

SiO₂-p-TSA: A Green Catalyst for Solvent-free Tetrahydropyranylation of Alcohols and Thiols

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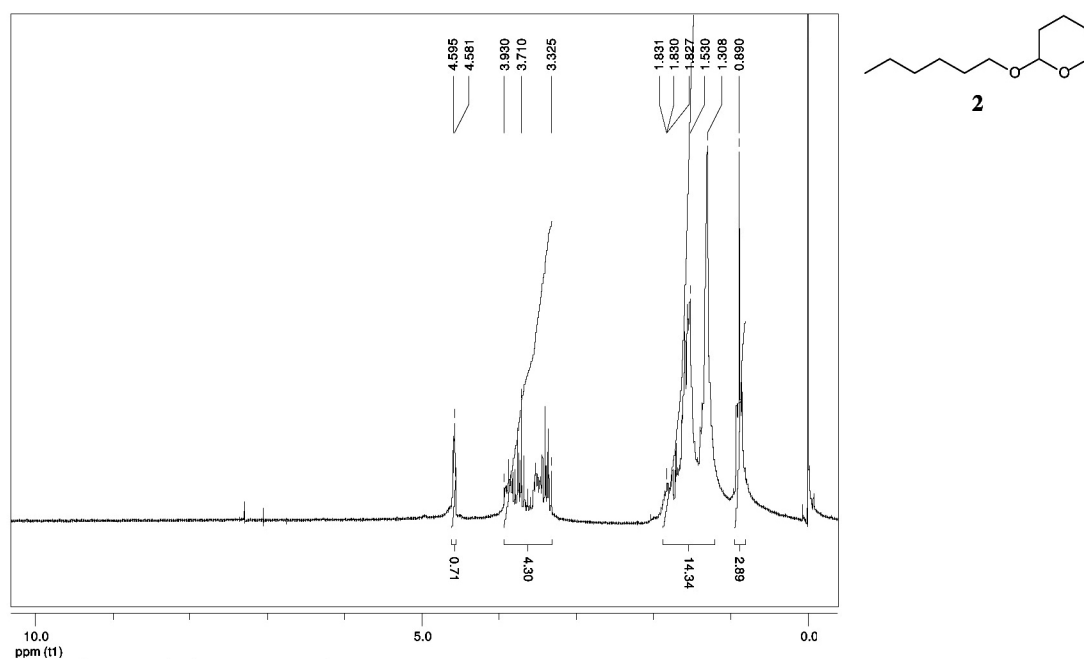
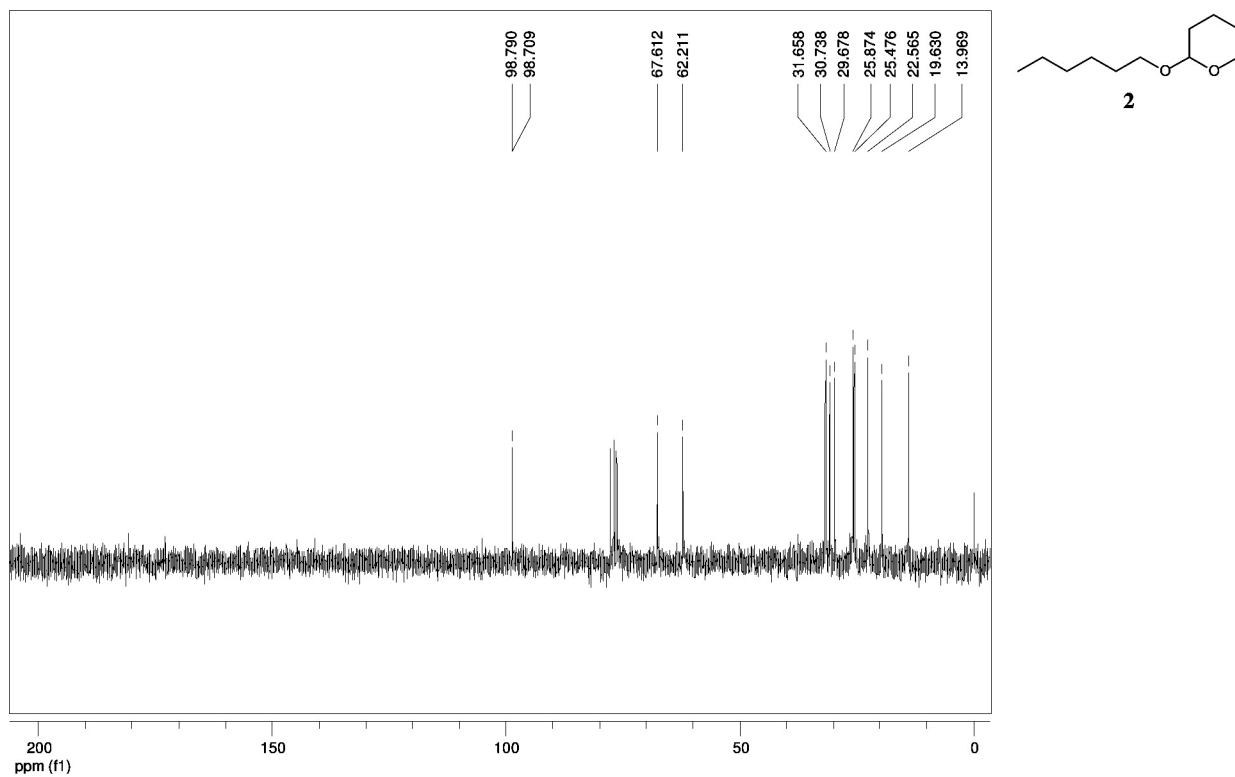
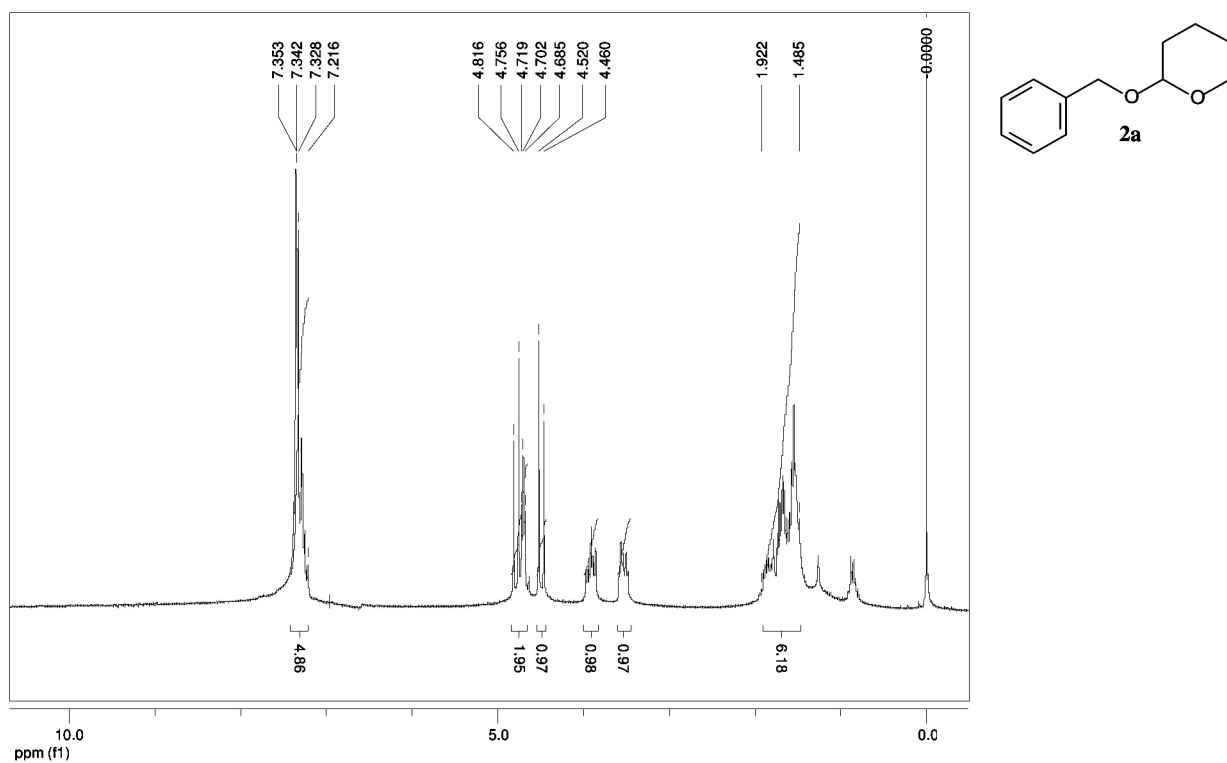


Figure S1. ¹H NMR of **2** (200 MHz, CDCl₃).

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Figure S2. ¹³C NMR of **2** (50 MHz, CDCl₃).Figure S3. ¹H NMR of **2a** (200 MHz, CDCl₃).

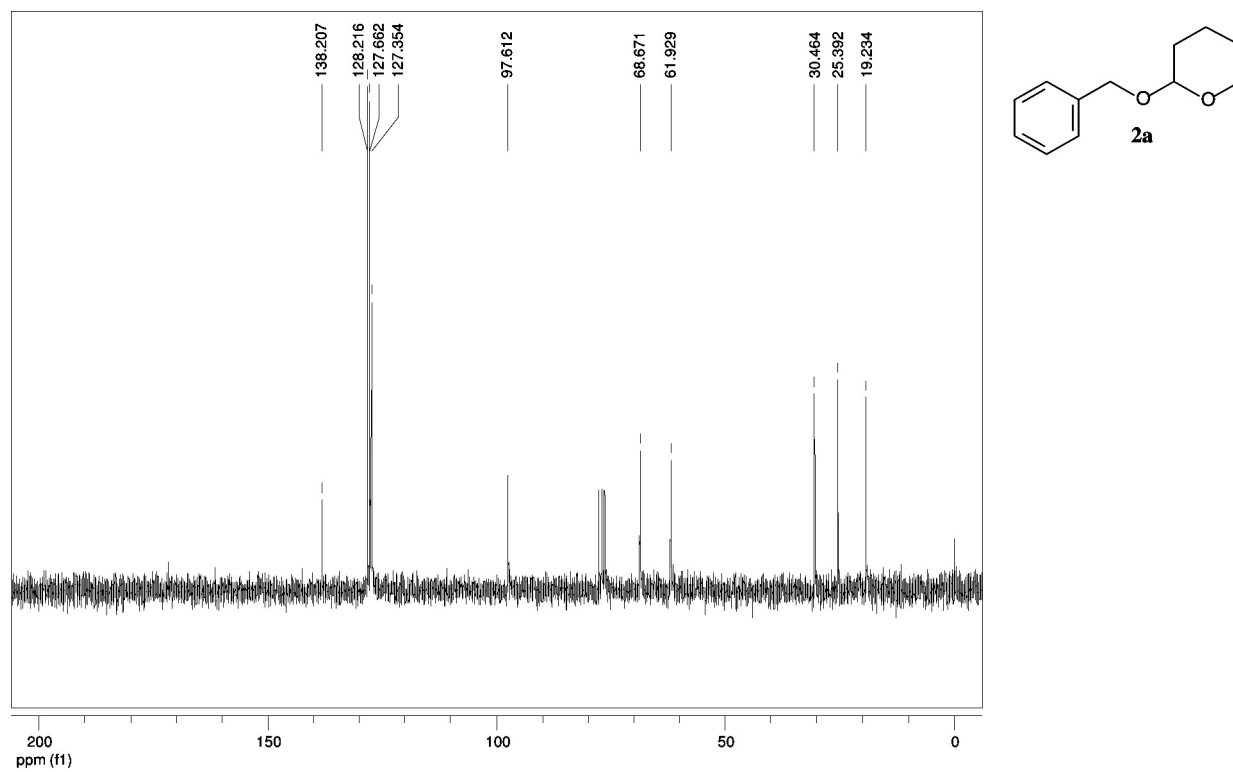


Figure S4. ¹³C NMR of **2a** (50 MHz, CDCl₃).

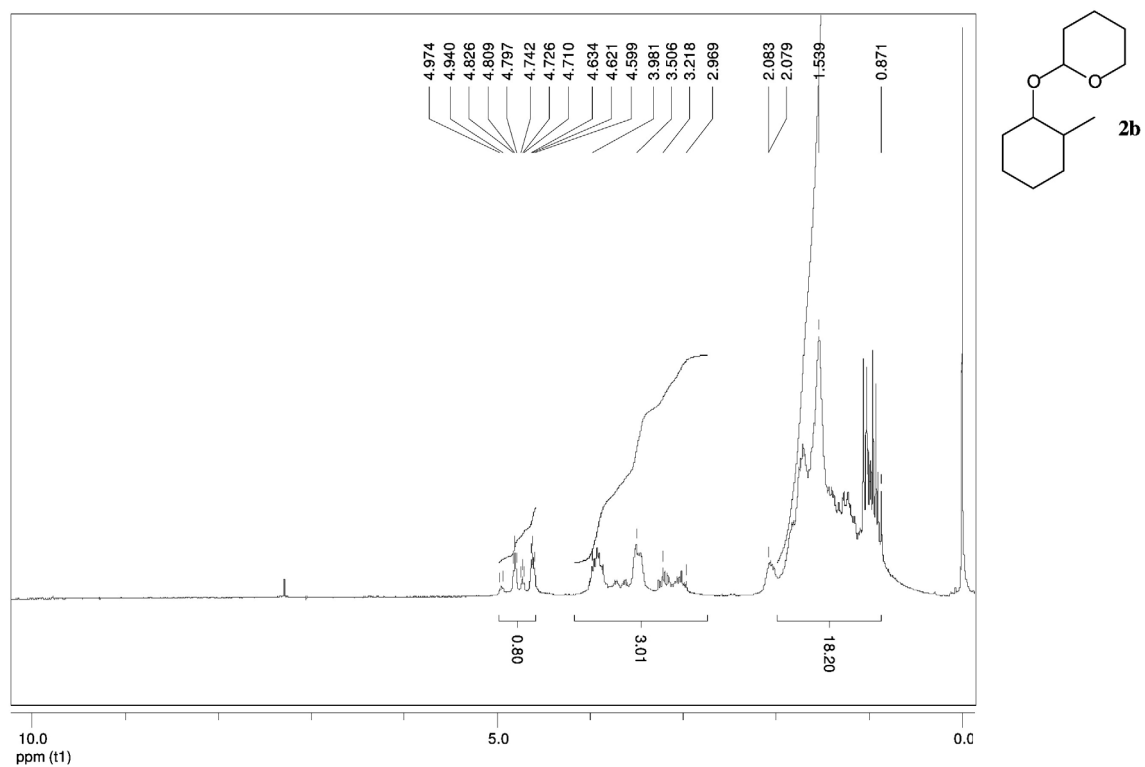
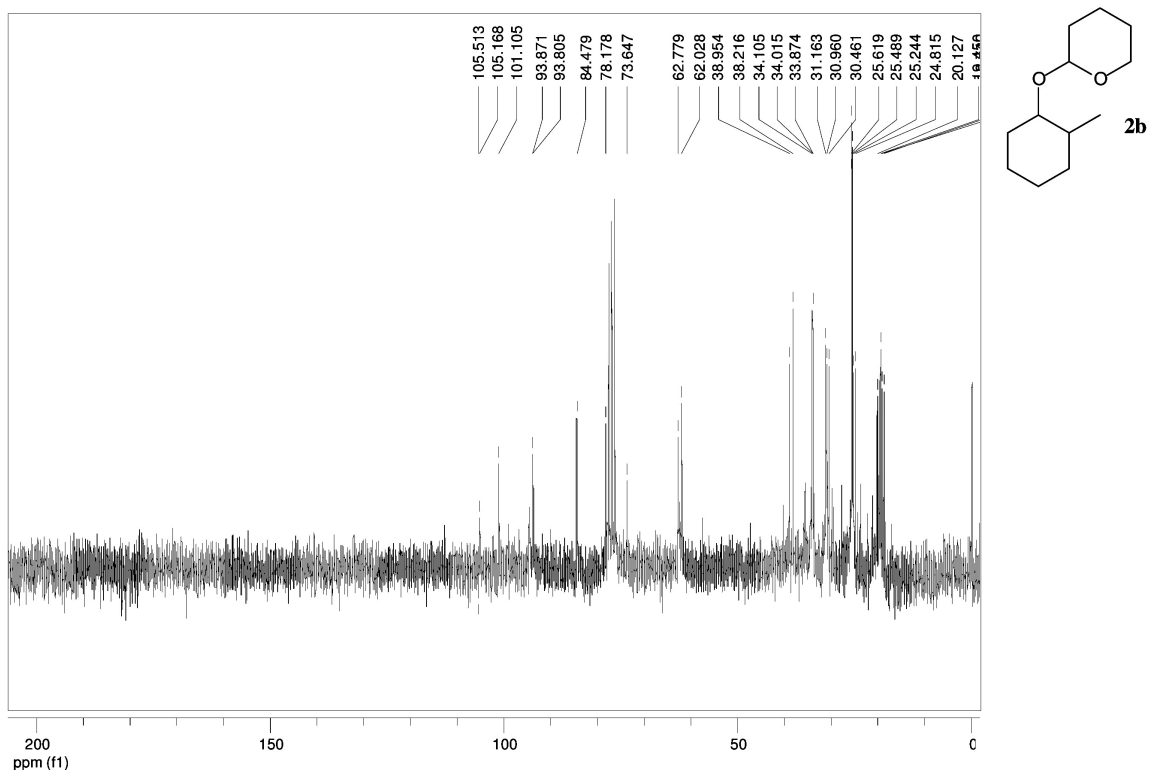
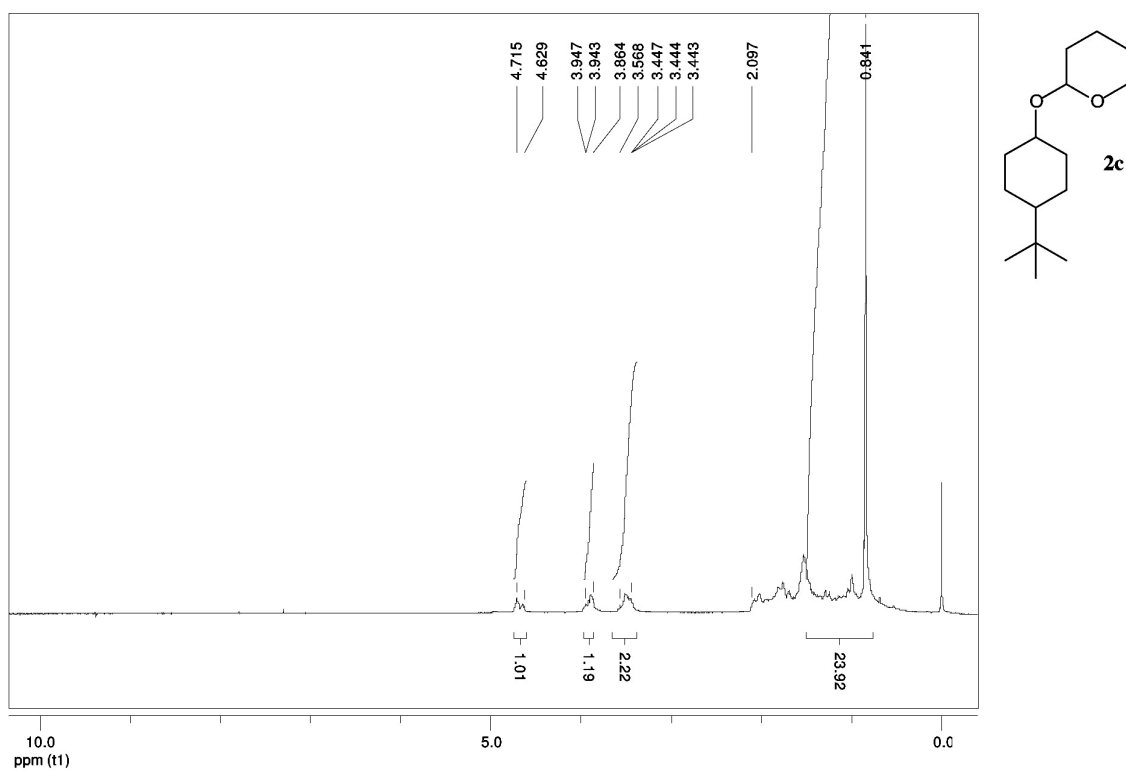
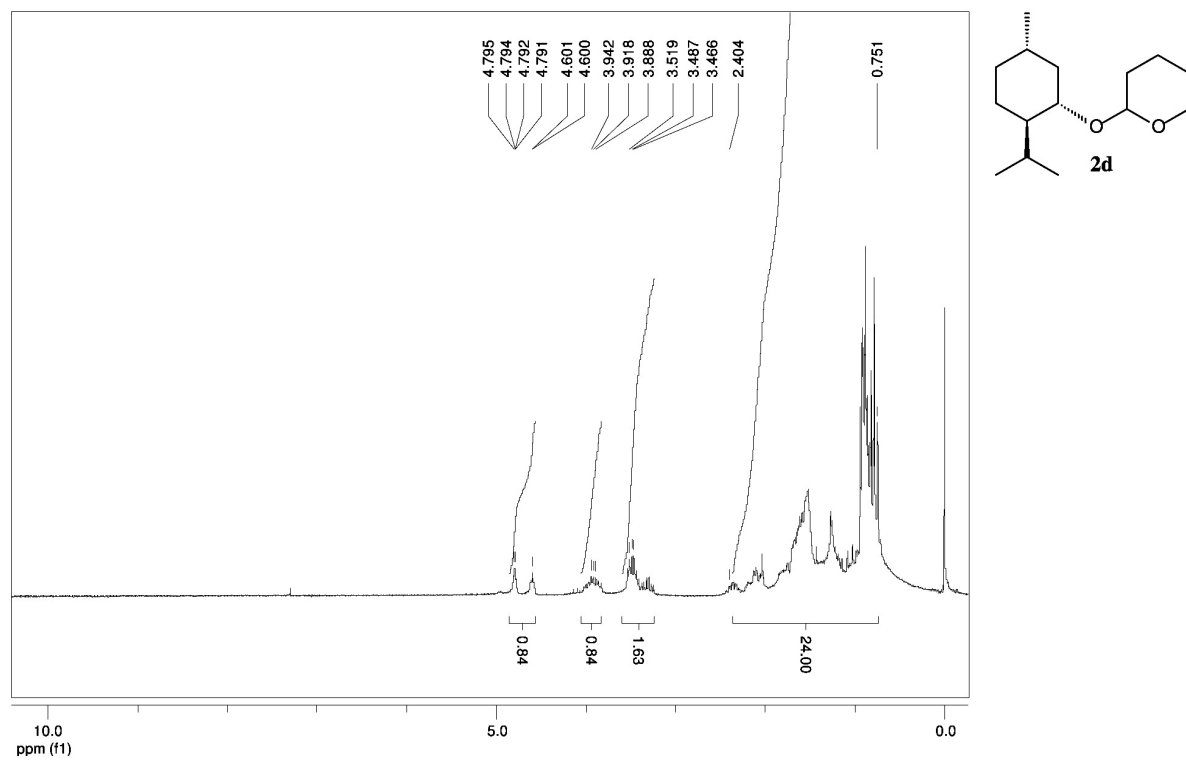
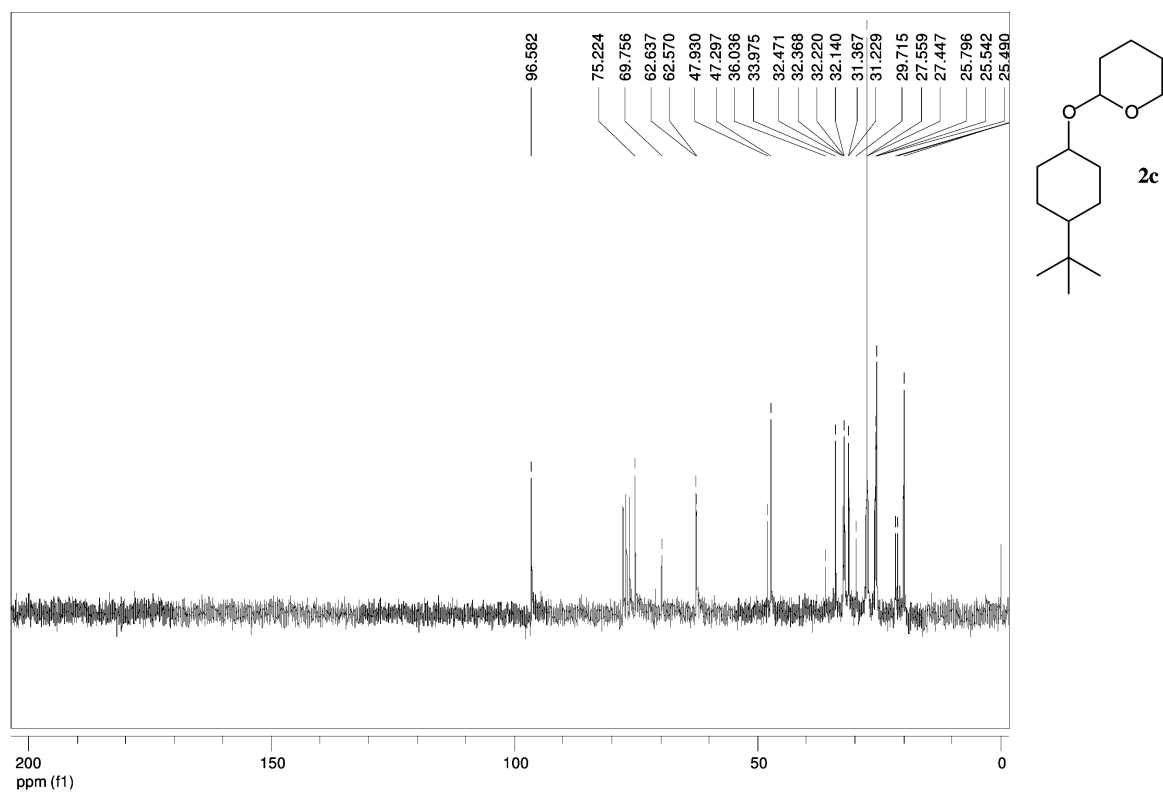
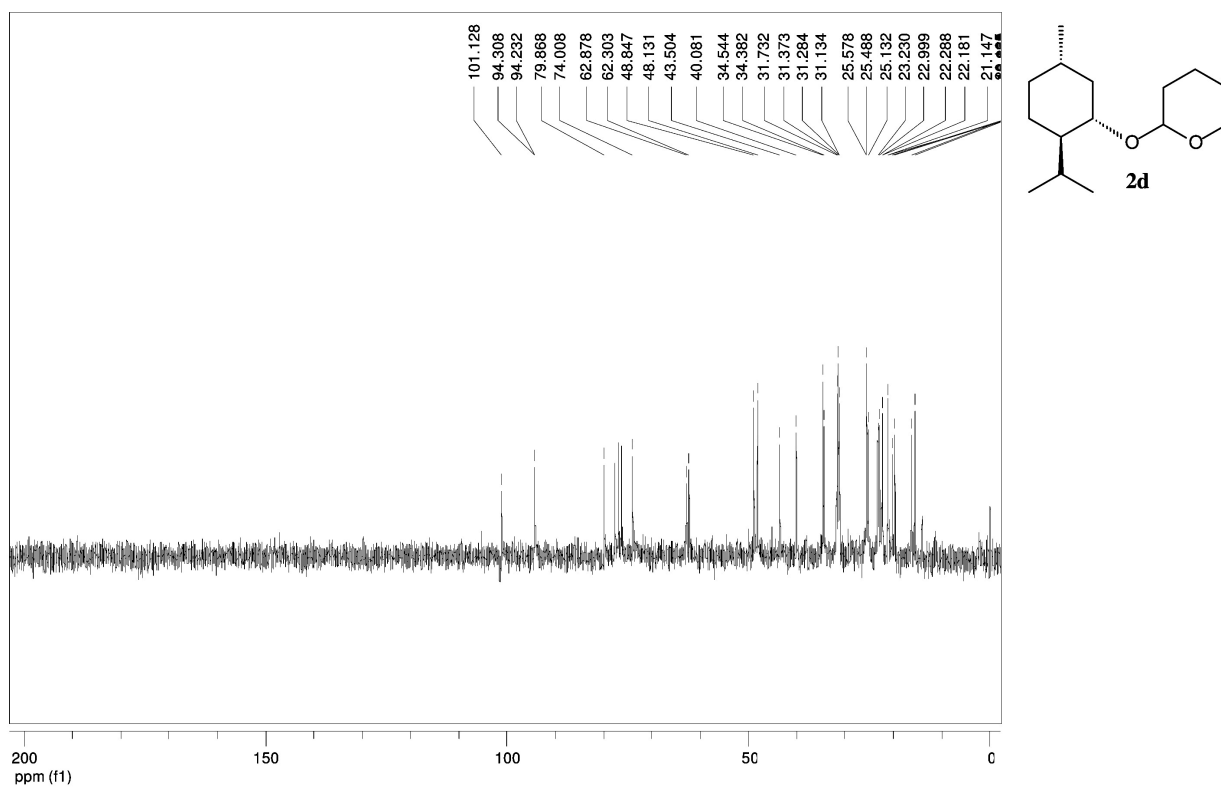
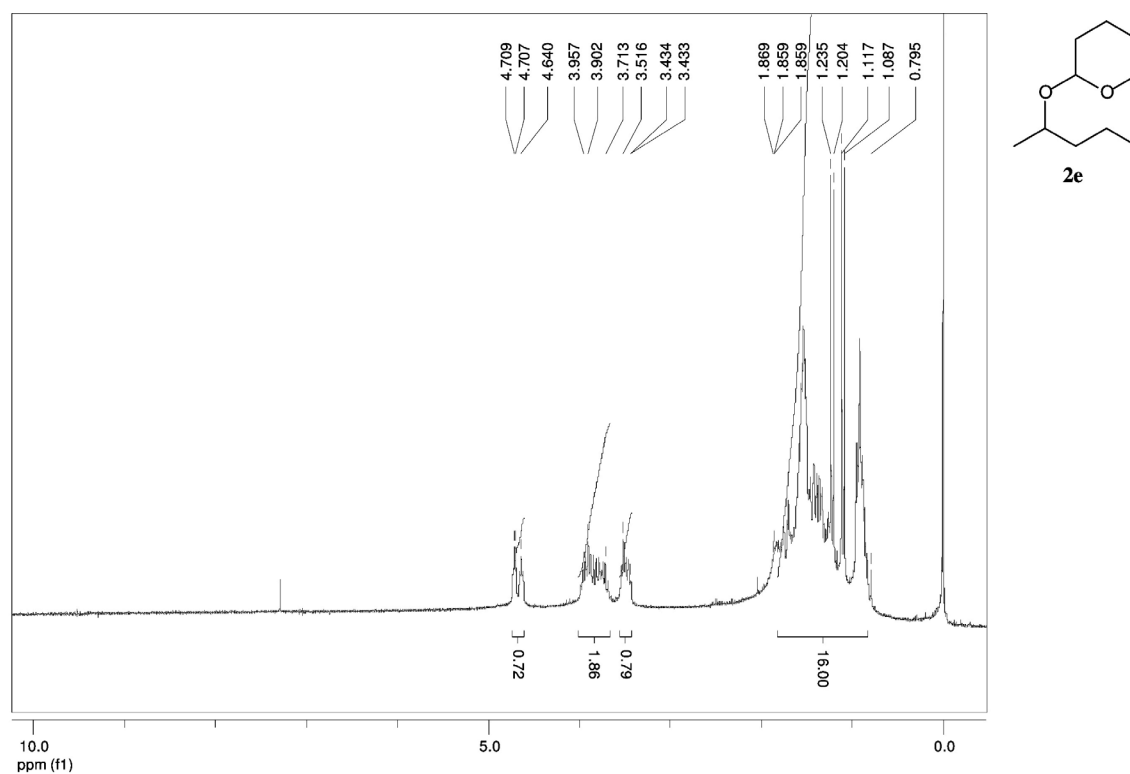
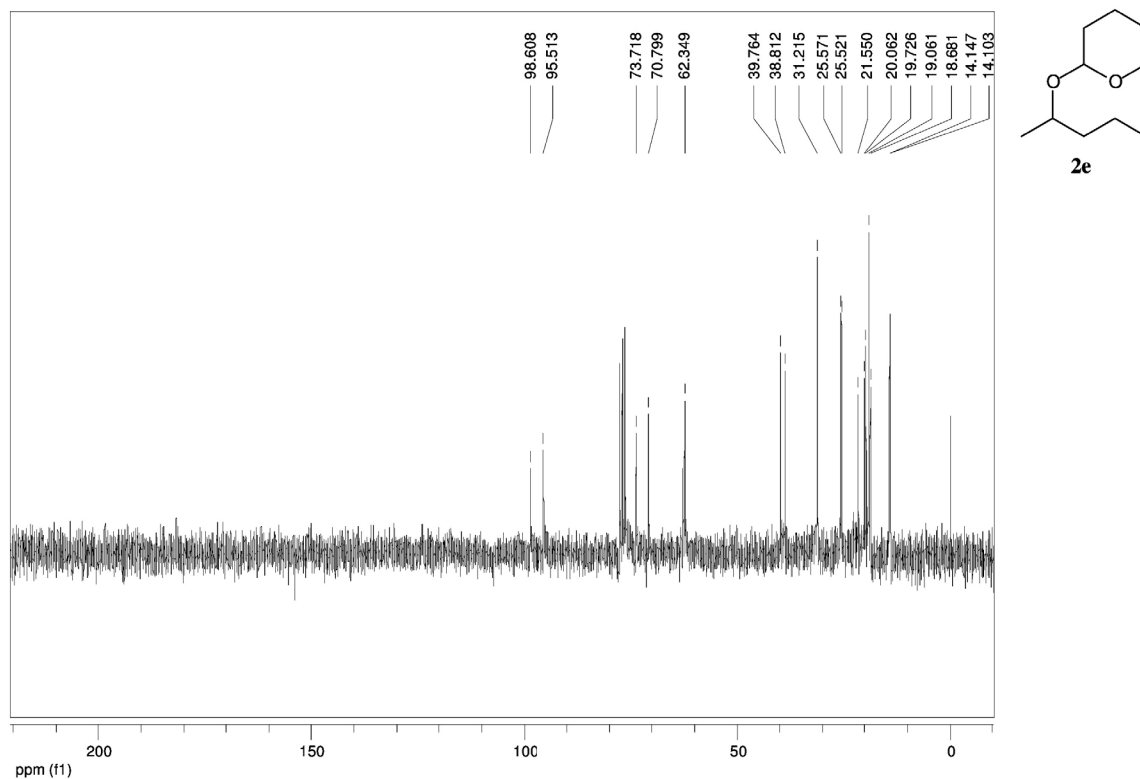
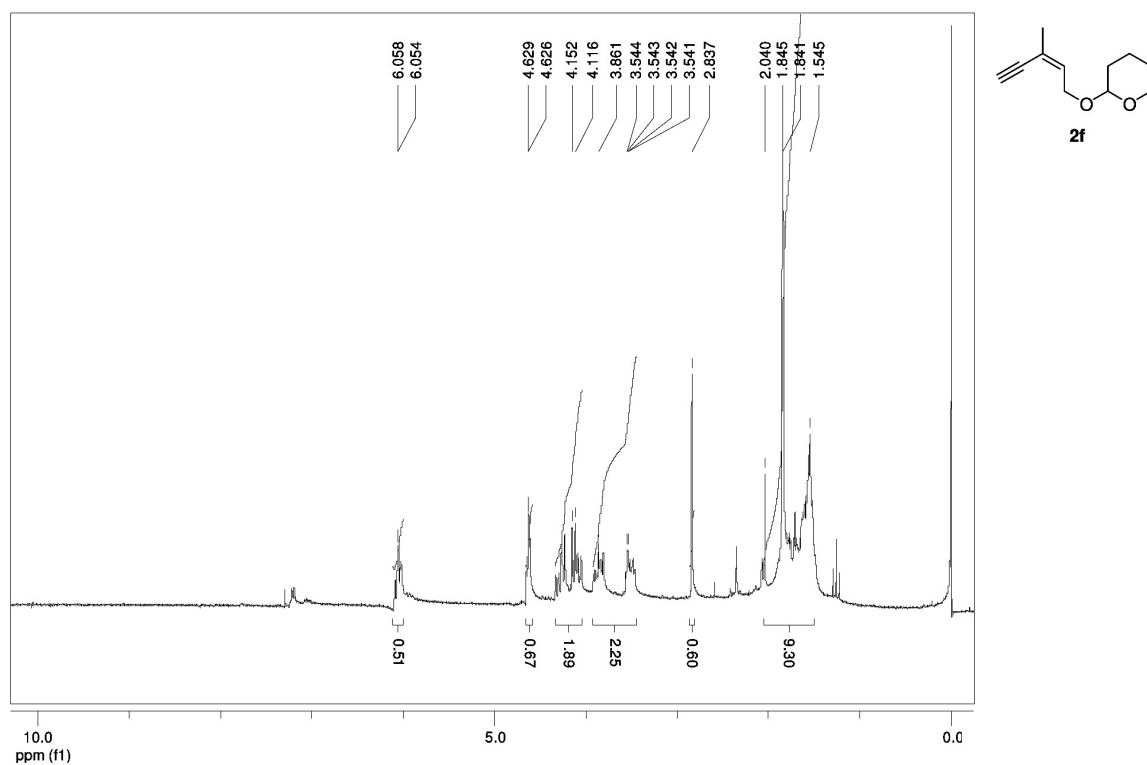


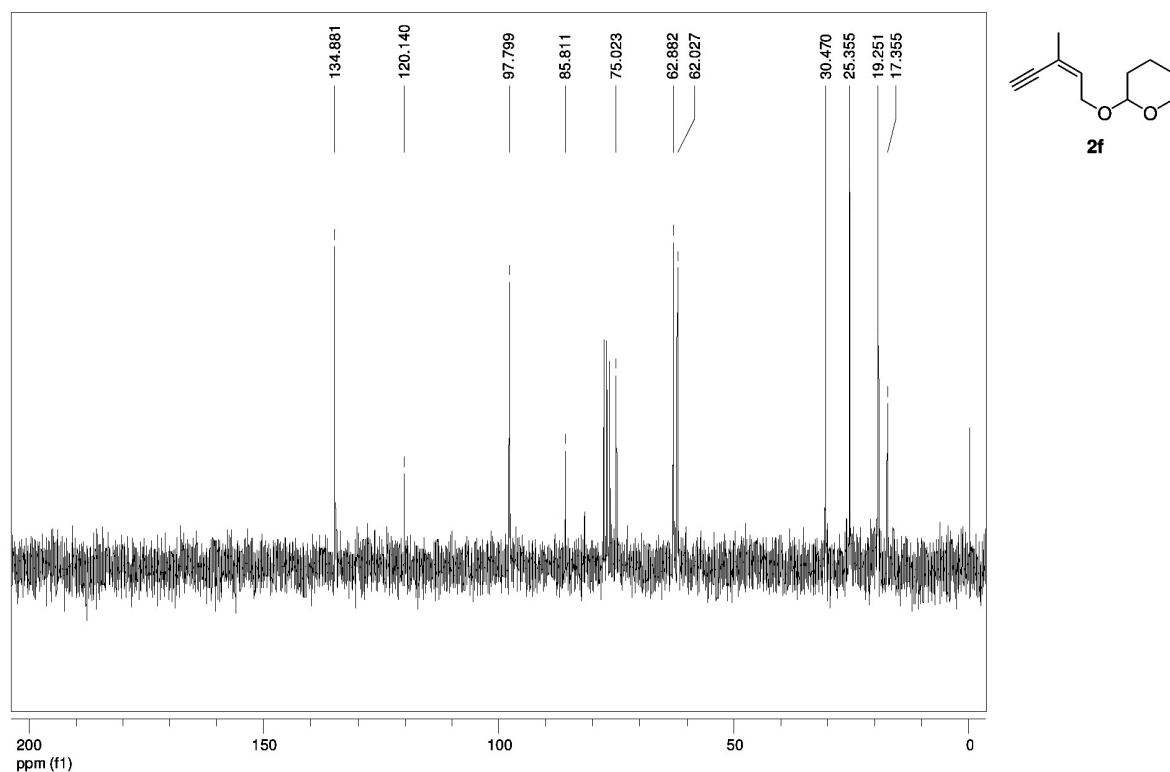
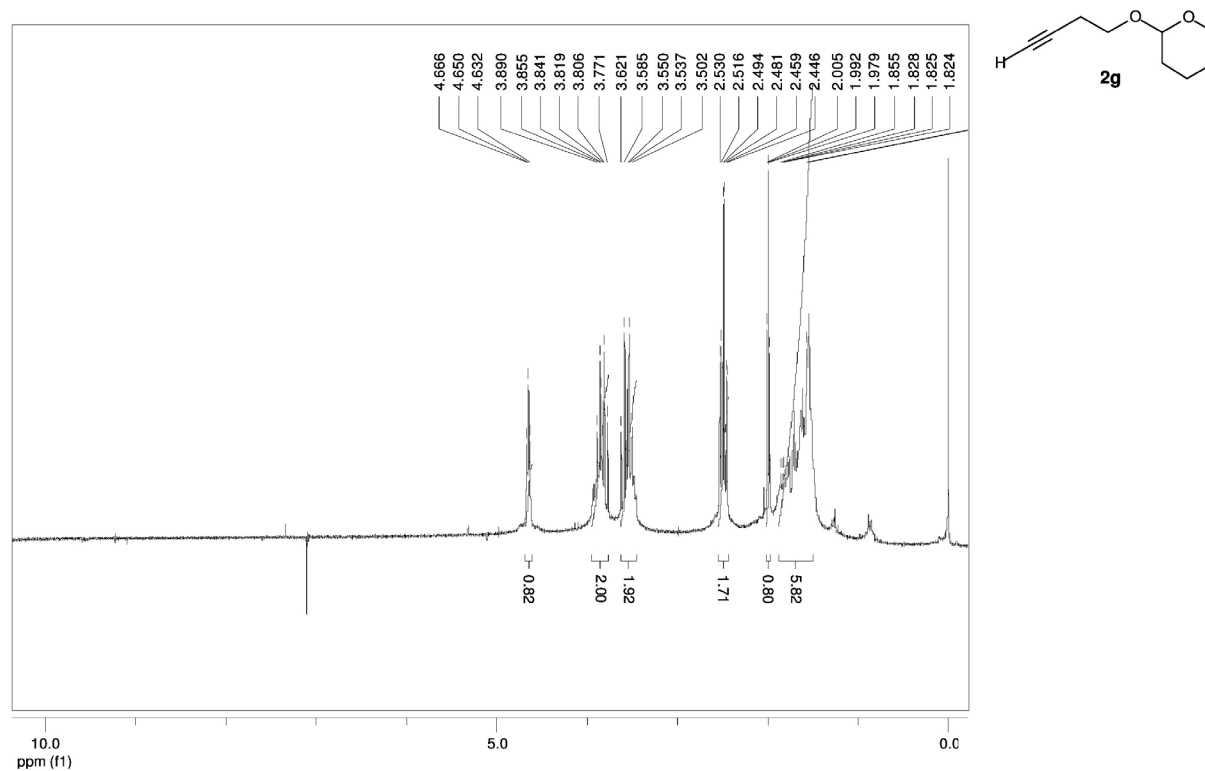
Figure S5. ¹H NMR of **2b** (200 MHz, CDCl₃).

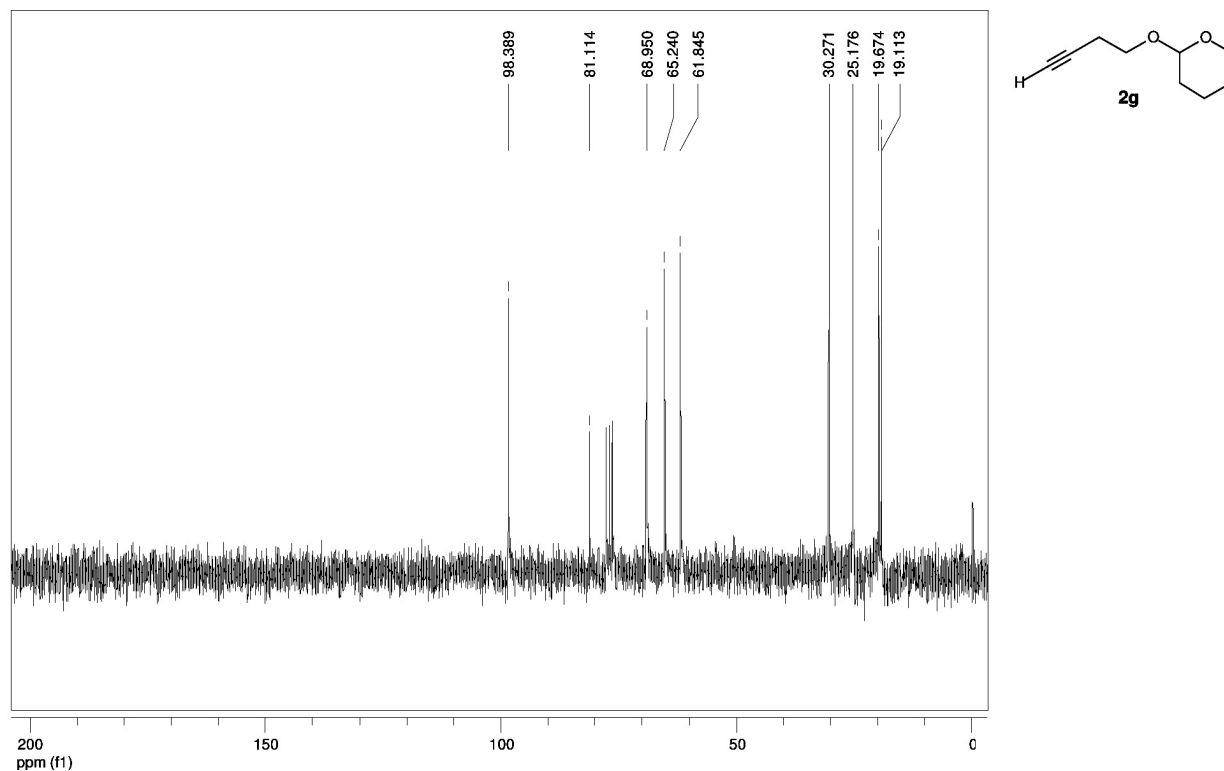
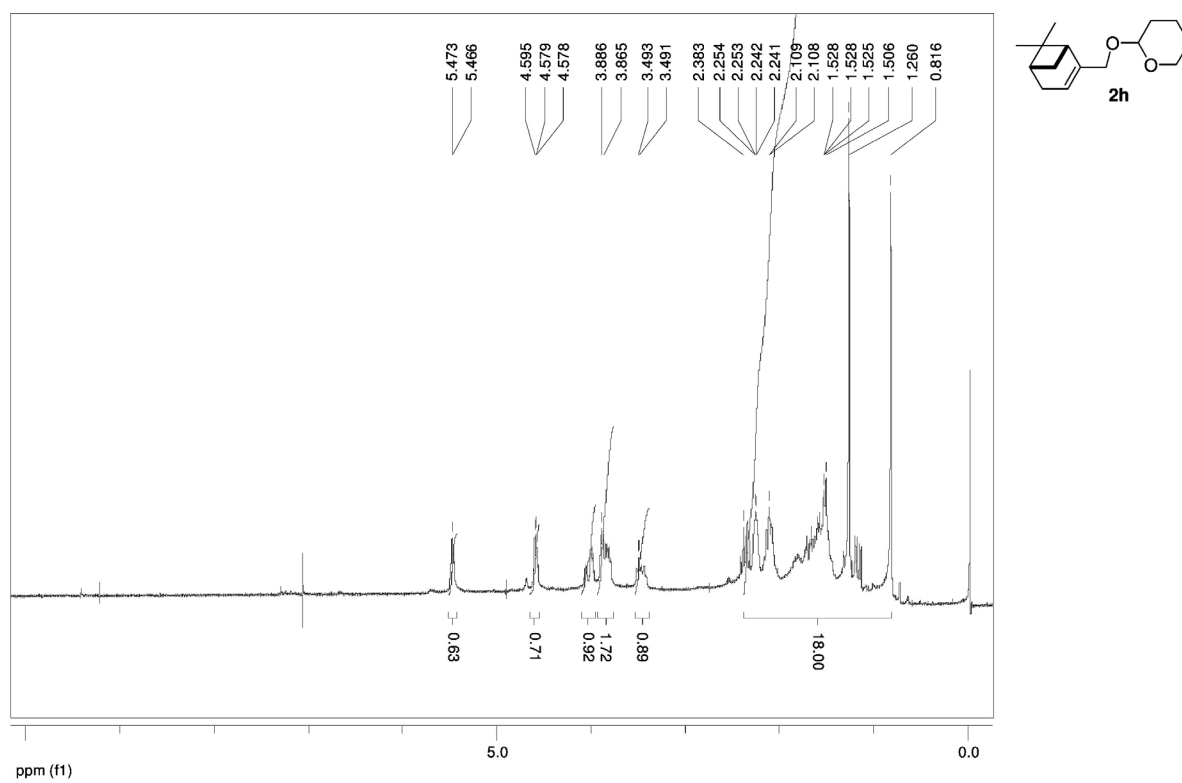
Figure S6. ¹³C NMR of **2b** (50 MHz, CDCl₃).Figure S7. ¹H NMR of **2c** (200 MHz, CDCl₃).

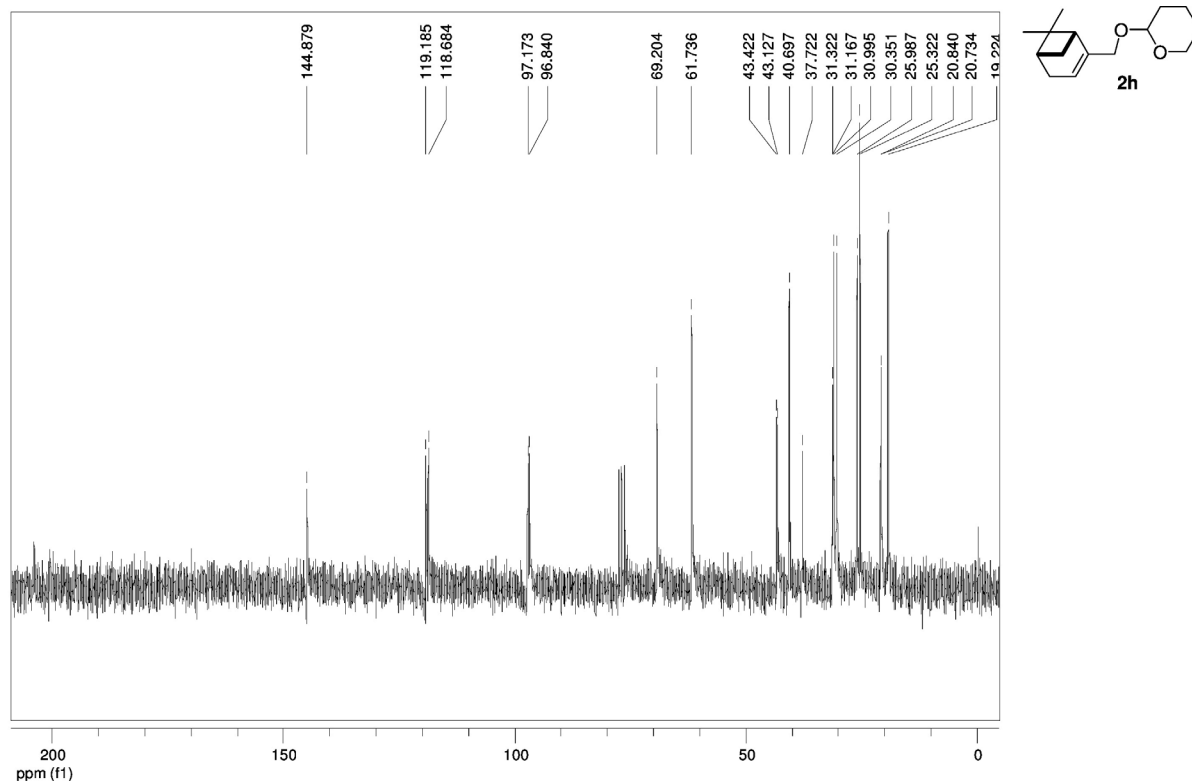
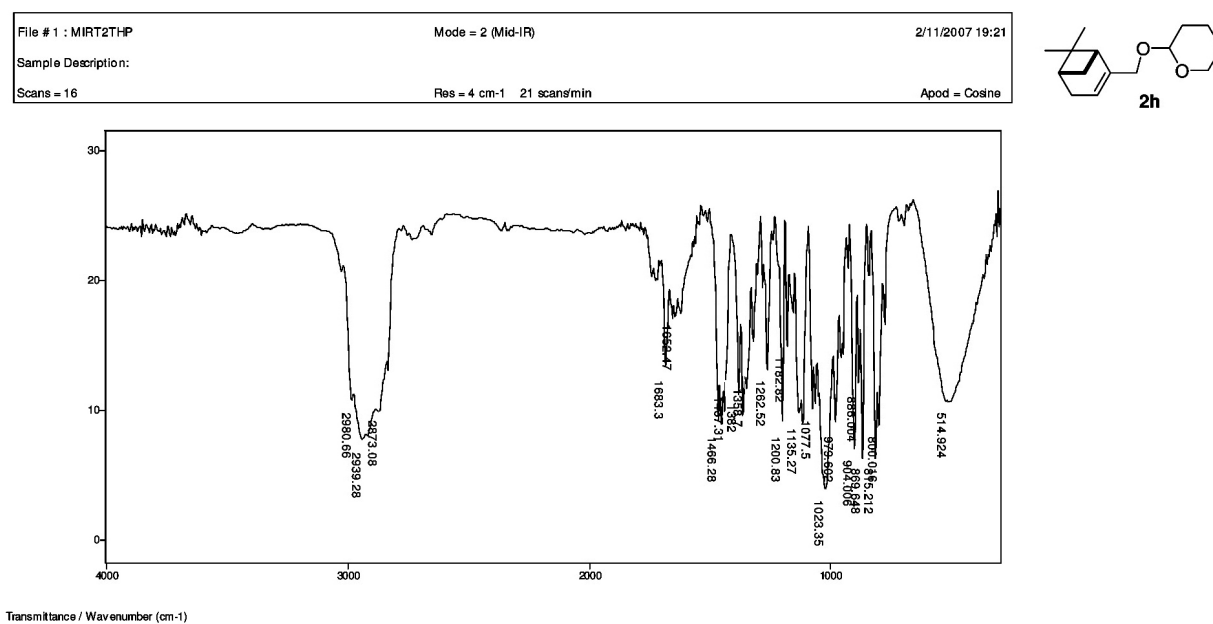


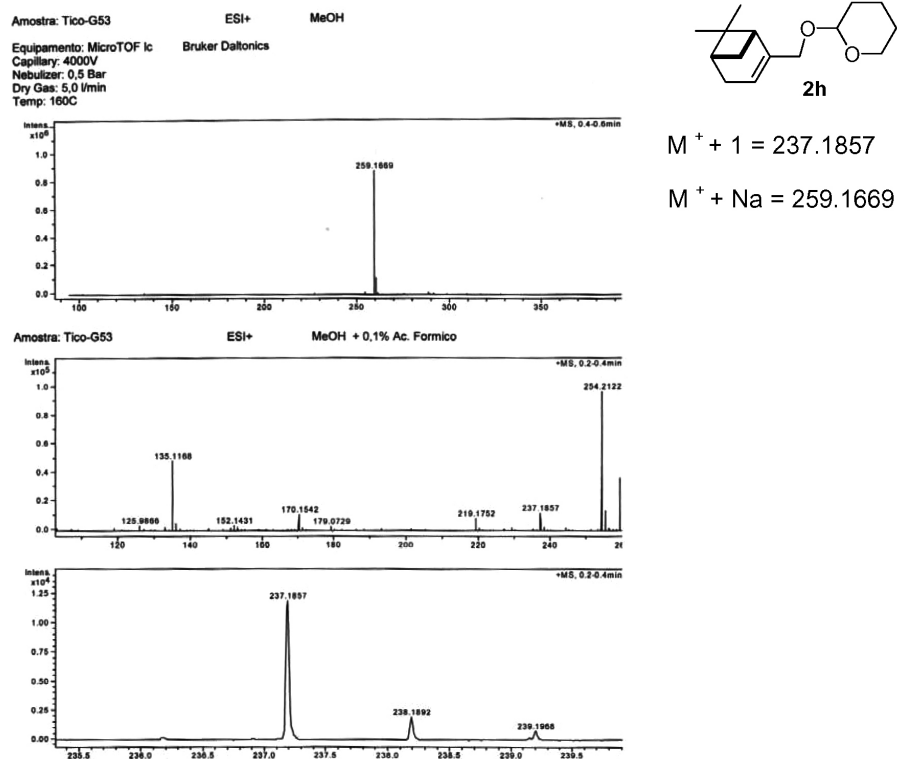
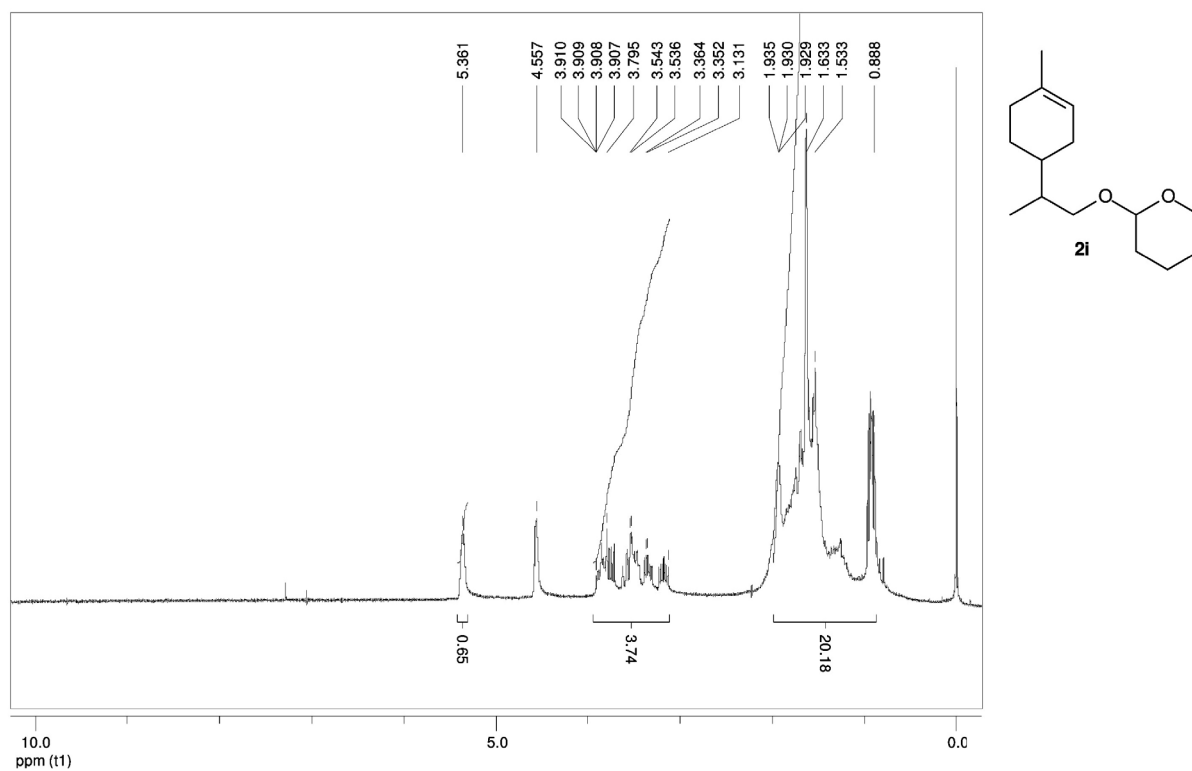
Figure S10. ¹³C NMR of **2d** (50 MHz, CDCl₃).Figure S11. ¹H NMR of **2e** (200 MHz, CDCl₃).

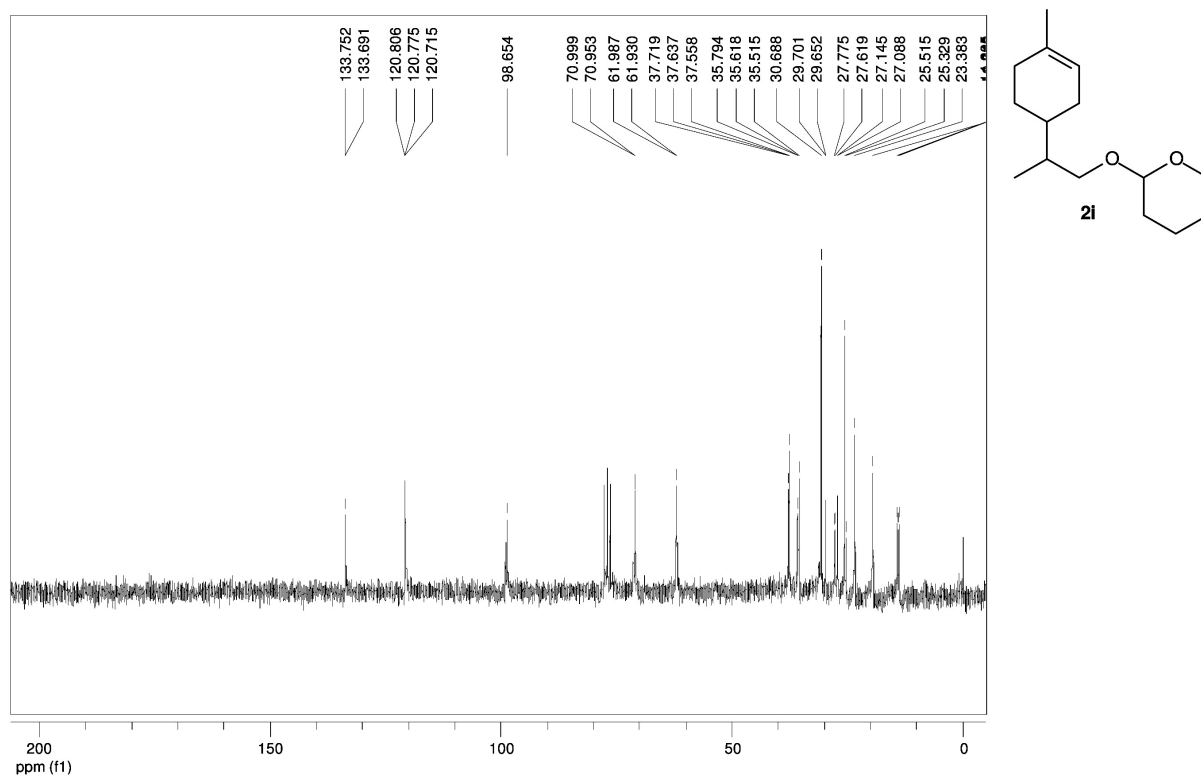
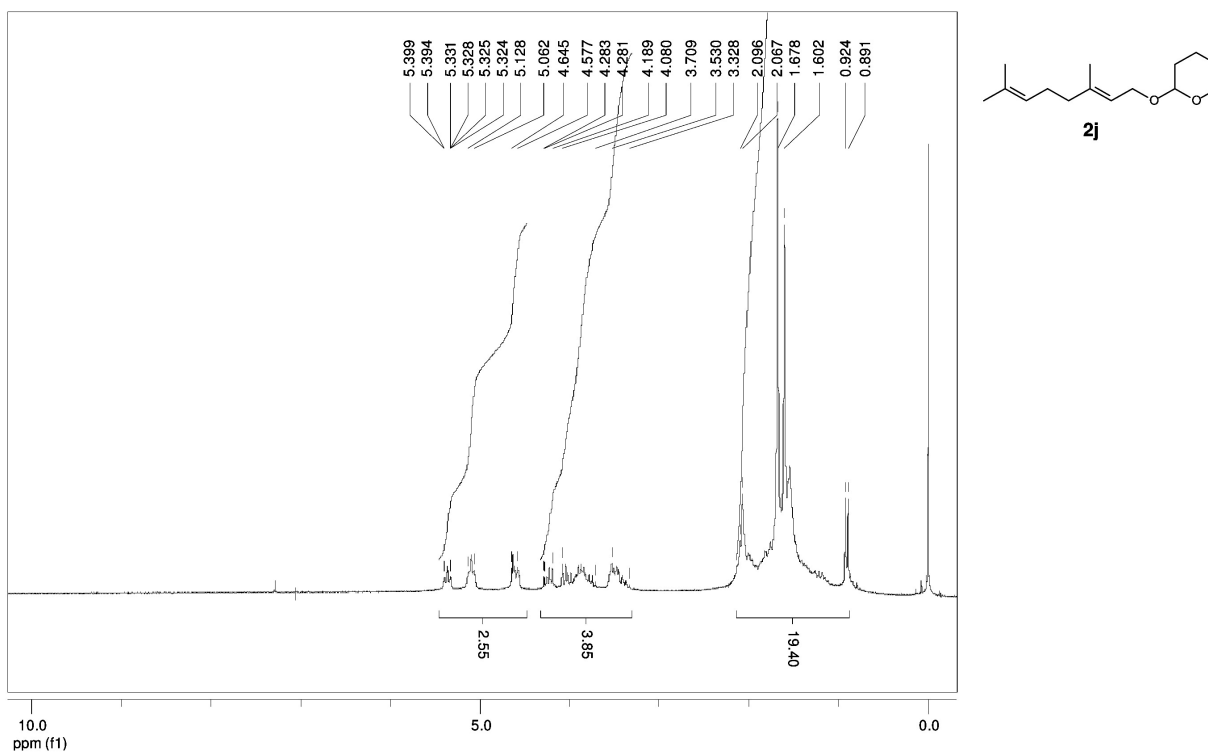
**Figure S12.** ¹³C NMR of **2e** (50 MHz, CDCl₃).**Figure S13.** ¹H NMR of **2f** (200 MHz, CDCl₃).

Figure S14. ¹³C NMR of **2f** (50 MHz, CDCl₃).Figure S15. ¹H NMR of **2g** (200 MHz, CDCl₃).

**Figure S16.** ¹³C NMR of **2g** (50 MHz, CDCl₃).**Figure S17.** ¹H NMR of **2h** (200 MHz, CDCl₃).

Figure S18. ¹³C NMR of **2h** (50 MHz, CDCl₃).Figure S19. IR spectra of **2h** (neat, cm⁻¹).

Figure S20. HRMS spectra of **2h**.Figure S21. ^1H NMR of **2i** (200 MHz, CDCl_3).

Figure S22. ¹³C NMR of **2i** (50 MHz, CDCl₃).Figure S23. ¹H NMR of **2j** (200 MHz, CDCl₃).

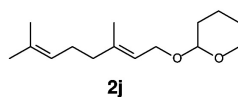


Figure S24. ^{13}C NMR of **2j** (50 MHz, CDCl_3).

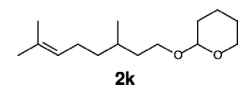
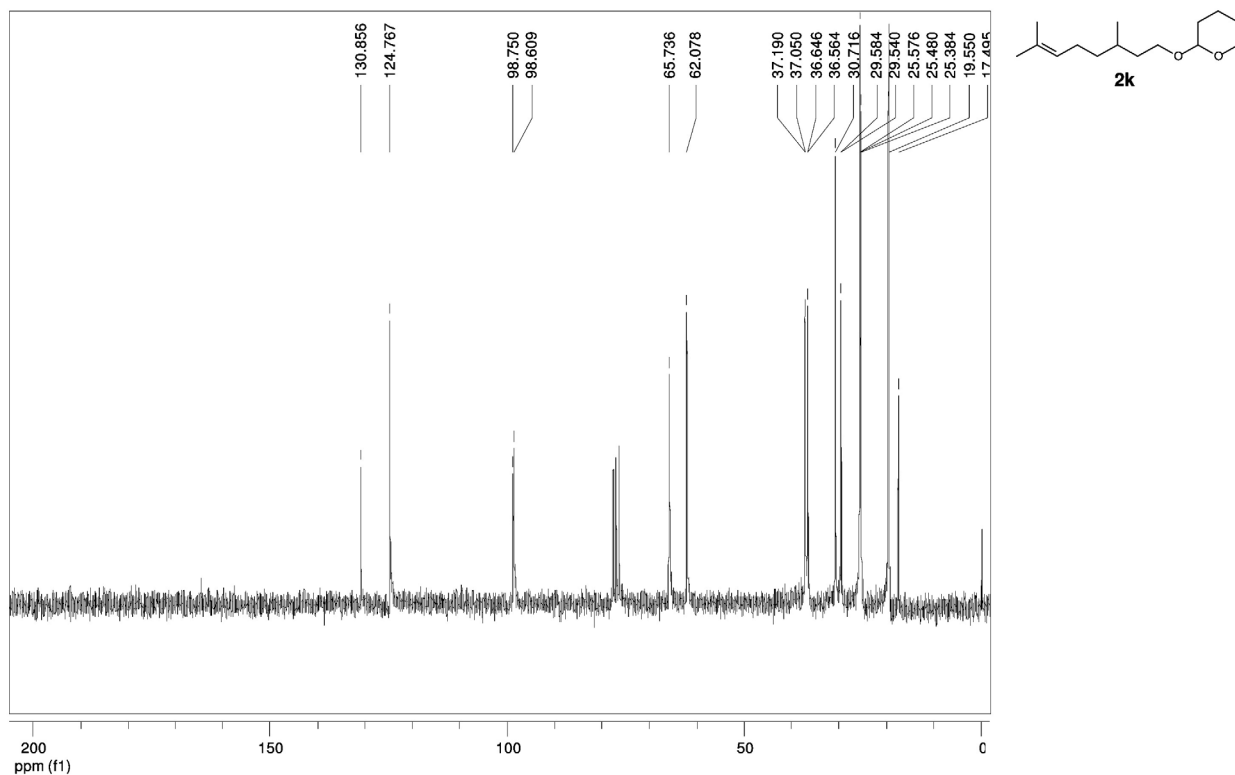
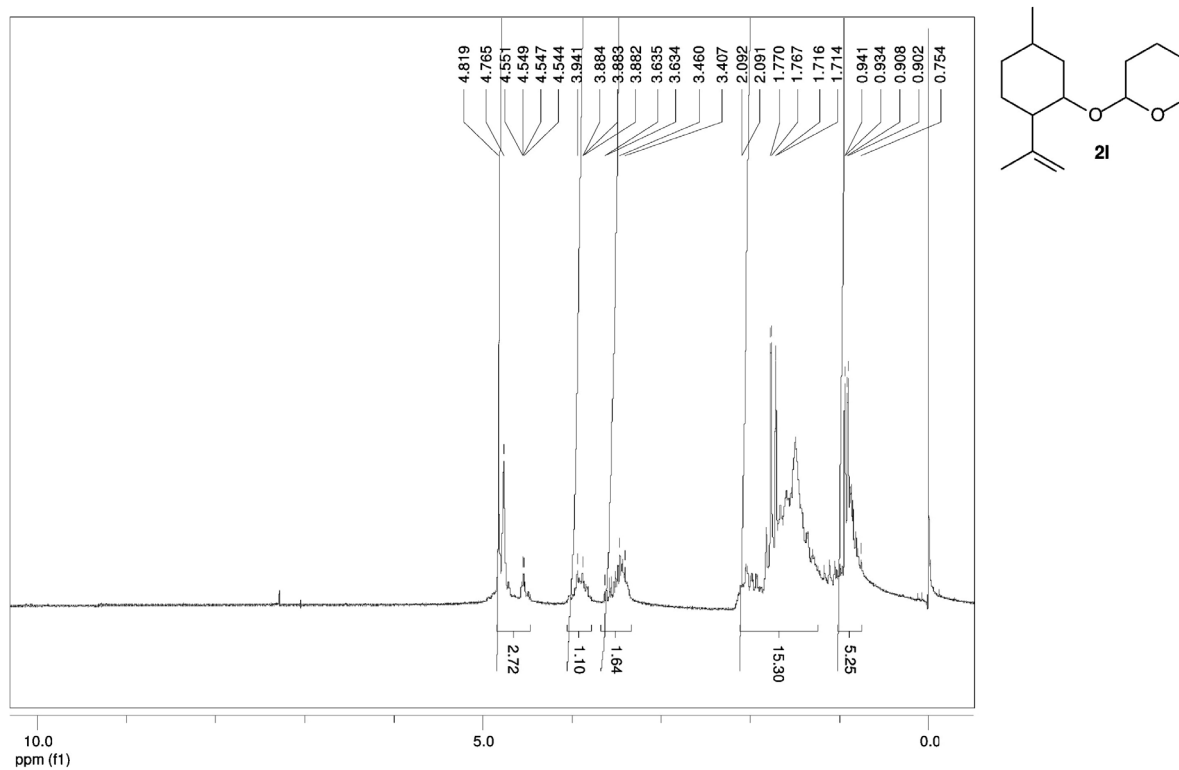


Figure S25. ^1H NMR of **2k** (200 MHz, CDCl_3).

Figure S26. ¹³C NMR of **2k** (50 MHz, CDCl₃).Figure S27. ¹H NMR of **2l** (200 MHz, CDCl₃).

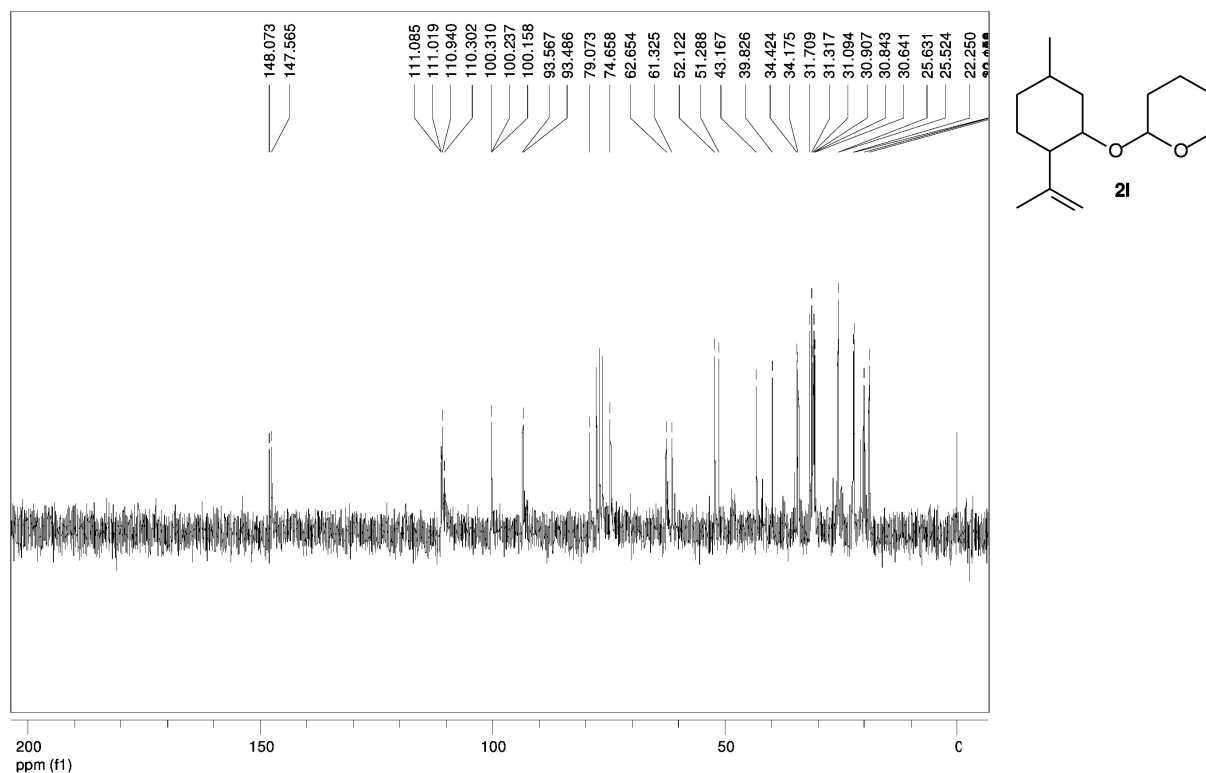


Figure S28. ¹³C NMR of **2I** (50 MHz, CDCl₃).

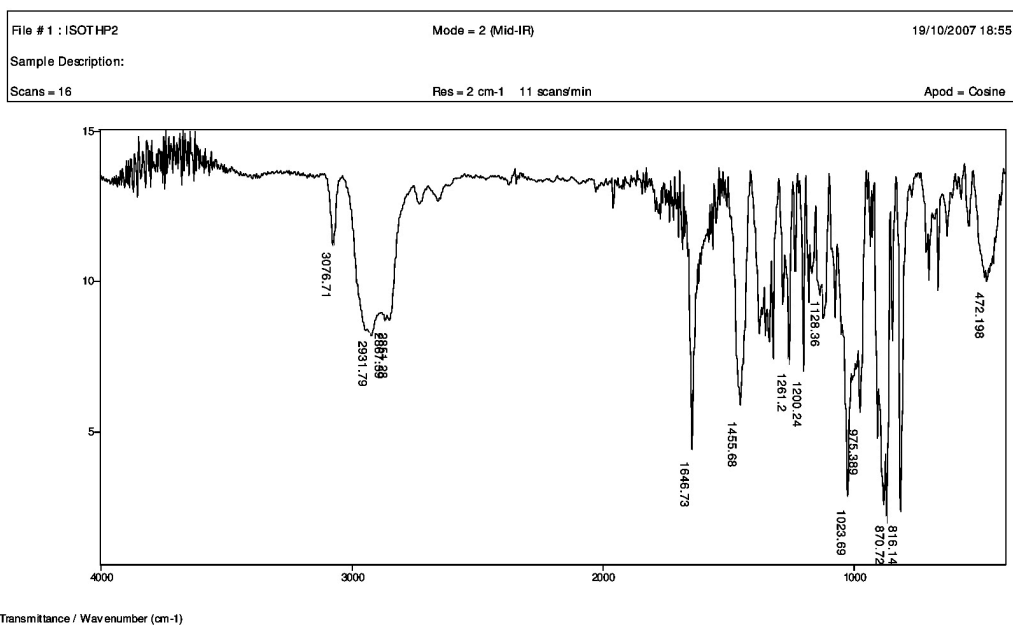


Figure S29. IR spectra of **2I** (neat, cm⁻¹).

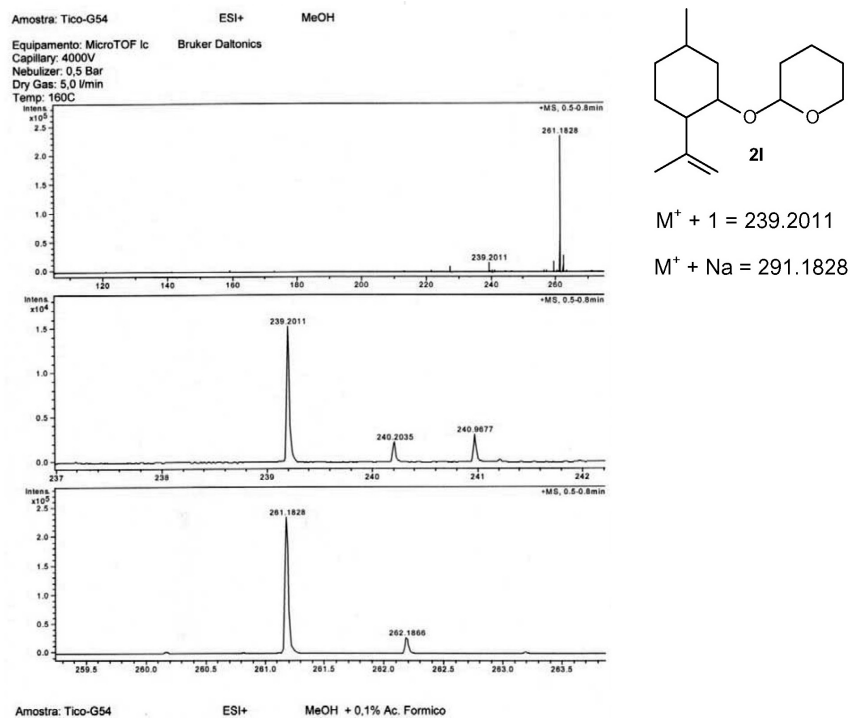


Figure S30. HRMS spectra of **2l**.

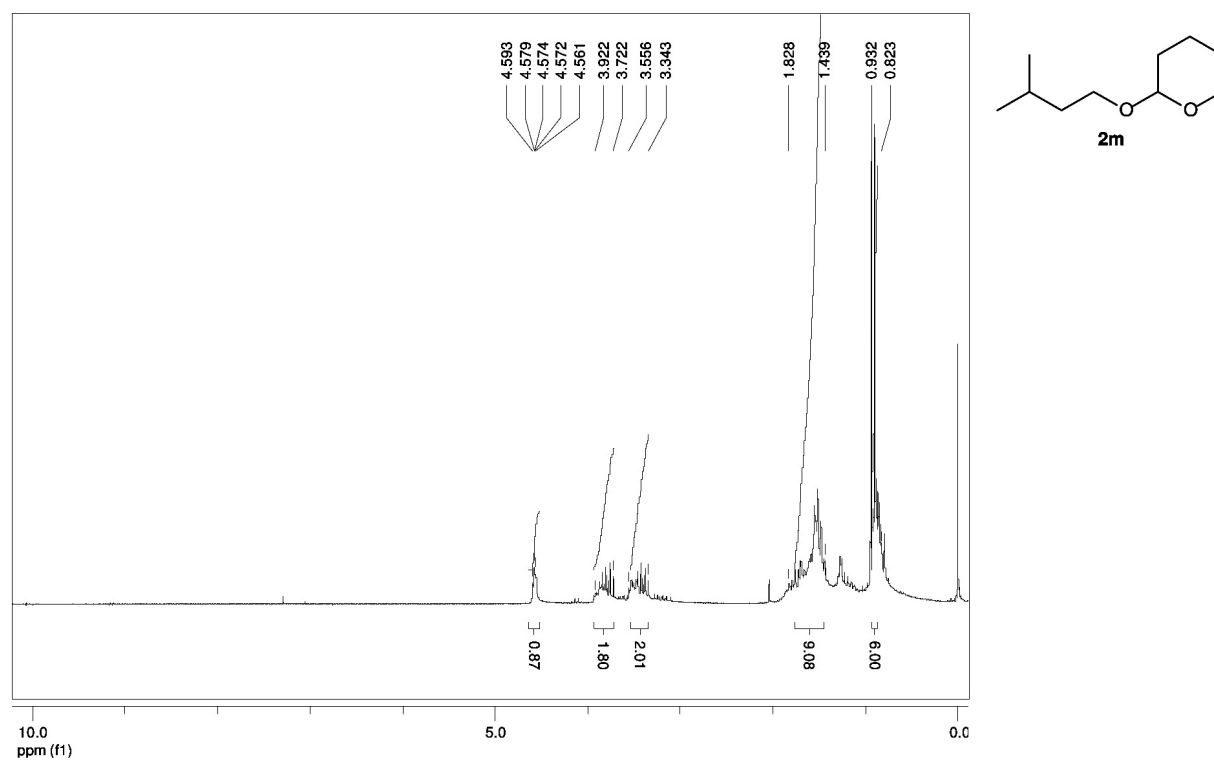
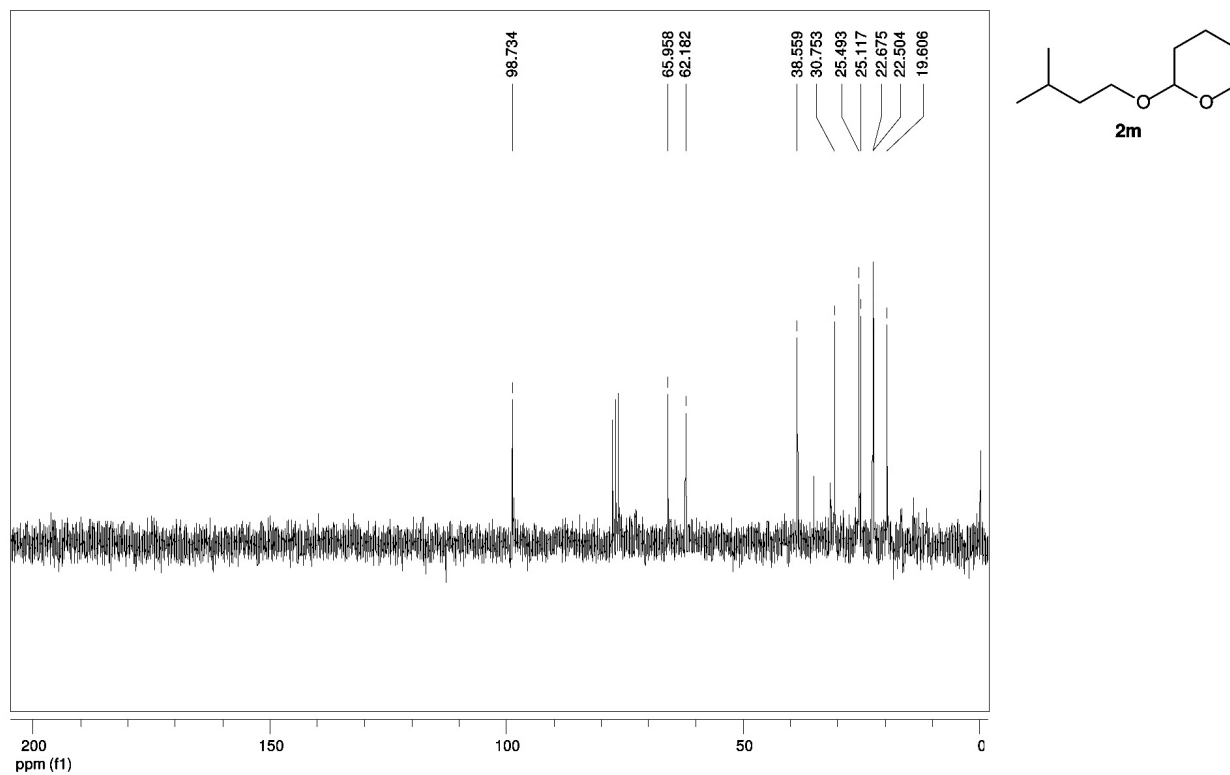
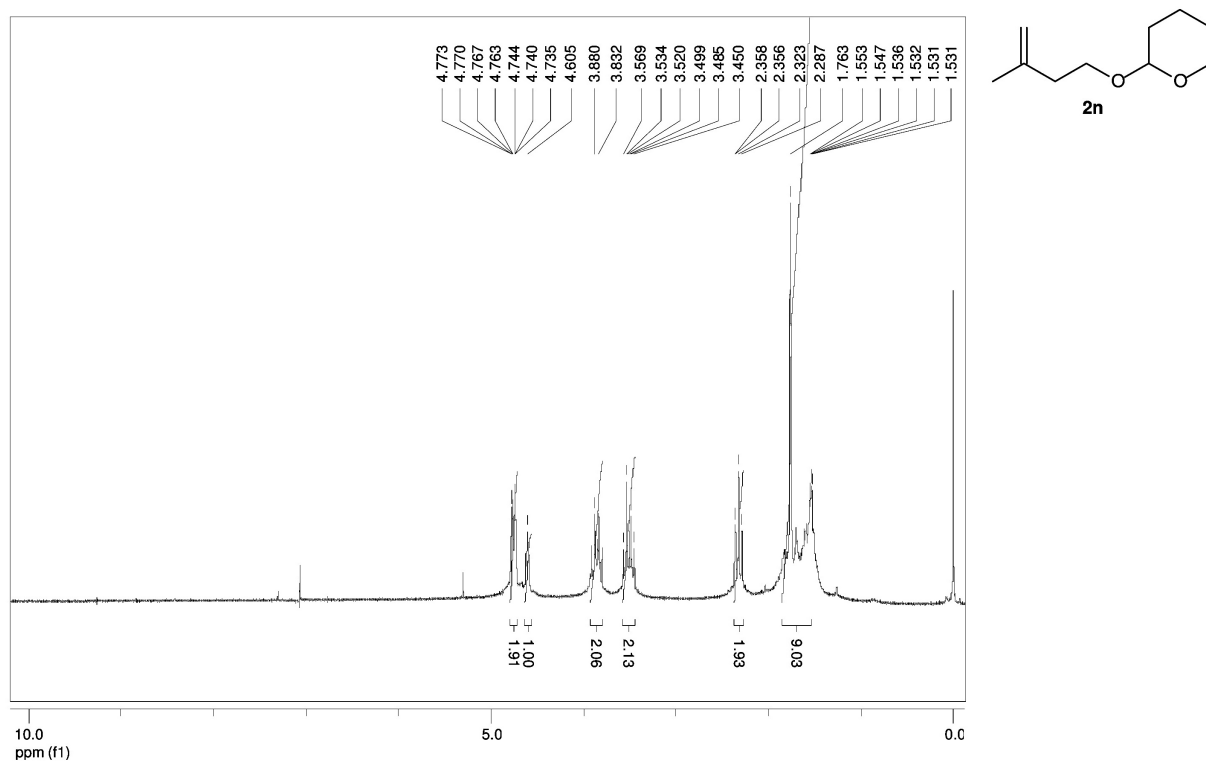


Figure S31. ^1H NMR of **2m** (200 MHz, CDCl_3).

Figure S32. ¹³C NMR of **2m** (50 MHz, CDCl₃).Figure S33. ¹H NMR of **2n** (200 MHz, CDCl₃).

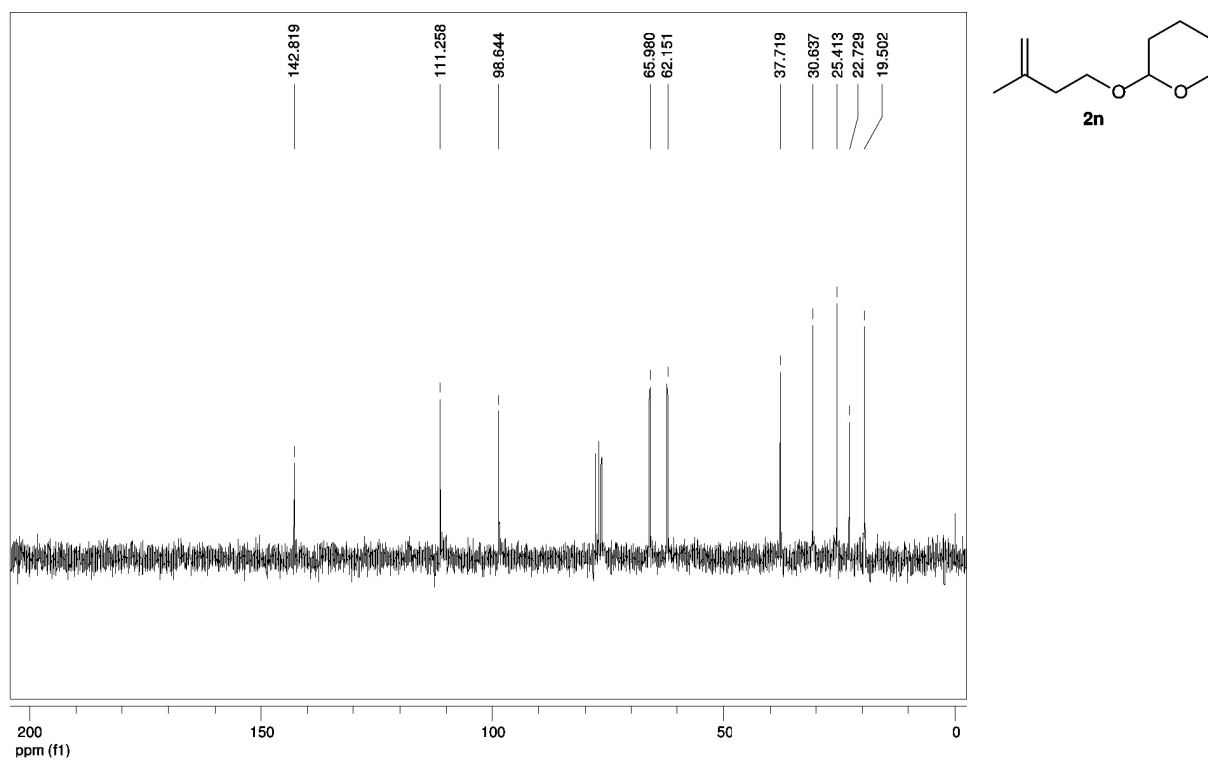


Figure S34. ¹³C NMR of **2n** (50 MHz, CDCl₃).