

Electronic supplementary information

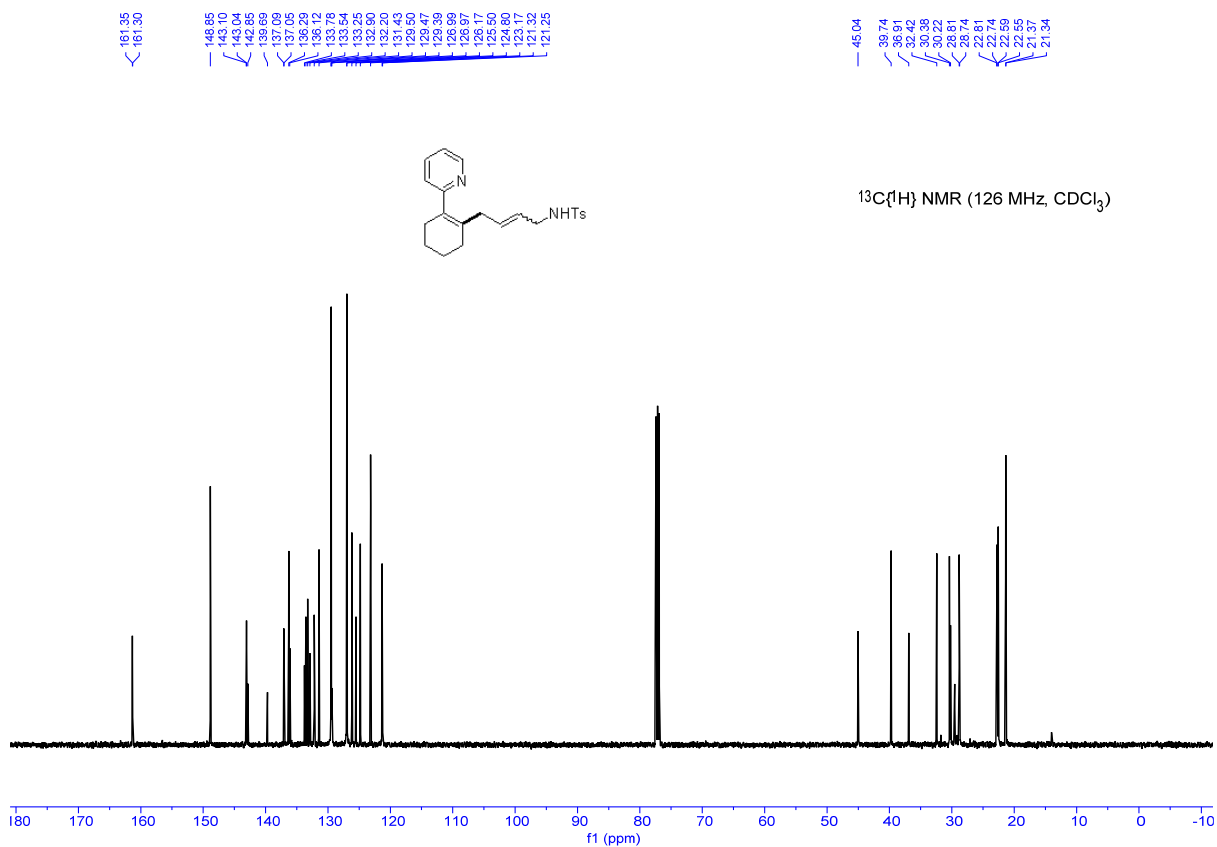
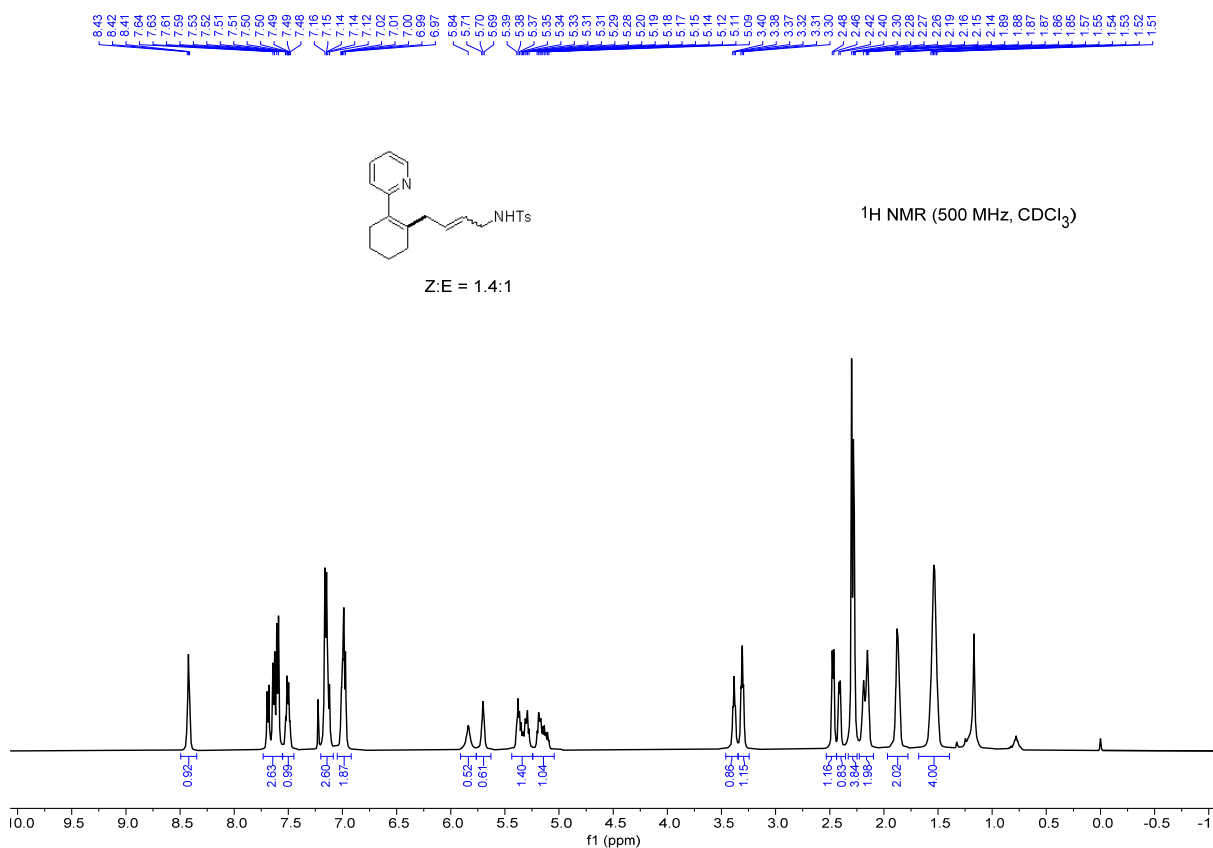
Co(III)-catalyzed allylation reaction of 2-alkenylpyridines with 2-vinylaziridines: access to 1,4-dienes

Hong Zeng and Zhong-Xia Wang*

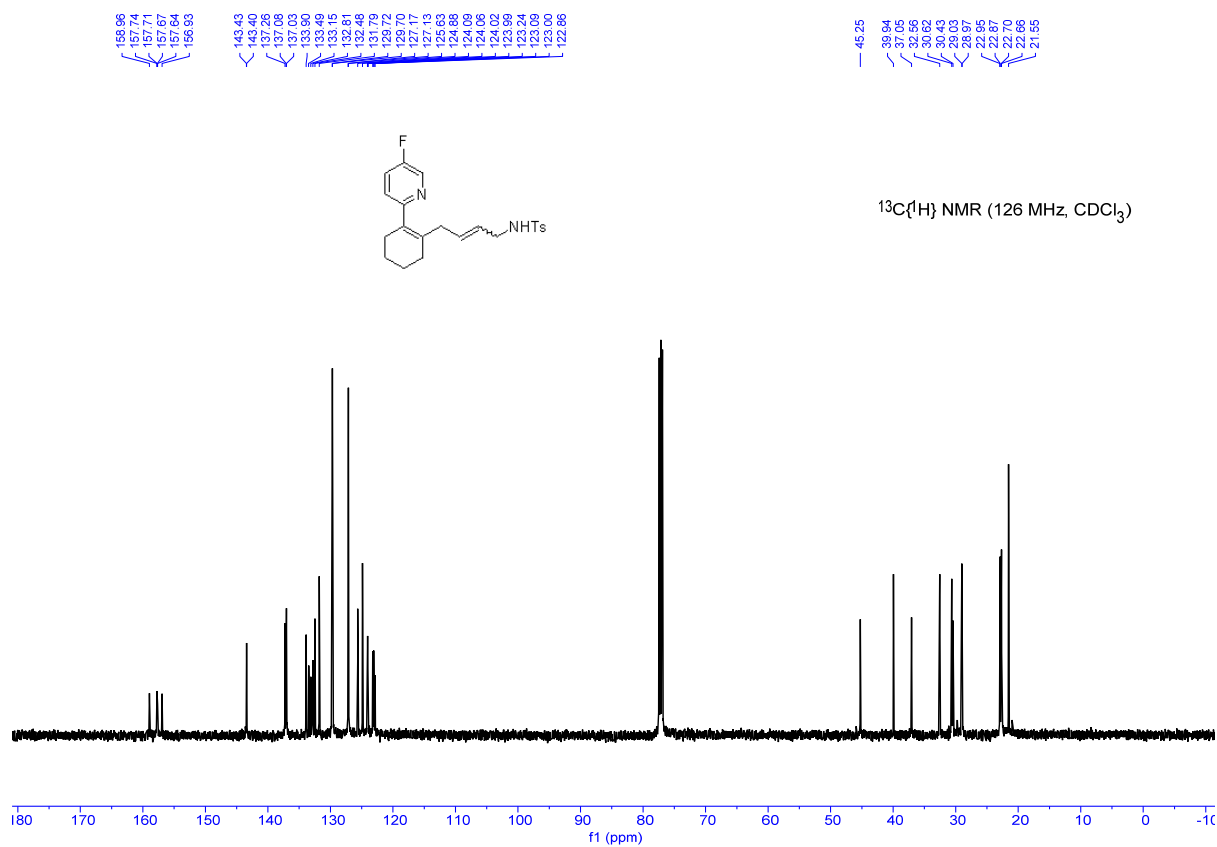
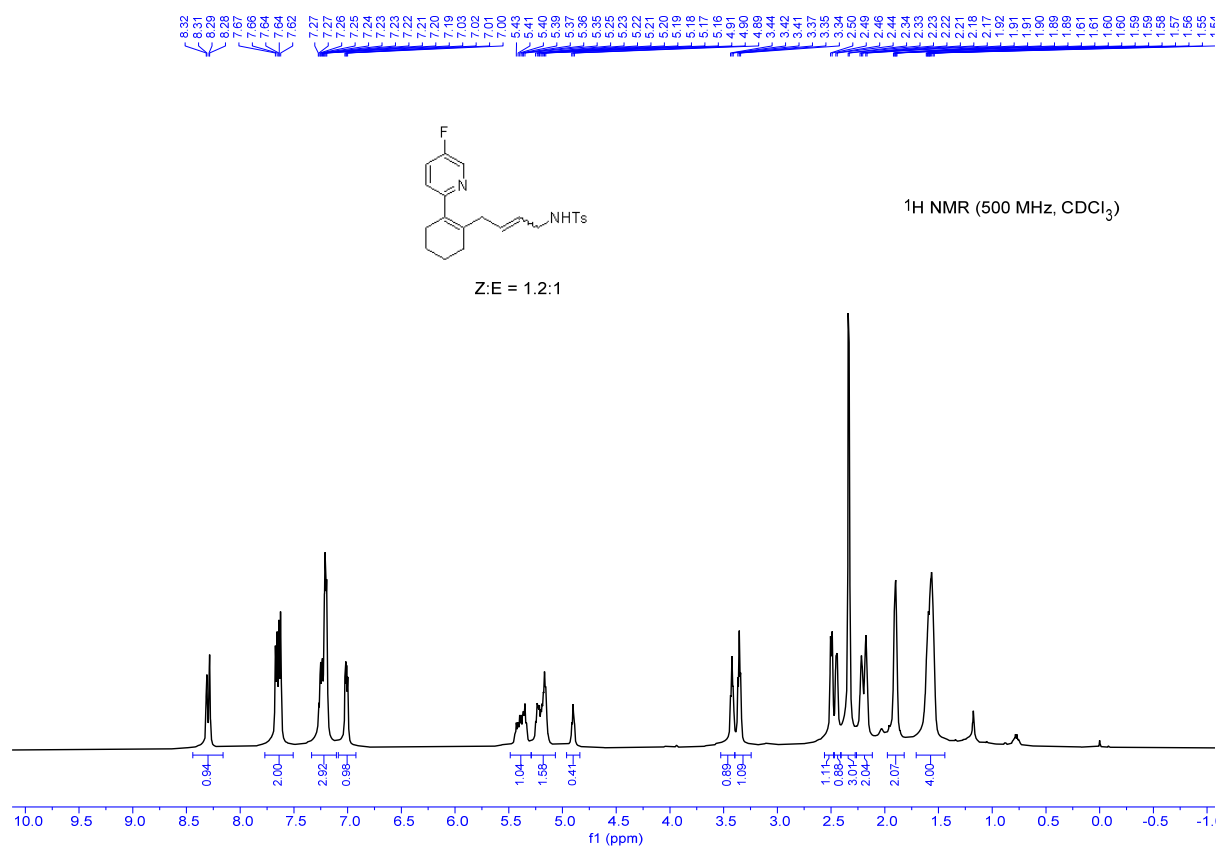
Department of Chemistry, University of Science and Technology of China, Hefei, Anhui
230026, P. R. China. E-mail: zxwang@ustc.edu.cn

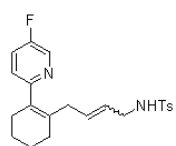
NMR spectral copies of the coupling products.

(1) 4-methyl-*N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide
(3a)

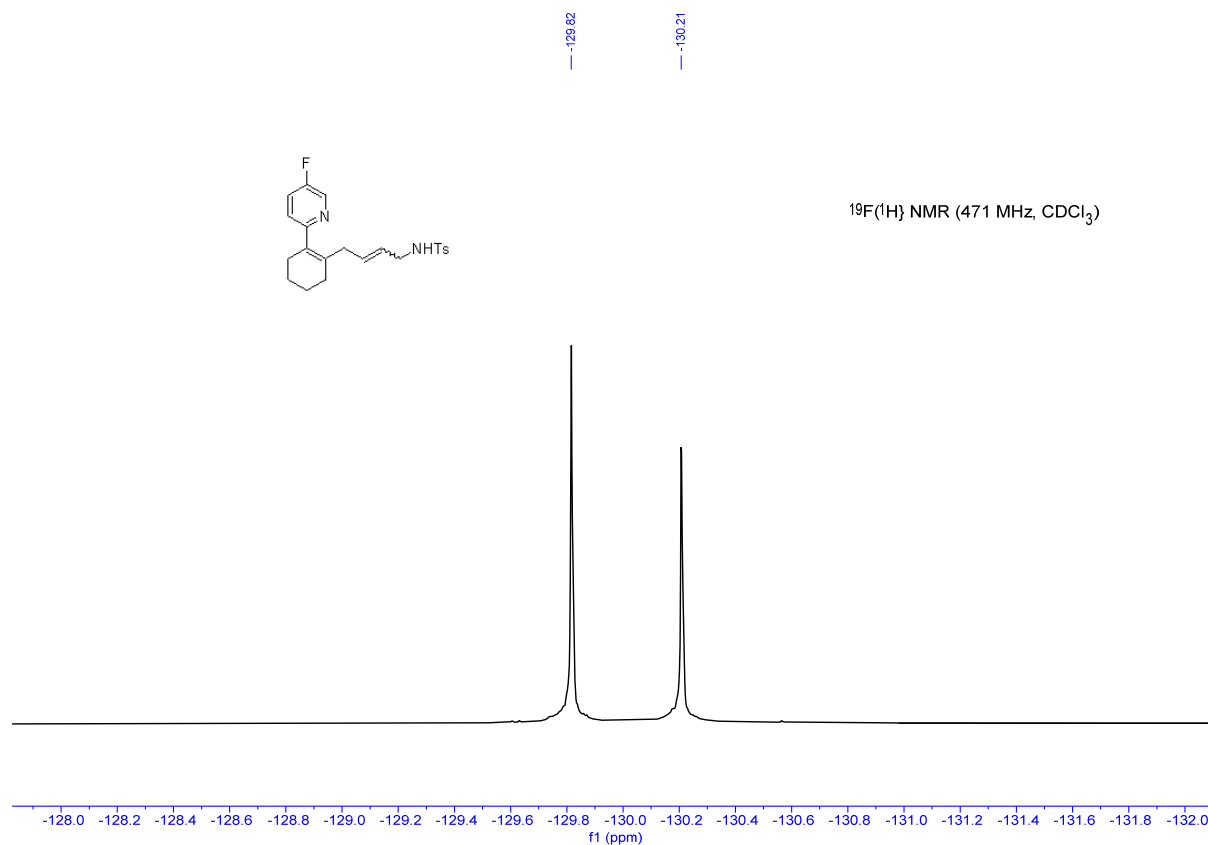


(2) *N*-(4-(2-(5-fluoropyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3b**)

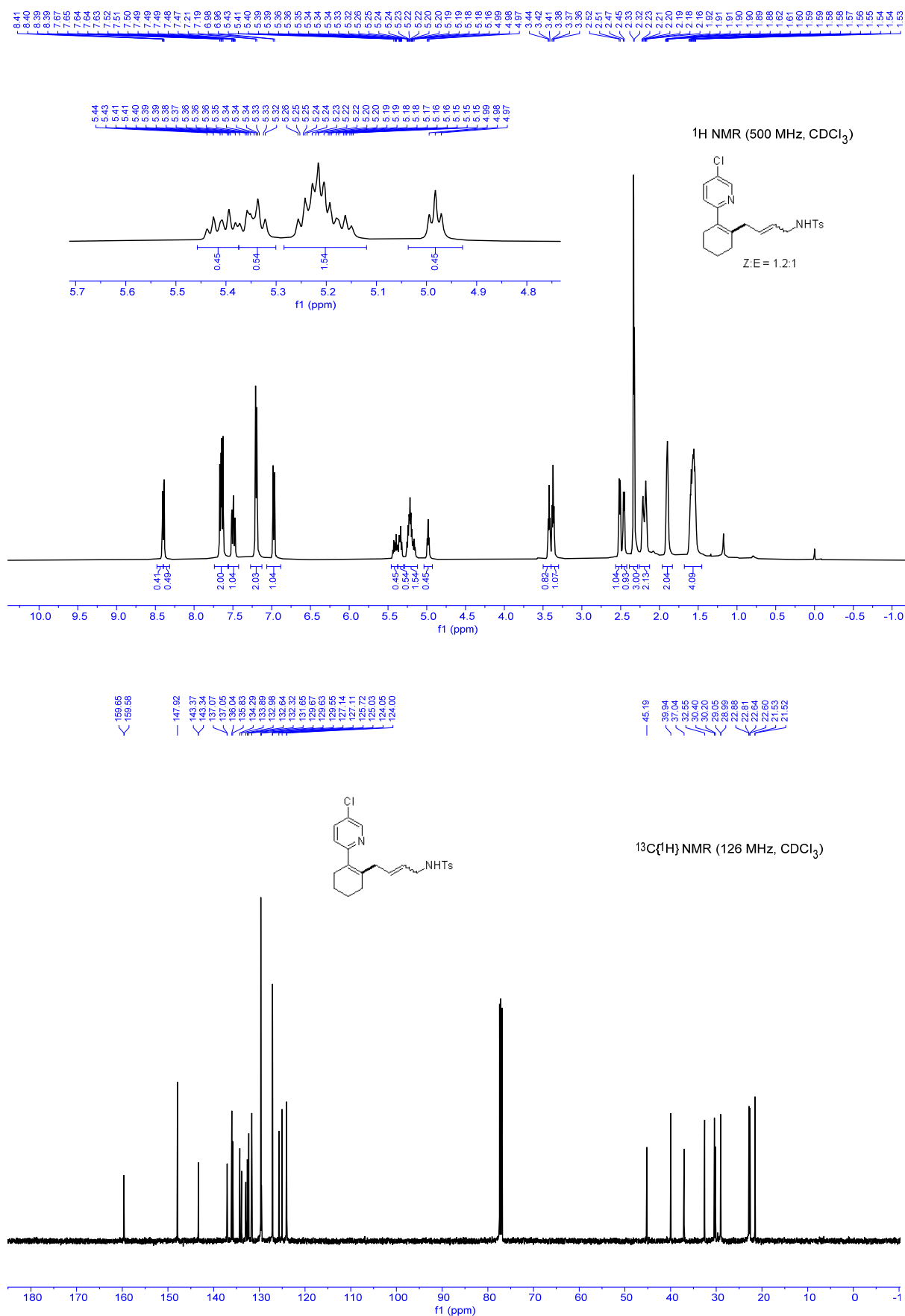




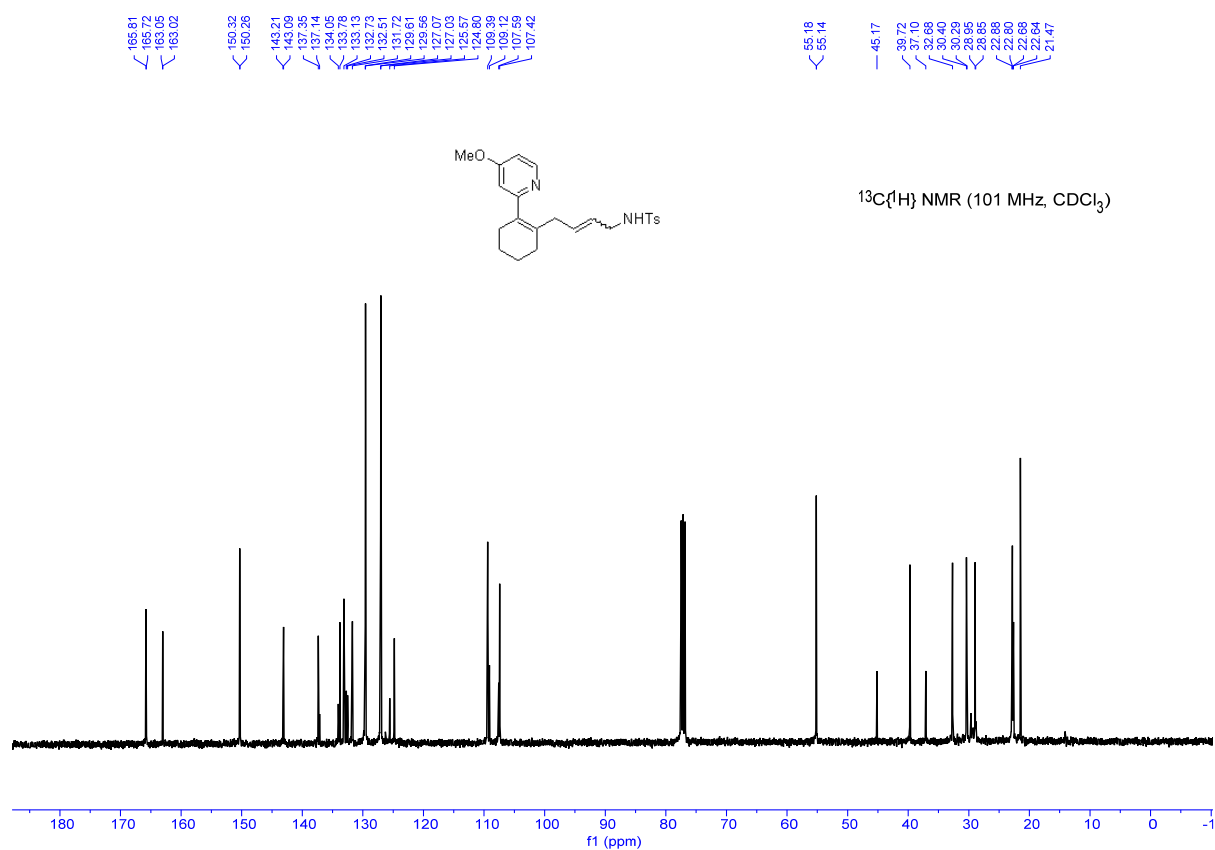
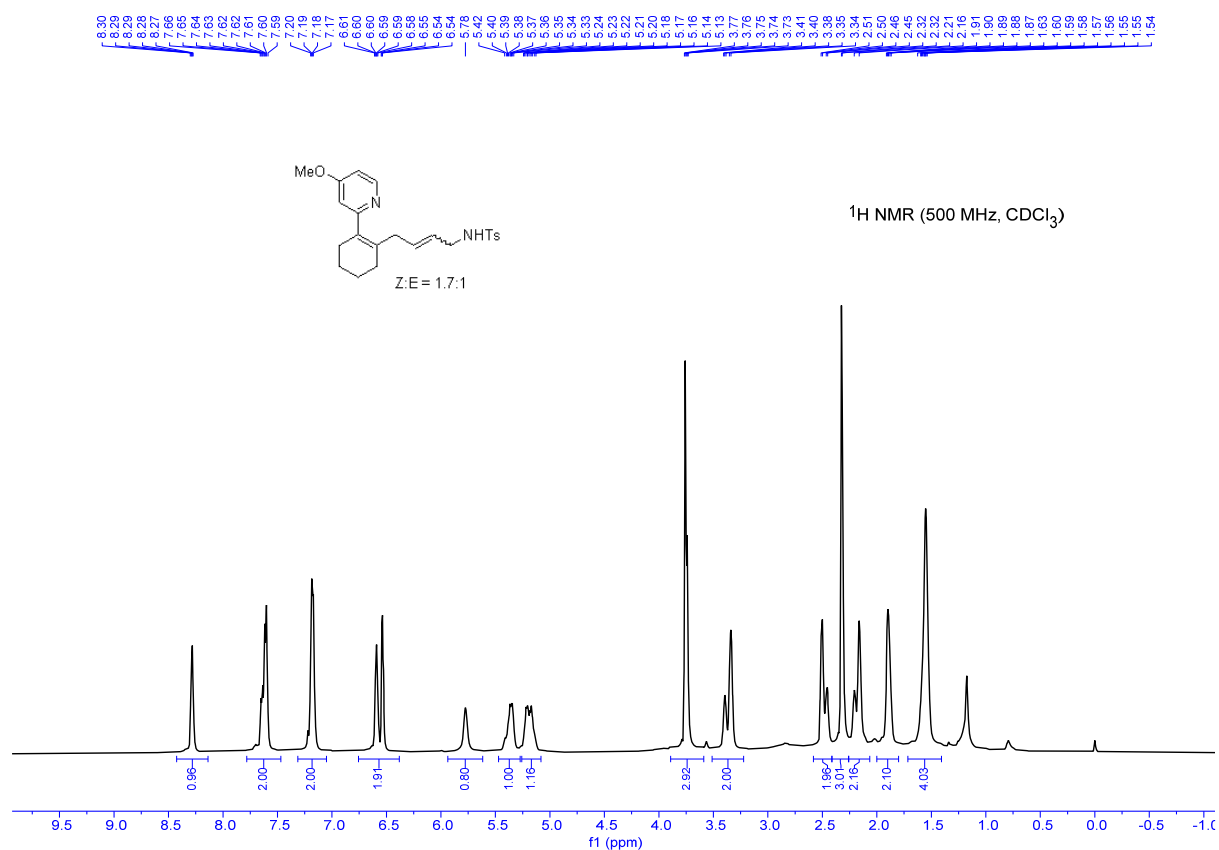
$^{19}\text{F}\{^1\text{H}\}$ NMR (471 MHz, CDCl_3)



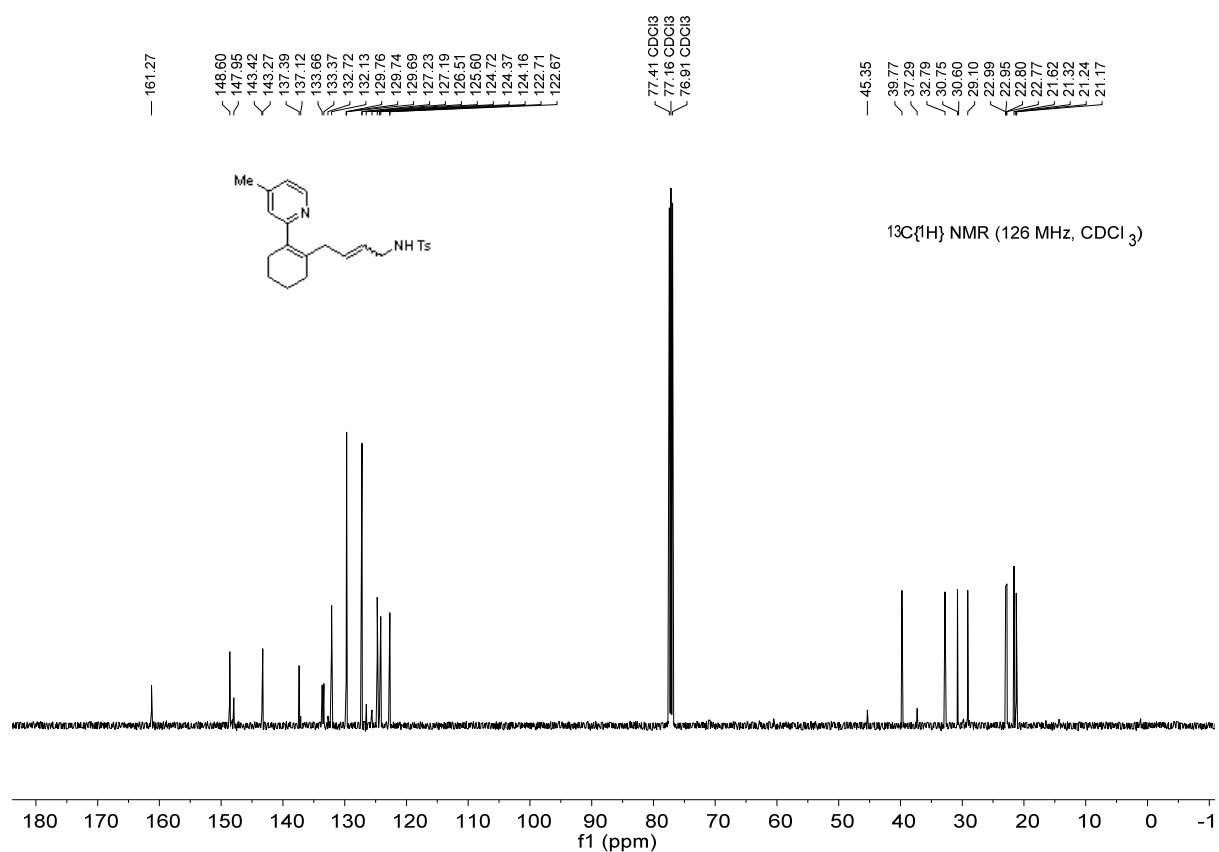
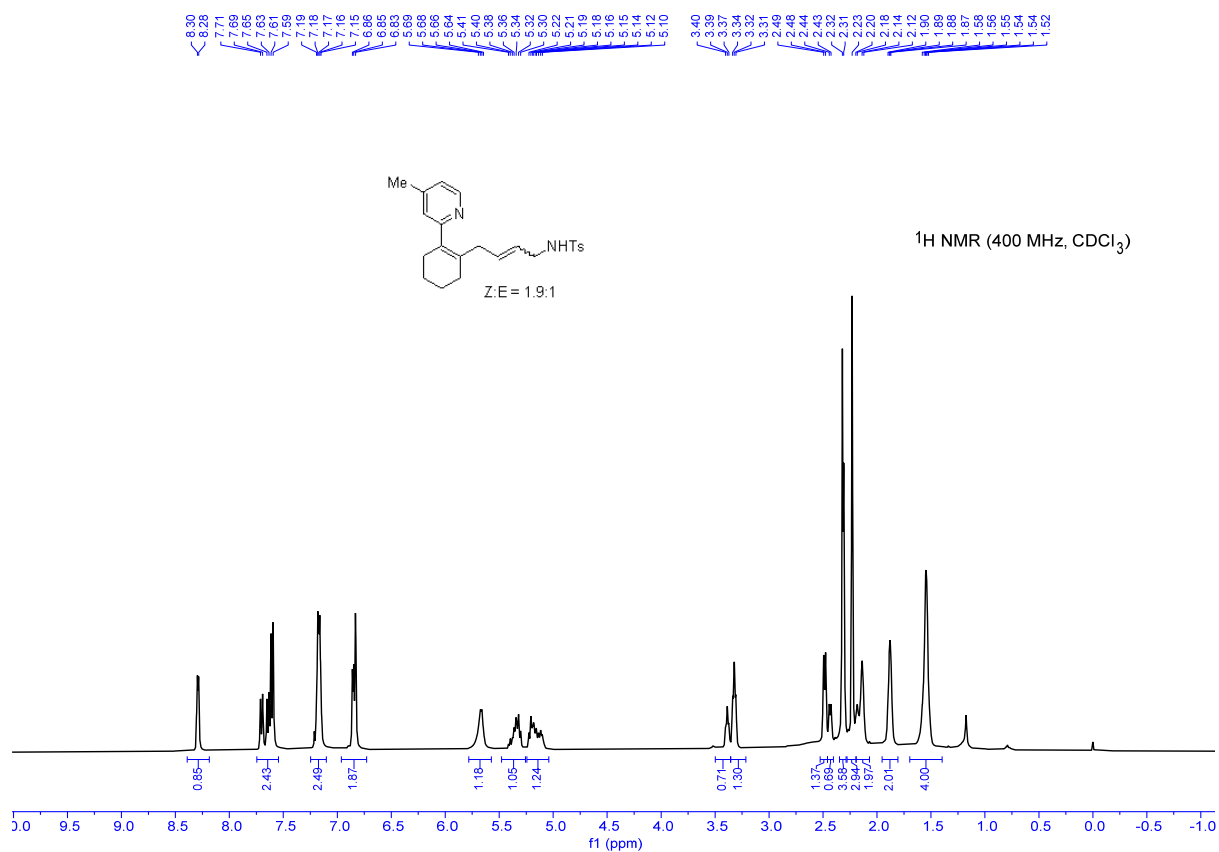
(3) *N*-(4-(2-(5-chloropyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3c**)



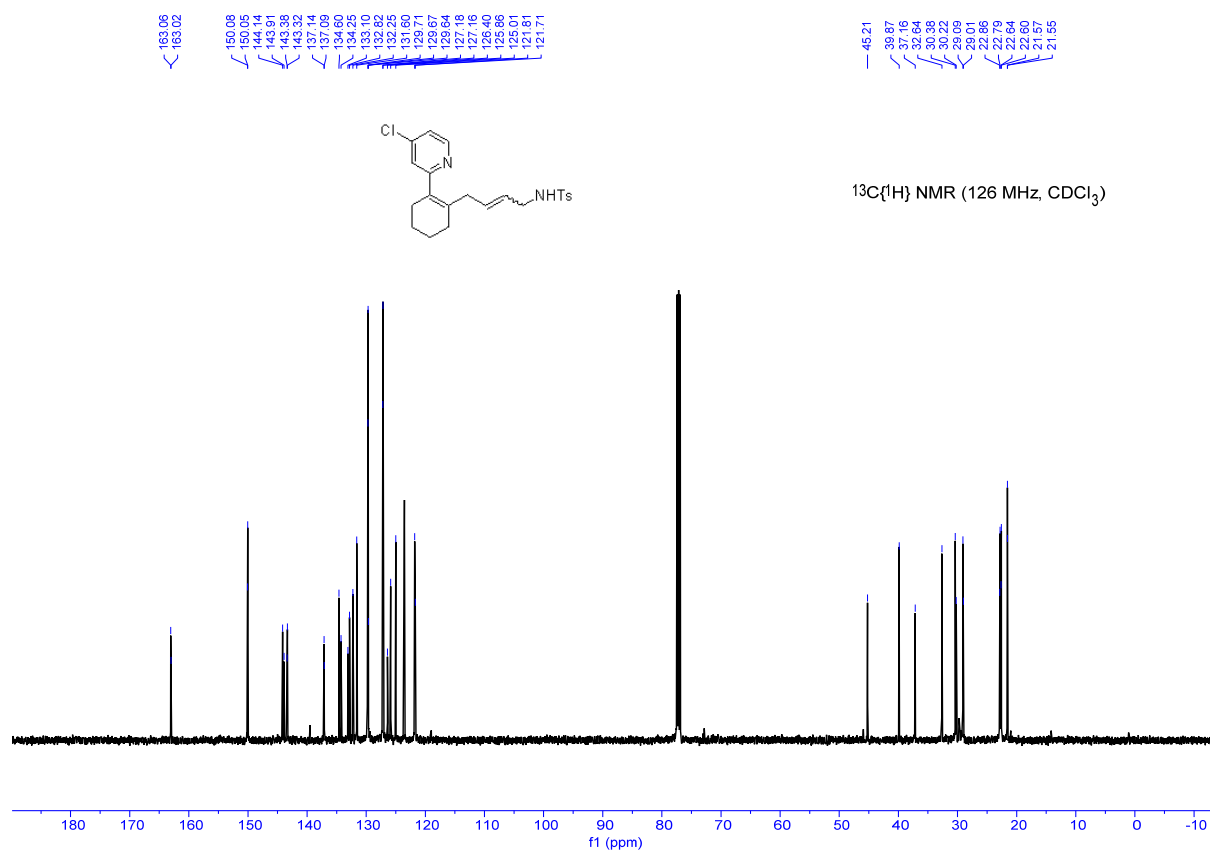
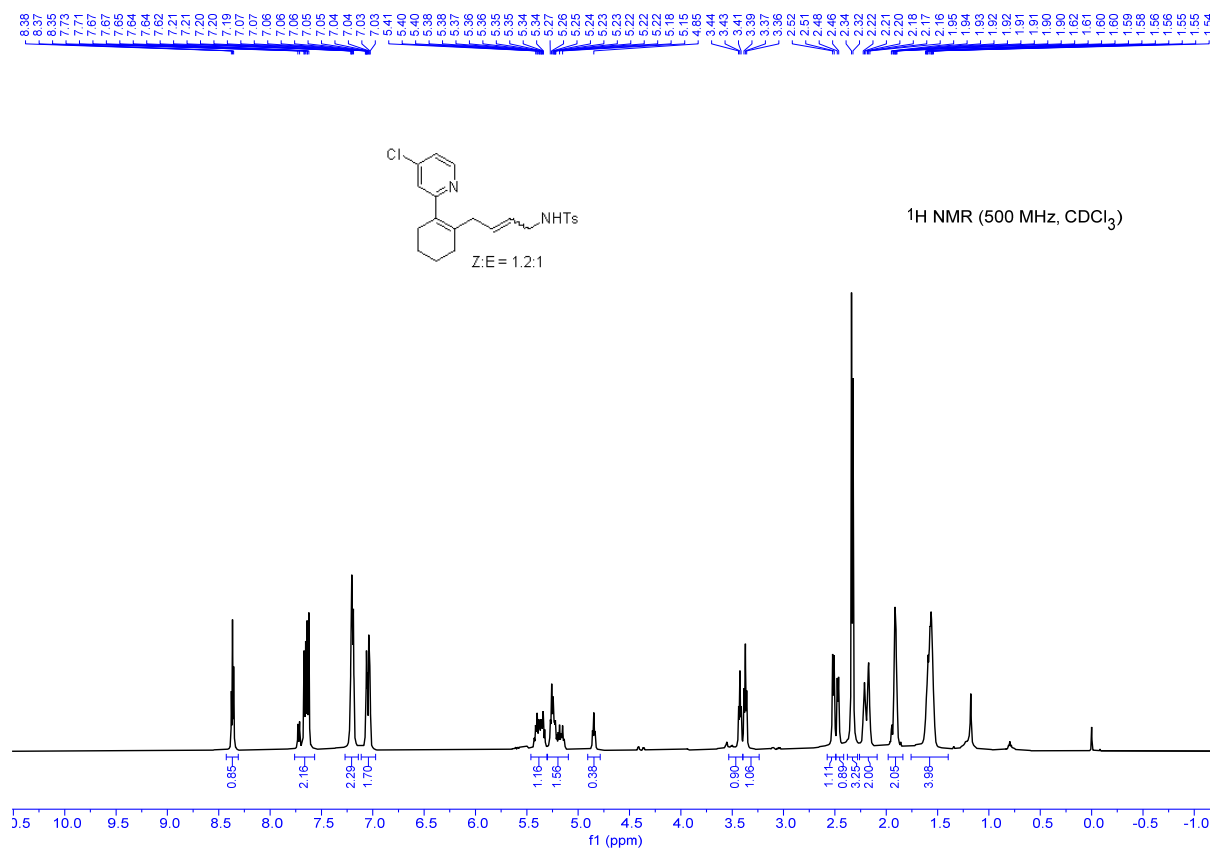
(4) *N*-(4-(2-(4-methoxypyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3d**)



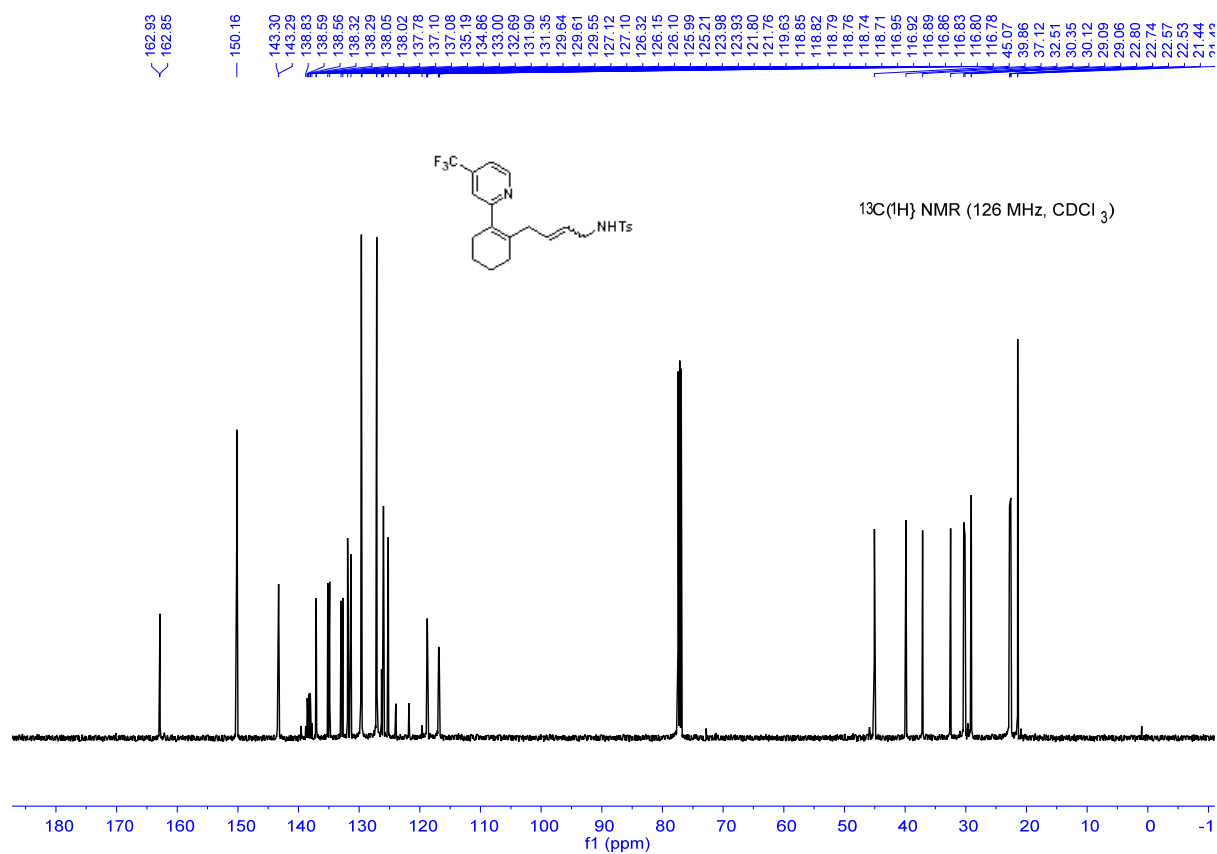
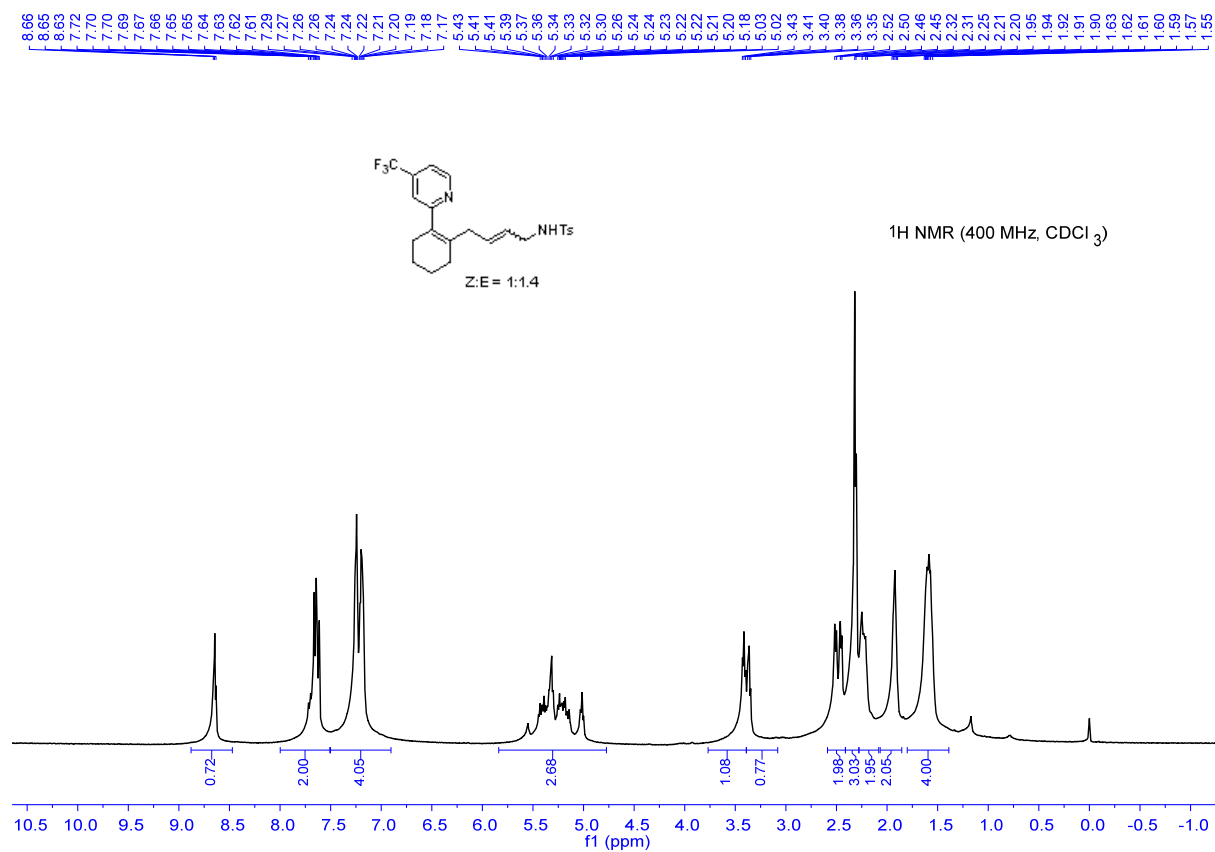
(5) 4-methyl-*N*-(4-(2-(4-methylpyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide (**3e**)

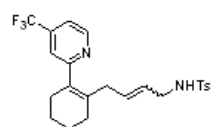


(6) *N*-(4-(2-(4-chloropyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3f**)

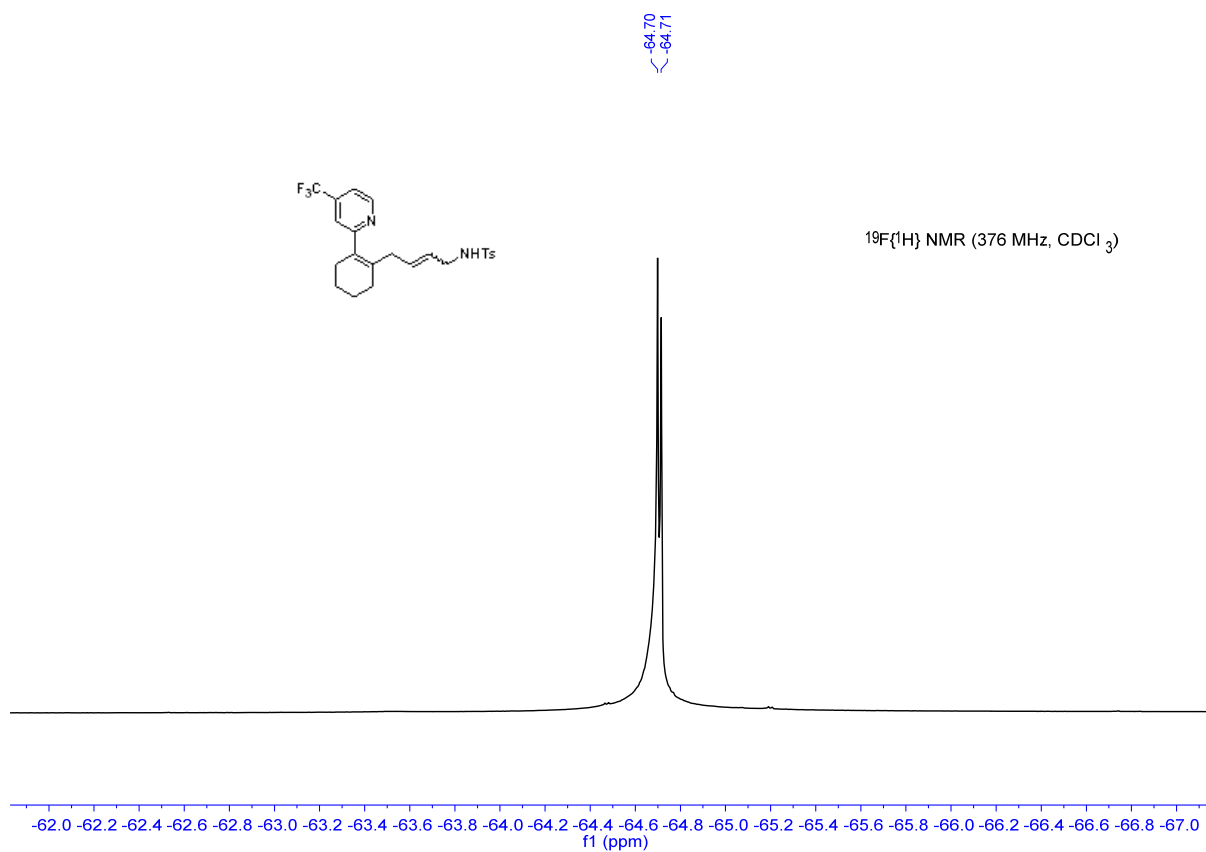


(7) 4-methyl-*N*-(4-(2-(4-(trifluoromethyl)pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide (**3g**)

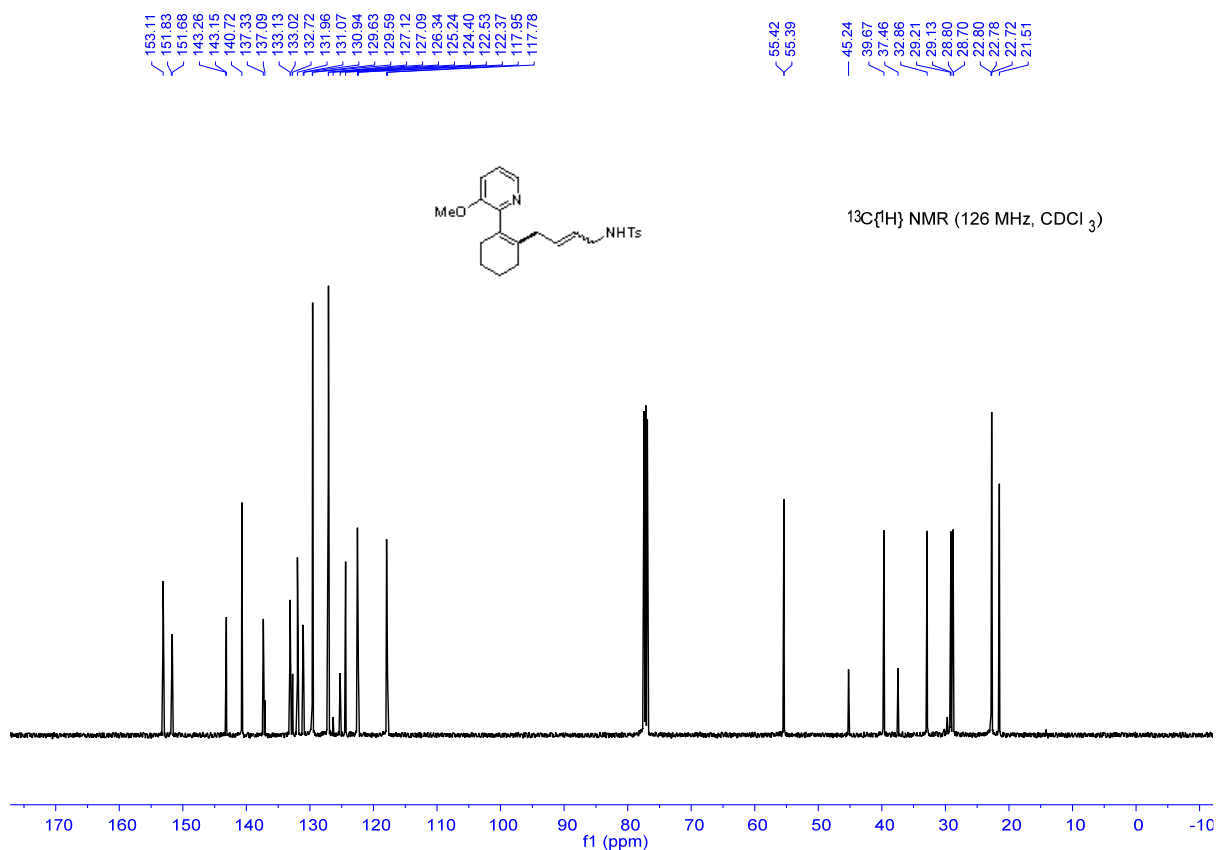
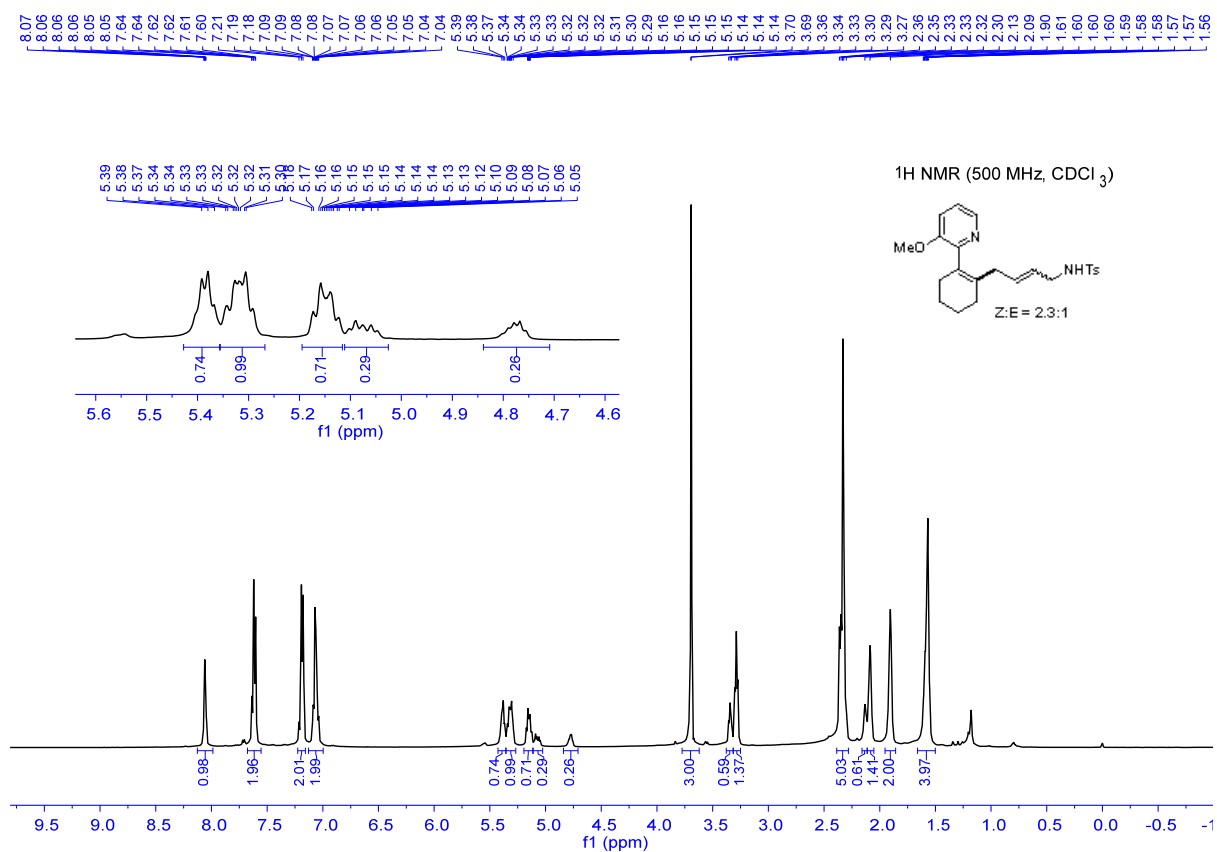




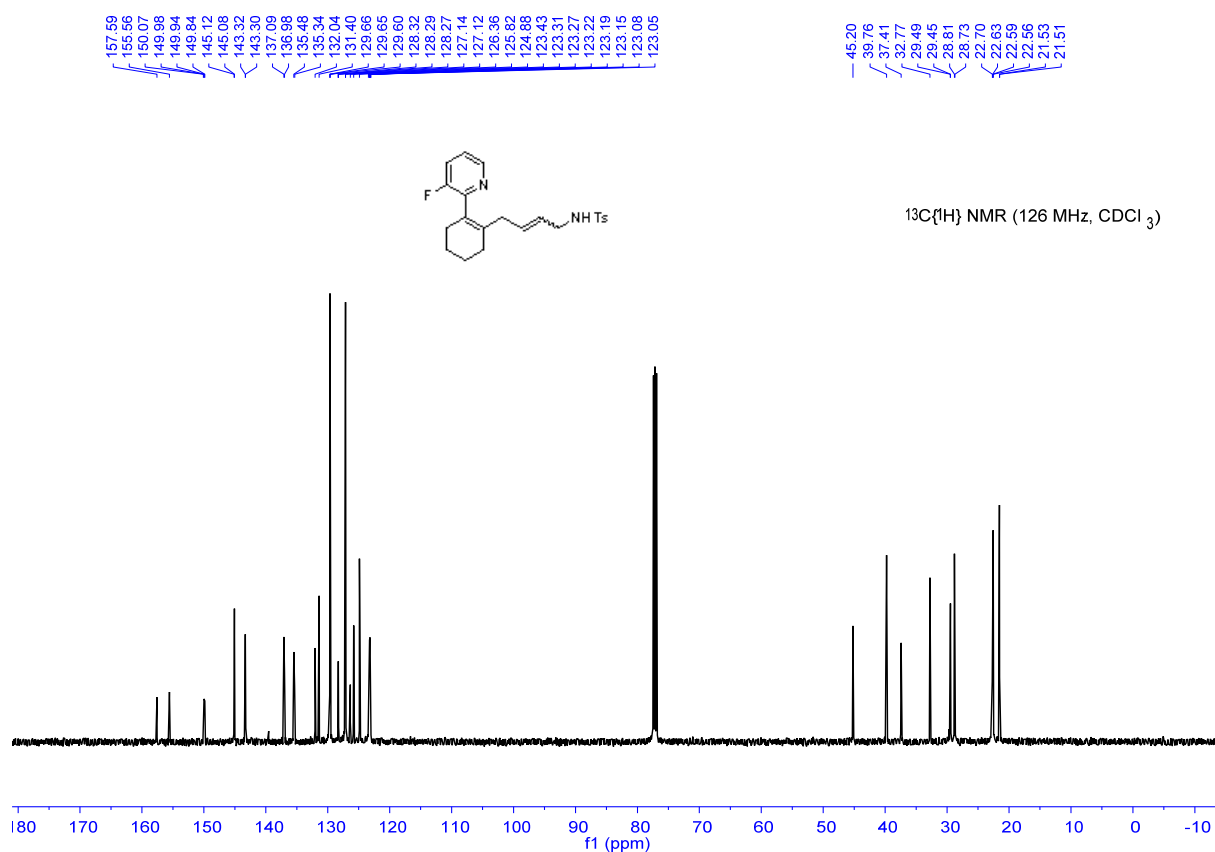
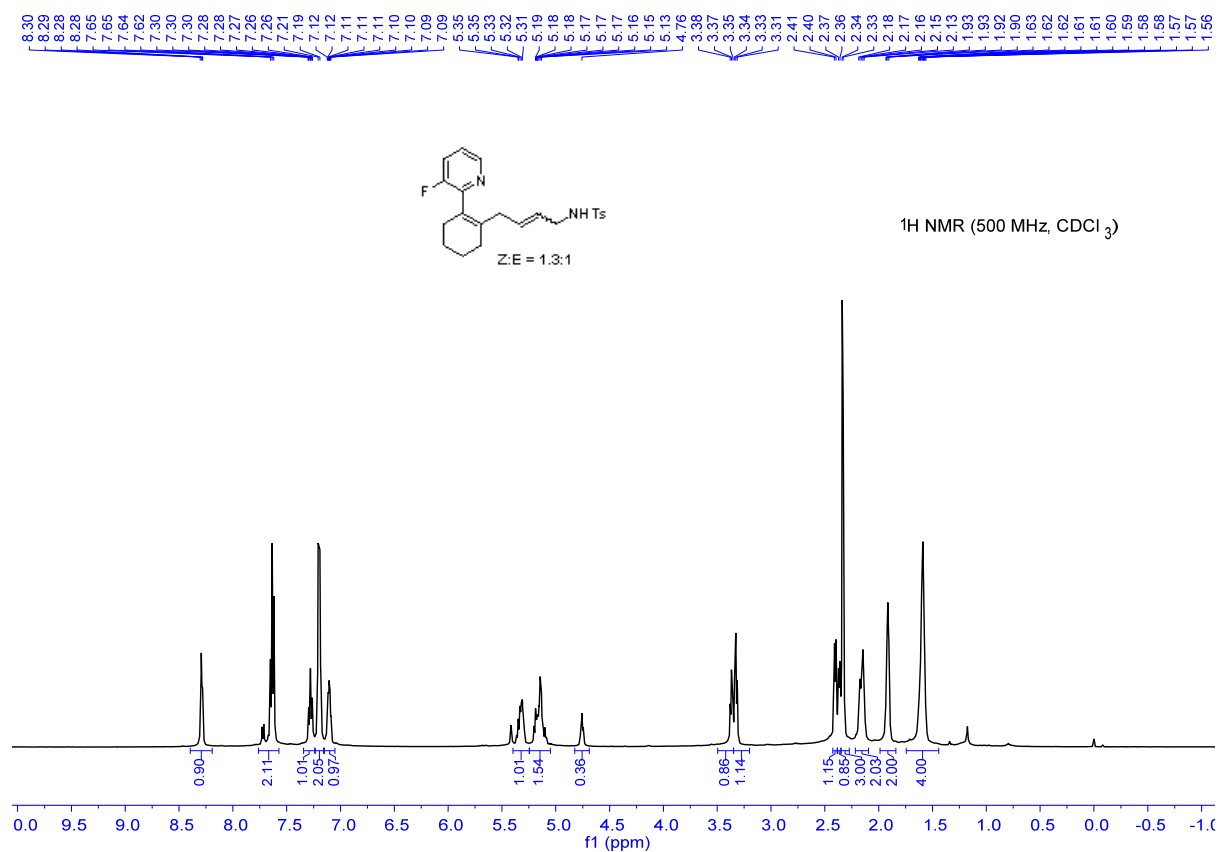
$^{19}\text{F}\{^1\text{H}\}$ NMR (376 MHz, CDCl_3)

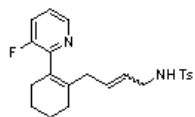


(8) *N*-(4-(2-(3-methoxypyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3h**)

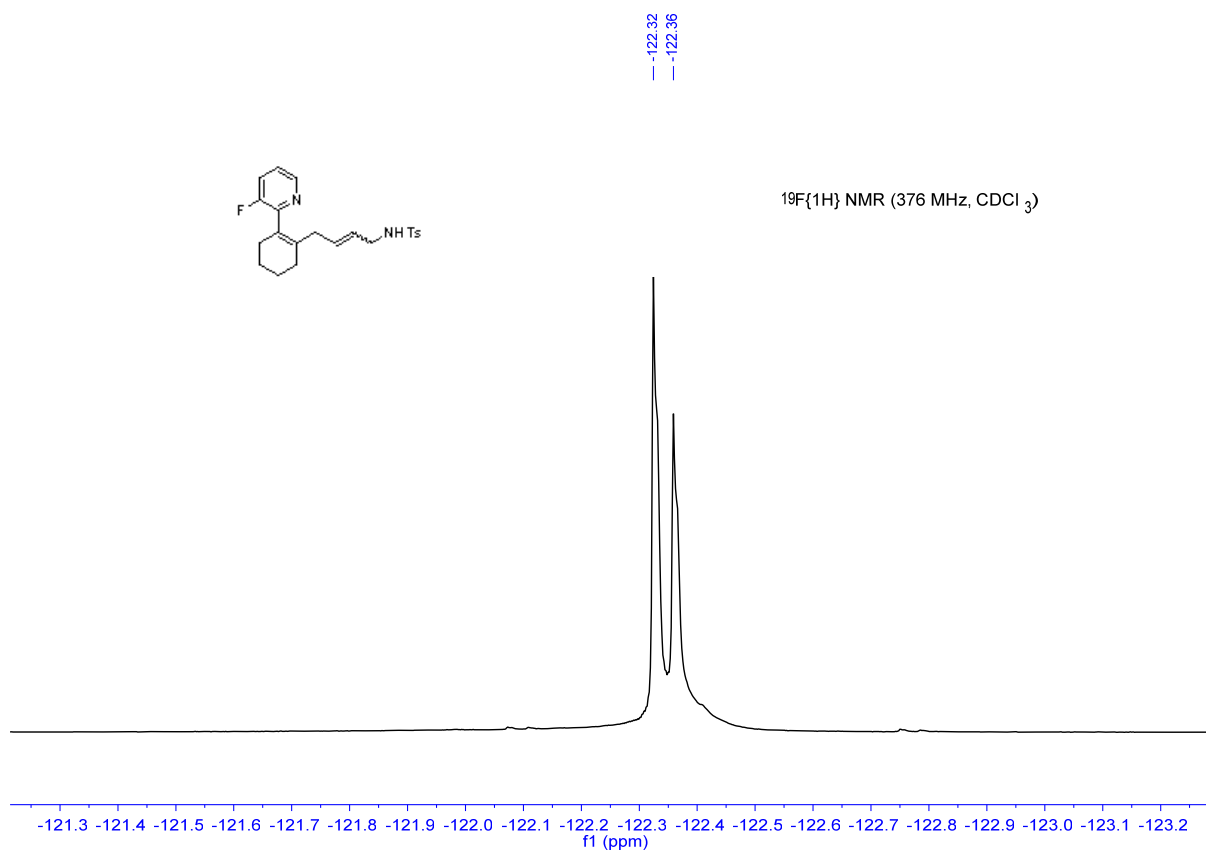


(9) *N*-(4-(2-(3-fluoropyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3i**)



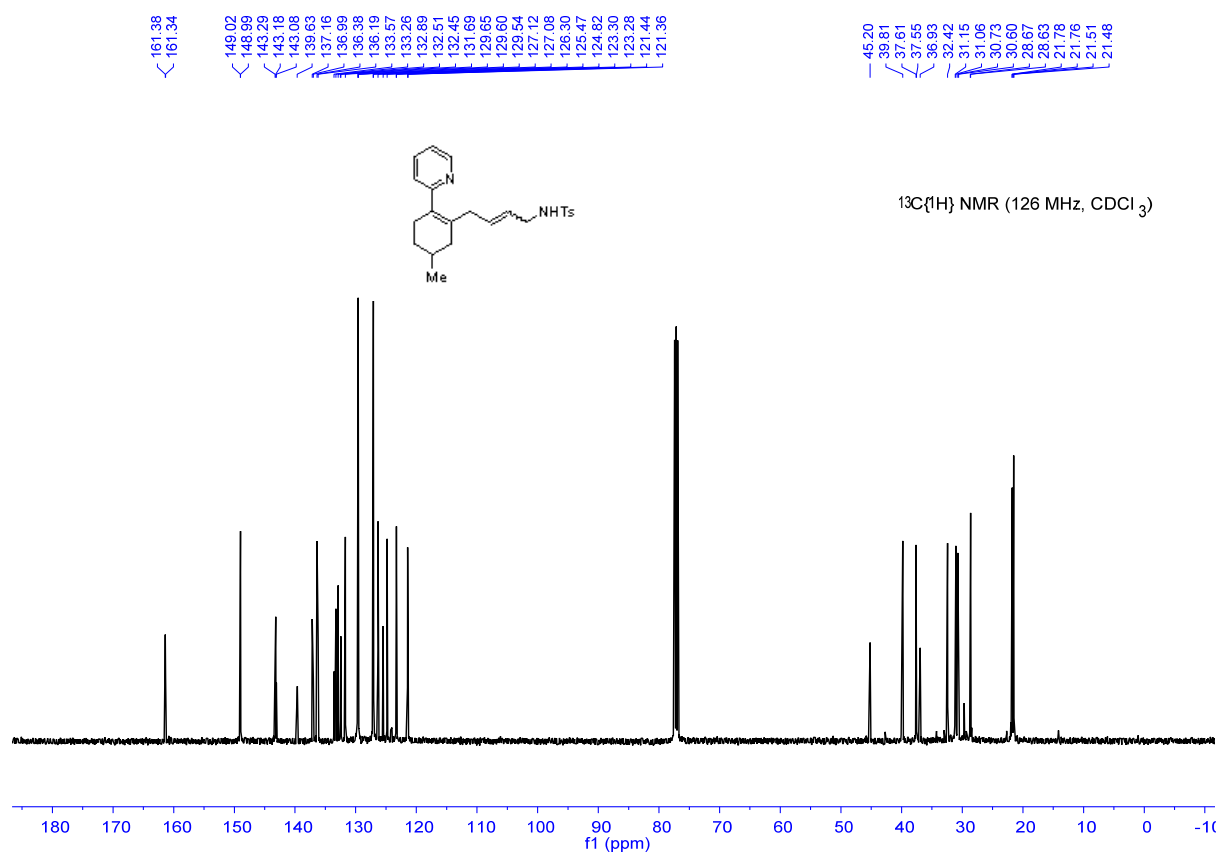


$^{19}\text{F}\{^1\text{H}\}$ NMR (376 MHz, CDCl_3)

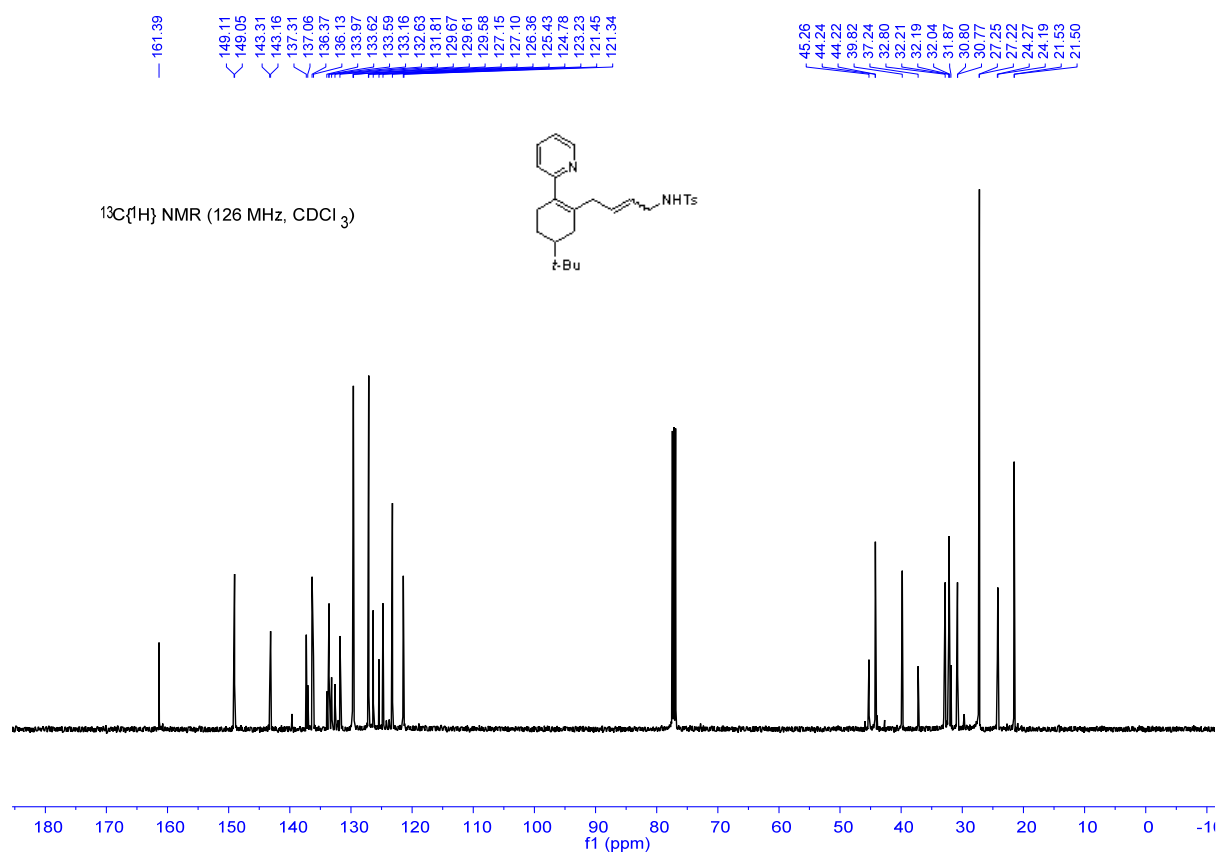
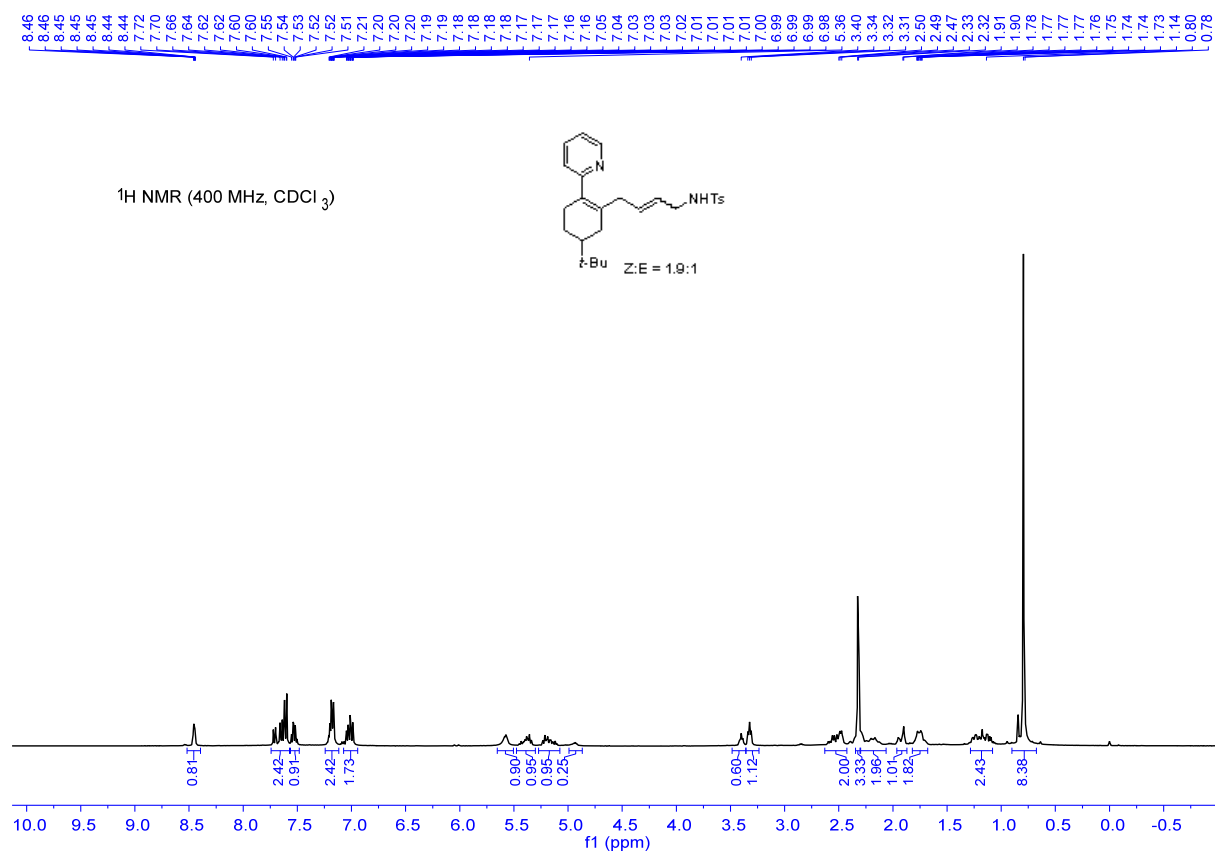


CC1=CC=C(C=C1C2=CC=CC=N2)C/C=C/CN3CCCCC3
 Z:E = 1.4:1
¹H NMR (500 MHz, CDCl₃)

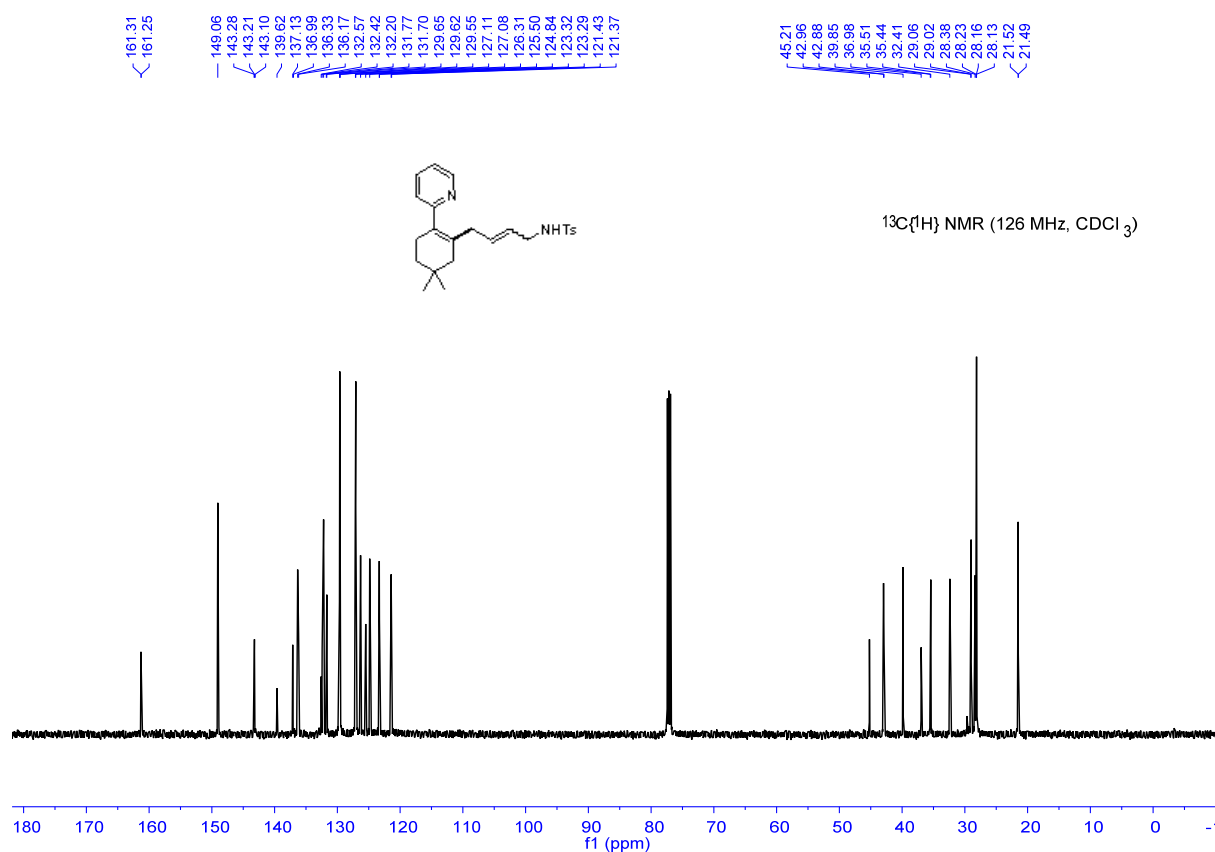
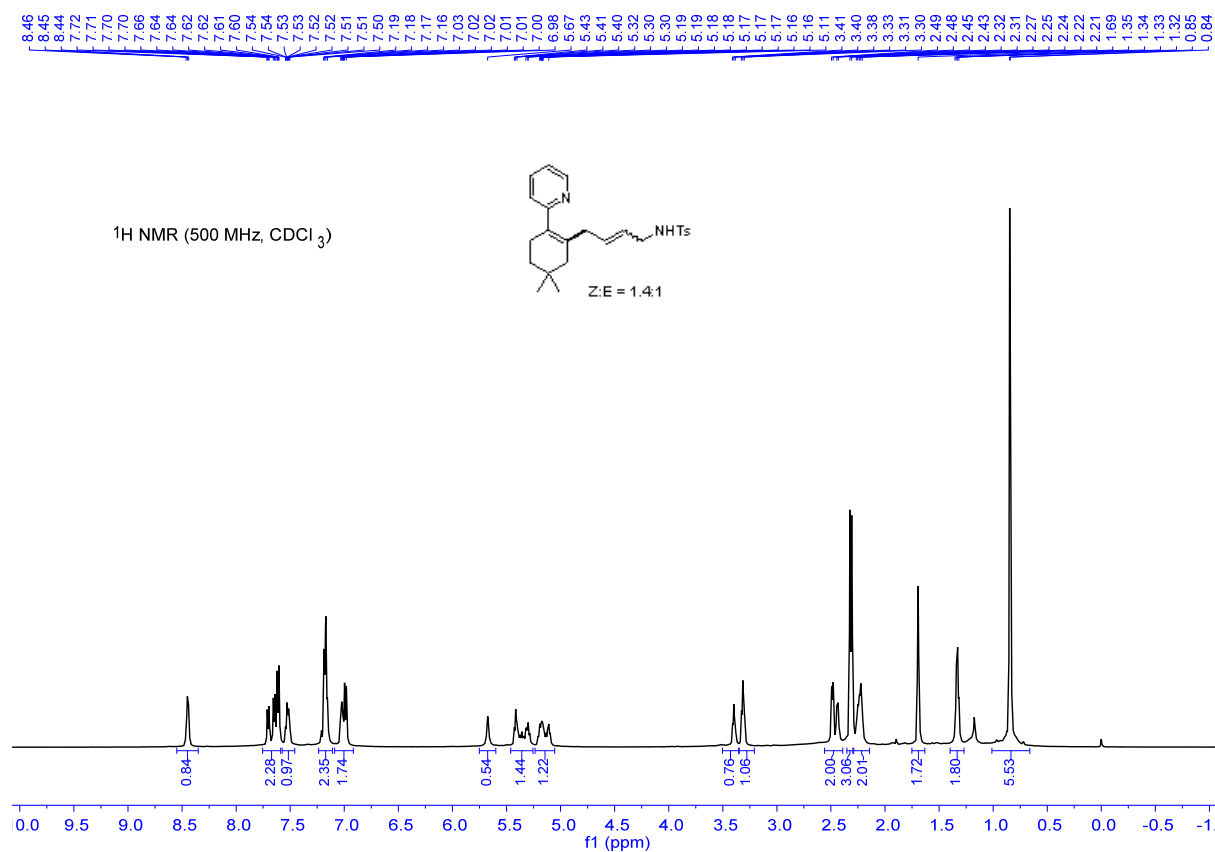
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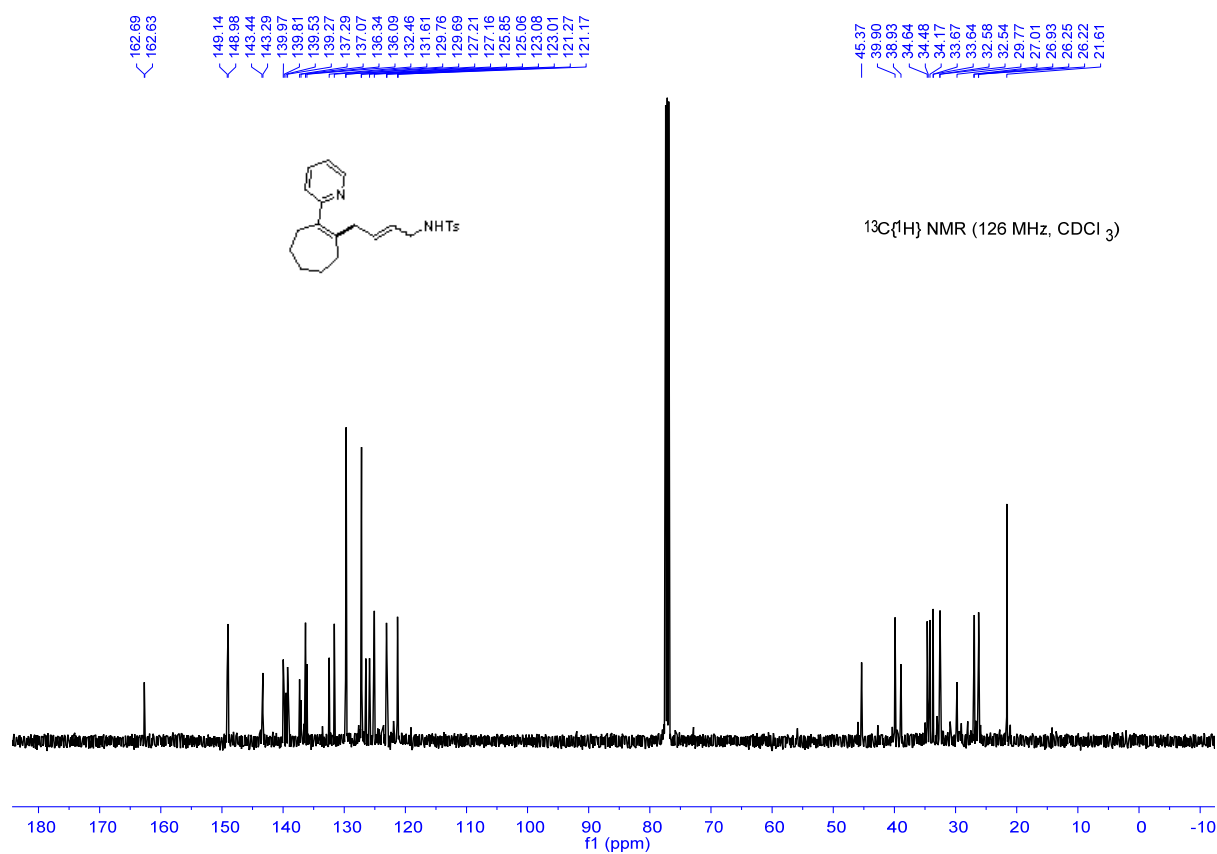
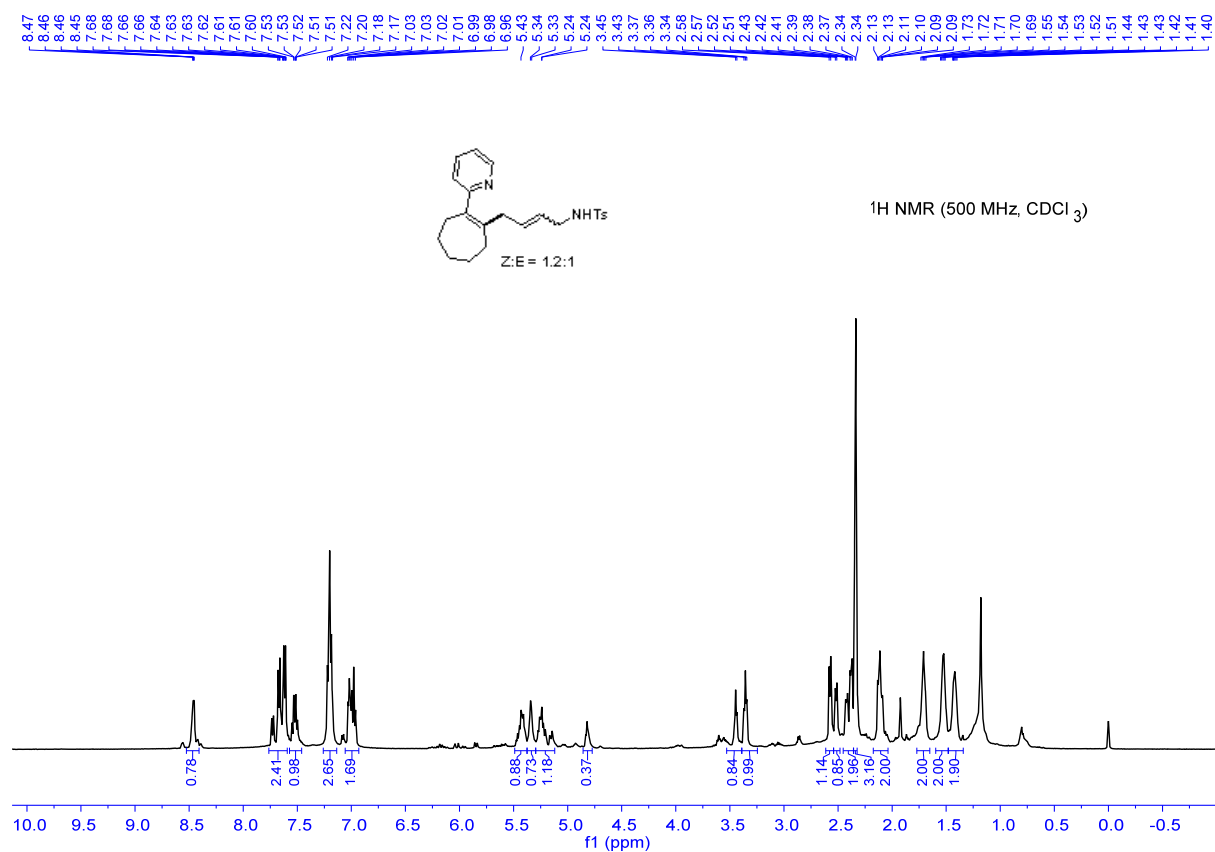
(11) *N*-(4-(5-(*tert*-butyl)-2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3k**)



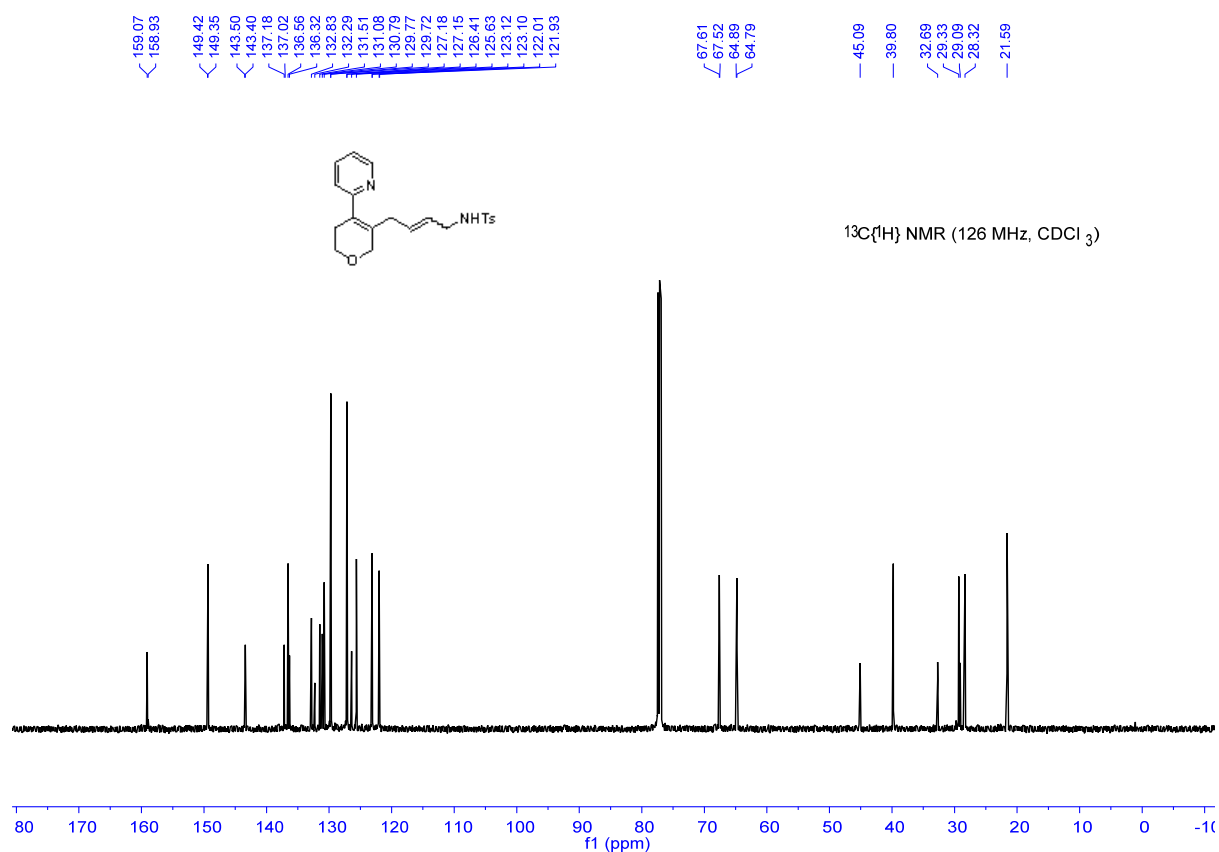
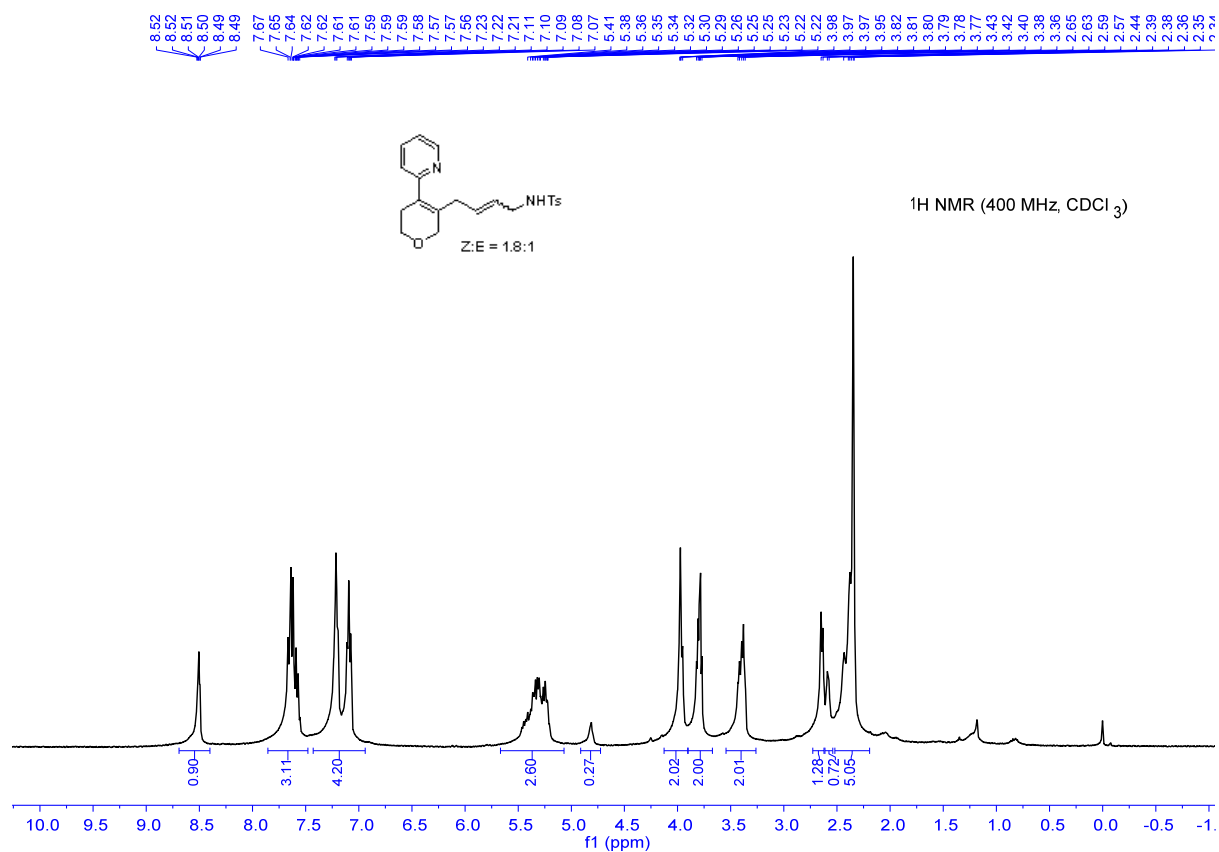
(12) *N*-(4-(5,5-dimethyl-2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-4-methylbenzenesulfonamide (**3I**)



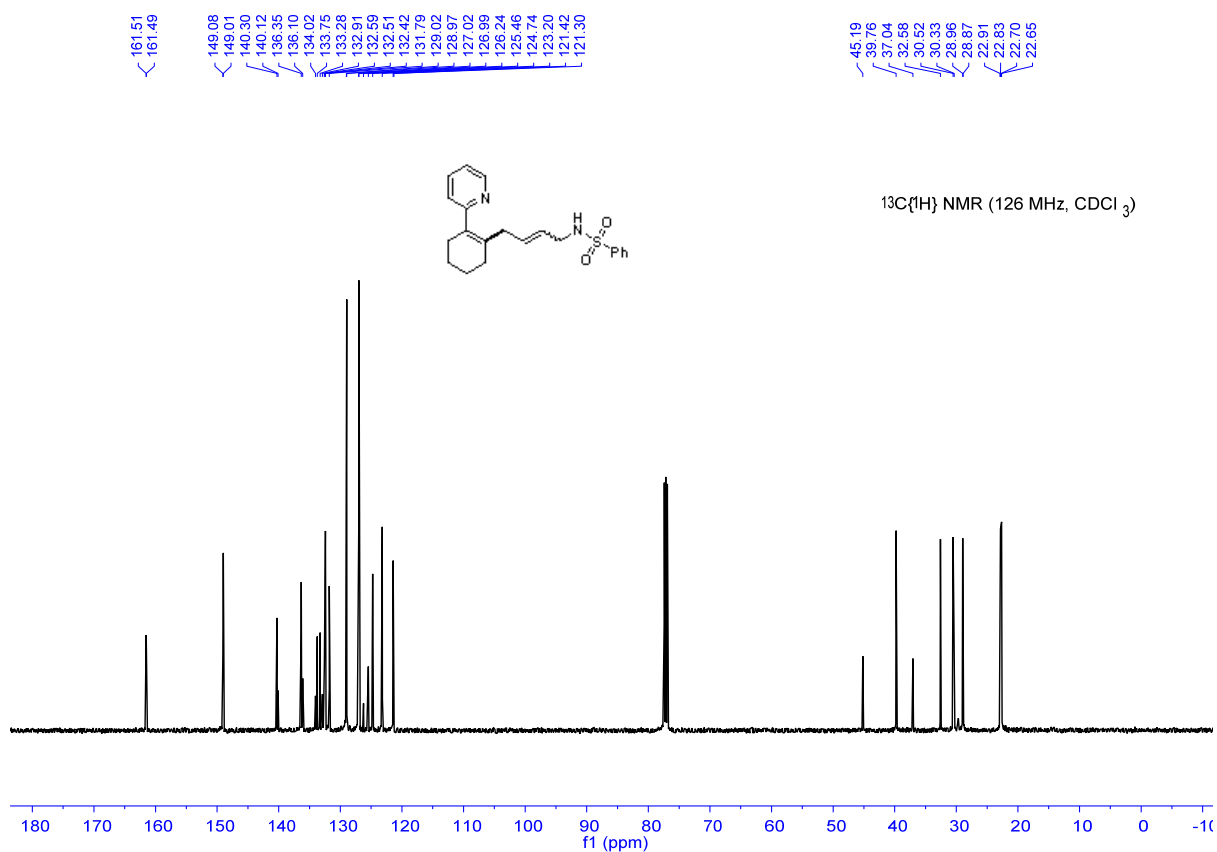
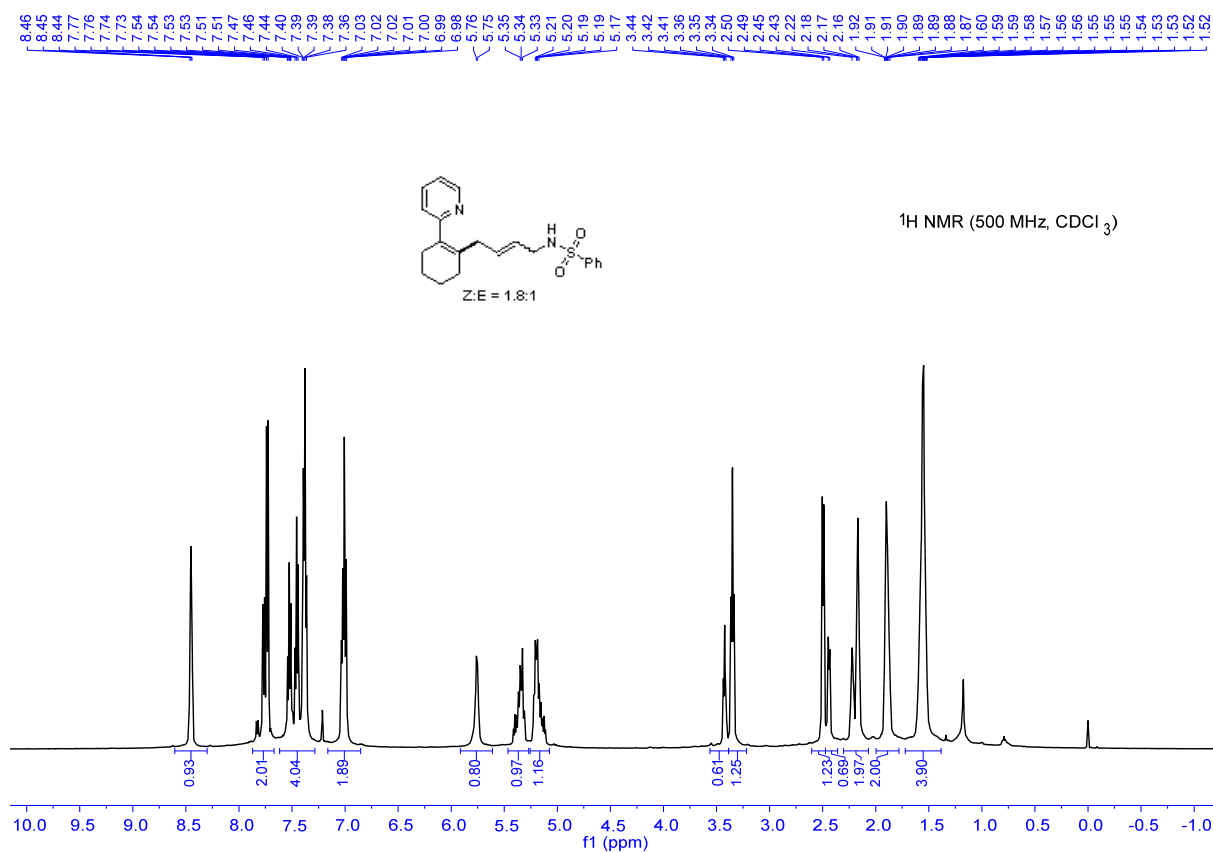
(13) 4-methyl-N-(4-(2-(pyridin-2-yl)cyclohept-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide
(3m)



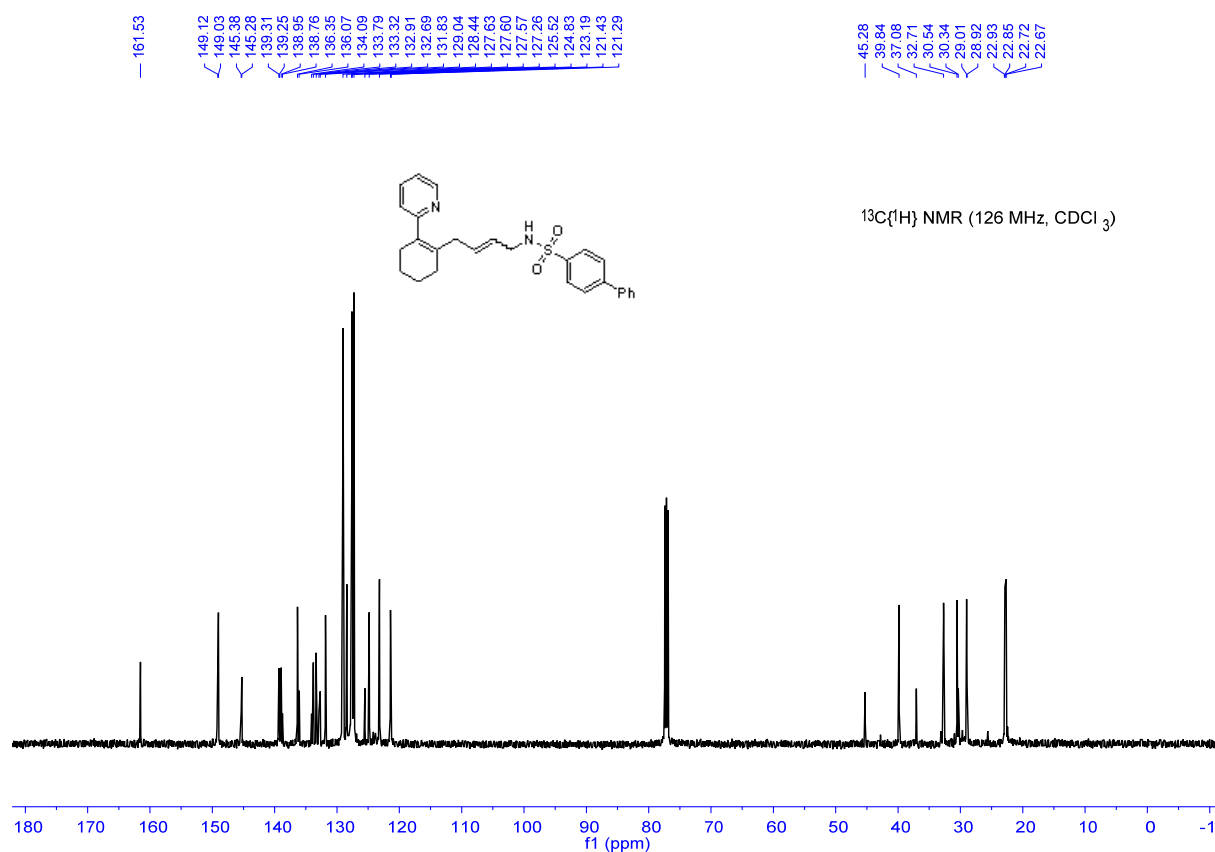
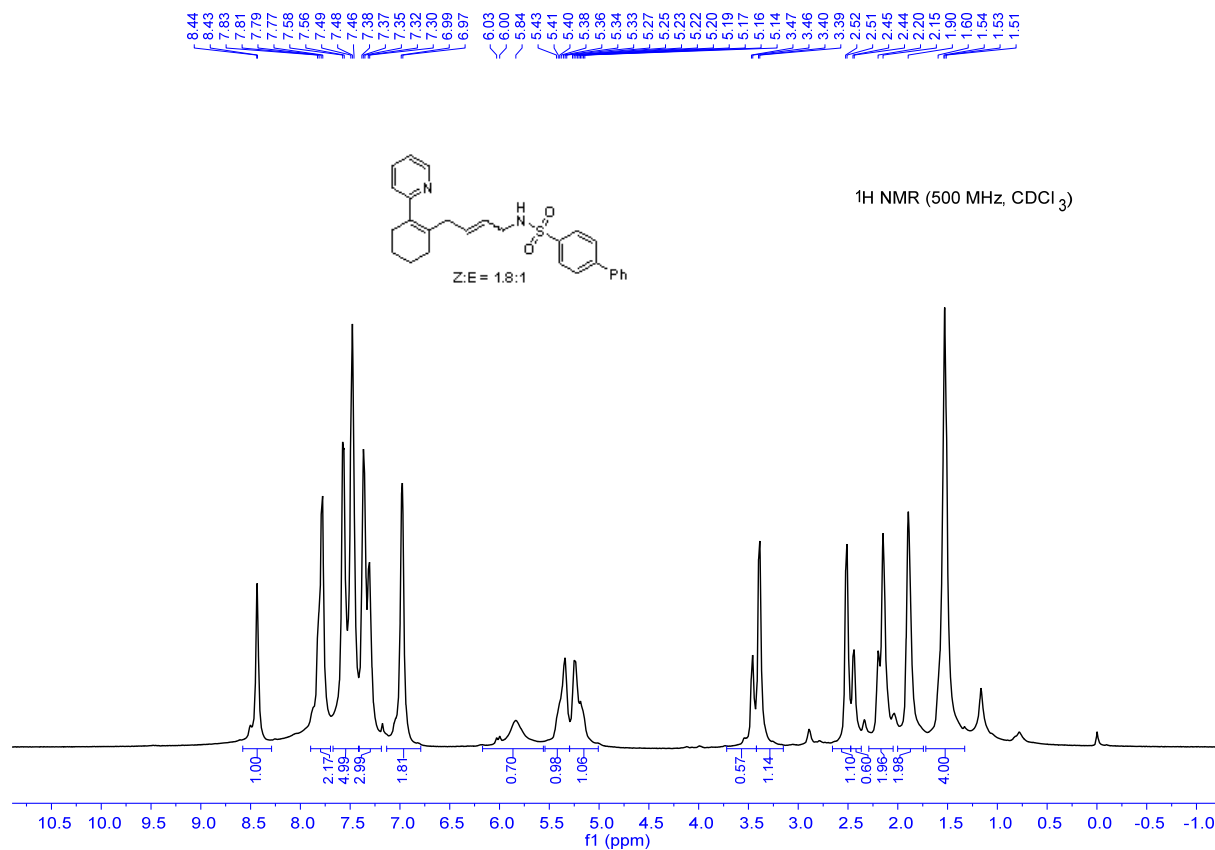
(14) 4-methyl-*N*-(4-(4-(pyridin-2-yl)-5,6-dihydro-2*H*-pyran-3-yl)but-2-en-1-yl)benzenesulfonamide (**3n**)



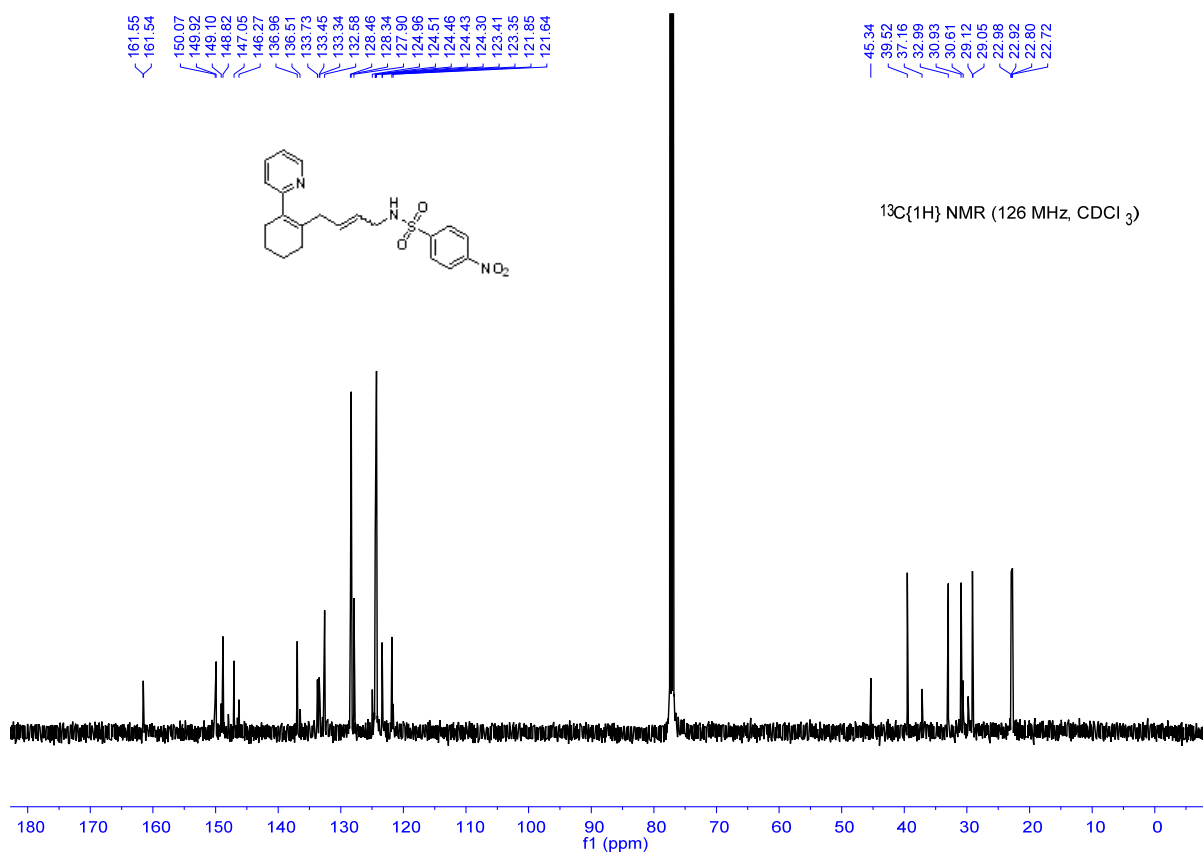
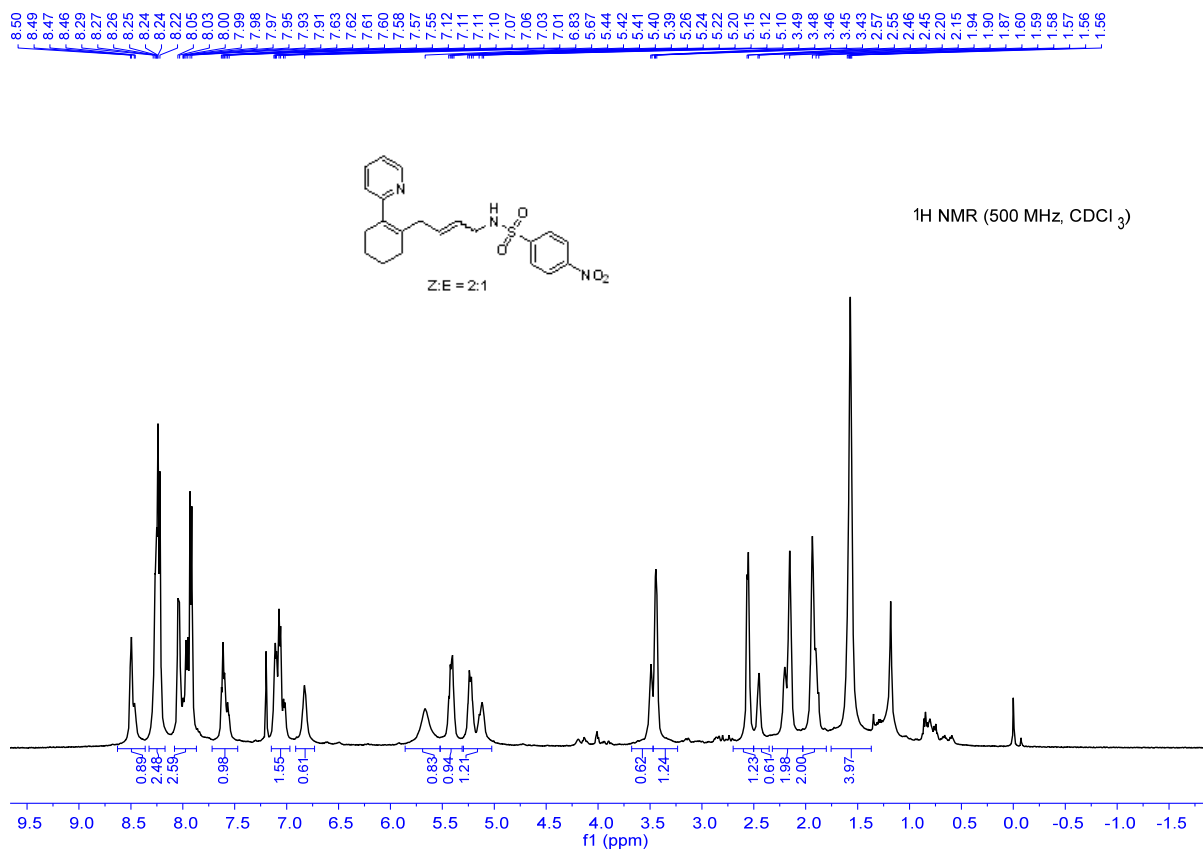
(15) *N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide (**3o**)



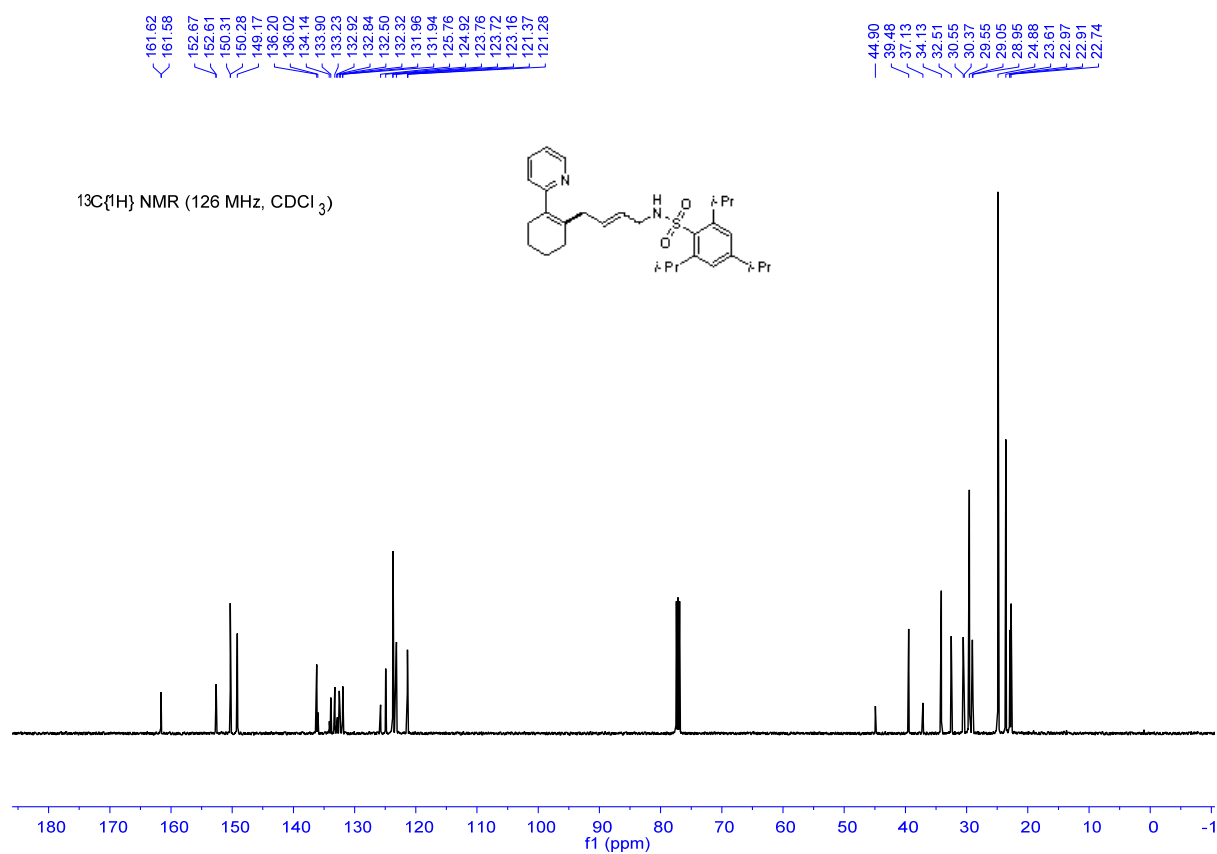
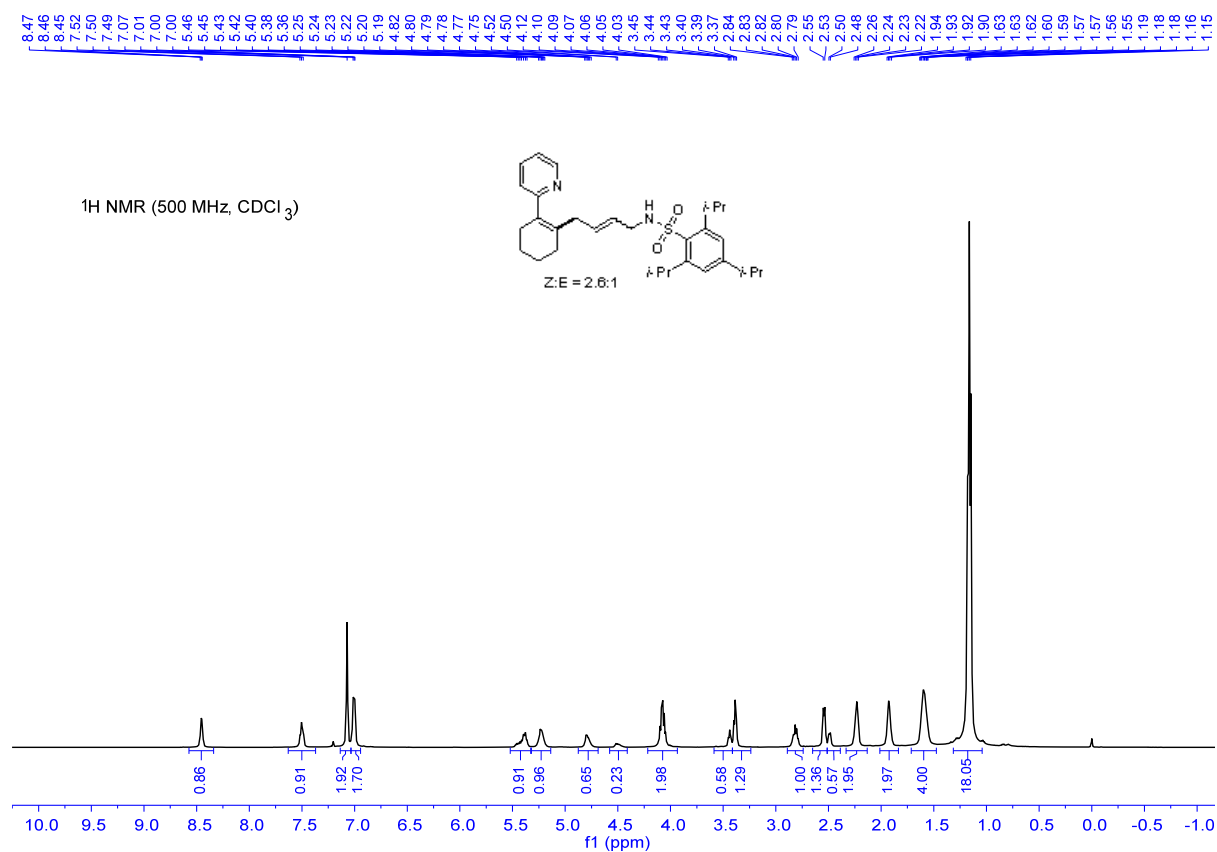
(16) *N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)-[1,1'-biphenyl]-4-sulfonamide
(3p)



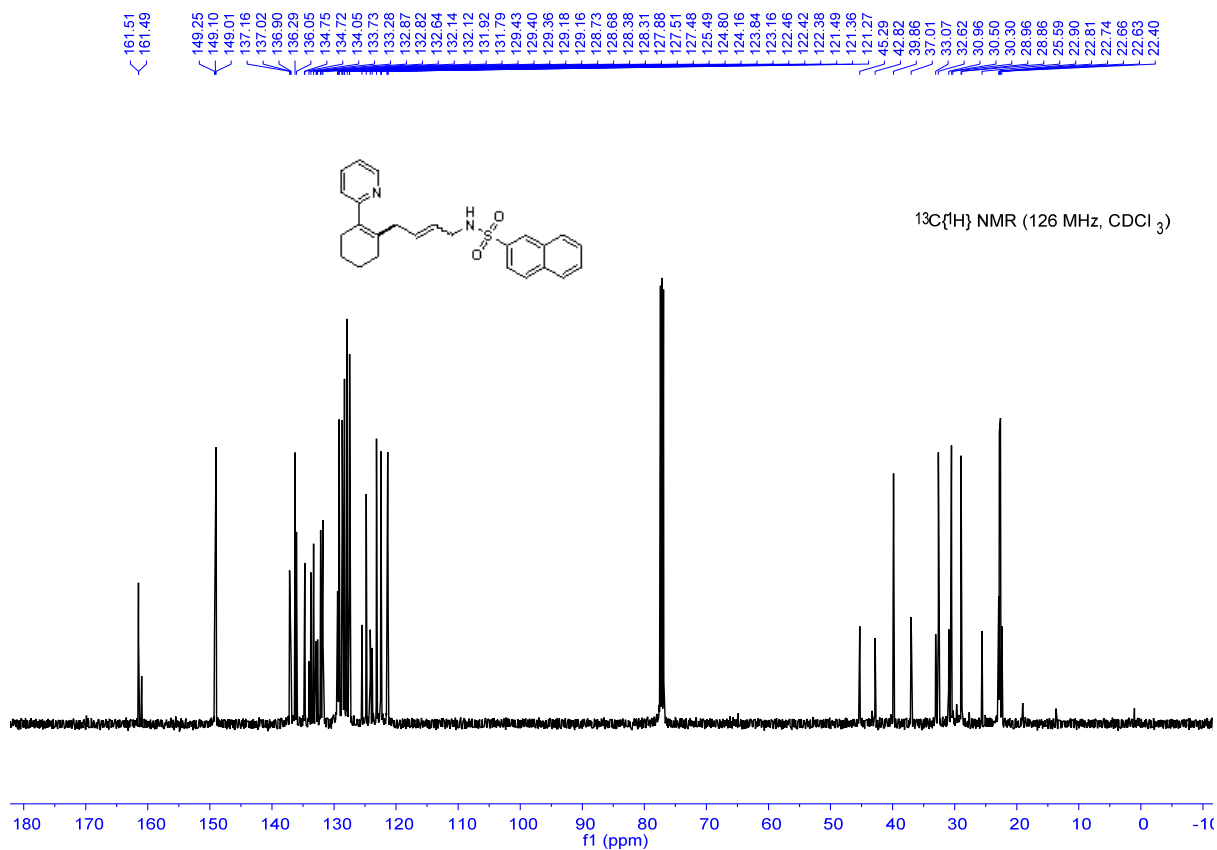
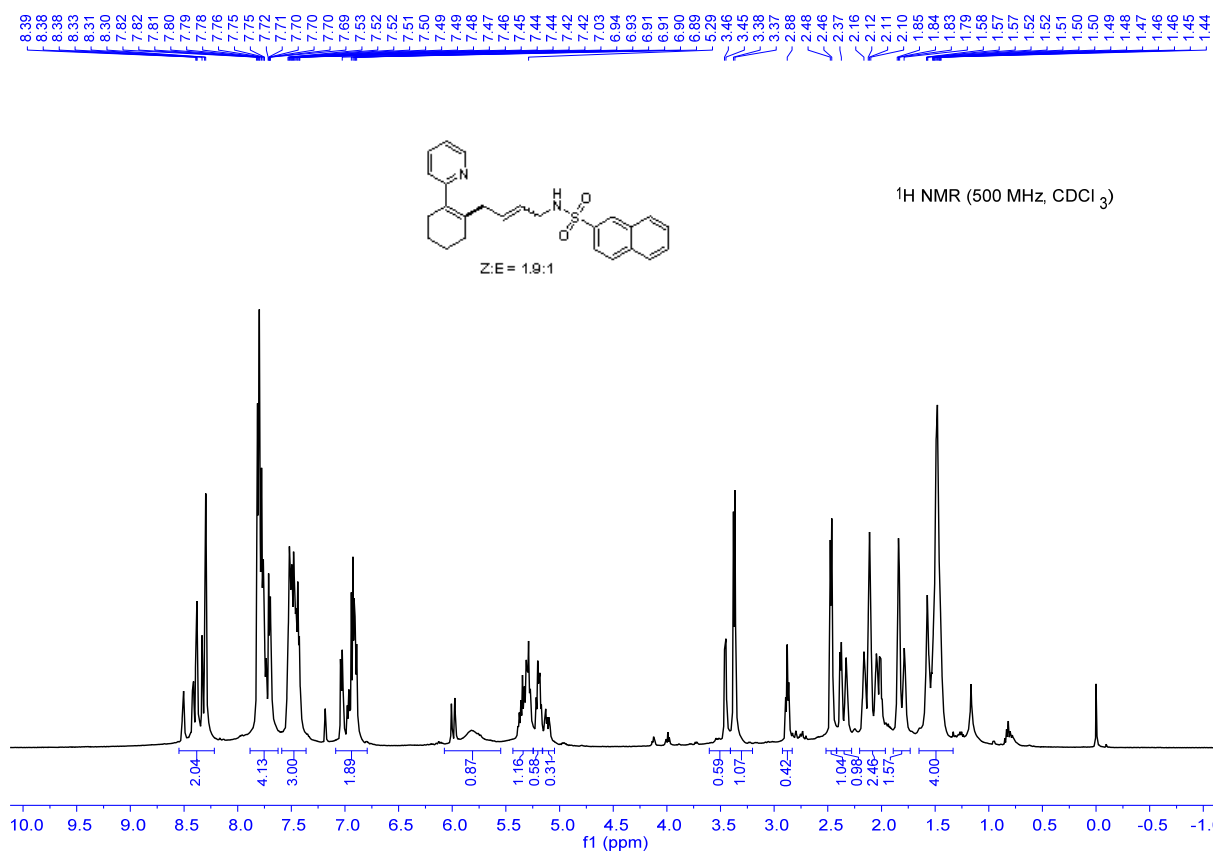
(17) 4-nitro-*N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide
(3q)



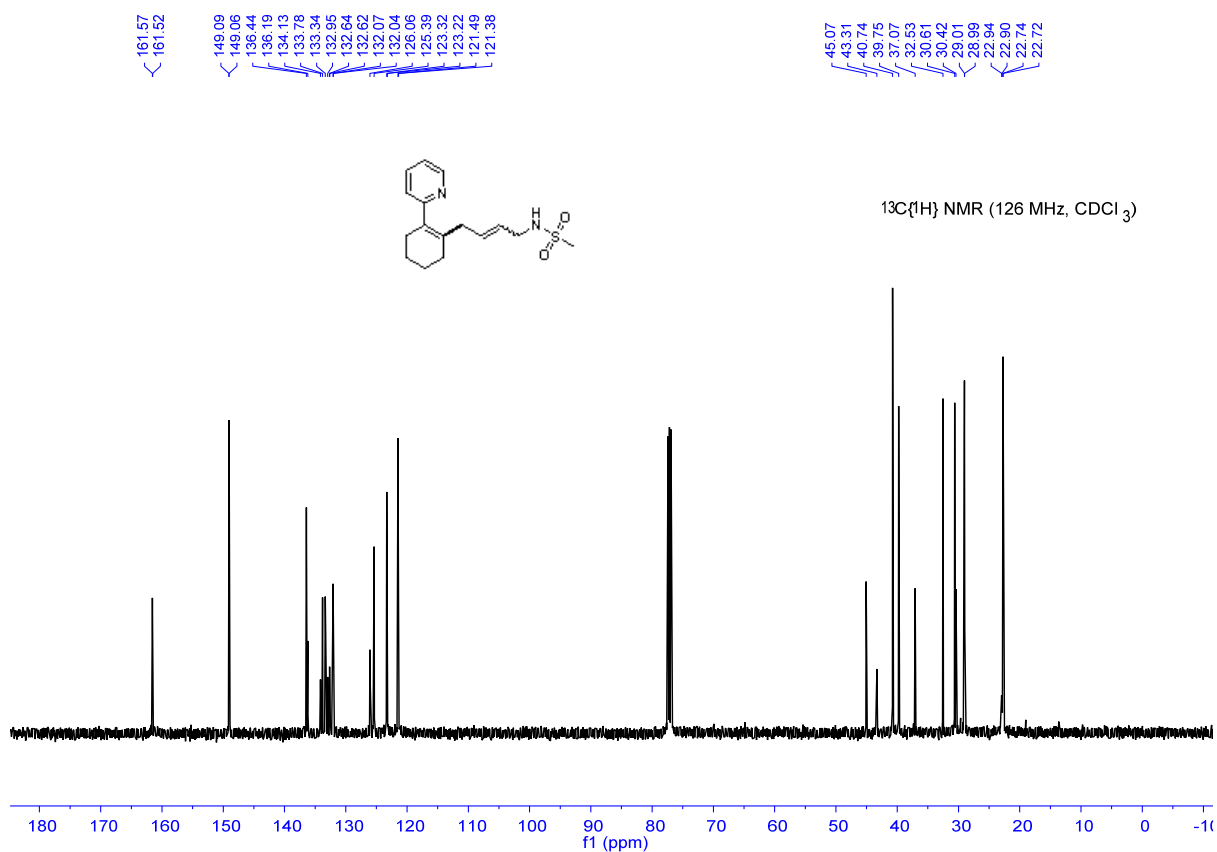
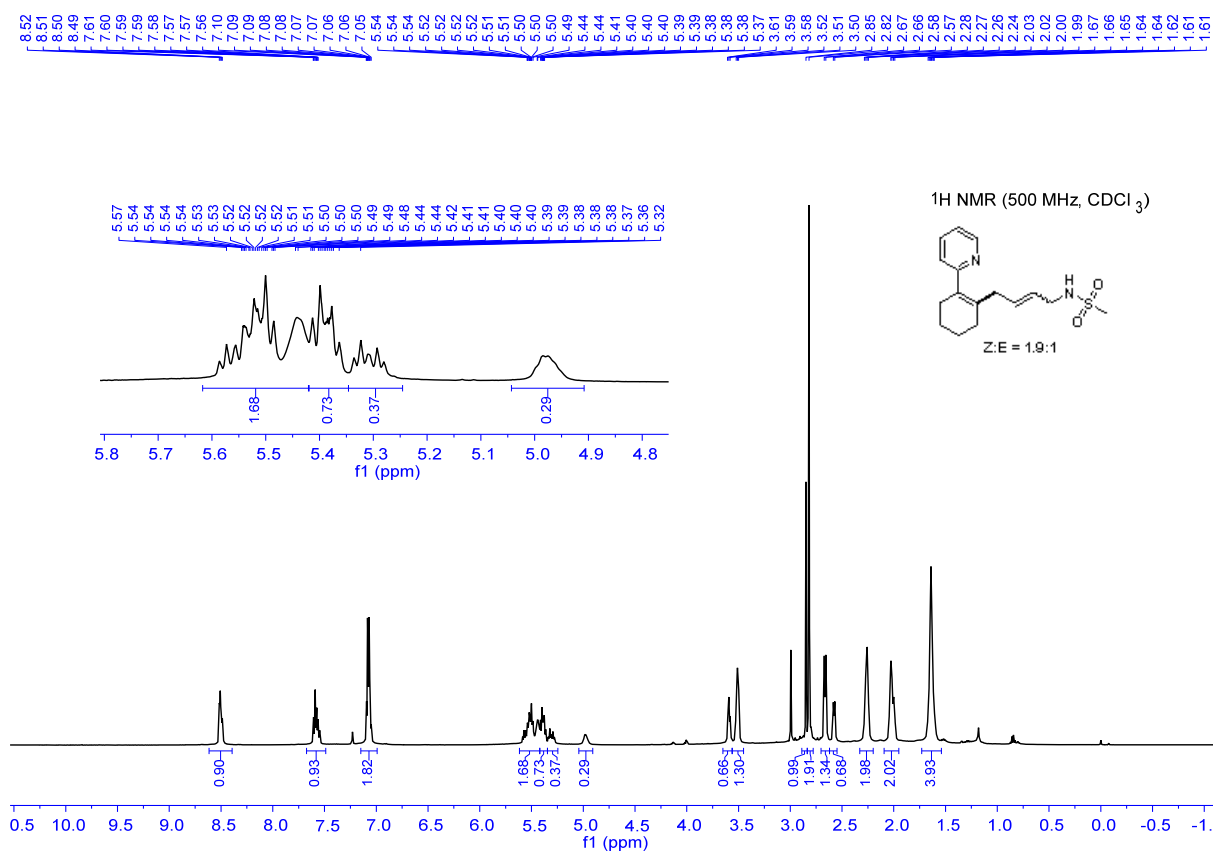
(18) 2,4,6-triisopropyl-*N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)benzenesulfonamide (**3r**)



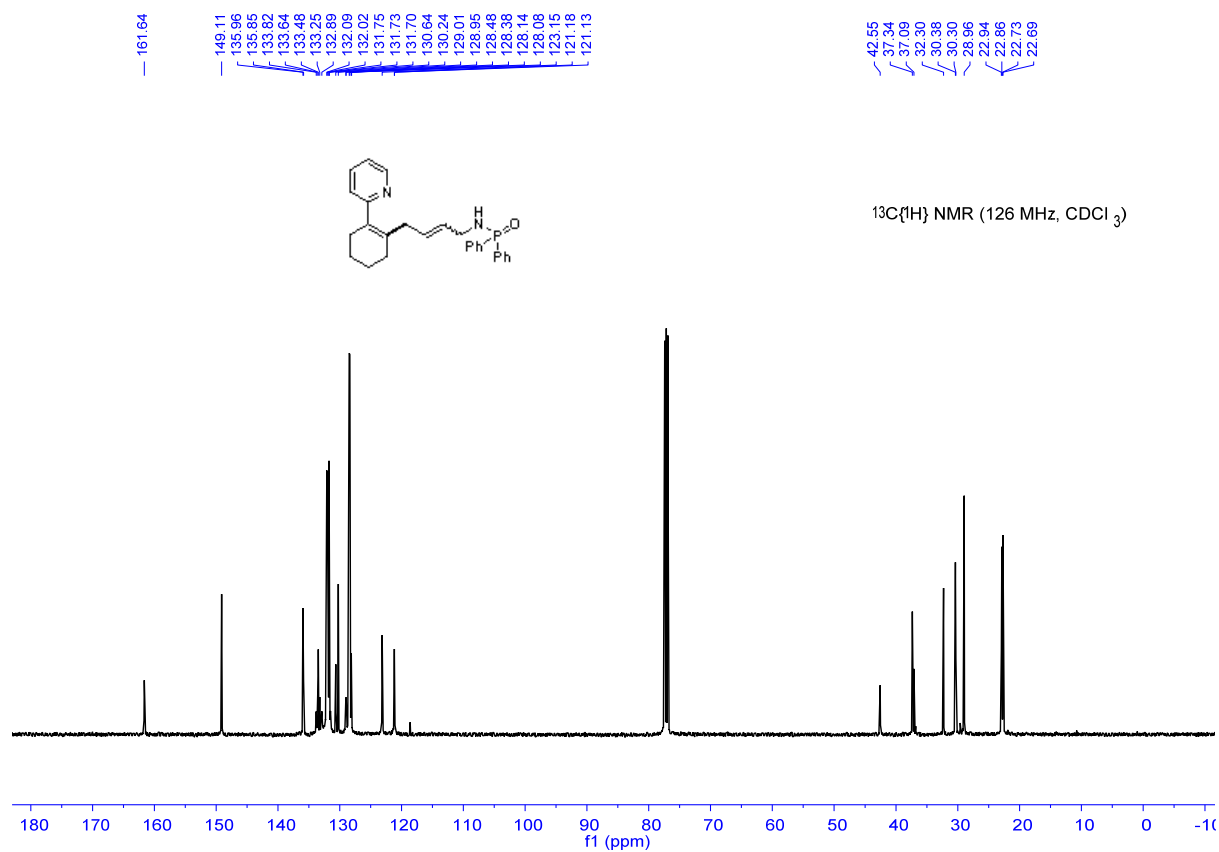
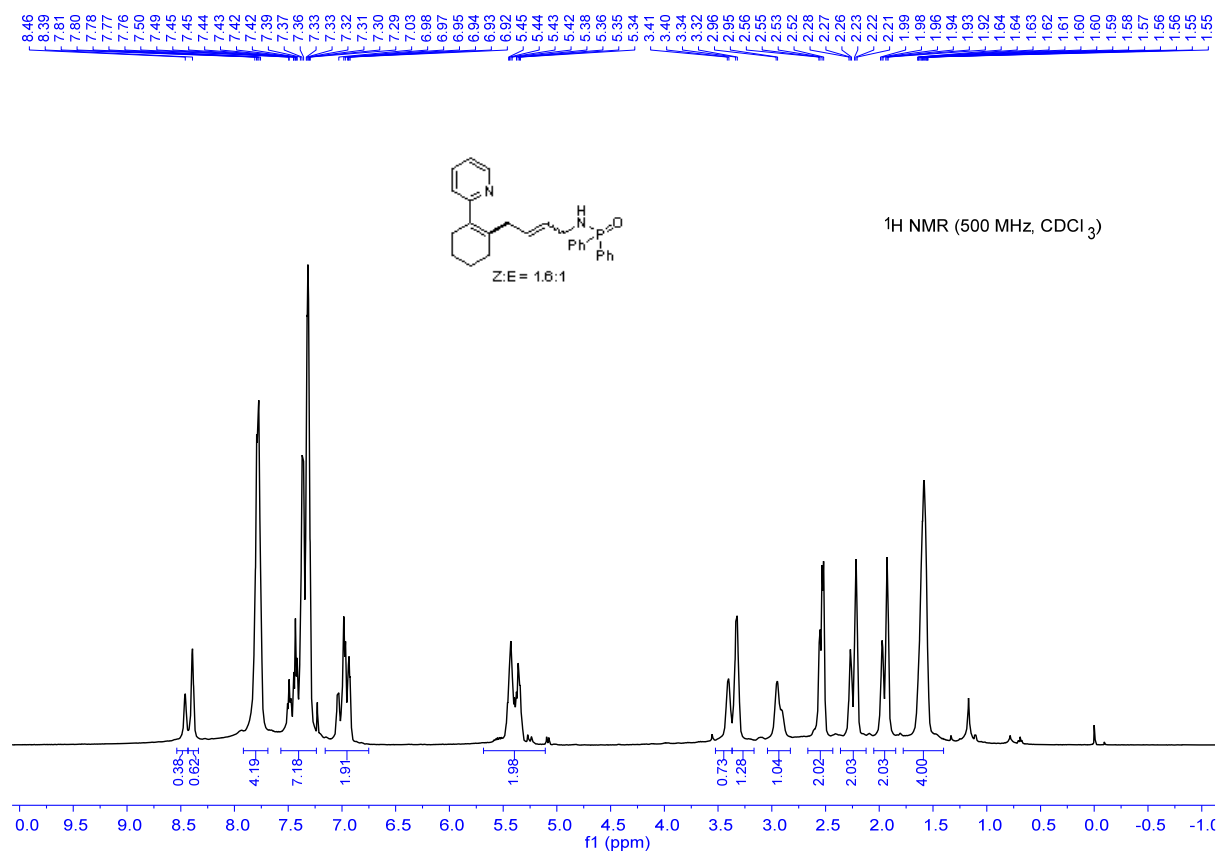
(19) *N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)naphthalene-2-sulfonamide (**3s**)



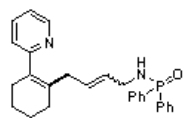
(20) *N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)methanesulfonamide (**3t**)



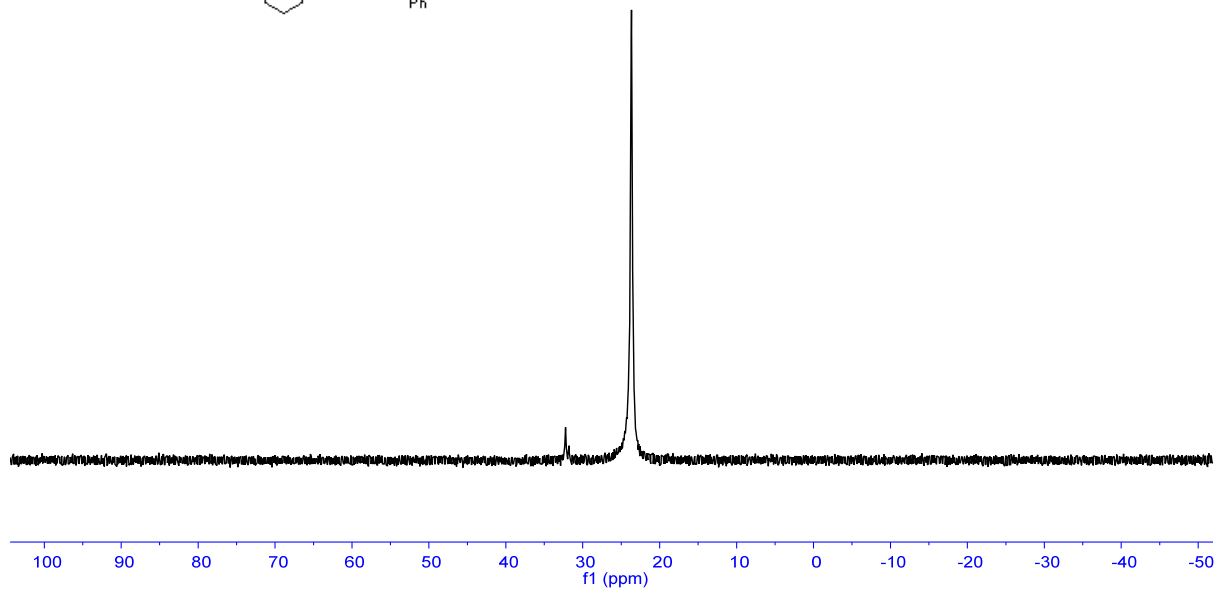
(21) *P,P*-diphenyl-*N*-(4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-yl)phosphinic amide
(3u)



- 23.88



$^{31}\text{P}\{^1\text{H}\}$ NMR (202 MHz, CDCl_3)



(22) 4-(2-(pyridin-2-yl)cyclohex-1-en-1-yl)but-2-en-1-ol (**3v**)

