

Supplementary Materials

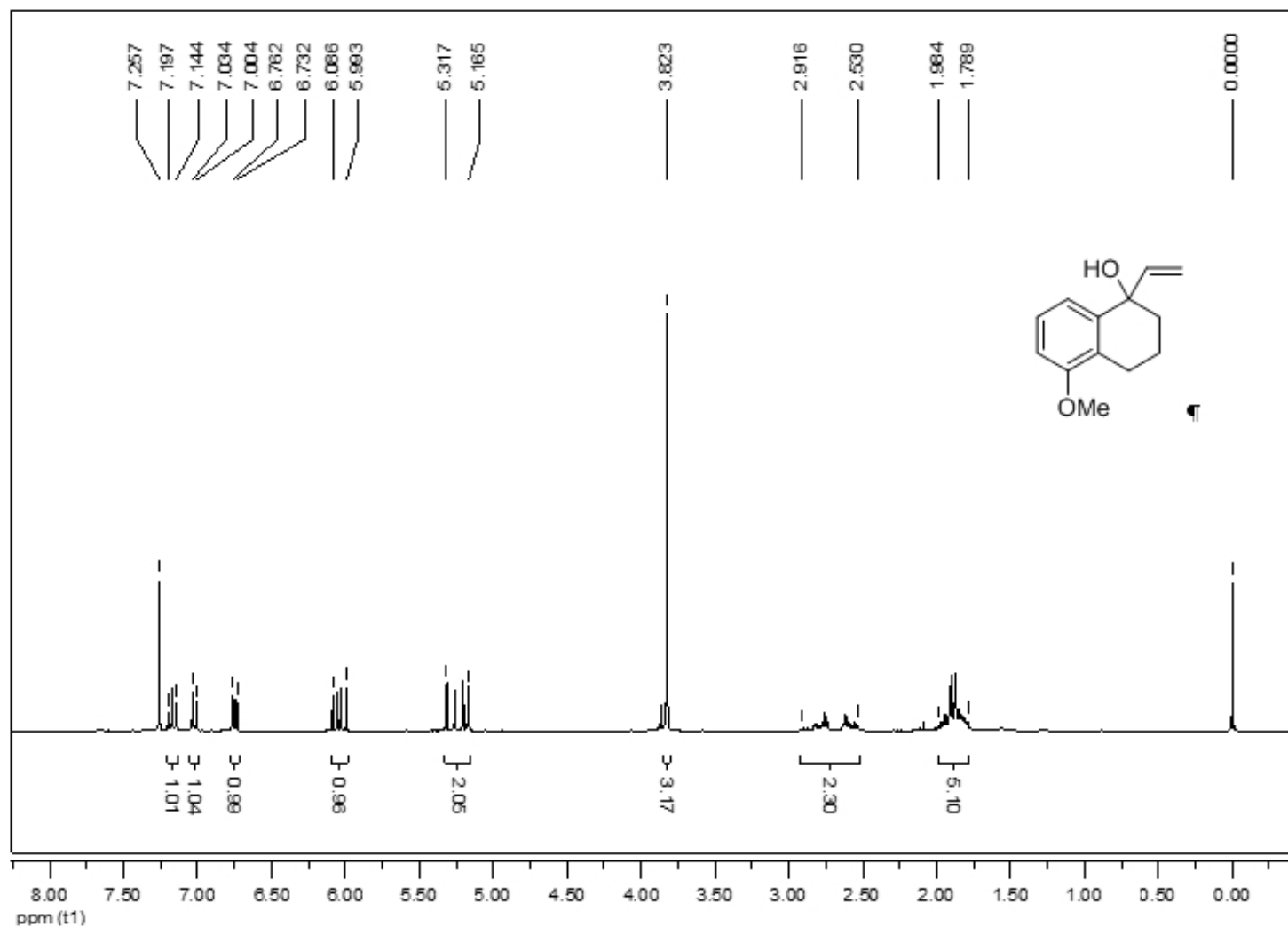


Figure S1. ^1H -NMR spectra of 5-methoxy-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-ol (**2d**) (300 MHz, CDCl_3).

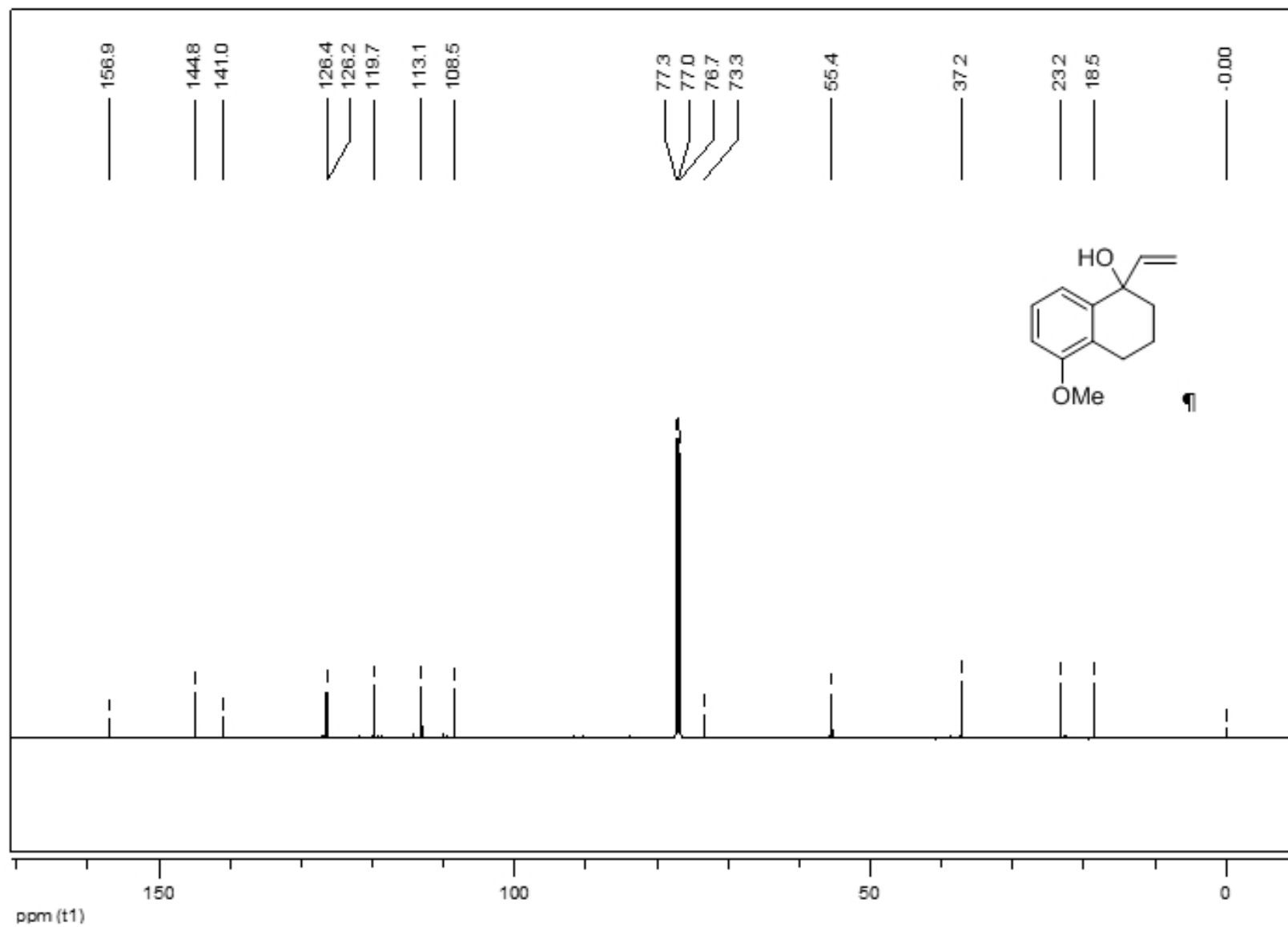


Figure S2. ^{13}C -NMR spectra of 5-methoxy-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-ol (**2d**) (75 MHz, CDCl_3).

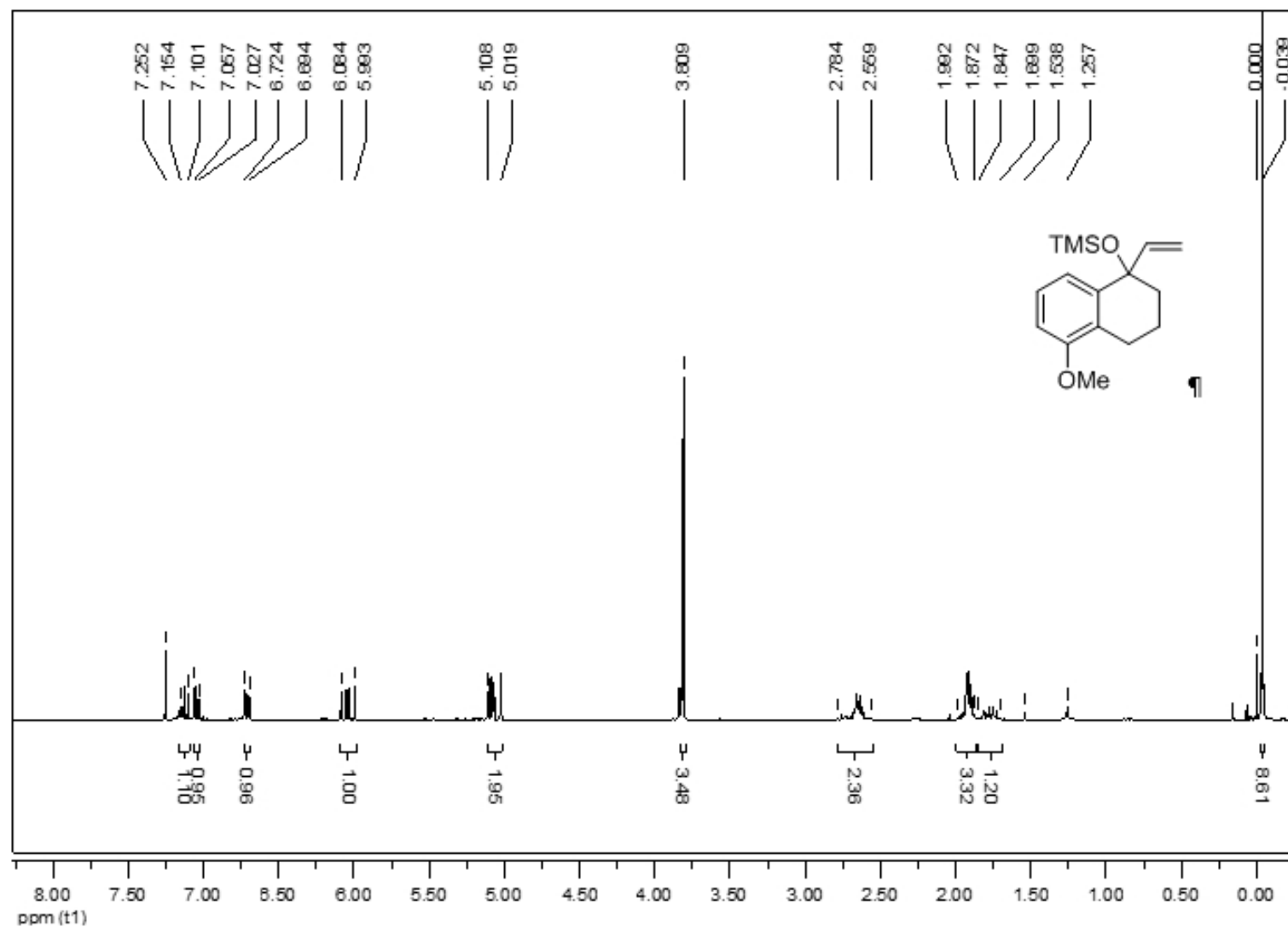


Figure S3. ¹H-NMR spectra of ((5-methoxy-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-yl)oxy)trimethylsilane (**3d**) (300 MHz, CDCl₃).

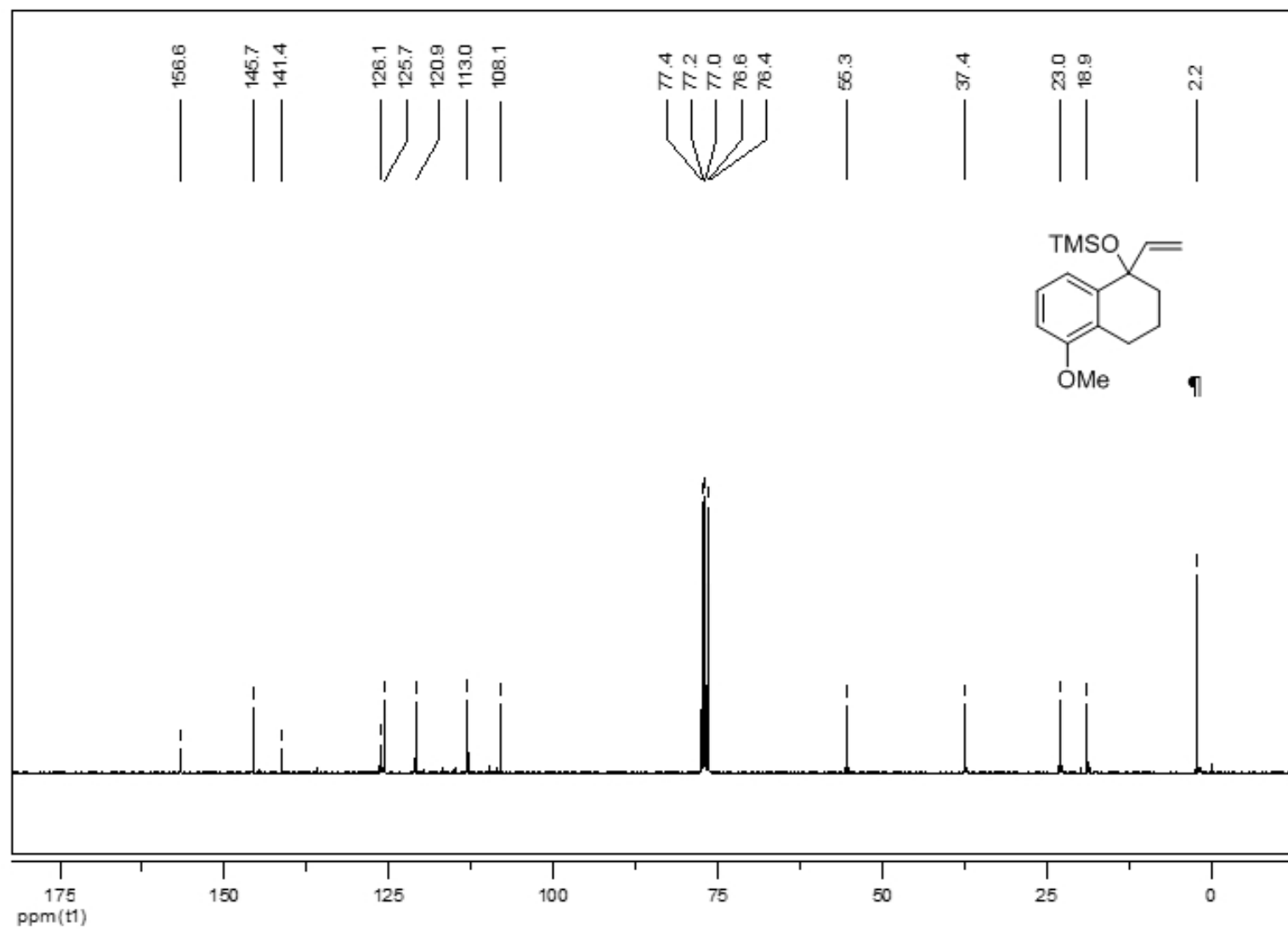


Figure S4. ¹³C-NMR spectra of ((5-methoxy-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-yl)oxy)trimethylsilane (**3d**) (75 MHz, CDCl₃).

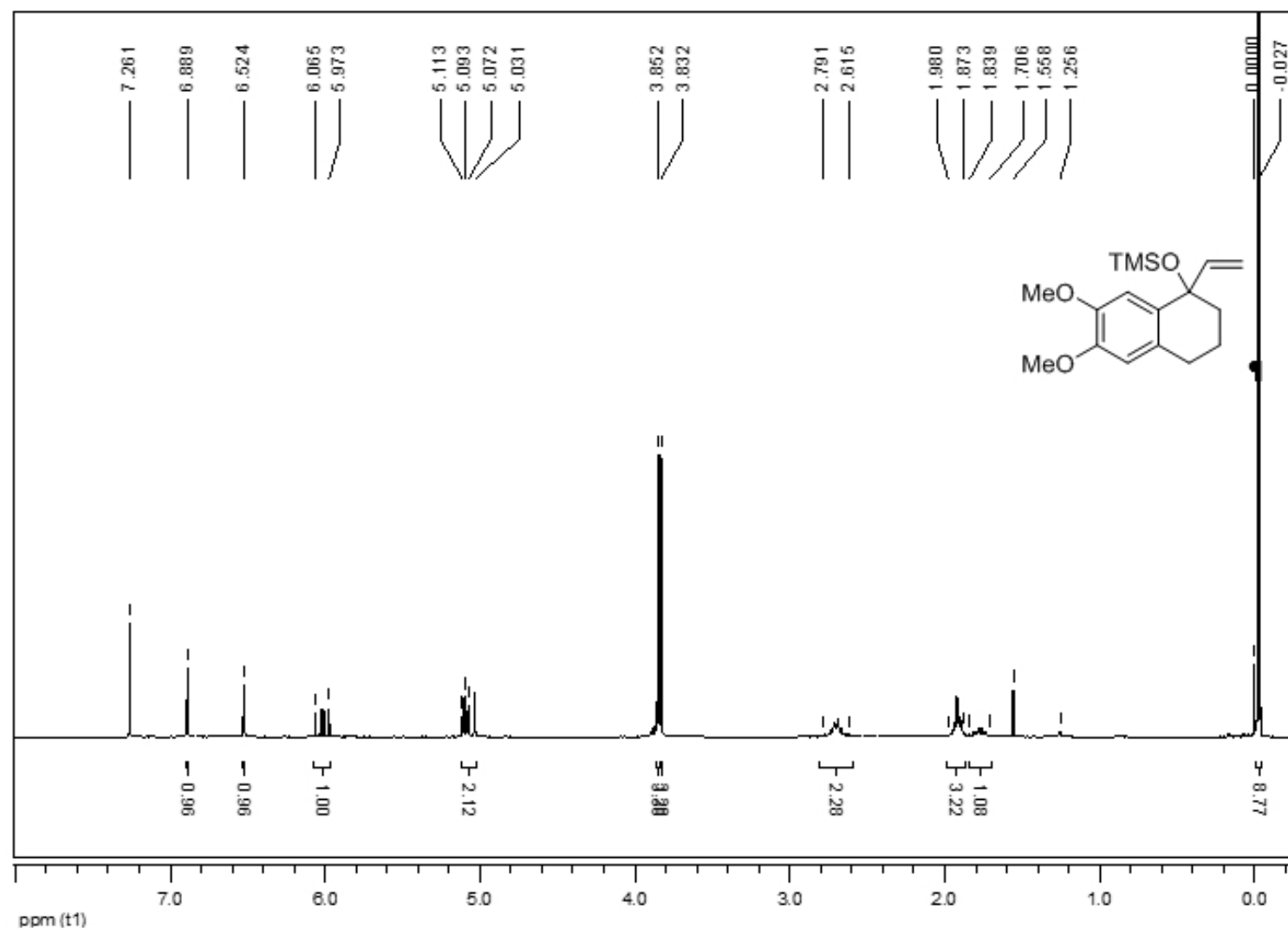


Figure S5. ¹H-NMR spectra of ((6,7-dimethoxy-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-yl)oxy)trimethylsilane (**3f**) (300 MHz, CDCl₃).

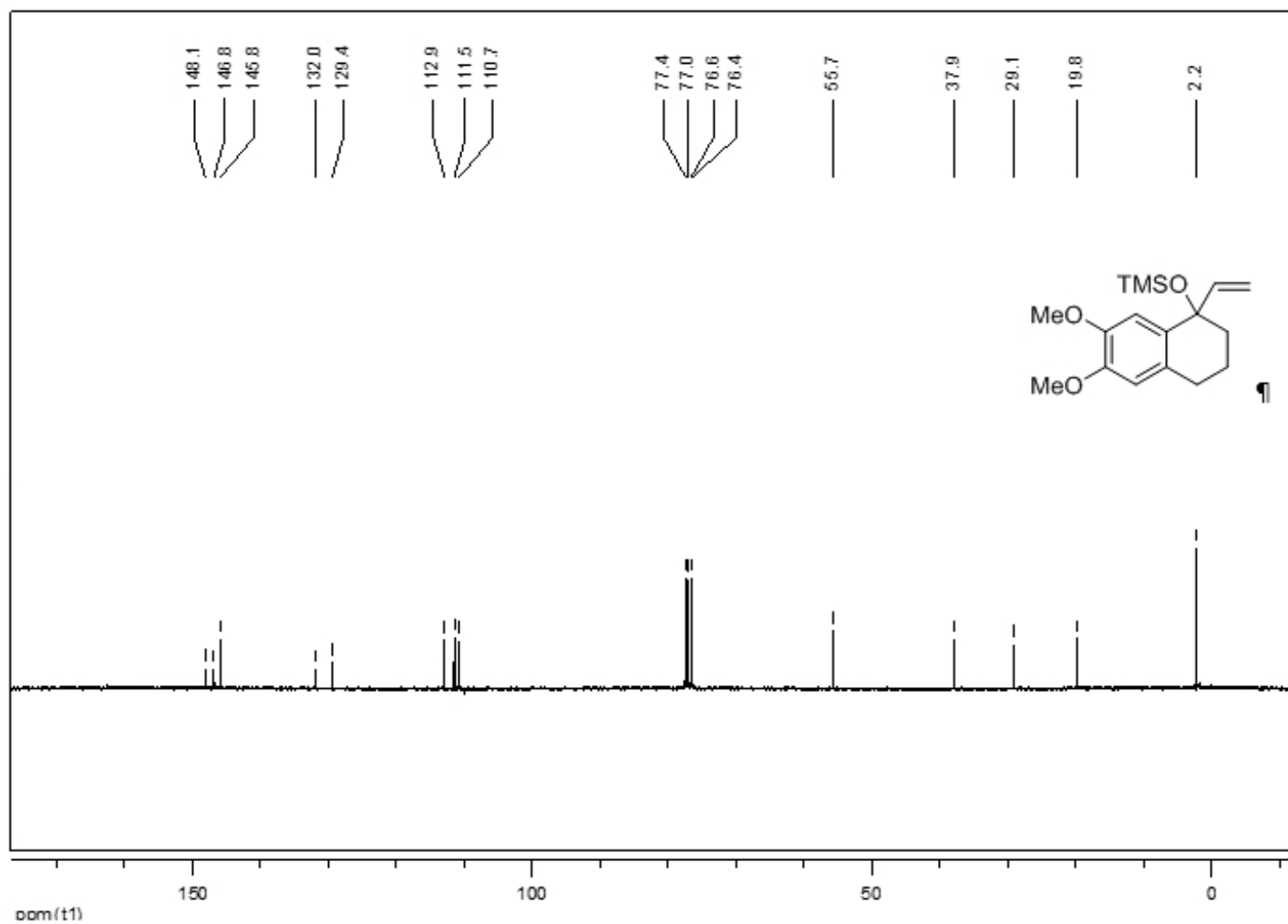


Figure S6. ¹³C-NMR spectra of ((6,7-dimethoxy-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-yl)oxy)trimethylsilane (**3f**) (75 MHz, CDCl₃).

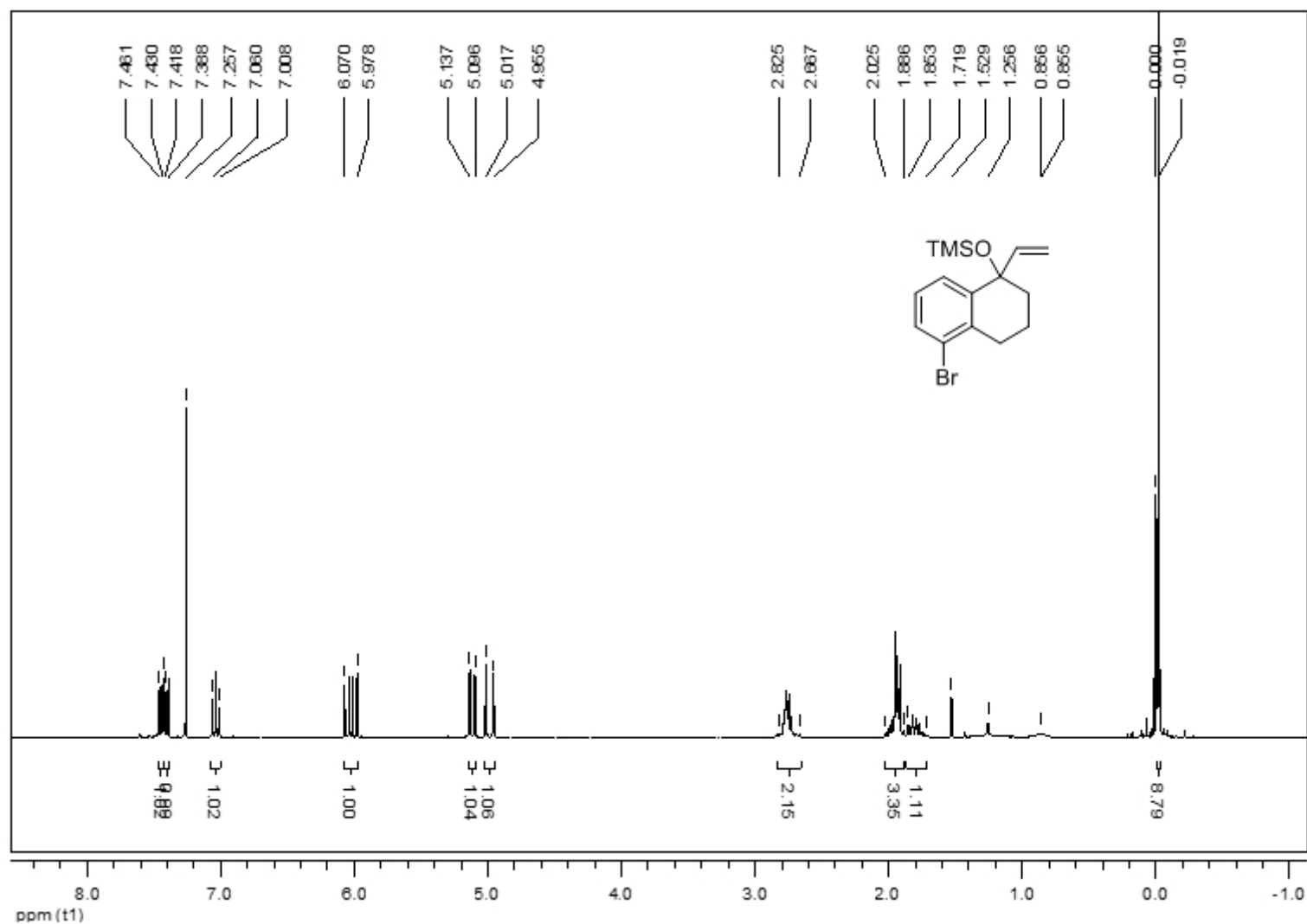


Figure S7. ¹H-NMR spectra of ((5-bromo-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-yl)oxy)trimethylsilane (**3g**) (300 MHz, CDCl₃).

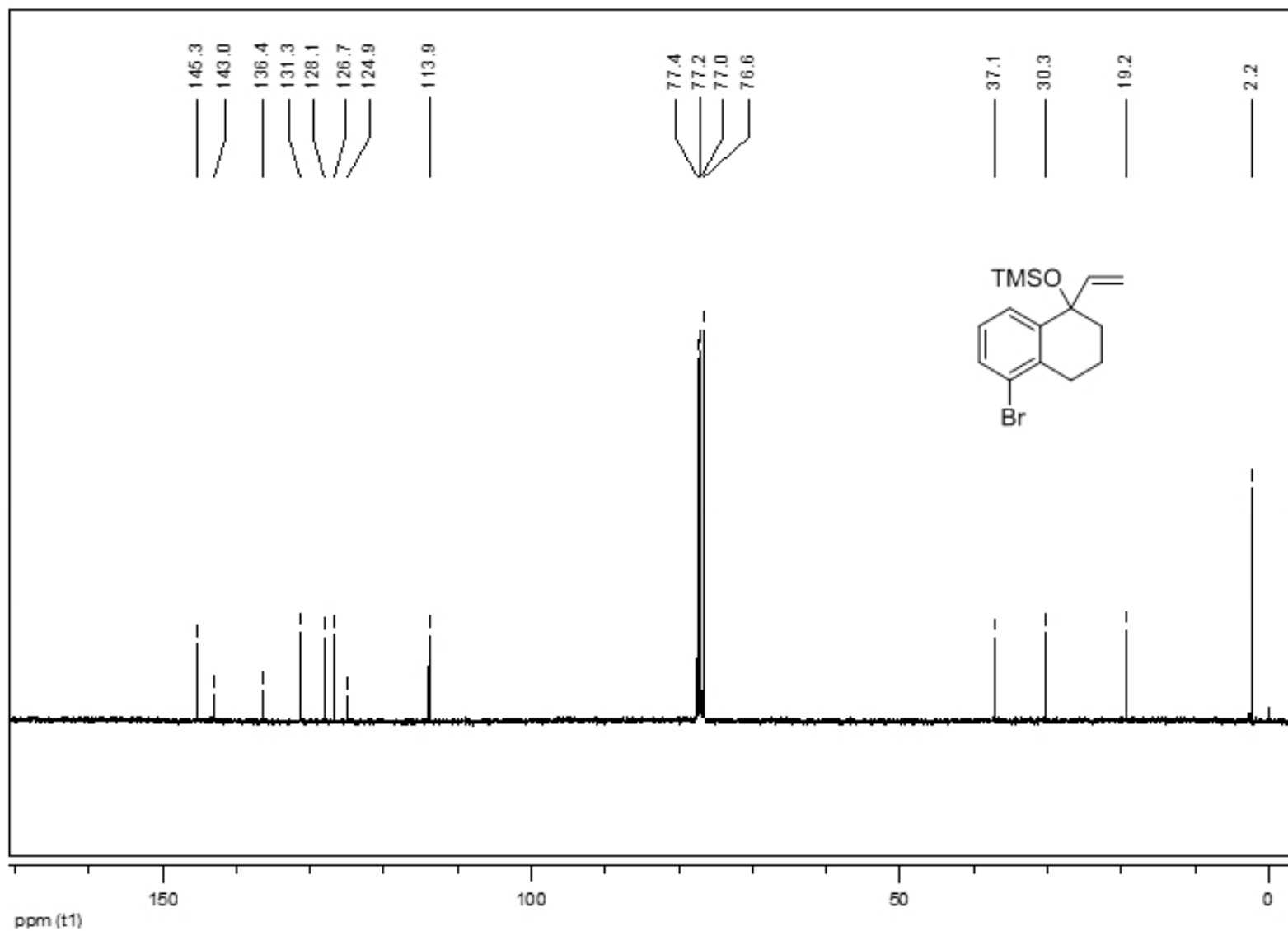


Figure S8. ^{13}C -NMR spectra of ((5-bromo-1-vinyl-1,2,3,4-tetrahydronaphthalen-1-yl)oxy)trimethylsilane (**3g**) (75 MHz, CDCl_3).

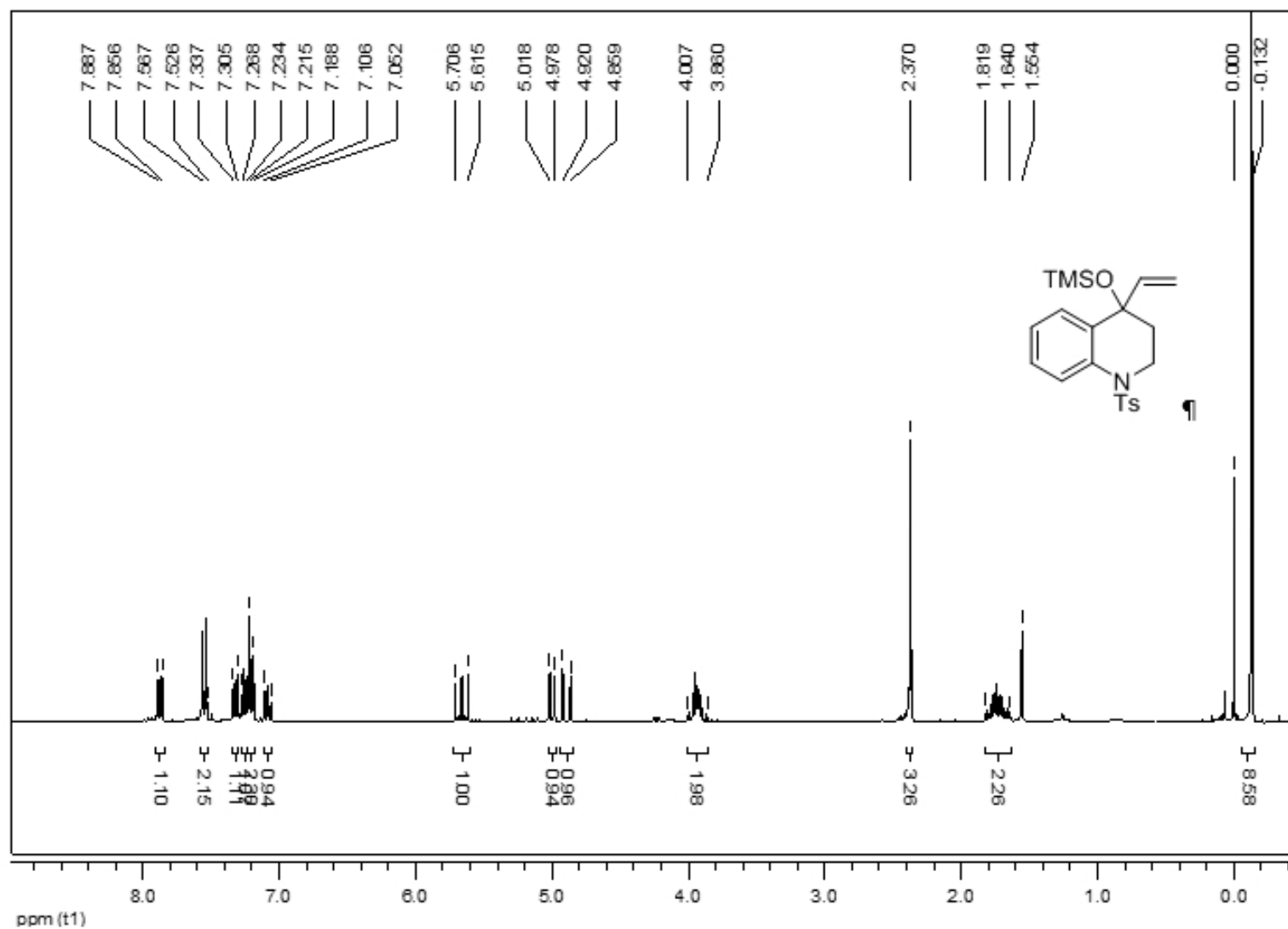


Figure S9. ¹H-NMR spectra of 1-tosyl-4-((trimethylsilyl)oxy)-4-vinyl-1,2,3,4-tetrahydroquinoline (**31**) (300 MHz, CDCl₃).

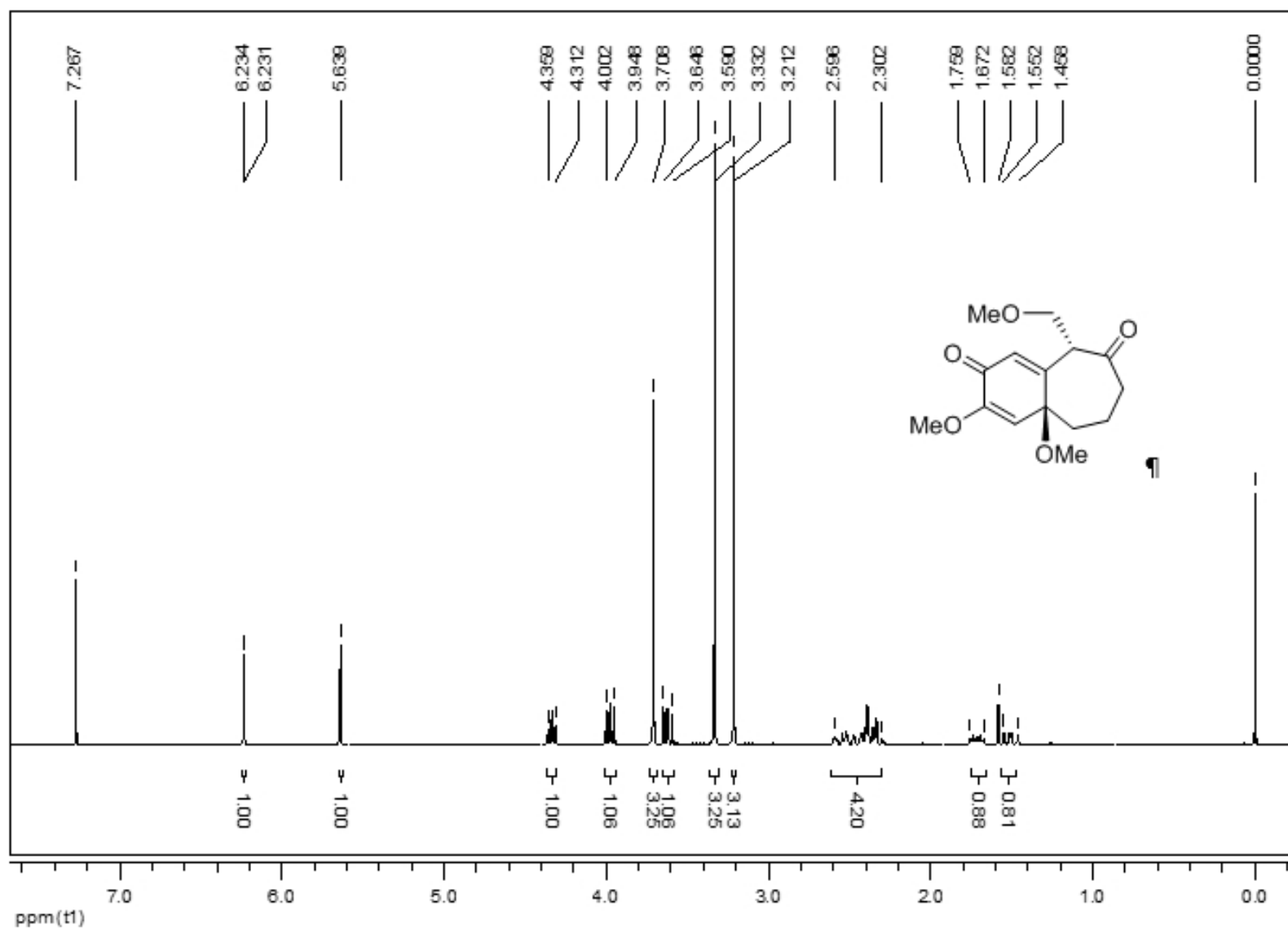


Figure S10. ¹³C-NMR spectra of 1-tosyl-4-((trimethylsilyl)oxy)-4-vinyl-1,2,3,4-tetrahydroquinoline (**31**) (75 MHz, CDCl₃).

Figure S11. ¹H-NMR spectra of 1,5-dimethoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6*H*-benzo[7]annulen-6-one (**8d**) (300 MHz, CDCl₃).

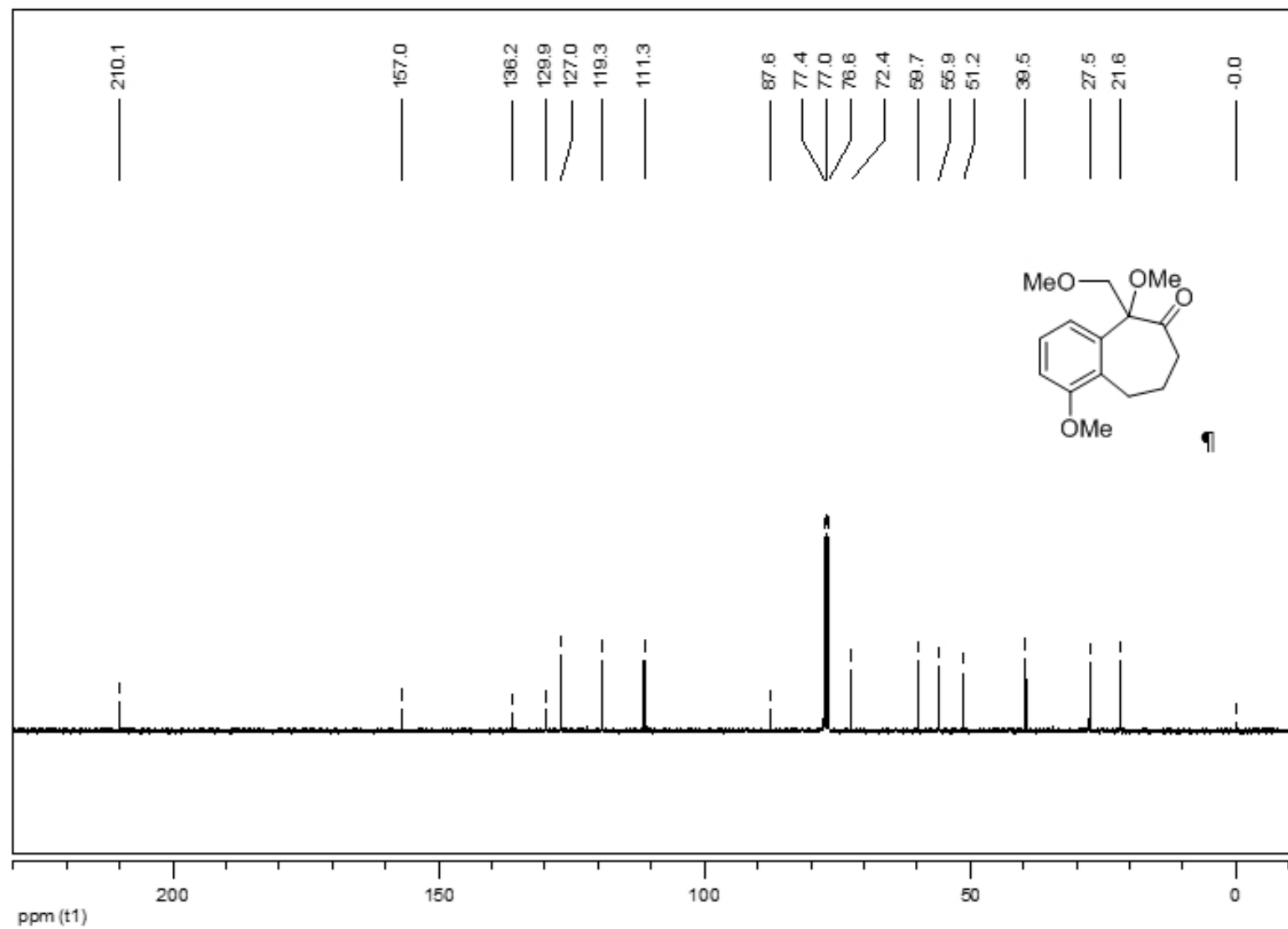


Figure S12. ^{13}C -NMR spectra of 1,5-dimethoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6H-benzo[7]annulen-6-one (**8d**) (75 MHz, CDCl_3).

Figure S13. ¹H-NMR spectra of 2,3-dimethoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6*H*-benzo[7]annulen-6-one (5f) and 2,3,5-Trimethoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6*H*-benzo[7]annulen-6-one (8f) (1:1) (500 MHz, CDCl₃).

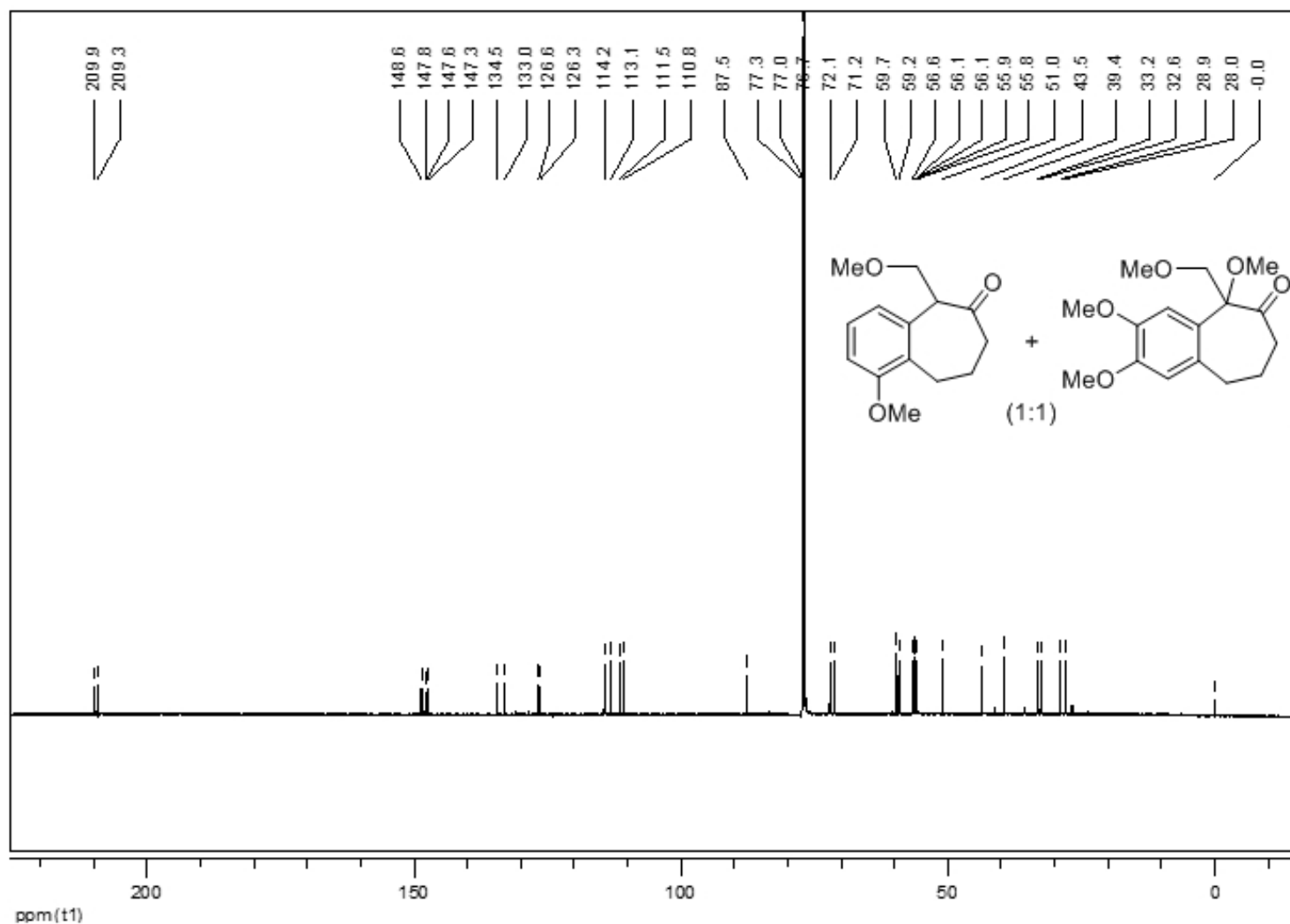


Figure S14. ^{13}C -NMR spectra of 2,3-Dimethoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6H-benzo[7]annulen-6-one (5f) and 2,3,5-Trimethoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6H-benzo[7]annulen-6-one (8f) (1:1) (125 MHz, CDCl_3).

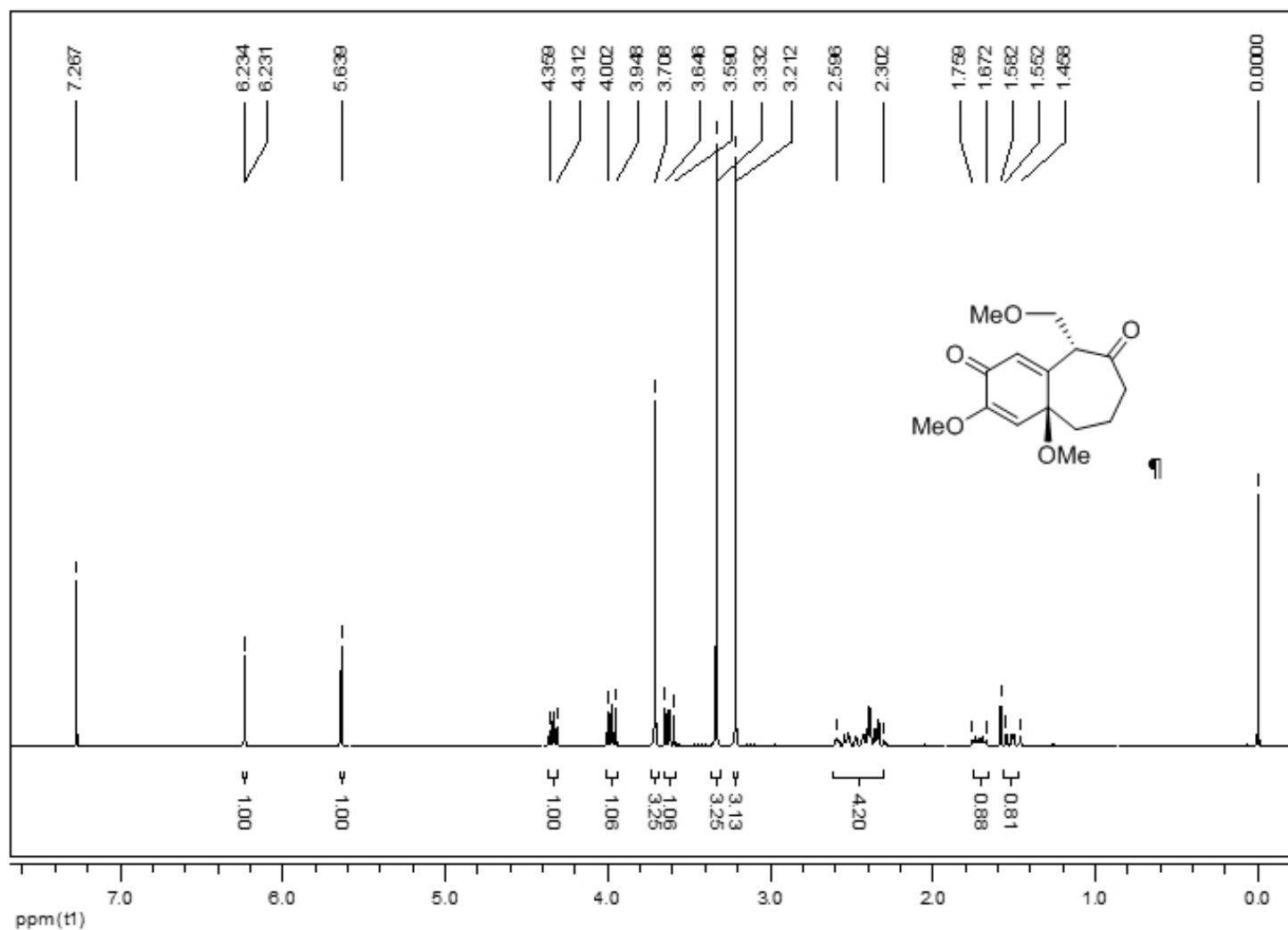


Figure S15. ^1H -NMR spectra of *trans*-3,4a-Dimethoxy-9-(methoxymethyl)-4a,5,6,7-tetrahydro-2H-benzo[7]annulene-2,8(9H)-dione (**12f**) (300 MHz, CDCl_3).

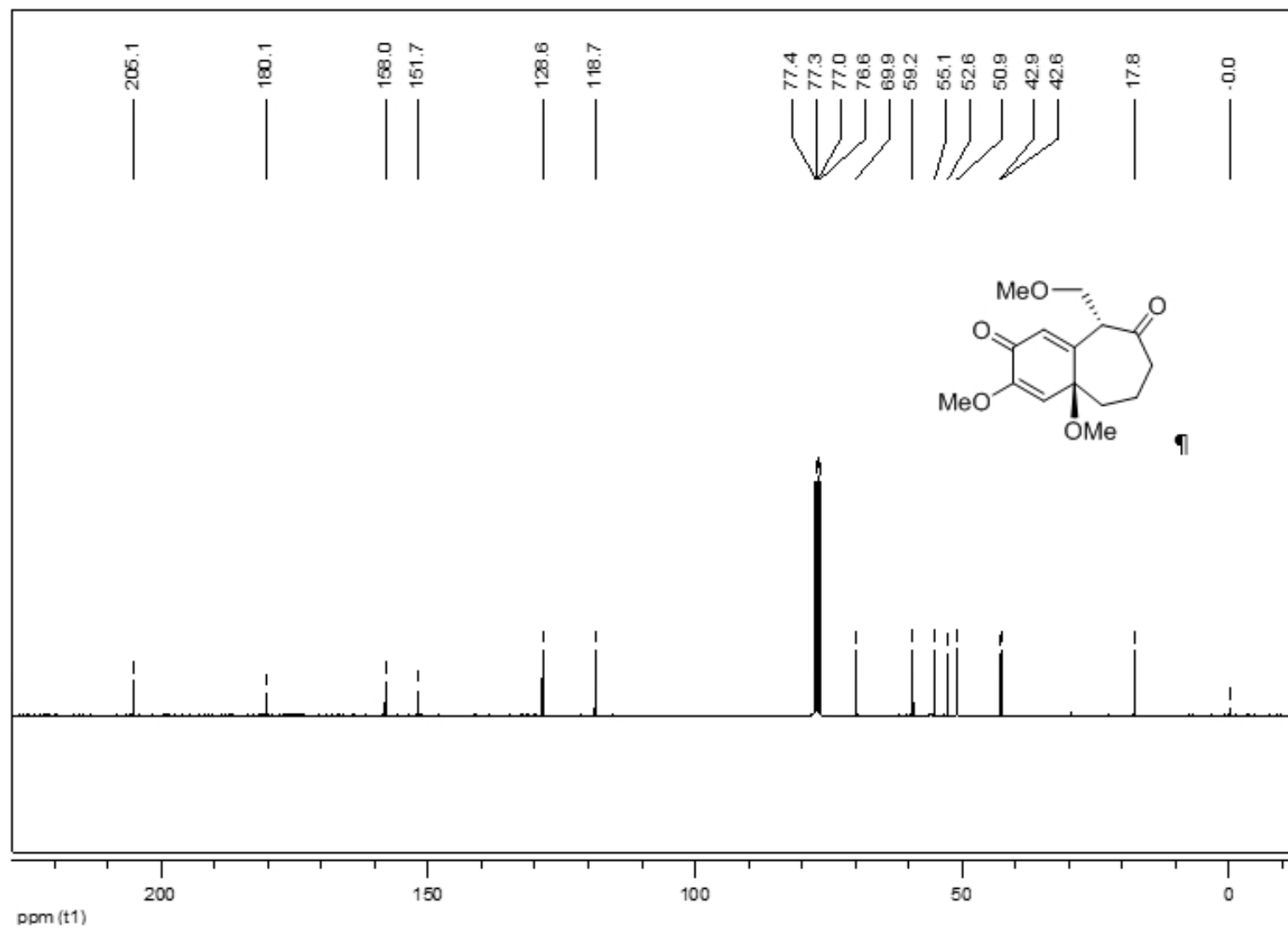
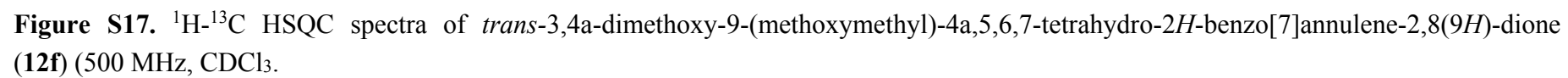


Figure S16. ^{13}C -NMR spectra of *trans*-3,4a-dimethoxy-9-(methoxymethyl)-4a,5,6,7-tetrahydro-2H-benzo[7]annulene-2,8(9H)-dione (**12f**) (75 MHz, CDCl_3).



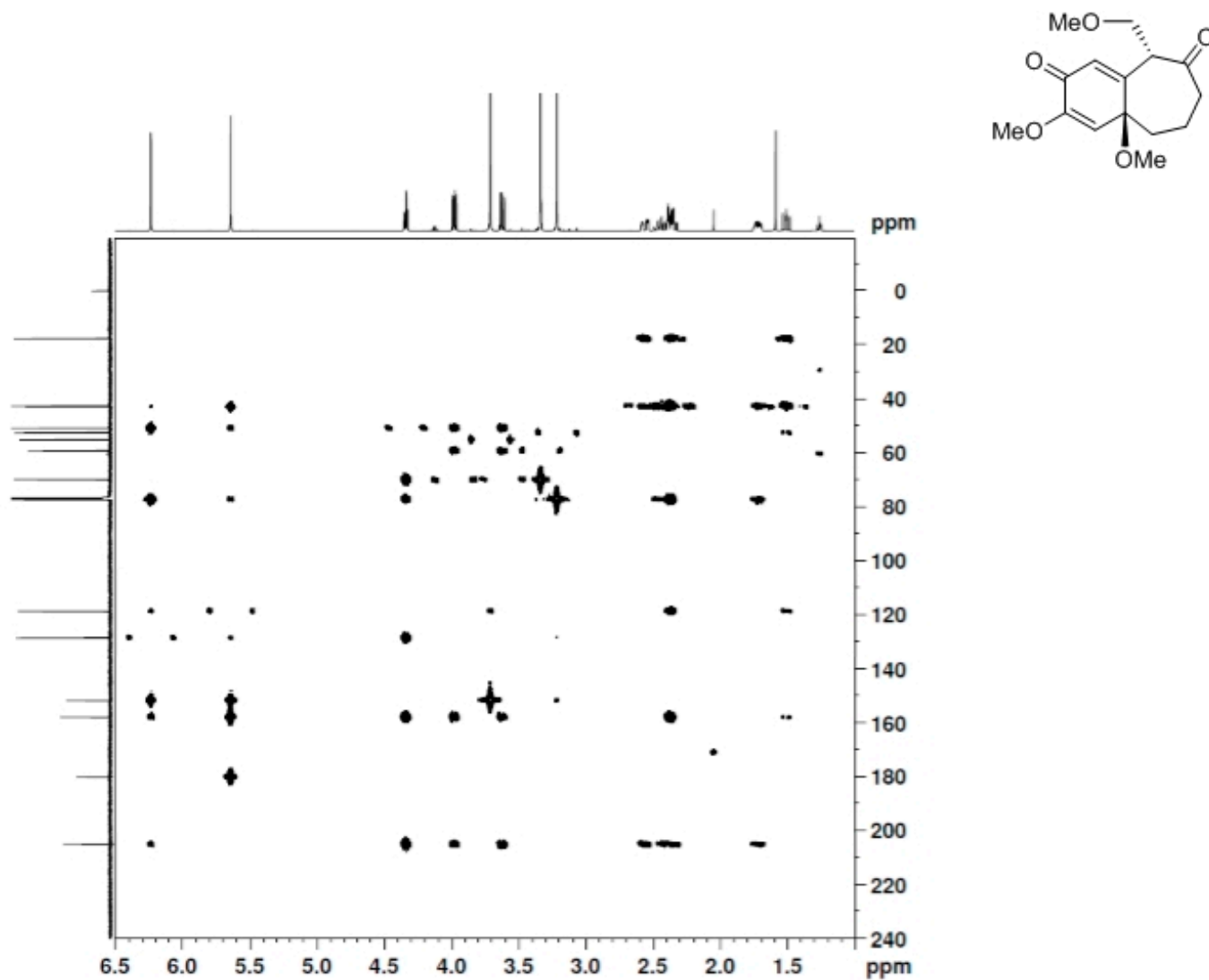


Figure S18. ^1H - ^{13}C HMBC spectra of *trans*-3,4a-dimethoxy-9-(methoxymethyl)-4a,5,6,7-tetrahydro-2*H*-benzo[7]annulene-2,8(9*H*)-dione (**12f**) (500 MHz, CDCl_3).

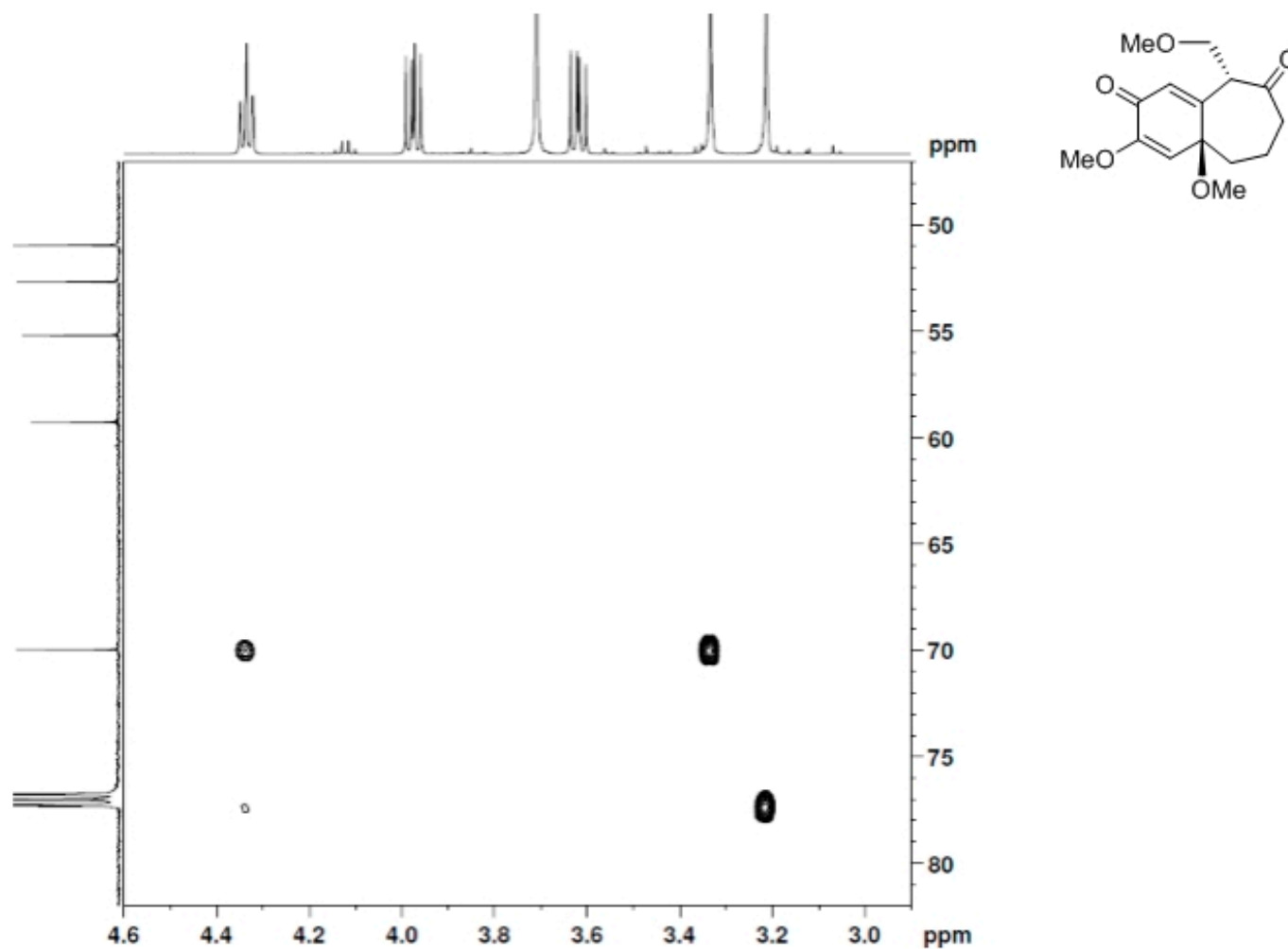


Figure S19. Expansion of ^1H - ^{13}C HMBC spectra of *trans*-3,4a-dimethoxy-9-(methoxymethyl)-4a,5,6,7-tetrahydro-2*H*-benzo[7]annulene-2,8(9*H*)-dione (**12f**) (500 MHz, CDCl_3).

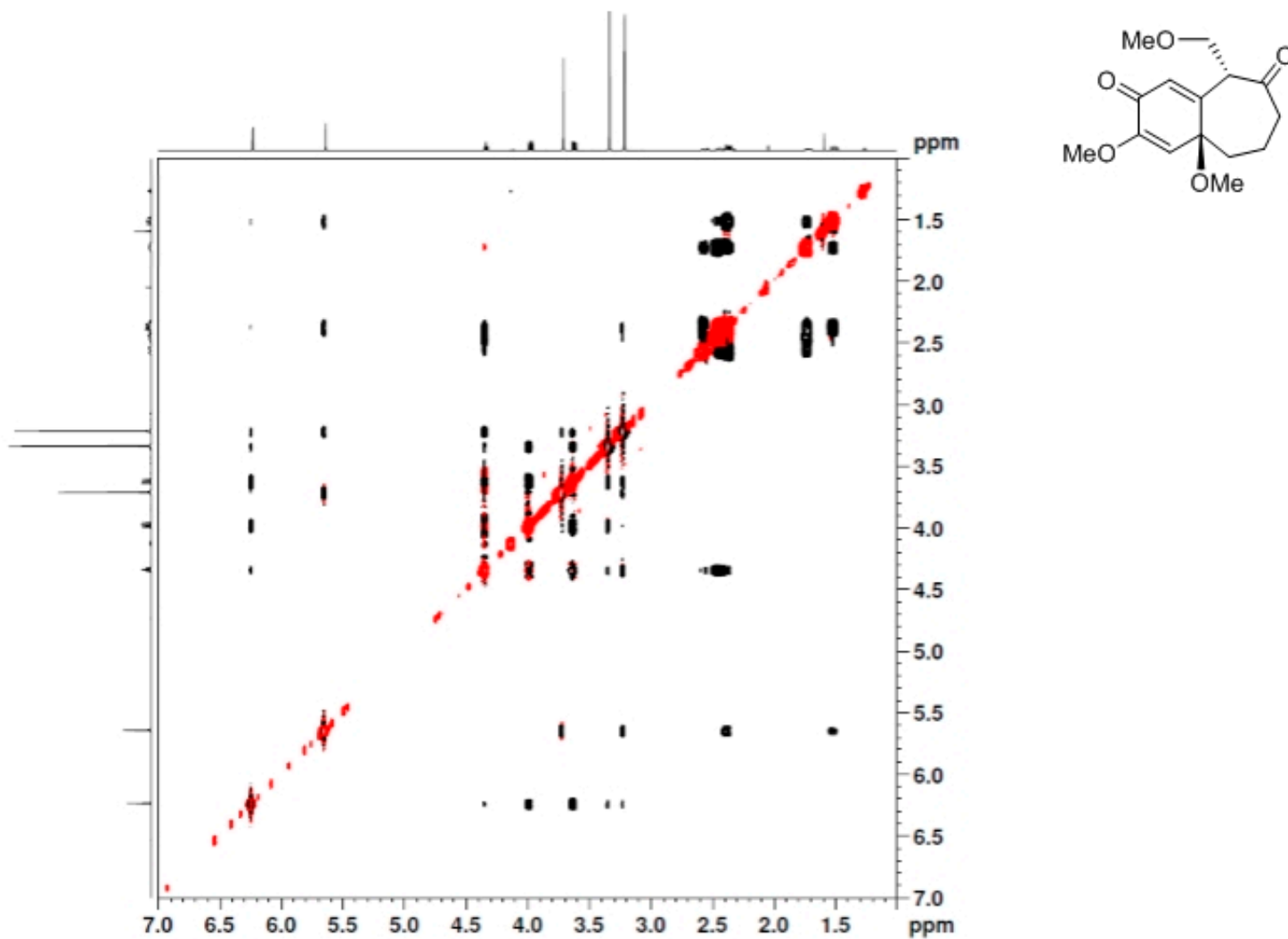


Figure S20. ^1H - ^1H NOESY spectra of *trans*-3,4a-dimethoxy-9-(methoxymethyl)-4a,5,6,7-tetrahydro-2*H*-benzo[7]annulene-2,8(9*H*)-dione (**12f**) (500 MHz, CDCl_3).

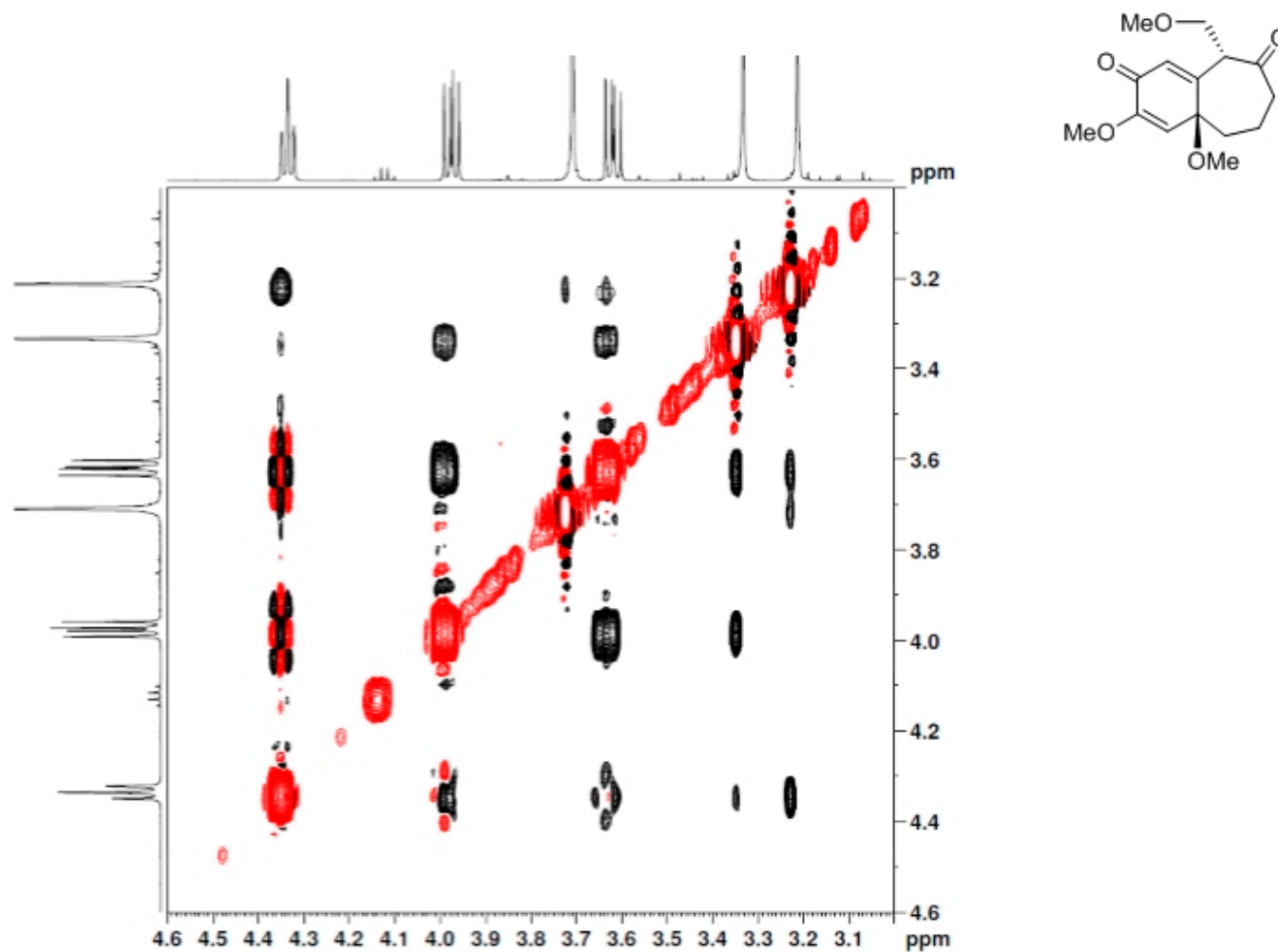


Figure S21. Expansion of ^1H - ^1H NOESY spectra of *trans*-3,4a-dimethoxy-9-(methoxymethyl)-4a,5,6,7-tetrahydro-2*H*-benzo[7]annulene-2,8(9*H*)-dione (**12f**) (500 MHz, CDCl_3).

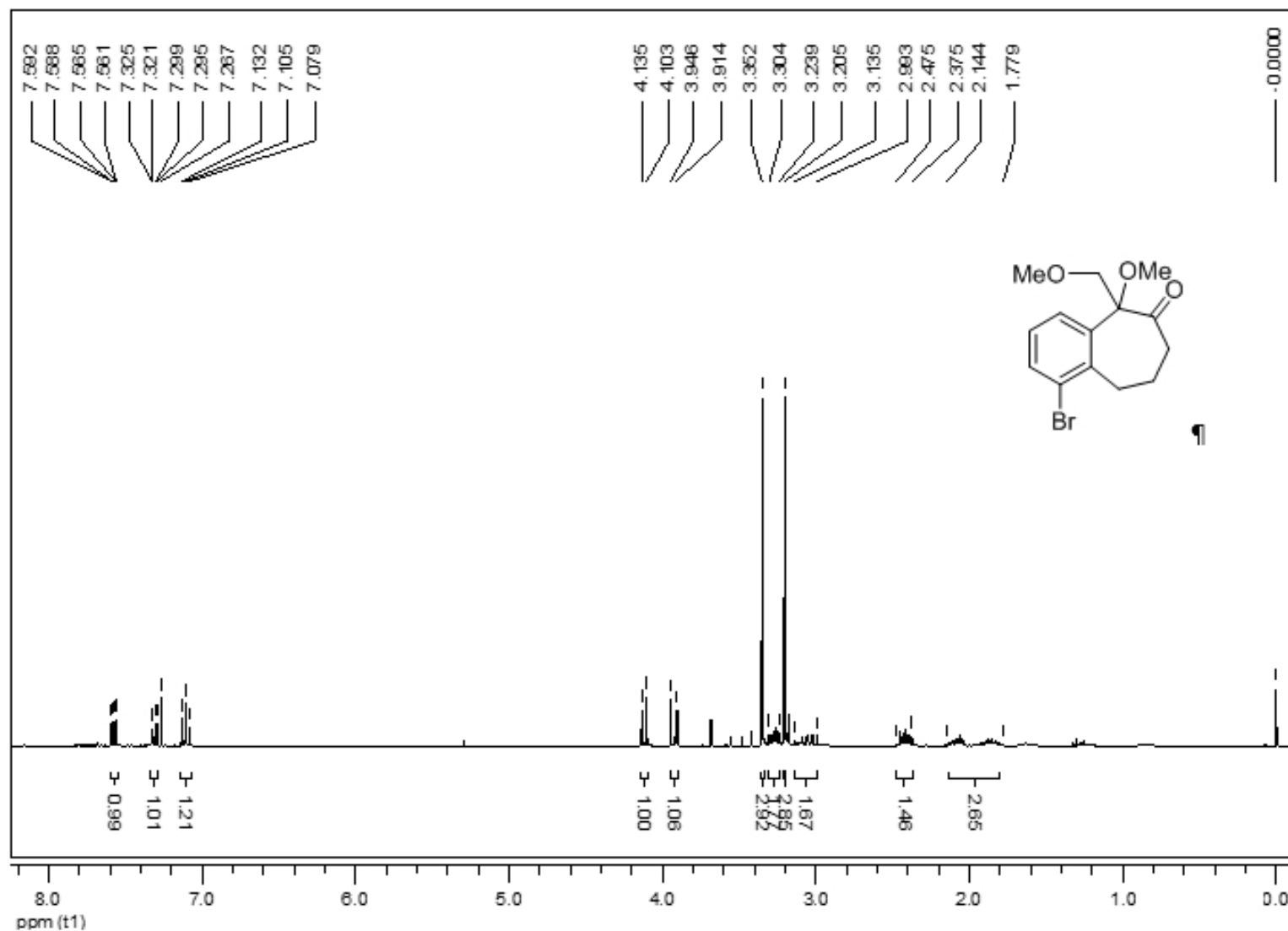


Figure S22. ¹H-NMR spectra of 1-bromo-5-methoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6H-benzo[7]annulen-6-one (**8g**) (300 MHz, CDCl₃).

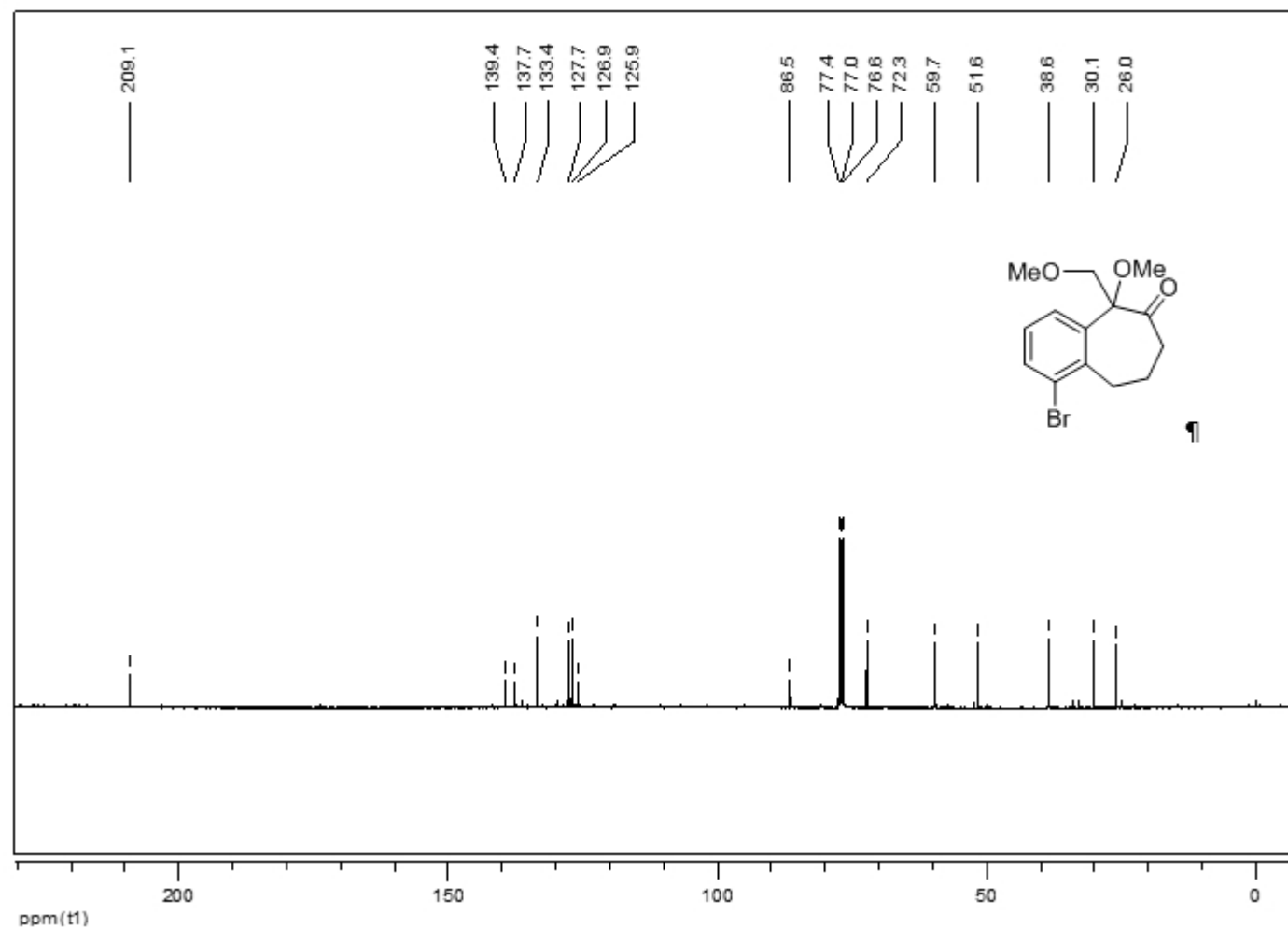


Figure S23. ¹³C-NMR spectra of 1-bromo-5-methoxy-5-(methoxymethyl)-5,7,8,9-tetrahydro-6*H*-benzo[7]annulen-6-one (**8g**) (75 MHz, CDCl₃).

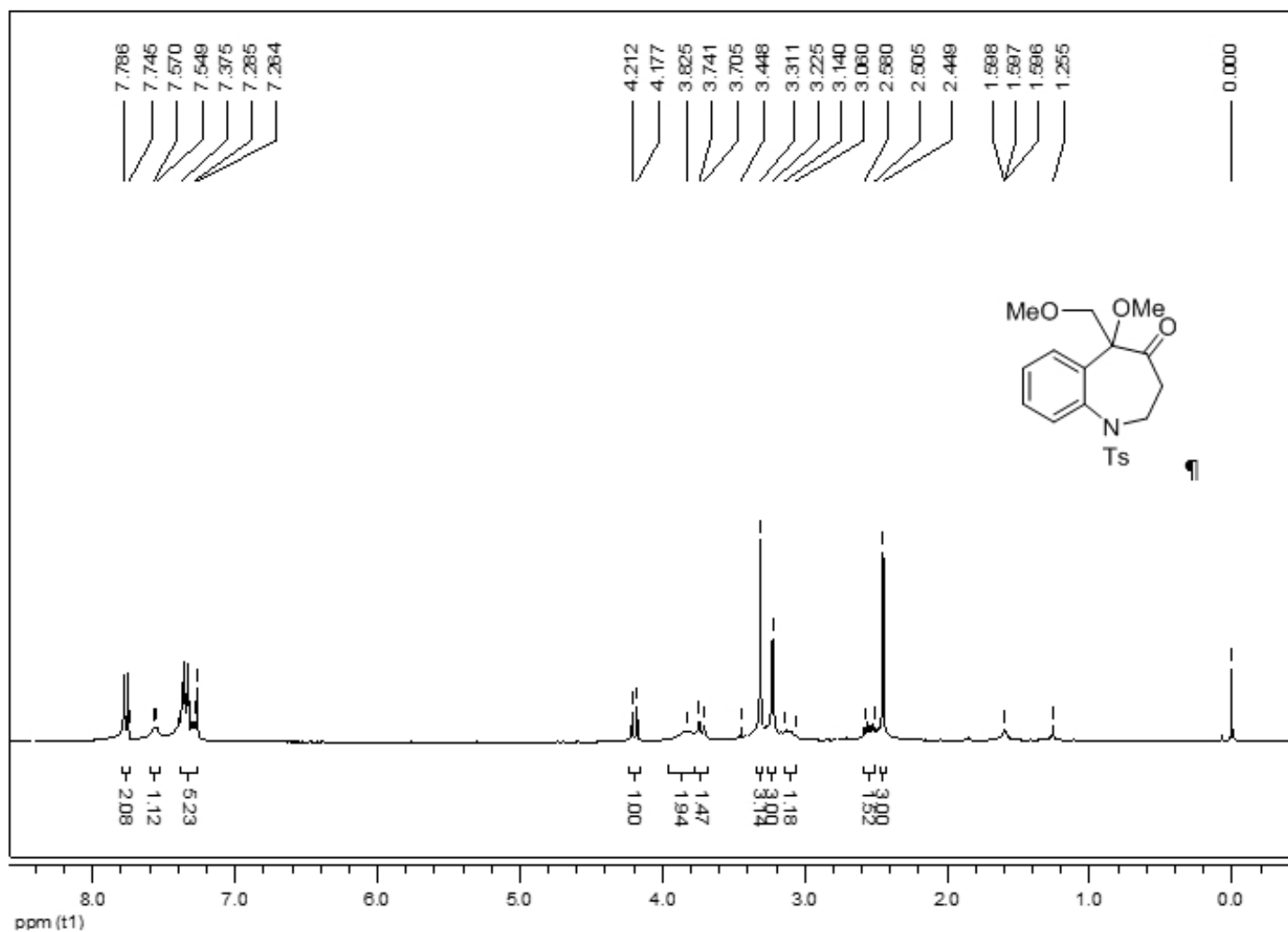


Figure S24. ¹H-NMR spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4H-benzo[b]azepin-4-one (**8I**) (300 MHz, CDCl₃).

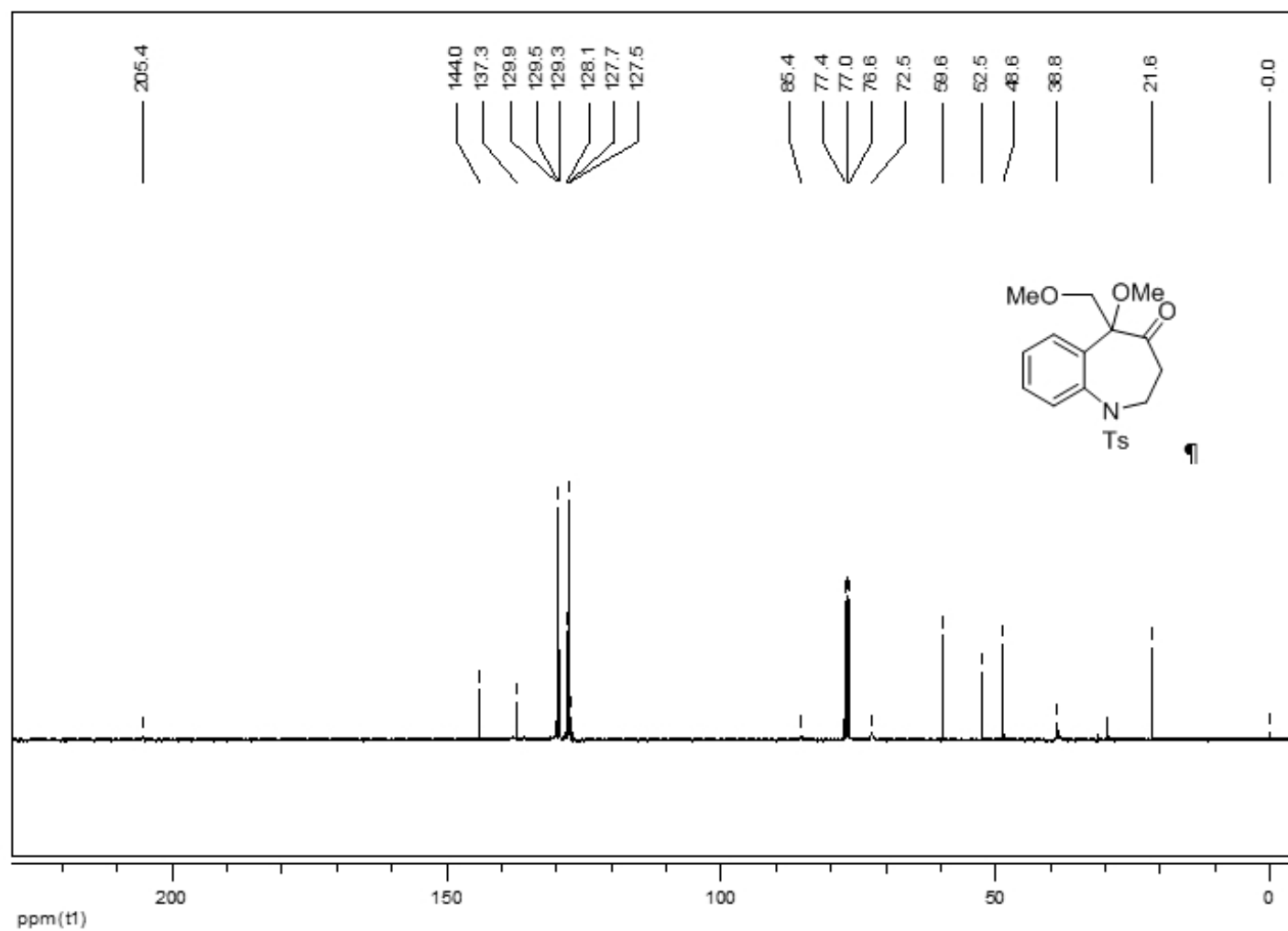


Figure S25. ¹³C-NMR spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4H-benzo[b]azepin-4-one (**81**) (75 MHz, CDCl₃).

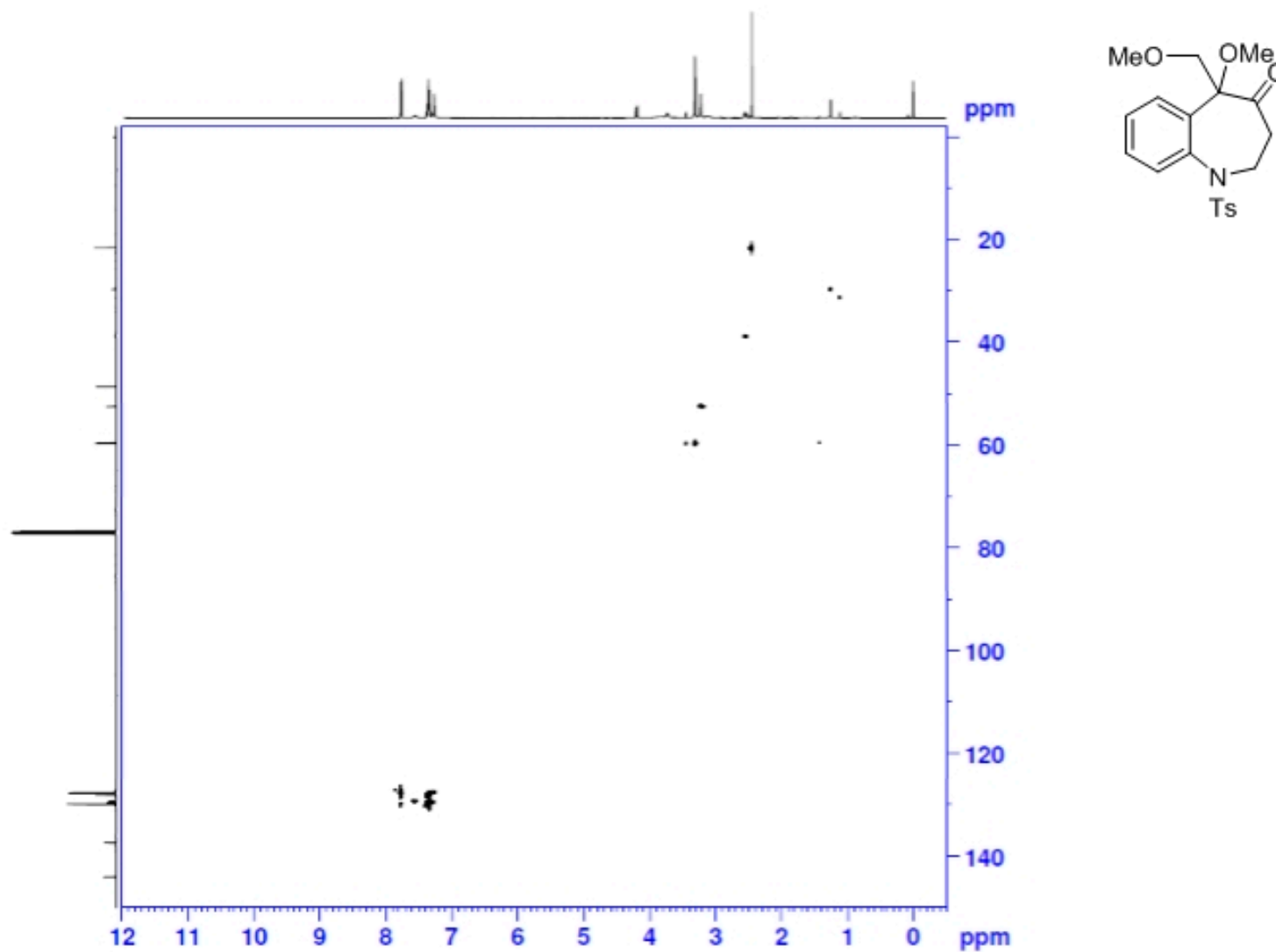


Figure S26. ^1H - ^{13}C HSQC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4*H*-benzo[*b*]azepin-4-one (**8l**) (500 MHz, CDCl_3).

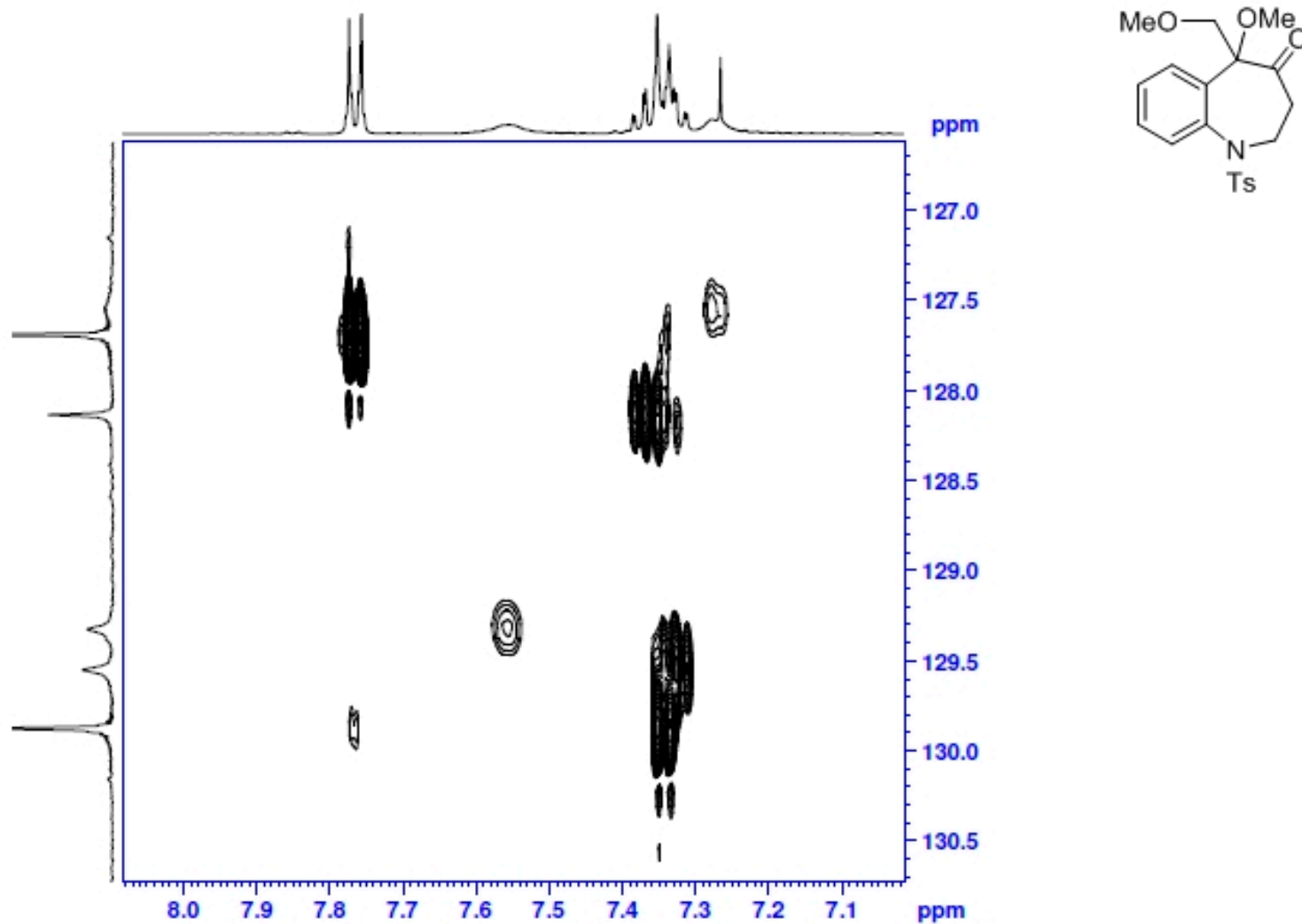


Figure S28. Second Expansion of ^1H - ^{13}C HSQC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4*H*-benzo[*b*]azepin-4-one (**81**) (500 MHz, CDCl_3).

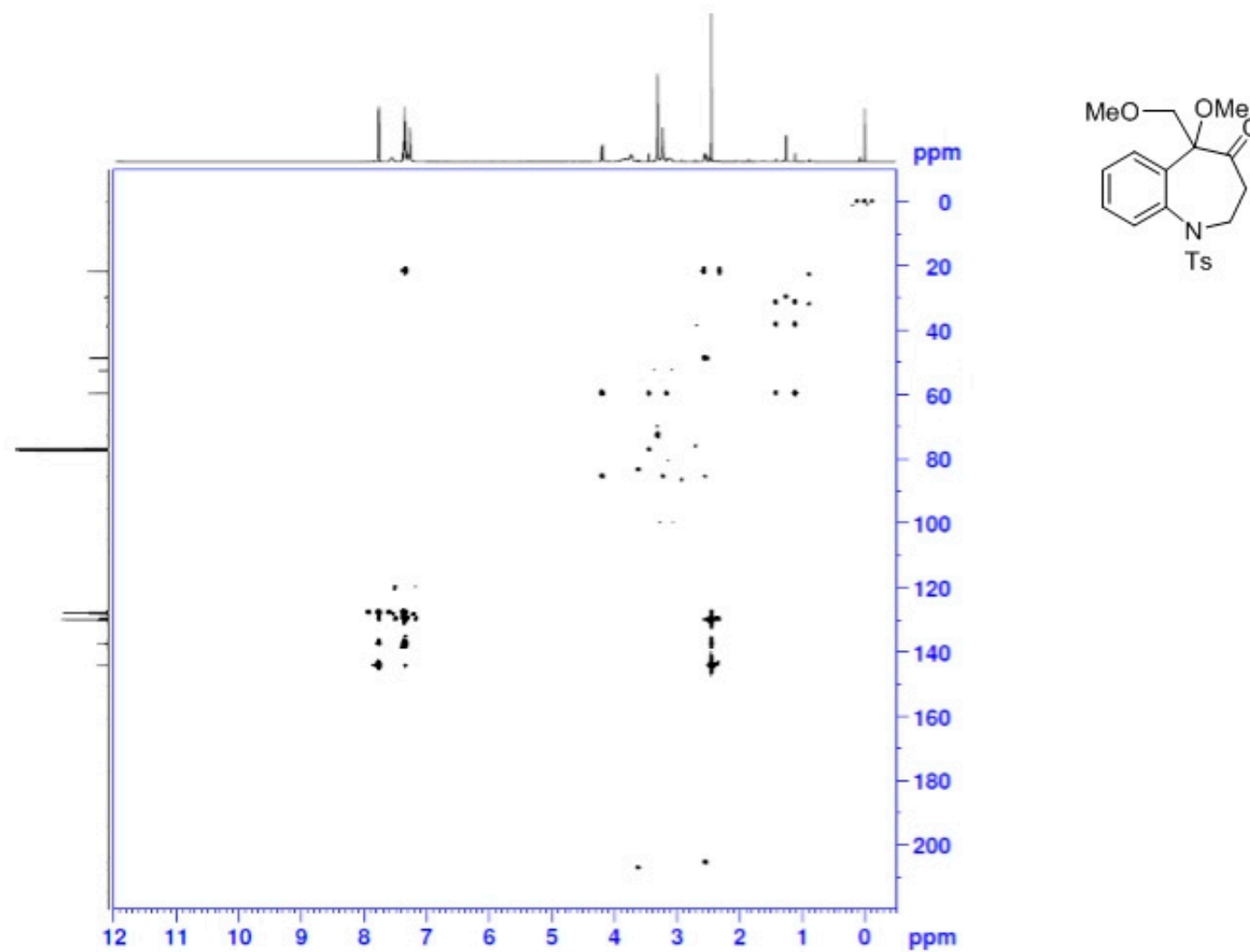


Figure S29. ^1H - ^{13}C HMBC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4*H*-benzo[*b*]azepin-4-one (**81**) (500 MHz, CDCl_3).

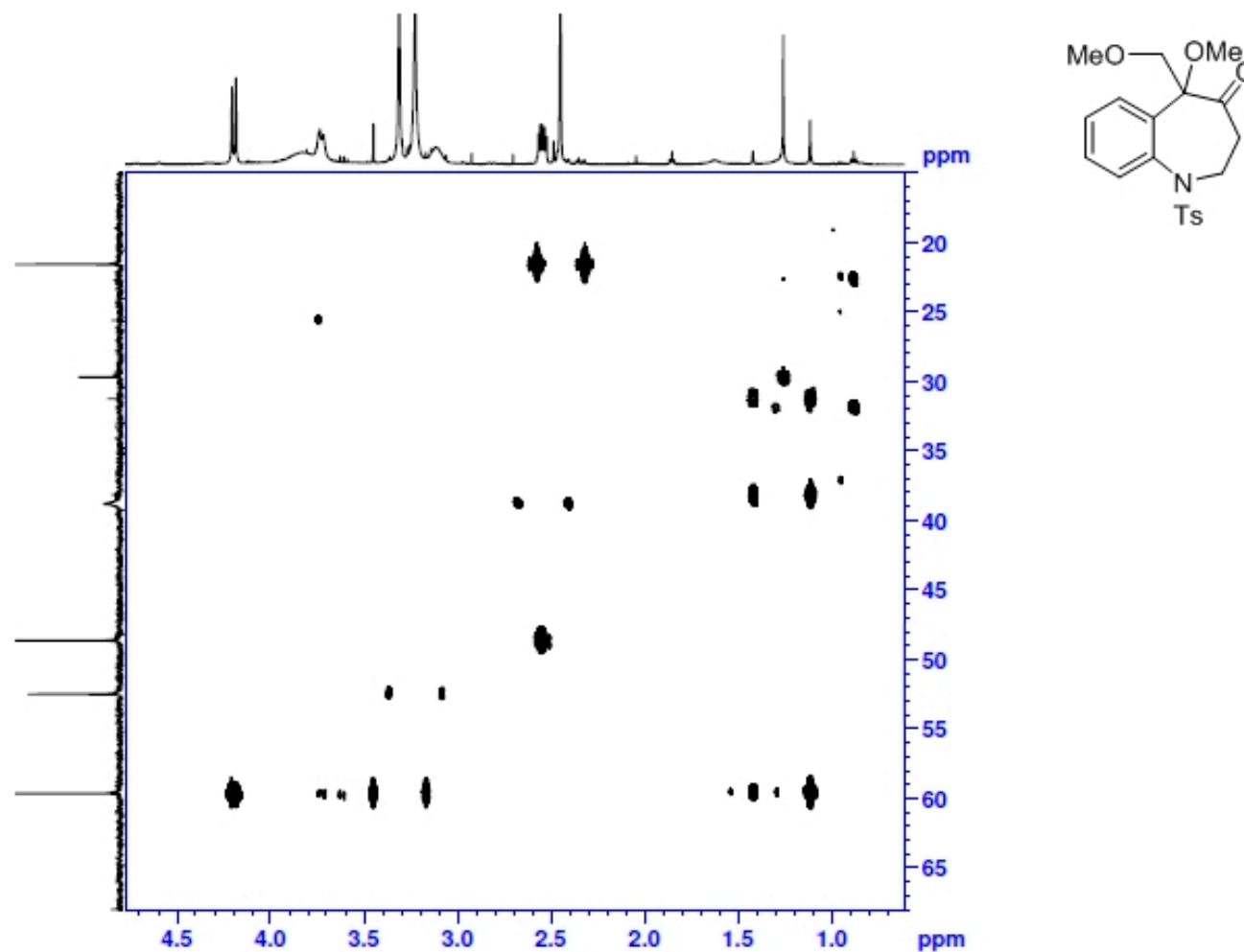


Figure S30. First Expansion of ^1H - ^{13}C HMBC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4H-benzo[b]azepin-4-one (**8l**) (500 MHz, CDCl_3).

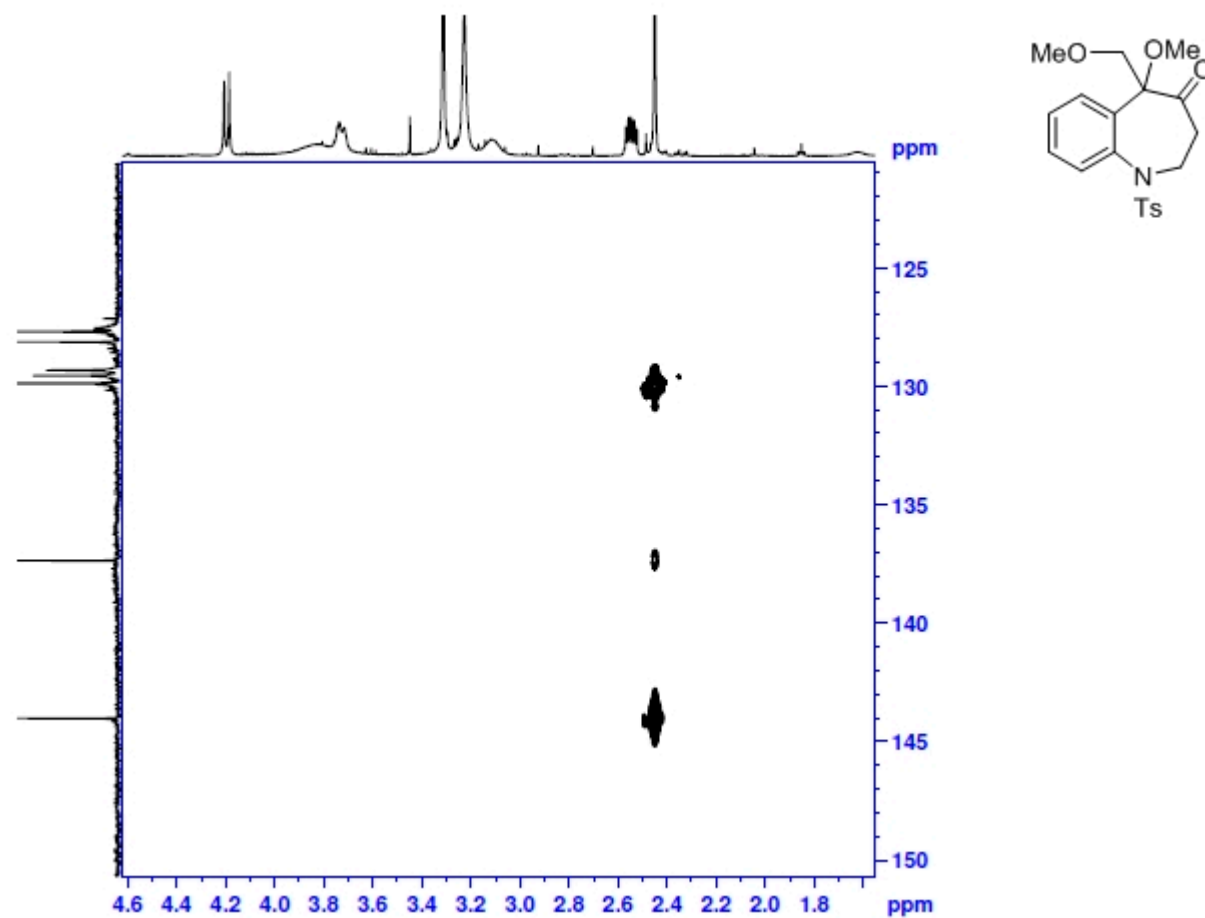


Figure S31. Second Expansion of ^1H - ^{13}C HMBC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4*H*-benzo[*b*]azepin-4-one (**8l**) (500 MHz, CDCl_3).

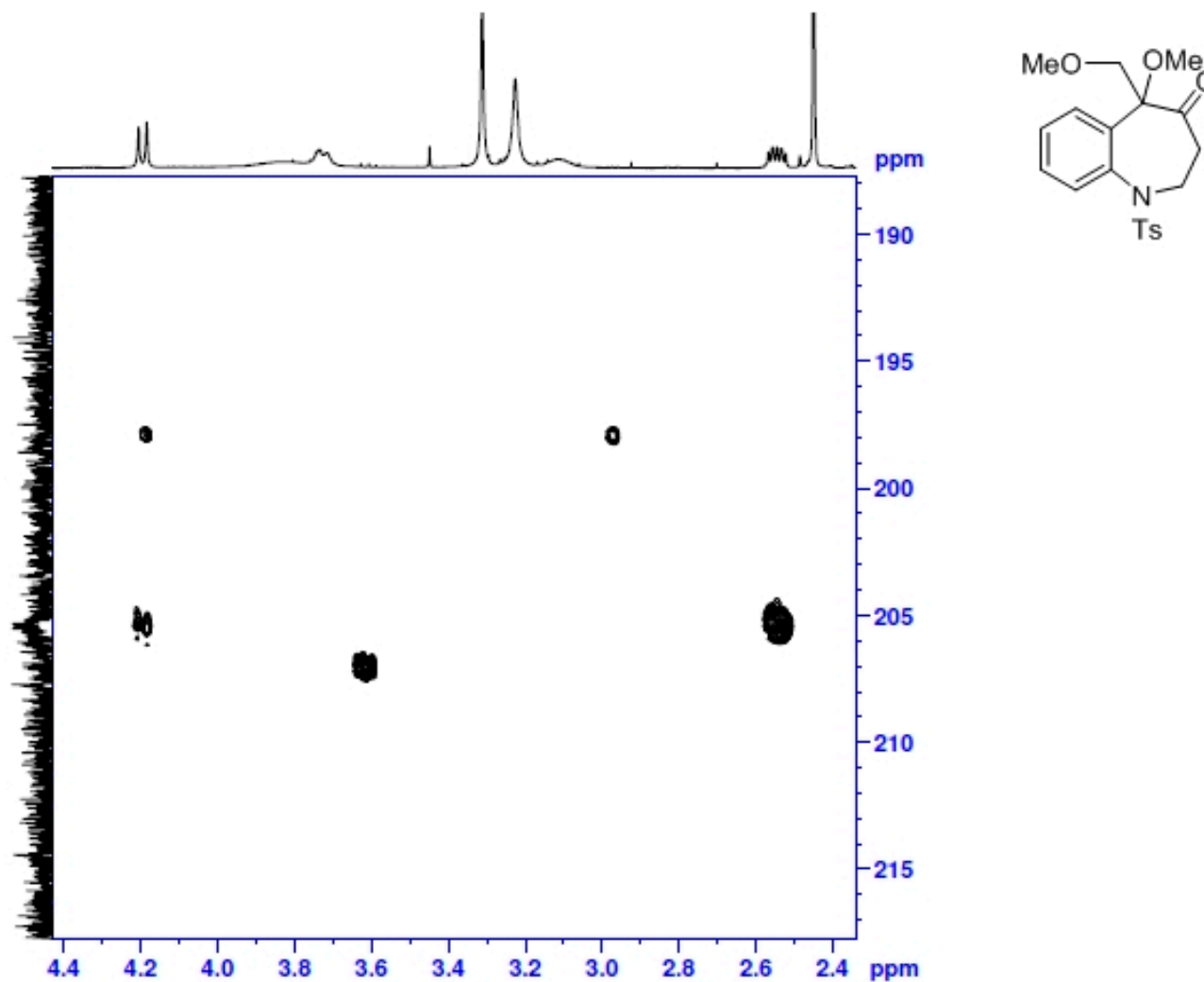


Figure S32. Third Expansion of ^1H - ^{13}C HMBC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4*H*-benzo[*b*]azepin-4-one (**8I**) (500 MHz, CDCl_3).

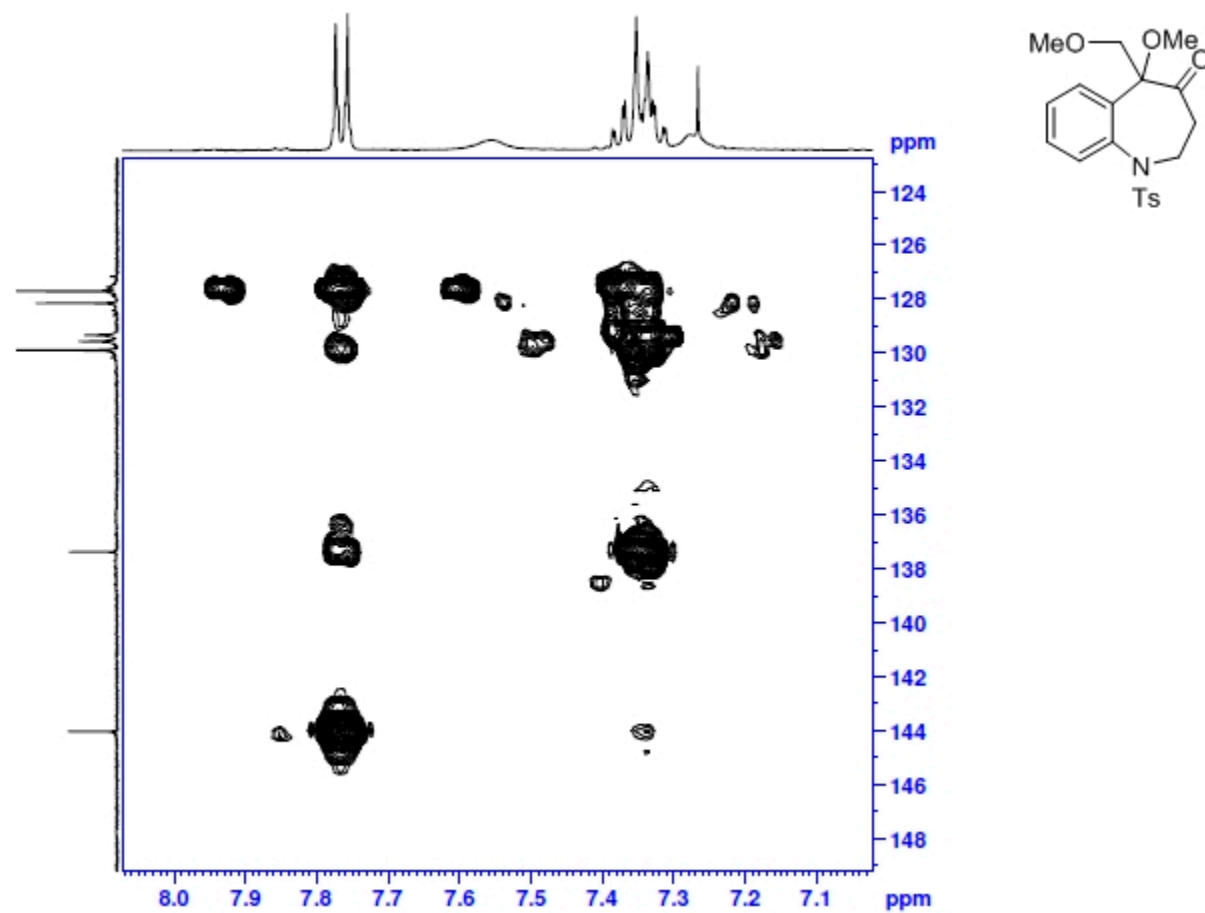


Figure S33. Fourth Expansion of ^1H - ^{13}C HMBC spectra of 5-methoxy-5-(methoxymethyl)-1-tosyl-1,2,3,5-tetrahydro-4*H*-benzo[*b*]azepin-4-one (**81**) (500 MHz, CDCl_3).