

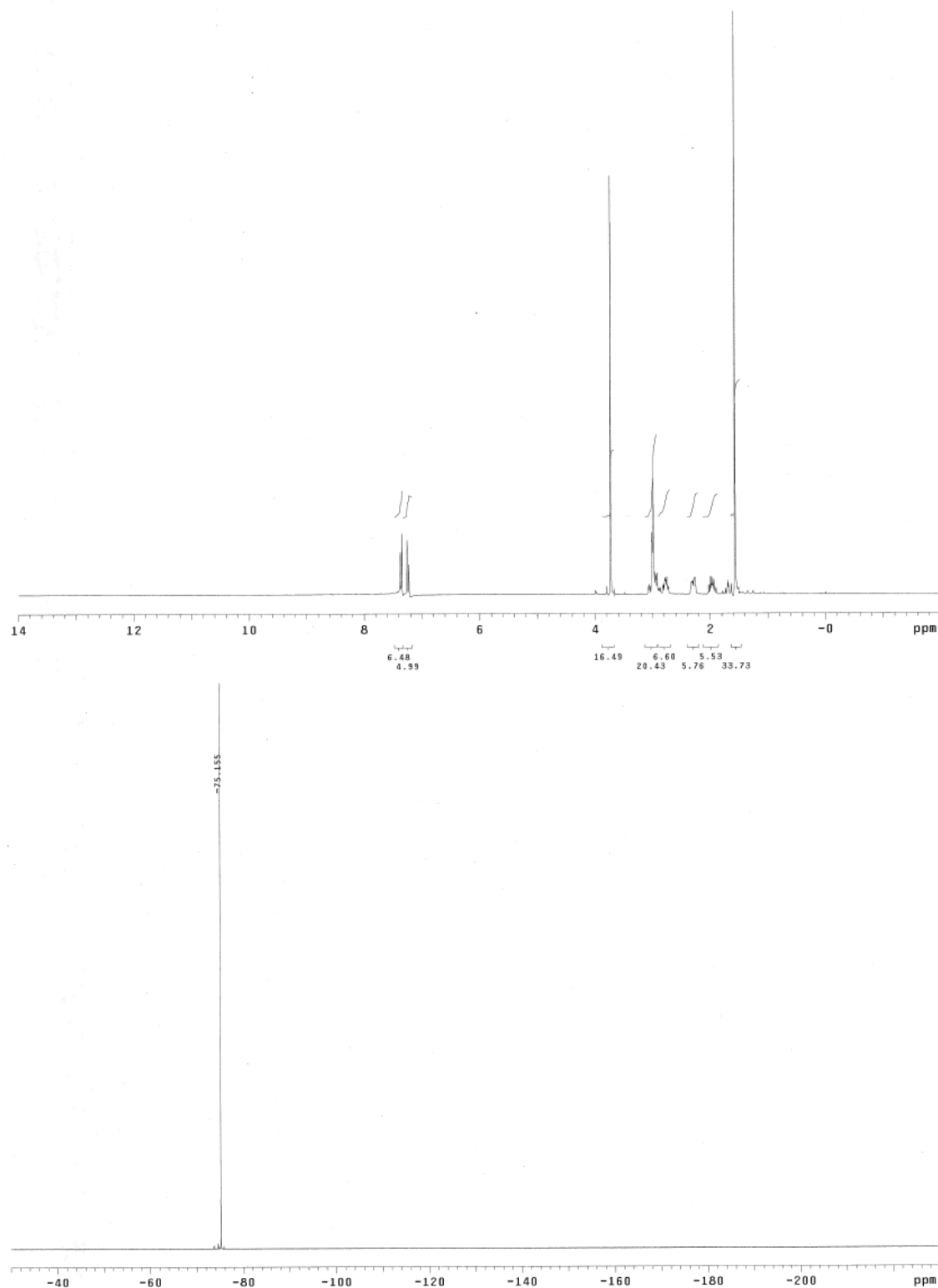
Supplemental Information

A concise one-pot synthesis of trifluoromethyl-containing 2,6- disubstituted 5,6,7,8-tetrahydroquinolines and 5,6,7,8-tetrahydronaphthyridines

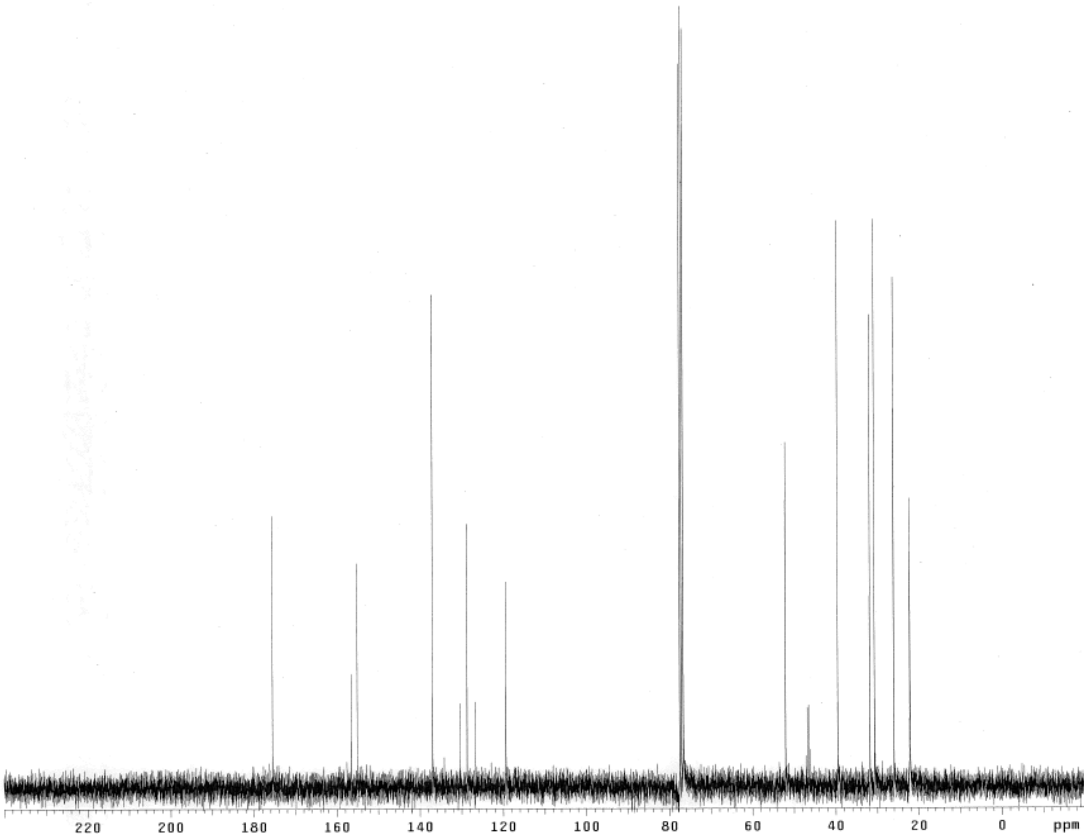
Russell J. Johnson, Donogh J. R. O'Mahony,* William T. Edwards and Matthew A. J. Dunton*

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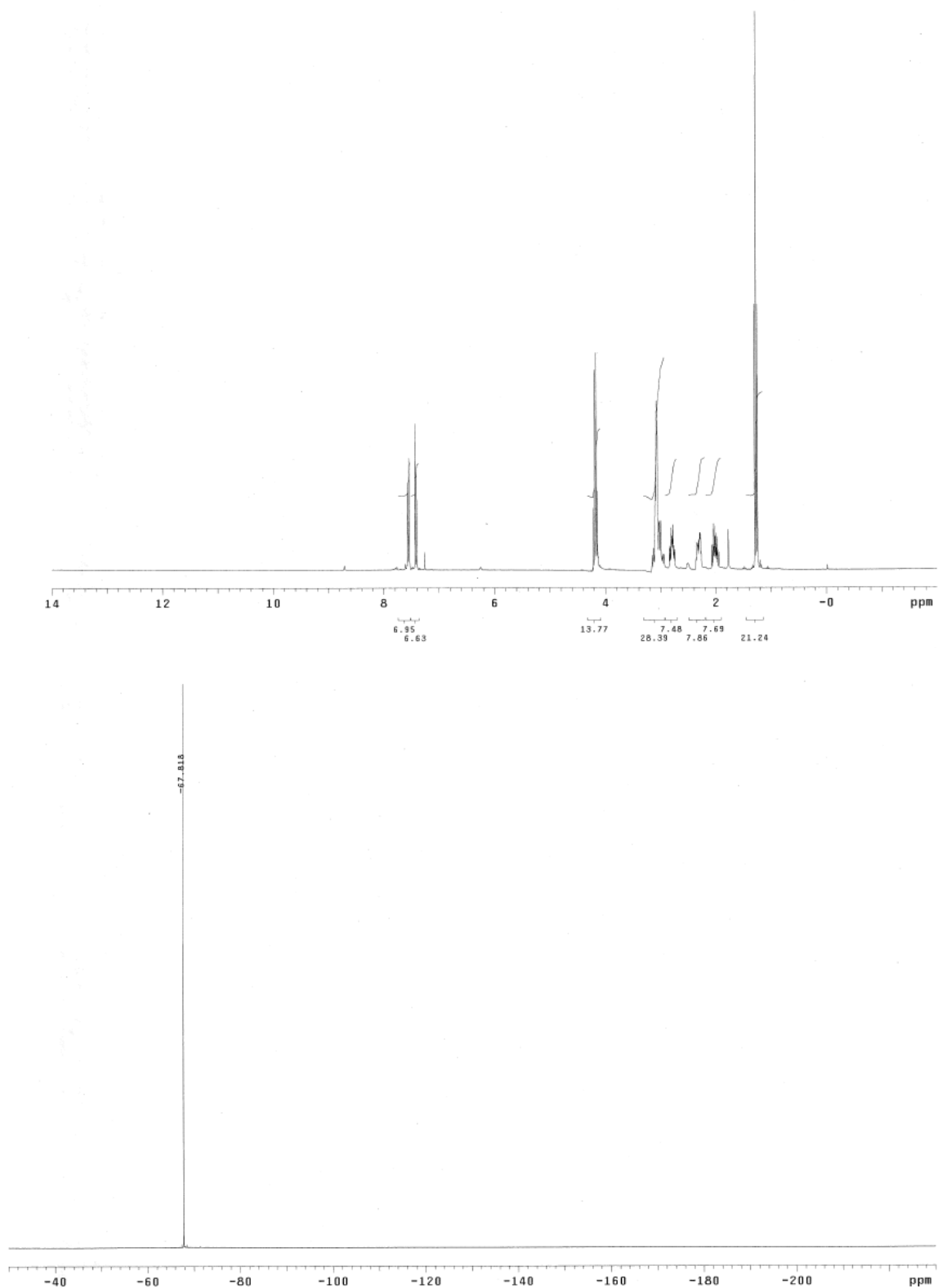
^1H and ^{19}F NMR for compound **6**



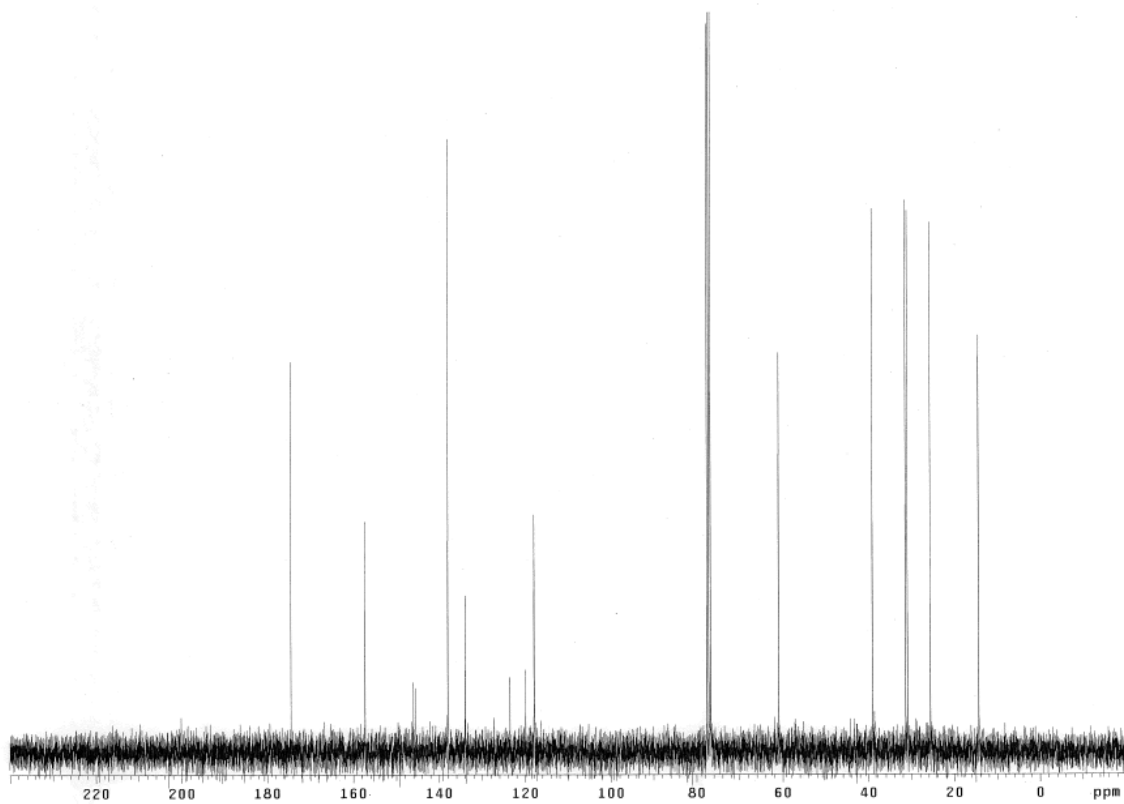
¹³C for compound 6



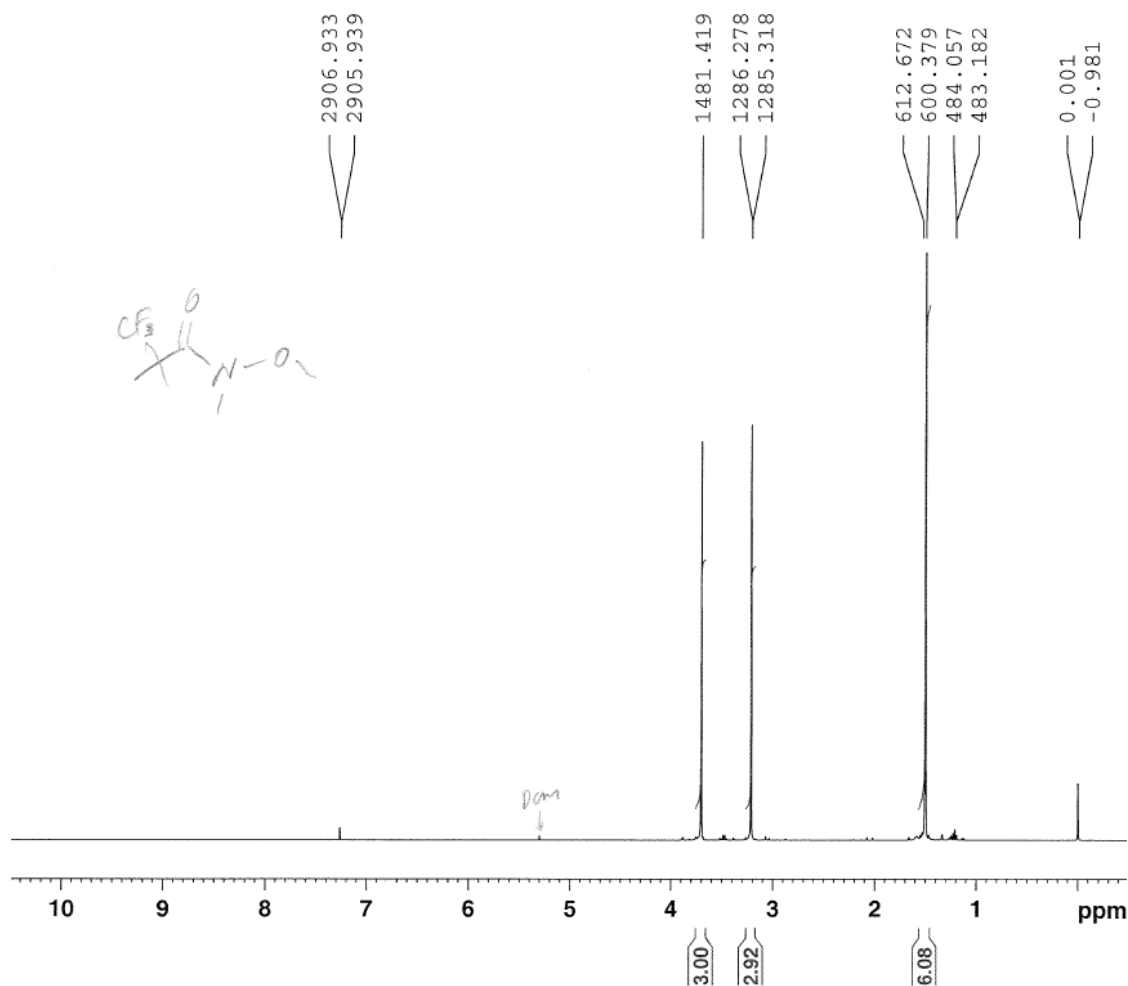
^1H and ^{19}F NMR for compound **11**



^{13}C NMR for compound **11**

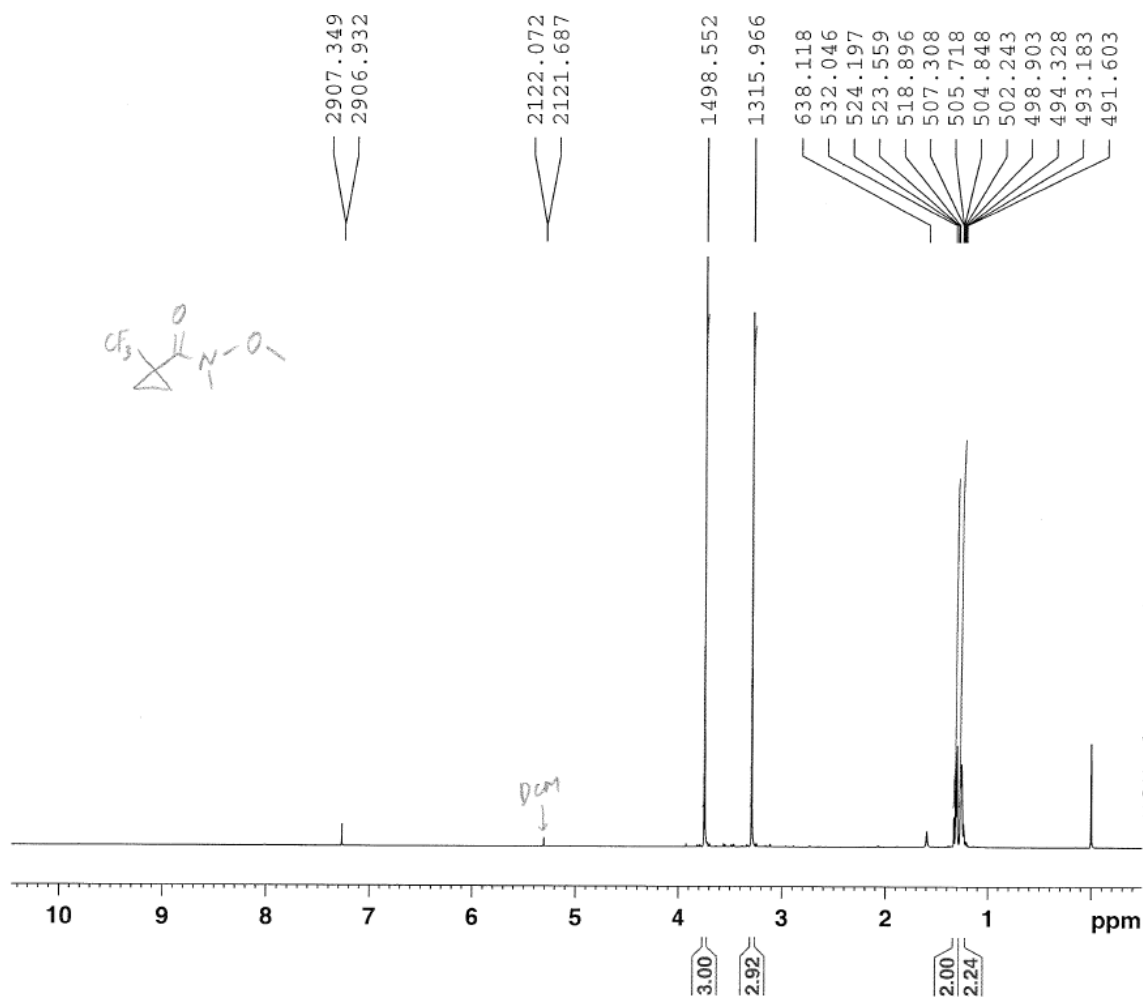


¹H NMR for compound **12**¹



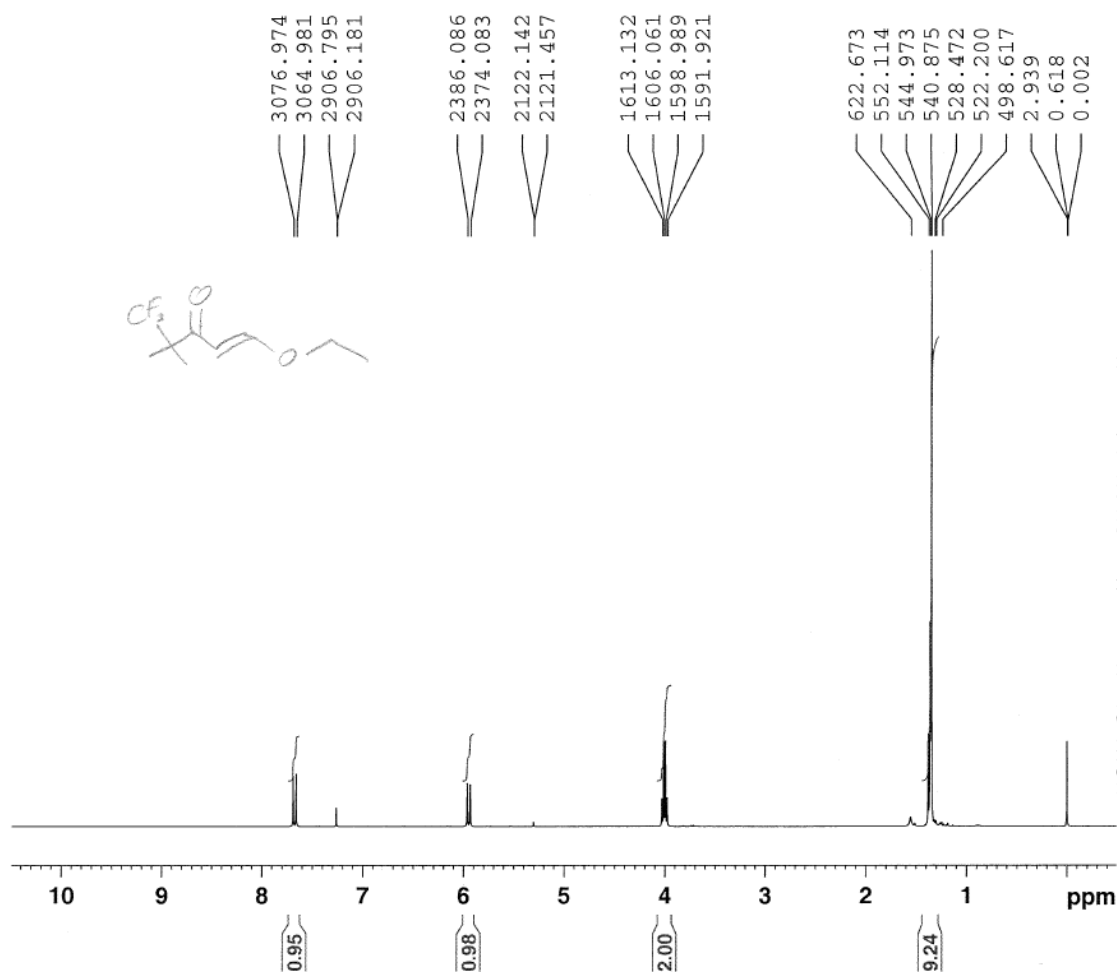
- 1 For a preparation of 3,3,3-Trifluoro-*N*-methoxy *N*-methyl 2,2-dimethylpropanamide **12** see (a) E. Canales, L. S. Chong, M. Clarke, H. O'Neil, E. Doerffler, S. E. Lazerwith, W. Lew, Q. Liu, M. Mertzman, P. A. Morgnelli, W. J. Watkins and H. Ye, Patent WO2011011303 (2011); *Chem. Abstr.*, 2011, **154**, p. 207646. (b) R. T. Hendricks, J. T. Hermann, S. Jaime-Figueroa, R. K. Kondru, Y. Lou, S. M. Lynch, T. D. Owens, M. Soth and C. W. Yee, Patent WO201144585 (2011); *Chem. Abstr.*, 2011, **155**, p. 683790. This compound is also commercially-available.

¹H NMR for compound **13**²

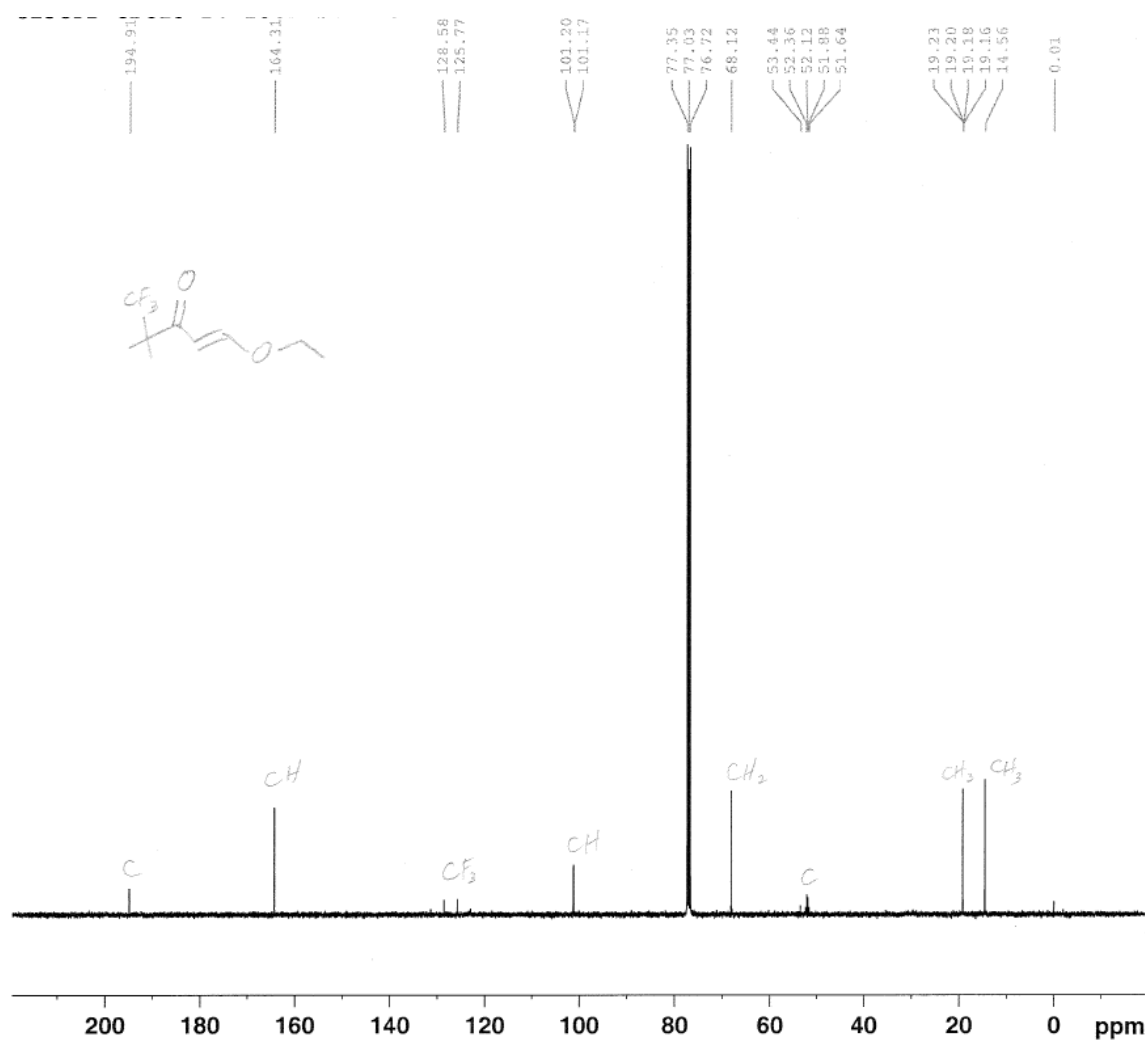


- 2 For a preparation of *N*-methoxy-*N*-methyl-1-(trifluoromethyl)cyclopropane carboxamide **13** see J. T. Kuethe, K. G. Childers, Z. Peng, M. Journet, G. R. Humphrey, T. Vickery, D. Bachert and T. T. Lam, *Org. Proc. Res. Develop.*, 2009, **13**, 576. This compound is also commercially-available.

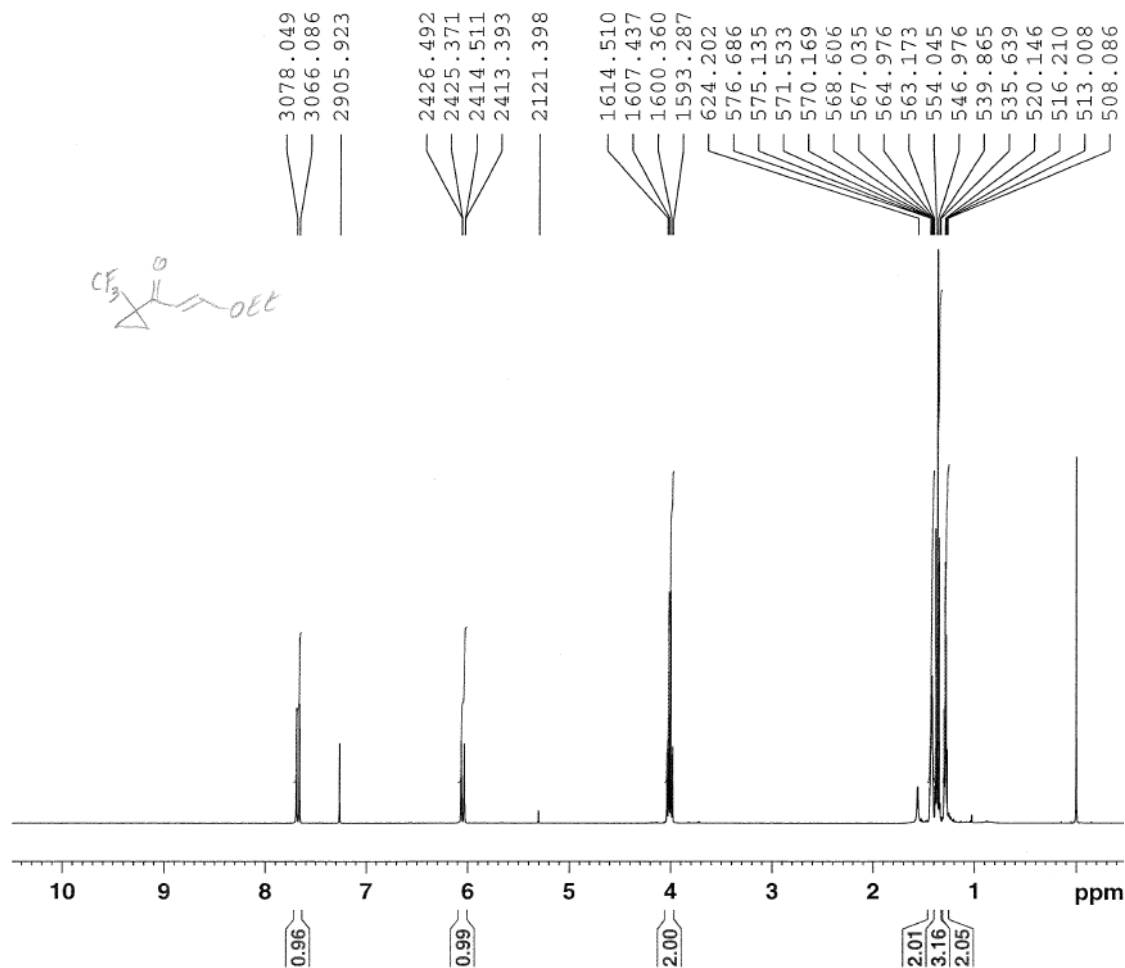
¹H NMR for compound **15**



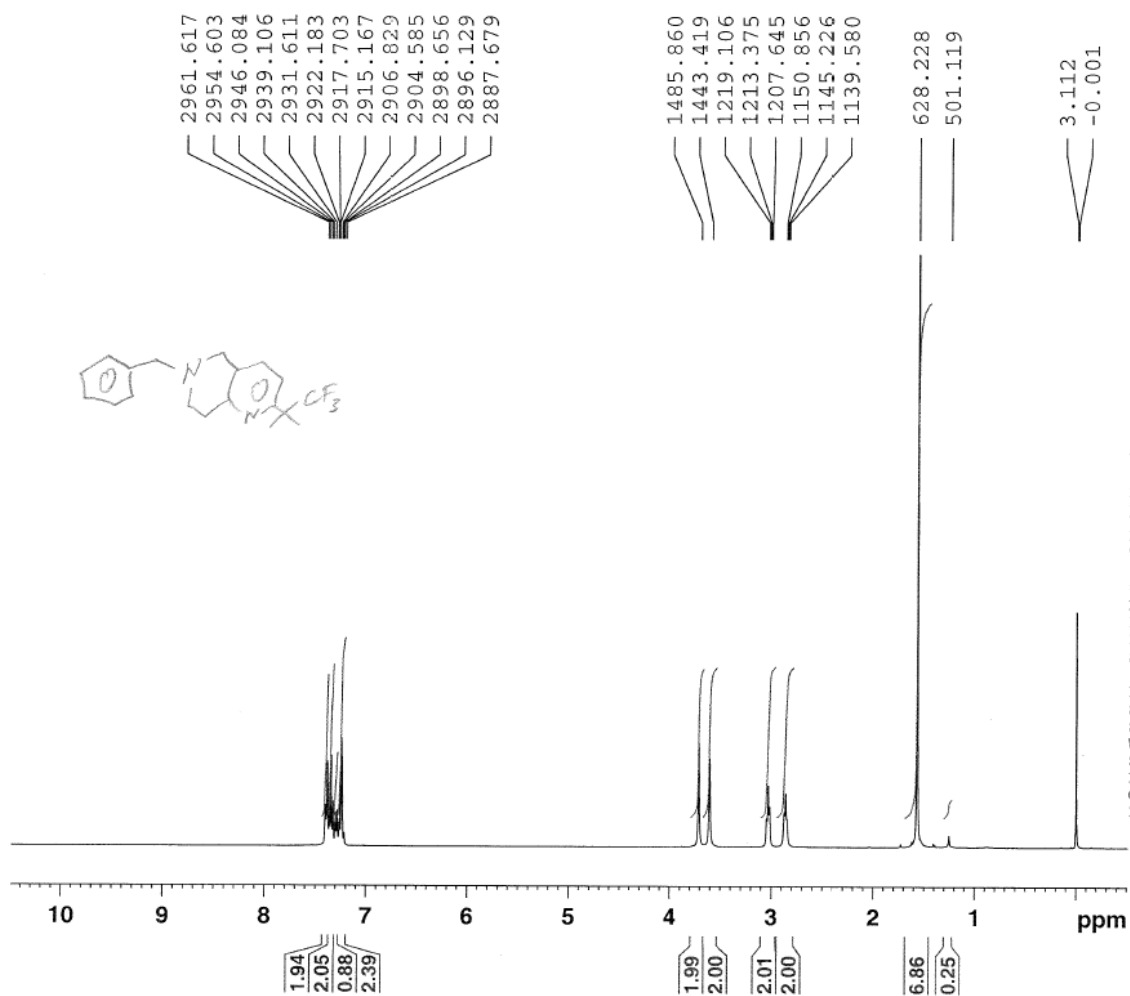
¹³C NMR for compound **15**



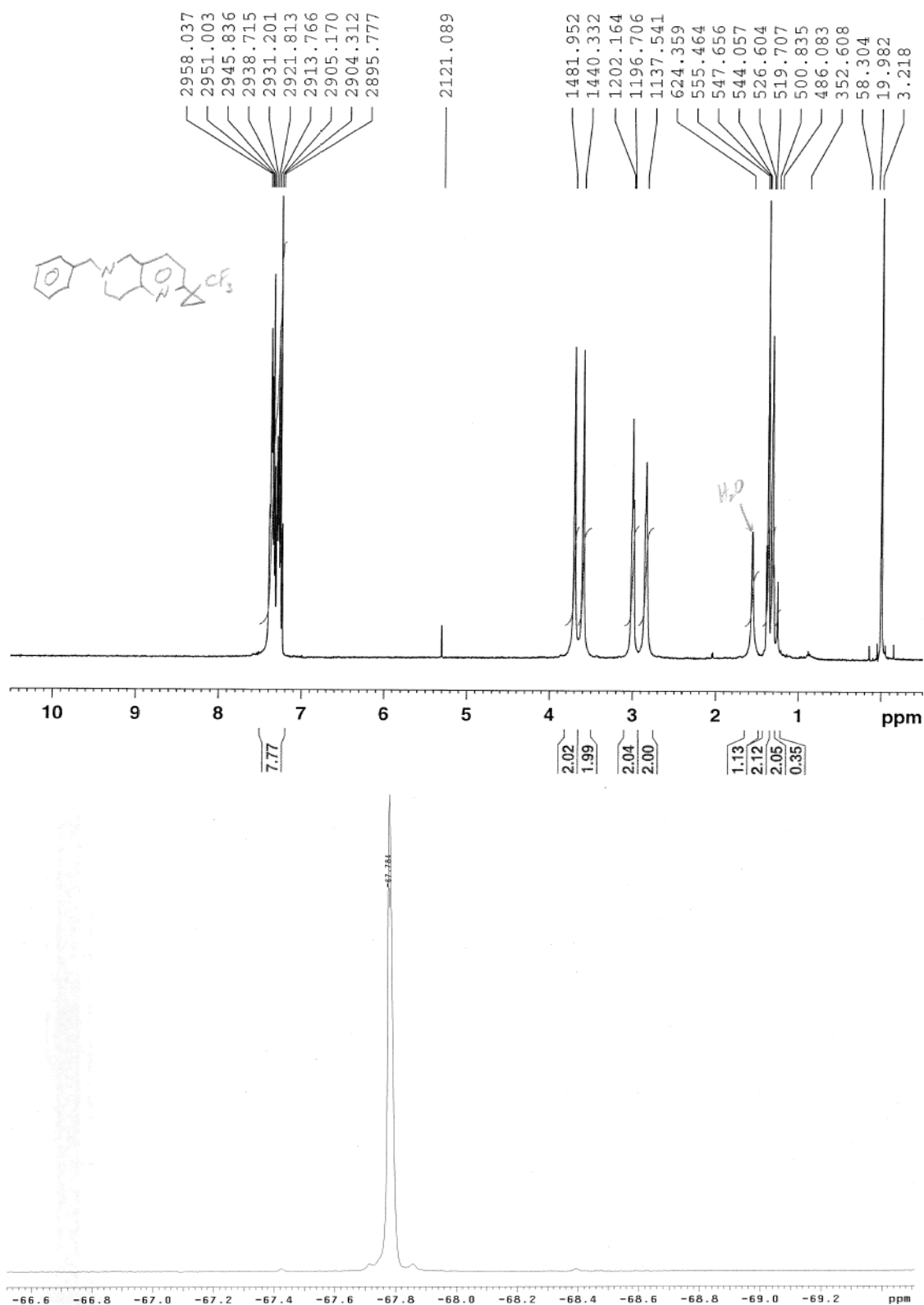
¹H NMR for compound **16**



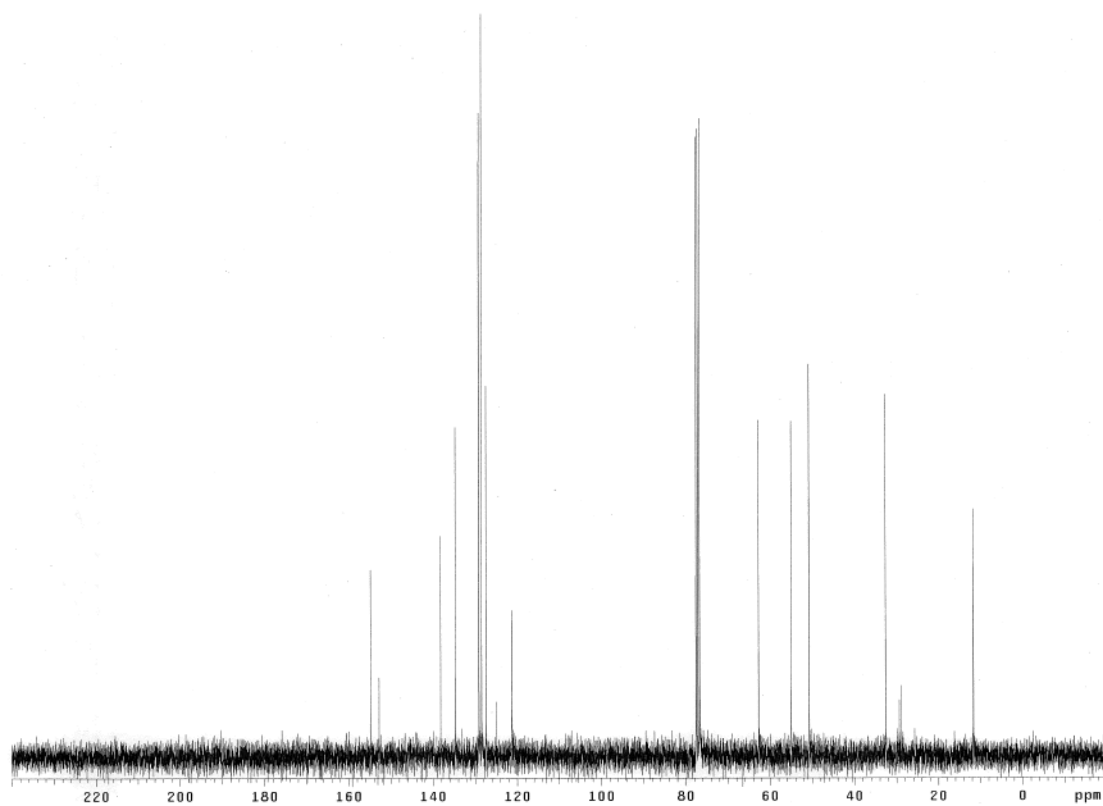
¹H NMR for compound **19**



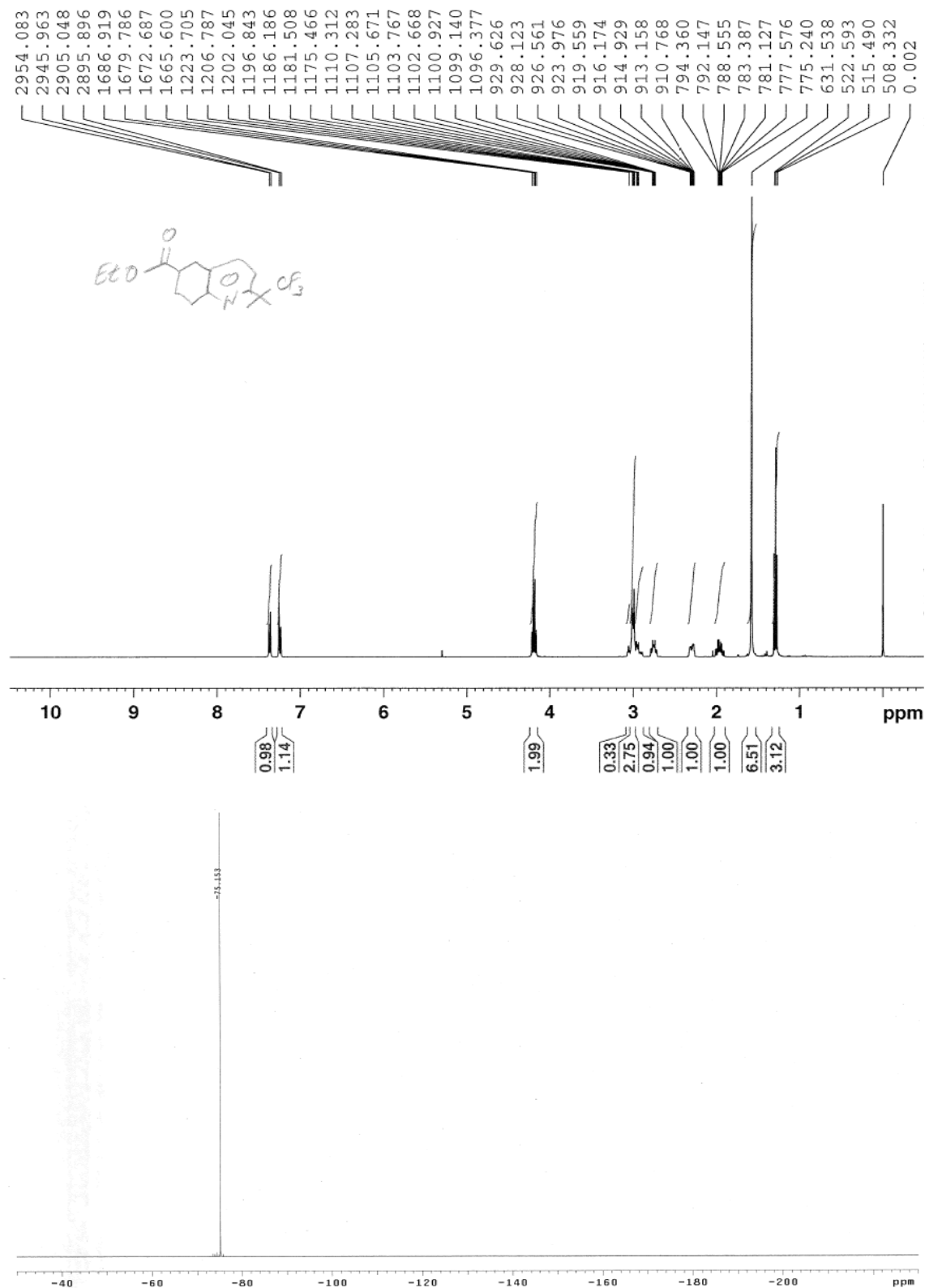
¹H and ¹⁹F NMR for compound **21**



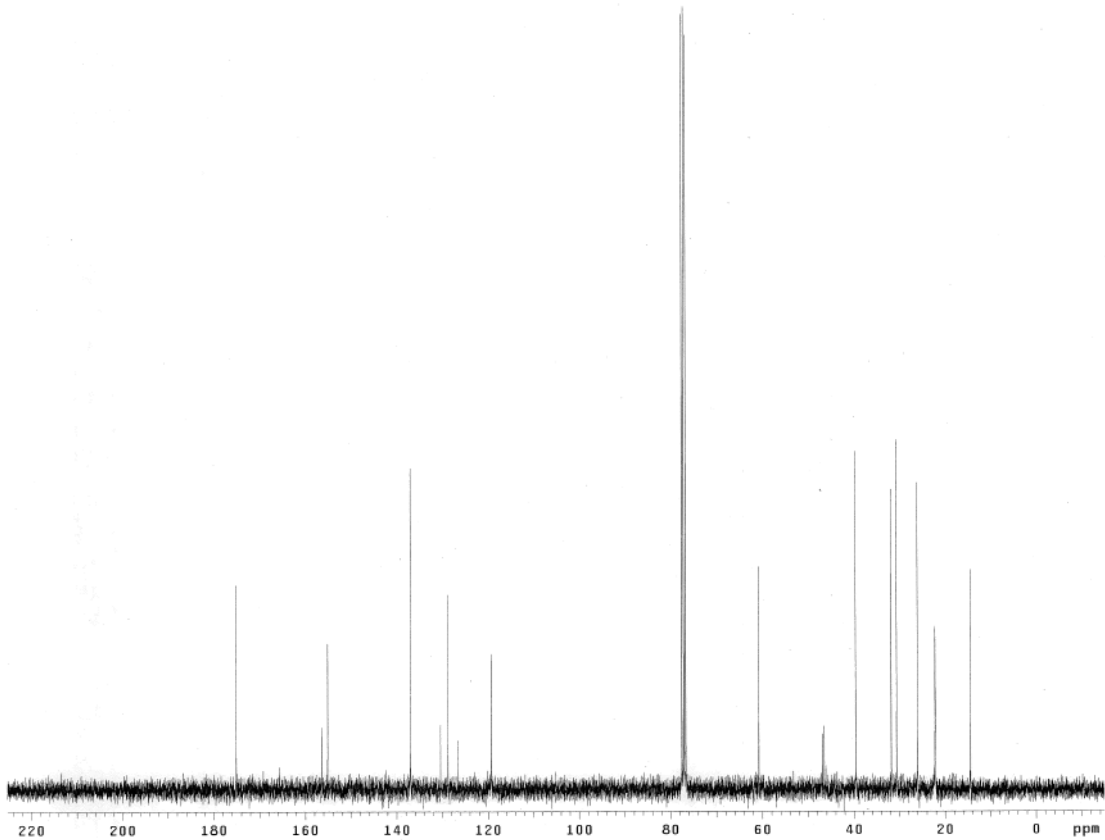
^{13}C NMR for compound **21**



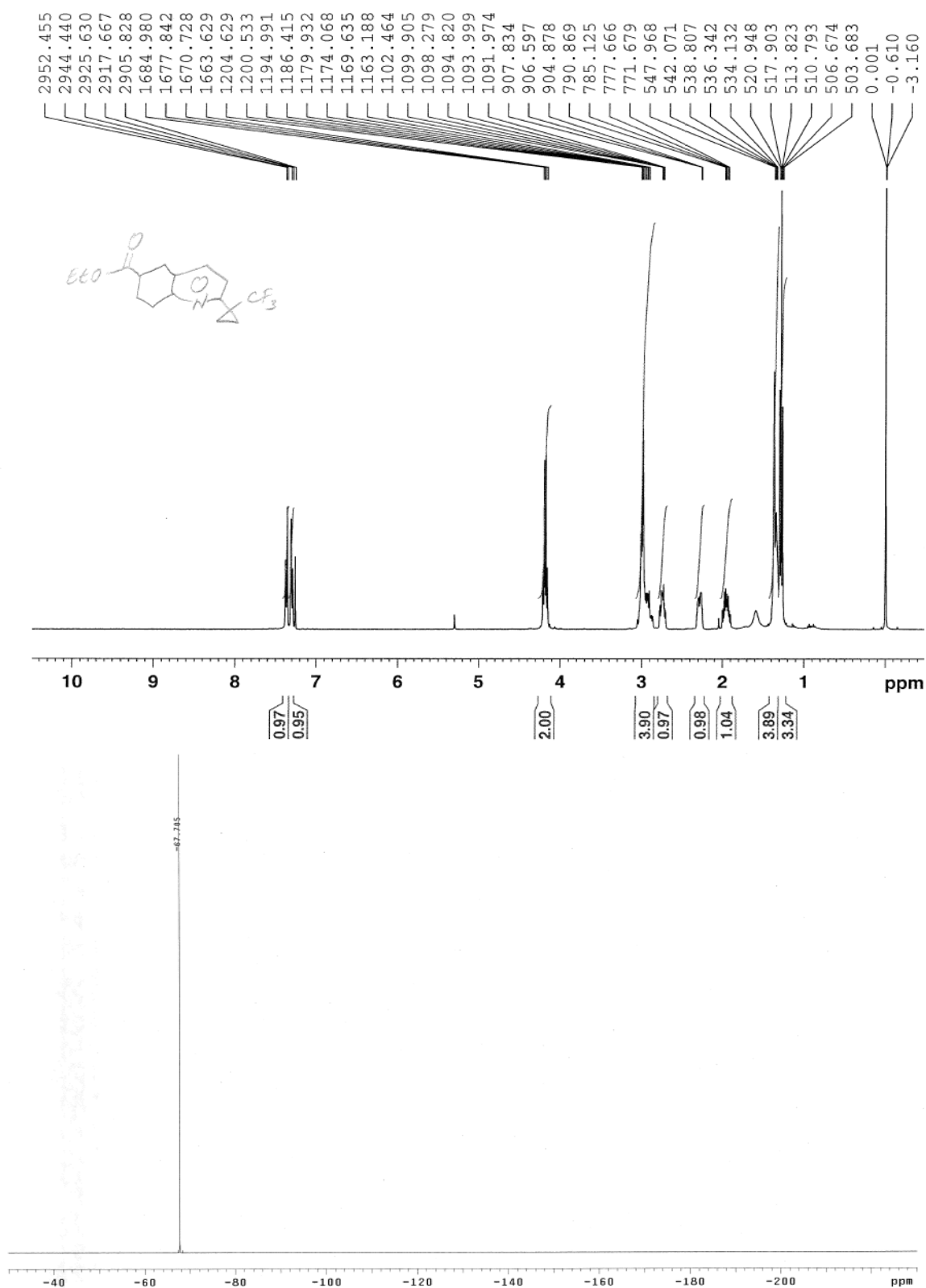
¹H NMR for compound **22**



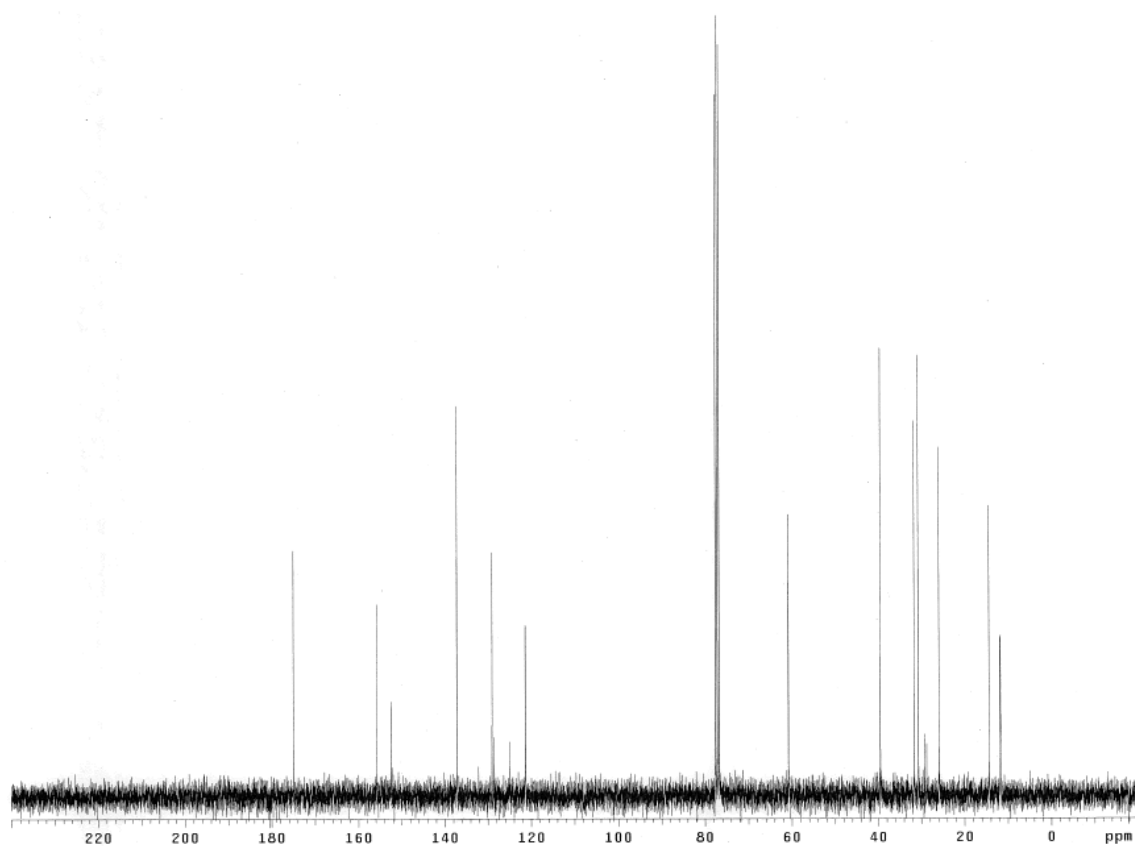
¹³C NMR for compound **22**



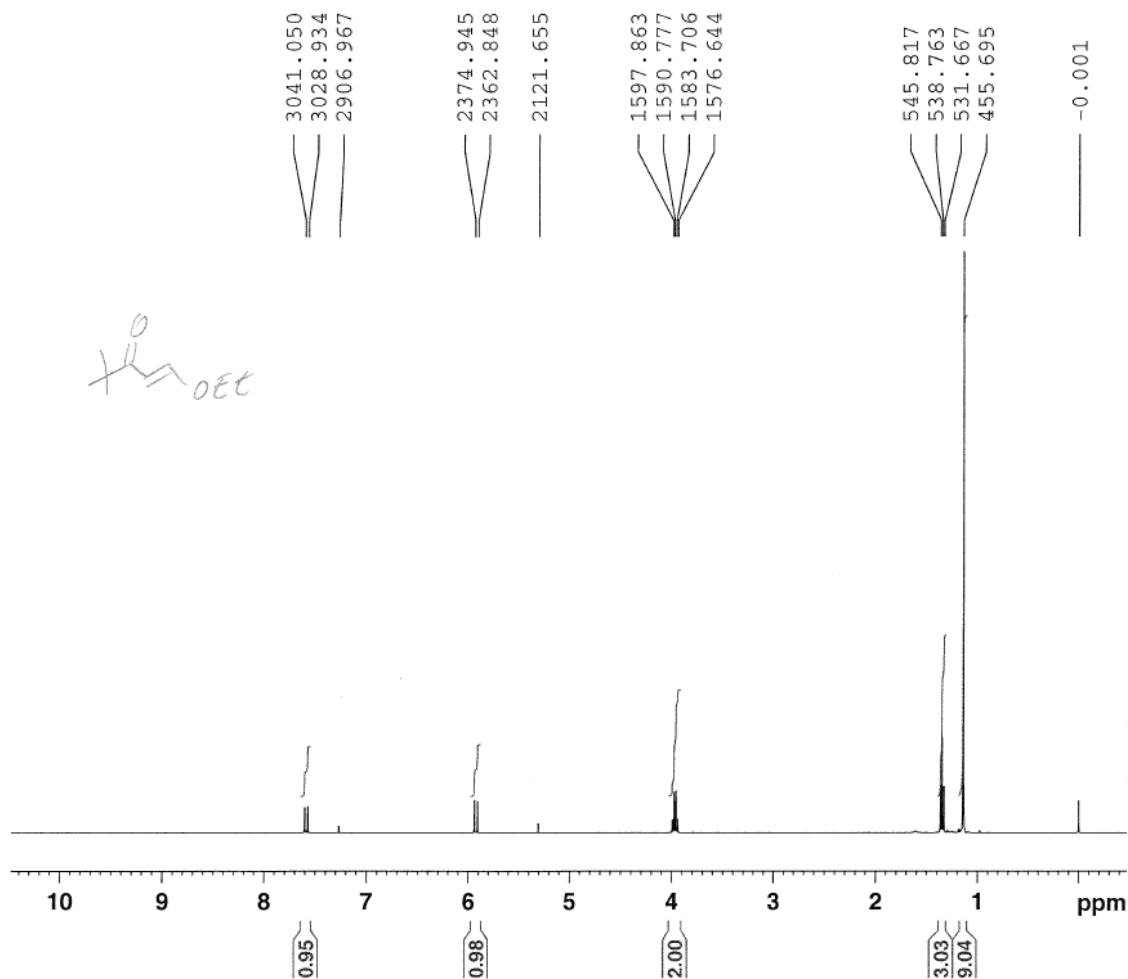
¹H NMR for compound **23**



^{13}C NMR for compound **23**

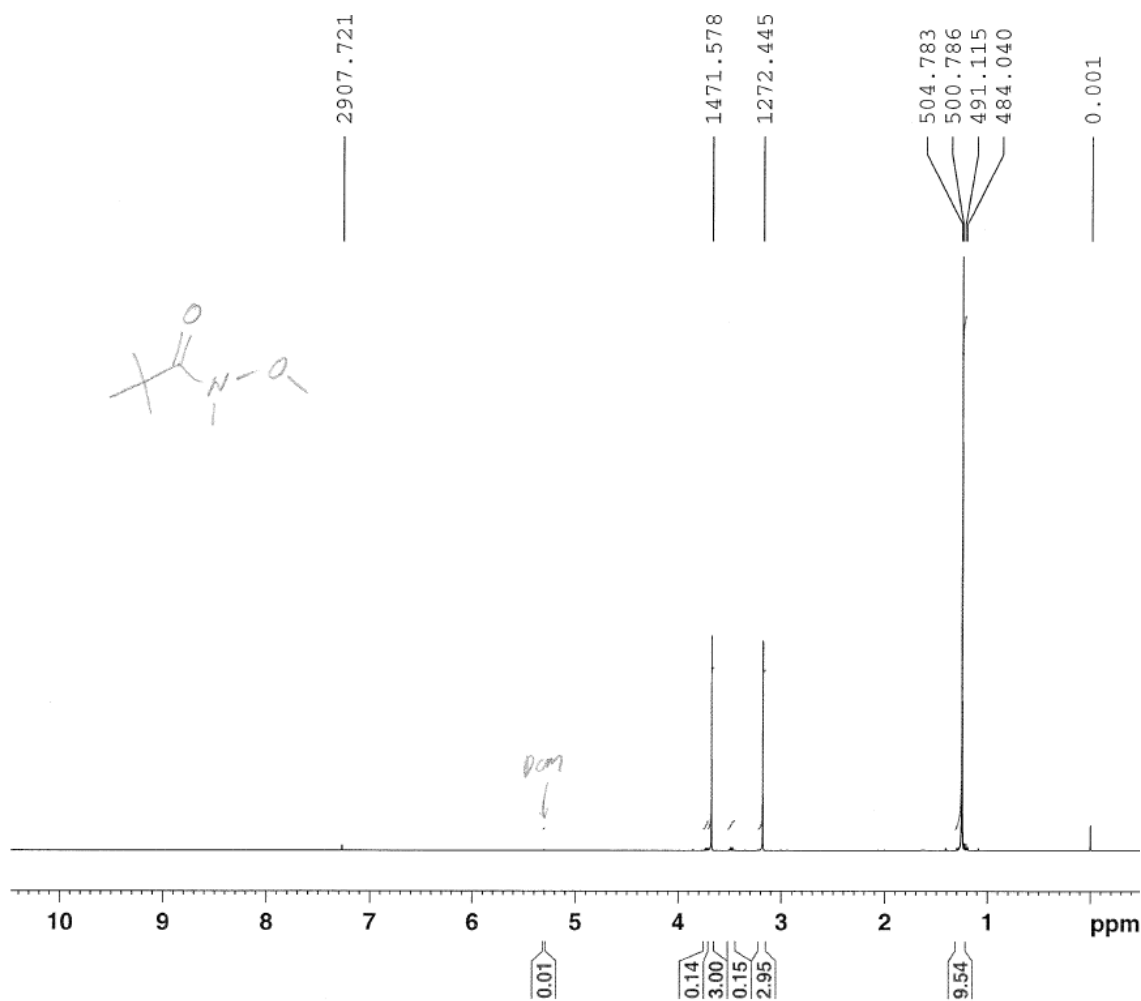


¹H NMR for compound **24**⁴



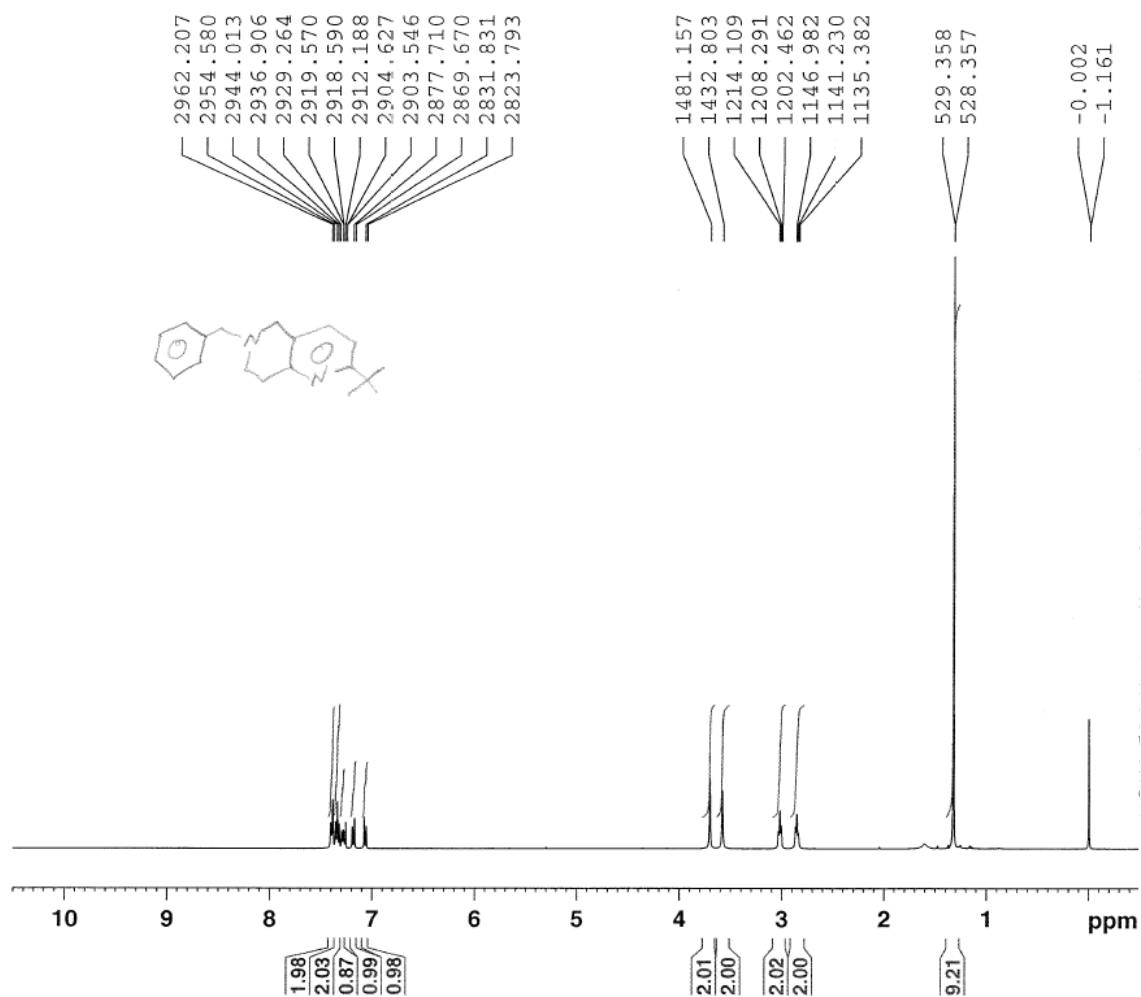
- 4 For a preparation of (*E*)-1-ethoxy-4,4-dimethyl-1-penten-3-one **24** see P. Martinson, *Acta Chem. Scand.*, 1969, **23**, 751. This compound is also commercially-available.

¹H NMR for intermediate Weinreb amide used for synthesis of **24**⁵

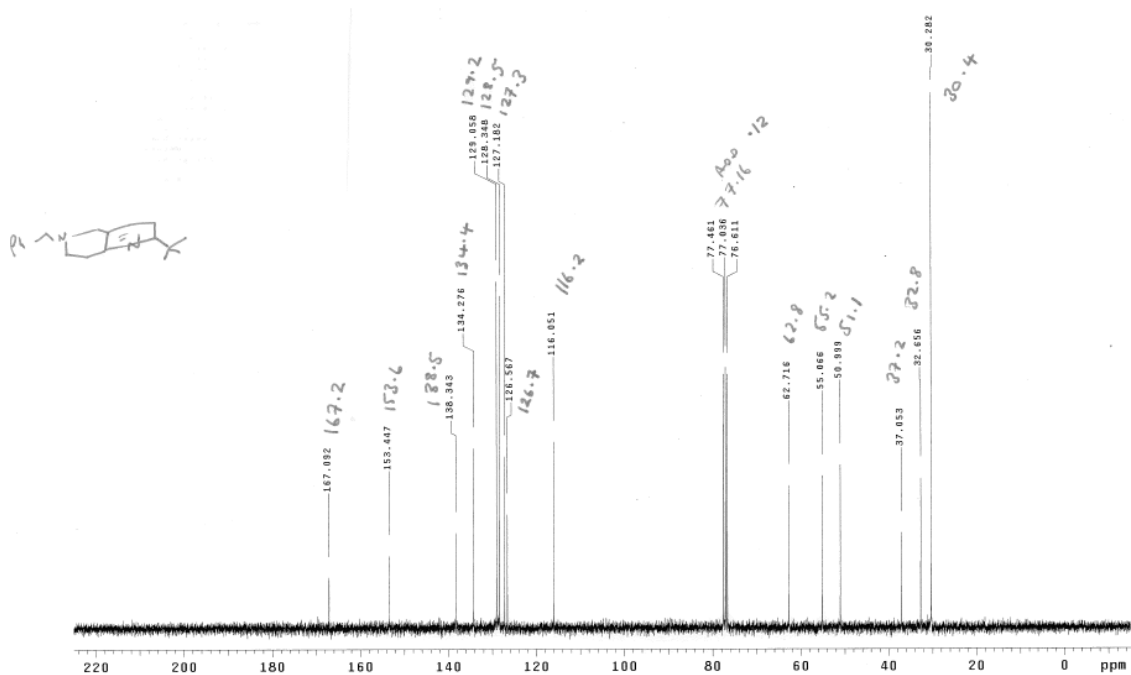


5 Prepared according to J. C. S. Woo, E. Fenster and G. R. Dake, *J. Org. Chem.*, 2004, **69**, 8984.

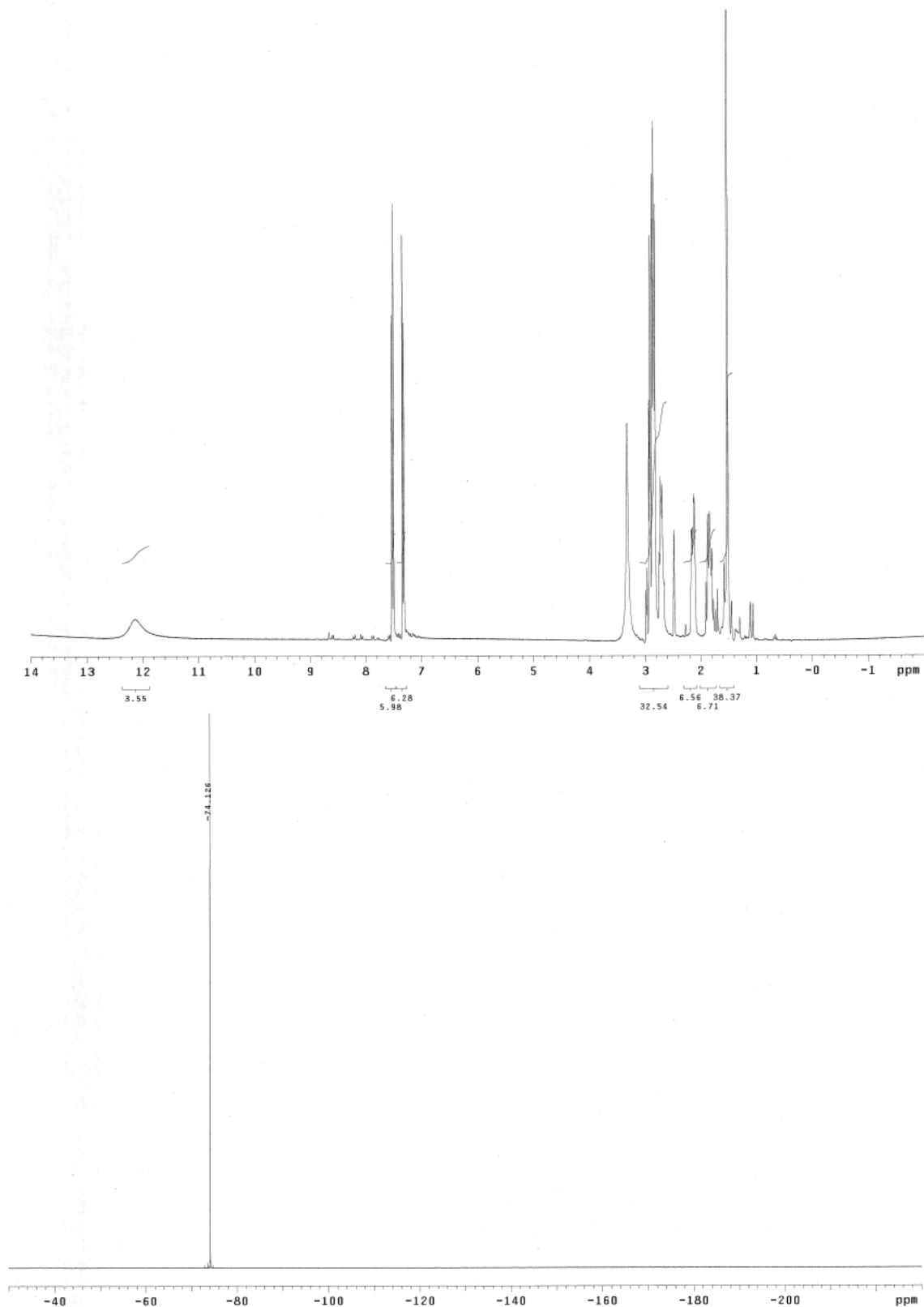
¹H NMR for compound **25**



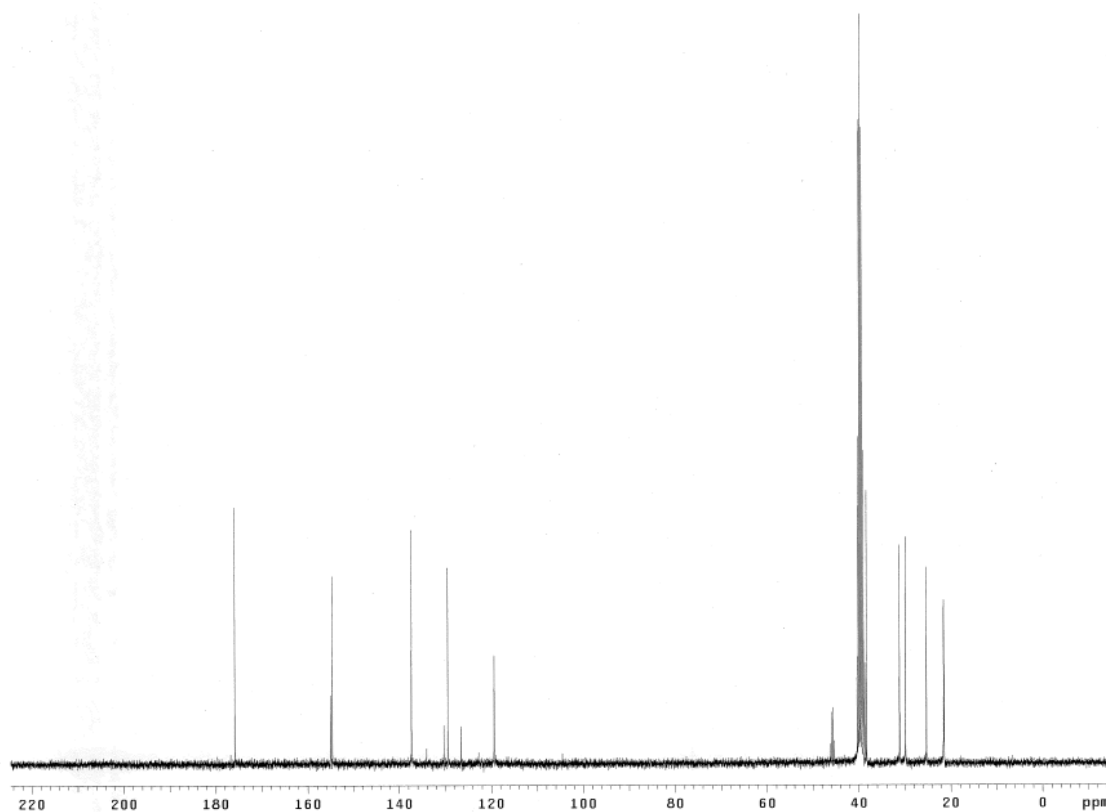
¹³C NMR for compound **25**



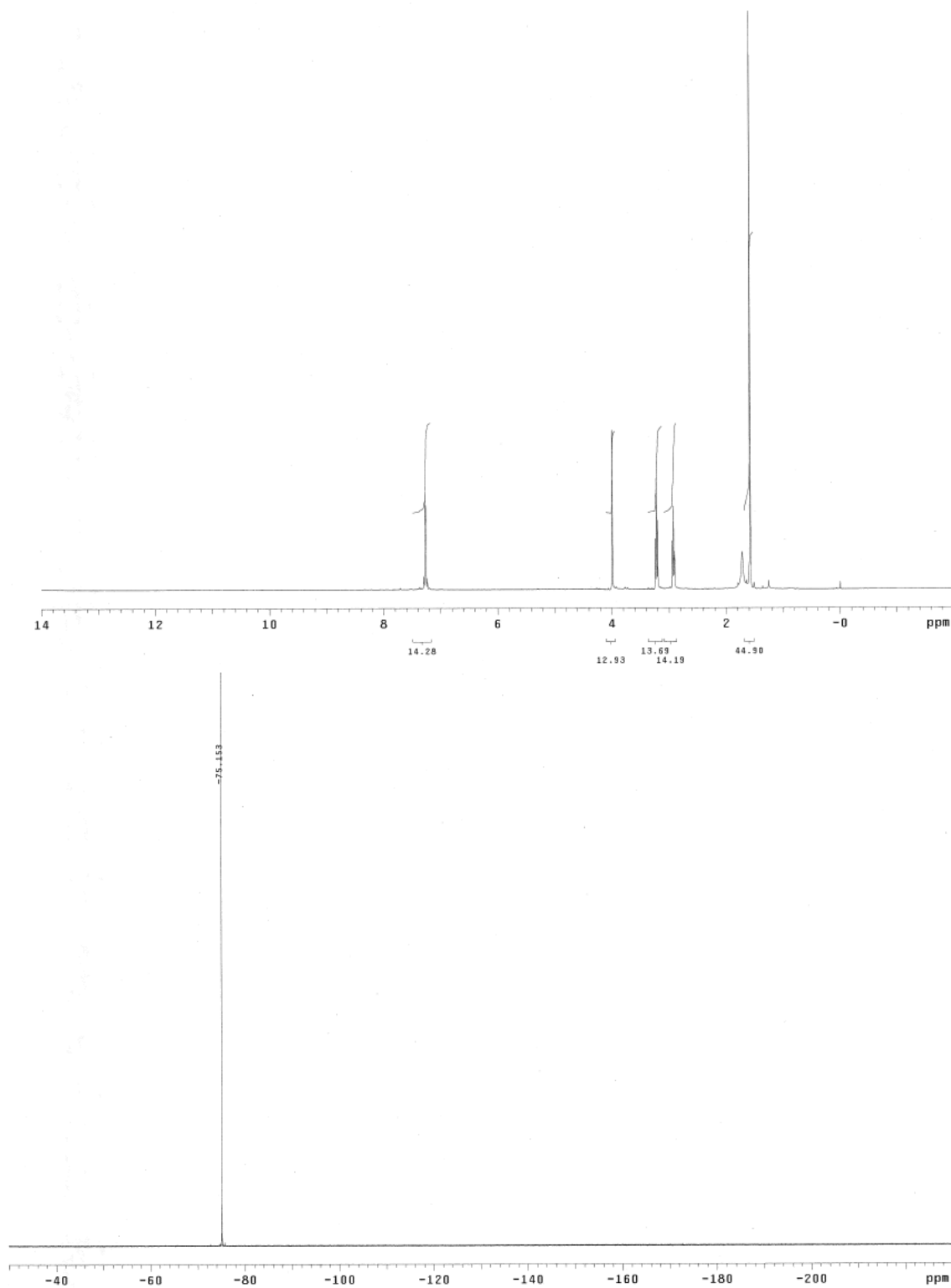
^1H and ^{19}F NMR for compound **26**



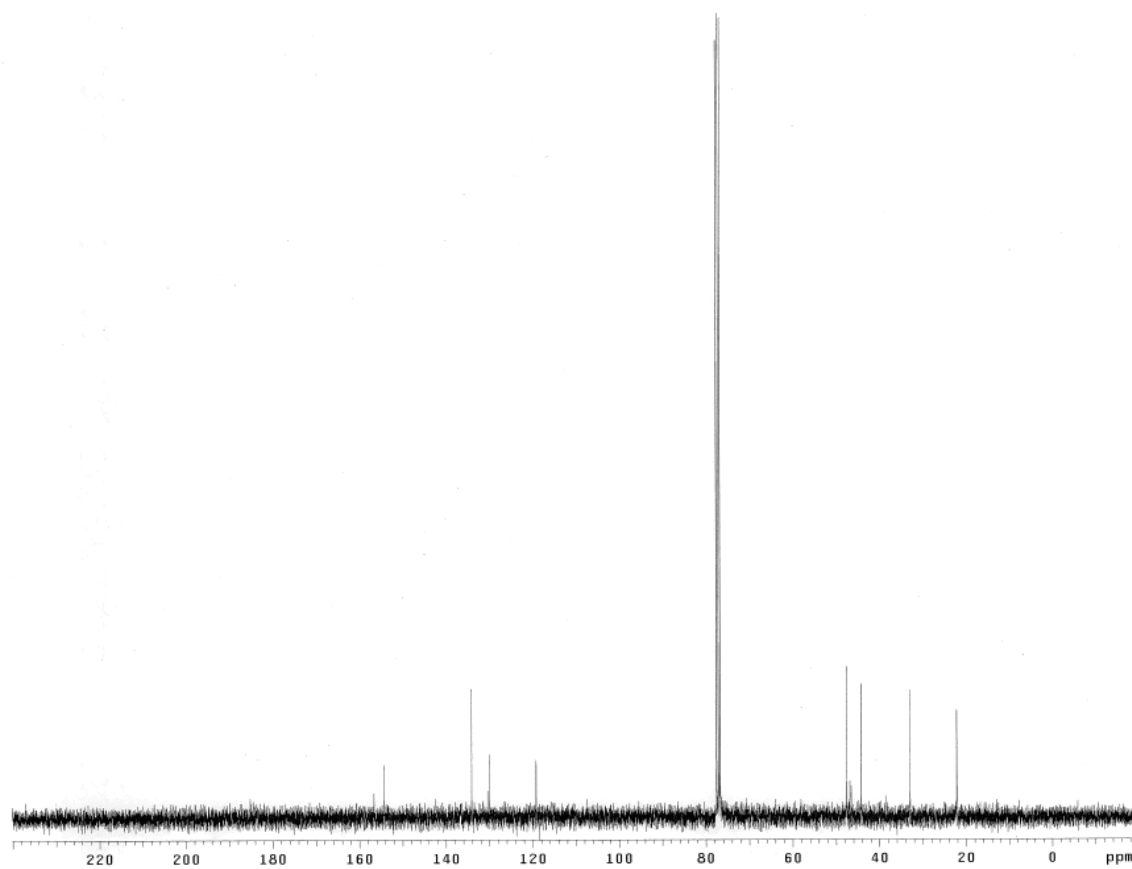
^{13}C NMR for compound **26**



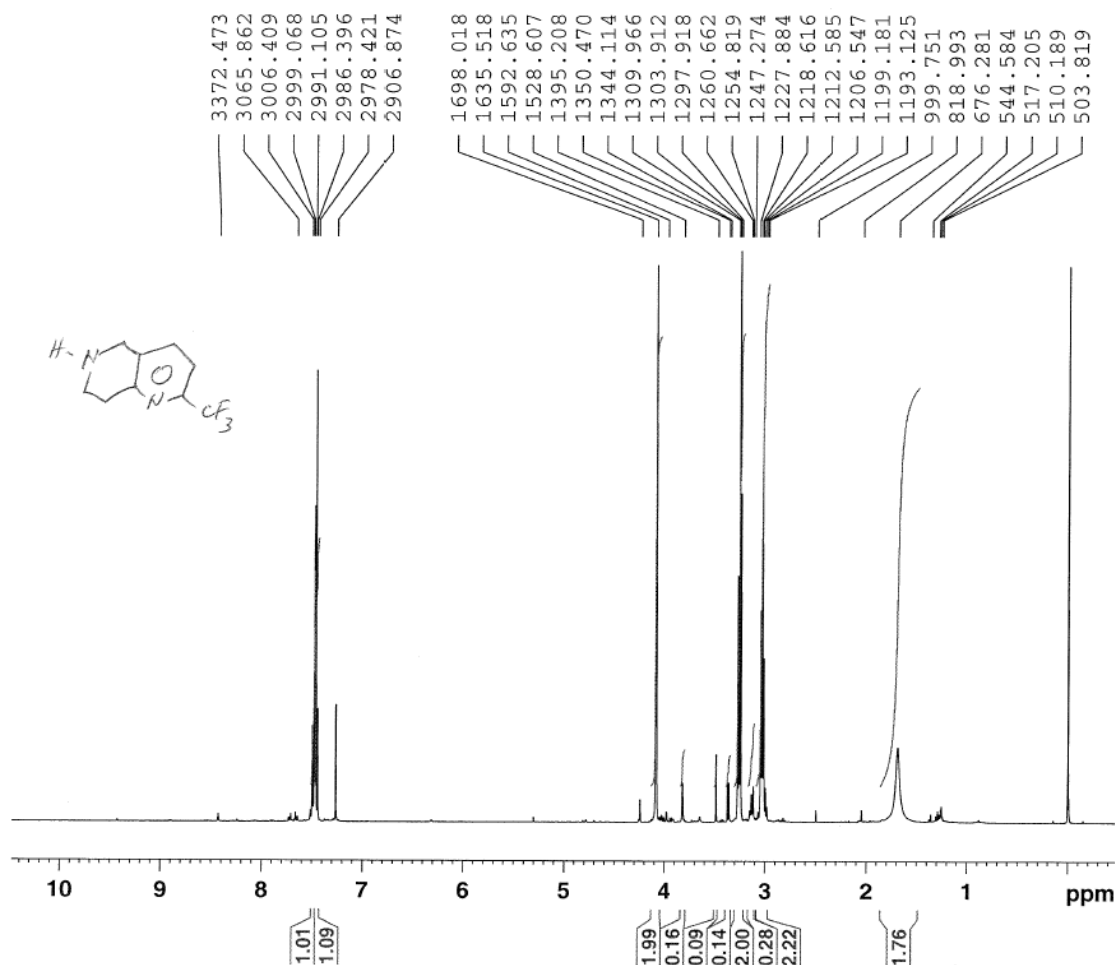
^1H and ^{19}F NMR for compound **29**



^{13}C NMR for compound **29**



¹H NMR for compound **30**³



³ For a related synthesis of 5,6,7,8-tetrahydronaphthyridines, including a synthesis of compounds **20** and **30** see W. T. Ashton, C. G. Caldwell, J. L. Duffy, R. J. Mathvink, L. Wang and A. E. Weber, Patent WO2004064778 (2004); *Chem. Abstr.*, 2004, **141**, p. 174175.