Supporting Information

for

Silver Acetate Catalyzed Hydroamination of 1-(2-(Sulfonylamino)phenyl)prop-2-yn-1-ols to (*Z*)-2-Methylene-1-sulfonylindolin-3-ols

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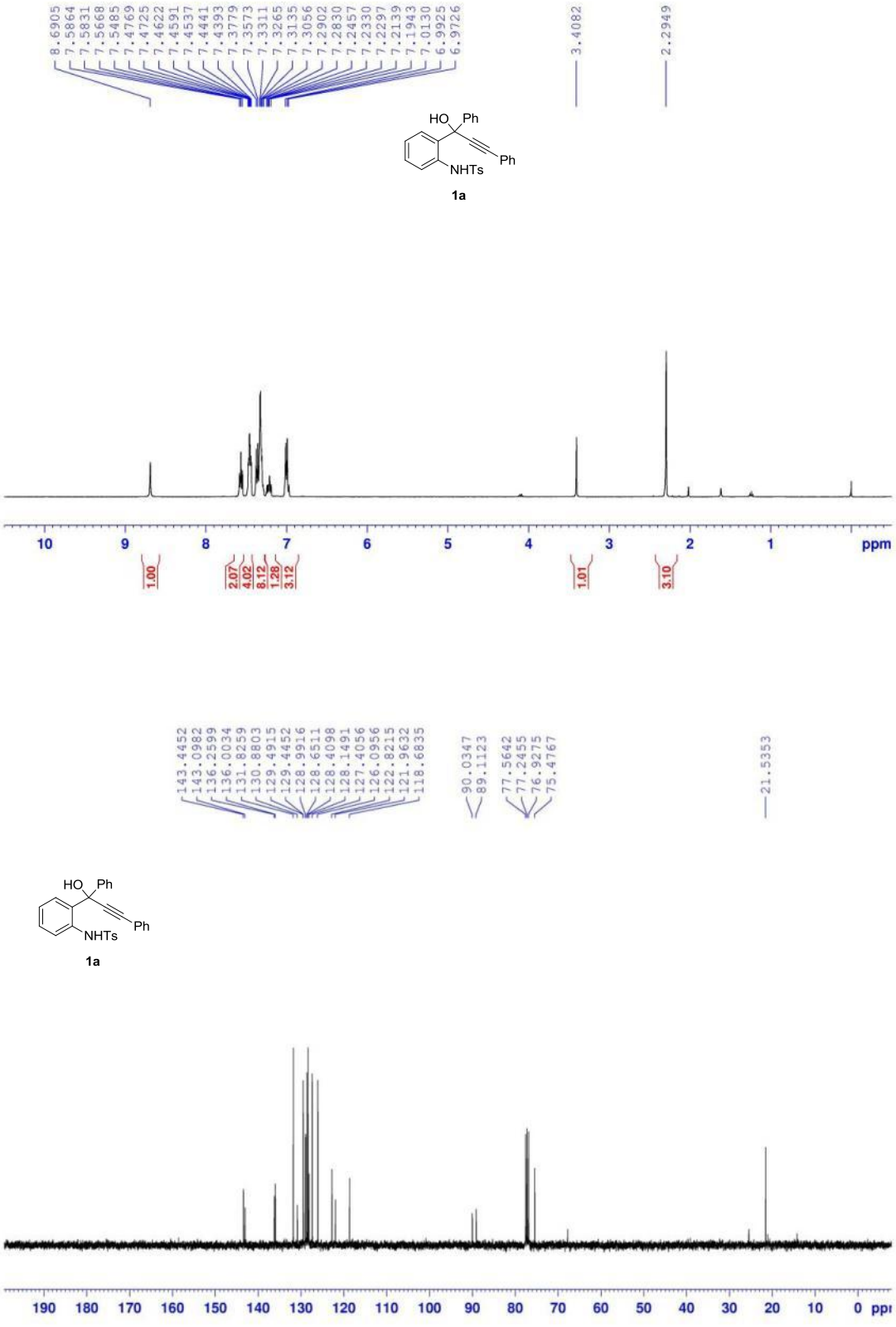


Figure S2. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1,3-diphenylprop-2-yn-1-yl)-4-methylphenyl)-4-methylbenzenesulfonamide (**1b**)

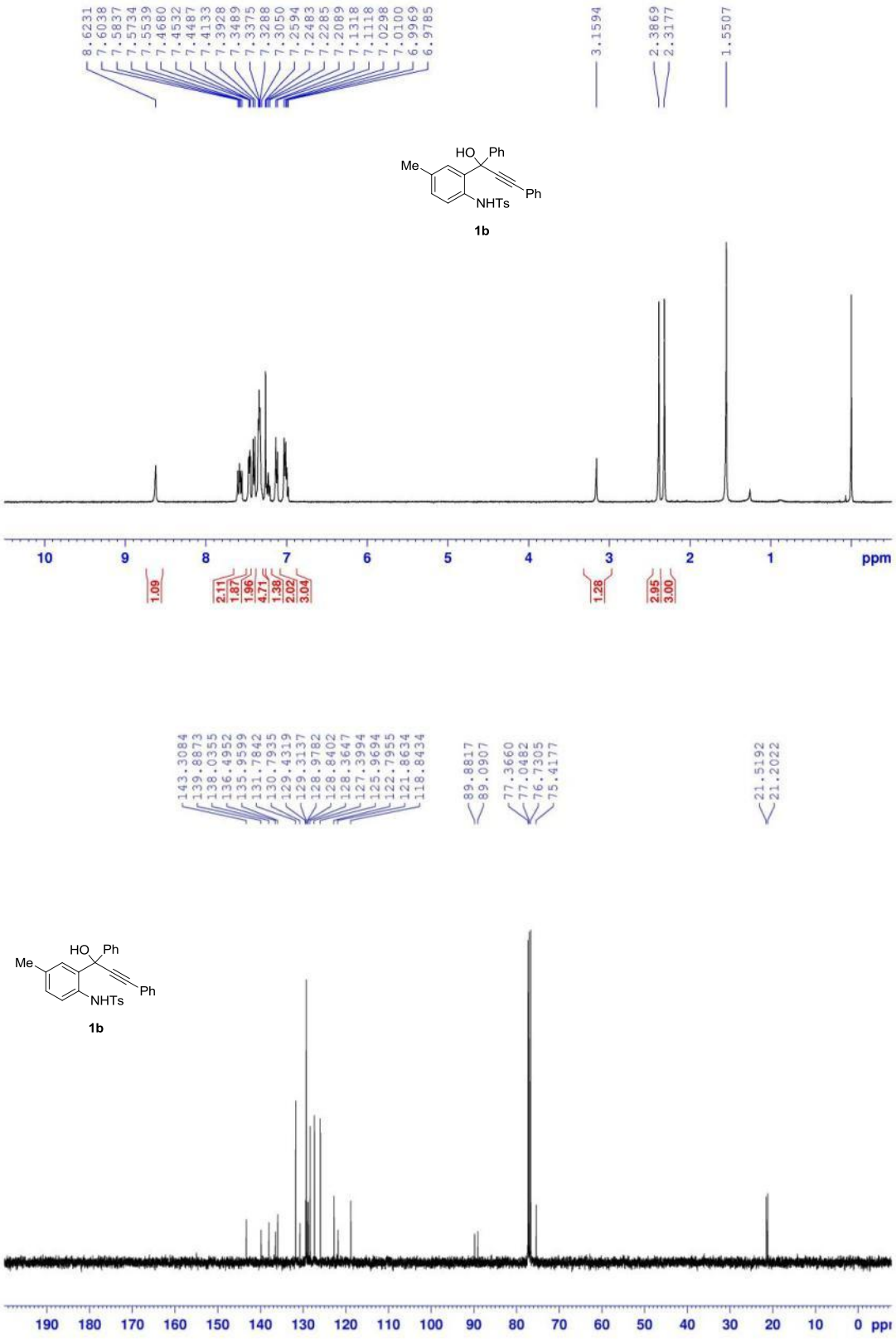


Figure S3. ^{1}H and ^{13}C NMR Spectra of *N*-(4-Bromo-2-(1-hydroxy-1,3-diphenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1c**)

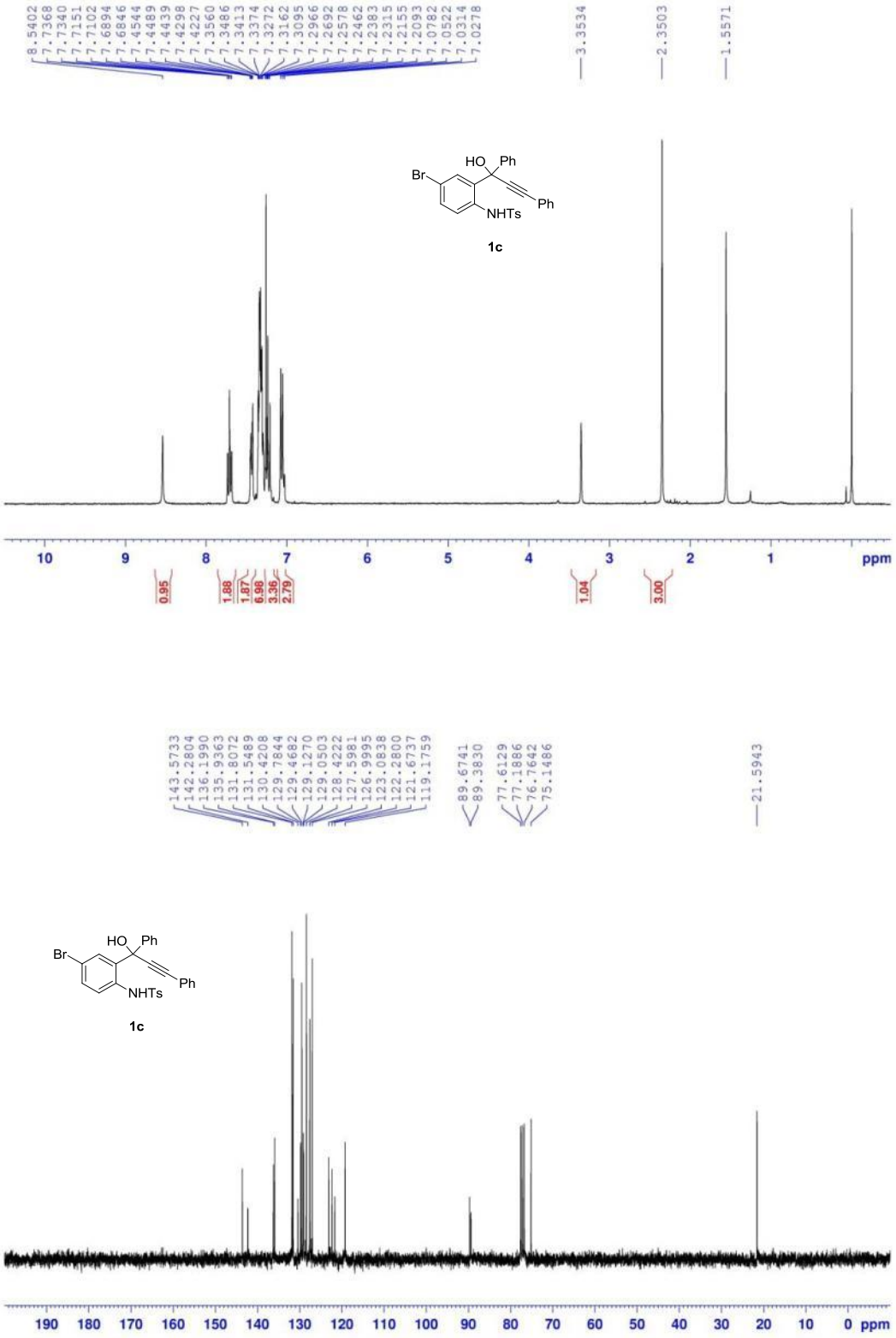


Figure S4. ^{1}H and ^{13}C NMR Spectra of *N*-(4-Chloro-2-(1-hydroxy-1,3-diphenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1d**)

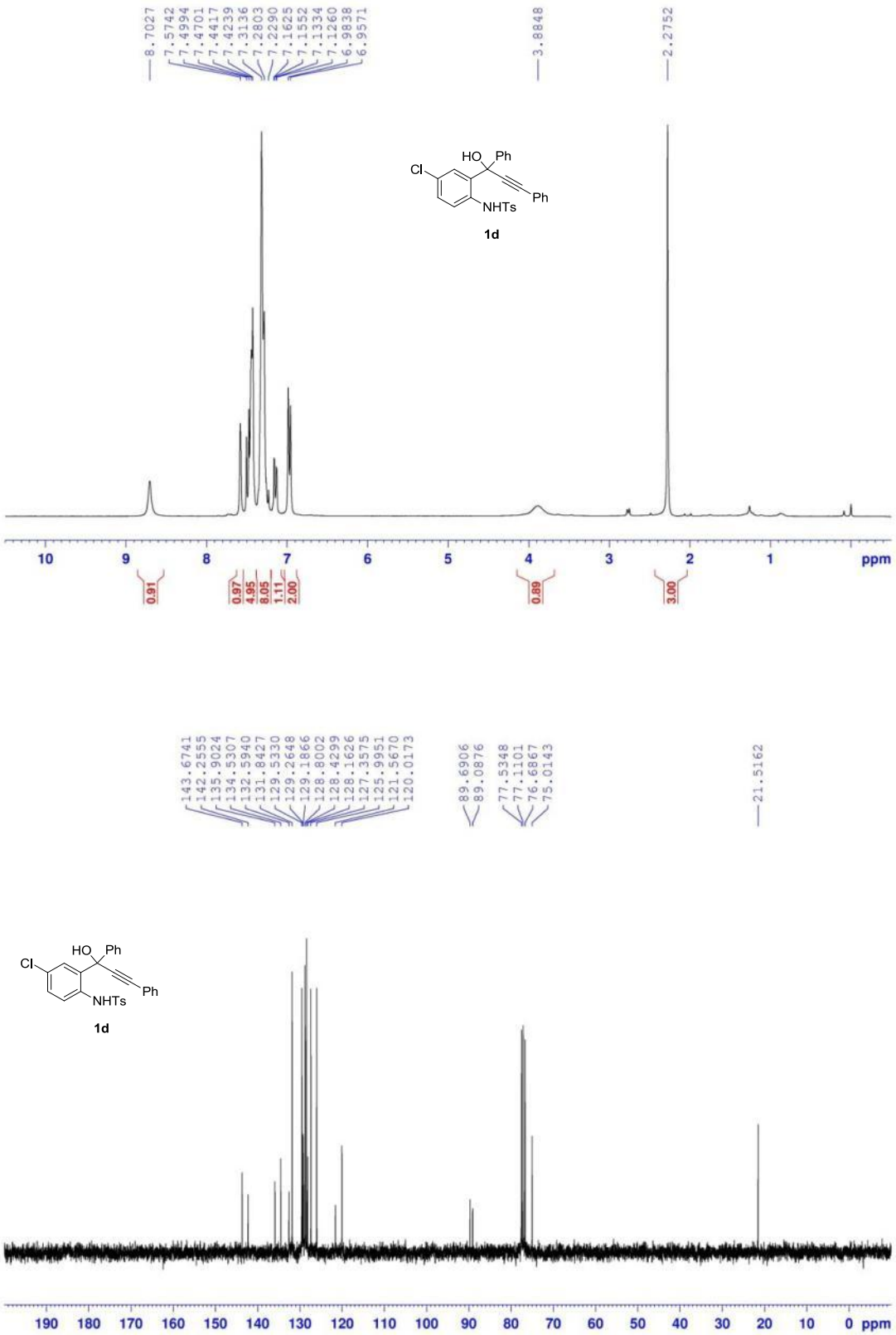
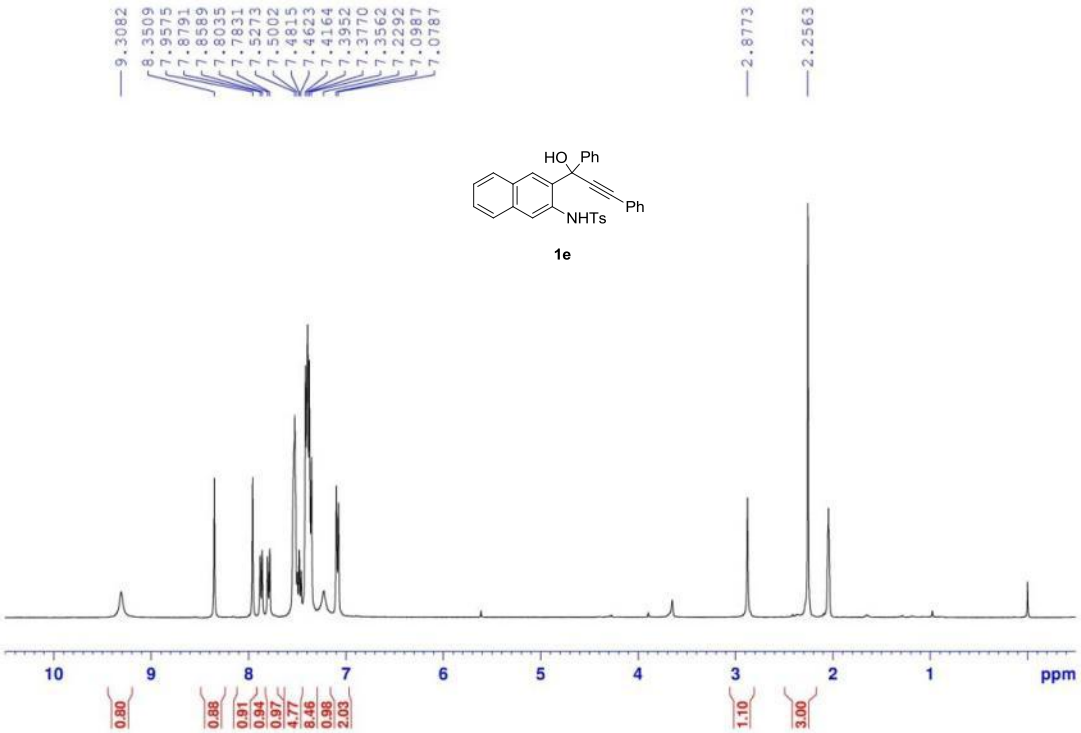


Figure S5. ^{1}H and ^{13}C NMR Spectra of *N*-(3-(1-Hydroxy-1,3-diphenylprop-2-yn-1-yl)naphthalen-2-yl)-4-methylbenzenesulfonamide (**1e**)



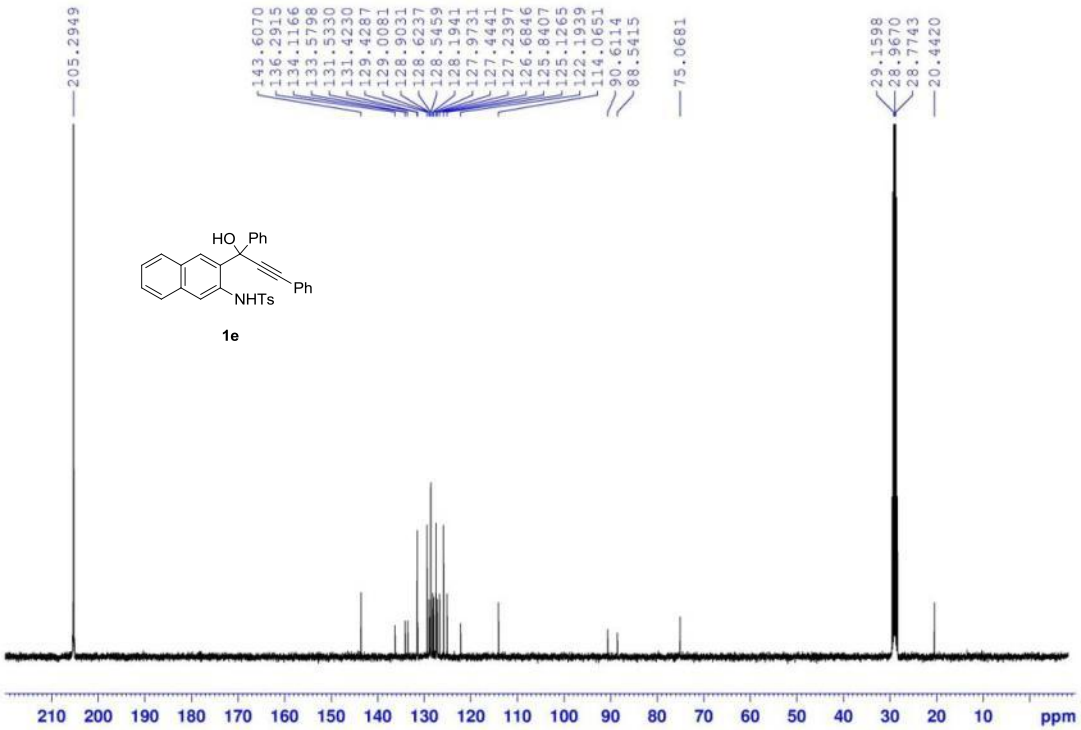


Figure S6. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-3-phenyl-1-(*p*-tolyl)prop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1f**)

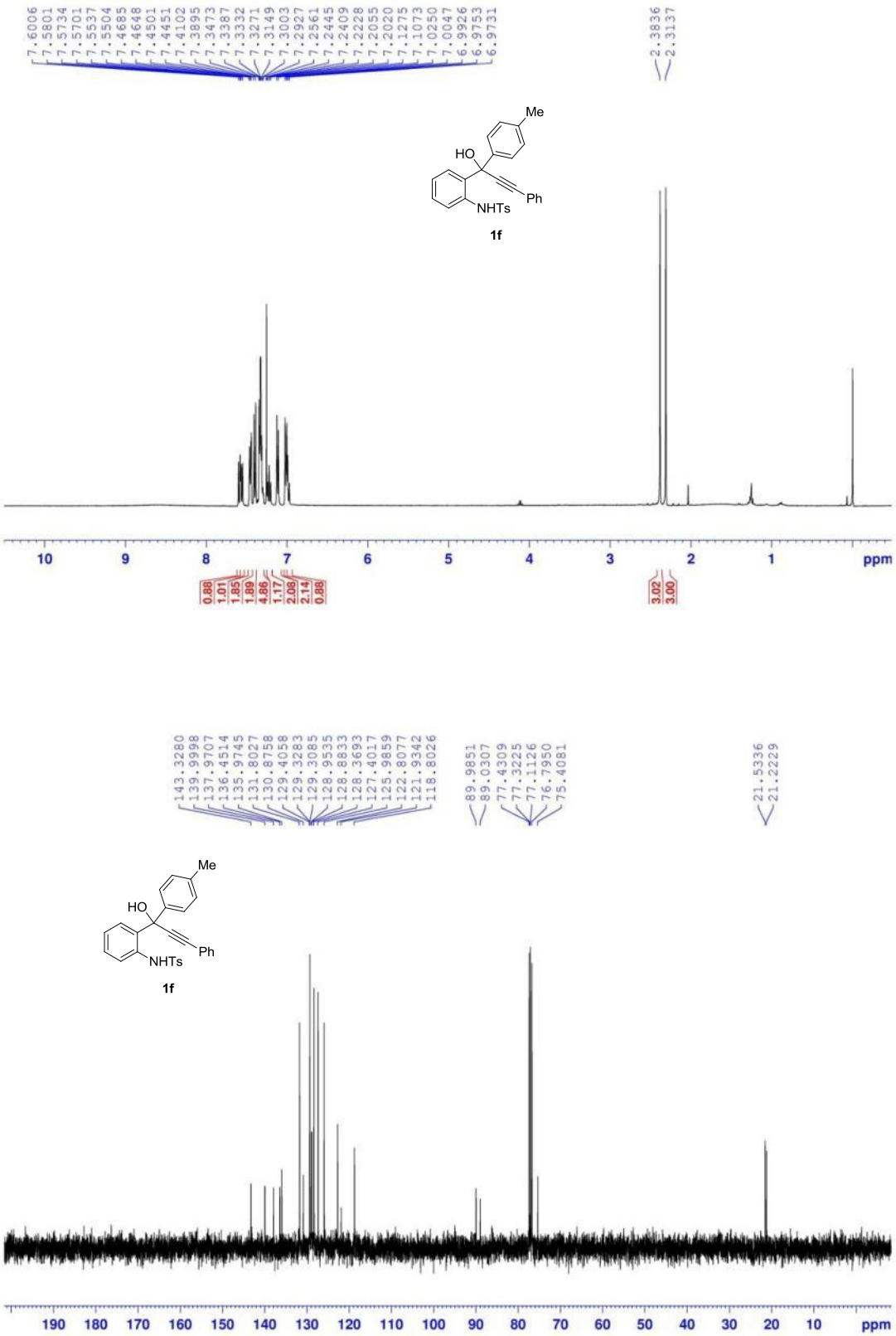
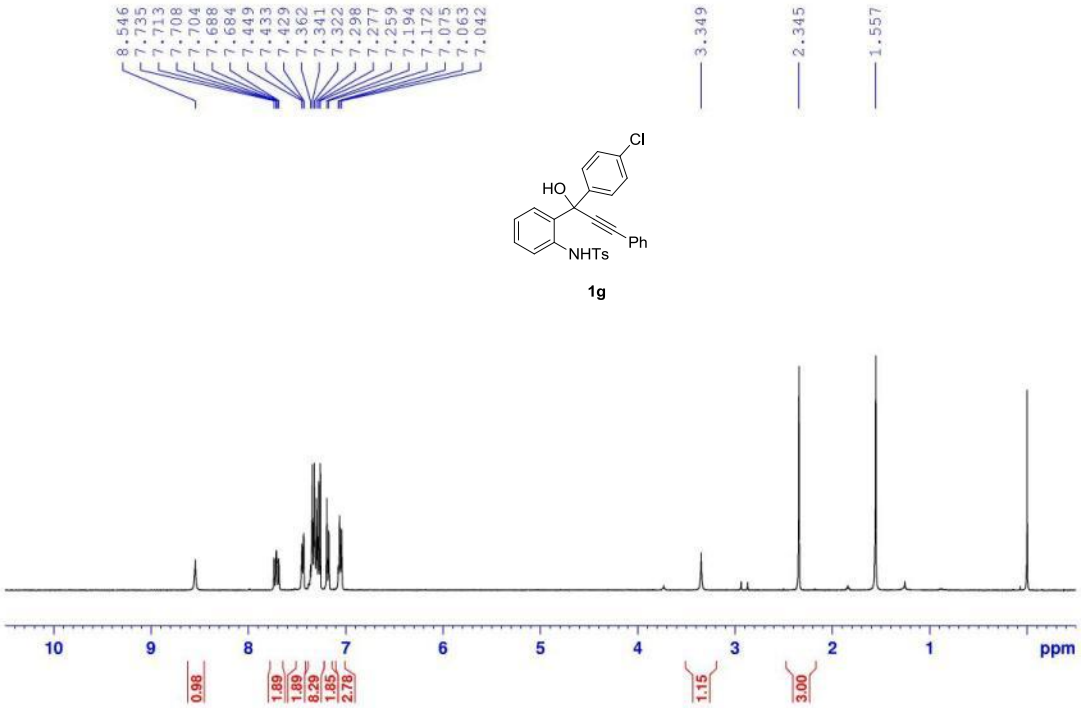


Figure S7. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-(4-Chlorophenyl)-1-hydroxy-3-phenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1g**)



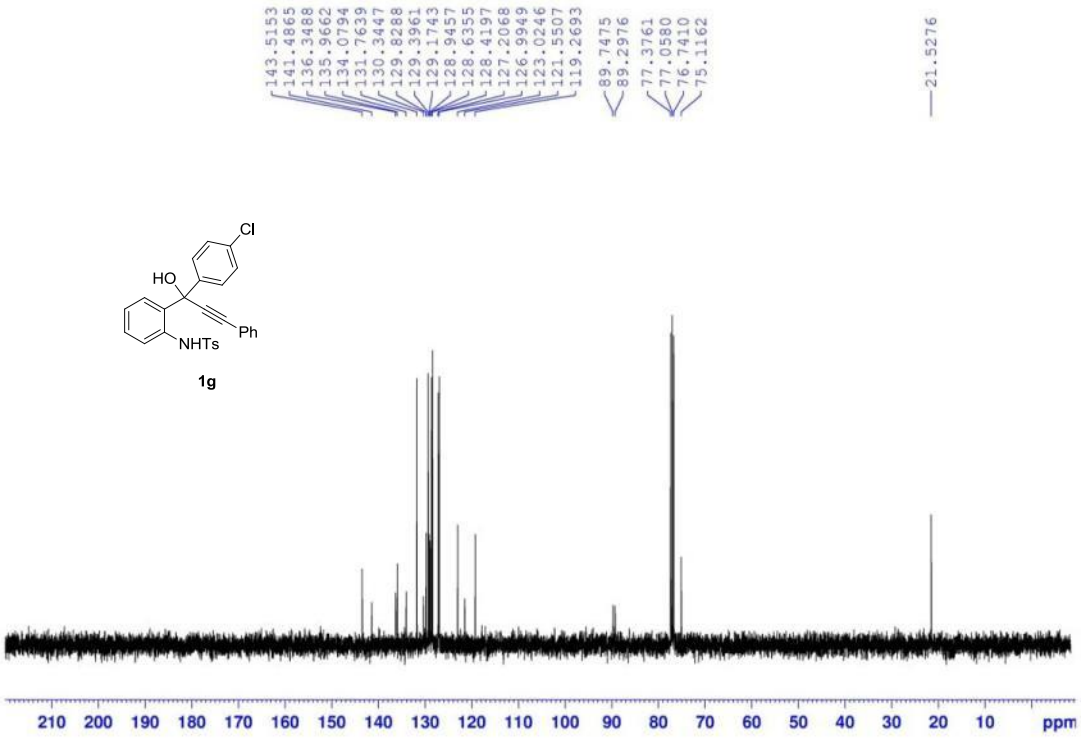
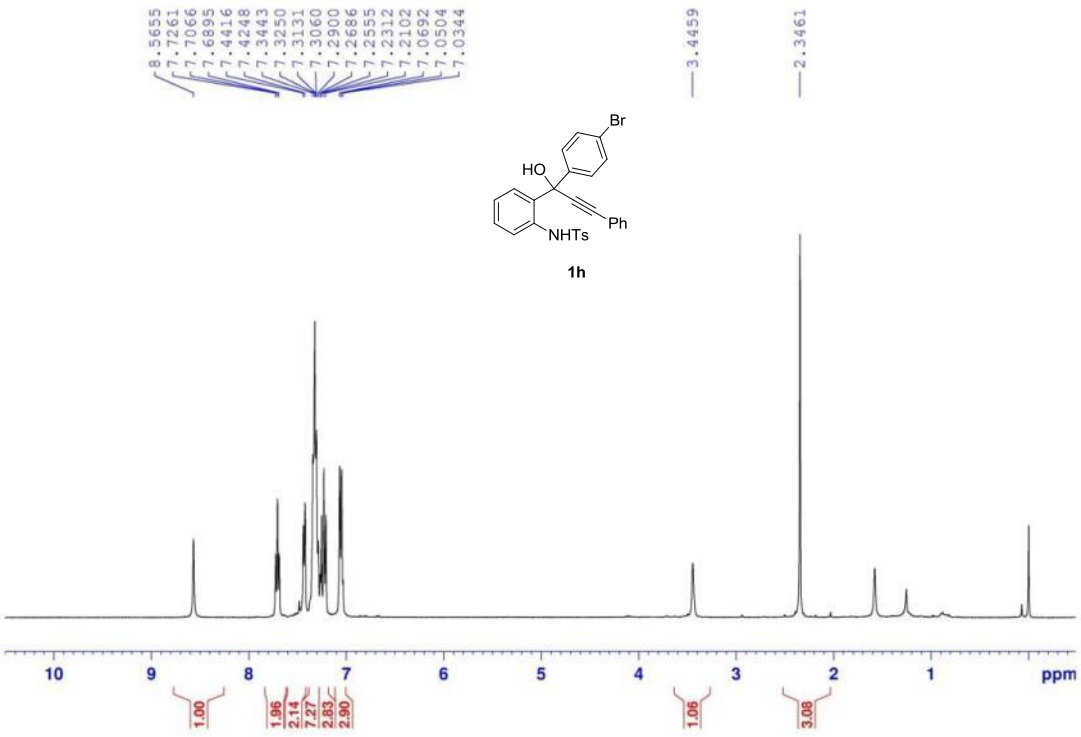


Figure S8. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-(4-Bromophenyl)-1-hydroxy-3-phenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1h**)



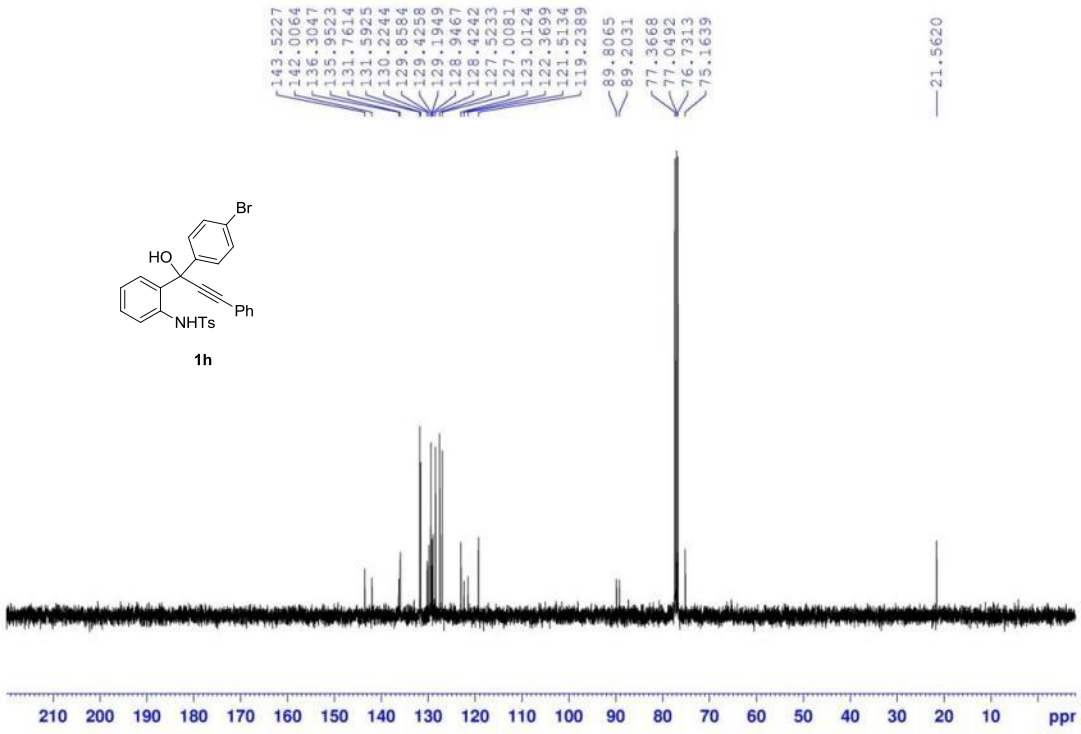


Figure S9. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(3-(4-Fluorophenyl)-1-hydroxy-1-phenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1i**)

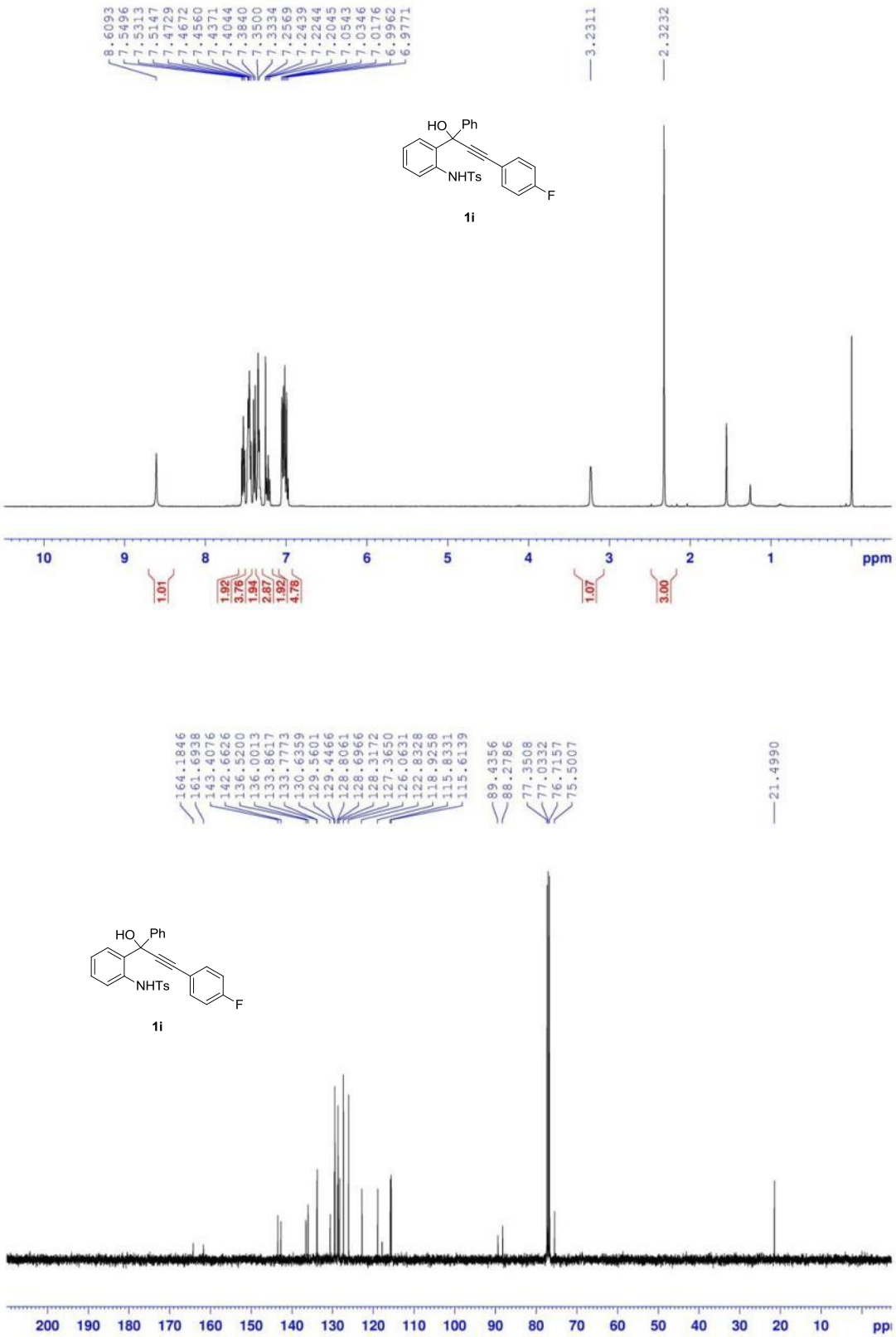
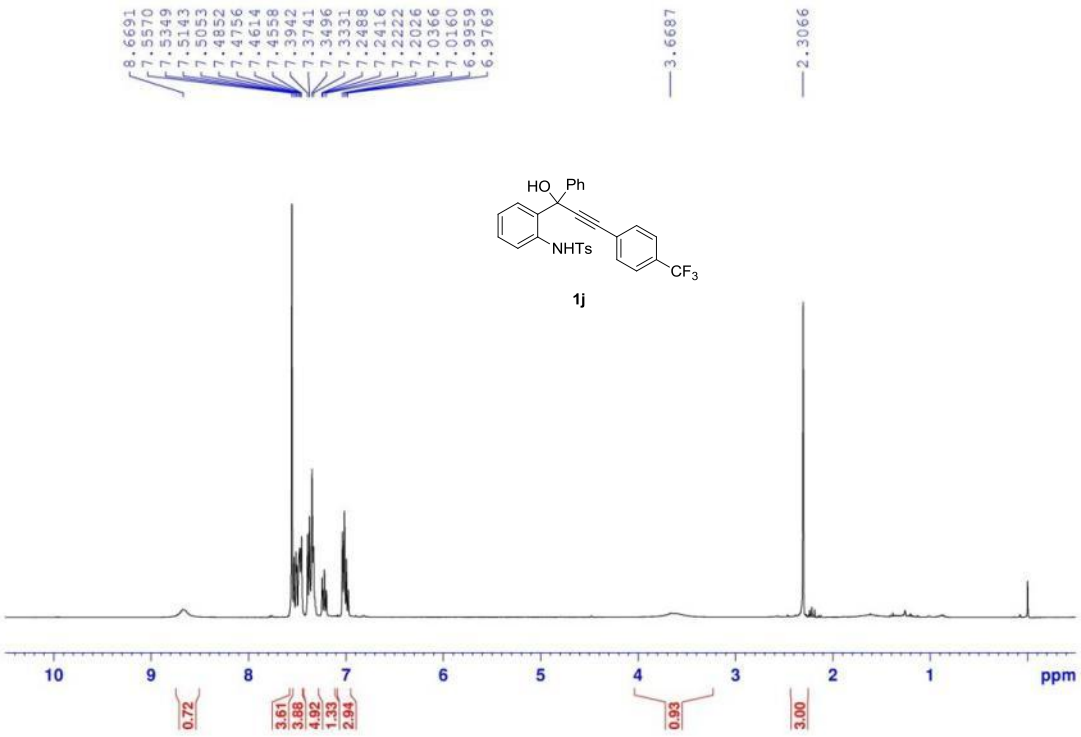


Figure S10. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1-phenyl-3-(4-(trifluoromethyl)phenyl)prop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1j**)



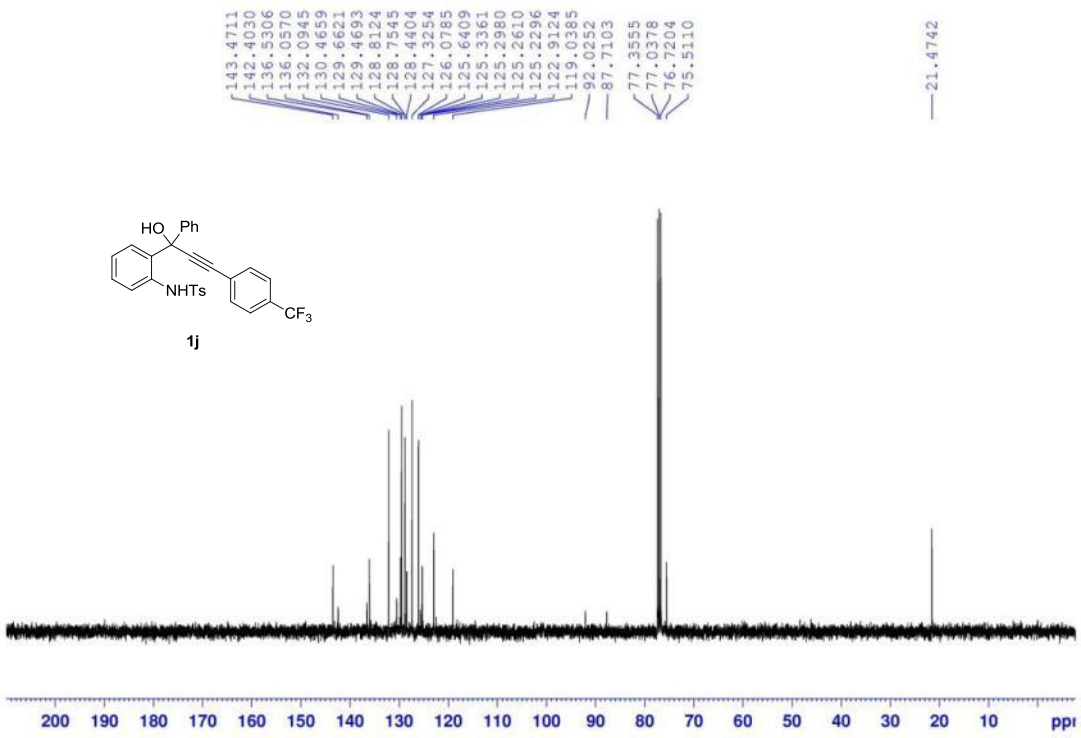


Figure S11. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1-phenyl-3-(*p*-tolyl)prop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1k**)

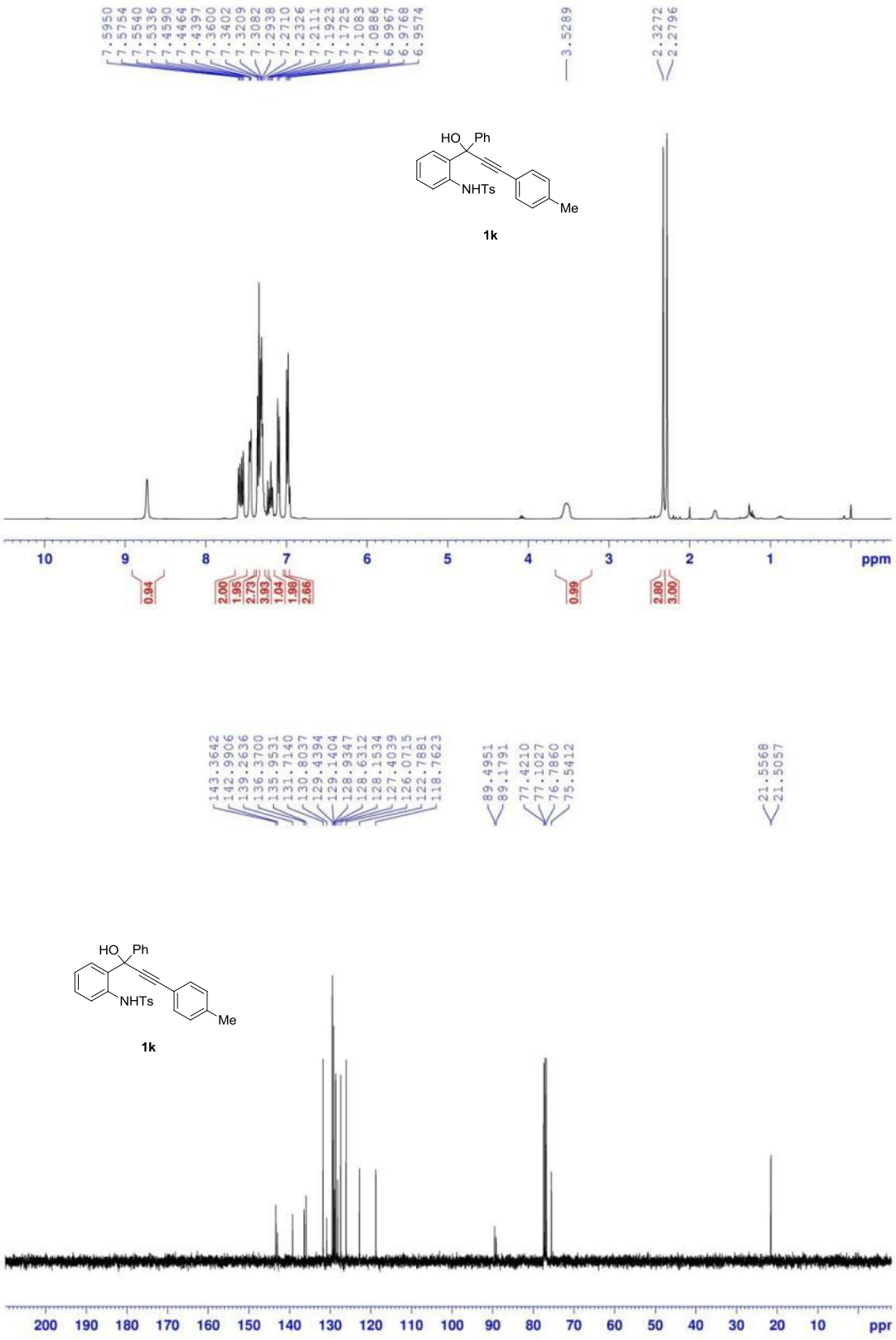


Figure S12. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1-phenyl-3-(thiophen-3-yl)prop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1l**)

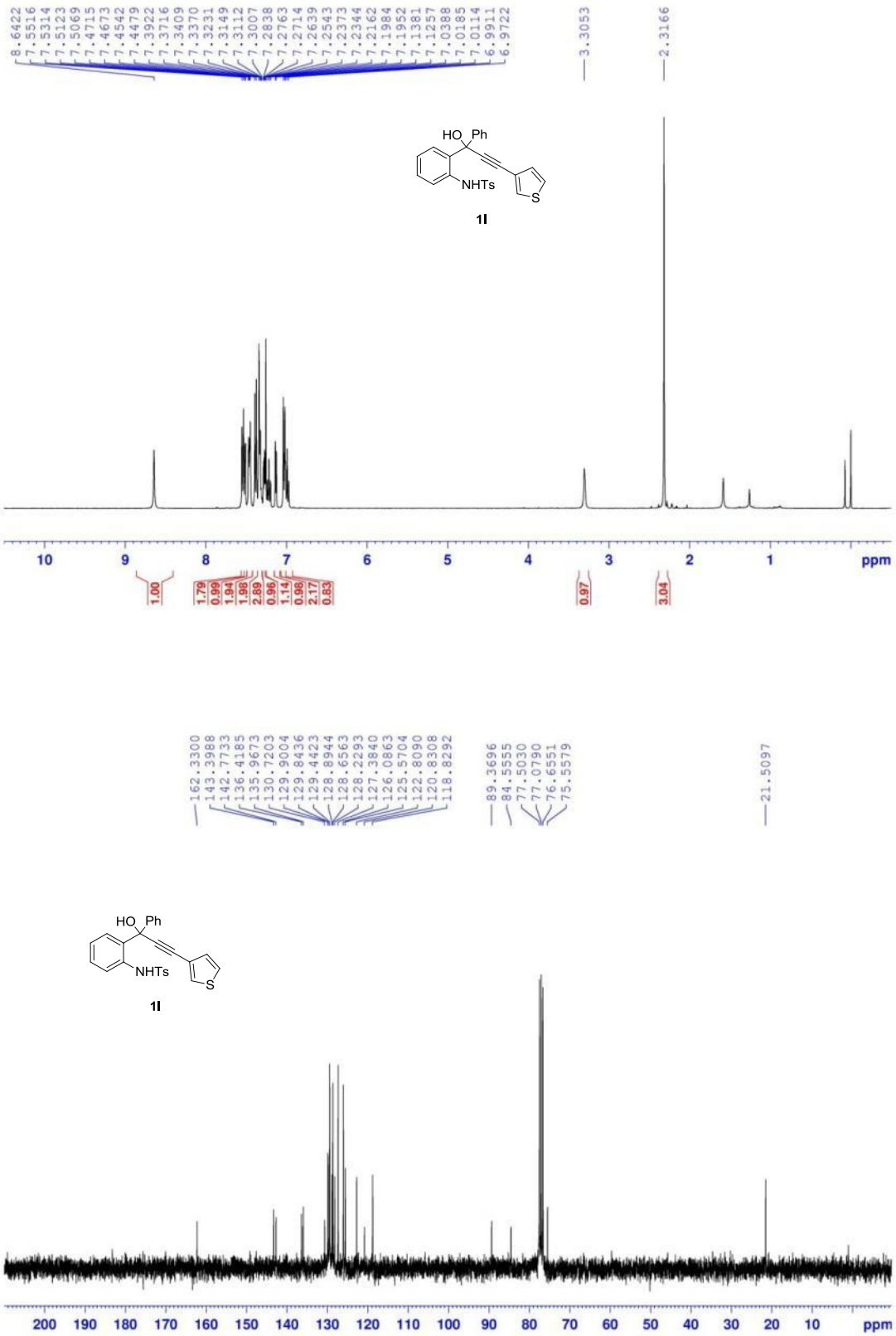
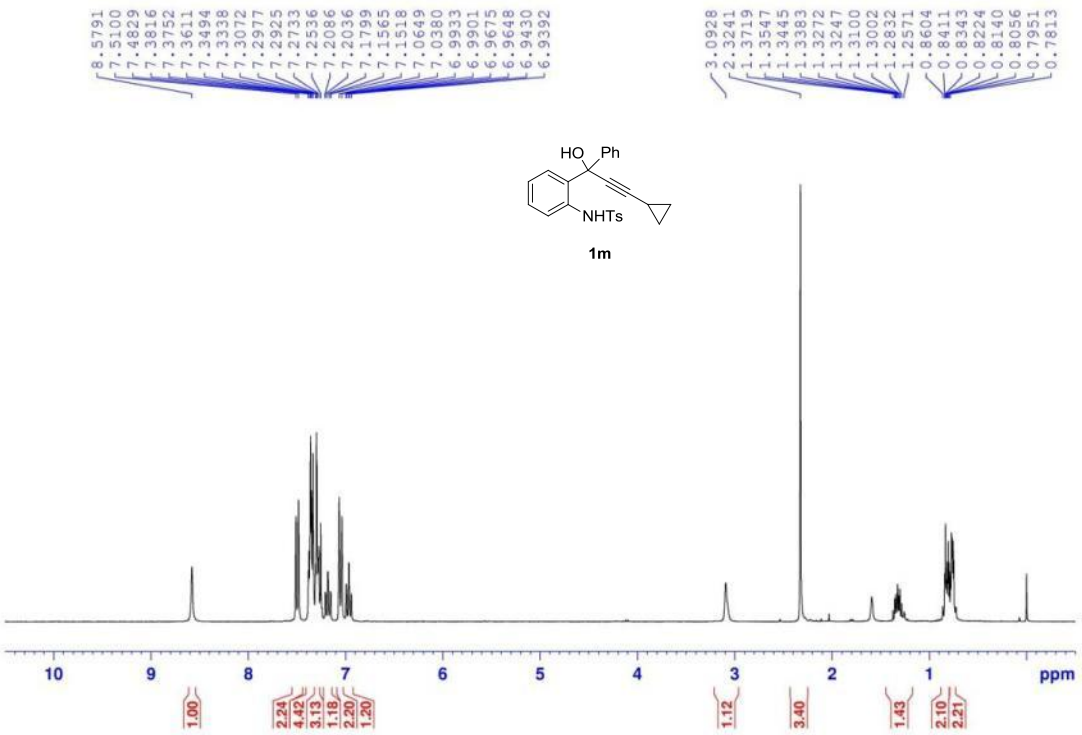


Figure S13. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(3-Cyclopropyl-1-hydroxy-1-phenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1m**)



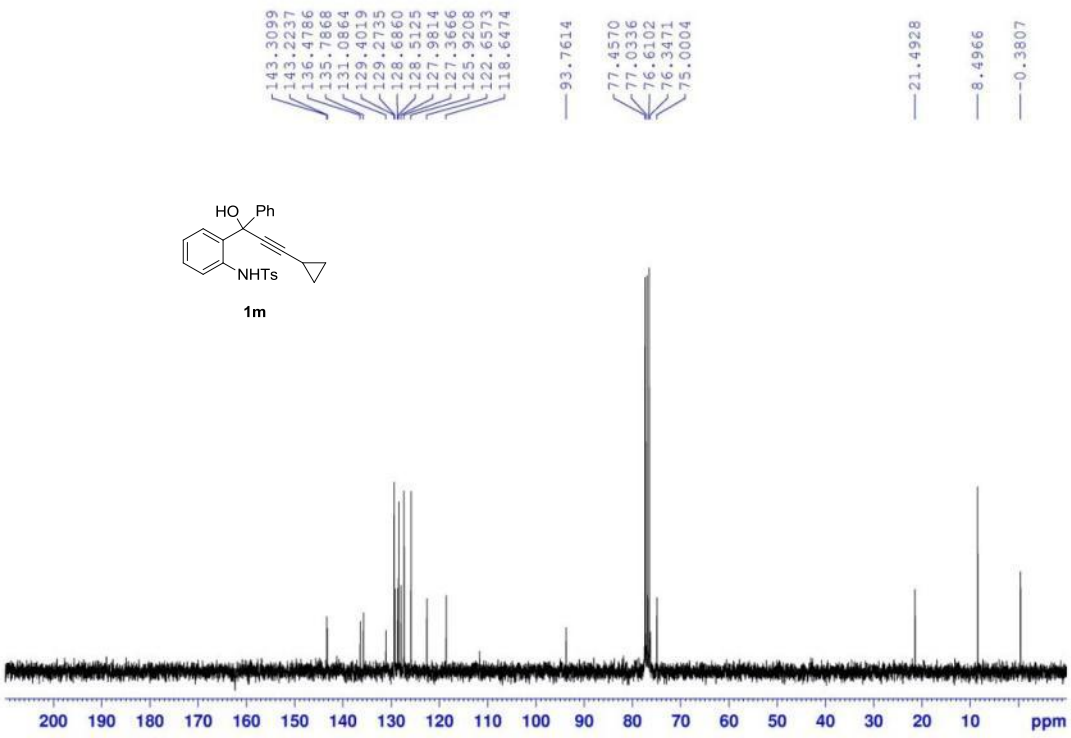


Figure S14. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1-phenylhept-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1n**)

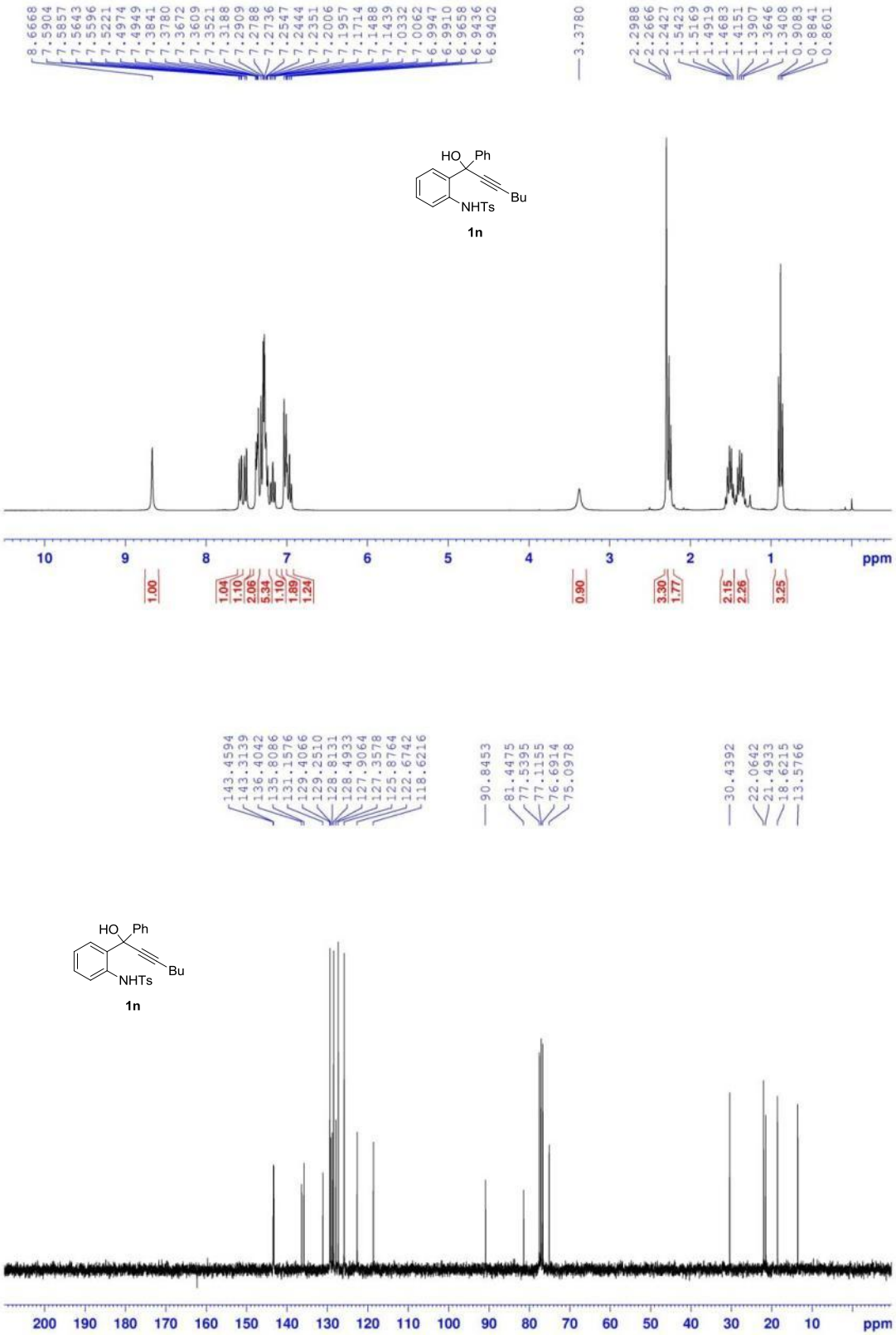


Figure S15. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(2-Hydroxyoct-3-yn-2-yl)phenyl)-4-methylbenzenesulfonamide (**1o**)

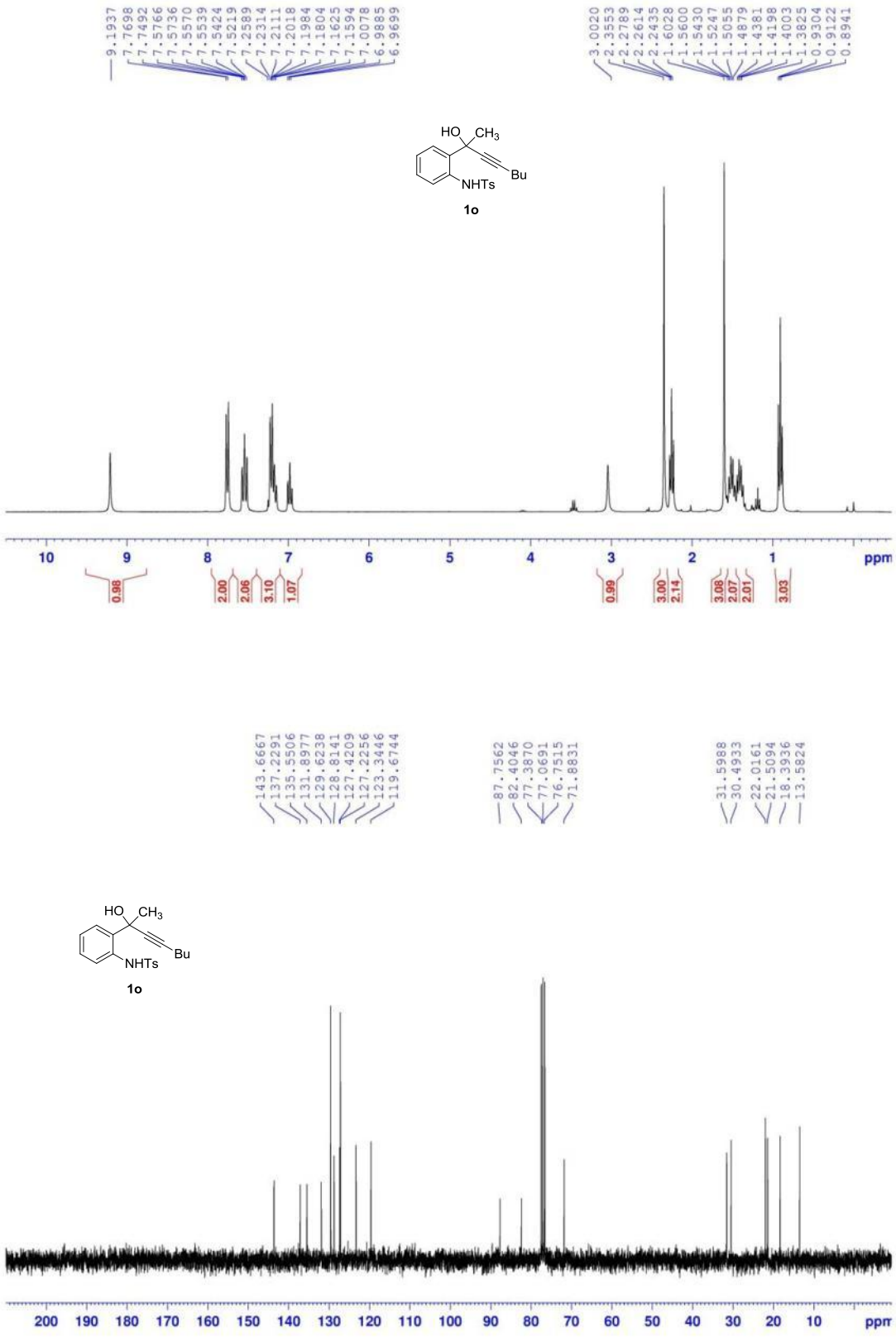
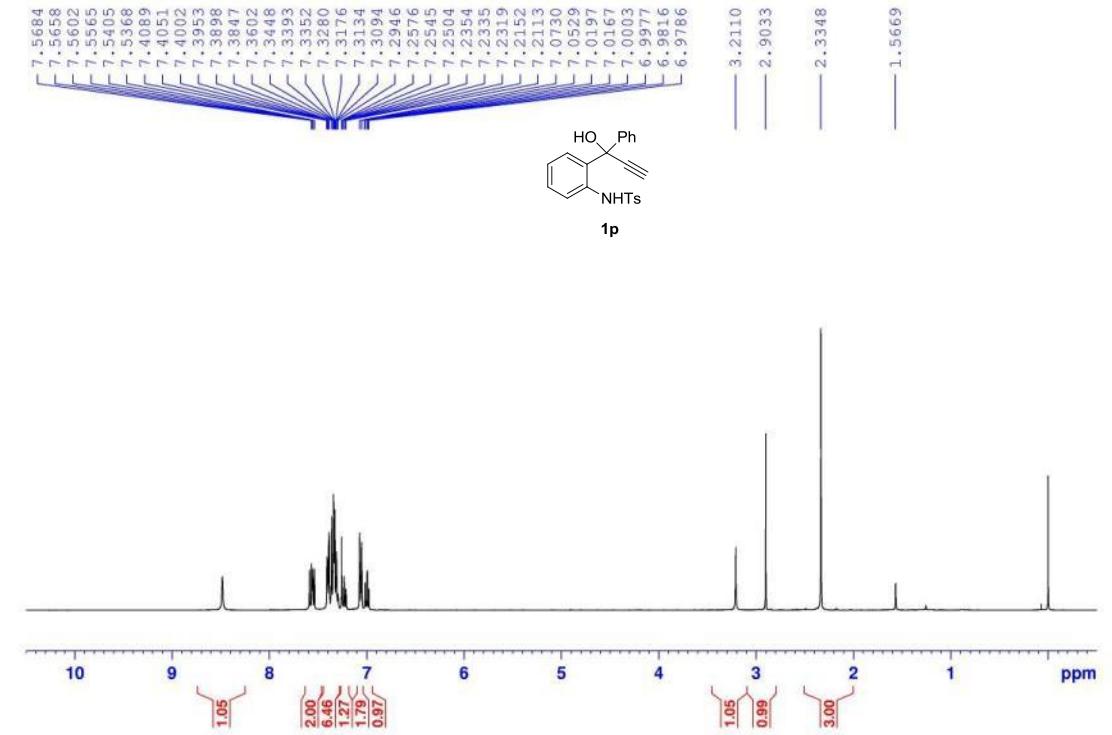


Figure S16. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1-phenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1p**)



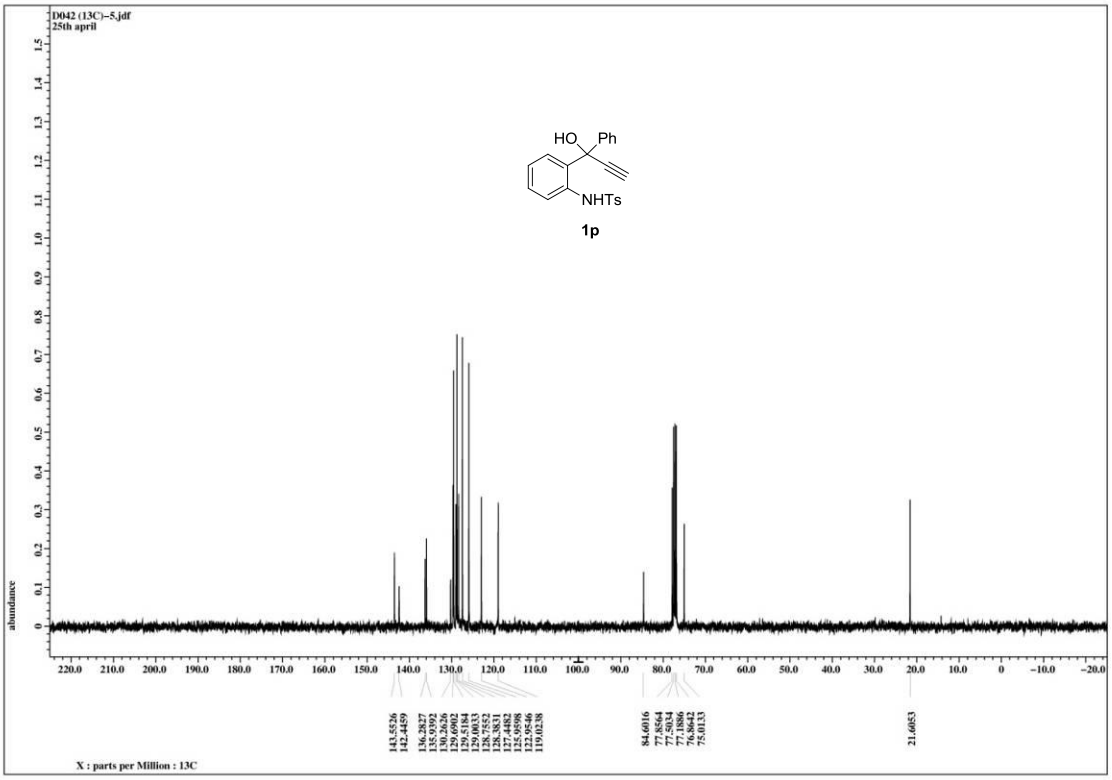
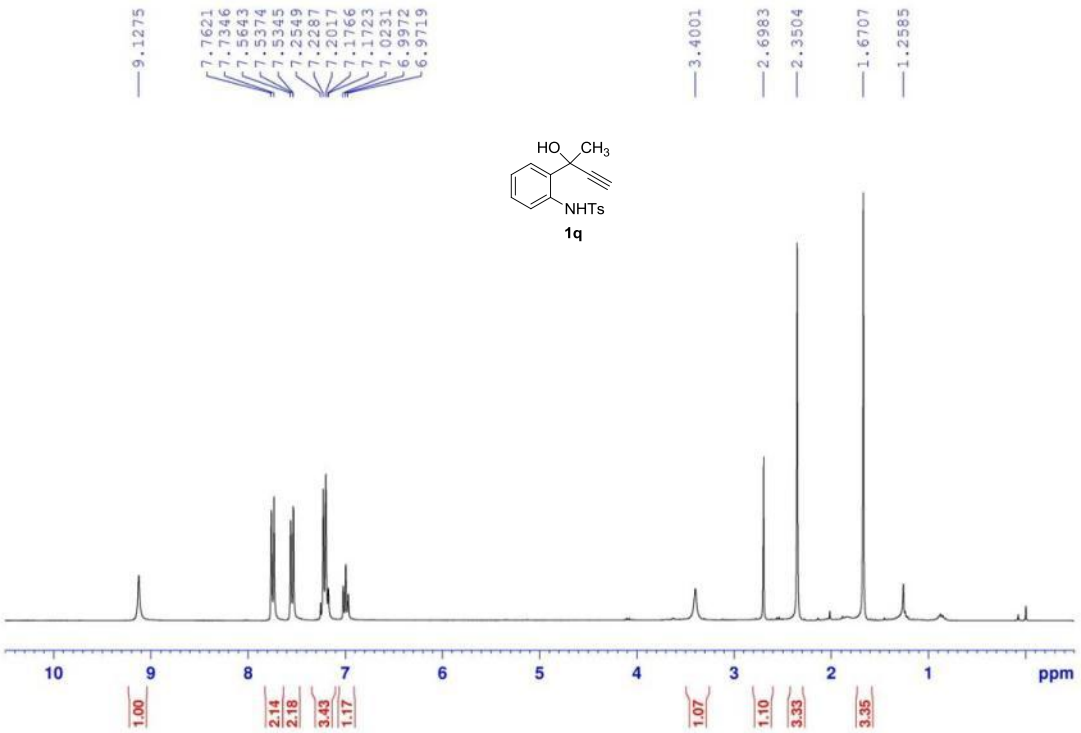


Figure S17. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(2-Hydroxybut-3-yn-2-yl)phenyl)-4-methylbenzenesulfonamide (**1q**)



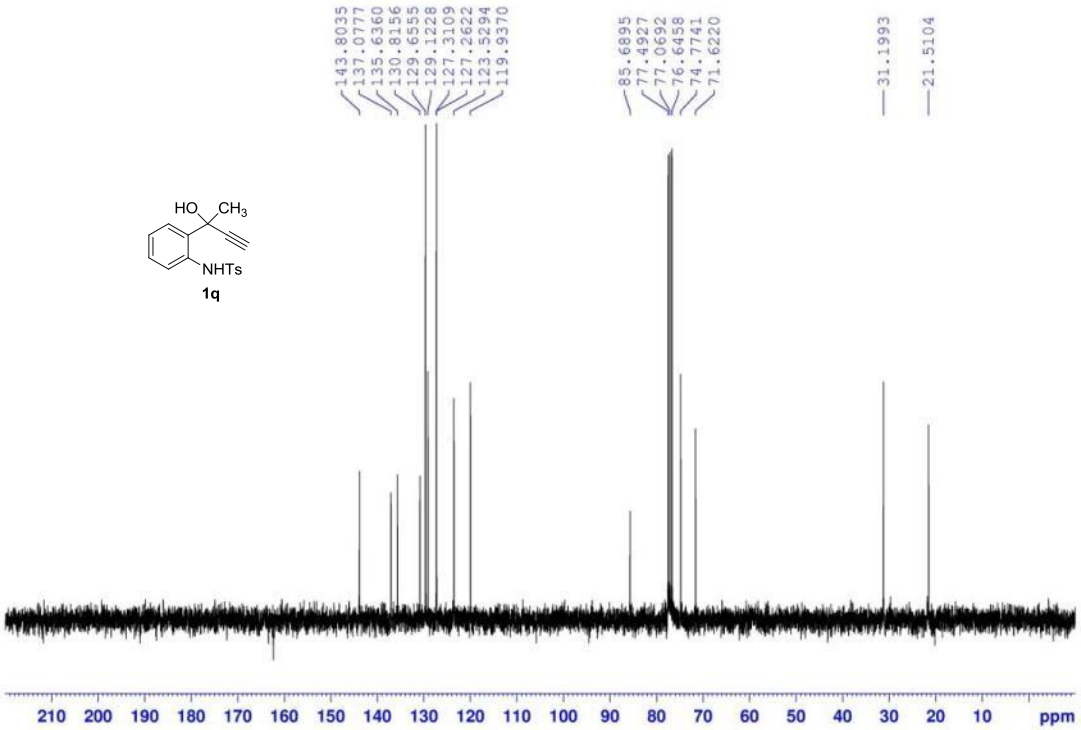


Figure S18. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-3-phenylprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1r**)

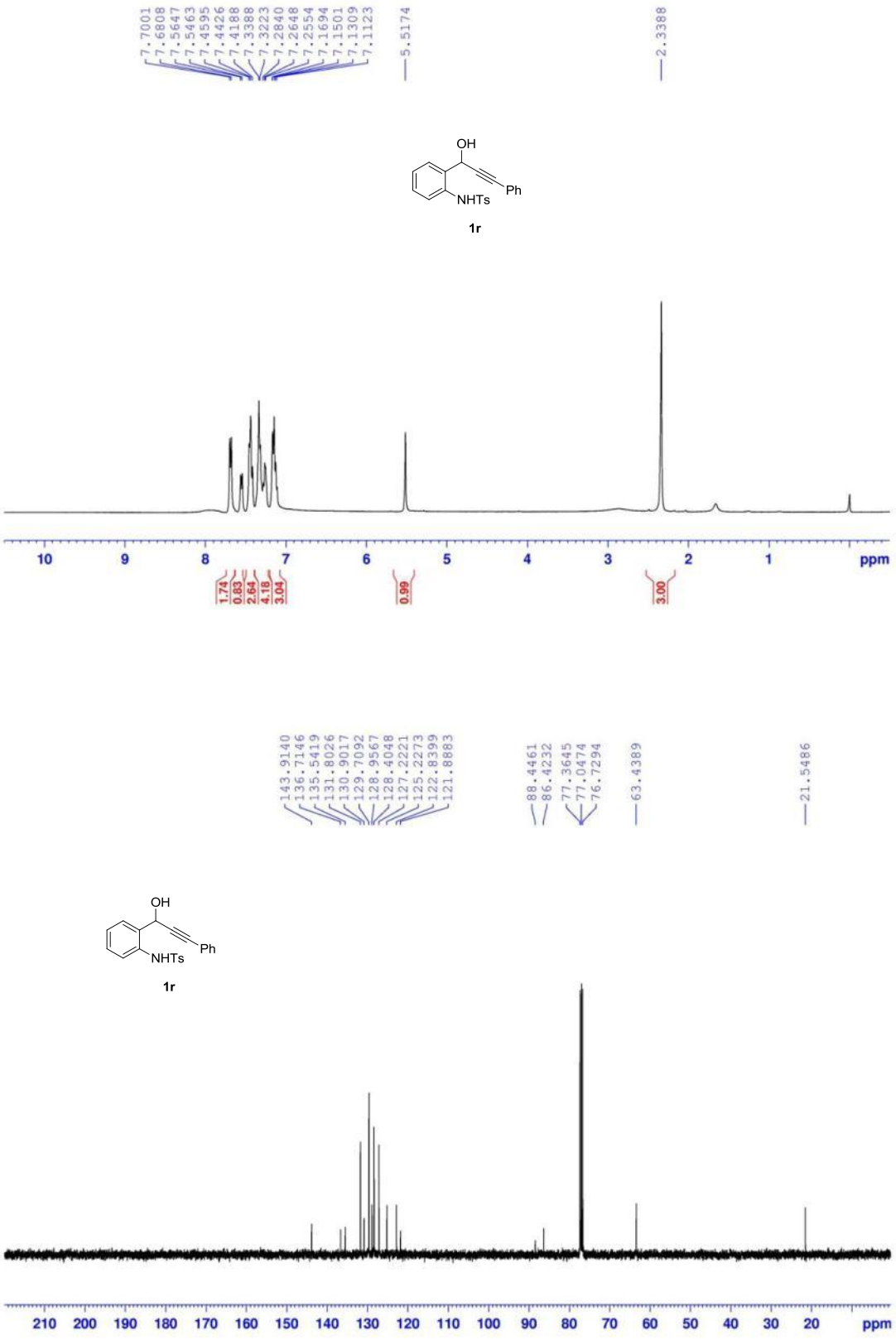


Figure S19. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxybut-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1s**)

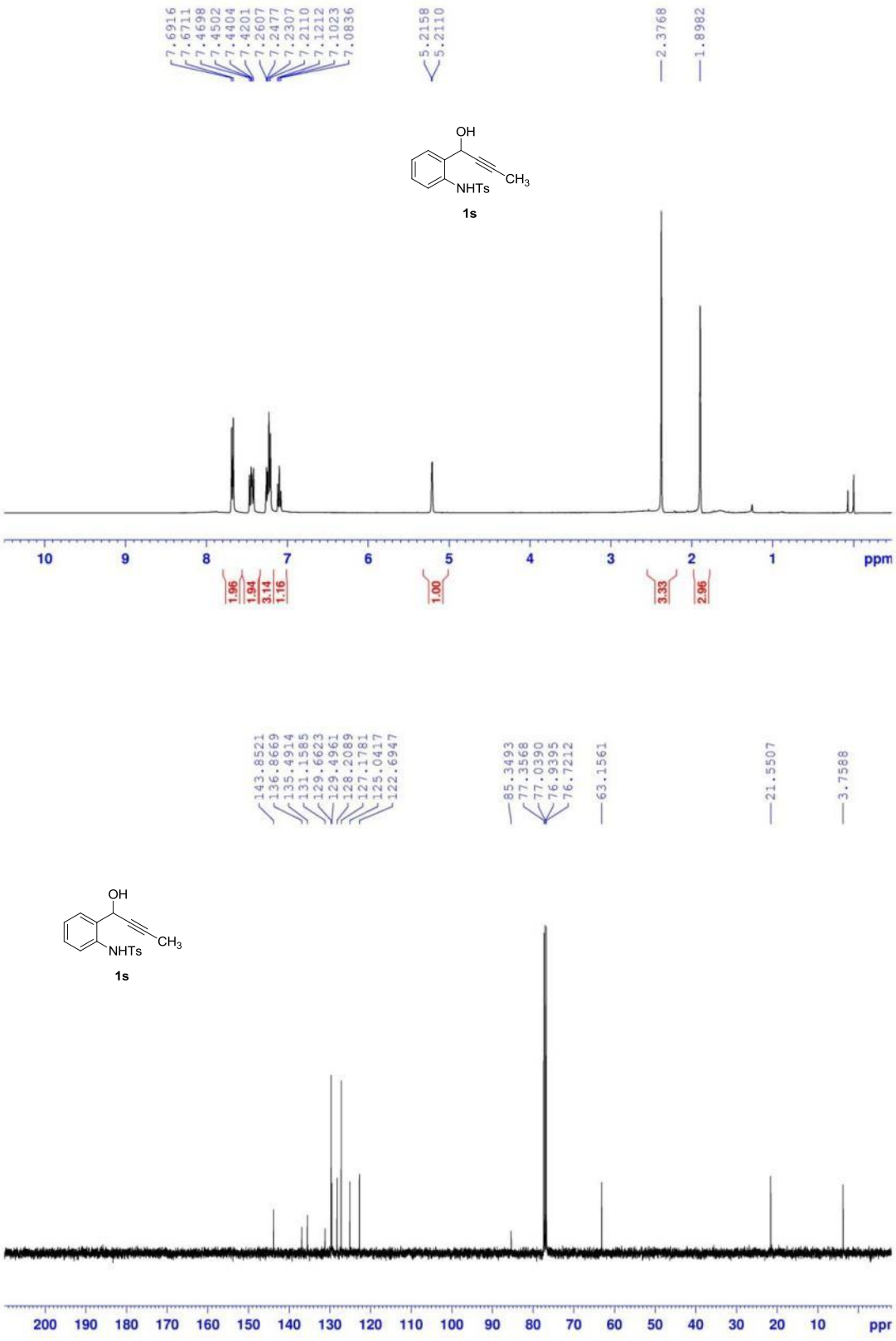


Figure S20. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxyhept-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1t**)

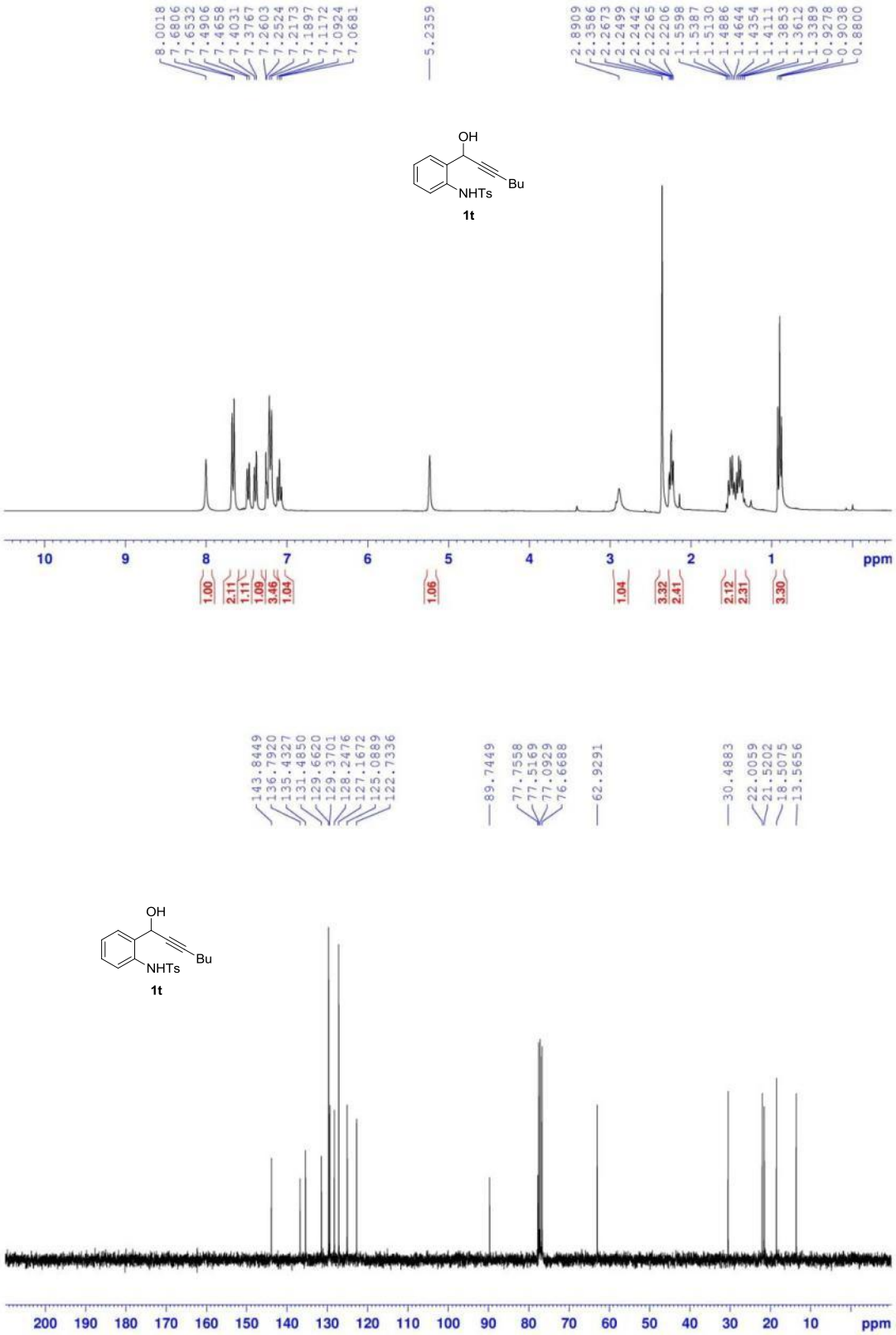
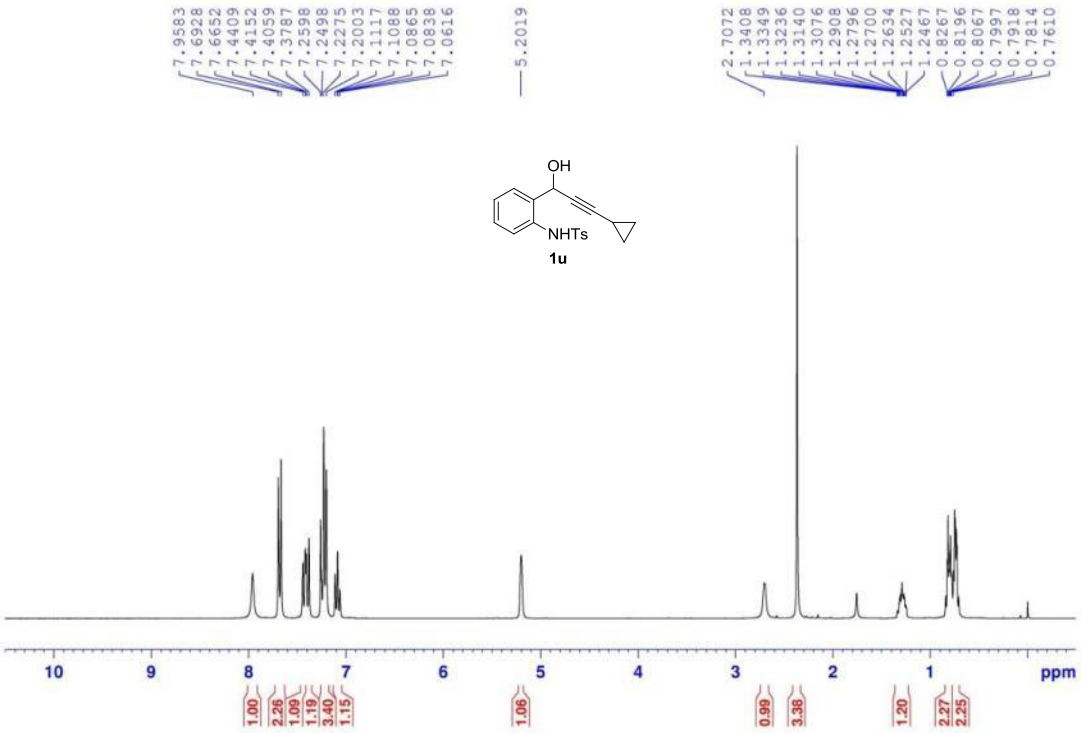


Figure S21. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(3-Cyclopropyl-1-hydroxyprop-2-yn-1-yl)phenyl)-4-methylbenzenesulfonamide (**1u**)



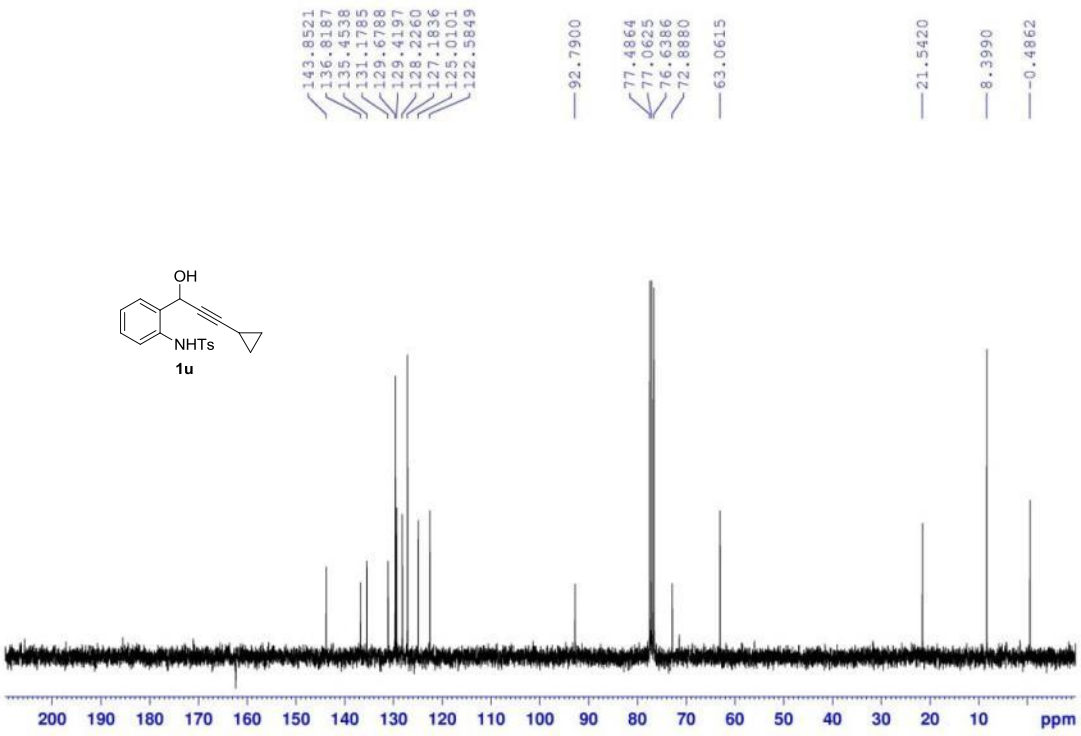
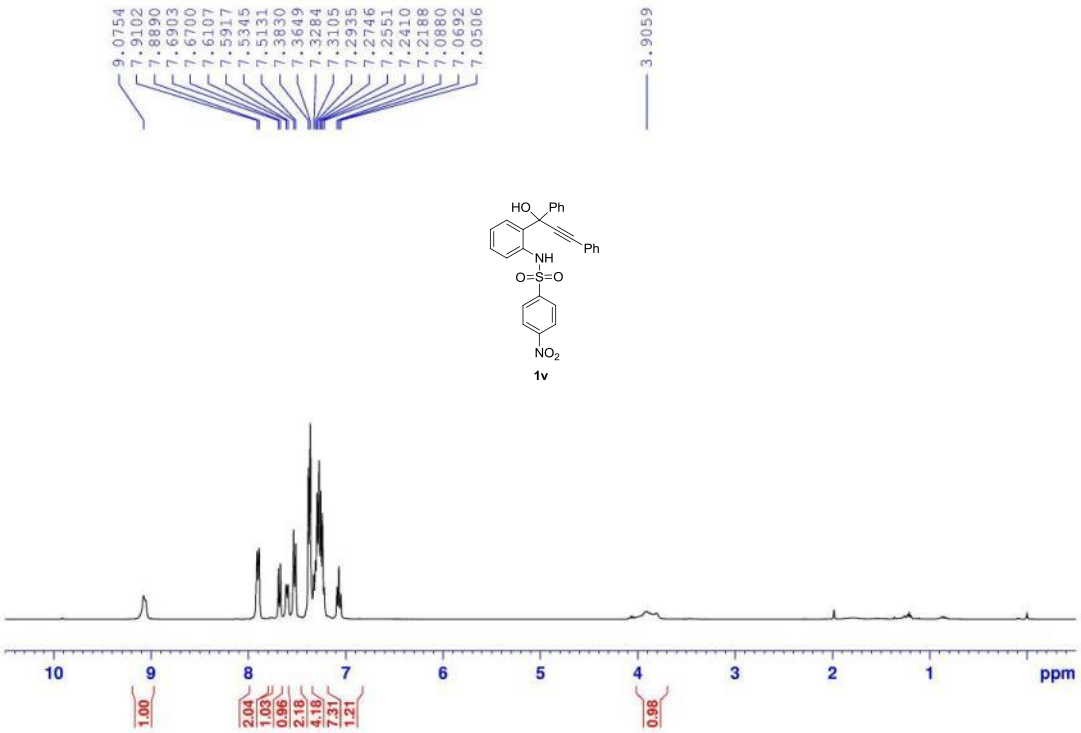


Figure S22. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1,3-diphenylprop-2-yn-1-yl)phenyl)-4-nitrobenzenesulfonamide (**1v**)



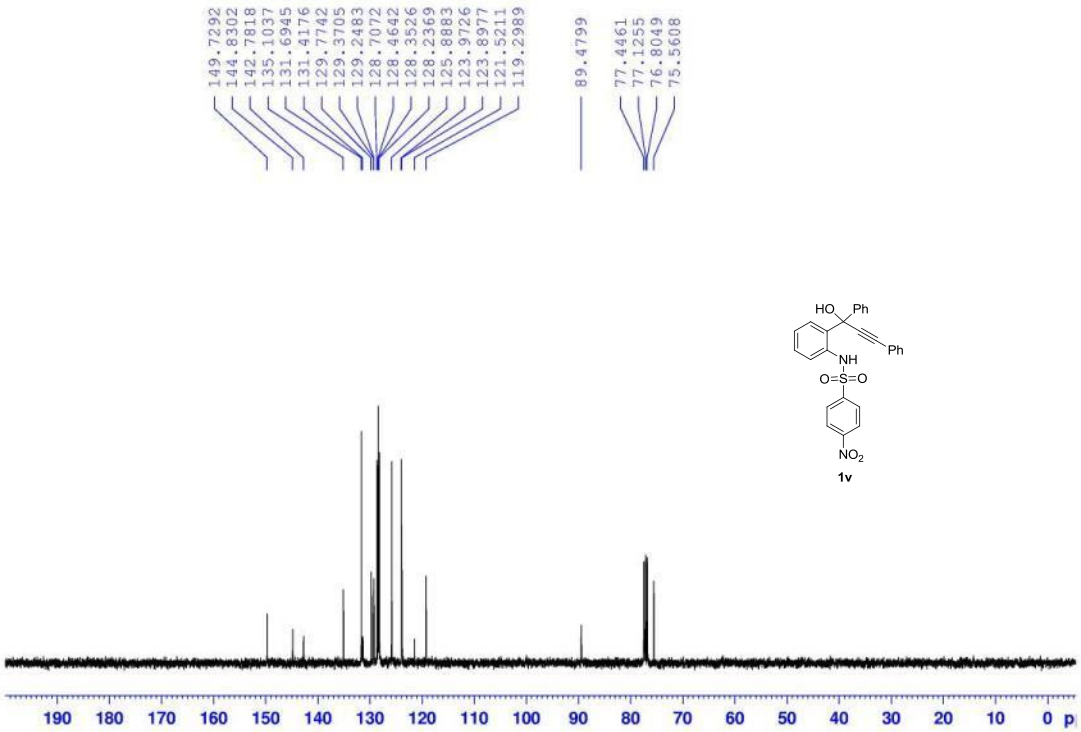


Figure S23. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1,3-diphenylprop-2-yn-1-yl)phenyl) methanesulfonamide (**1w**)

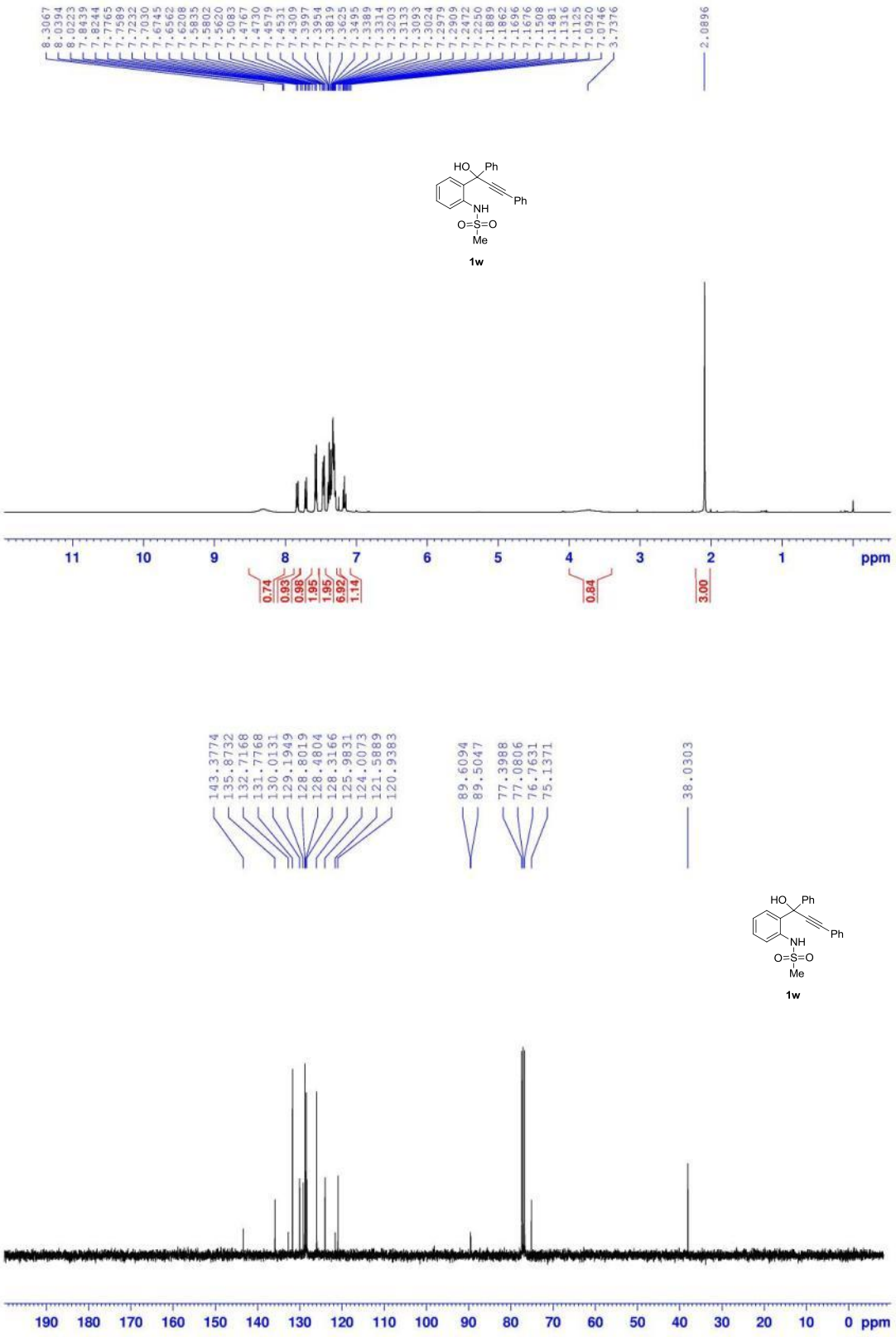


Figure S24. ^{1}H and ^{13}C NMR Spectra of *N*-(2-(1-Hydroxy-1,3-diphenylprop-2-yn-1-yl)phenyl) acetamide (**1x**)

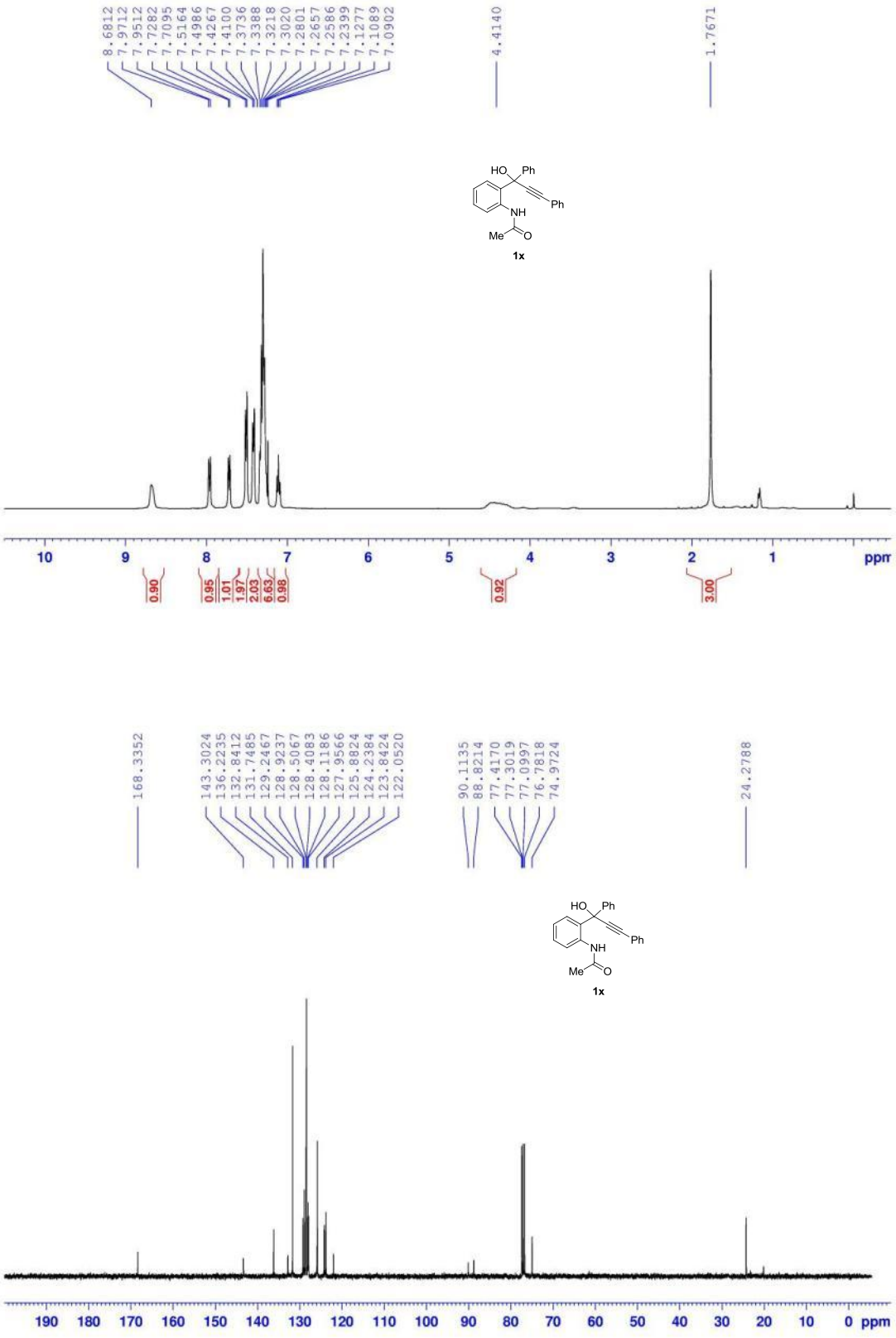


Figure S25. ^{1}H and ^{13}C NMR Spectra of *Tert*-butyl (2-(1-hydroxy-1,3-diphenylprop-2-yn-1-yl)phenyl)carbamate (**1y**)

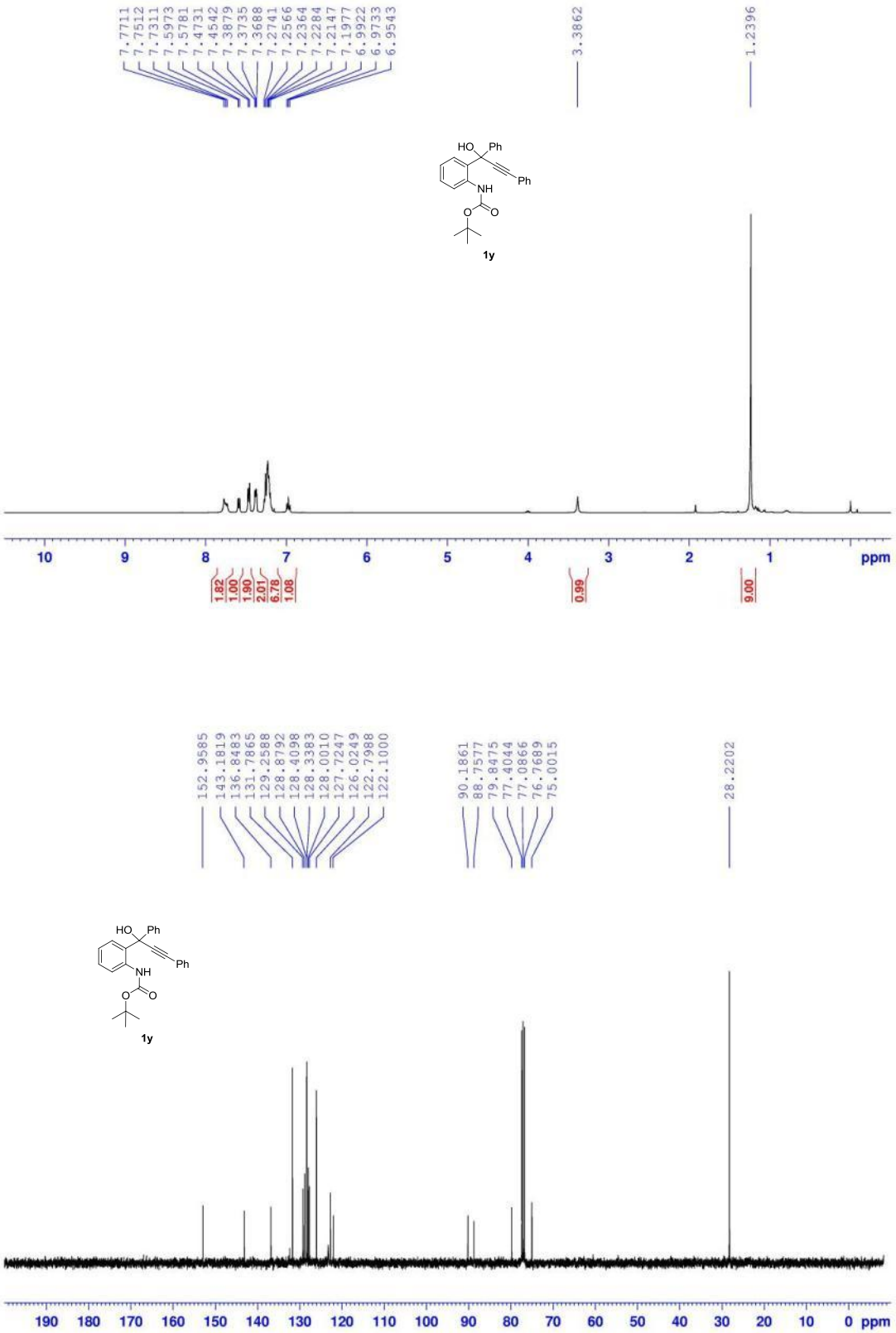


Figure S26. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-3-phenyl-1-tosylindolin-3-ol (**2a**)[S1]

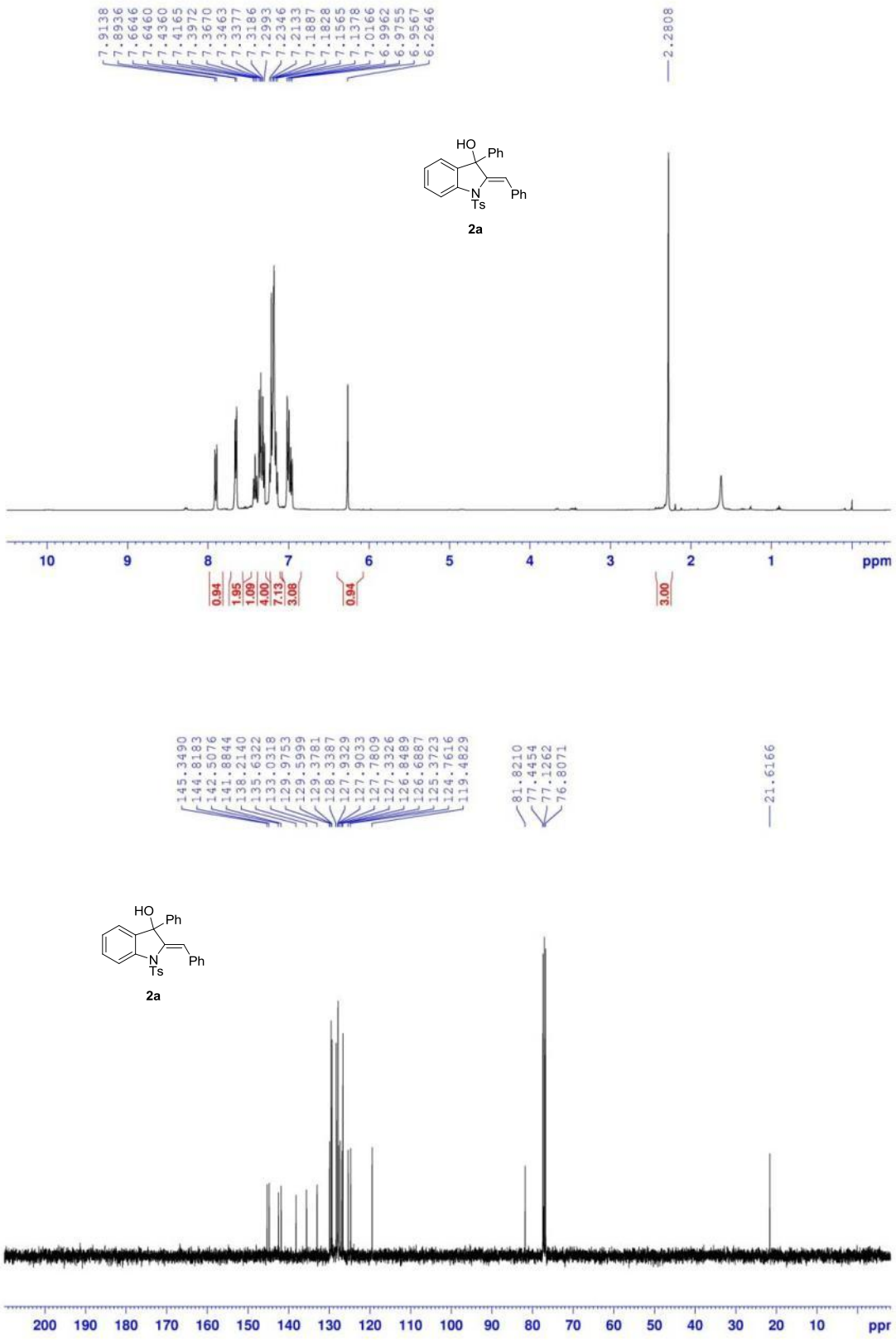


Figure S27. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-5-methyl-3-phenyl-1-tosylindolin-3-ol (**2b**)

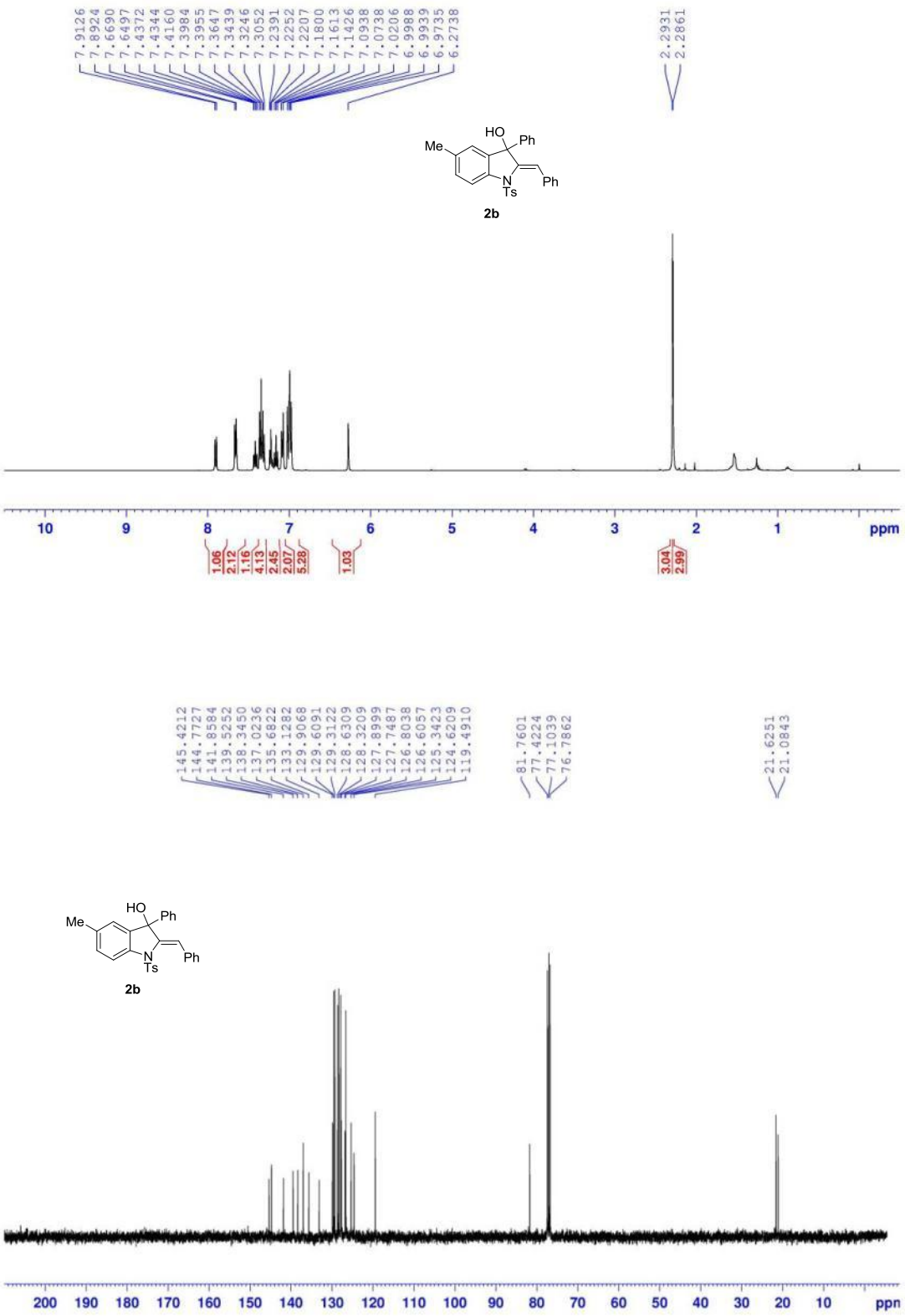


Figure S28. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-5-bromo-3-phenyl-1-tosylindolin-3-ol (**2c**)

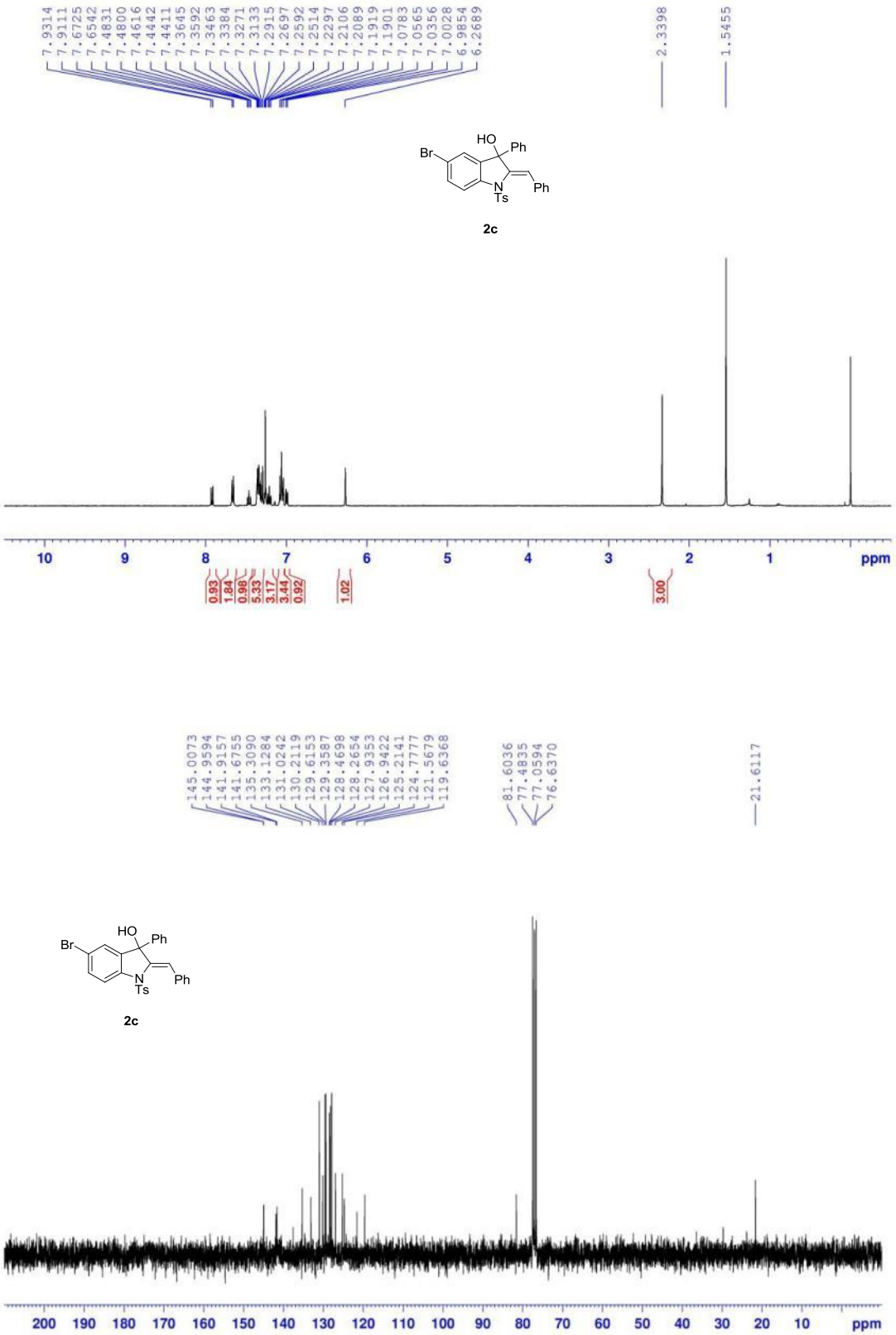


Figure S29. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-5-chloro-3-phenyl-1-tosylindolin-3-ol (**2d**)

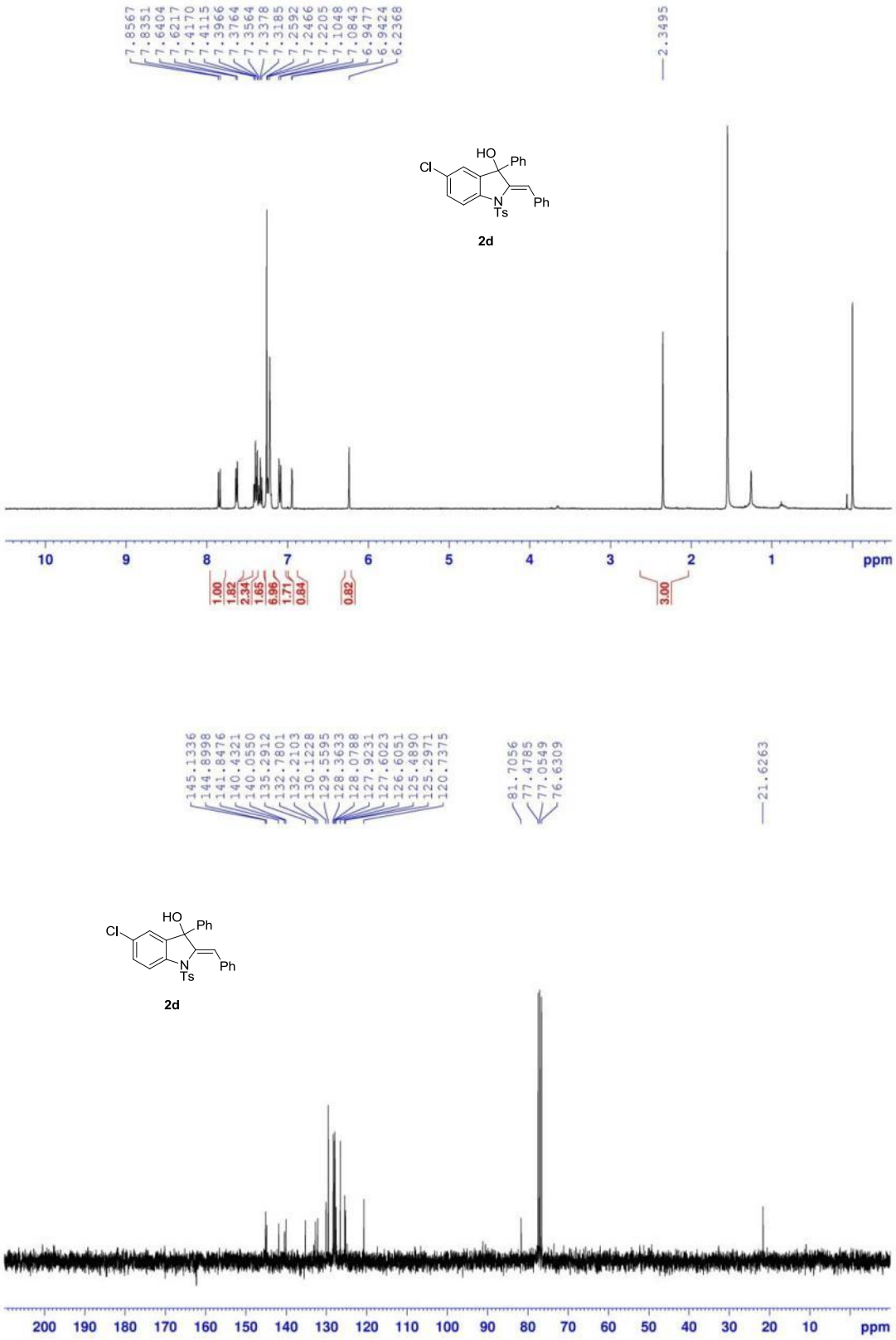
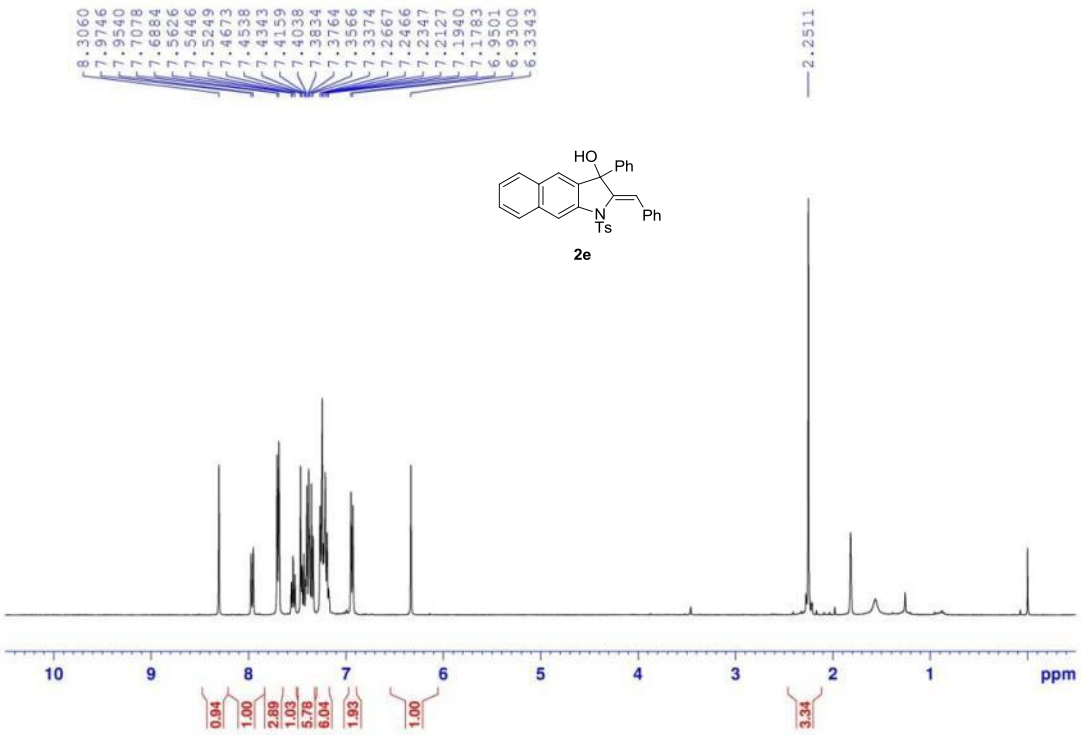


Figure S30. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-3-phenyl-1-tosyl-2,3-dihydro-1*H*-benzo[*f*]indol-3-ol (**2e**)



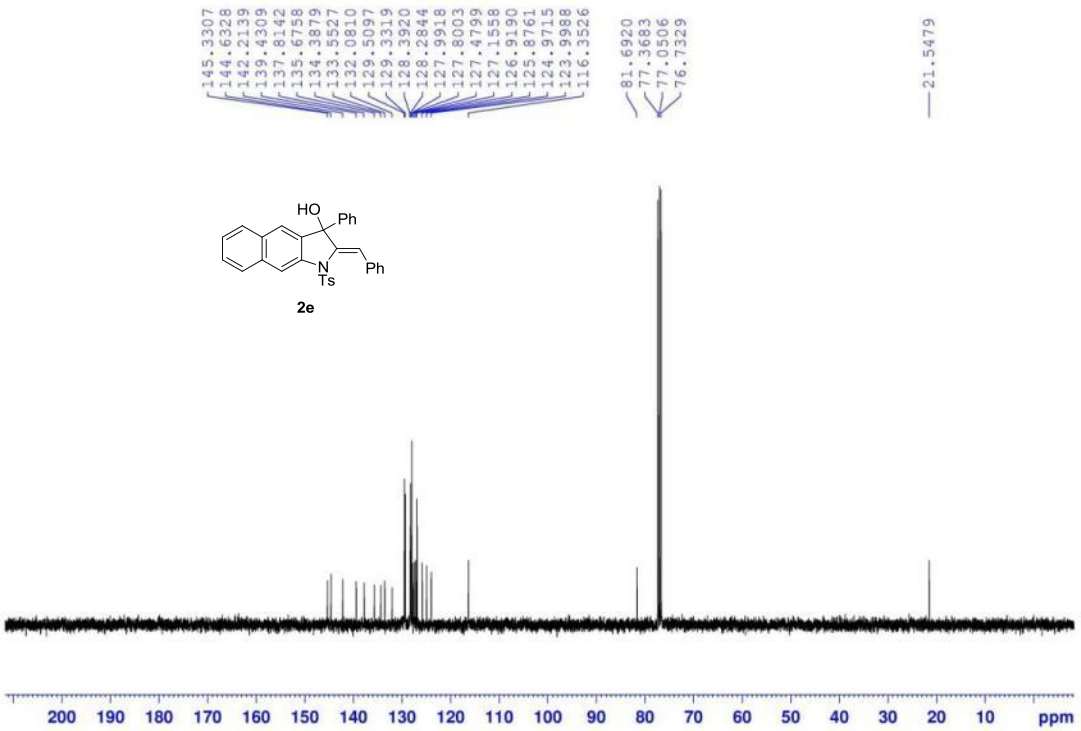


Figure S31. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-3-(*p*-tolyl)-1-tosylindolin-3-ol (**2f**)

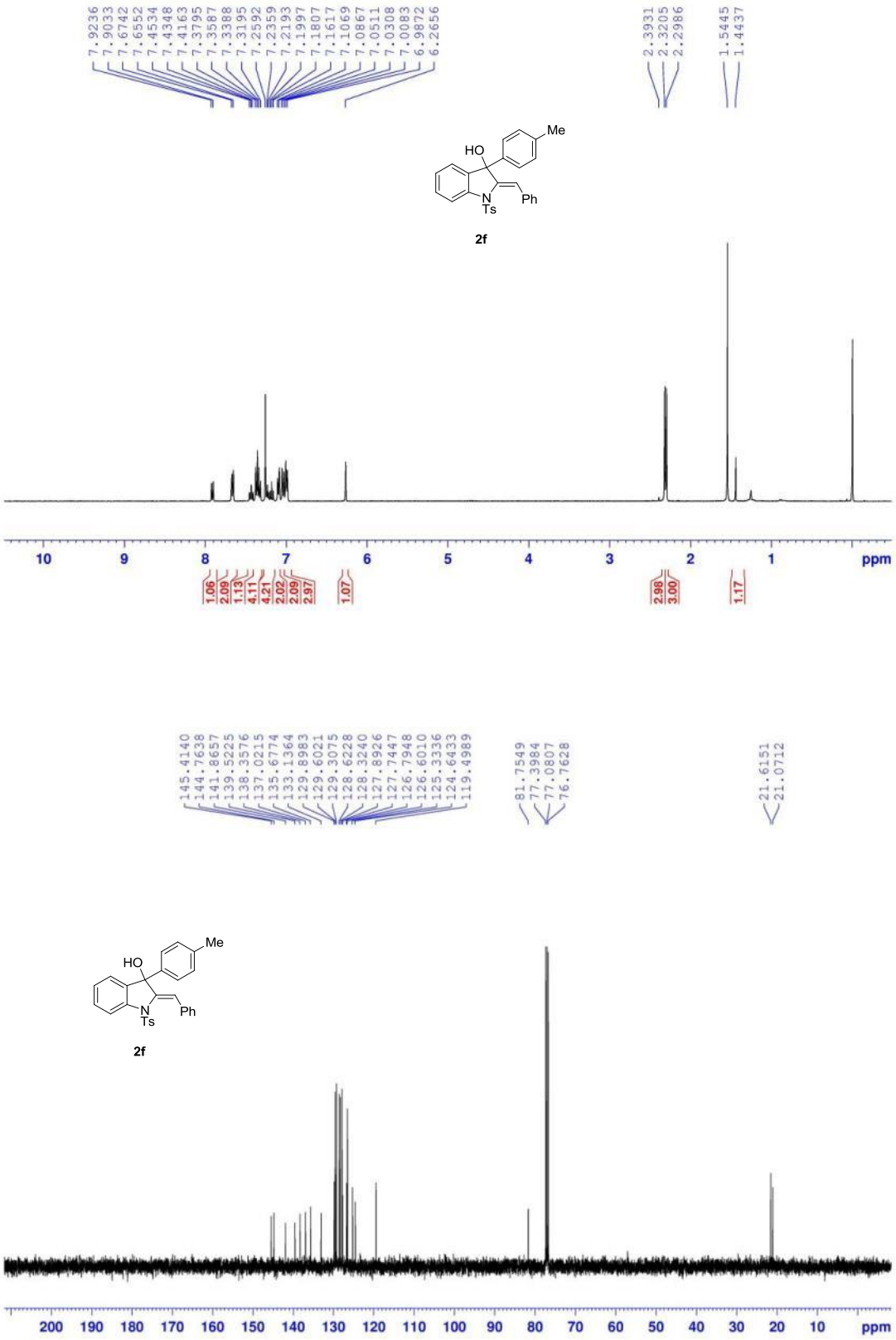


Figure S32. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-3-(4-chlorophenyl)-1-tosylindolin-3-ol (**2g**)

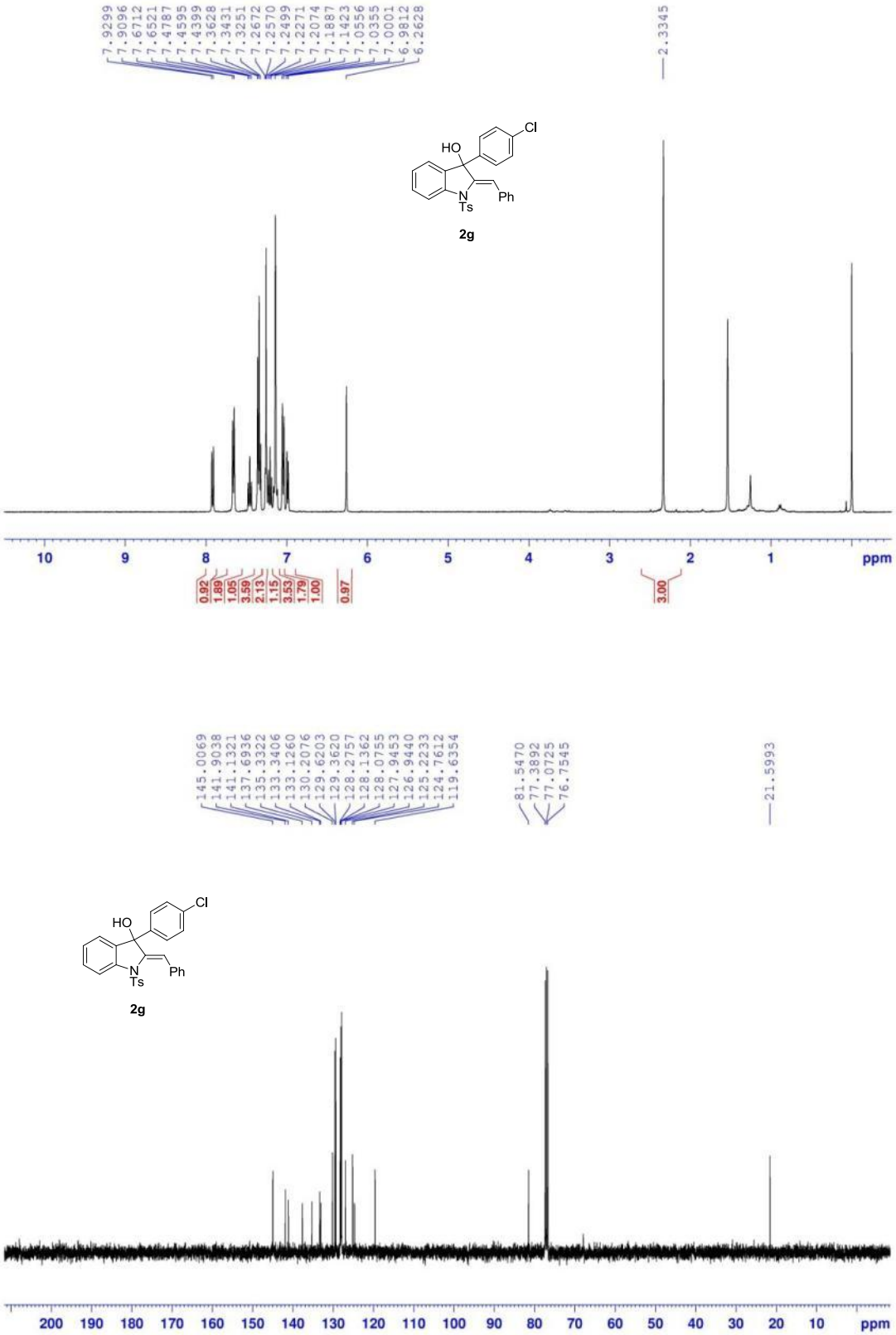


Figure S33. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-3-(4-bromophenyl)-1-tosylindolin-3-ol (**2h**)

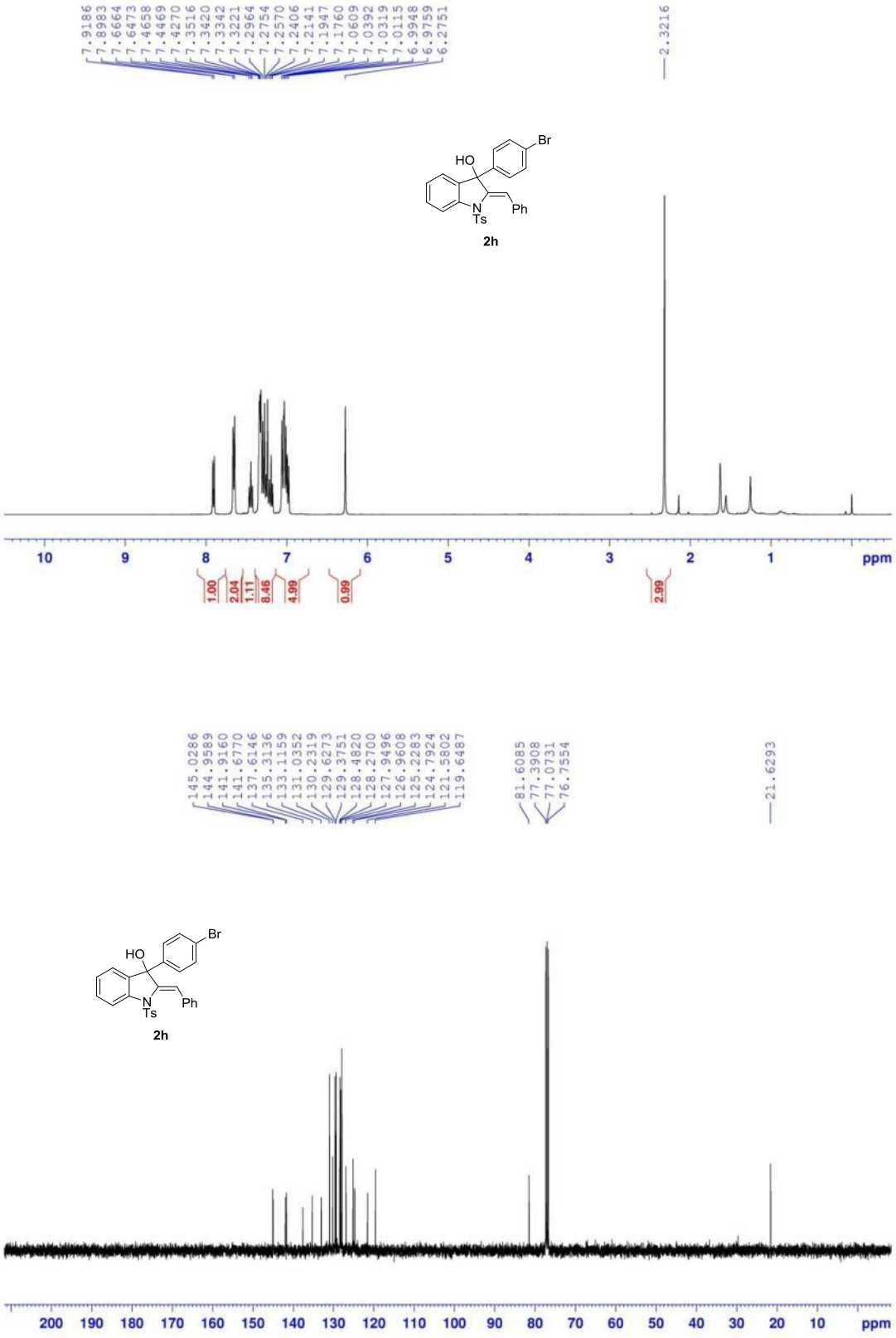
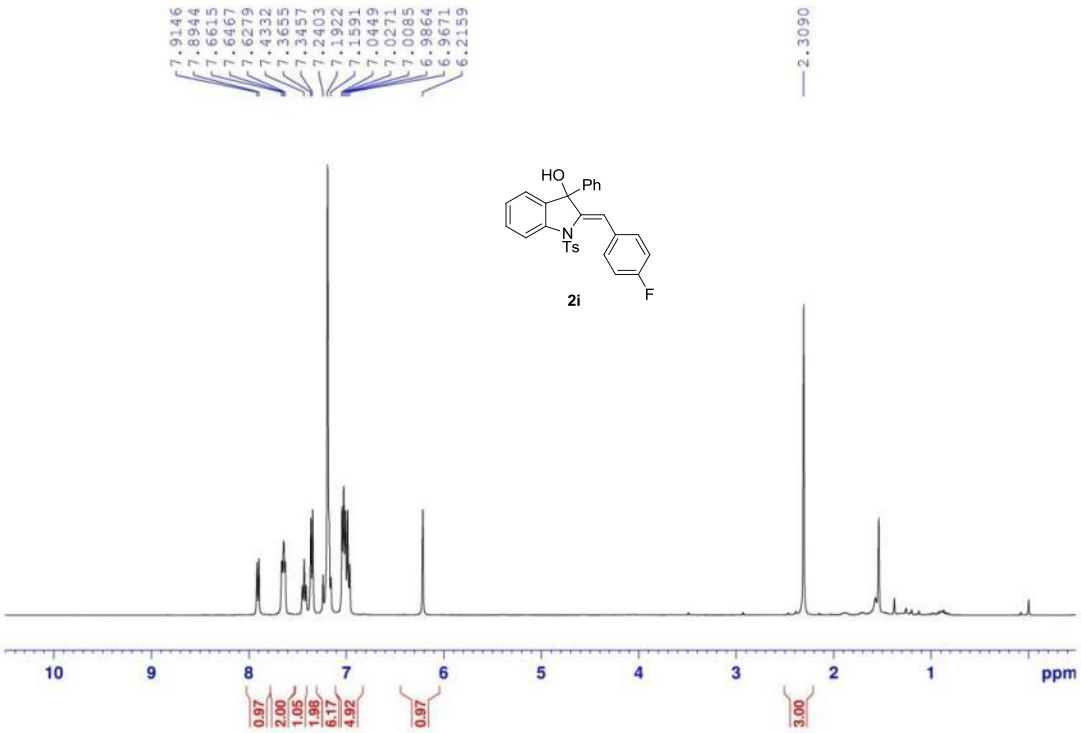


Figure S34. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-(4-Fluorobenzylidene)-3-phenyl-1-tosylindolin-3-ol (**2i**)



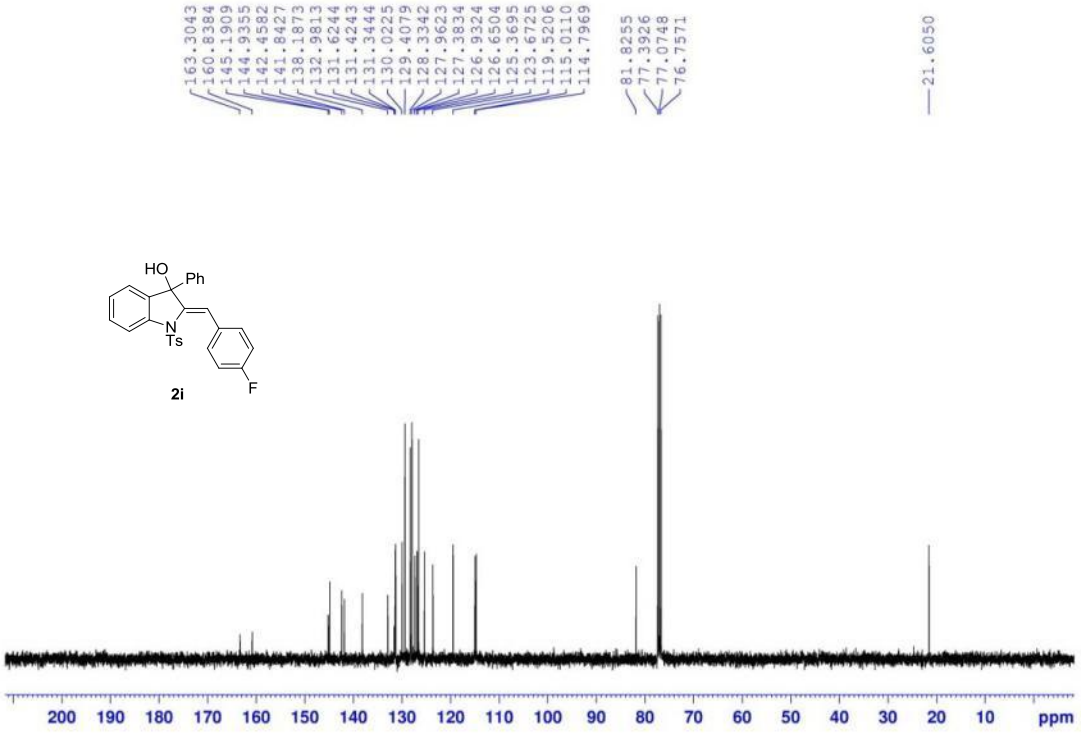


Figure S35. ^{1}H and ^{13}C NMR Spectra of (*Z*)-3-Phenyl-1-tosyl-2-(4-(trifluoromethyl)benzylidene) indolin-3-ol (**2j**)

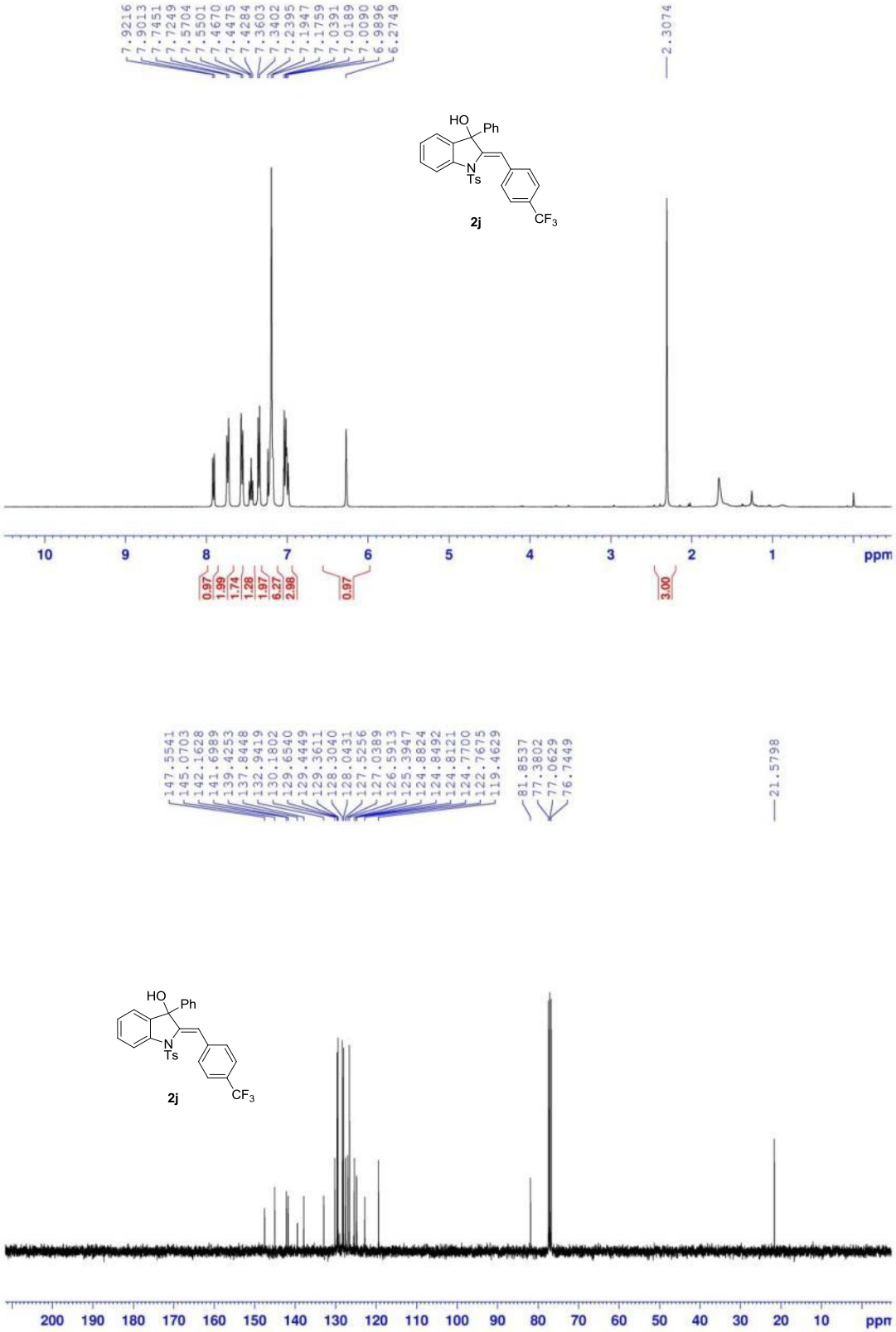


Figure S36. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-(4-Methylbenzylidene)-3-phenyl-1-tosylindolin-3-ol (**2k**)

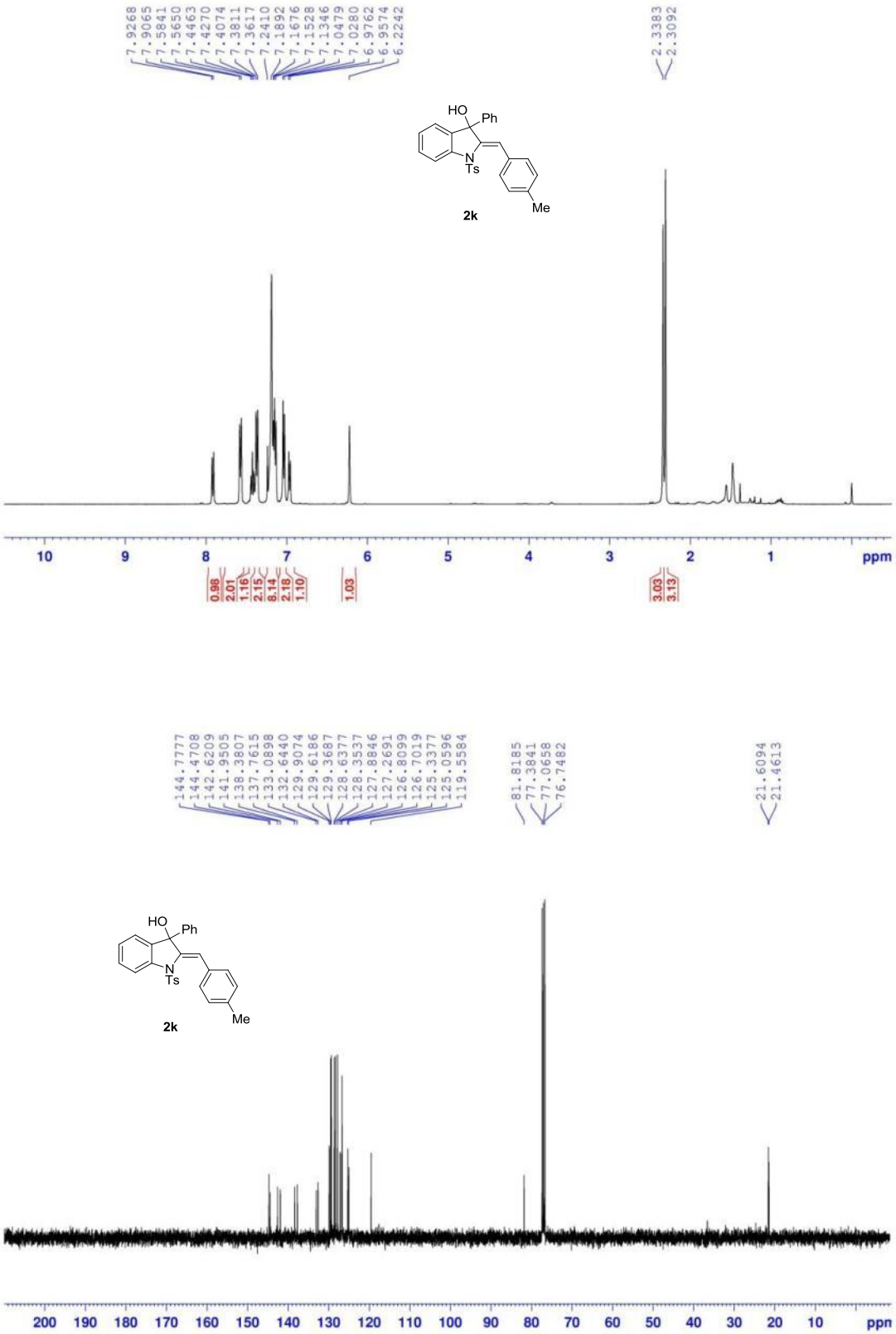


Figure S37. ^{1}H and ^{13}C NMR Spectra of (*Z*)-3-Phenyl-2-(thiophen-3-ylmethylene)-1-tosylindolin-3-ol (**2l**)

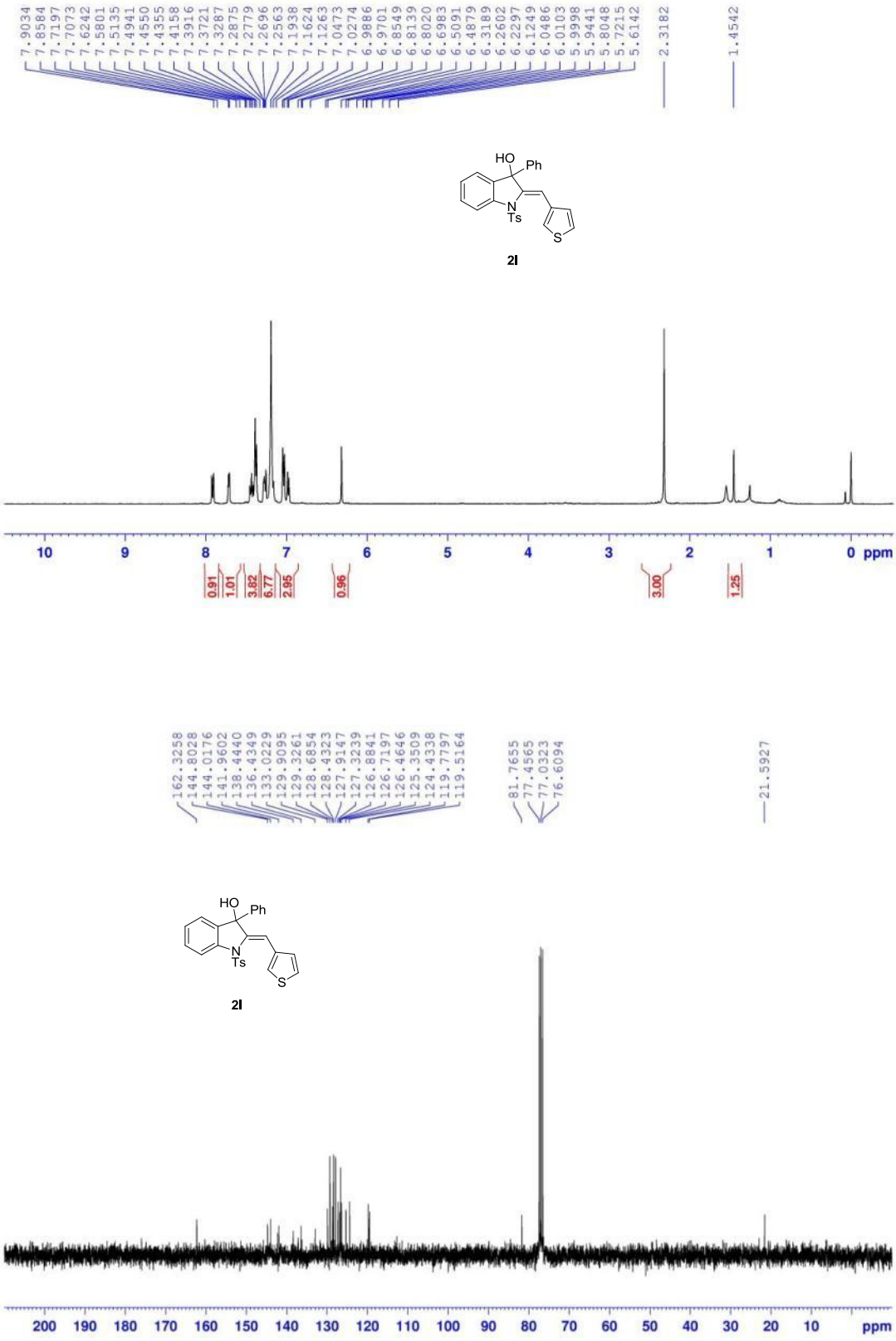


Figure S38. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-(Cyclopropylmethylene)-3-phenyl-1-tosylindolin-3-ol (**2m**)

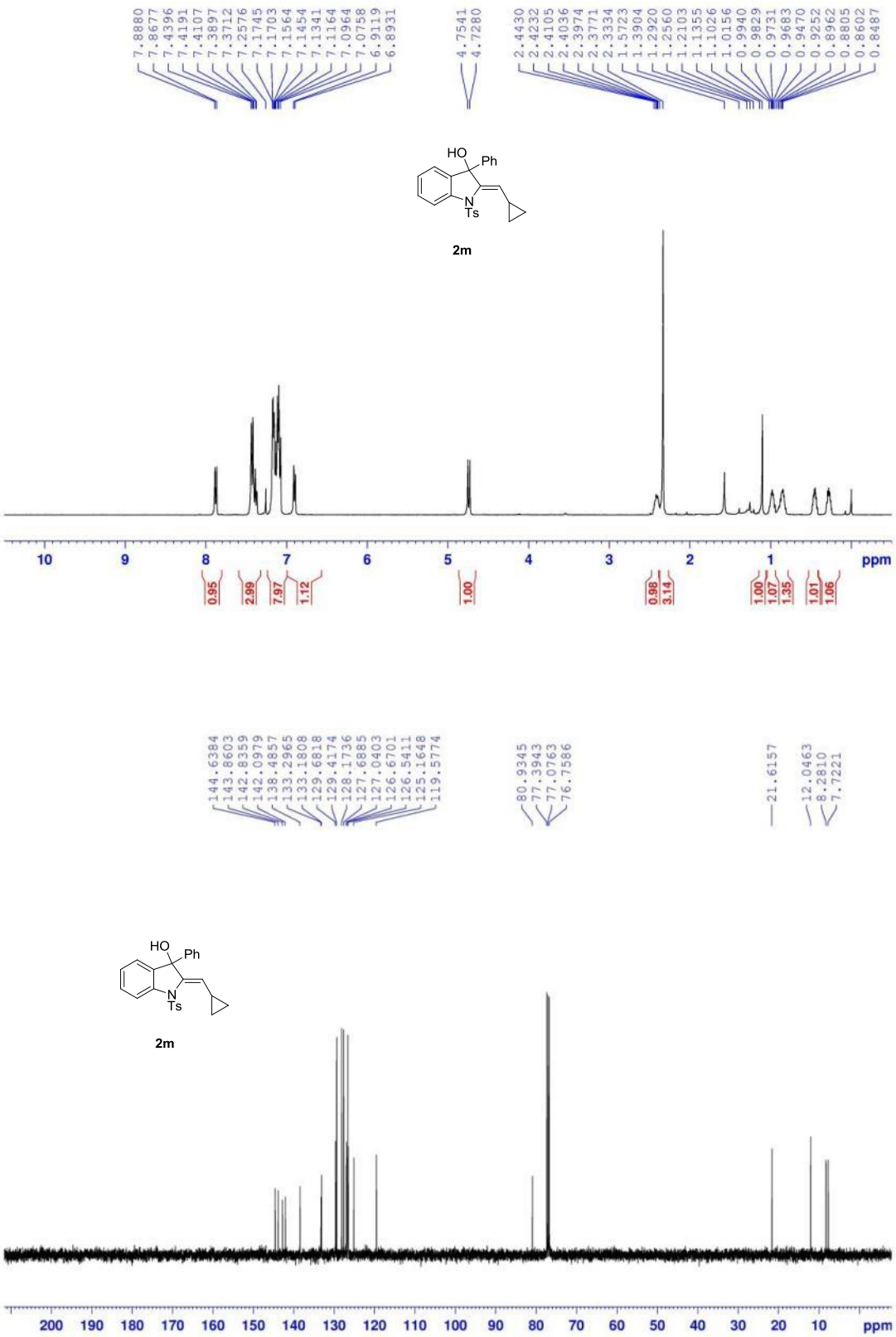


Figure S39. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Pentylidene-3-phenyl-1-tosylindolin-3-ol (**2n**)

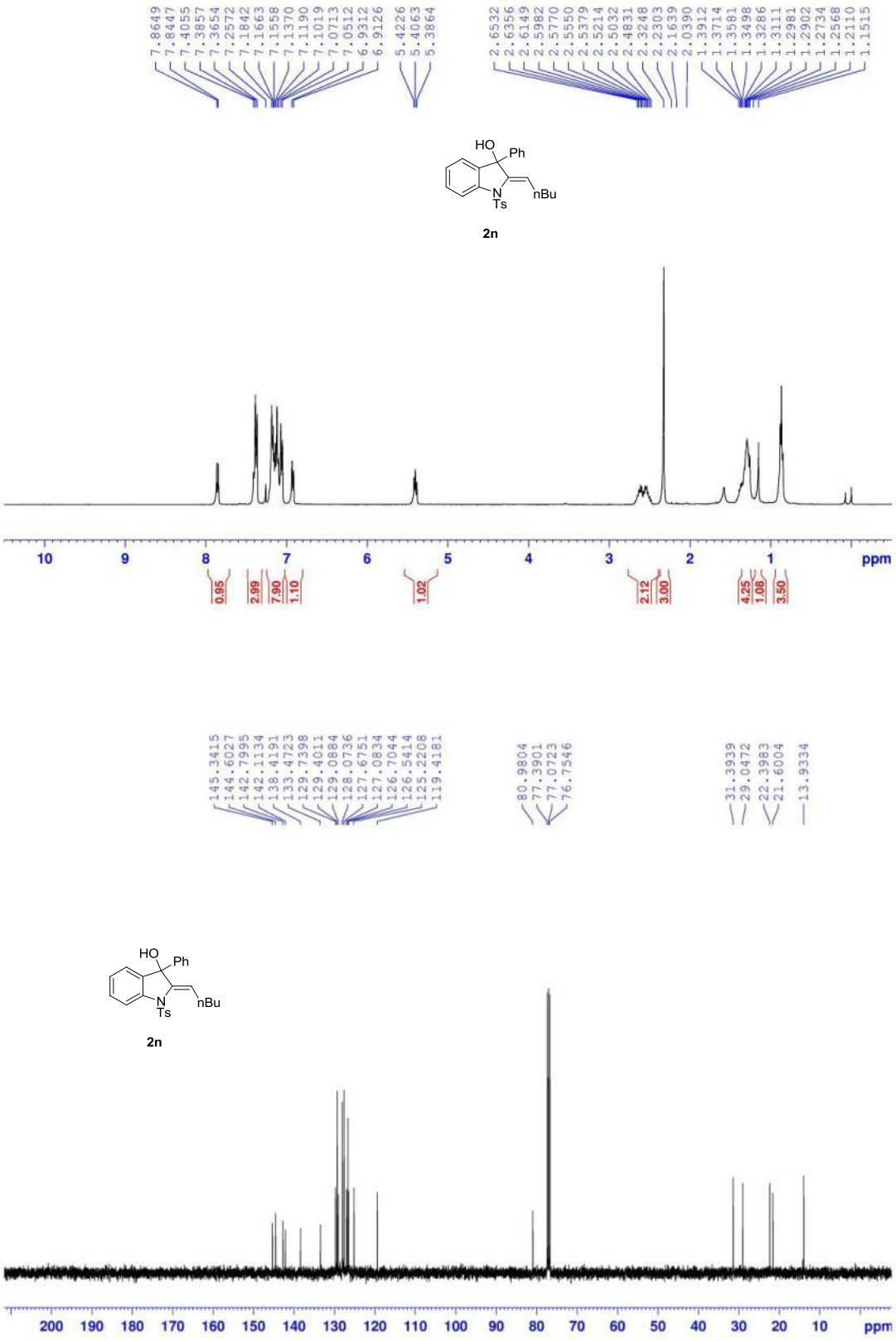


Figure S40. ^{1}H and ^{13}C NMR Spectra of (*Z*)-3-Methyl-2-pentylidene-1-tosylindolin-3-ol (**2o**)

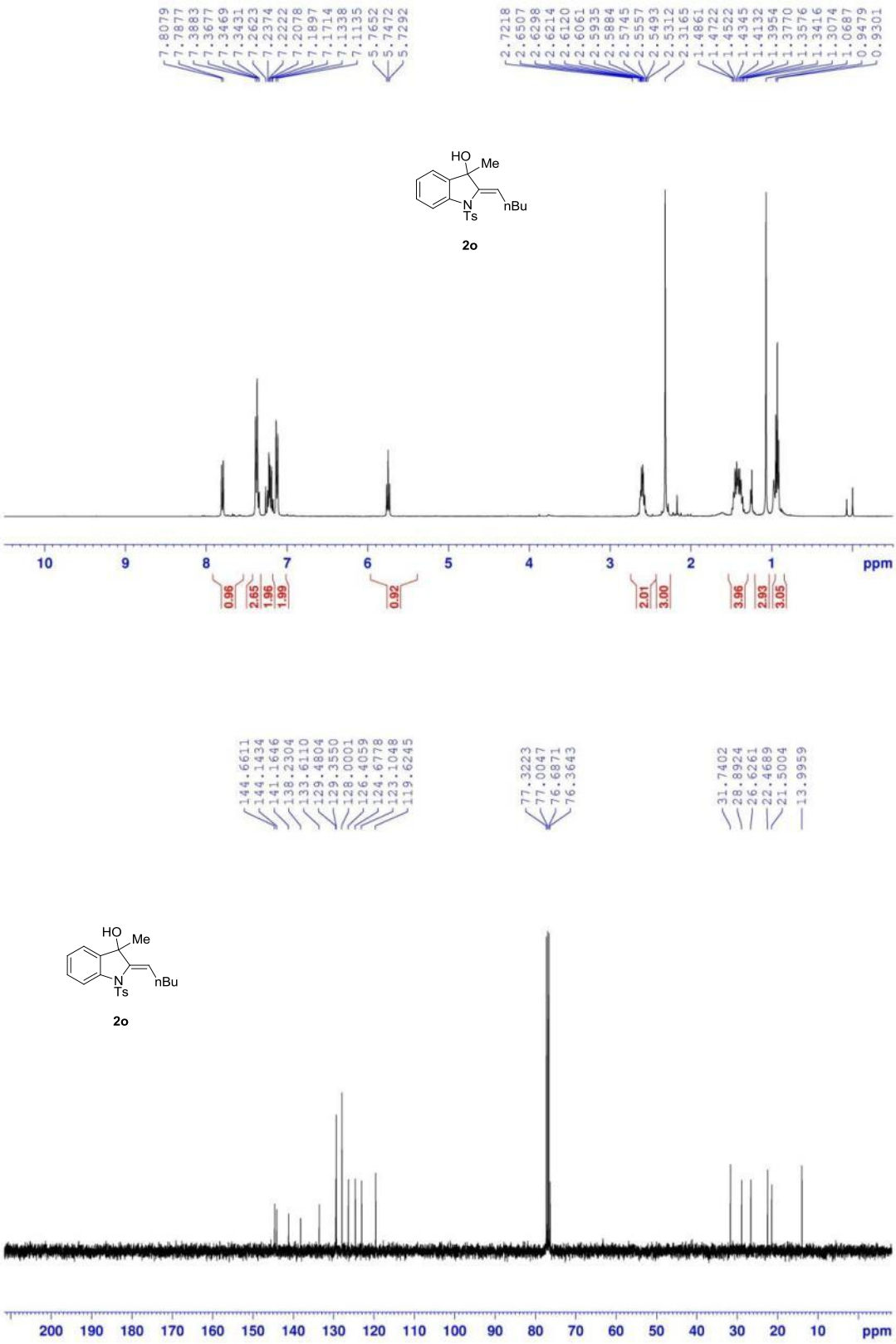


Figure S41. ^{1}H and ^{13}C NMR Spectra of 2-Methylene-3-phenyl-1-tosylindolin-3-ol (**2p**)

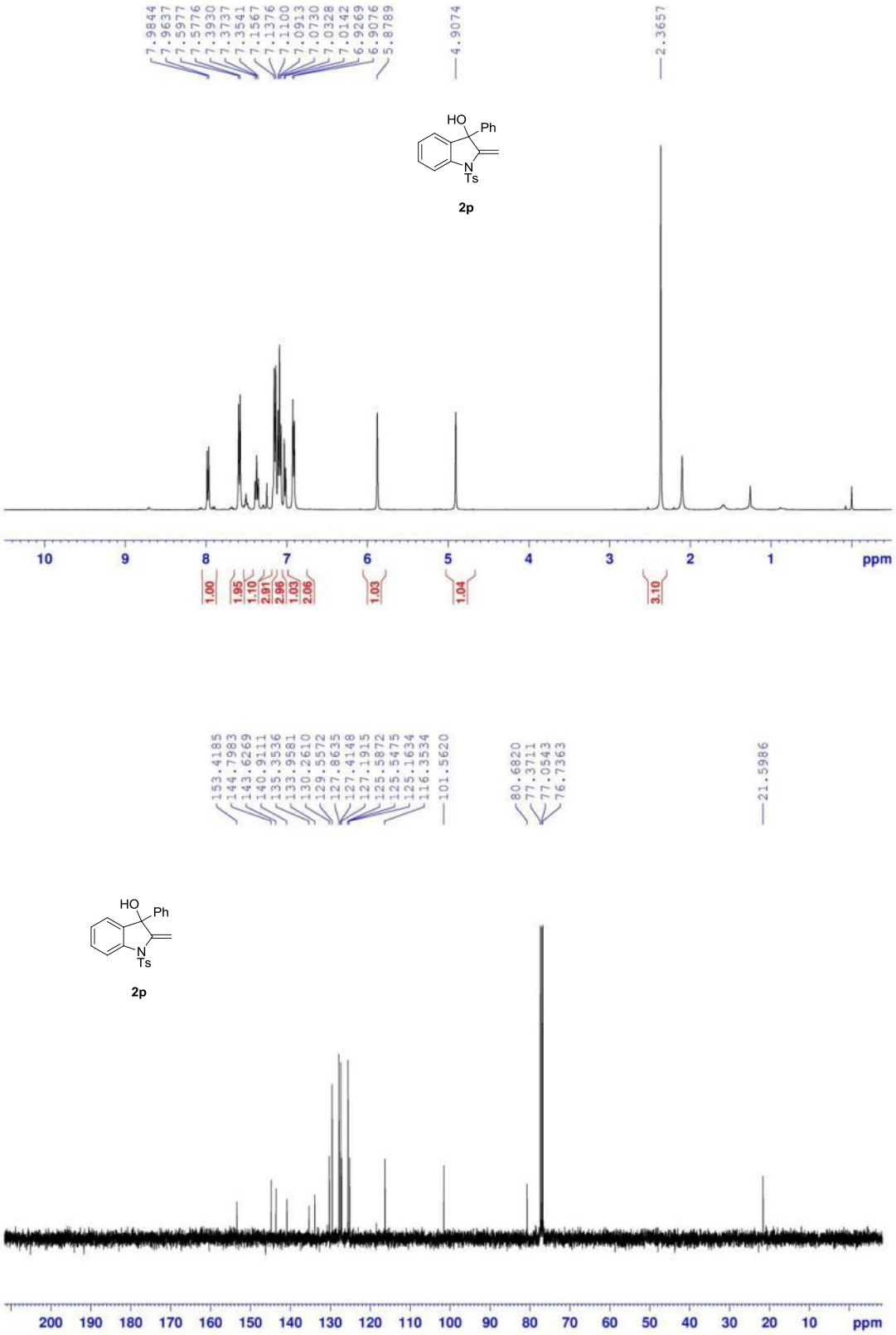


Figure S42. ^{1}H and ^{13}C NMR Spectra of 3-Methyl-2-methylene-1-tosylindolin-3-ol (**2q**)

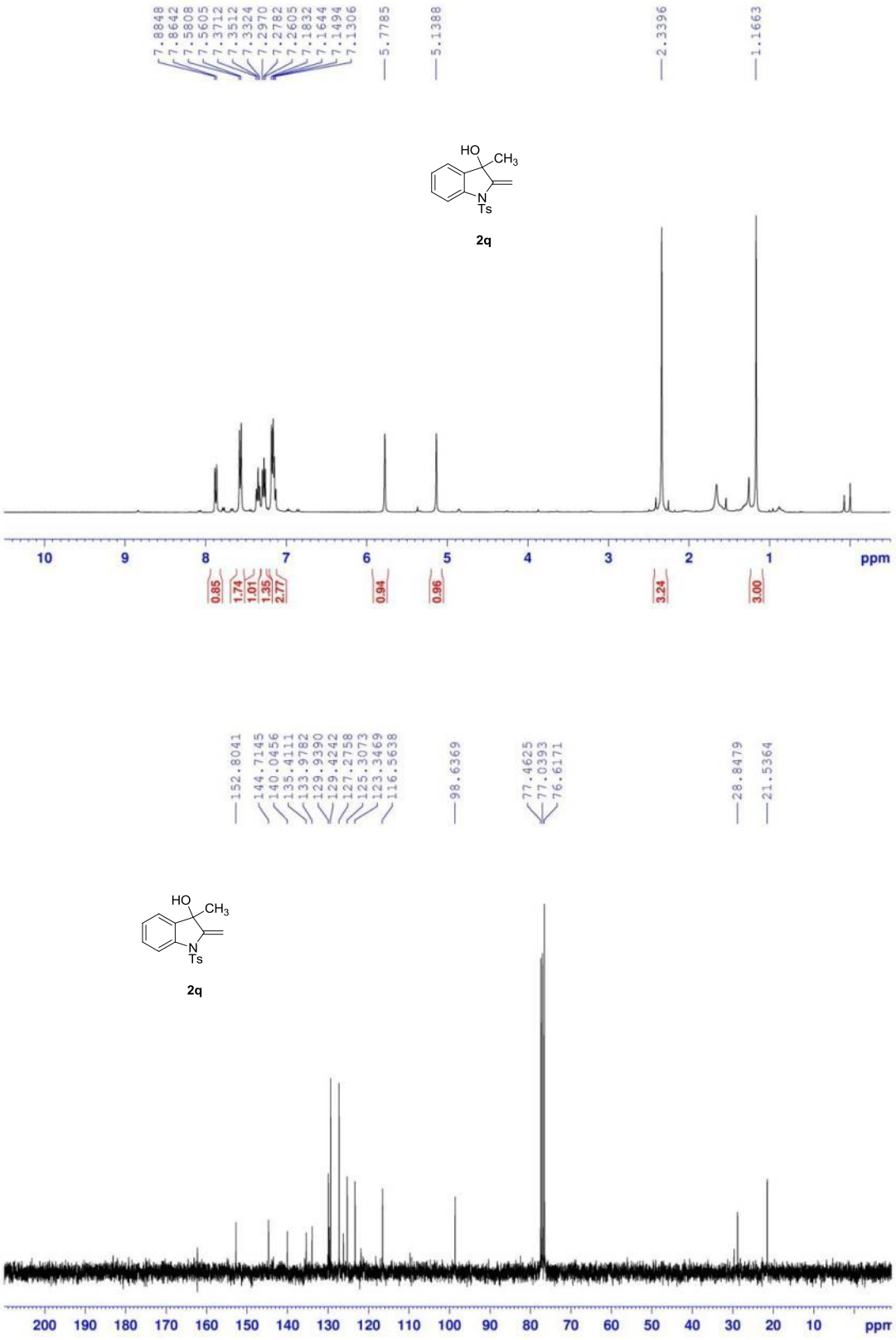


Figure S43. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-1-tosylindolin-3-ol (**2r**)

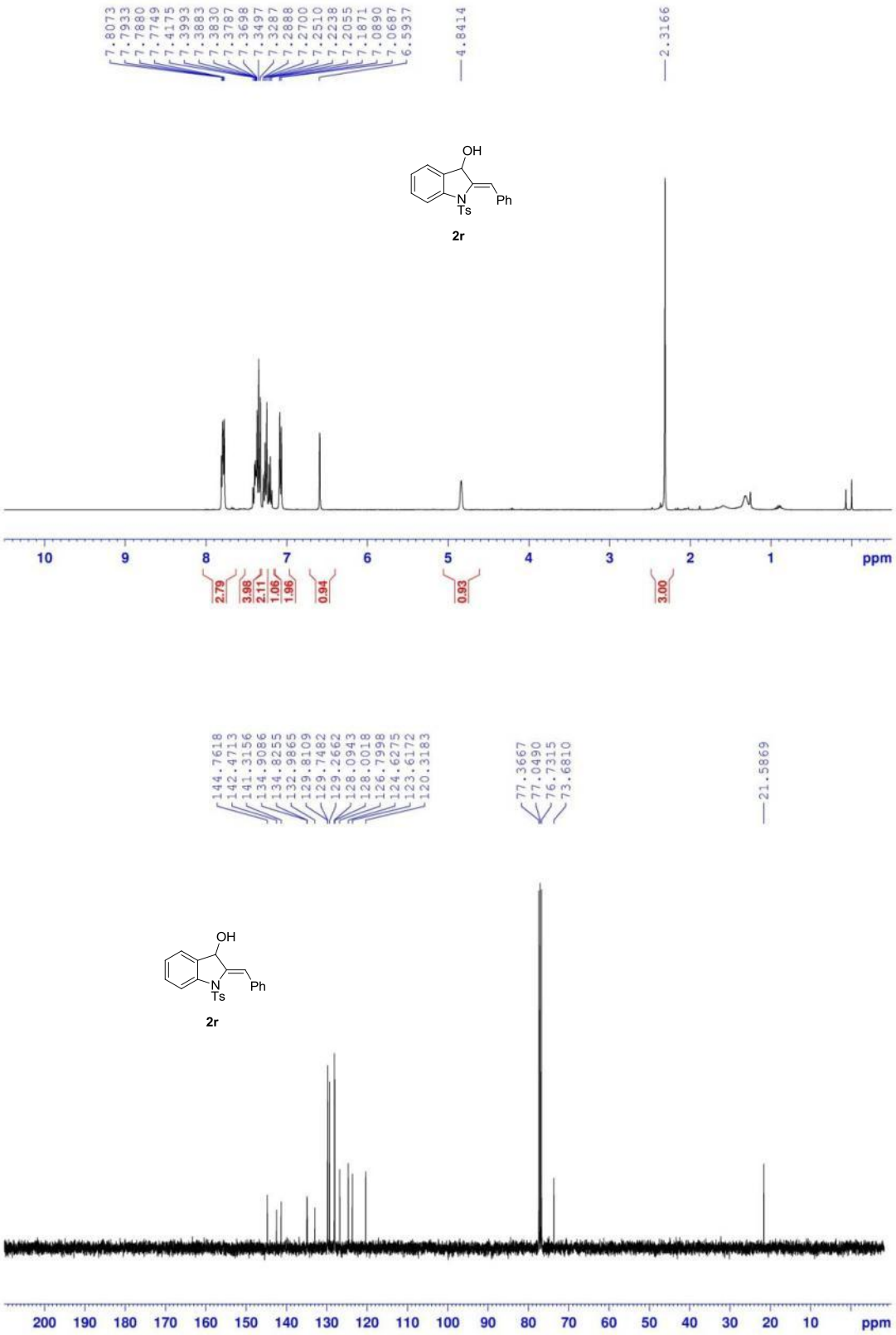


Figure S44. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Ethylidene-1-tosylindolin-3-ol (**2s**)

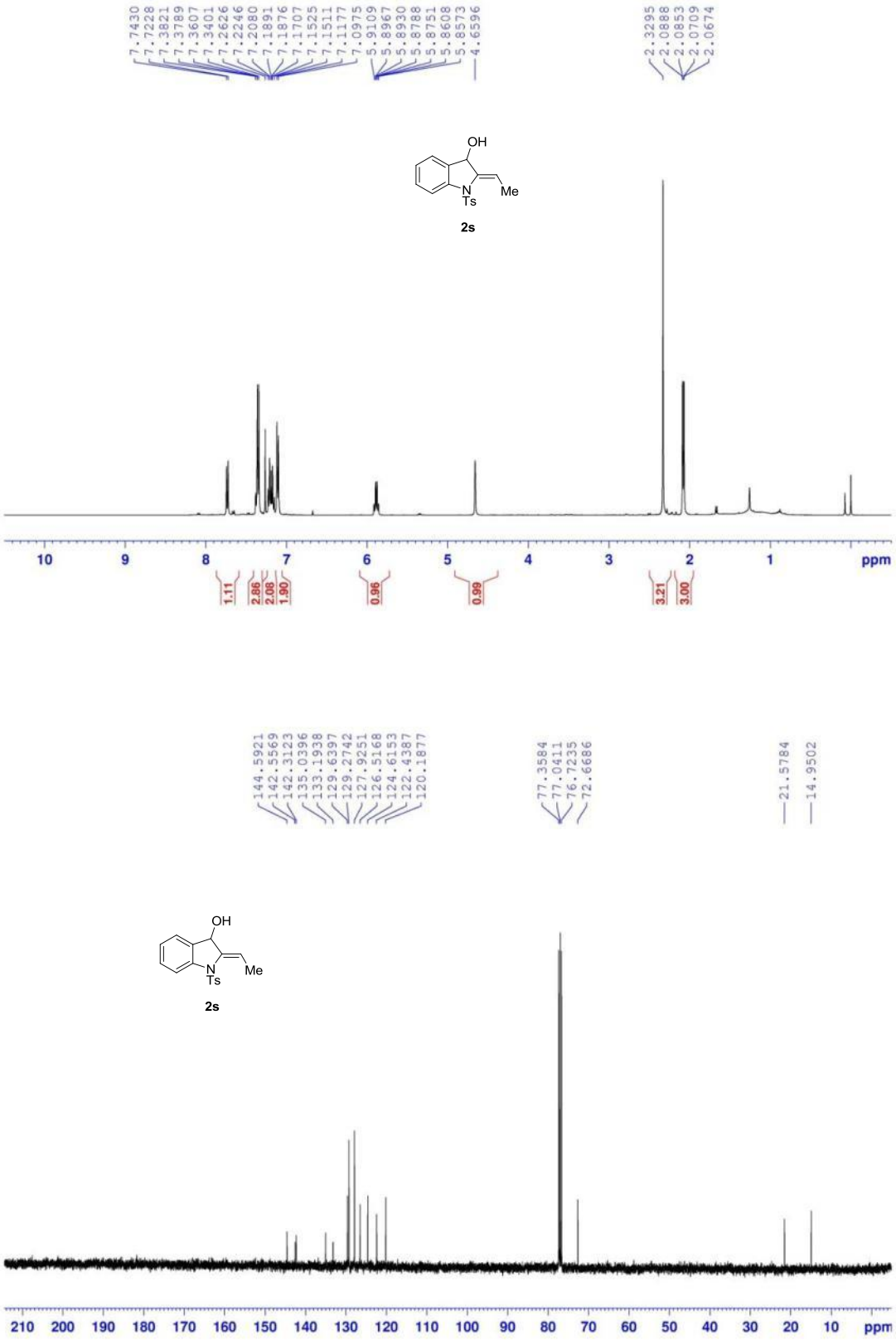


Figure S45. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Pentylidene-1-tosylindolin-3-ol (**2t**)

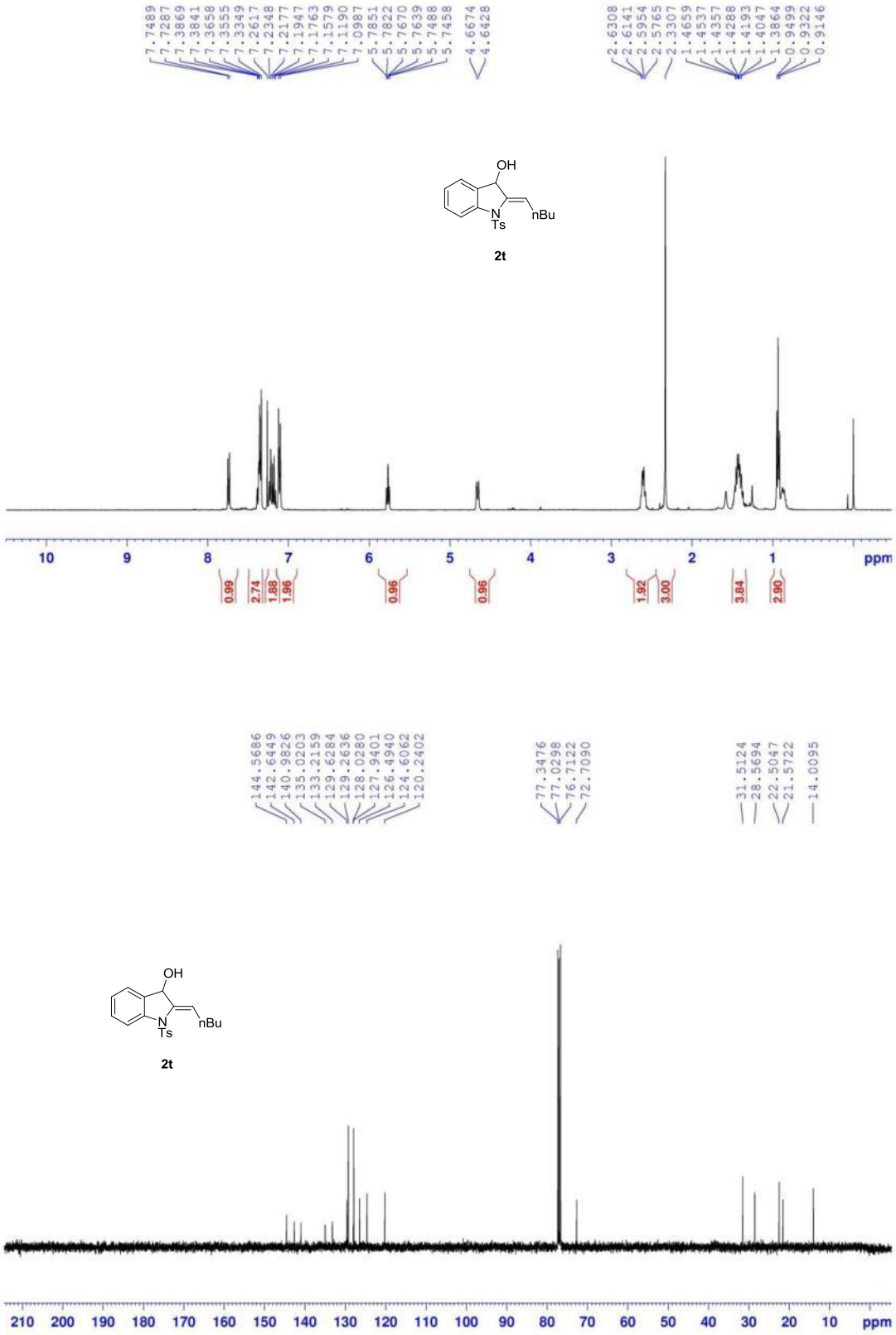


Figure S46. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-(Cyclopropylmethylene)-1-tosylindolin-3-ol (**2u**)

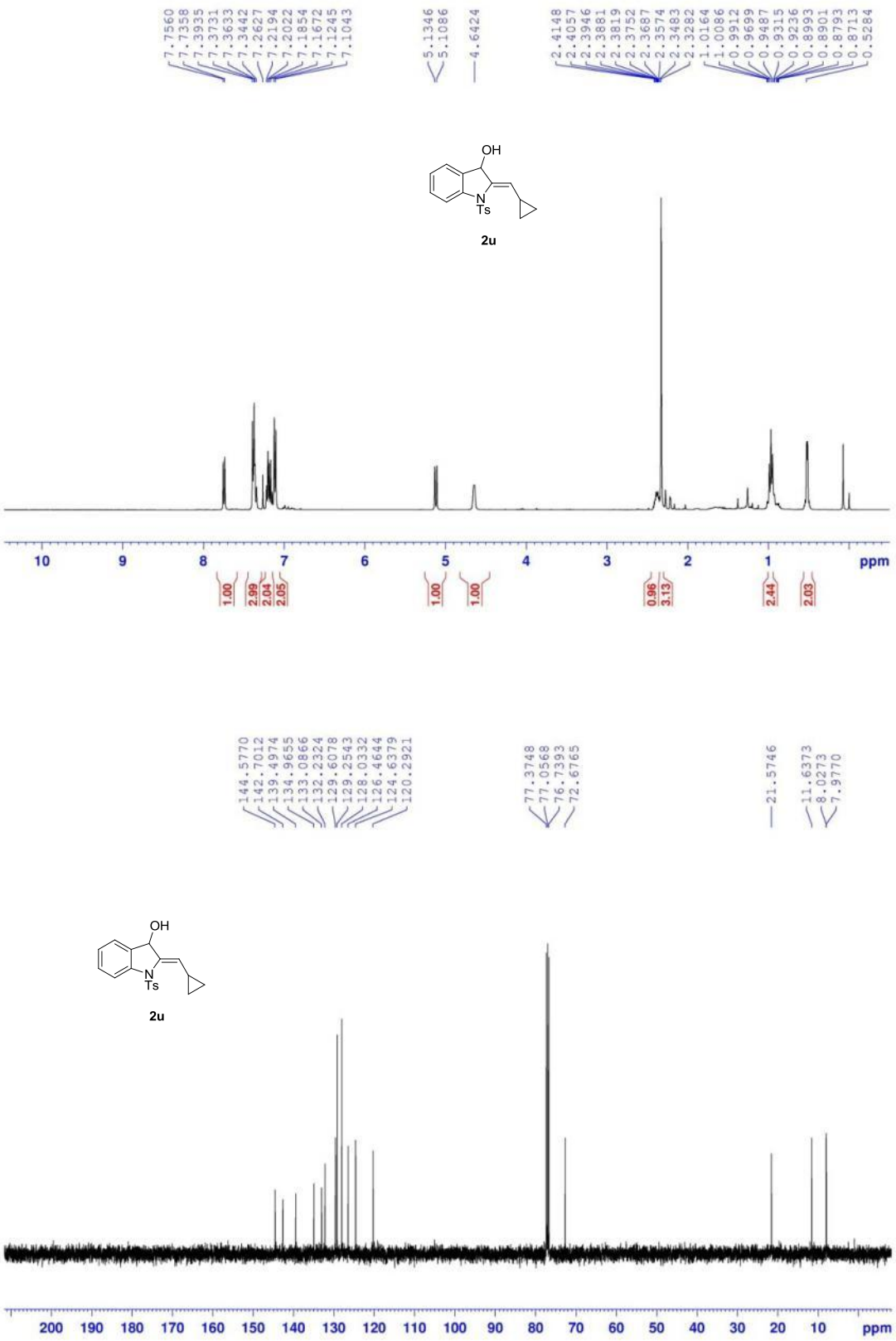
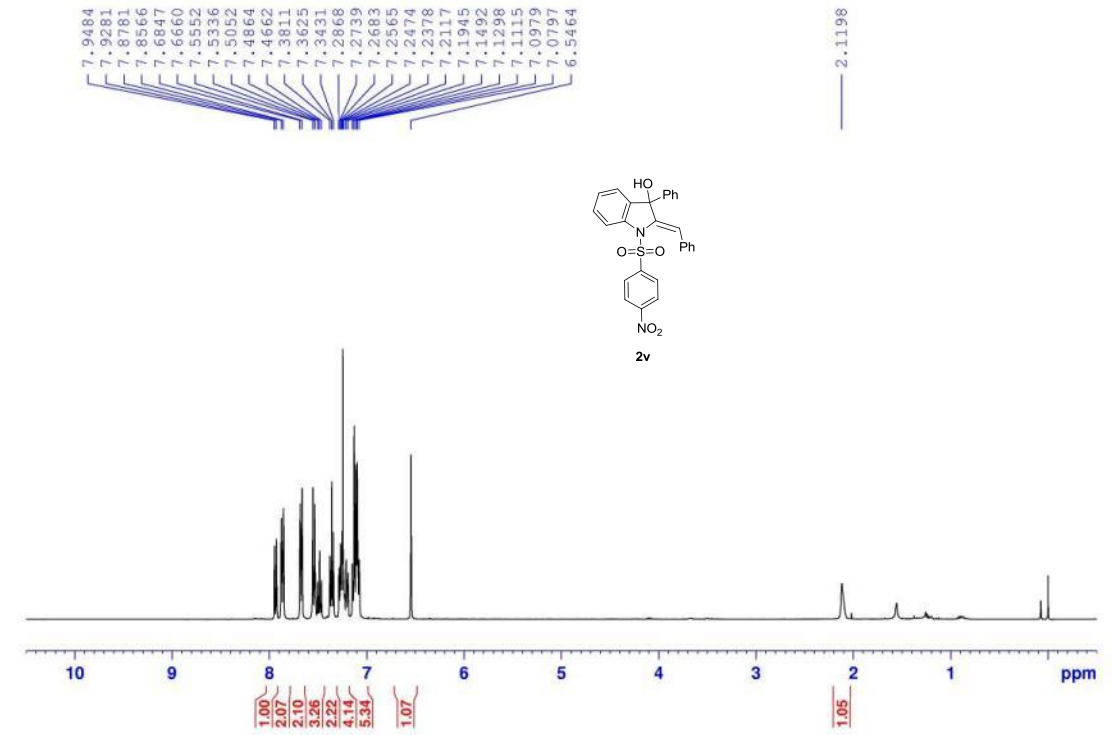


Figure S47. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-1-((4-nitrophenyl)sulfonyl)-3-phenylindolin-3-ol (**2v**)



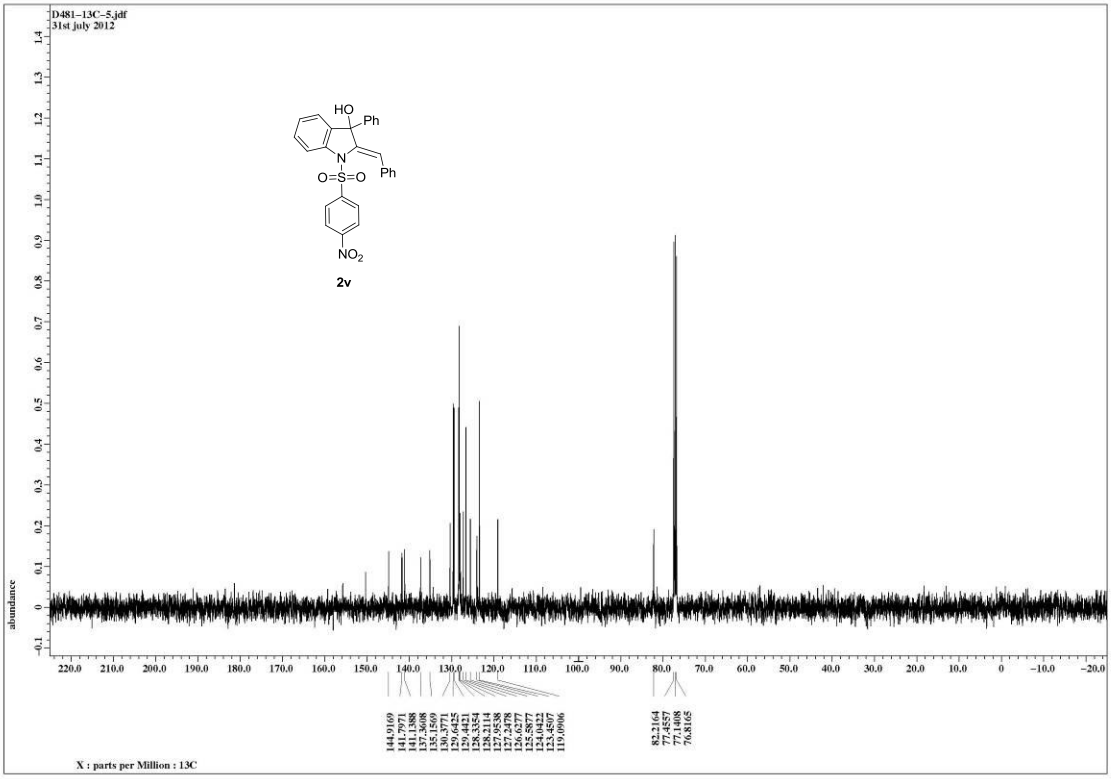


Figure S48. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-1-(methylsulfonyl)-3-phenylindolin-3-ol (**2w**)

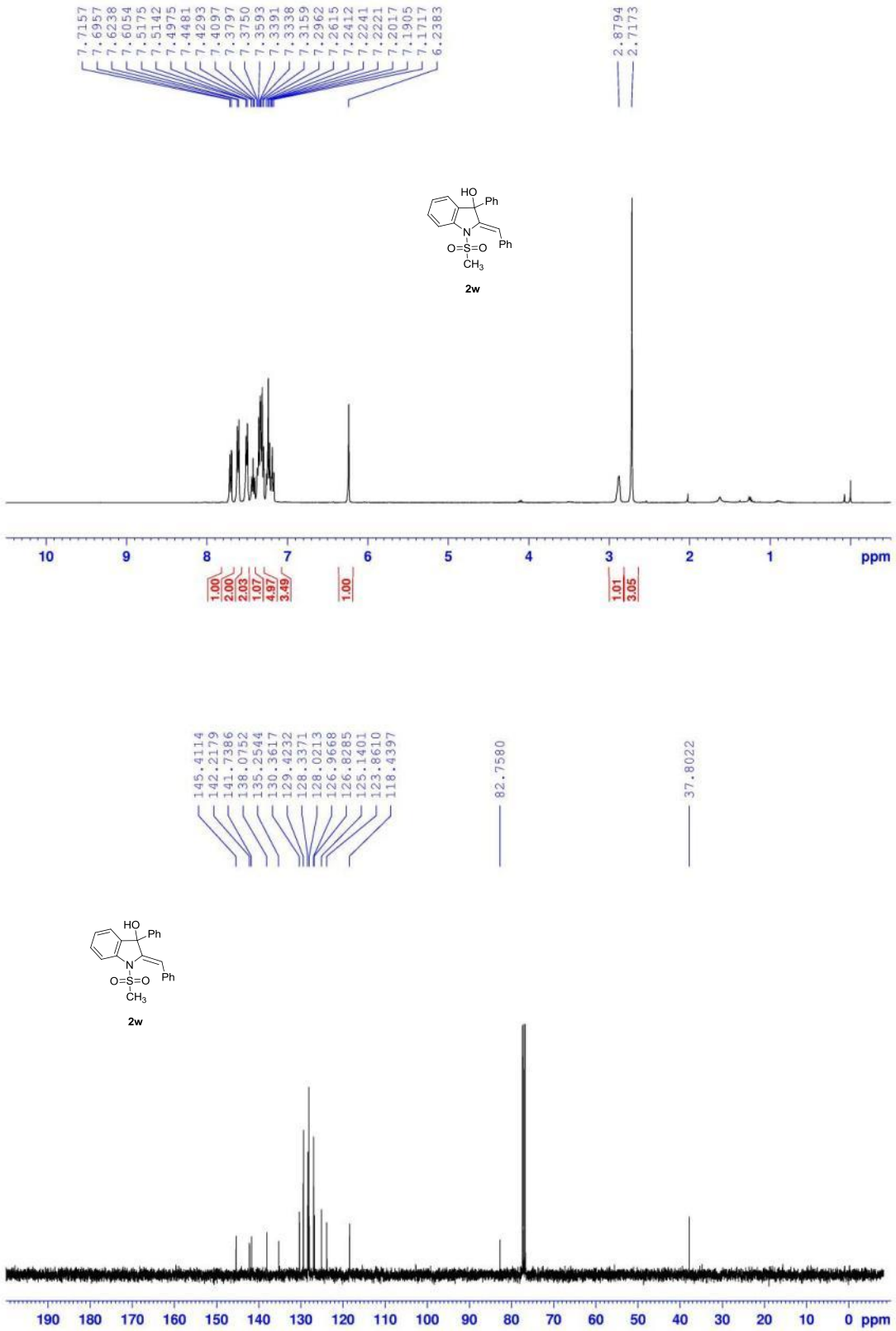


Figure S49. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-3-phenyl-1-tosylindolin-3-ol (*d*$_1$-**2a**)

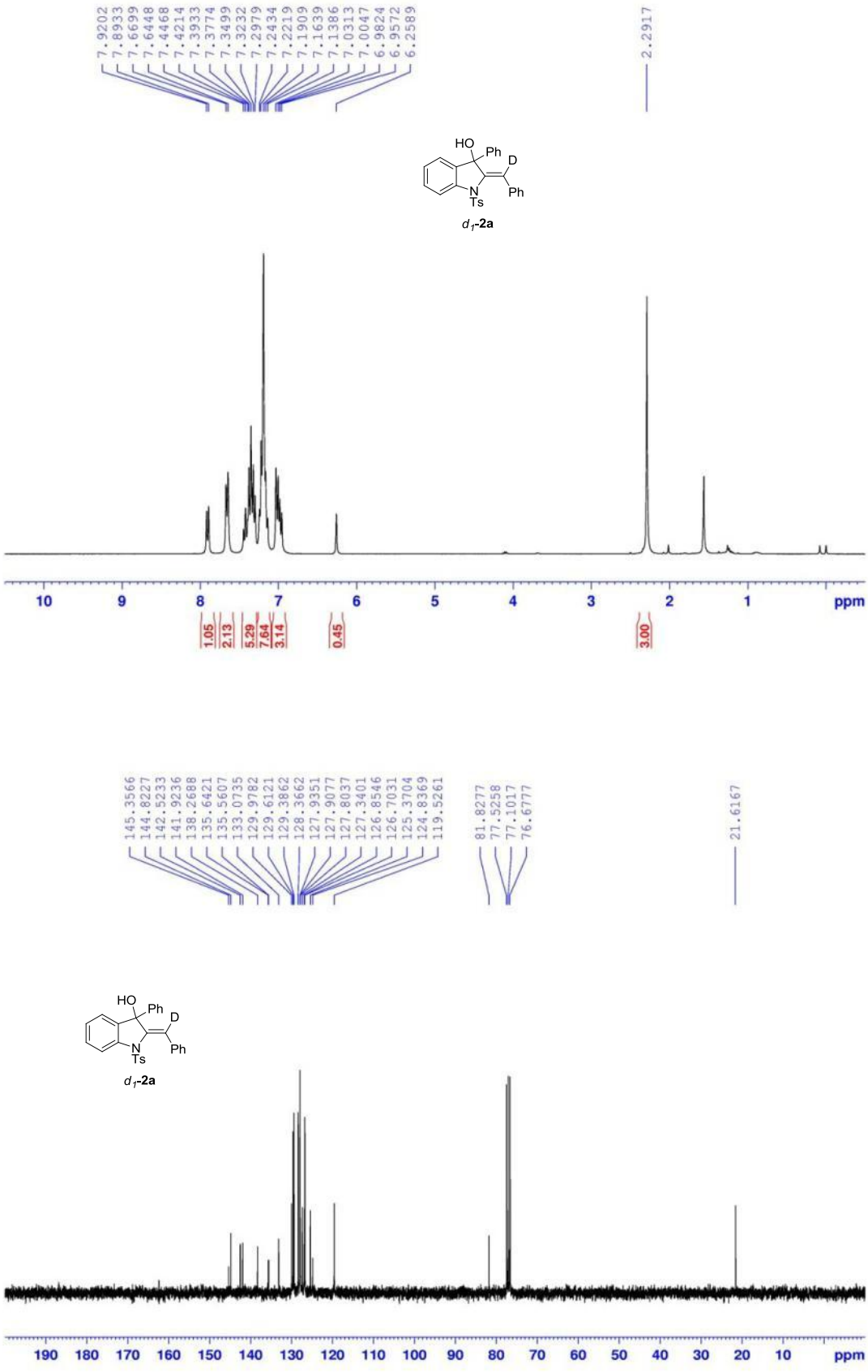


Figure S50. ^{1}H and ^{13}C NMR Spectra of Phenyl(3-phenyl-1-tosyl-1*H*-indol-2-yl)methanol (**4a**)

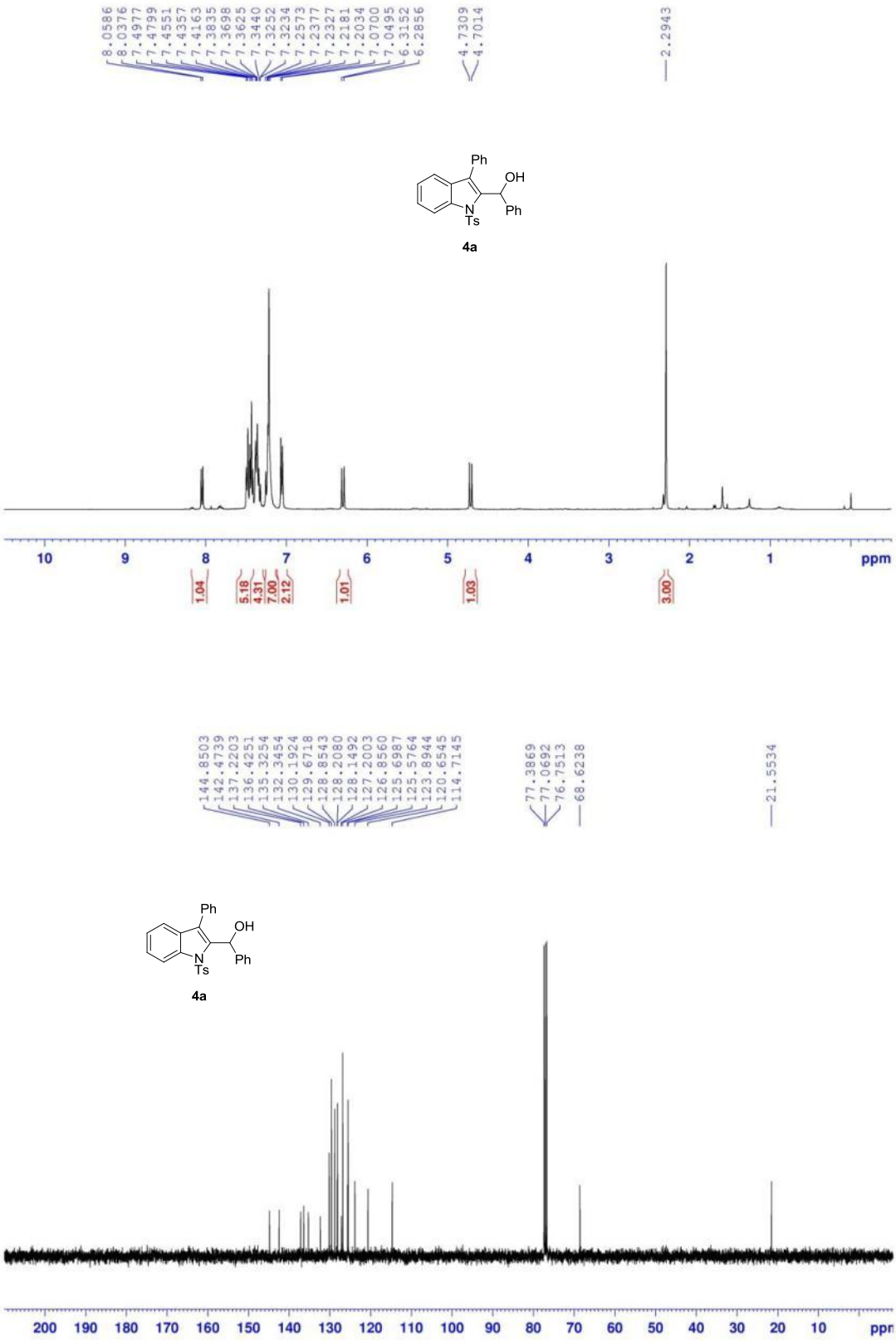


Figure S51. ^{1}H and ^{13}C NMR Spectra of 2-(Fluoromethyl)-3-phenyl-1-tosyl-1*H*-indole (**5p**)

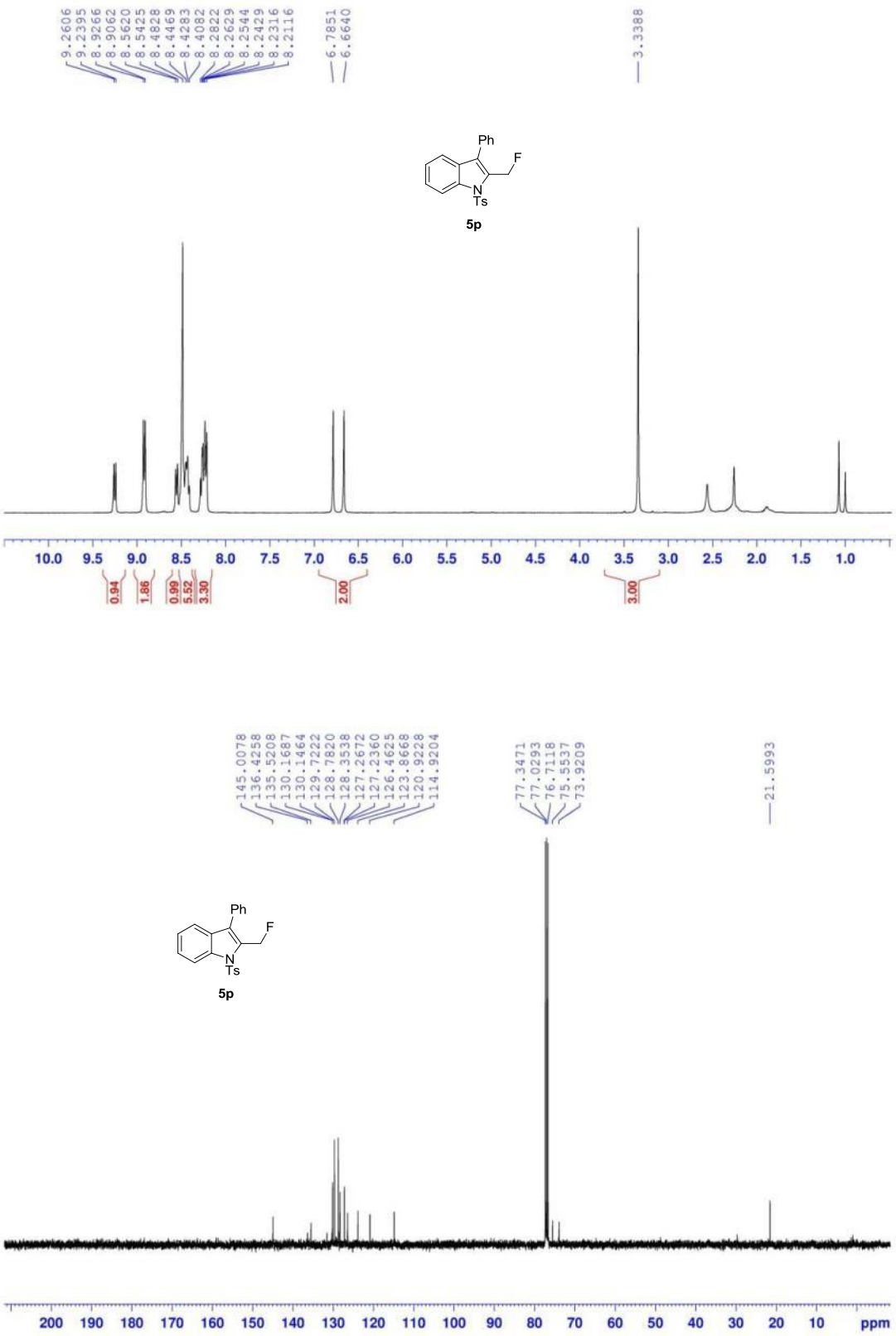


Figure S52. ^{1}H and ^{13}C NMR Spectra of 3-(Iodomethyl)-3-phenyl-1-tosylindolin-2-one (**6p**)

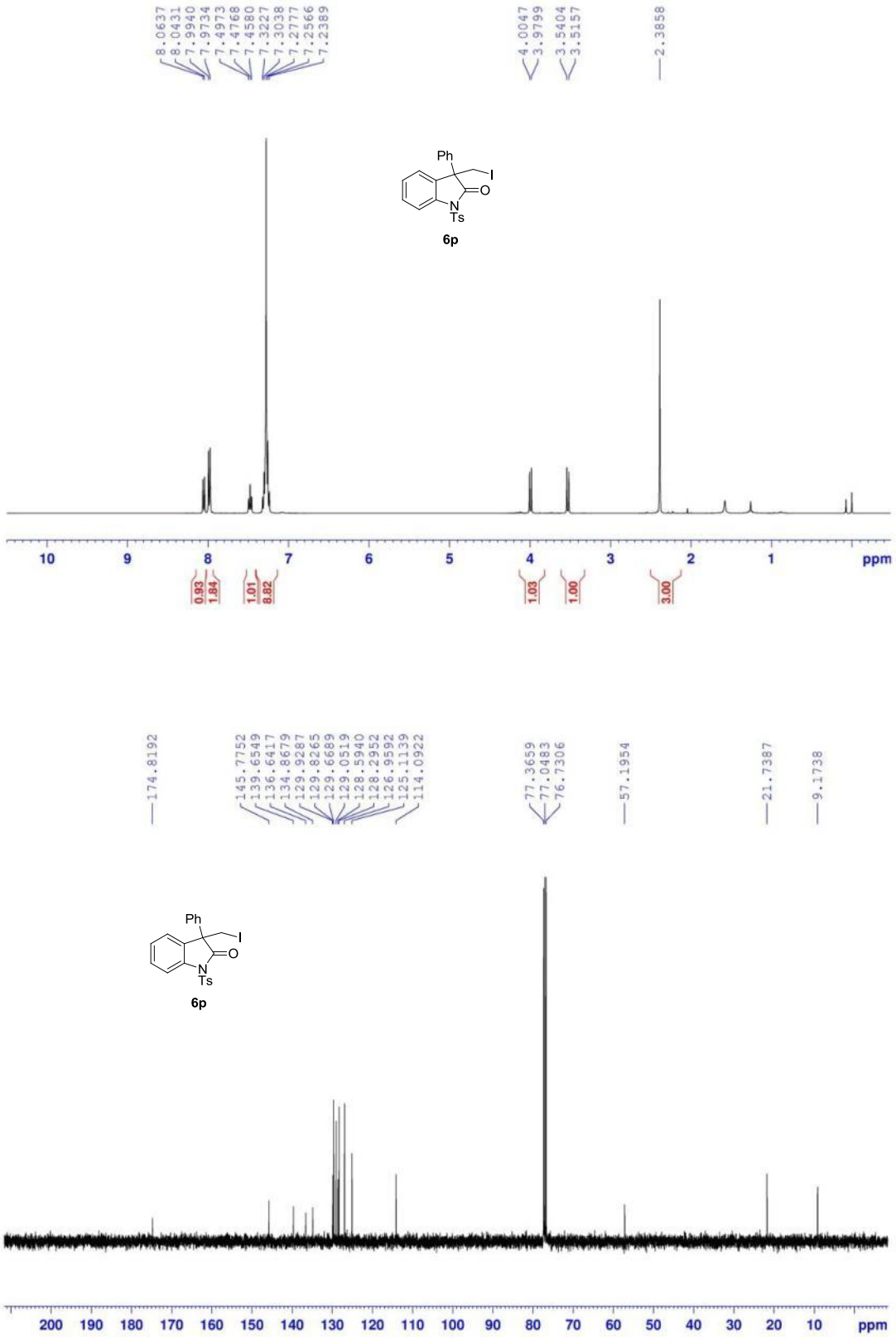


Figure S53. ^{1}H and ^{13}C NMR Spectra of (*Z*)-2-Benzylidene-1-tosylindolin-3-one (**7r**)

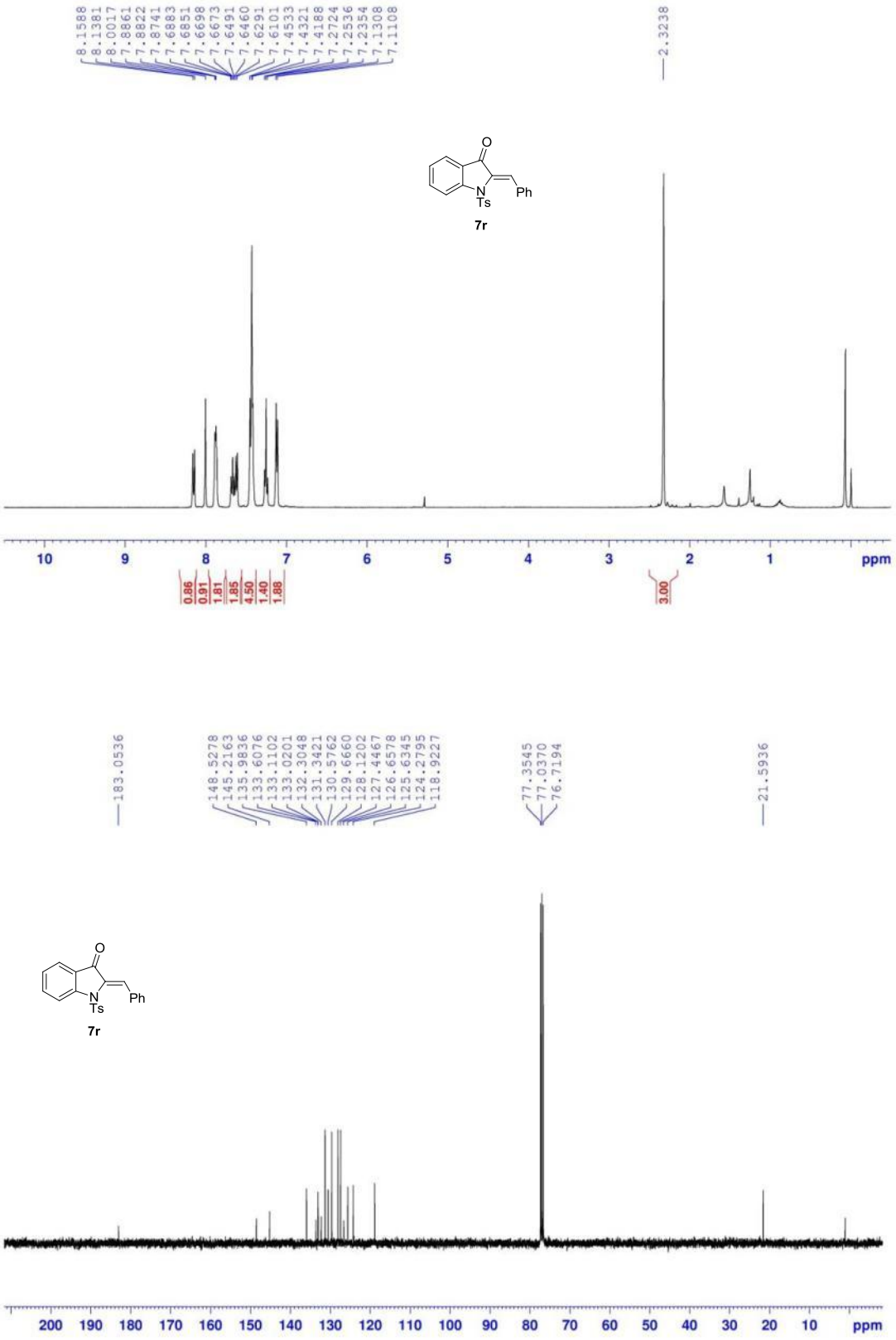


Figure S54. ORTEP Drawing of 2-(Fluoromethyl)-3-phenyl-1-tosyl-1*H*-indole (**5p**) with Thermal Ellipsoids at 50% Probability Levels[S2]

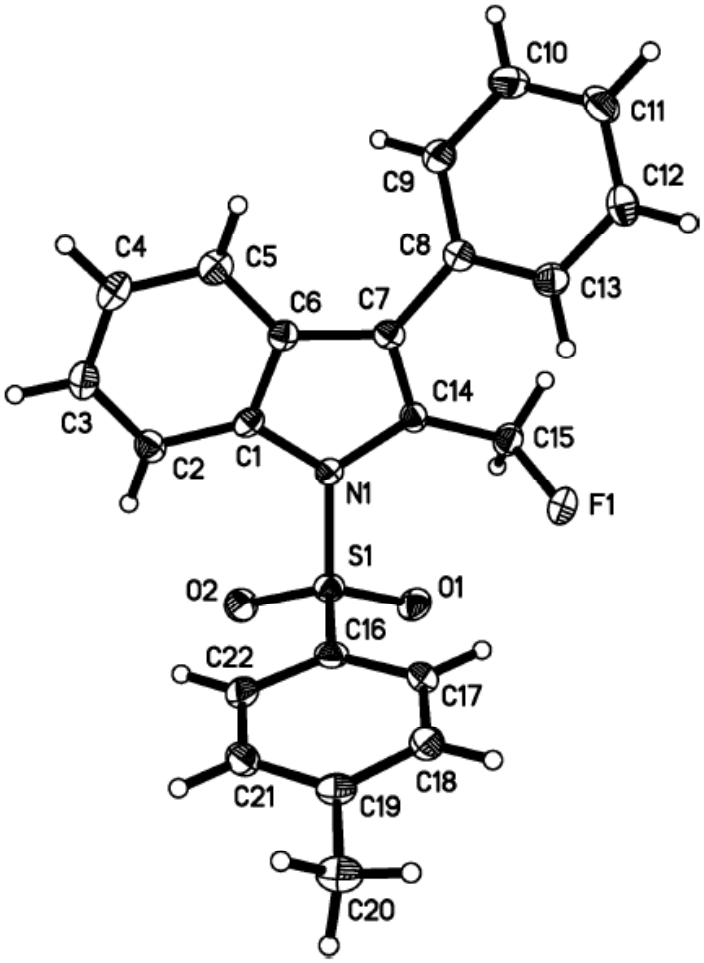


Figure S55. ORTEP Drawing of 3-(Iodomethyl)-3-phenyl-1-tosylindolin-2-one (**6p**) with Thermal Ellipsoids at 50% Probability Levels[S3]

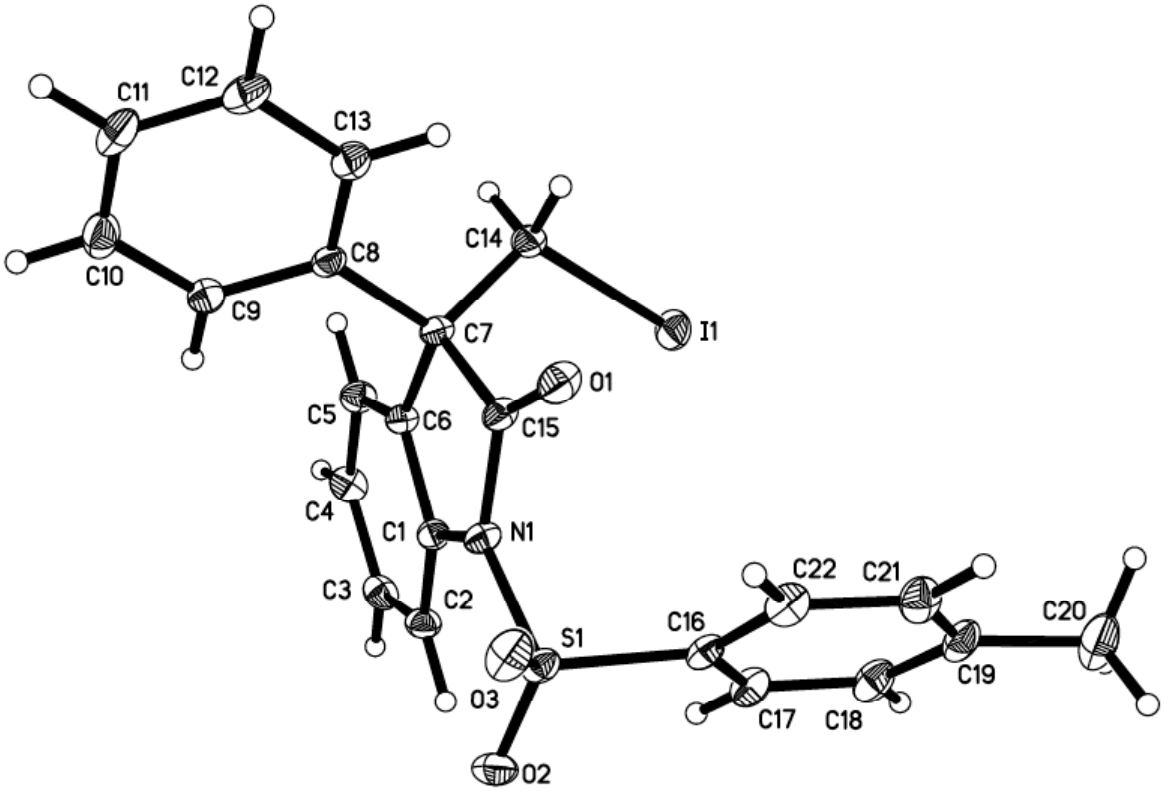
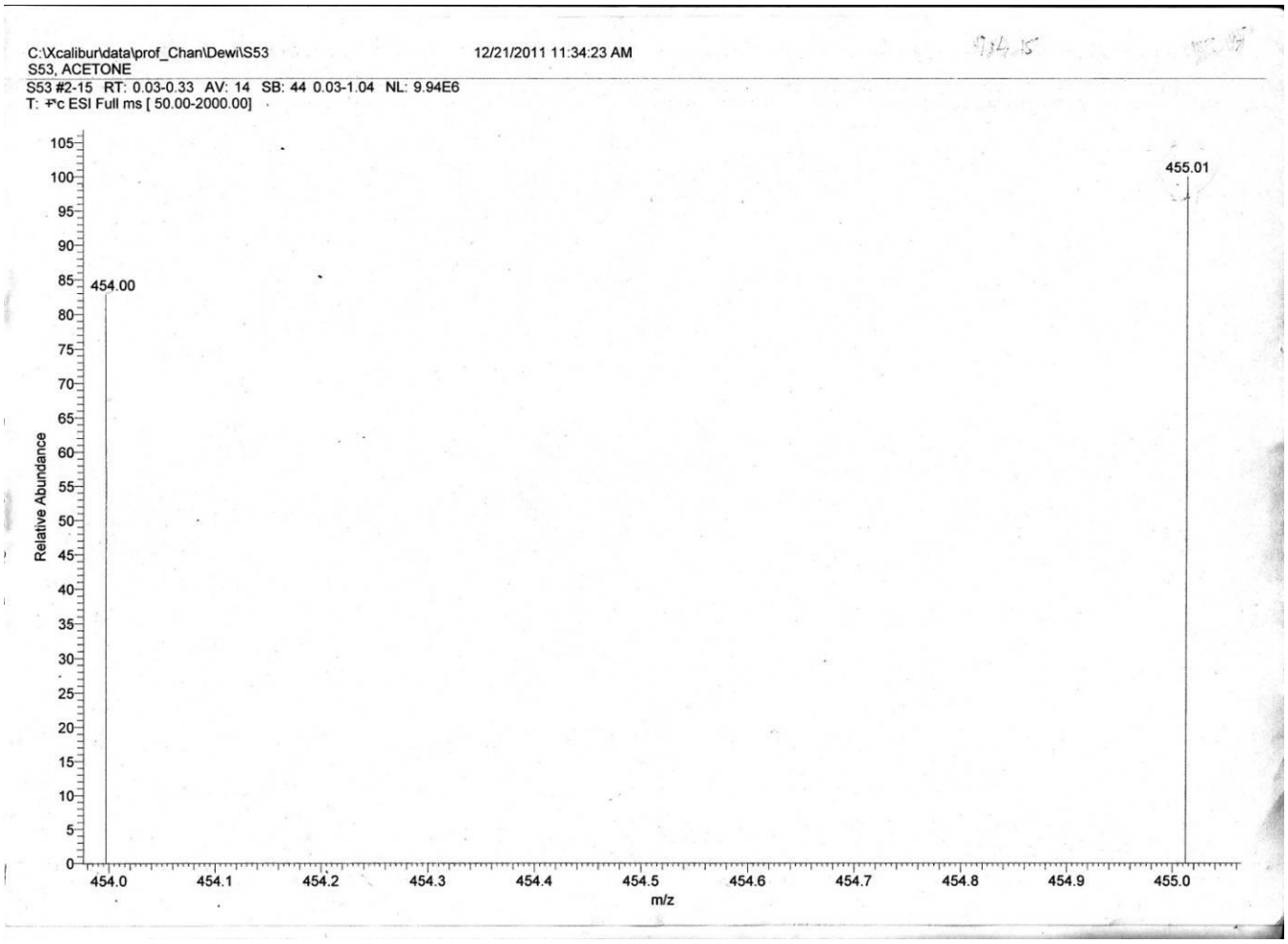


Figure S56. LC-MS Spectrum of (d_1-**2a**)



References

S1. For X-Ray crystal structure of **2a**, refer to: Kothandaraman, P.; Rao, W.; Foo, S. J.; Chan, P. W. H. *Angew. Chem. Int. Ed*. **2010**, *49*, 4619

S2. CCDC 883977 (**5p**) contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif.

S3. CCDC 884750 (**6p**) contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data_request/cif.