Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry

Electronic Supplementary Information

for

Study of substrate dependence on the chemoselectivity of the gold-catalysed cycloisomerisation of aryl substituted 1,7-enynes

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Figure 1: ^{1}H and ^{13}C NMR spectrum of (*E*)-4-methyl-*N*-(4-phenylbut-3-enyl)-*N*-(prop-2-ynyl)benzenesulfonamide (3a)

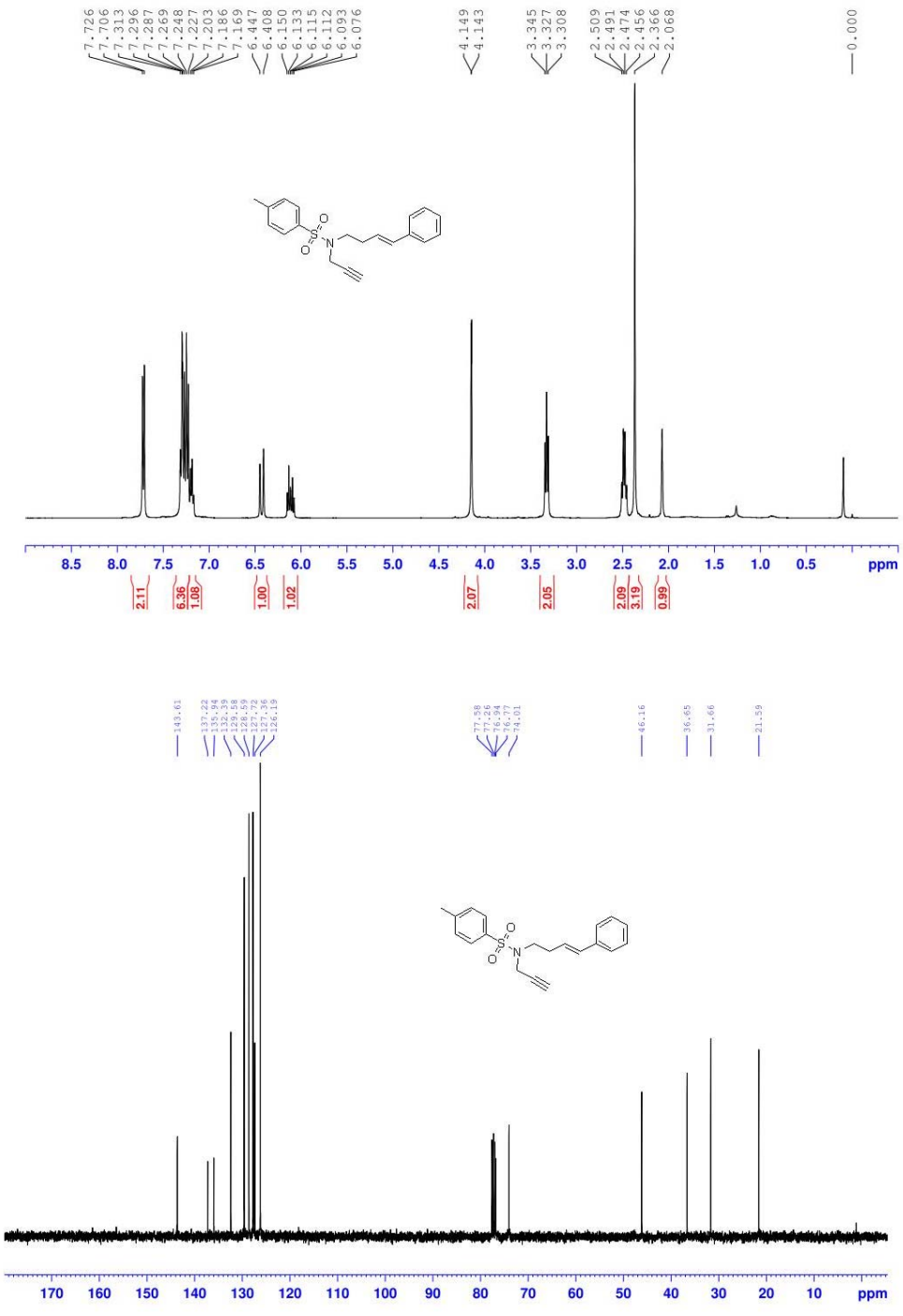


Figure 2: ^{1}H and ^{13}C NMR spectrum of (*E*)-4-methyl-*N*-(prop-2-ynyl)-*N*-(4-p-tolylbut-3-enyl)benzenesulfonamide (3b)

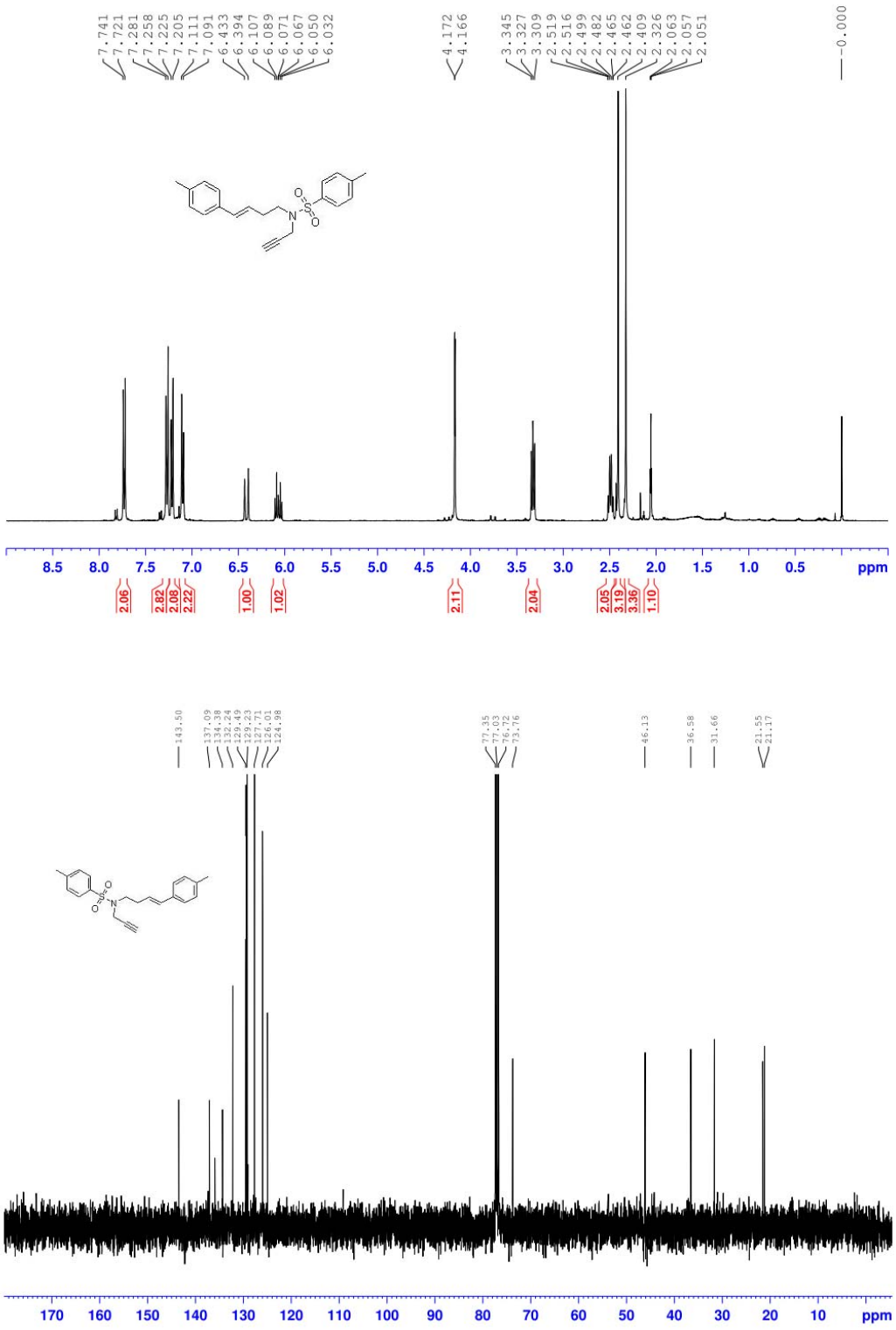


Figure 3: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(4-(4-methoxyphenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3c)

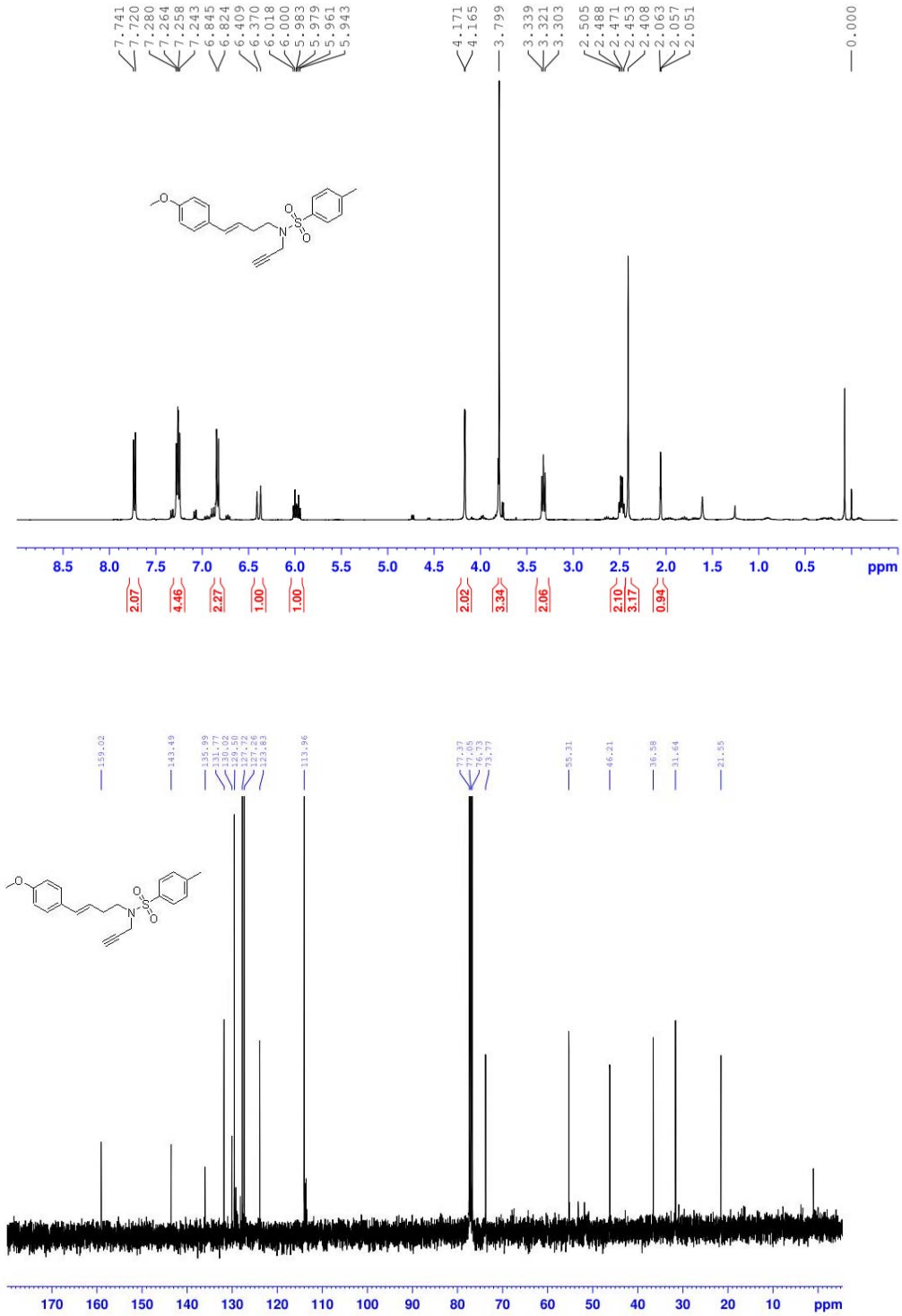


Figure 4: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(4-(4-fluorophenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3d)

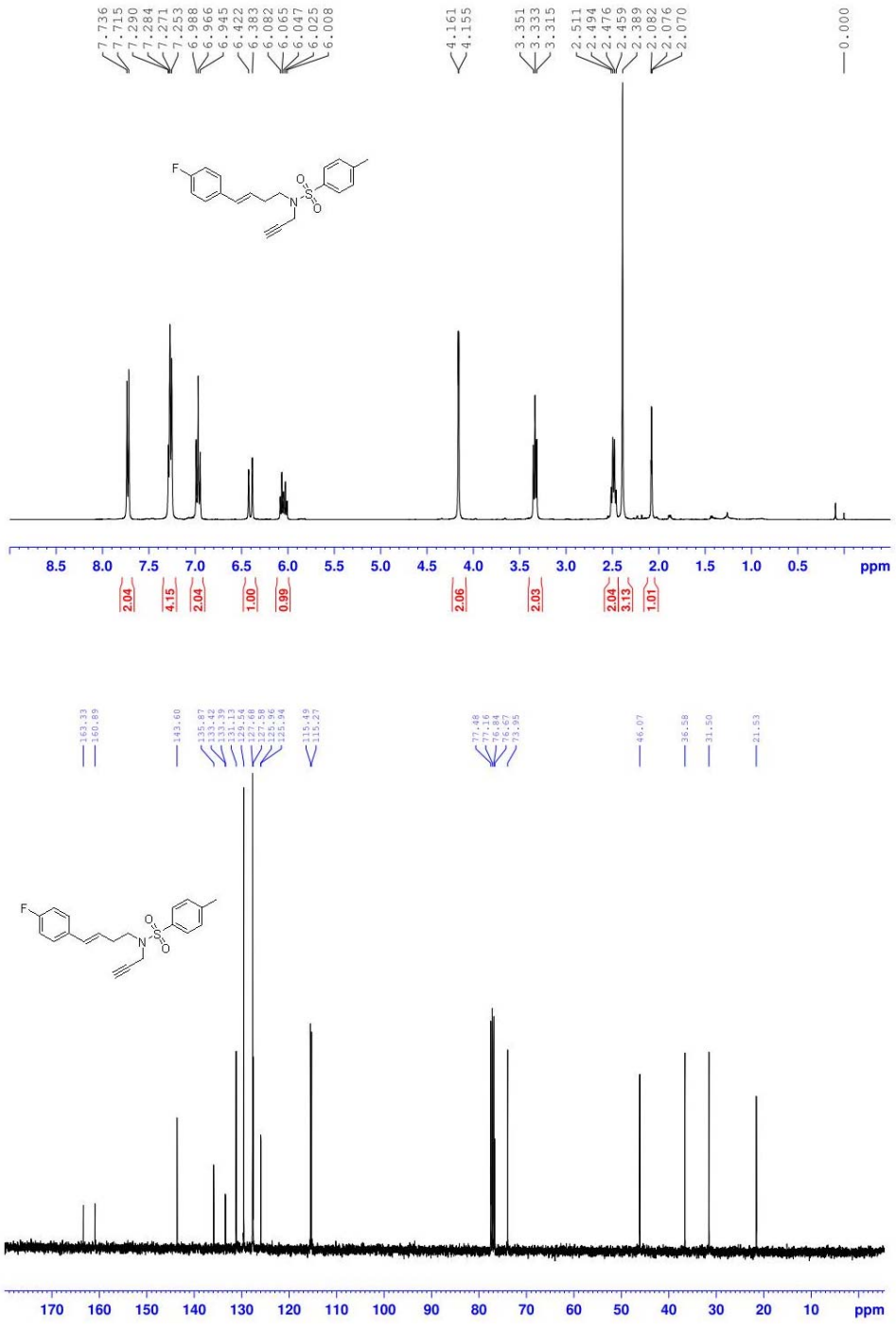


Figure 5: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(4-(4-chlorophenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3e)

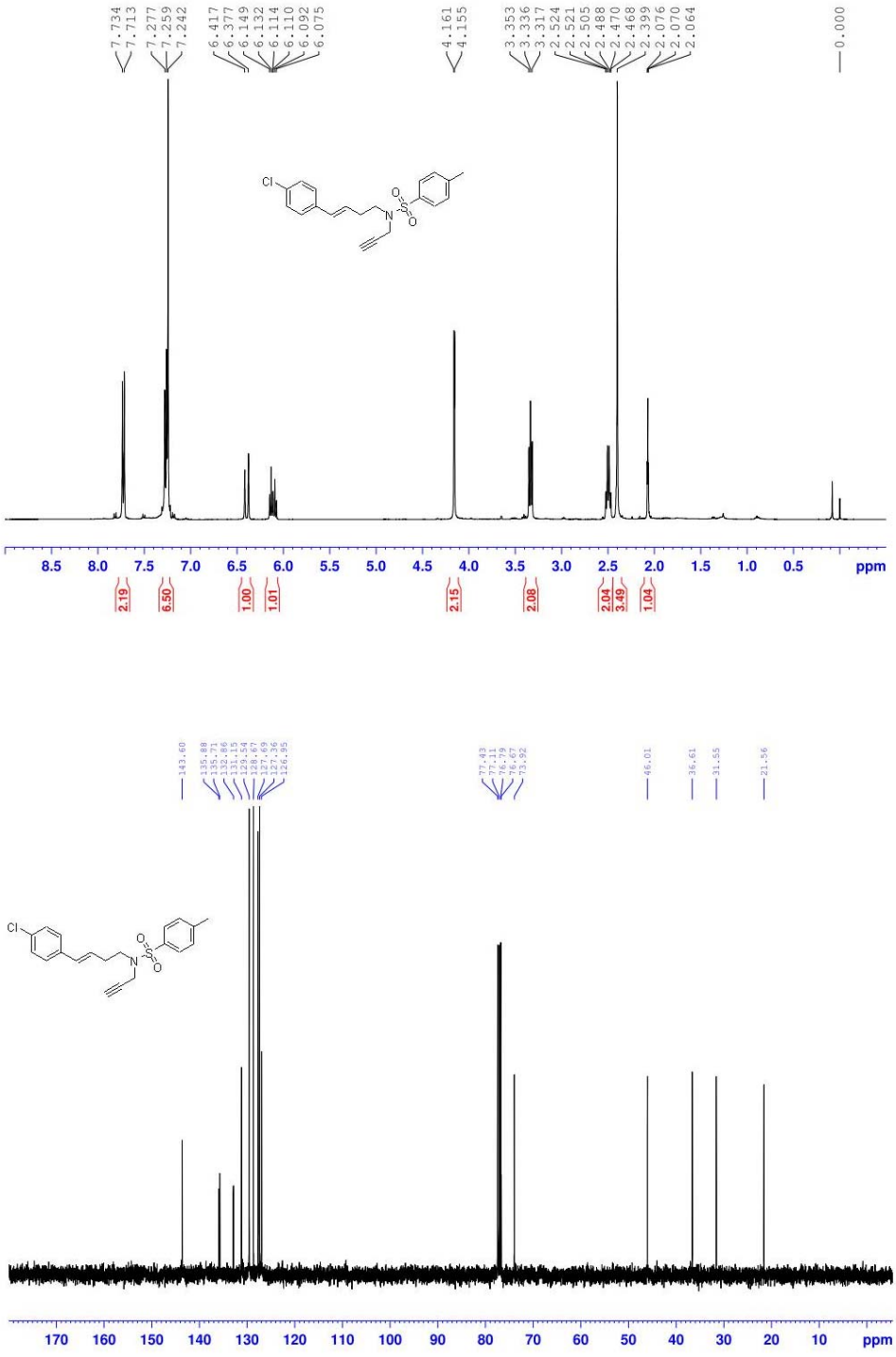


Figure 6: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(4-(4-bromophenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3f)

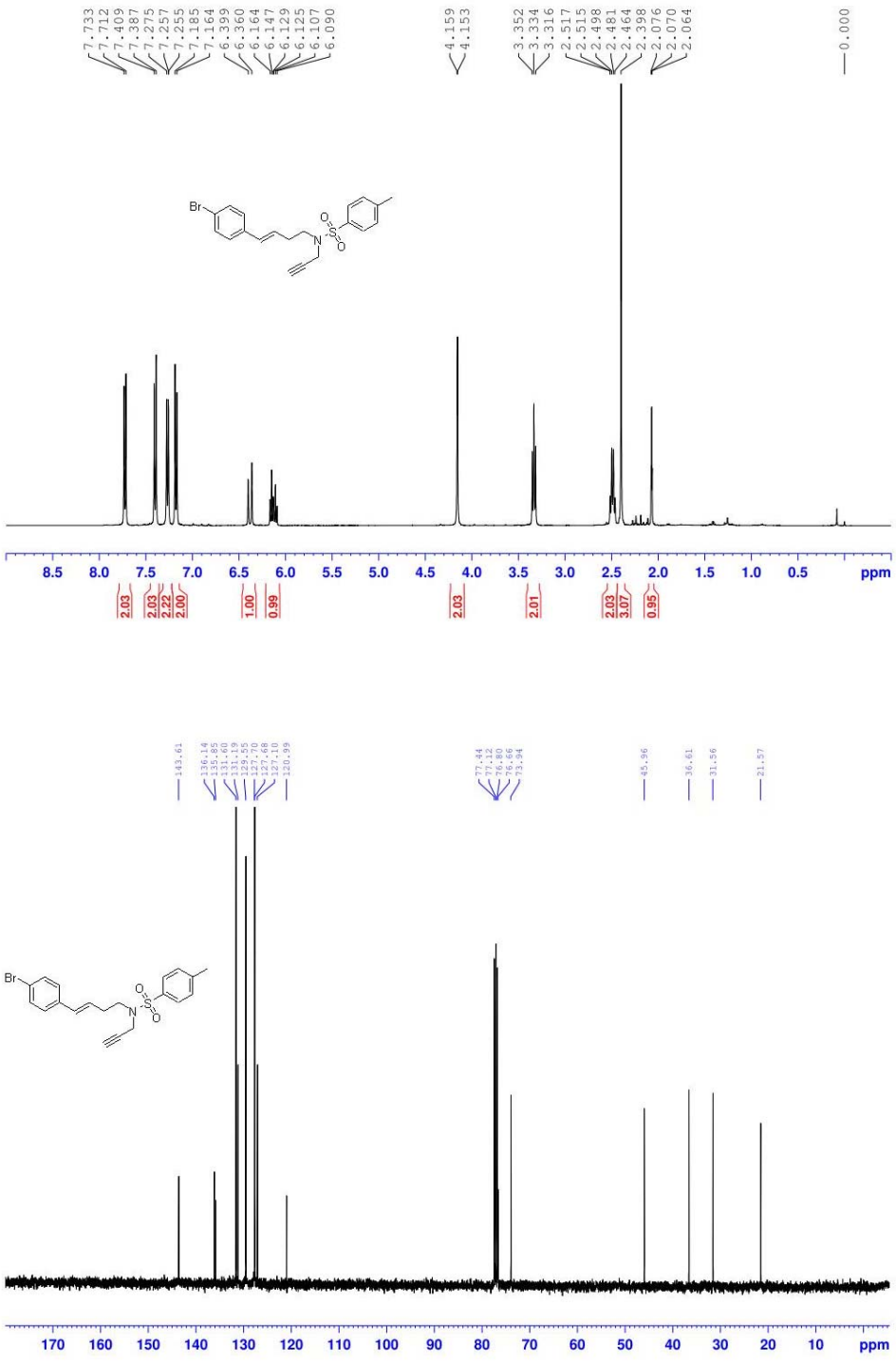


Figure 7: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(4-(4-tert-butylphenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3g)

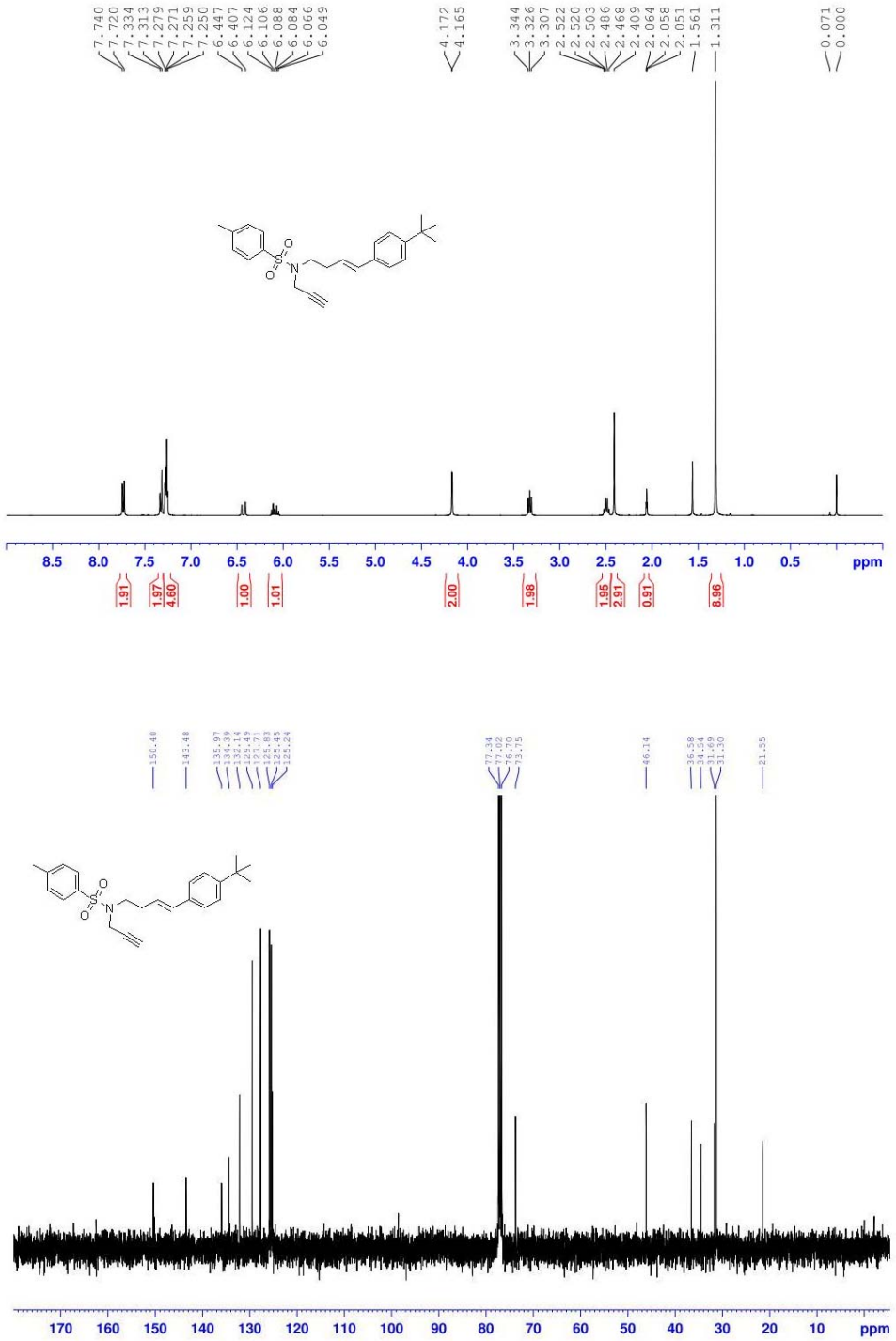


Figure 8: ^{1}H and ^{13}C NMR spectrum of (*E*)-4-methyl-*N*-(4-(naphthalen-2-yl)but-3-enyl)-*N*-(prop-2-ynyl)benzenesulfonamide (3h)

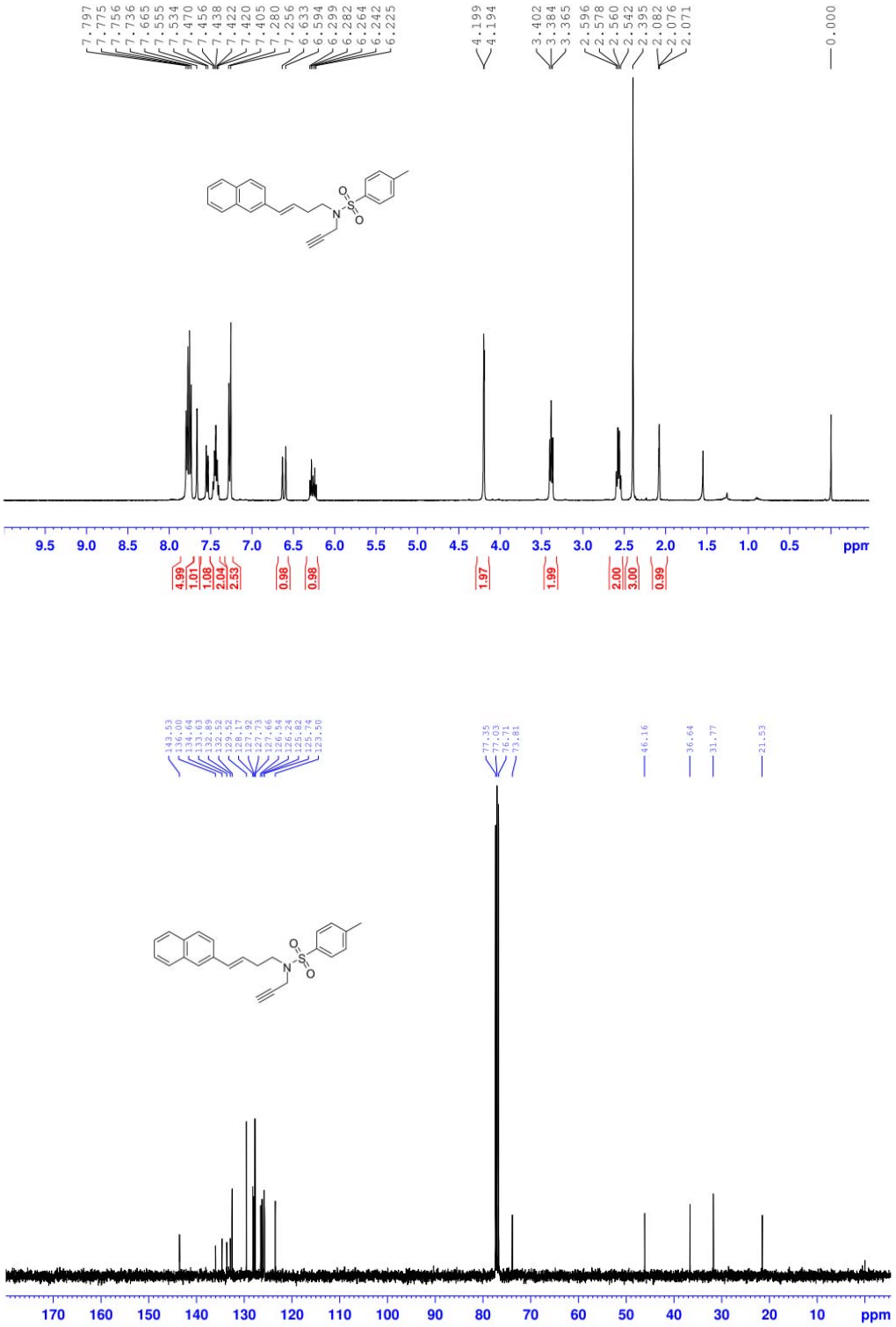


Figure 9: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(4-(2,6-dimethylphenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3i)

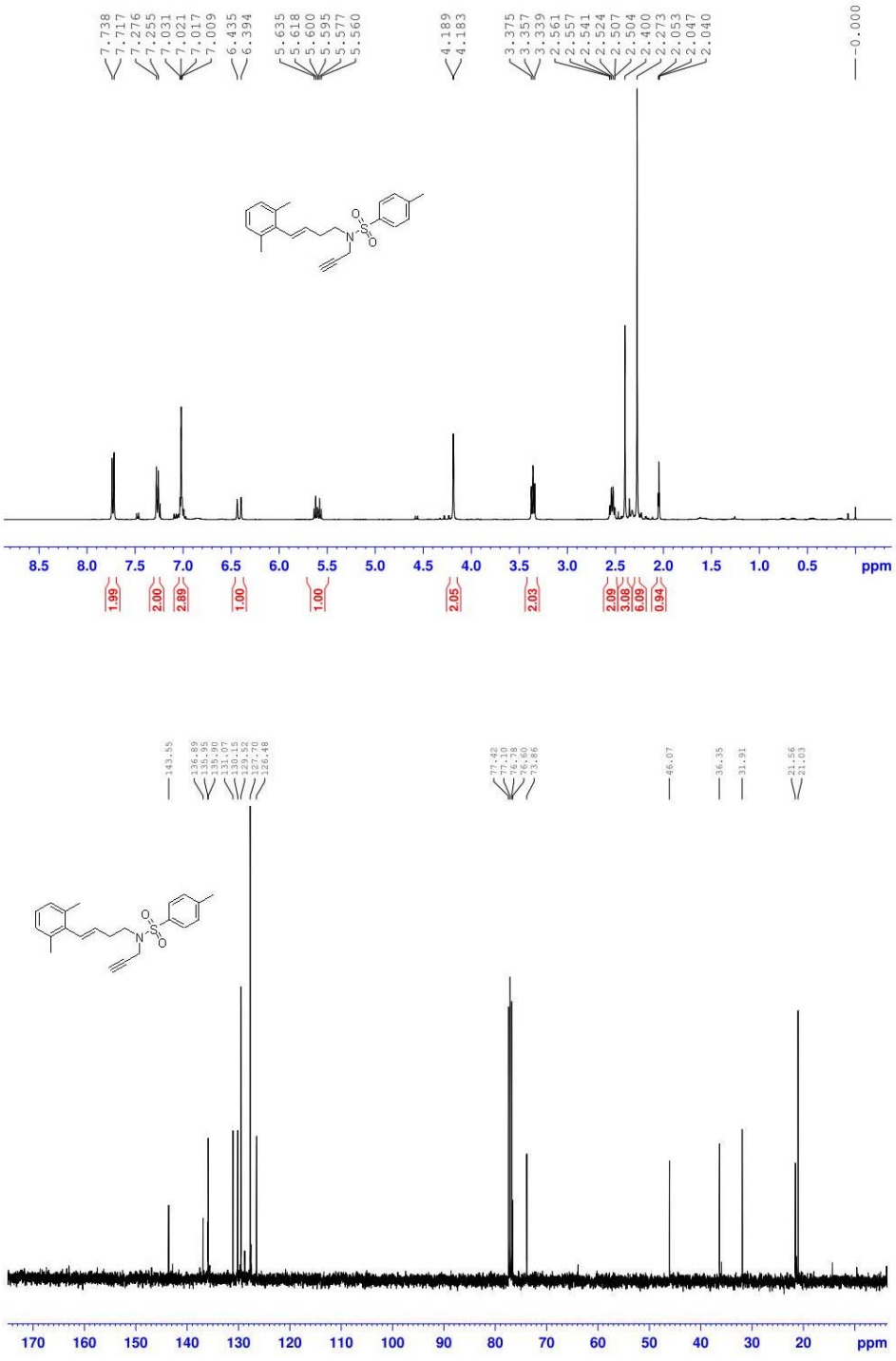


Figure 10: ^{1}H and ^{13}C NMR spectrum of (*E*)-*N*-(1,4-diphenylbut-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3j)

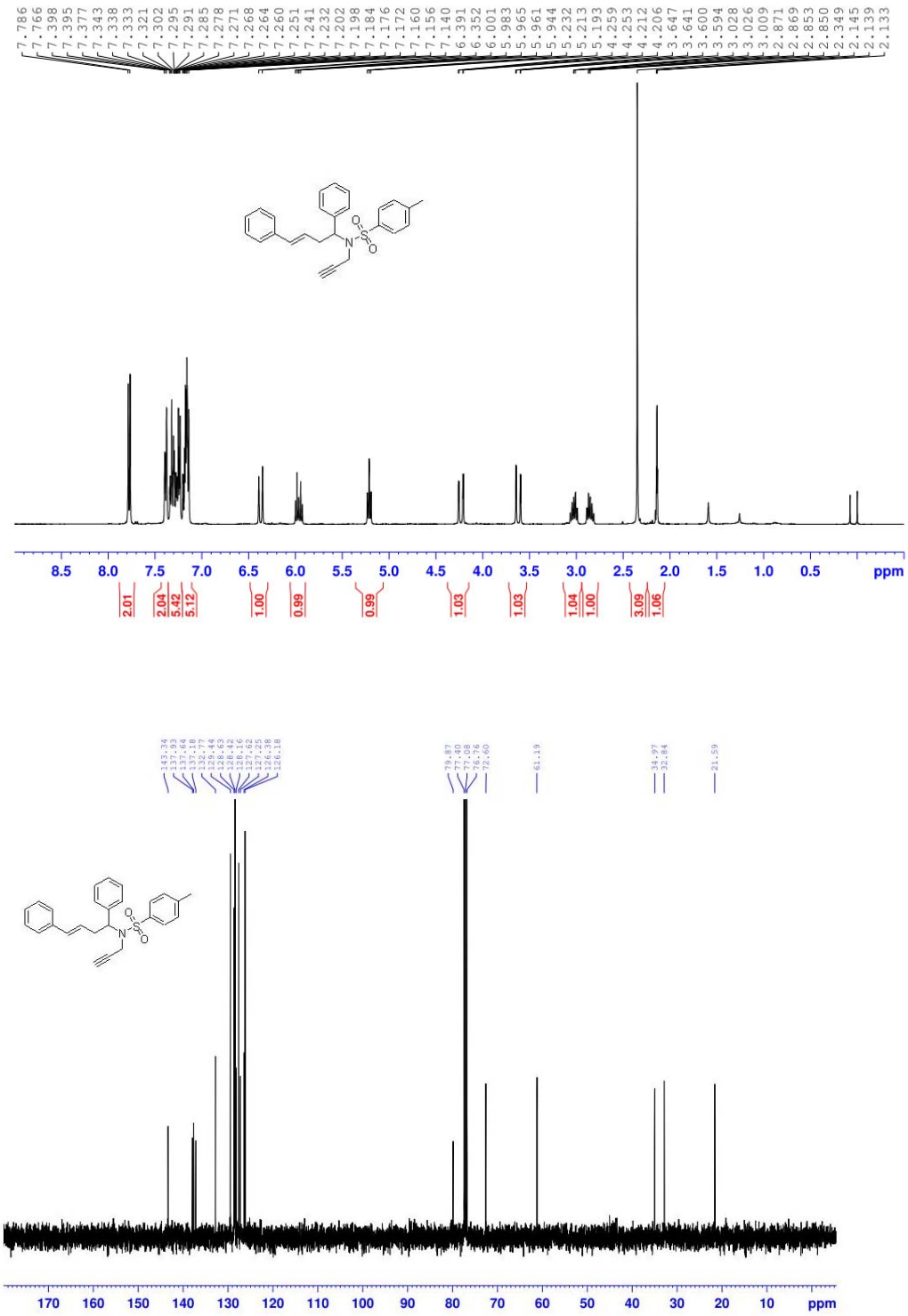


Figure 11: ^{1}H and ^{13}C NMR spectrum of (*E*)-4-methyl-*N*-(4-phenylbut-3-en-1-yl)-*N*-(3-phenyl prop-2-yn-1-yl)benzenesulfonamide (3k)

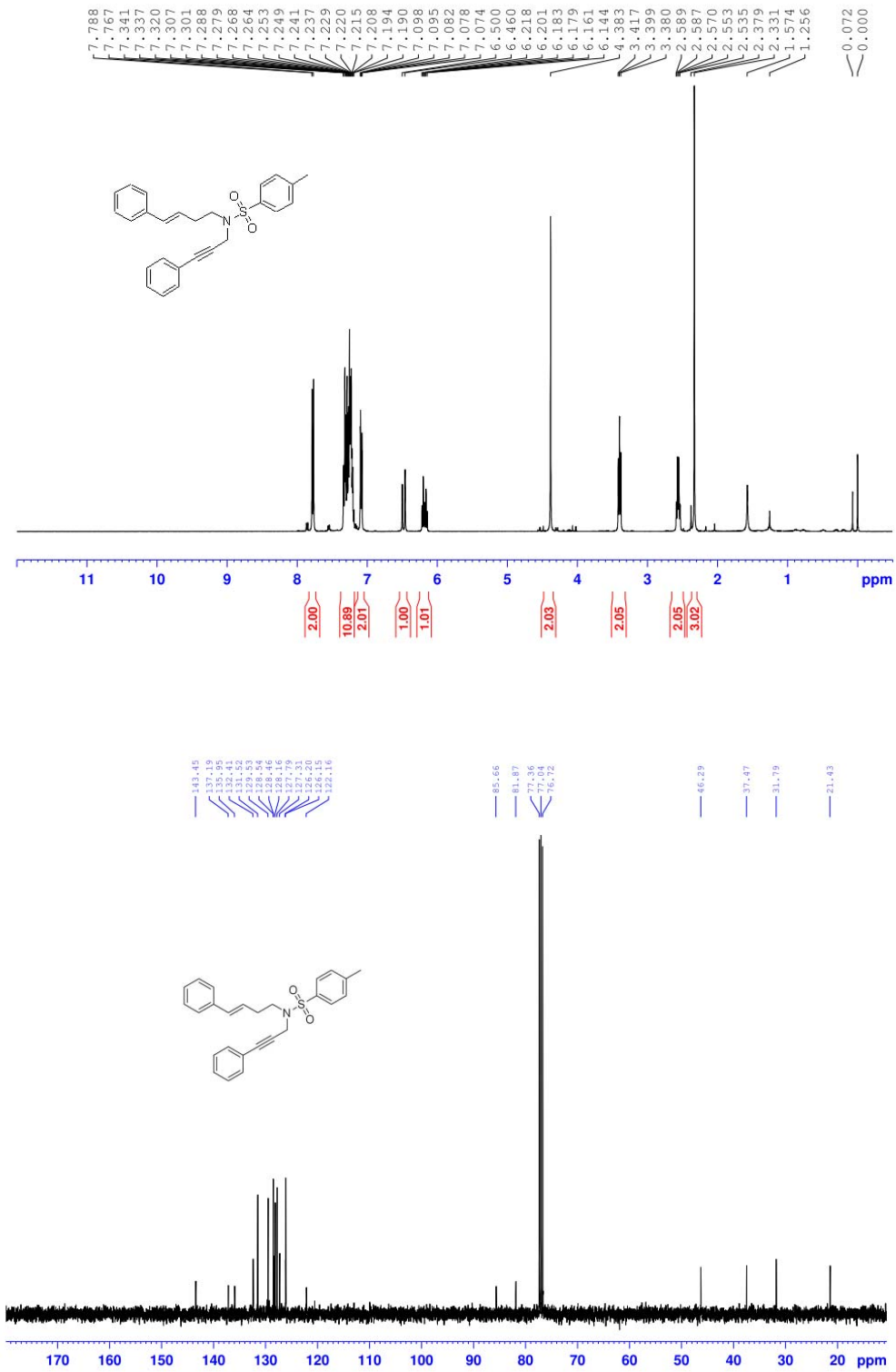


Figure 12: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-diphenylbut-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3l)

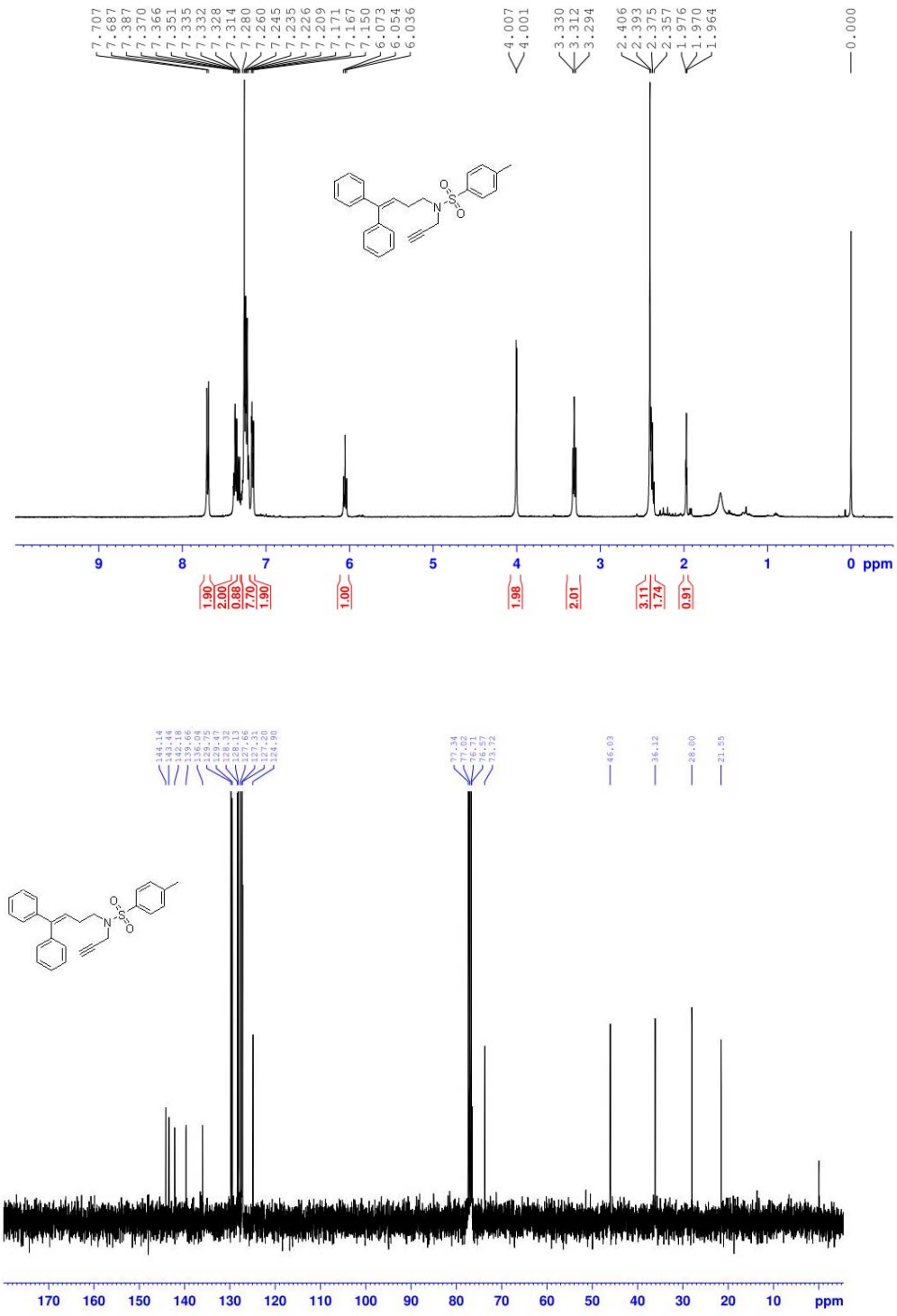


Figure 13: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-dip-tolylbut-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3m)

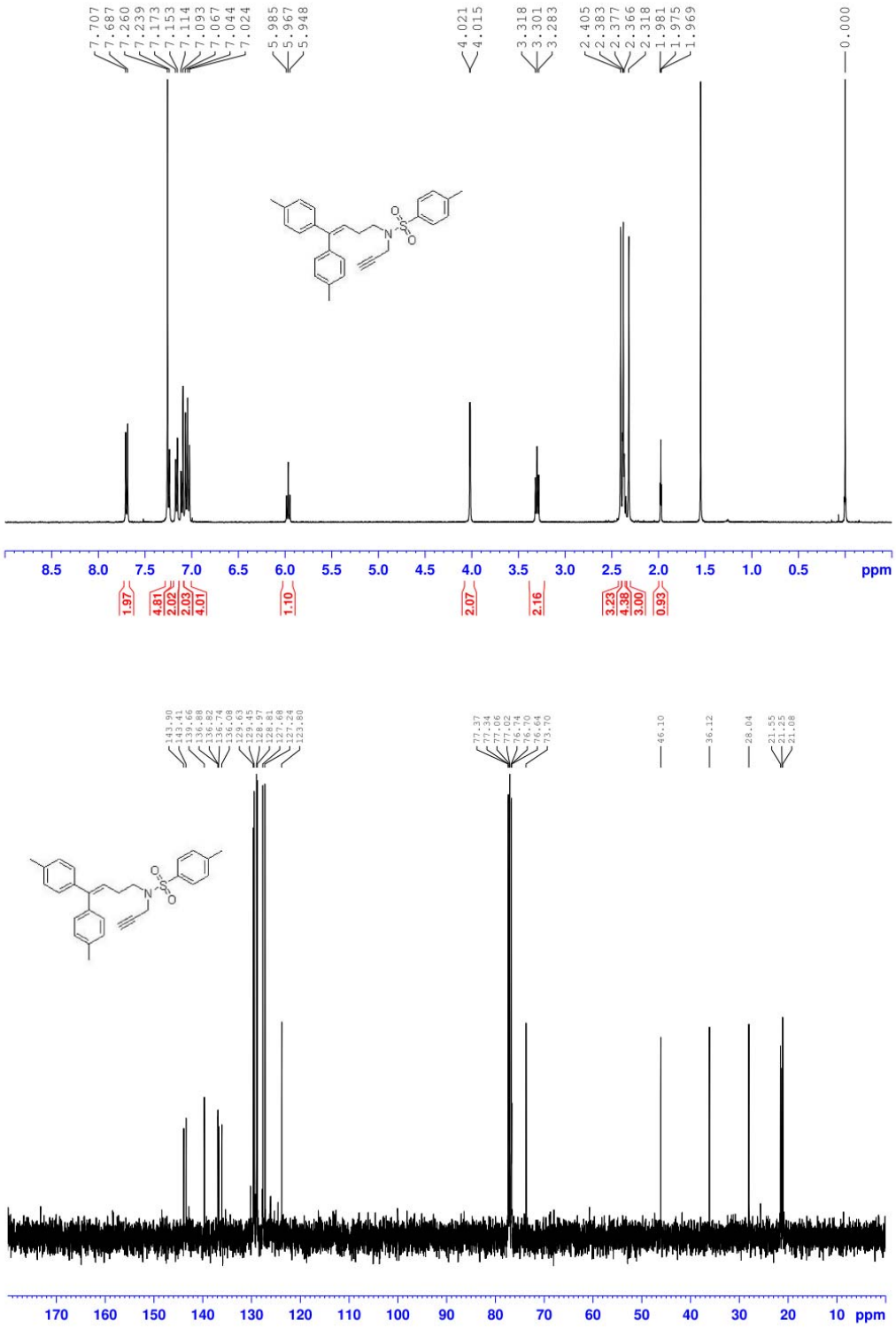


Figure 14: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-bis(4-chlorophenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3n)

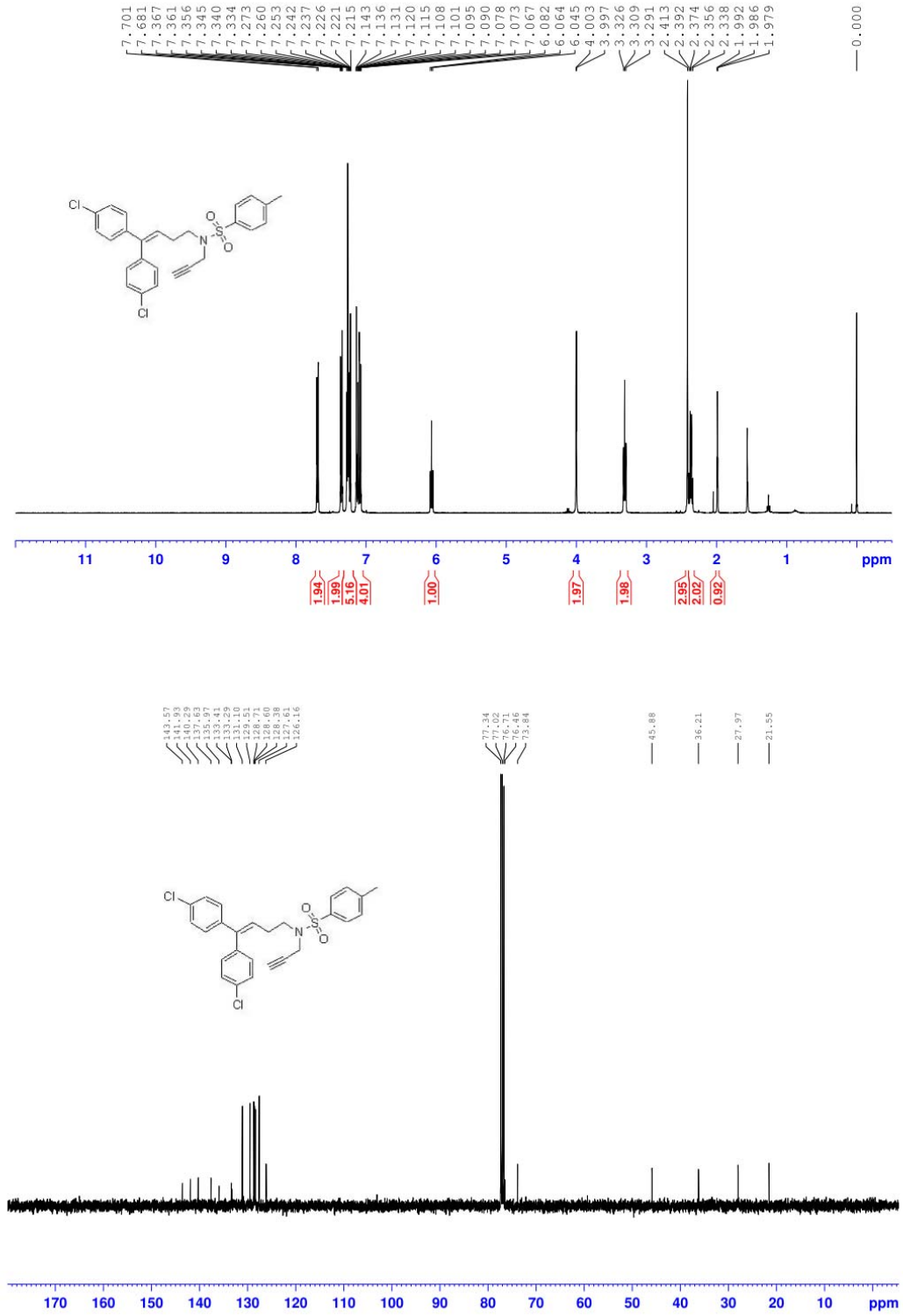


Figure 15: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-bis(4-fluorophenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3o)

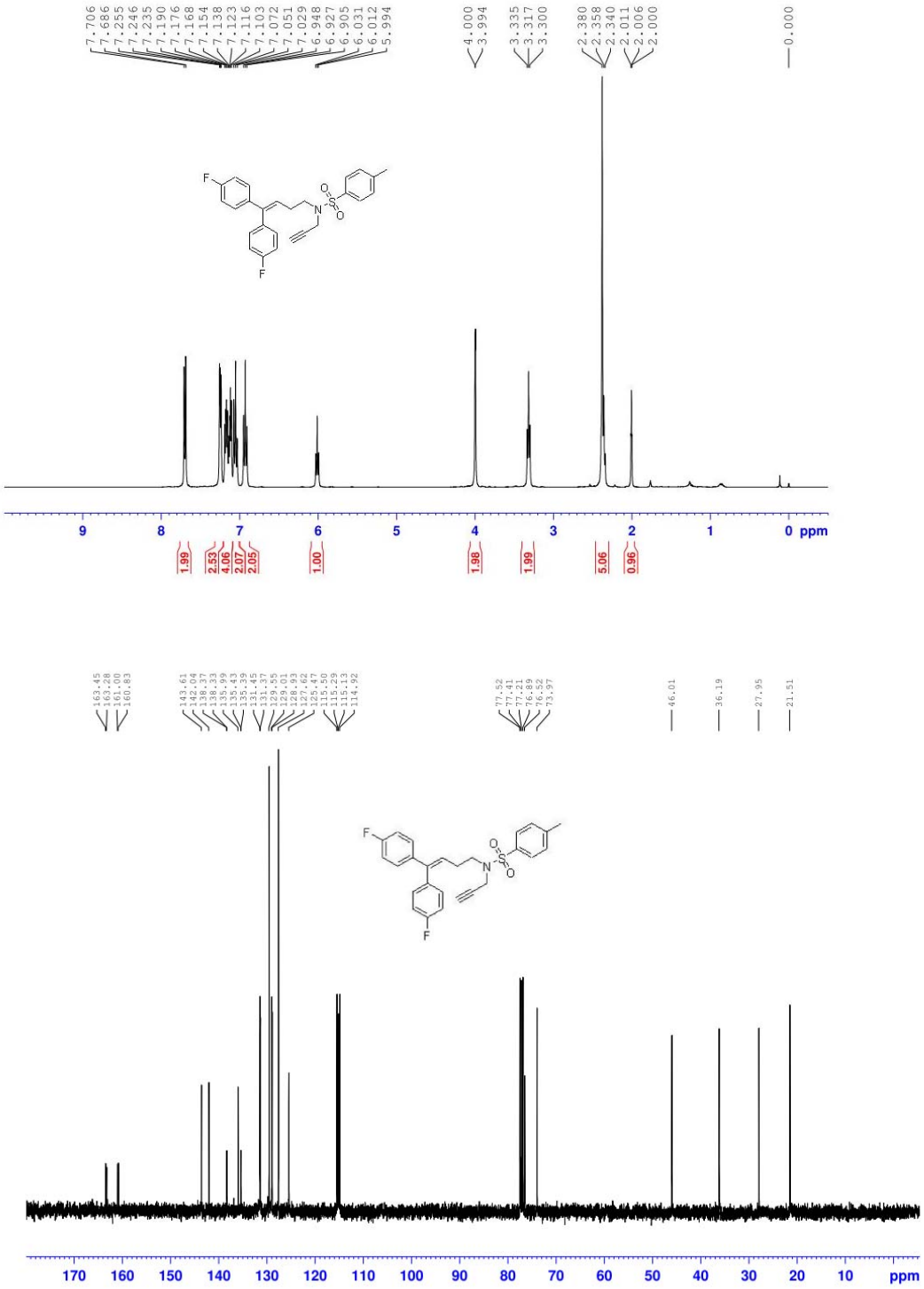


Figure 16: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-bis(4-tert-butylphenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3p)

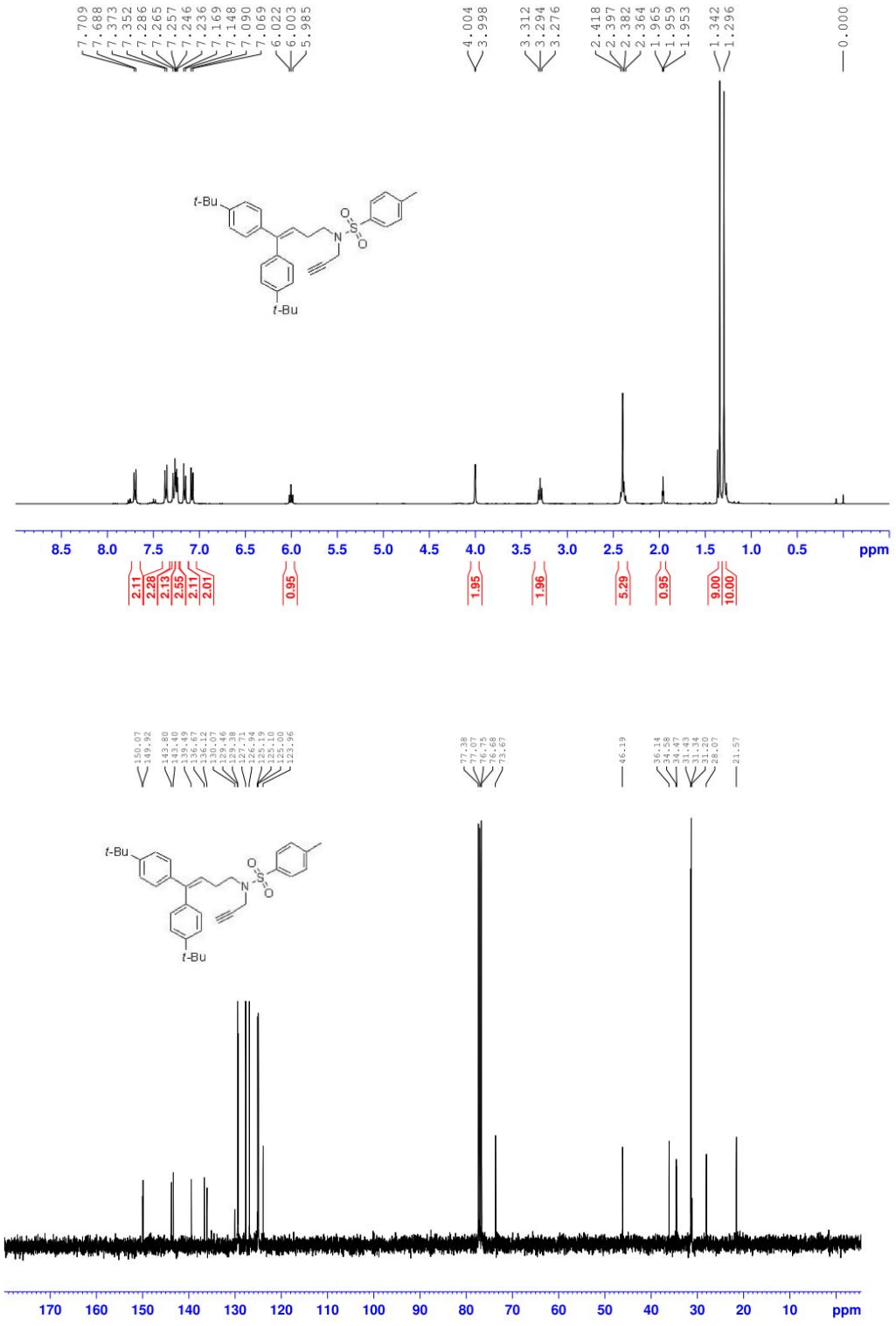


Figure 17: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-bis(4-bromophenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3q)

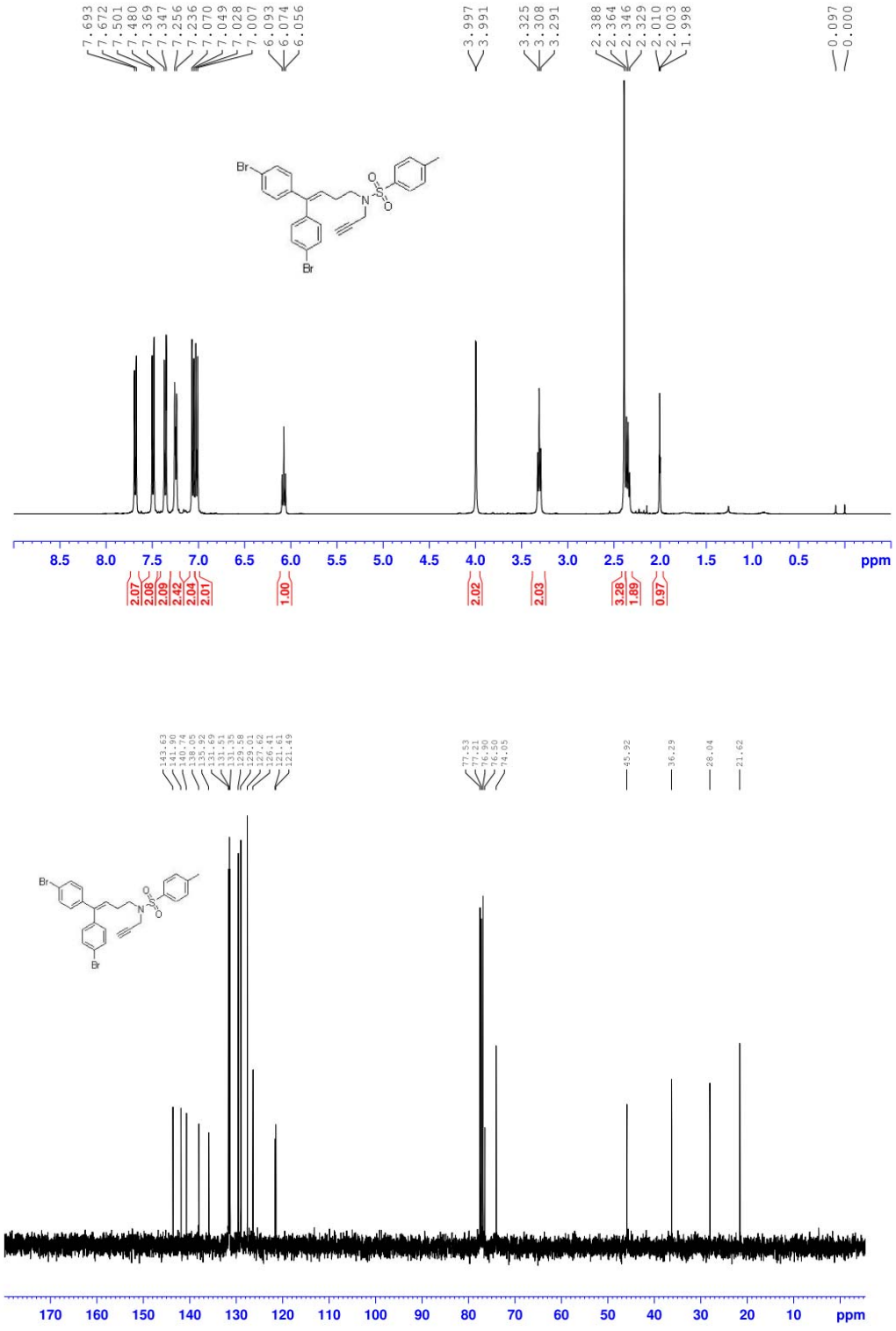


Figure 18: ^{1}H and ^{13}C NMR spectrum of (*E*)-4-methyl-*N*-(4-phenylpent-3-enyl)-*N*-(prop-2-ynyl)benzenesulfonamide (3r)

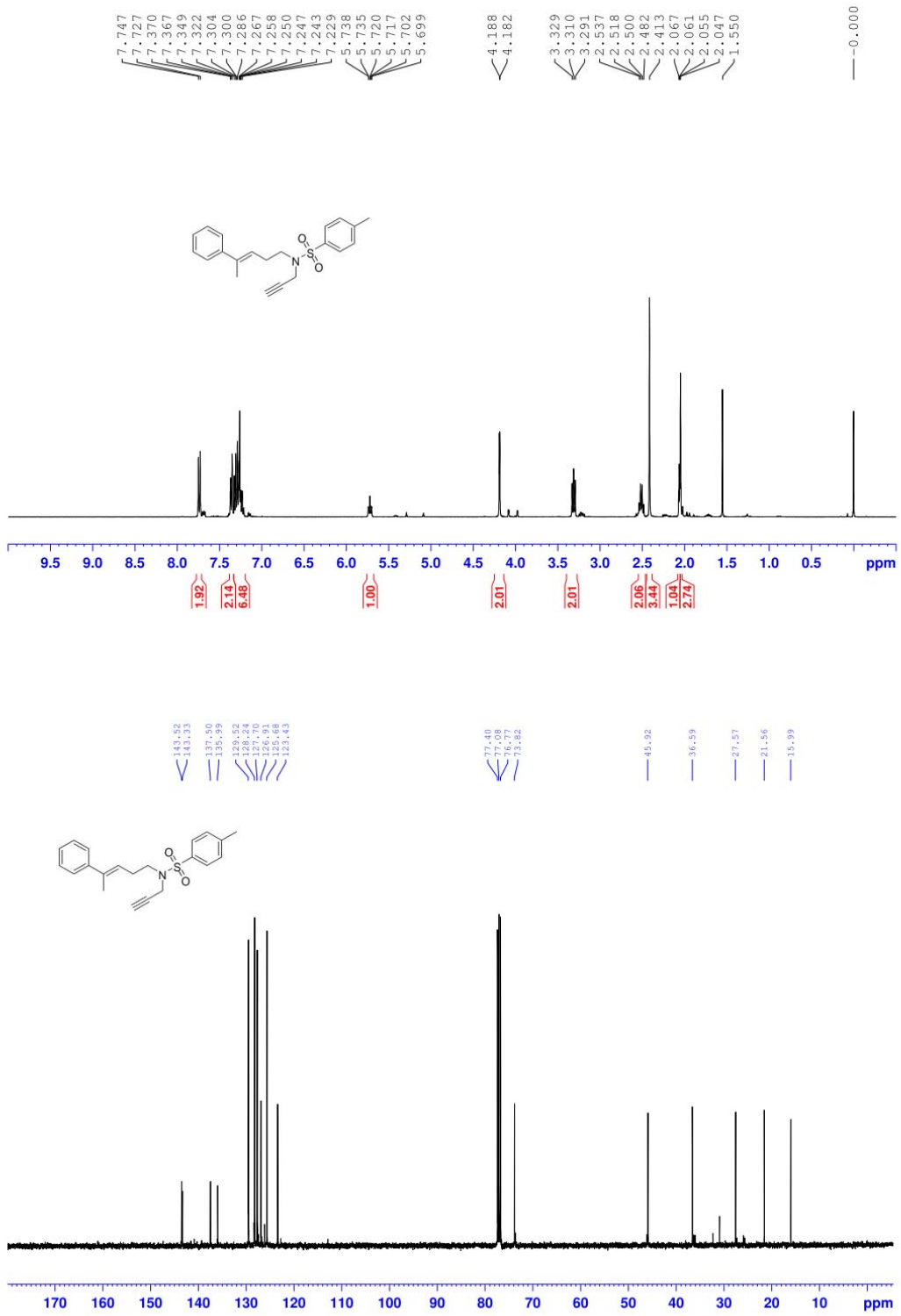
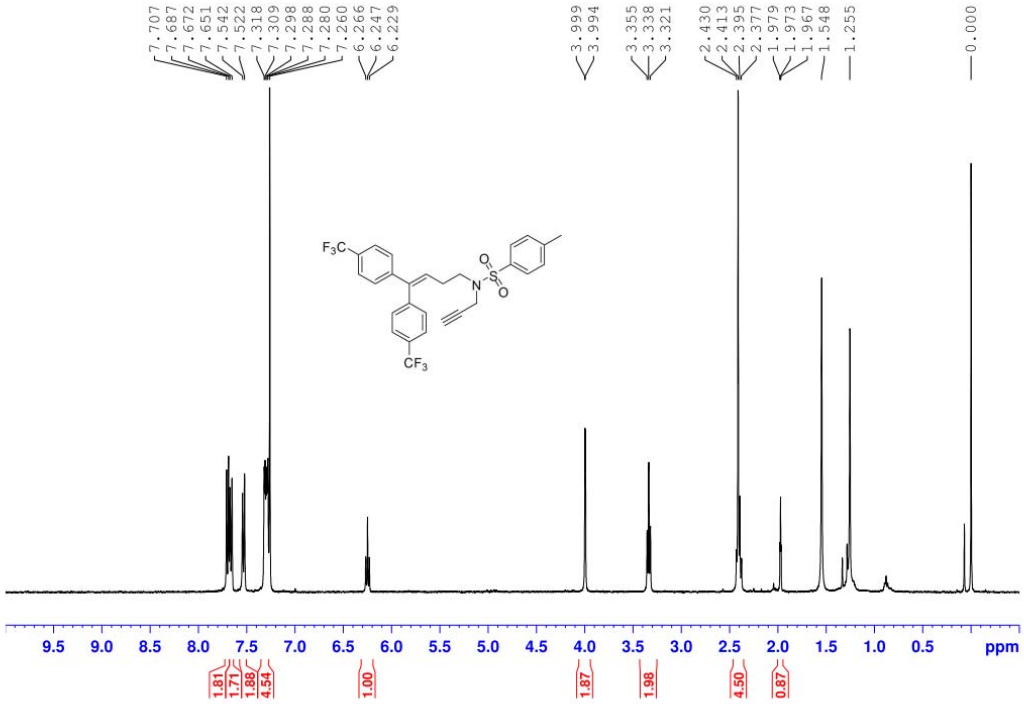


Figure 19: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-bis(4-(trifluoromethyl)phenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3s)



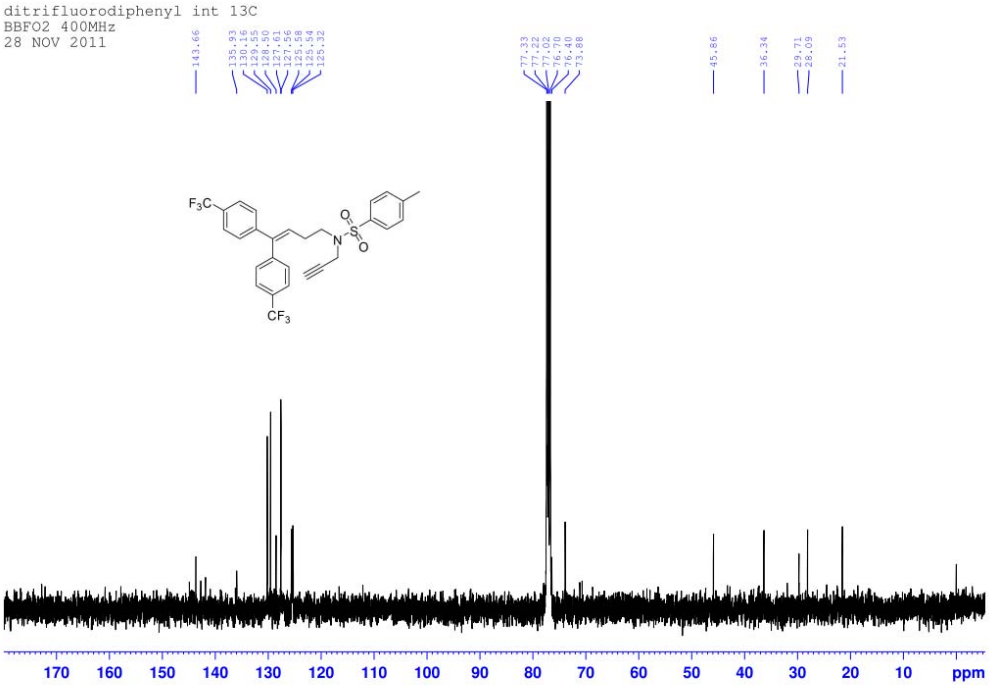
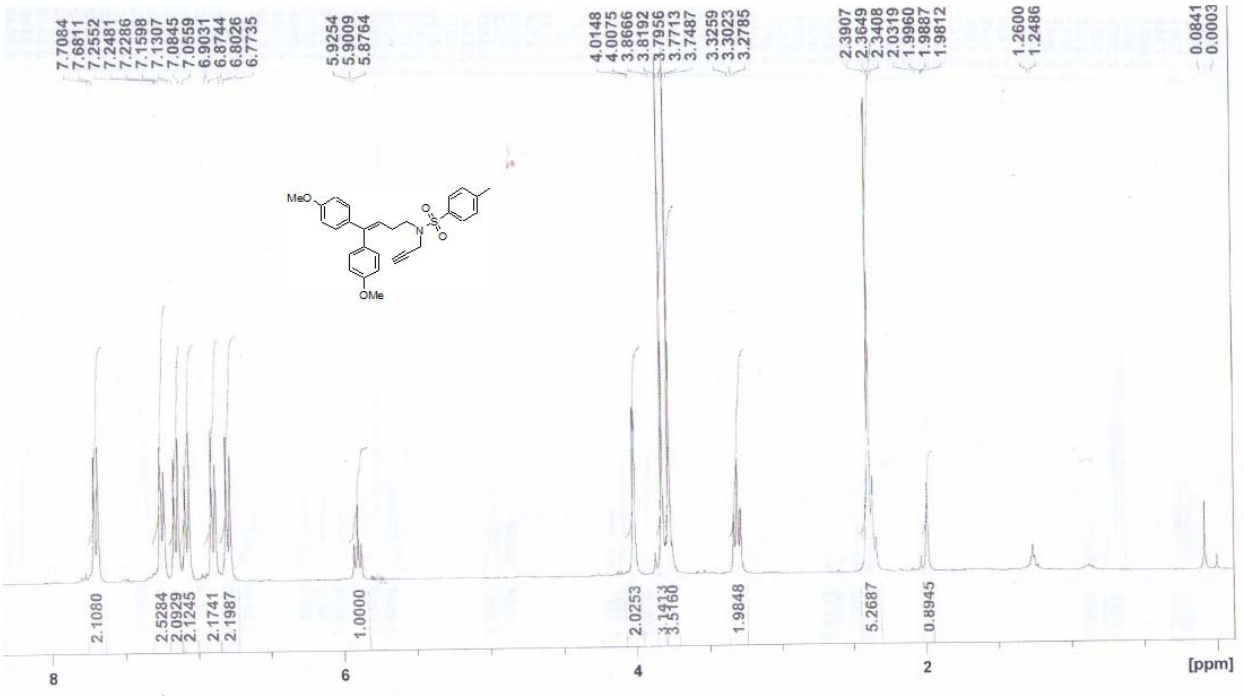


Figure 20: ^{1}H and ^{13}C NMR spectrum of *N*-(4,4-bis(4-methoxyphenyl)but-3-enyl)-4-methyl-*N*-(prop-2-ynyl)benzenesulfonamide (3t)



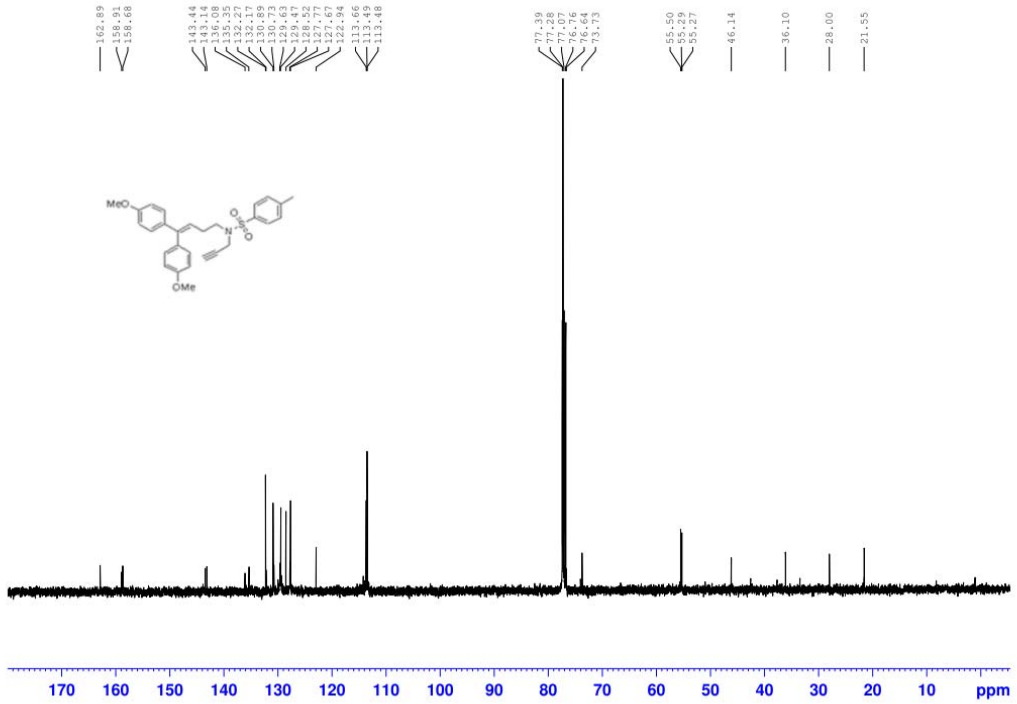


Figure 21: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-styryl-1-tosyl-1,2,3,6-tetrahydropyridine (4a)

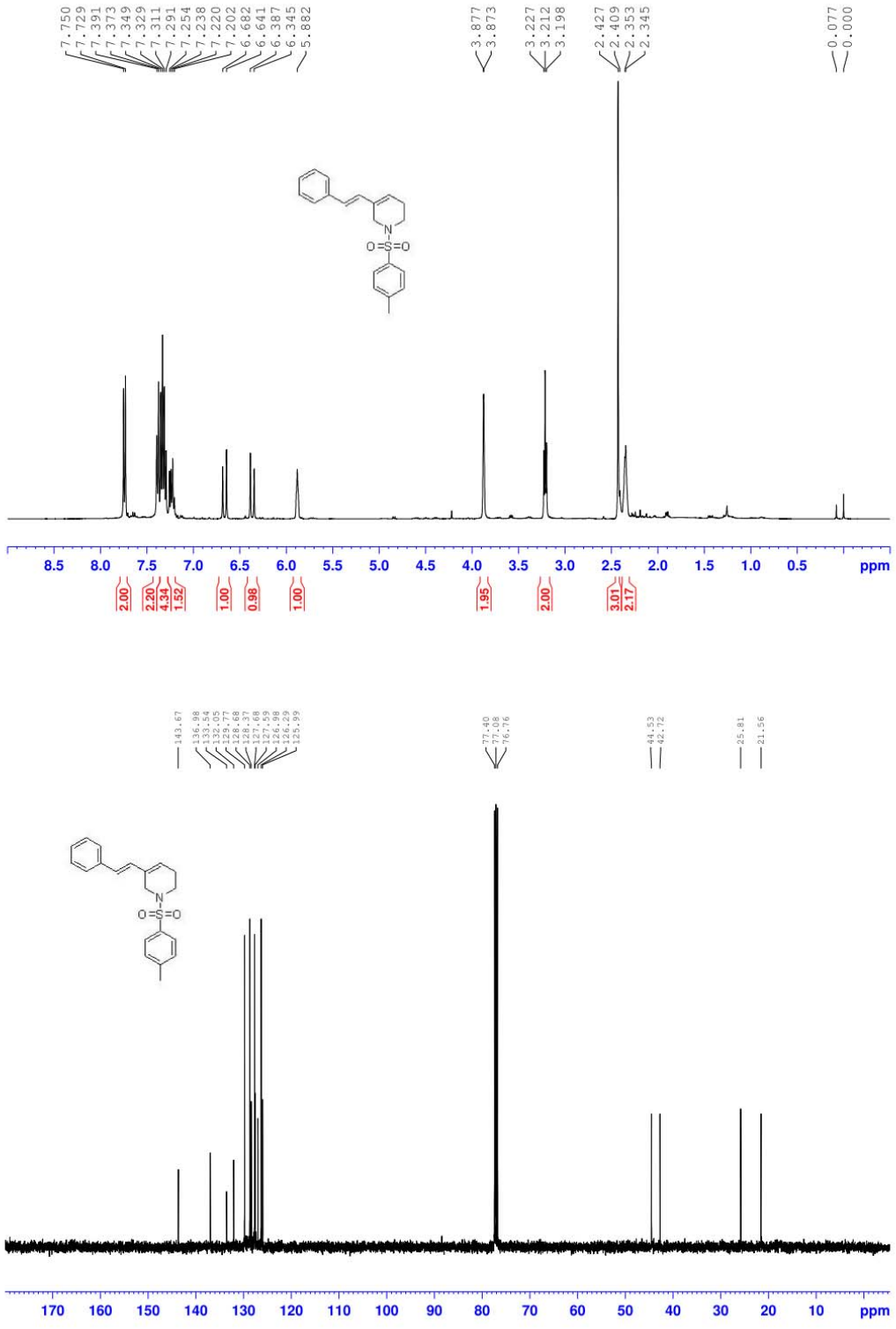


Figure 22: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(4-methylstyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4b)

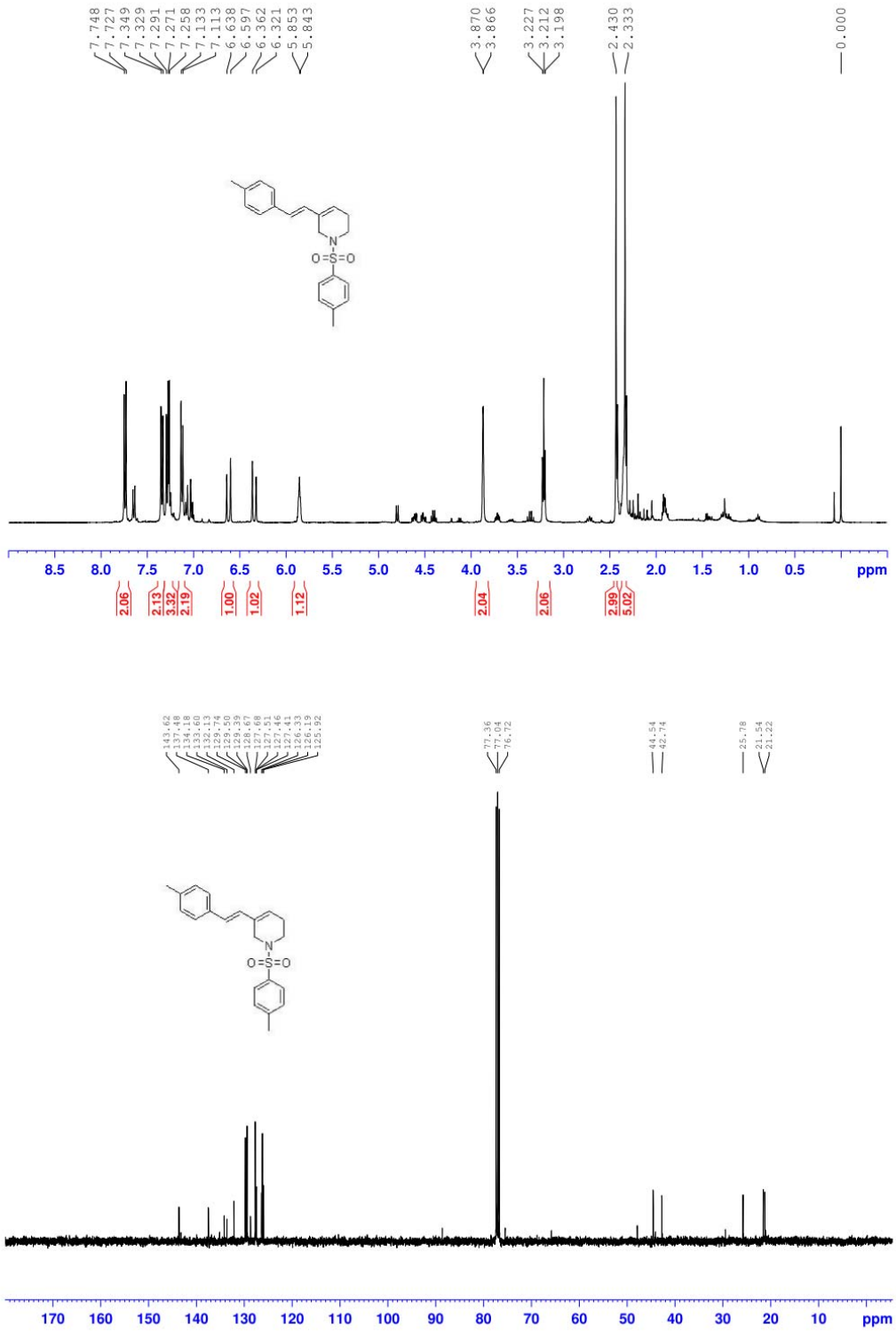


Figure 23: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(4-methoxystyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4c)

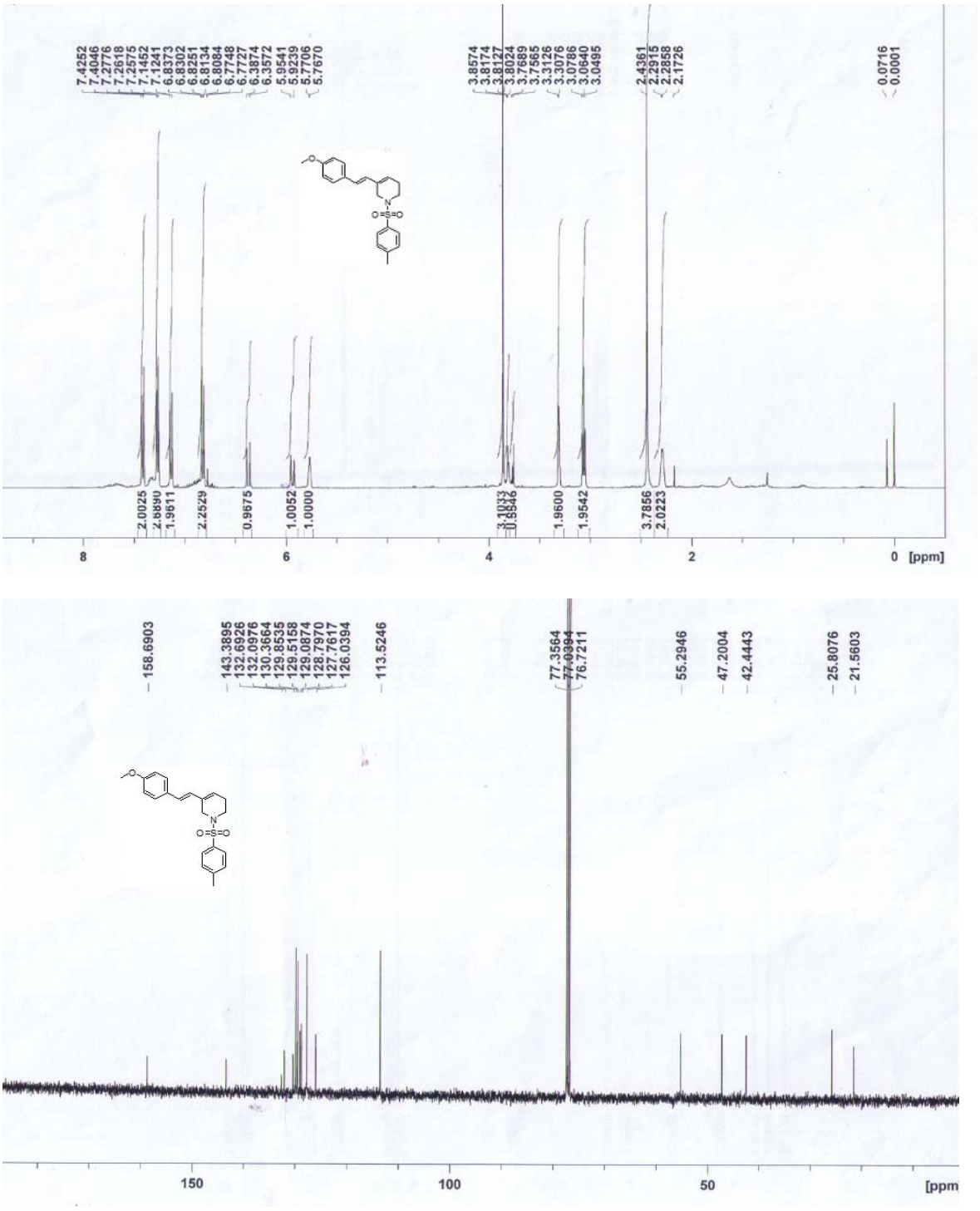


Figure 24: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(4-fluorostyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4d)

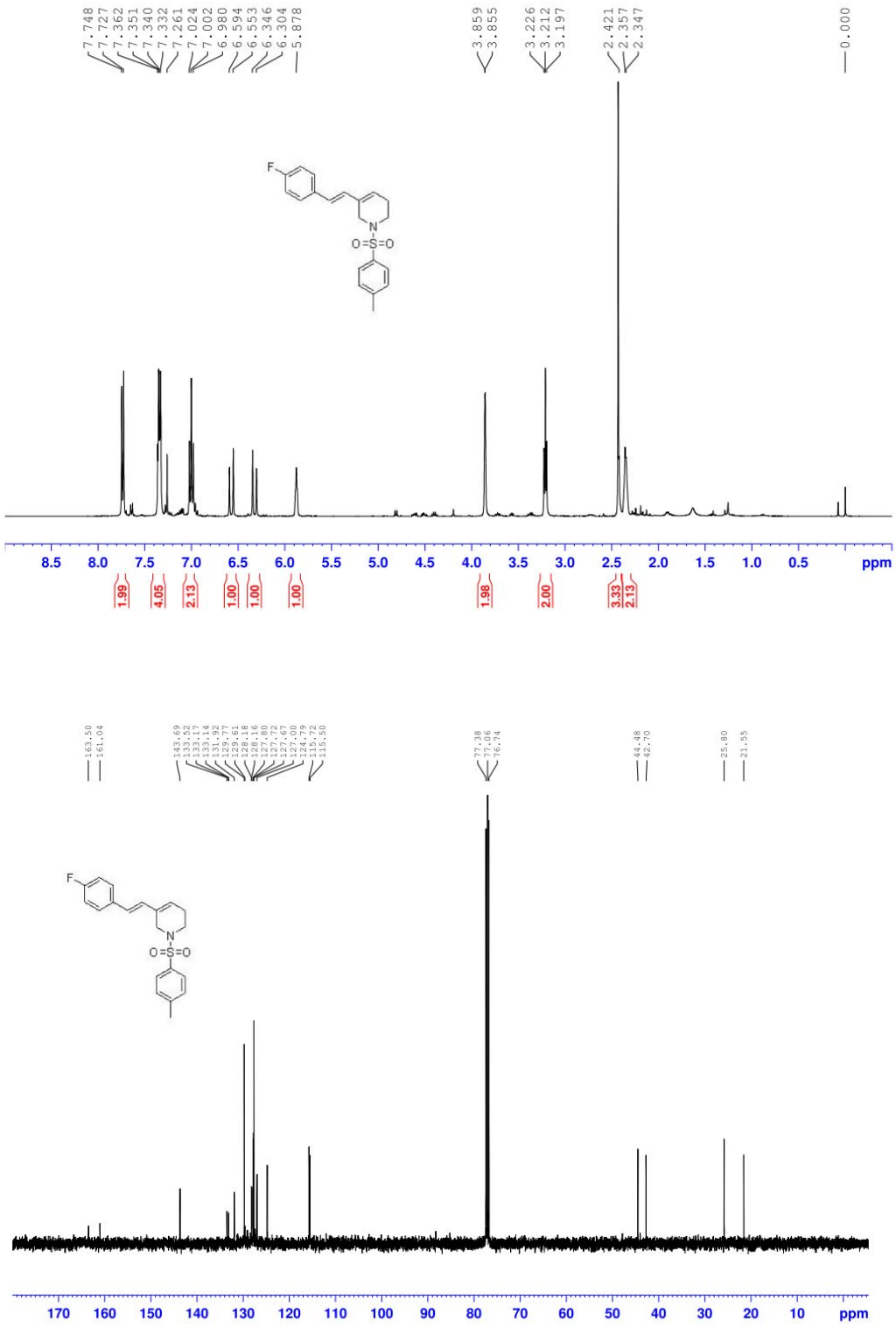


Figure 25: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(4-chlorostyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4e)

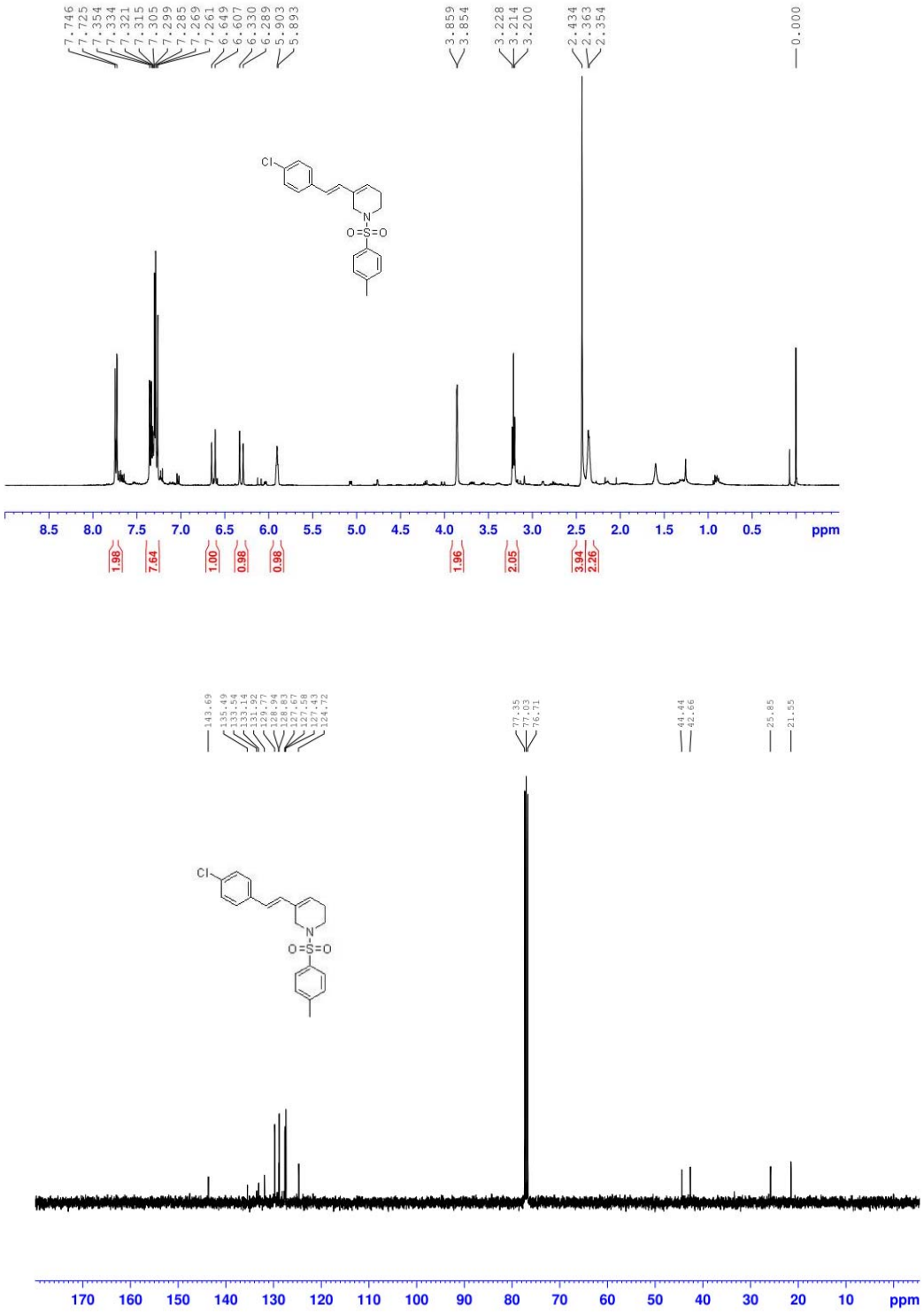
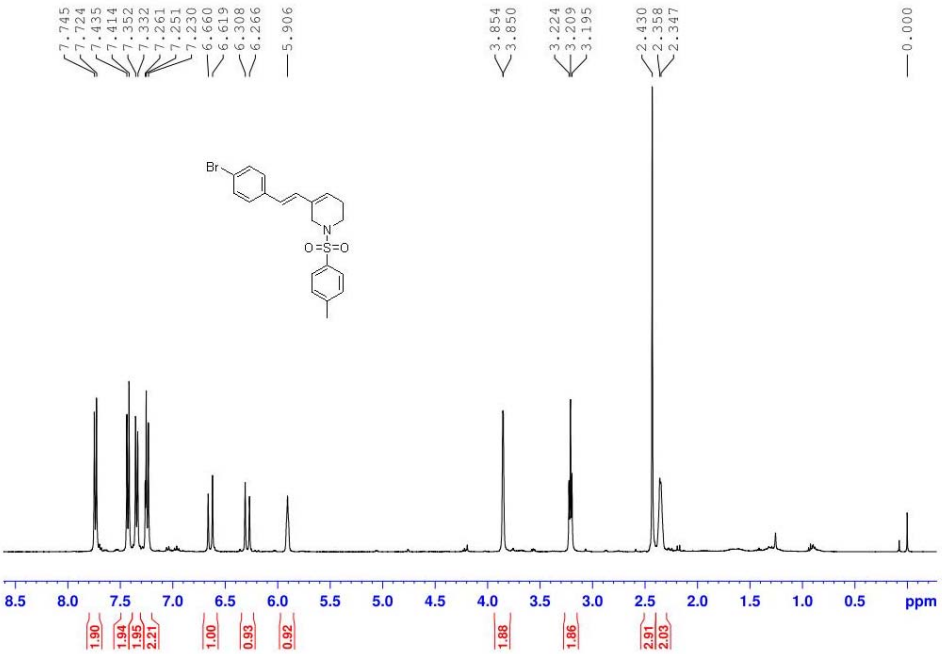


Figure 26: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(4-bromostyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4f)



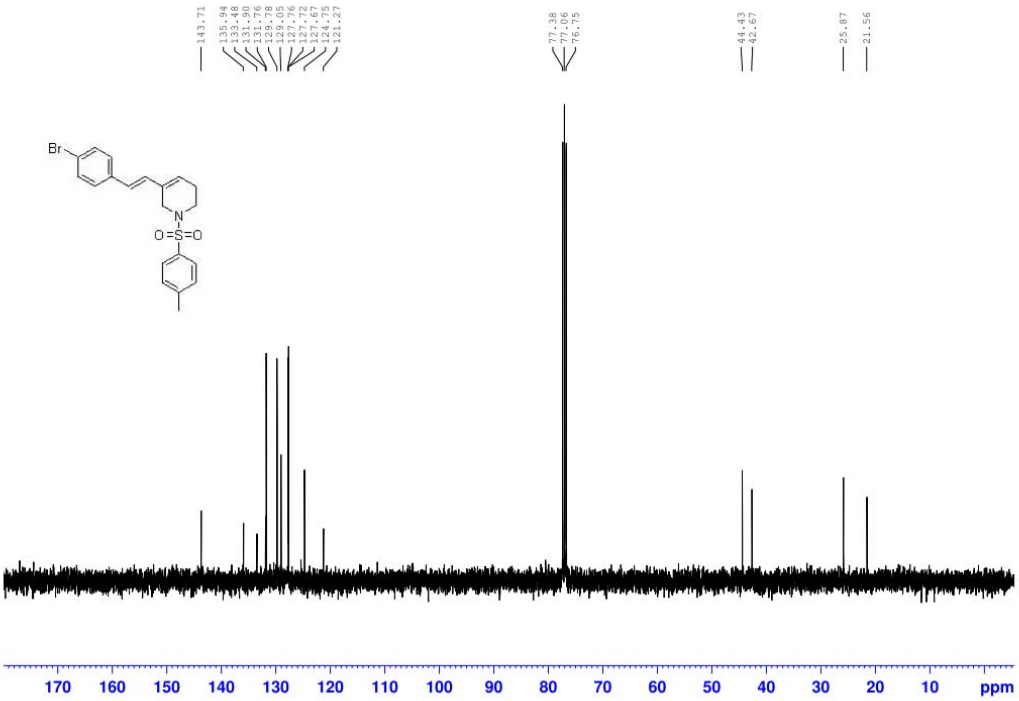


Figure 27: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(4-tert-butylstyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4g)

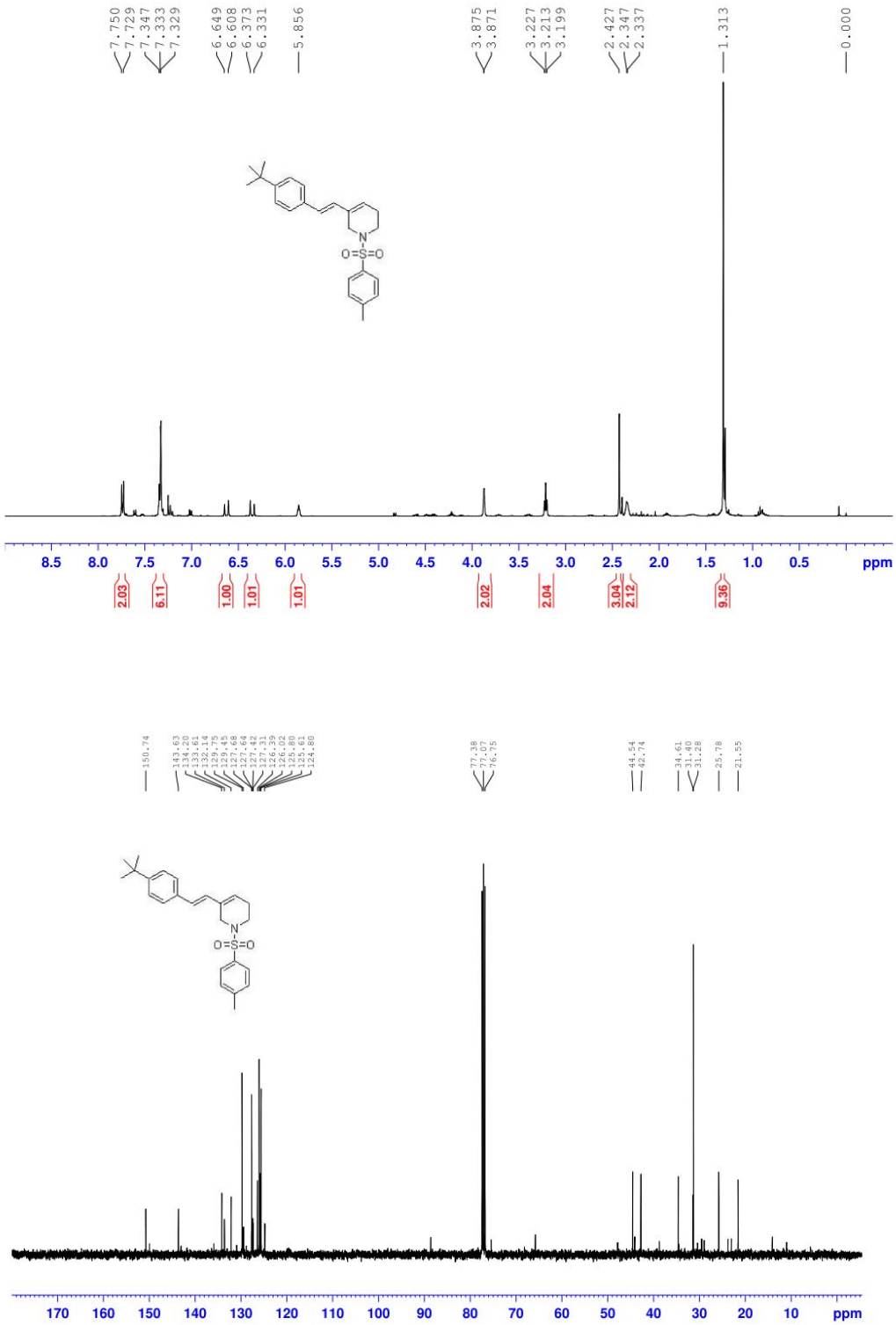


Figure 28: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(2-(naphthalen-2-yl)vinyl)-1-tosyl-1,2,3,6-tetrahydropyridine (4h)

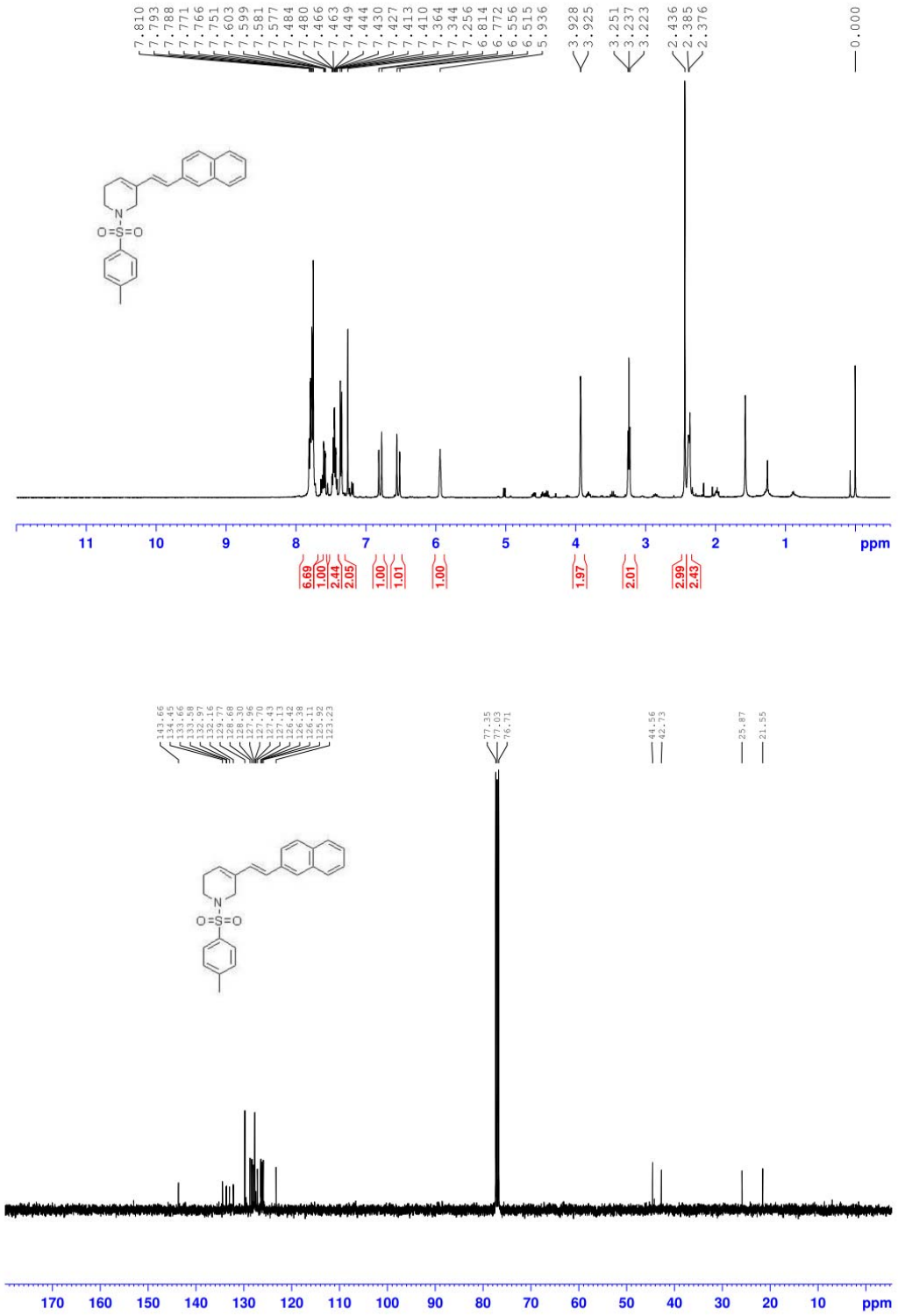


Figure 29: ^{1}H and ^{13}C NMR spectrum of (*E*)-5-(2,6-dimethylstyryl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4i)

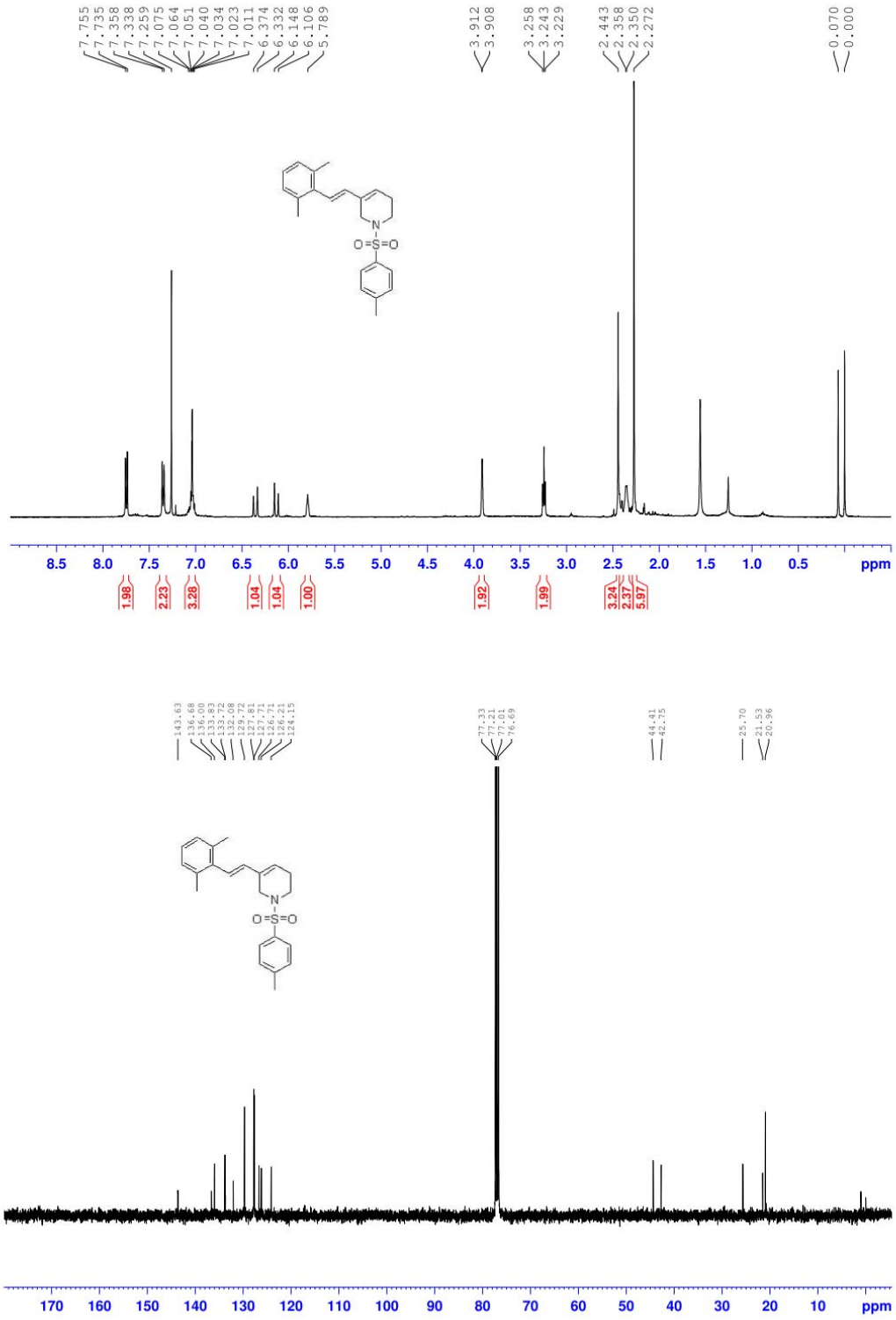


Figure 30: ^{1}H and ^{13}C NMR spectrum of 2-phenyl-5-styryl-1-tosyl-1,2,3,6-tetrahydropyridine (4j)

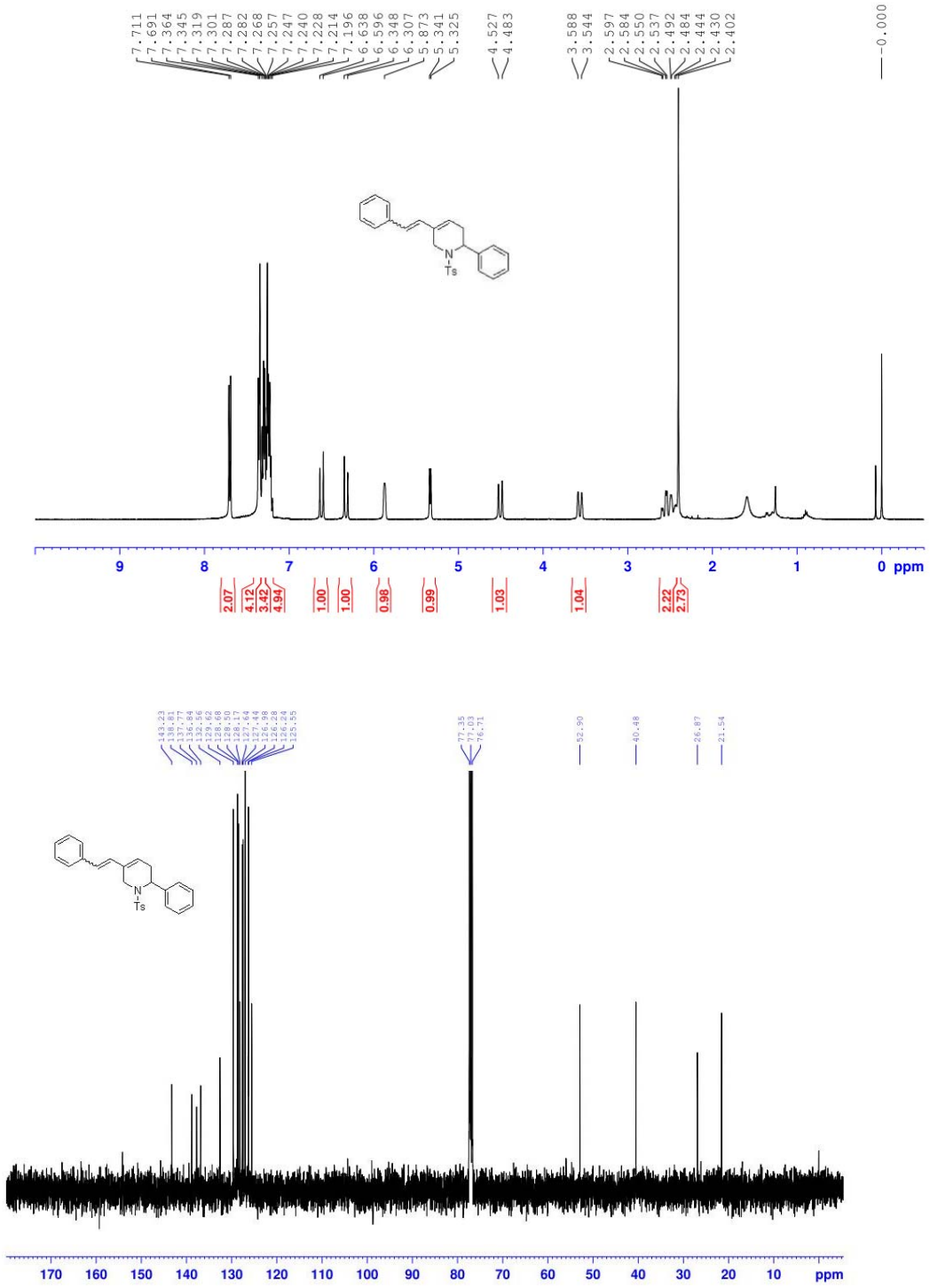


Figure 31: ^{1}H and ^{13}C NMR spectrum of 5-(2,2-diphenylvinyl)-1-tosyl-1,2,3,6-tetrahydro pyridine (4l)

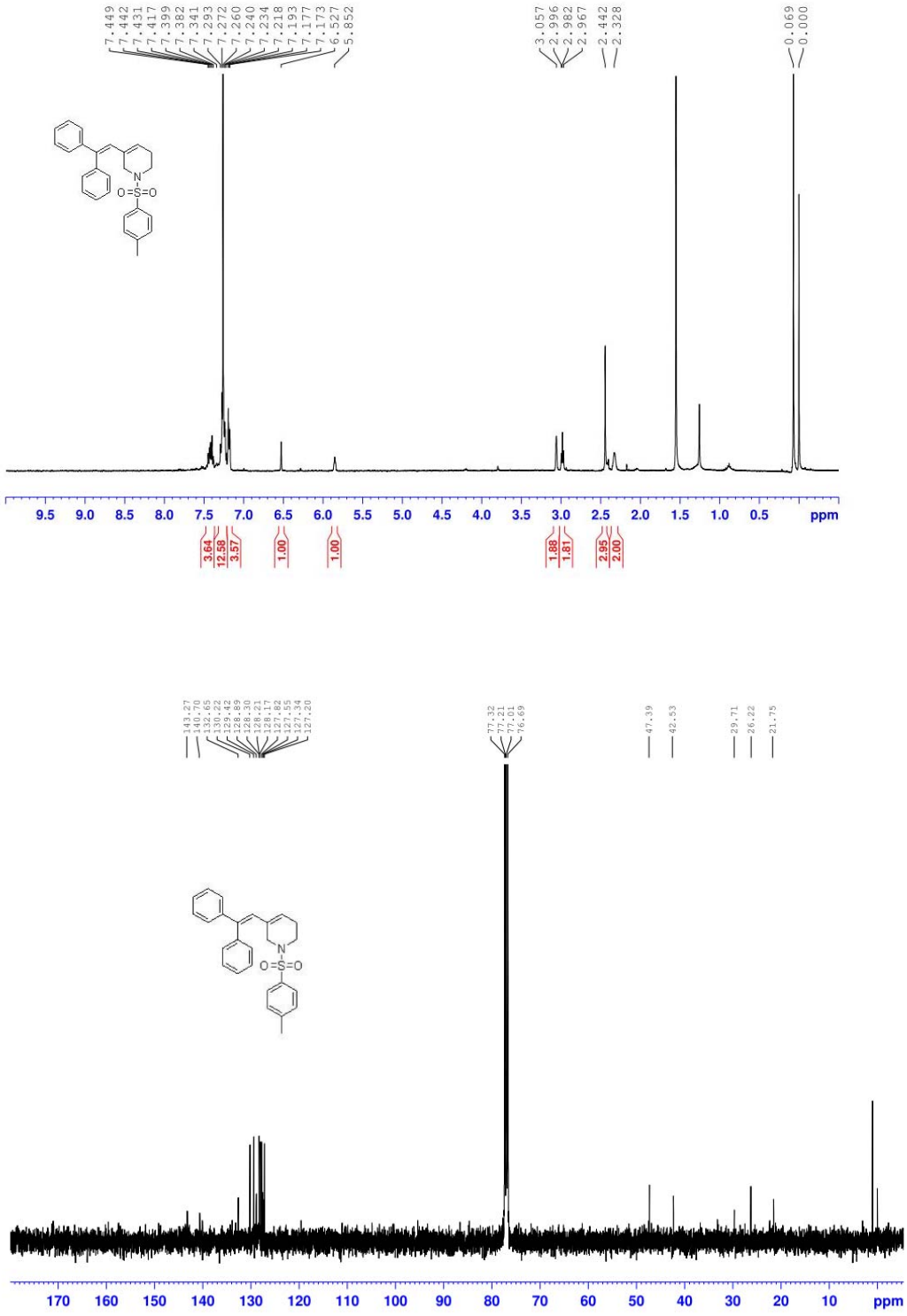


Figure 32: ^{1}H and ^{13}C NMR spectrum of 5-(2,2-dip-tolylvinyl)-1-tosyl-1,2,3,6-tetrahydro pyridine(4m)

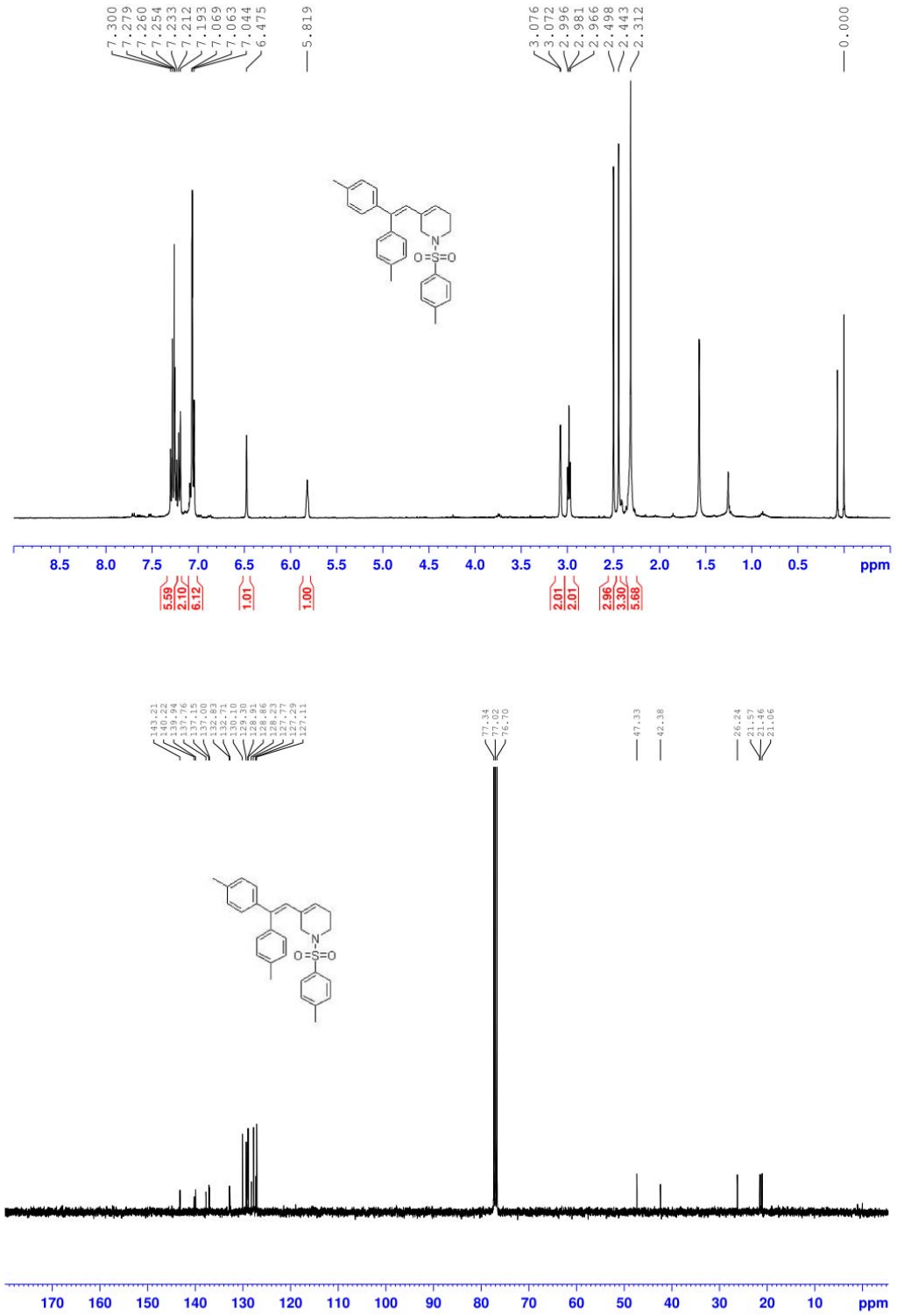
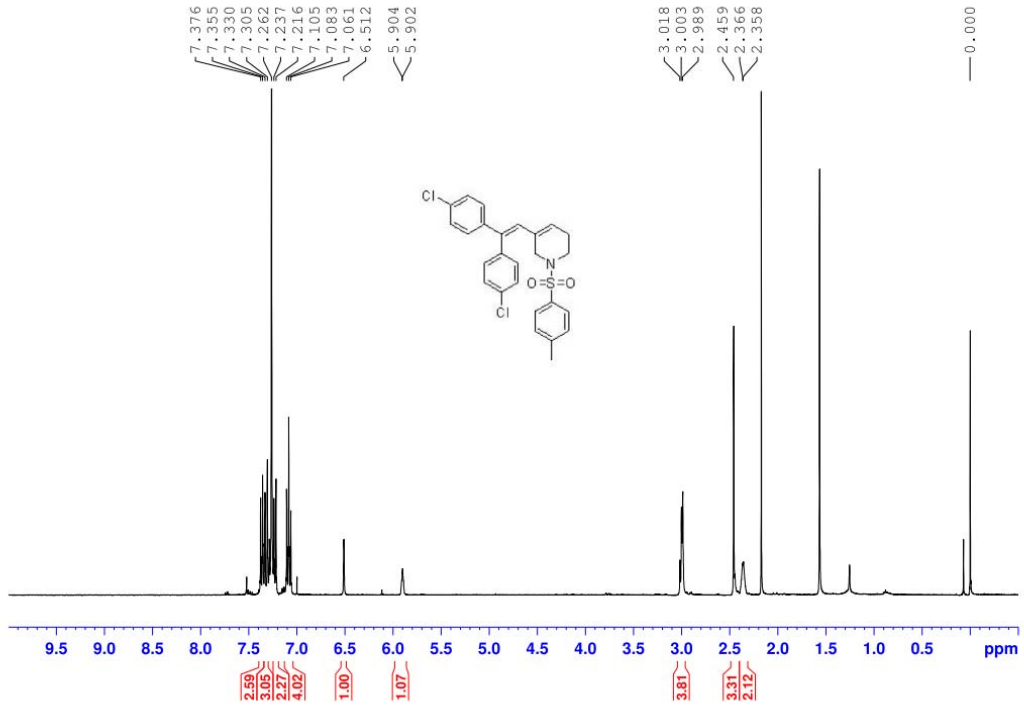


Figure 33: ^{1}H and ^{13}C NMR spectrum of 5-(2,2-bis(4-chlorophenyl)vinyl)-1-tosyl-1,2,3,6-tetrahydropyridine (4n)



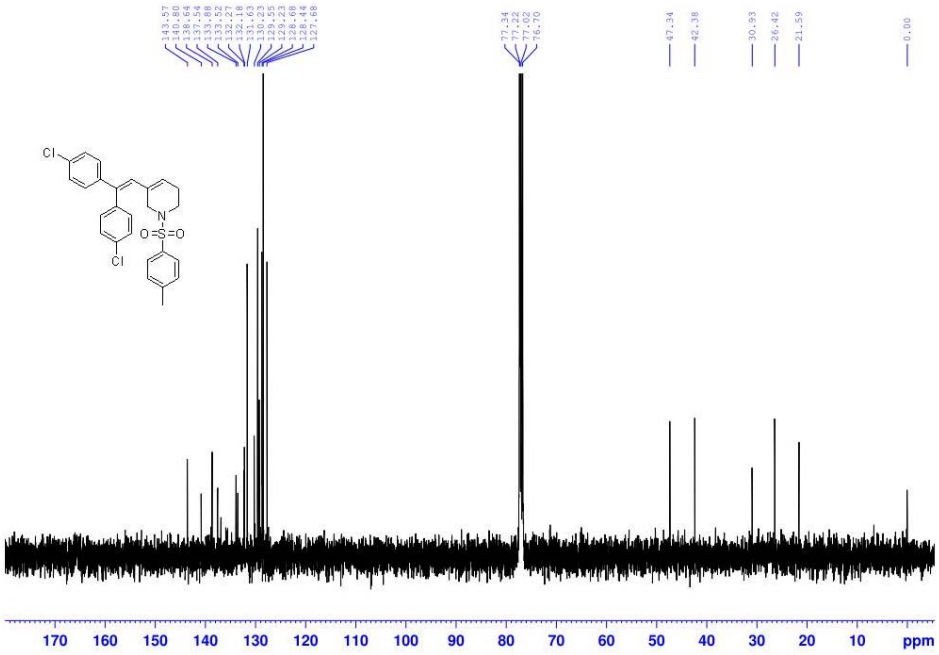
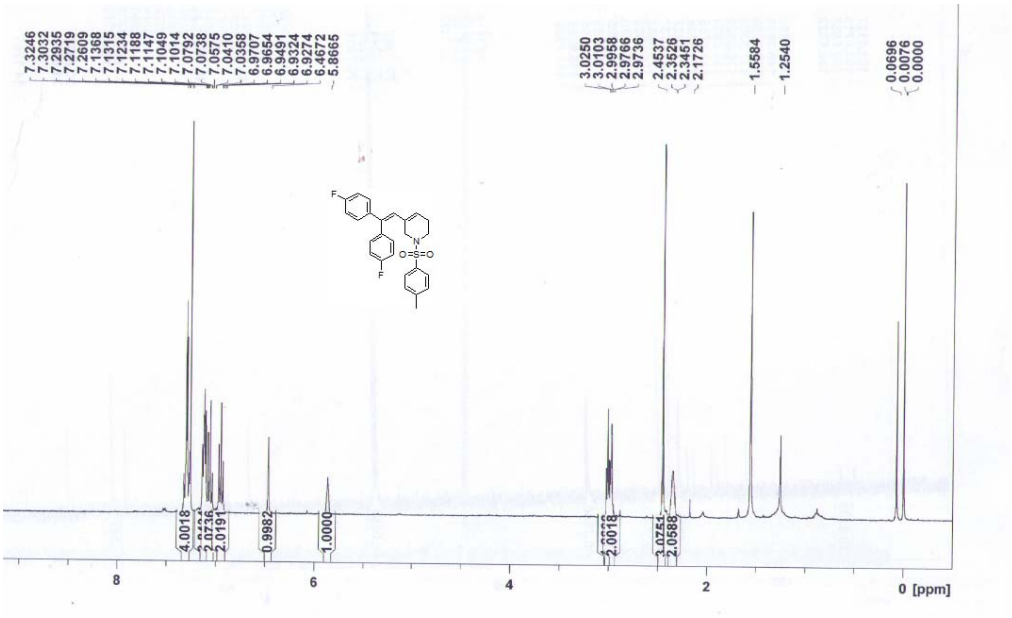


Figure 34: ^{1}H and ^{13}C NMR spectrum of 5-(2,2-bis(4-fluorophenyl)vinyl)-1-tosyl-1,2,3,6-tetrahydropyridine (4o)



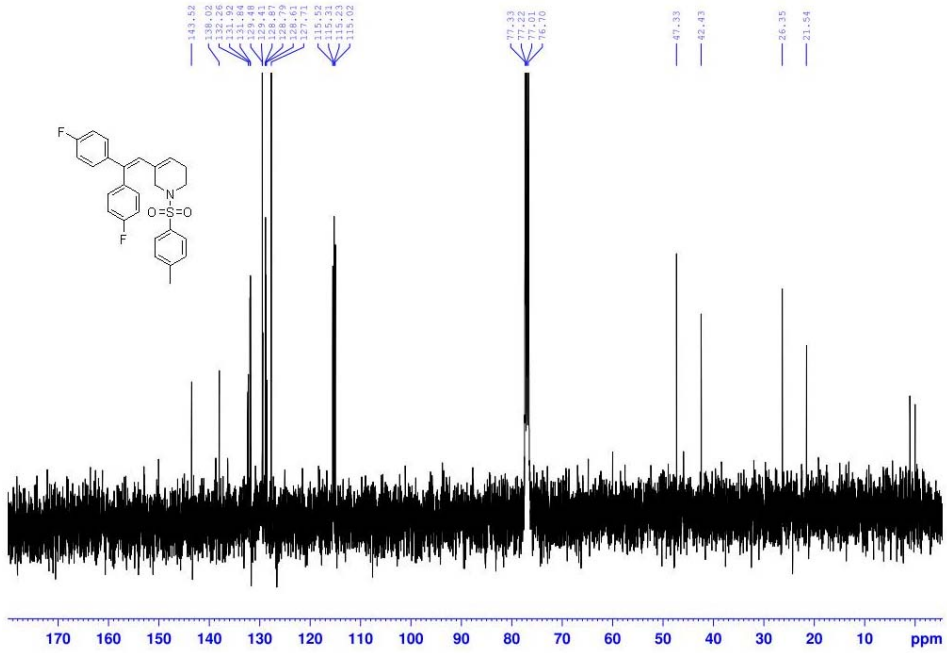


Figure 35: ^{1}H and ^{13}C NMR spectrum of 5-(2,2-bis(4-tert-butylphenyl)vinyl)-1-tosyl-1,2,3,6-tetrahydropyridine (4p)

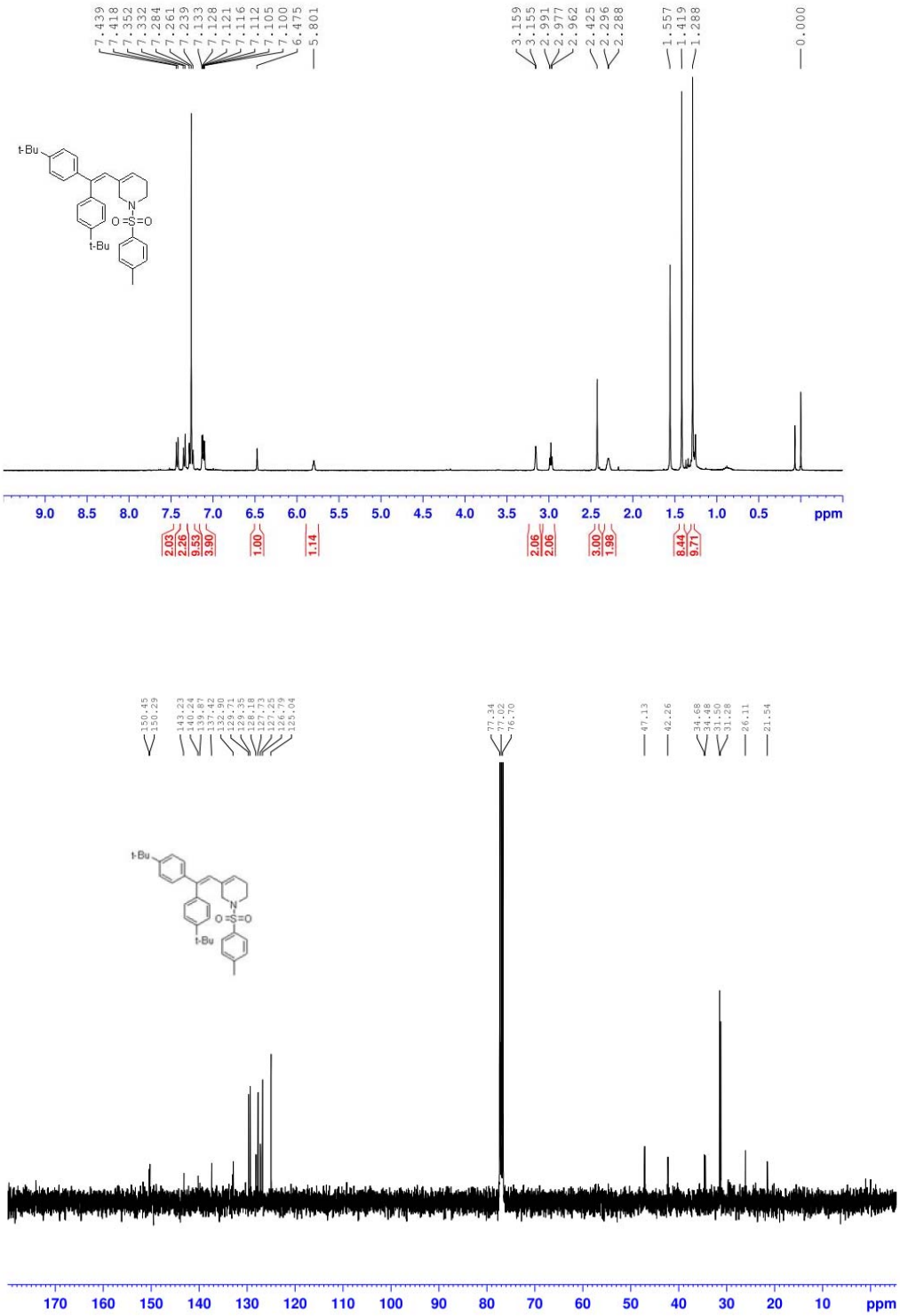


Figure 36: ^{1}H and ^{13}C NMR spectrum of 5-(2,2-bis(4-bromophenyl)vinyl)-1-tosyl-1,2,3,6-tetrahydropyridine (4q)

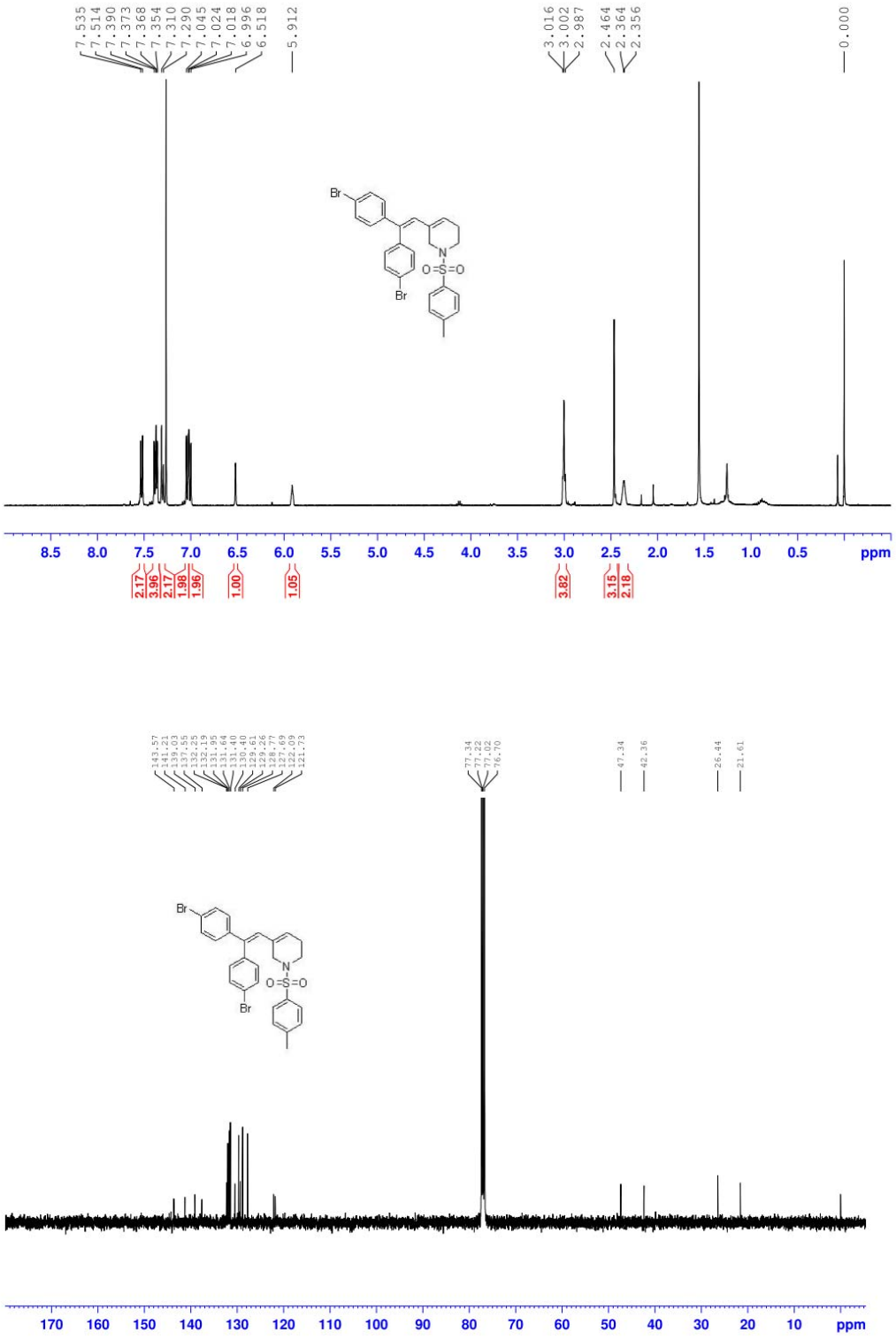


Figure 37: ^{1}H and ^{13}C NMR spectrum of 5-(2-phenylprop-1-enyl)-1-tosyl-1,2,3,6-tetrahydropyridine (4r)

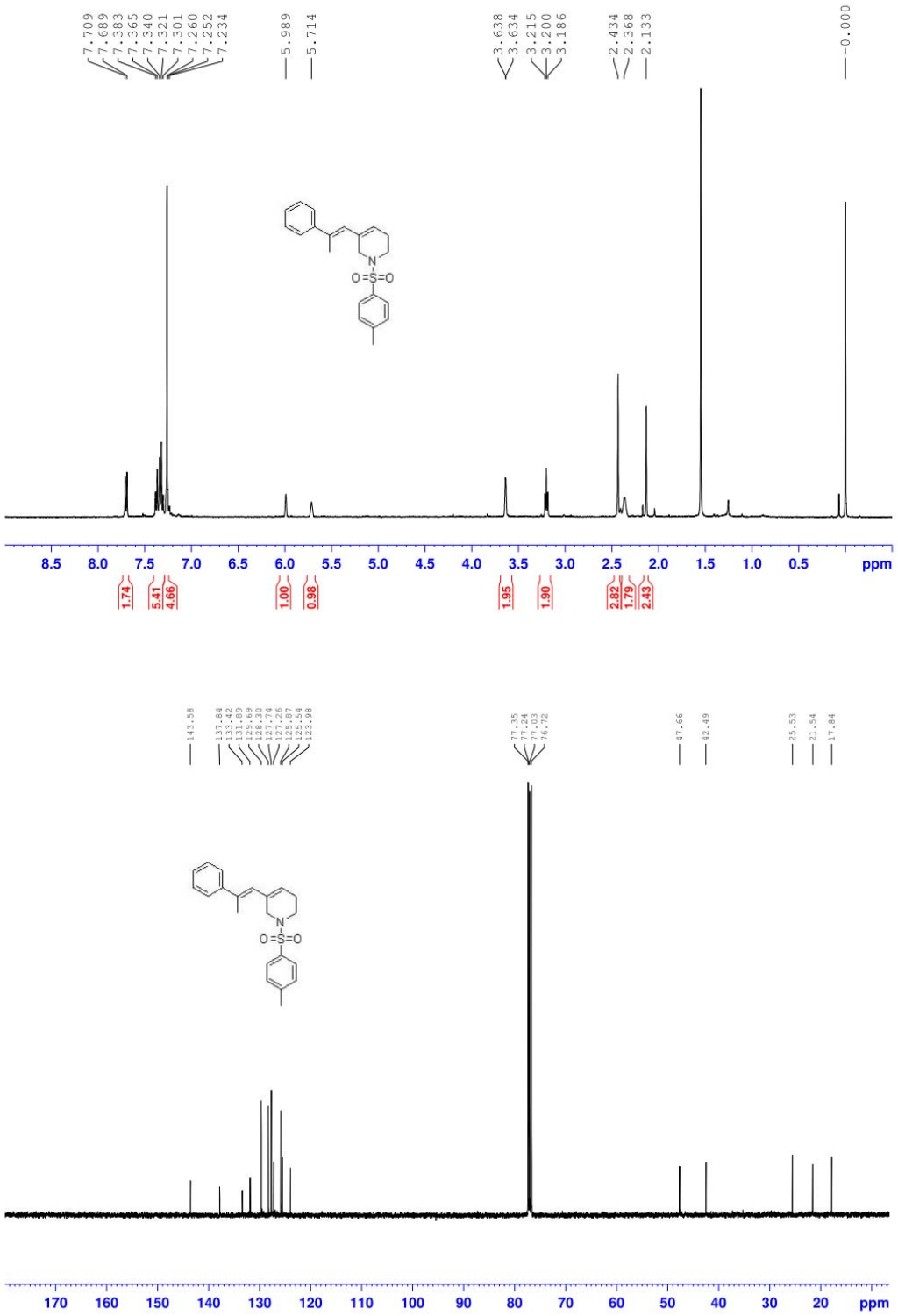


Figure 38: ^{1}H and ^{13}C NMR spectrum of 3-(2,6-dimethylbenzylidene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5i)

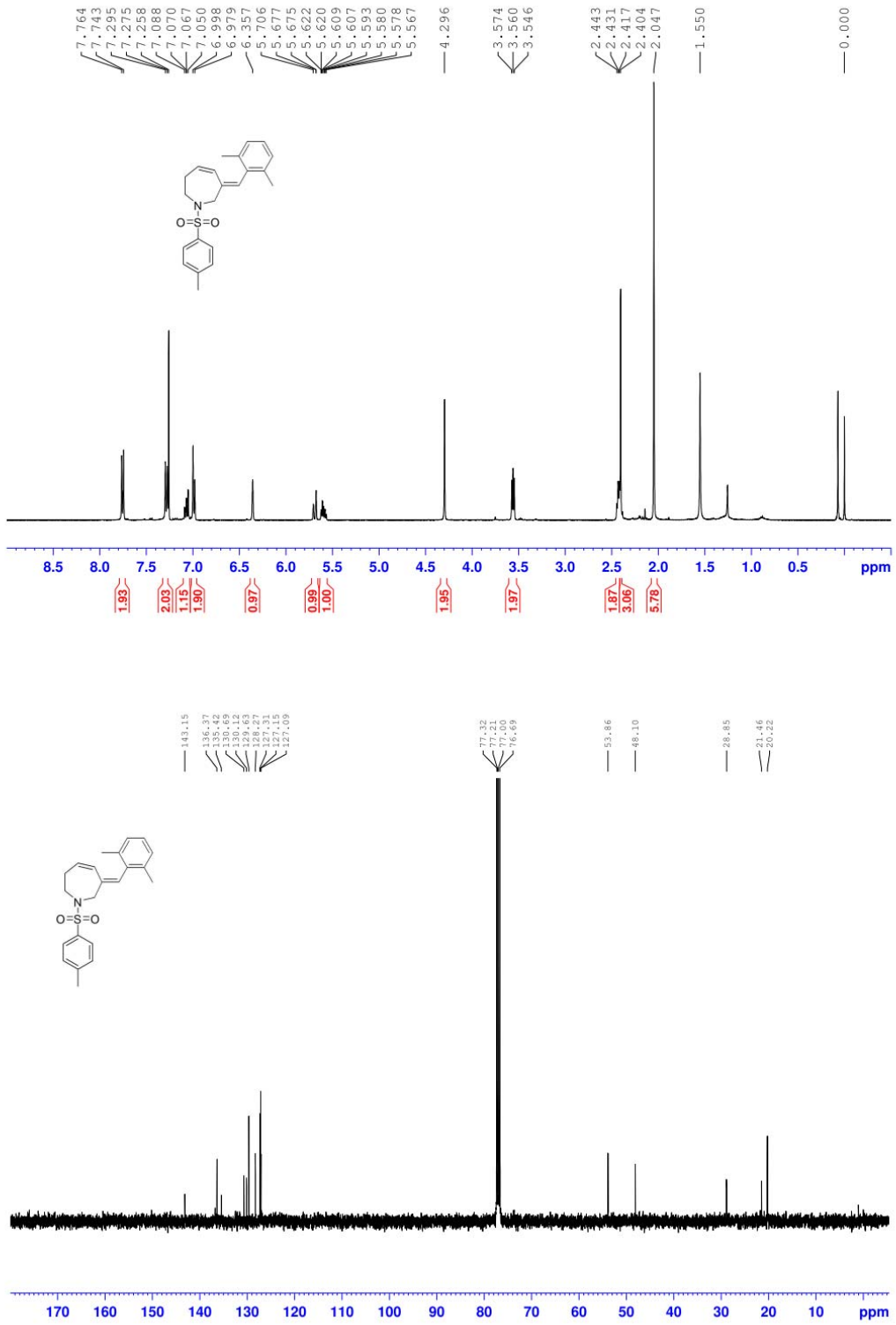


Figure 39: ^{1}H and ^{13}C NMR spectrum of (Z)-3-(diphenylmethylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5l)

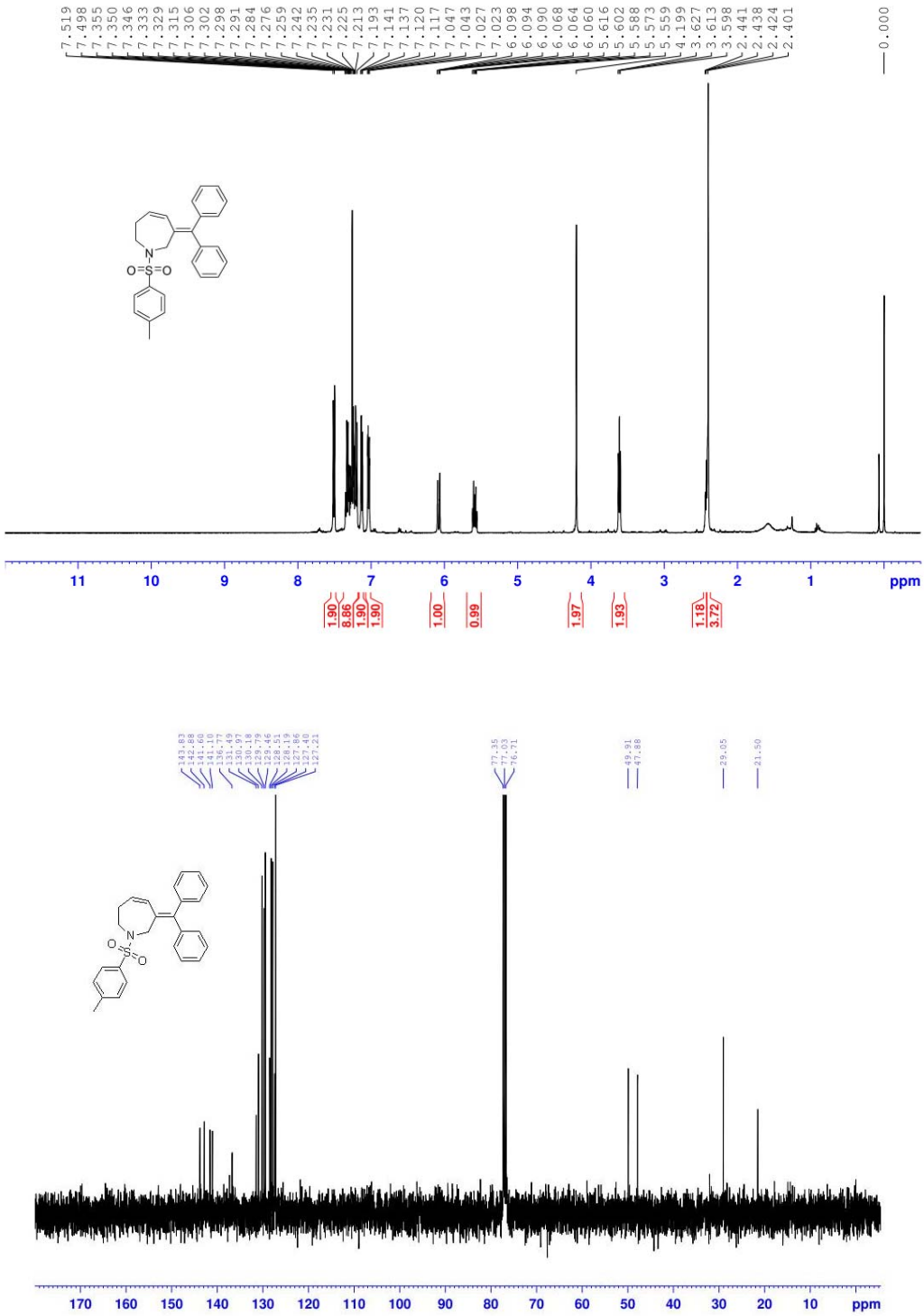


Figure 40: ^{1}H and ^{13}C NMR spectrum of (Z)-3-(dip-tolylmethylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5m)

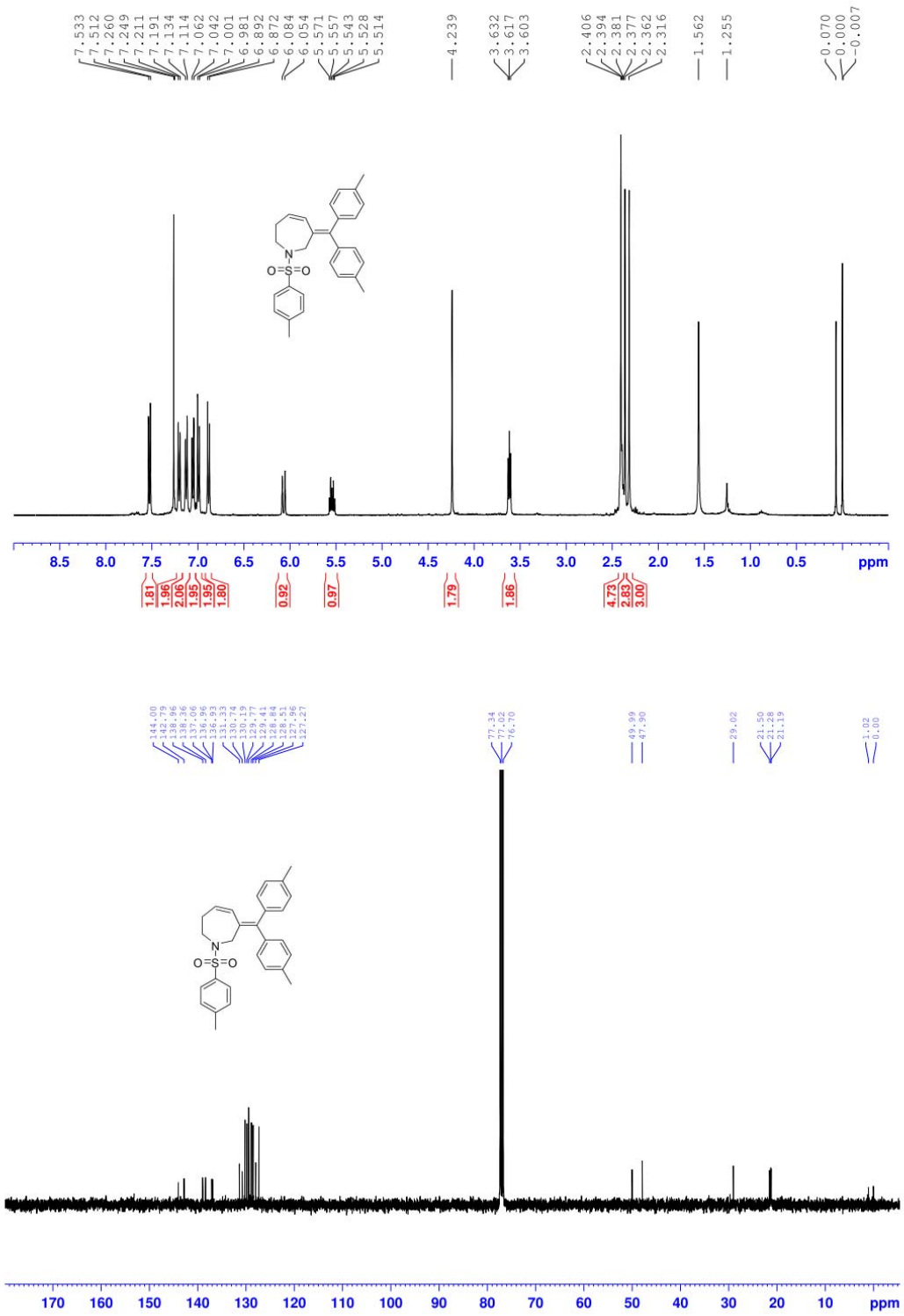


Figure 41: ^{1}H and ^{13}C NMR spectrum of (Z)-3-(bis(4-chlorophenyl)methylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5n)

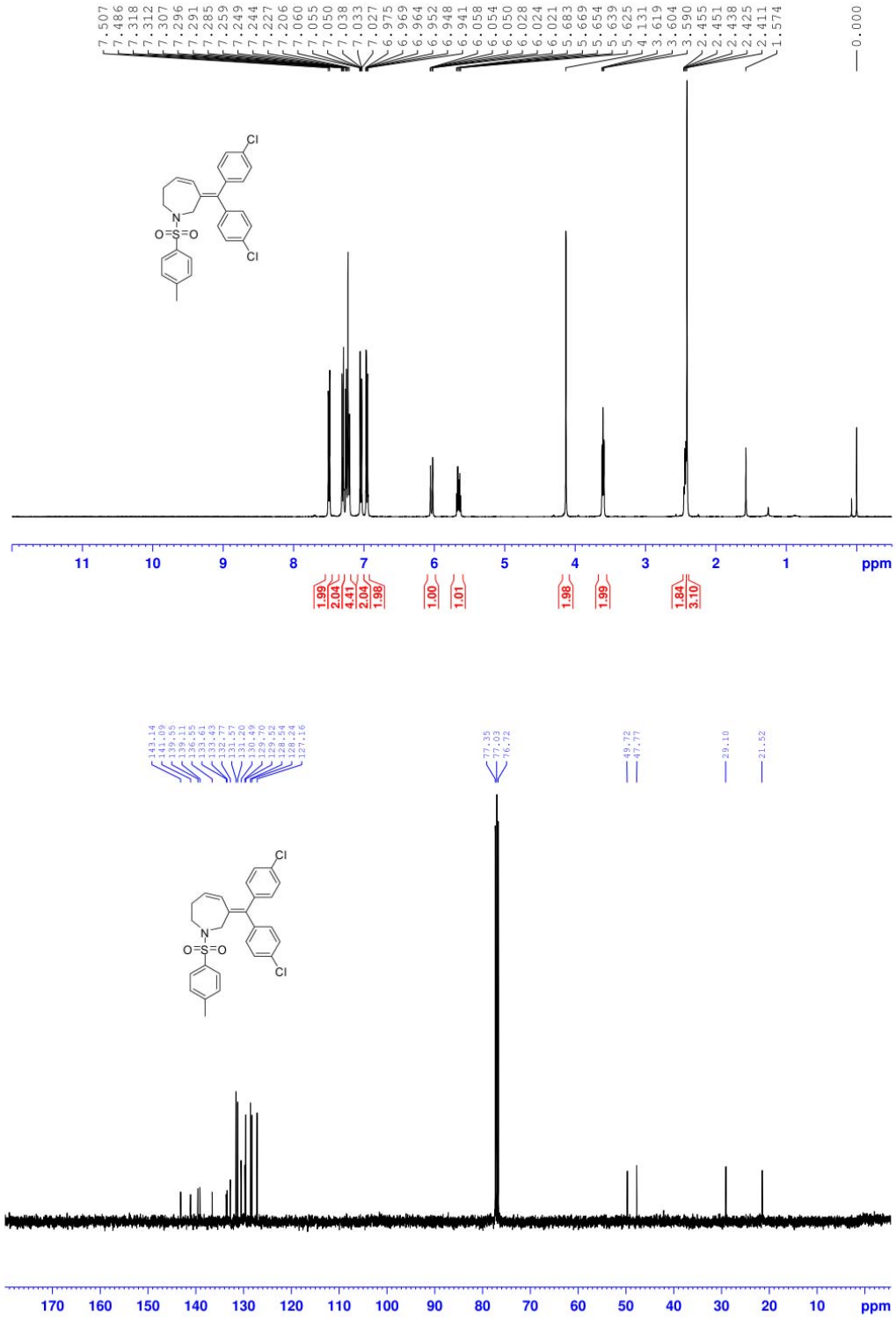


Figure 42: ^{1}H and ^{13}C NMR spectrum of (Z)-3-(bis(4-fluorophenyl)methylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5o)

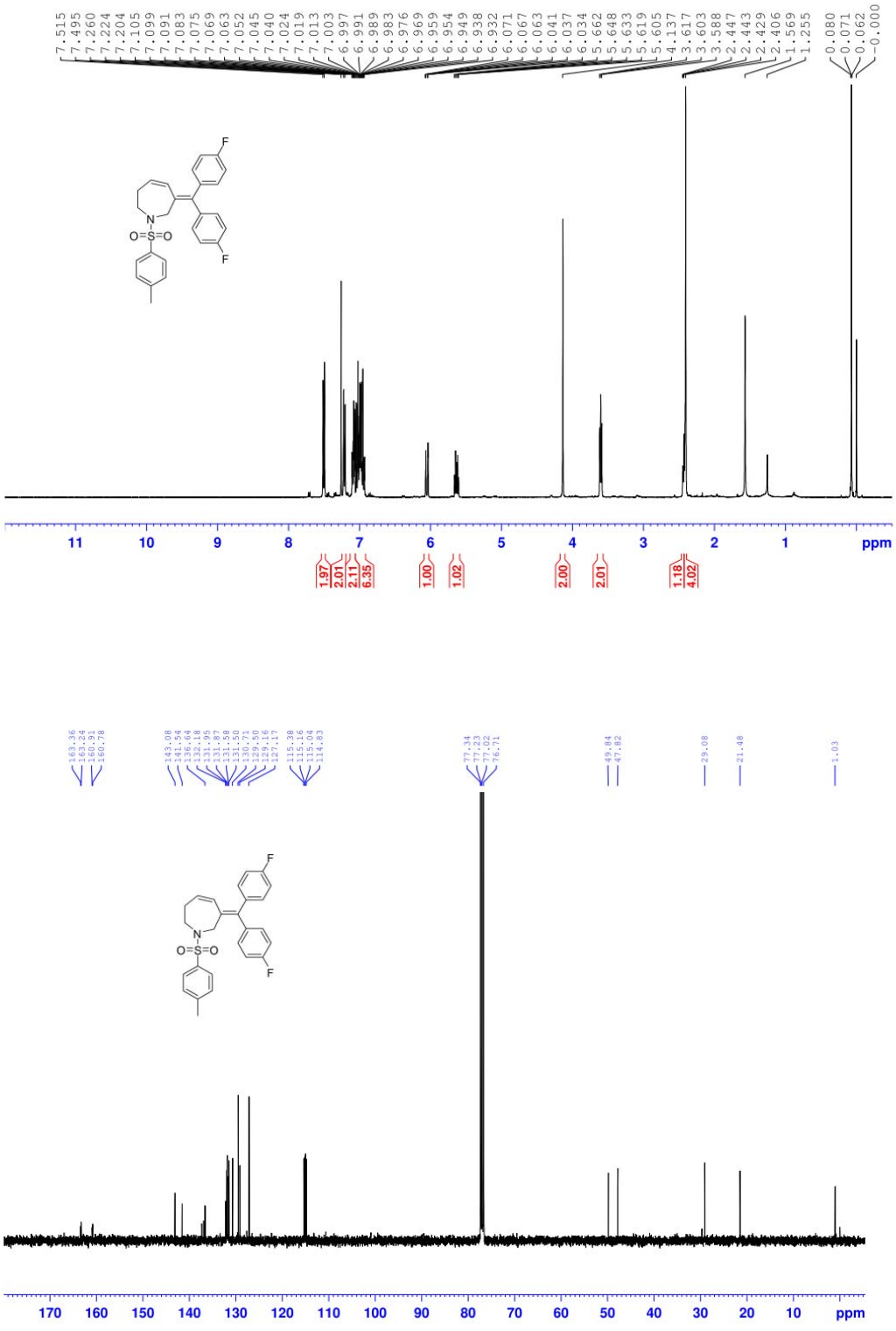


Figure 43: ^{1}H and ^{13}C NMR spectrum of 3-(bis(4-(tert-butyl)phenyl)methylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5p)

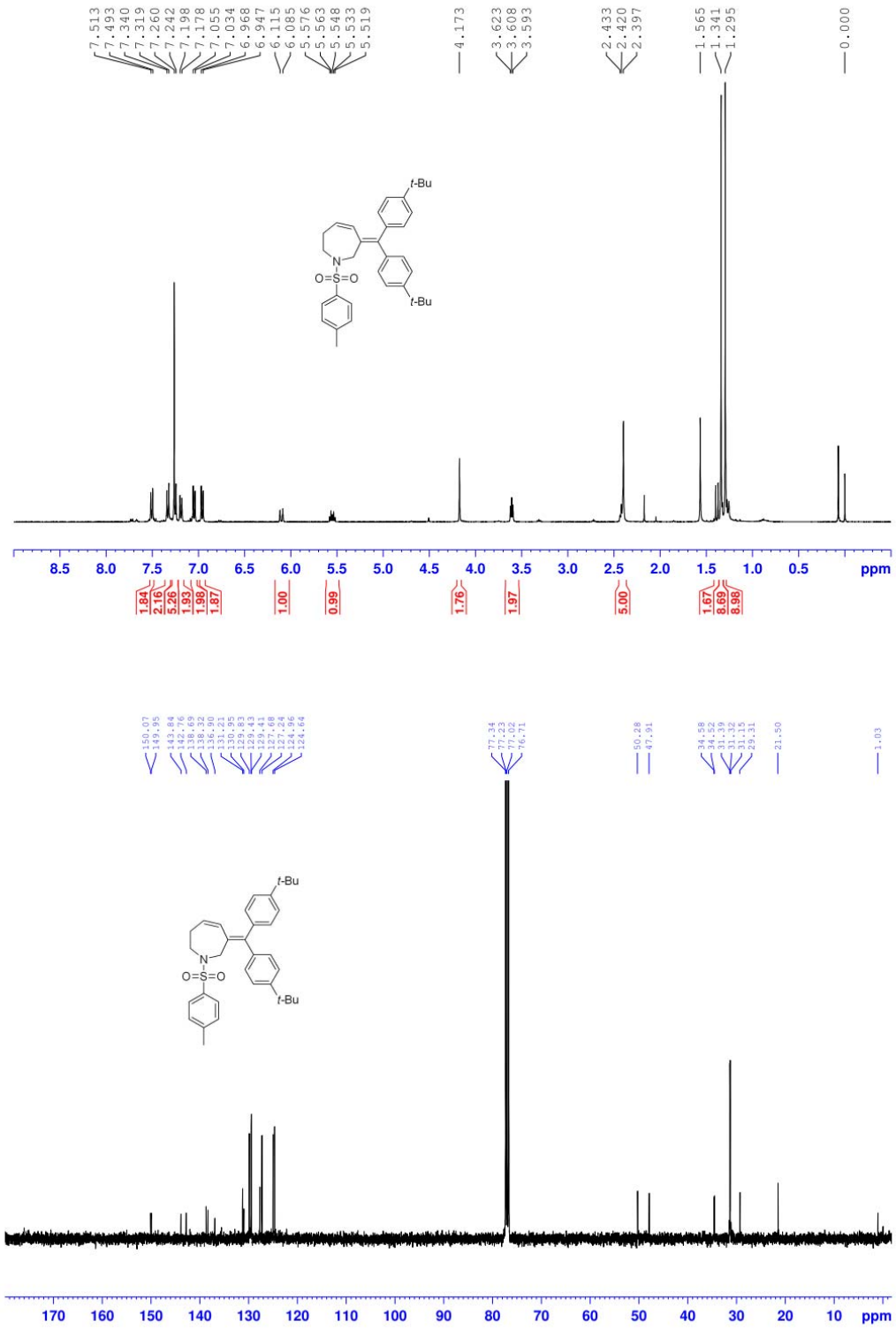


Figure 44: ^{1}H and ^{13}C NMR spectrum of (Z)-3-(bis(4-bromophenyl)methylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5q)

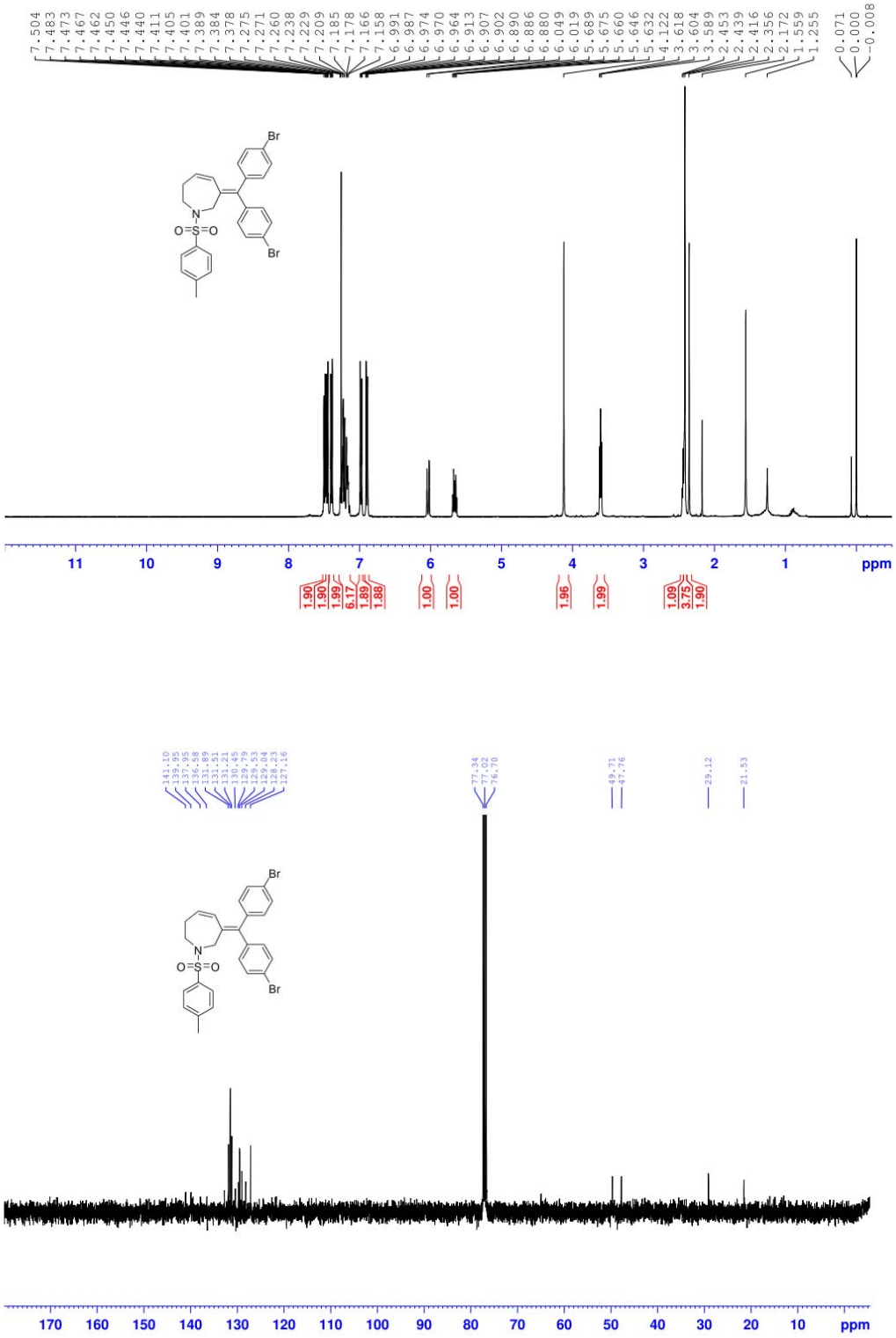


Figure 45: ^{1}H and ^{13}C NMR spectrum of 3-(1-phenylethylidene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5r)

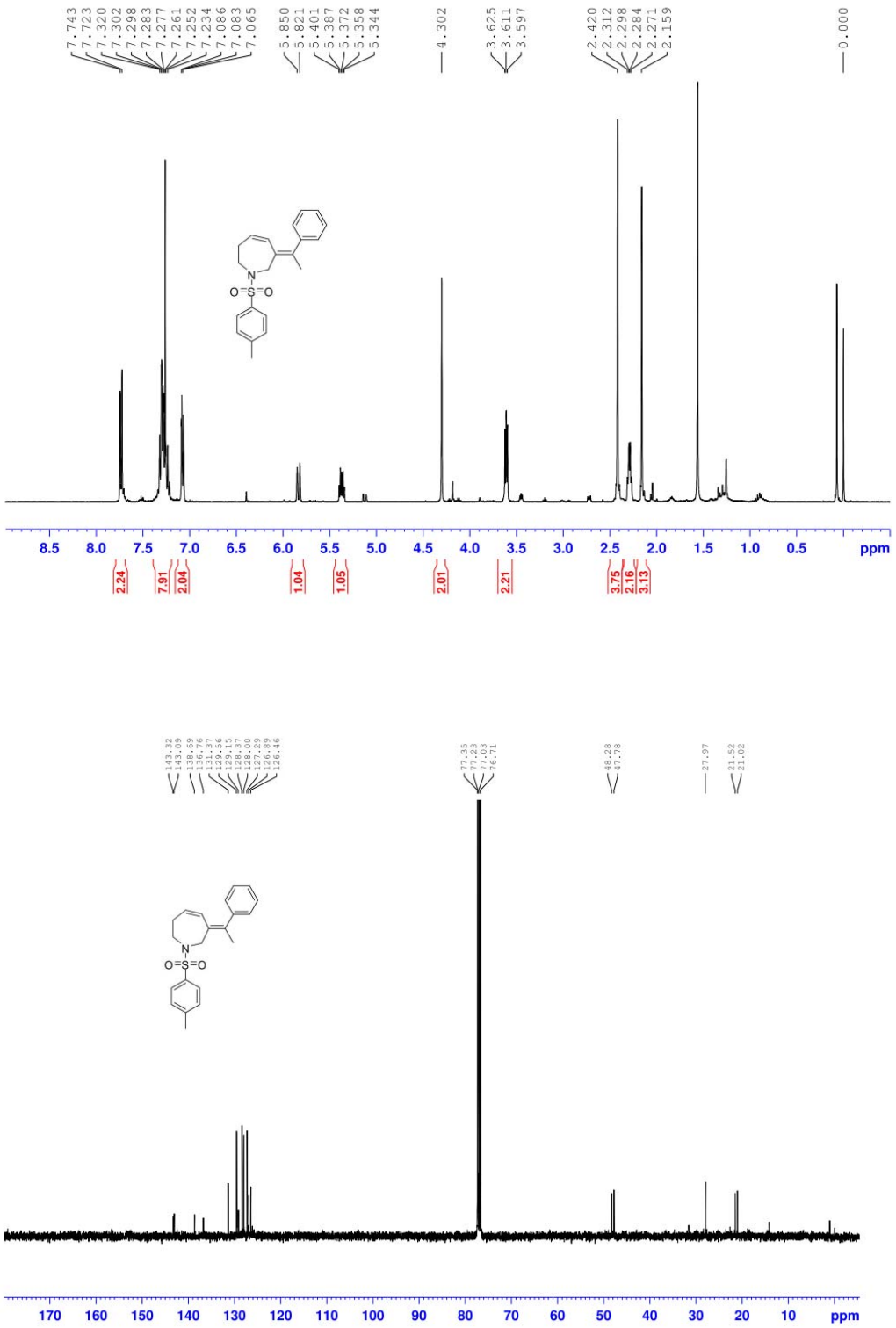


Figure 46: ^{1}H and ^{13}C NMR spectrum of (Z)-3-(bis(4-(trifluoromethyl)phenyl)methylene)-1-tosyl-2,3,6,7-tetrahydro-1H-azepine (5s)

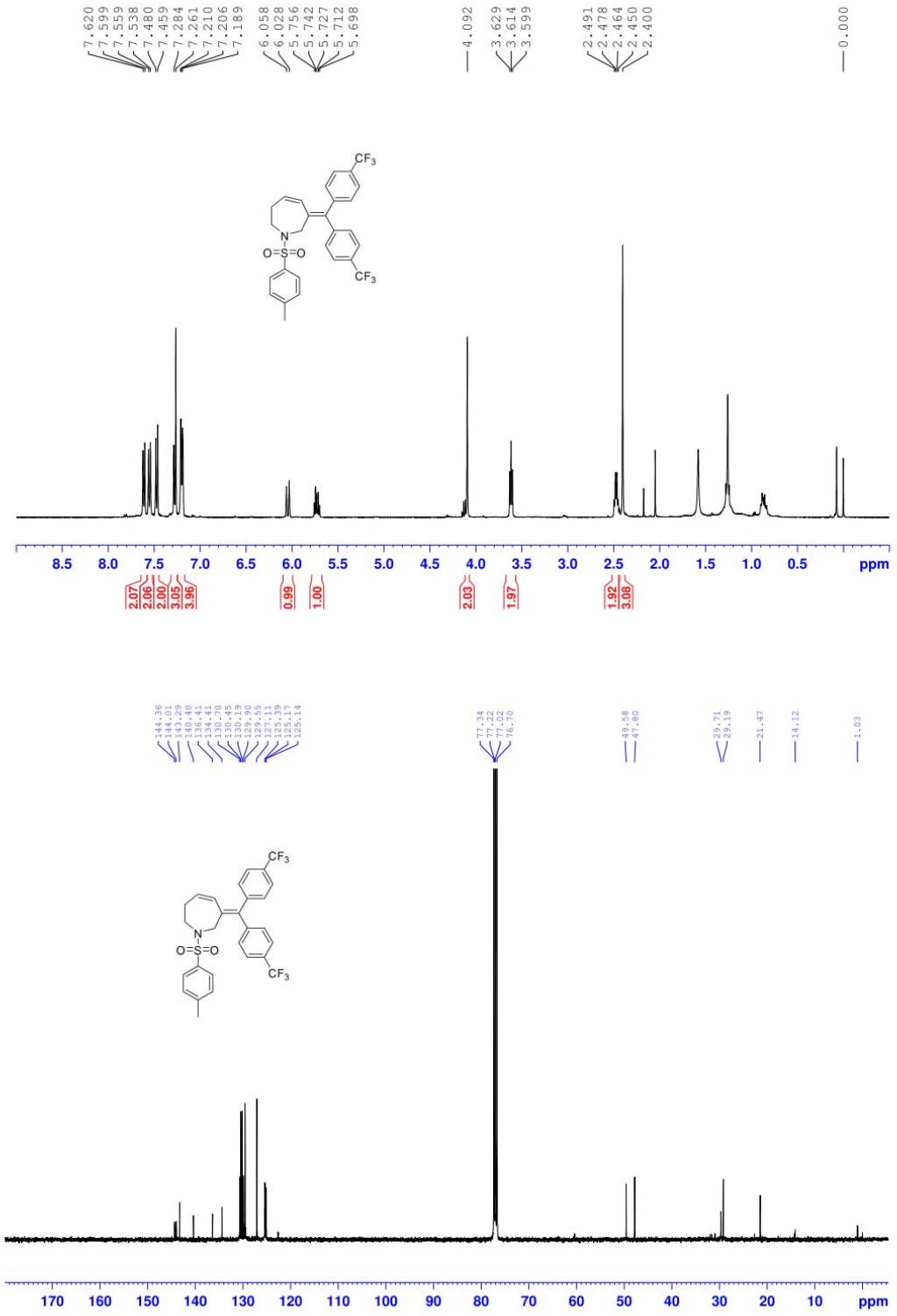


Figure 47: ^{1}H and ^{13}C NMR spectrum of 4-(diphenylmethylene)-3-methylene-1-tosylpiperidine (6l)

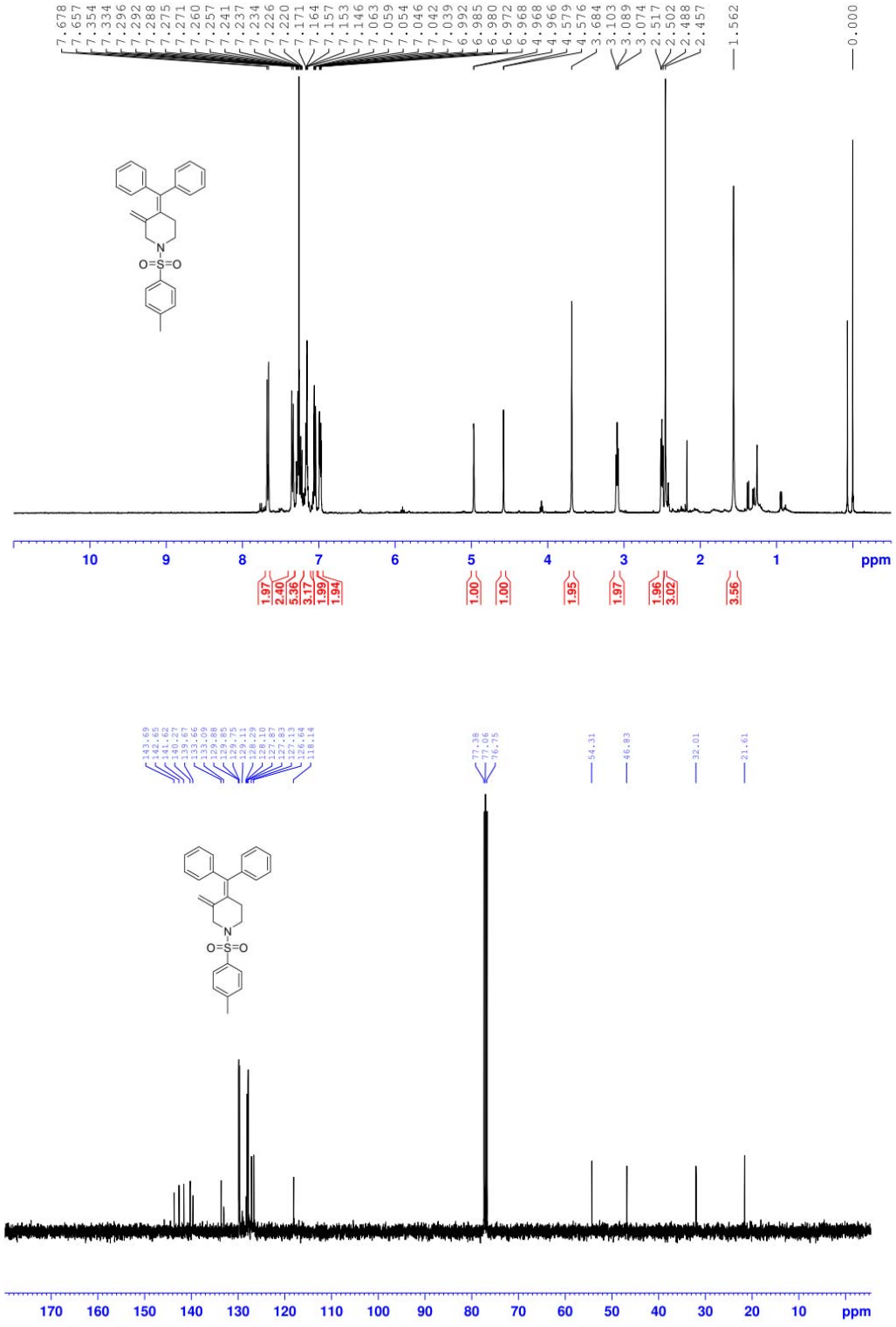


Figure 48: ^{1}H and ^{13}C NMR spectrum of 4-(dip-tolylmethylene)-3-methylene-1-tosylpiperidine (6m)

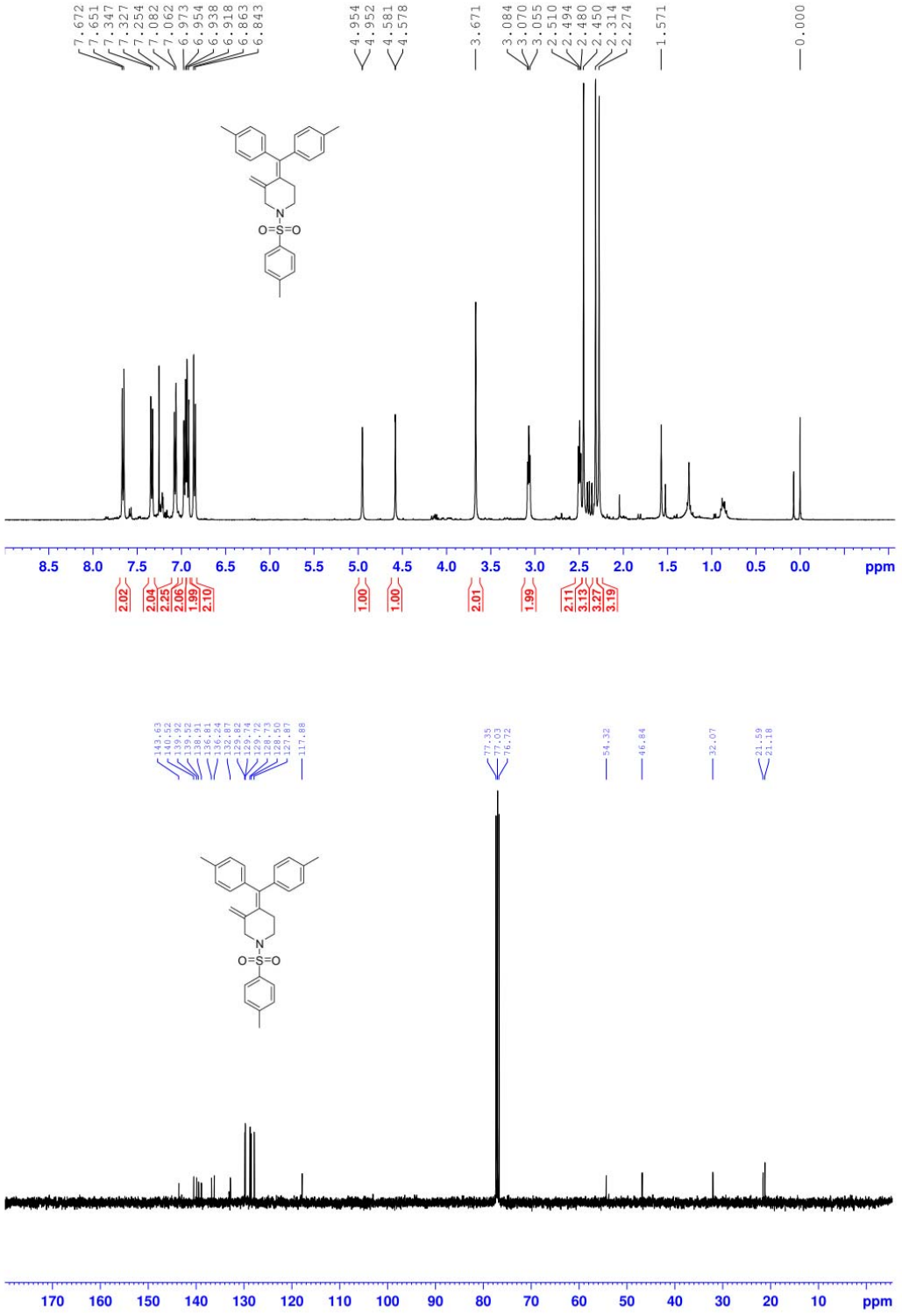


Figure 49: ^{1}H and ^{13}C NMR spectrum of 4-(bis(4-chlorophenyl)methylene)-3-methylene-1-tosylpiperidine (6n)

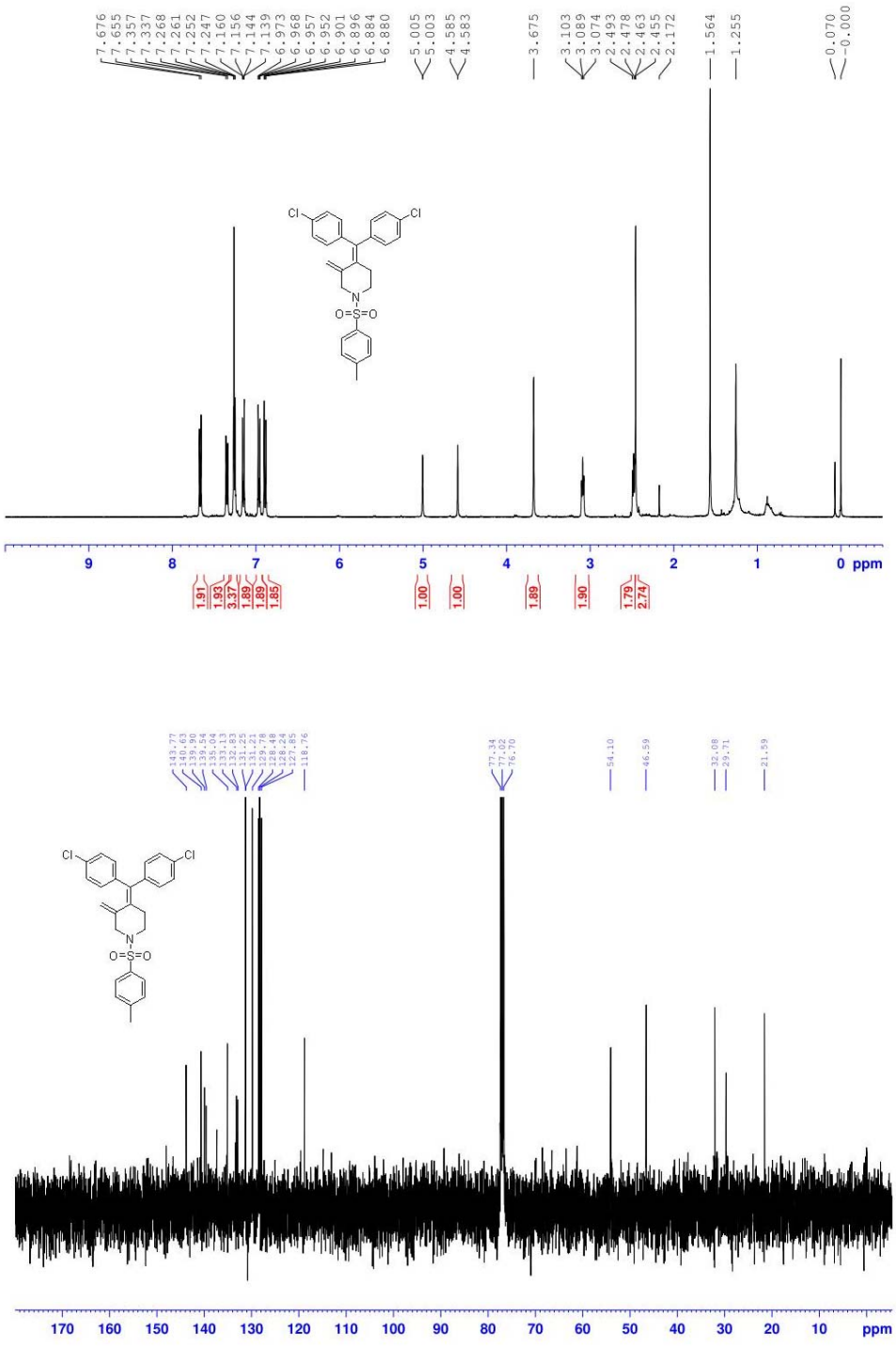


Figure 50: ^{1}H and ^{13}C NMR spectrum of 4-(bis(4-fluorophenyl)methylene)-3-methylene-1-tosylpiperidine (6o)

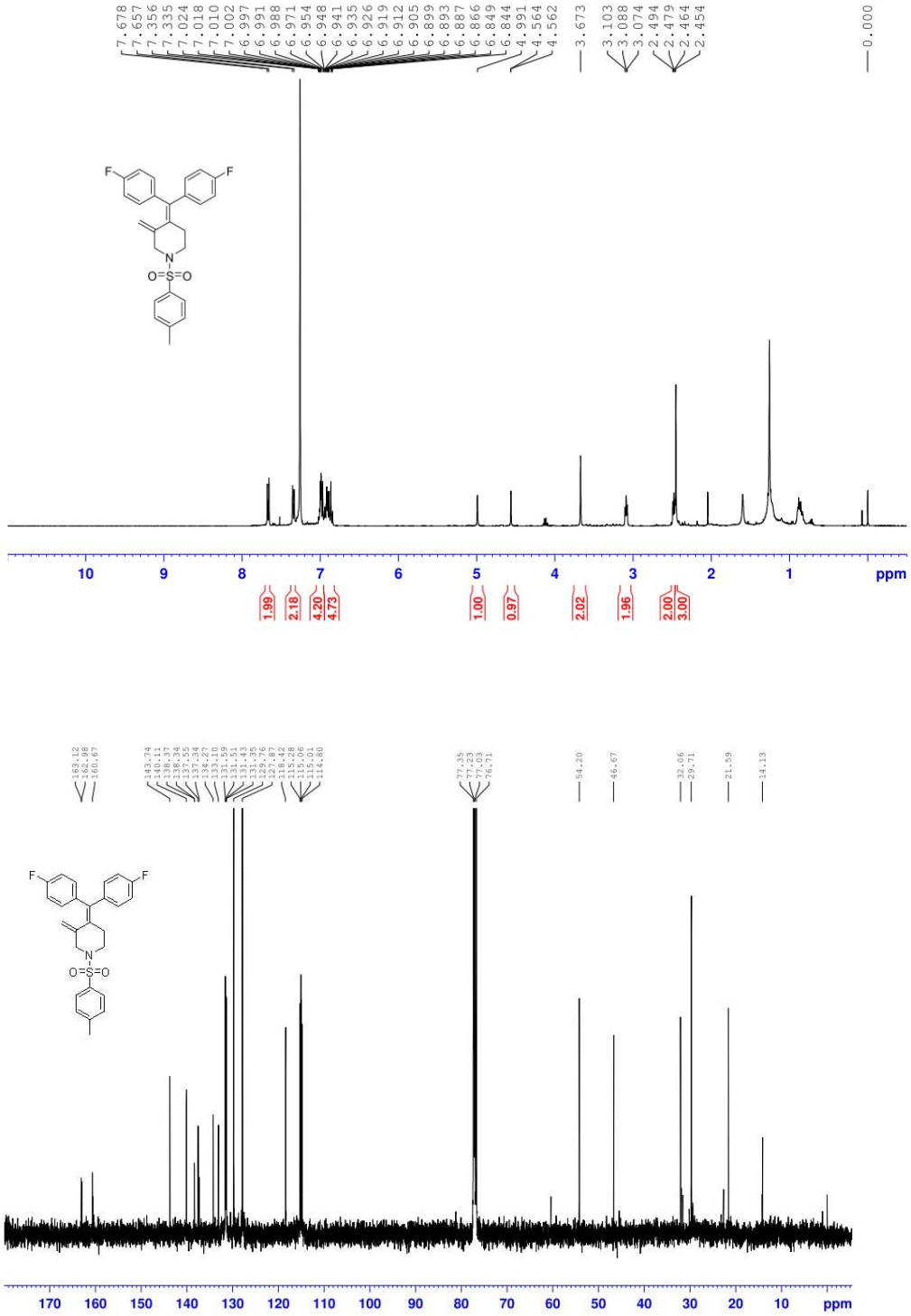


Figure 51: ^{1}H and ^{13}C NMR spectrum of 4-(bis(4-tert-butylphenyl)methylene)-3-methylene-1-tosylpiperidine (6p)

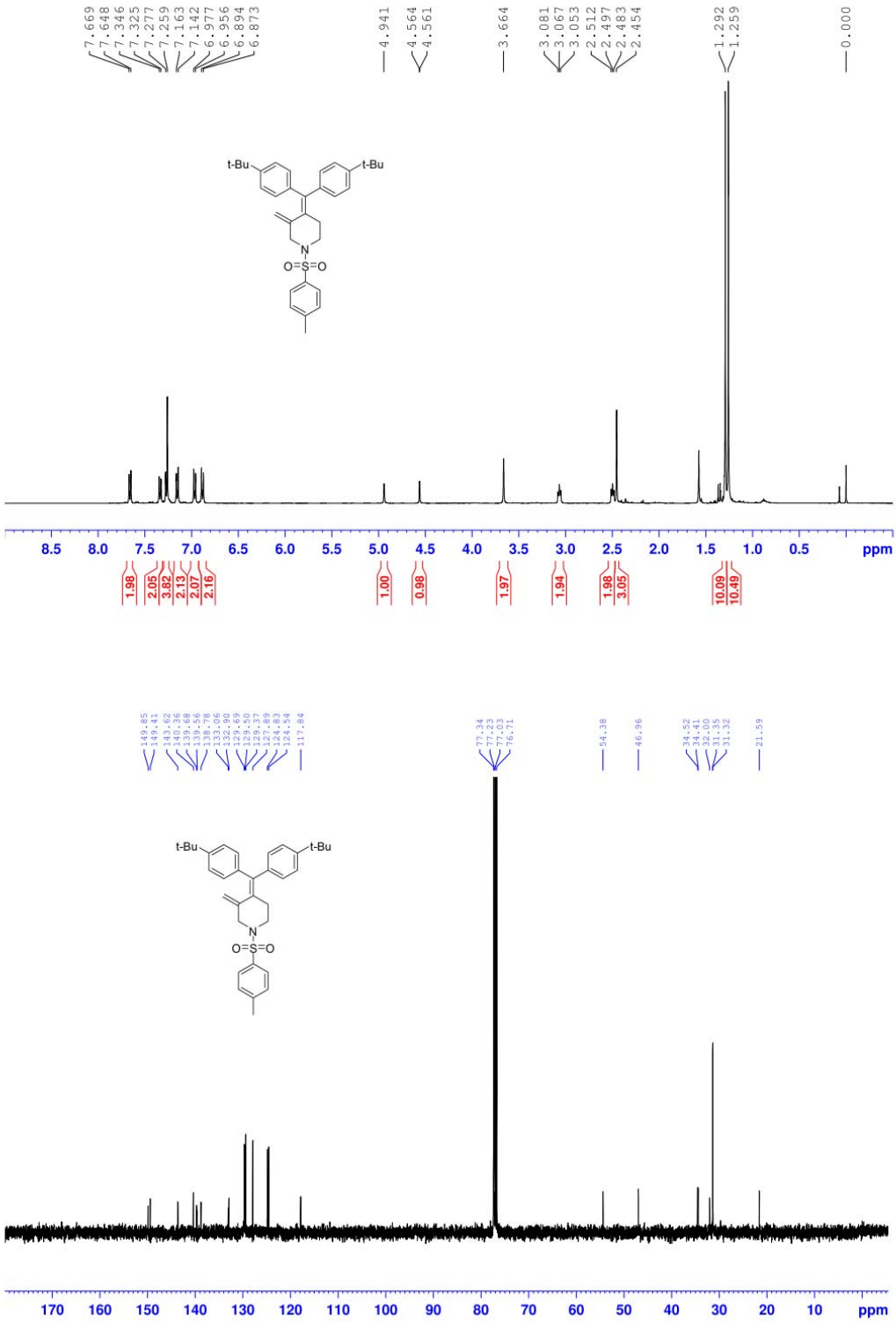


Figure 52: ^{1}H and ^{13}C NMR spectrum of 4-(bis(4-methoxyphenyl)methylene)-3-methylene-1-tosylpiperidine (6t)