

Supplementary Material

Synthesis and Anticancer Activity Evaluation of Hydrolyzed Derivatives of *Panaxnotoginseng* Saponins

Lei Xu ^{1,2}, Shengnan Xiao ¹, Weihui Yuan ¹, Jiongmo Cui ², Guangyue Su ^{1,*} and Yuqing Zhao ^{1,3,*}

¹ School of Functional Food and Wine, Shenyang Pharmaceutical University, Shenyang 110016, China; 18246691730@163.com (L.X.); 15931605679@163.com (S.X.); 15142590591@163.com (W.Y.)

² College of Pharmacy, Yanbian University, Yanji 133000, China; jmcui@ybu.edu.cn

³ Key Laboratory of Structure-based Drug Design and Discovery of Ministry of Education, Shenyang Pharmaceutical University, Shenyang 110016, China

* Correspondence: suggyy@163.com (G.S.); zyzq4885@126.com (Y.Z.); Tel: +86-24-43520309 (G.S.); +86-24-43520303 (Y.Z.); Fax: +86-24-43520300 (Y.Z. & G.S.)

Contents

Figure S1. ¹ H-NMR of compound 1a	3
Figure S2. ¹³ C-NMR of compound 1a	3
Figure S3. ¹ H-NMR of compound 2a	4
Figure S4. ¹³ C-NMR of compound 2a	4
Figure S5. ¹ H-NMR of compound 3a	5
Figure S6. ¹³ C-NMR of compound 3a	5
Figure S7. ¹ H-NMR of compound 4a	6
Figure S8. ¹³ C-NMR of compound 4a	6
Figure S9. ¹ H-NMR of compound 5a	7
Figure S10. ¹³ C-NMR of compound 5a	7
Figure S11. ¹ H-NMR of compound 6a	8
Figure S12. ¹³ C-NMR of compound 6a	8
Figure S13. ¹ H-NMR of compound 7a	9
Figure S14. ¹³ C-NMR of compound 7a	9
Figure S15. ¹ H-NMR of compound 8a	Error! Bookmark not defined.
Figure S16. ¹³ C-NMR of compound 8a	Error! Bookmark not defined.
Figure S17. ¹ H-NMR of compound 9a	11
Figure S18. ¹³ C-NMR of compound 9a	Error! Bookmark not defined.
Figure S19. ¹ H-NMR of compound 10a	Error! Bookmark not defined.

Figure S20. ^{13}C -NMR of compound 10a	Error! Bookmark not defined.
Figure S21. ^1H -NMR of compound 11a	13
Figure S22. ^{13}C -NMR of compound 11a	13
Figure S23. ^1H -NMR of compound 12a	14
Figure S24. ^{13}C -NMR of compound 12a	14
Figure S25. ^1H -NMR of compound 1b	15
Figure S26. ^{13}C -NMR of compound 1b	15
Figure S27. ^1H -NMR of compound 2b	16
Figure S28. ^{13}C -NMR of compound 2b	16
Figure S29. ^1H -NMR of compound 3b	17
Figure S30. ^{13}C -NMR of compound 3b	17
Figure S31. ^1H -NMR of compound 4b	18
Figure S32. ^{13}C -NMR of compound 4b	18
Figure S33. ^1H -NMR of compound 5b	19
Figure S34. ^{13}C -NMR of compound 5b	19
Figure S35. ^1H -NMR of compound 6b	20
Figure S36. ^{13}C -NMR of compound 6b	20
Figure S37. ^1H -NMR of compound 7b	21
Figure S38. ^{13}C -NMR of compound 7b	21
Figure S39. ^1H -NMR of compound 8b	22
Figure S40. ^{13}C -NMR of compound 8b	22

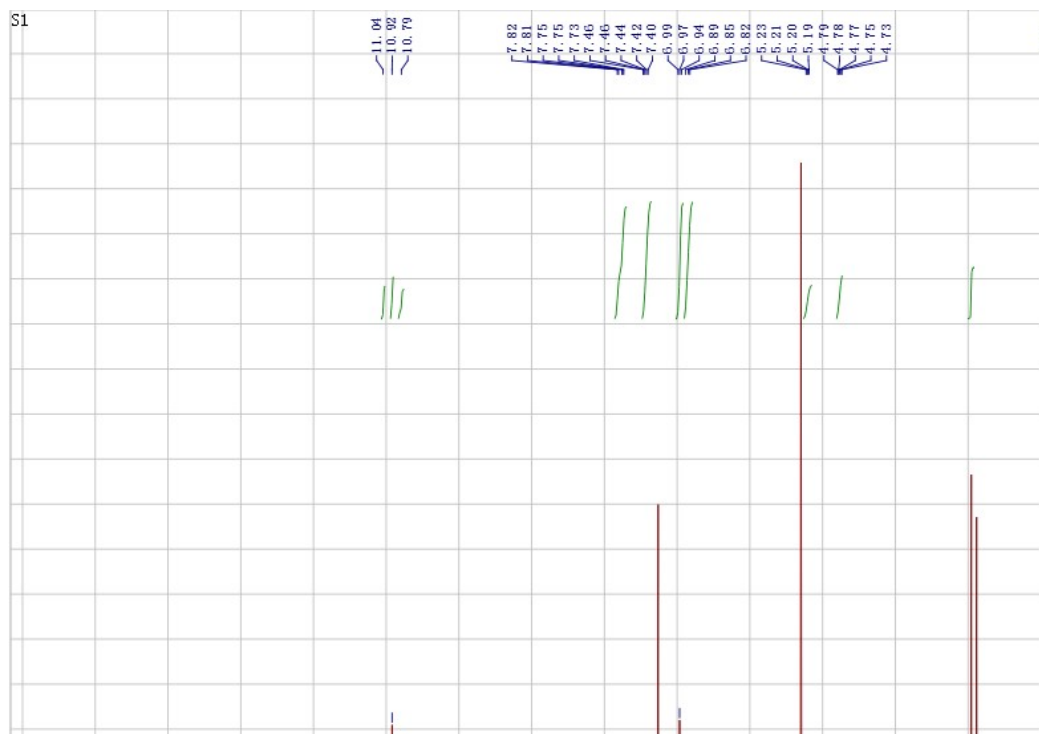


Figure S1. ^1H -NMR of compound 1a

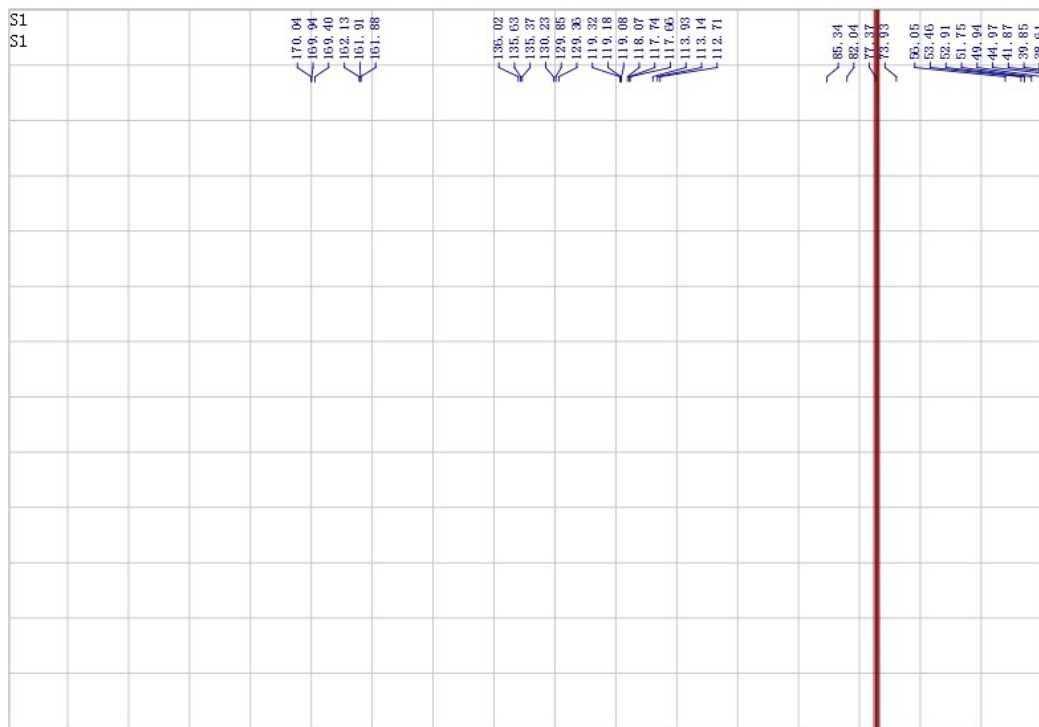
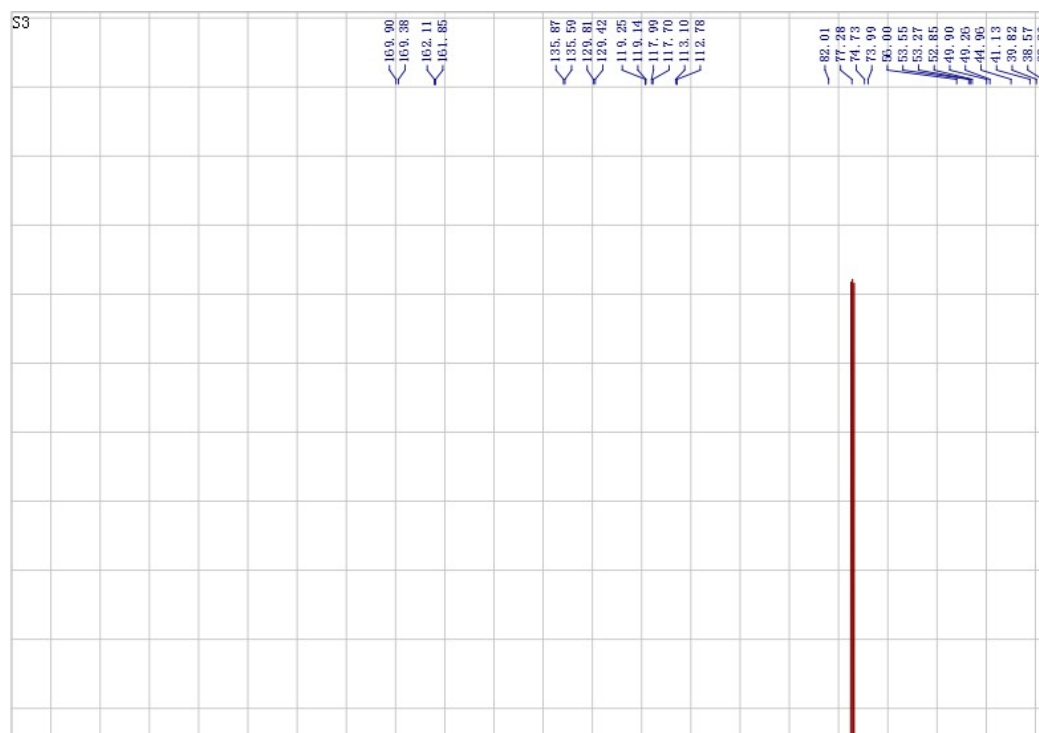
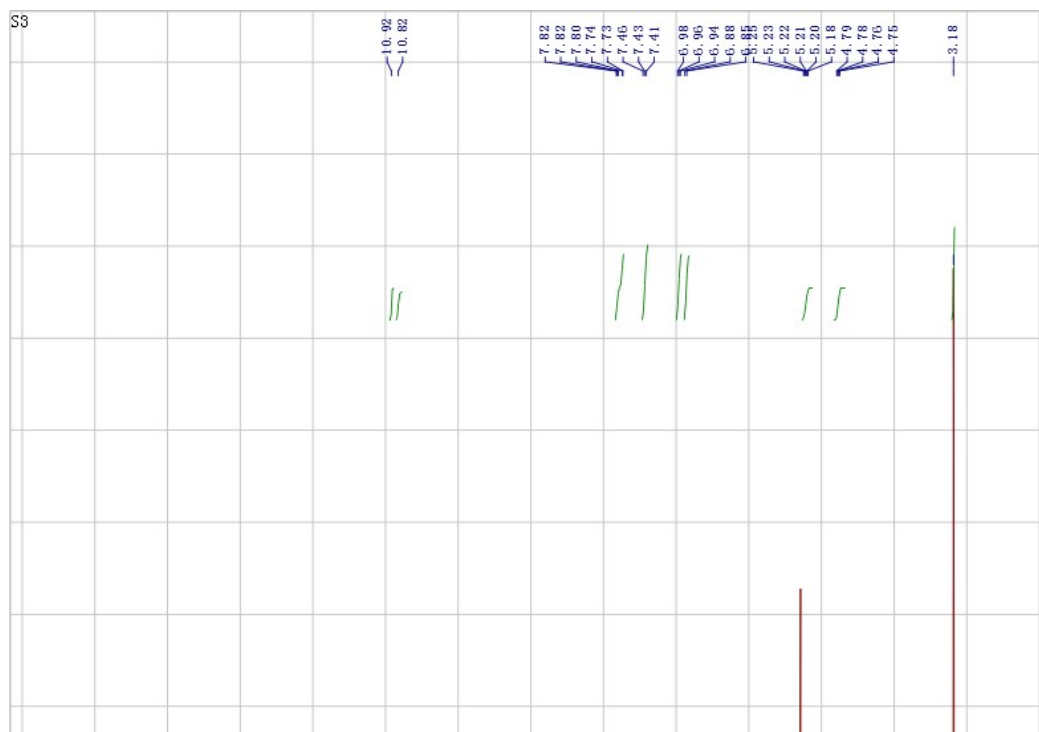
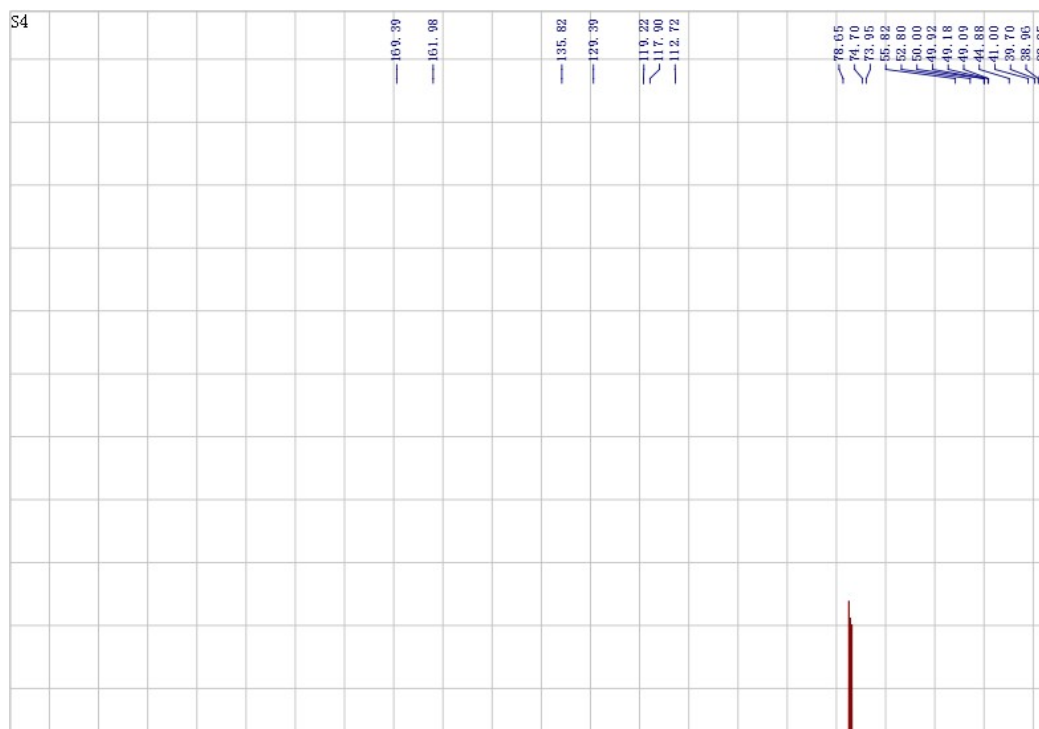
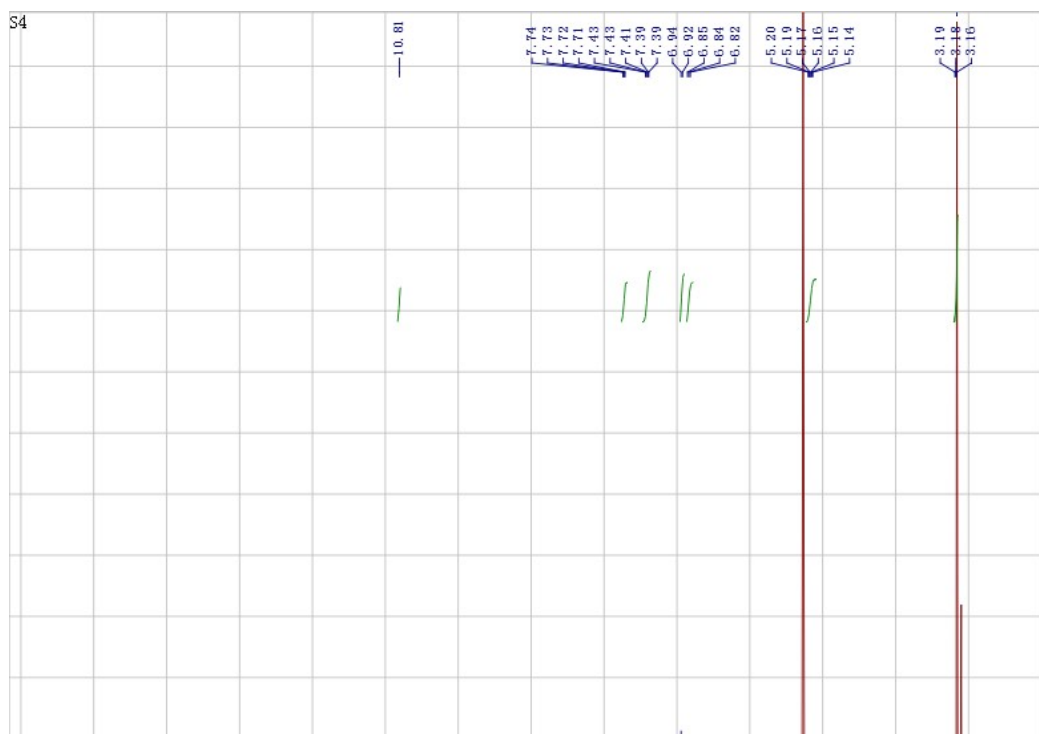


Figure S2. ^{13}C -NMR of compound 1a





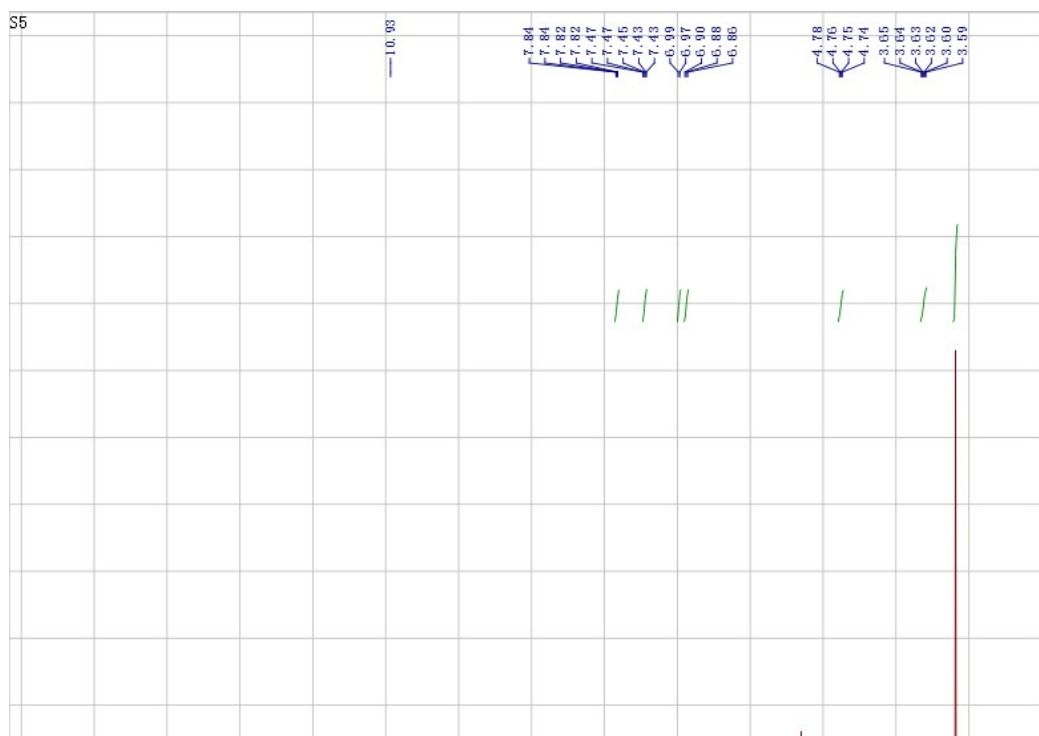


Figure S7. ^1H -NMR of compound 4a



Figure S8. ^{13}C -NMR of compound 4a

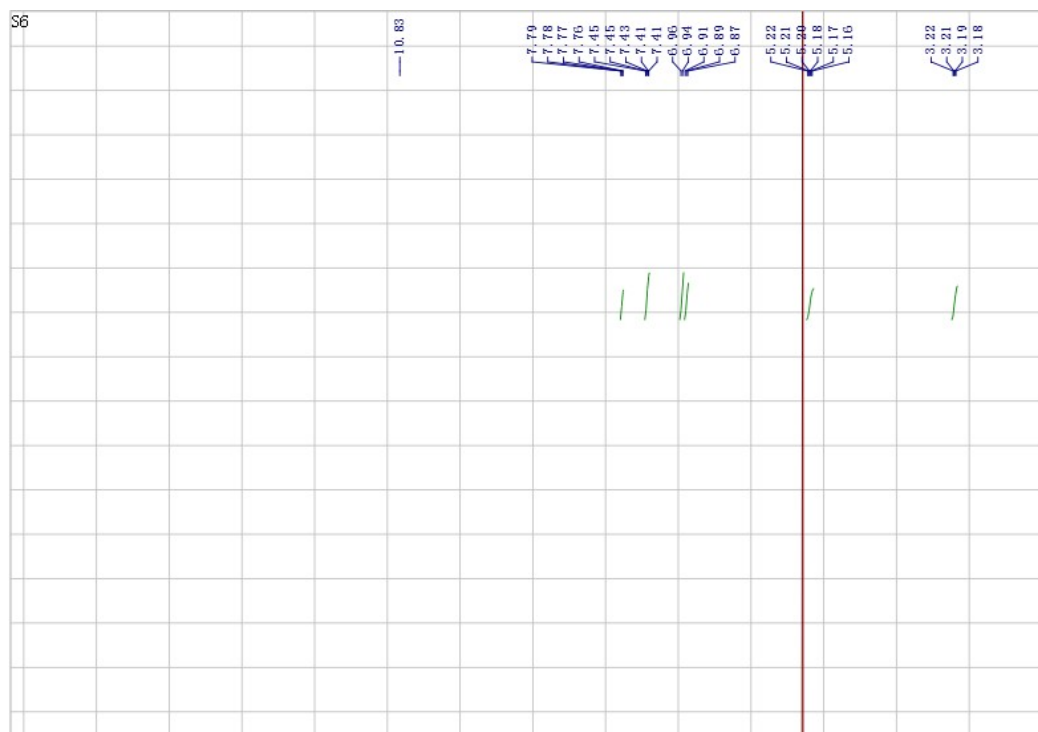


Figure S9. ^1H -NMR of compound 5a

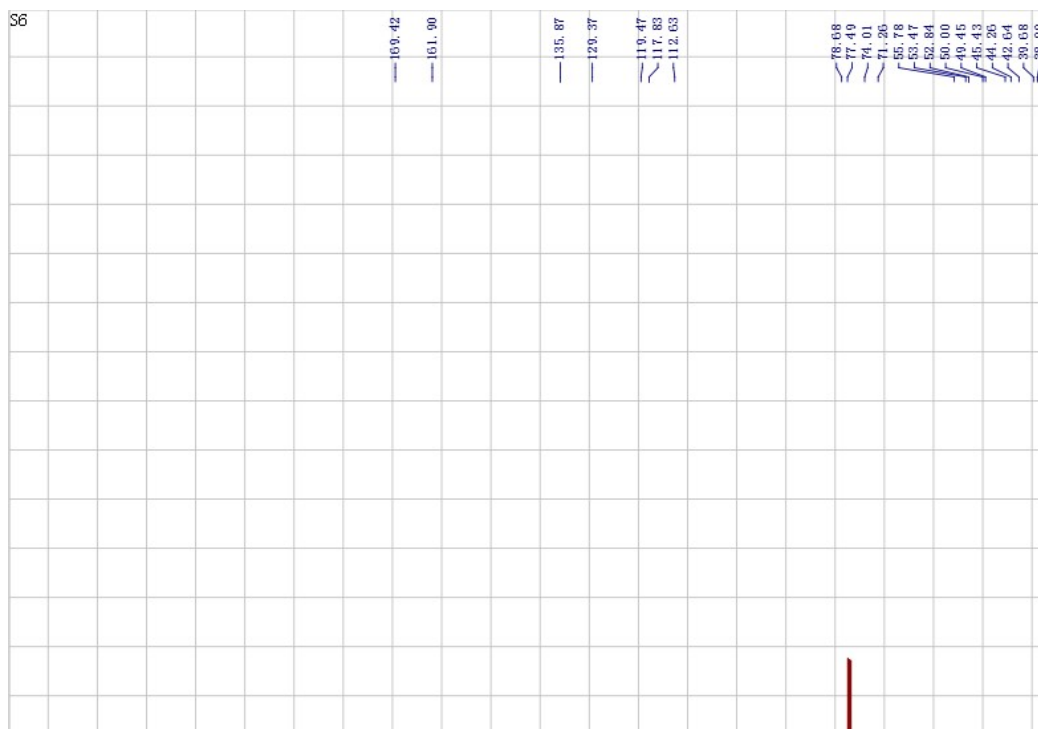
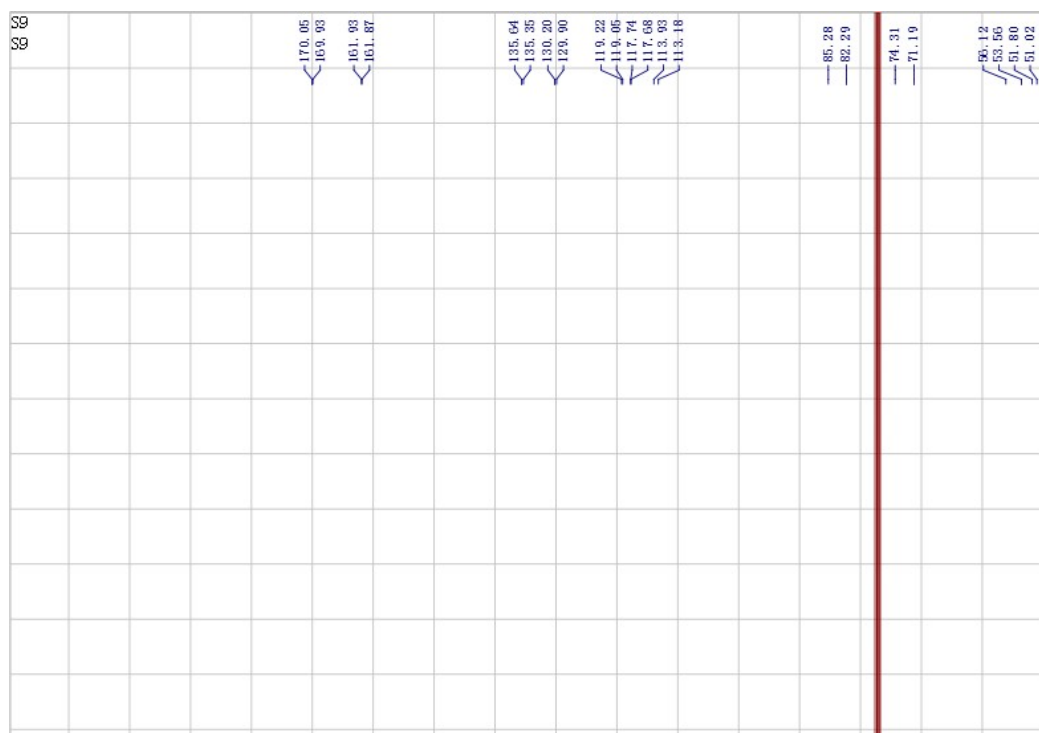
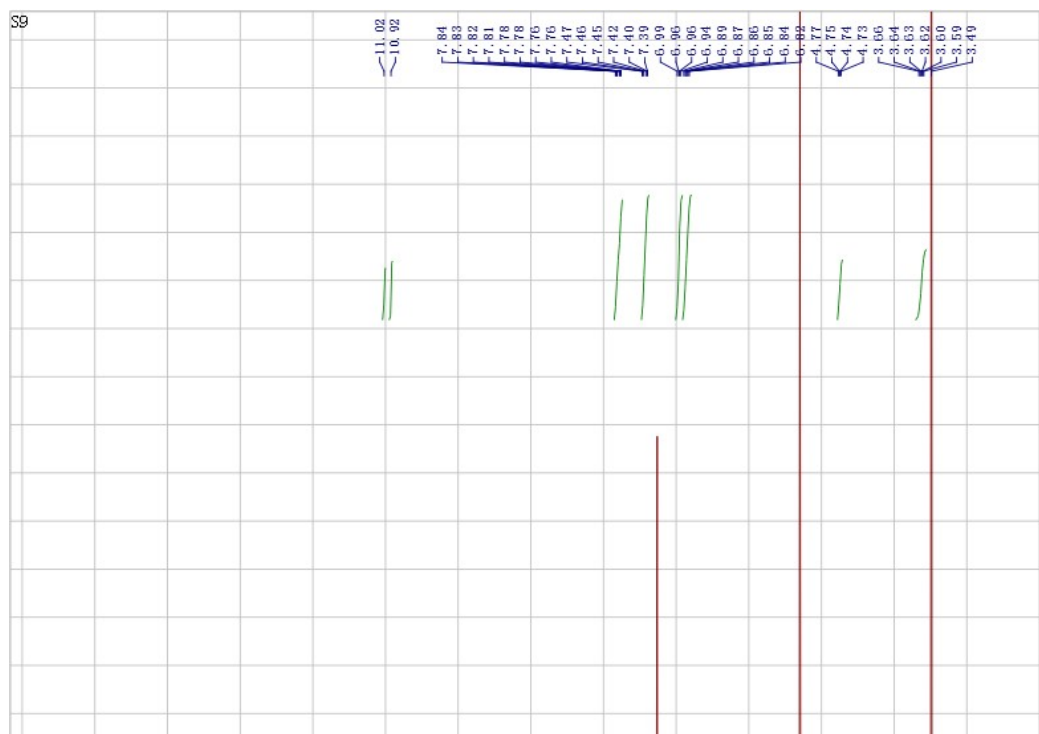


Figure S10. ^{13}C -NMR of compound 5a



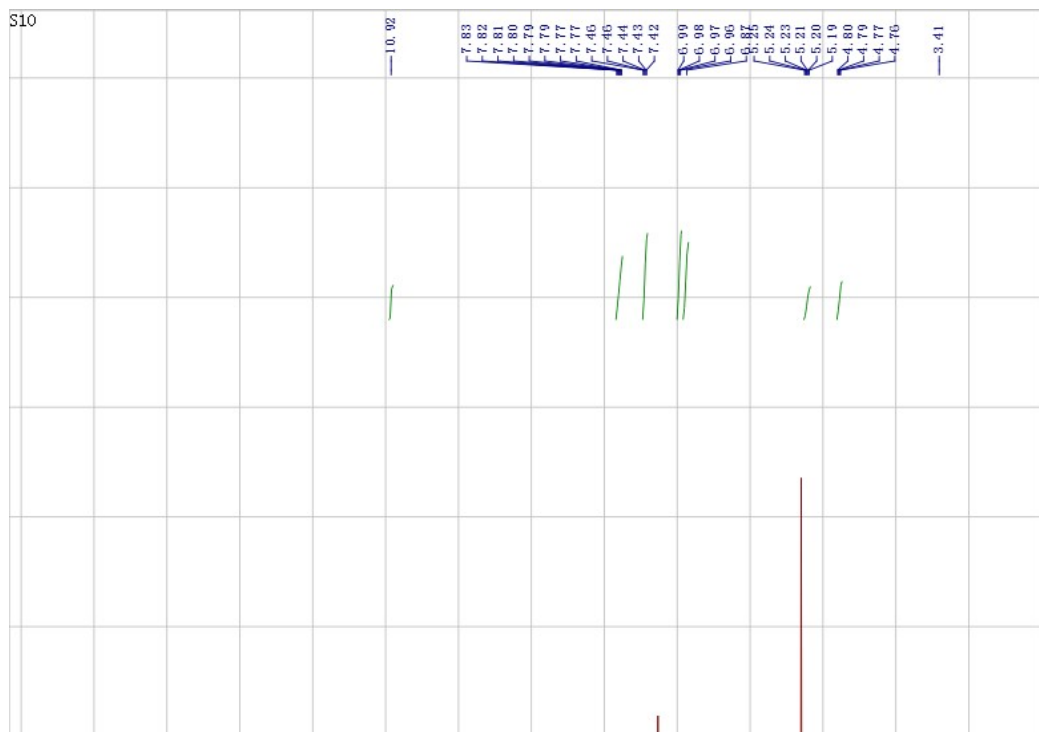


Figure S13. ^1H -NMR of compound 7a

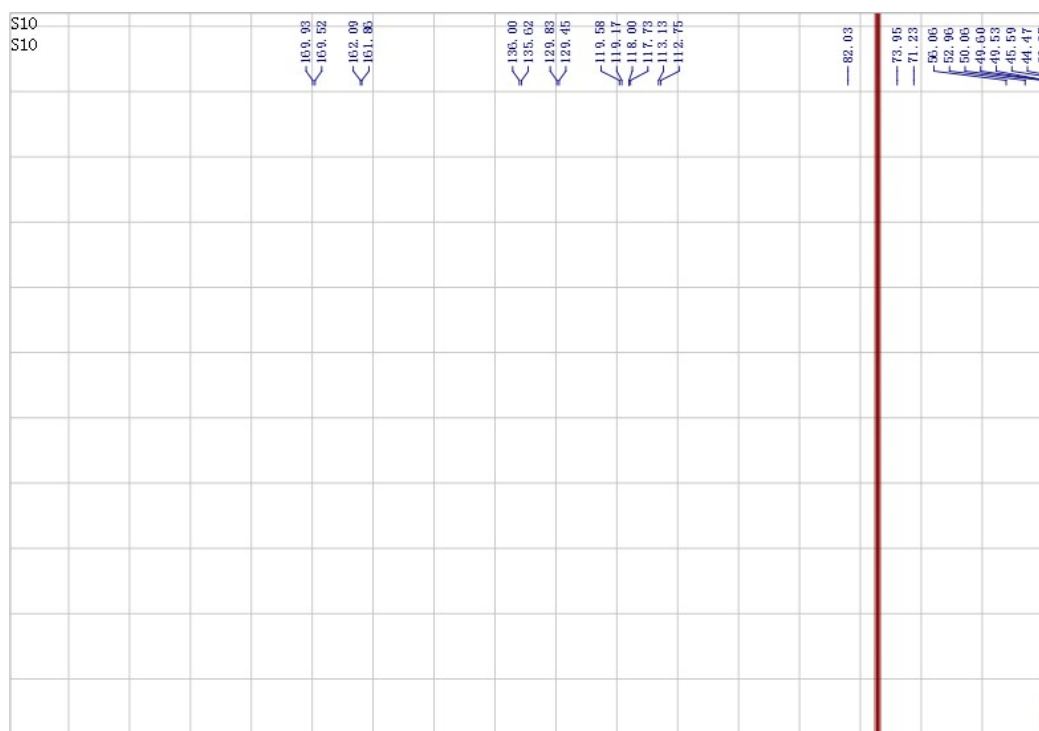


Figure S14. ^{13}C -NMR of compound 7a

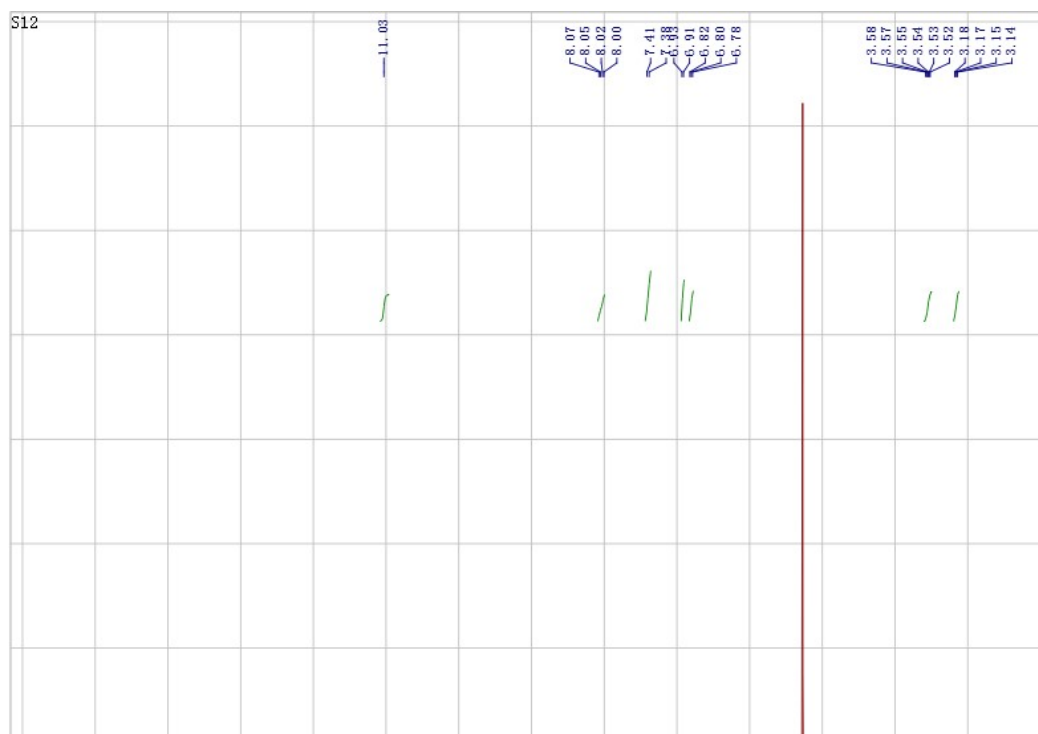


Figure S15. ^1H -NMR of compound 8a

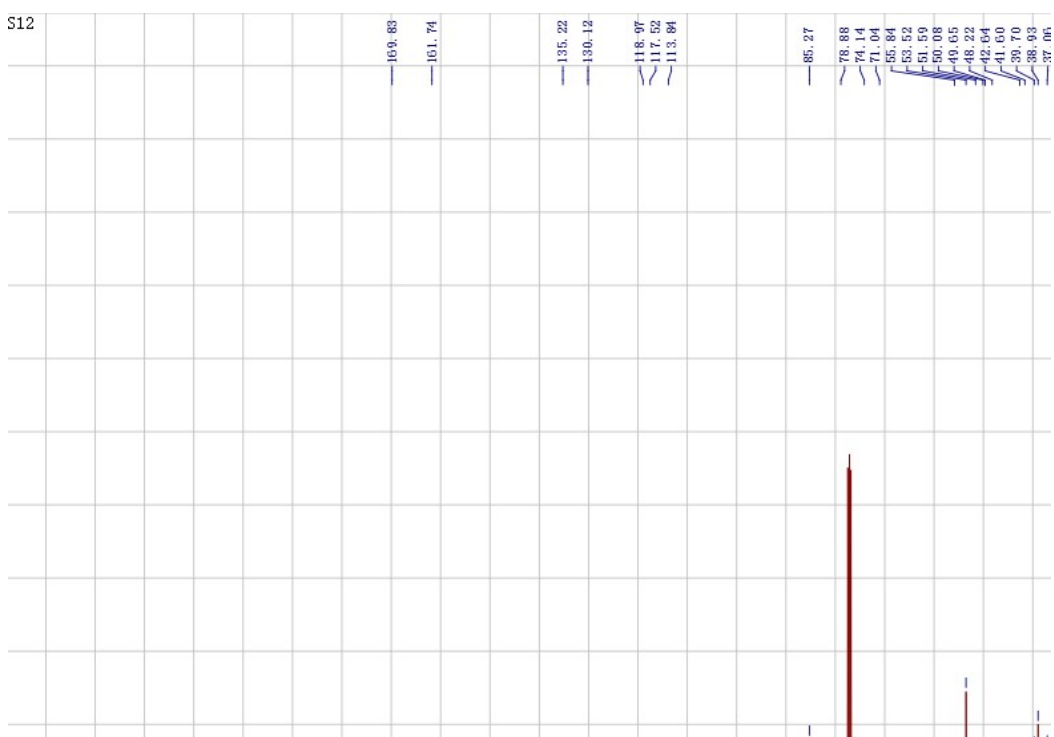


Figure S16. ^{13}C -NMR of compound 8a

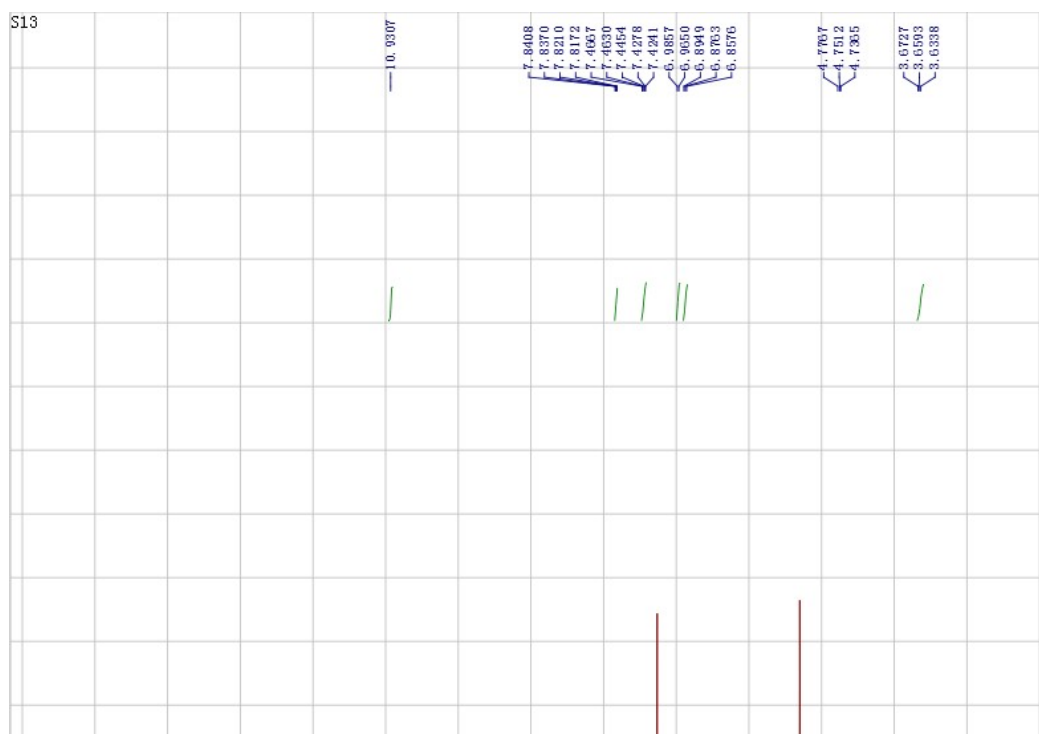


Figure S17. ^1H -NMR of compound **9a**

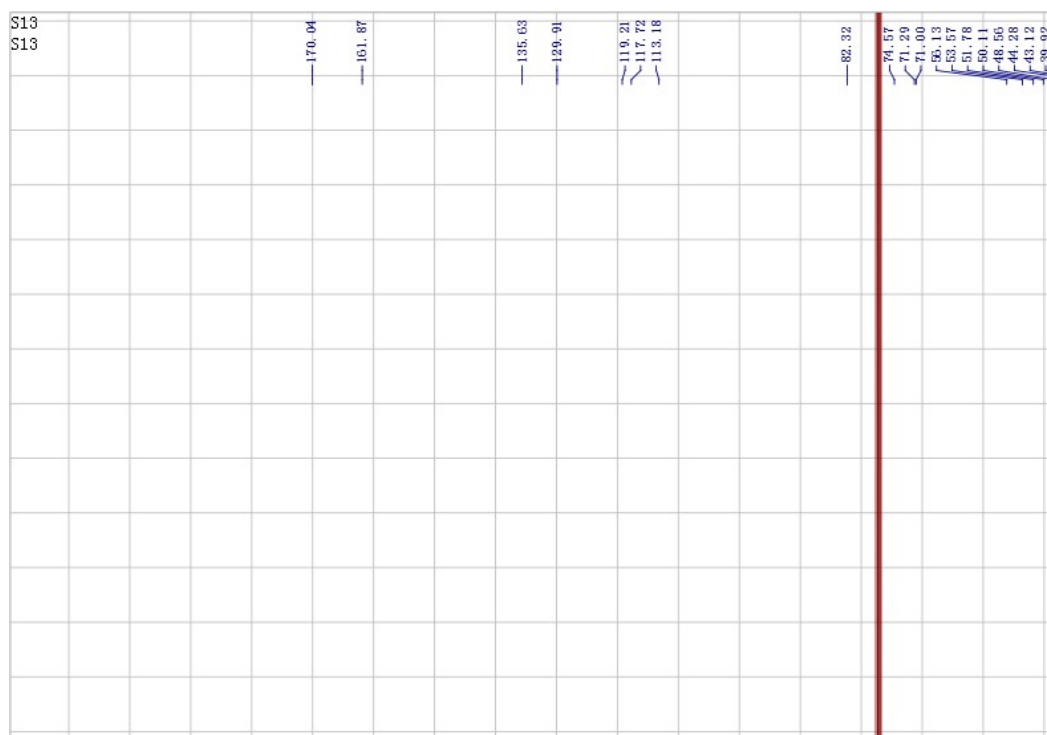


Figure S18. ^{13}C -NMR of compound **9a**

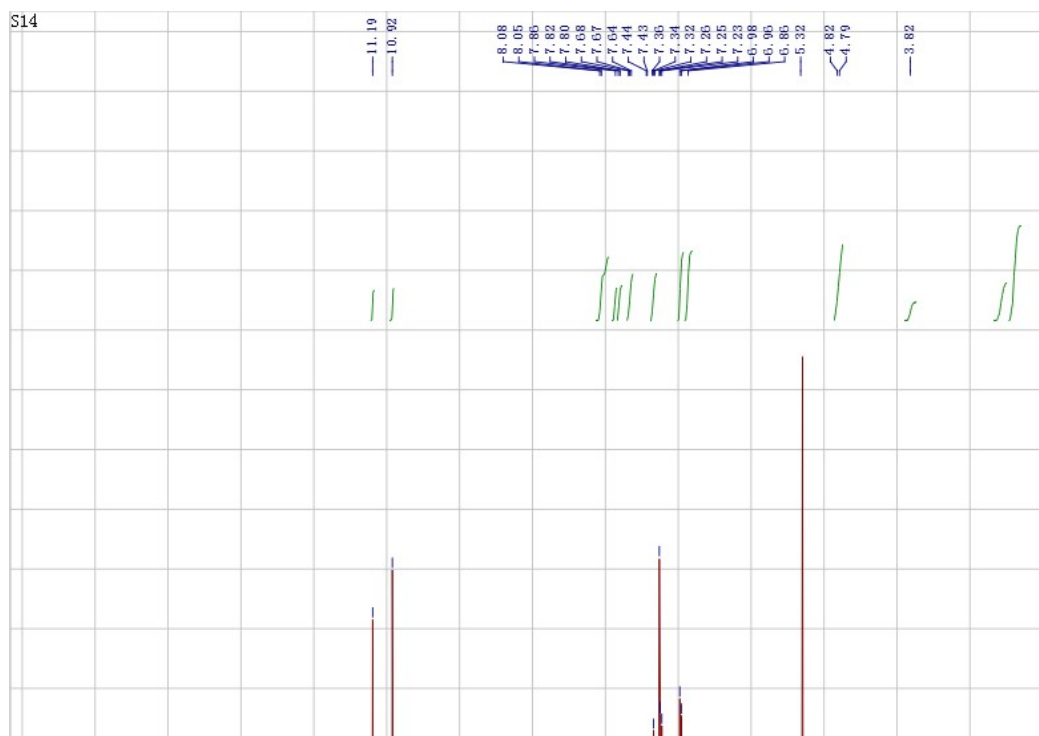


Figure S19. ^1H -NMR of compound 10a

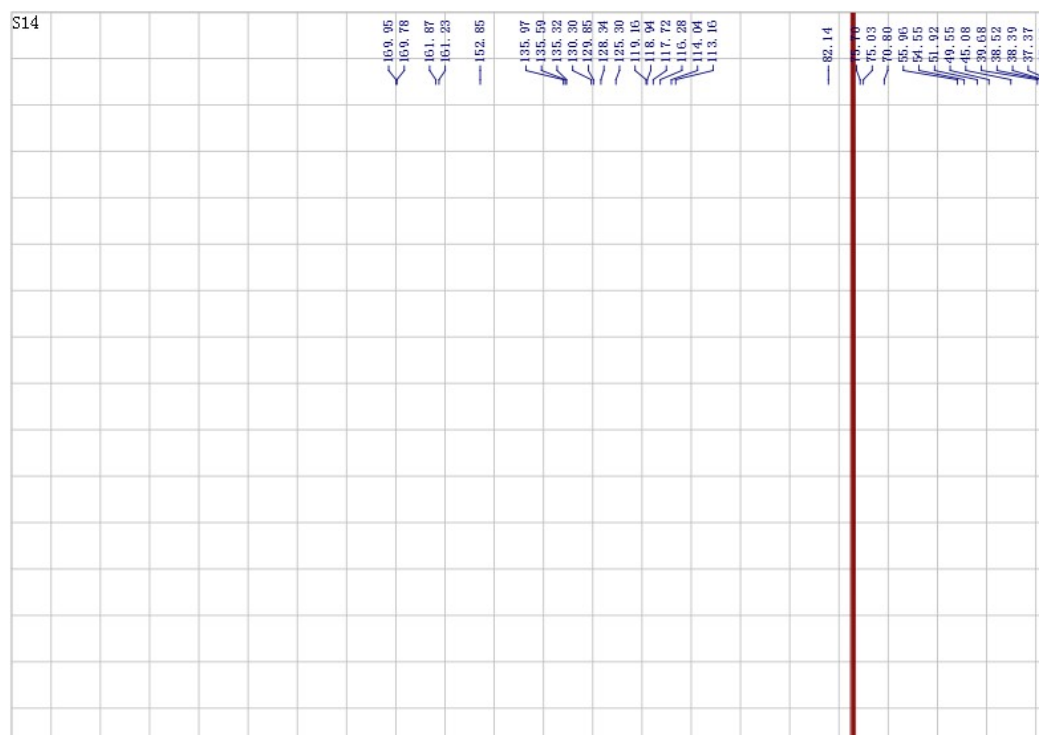


Figure S20. ^{13}C -NMR of compound 10a

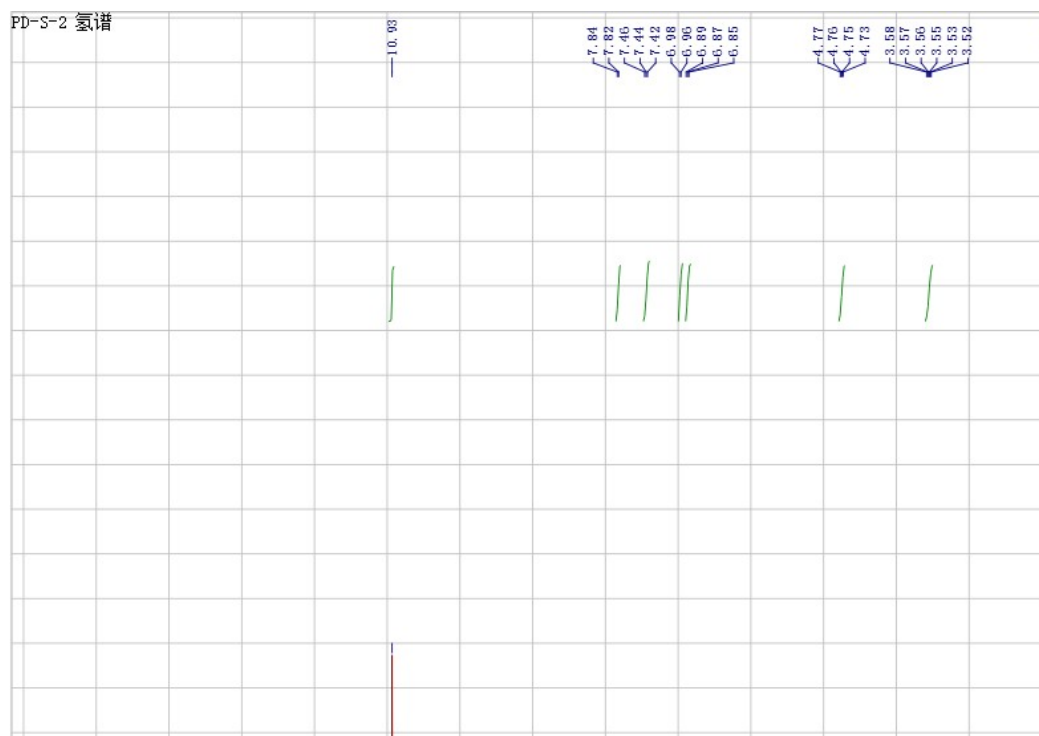


Figure S21. ^1H -NMR of compound 11a

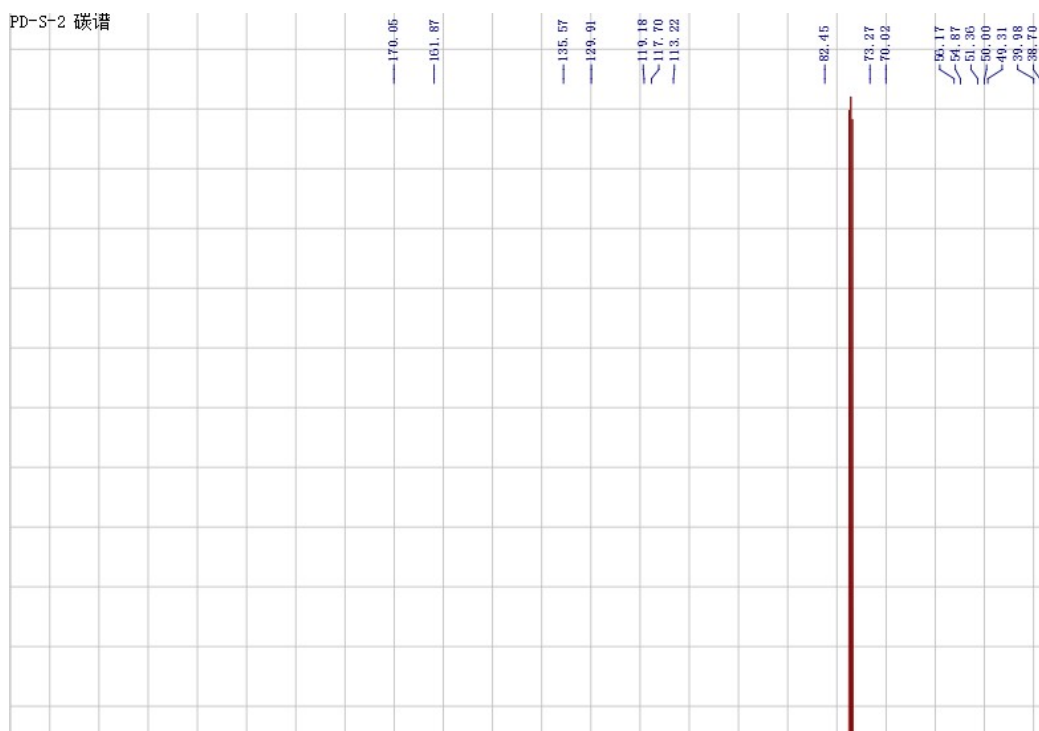


Figure S22. ^{13}C -NMR of compound 11a

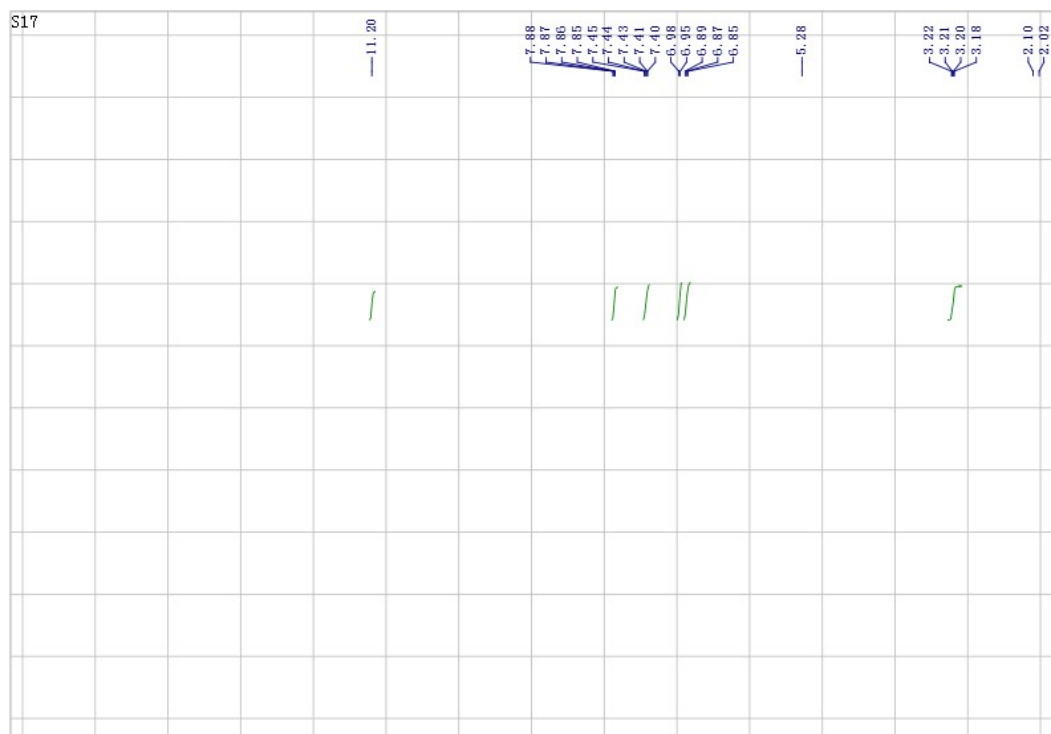


Figure S23. ^1H -NMR of compound **12a**

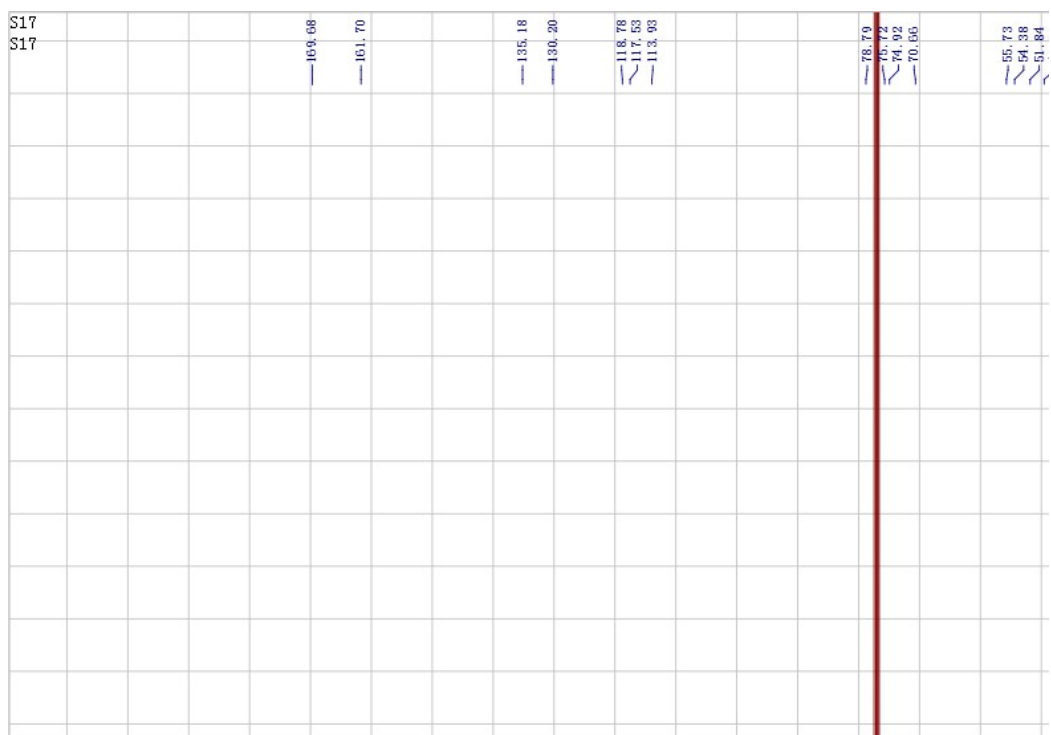


Figure S24. ^{13}C -NMR of compound **12a**

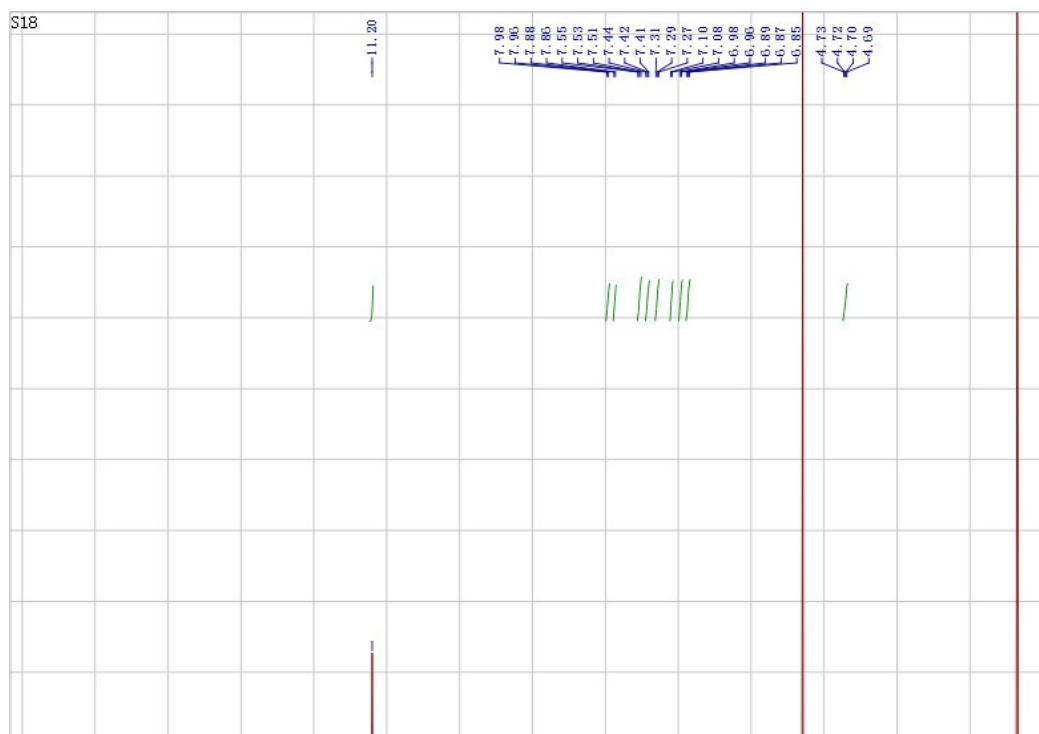
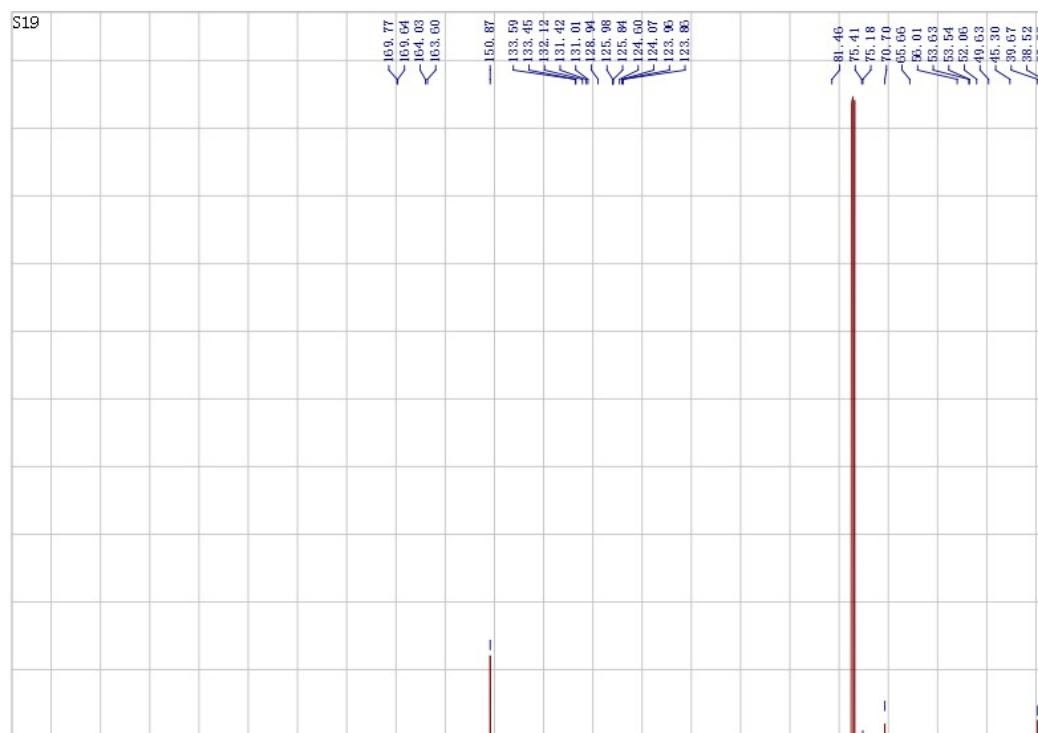
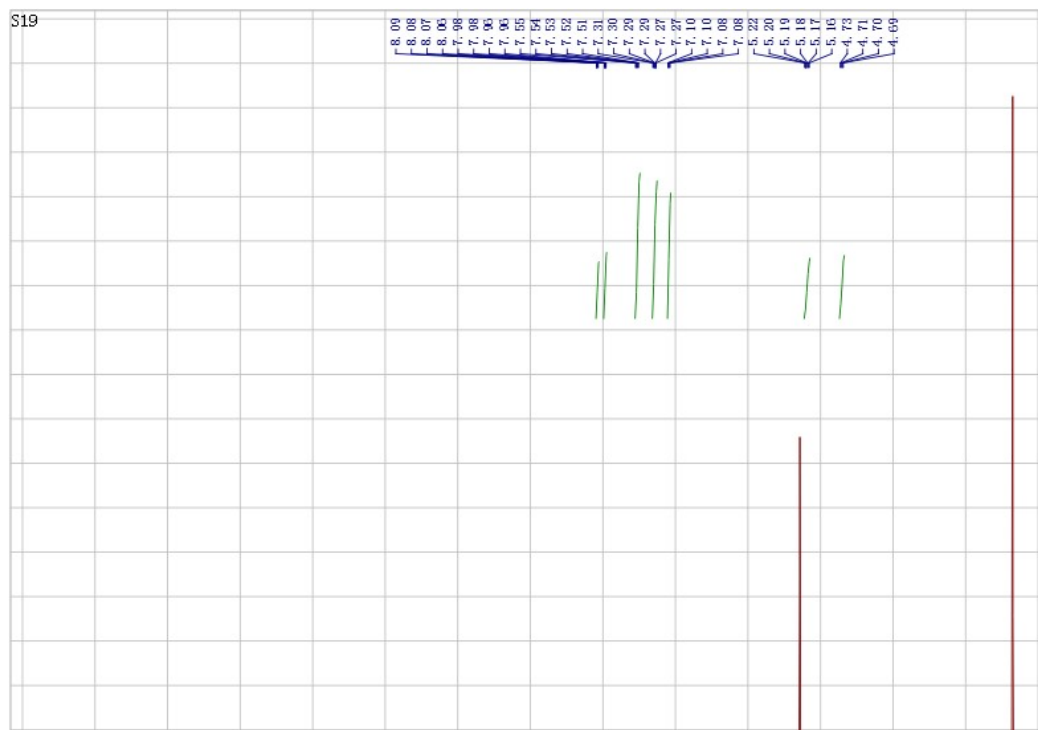


Figure S25. ^1H -NMR of compound **1b**



Figure S26. ^{13}C -NMR of compound **1b**



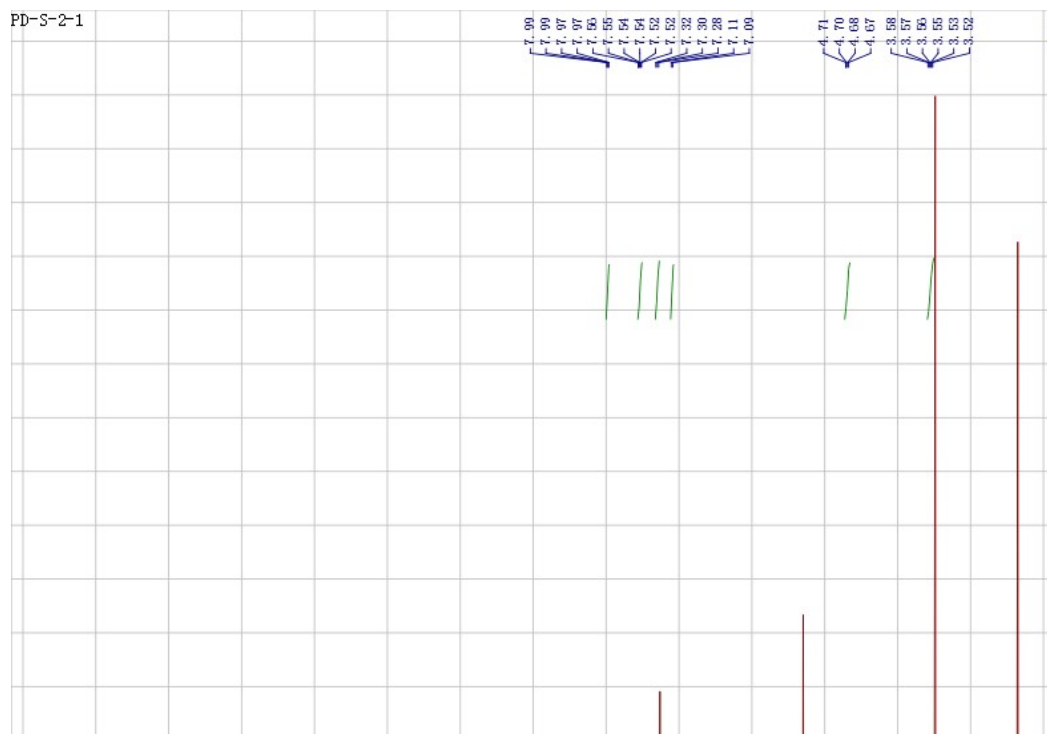


Figure S29. ^1H -NMR of compound **3b**

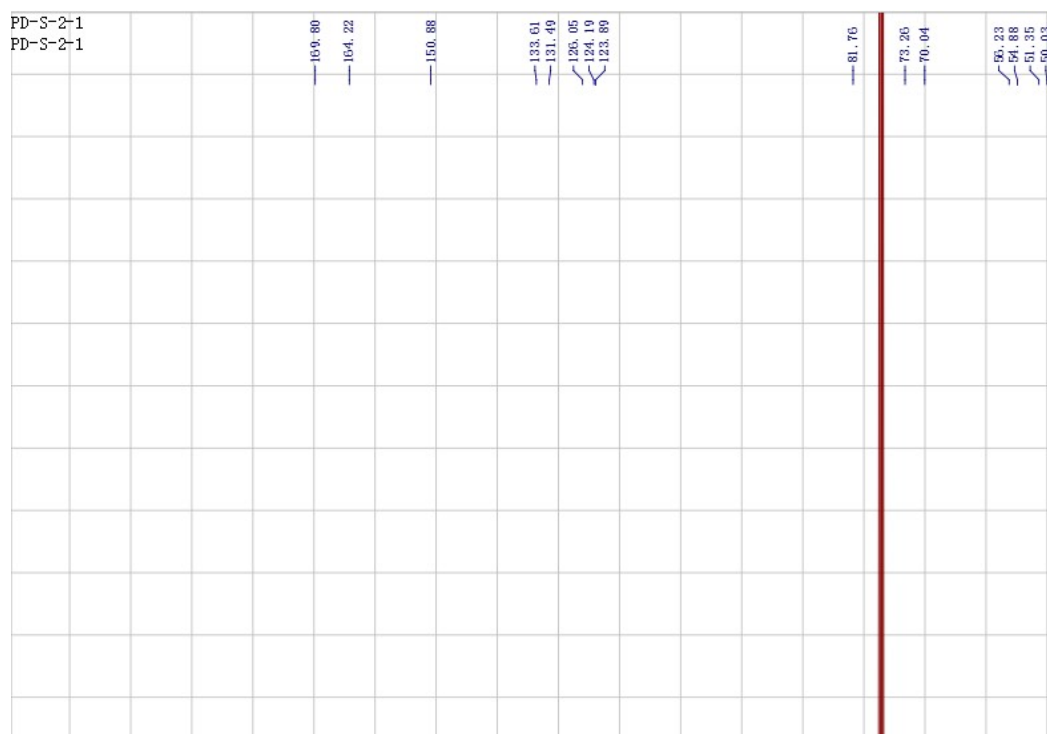


Figure S30. ^{13}C -NMR of compound **3b**

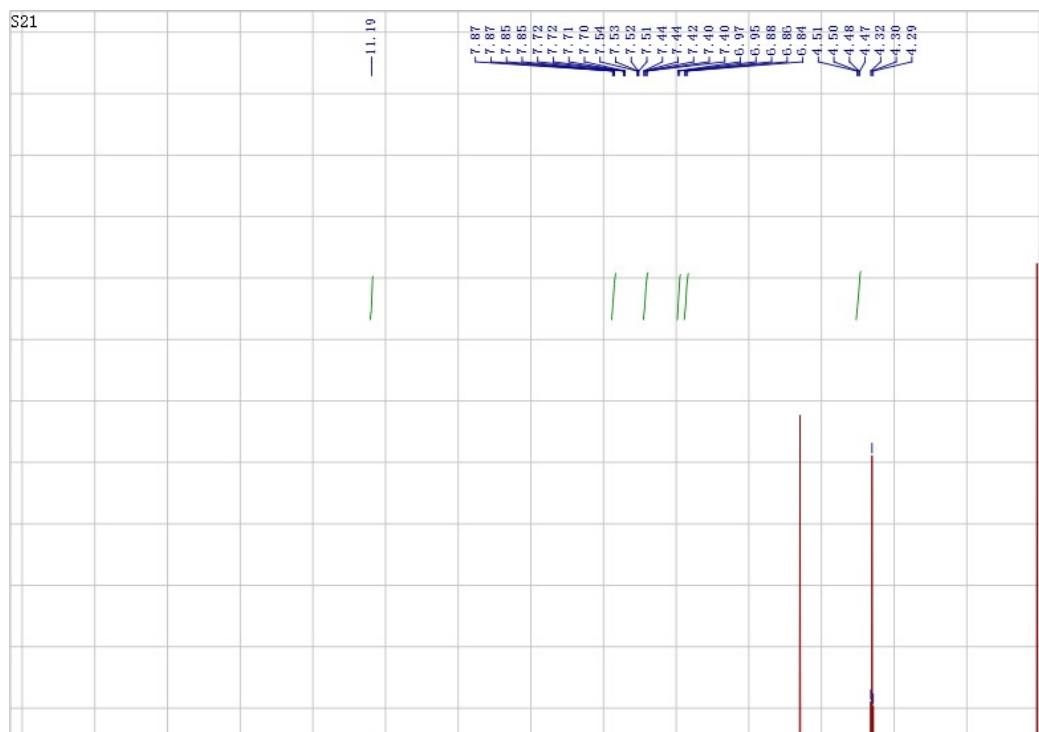


Figure S31. ^1H -NMR of compound **4b**

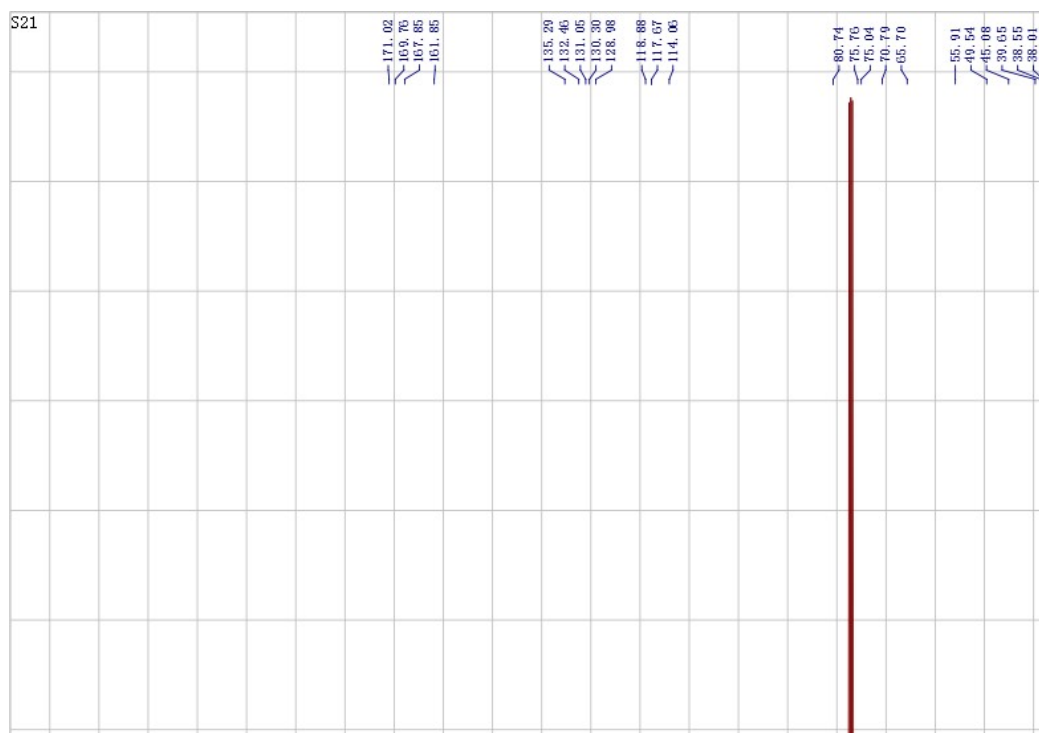
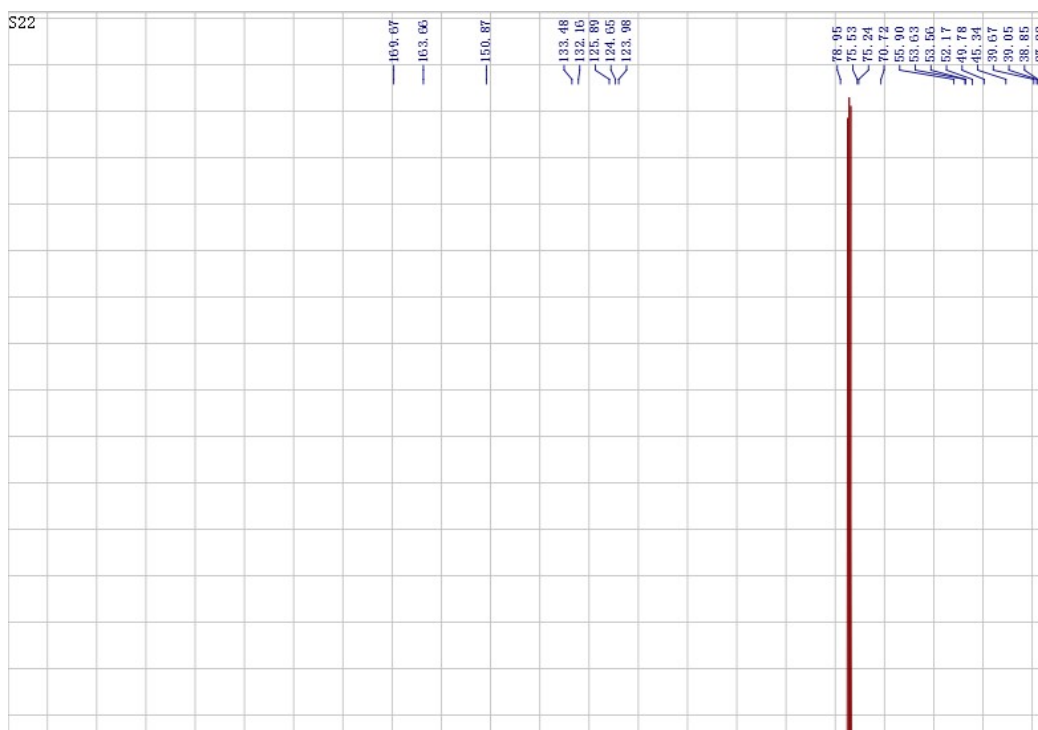


Figure S32. ^{13}C -NMR of compound **4b**



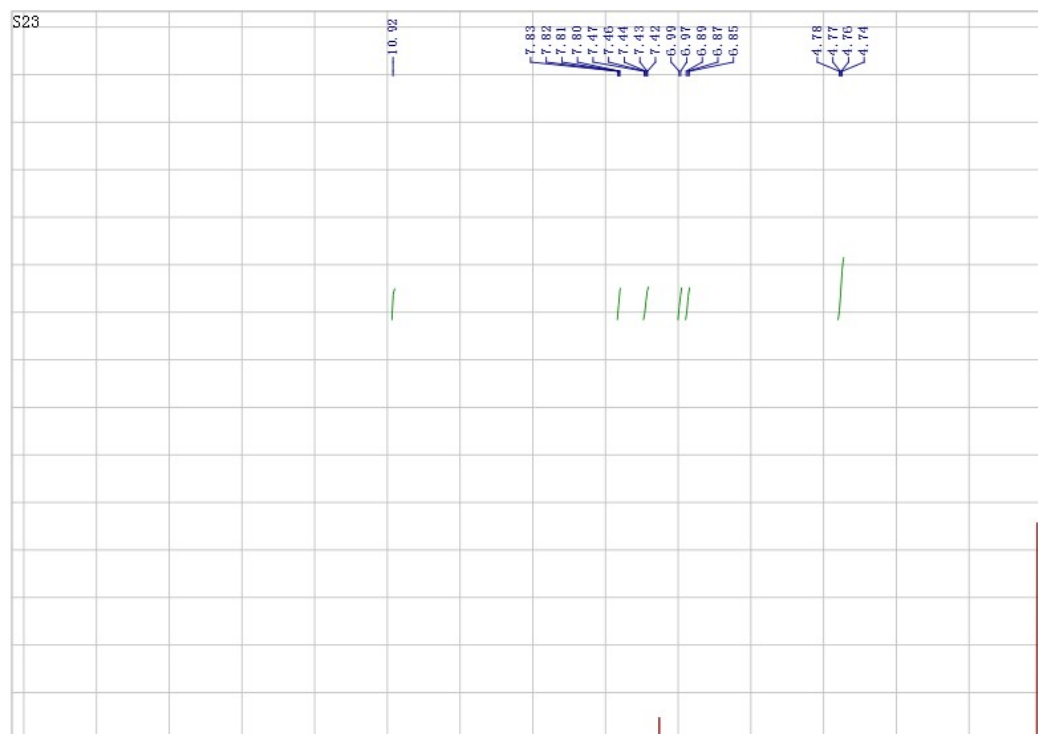


Figure S35. ^1H -NMR of compound **6b**

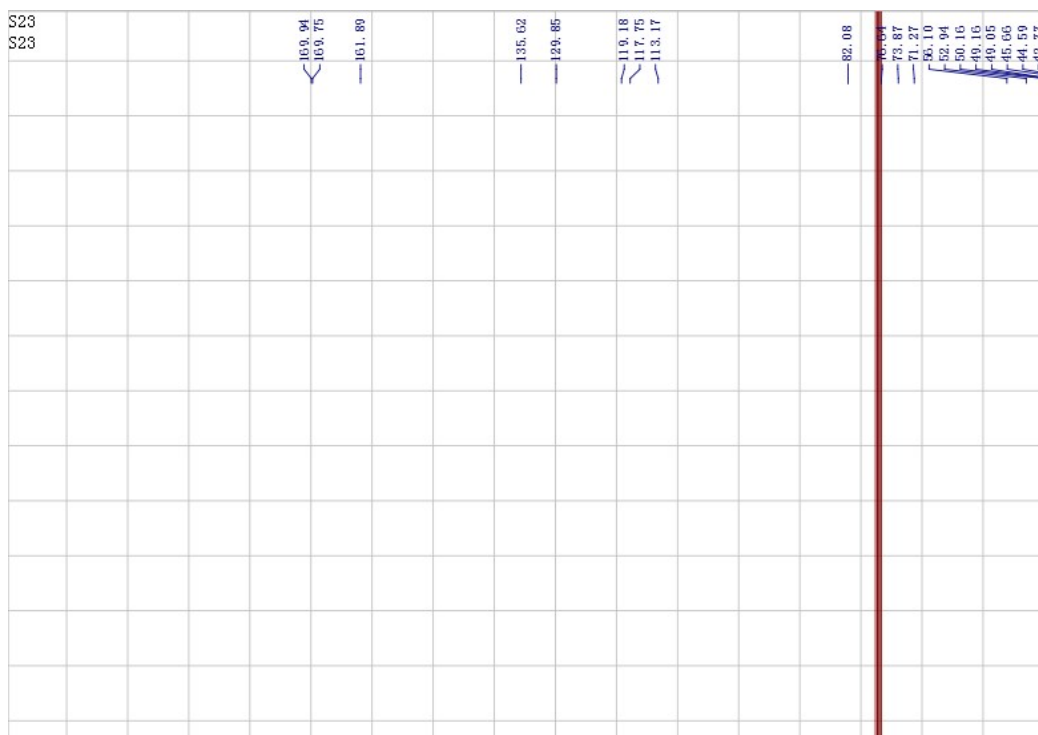


Figure S36. ^{13}C -NMR of compound **6b**



Figure S37. ^1H -NMR of compound **7b**

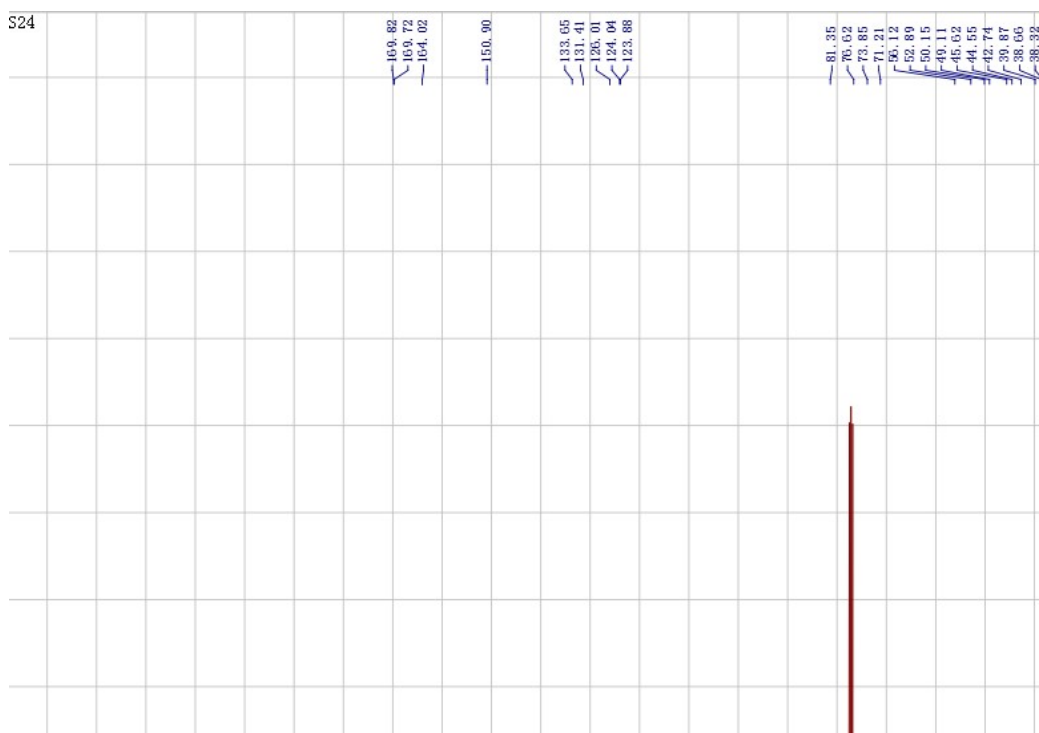


Figure S38. ^{13}C -NMR of compound **7b**

