

Synthesis of 4-Aminopyrazol-5-ols as Edaravone Analogs and Their Antioxidant Activity

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Figure S1. ^1H NMR spectrum of bis[5-hydroxy-1-phenyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]imine (2a).

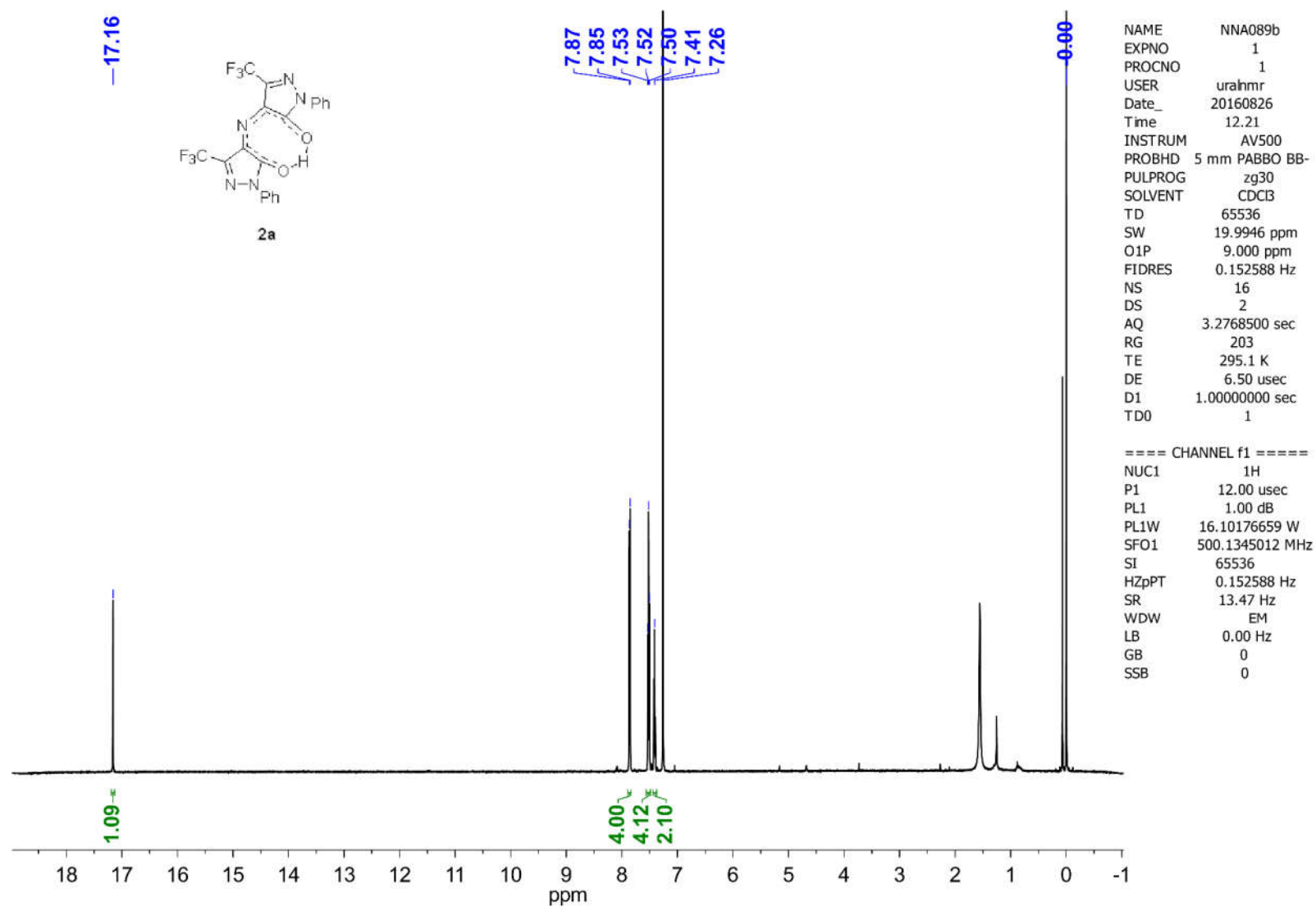


Figure S2. ^{13}C NMR spectrum of bis[5-hydroxy-1-phenyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]imine (**2a**).

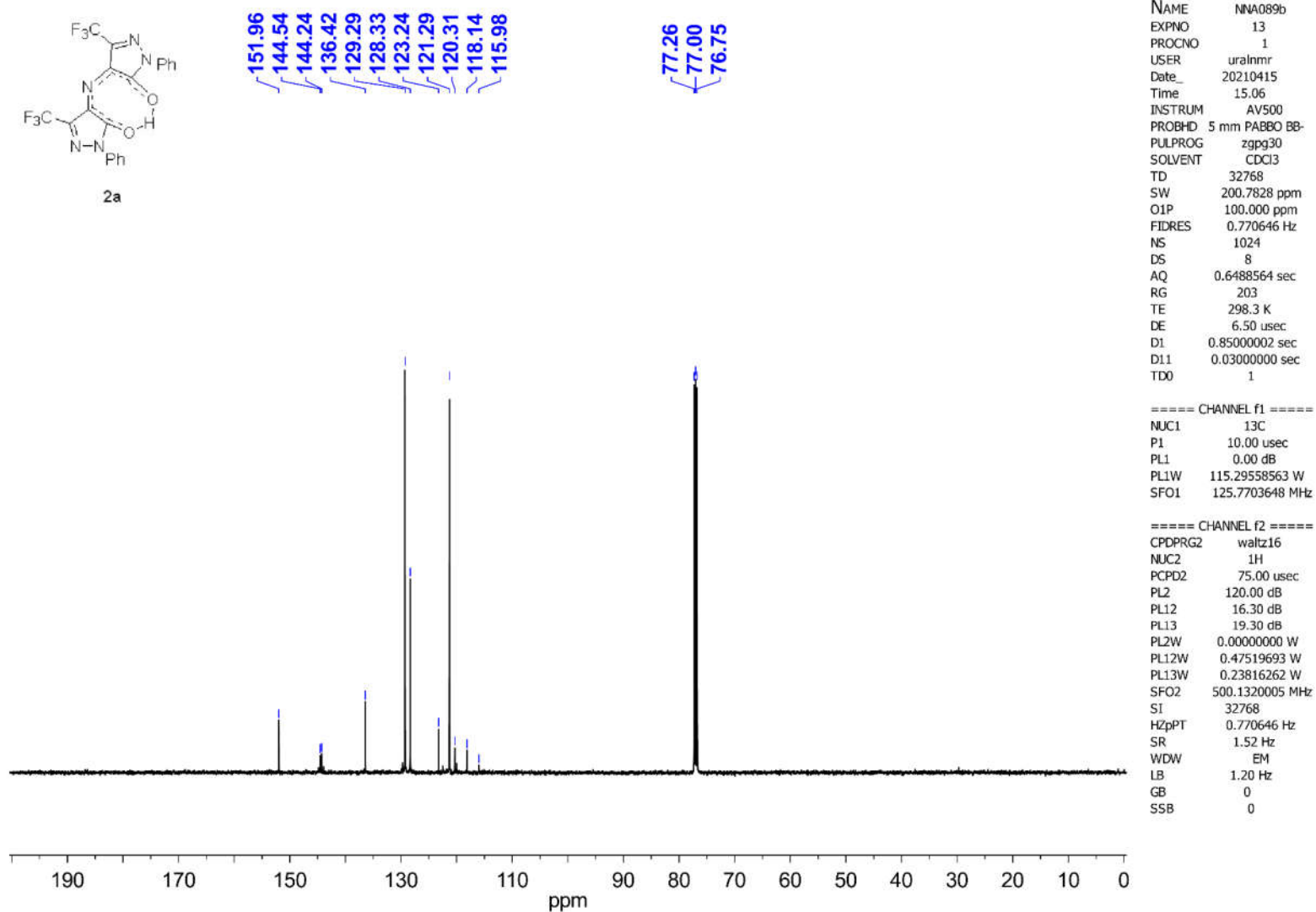


Figure S3. ^{19}F NMR spectrum of bis[5-hydroxy-1-phenyl-3-(trifluoromethyl)-1H-pyrazol-4-yl]imine (**2a**).

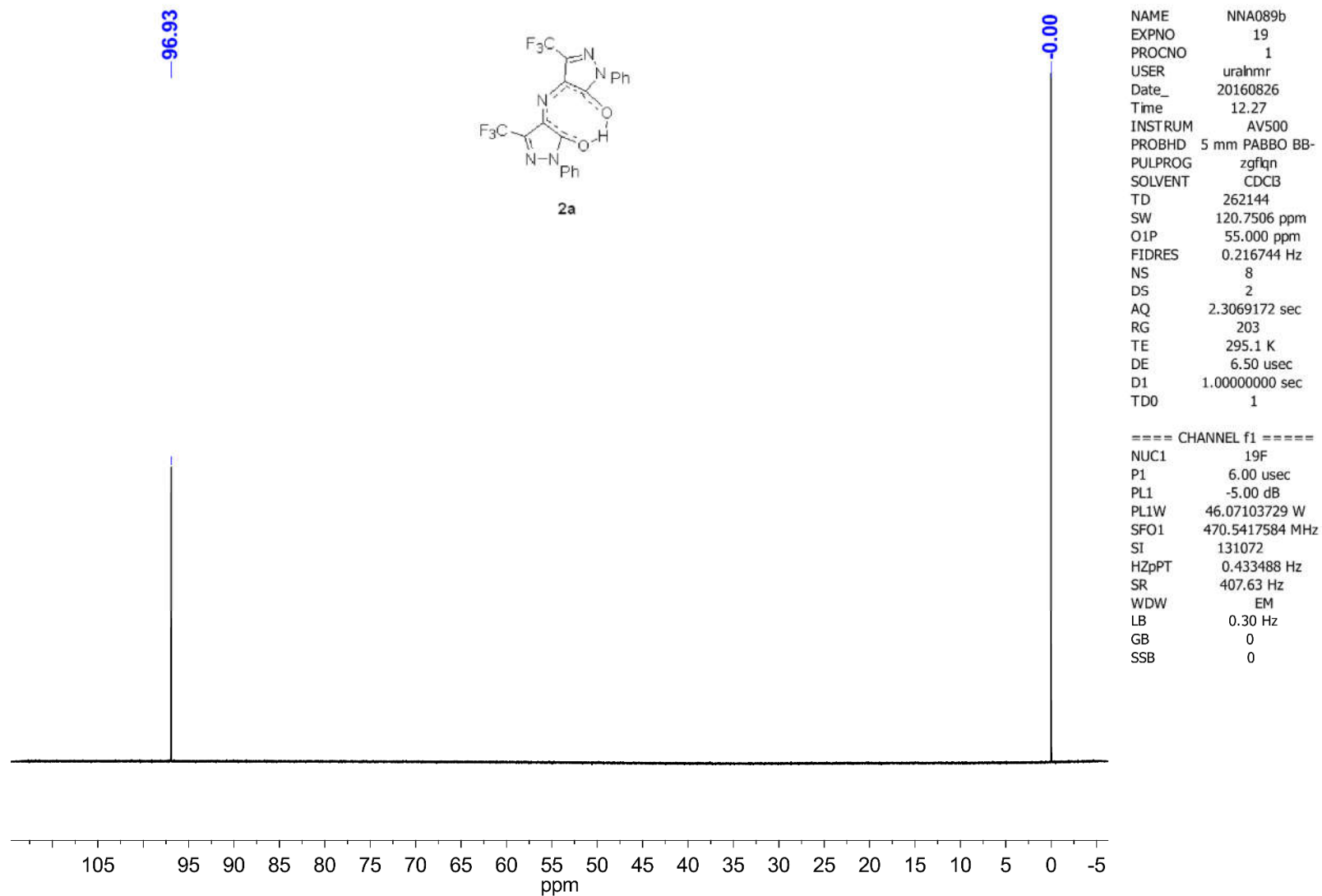


Figure S4. ^1H NMR spectrum of bis[5-hydroxy-3-(pentafluoroethyl)-1-phenyl-1H-pyrazol-4-yl]imine (**2b**).

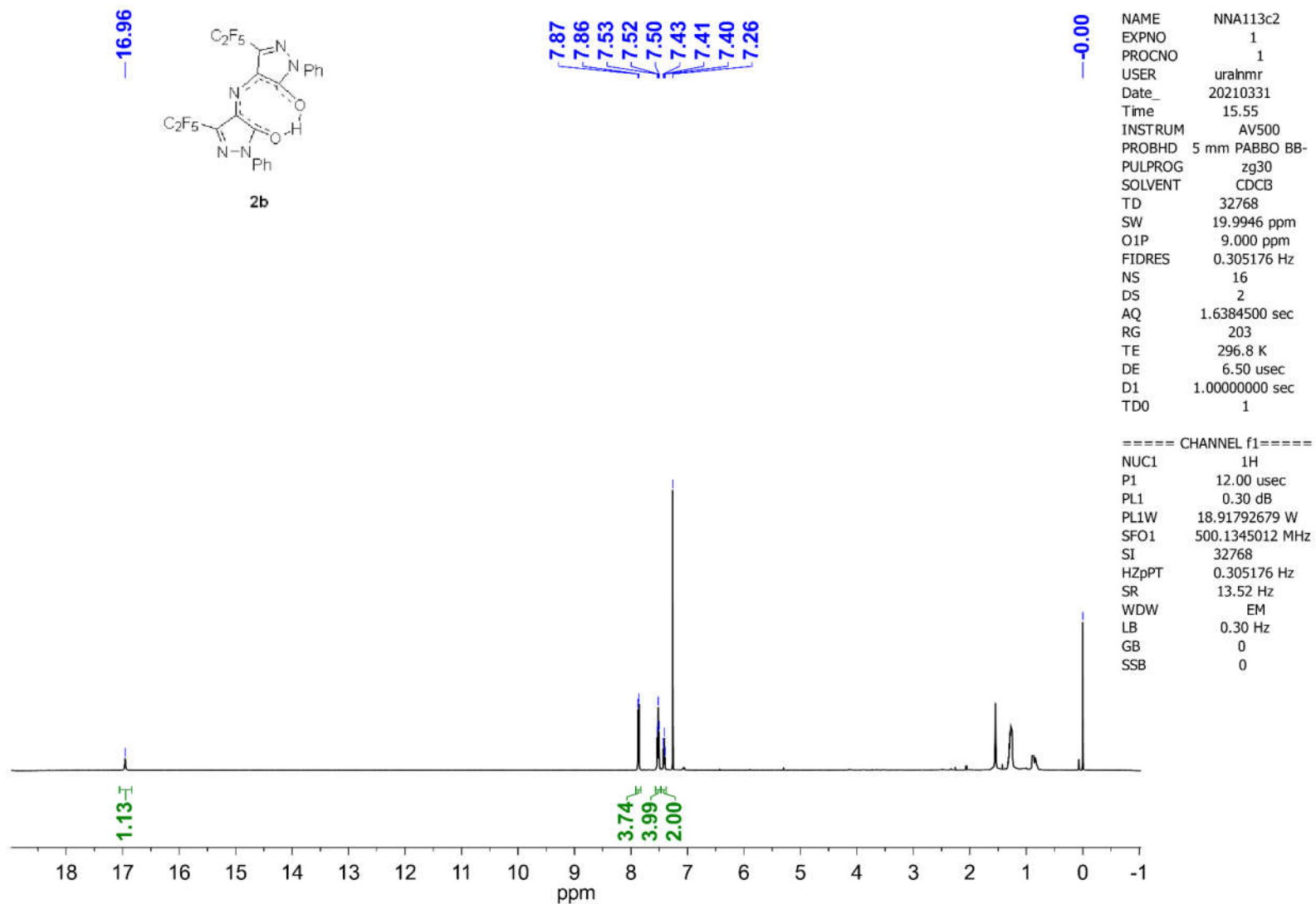


Figure S5. ^{19}F NMR spectrum of bis[5-hydroxy-3-(pentafluoroethyl)-1-phenyl-1H-pyrazol-4-yl]imine (**2b**).

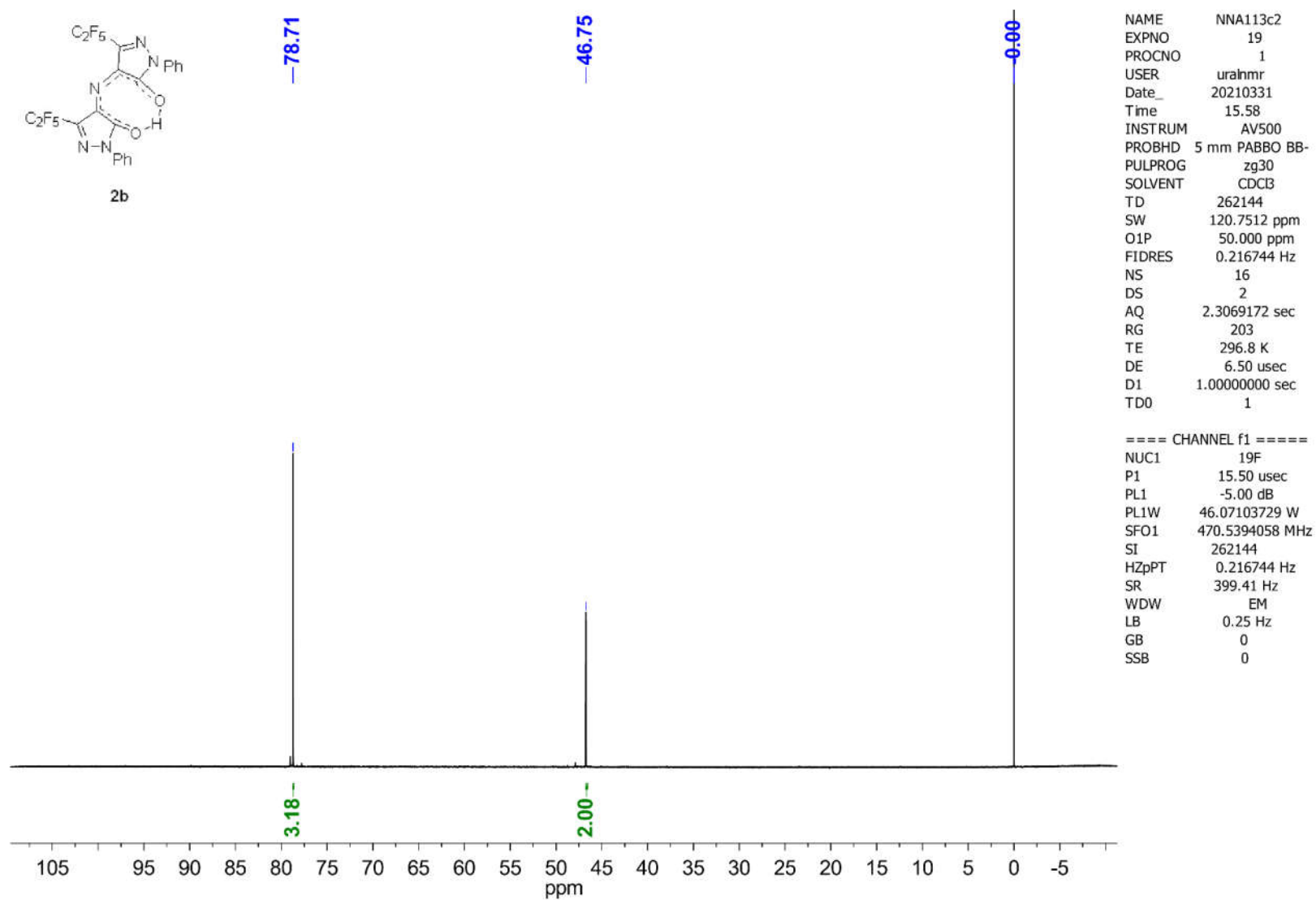


Figure S6. ^1H NMR spectrum of N-(5-hydroxy-3-(trifluoromethyl)-1-phenyl-1H-pyrazol-4-yl)acetamide (**3a**).

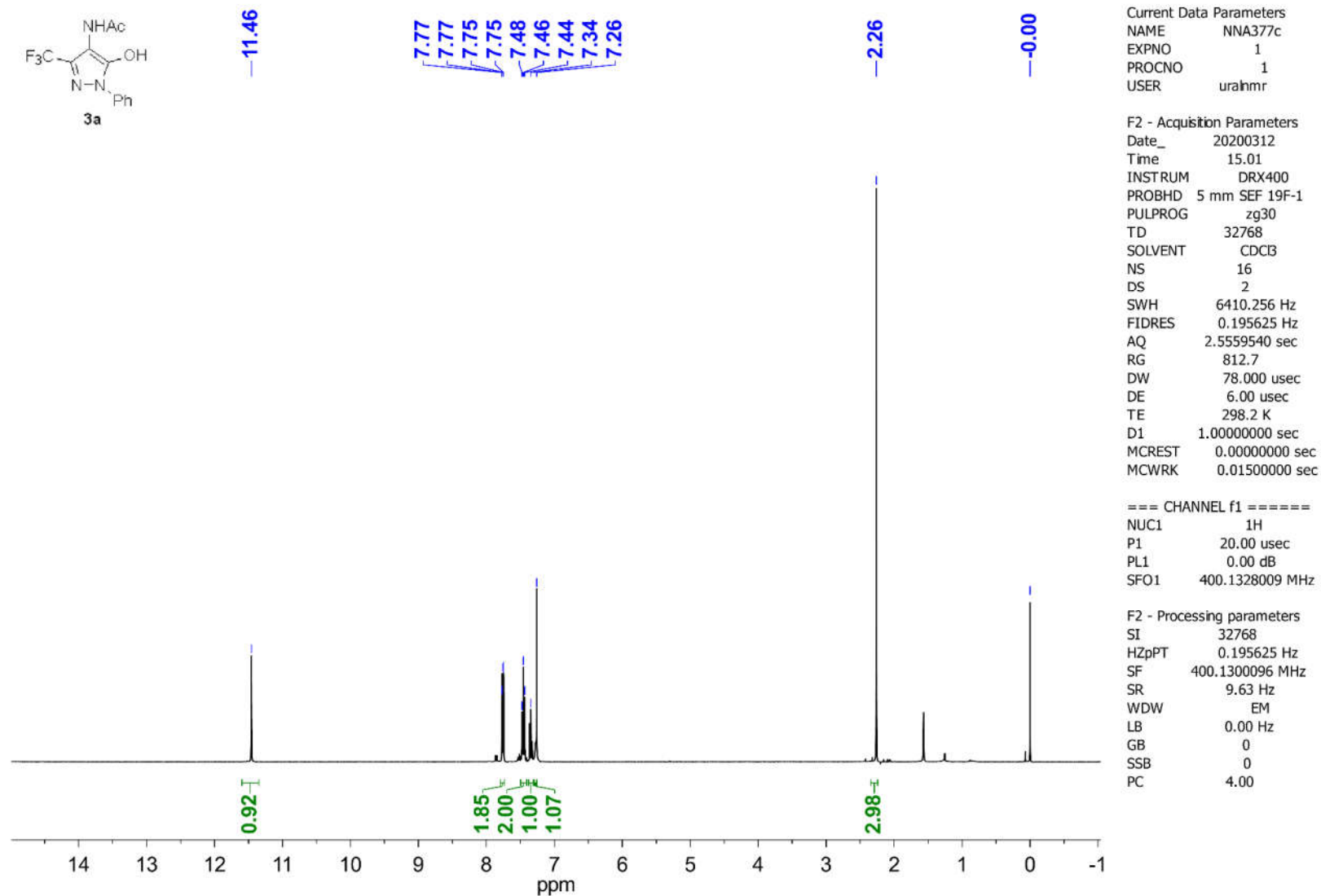


Figure S7. ^{19}F NMR spectrum of N-(5-hydroxy-3-(trifluoromethyl)-1-phenyl-1H-pyrazol-4-yl)acetamide (**3a**).

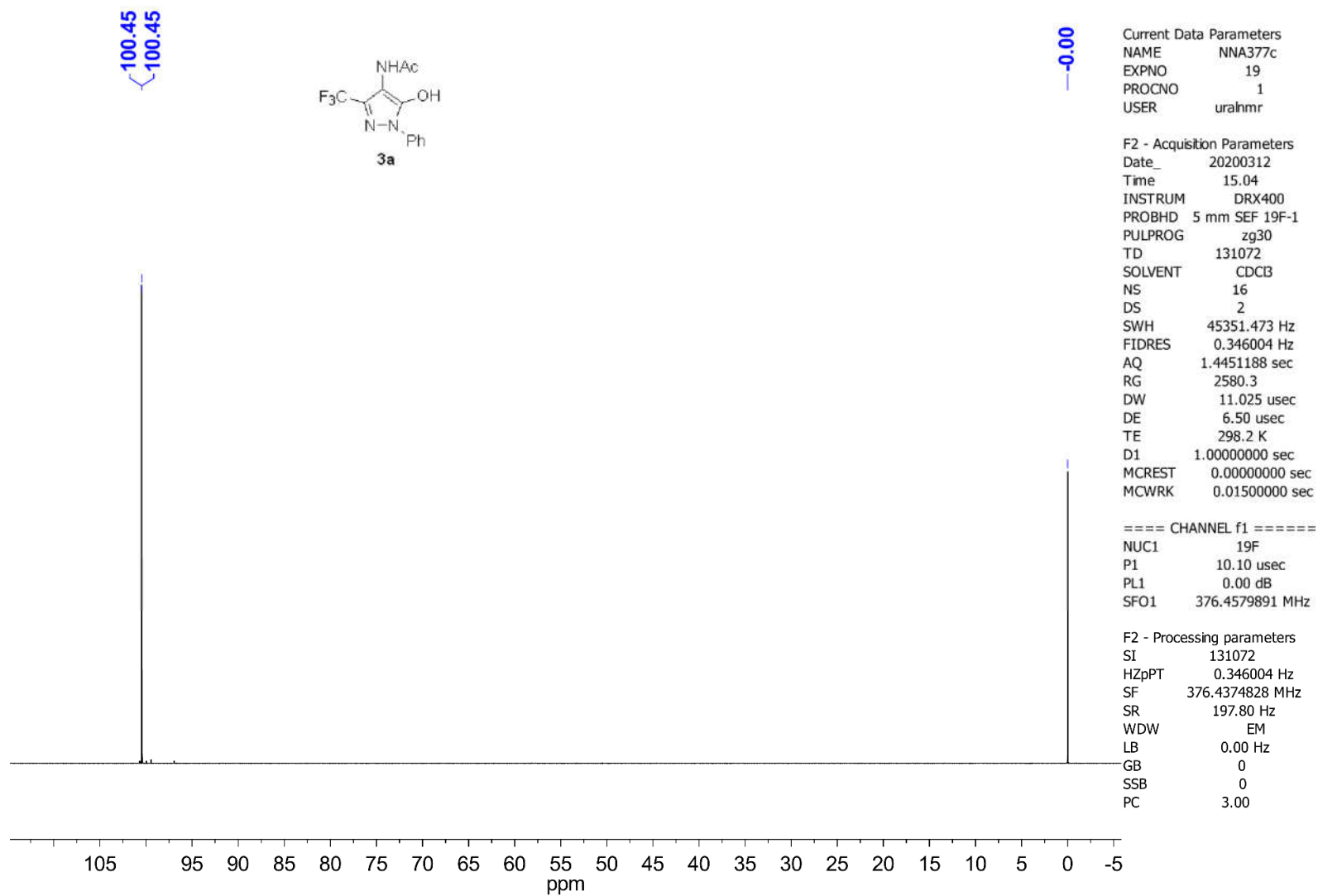


Figure S8. ^1H NMR spectrum of 4-amino-3-trifluoromethyl-1-phenyl-1H-pyrazol-5-ol hydrochloride (**4a**).

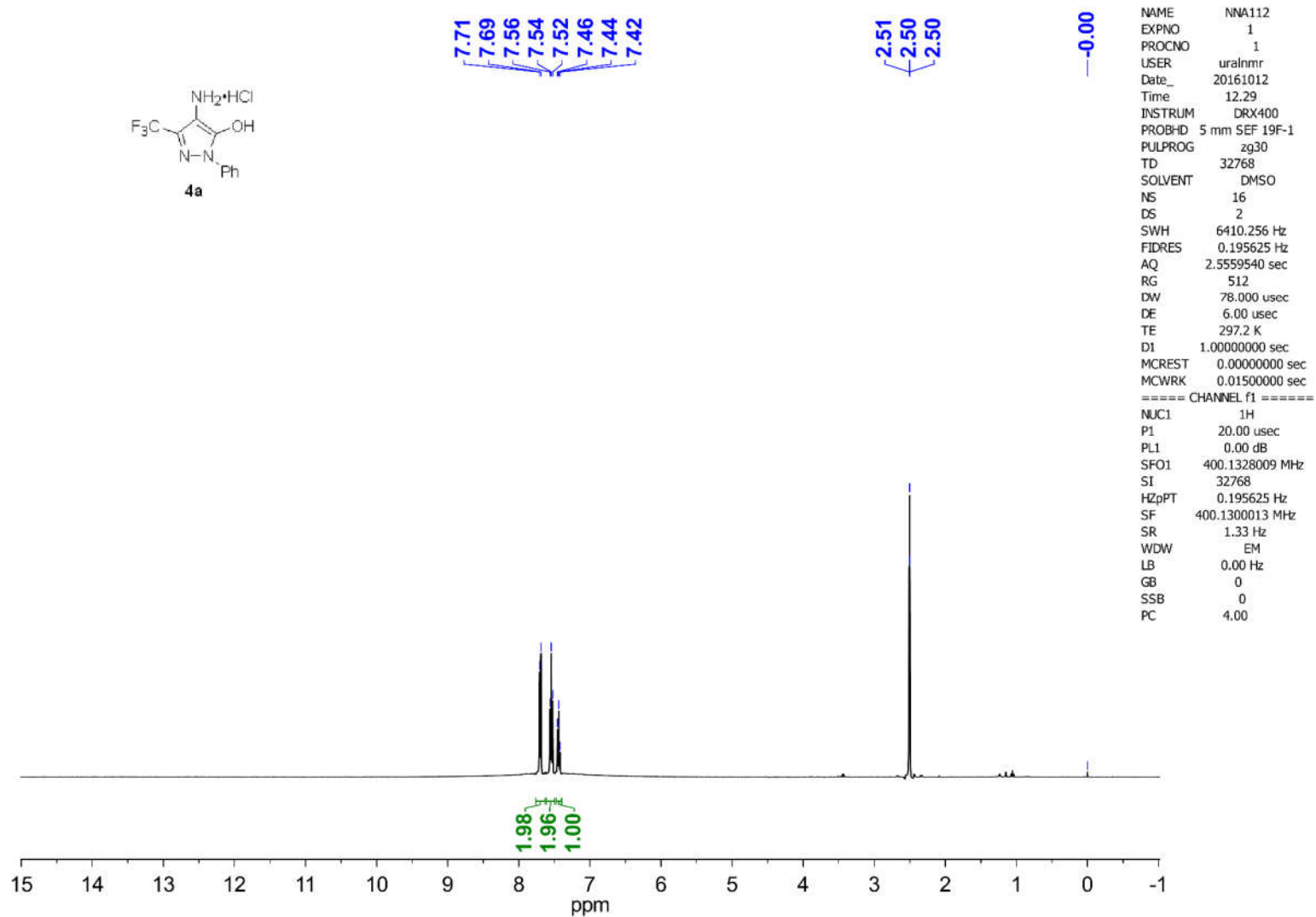


Figure S9. ^1H NMR spectrum of 4-amino-3-trifluoromethyl-1-phenyl-1H-pyrazol-5-ol hydrochloride (**4a**) after standing overnight.

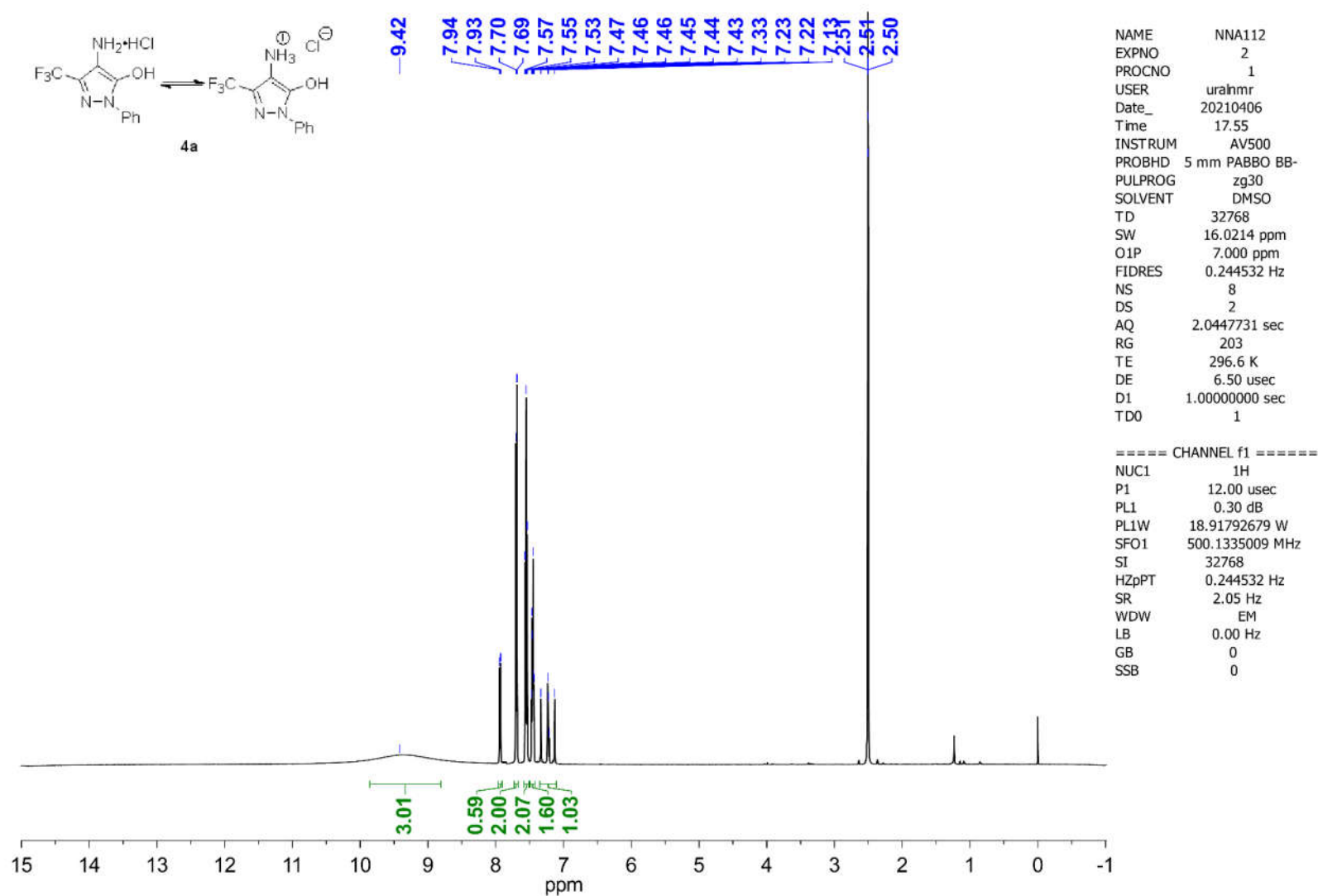


Figure S10. ^{13}C NMR spectrum of 4-amino-3-trifluoromethyl-1-phenyl-1H-pyrazol-5-ol hydrochloride (**4a**).

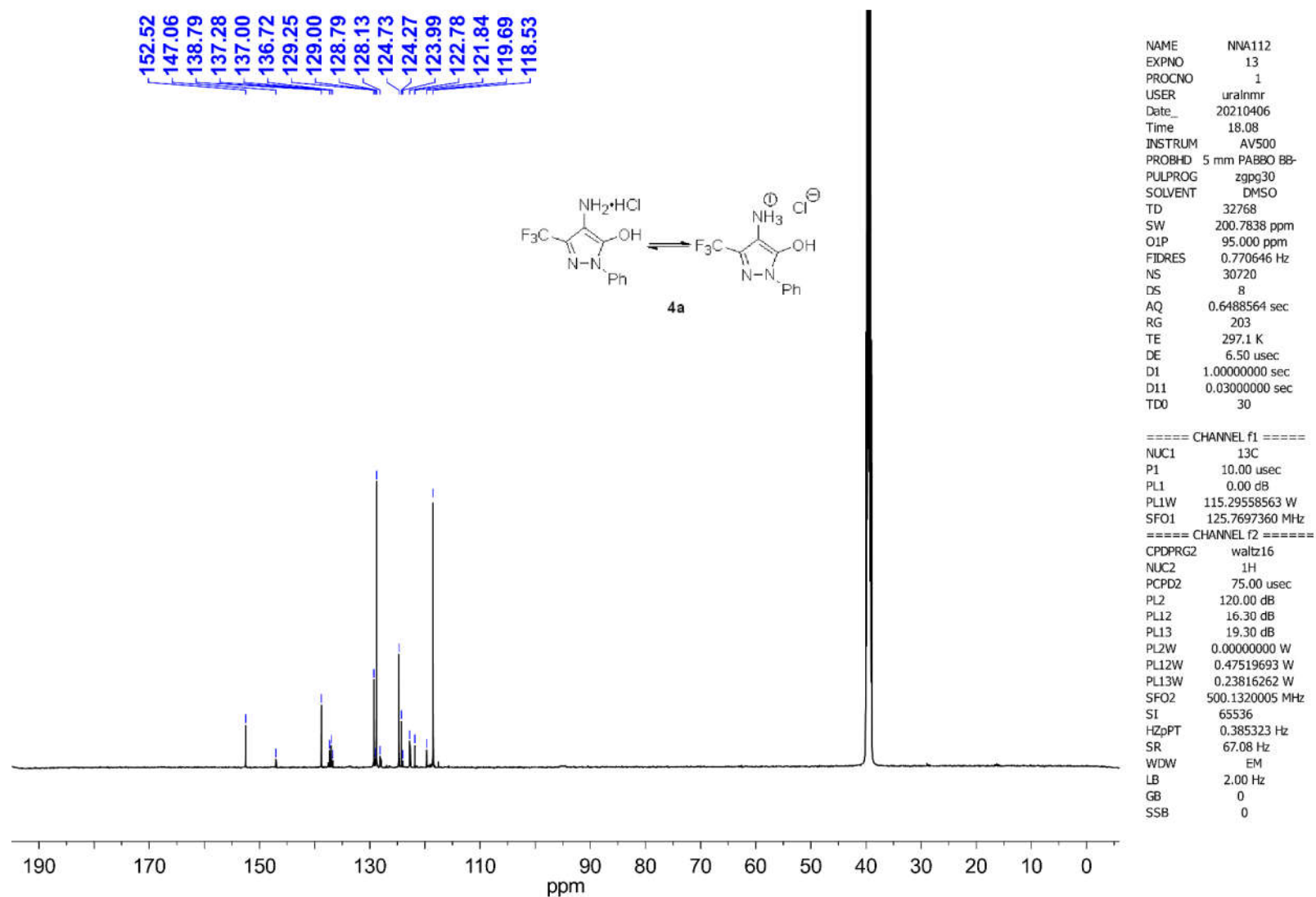


Figure S11. ^{19}F NMR spectrum of 4-amino-3-trifluoromethyl-1-phenyl-1H-pyrazol-5-ol hydrochloride (**4a**).

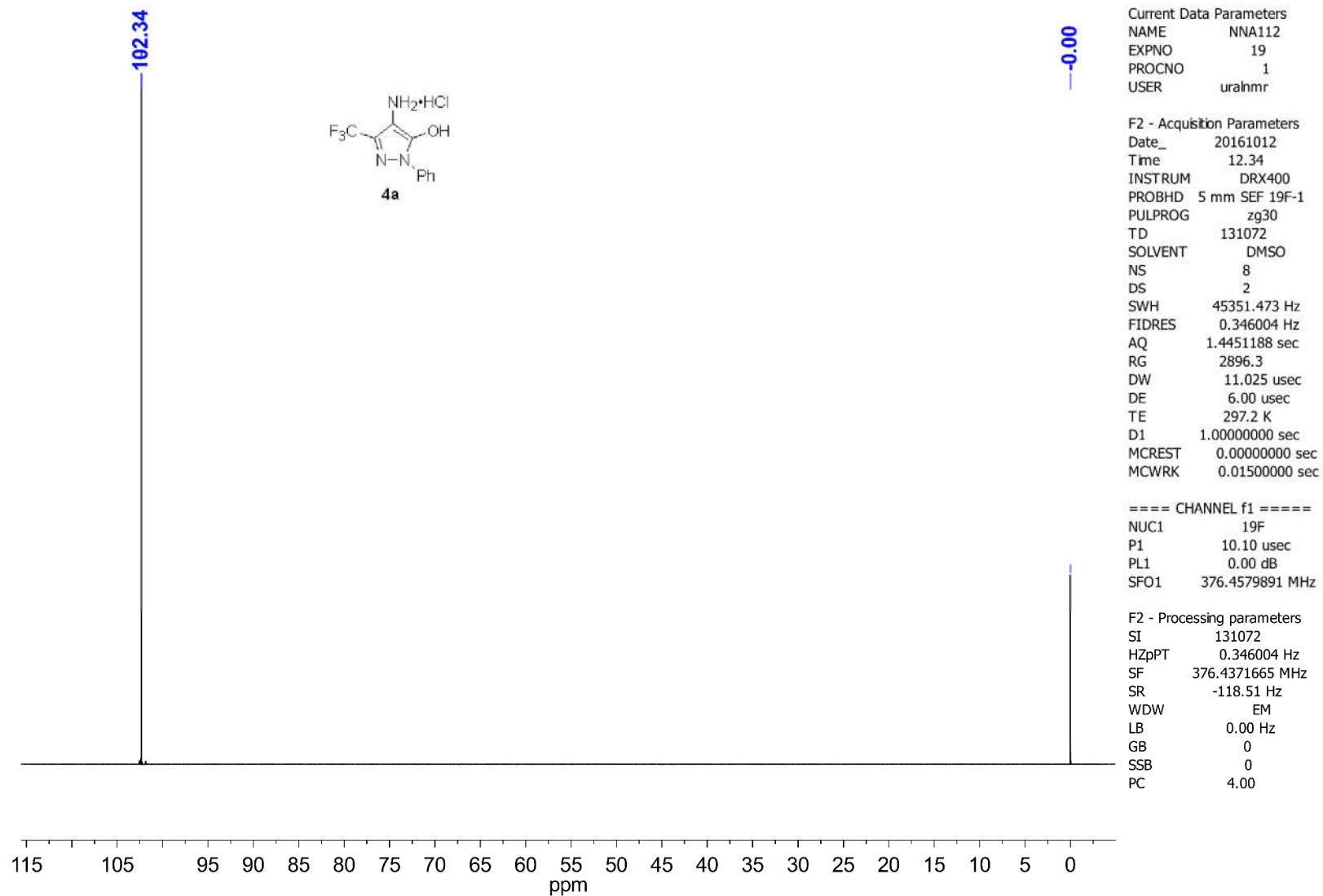


Figure S12. ^1H NMR spectrum of 4-amino-3-pentafluoroethyl-1-phenyl-1H-pyrazol-5-ol hydrate hydrochloride (**4b**).

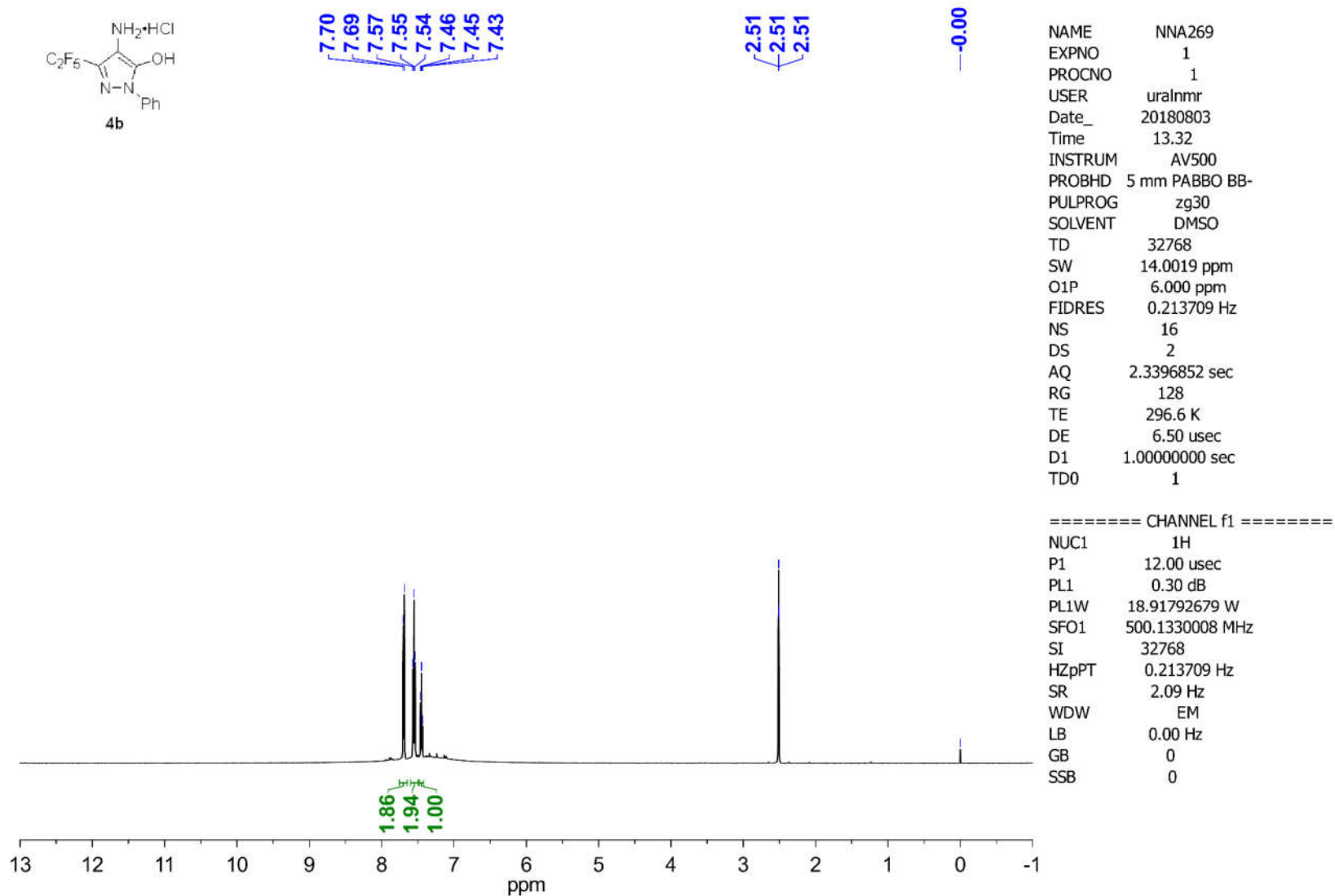


Figure S13. ^1H NMR spectrum of 4-amino-3-pentafluoroethyl-1-phenyl-1H-pyrazol-5-ol hydrate hydrochloride (**4b**) after standing overnight.

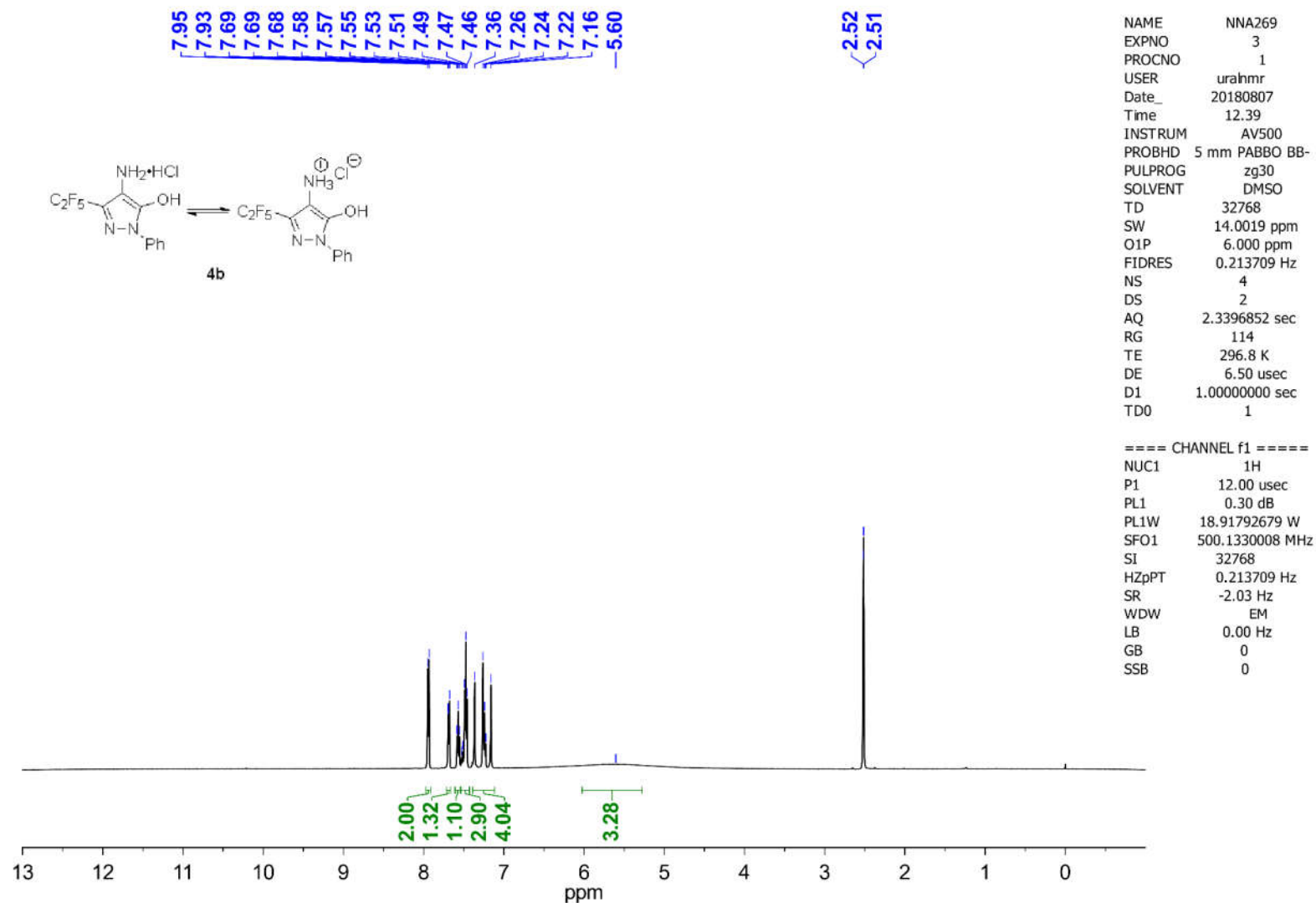


Figure S14. ^{13}C NMR spectrum of 4-amino-3-pentafluoroethyl-1-phenyl-1H-pyrazol-5-ol hydrate hydrochloride (**4b**).

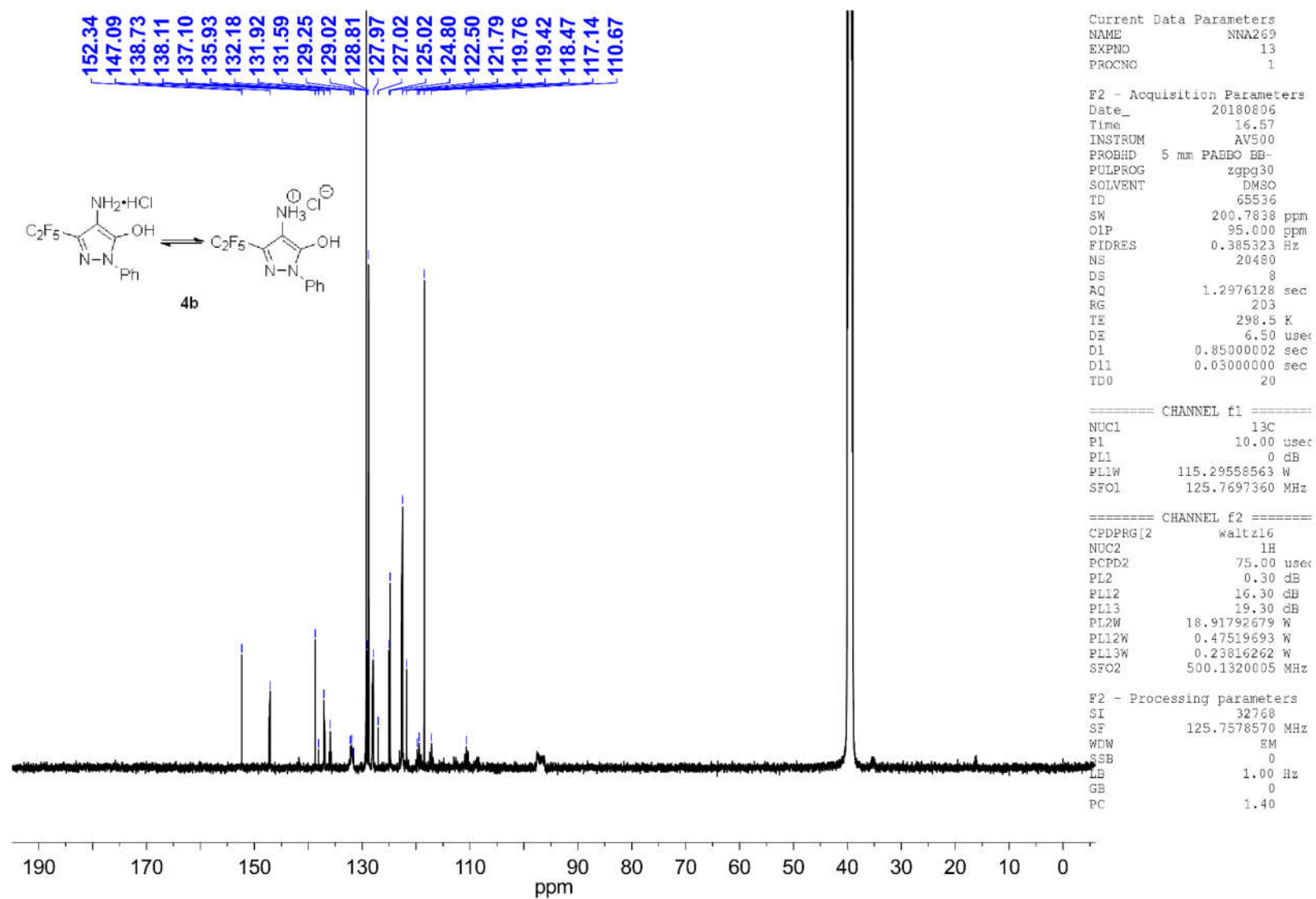


Figure S15. ^{19}F NMR spectrum of 4-amino-3-pentafluoroethyl-1-phenyl-1H-pyrazol-5-ol hydrate hydrochloride (**4b**).

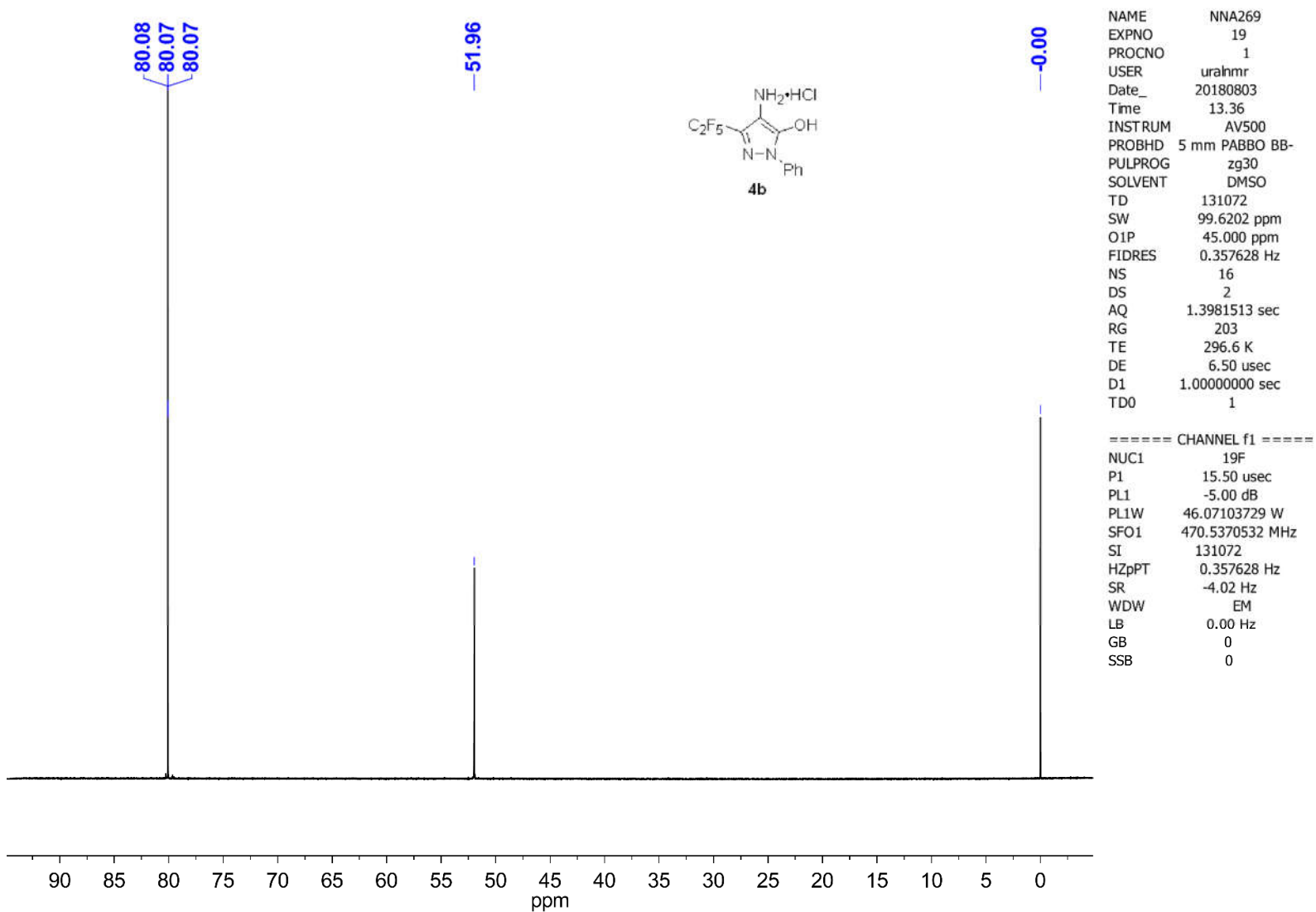


Figure S16. ^1H NMR spectrum of 5-hydroxy-1-phenyl-3-nonafluorobutyl-1H-pyrazol-4-ammonium hydrochloride (**4c**).

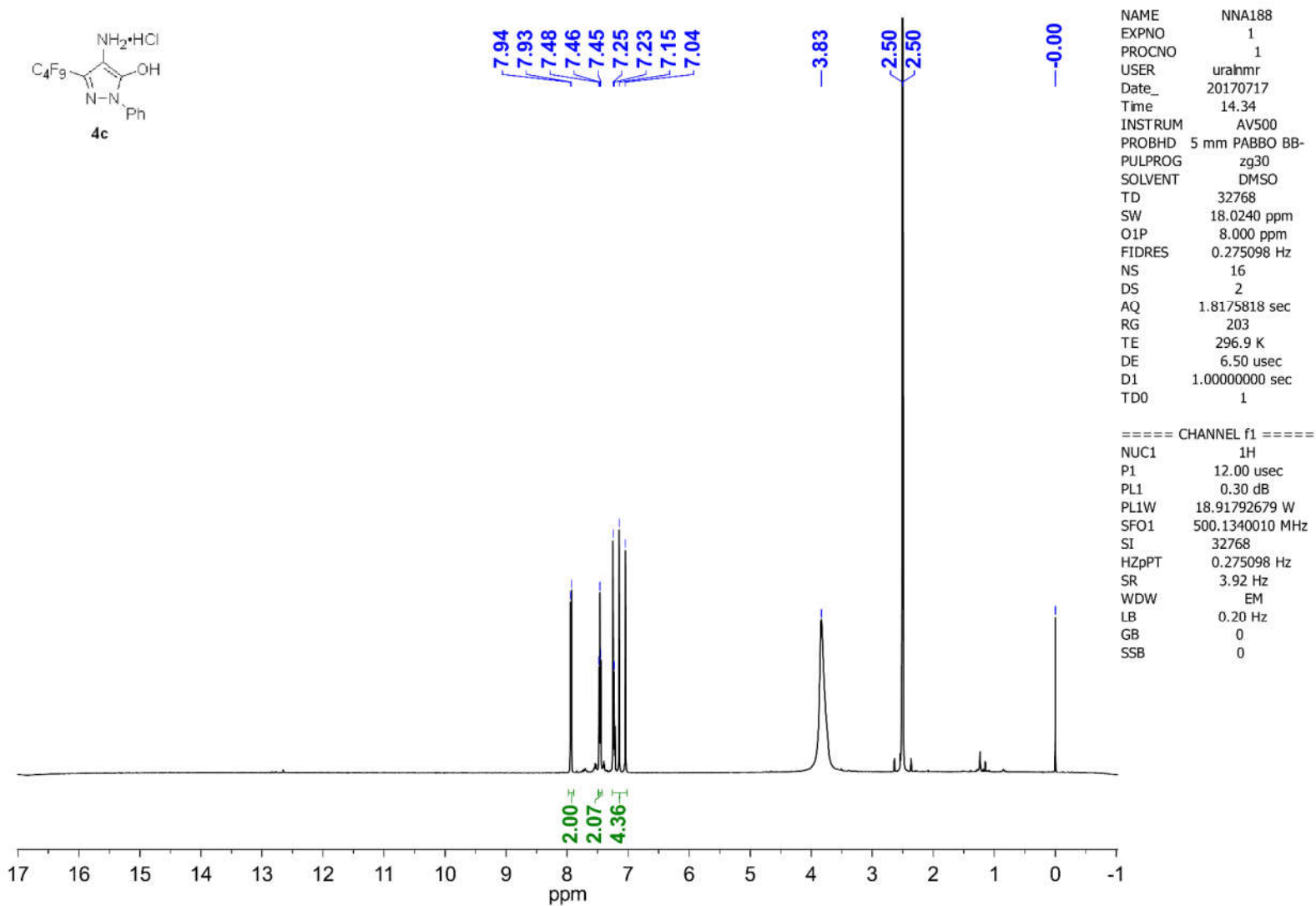


Figure S17. ^{19}F NMR spectrum of 5-hydroxy-1-phenyl-3-nonafluorobutyl-1H-pyrazol-4-ammonium hydrochloride (**4c**).

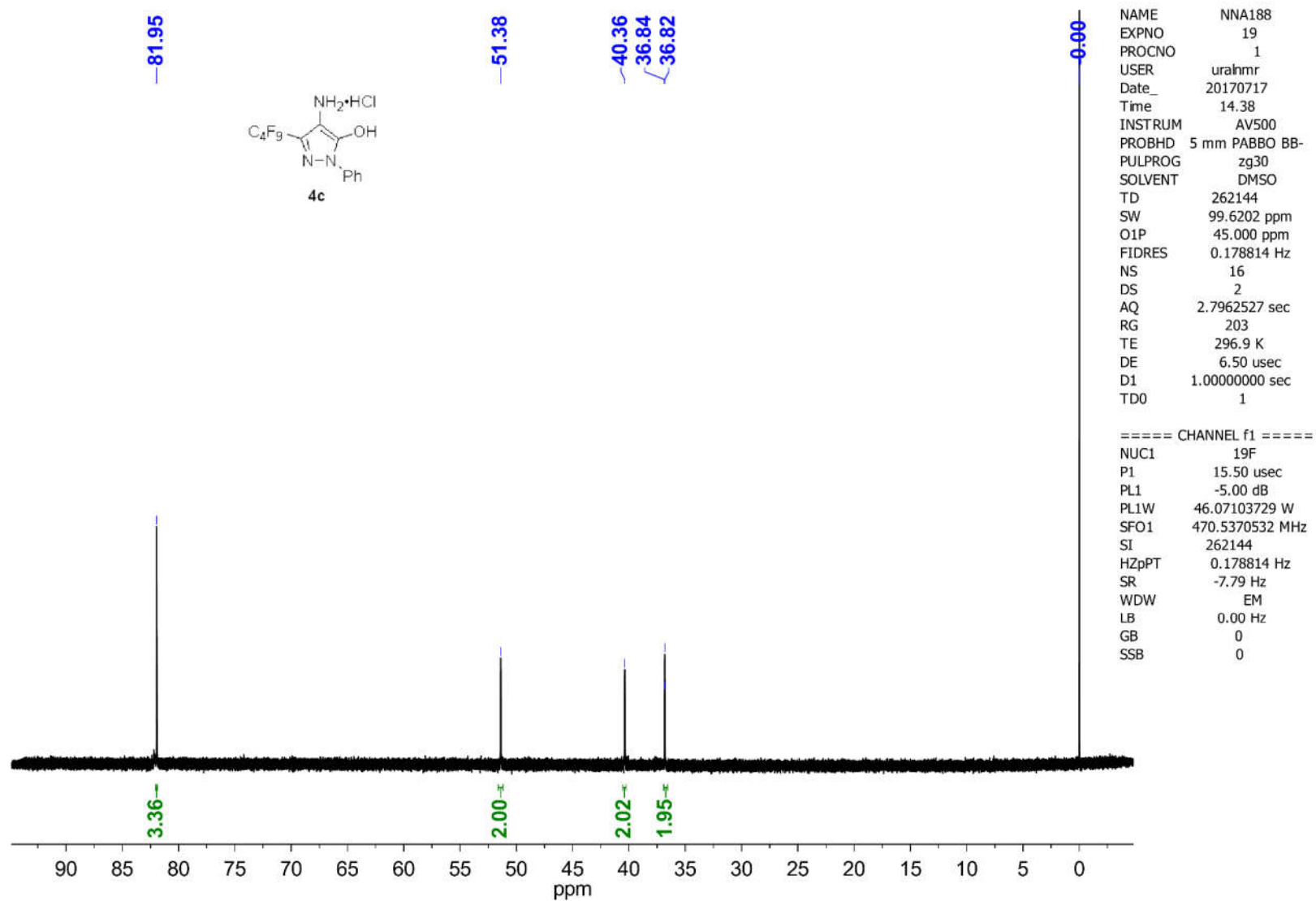


Figure S18. ^1H NMR spectrum of 4-amino-3-methyl-1-phenyl-1H-pyrazol-5-ol hydrochloride hydrate (**4d**).

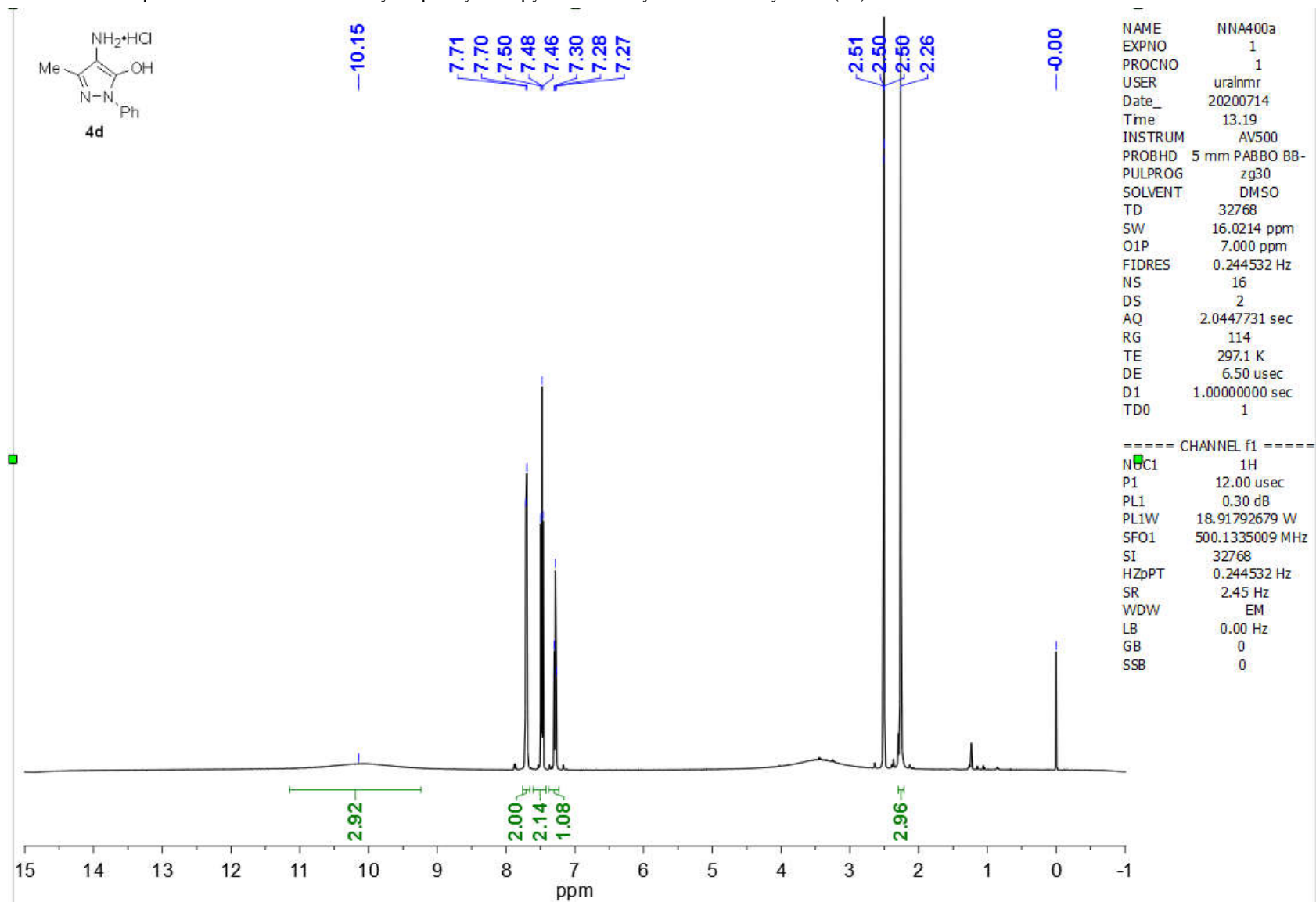


Figure S19. ^{13}C NMR spectrum of 4-amino-3-methyl-1-phenyl-1H-pyrazol-5-ol hydrochloride hydrate (**4d**).

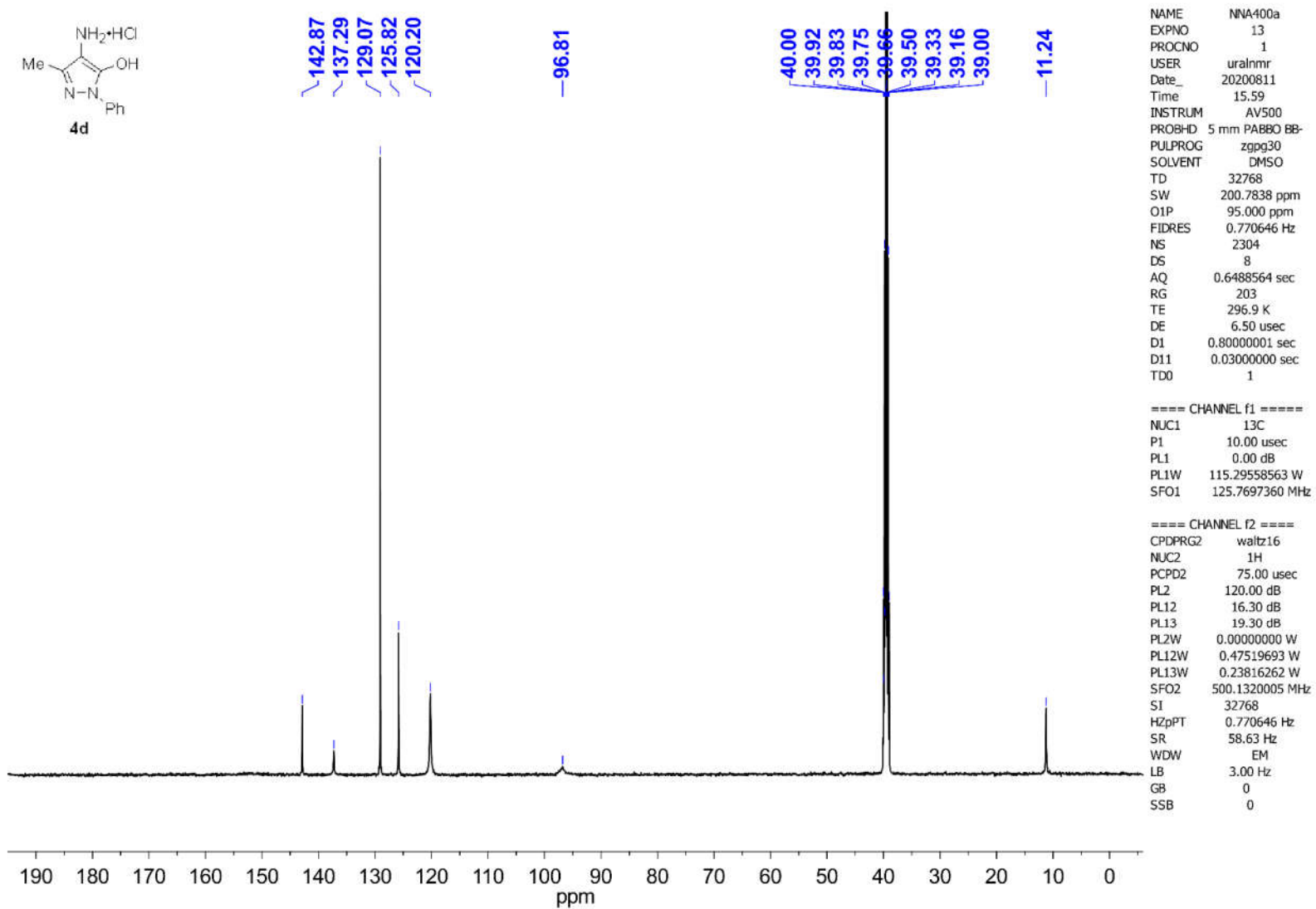


Figure S20. ^1H NMR spectrum of 4-amino-3-trifluoromethyl-1H-pyrazol-5-ol hydrochloride (**4e**).

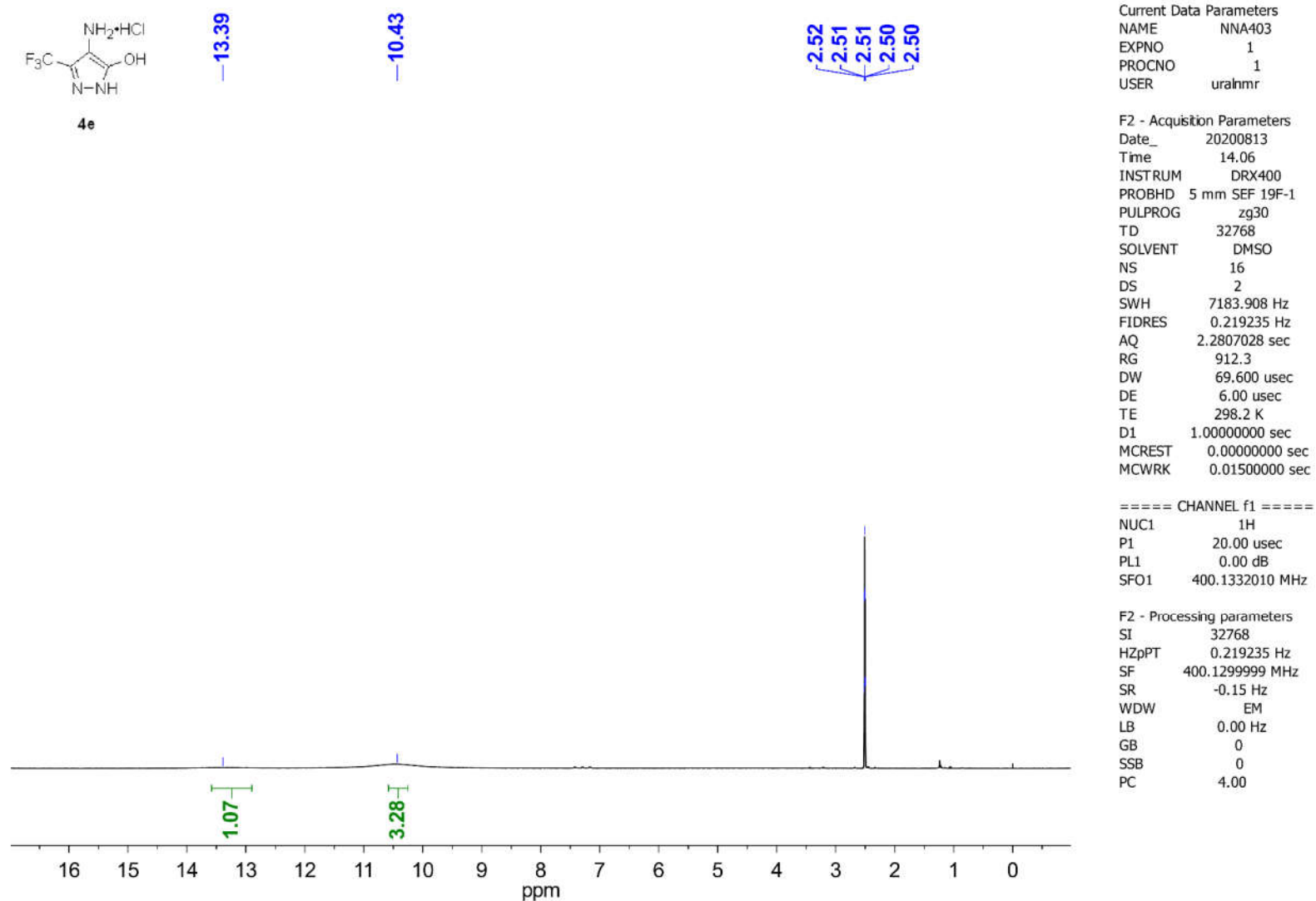


Figure S21. ^{13}C NMR spectrum of 4-amino-3-trifluoromethyl-1H-pyrazol-5-ol hydrochloride (**4e**).

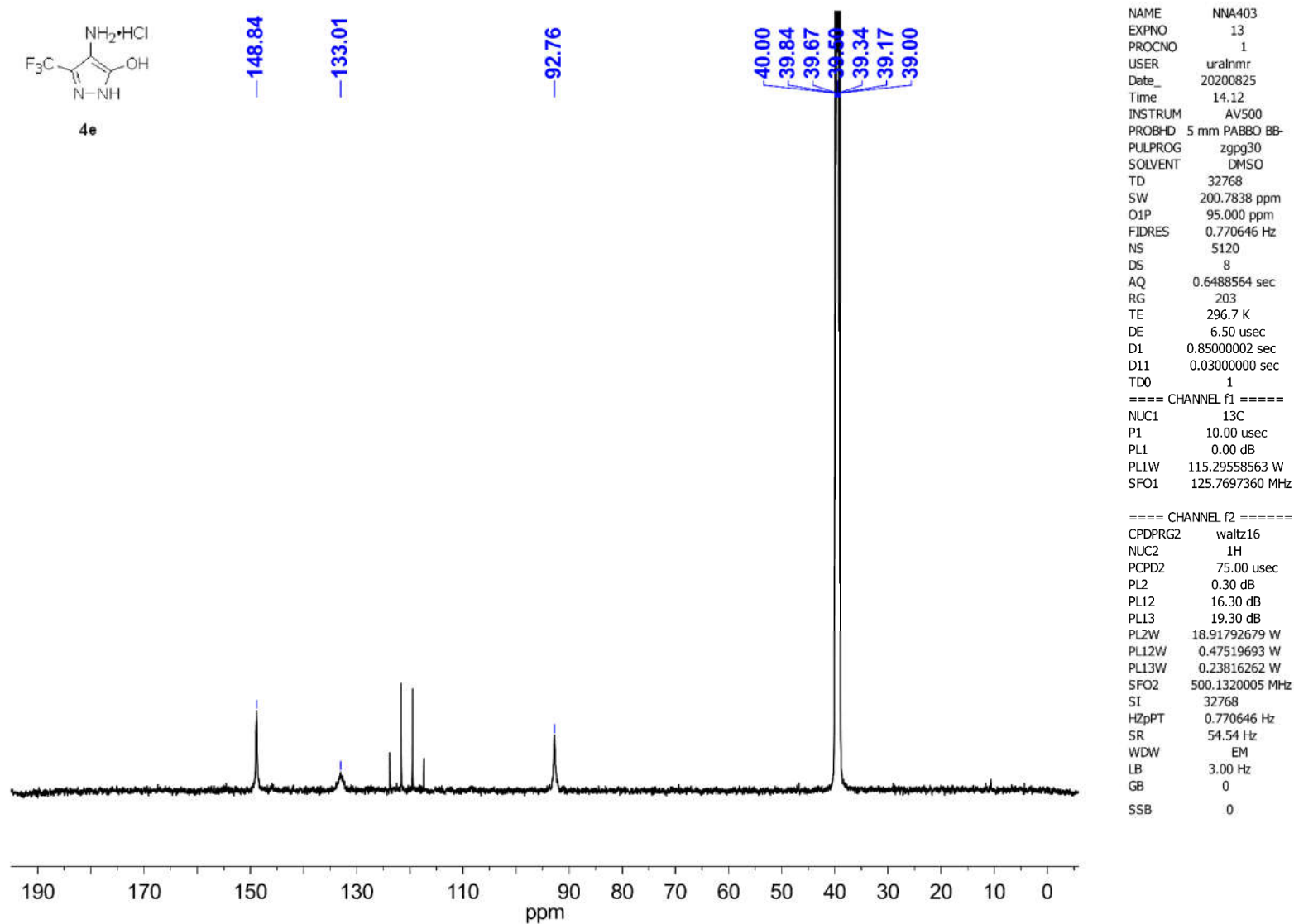


Figure S22. ^{19}F NMR spectrum of 4-amino-3-trifluoromethyl-1H-pyrazol-5-ol hydrochloride (**4e**).

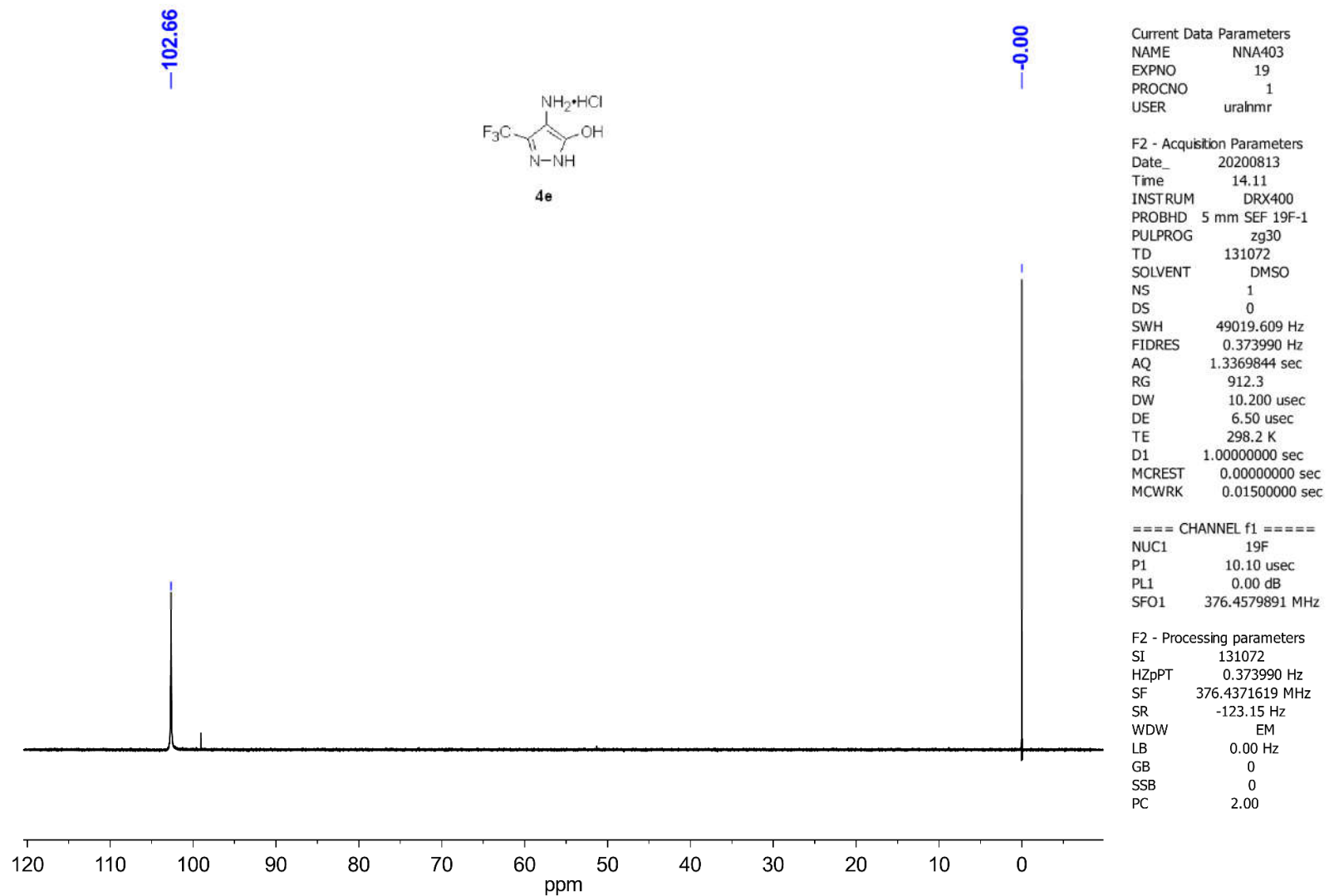


Figure S23. ^1H NMR spectrum of 4-amino-3-(1,1,2,2-tetrafluoroethyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4f**).

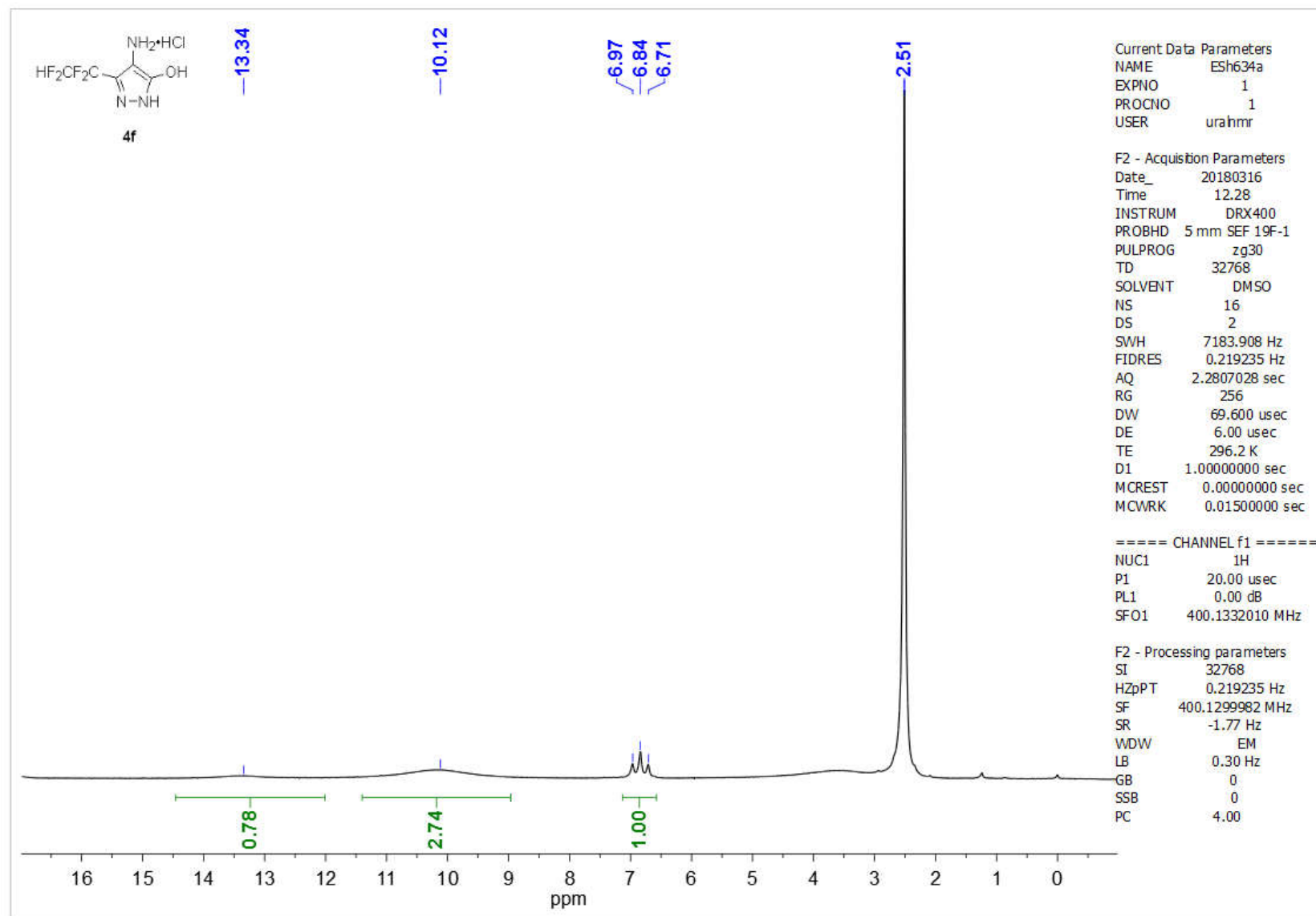


Figure S24. ^{19}F NMR spectrum of 4-amino-3-(1,1,2,2-tetrafluoroethyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4f**).

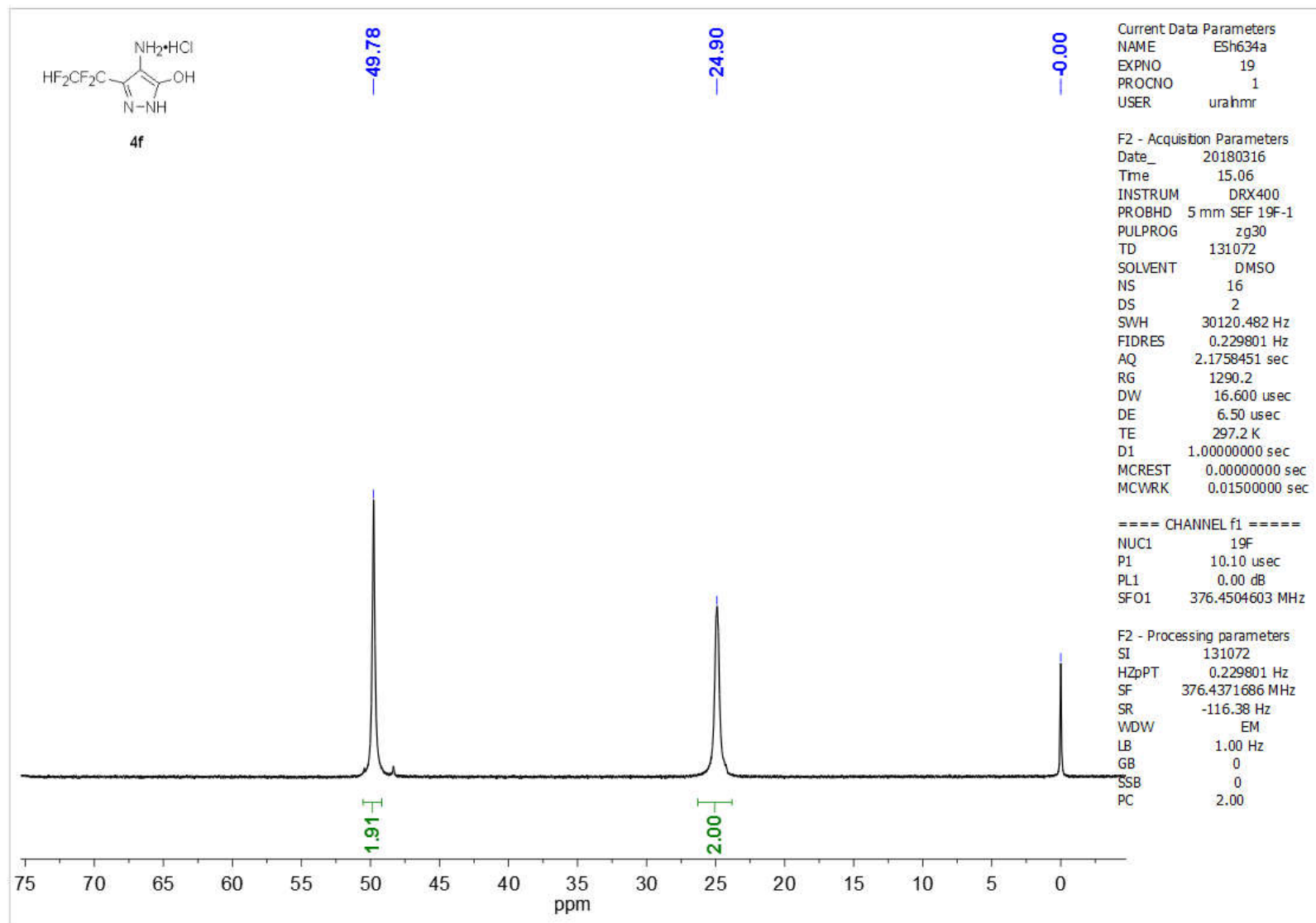


Figure S25. ^1H NMR spectrum of 4-amino-3-(pentafluoroethyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4g**).

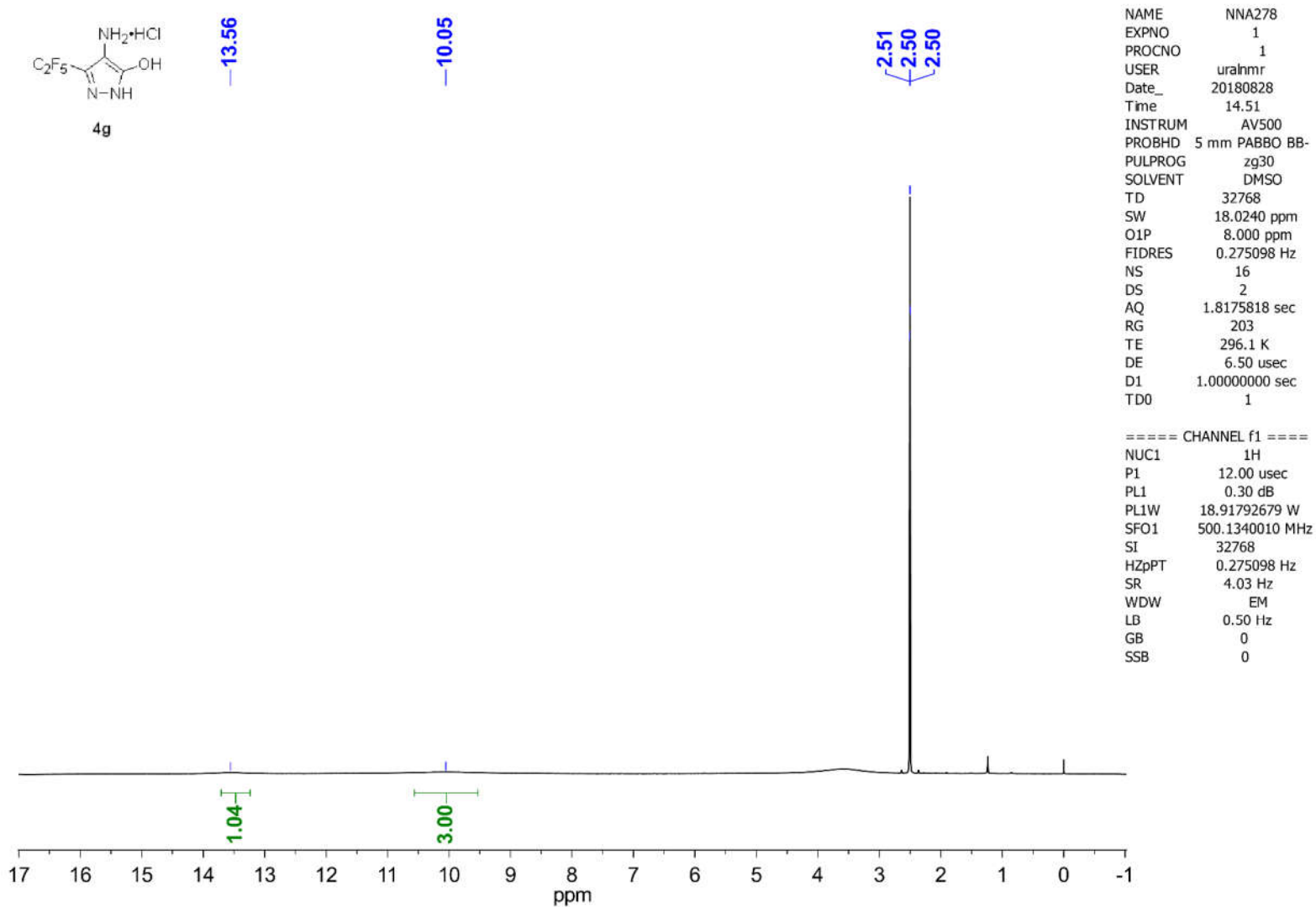


Figure S26. ^{19}F NMR spectrum of 4-amino-3-(pentafluoroethyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4g**).

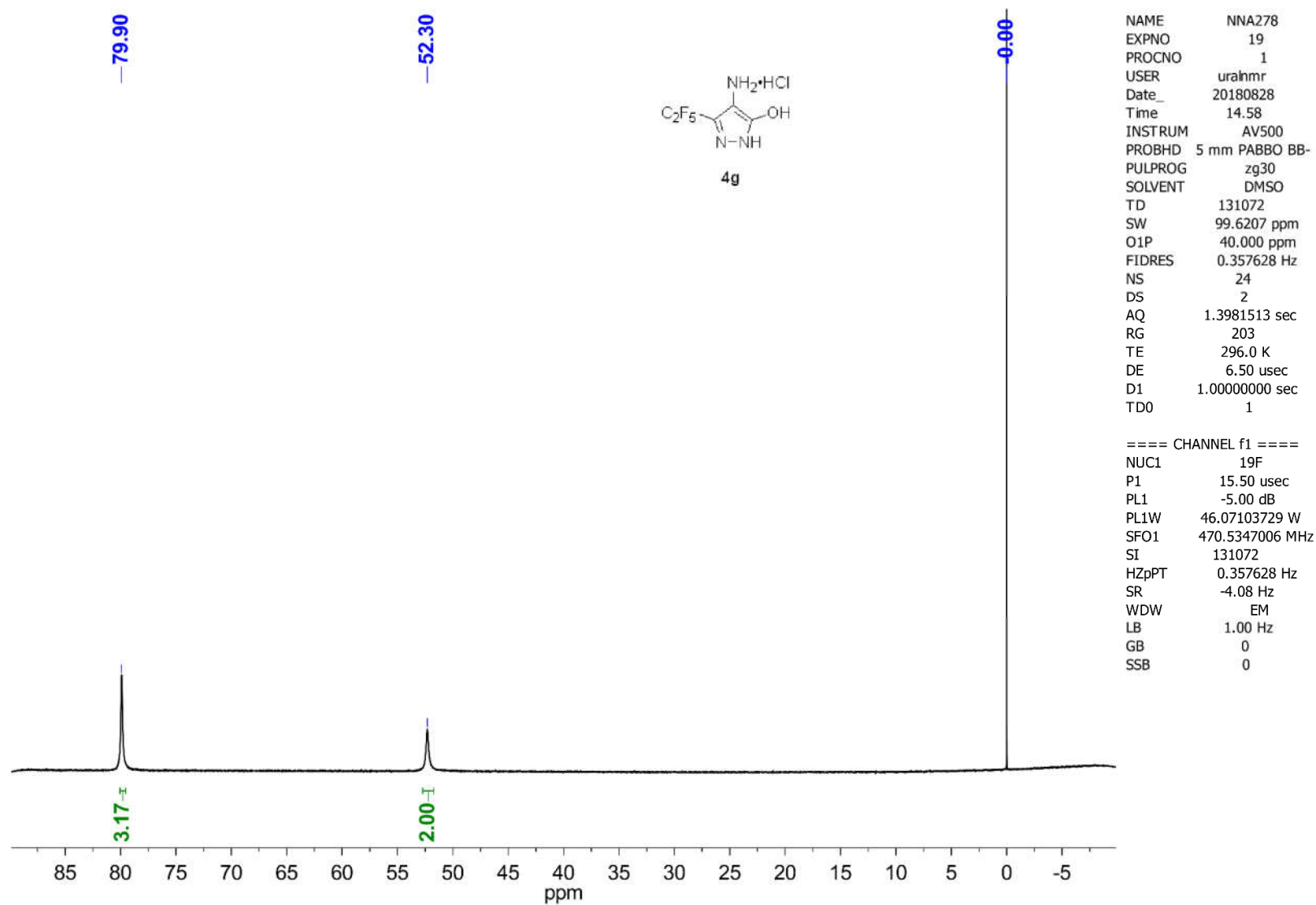


Figure S27. ^1H NMR spectrum of 4-amino-3-(heptafluoropropyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4h**).

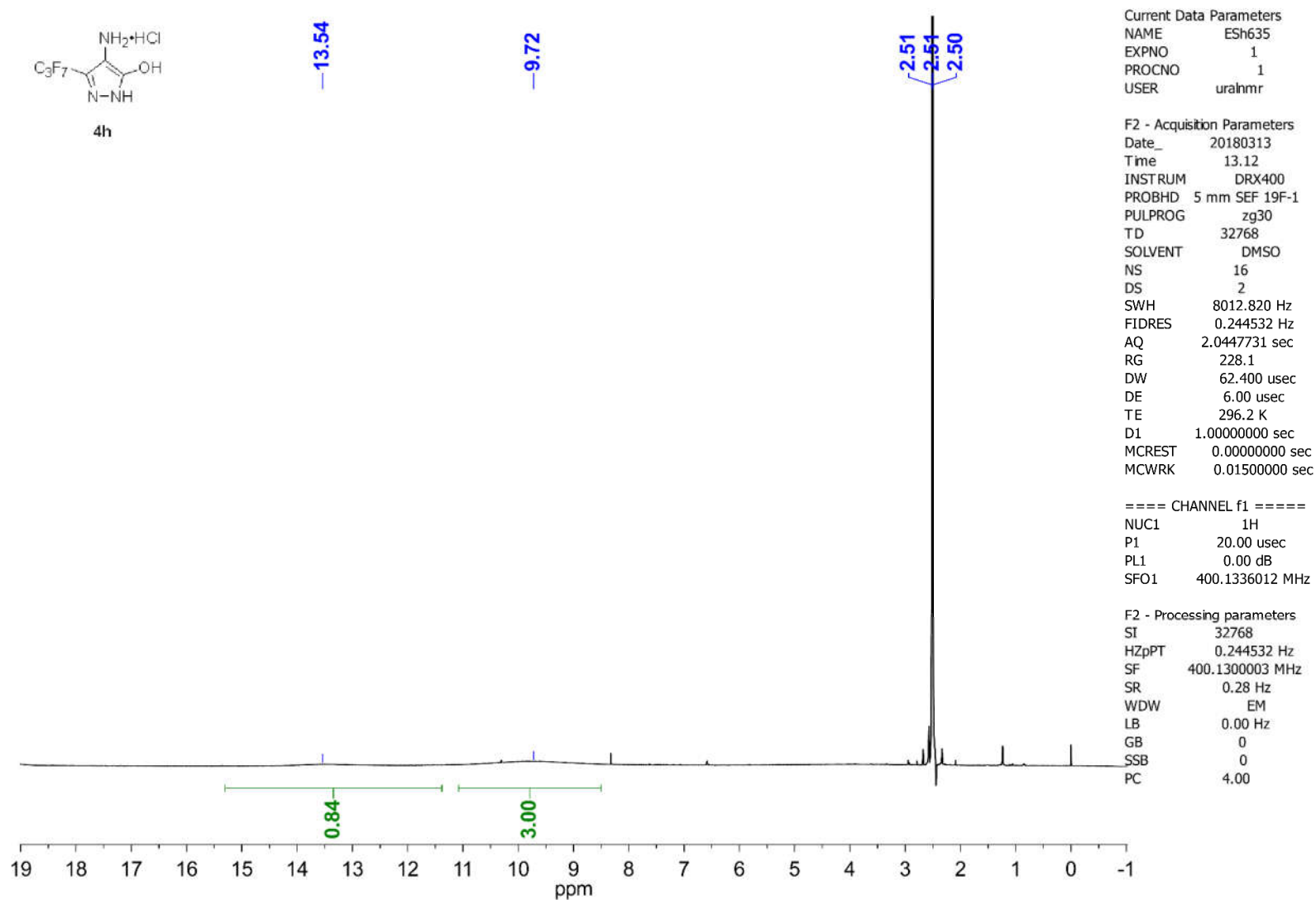


Figure S28. ^{19}F NMR spectrum of 4-amino-3-(heptafluoropropyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4h**).

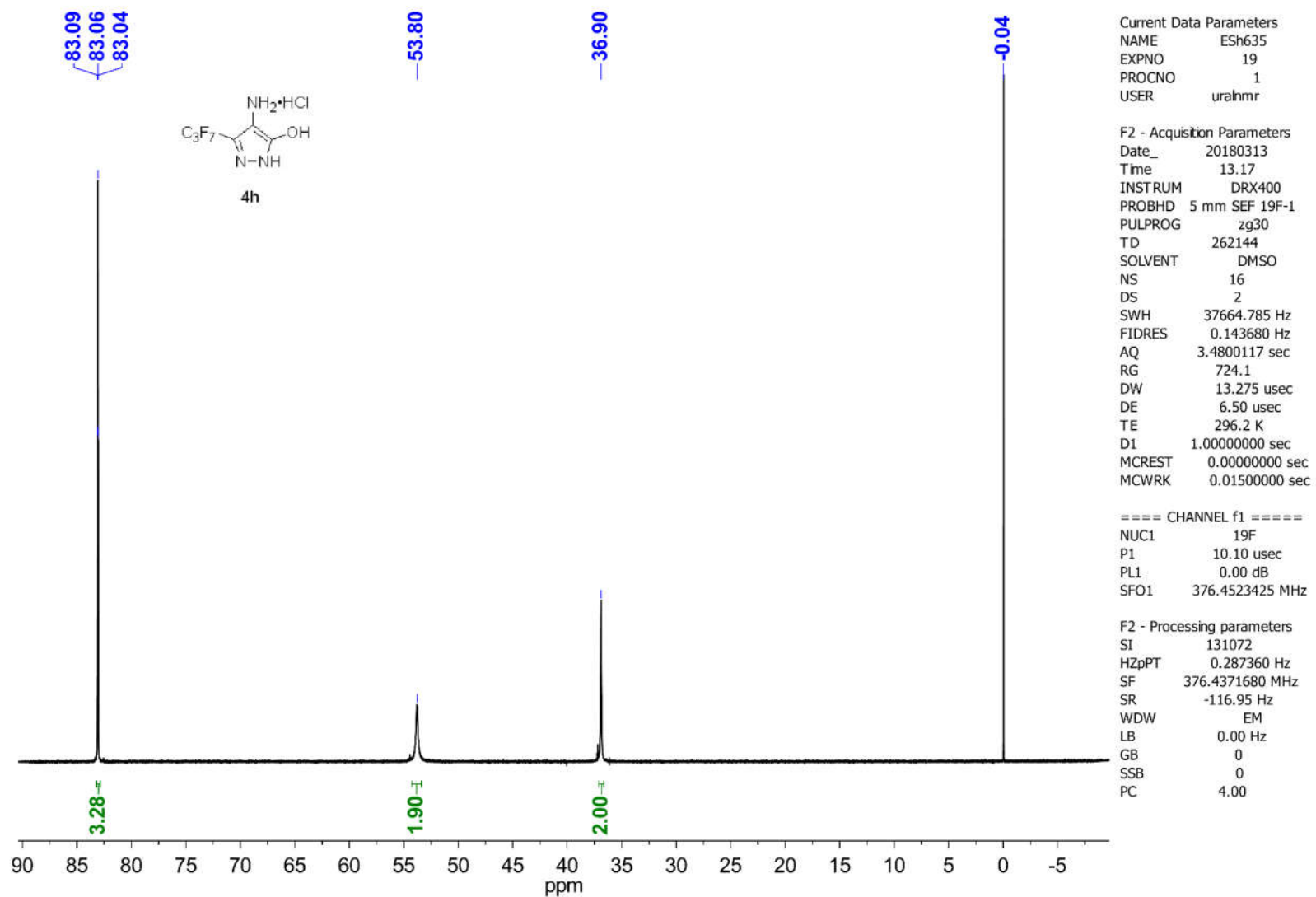


Figure S29. ^1H NMR spectrum of 4-amino-3-(nonafluorobutyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4i**).

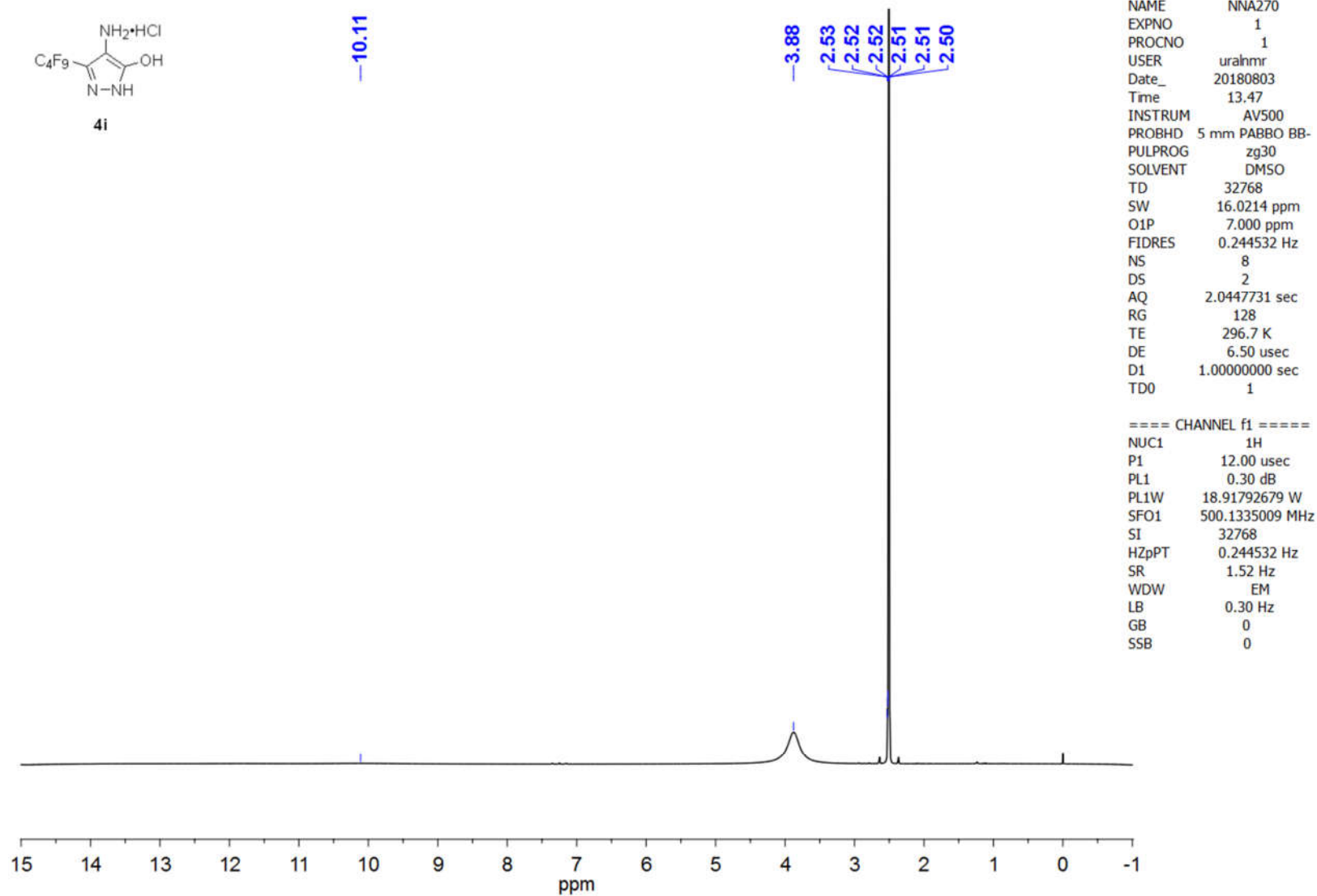


Figure S30. ^{19}F NMR spectrum of 4-amino-3-(nonafluorobutyl)-1H-pyrazol-5-ol hydrate hydrochloride (**4i**).

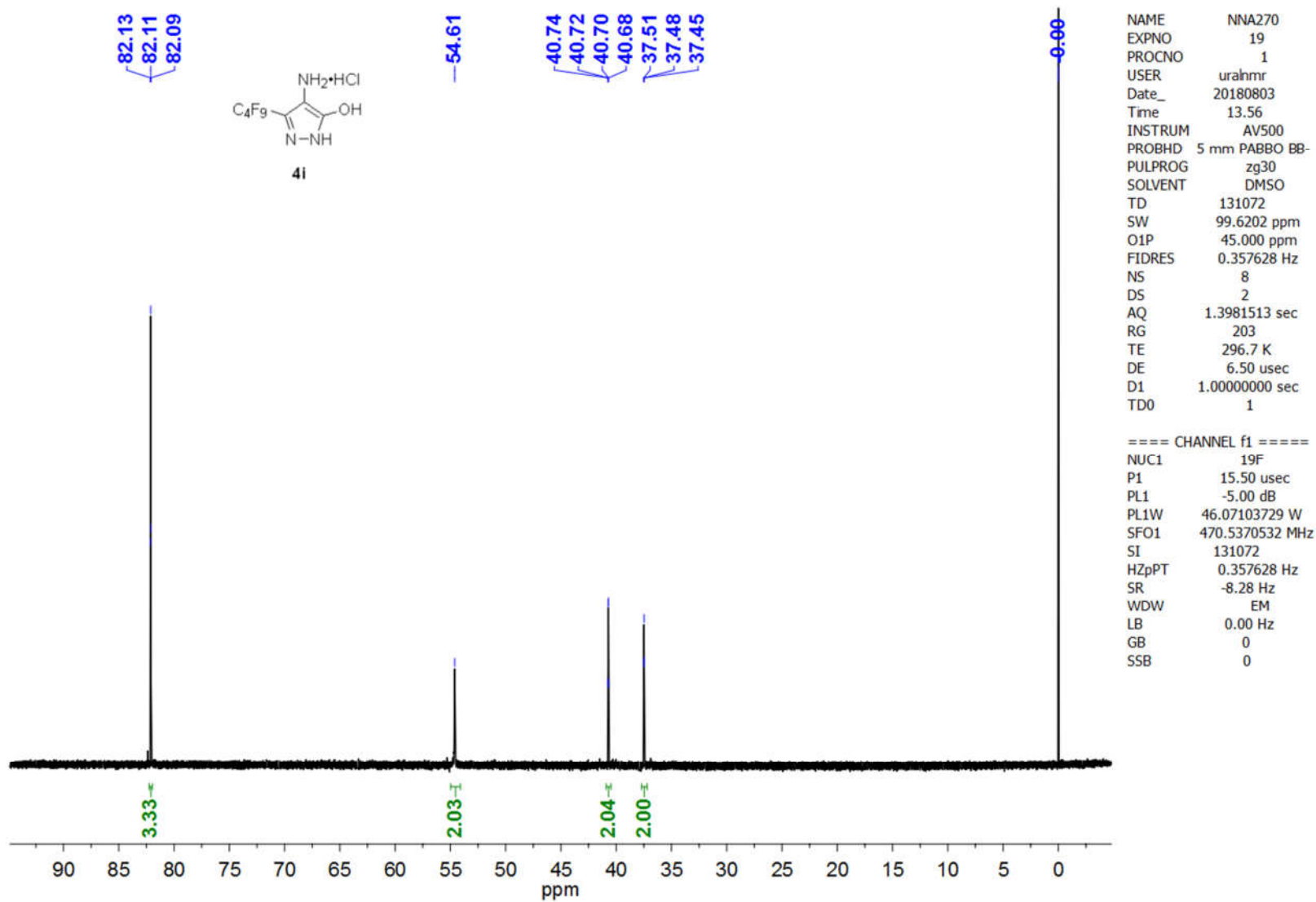


Figure S31. ^1H NMR spectrum of 4-amino-3-methyl-1H-pyrazol-5-ol hydrochloride (**4j**).

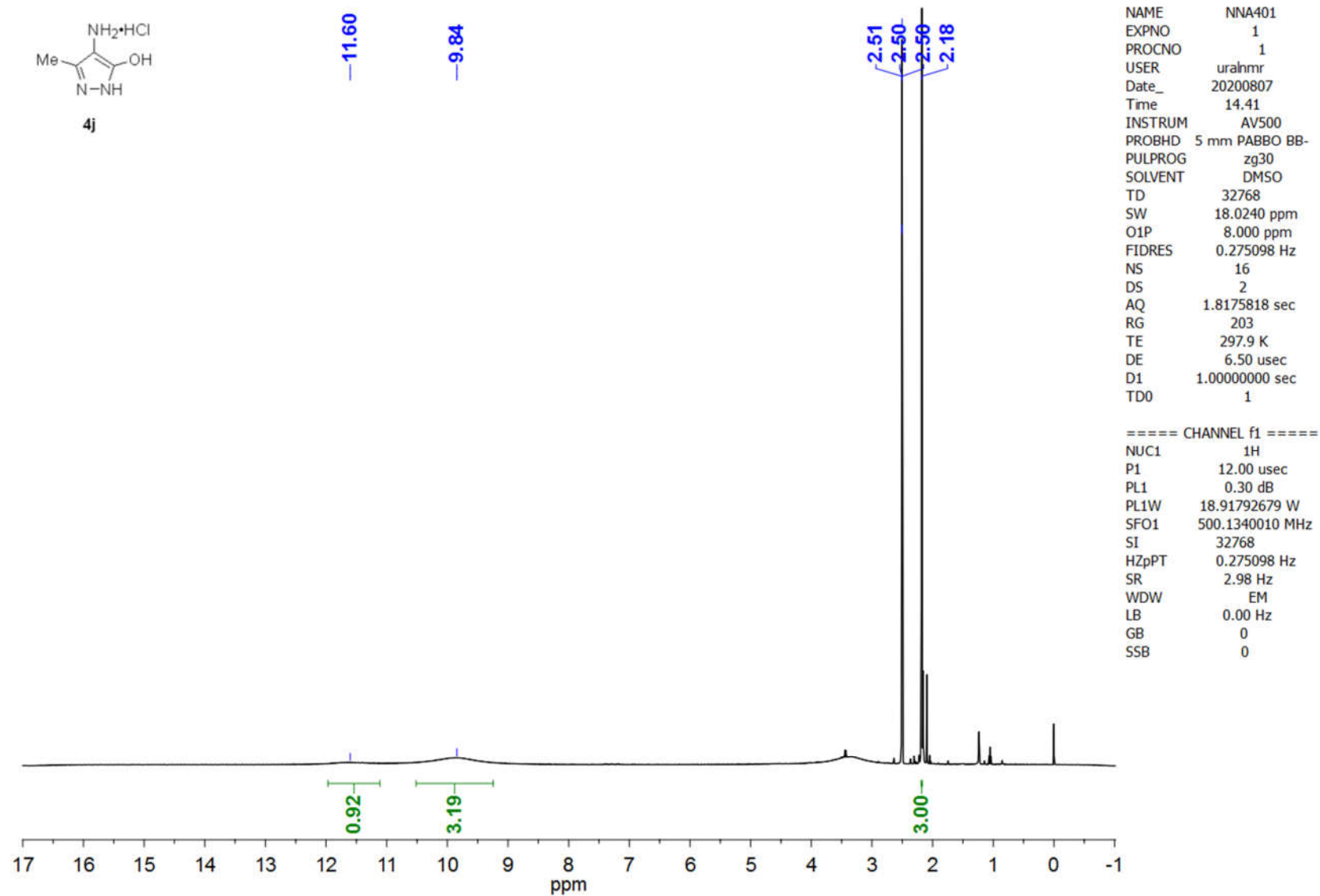


Figure S32. ^{13}C NMR spectrum of 4-amino-3-methyl-1H-pyrazol-5-ol hydrochloride (**4j**).

