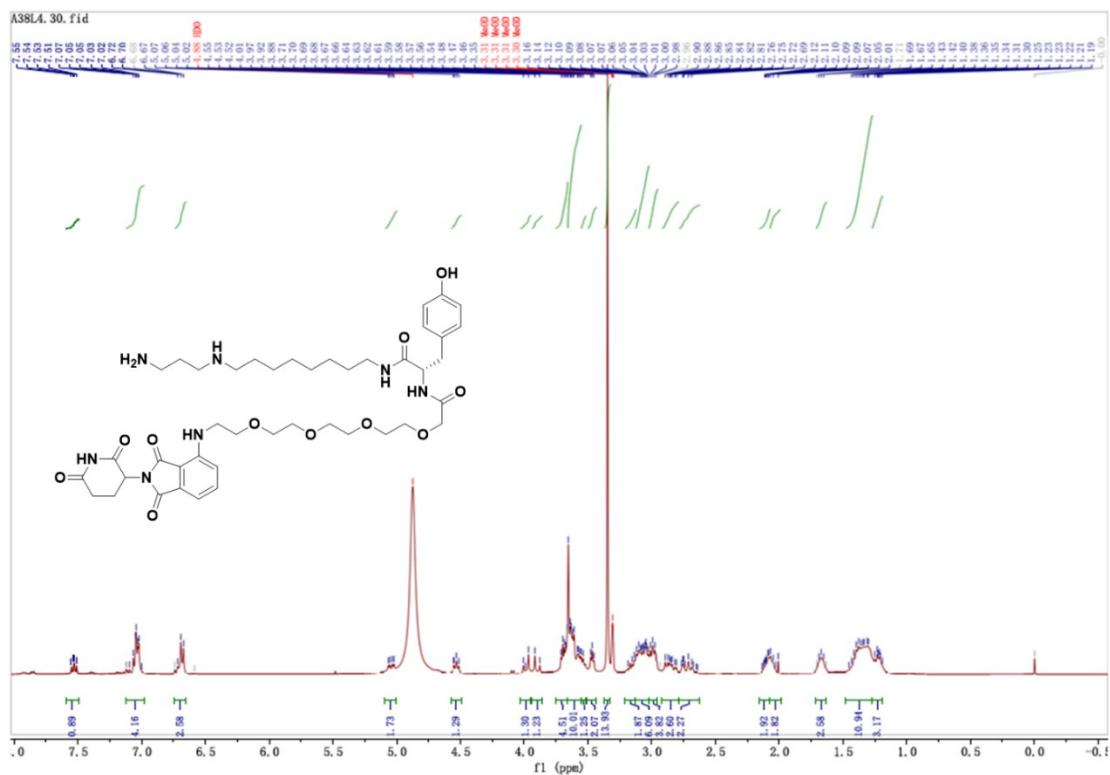


Figure S14. The ^1H -NMR (Methanol-d4) spectrum of AY-5.

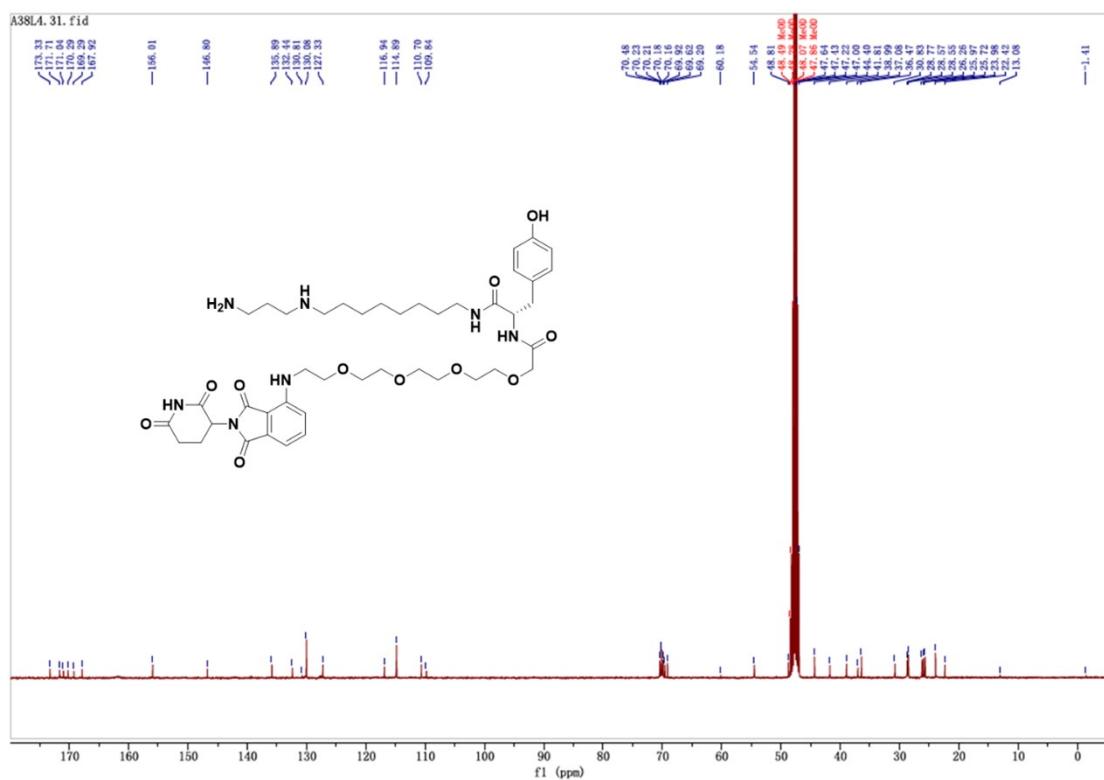


Figure S15. The ^{13}C -NMR (Methanol-d4) spectrum of AY-5.

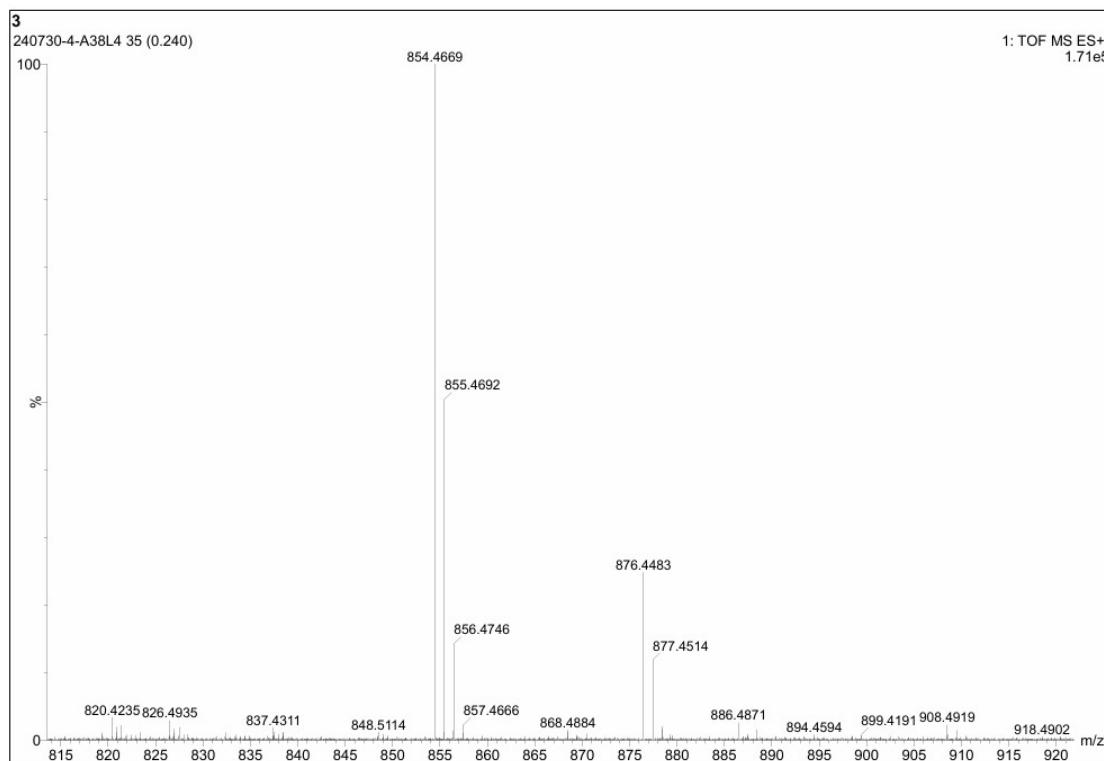


Figure S16. The HRMS spectrum of AY-5.

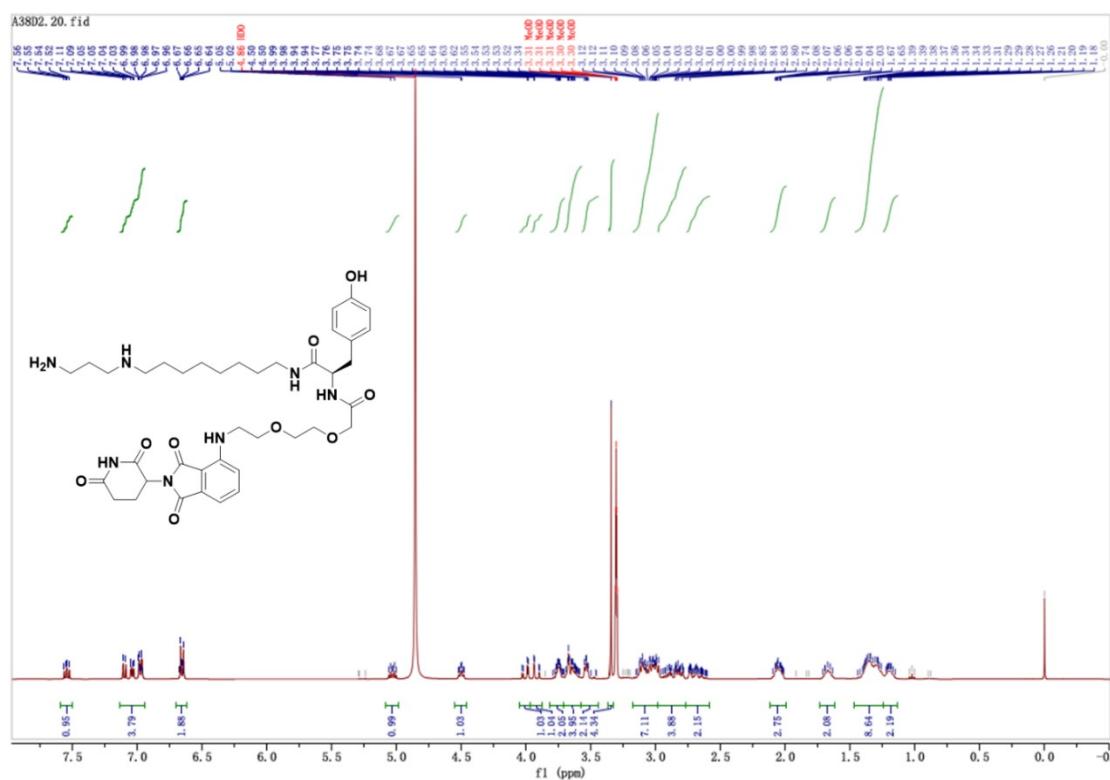


Figure S17. The ^1H -NMR (Methanol-d₄) spectrum of AY-6.

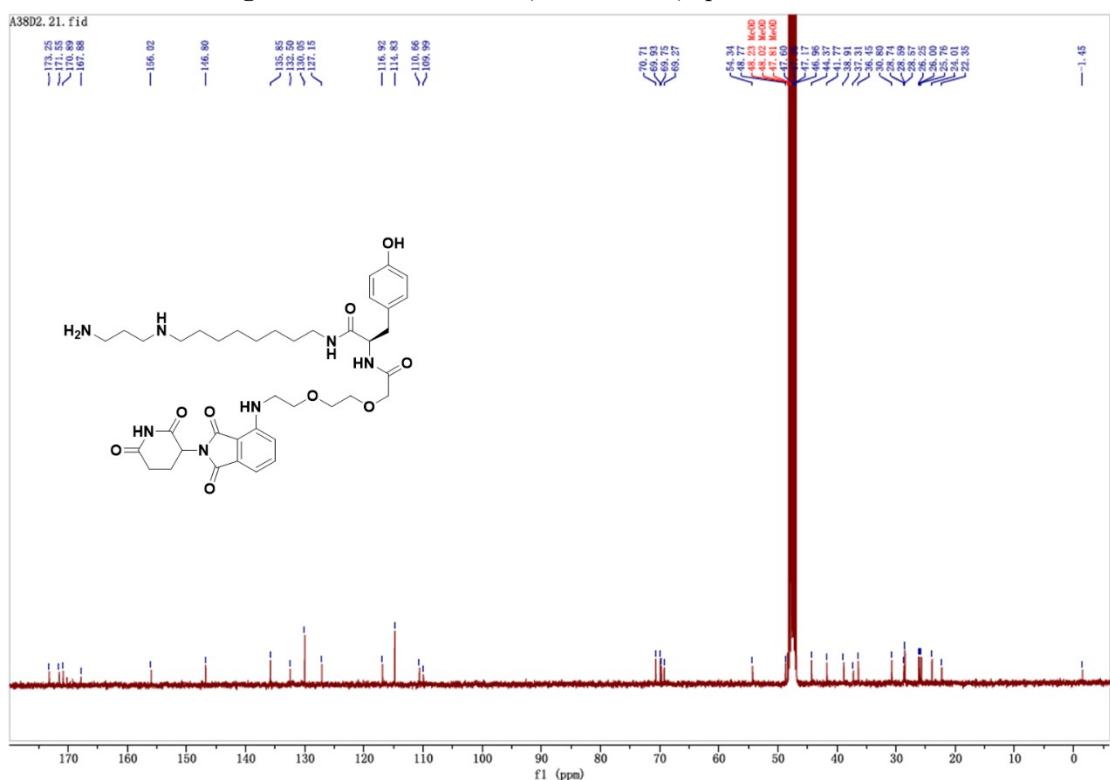


Figure S18. The ^{13}C -NMR (Methanol-d₄) spectrum of AY-6.

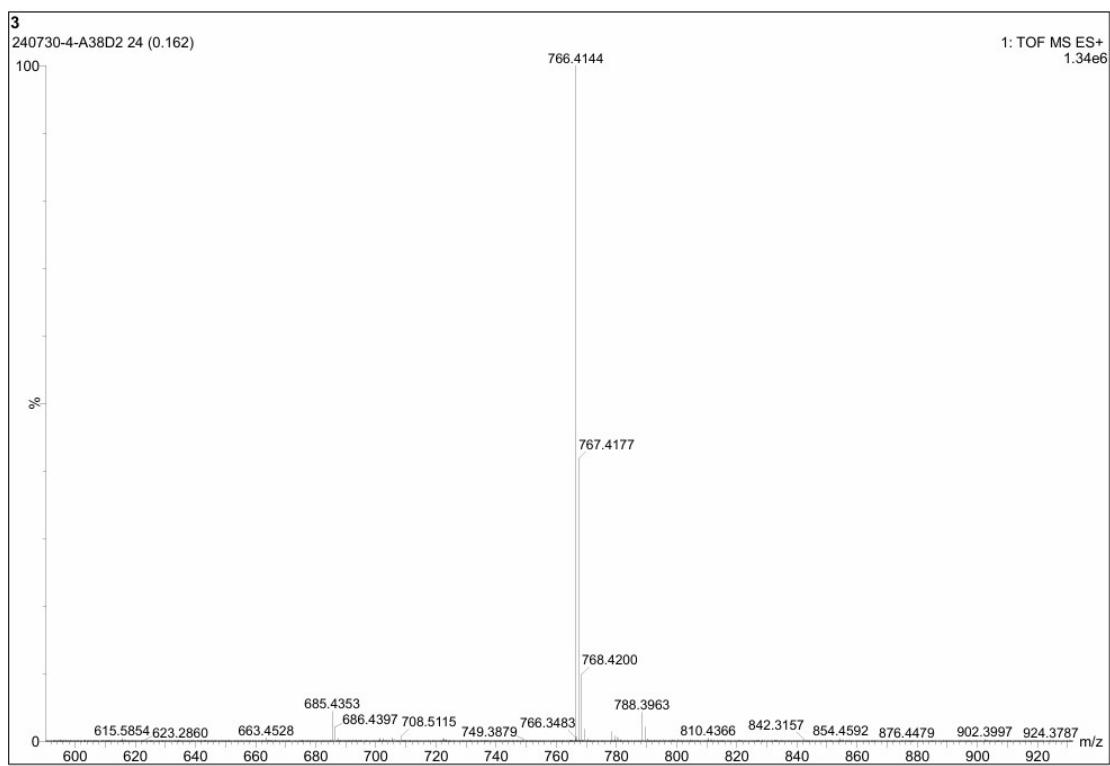
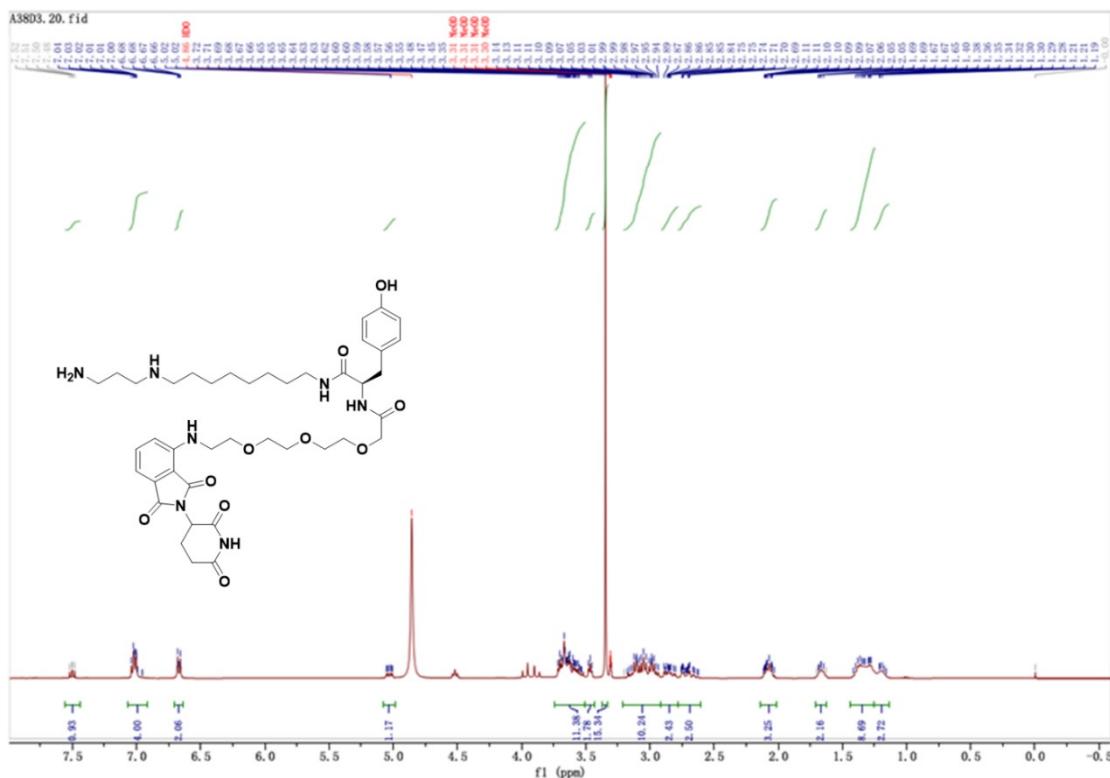


Figure S19. The HRMS spectrum of AY-6.



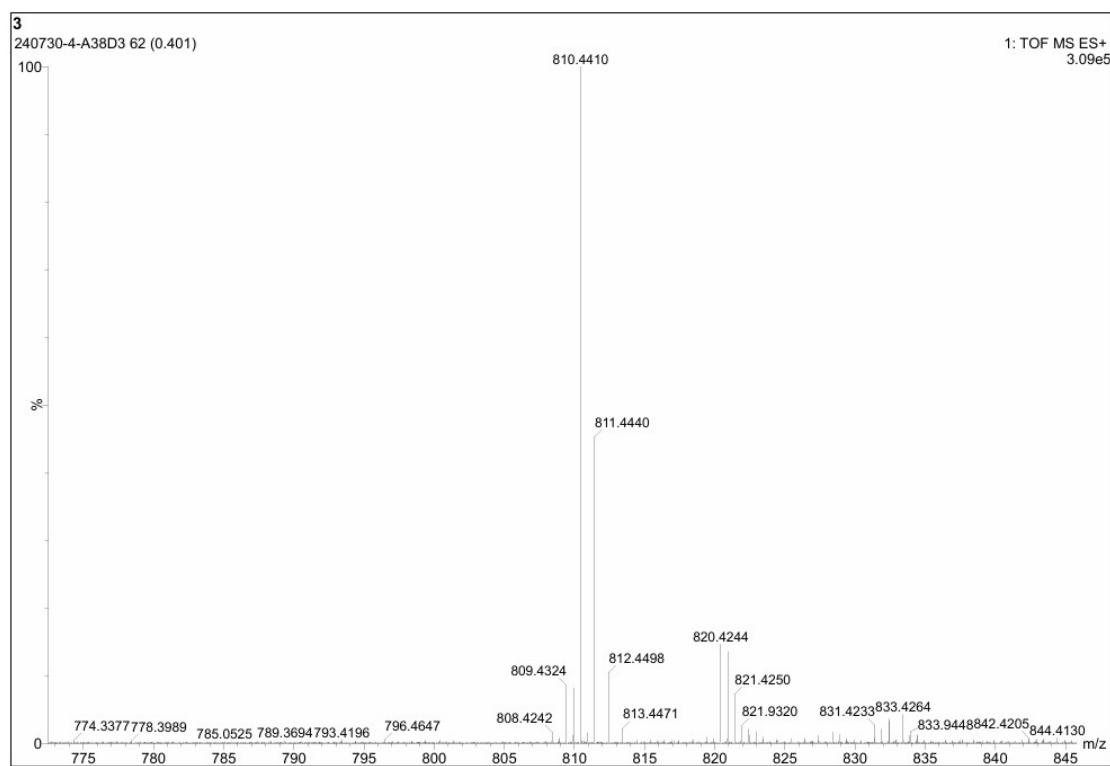
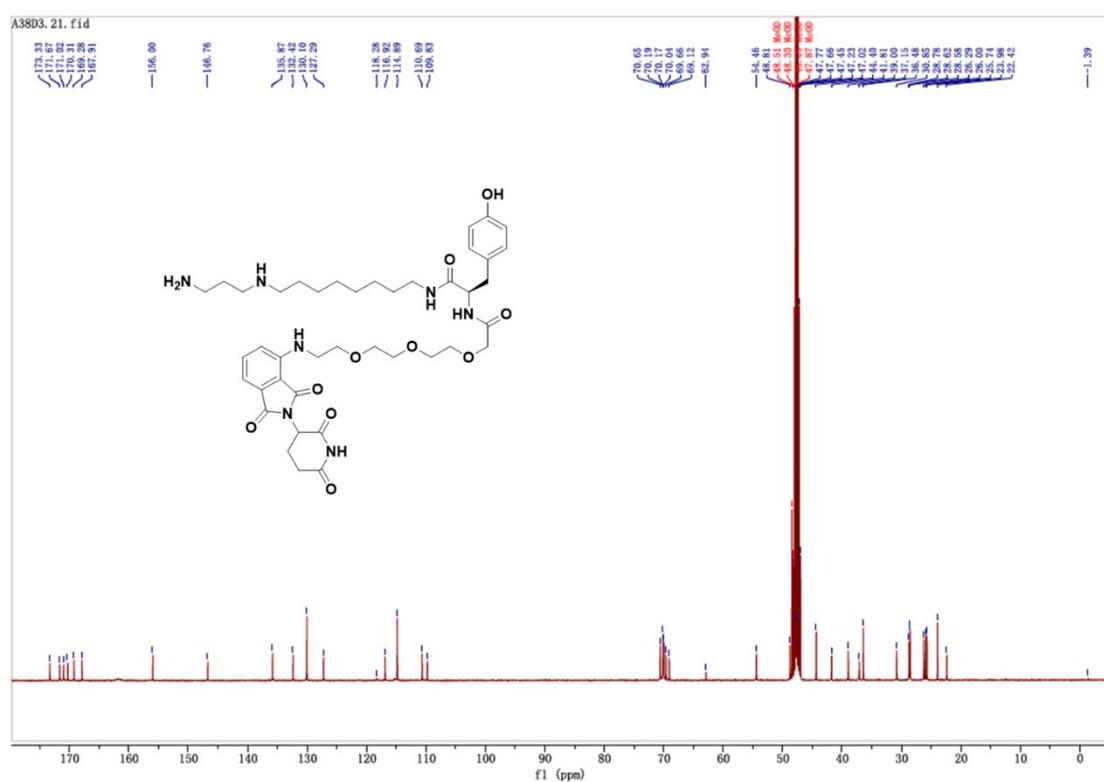


Figure S22. The HRMS spectrum of AY-7.

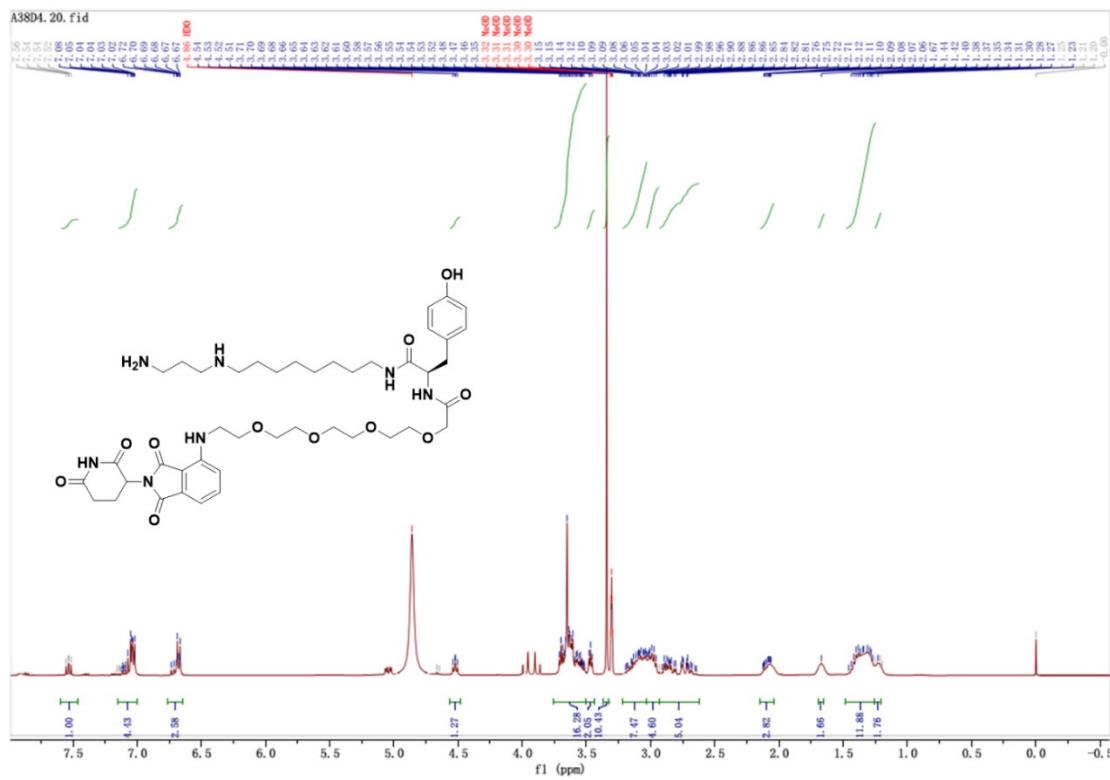


Figure S23. The ^1H -NMR (Methanol-d₄) spectrum of AY-8.

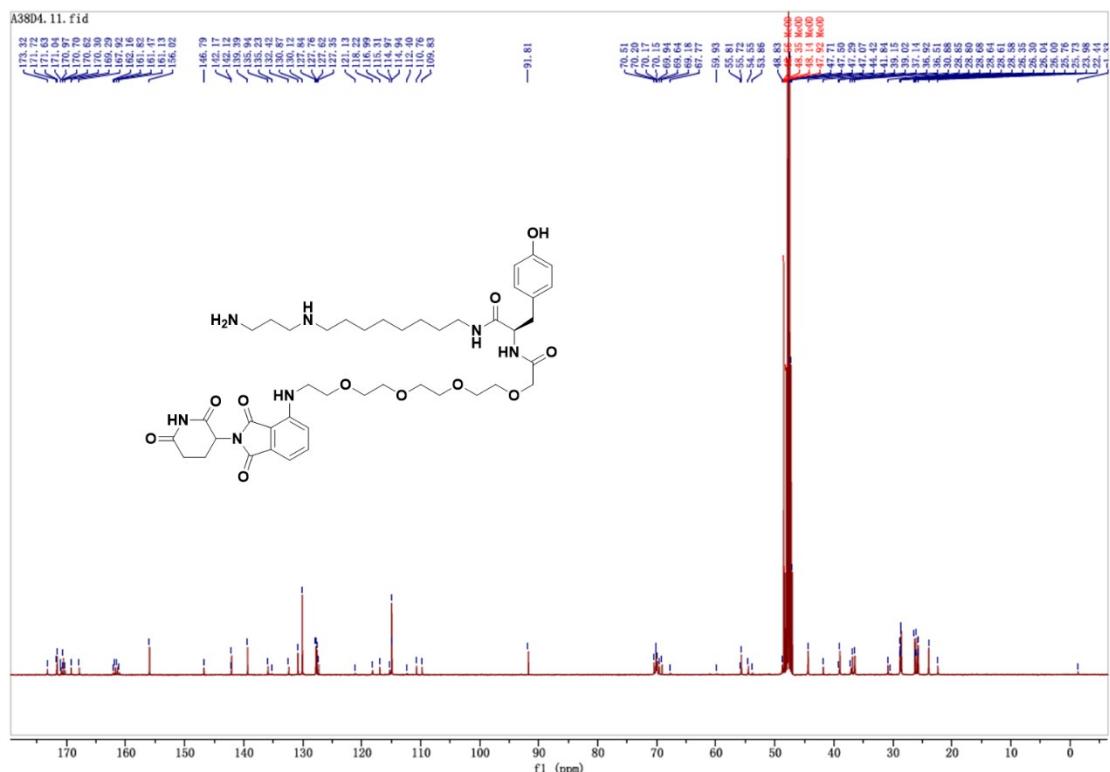


Figure S24. The ^{13}C -NMR (Methanol-d4) spectrum of **AY-8**.

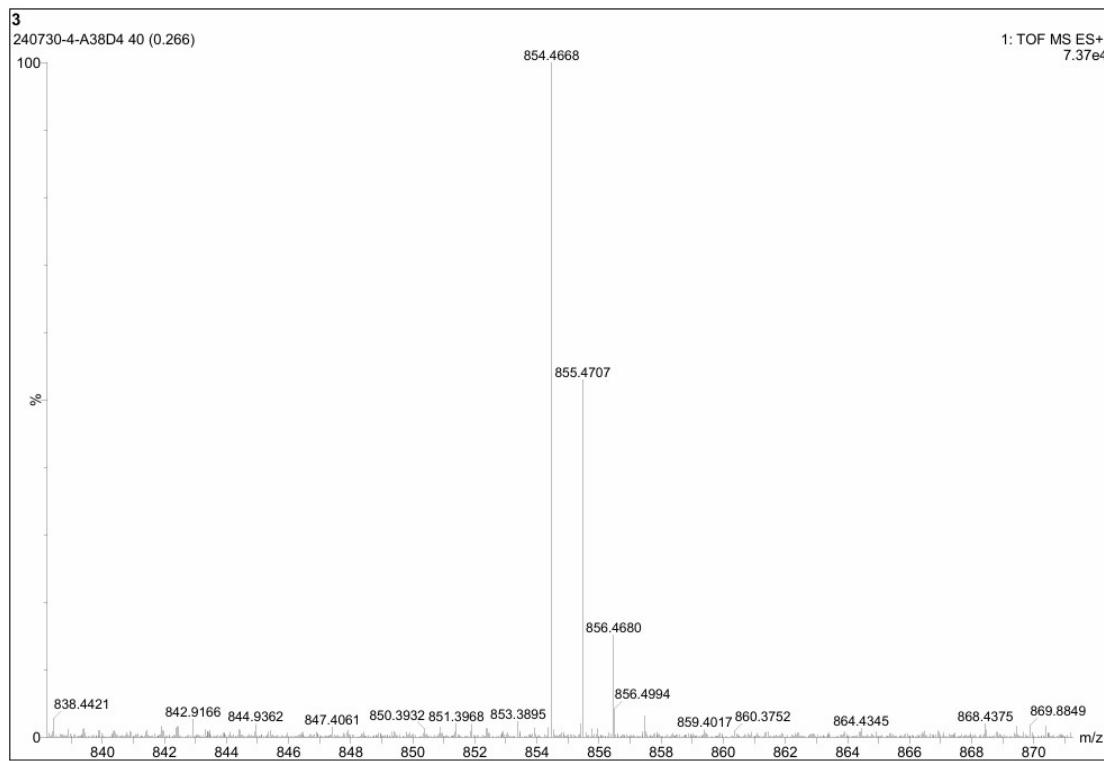


Figure S25. The HRMS spectrum of AY-8.

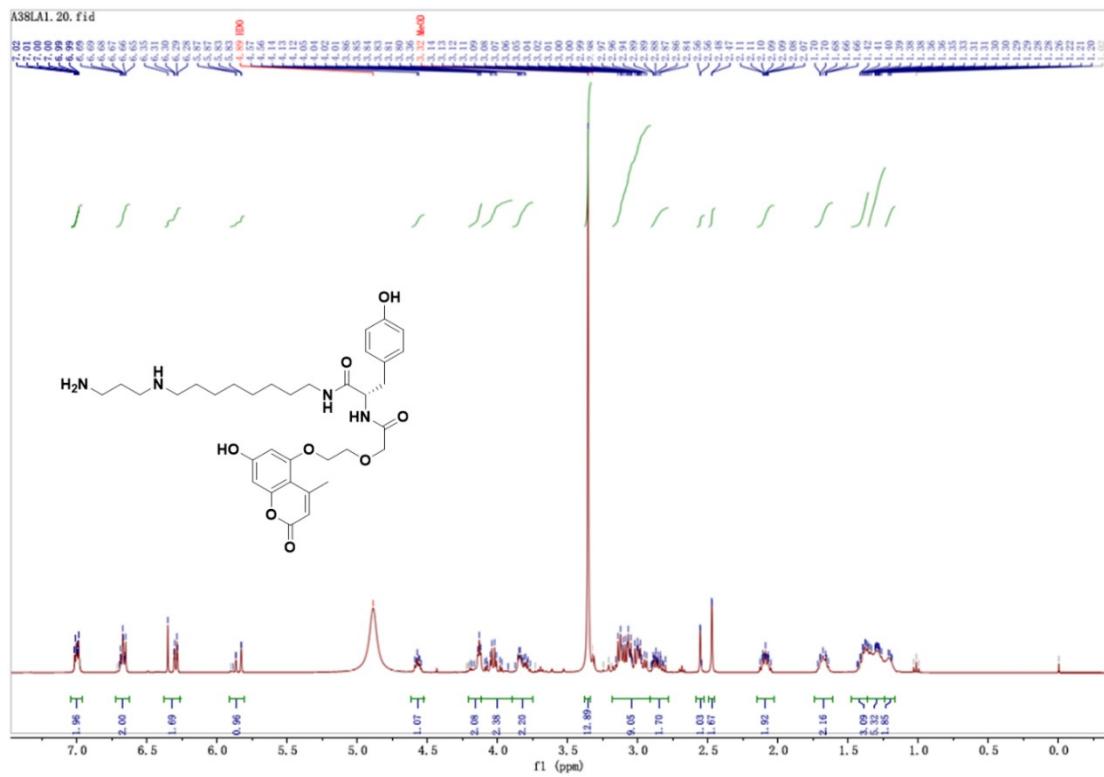


Figure S26. The ^1H -NMR (Methanol-d4) spectrum of AY-9.

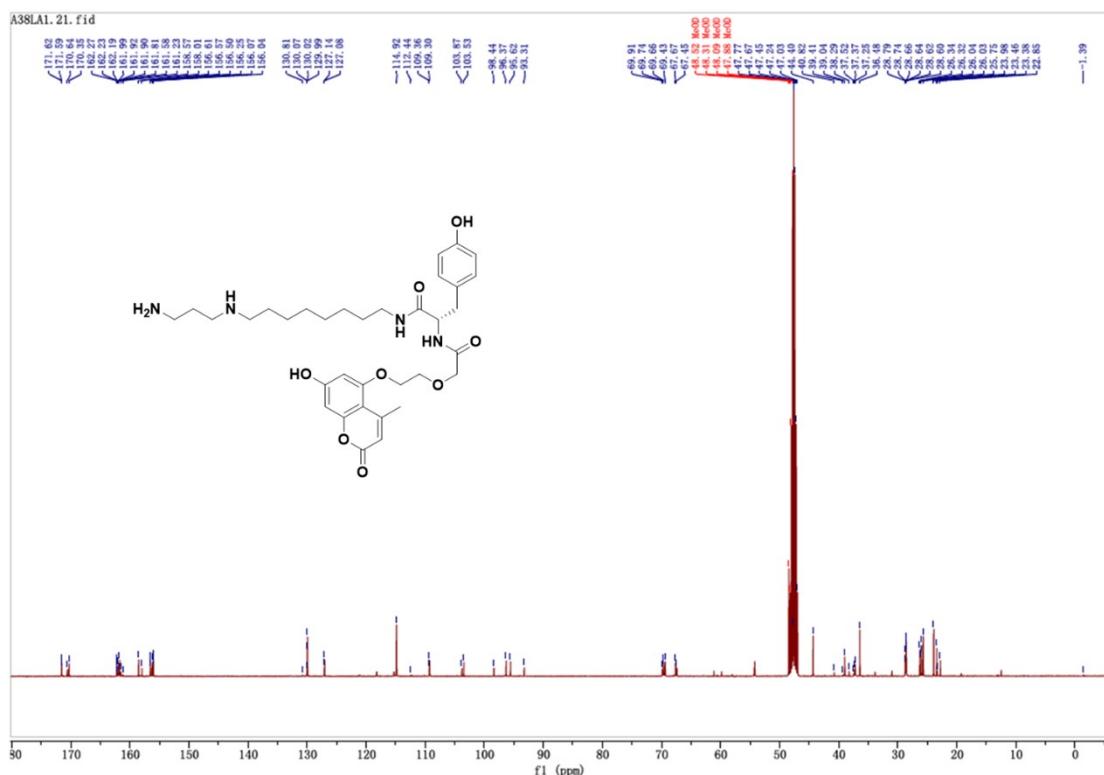


Figure S27. The ^{13}C -NMR (Methanol-d4) spectrum of AY-9.

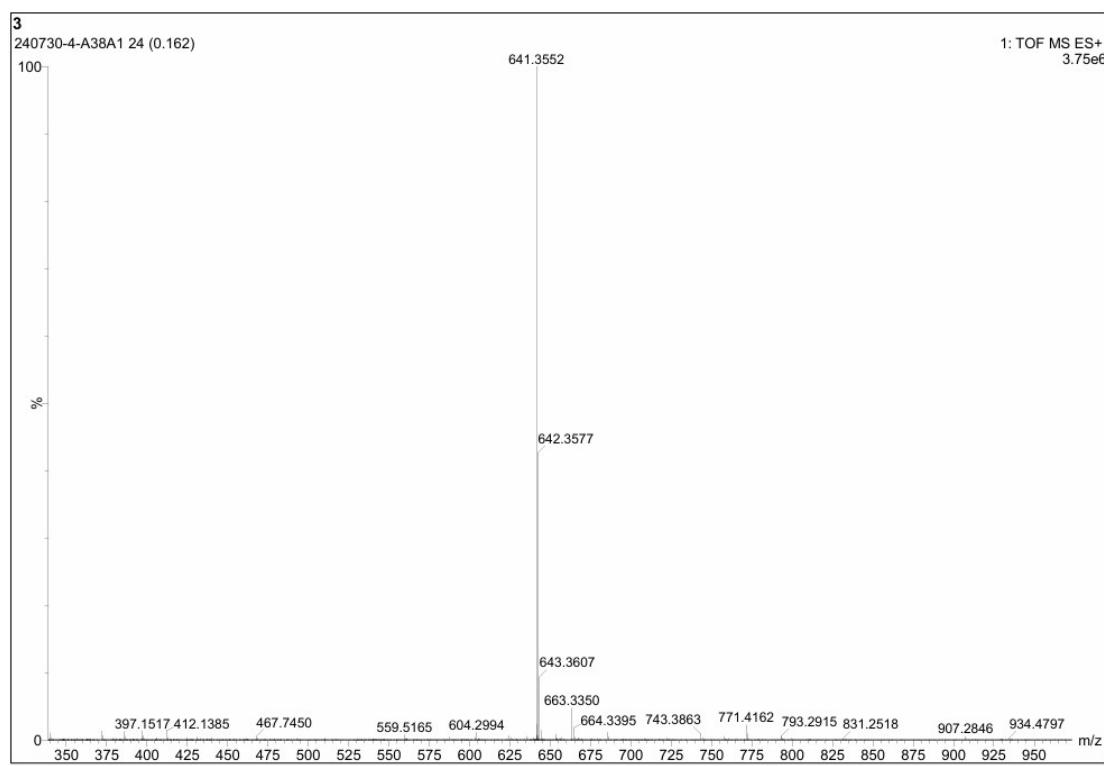


Figure S28. The HRMS spectrum of AY-9.

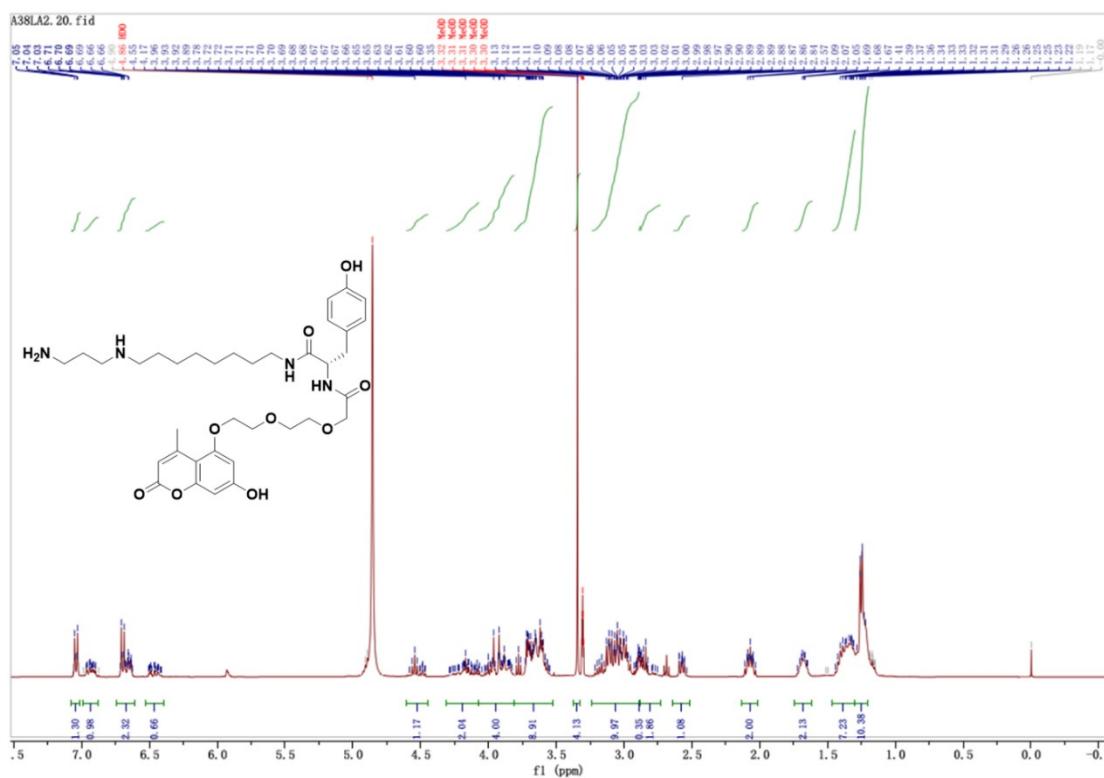


Figure S29. The ^1H -NMR (Methanol-d₄) spectrum of **AY-10**.

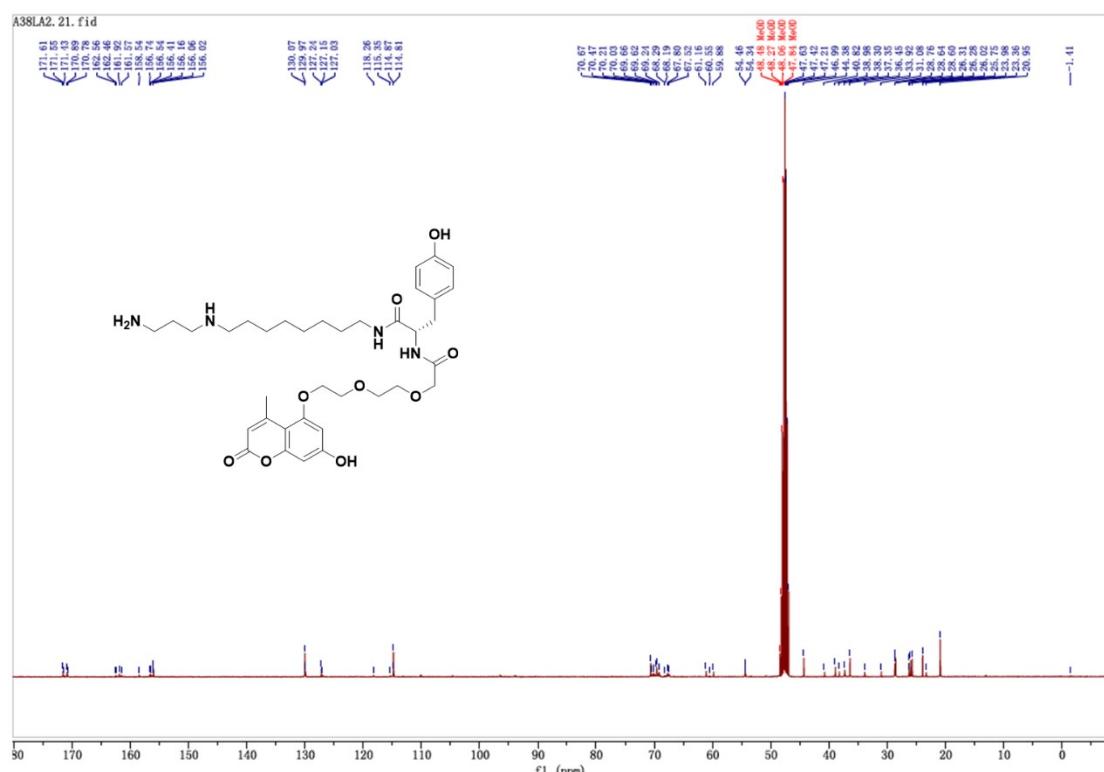


Figure S30. The ^{13}C -NMR (Methanol-d4) spectrum of **AY-10**.

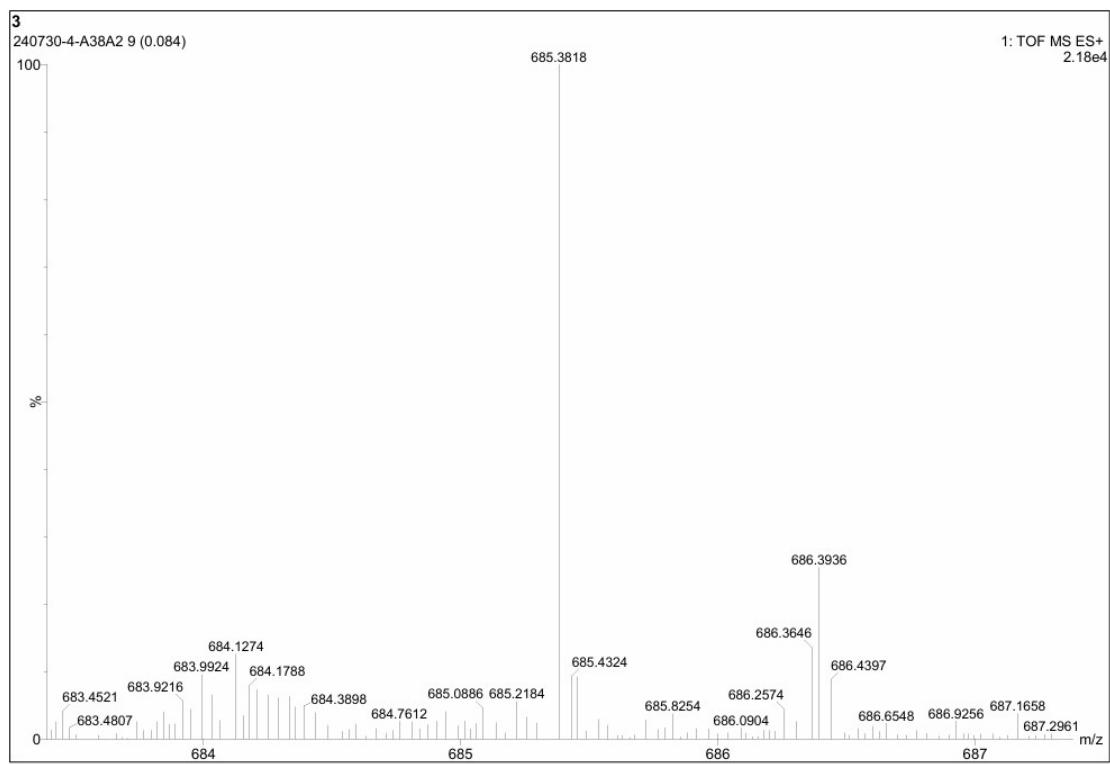


Figure S31. The HRMS spectrum of AY-10.

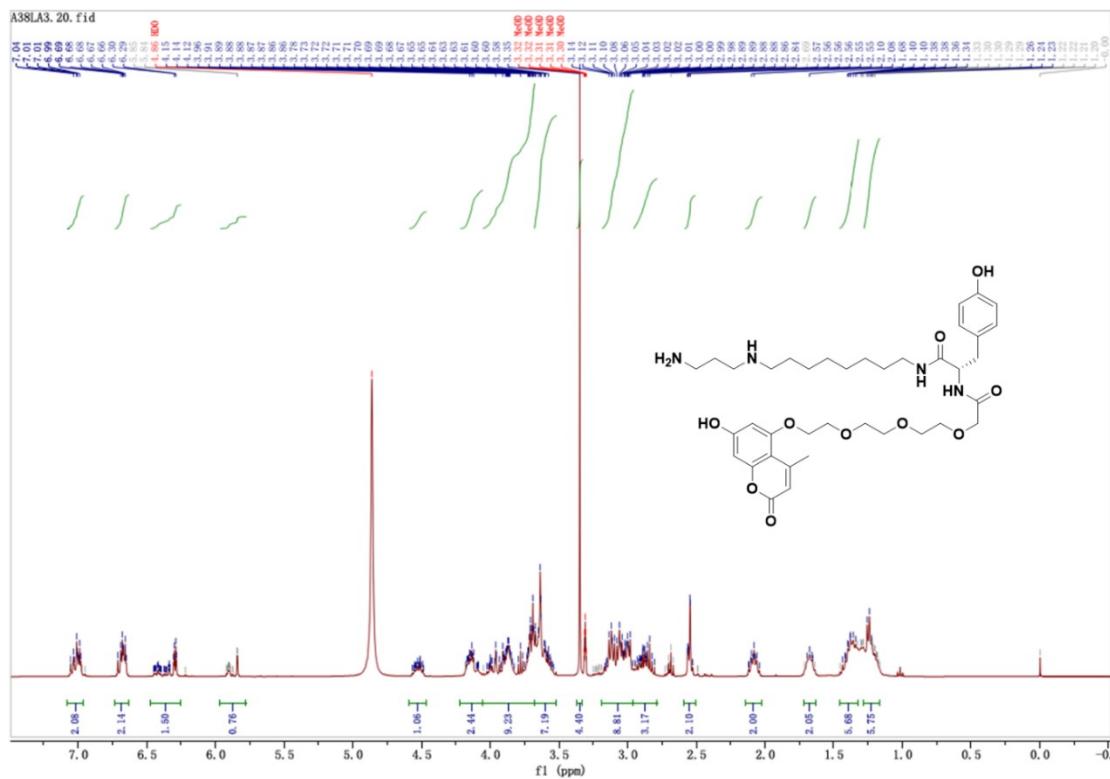


Figure S32. The ^1H -NMR (Methanol-d4) spectrum of AY-11.

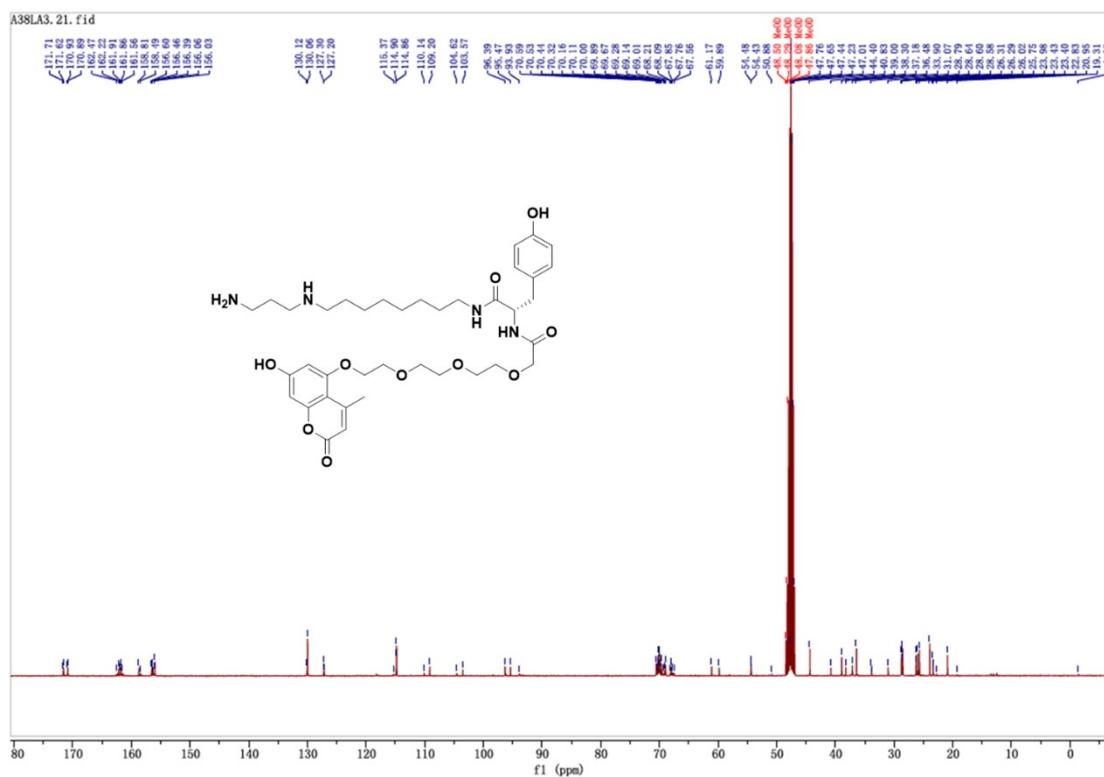


Figure S33. The ^{13}C -NMR (Methanol-d4) spectrum of AY-11.

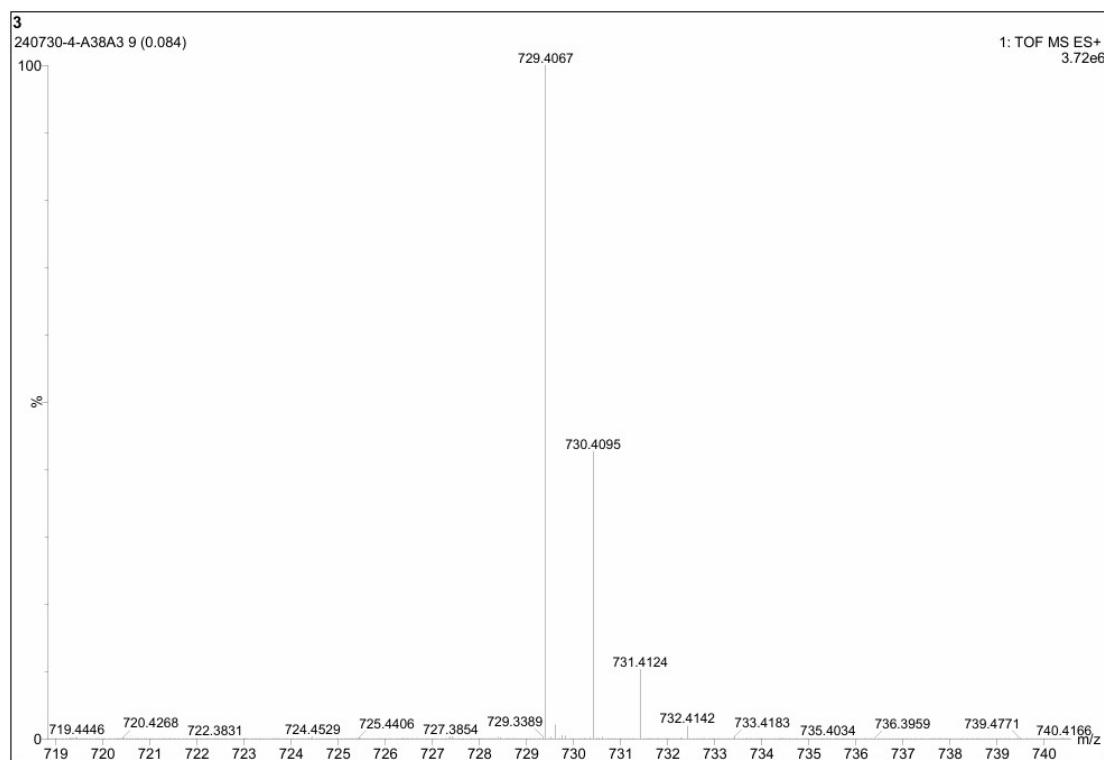


Figure S34. The HRMS spectrum of AY-11.

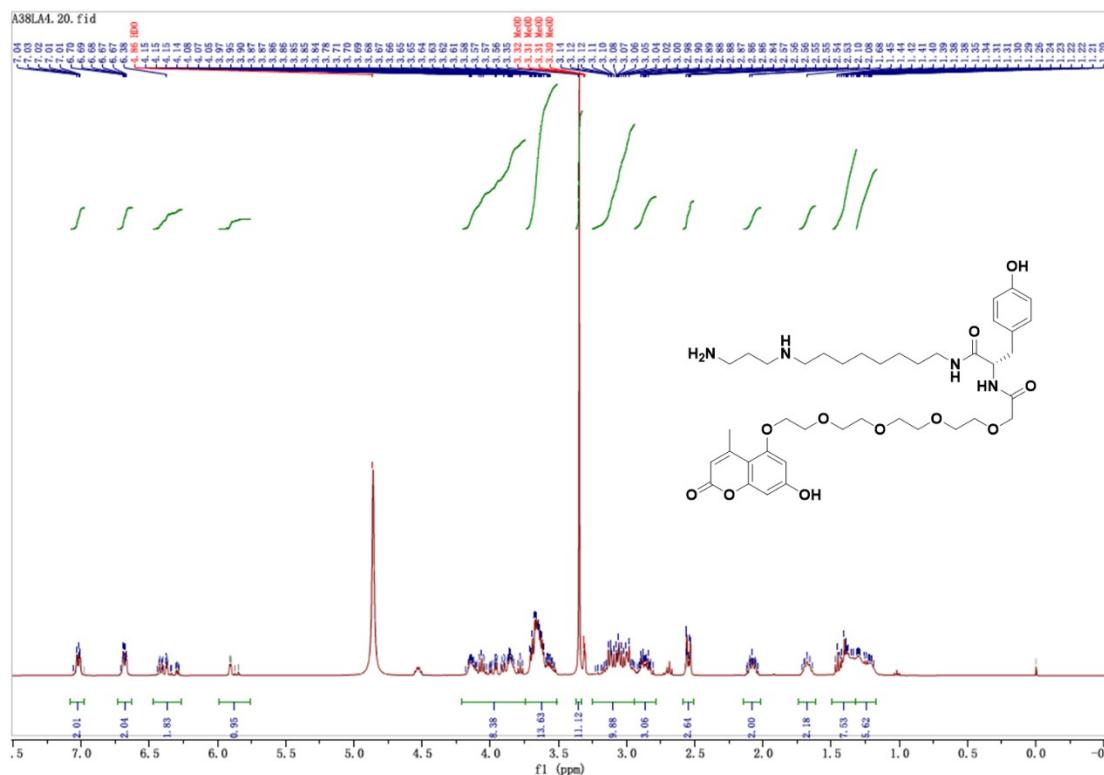


Figure S35. The ^1H -NMR (Methanol-d₄) spectrum of AY-12.

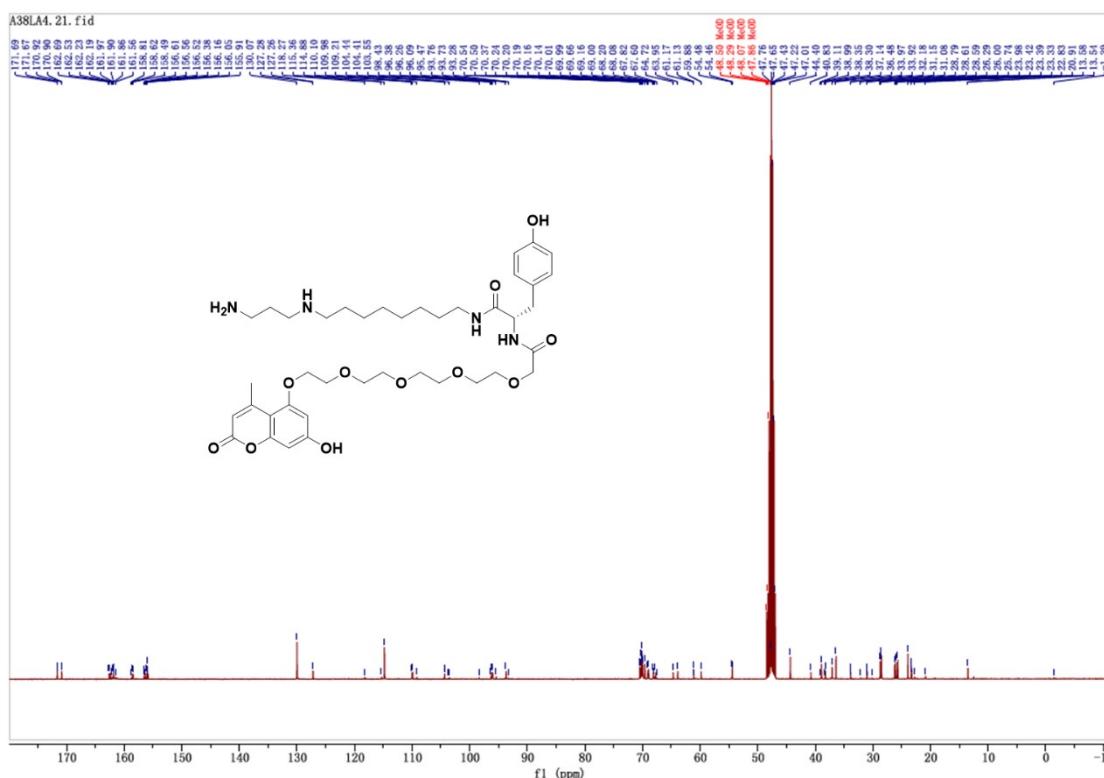


Figure S36. The ^{13}C -NMR (Methanol-d4) spectrum of **AY-12**.

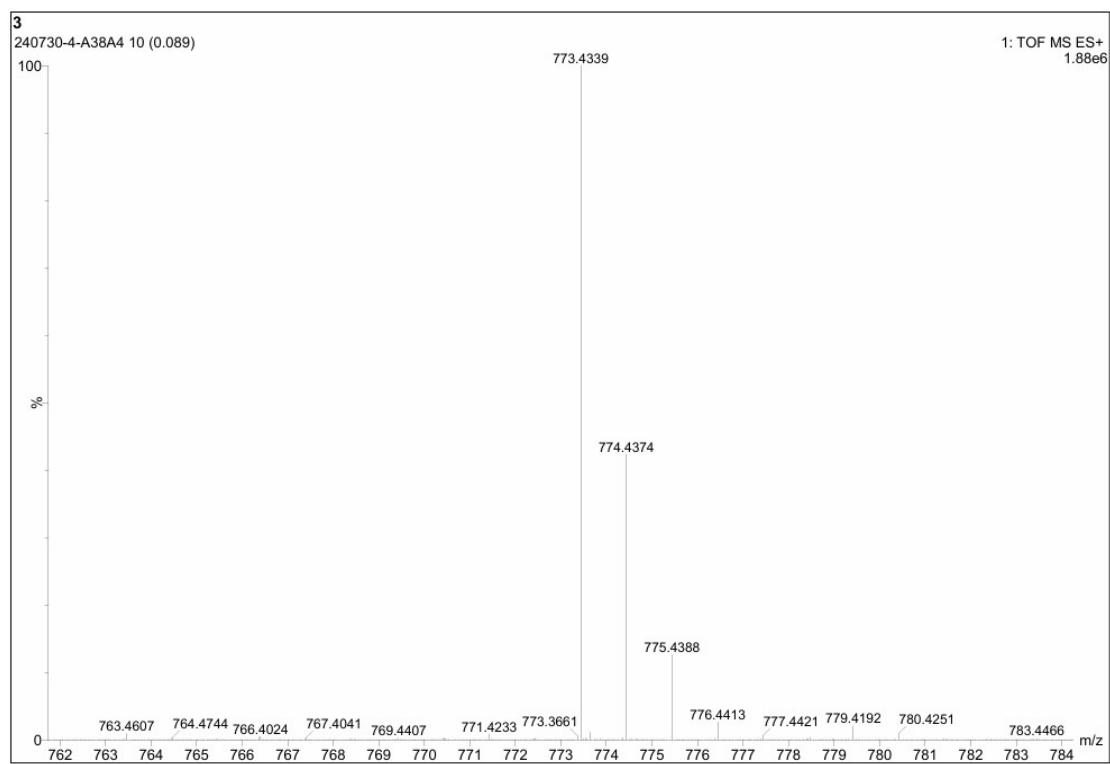


Figure S37. The HRMS spectrum of AY-12.