

Supplementary Materials

Enantioselective 5-*exo*-Fluorocyclization of Ene-Oximes

Taiki Rouno, Tomoki Niwa, Kousuke Nishibashi, Nobuharu Yamamoto, Hiromichi Egami, and
Yoshitaka Hamashima*

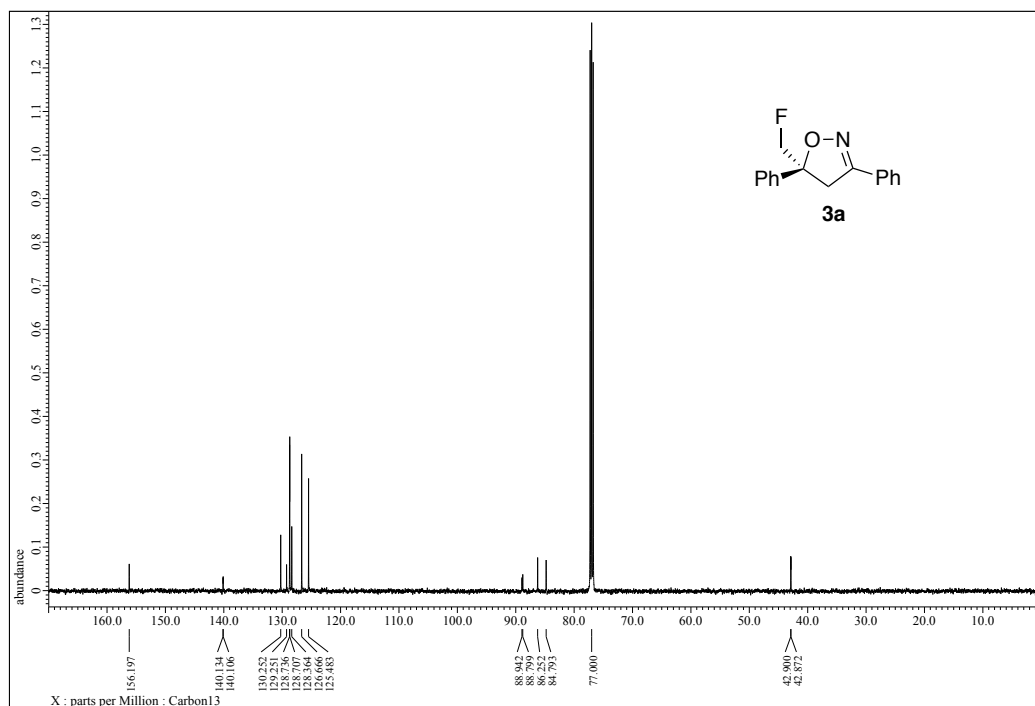
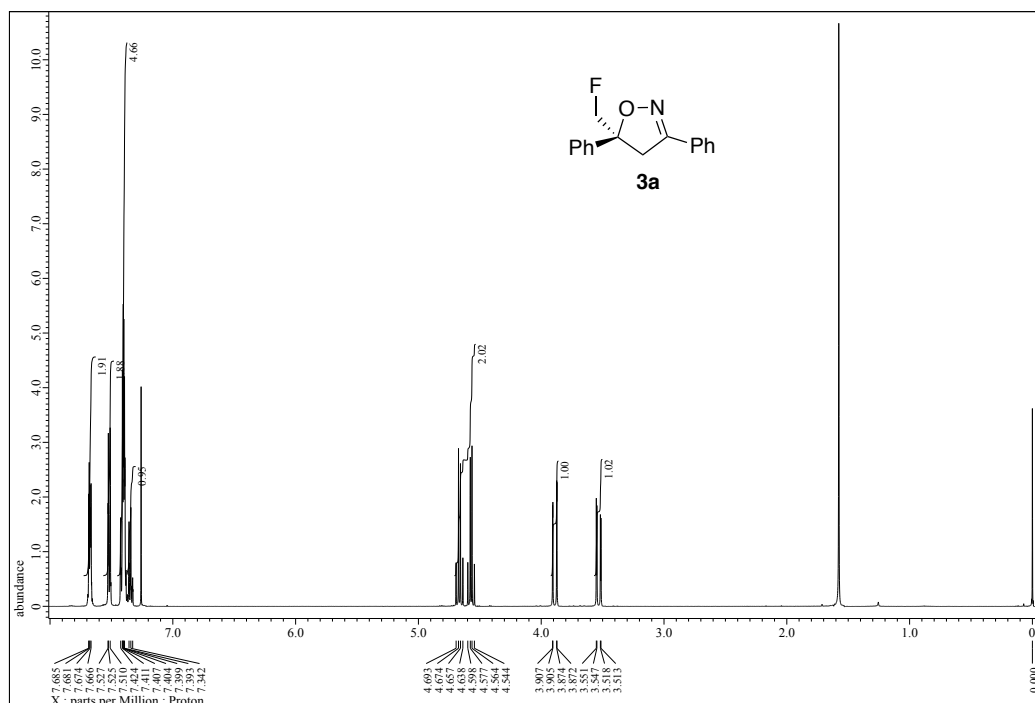
*School of Pharmaceutical Sciences, University of Shizuoka, 52-1 Yada, Suruga-ku, Shizuoka
422-8526, Japan*

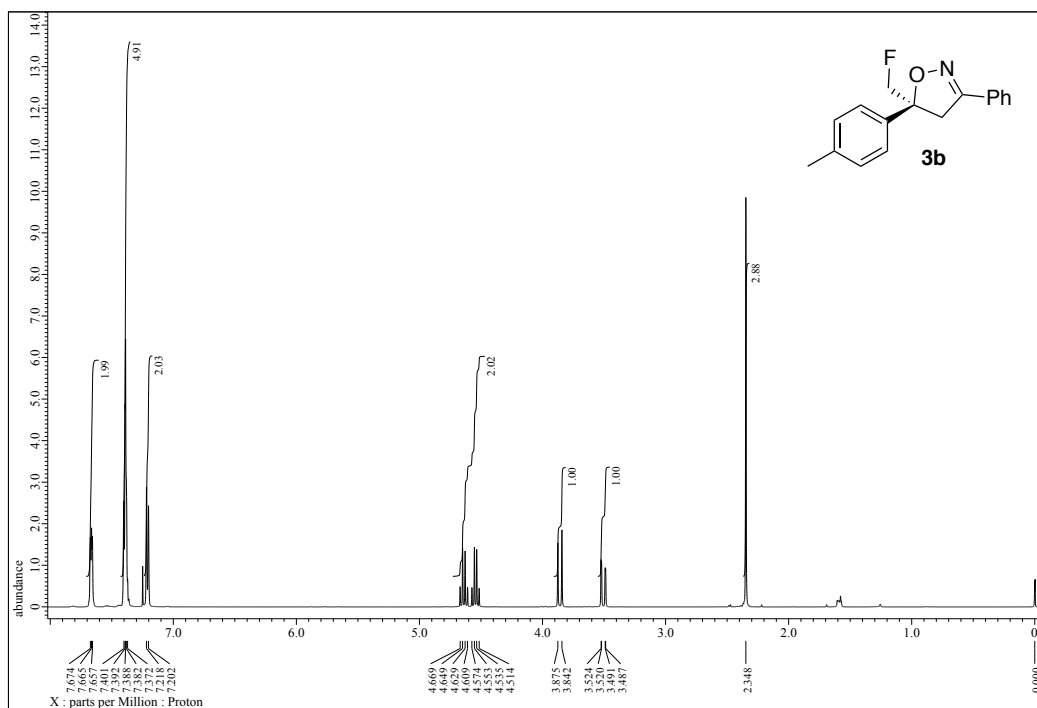
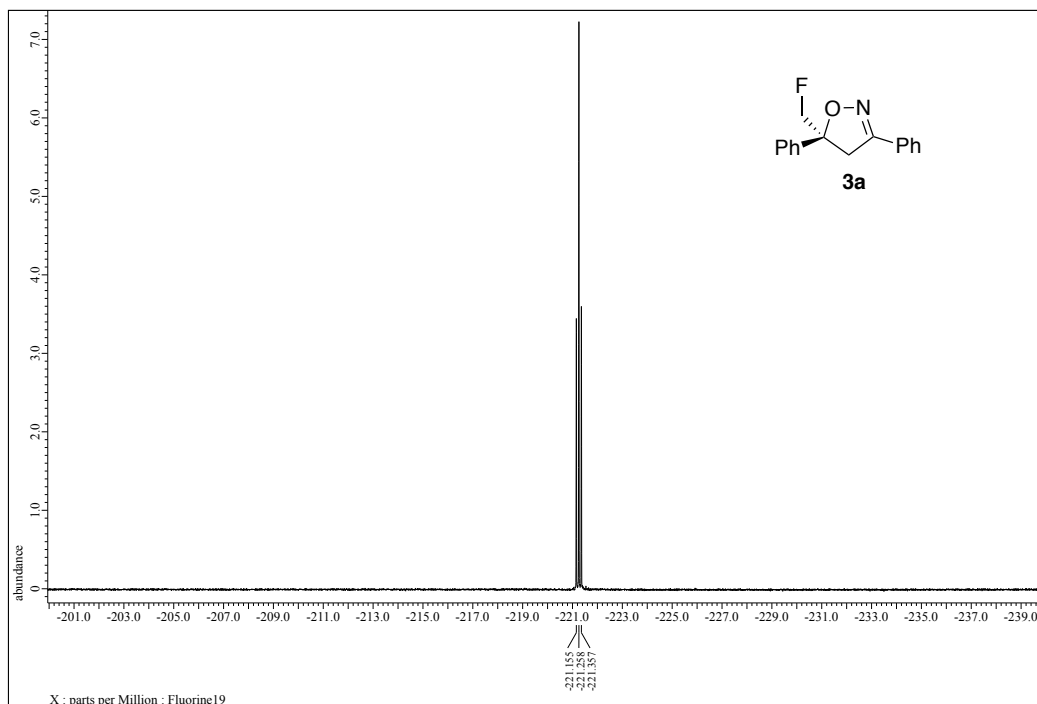
**Correspondence: hamashima@u-shizuoka-ken.ac.jp*

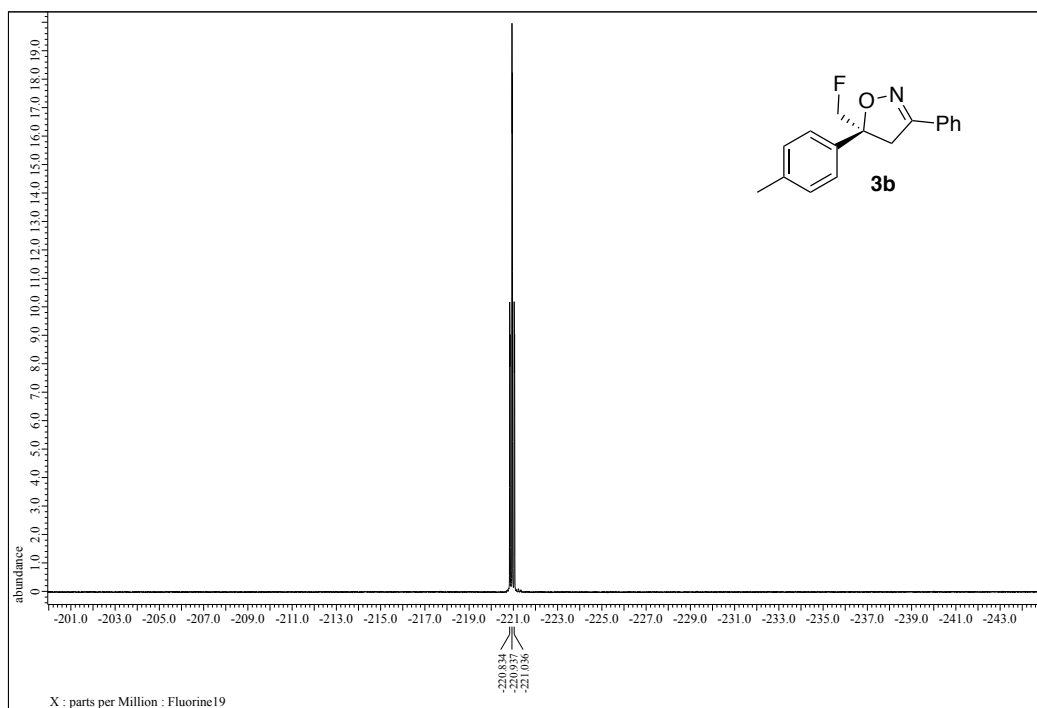
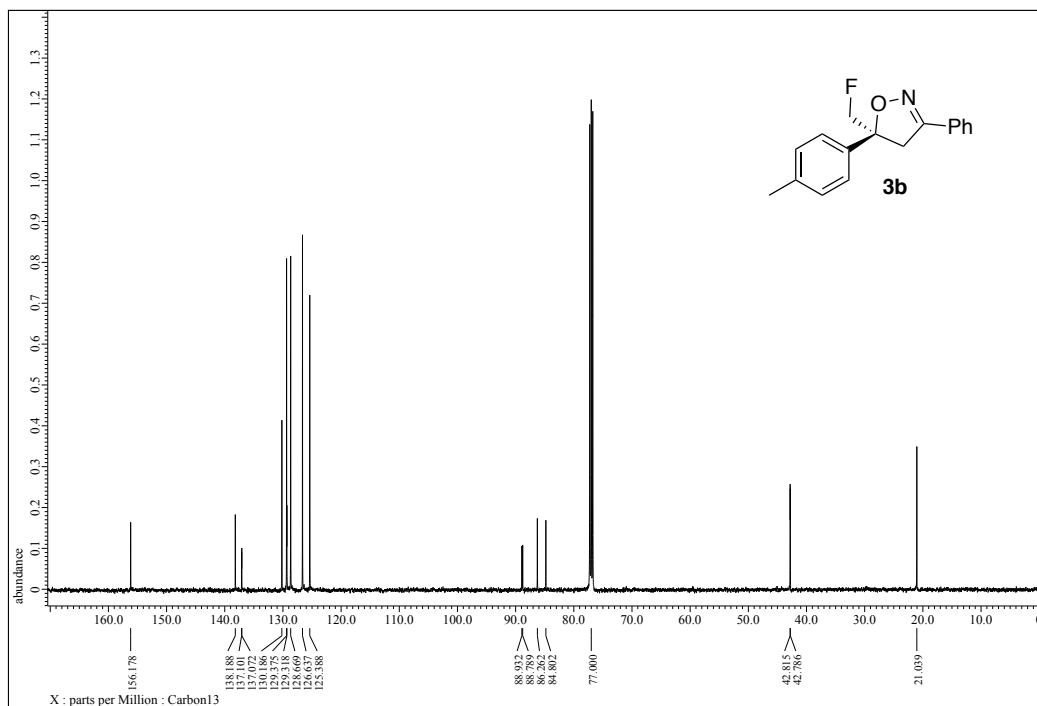
Table of Contents

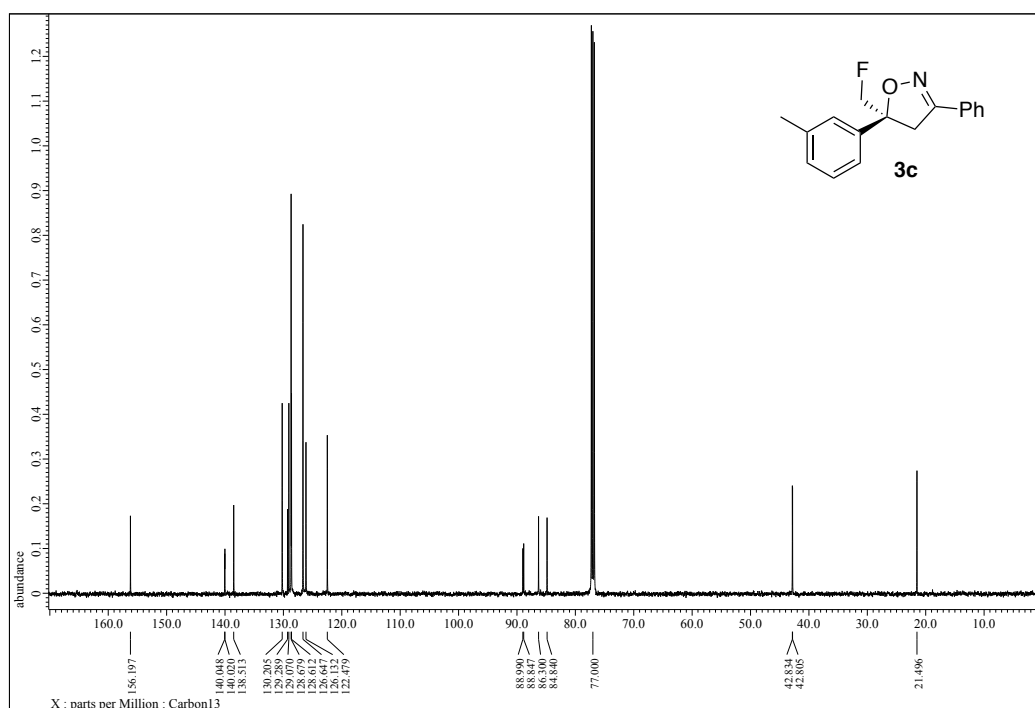
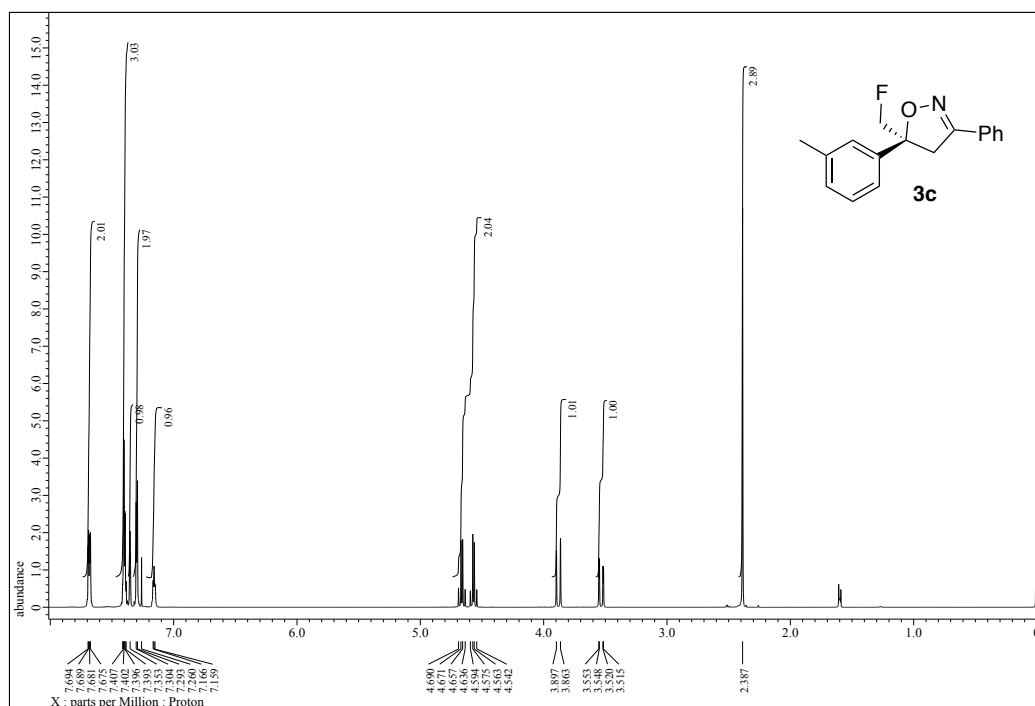
1. ^1H , ^{13}C , and ^{19}F NMR spectra of compounds **3**
2. HPLC data of compounds **3** and **8a**

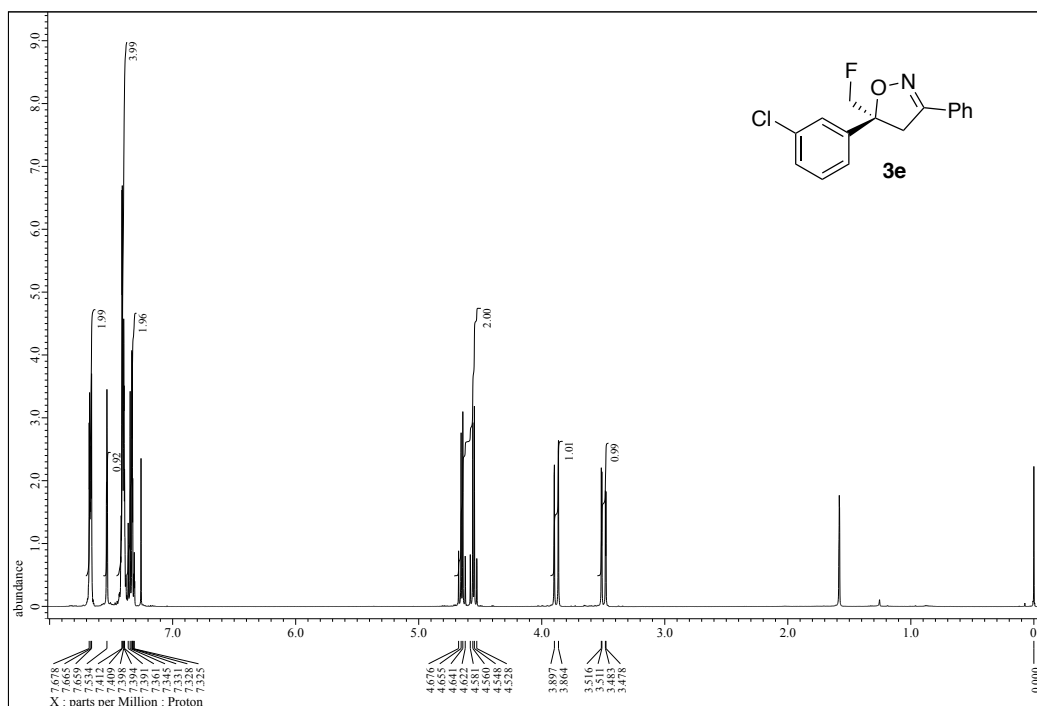
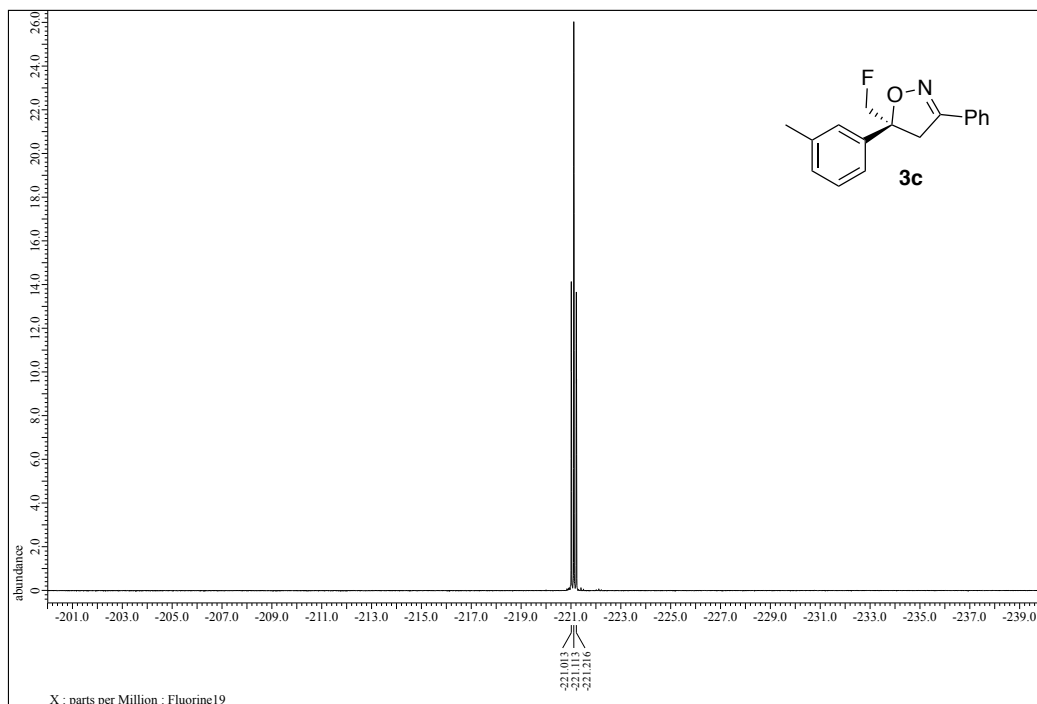
1. ^1H , ^{13}C , and ^{19}F NMR spectra of compounds **3**

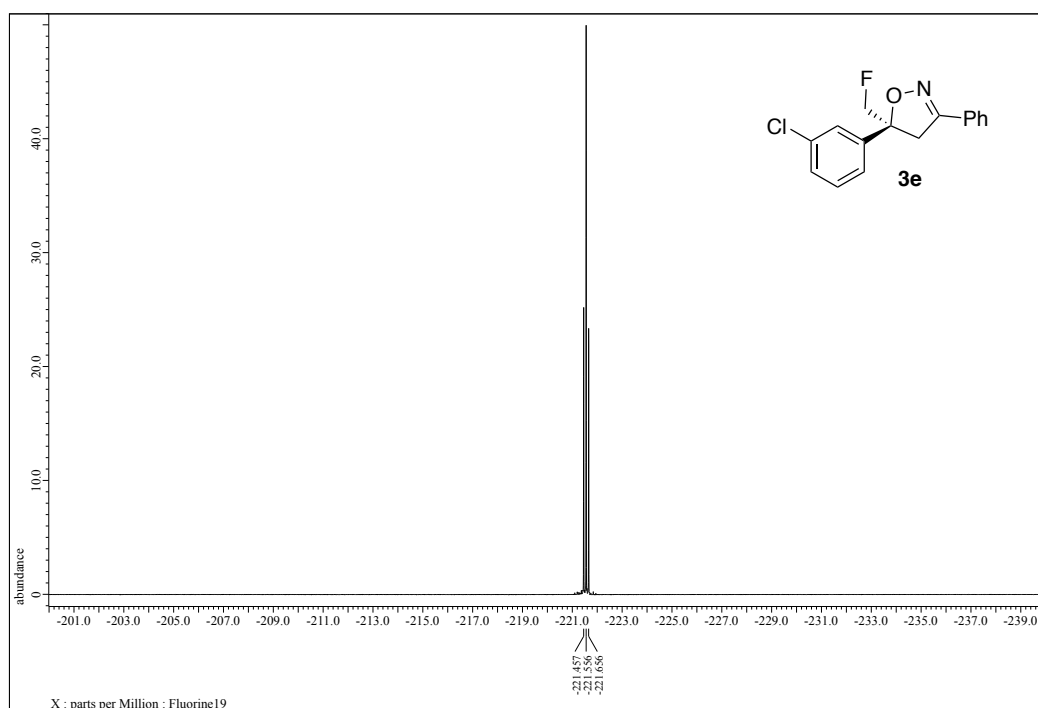
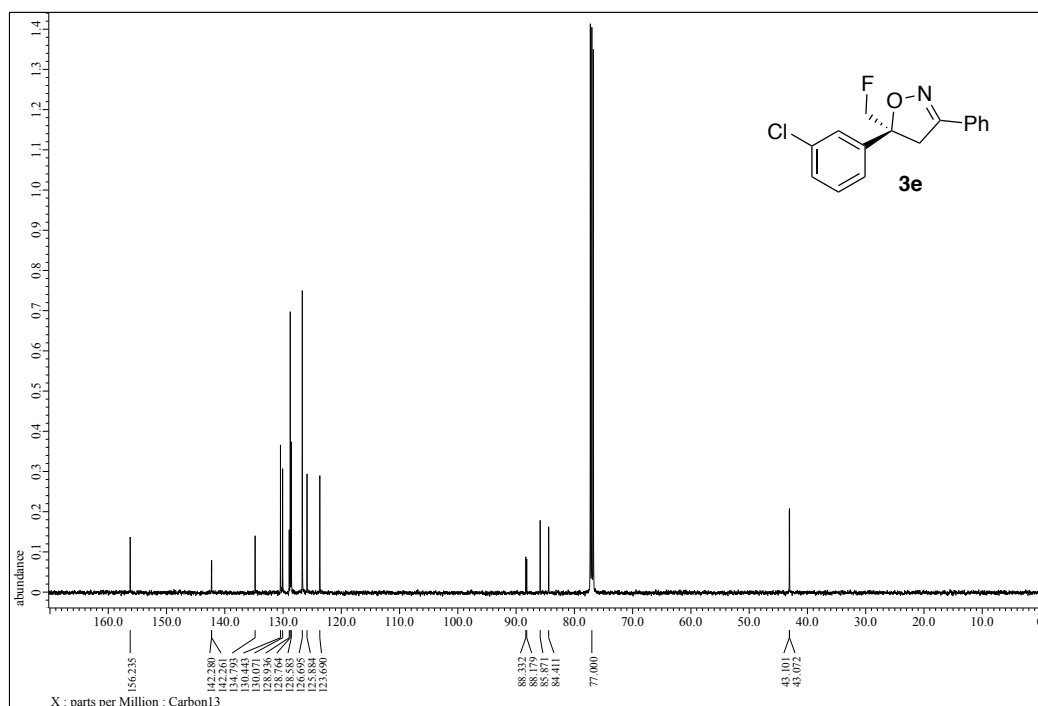


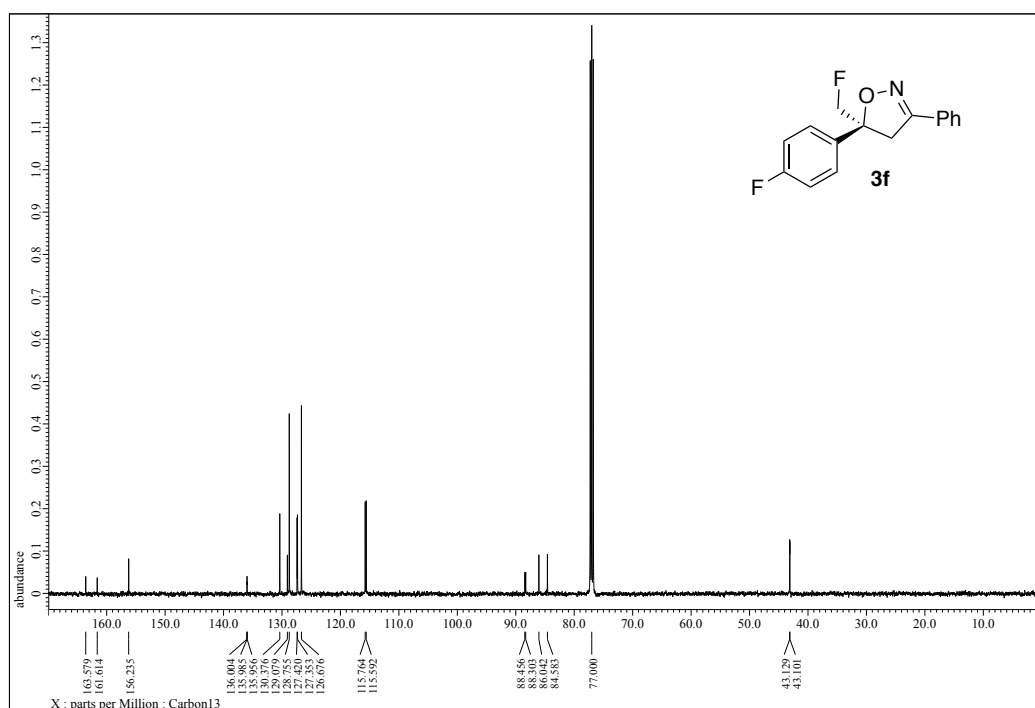
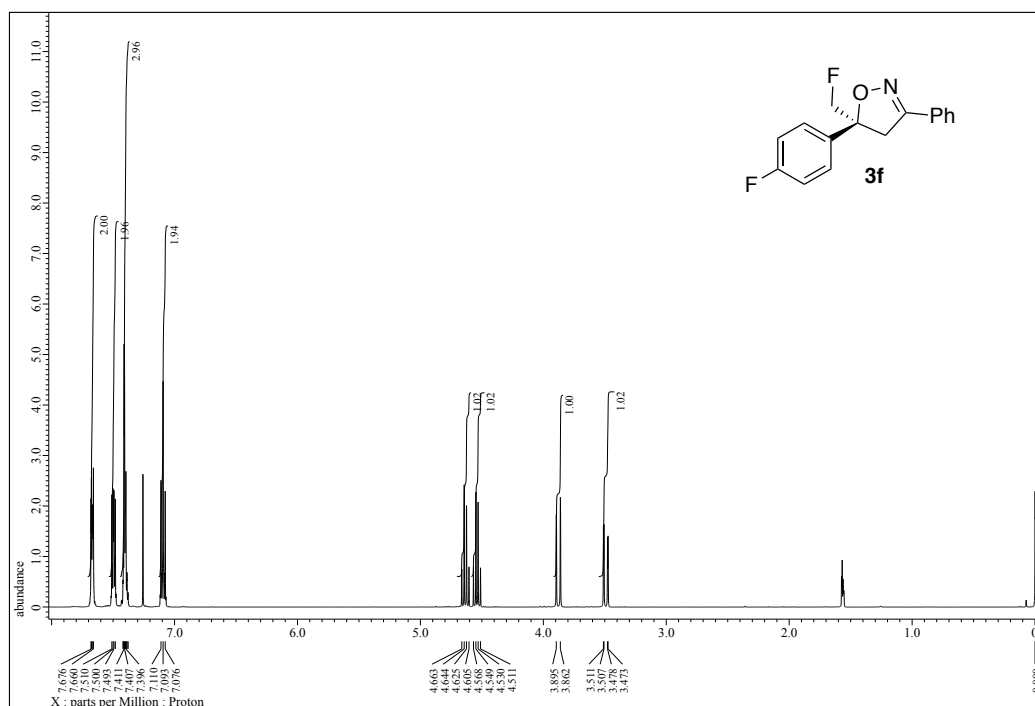


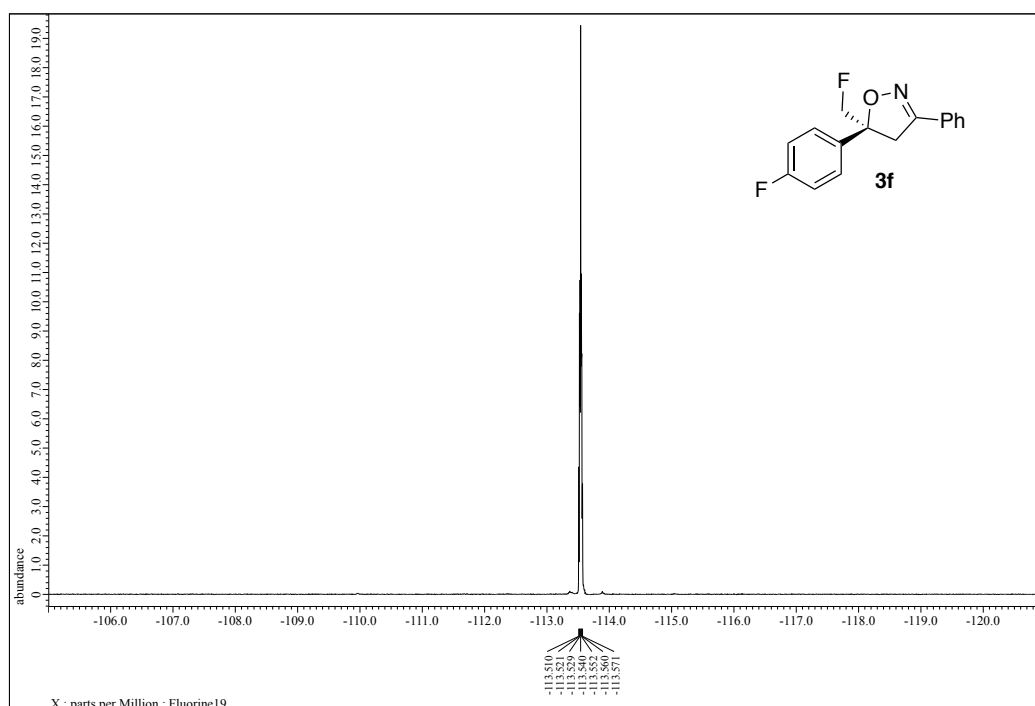
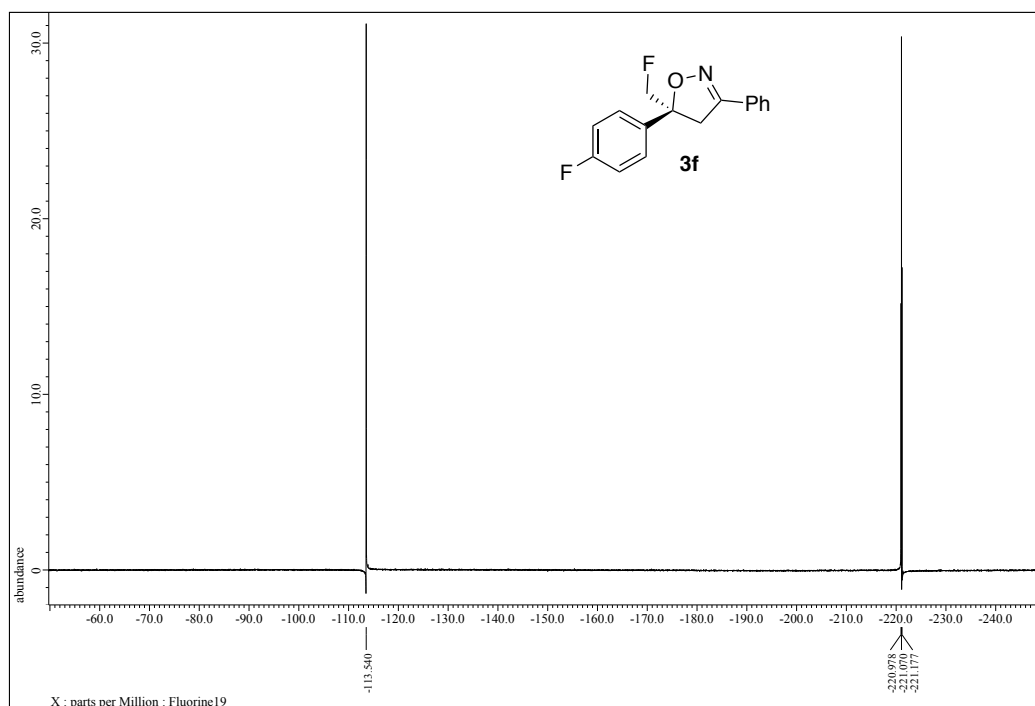


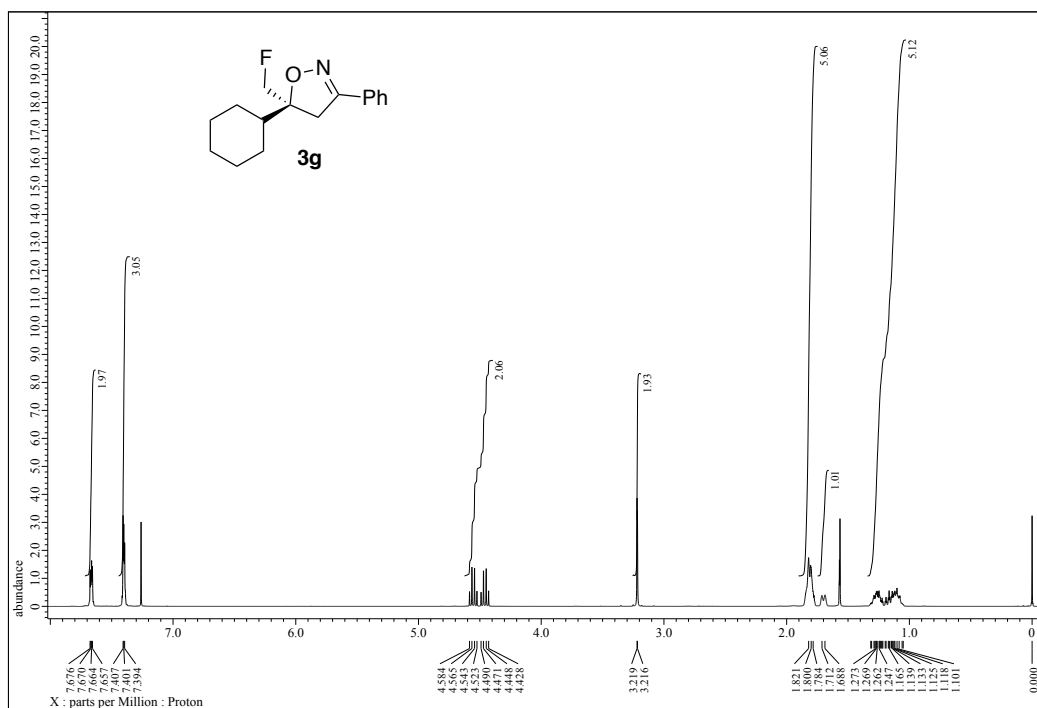
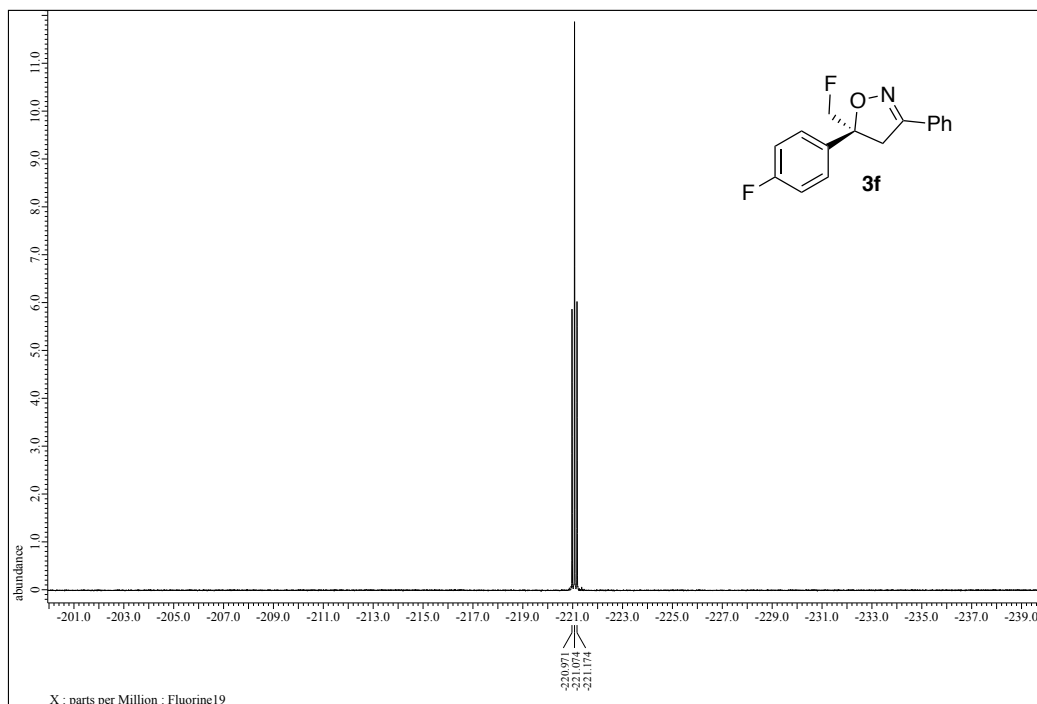


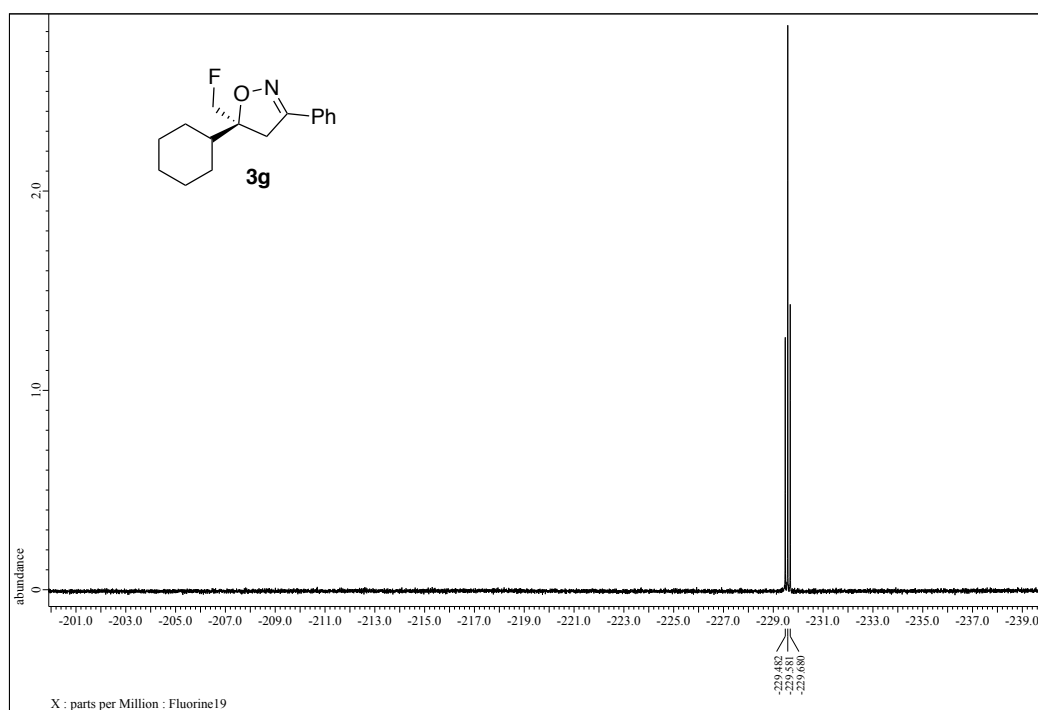
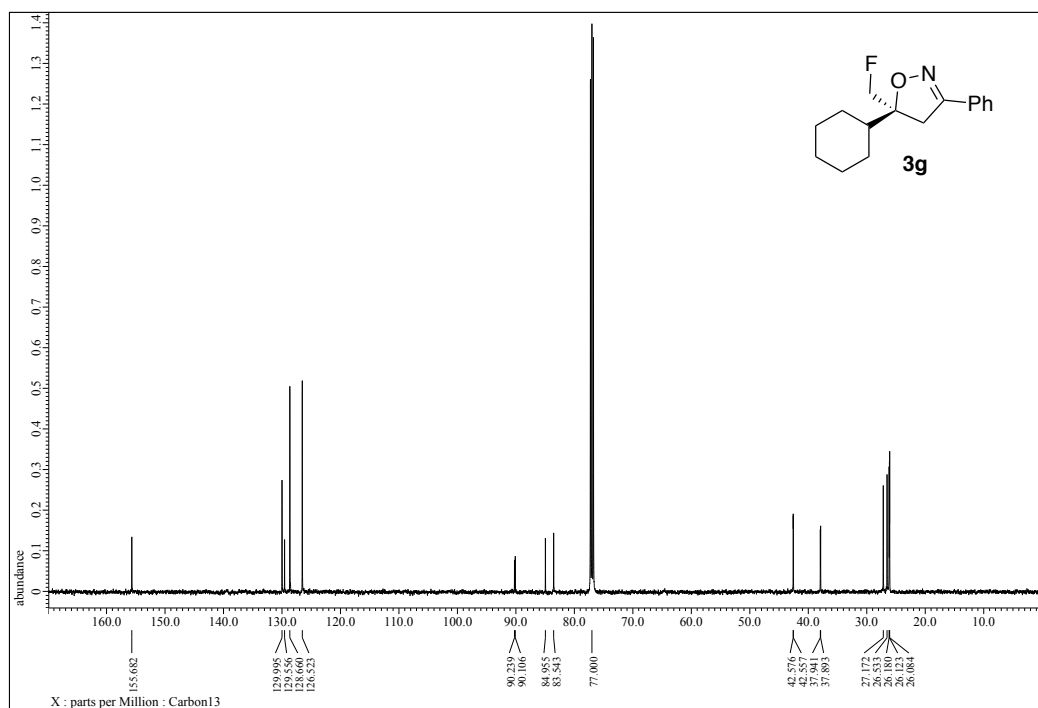


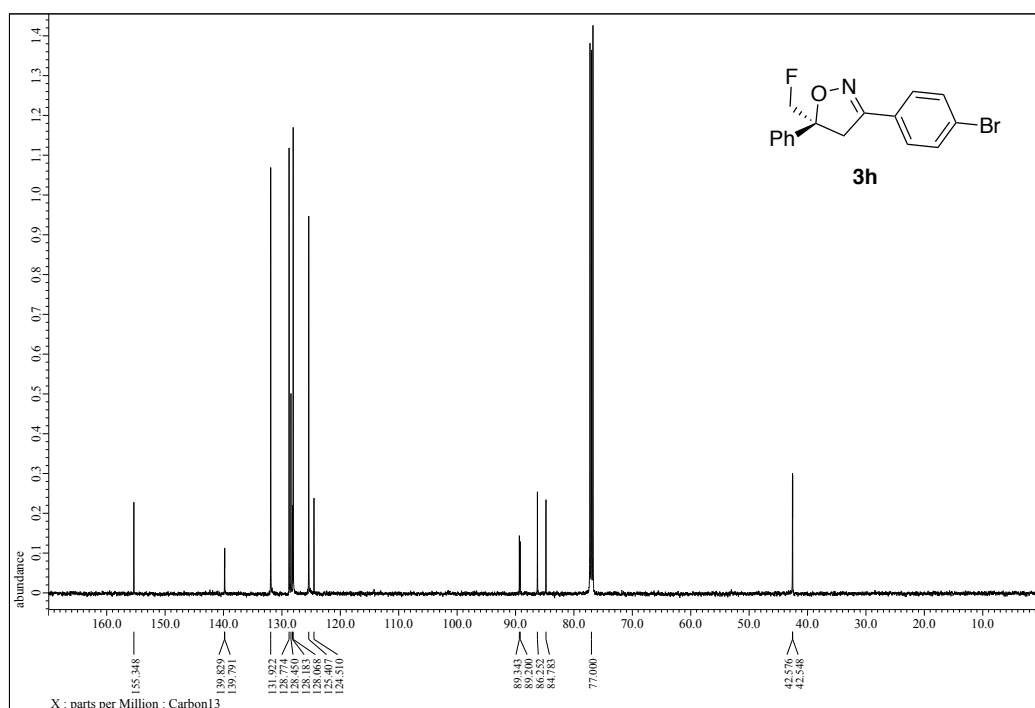
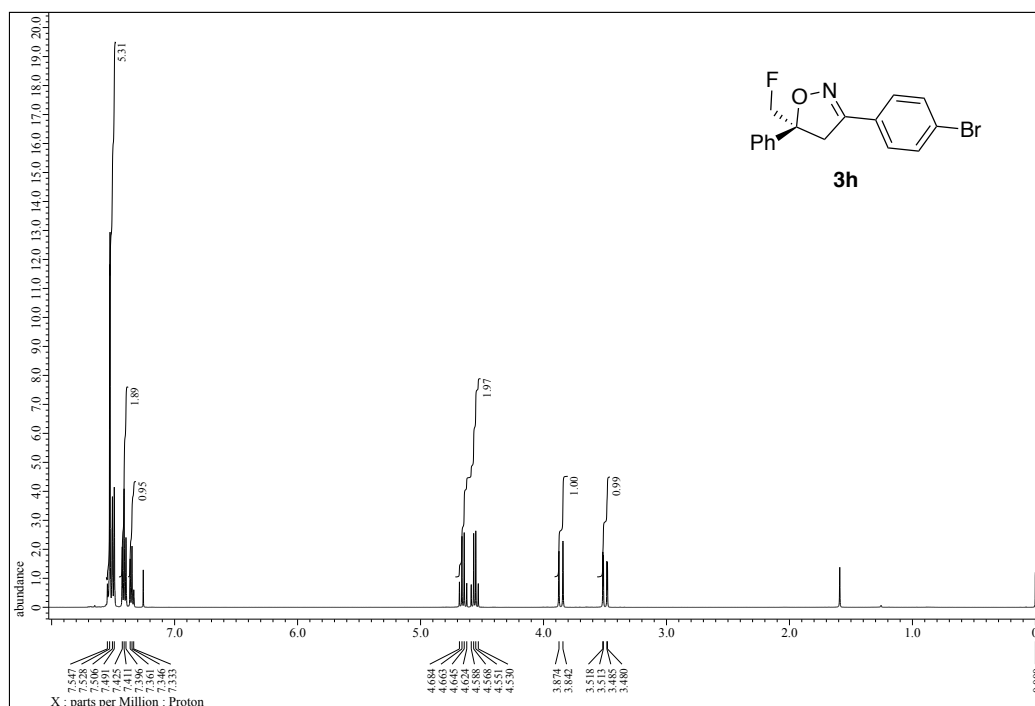


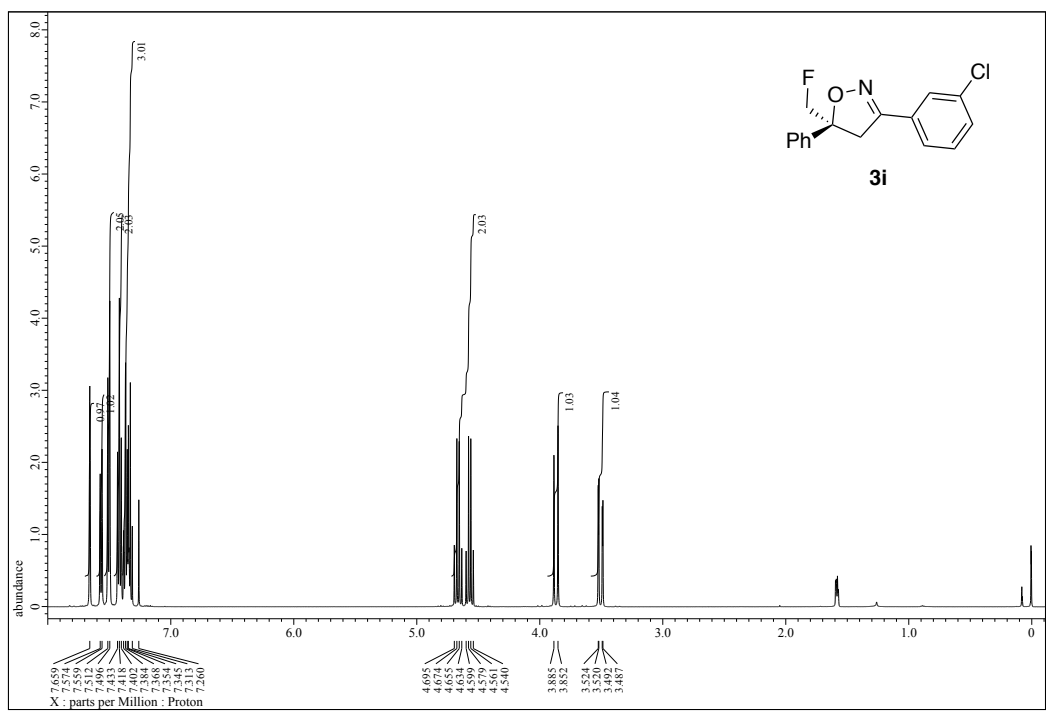
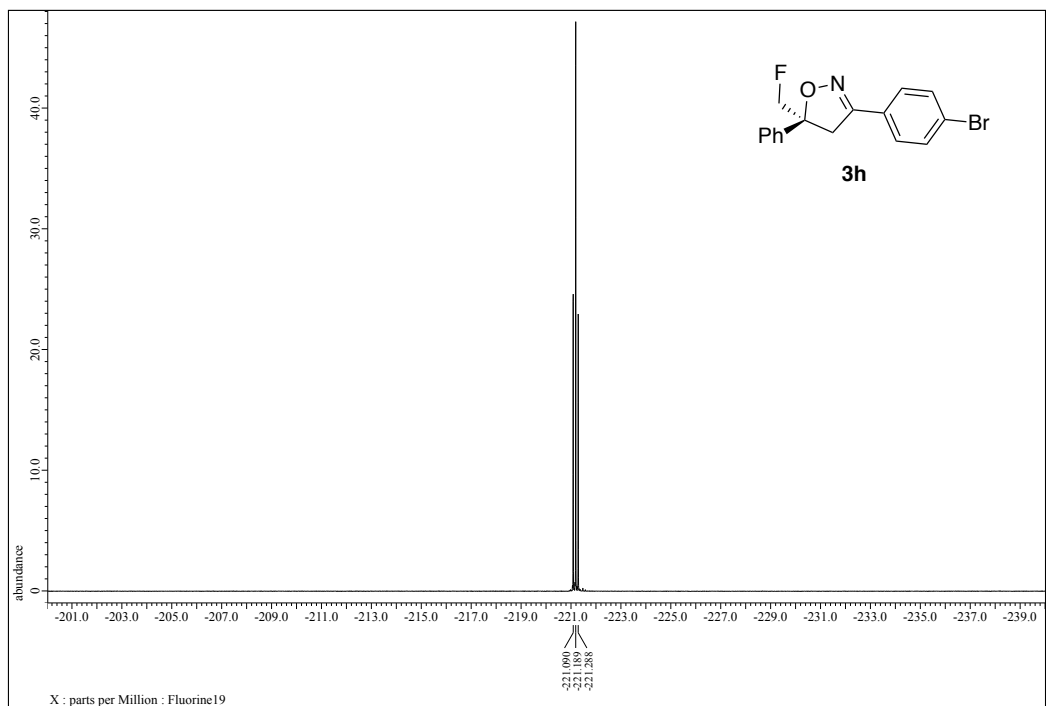


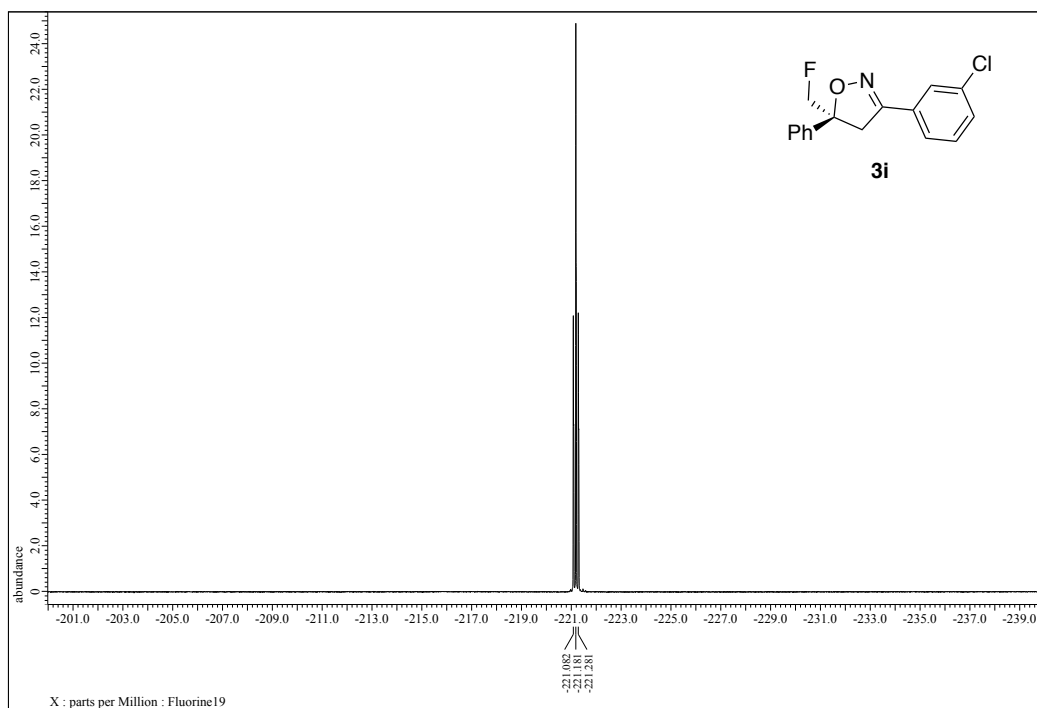
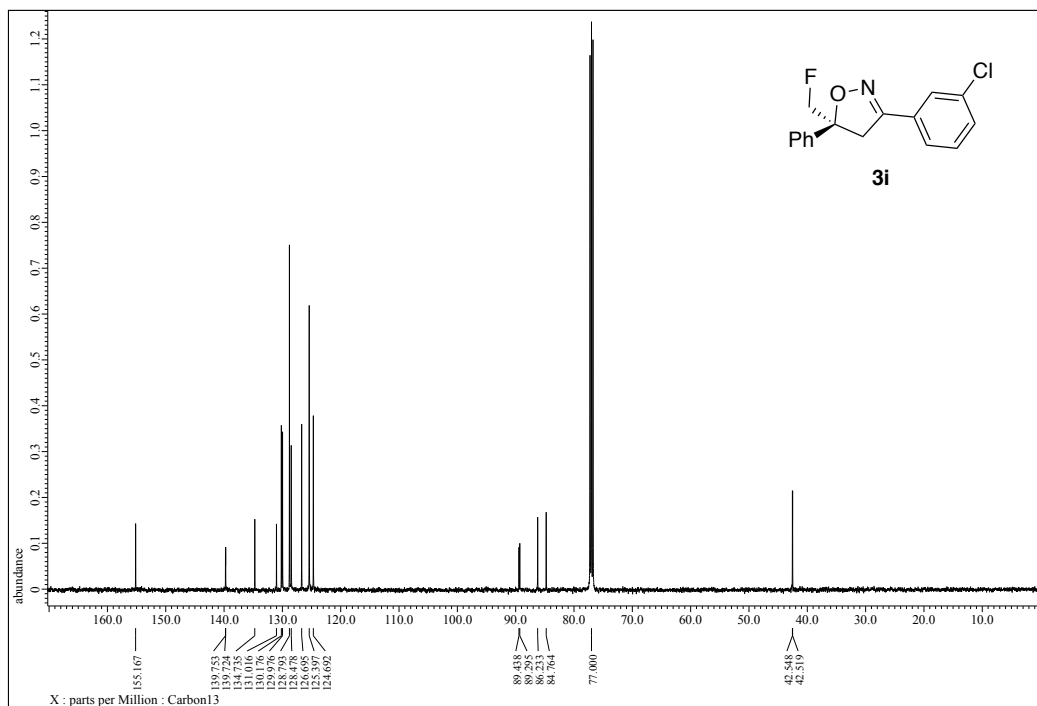


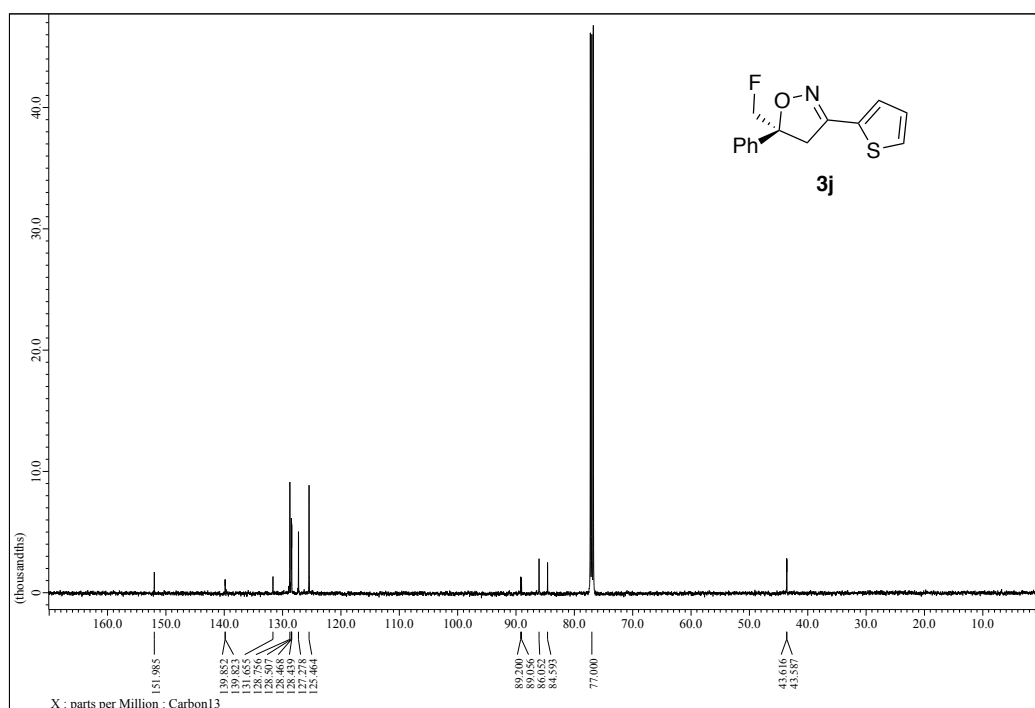
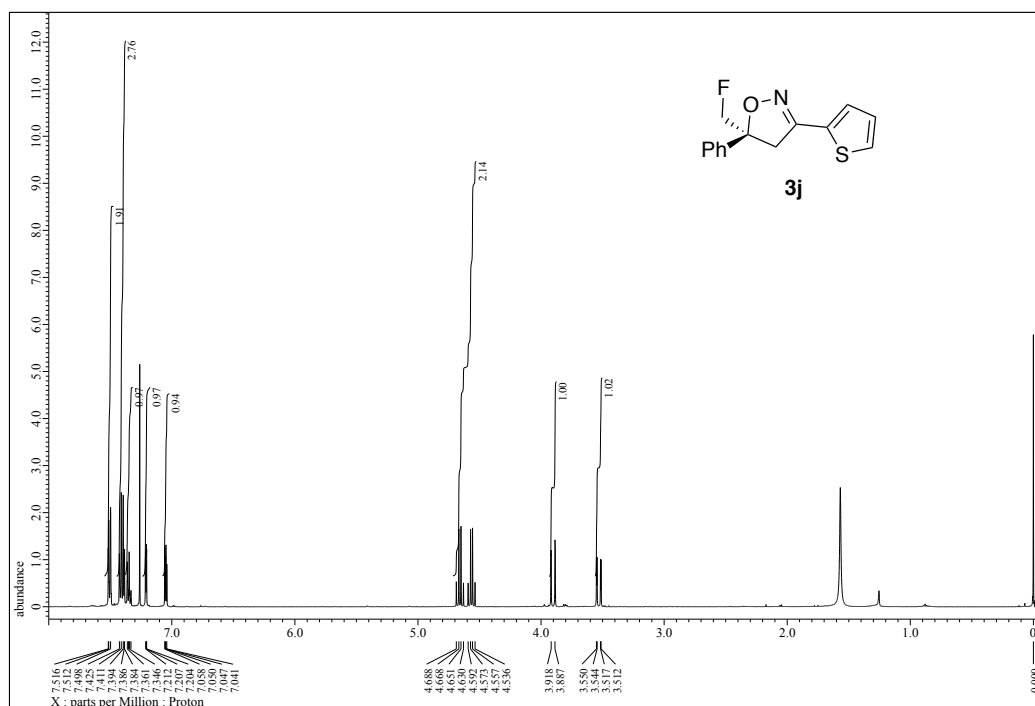


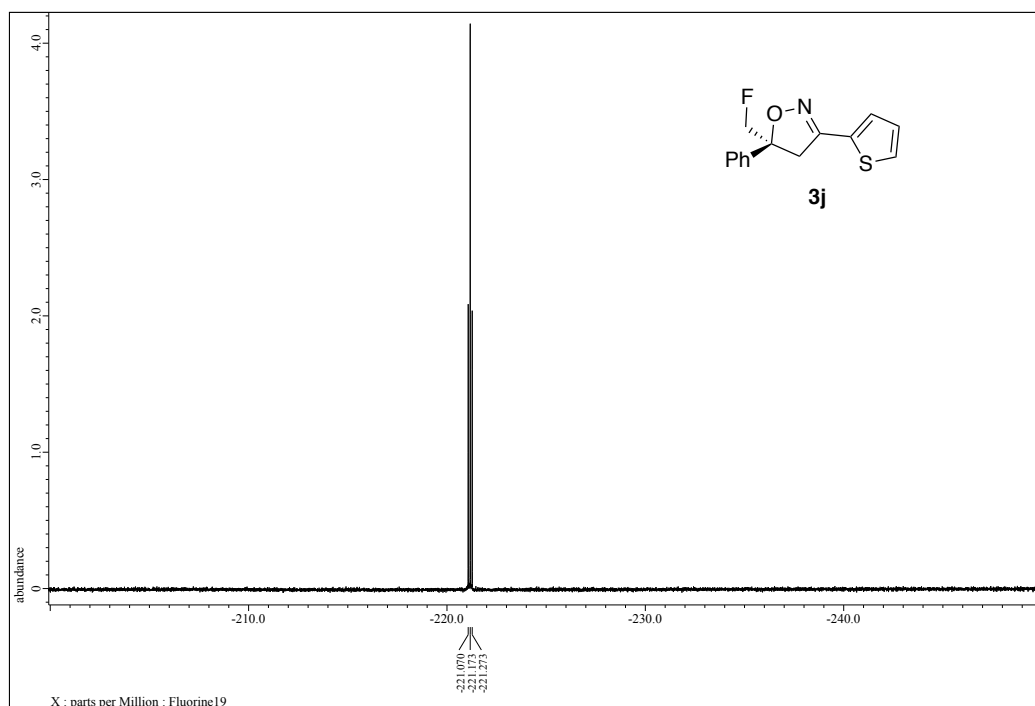




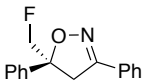
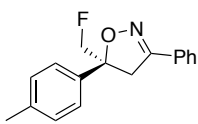
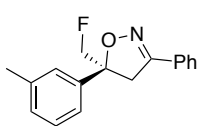
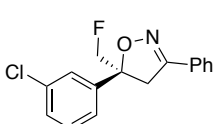
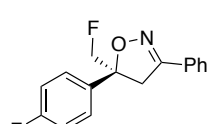
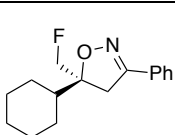
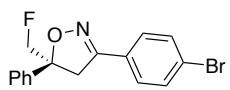
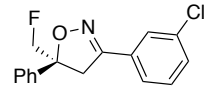
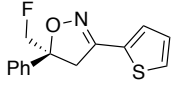
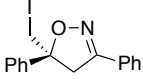




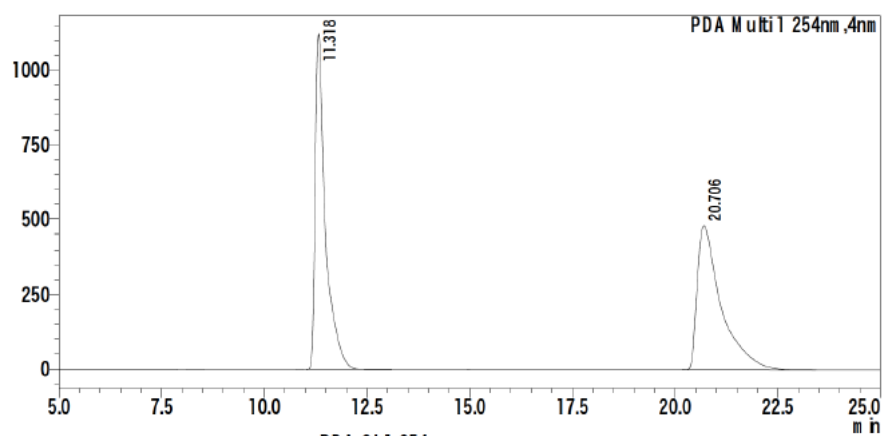
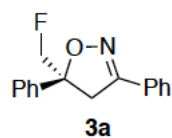




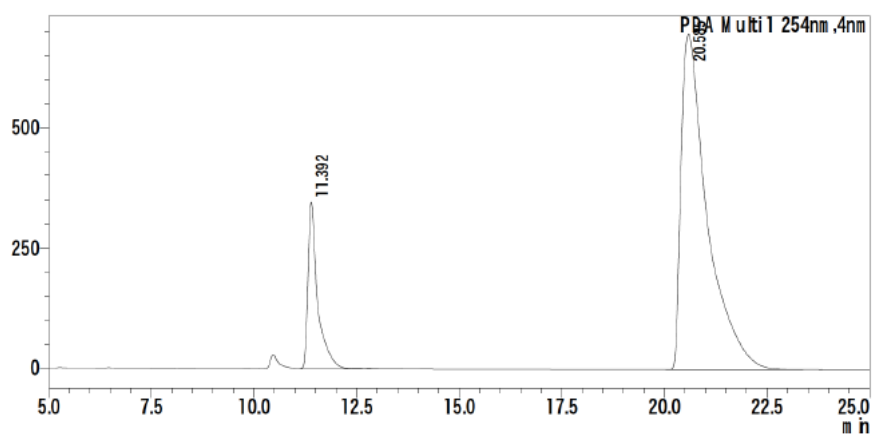
2. HPLC data of compounds 3

Compound		Conditions	Retention time 1	Retention time 2
	3a	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	11.4 min (minor)	20.6 min (major)
	3b	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	13.4 min (minor)	23.5 min (major)
	3c	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	8.7 min (minor)	12.4 min (major)
	3e	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	8.8 min (minor)	10.2 min (major)
	3f	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	10.1 min (minor)	17.1 min (major)
	3g	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	8.2 min (minor)	9.2 min (major)
	3h	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	12.9 min (minor)	20.4 min (major)
	3i	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	8.1 min (minor)	9.7 min (major)
	3j	IG-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 80/20, 1.0 mL/min	11.8 min (minor)	21.6 min (major)
	8a	ID-3, <i>n</i> -hexane/ <i>i</i> -PrOH = 60/40, 1.0 mL/min	6.8 min (<i>R</i> isomer)	8.6 min (<i>S</i> isomer) ^a

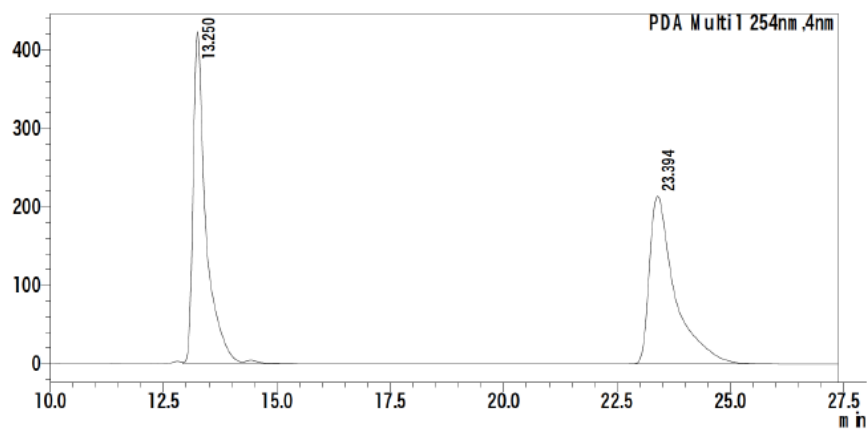
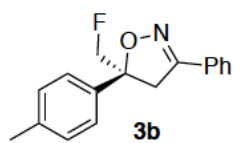
^a Tripathi, C.B.; Mukherjee, S. Catalytic Enantioselective Iodoetherification of Oximes. *Angew. Chem. Int. Ed.* **2013**, *52*, 8450-8453.



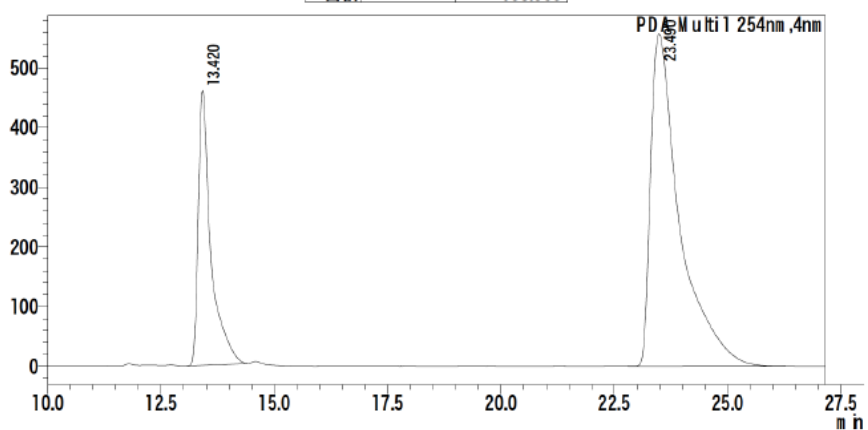
peak	time	area%
1	11.318	49.753
2	20.706	50.247
合計		100.000



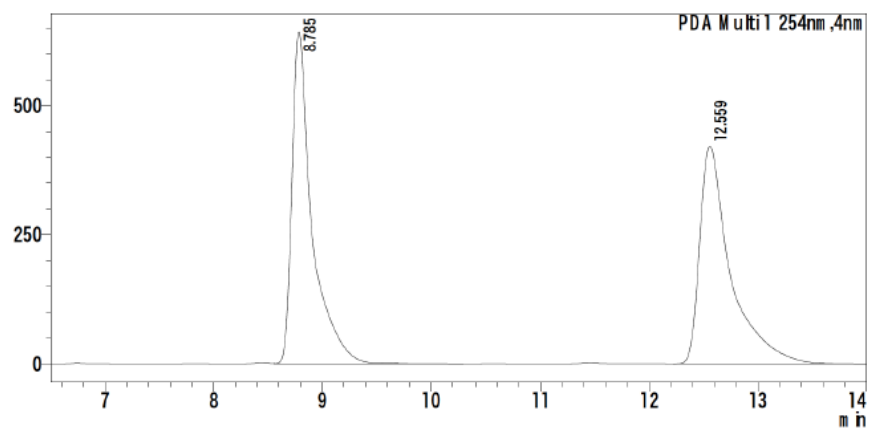
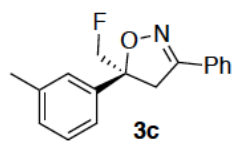
peak	time	area%
1	11.392	15.673
2	20.585	84.327
合計		100.000



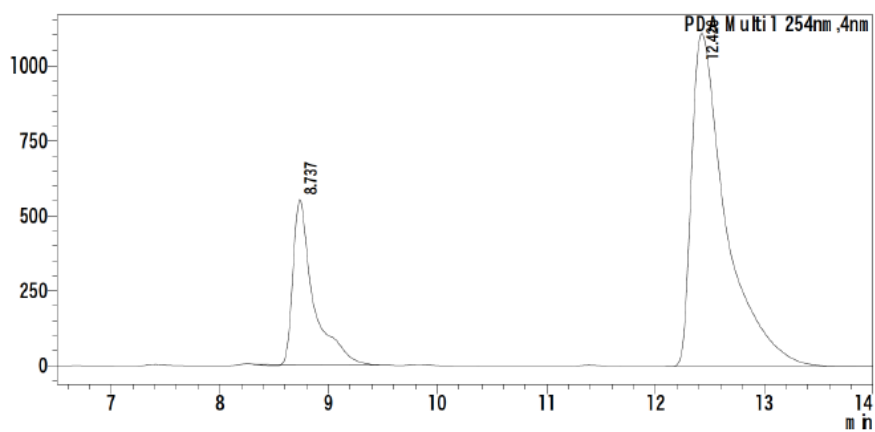
PDA Ch1 254nm		
peak	time	area%
1	13.250	50.036
2	23.394	49.964
合計		100.000



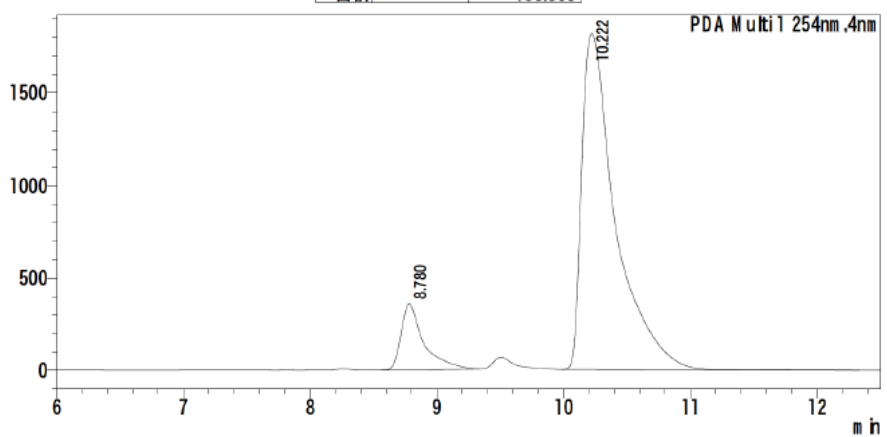
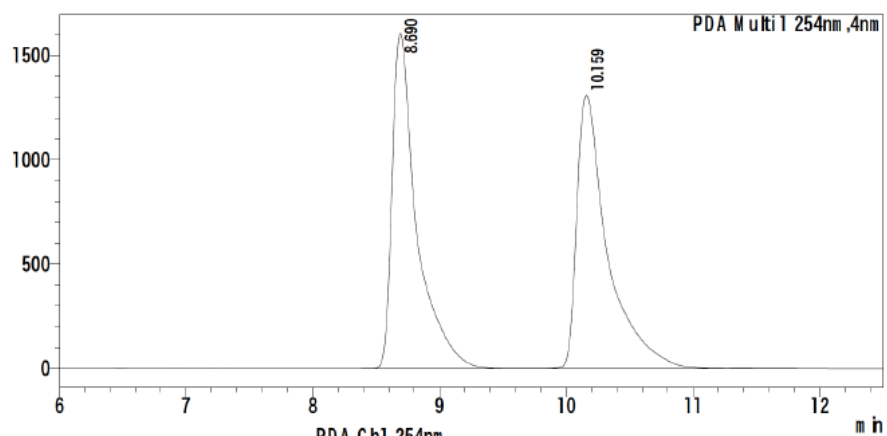
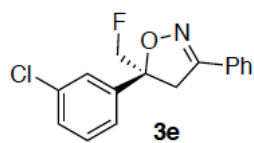
PDA Ch1 254nm		
peak	time	area%
1	13.420	26.532
2	23.490	73.468
合計		100.000

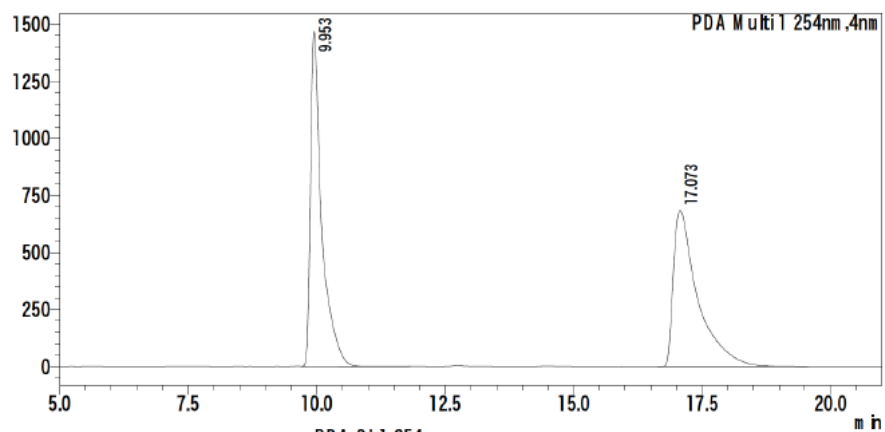
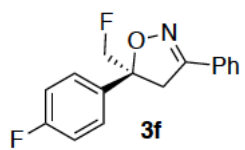


peak	time	area%
1	8.785	49.857
2	12.559	50.143
合計		100.000

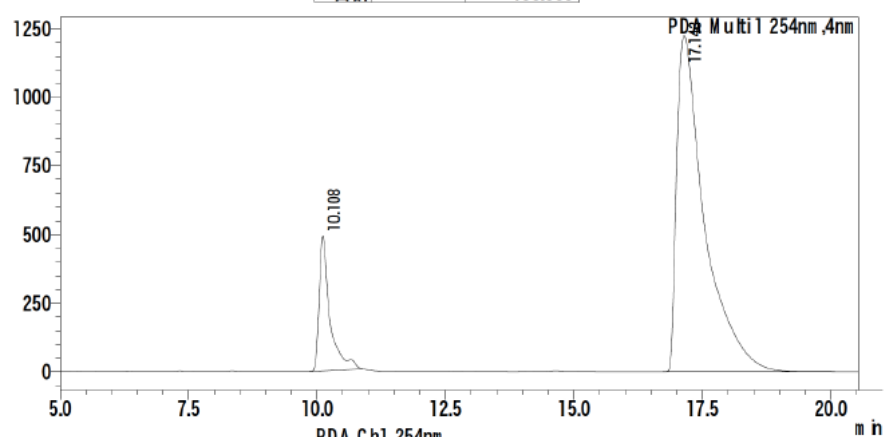


peak	time	area%
1	8.737	22.801
2	12.428	77.199
合計		100.000

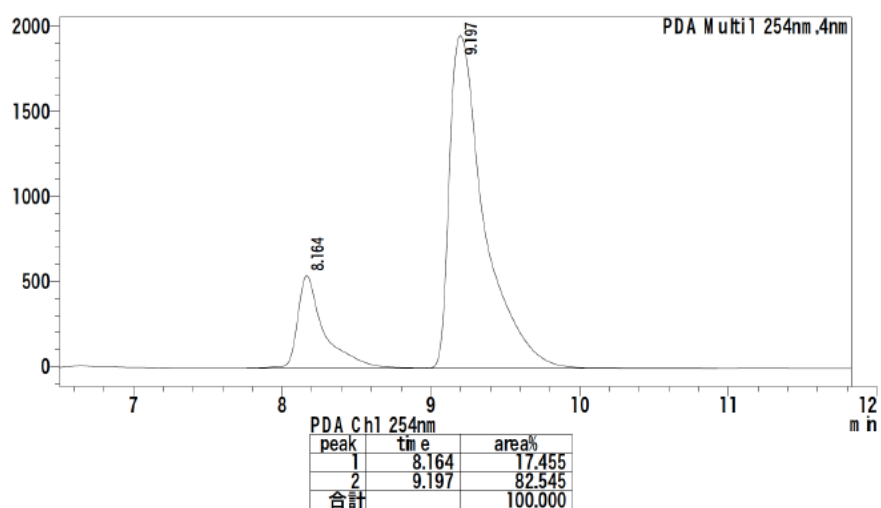
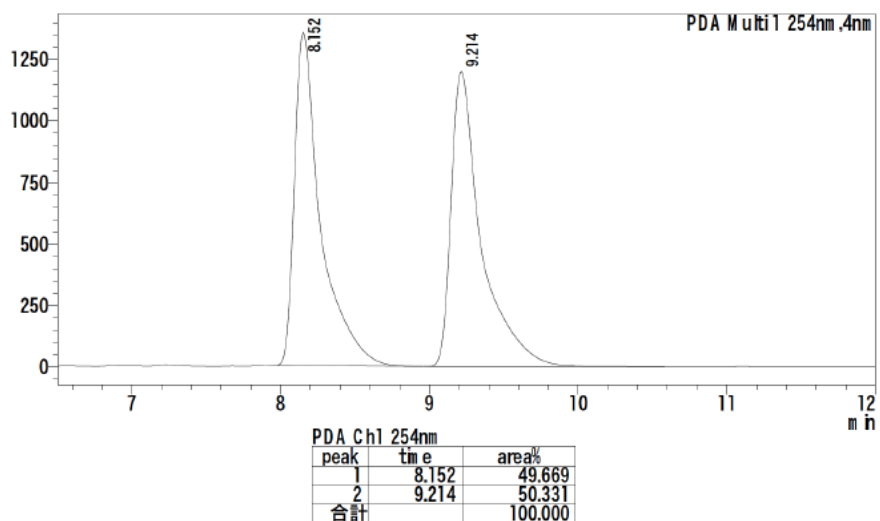
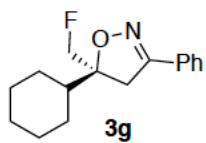


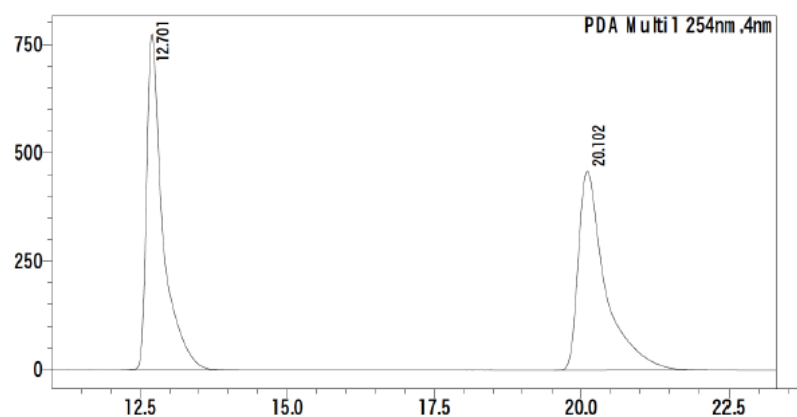
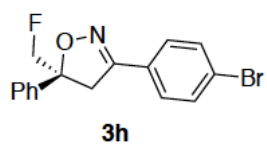


peak	time	area%
1	9.953	49.806
2	17.073	50.194
合計		100.000

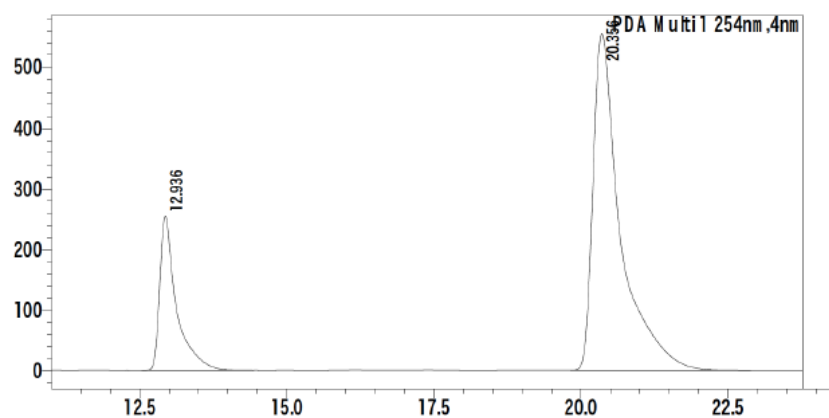


peak	time	area%
1	10.108	13.569
2	17.143	86.431
合計		100.000

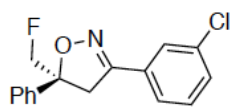




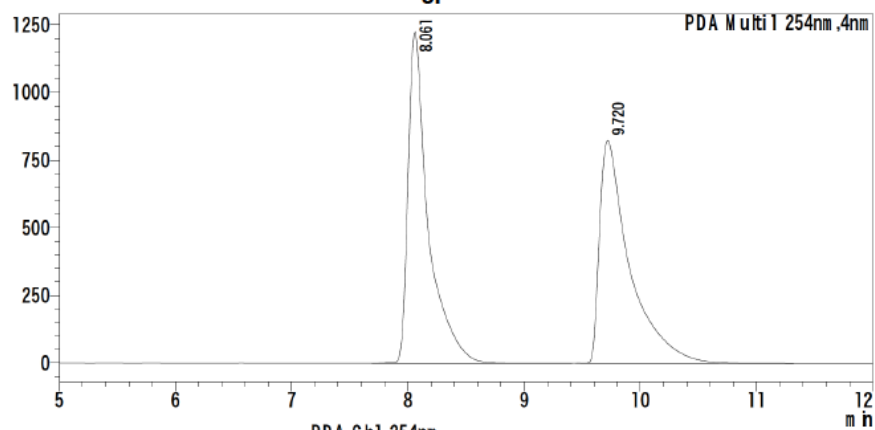
peak	time	area%
1	12.701	50.305
2	20.102	49.695
合計		100.000



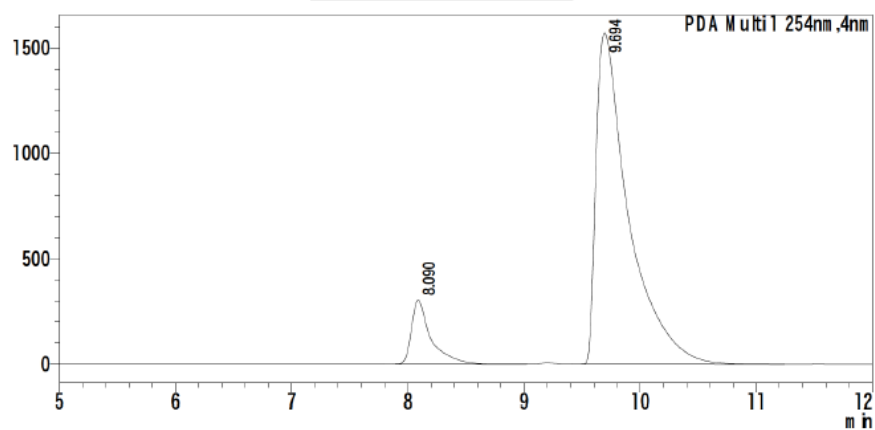
peak	time	area%
1	12.936	21.777
2	20.356	78.223
合計		100.000



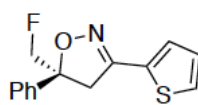
3i



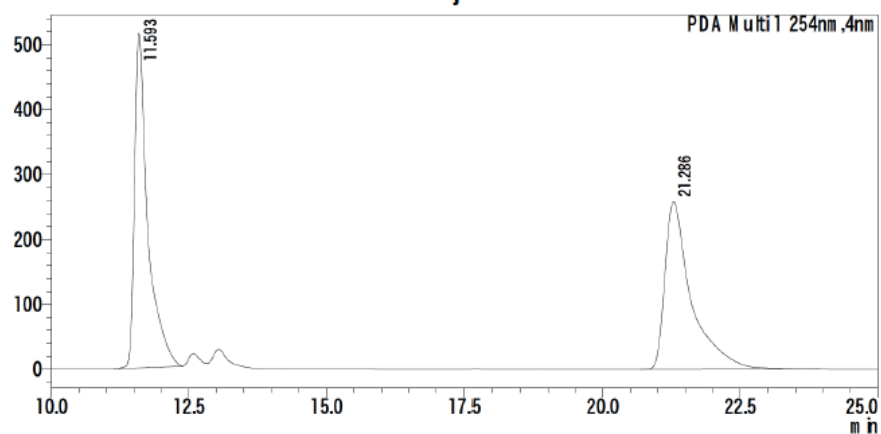
peak	time	area%
1	8.061	49.827
2	9.720	50.173
合計		100.000



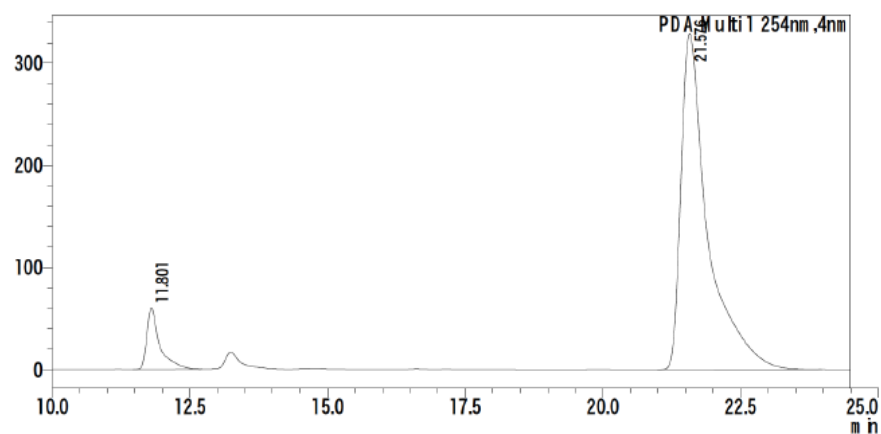
peak	time	area%
1	8.090	10.364
2	9.694	89.636
合計		100.000



3j



peak	time	area%
1	11.593	49.892
2	21.286	50.108
合計		100.000



peak	time	area%
1	11.801	8.102
2	21.576	91.898
合計		100.000

