Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Stereoselective Synthesis of 4-Trifluoromethanesulfonate Substituted 3,6-Dihydropyrans and Their Application in Various Coupling Reactions

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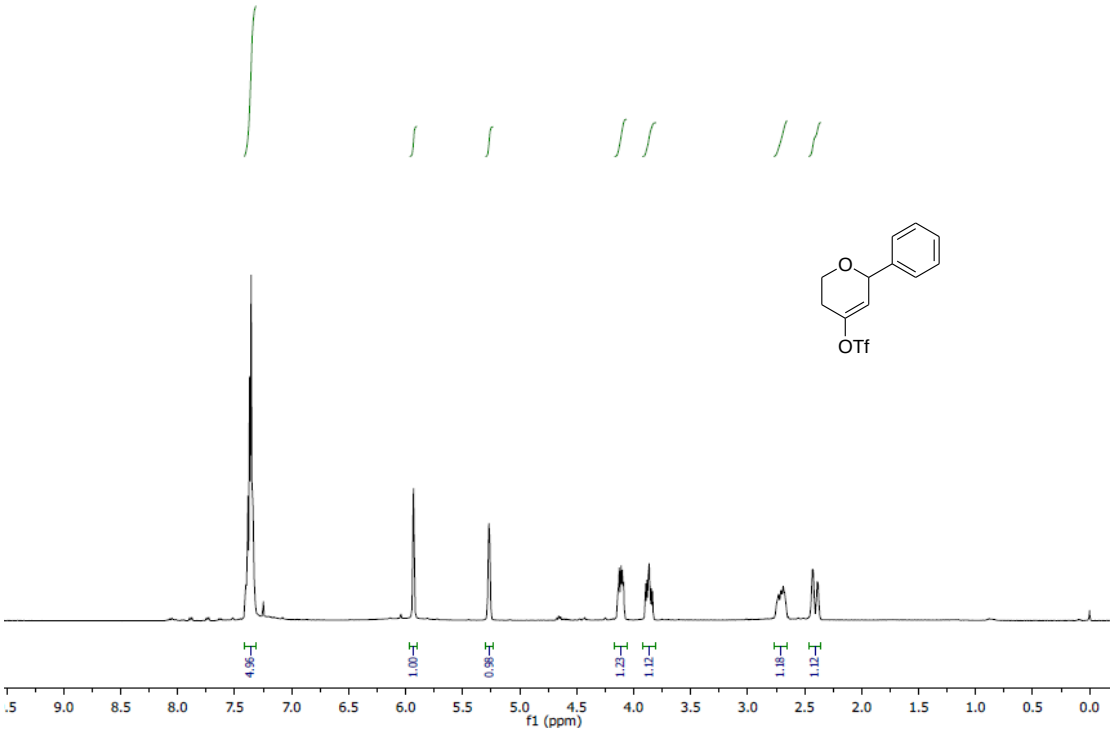
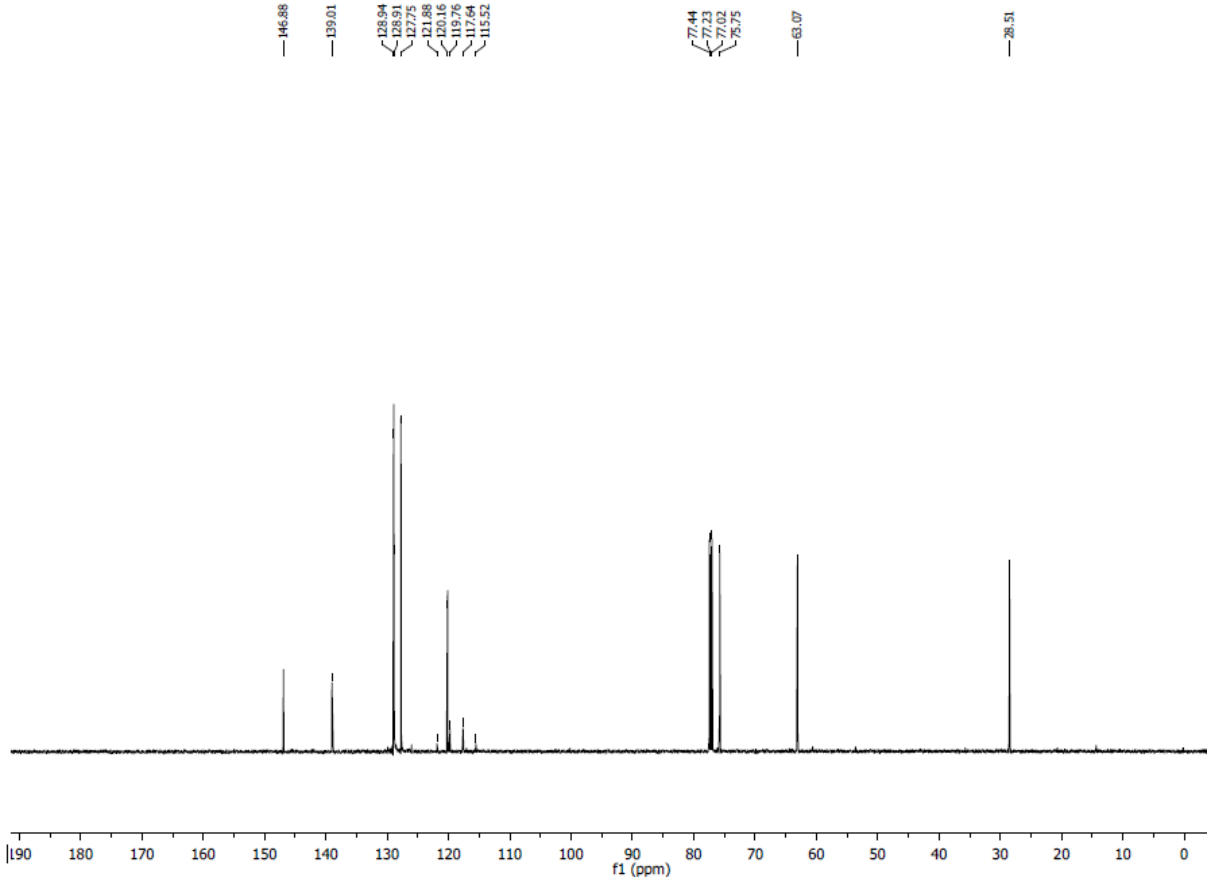
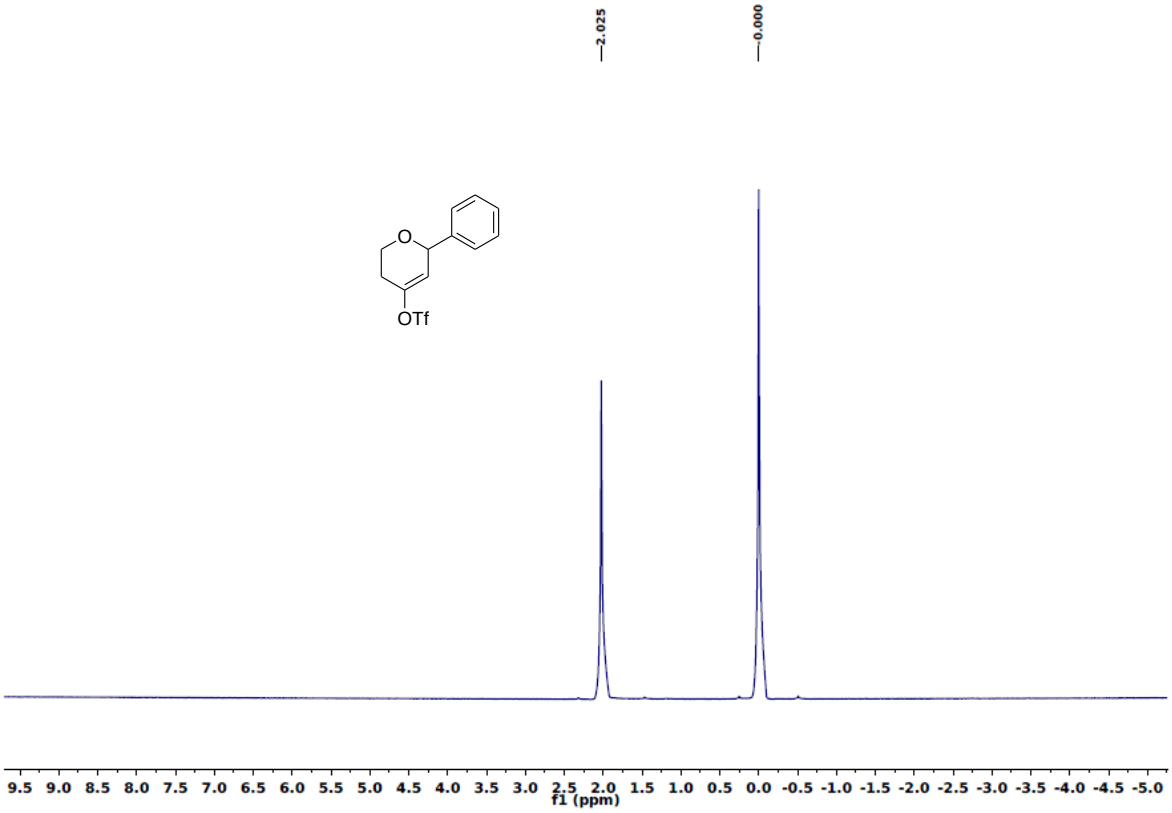
^{1}H NMR and ^{13}C NMR spectra of compound 3a

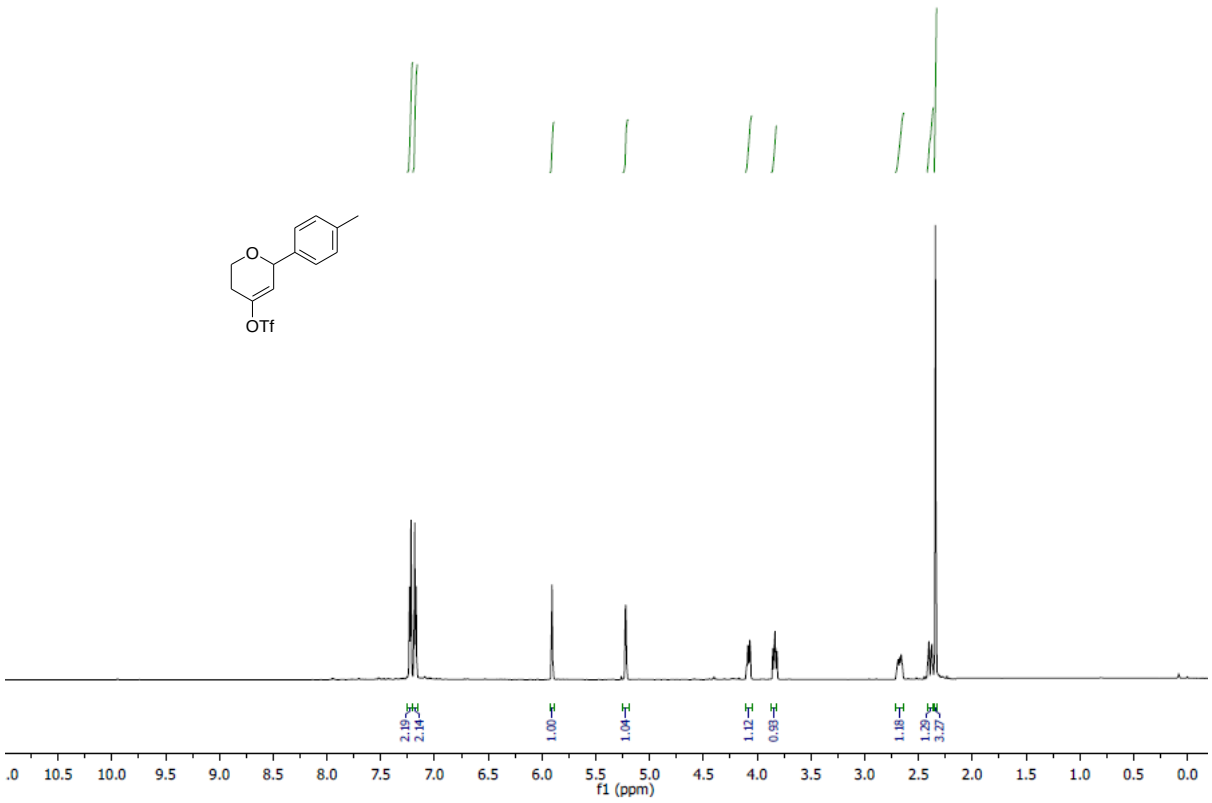


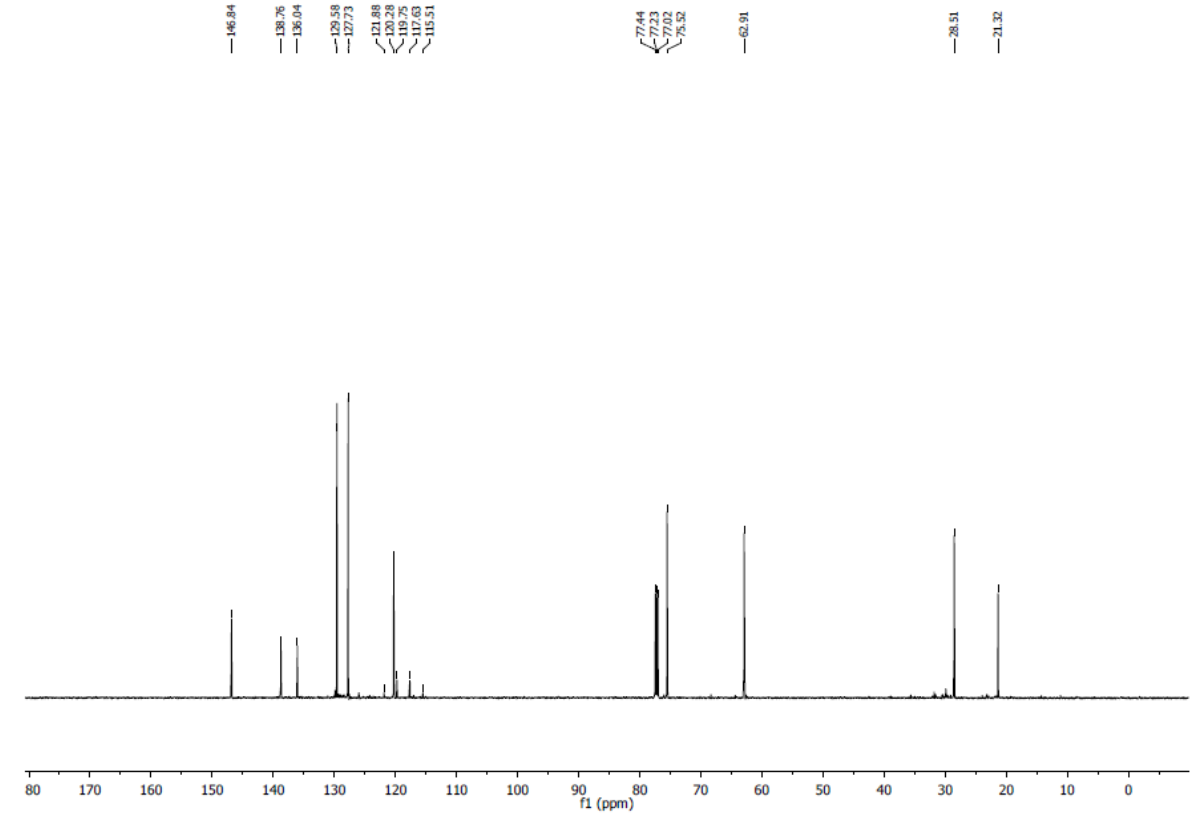


^{19}F NMR spectrum of compound 3a

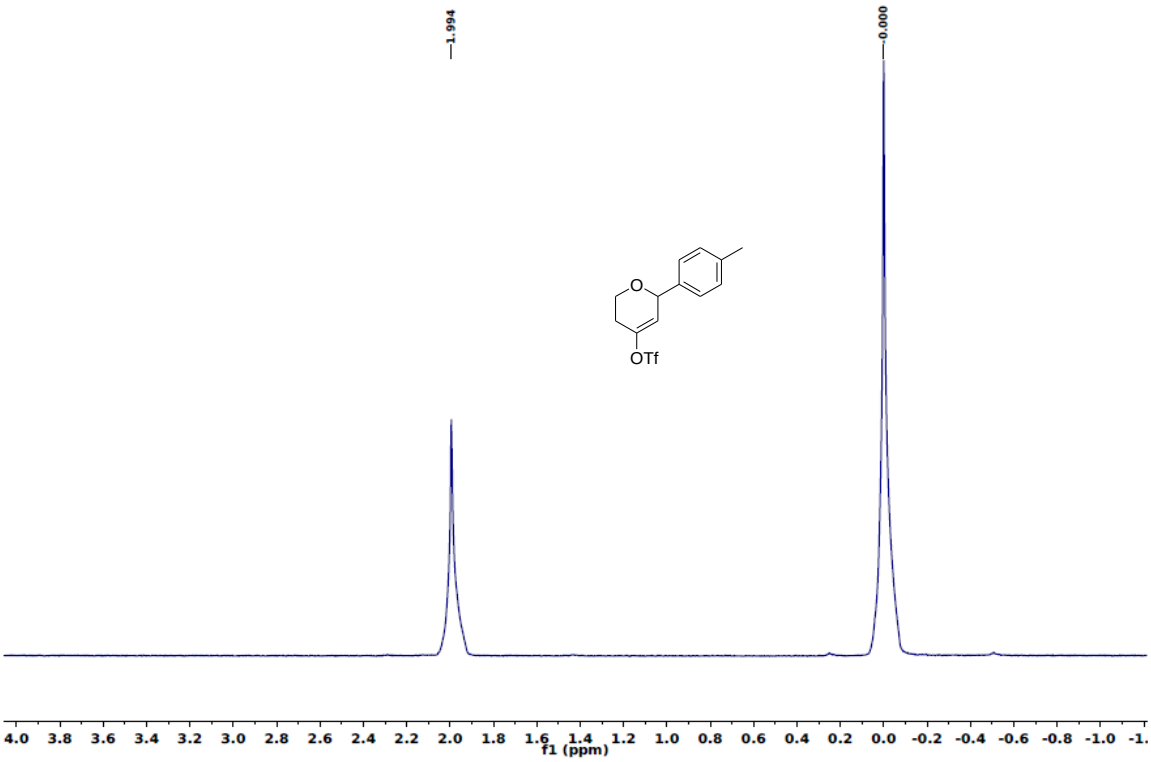


^{1}H NMR and ^{13}C NMR spectra of compound 3b



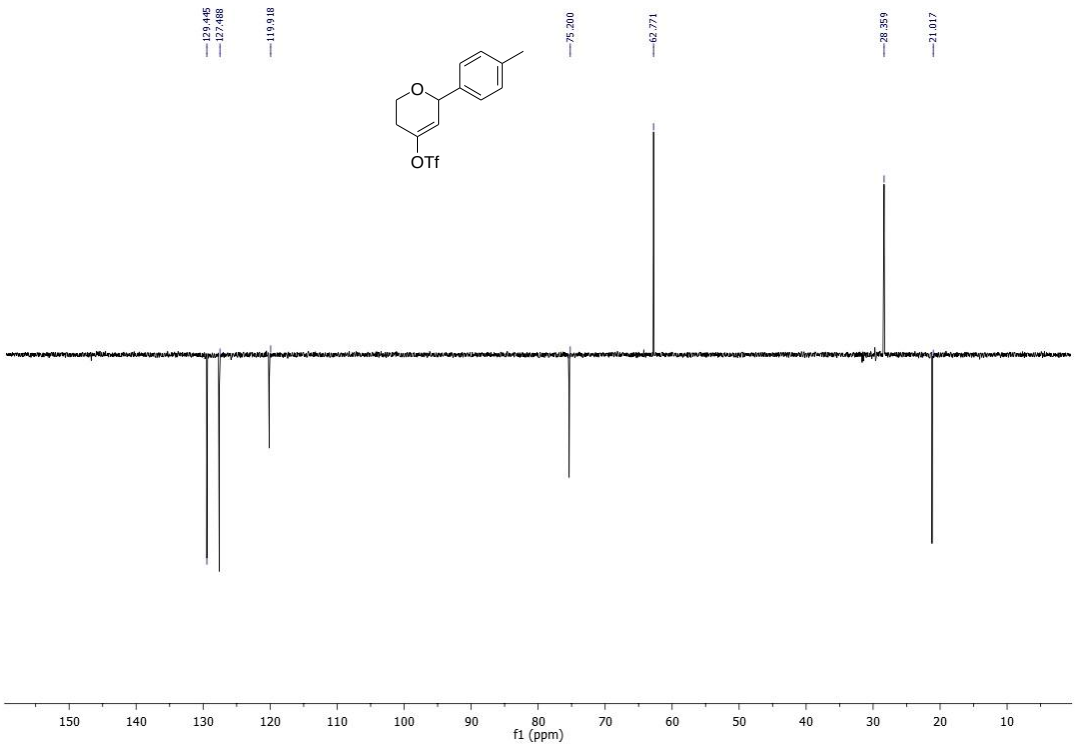


^{19}F NMR spectrum of compound 3b

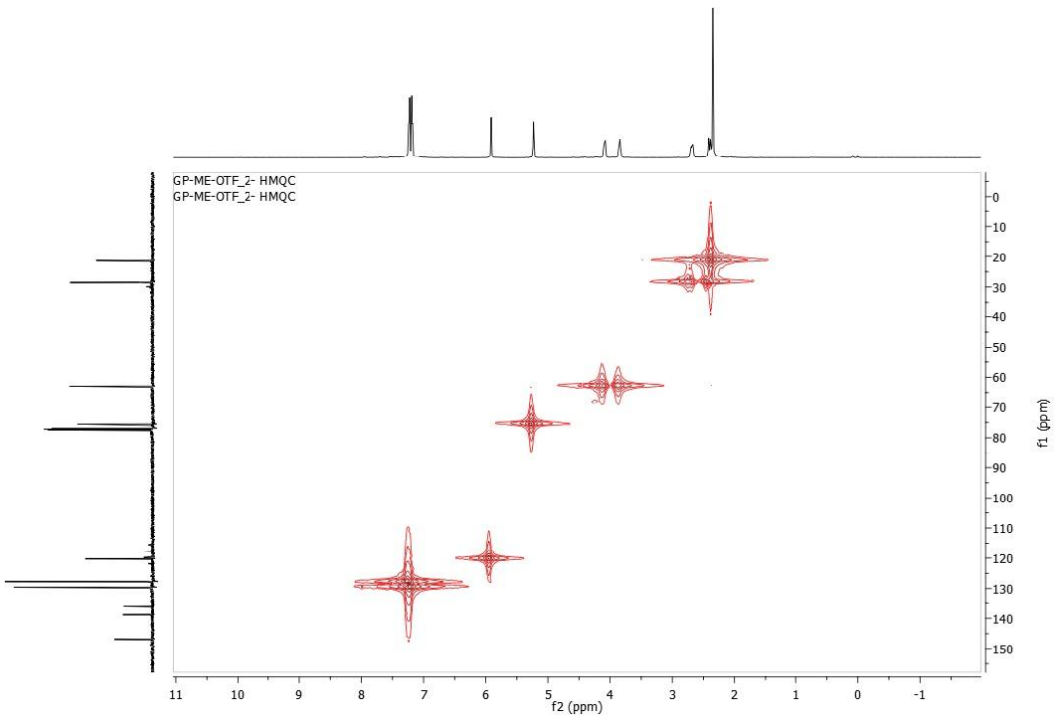


DEPT and HMQC spectra of compound 3b

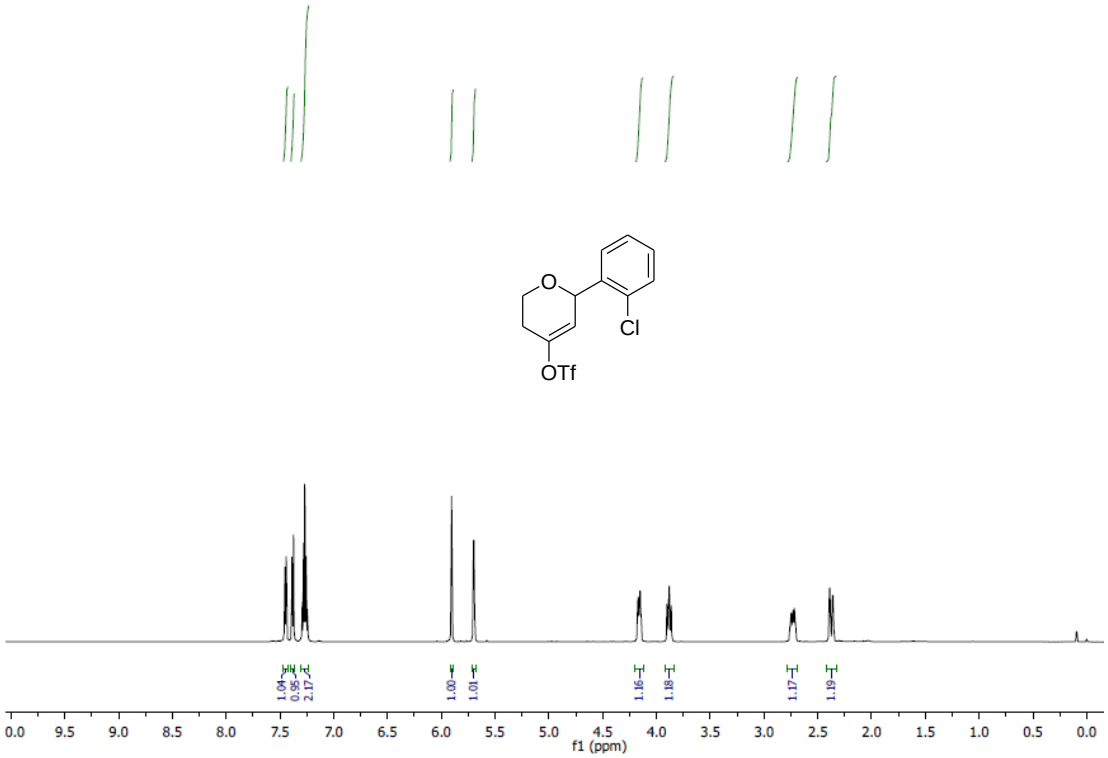
DEPT

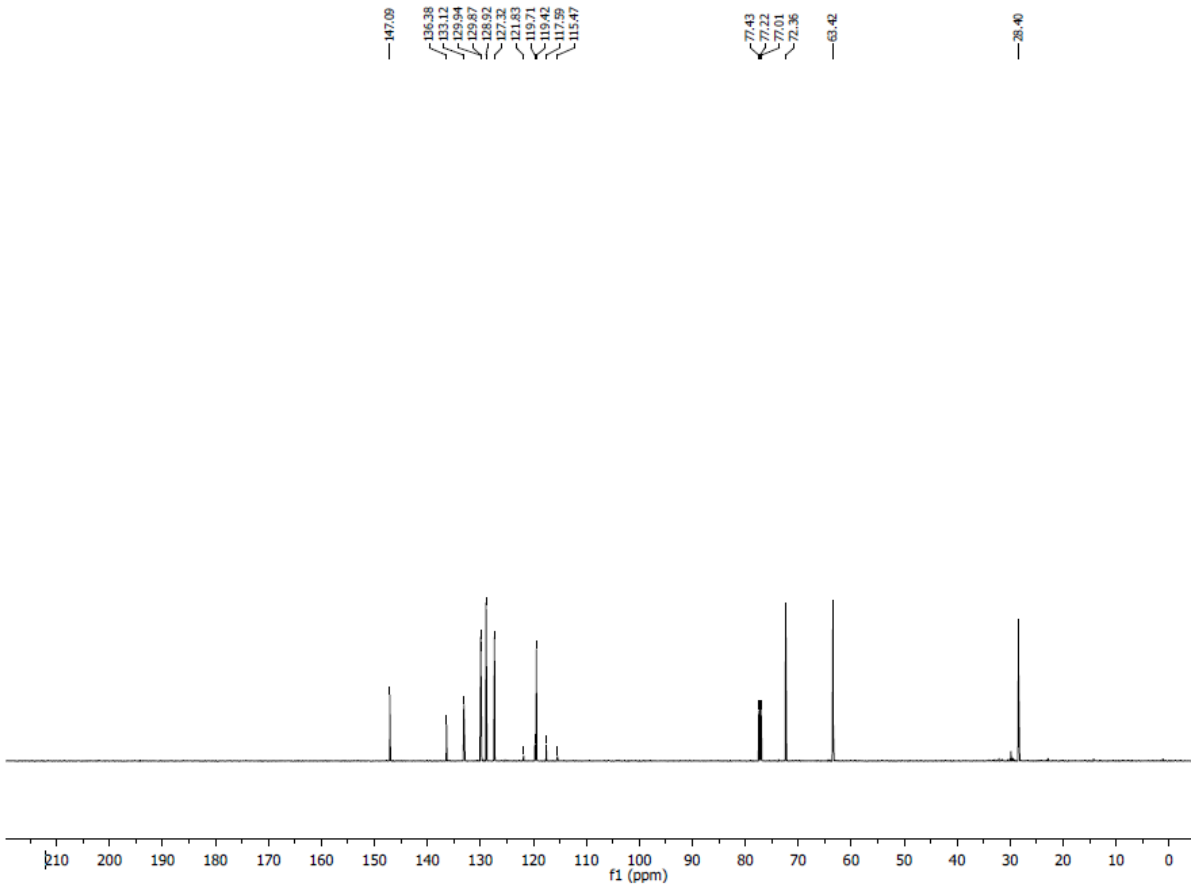


HMQC

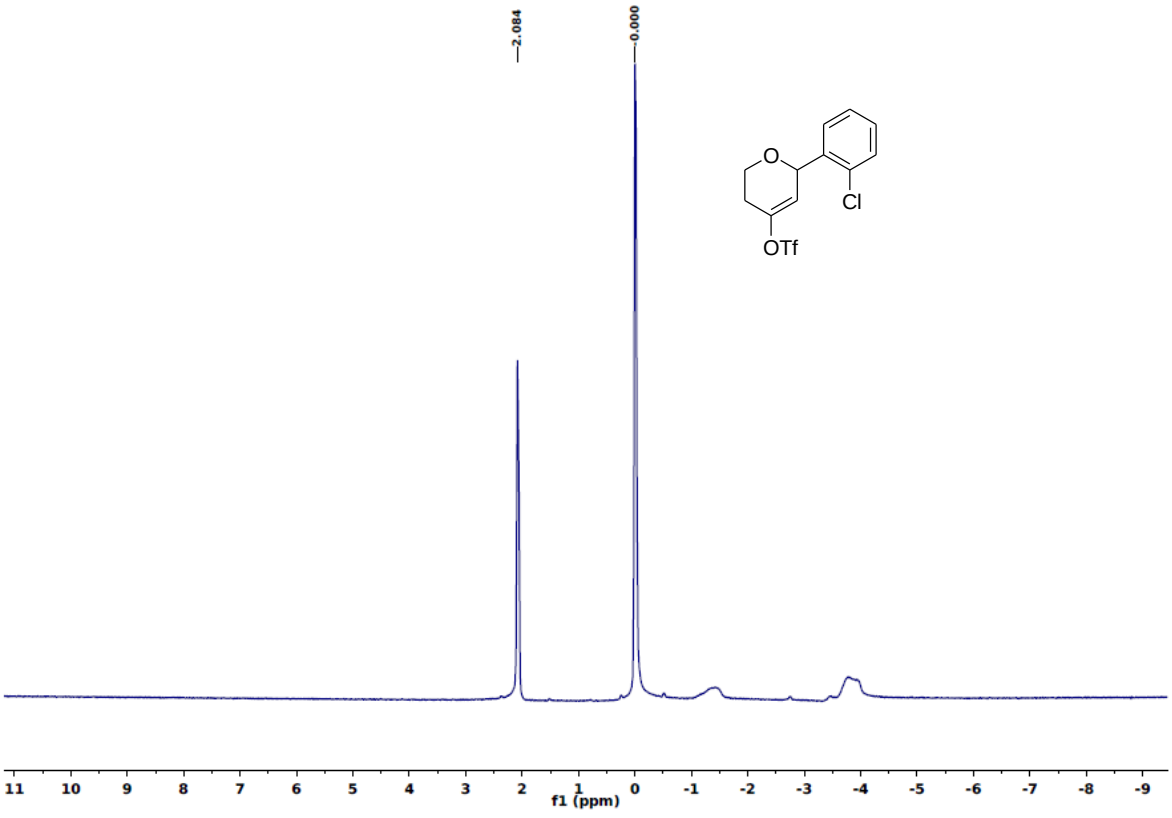


^{1}H NMR and ^{13}C NMR spectra of compound 3d

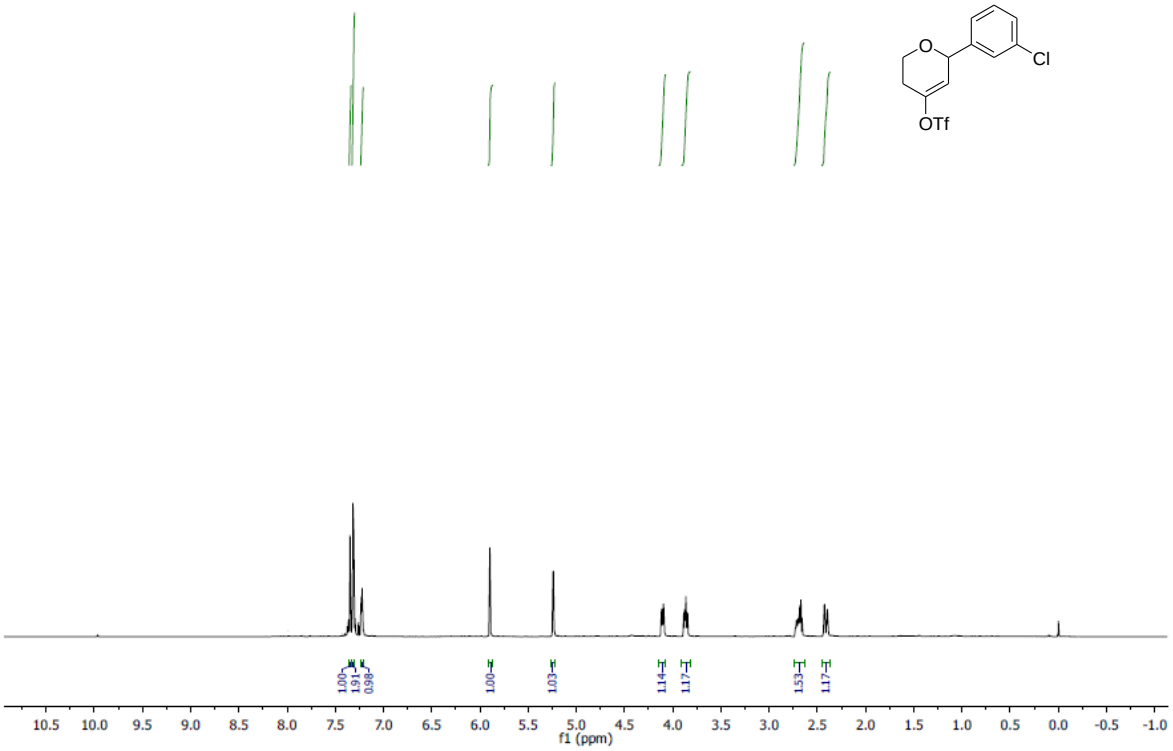


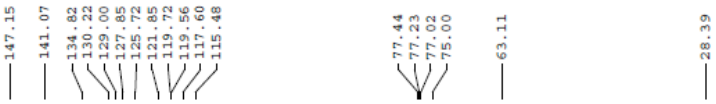


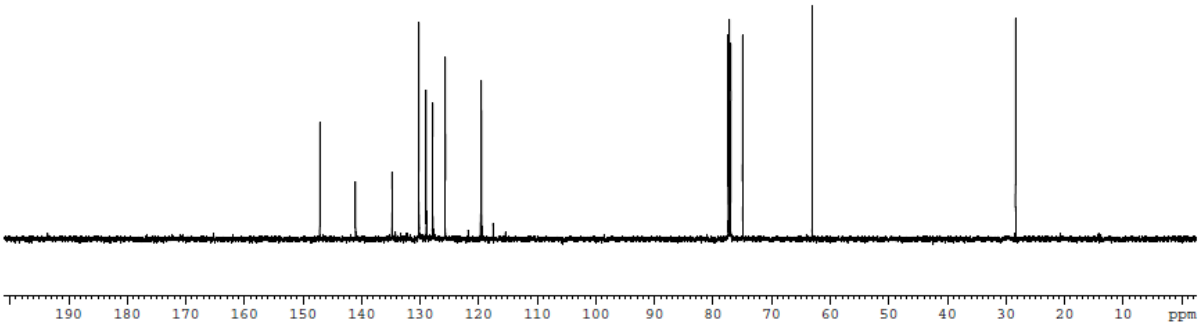
^{19}F NMR spectrum of compound 3d



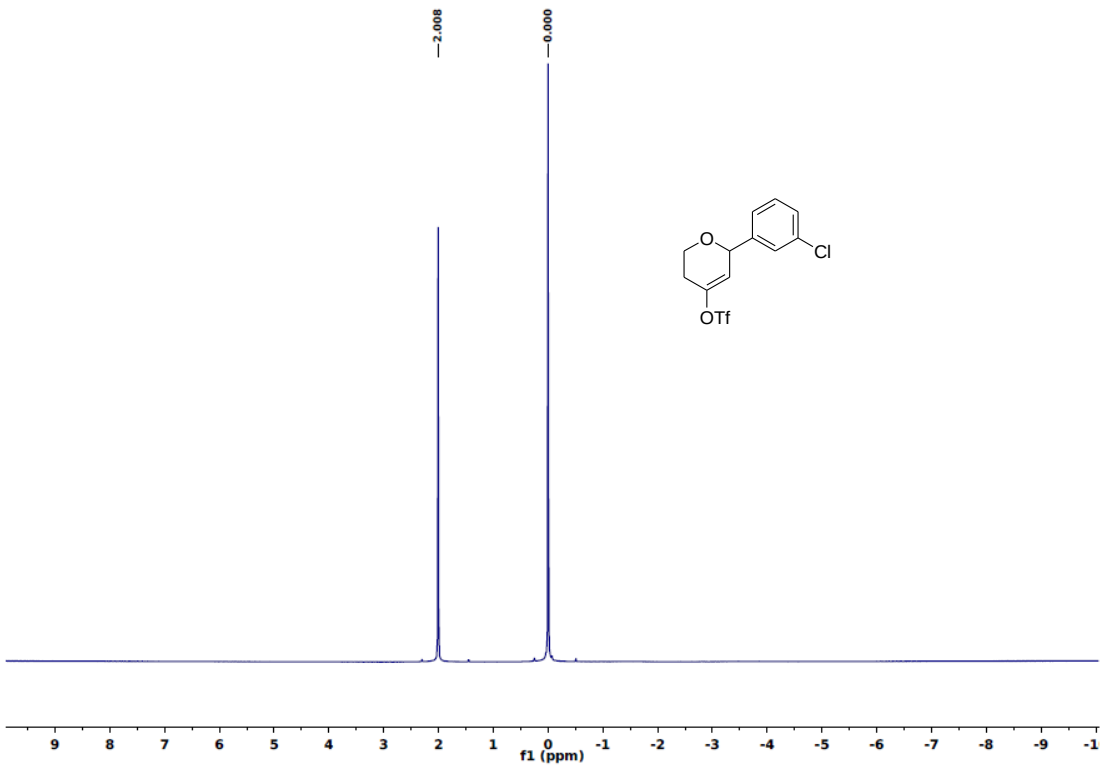
^{1}H NMR and ^{13}C NMR spectra of compound 3e



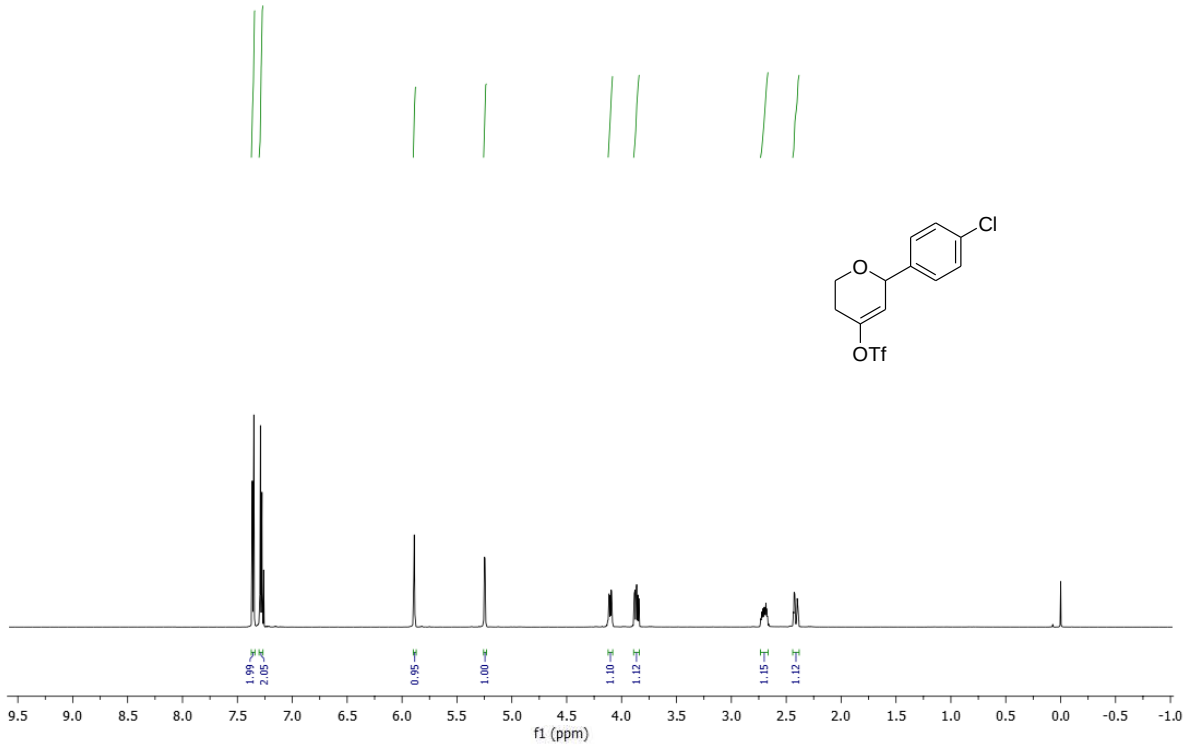


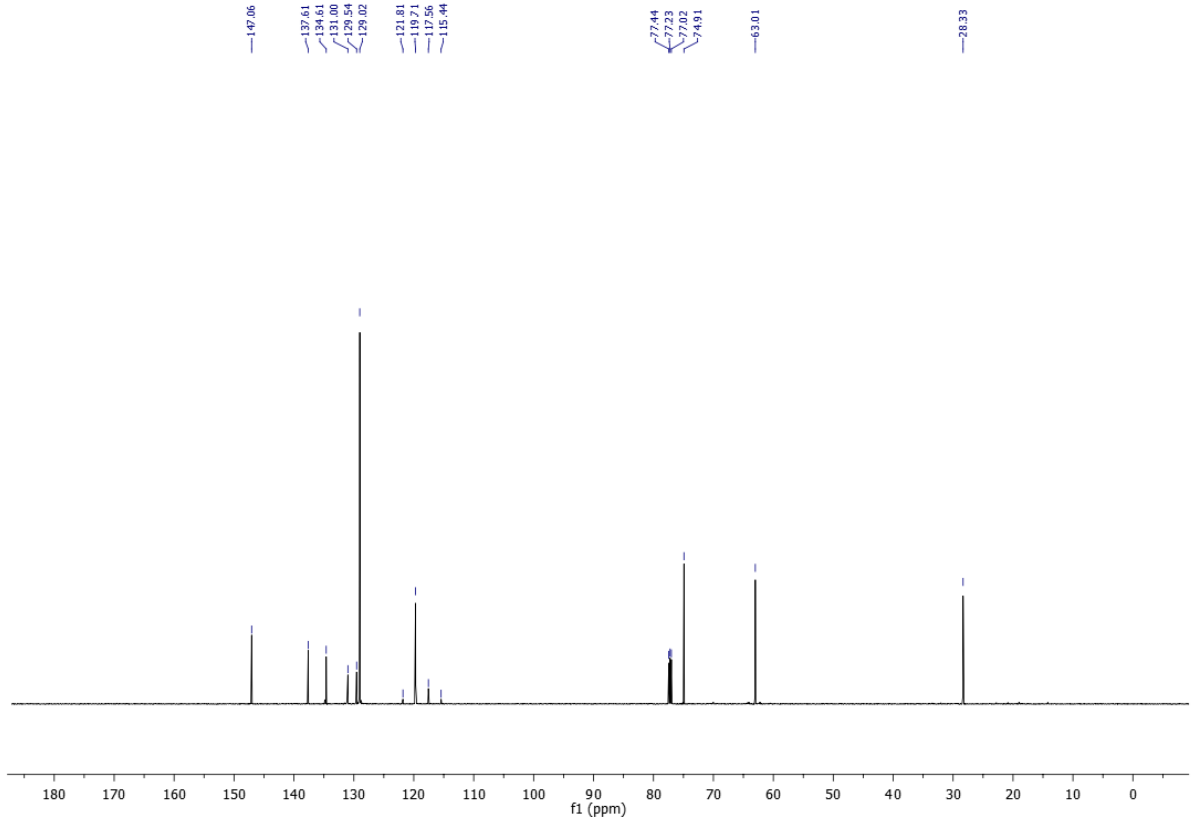


^{19}F NMR spectrum of compound 3e

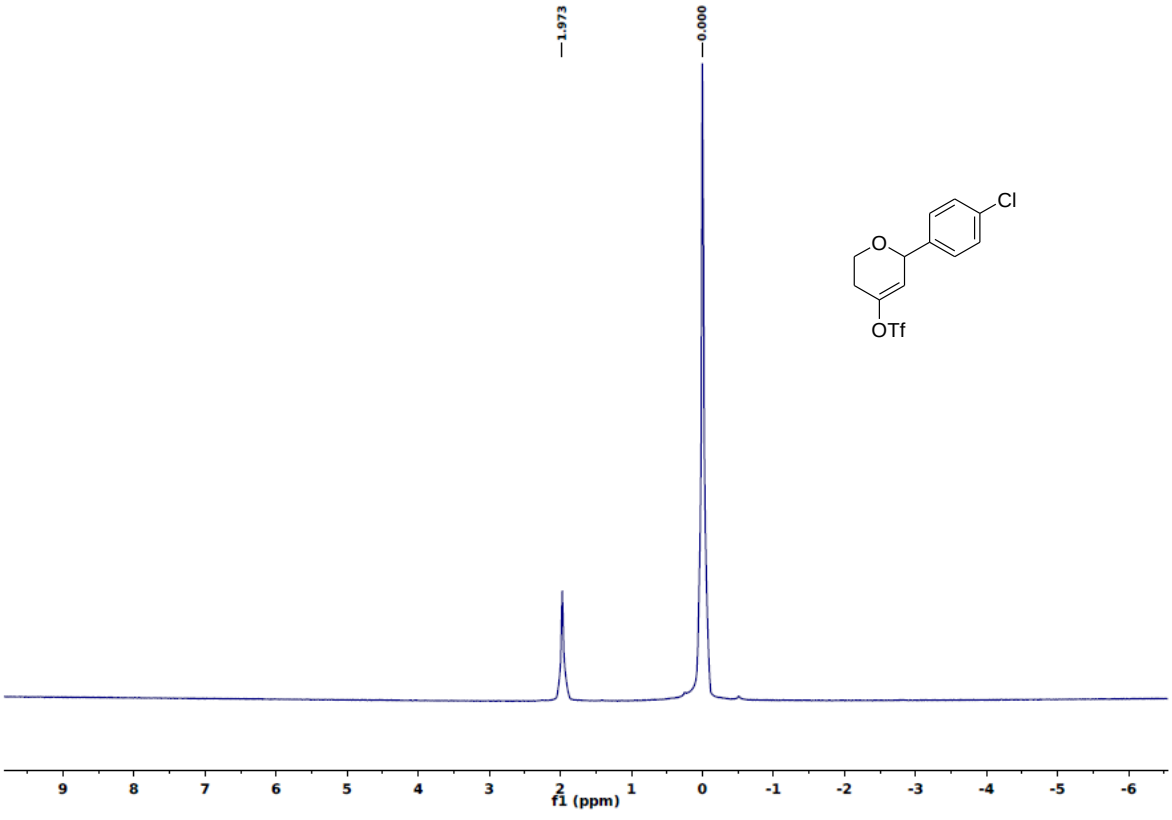


^{1}H NMR and ^{13}C NMR spectra of compound 3f

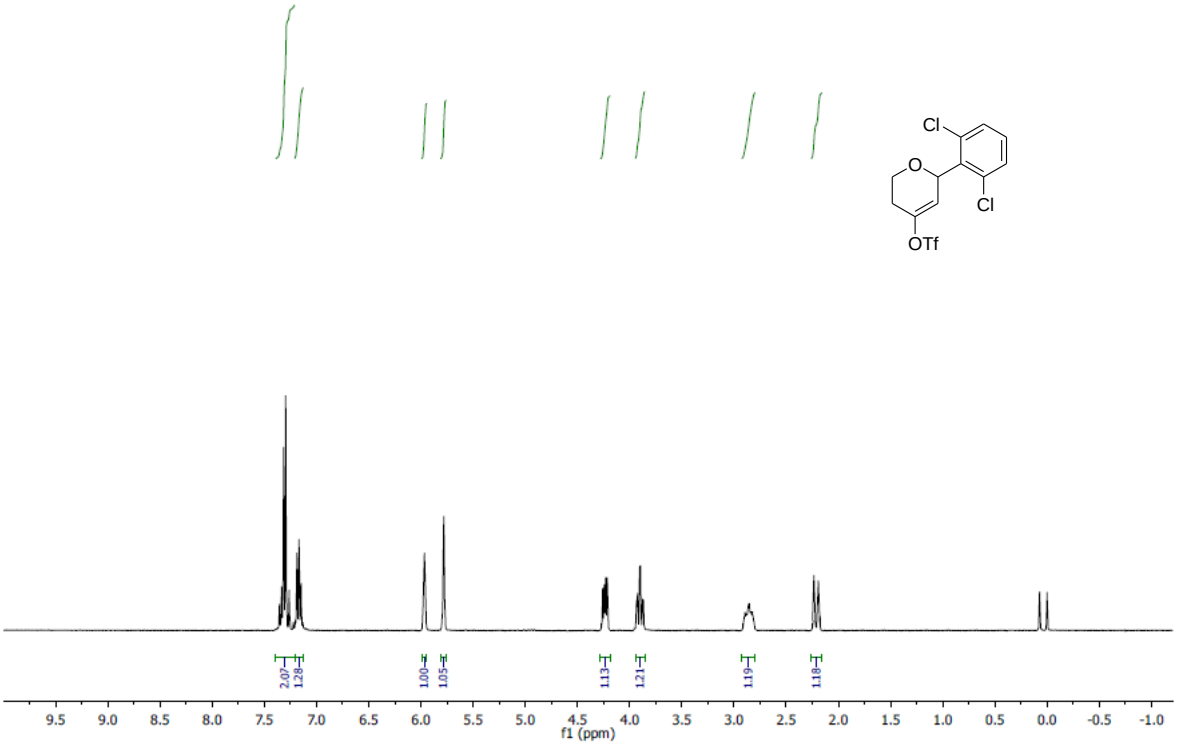


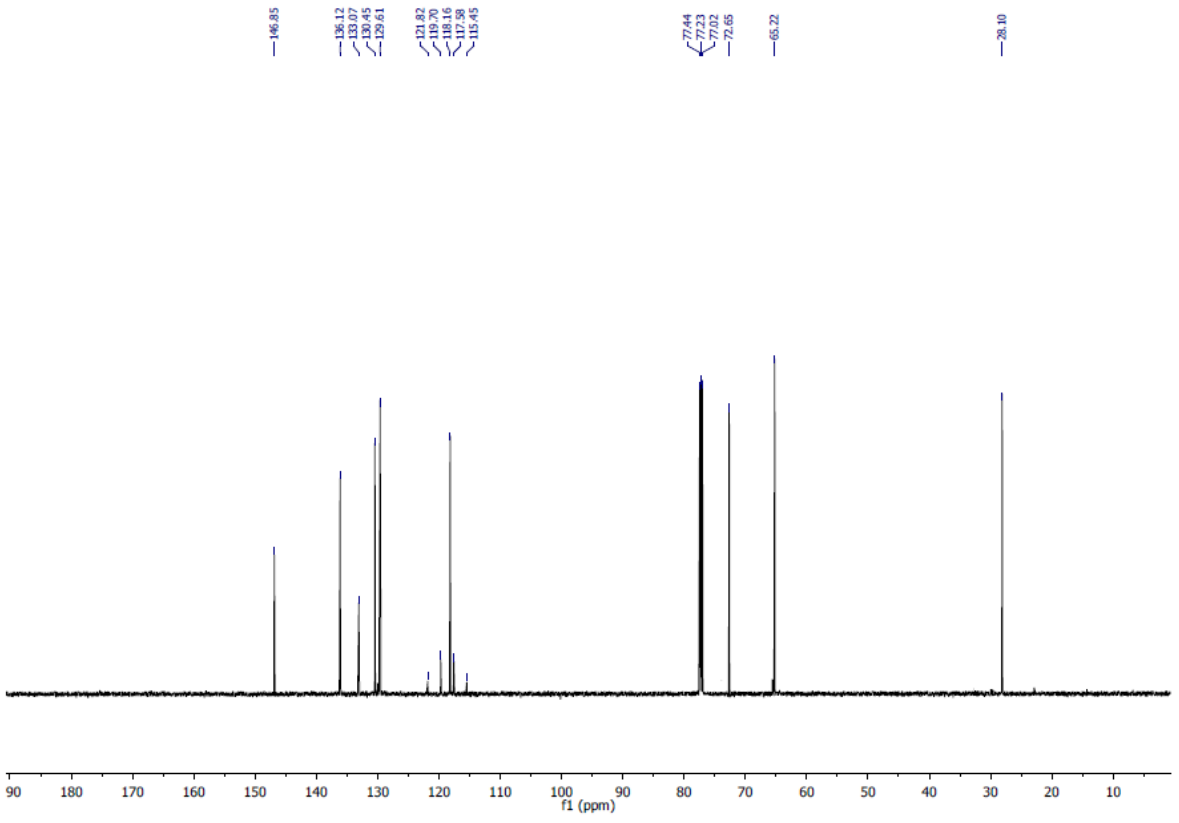


^{19}F NMR spectrum of compound 3f

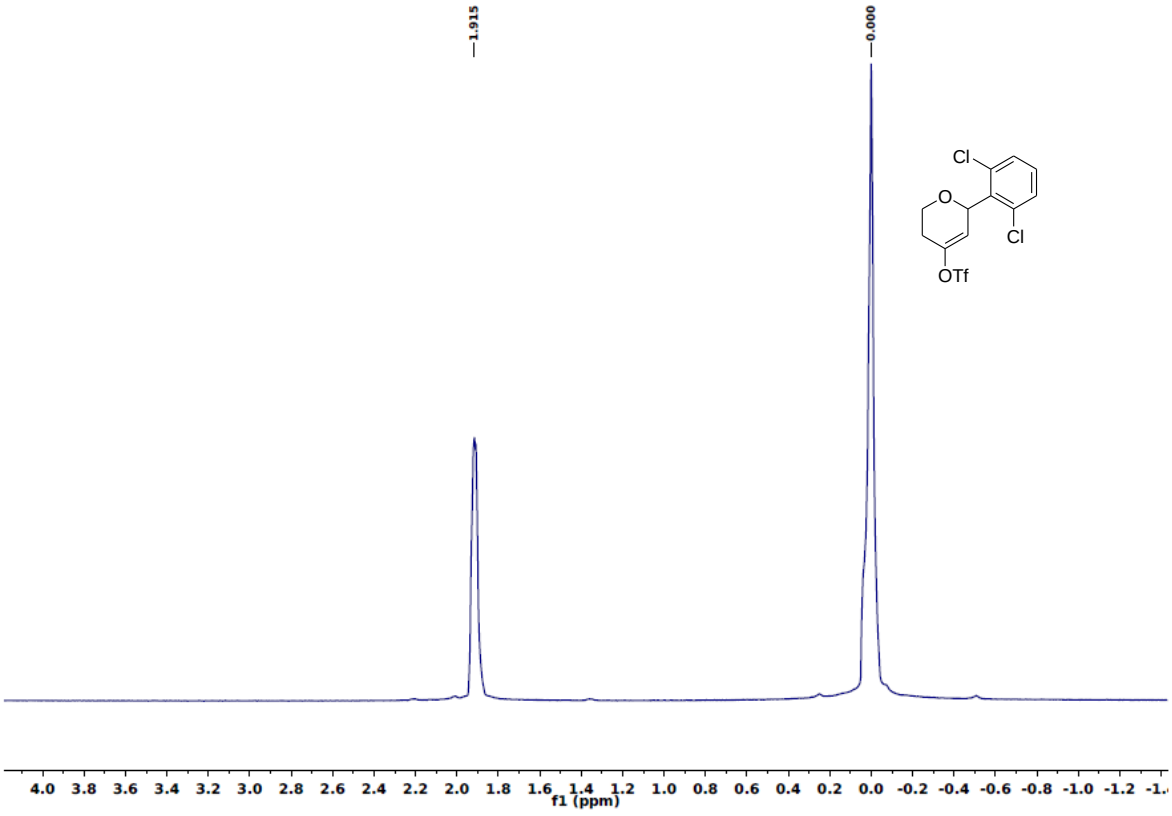


^{1}H NMR and ^{13}C NMR spectra of compound 3g

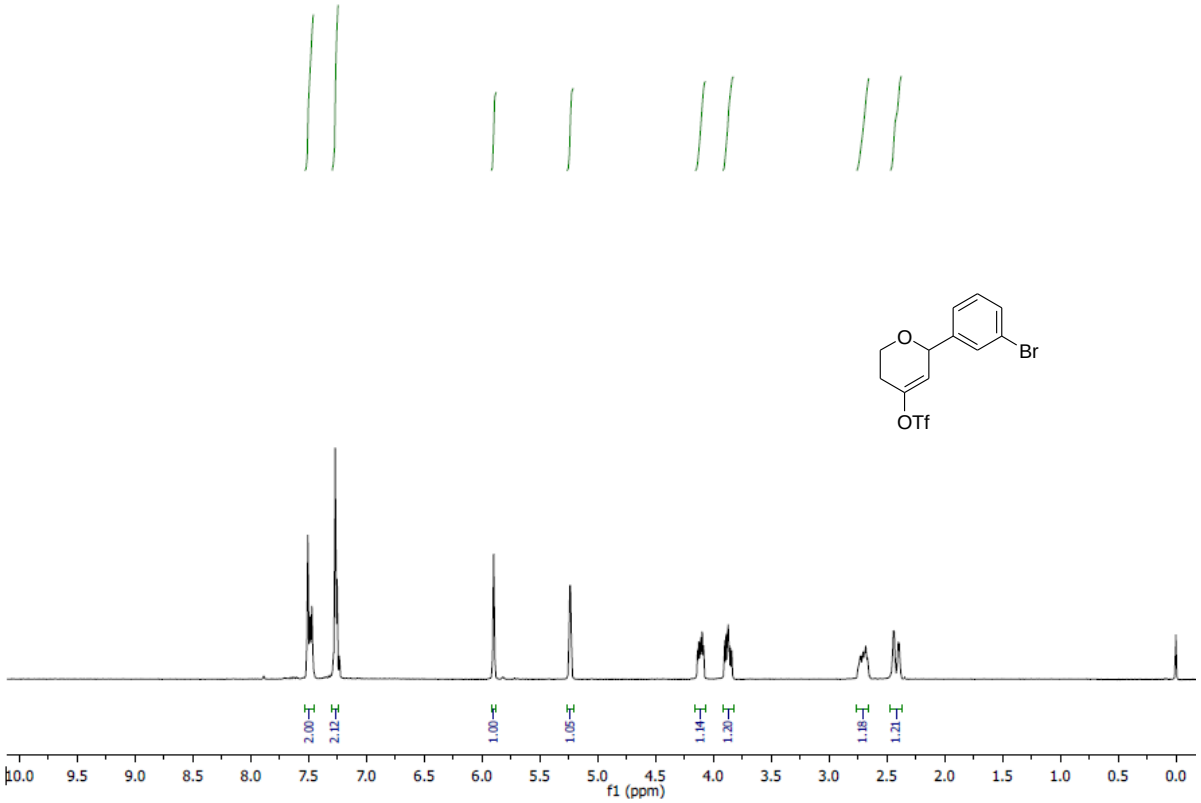


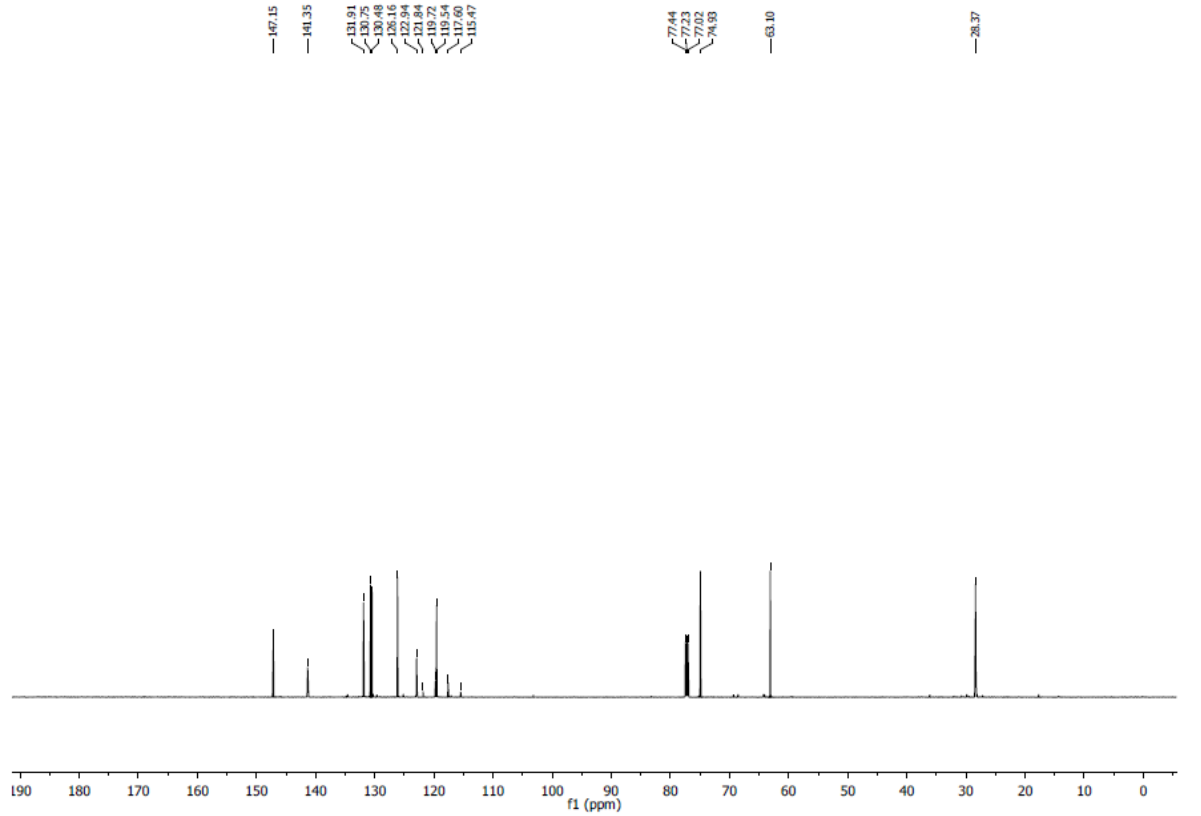


^{19}F NMR spectrum of compound 3g

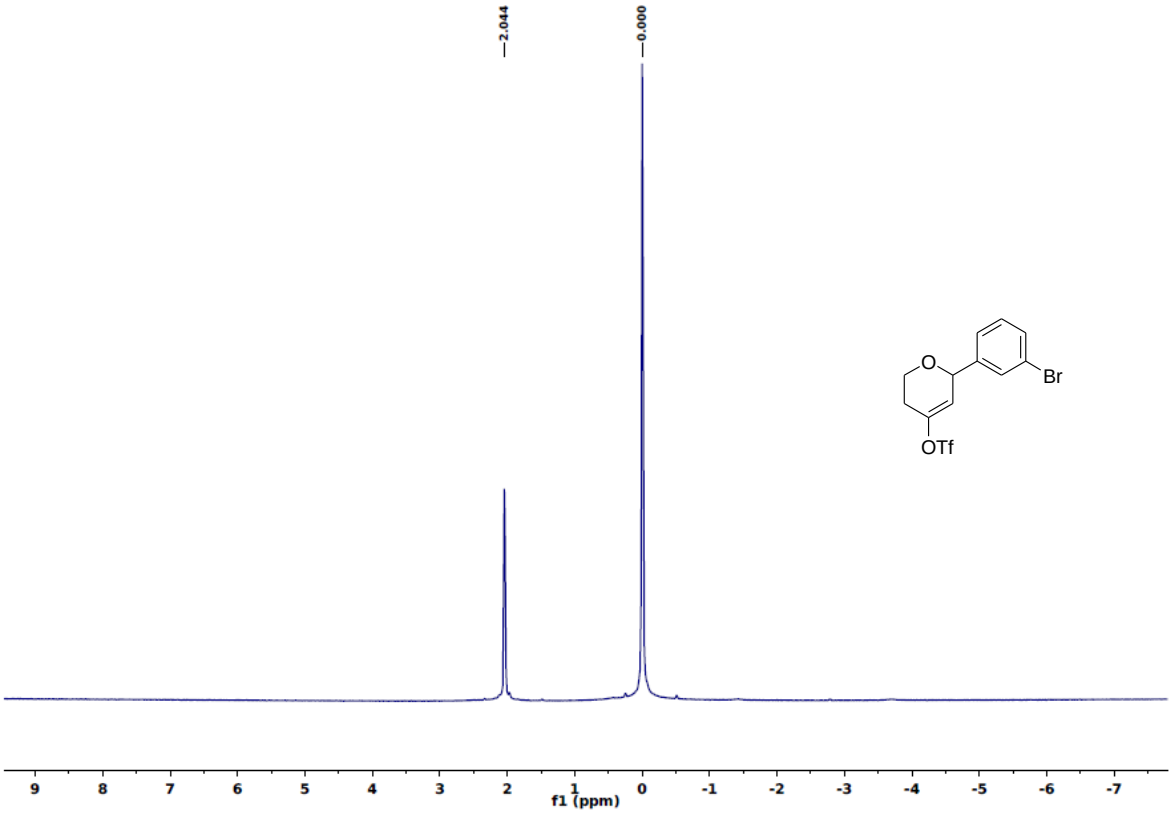


^{1}H NMR and ^{13}C NMR spectra of compound 3h

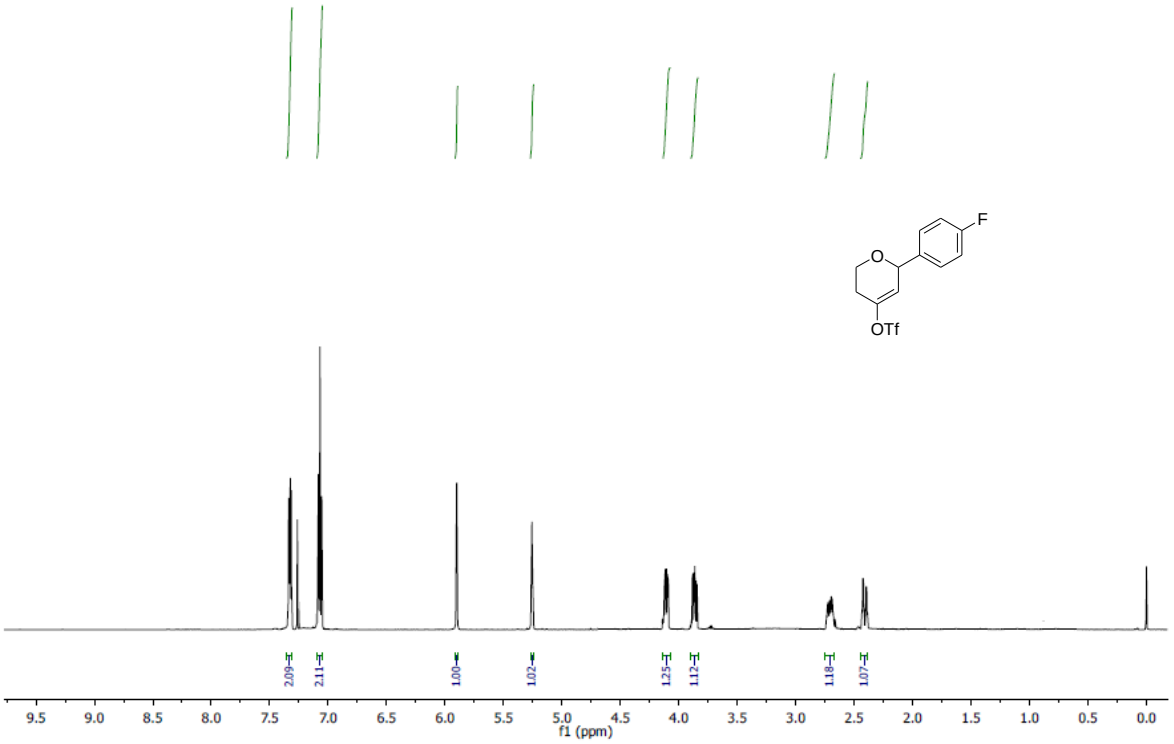


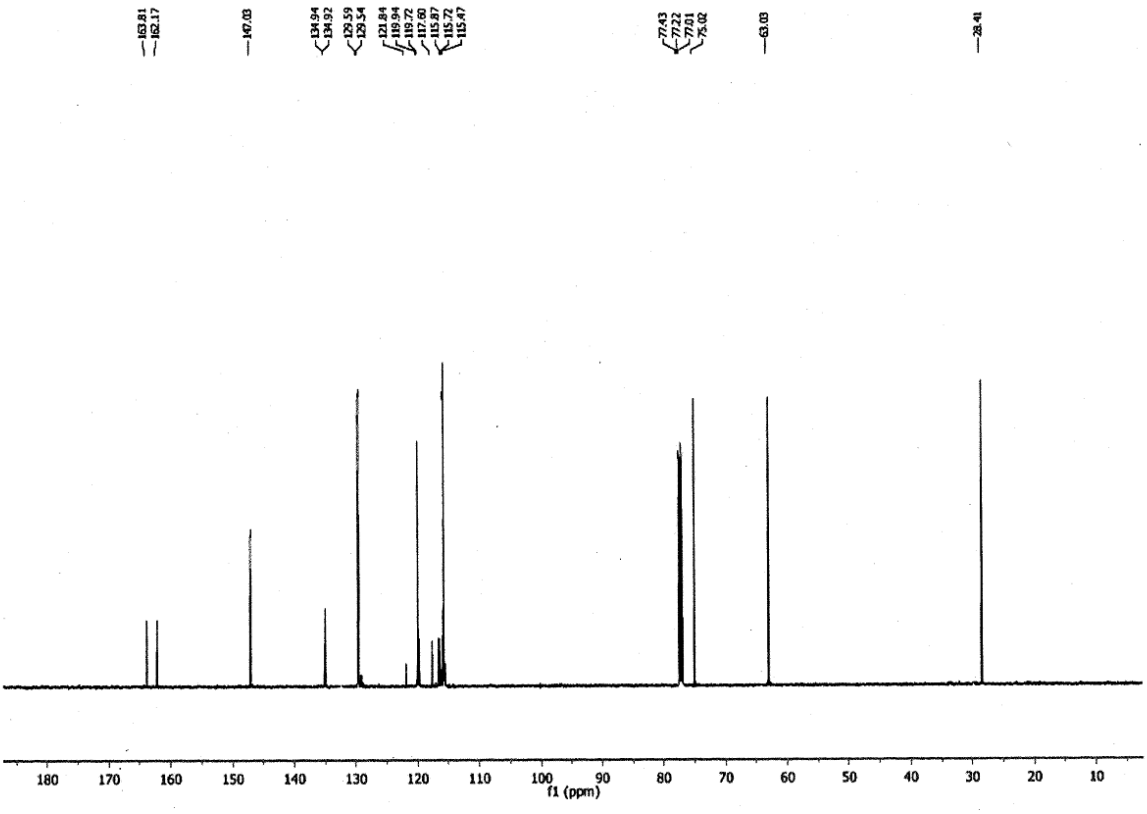


^{19}F NMR spectrum of compound 3h

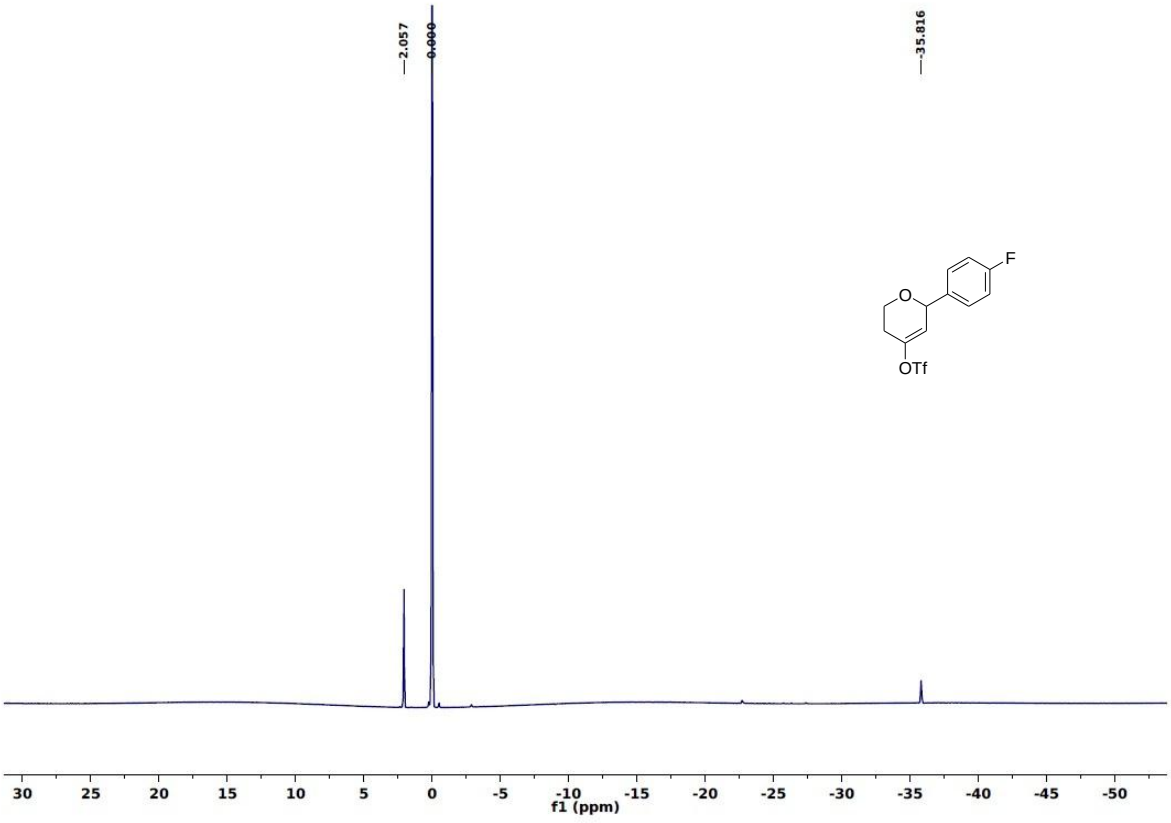


^{1}H NMR and ^{13}C NMR spectra of compound 3i

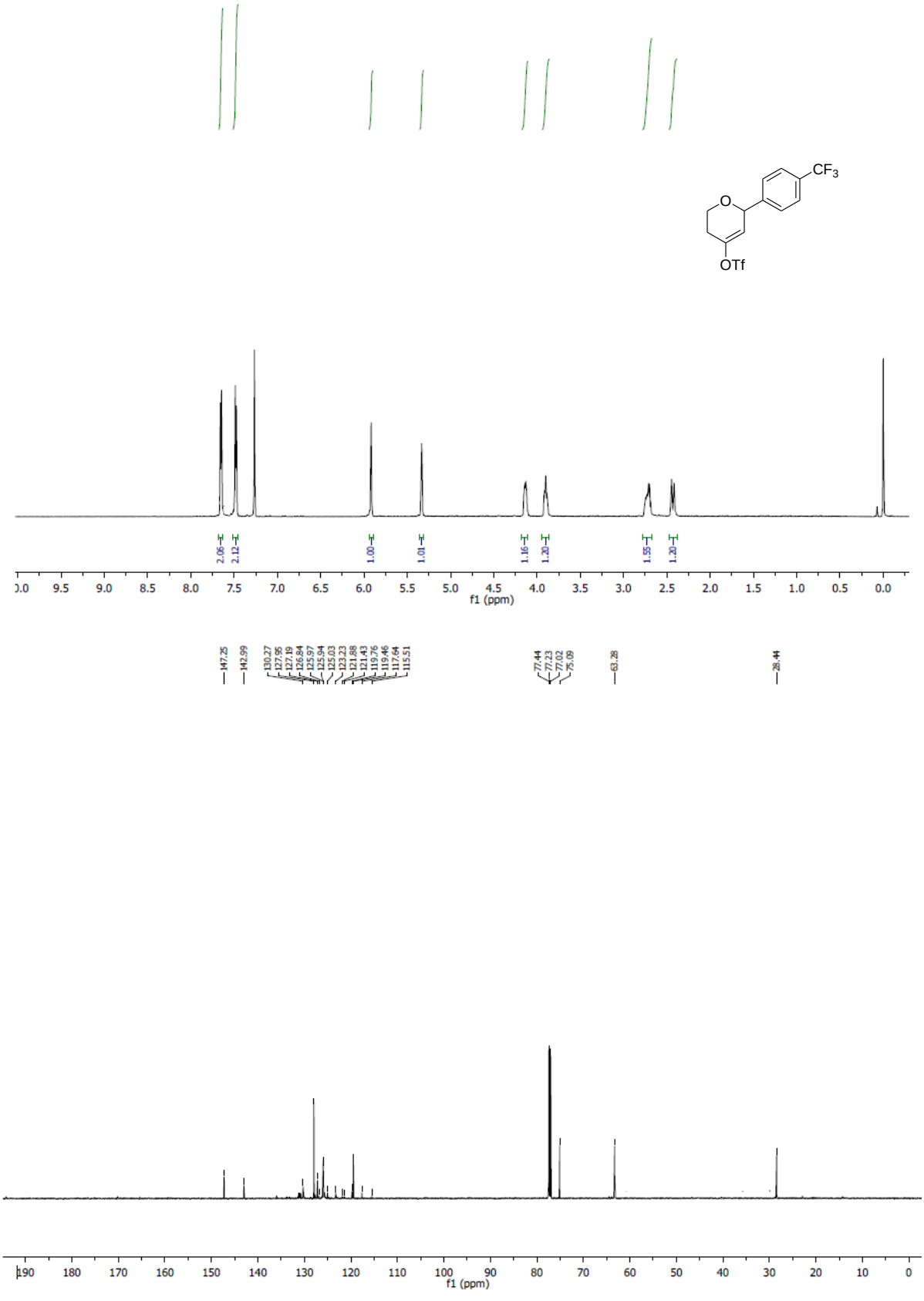




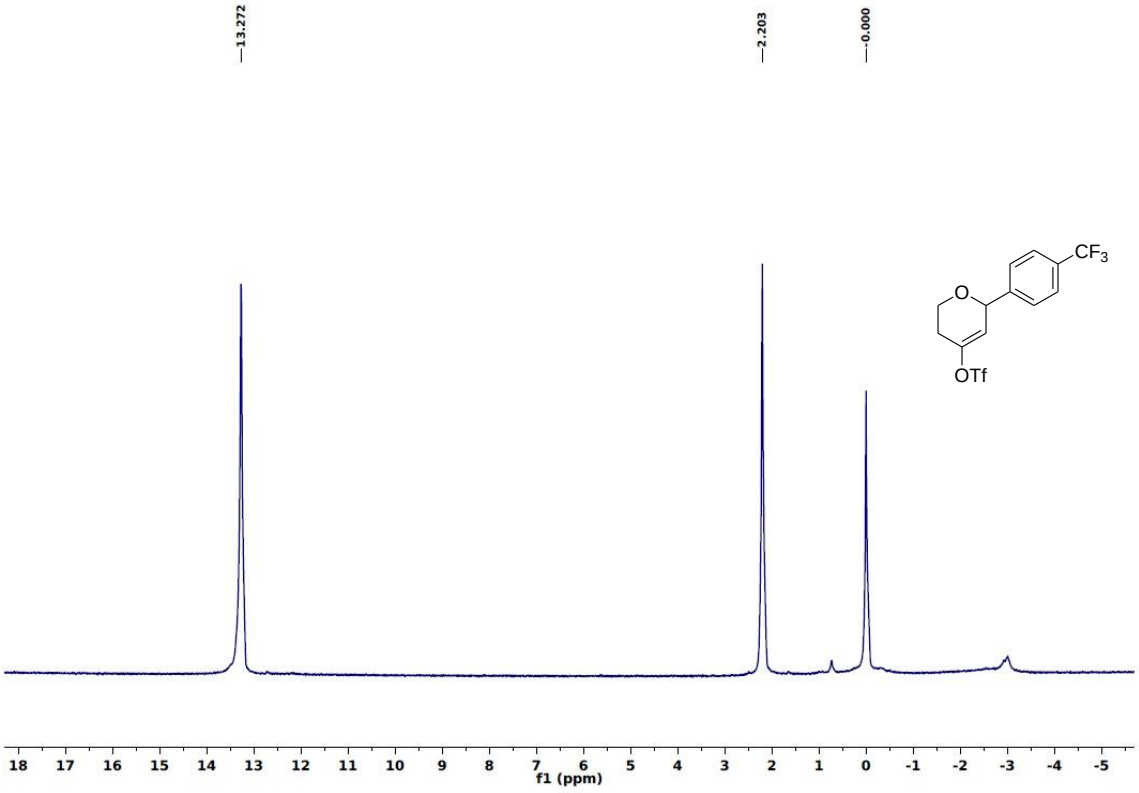
^{19}F NMR spectrum of compound 3i



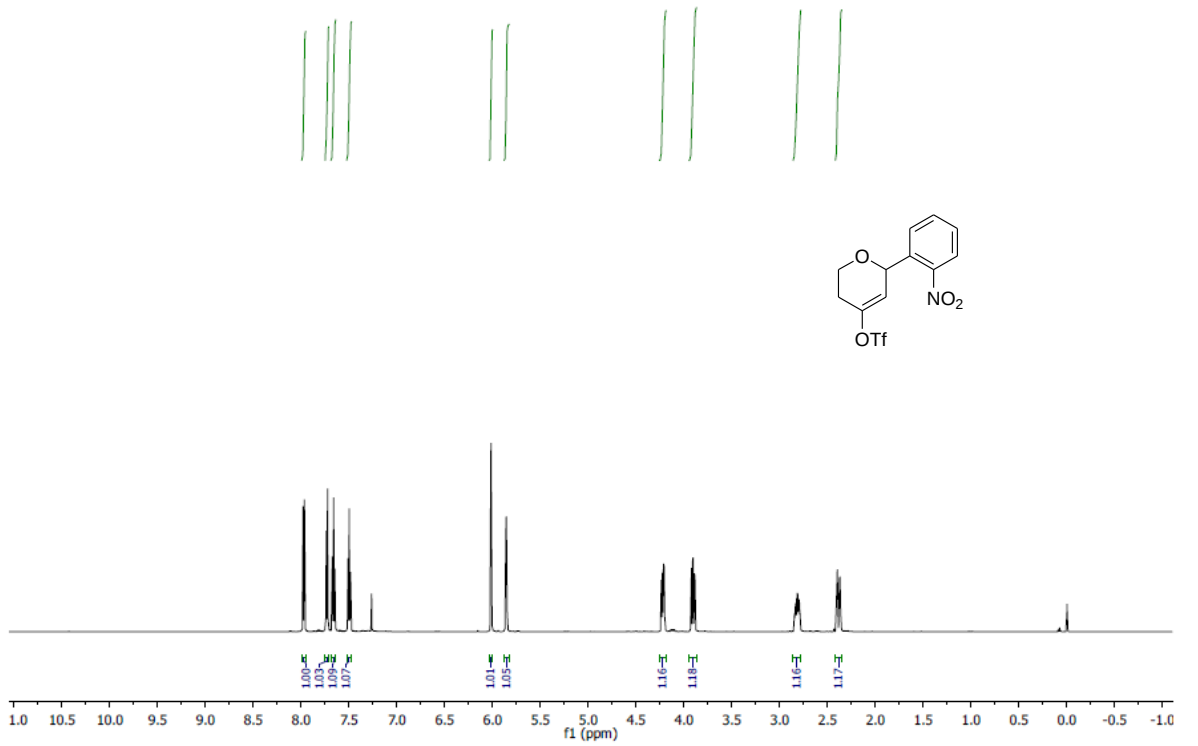
^{1}H NMR and ^{13}C NMR spectra of compound 3j

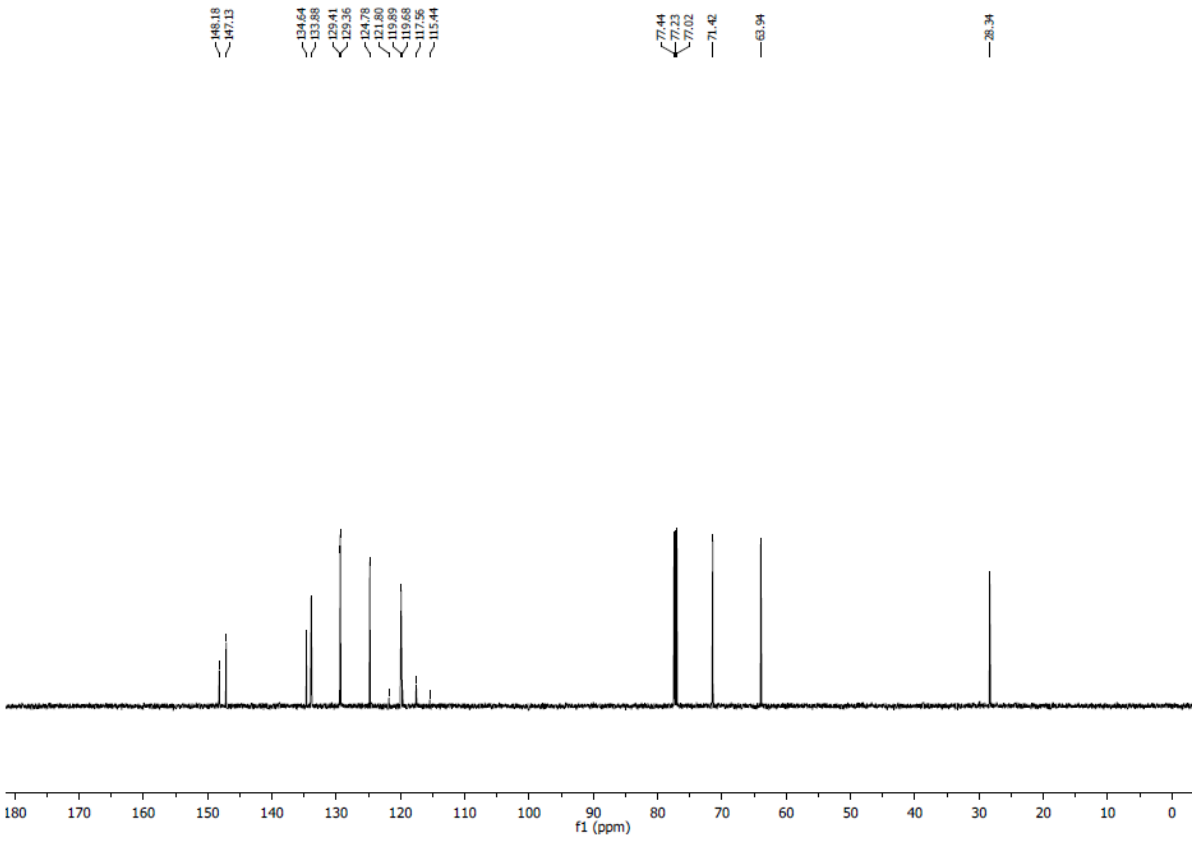


^{19}F NMR spectrum of compound 3j

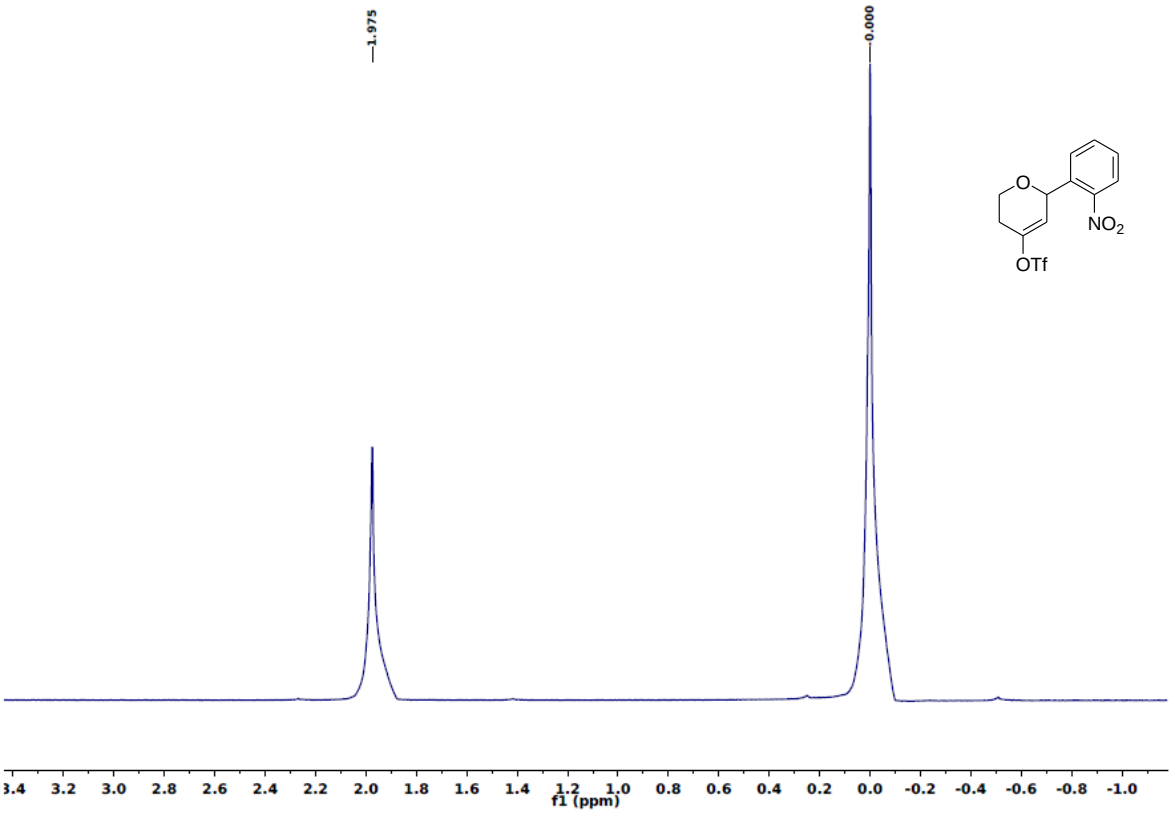


^{1}H NMR and ^{13}C NMR spectra of compound 3k





^{19}F NMR spectrum of compound 3k



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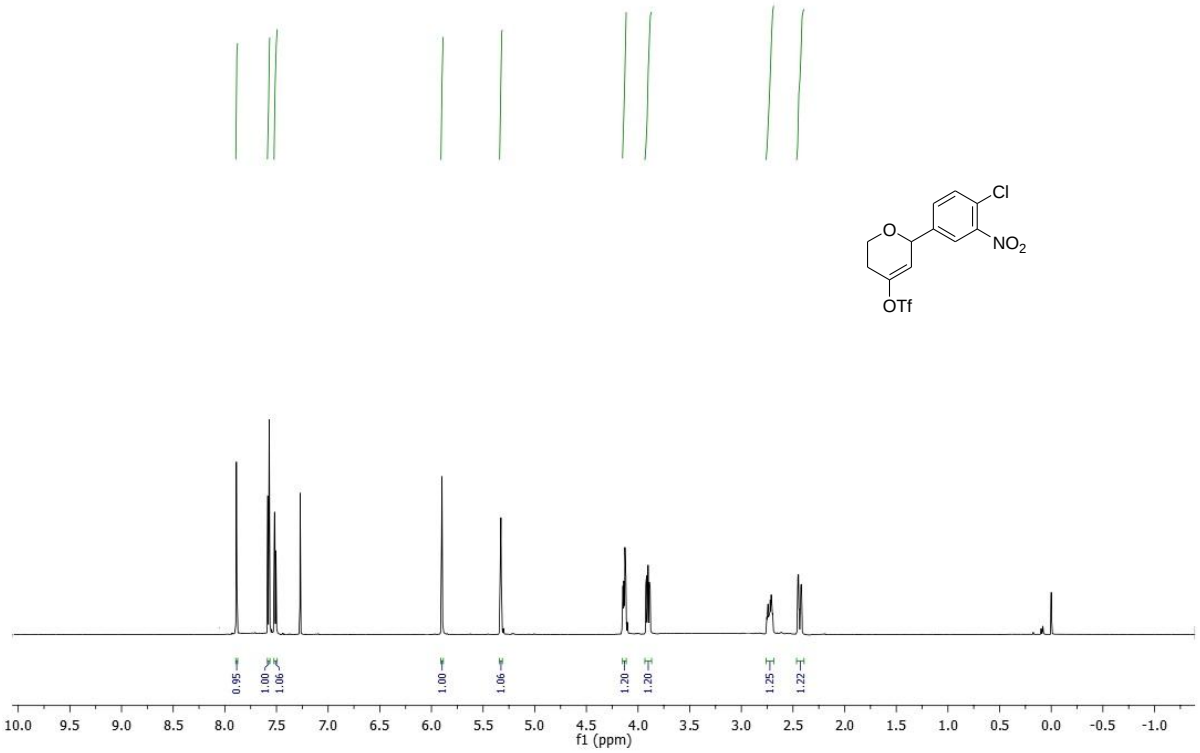
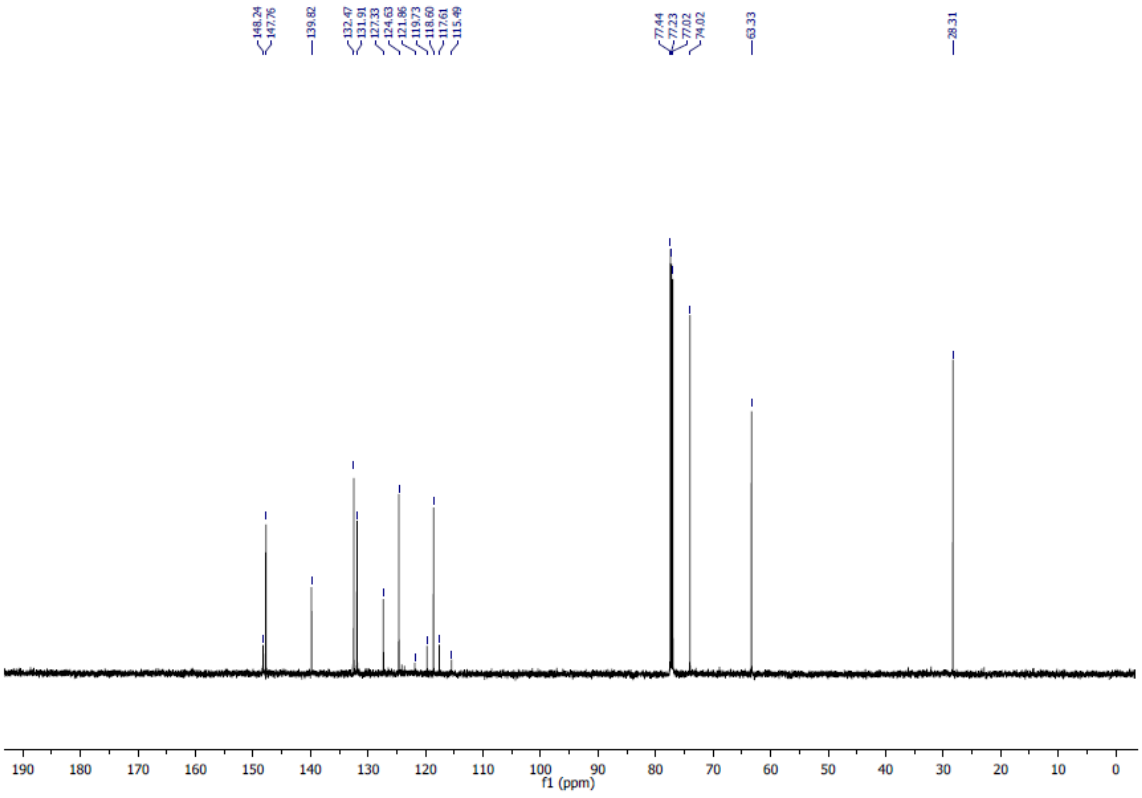
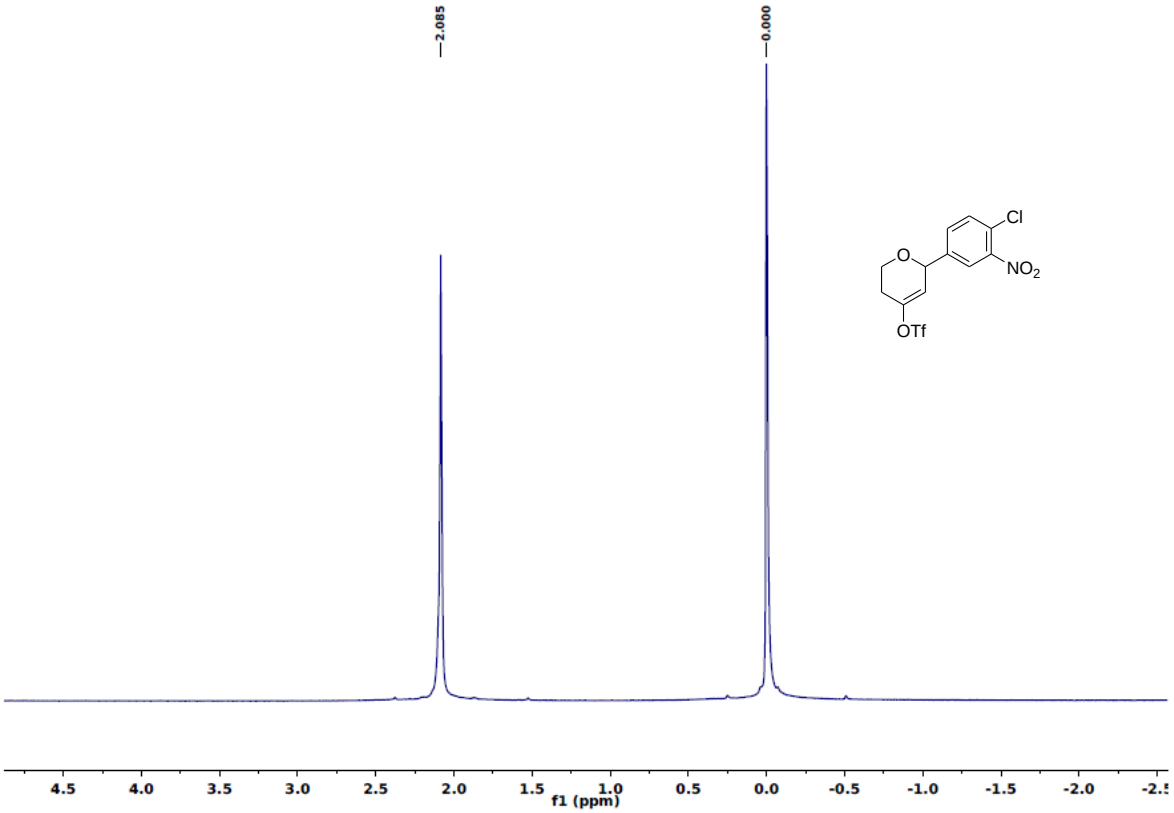
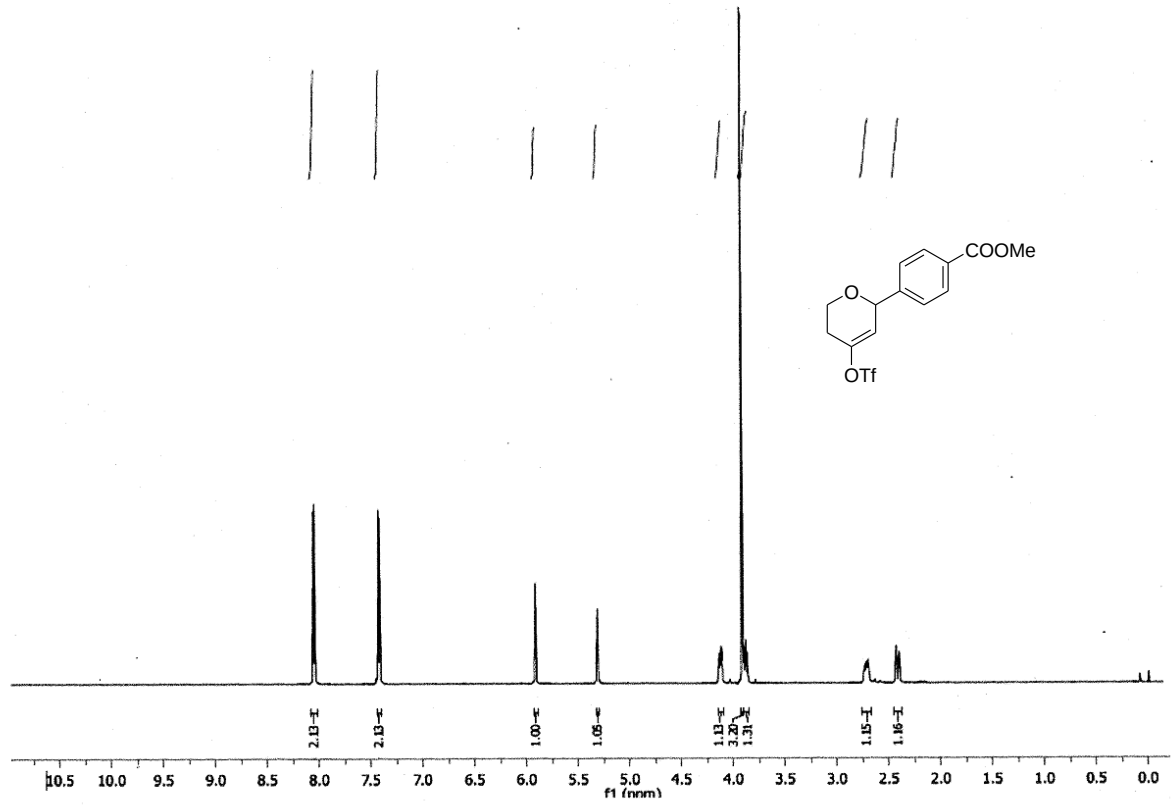


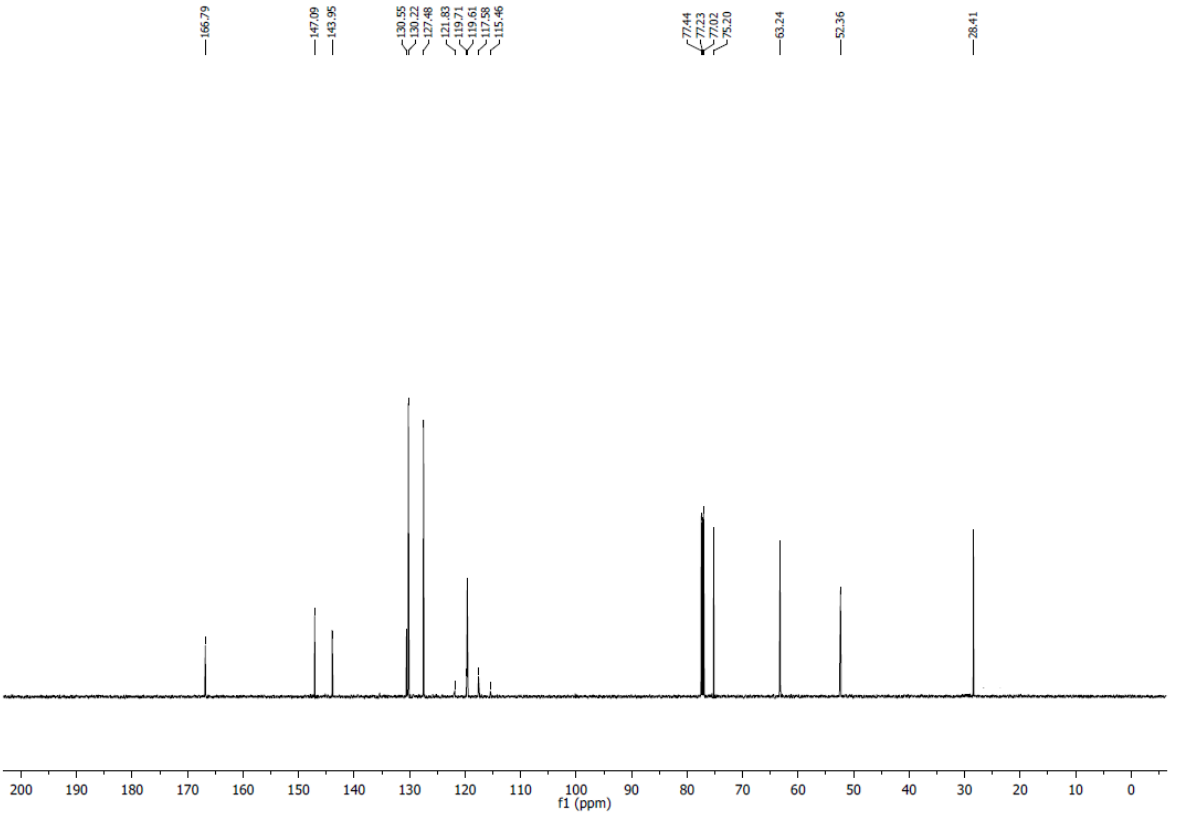


^{19}F NMR spectrum of compound 3l

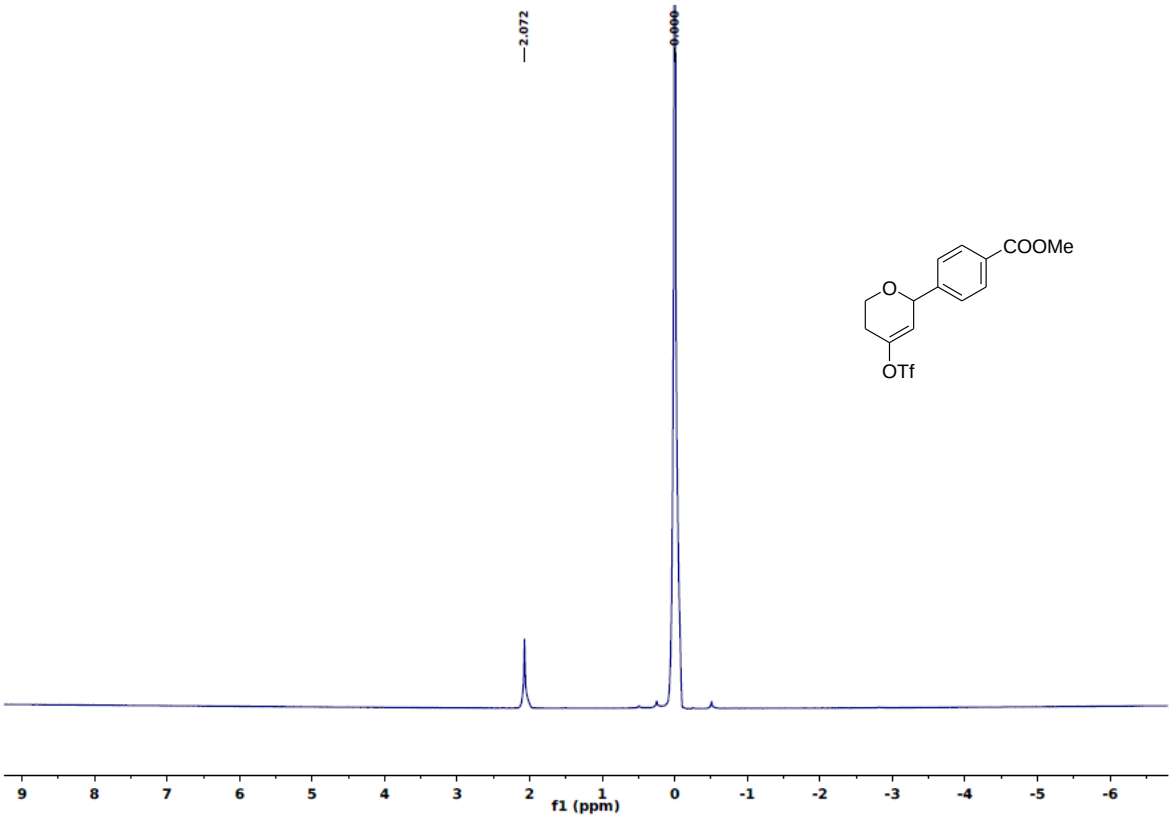


^{1}H NMR and ^{13}C NMR spectra of compound 3m





^{19}F NMR spectrum of compound 3m



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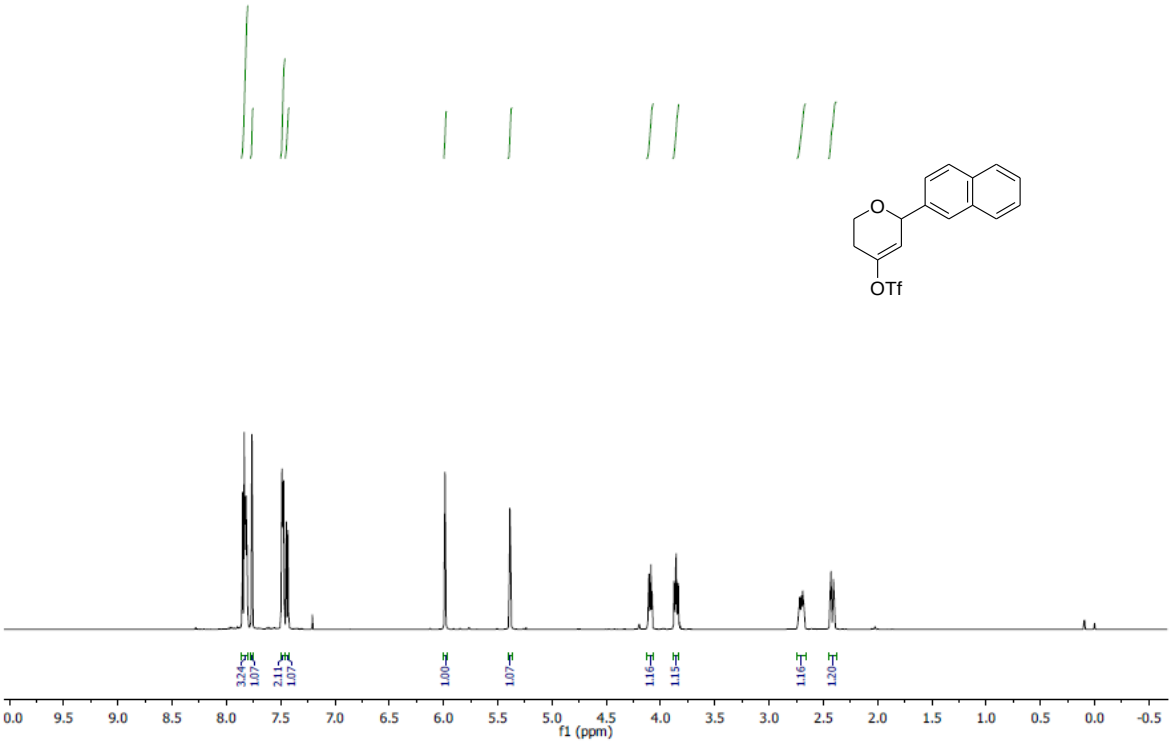
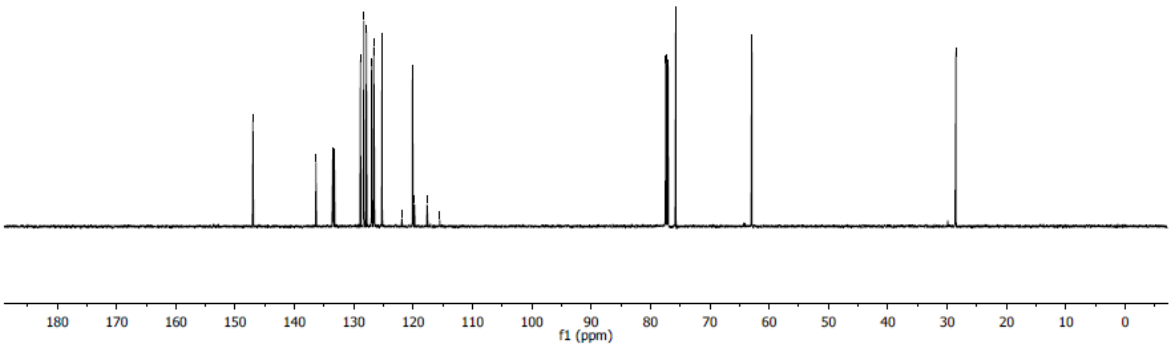
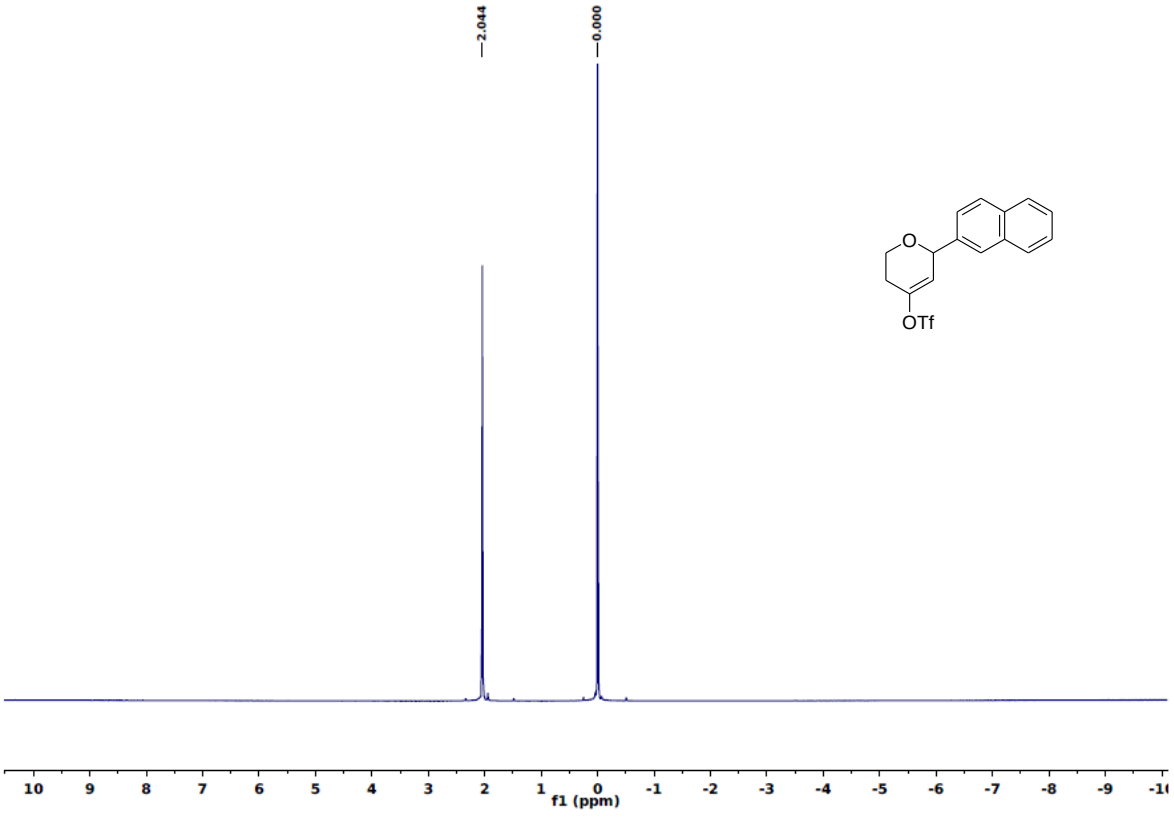
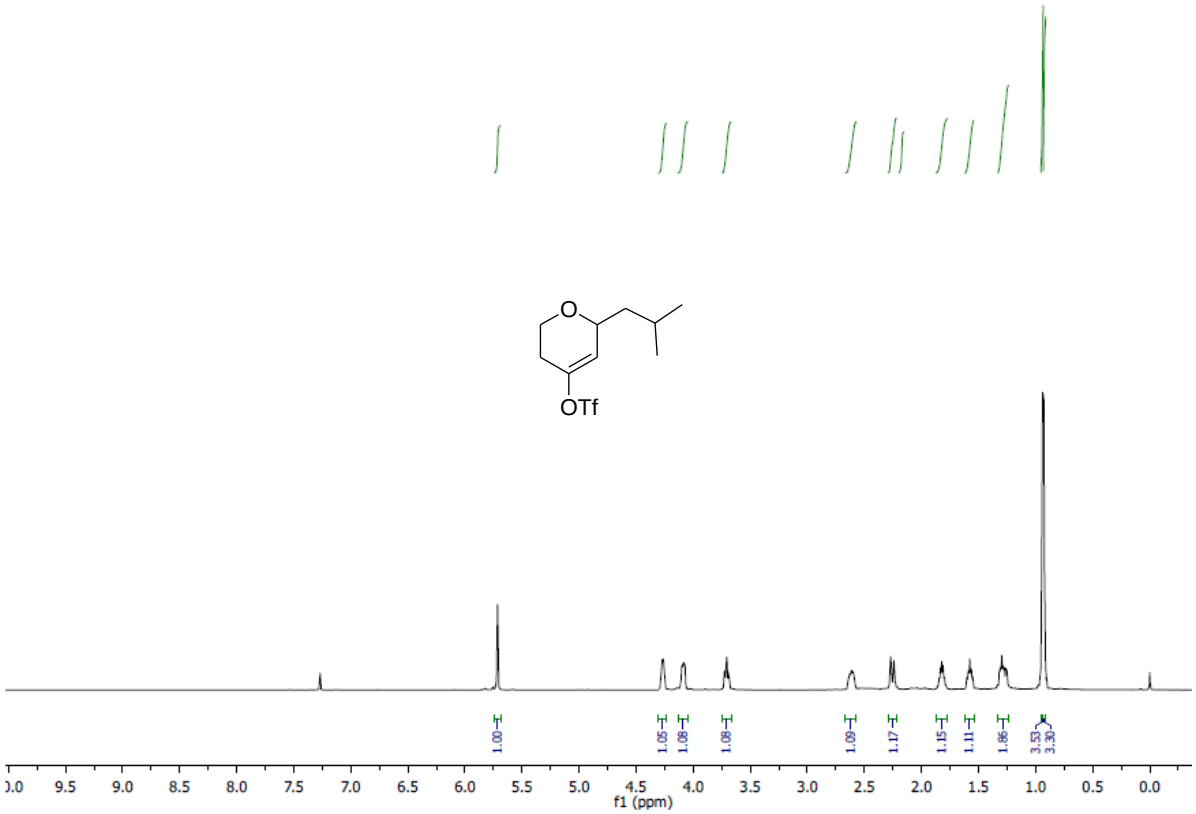


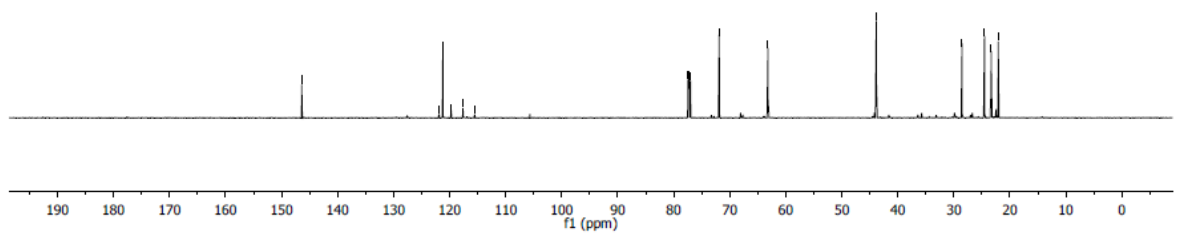


^{19}F NMR spectrum of compound 3n

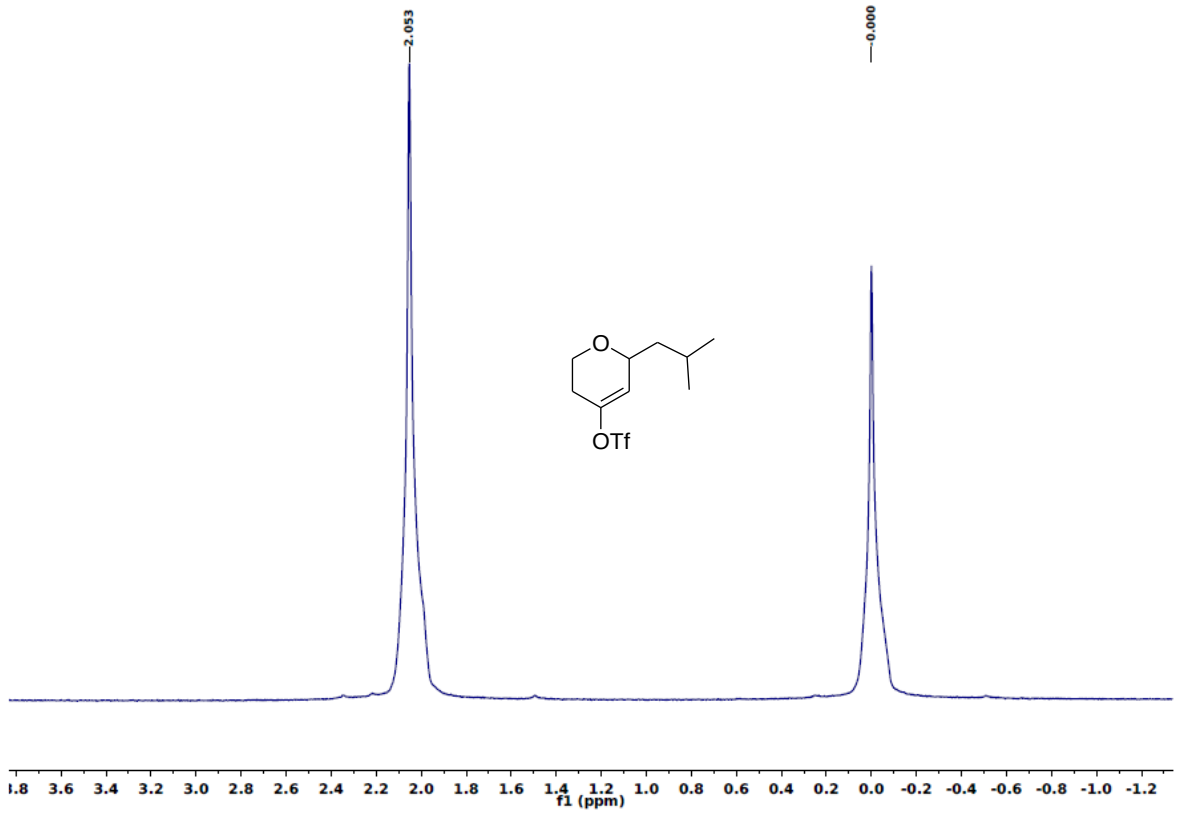


^{1}H NMR and ^{13}C NMR spectra of compound 3o





^{19}F NMR spectrum of compound 3o



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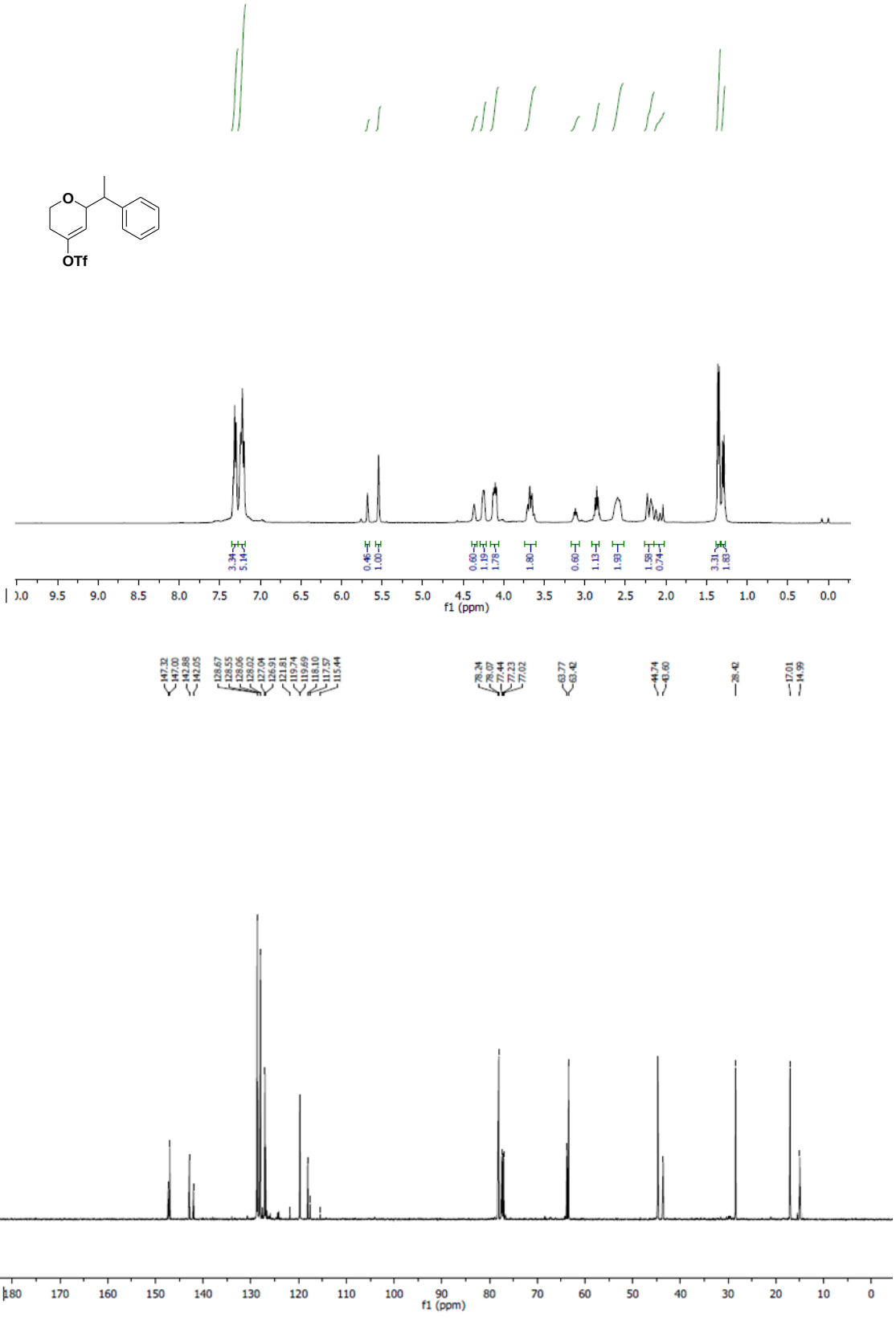
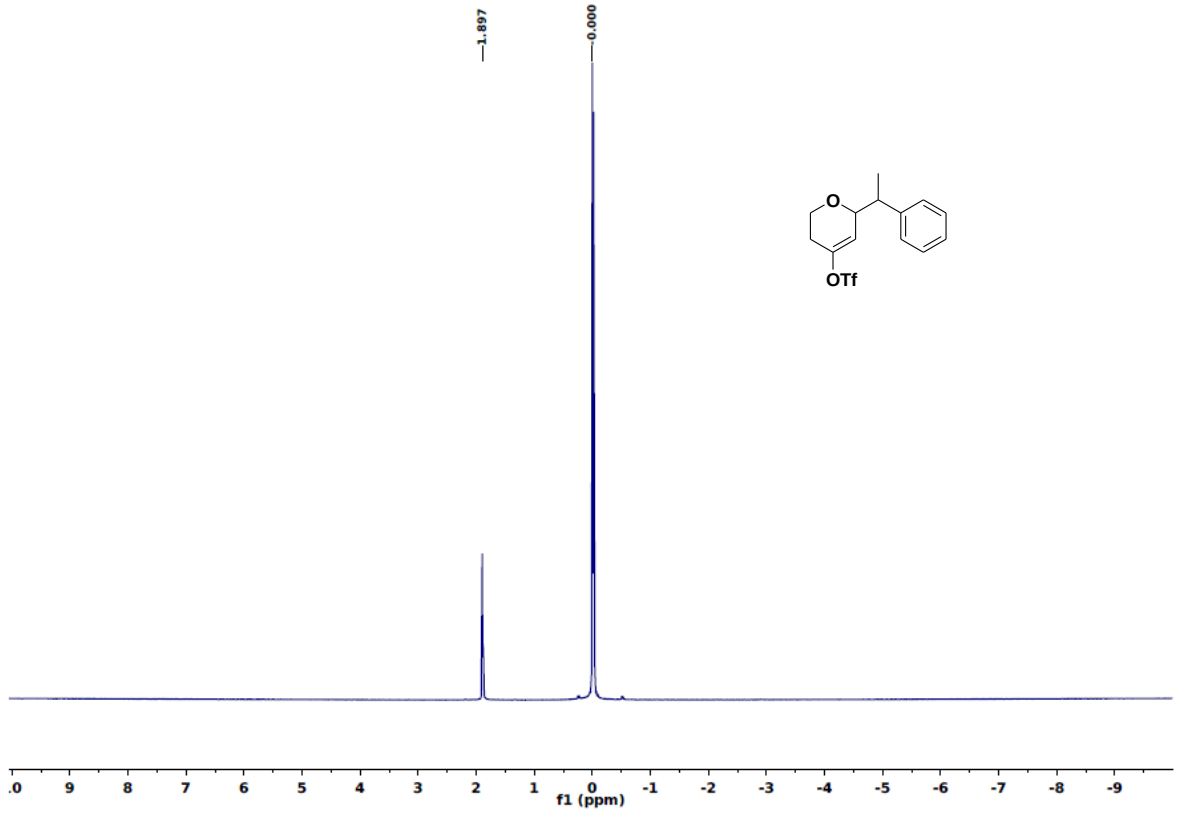
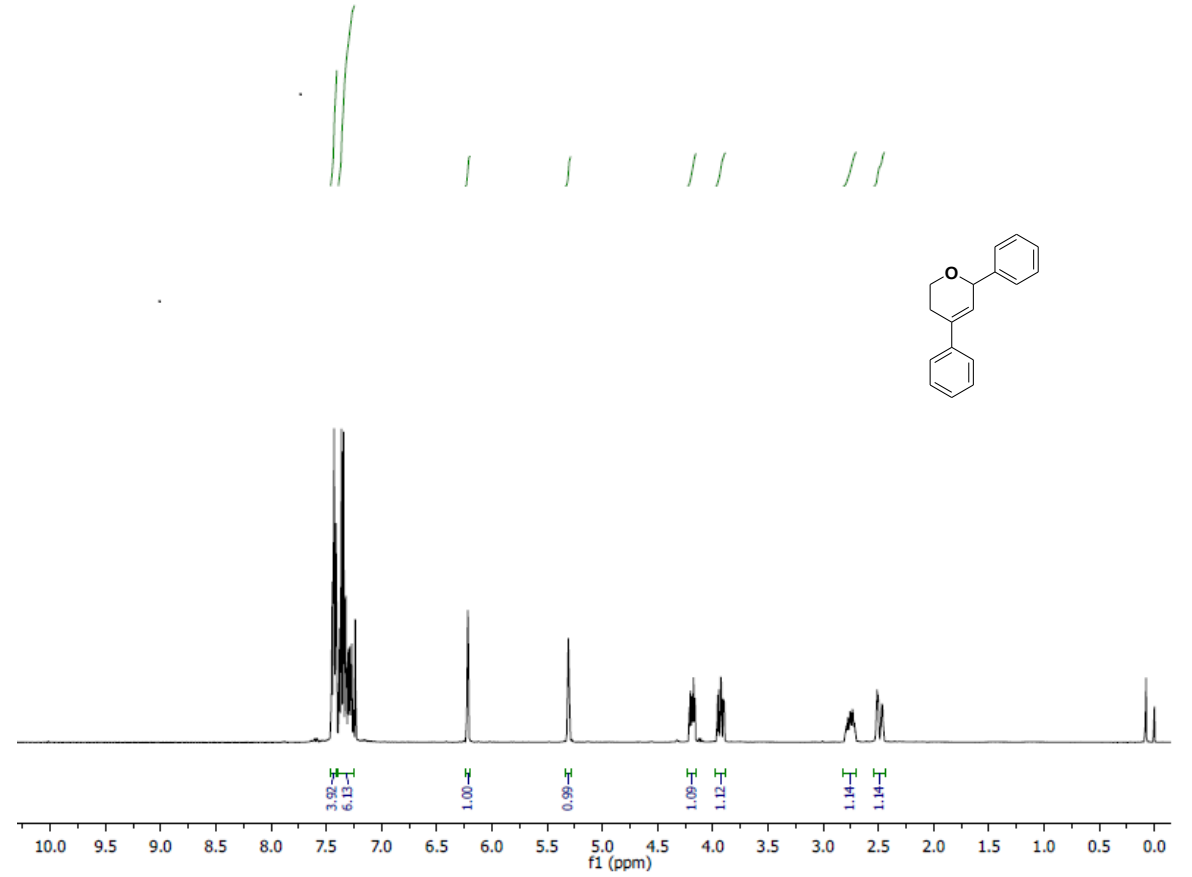
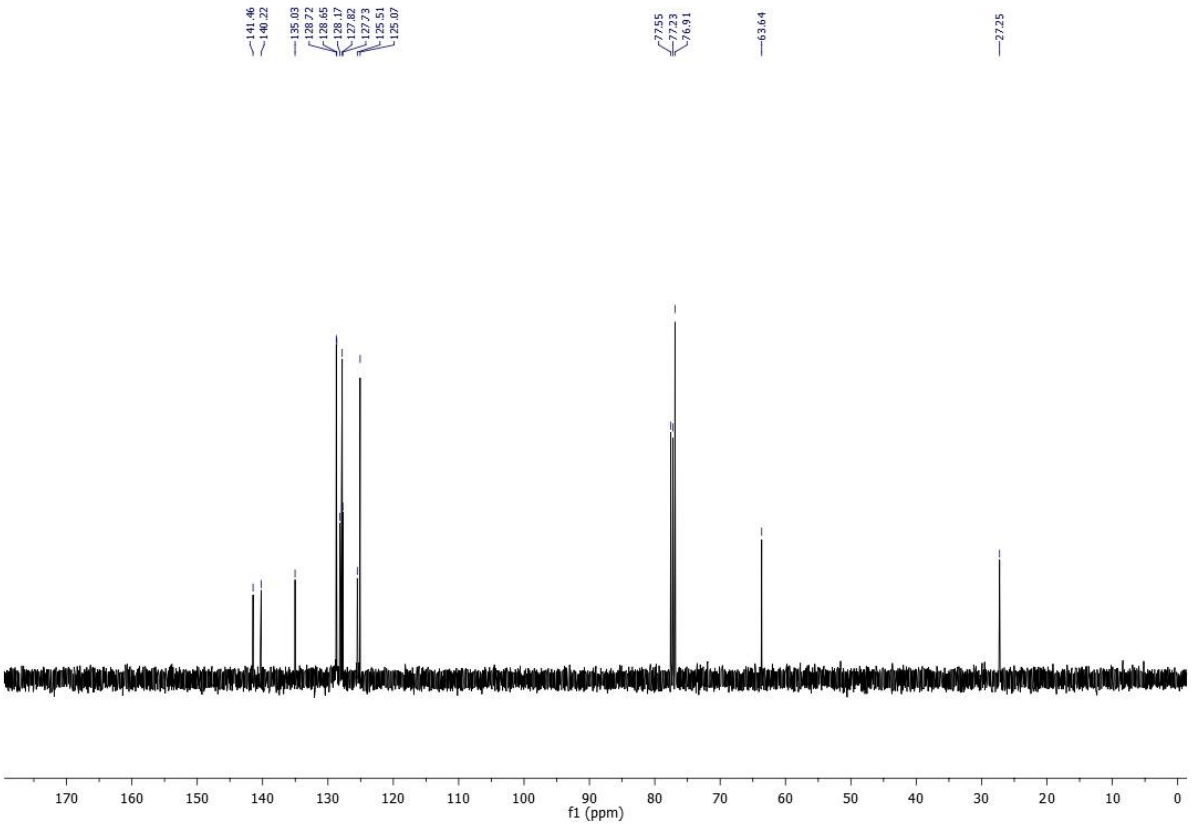


^{19}F NMR spectrum of compound 3p

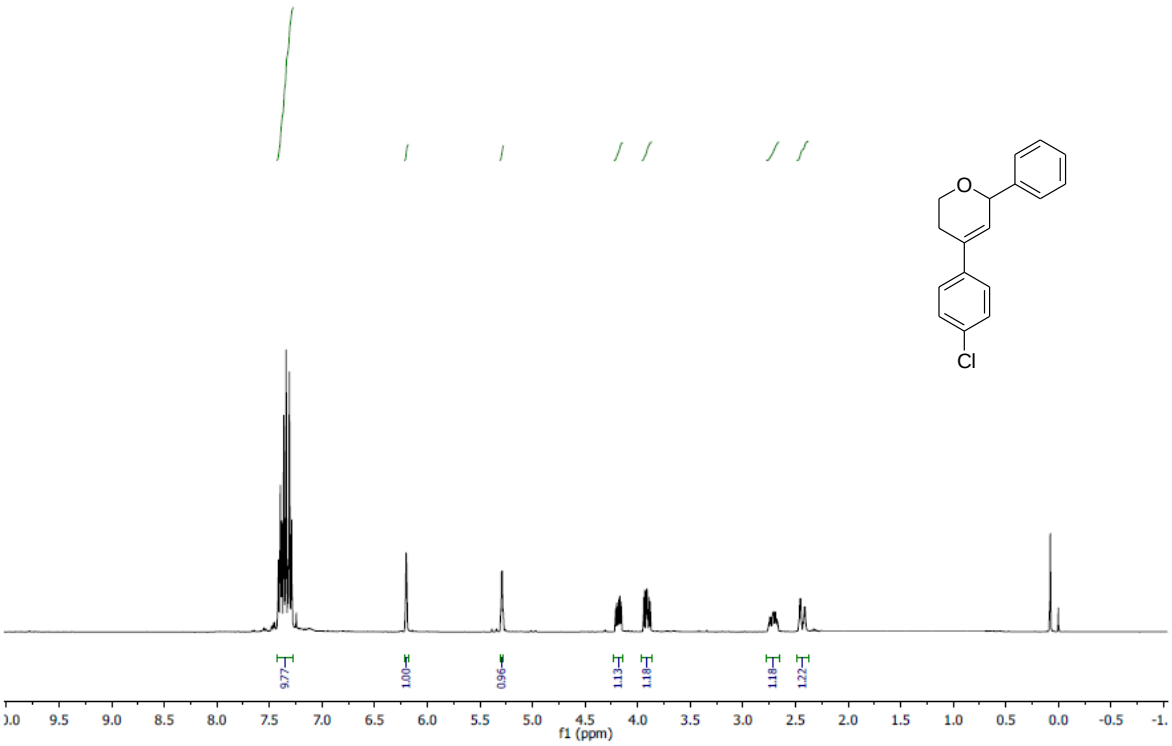


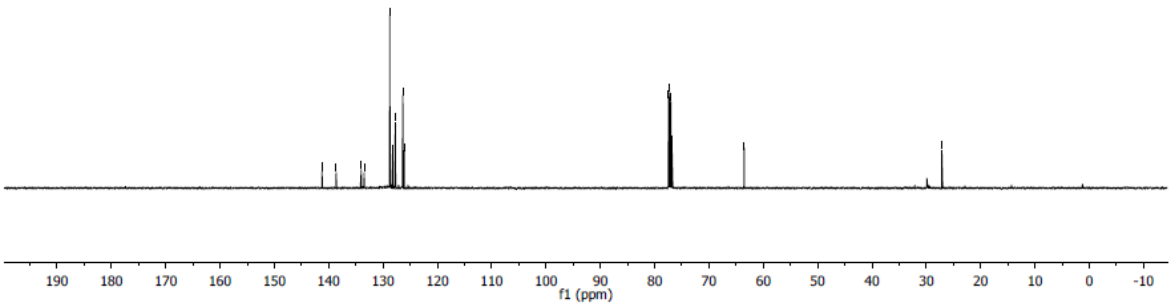
^{1}H NMR and ^{13}C NMR spectra of compound 8a



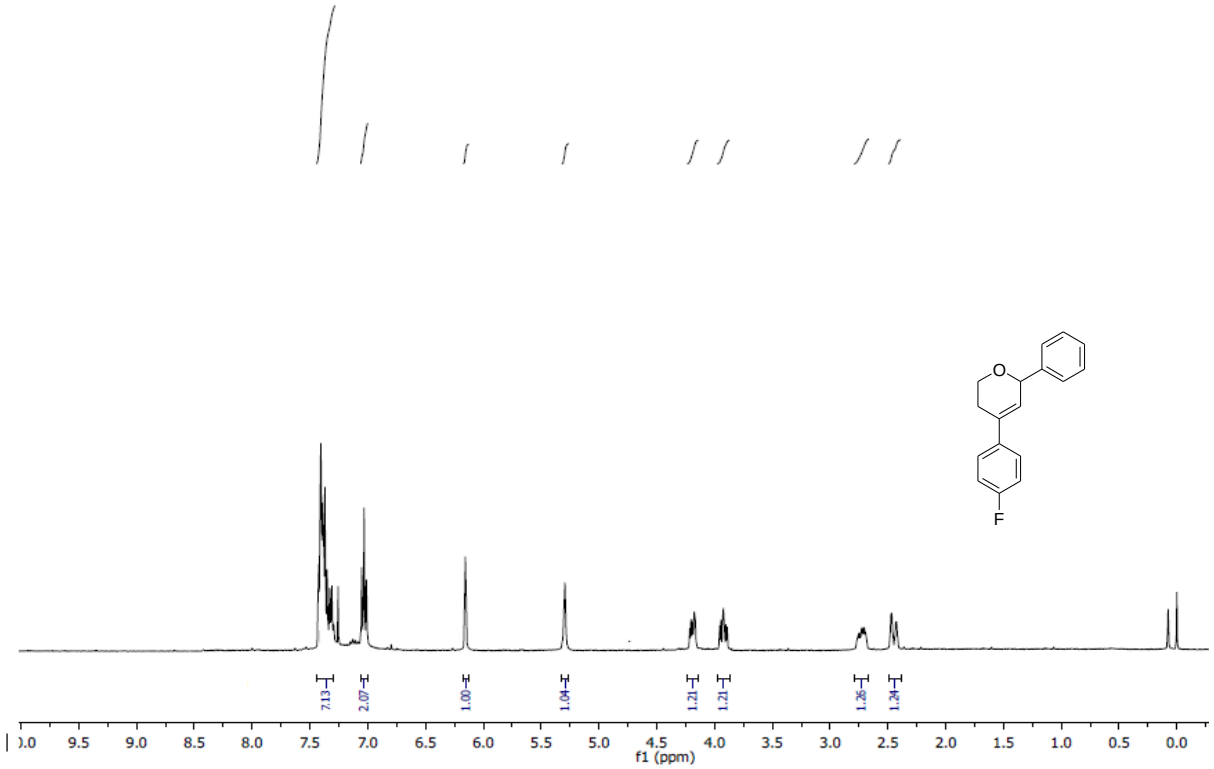


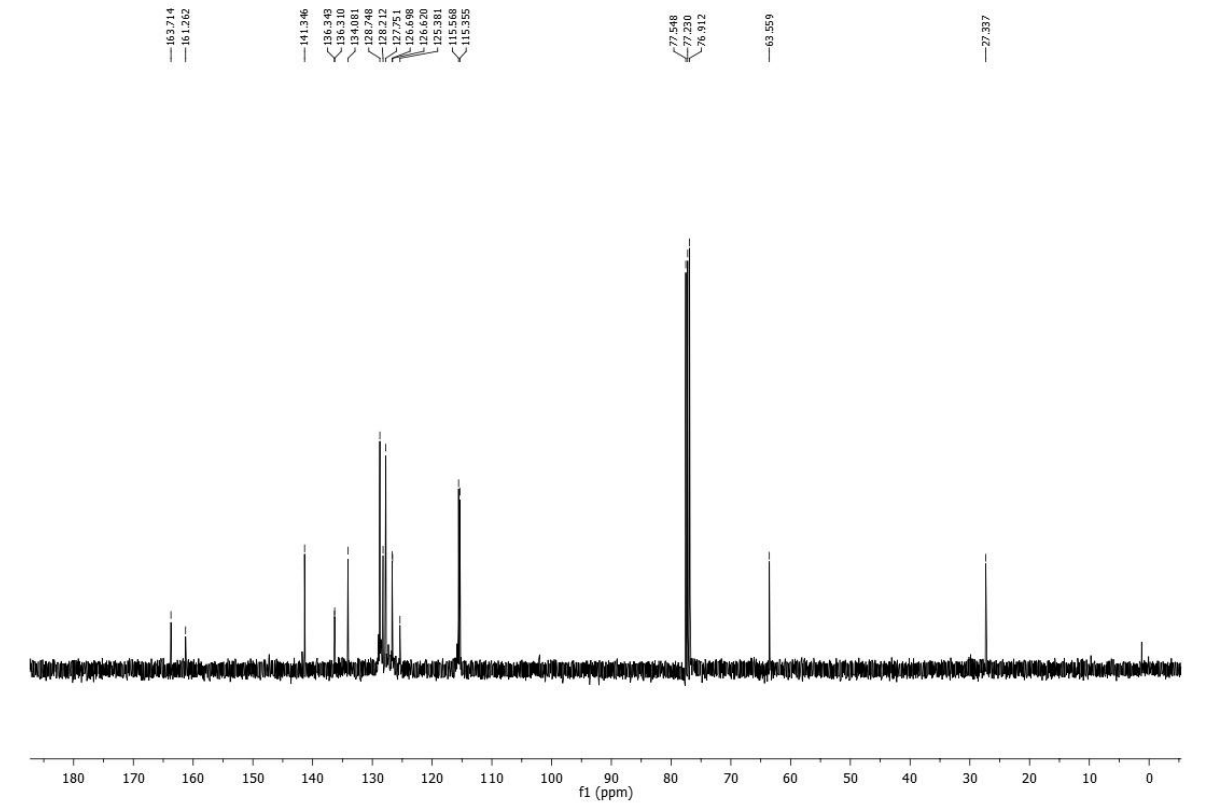
^{1}H NMR and ^{13}C NMR spectra of compound 8b



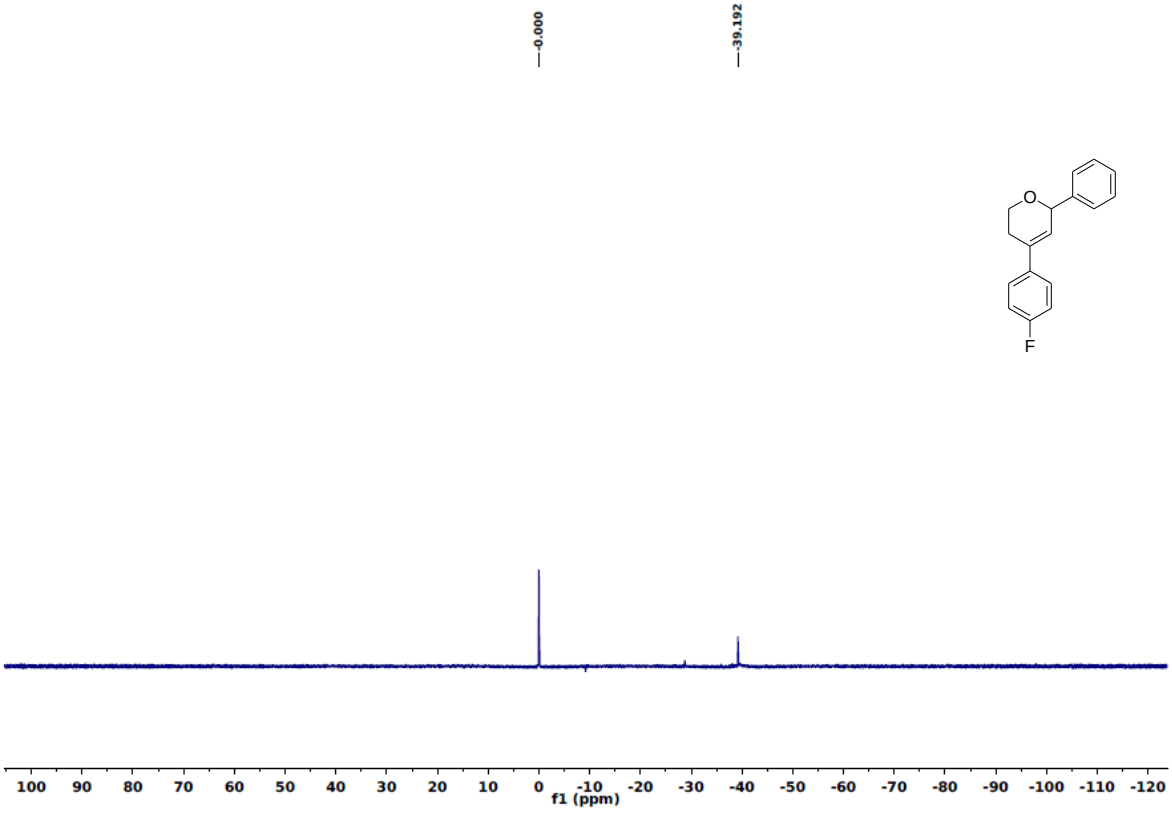


^{1}H NMR and ^{13}C NMR spectra of compound 8c

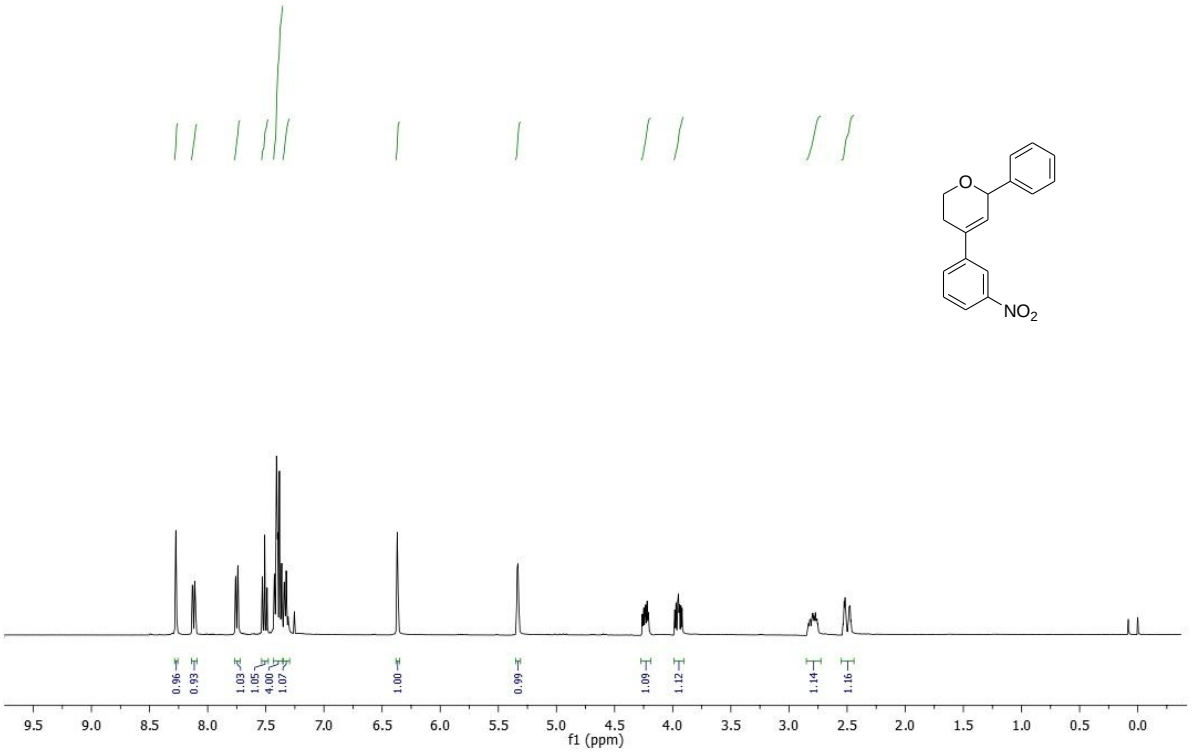


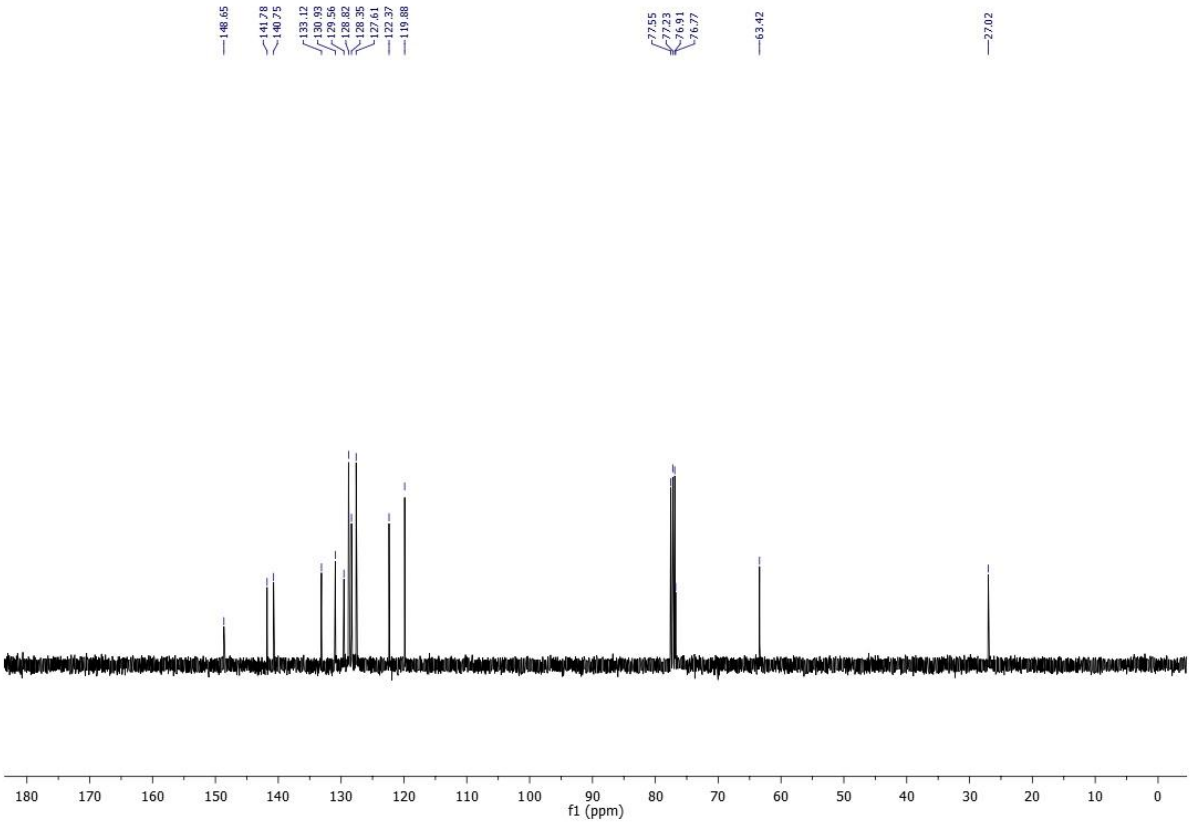


^{19}F NMR spectrum of compound 8c

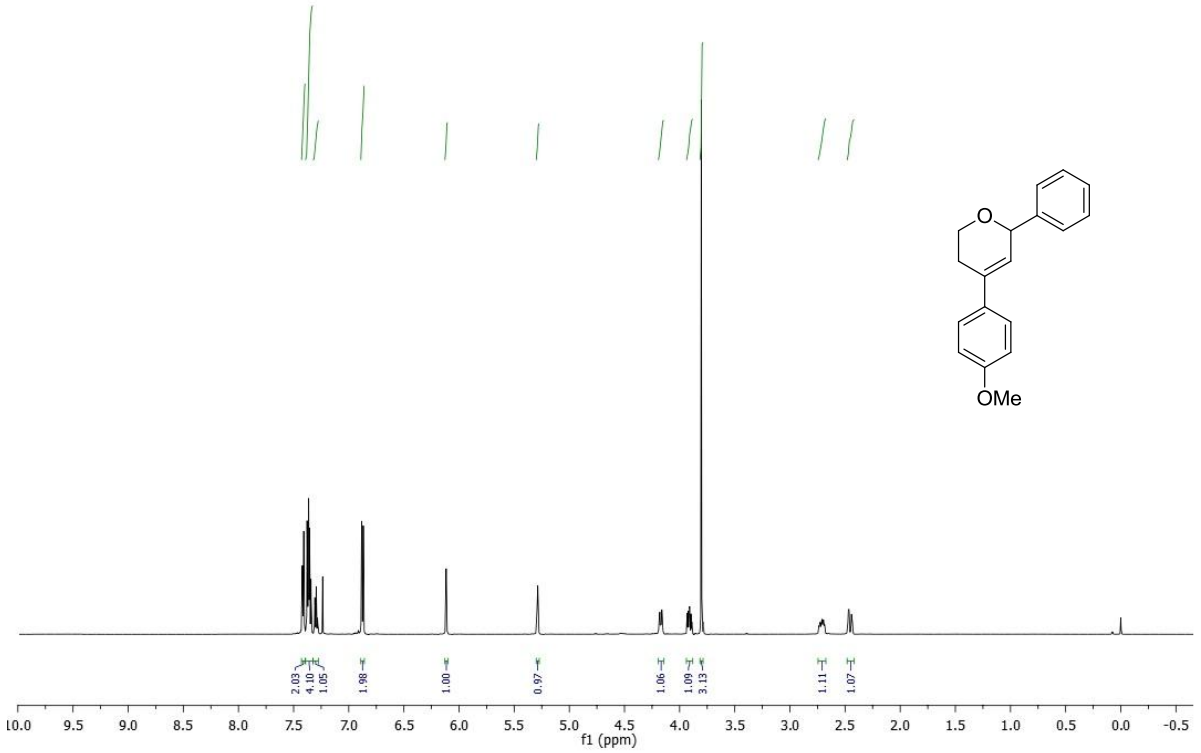


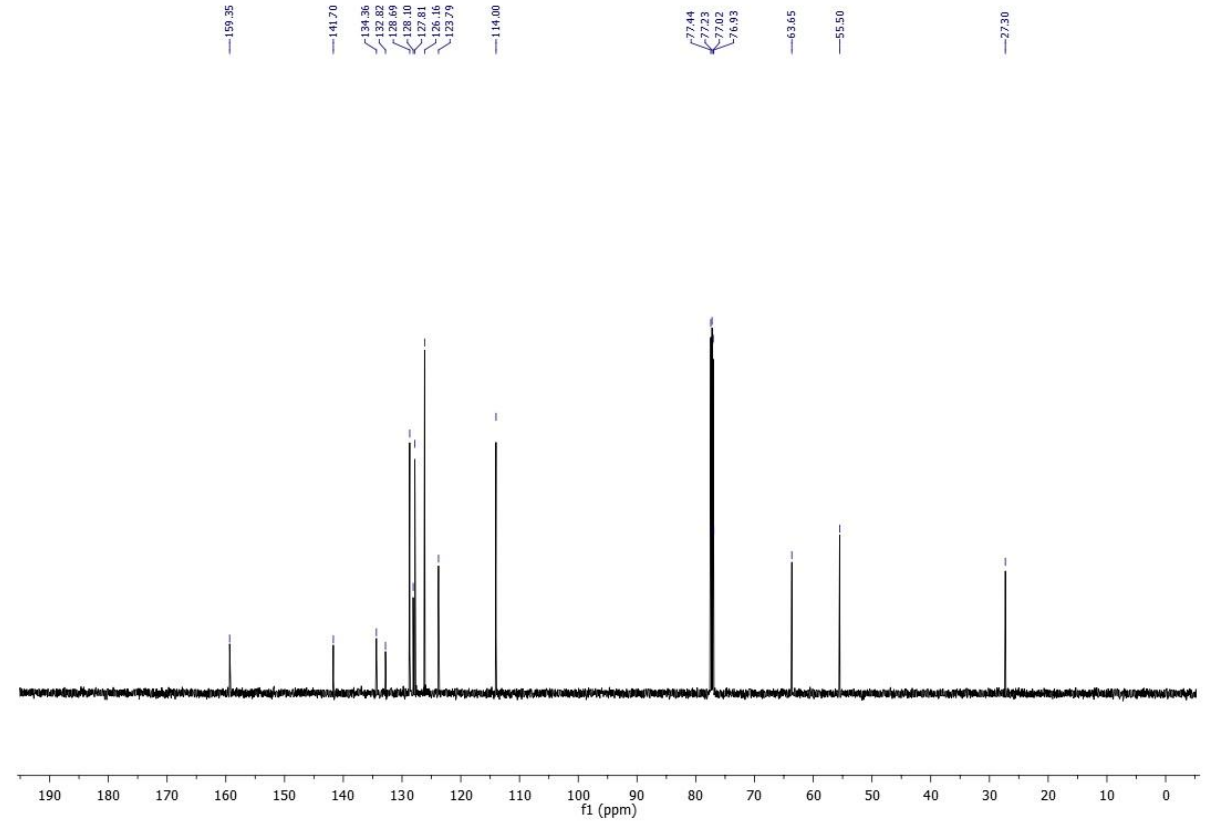
^{1}H NMR and ^{13}C NMR spectra of compound 8d



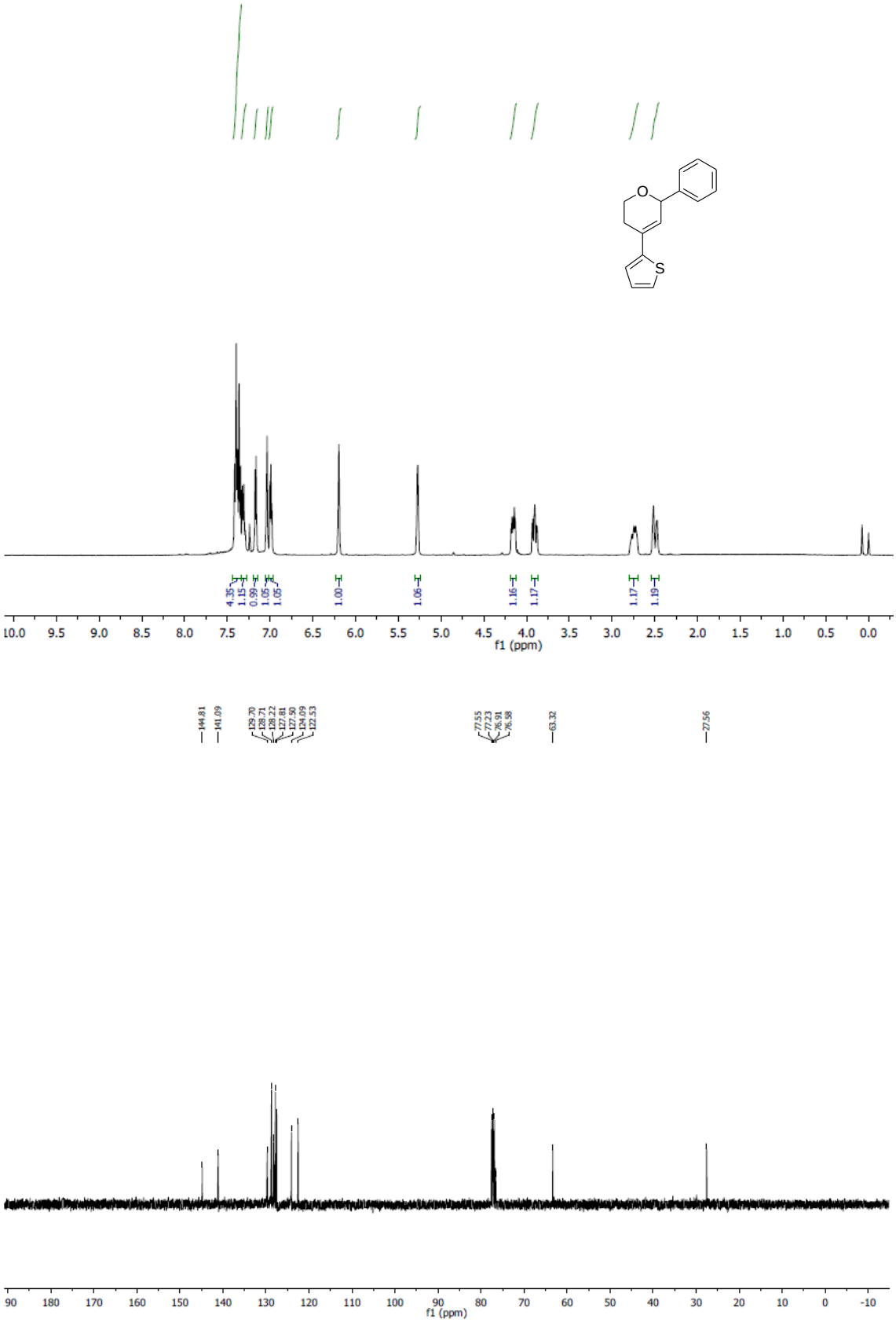


^{1}H NMR and ^{13}C NMR spectra of compound 8e

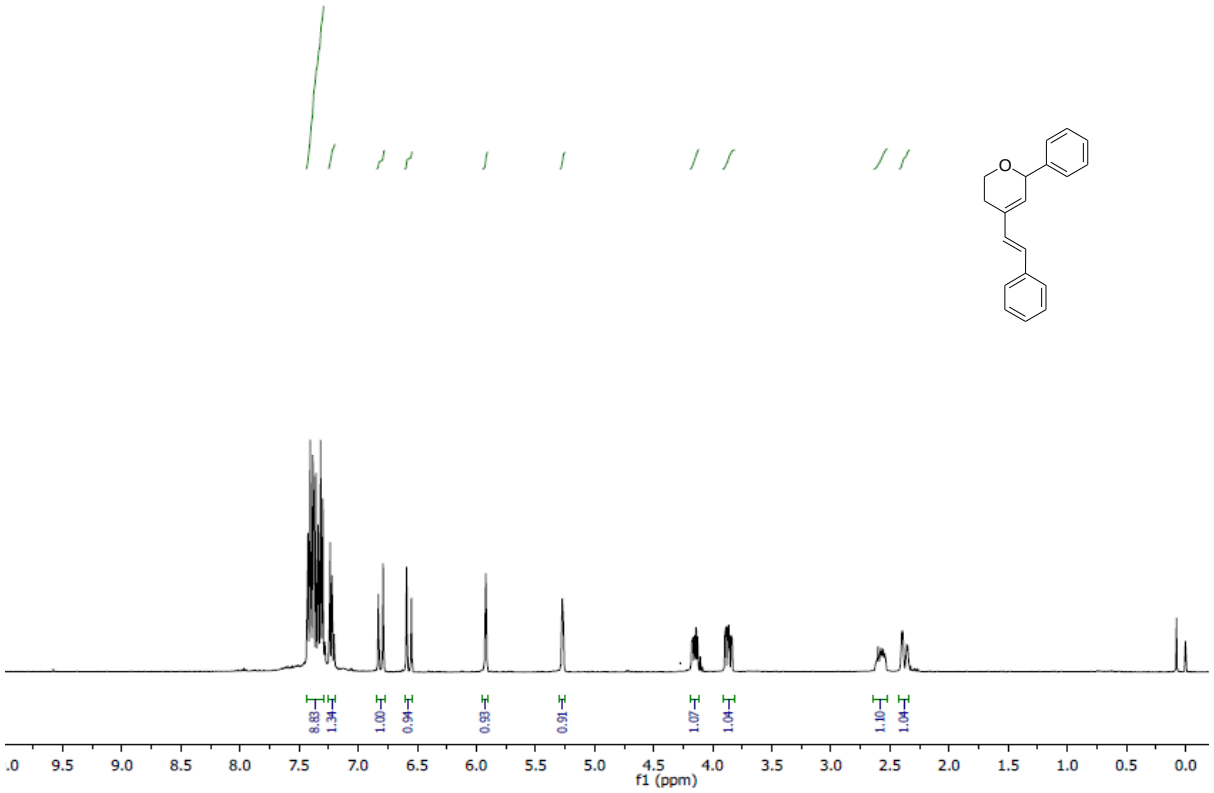


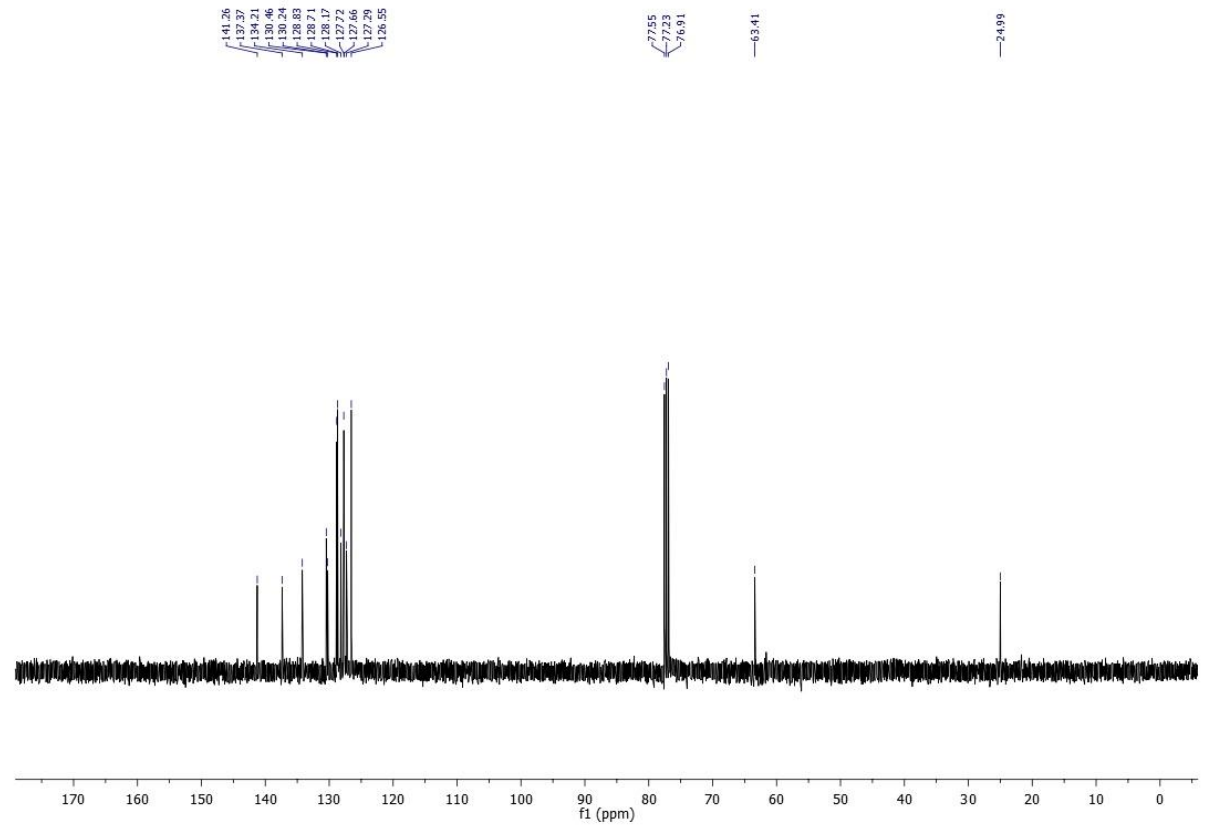


^{1}H NMR and ^{13}C NMR spectra of compound 8f

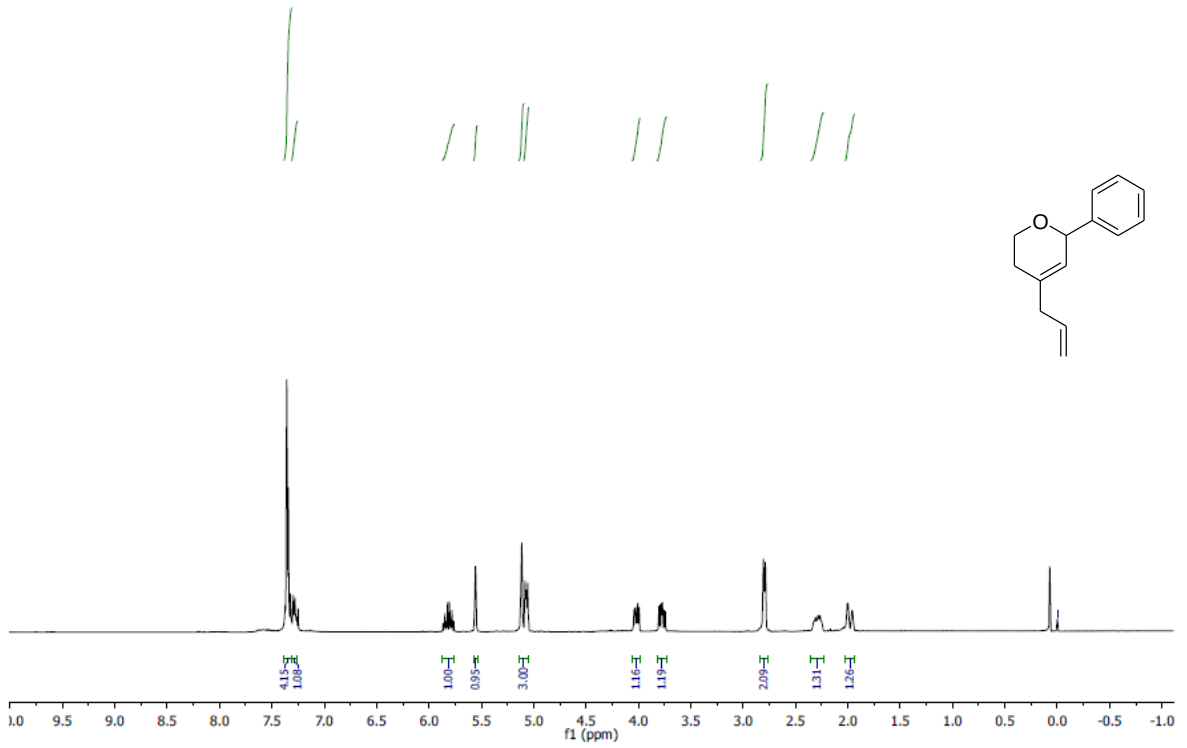


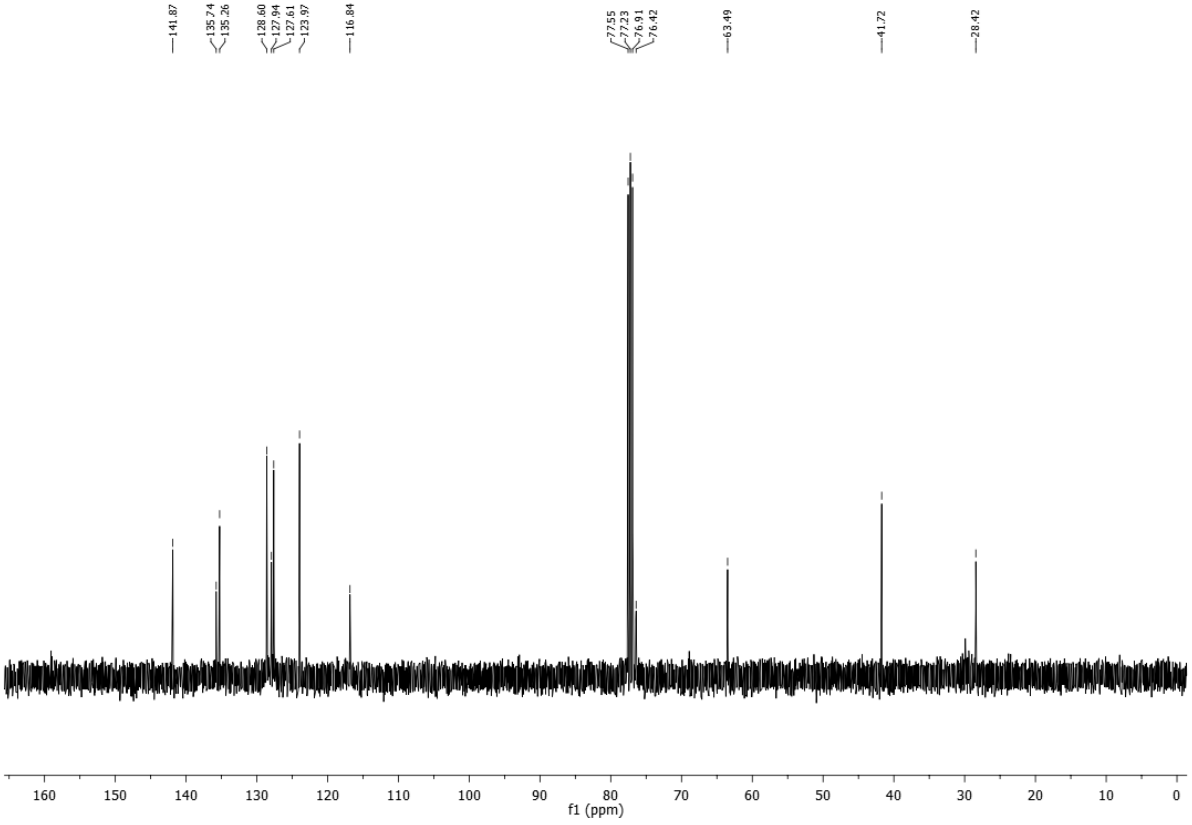
^{1}H NMR and ^{13}C NMR spectra of compound 9



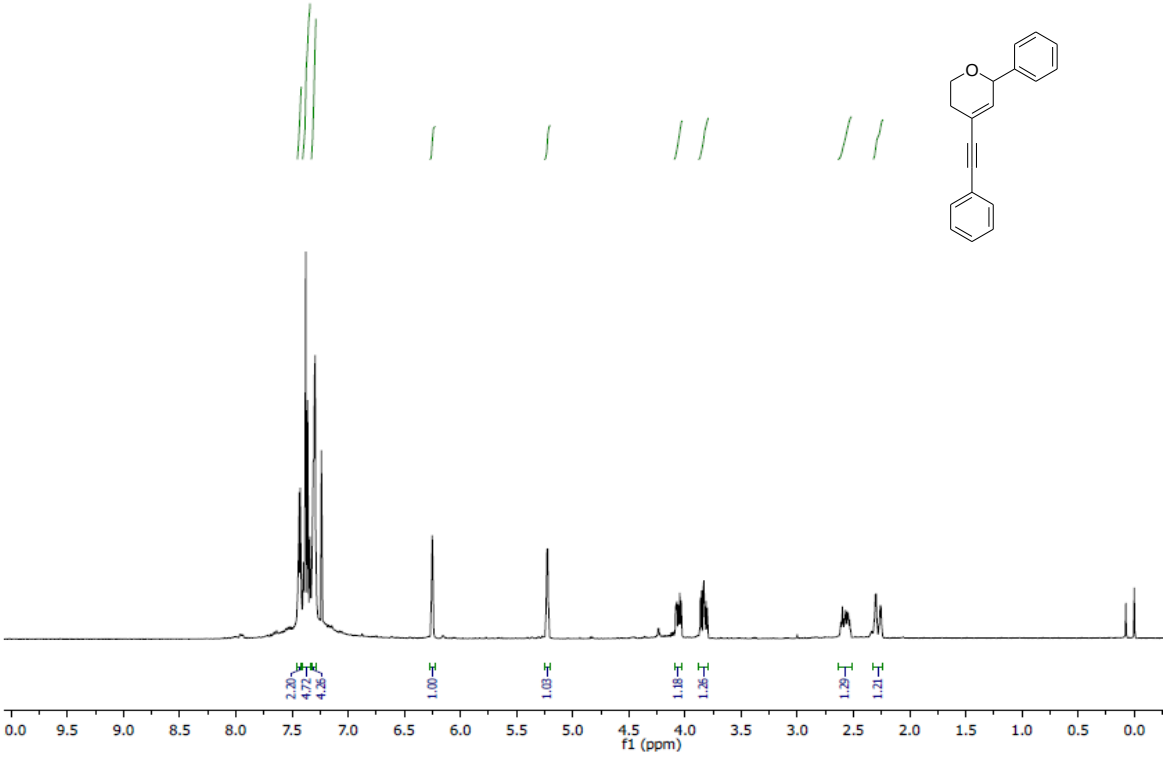


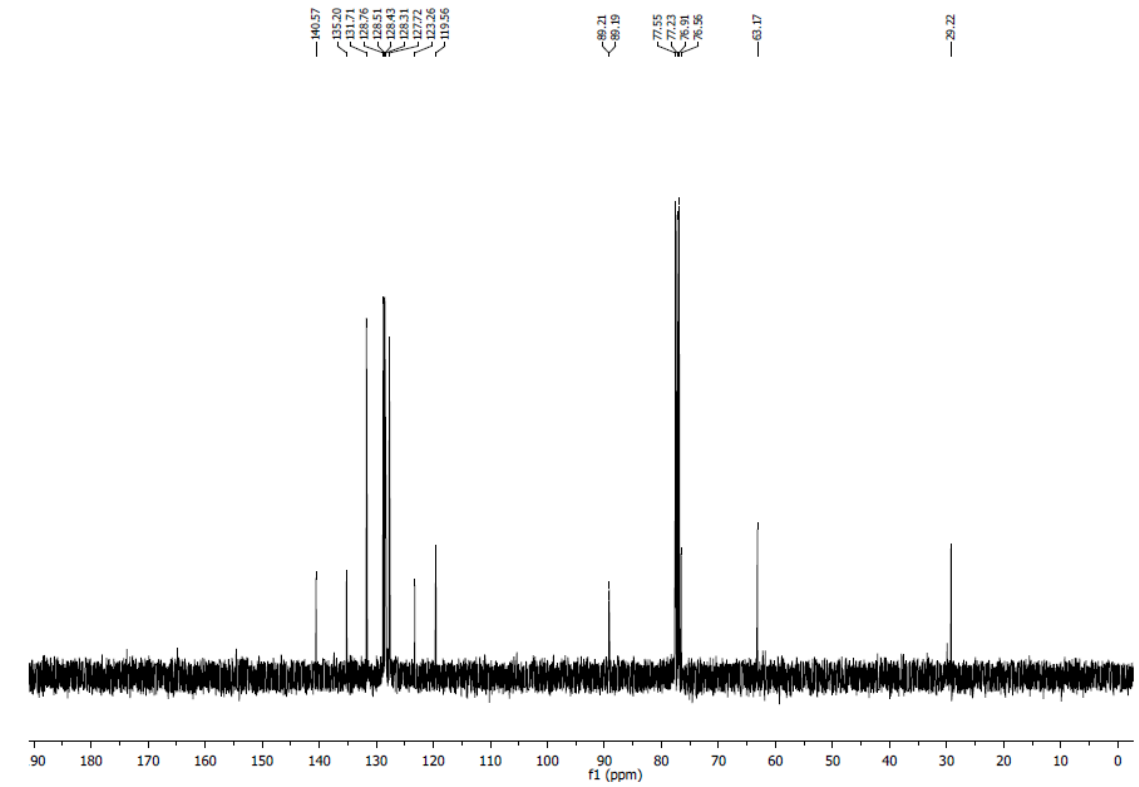
^{1}H NMR and ^{13}C NMR spectra of compound 10





^{1}H NMR and ^{13}C NMR spectra of compound 11





The crystal parameters of compound **3n**

	CCDC 1433323
Formula	$C_{16}H_{13}F_3O_4S$
Formula weight	358.32
T/K	296(2)
Crystal system	Monoclinic
Space group	P21
a/Å	5.8732(3)
b/Å	8.2240(4)
c/Å	33.7553(17)
α/°	90.00
β/°	94.151(3)
γ/°	90.00
V/Å^3	1626.14(14)
Z	4
Abs. Coeff./mm^{-1}	0.248
Abs. Correction	multi-scan
GOF on F^2	1.041
Final *R* indices [$I > 2\sigma(I)$]	*R1* = 0.1452
	wR2 = 0.2197
R indices [all data]	*R1* = 0.2008
	wR2 = 0.2402

ORTEP diagram of compound **3n** with 50% ellipsoid probability