

Supporting Information

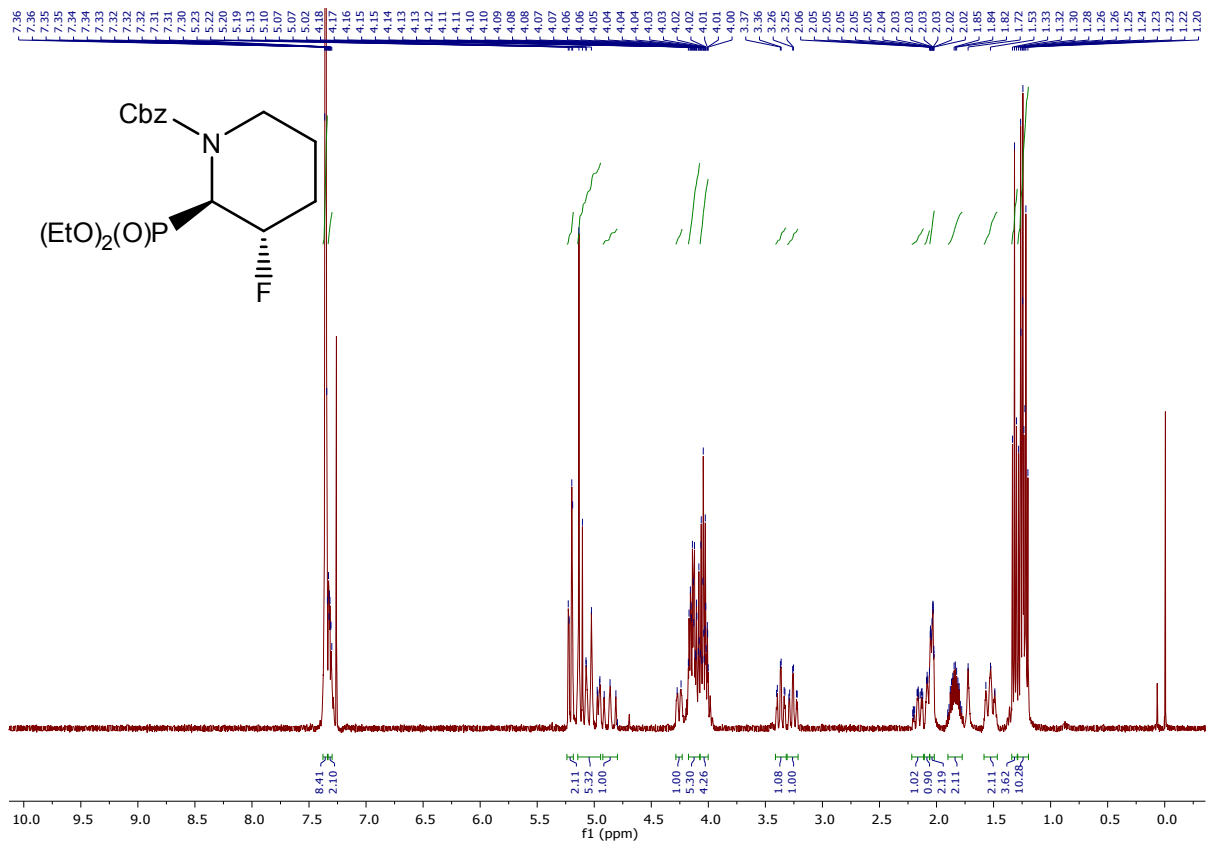
Pyrrolidine and Oxazolidine Ring Transformations in Proline and Serine Derivatives of α -Hydroxyphosphonates Induced by Deoxyfluorinating Reagents

Patrycja Kaczmarek,^[a] Magdalena Rapp,*^[a] Henryk Koroniak^[a]

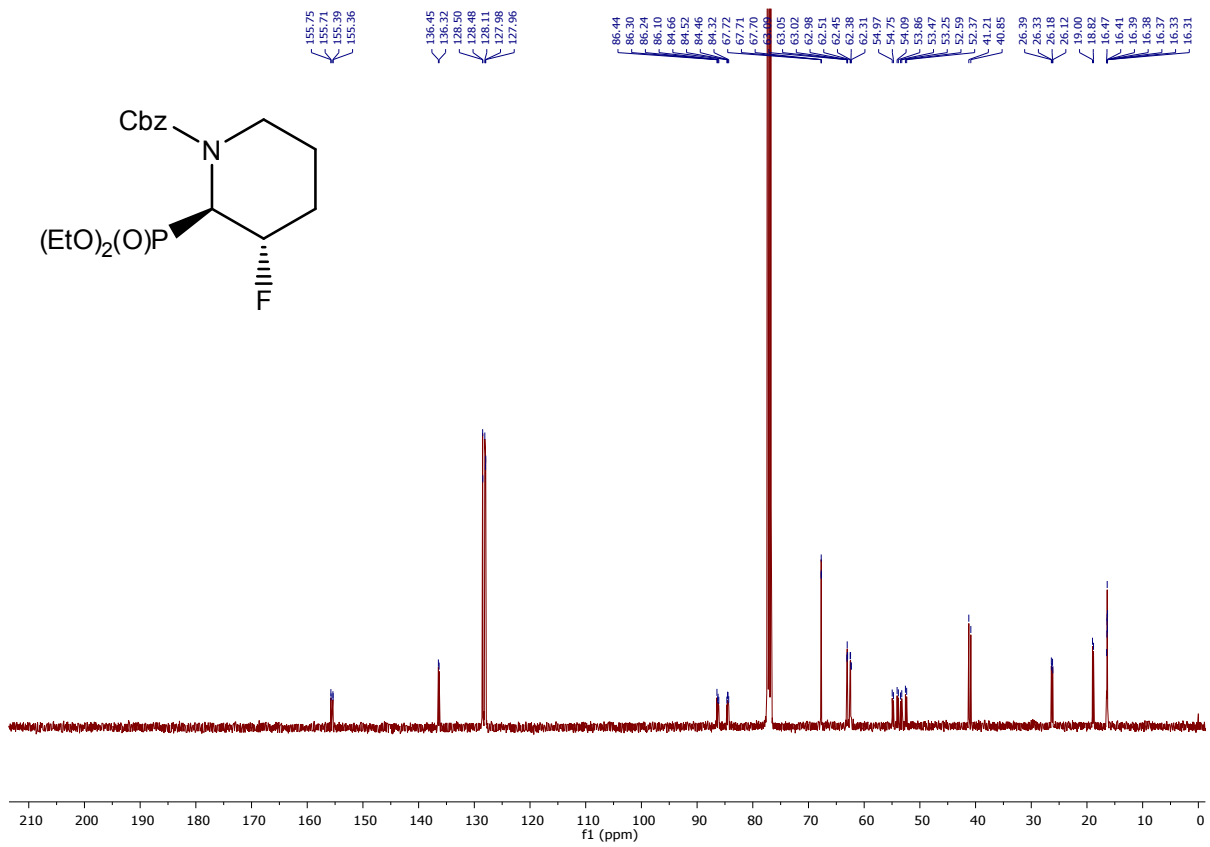
^[a]Faculty of Chemistry, Adam Mickiewicz University, Umultowska 89b, 60614 Poznan (Poland)

e-mail address: magdrapp@amu.edu.pl (M. Rapp)

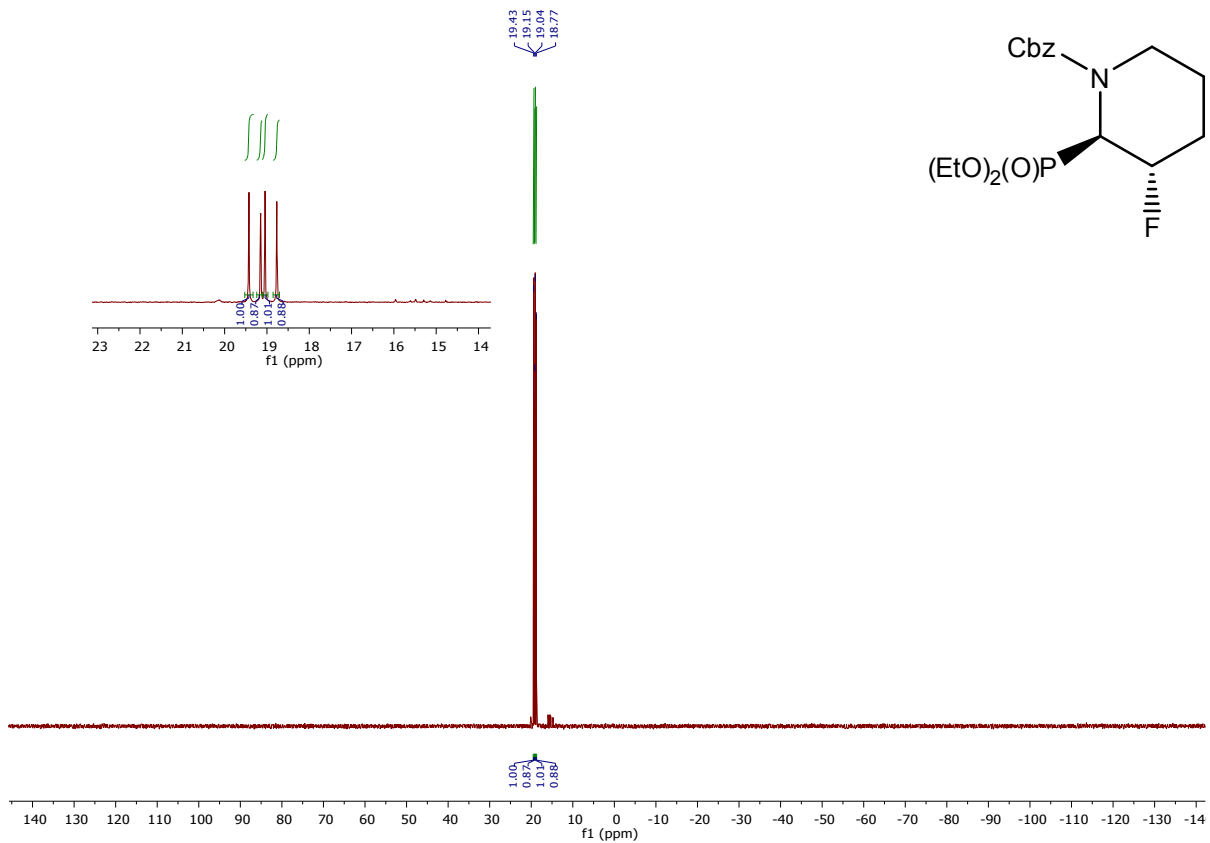
¹H, ¹³C, ³¹P and ¹⁹F NMR Spectra of Compounds



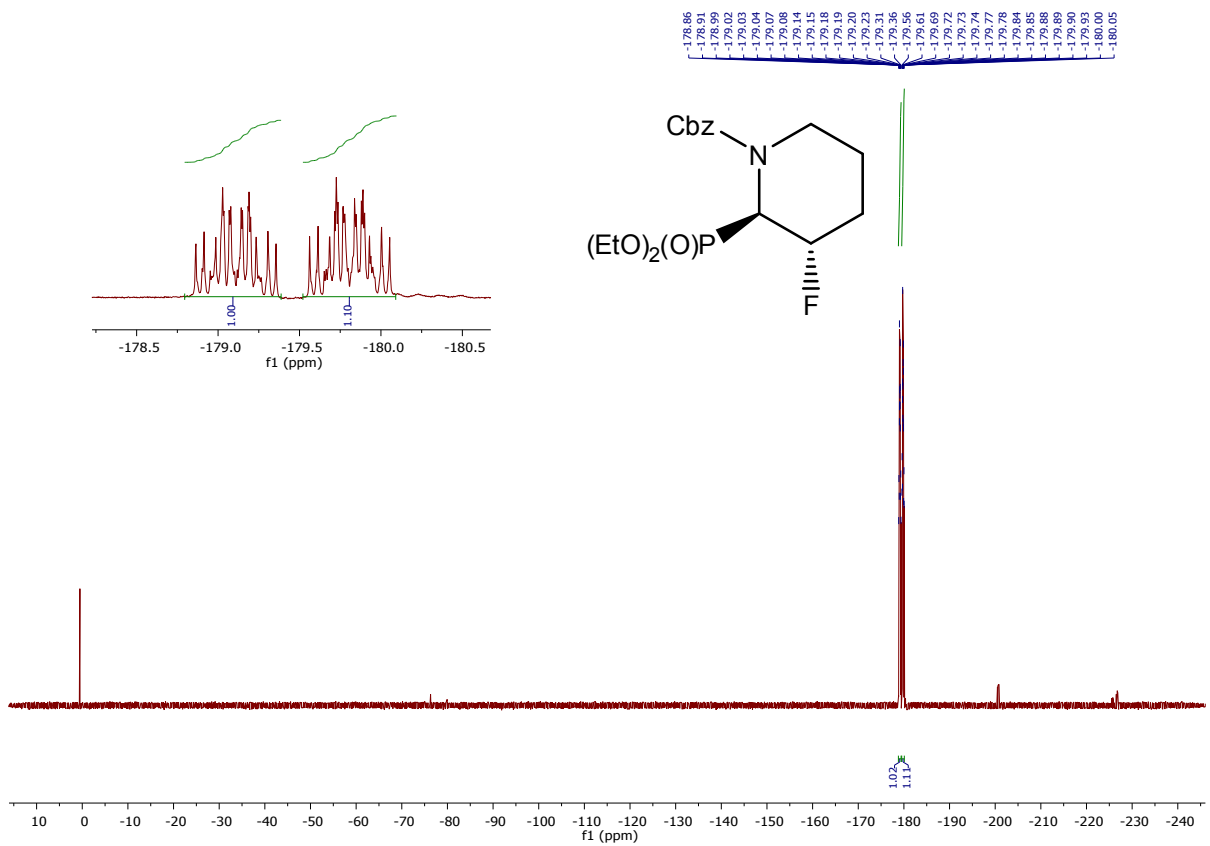
¹H NMR of 4



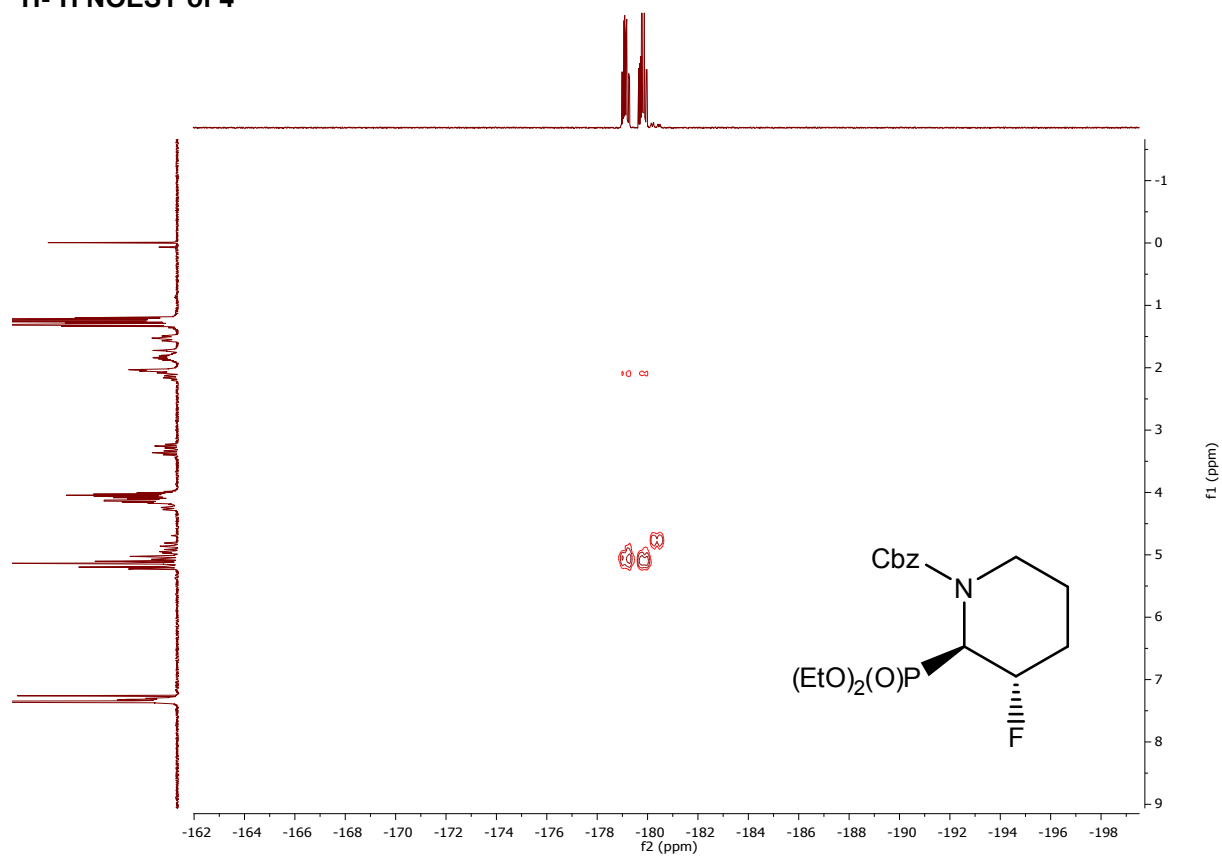
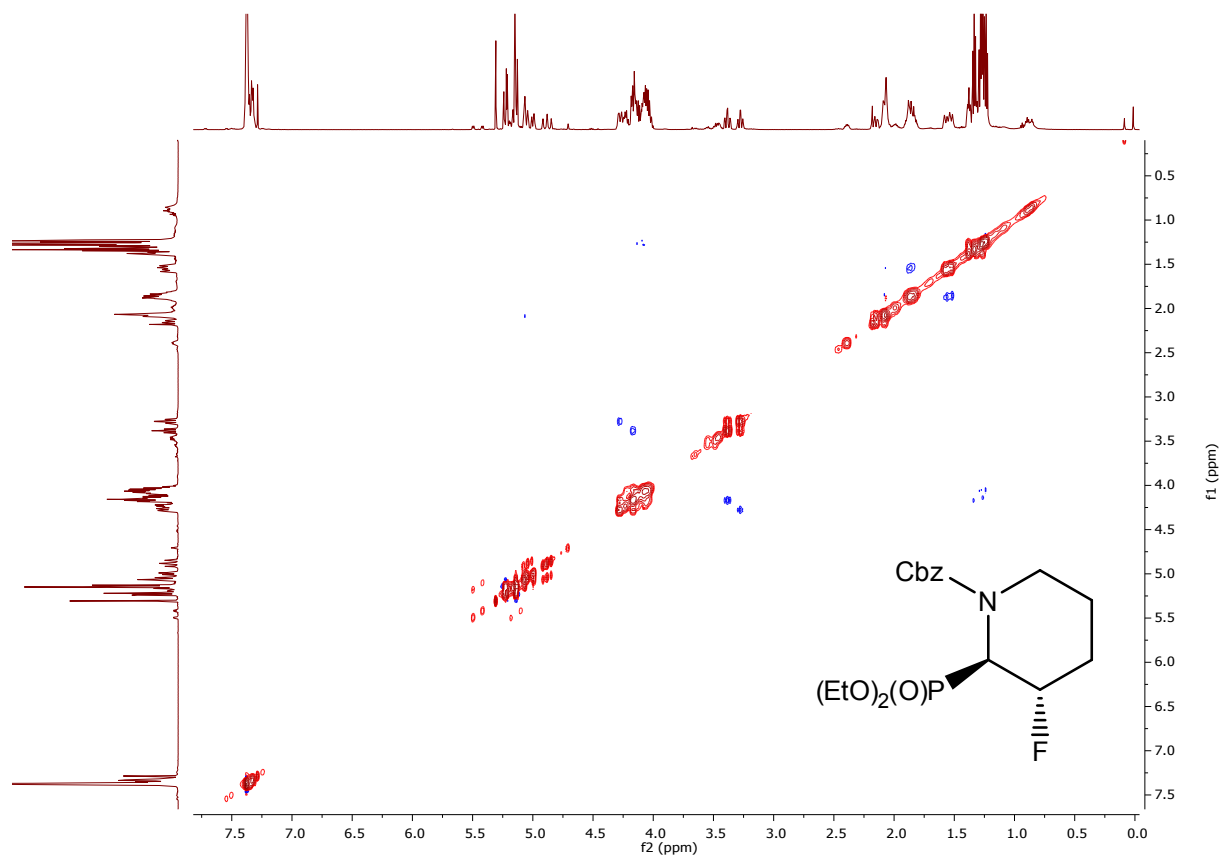
¹³C NMR of 4

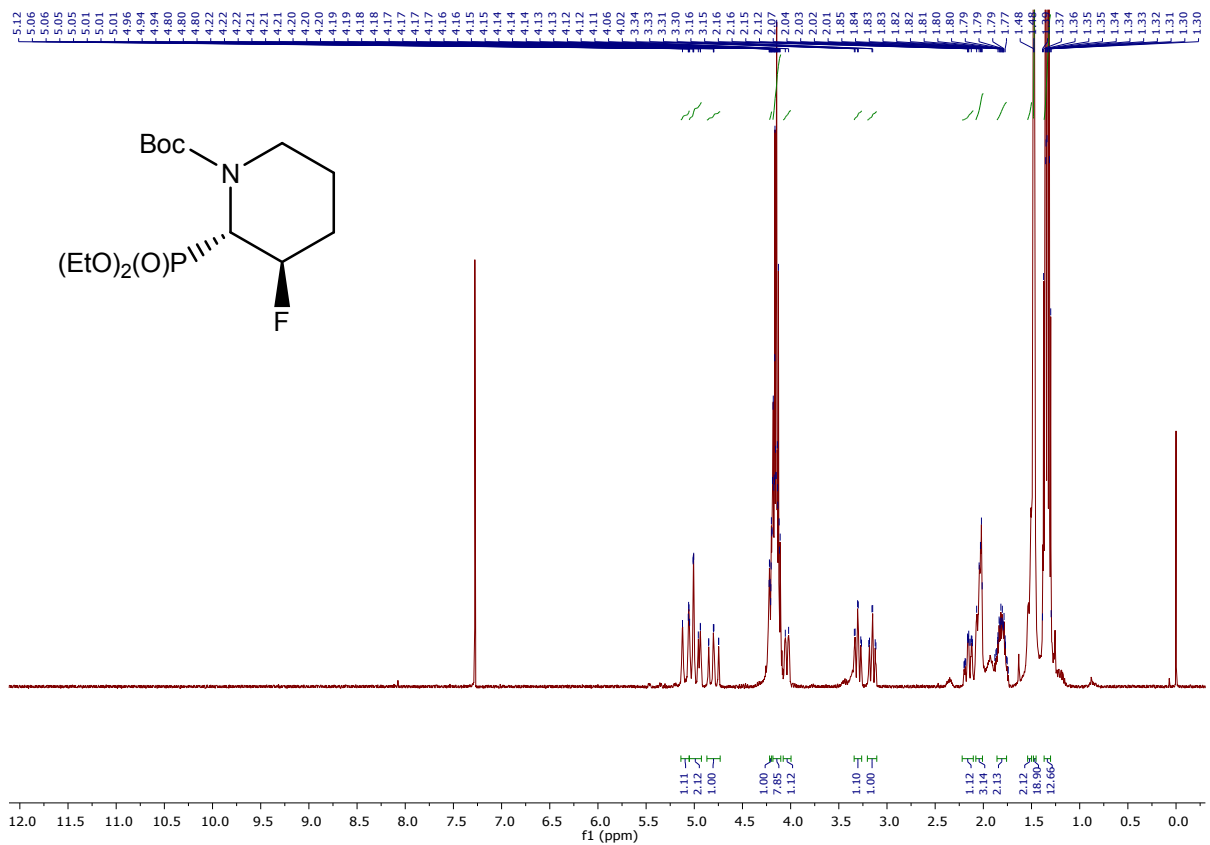


$^{31}\text{P}\{^1\text{H}\}$ NMR of 4

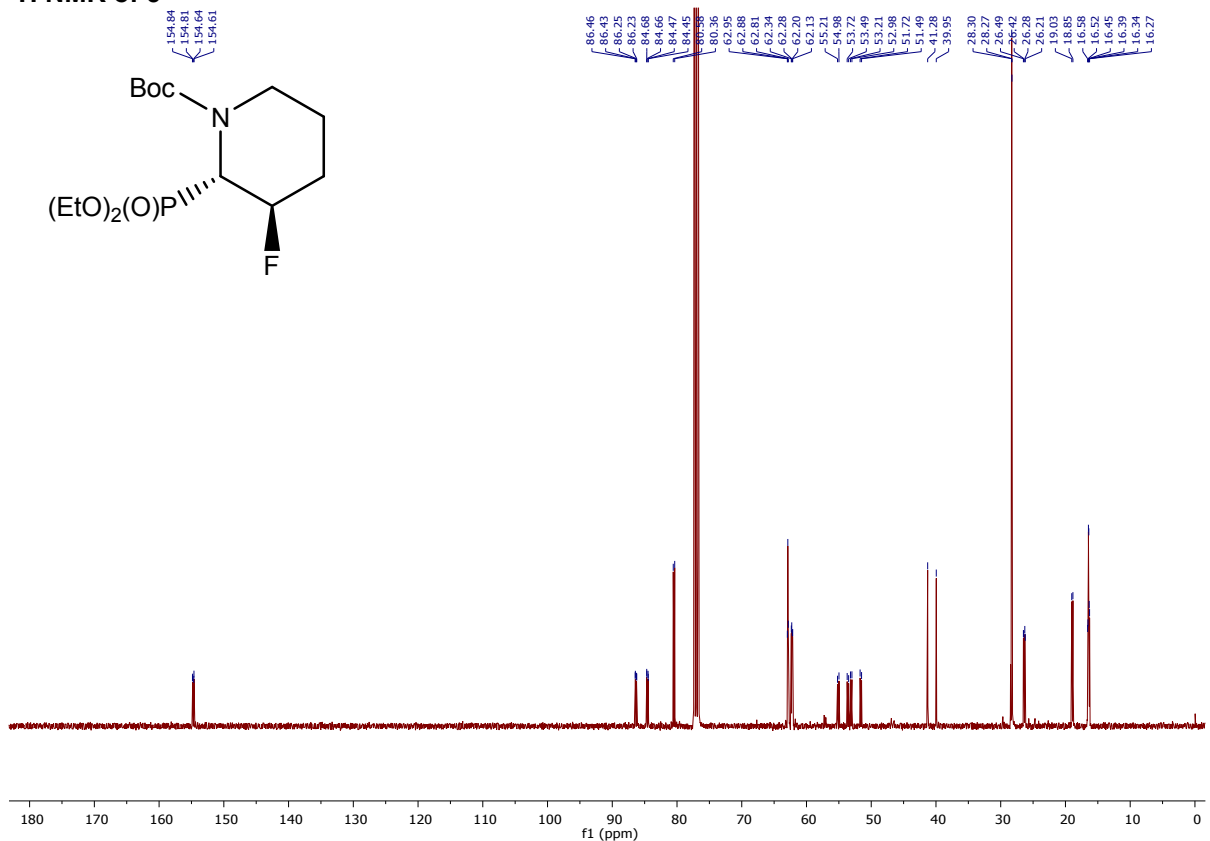


^{19}F NMR of 4

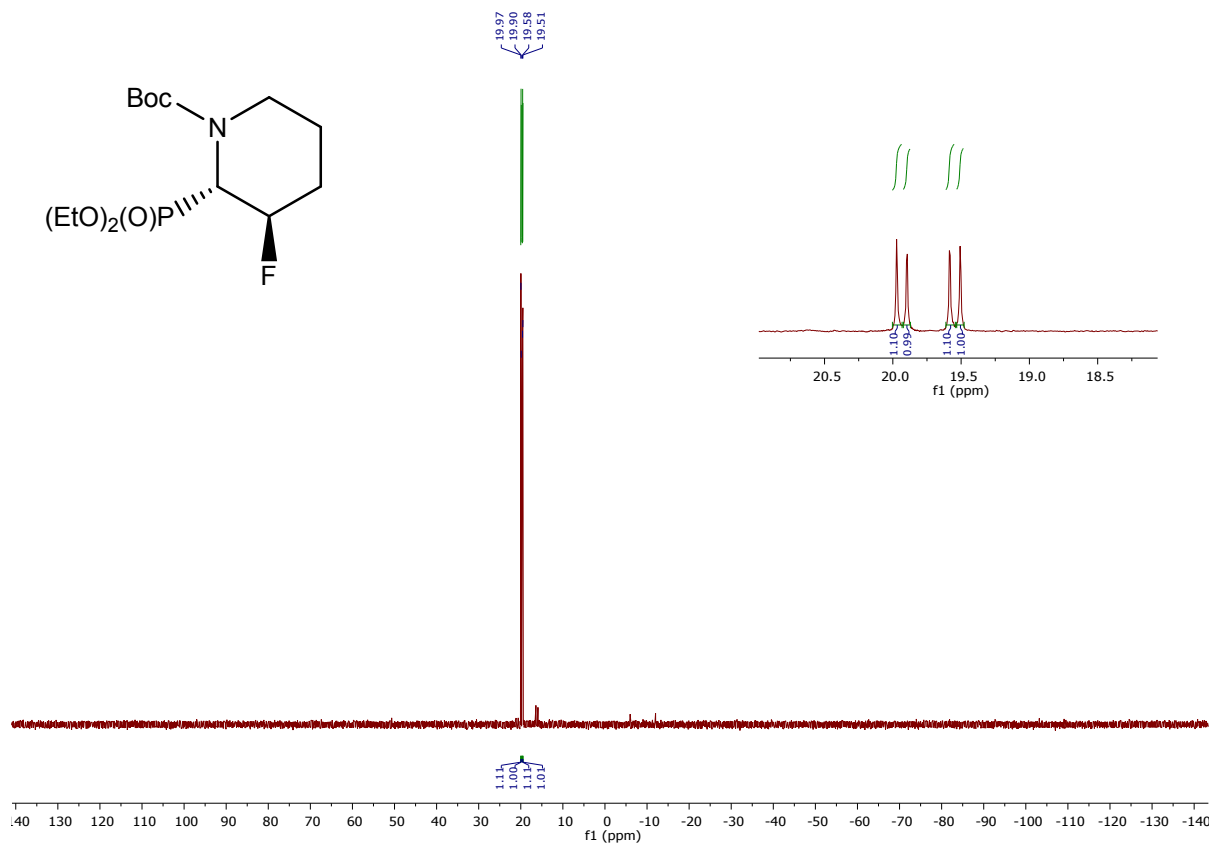




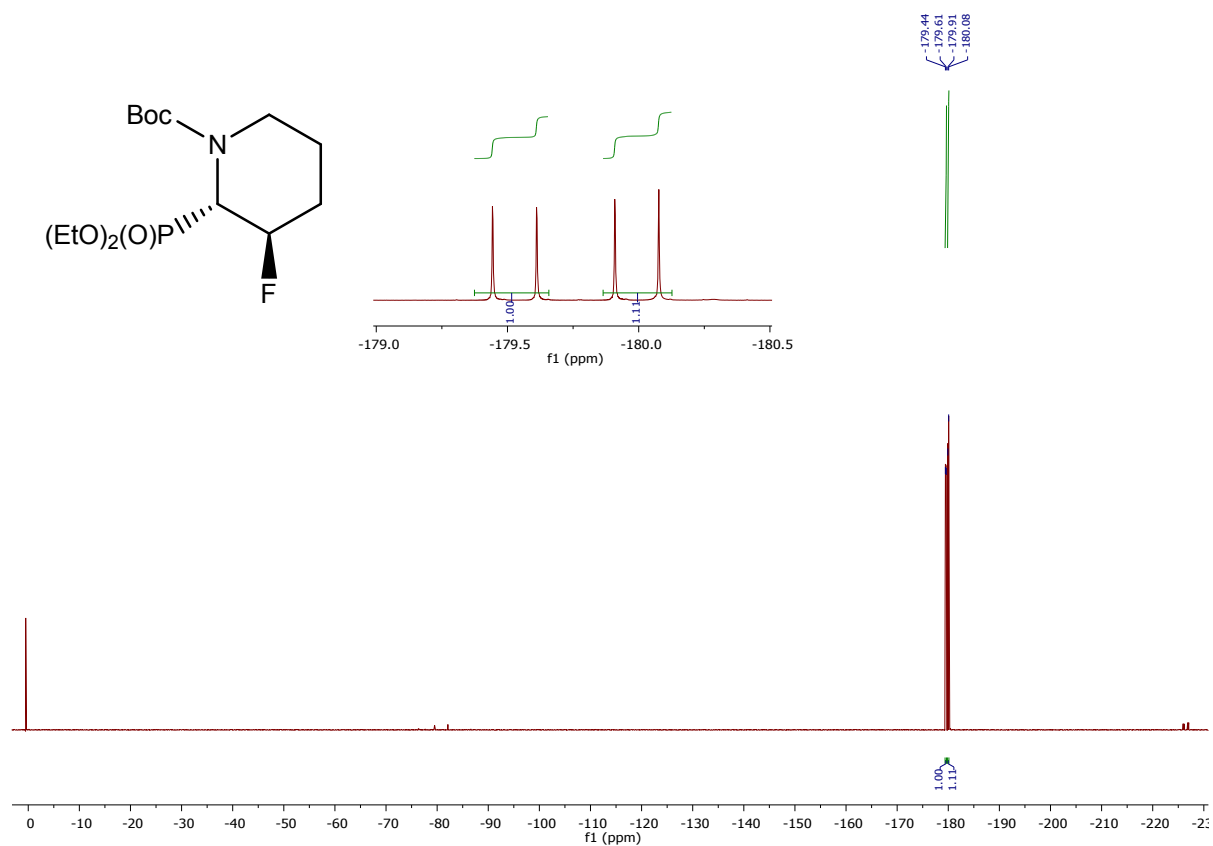
¹H NMR of 5



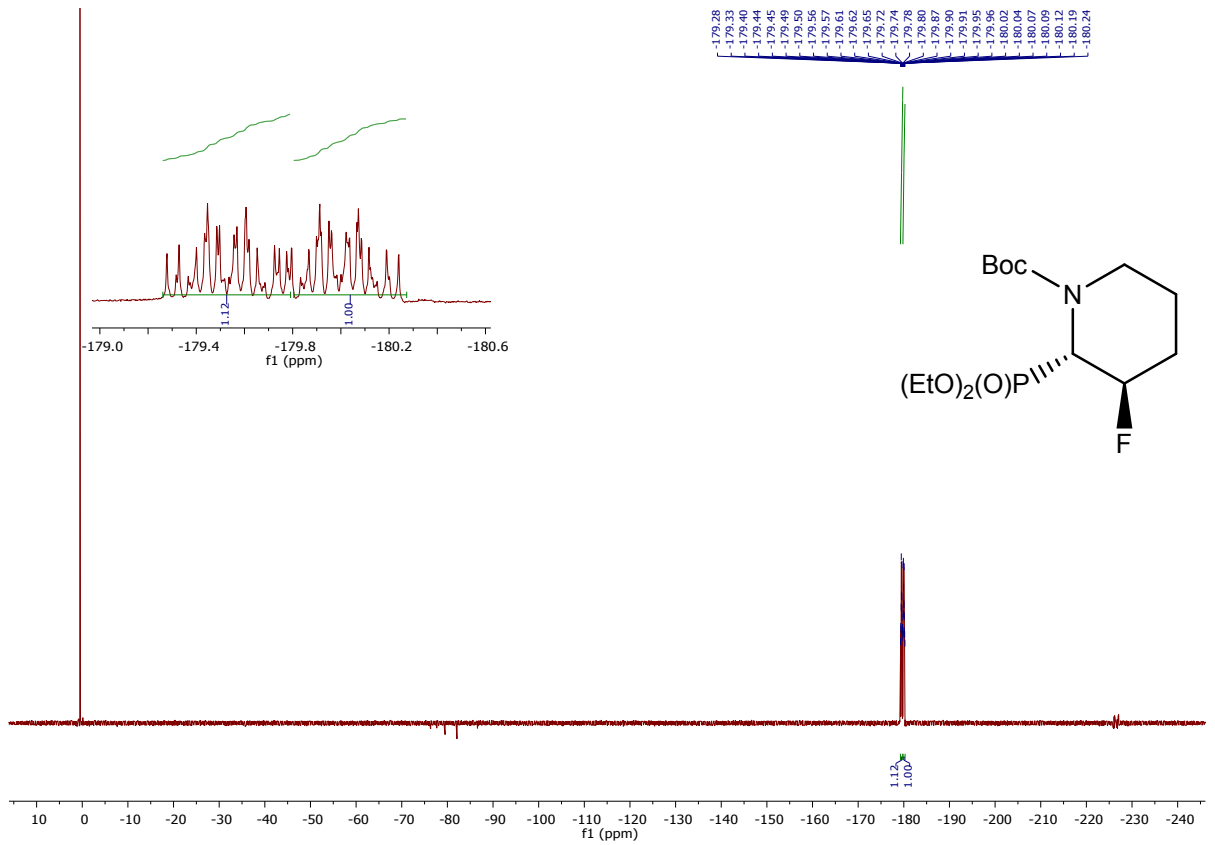
¹³C NMR of 5



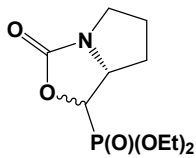
$^{31}\text{P}\{^1\text{H}\}$ NMR of 5



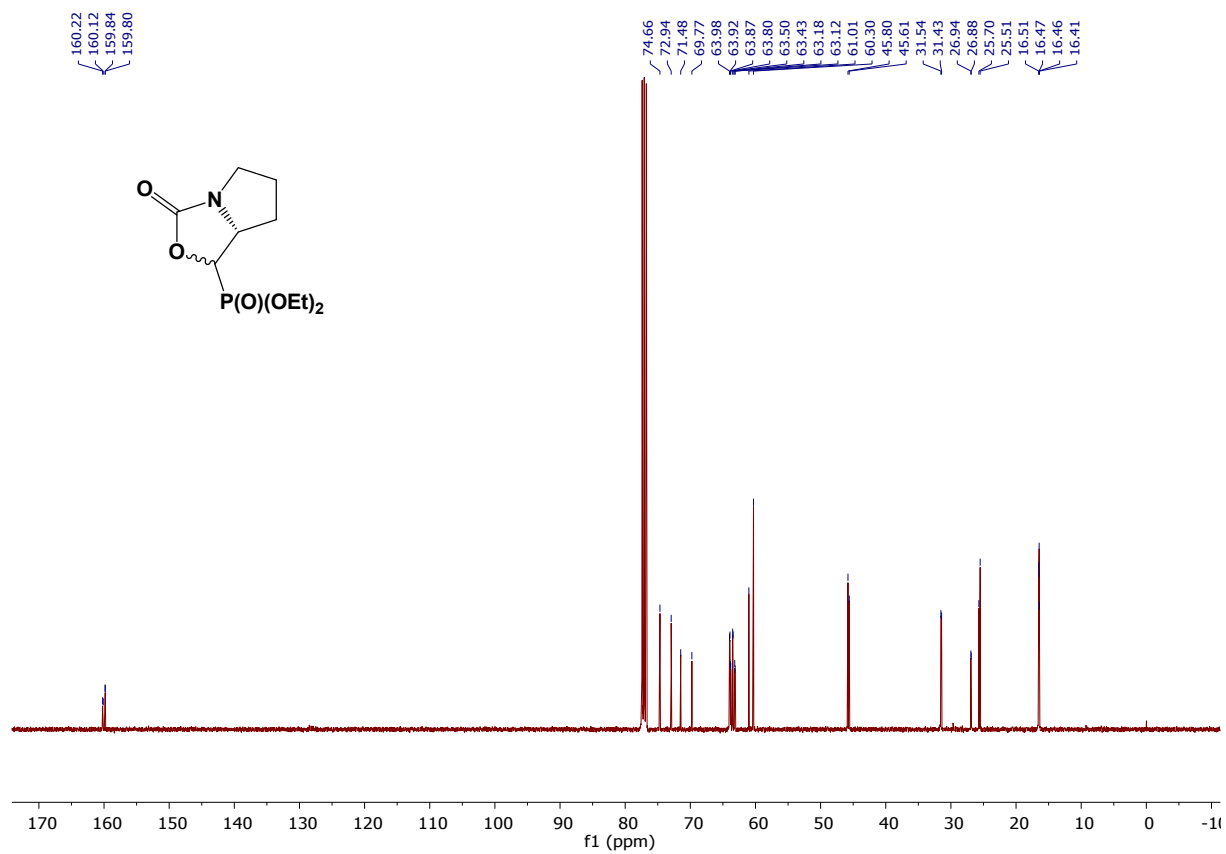
$^{19}\text{F}\{^1\text{H}\}$ NMR of 5



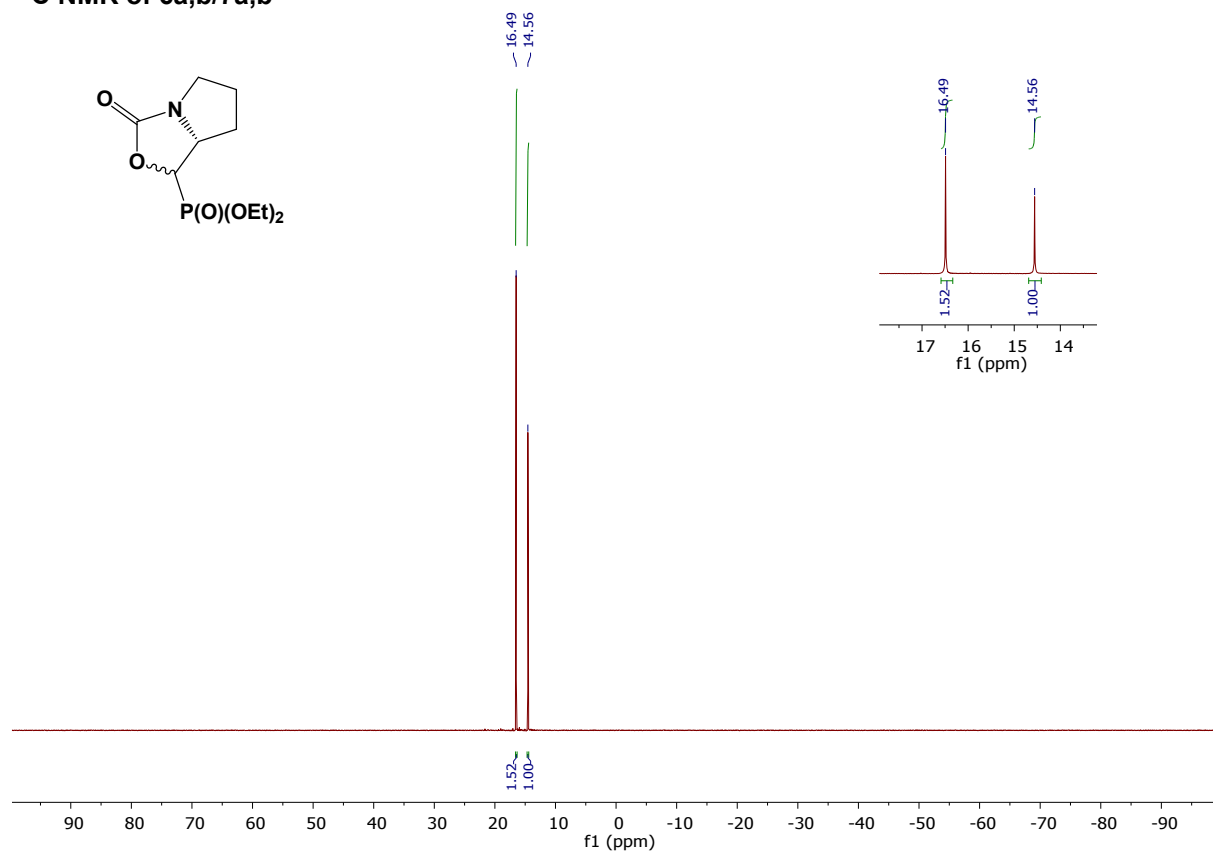
¹⁹F NMR of 5



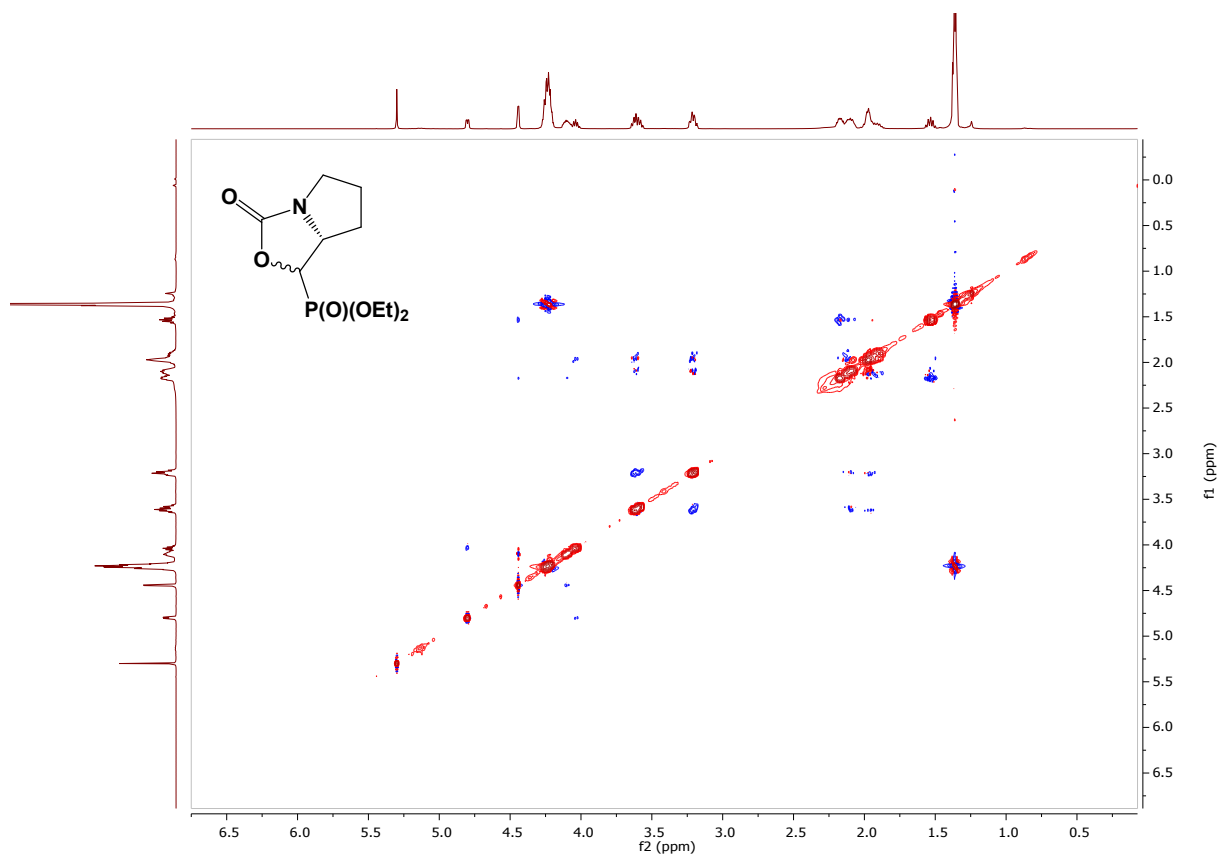
¹H NMR of 6a,b/7a,b



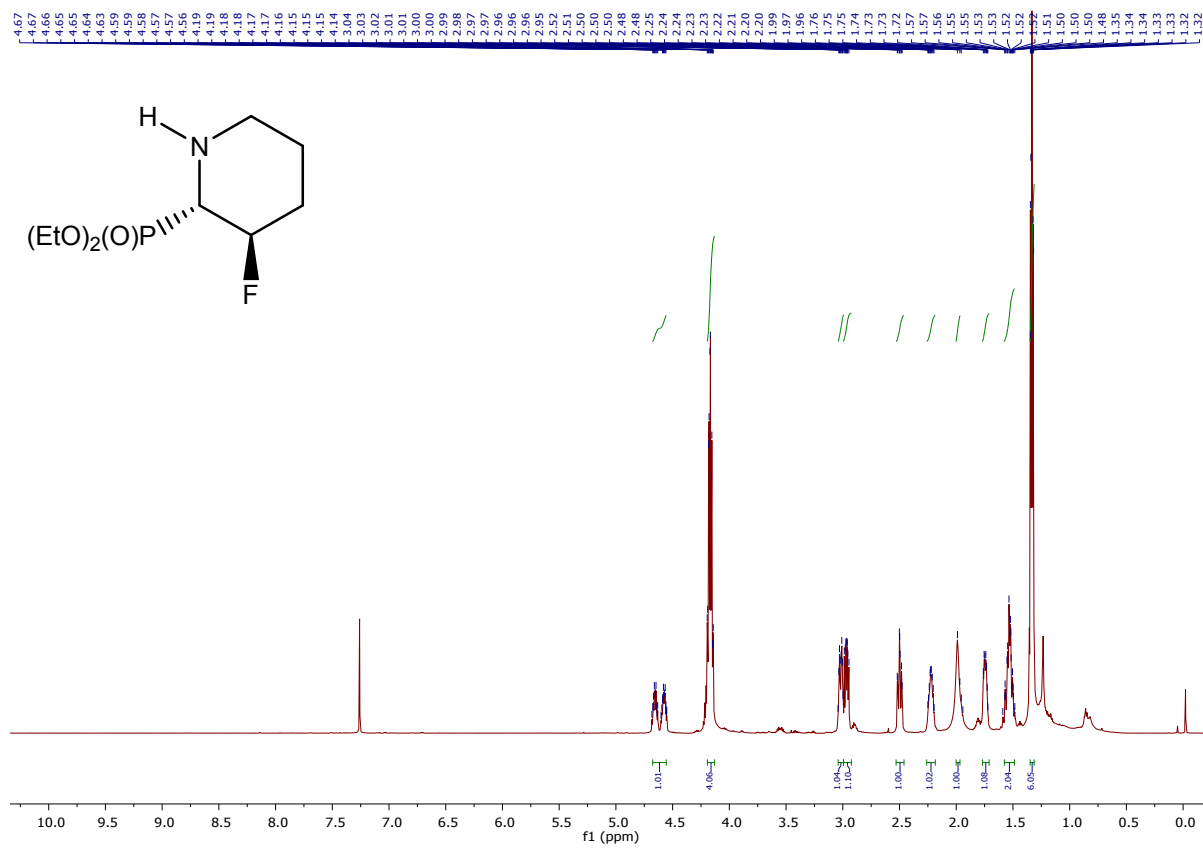
¹³C NMR of 6a,b/7a,b



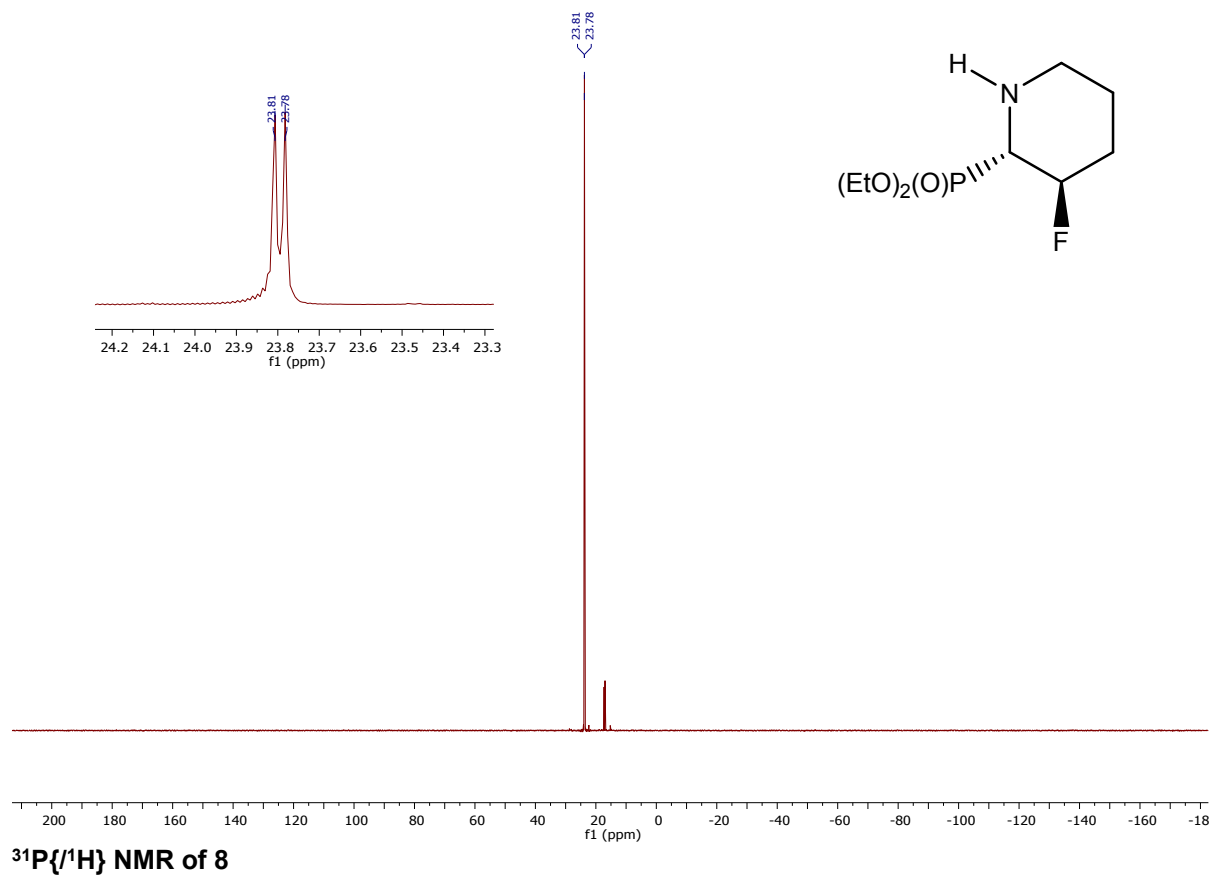
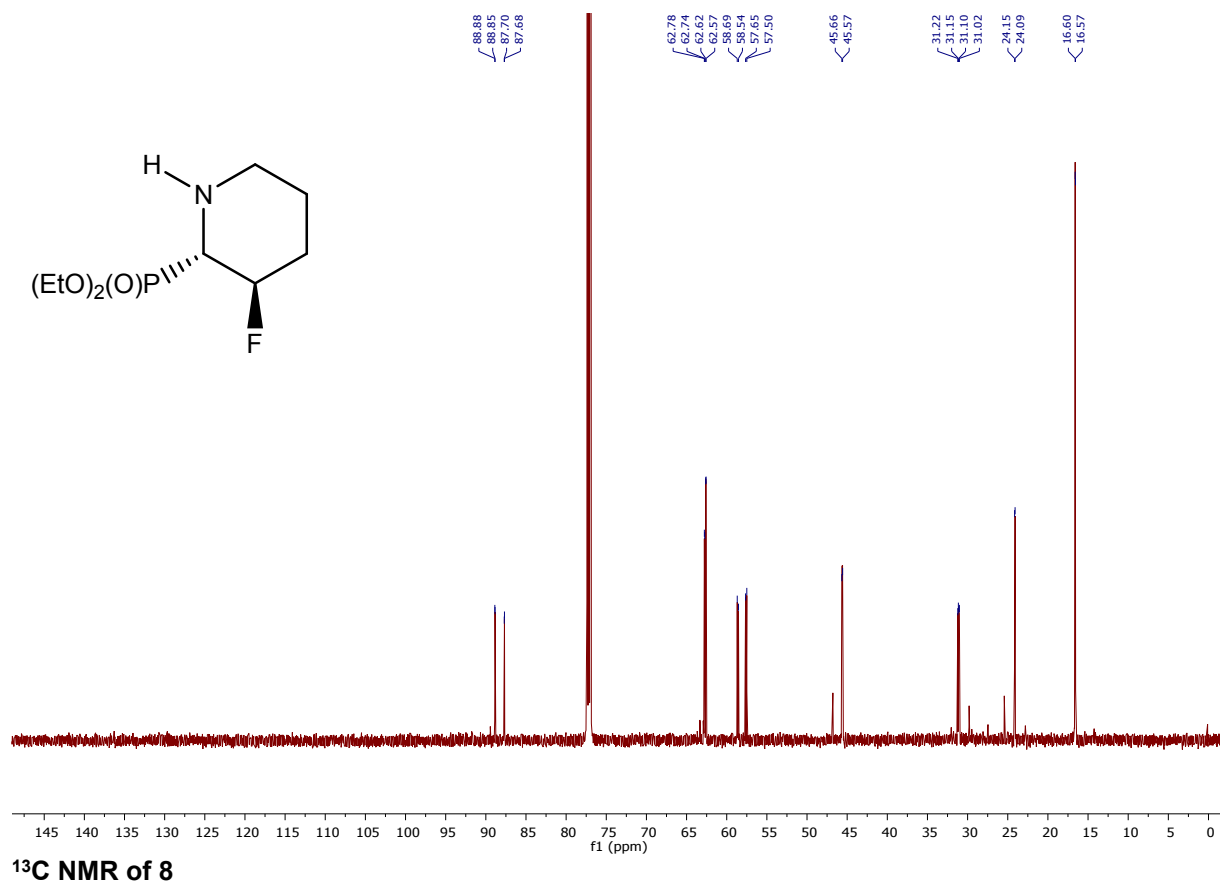
³¹P{¹H} NMR of 6a,b/7a,b

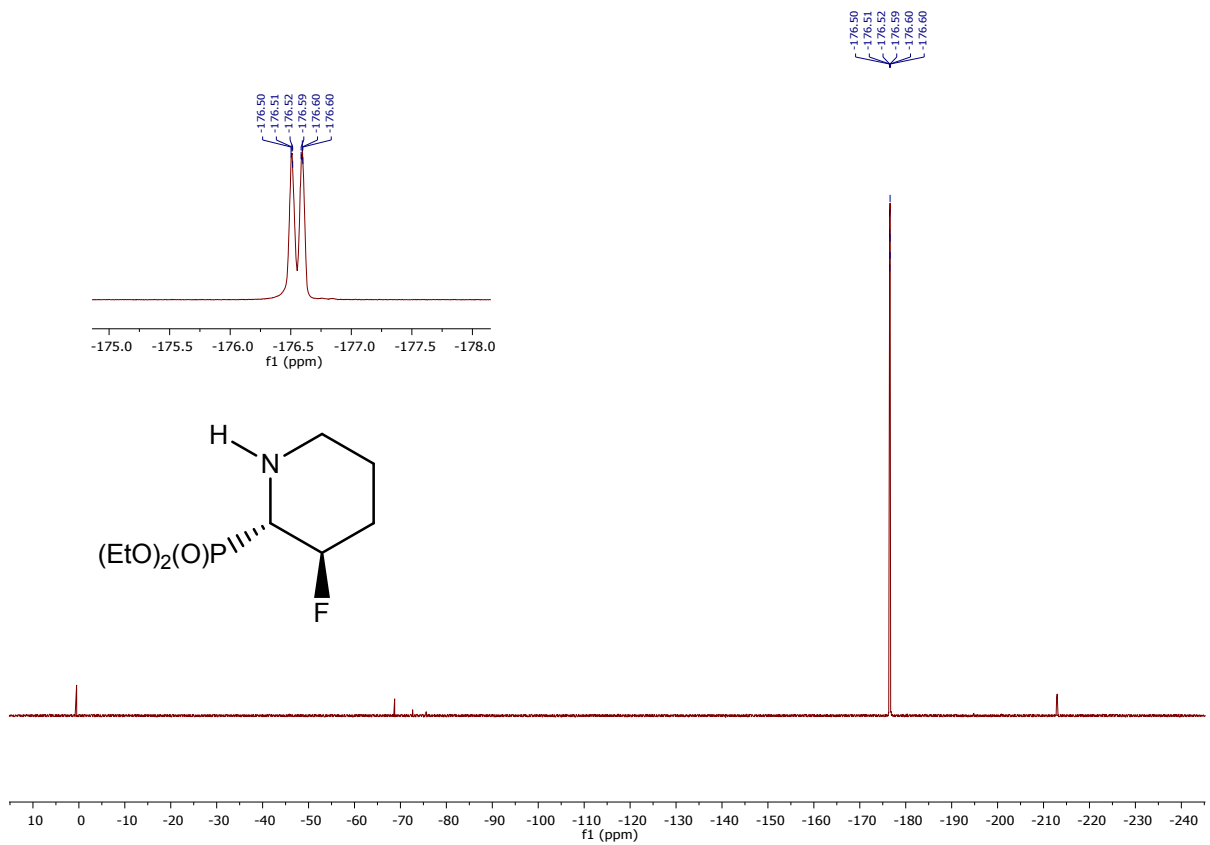


¹H-¹H NOESY of 6a,b/7a,b

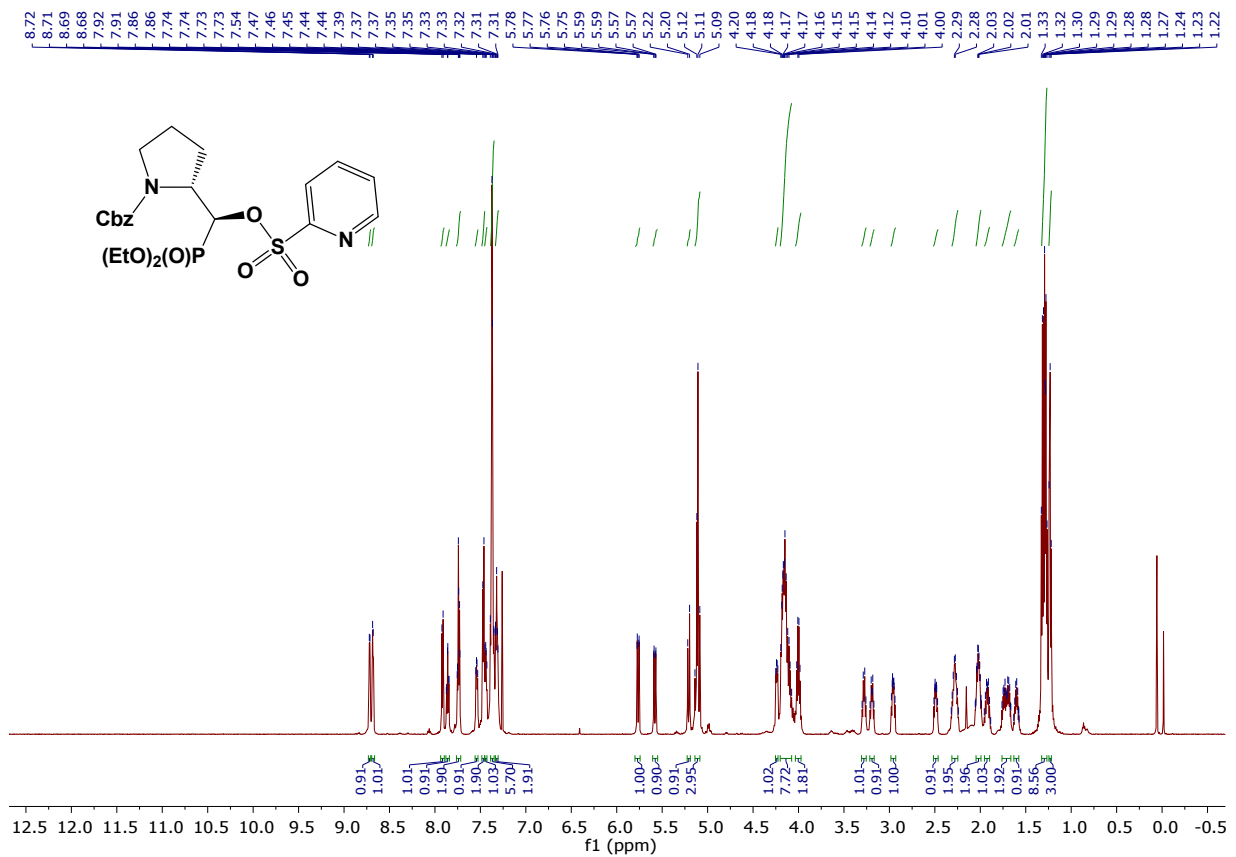


¹H NMR of 8

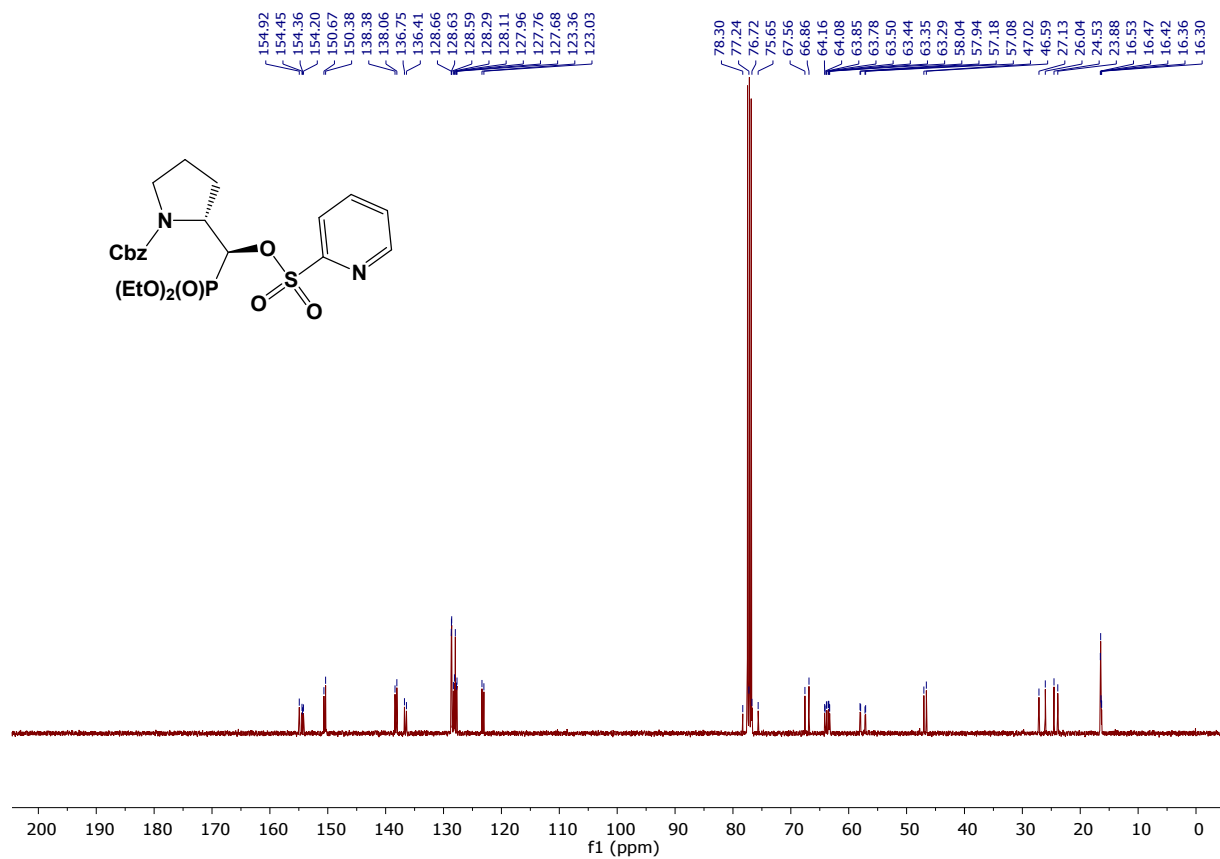




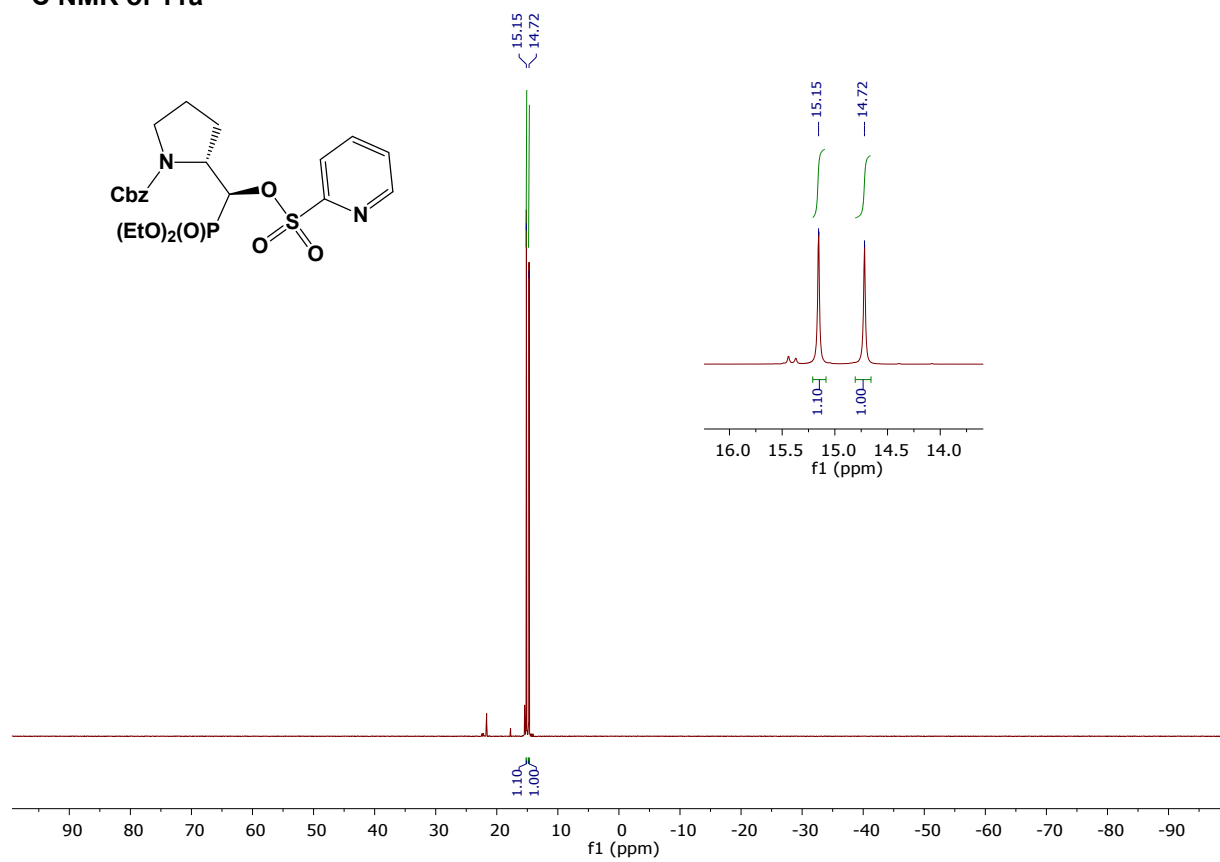
¹⁹F NMR of 8



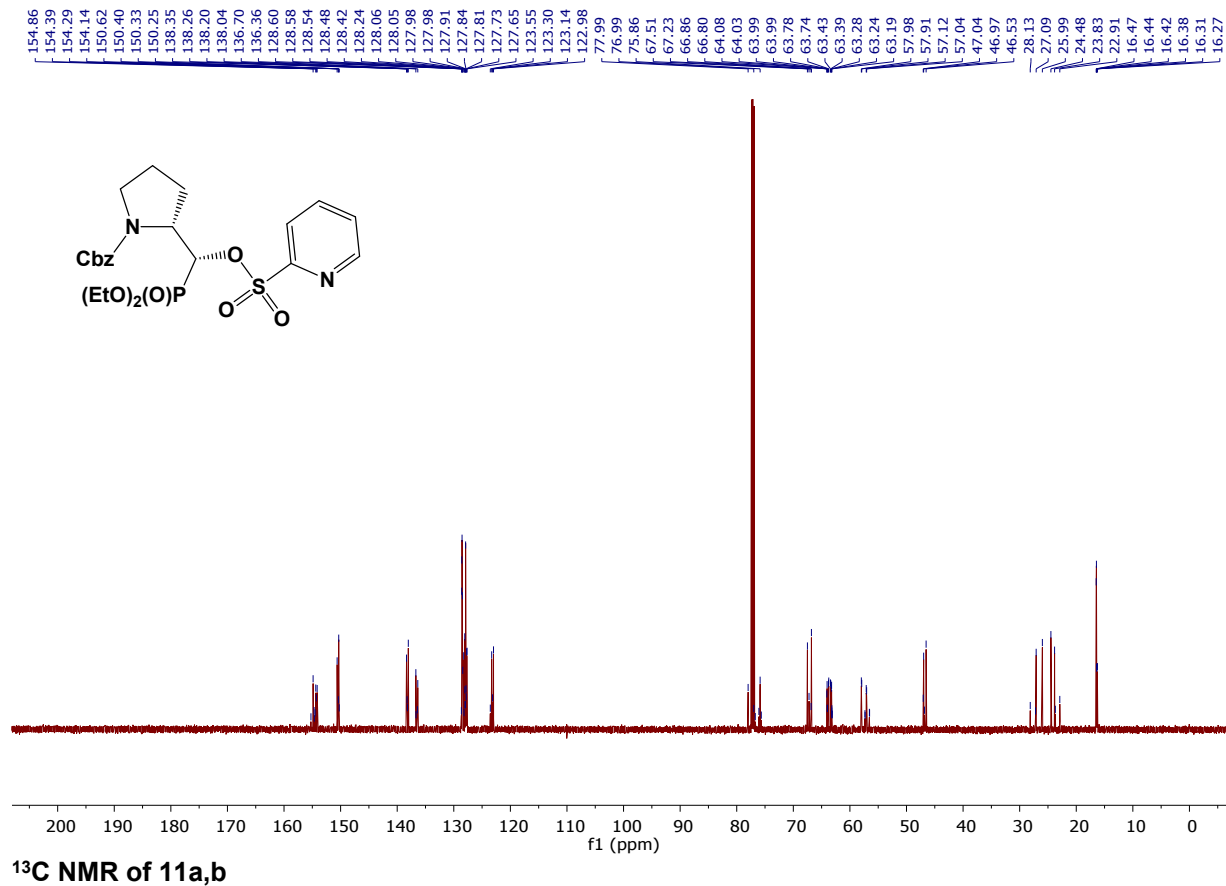
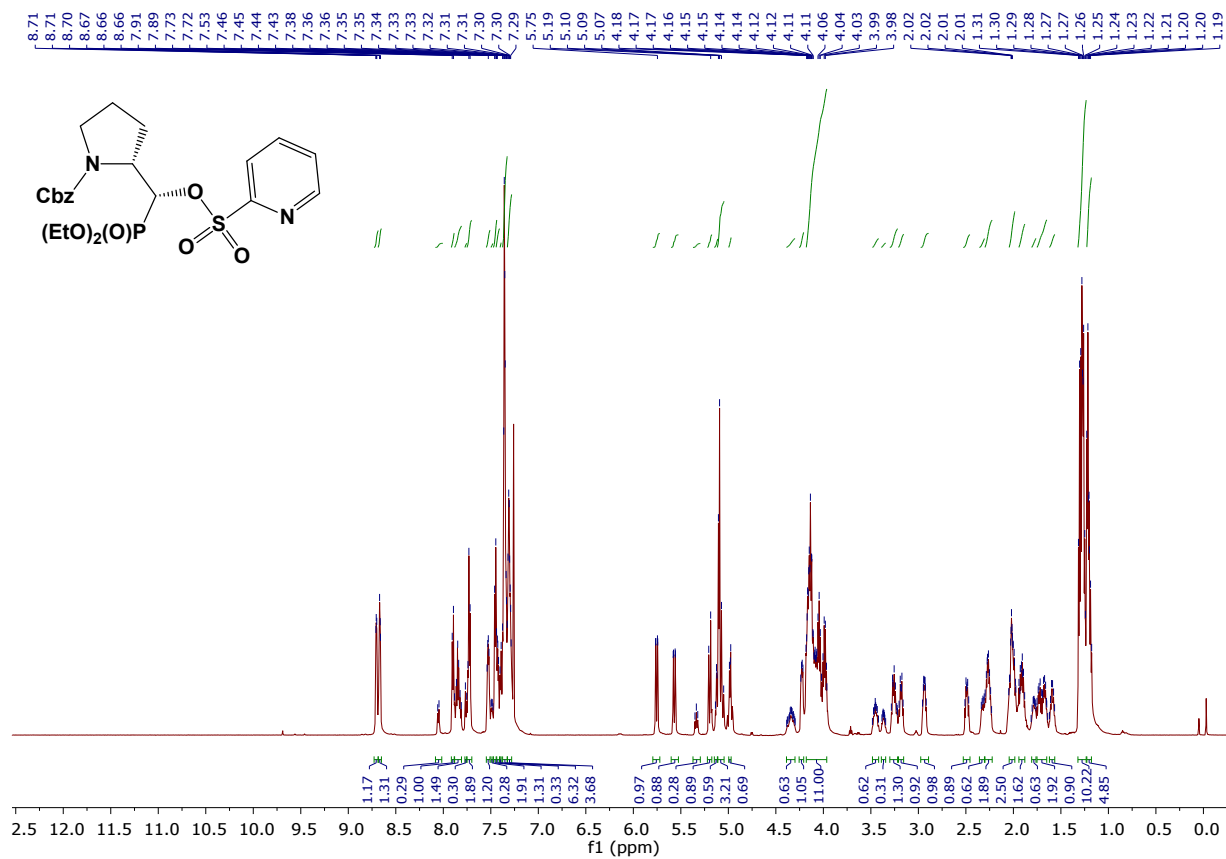
¹H NMR of 11a

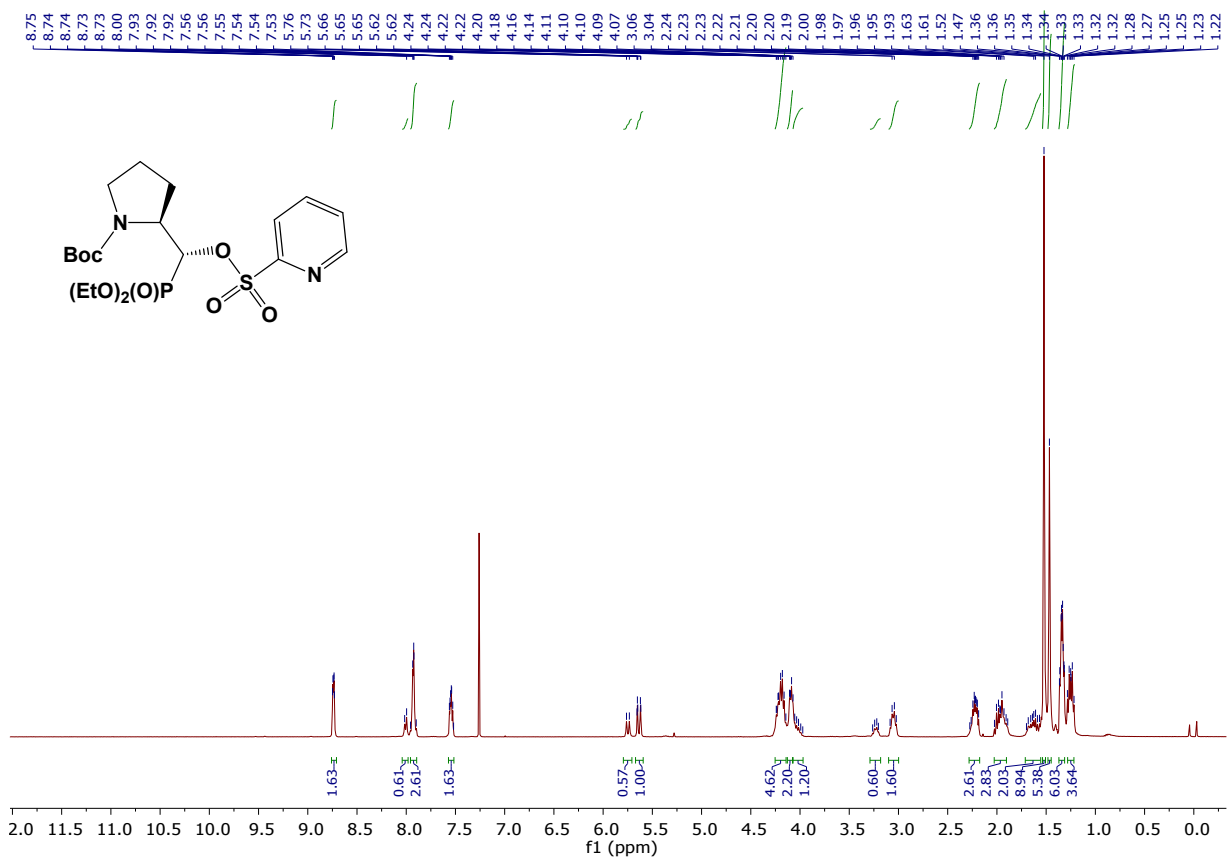
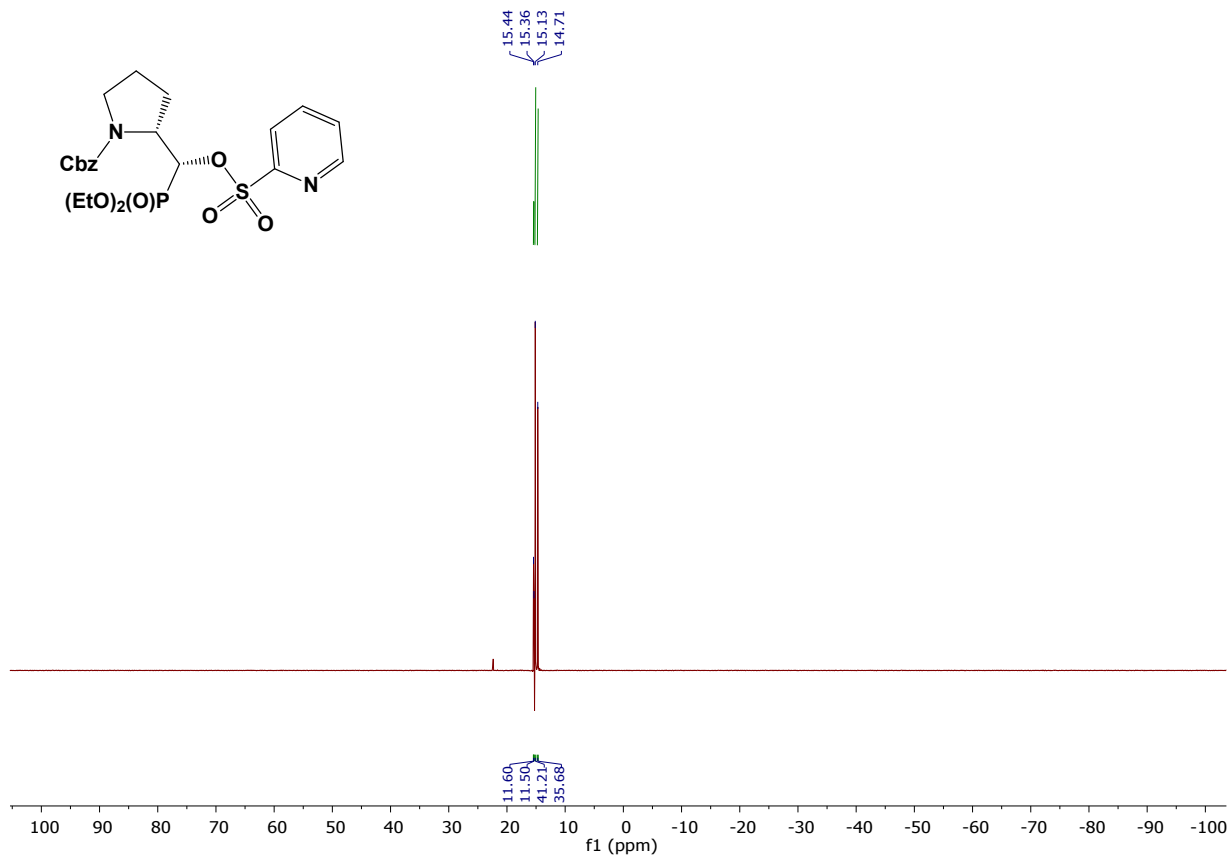


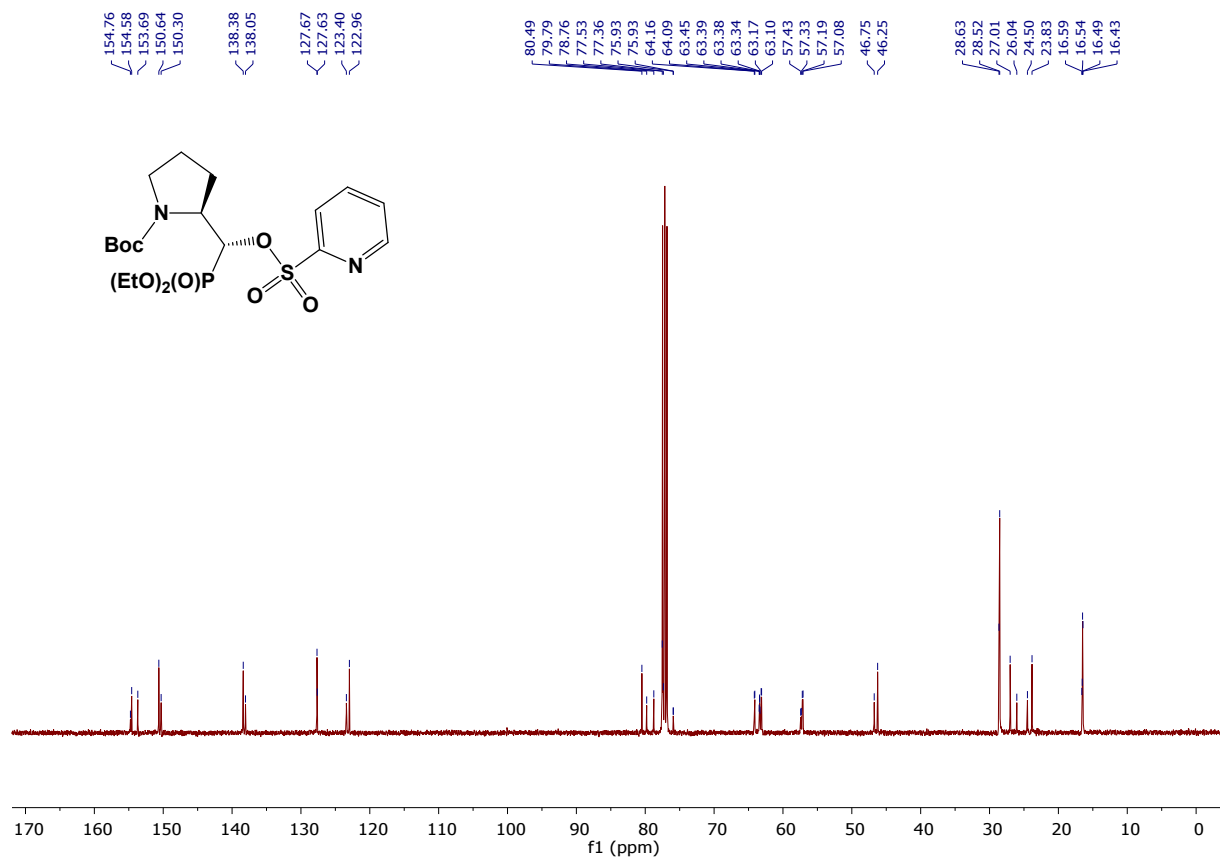
¹³C NMR of 11a



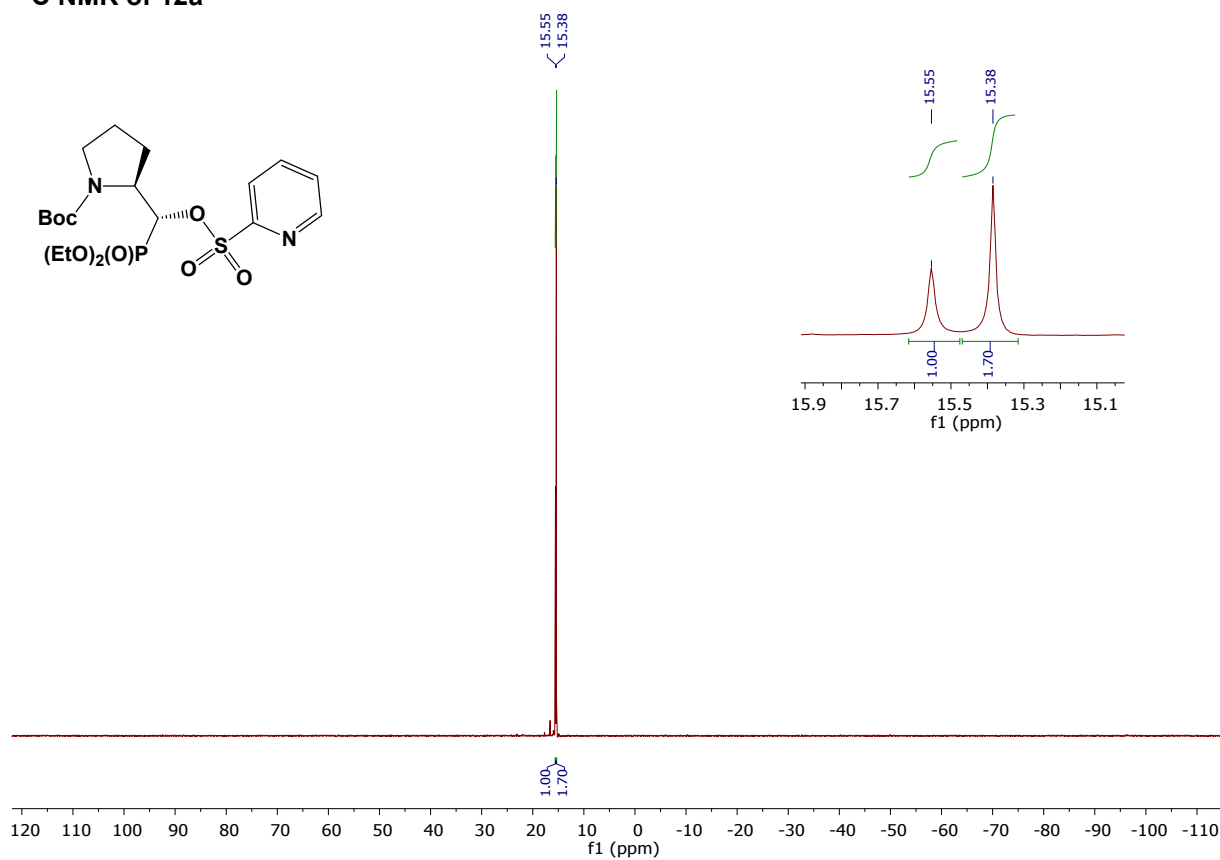
³¹P{¹H} NMR of 11a



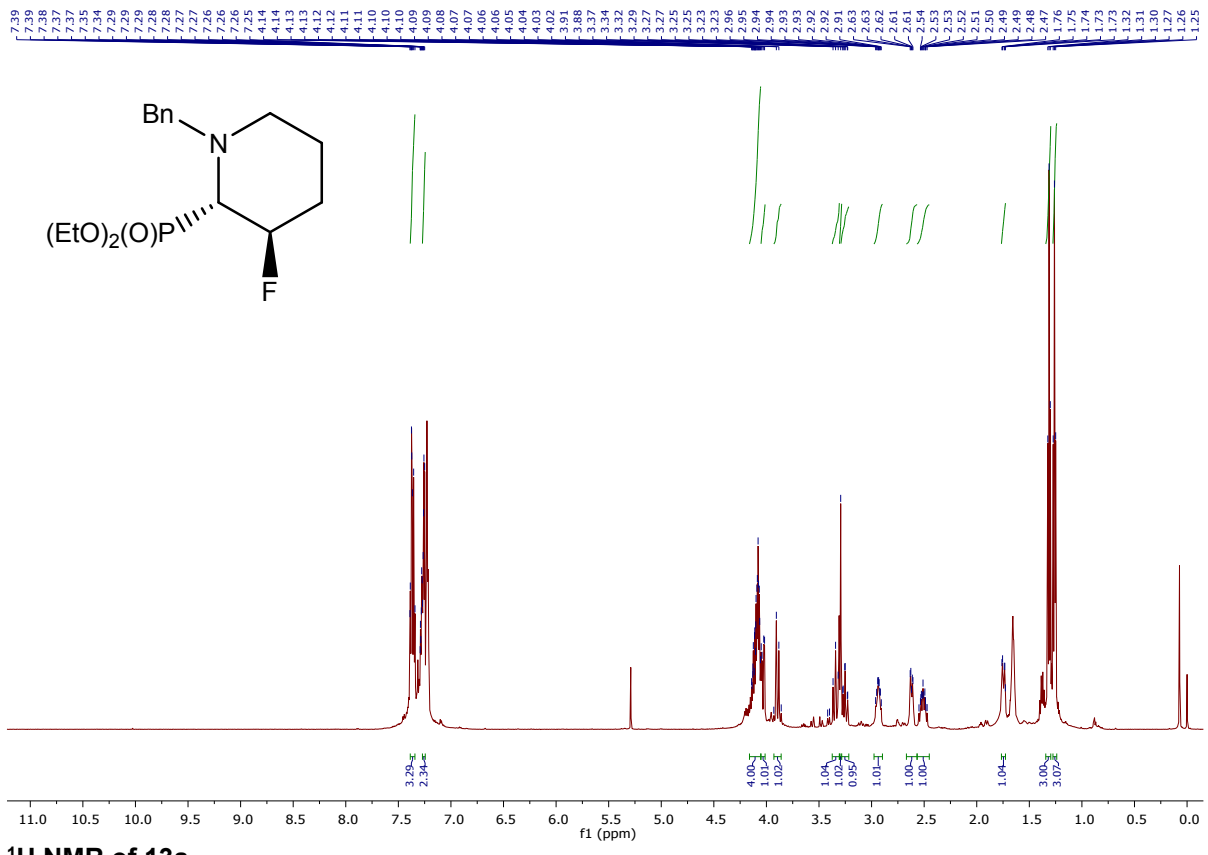




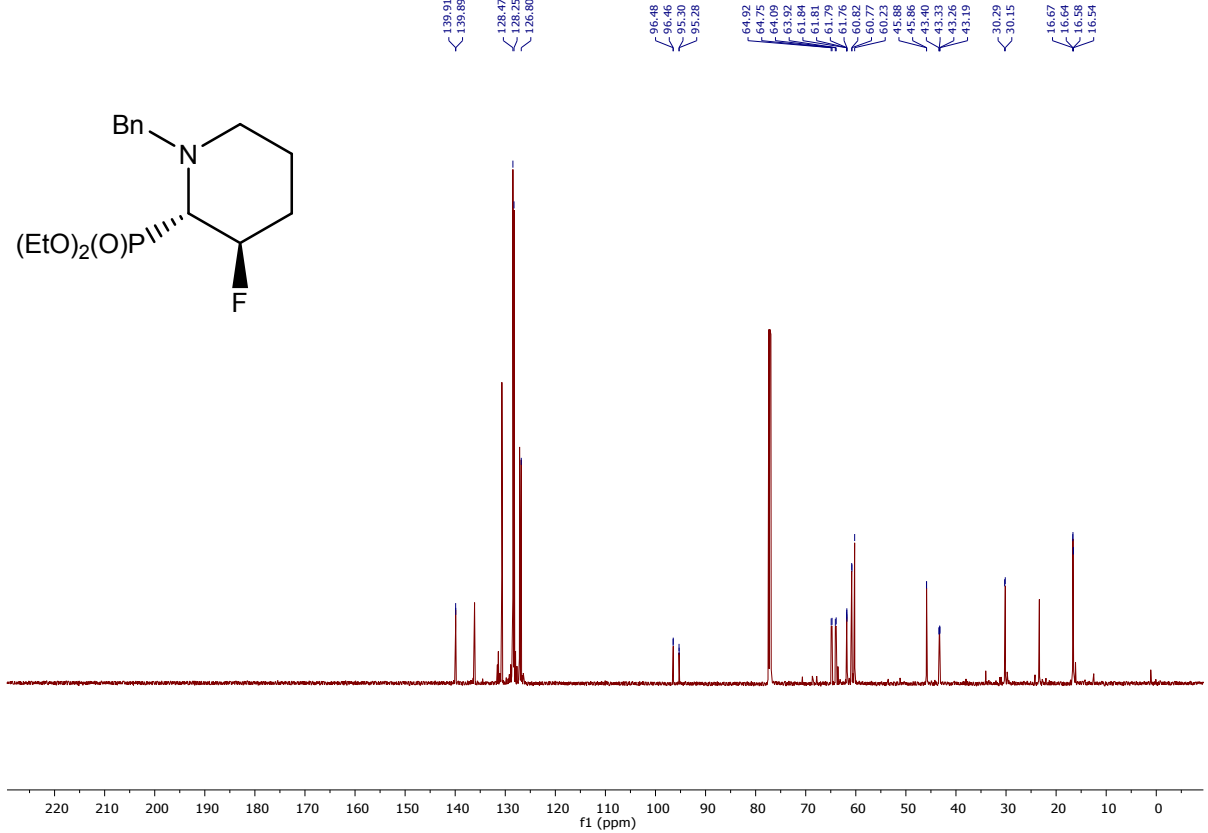
^{13}C NMR of 12a



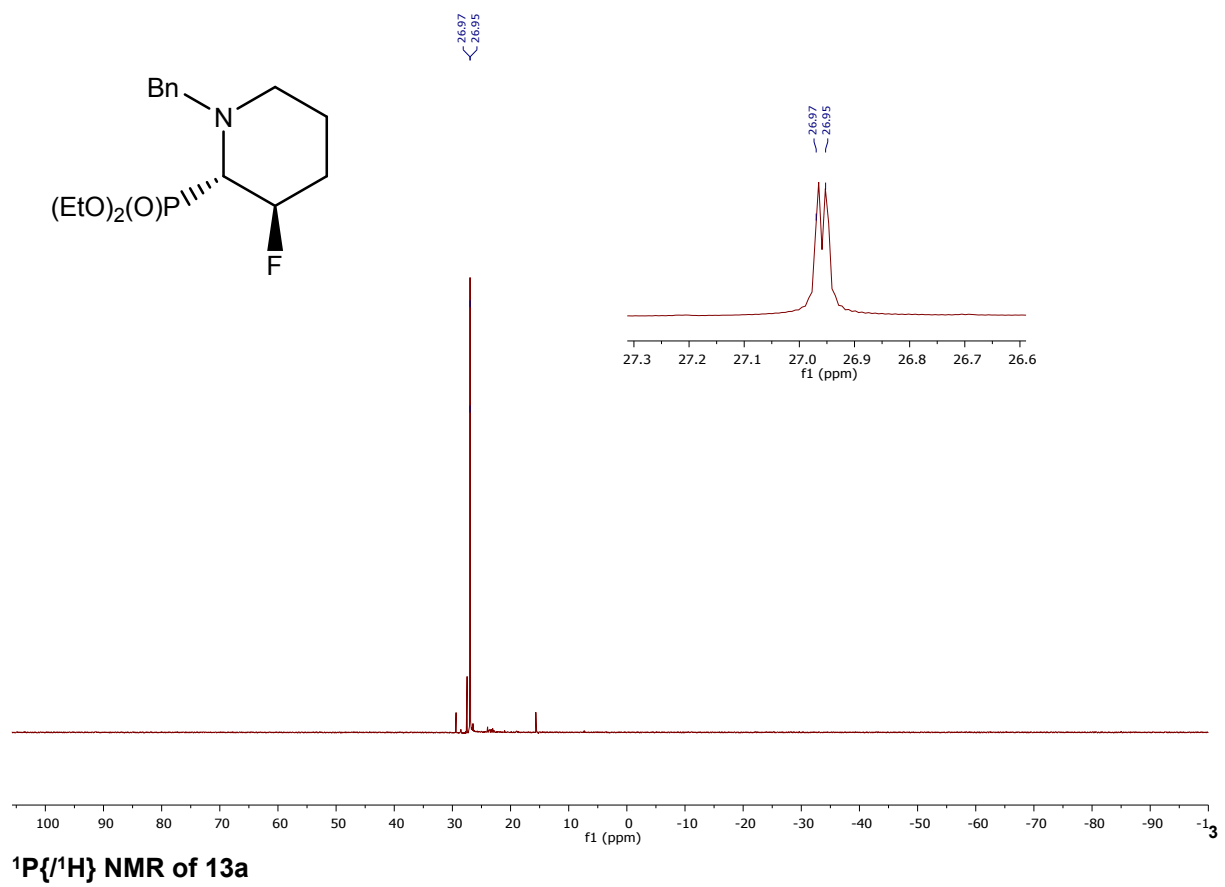
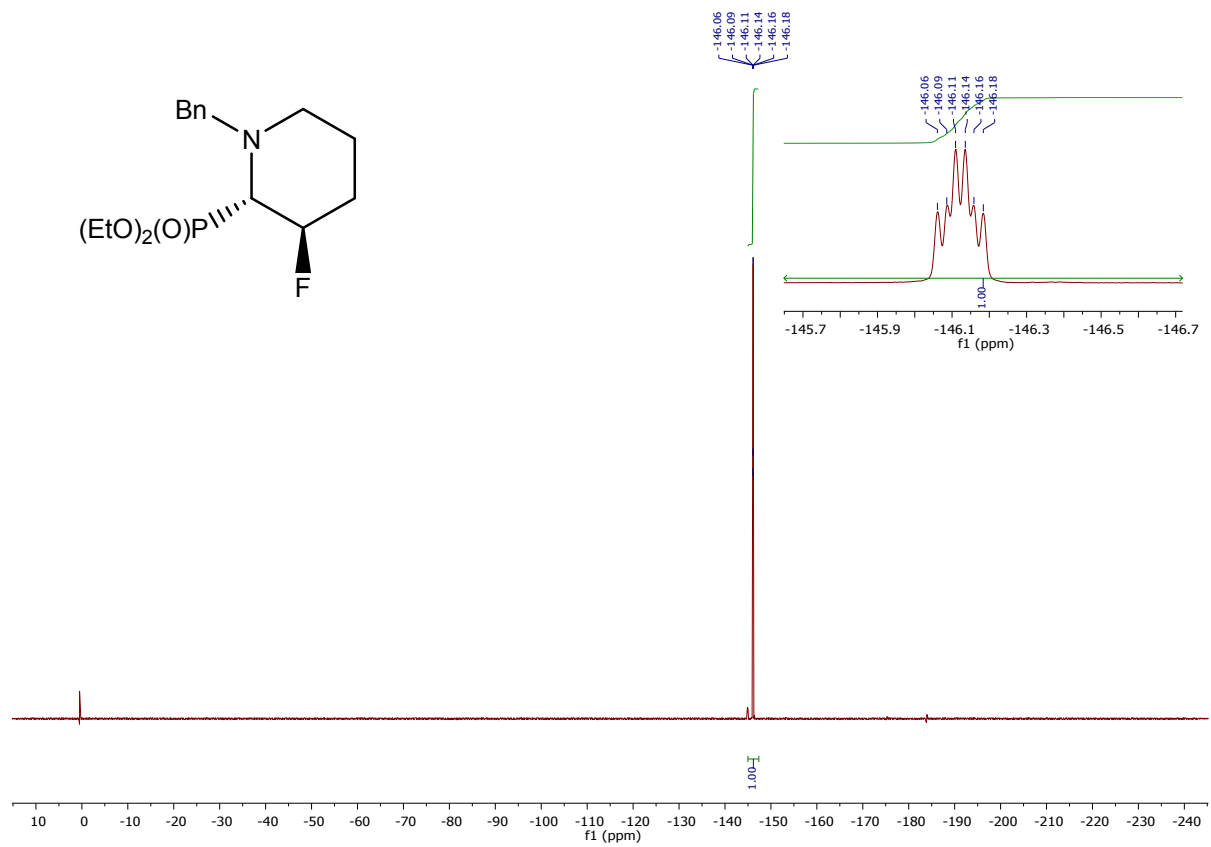
$^{31}\text{P}\{^1\text{H}\}$ NMR of 12a

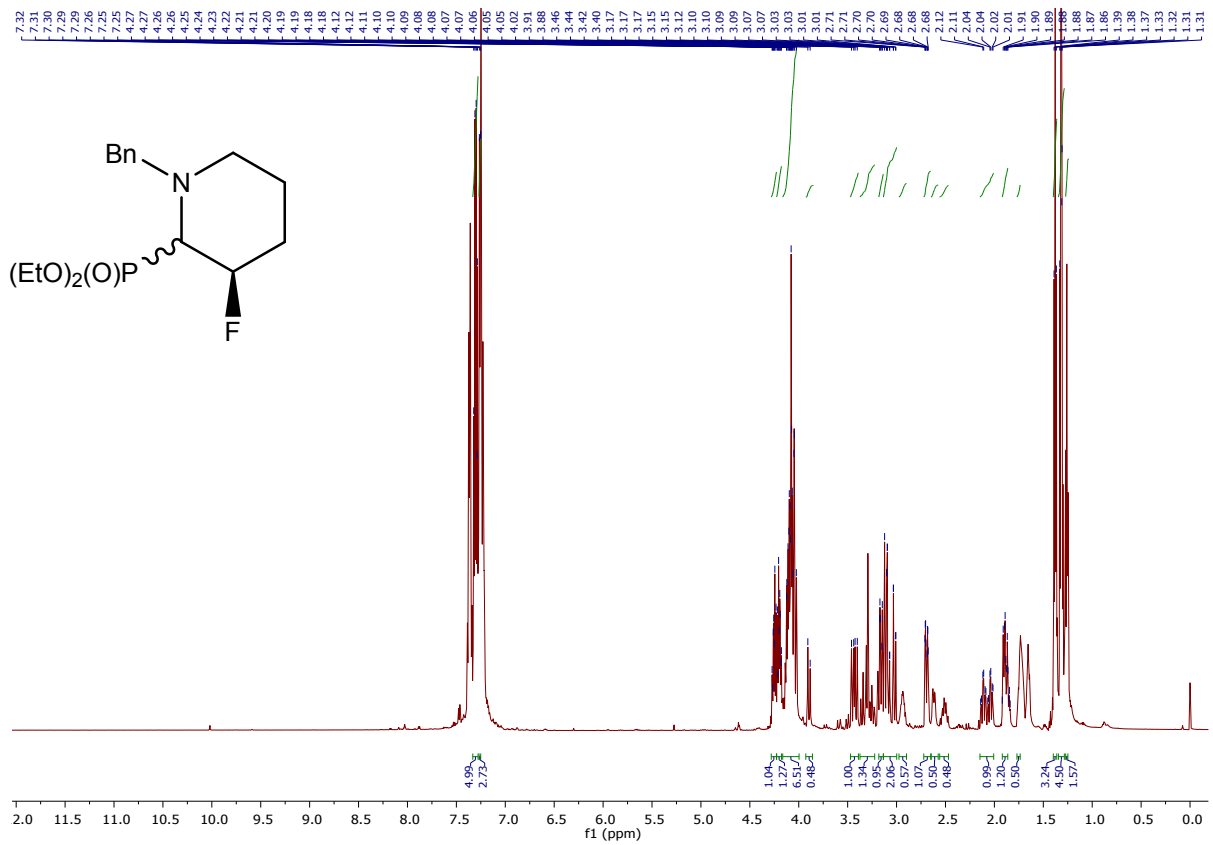


¹H NMR of 13a

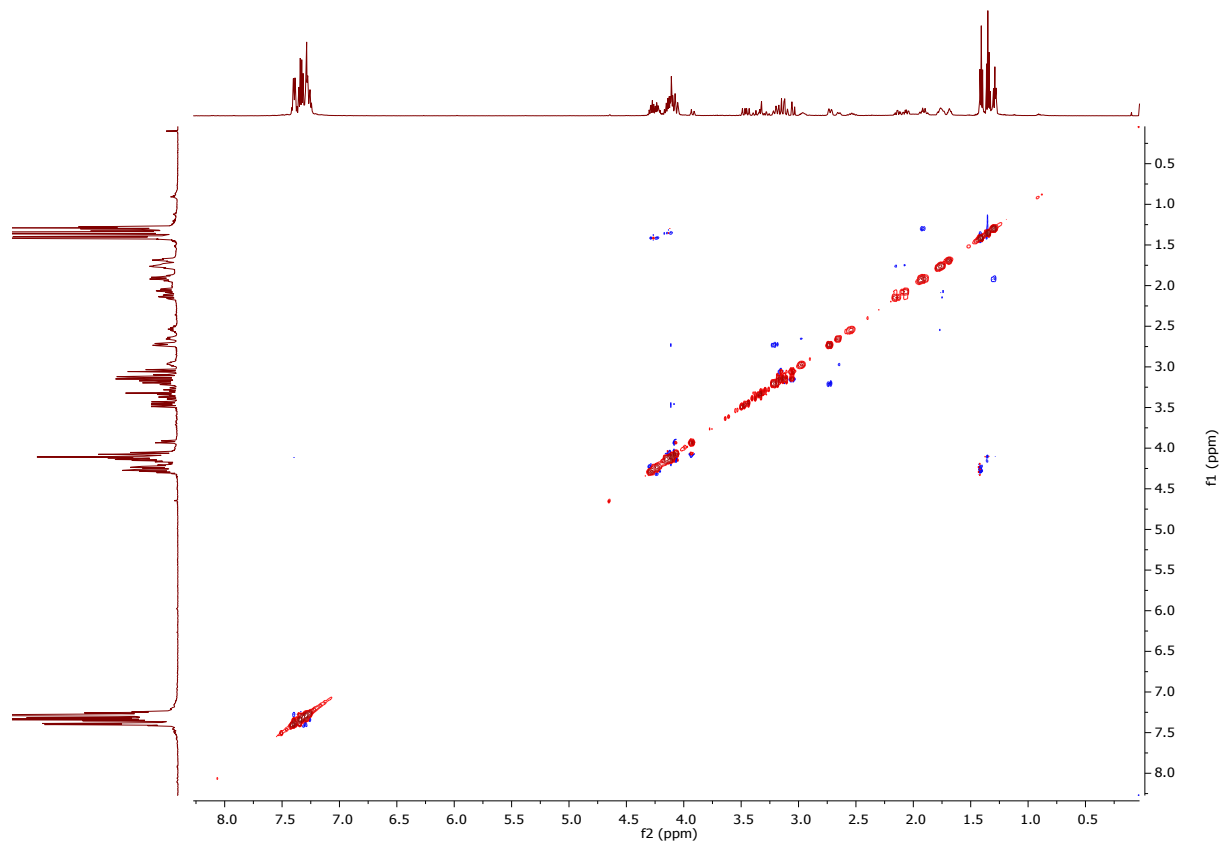


¹³C NMR of 13a

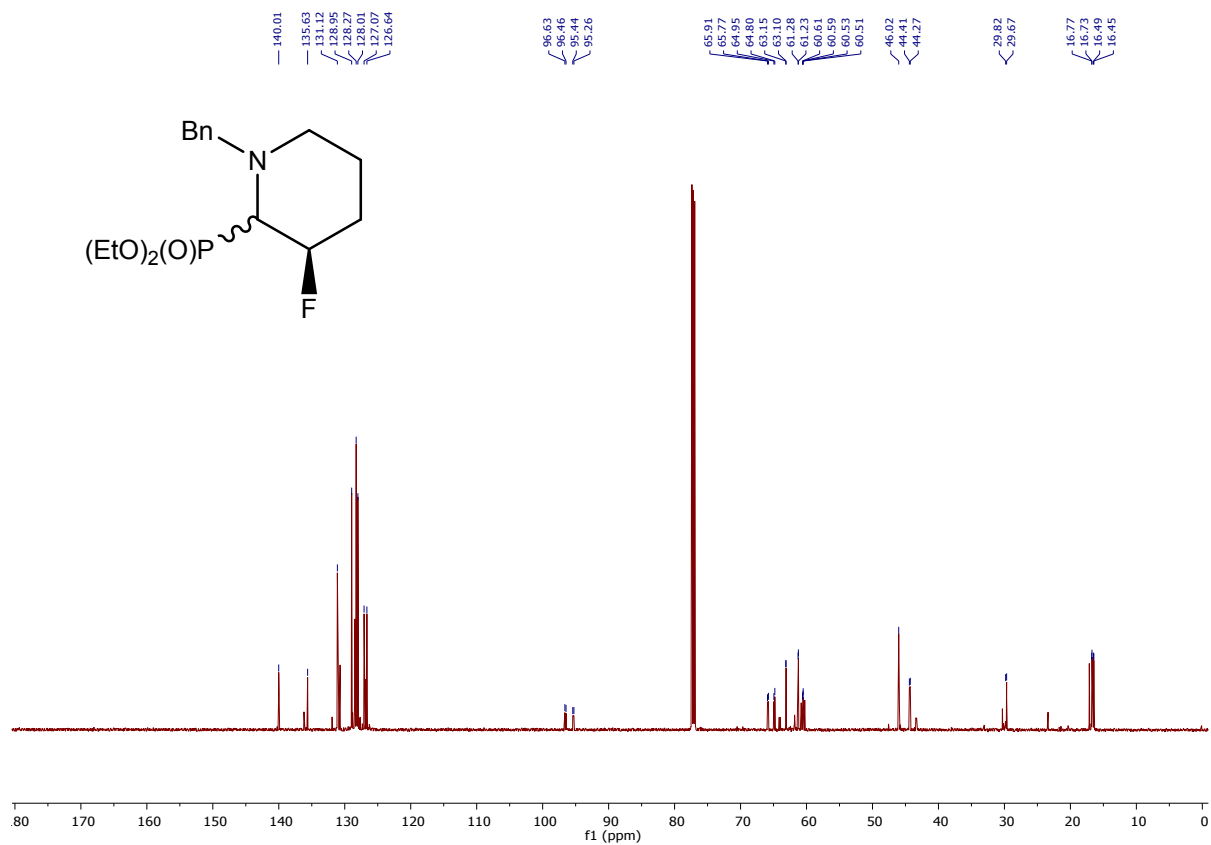




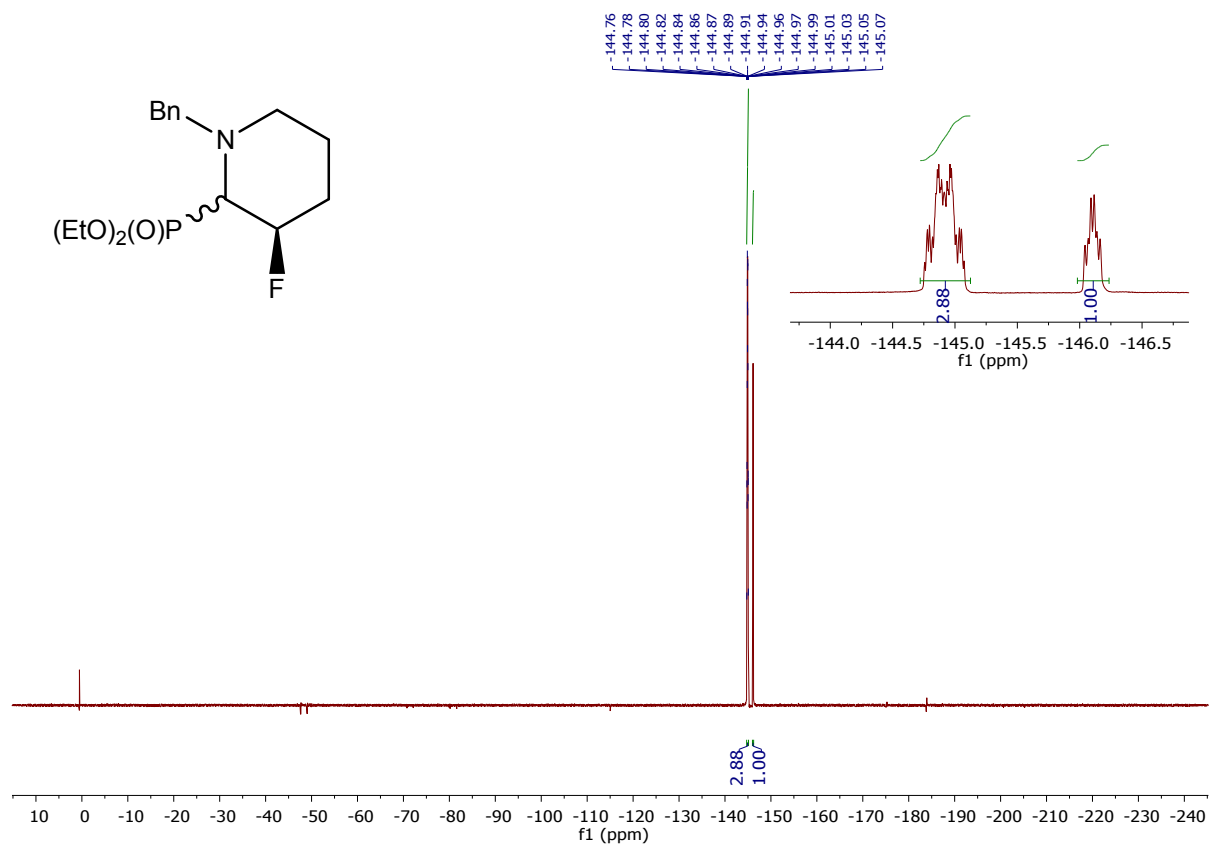
¹H NMR of 13a:13b (1:2.08 d.r.)



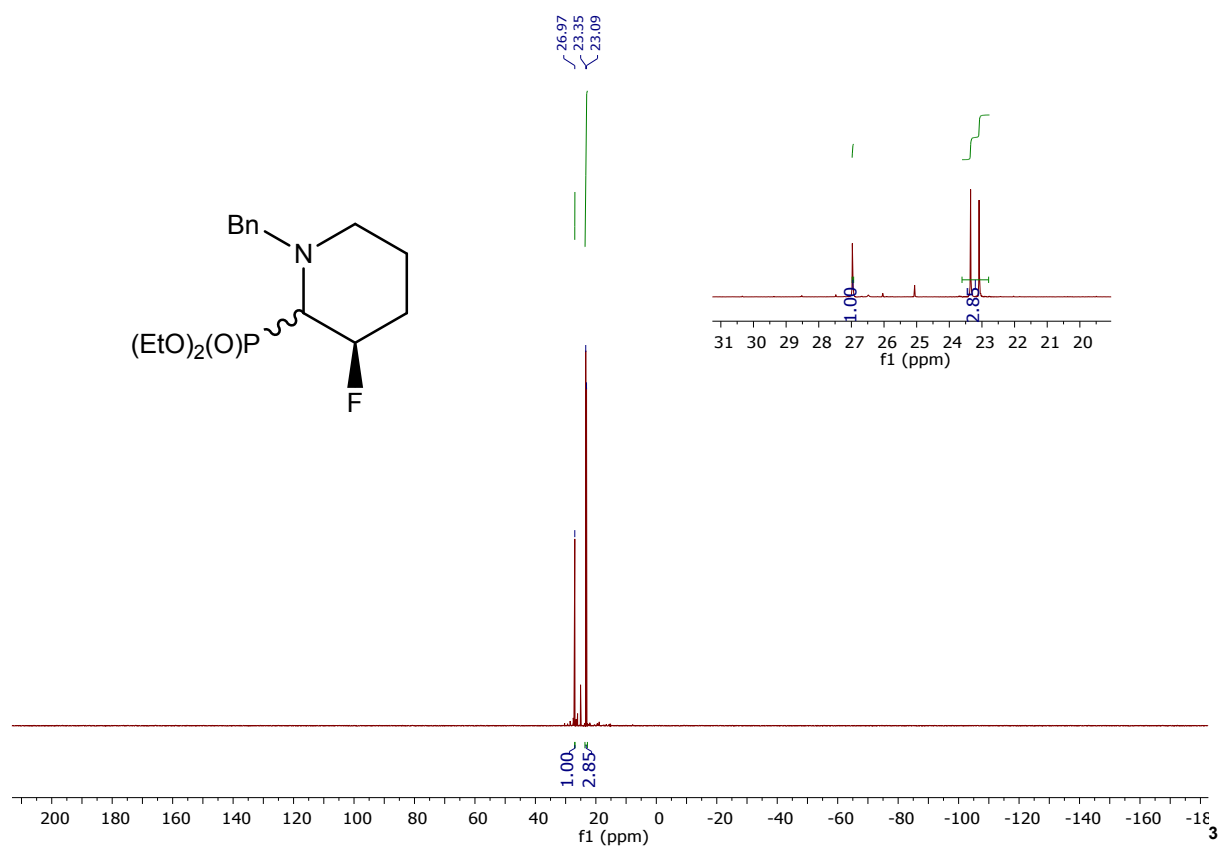
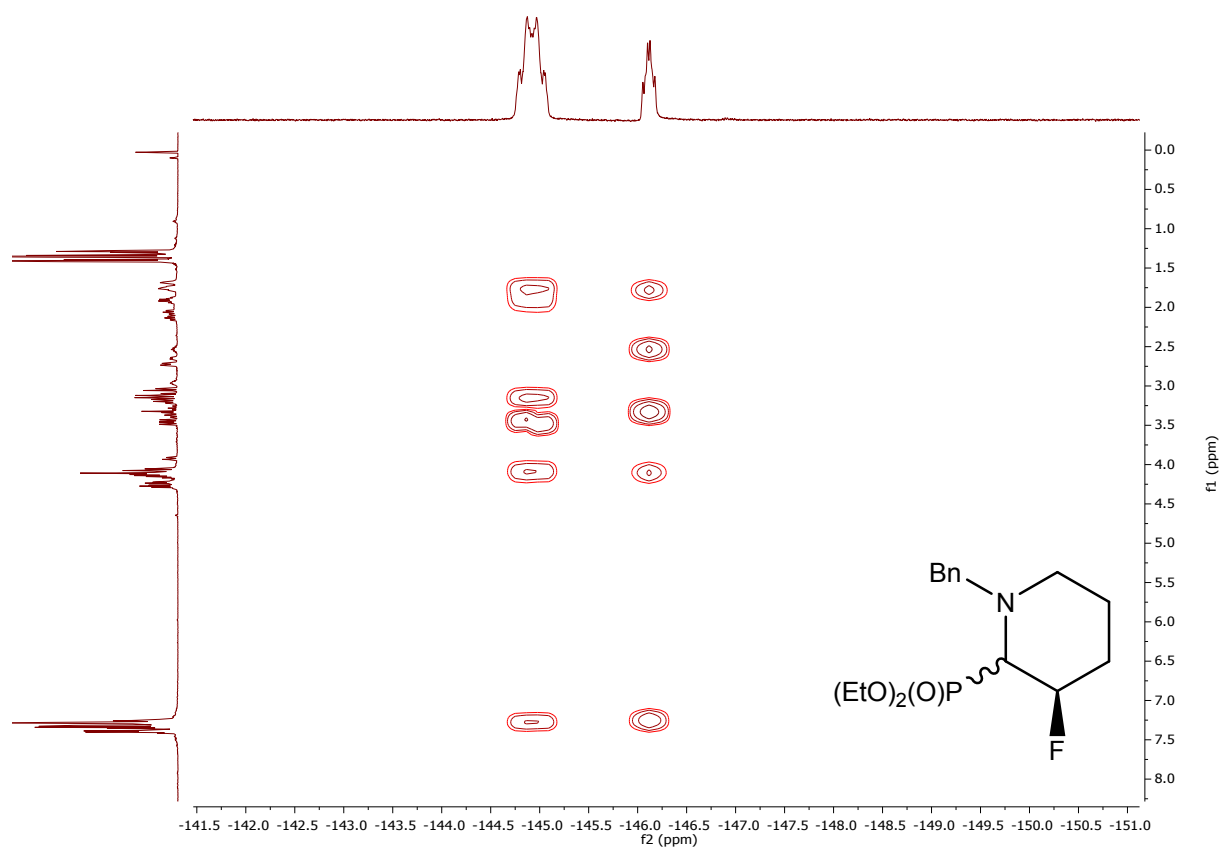
¹H-¹H NOESY of 13a:13b (1:2.08 d.r.)

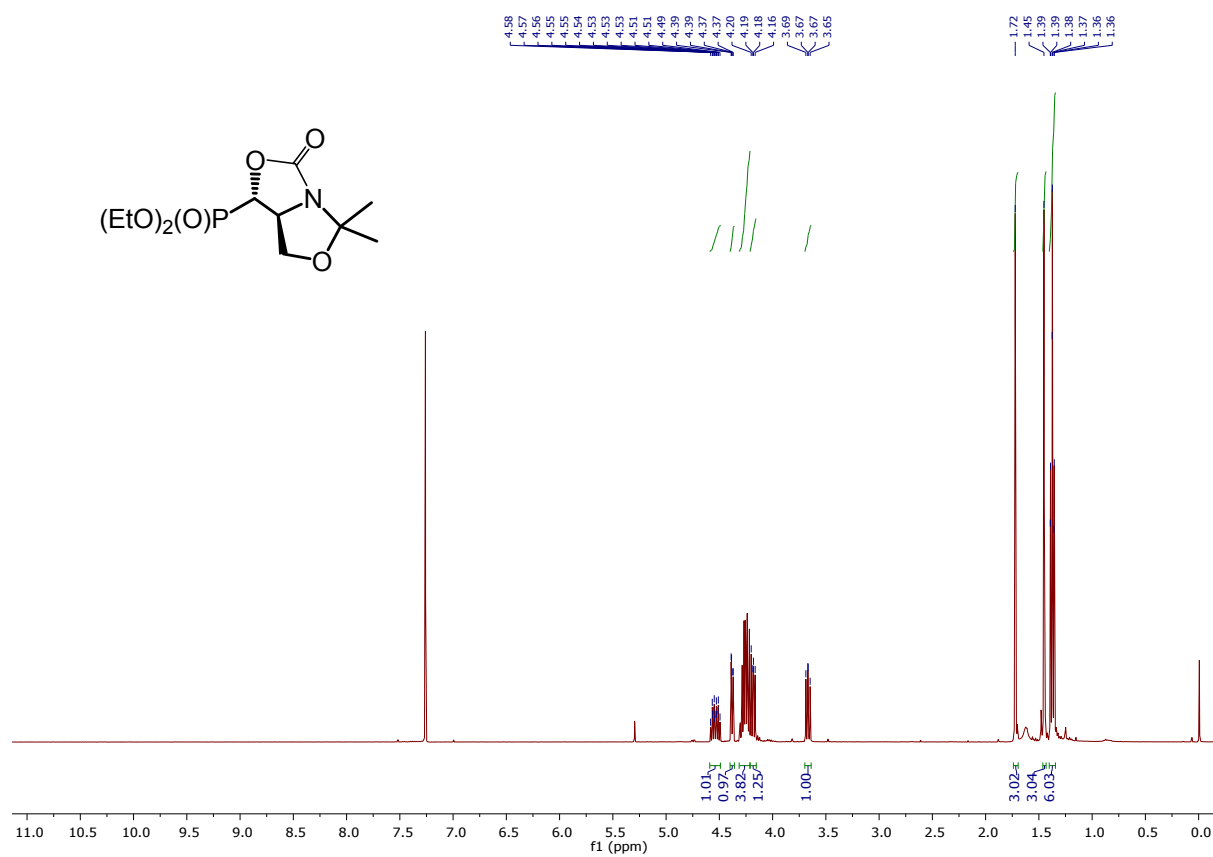


¹³C NMR of 13a:13b (1:2.8 d.r.)

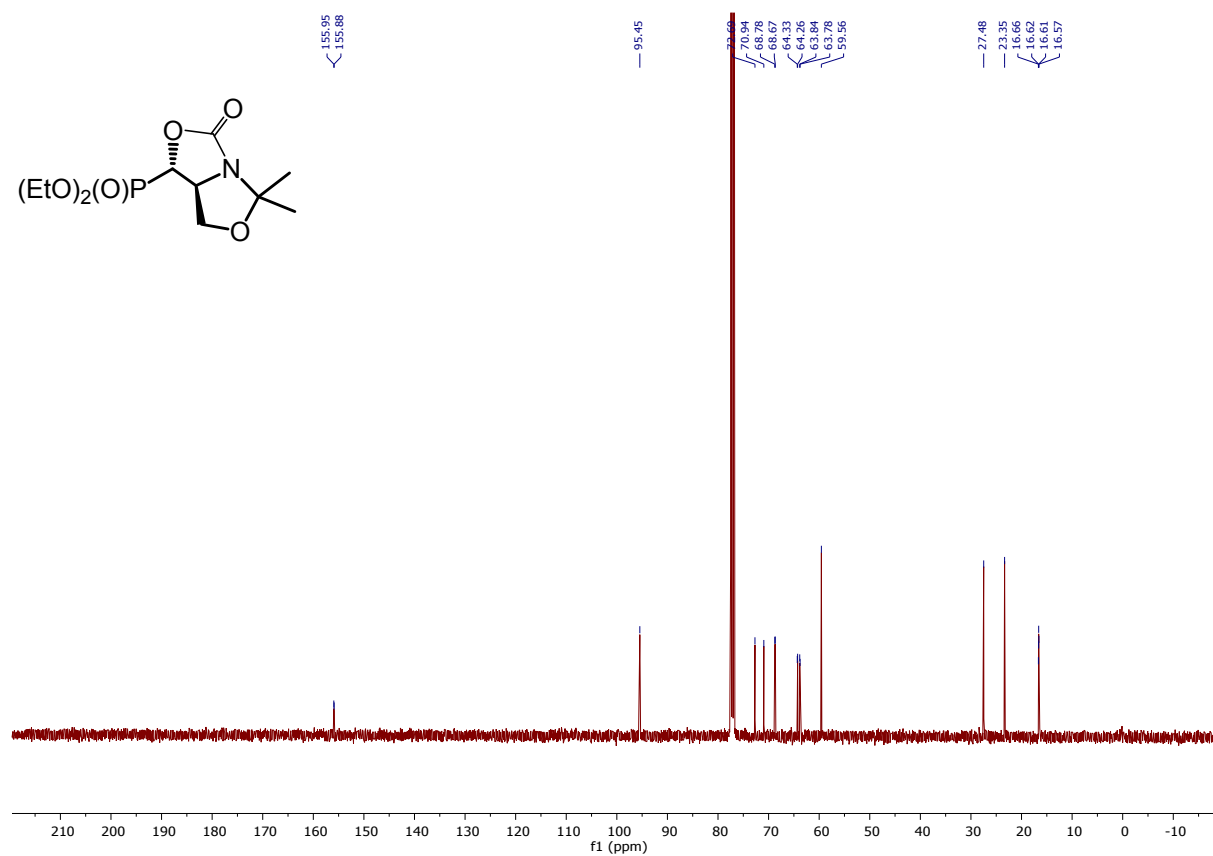


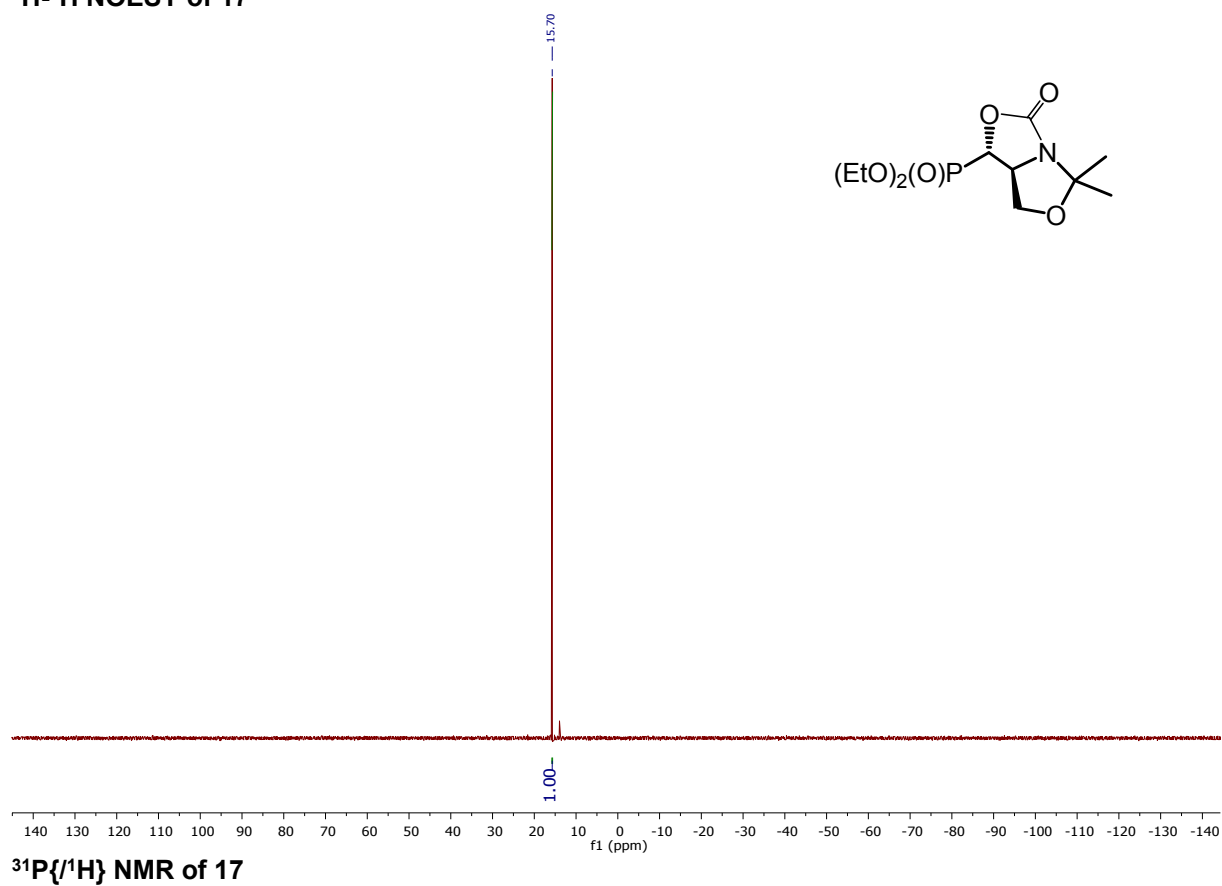
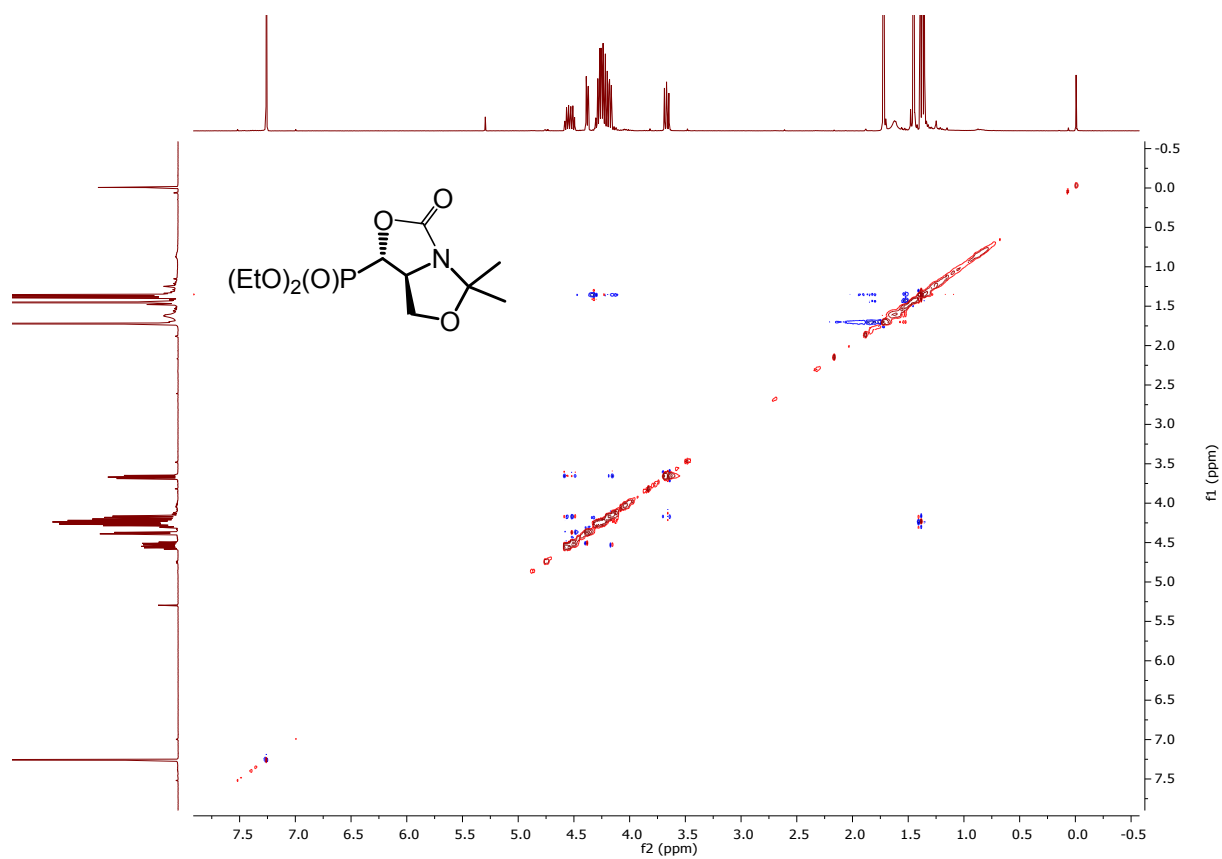
¹⁹F NMR of 13a:13b (1:2.8 d.r.)

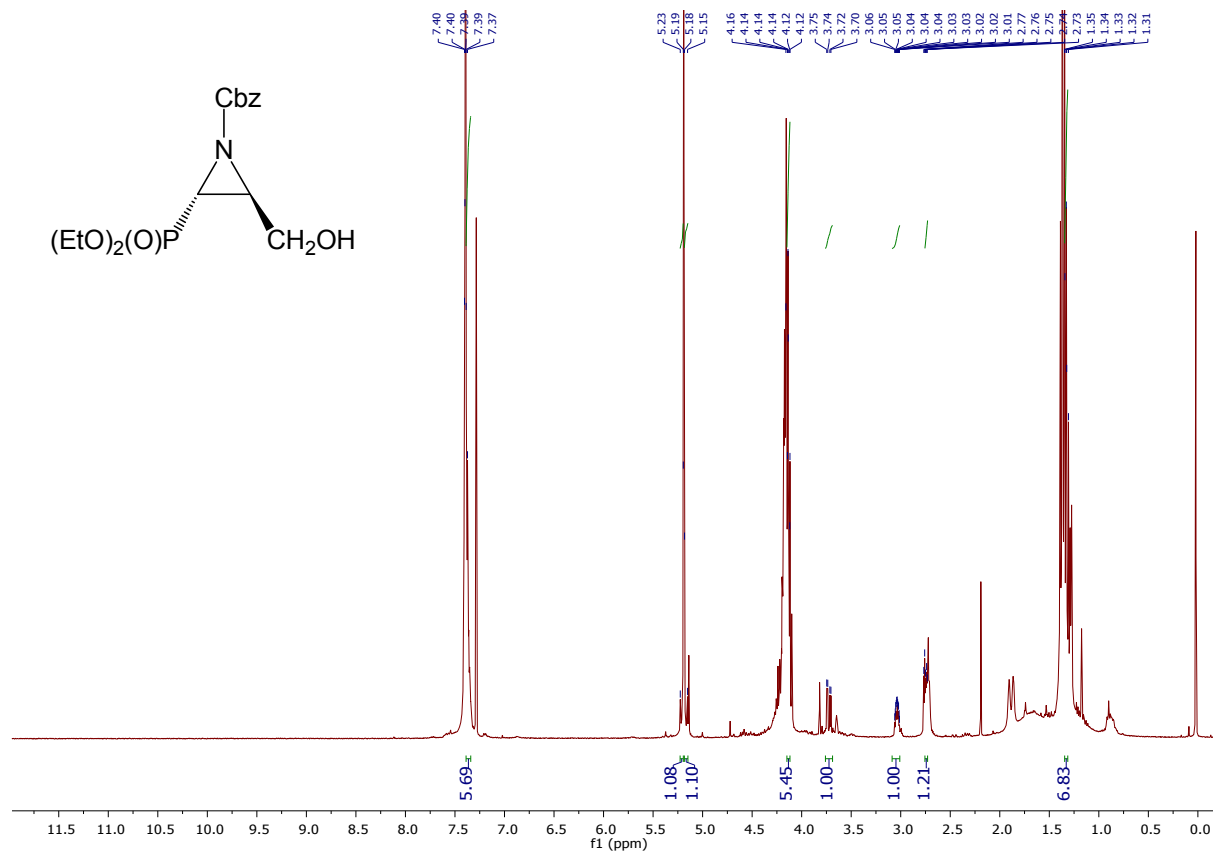




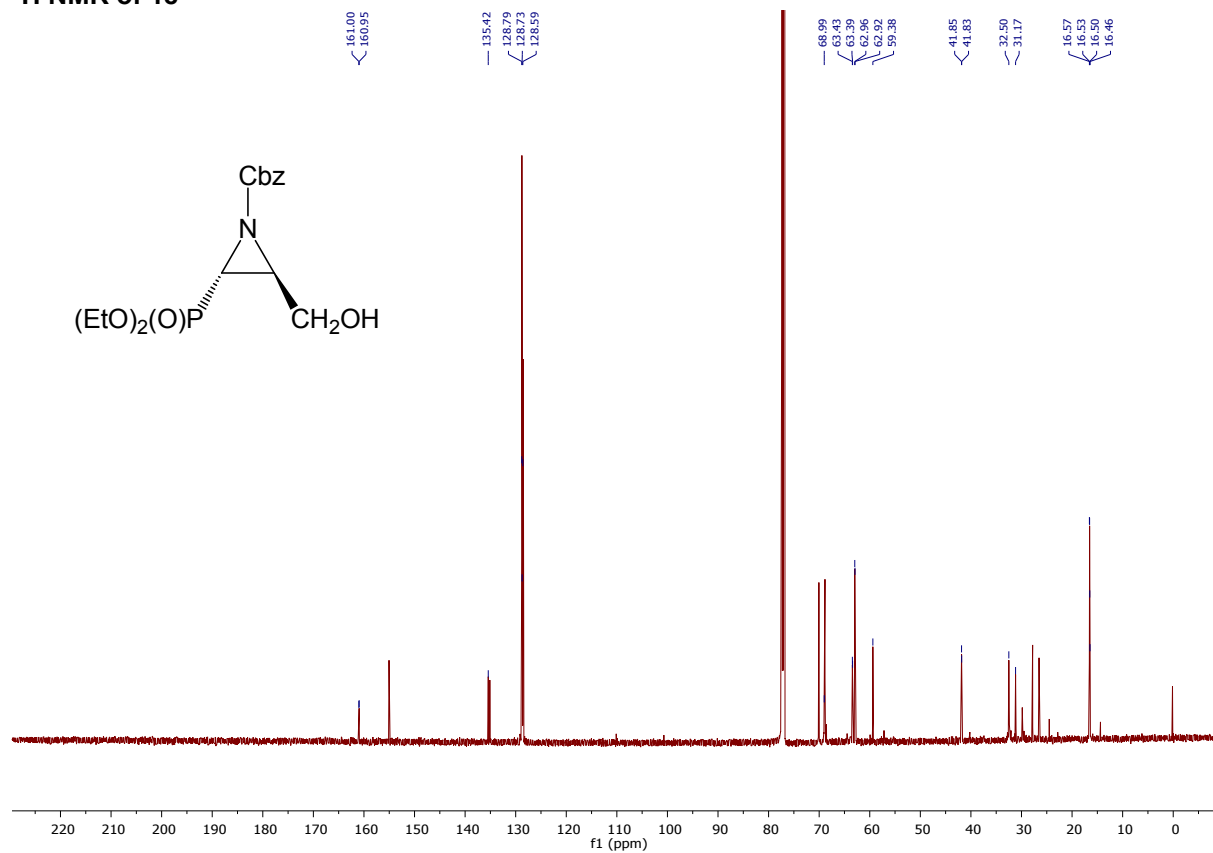
¹H NMR of 17



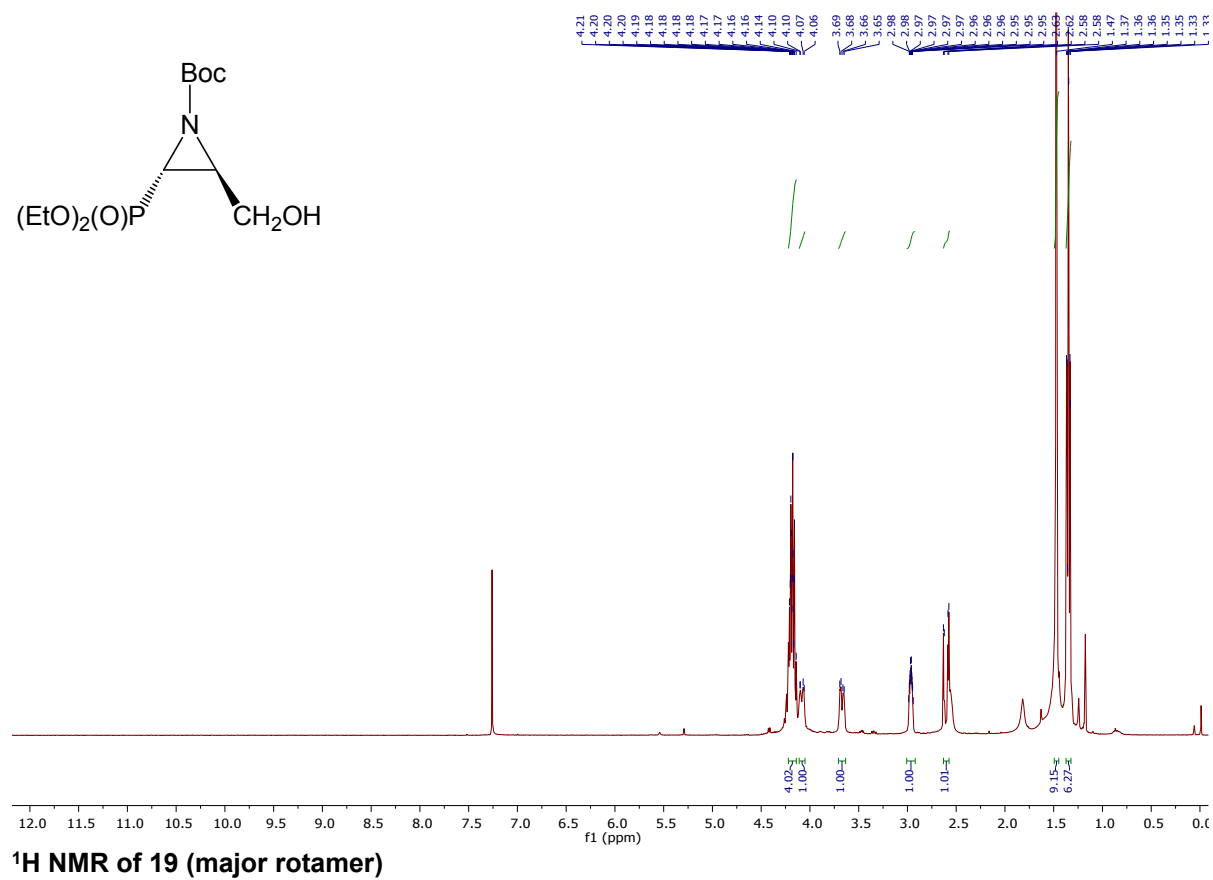
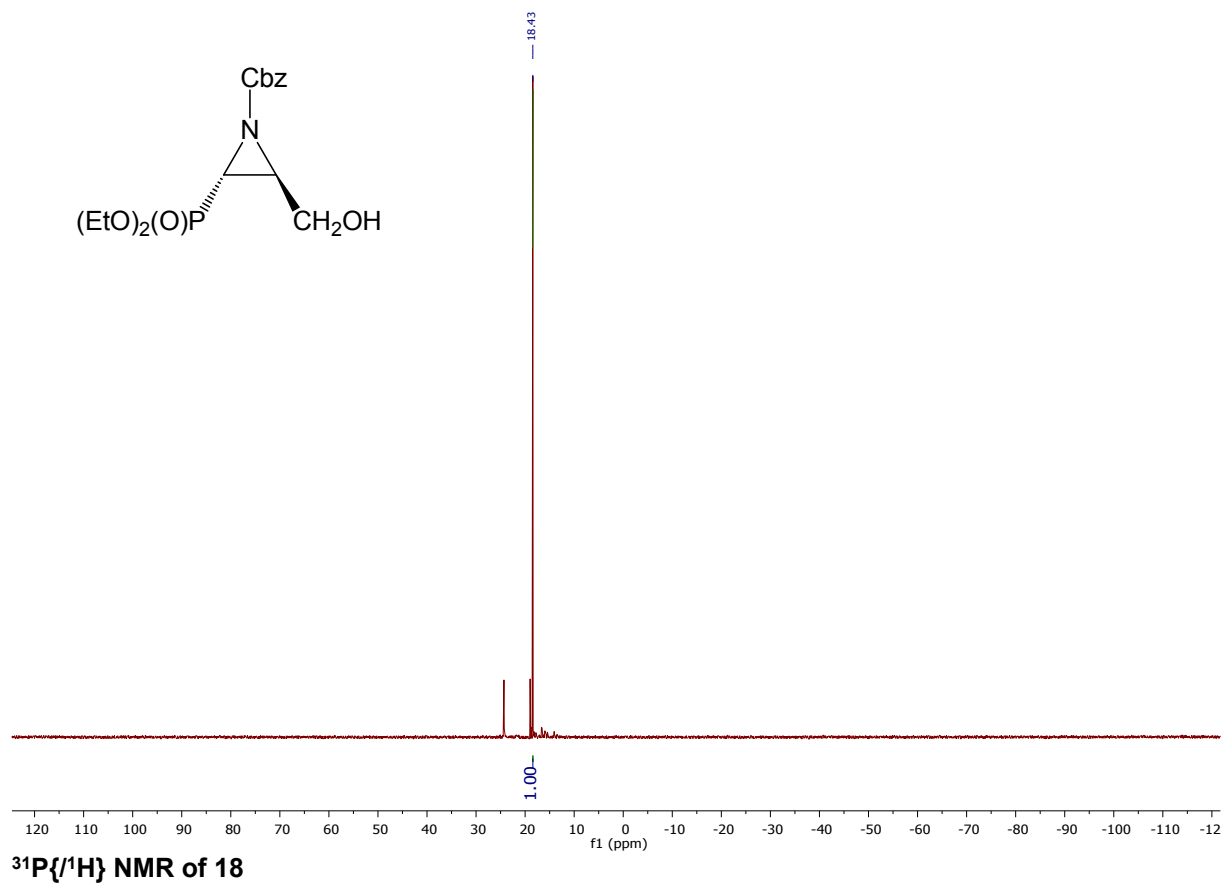


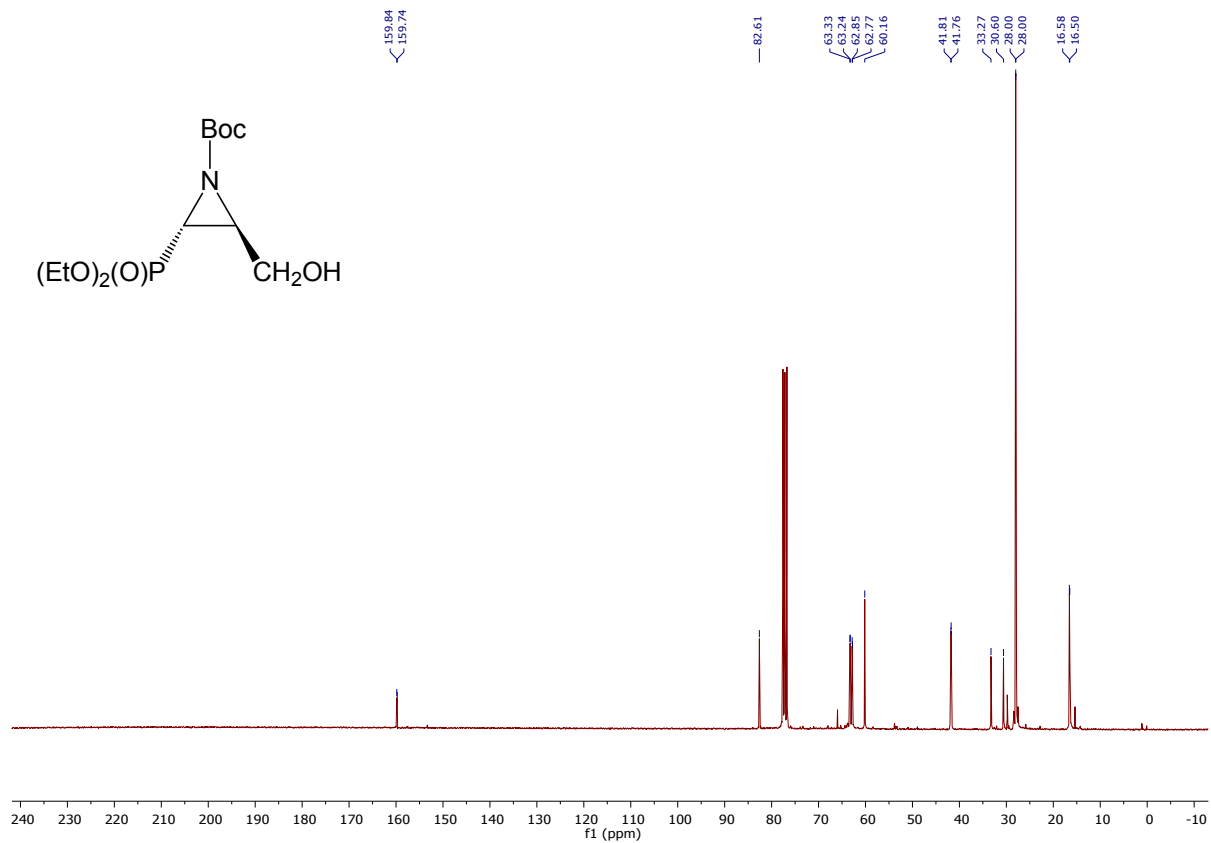


¹H NMR of 18

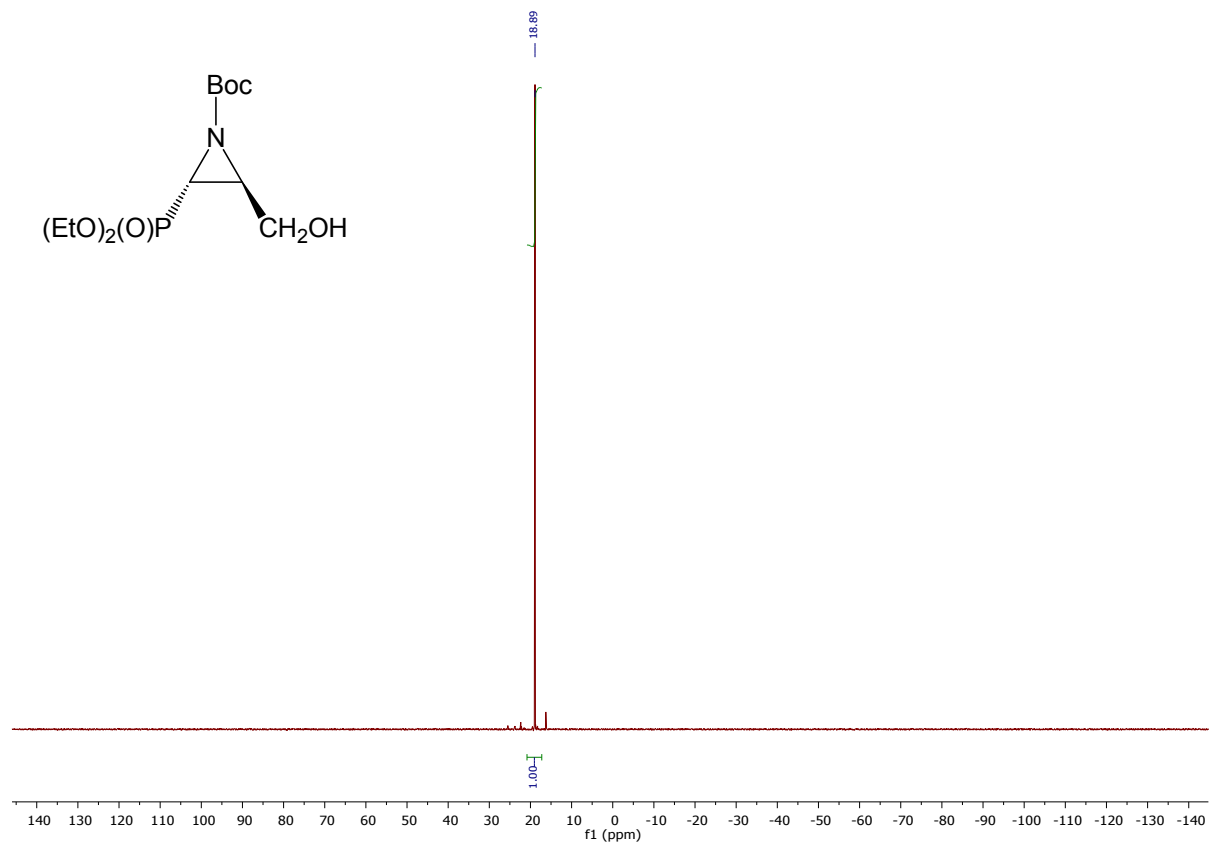


¹³C NMR of 18

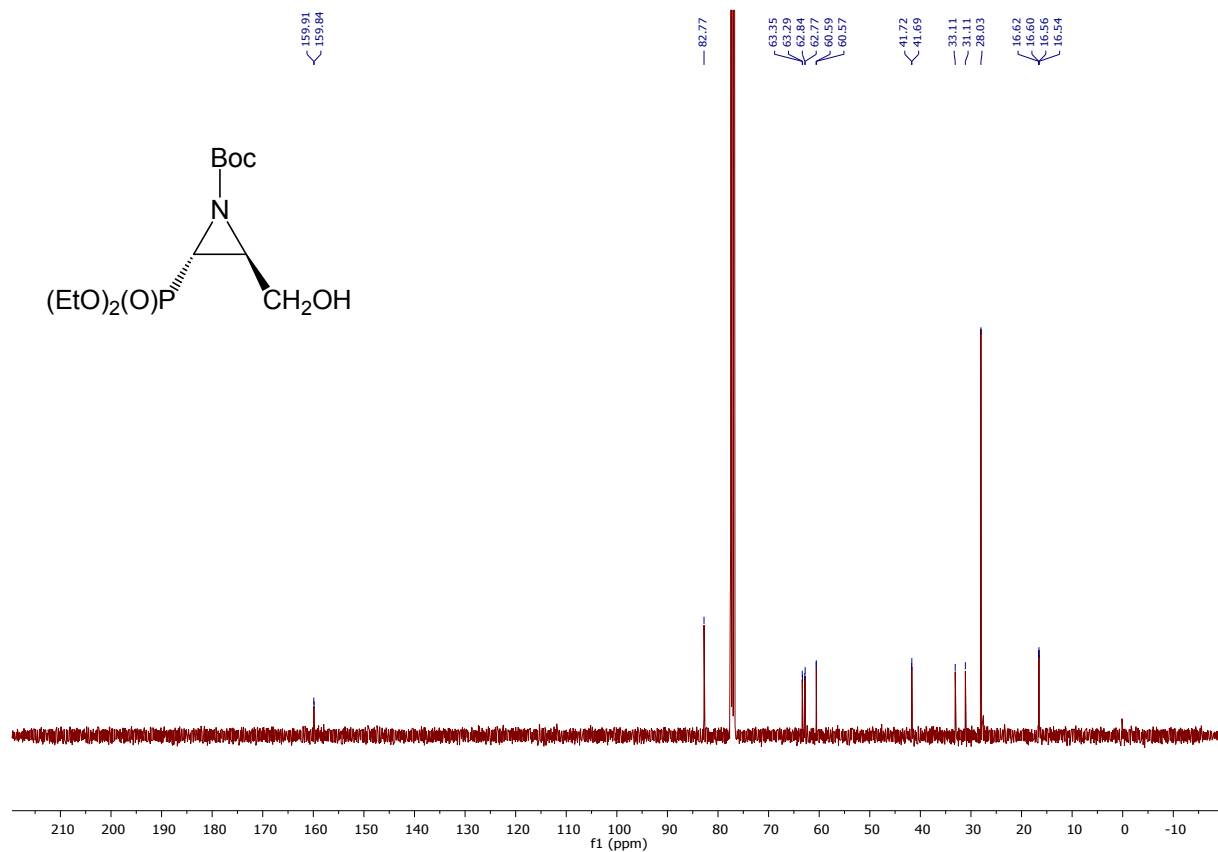
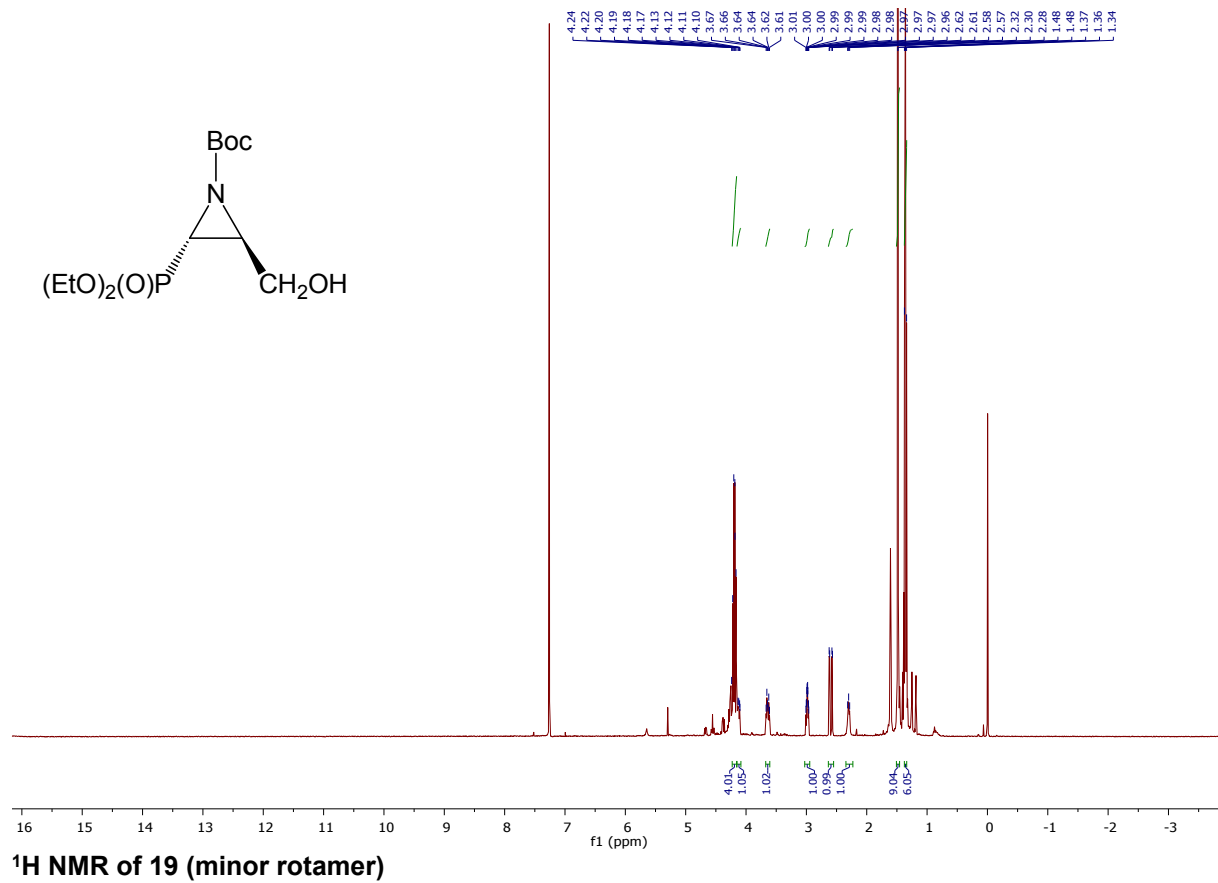




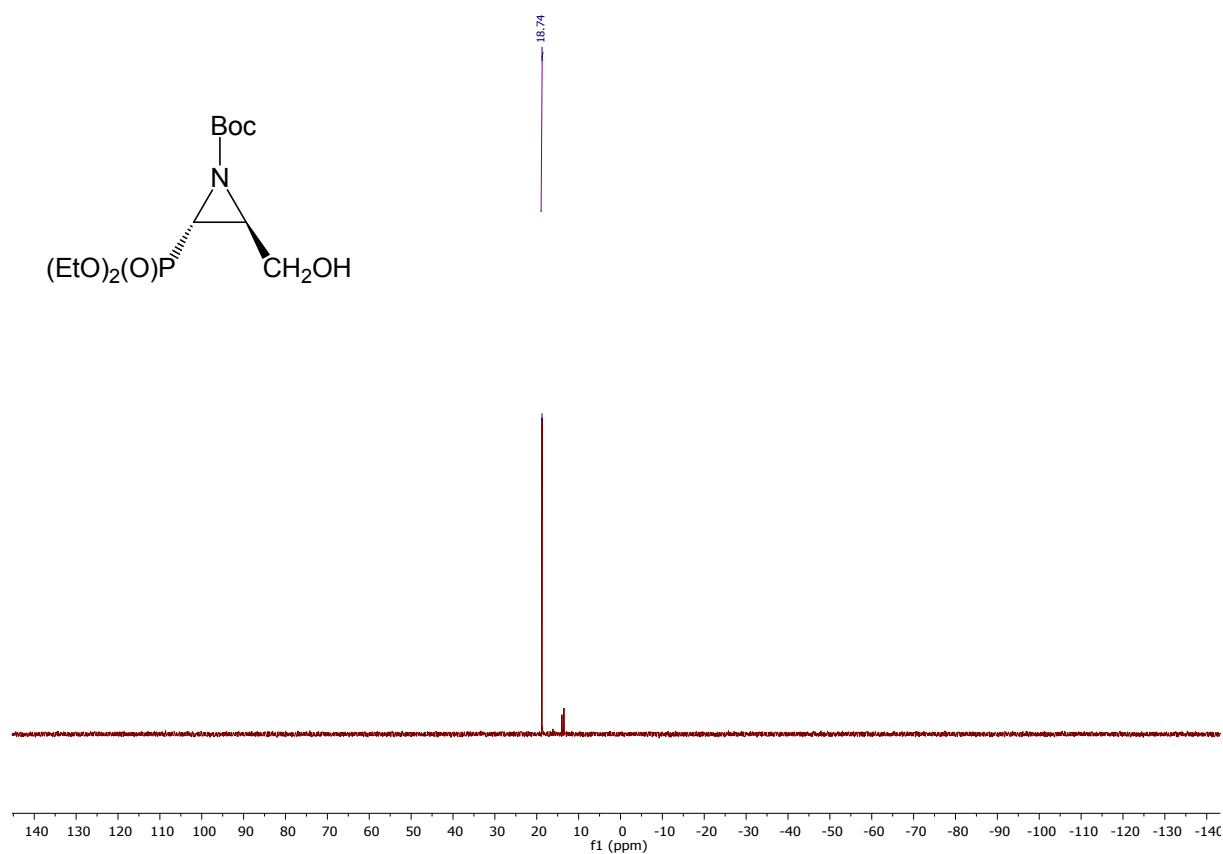
¹³C NMR of 19 (major rotamer)



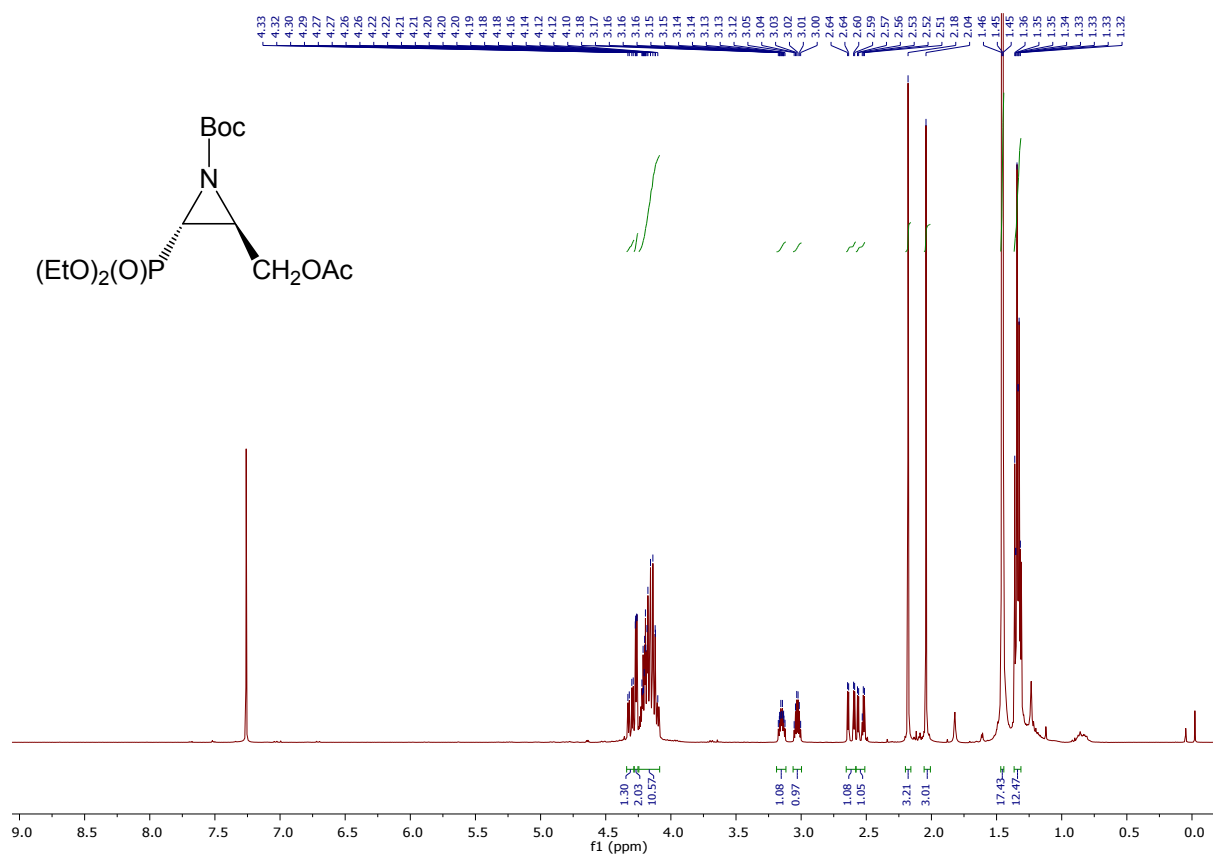
³¹P{¹H} NMR of 19 (major rotamer)



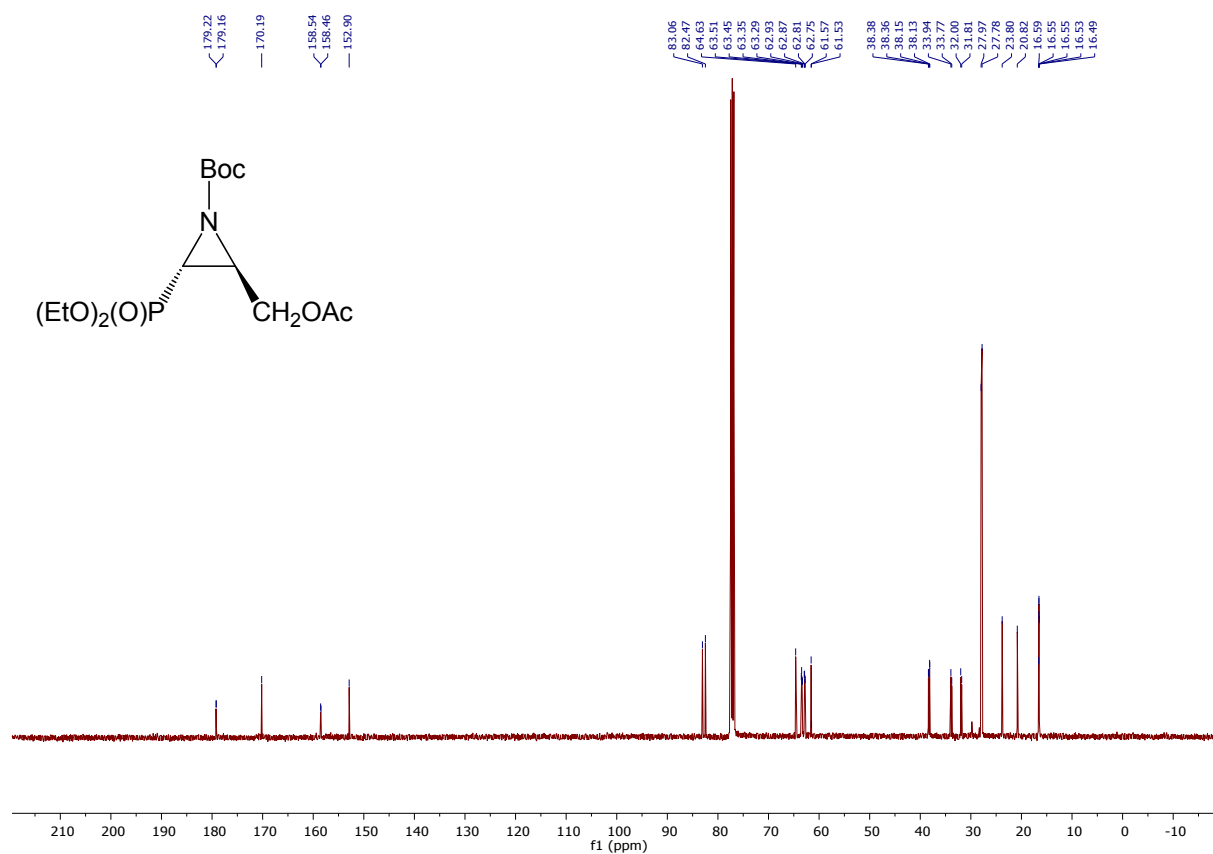
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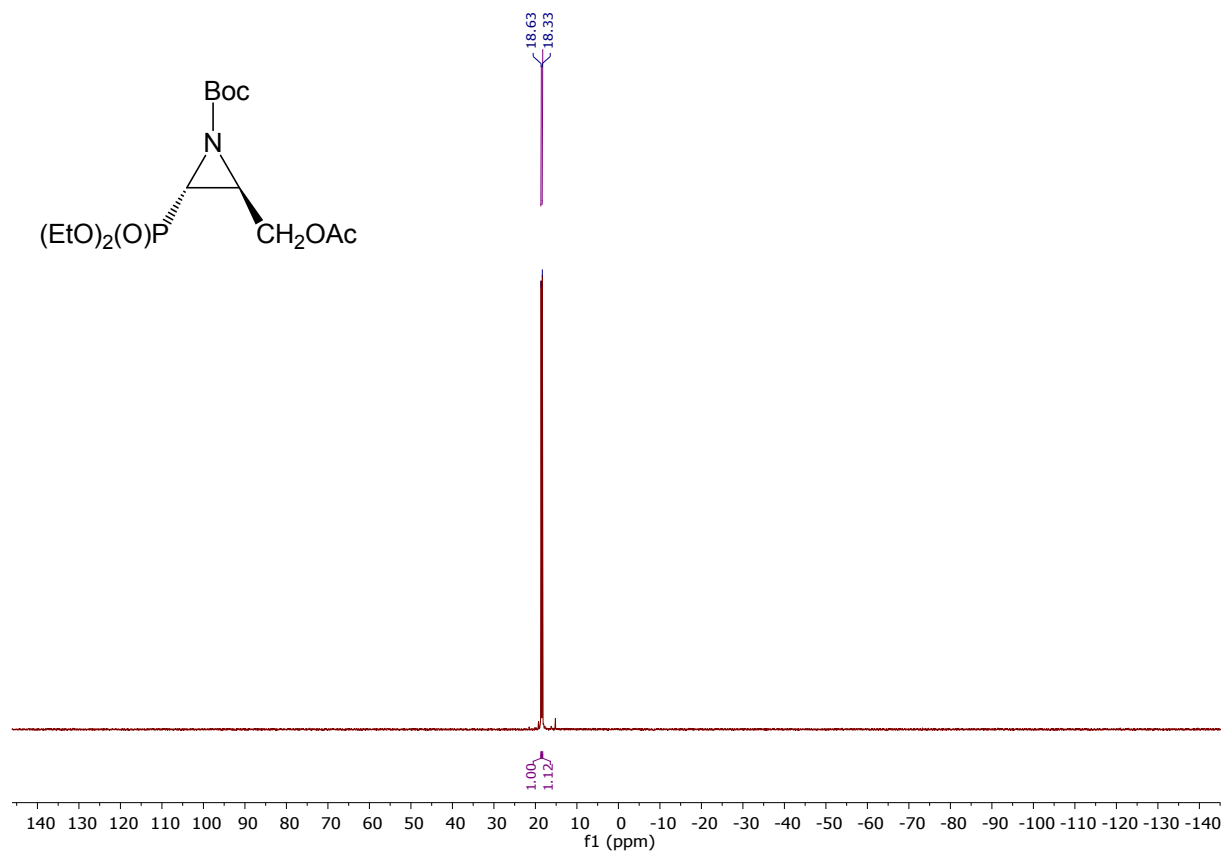
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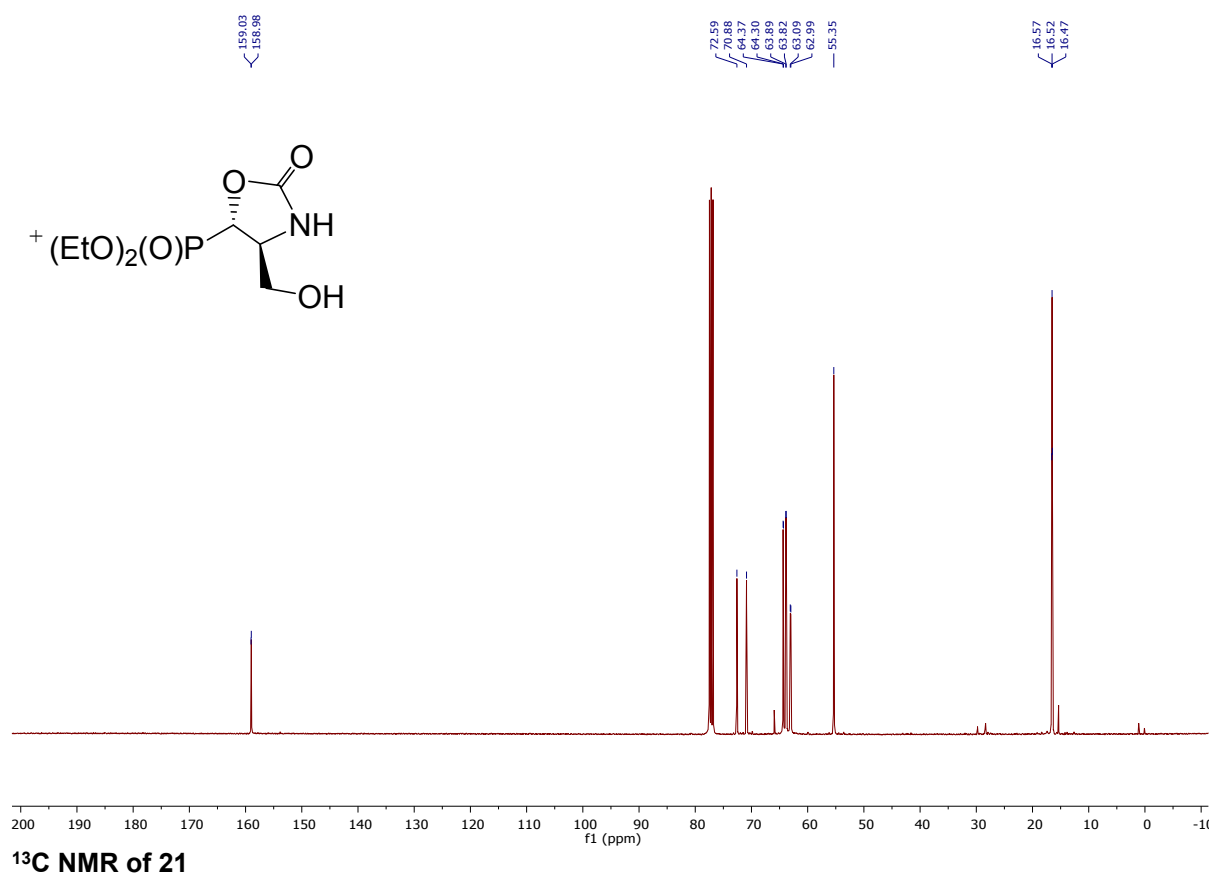
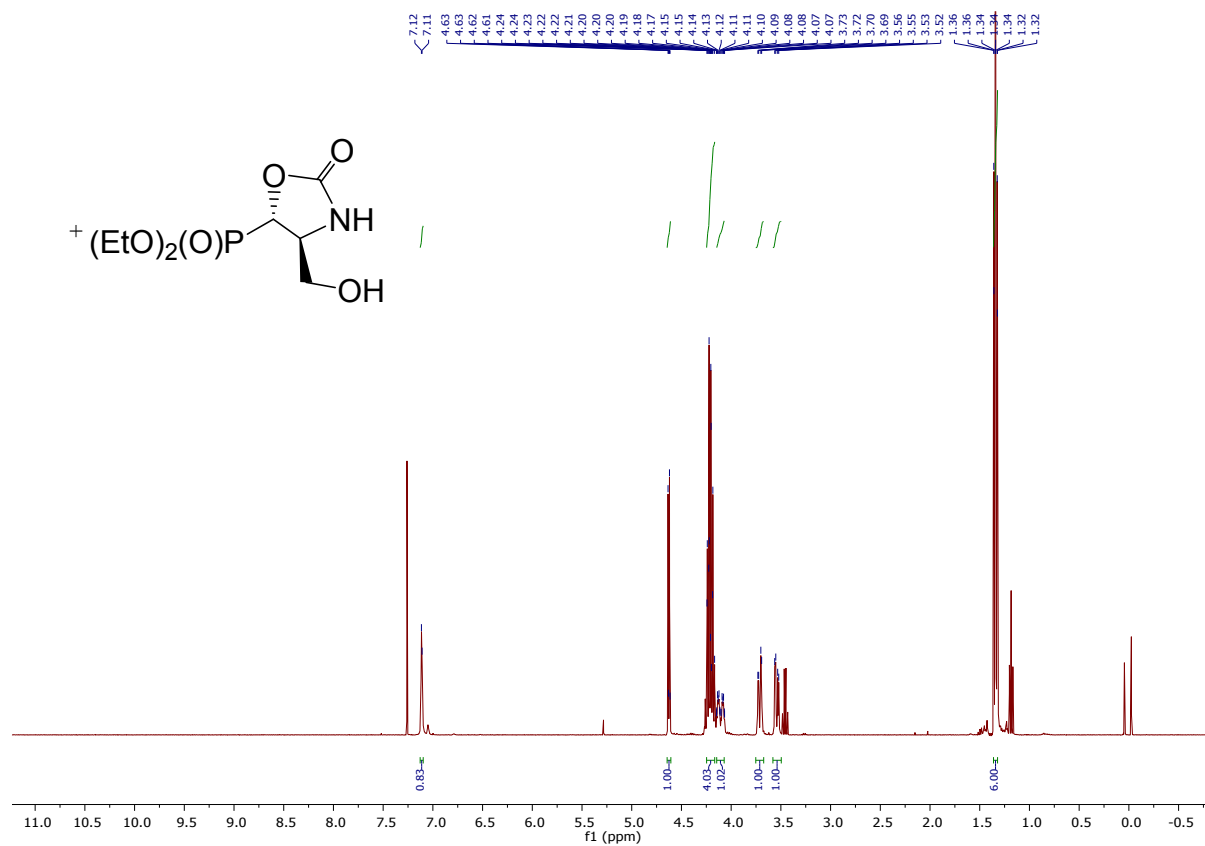
¹H NMR of 20 (1.1:1 rotamers ratio)

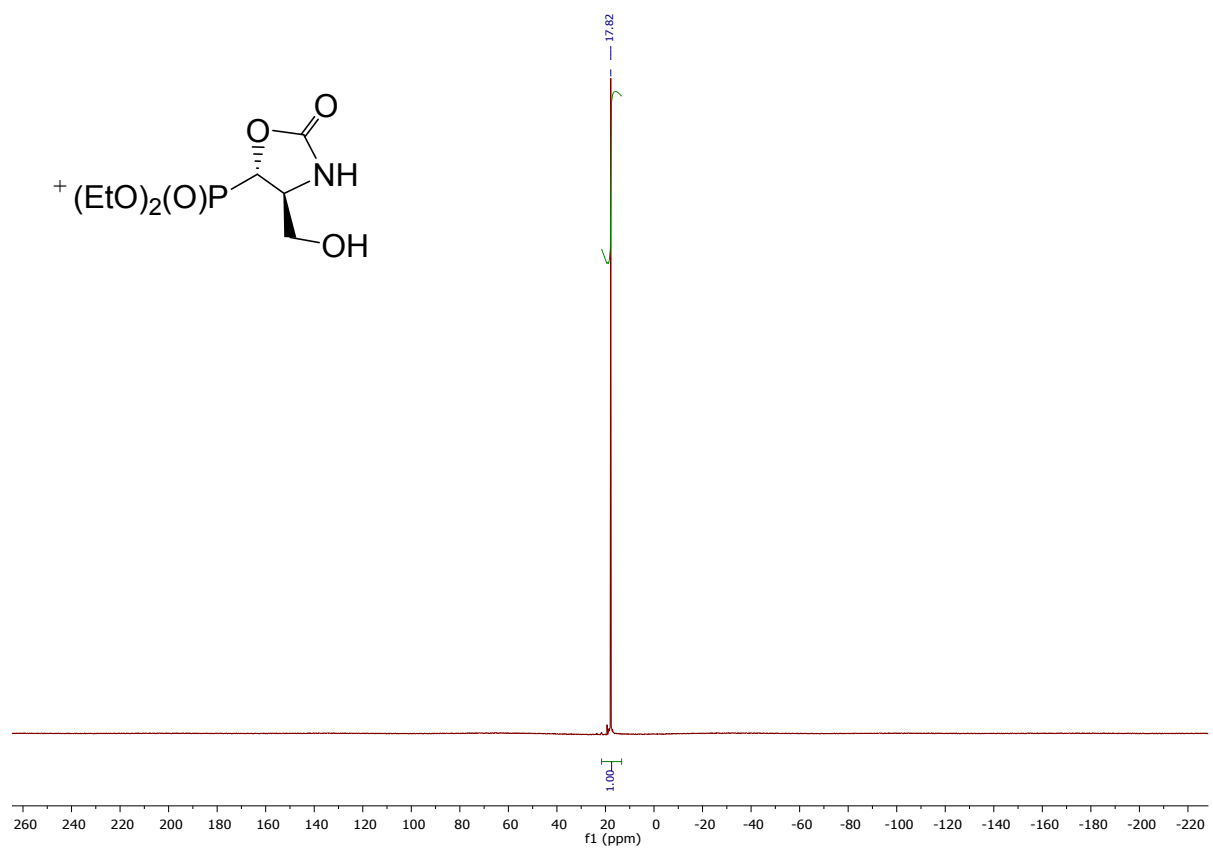


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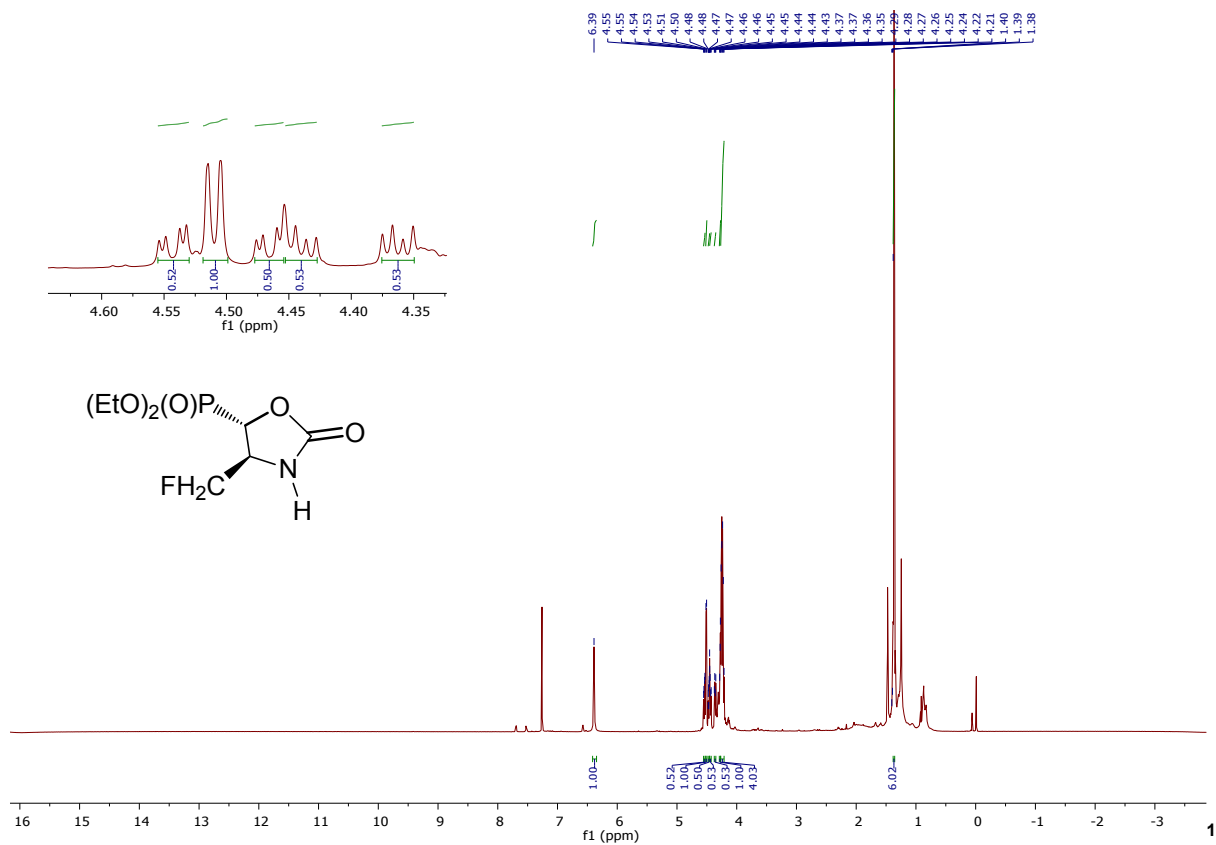


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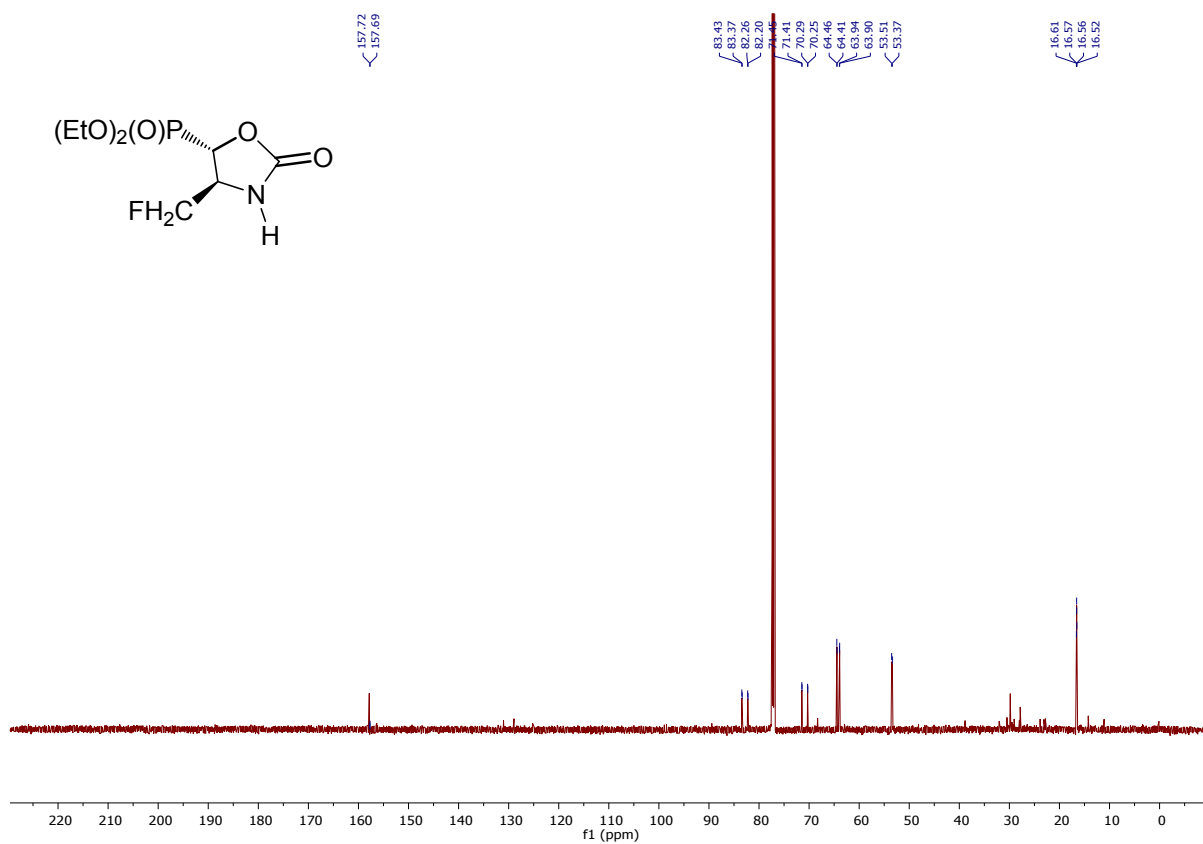




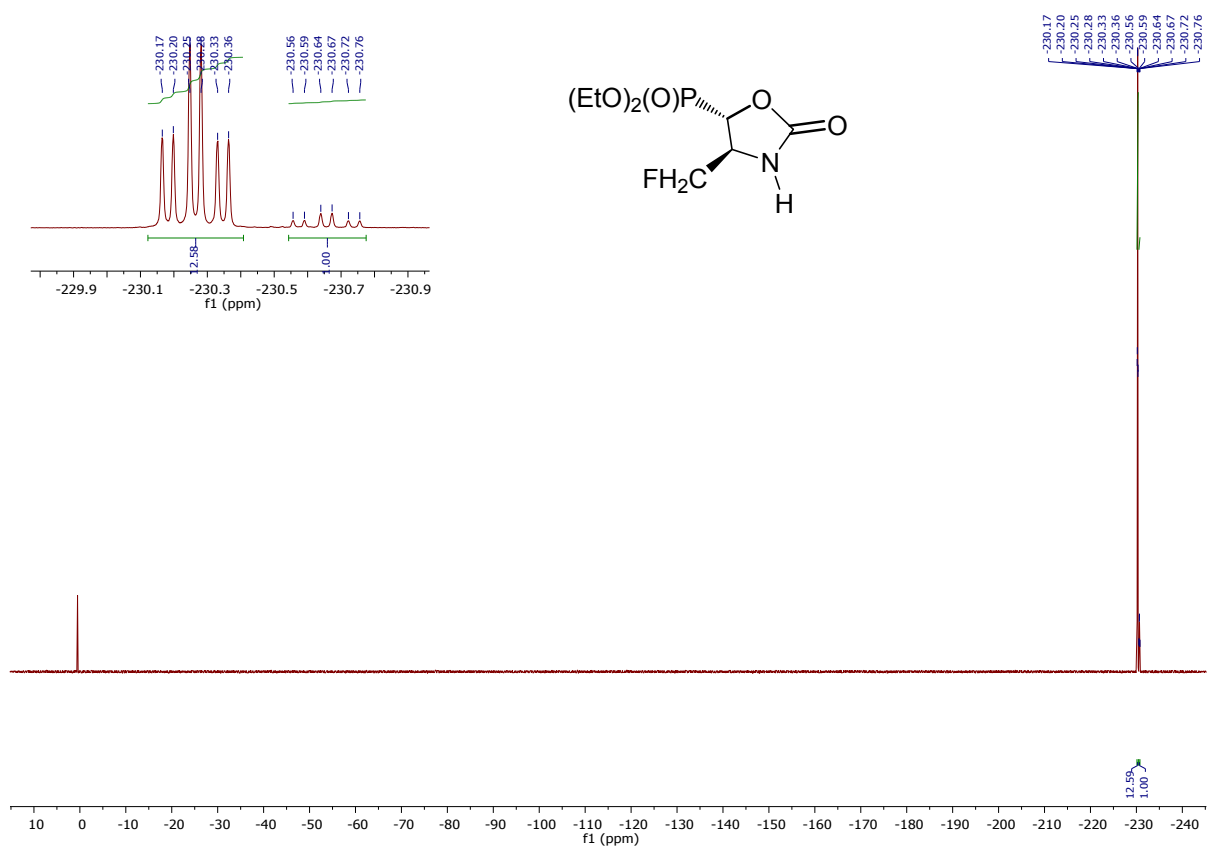
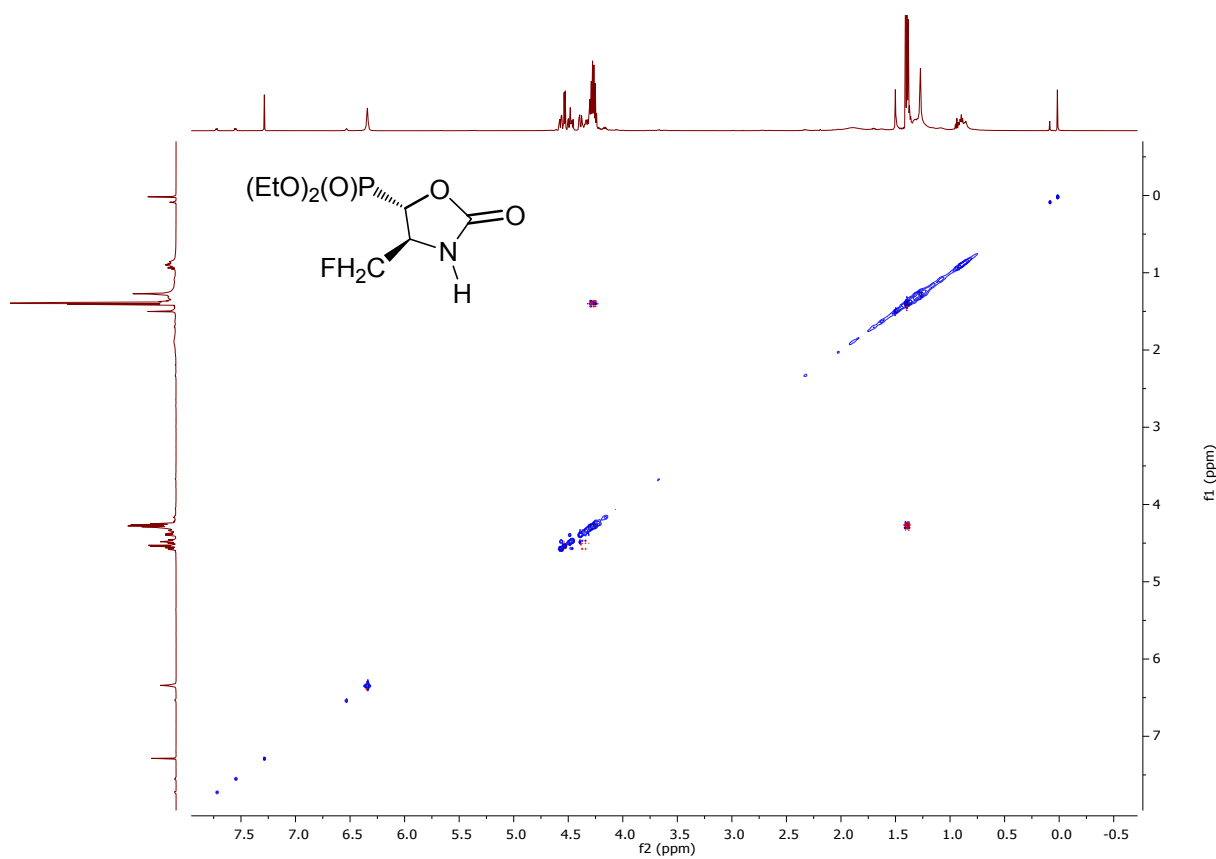
$^{31}\text{P}\{^1\text{H}\}$ NMR of 21

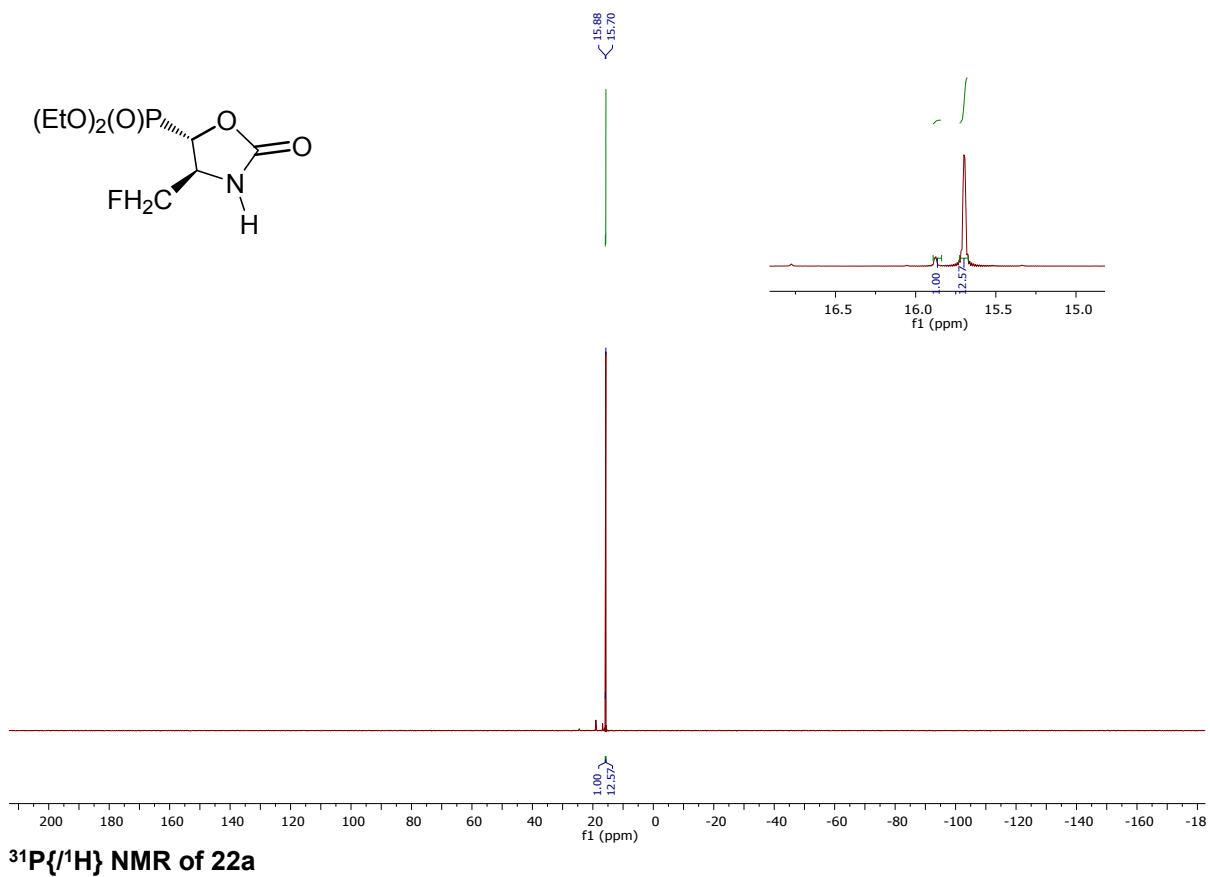
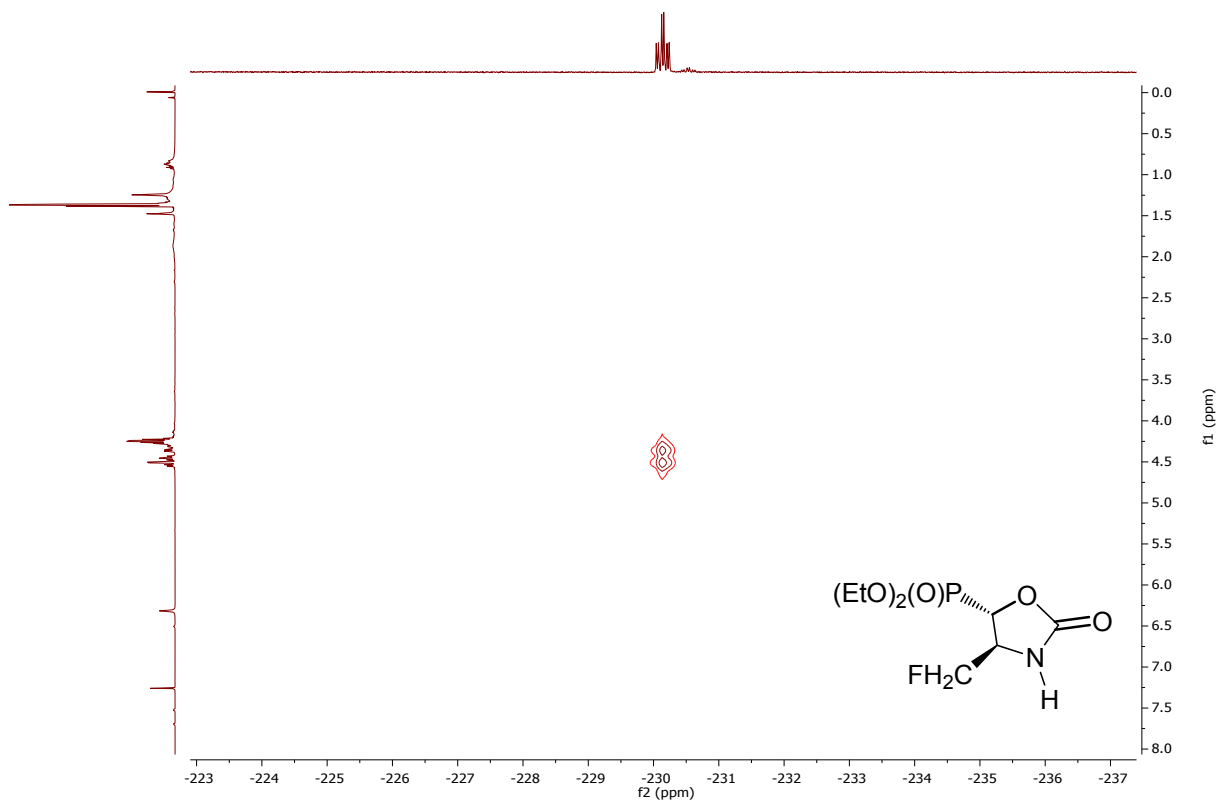


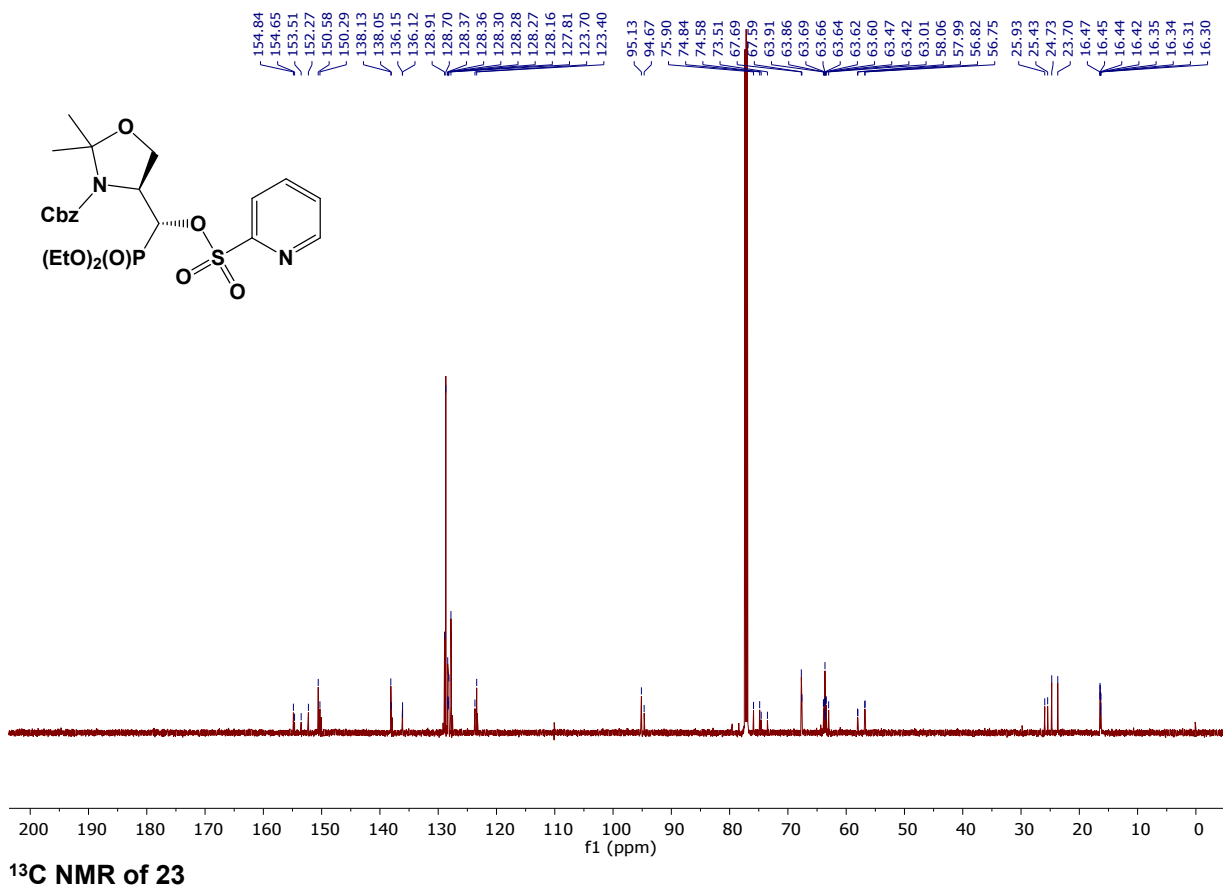
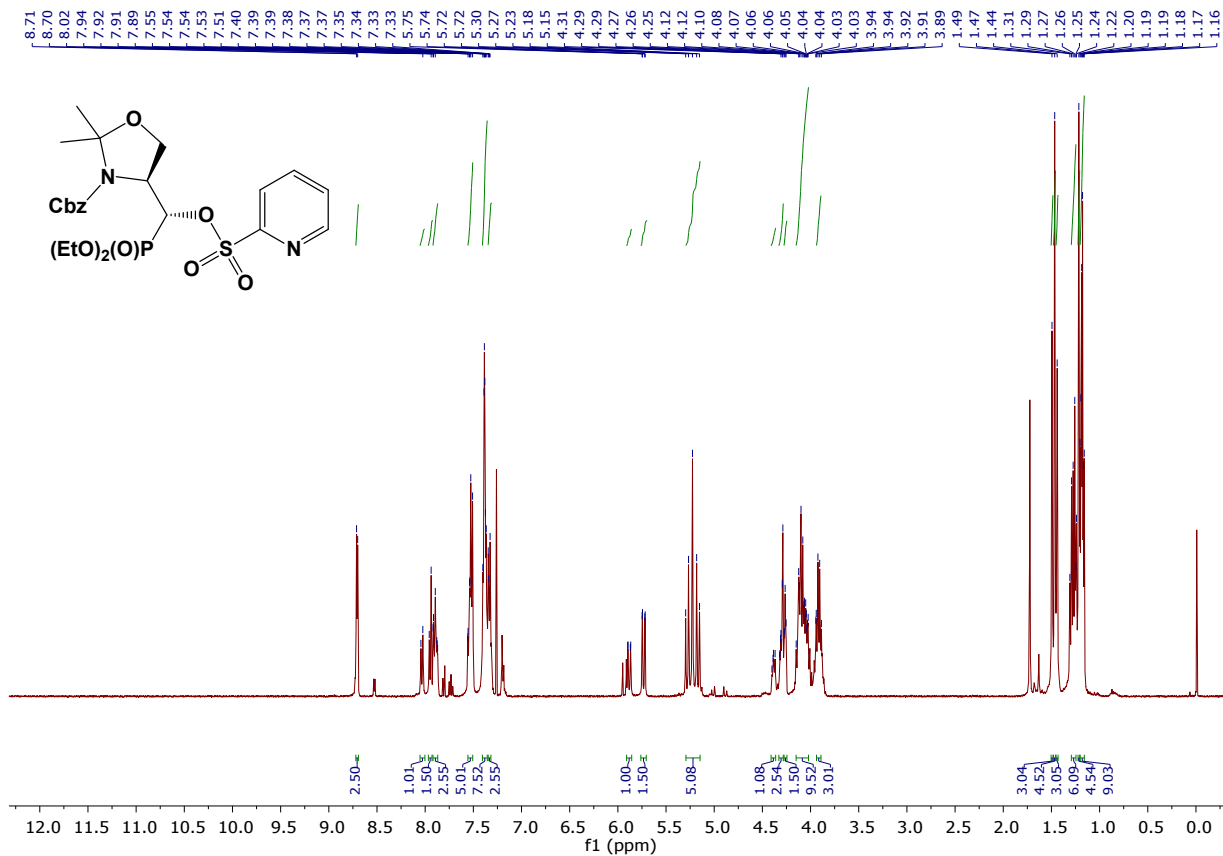
H NMR of 22a

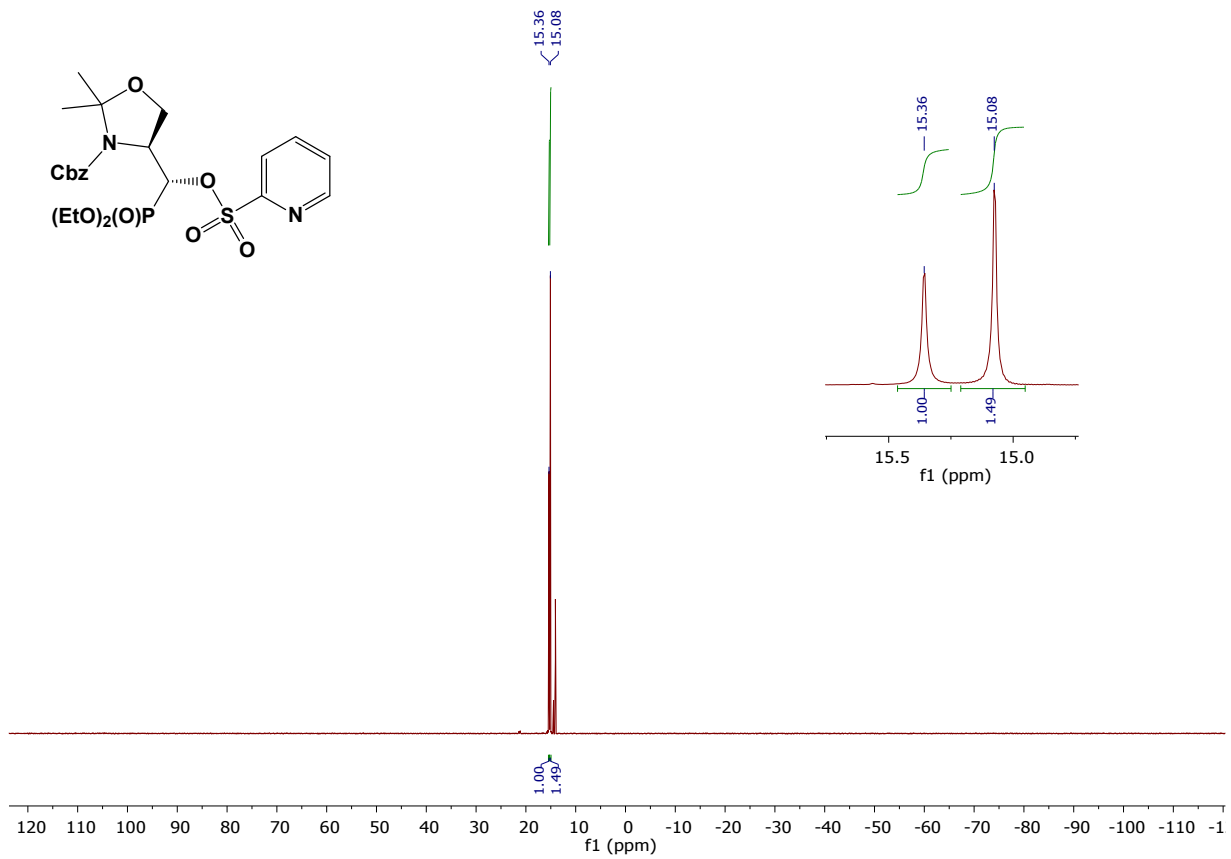


¹³C NMR of 22a

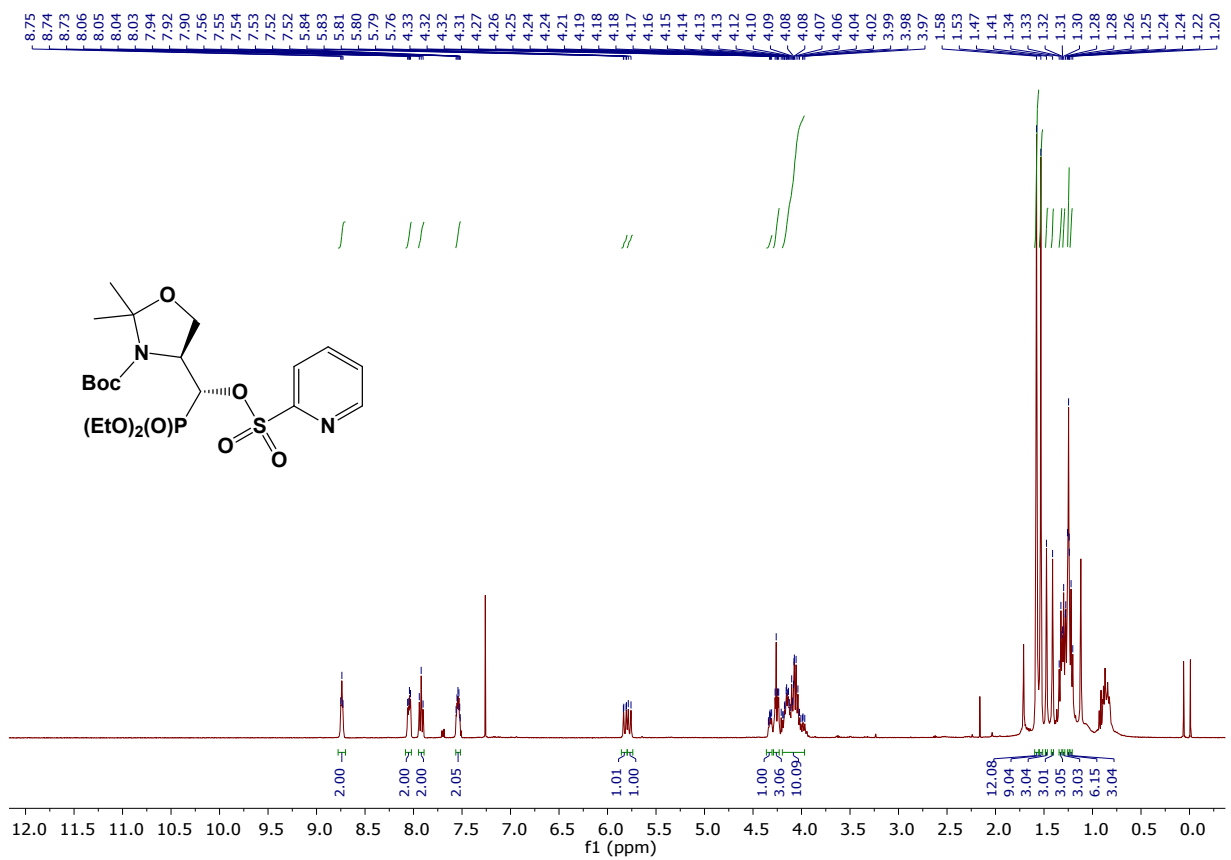




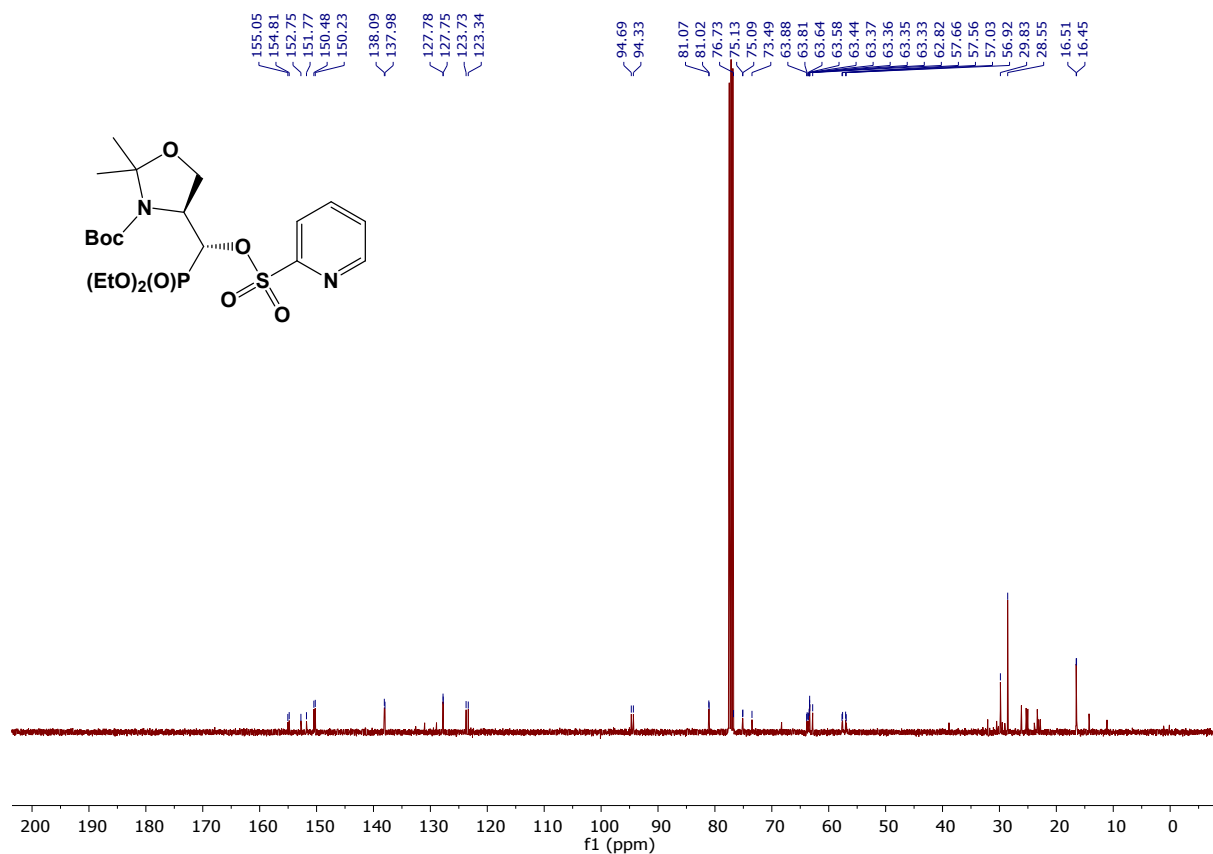




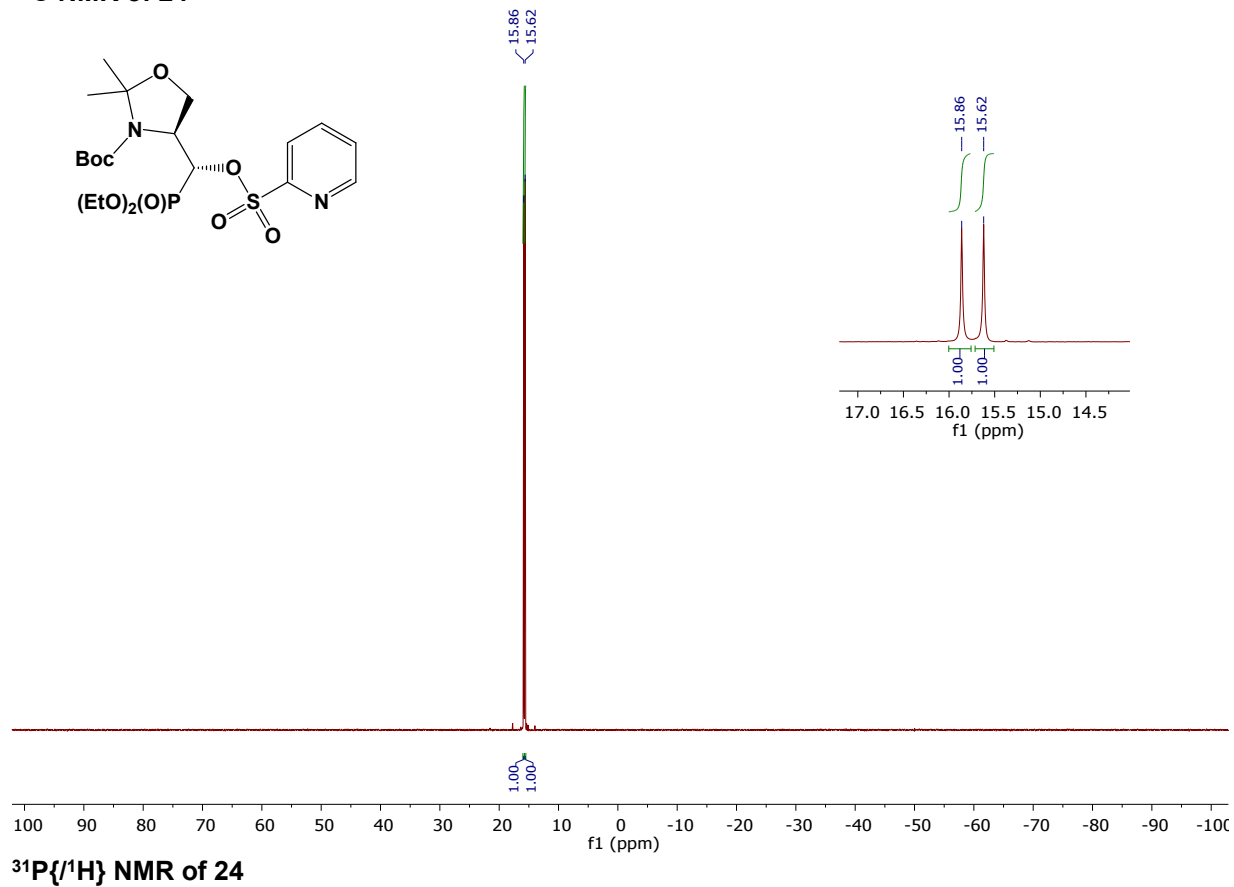
³¹P{¹H} NMR of 23

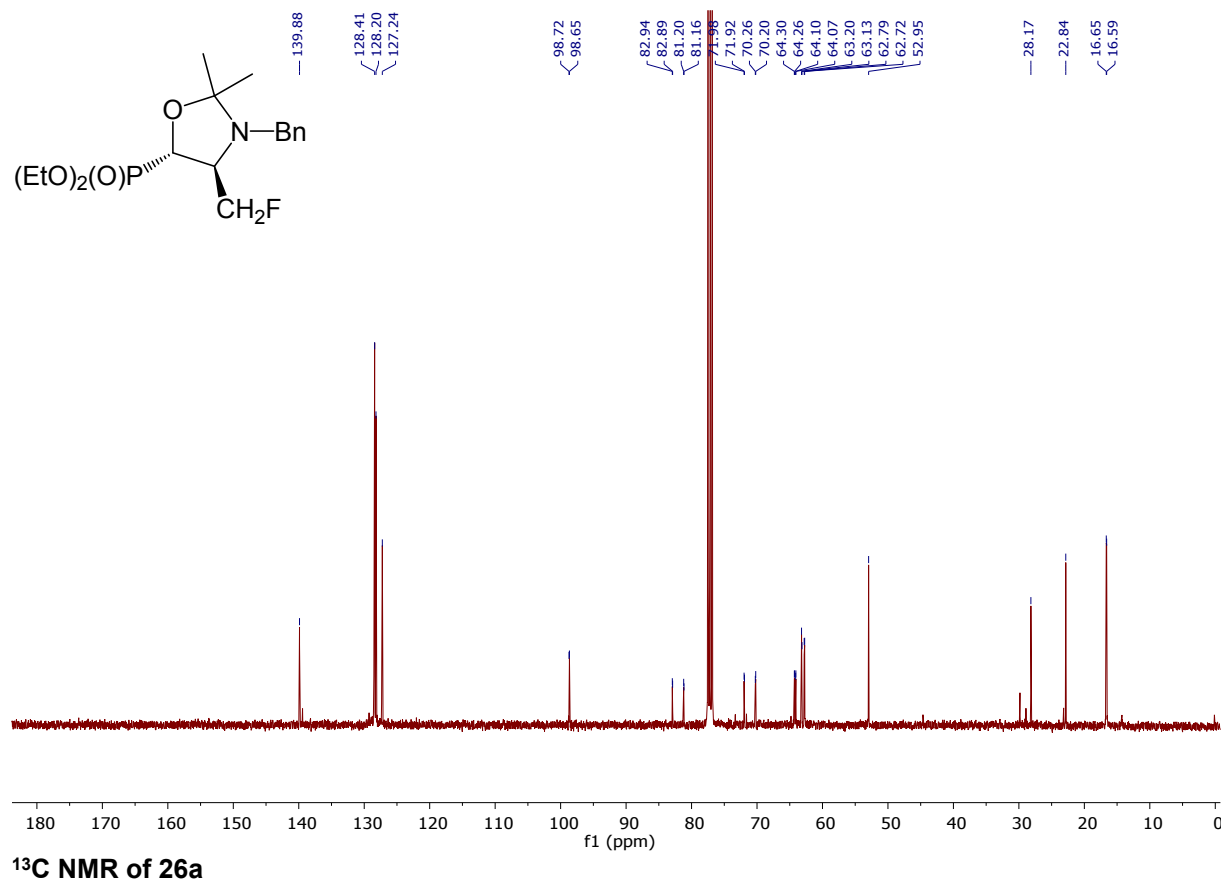
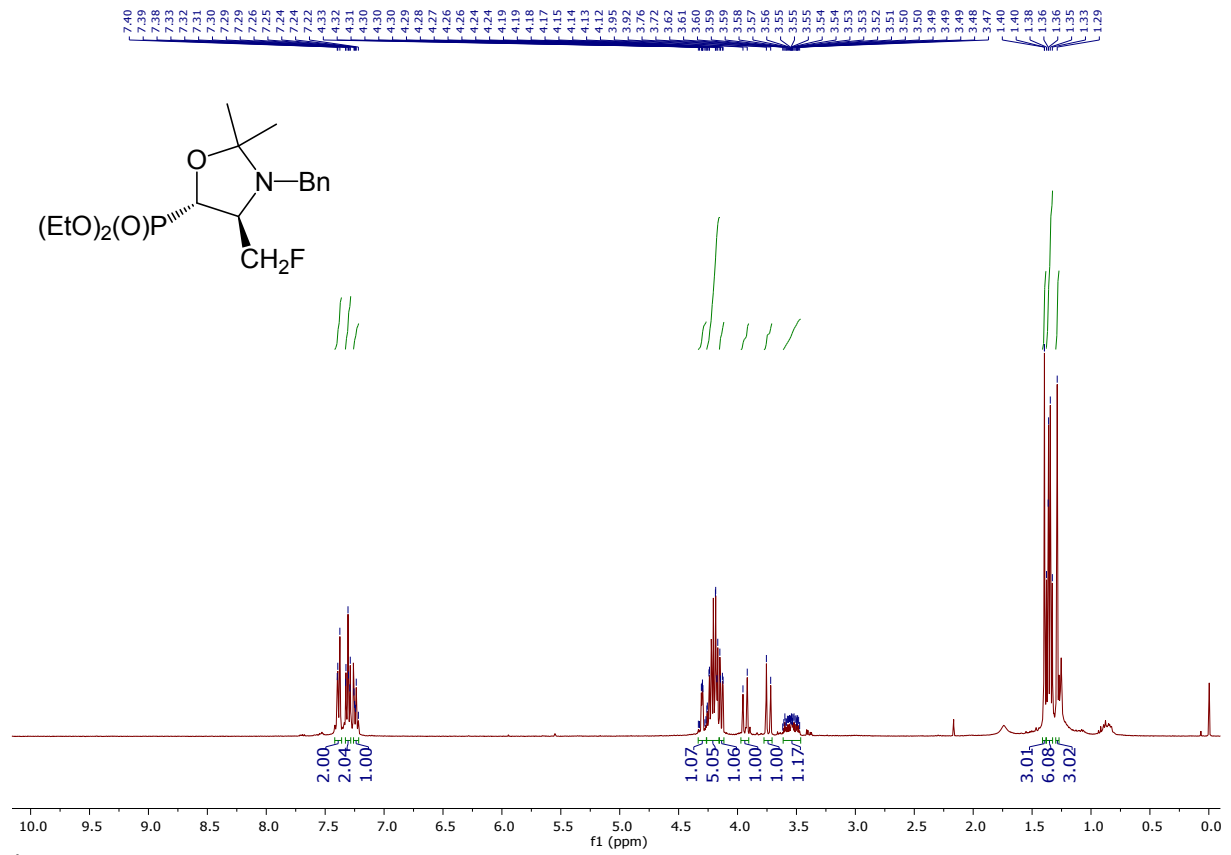


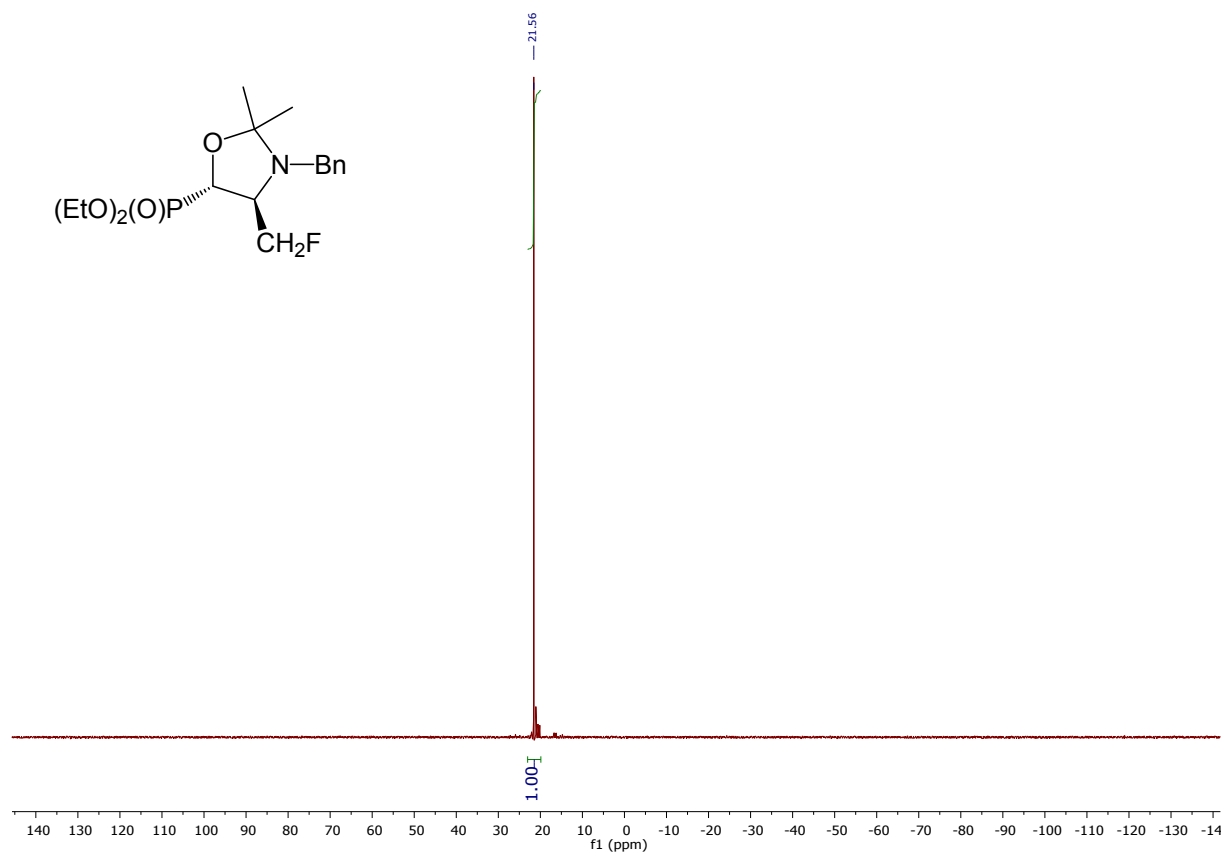
¹H NMR of 24



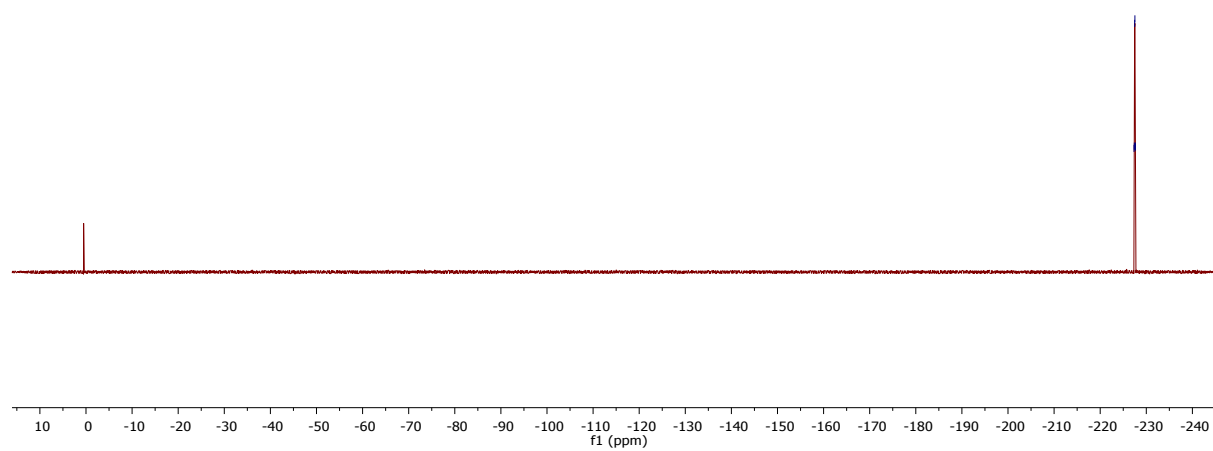
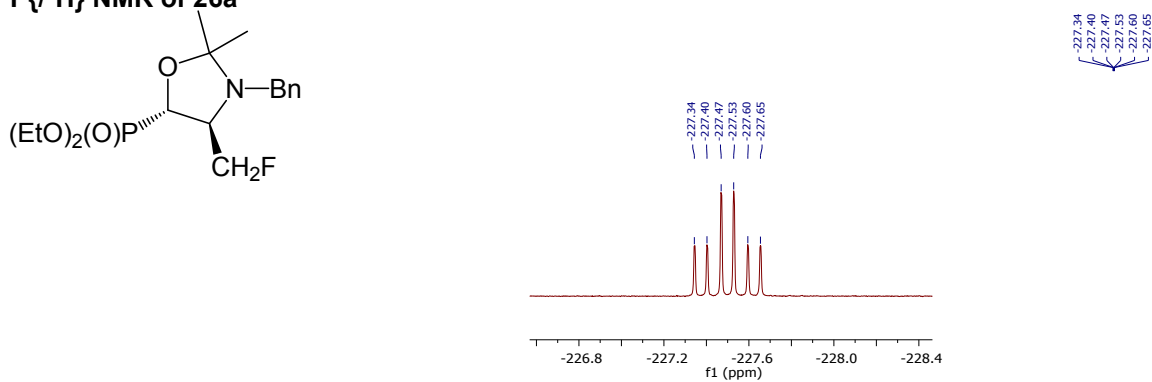
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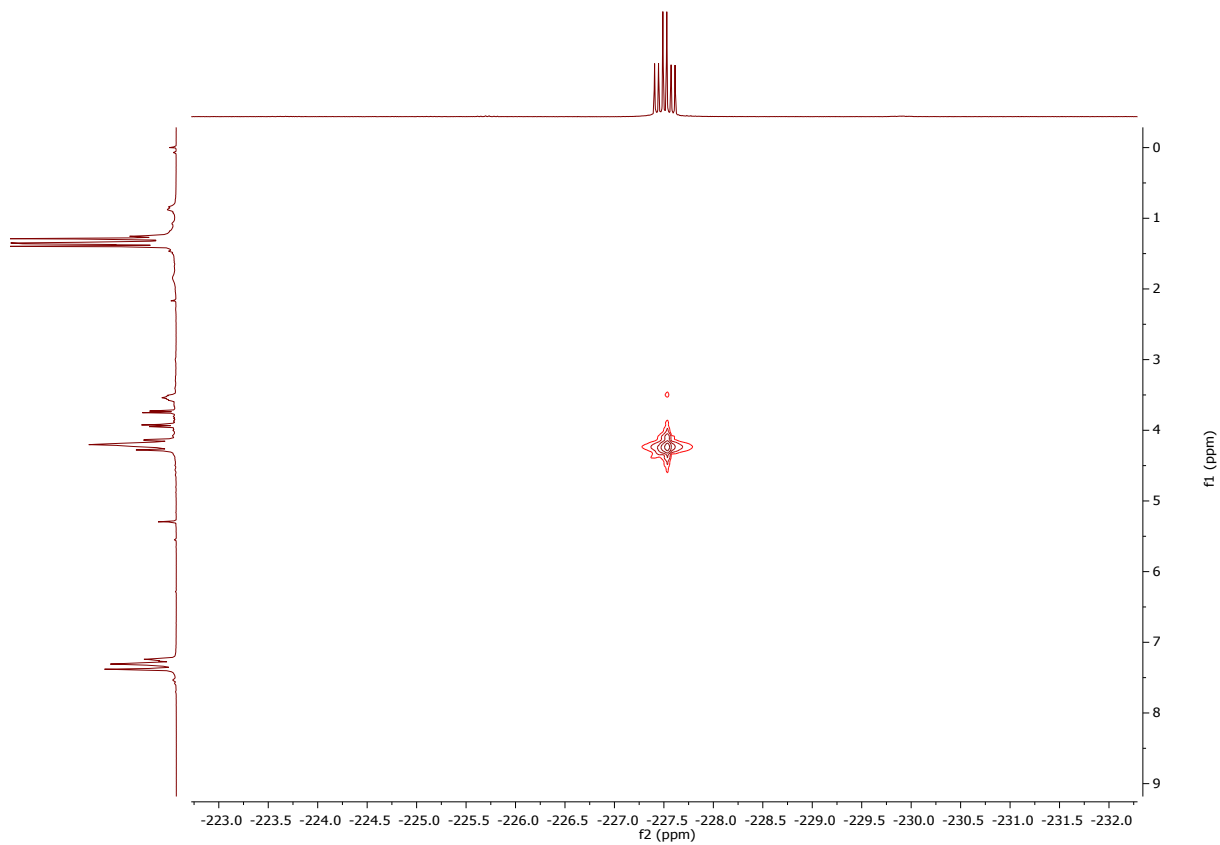




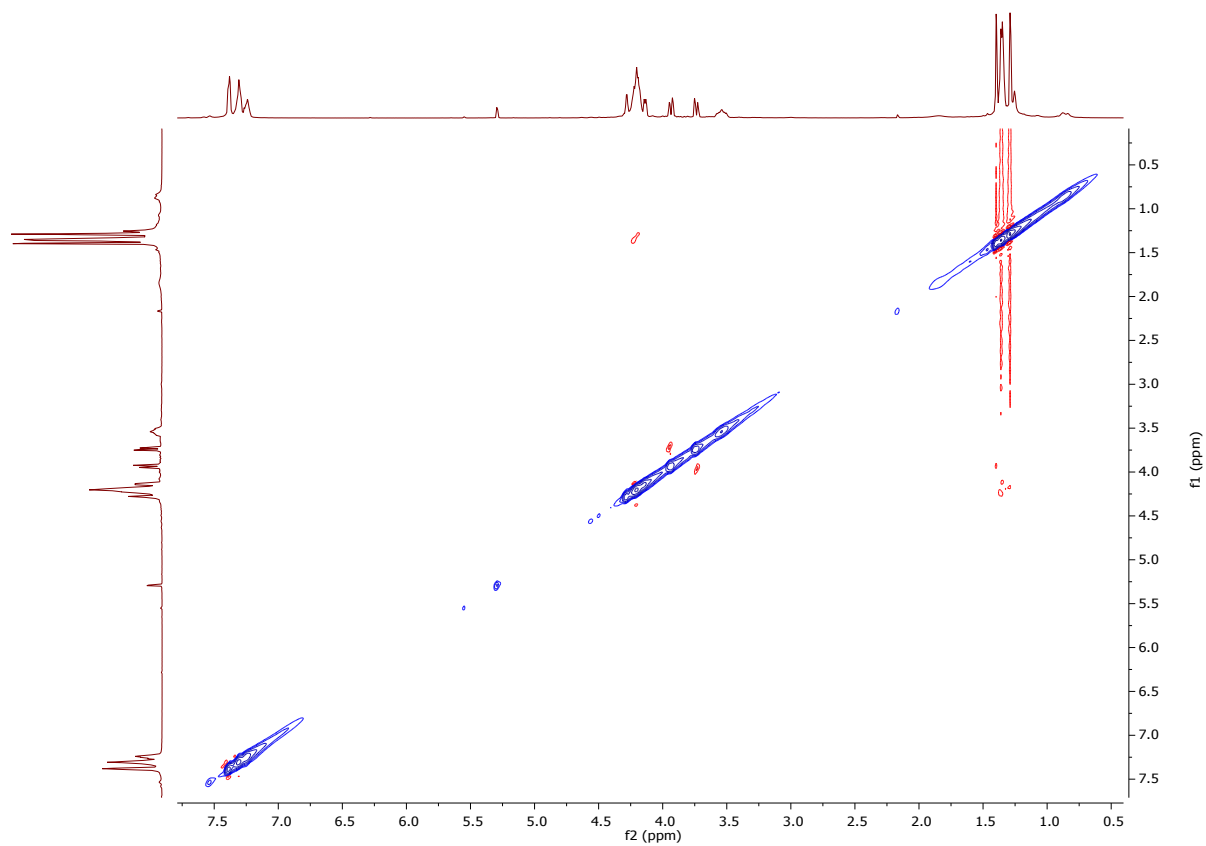
$^{31}\text{P}\{^1\text{H}\}$ NMR of 26a



^{19}F NMR of 26a



HOESY of 26a



NOESY of 26a

