Supplementary Information

Synthesis of 4,4′-(arylmethylene)bis(3-methyl-1-phenyl-1*H*-pyrazol-5-ols) and evaluation of their antioxidant and anticancer activities

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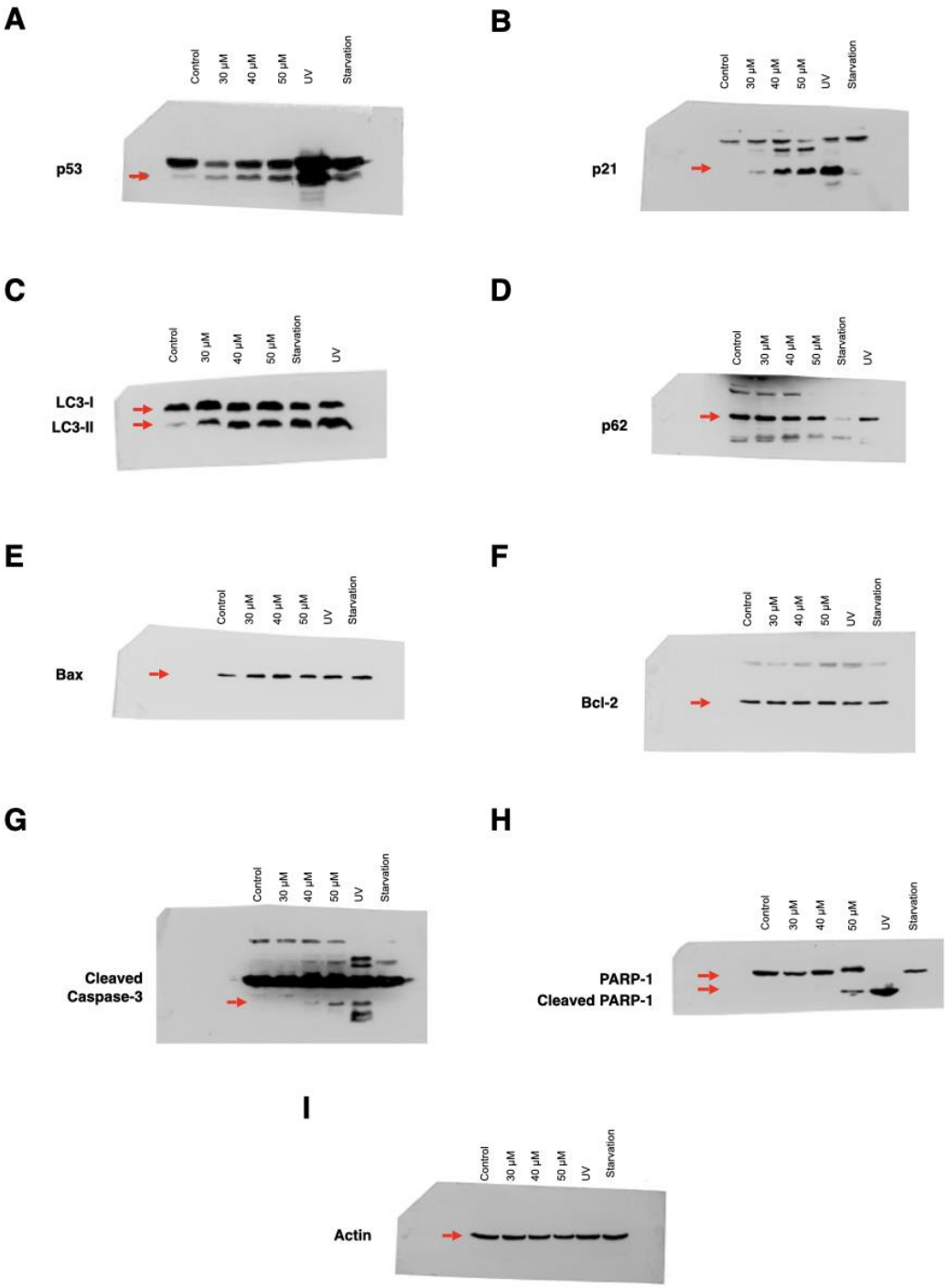

Fig. S1. Original western blots CL-X Posure™ films for Western blots. Each protein was detected in independent films at different times of exposure to the membrane. **A**) p53; **B**) p21; **C**) LC3-I and -II; **D**) p62; **E**) BAX; **F**) Bcl-2; **G**) Cleaved caspase-3; **H**) Active and cleaved PARP-1; **I**) Actin. Notice, for autophagy detection starvation control was first, in contrast to apoptosis control, which UV control was first.

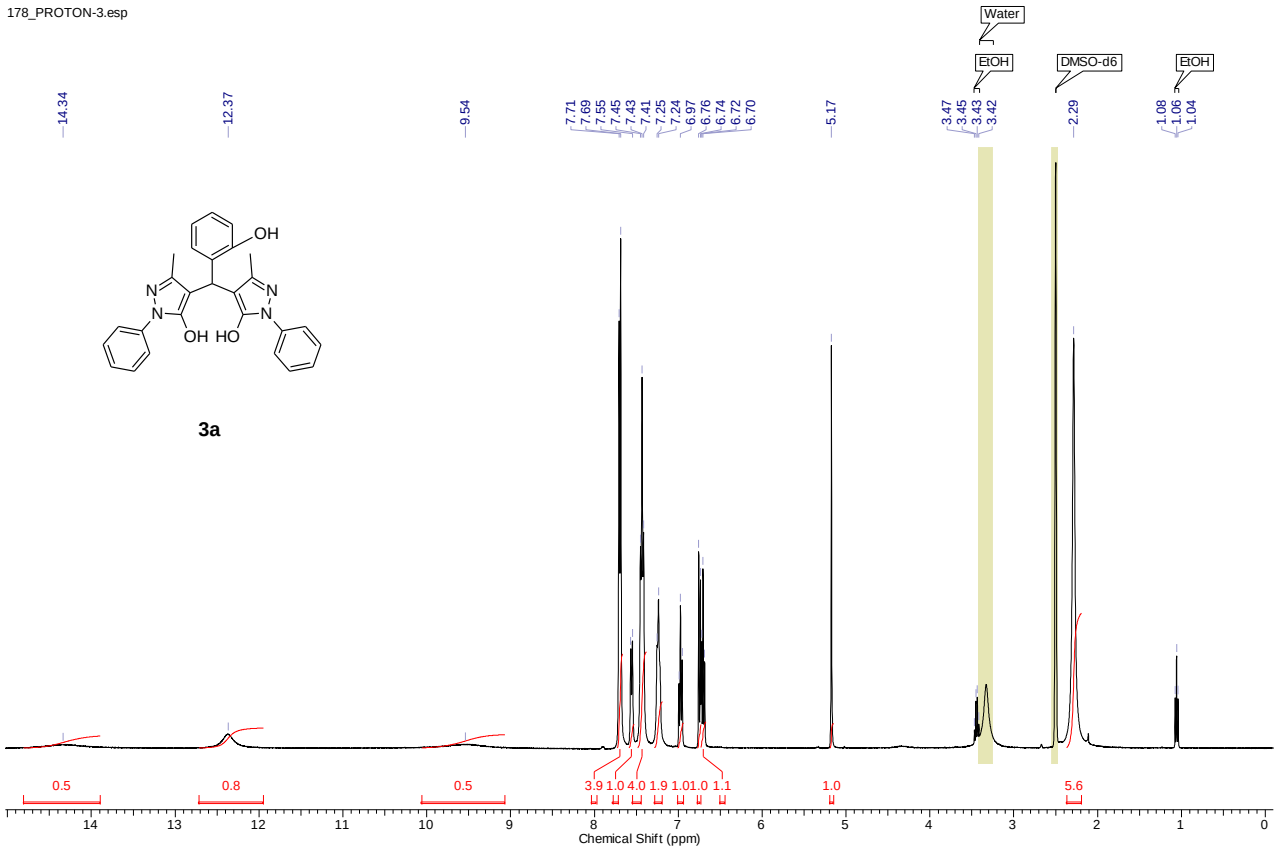

Fig. S2. ^{1}H NMR spectrum of compound **3a**.

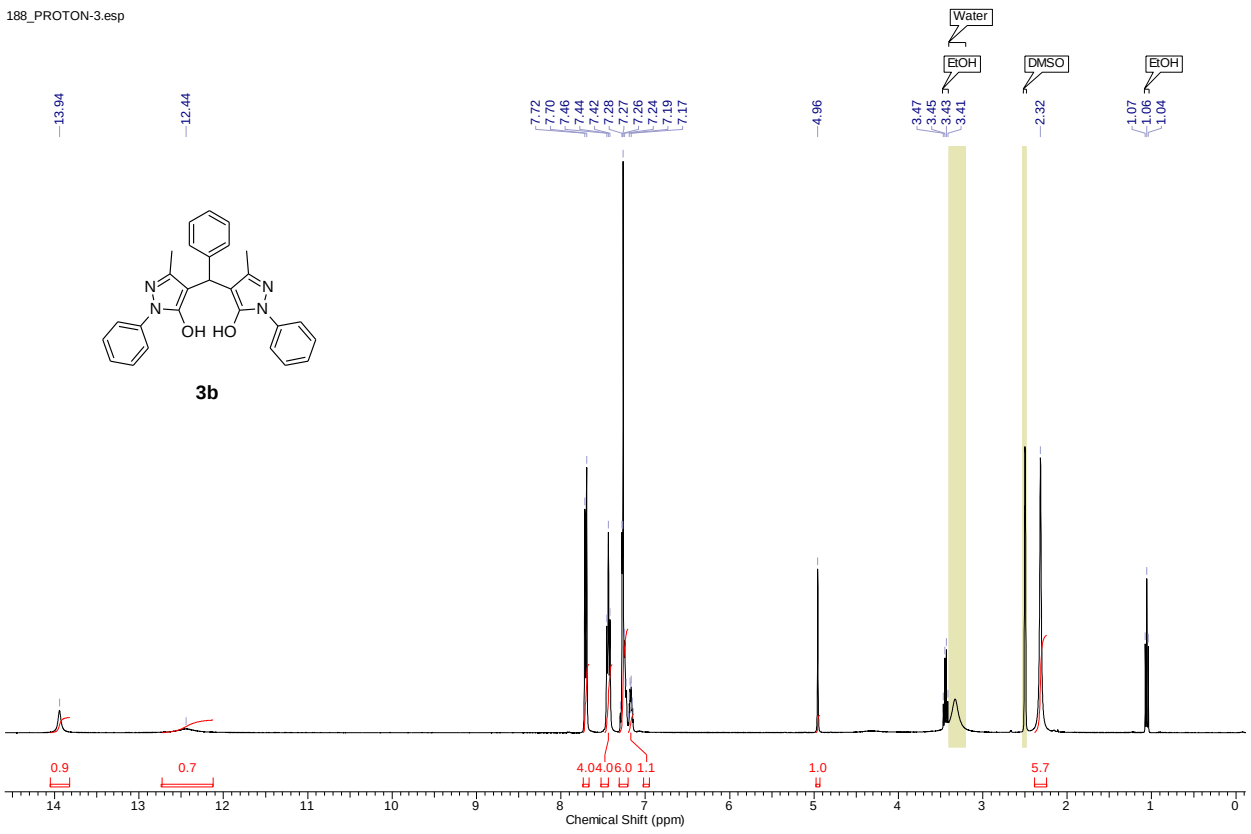

Fig. S3. ^{1}H NMR spectrum of compound **3b**.

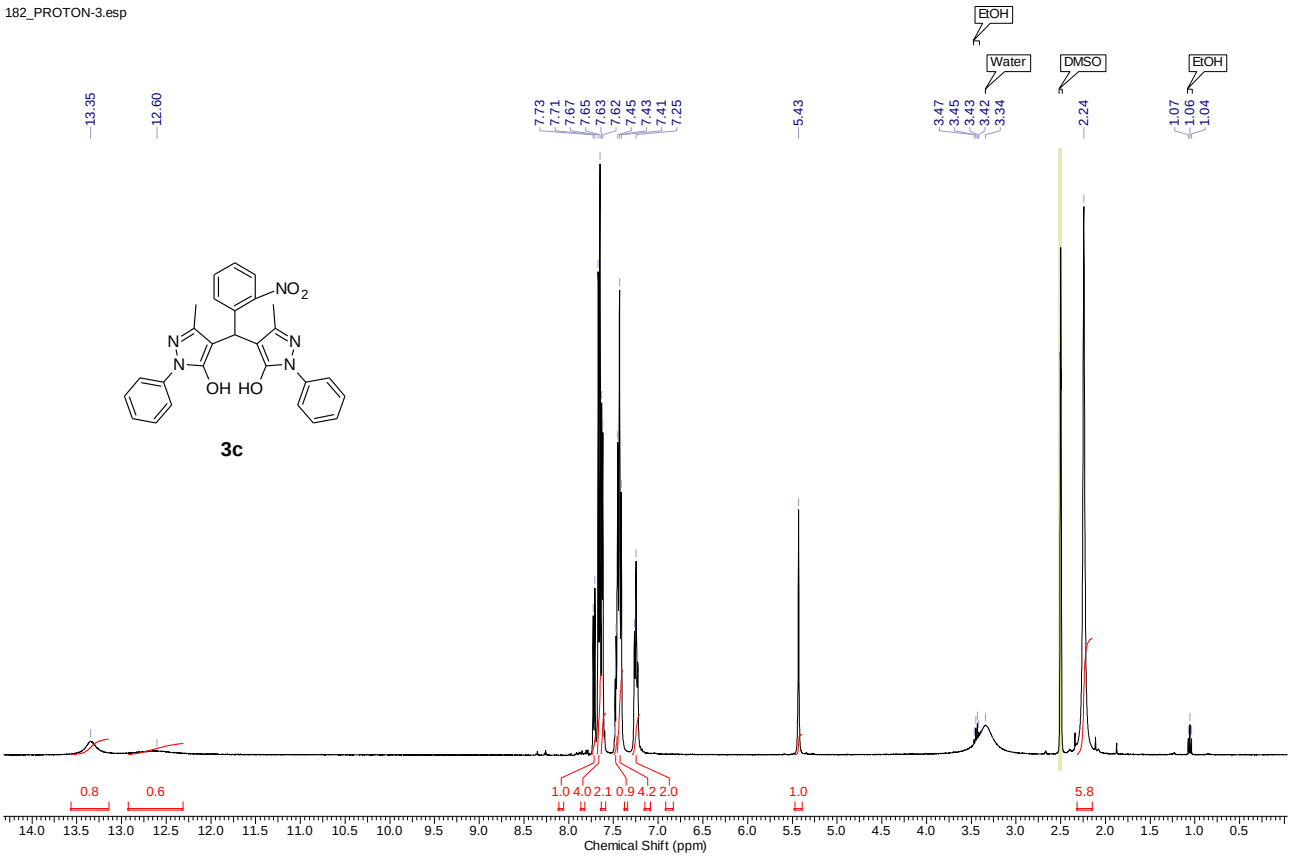

Fig. S4. ^{1}H NMR spectrum of compound **3c**.

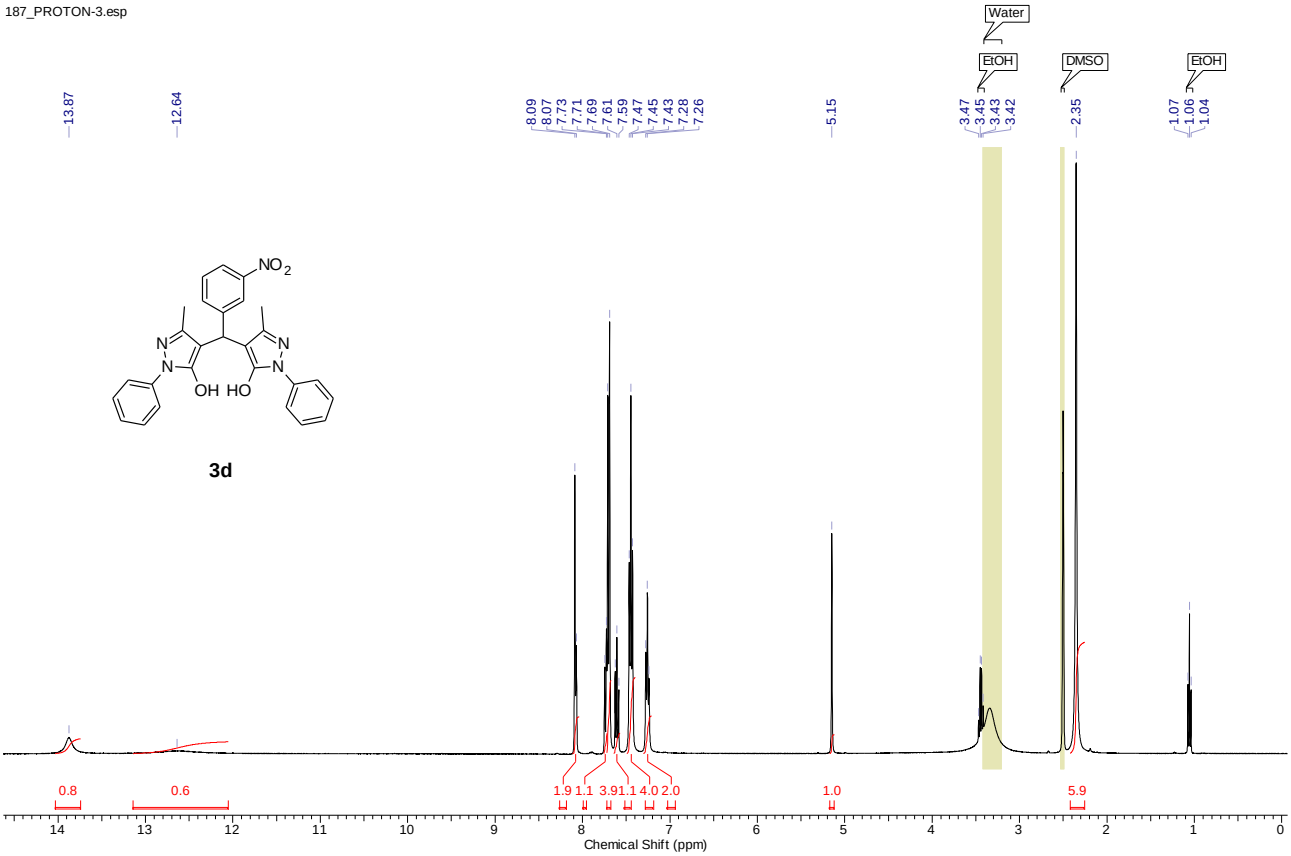

Fig. S5. ^{1}H NMR spectrum of compound **3d**.

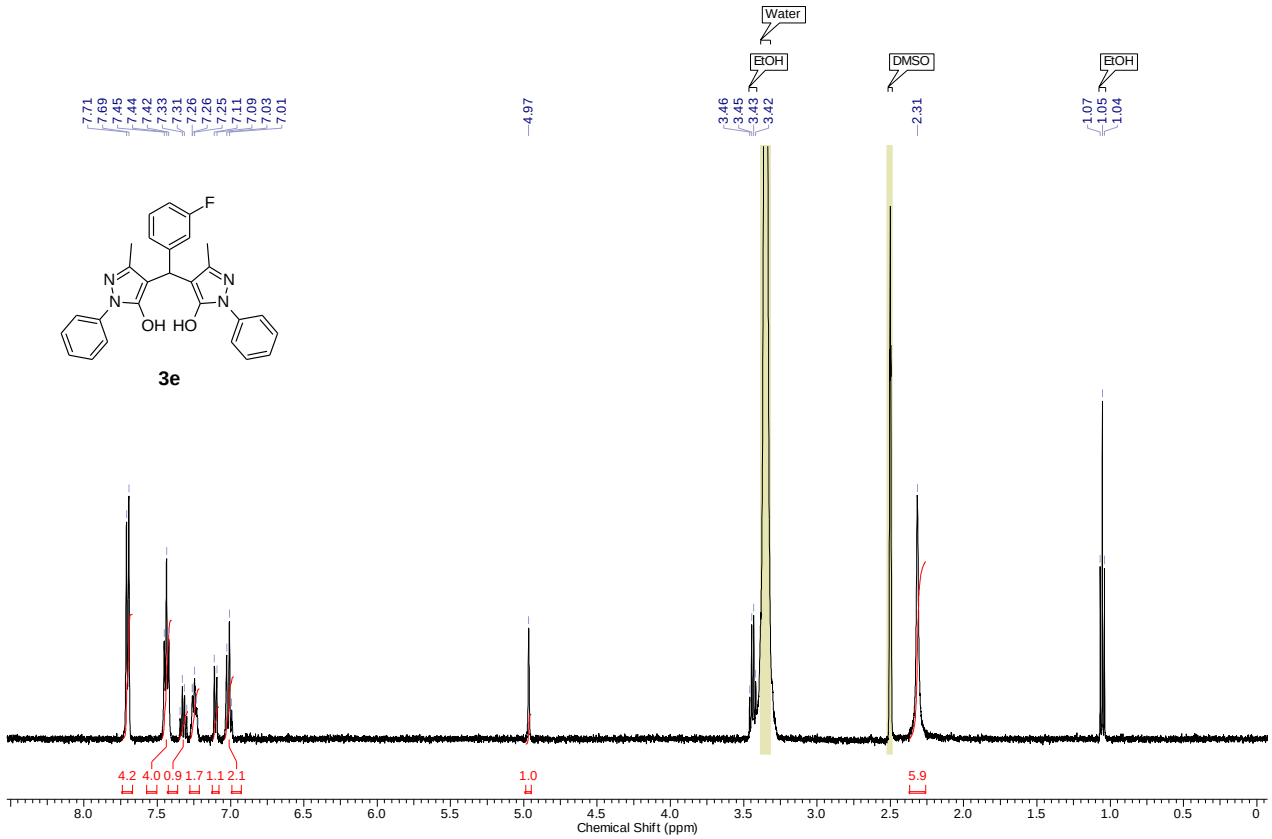

Fig. S6. ^{1}H NMR spectrum of compound **3e**.

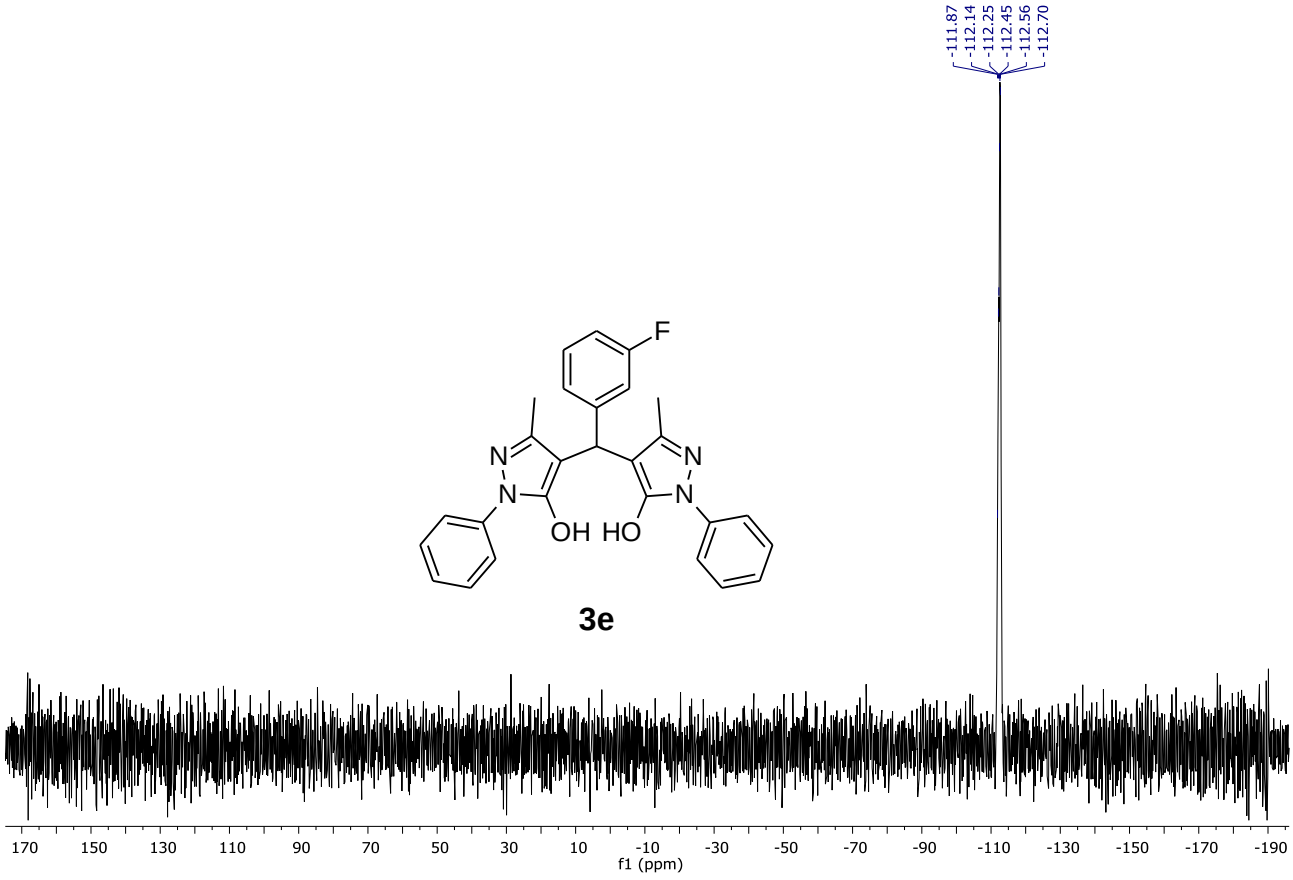

Fig. S7. ^{19}F NMR spectrum of compound **2e**.

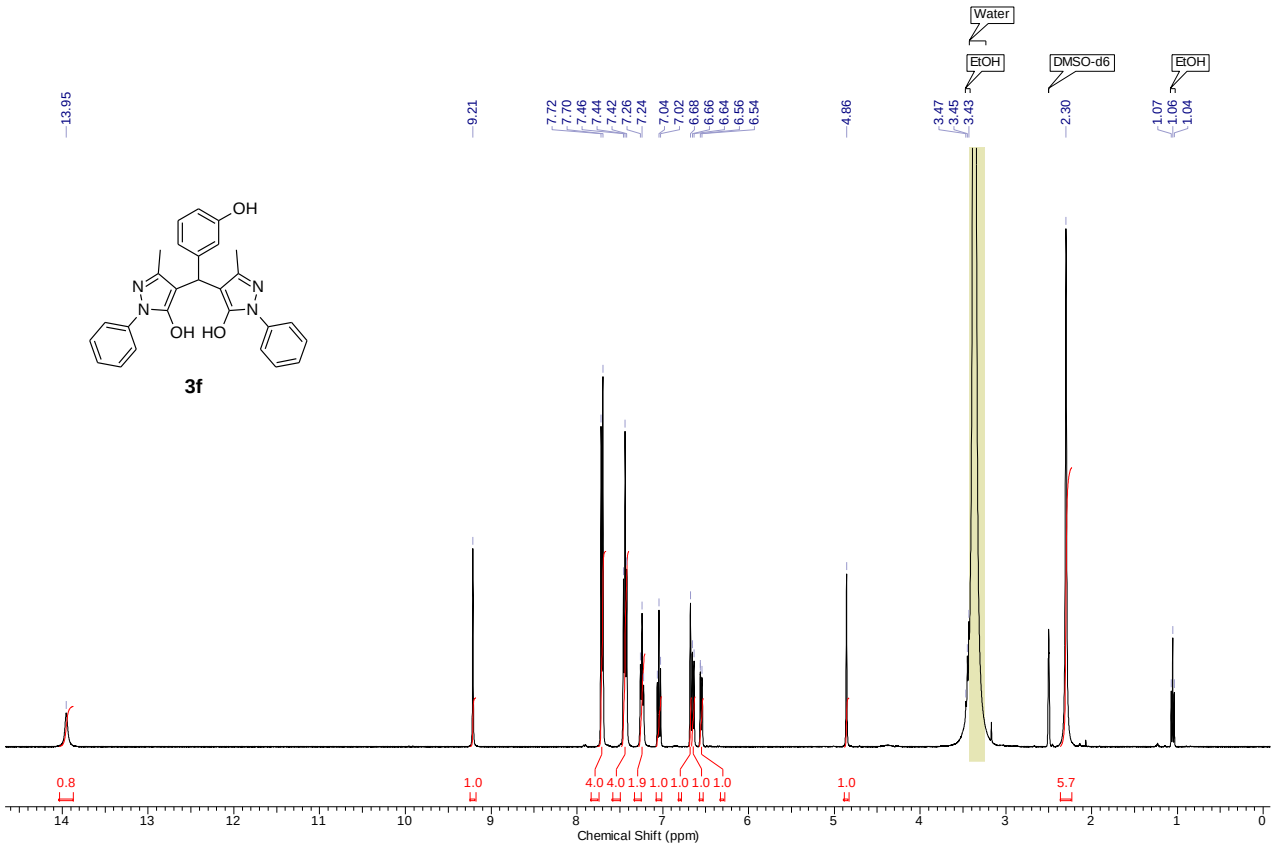

Fig. S8. ^{1}H NMR spectrum of compound **3f**.

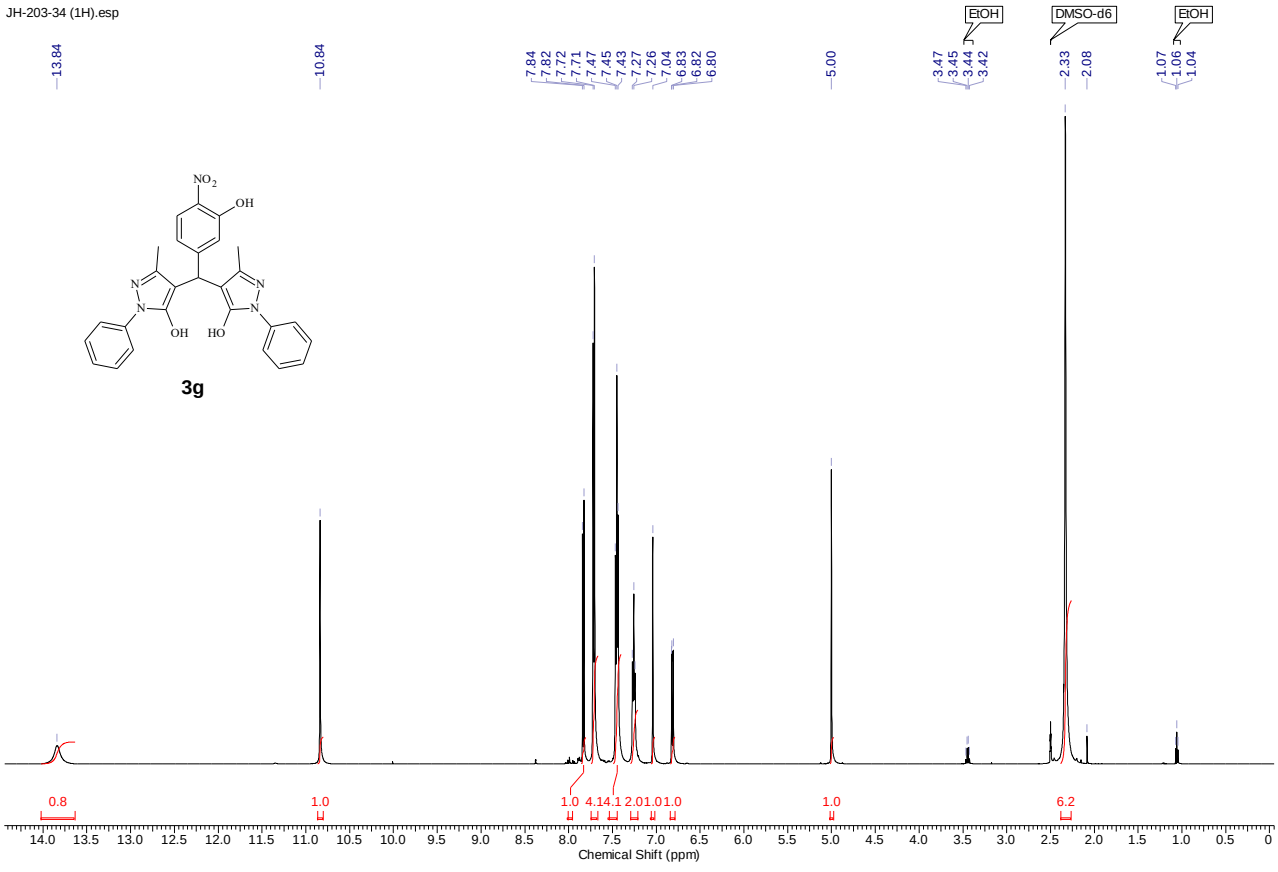

Fig. S9. ^{1}H NMR spectrum of compound **3g**.

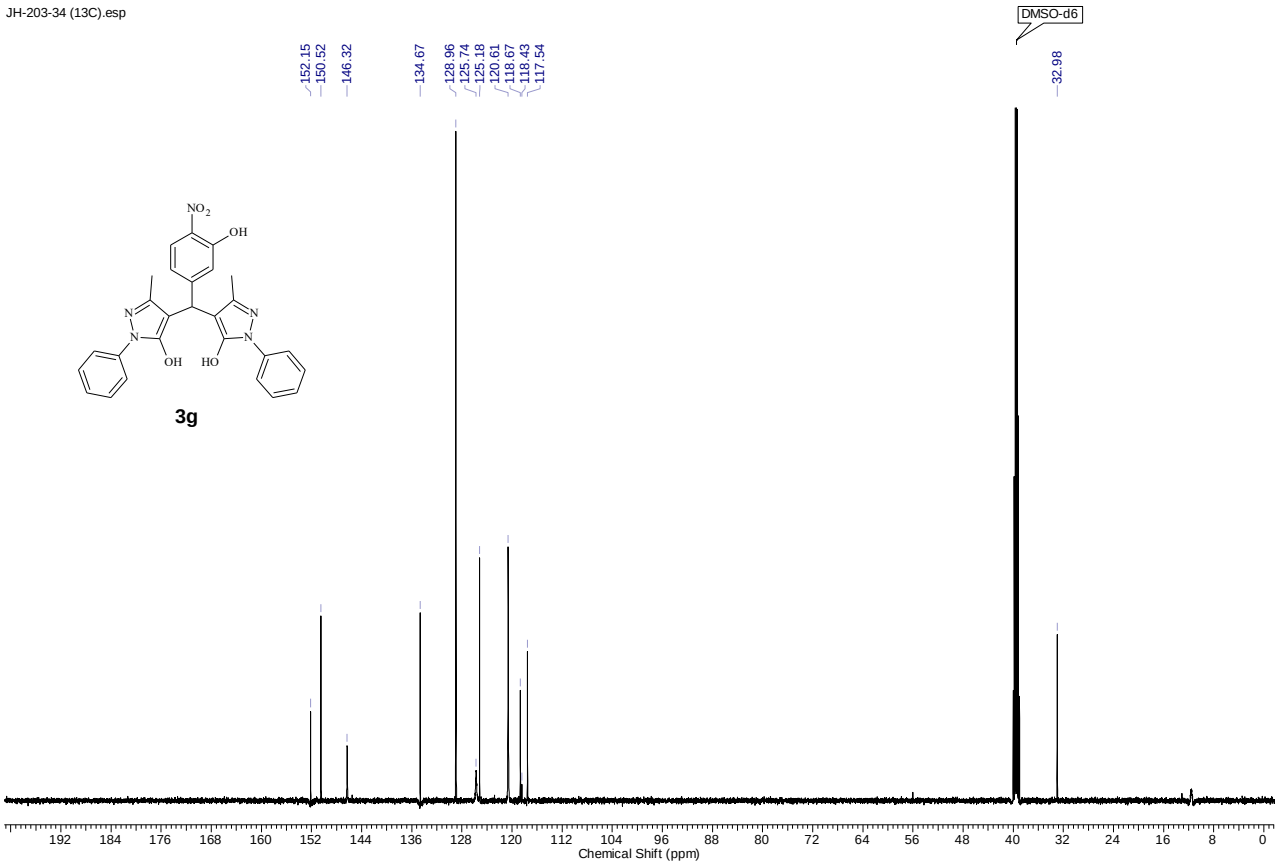

Fig. S10. ^{13}C NMR spectrum of compound **3g**.

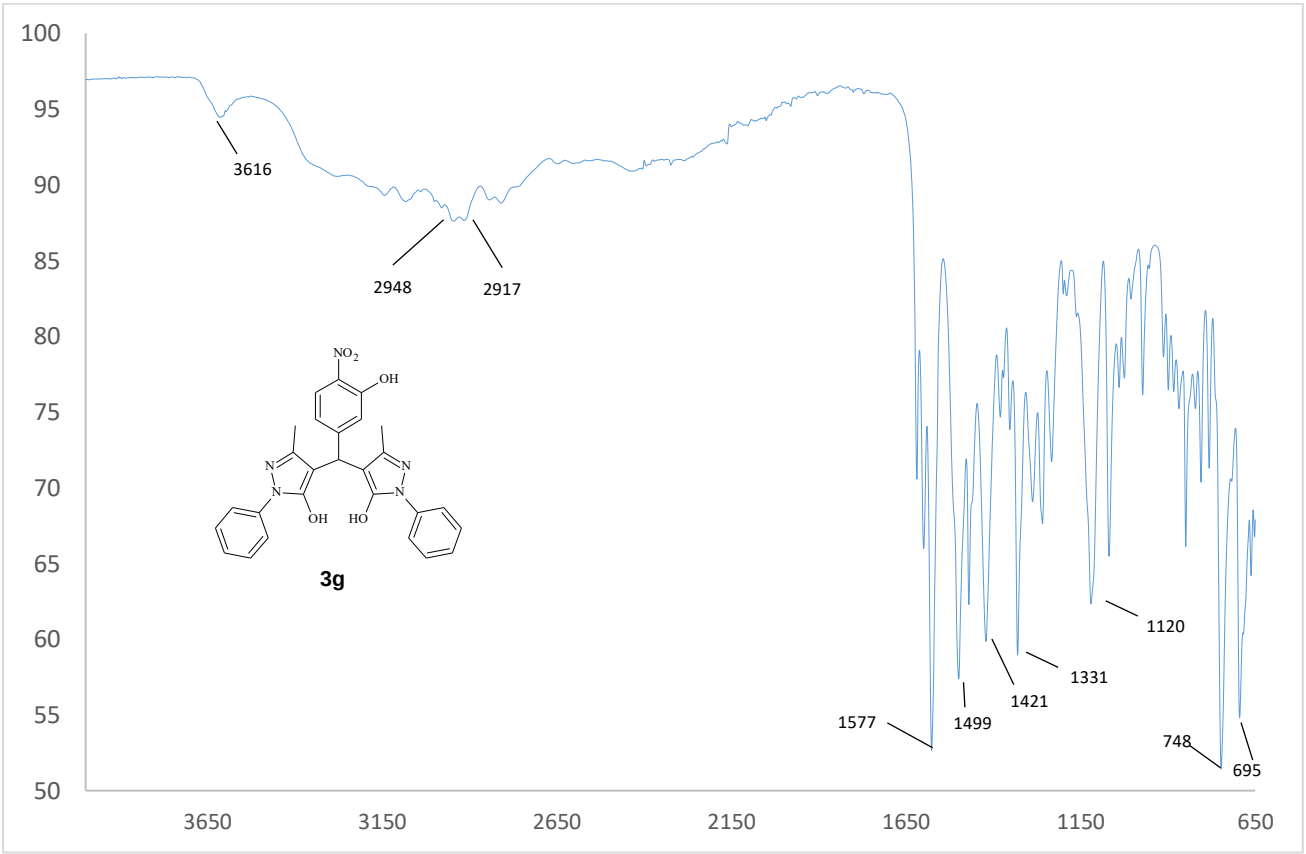

Fig. S11. FTIR spectrum of compound **3g**.

Acquisition Parameter

Ion Source Type	ESI	Ion Polarity	Positive	Alternating Ion Polarity	off
Mass Range Mode	UltraScan	Scan Begin	200 m/z	Scan End	600 m/z
Accumulation Time	2662 µs	RF Level	63 %	Trap Drive	54.1
SPS Target Mass	400 m/z	Averages	5 Spectra	n/a	n/a

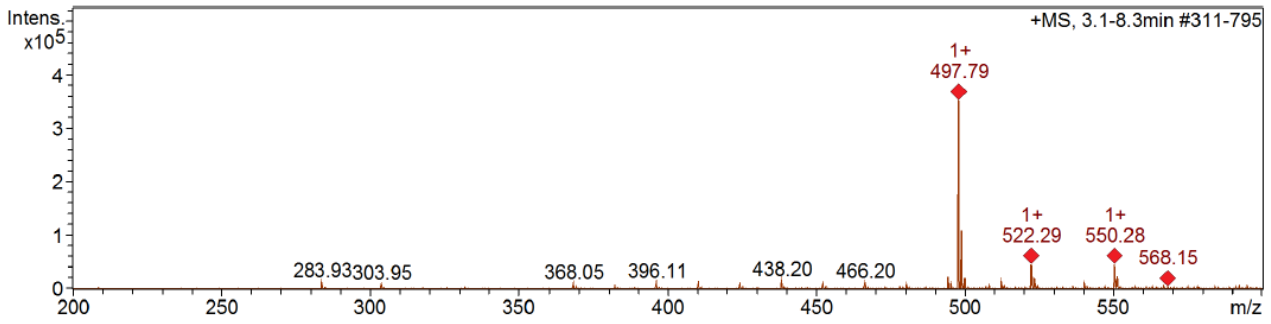

Fig. S12. ESI-MS spectrum of compound **3g**.

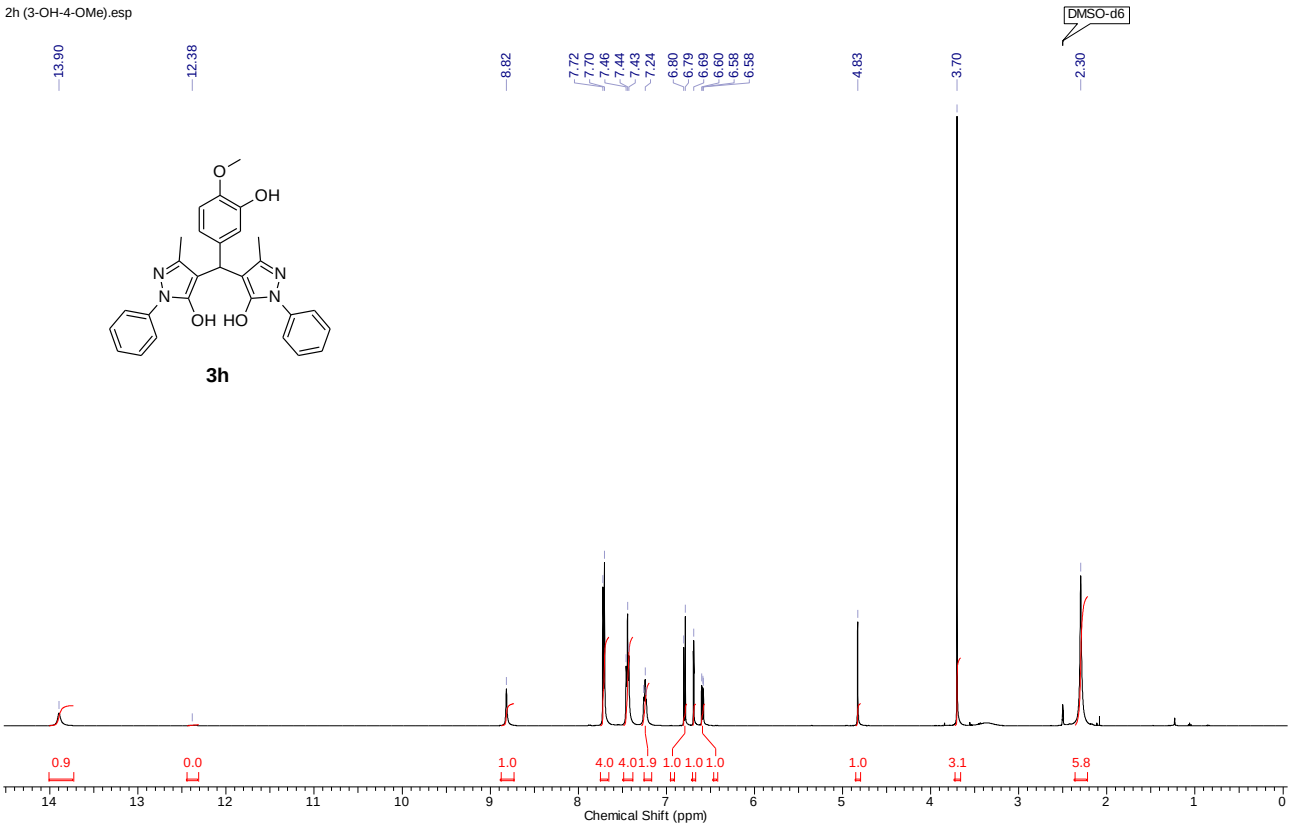

Fig. S13. ^{1}H NMR spectrum of compound **3h**.

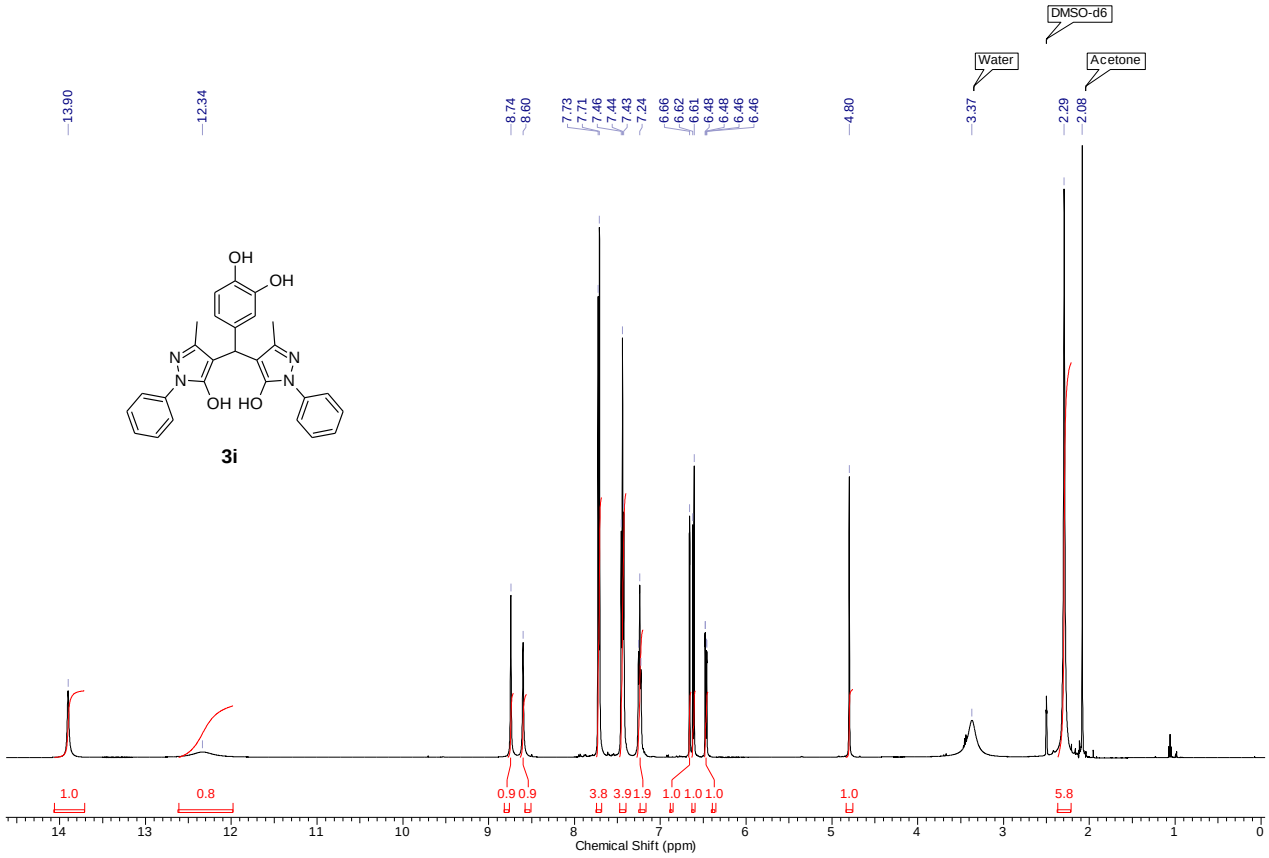

Fig. S14. ^{1}H NMR spectrum of compound **3i**.

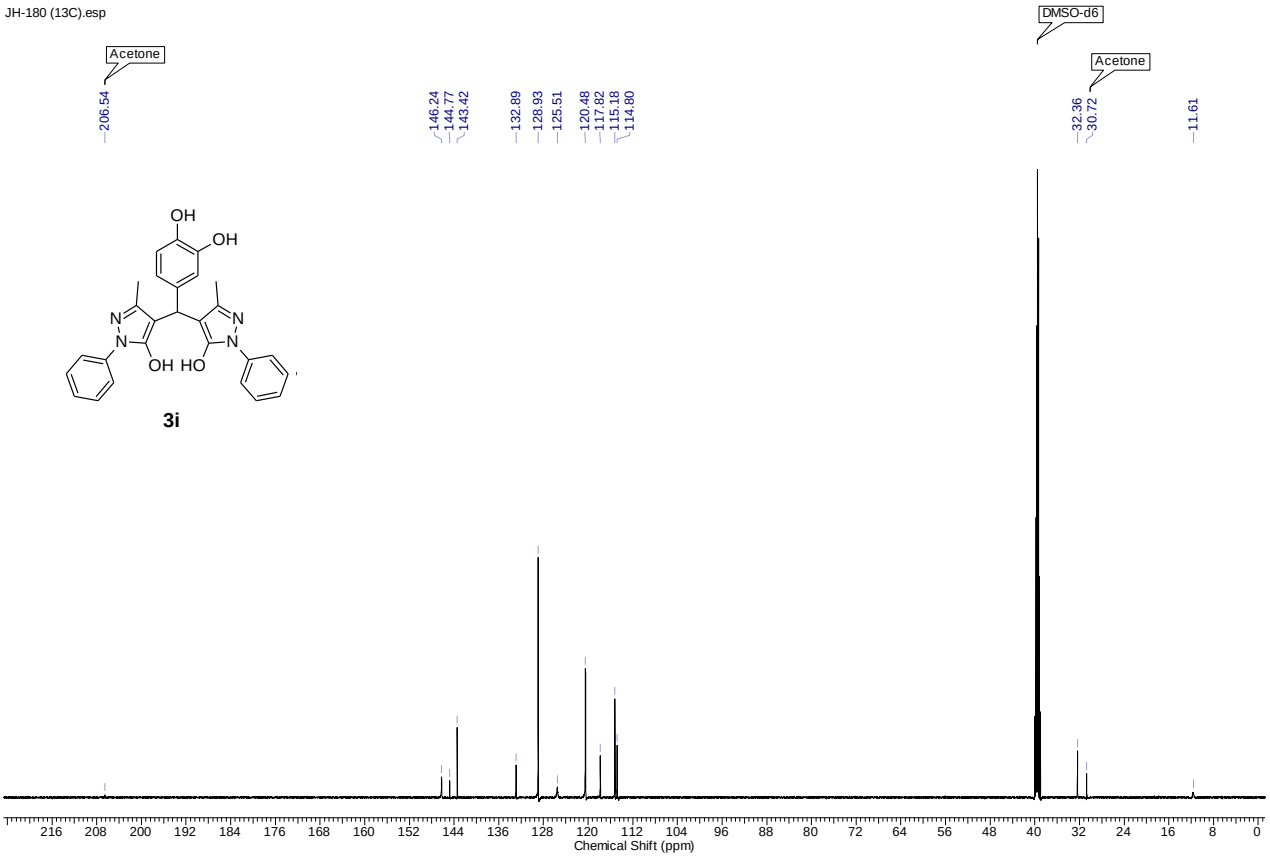

Fig. S15. ^{13}C NMR spectrum of compound **3i**.

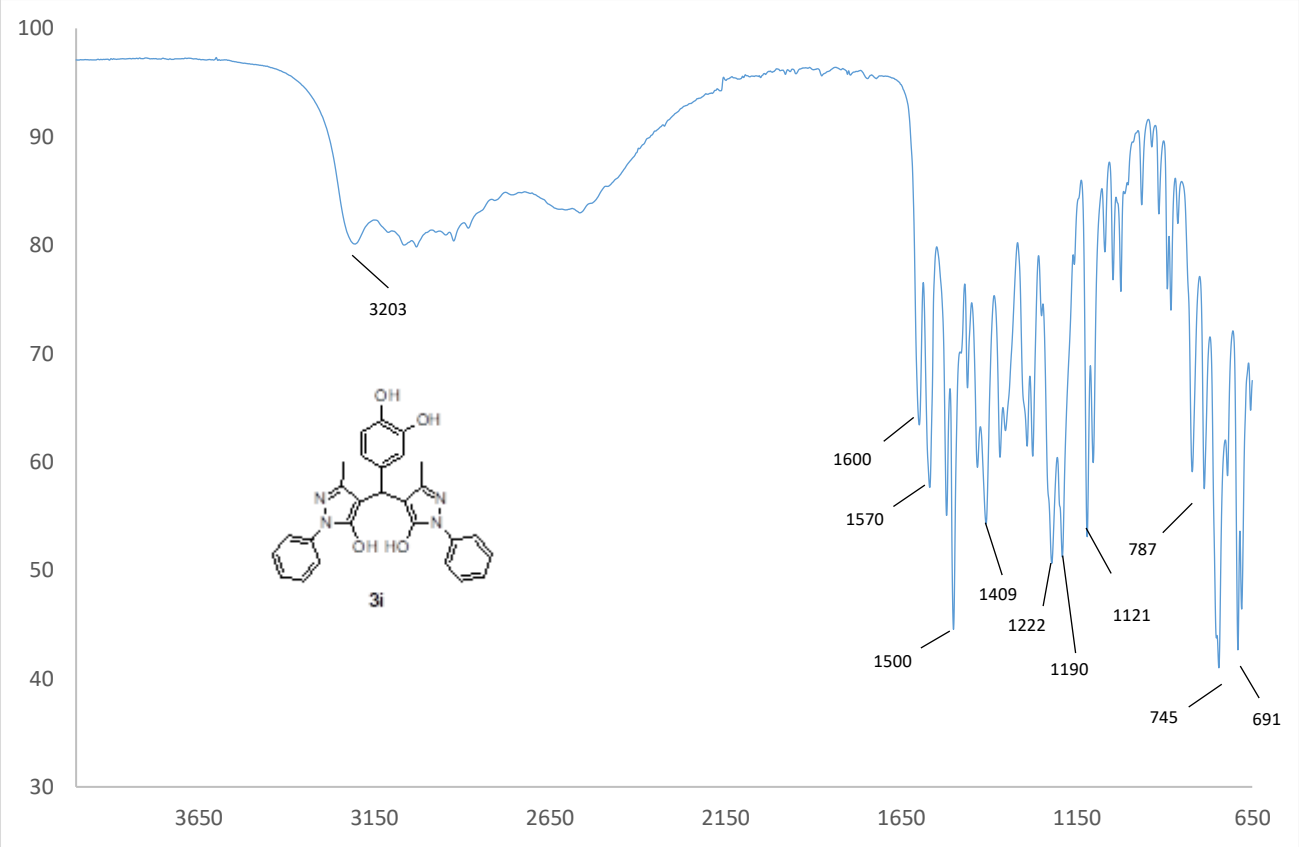

Fig. S16. FTIR spectrum of compound **3i**.

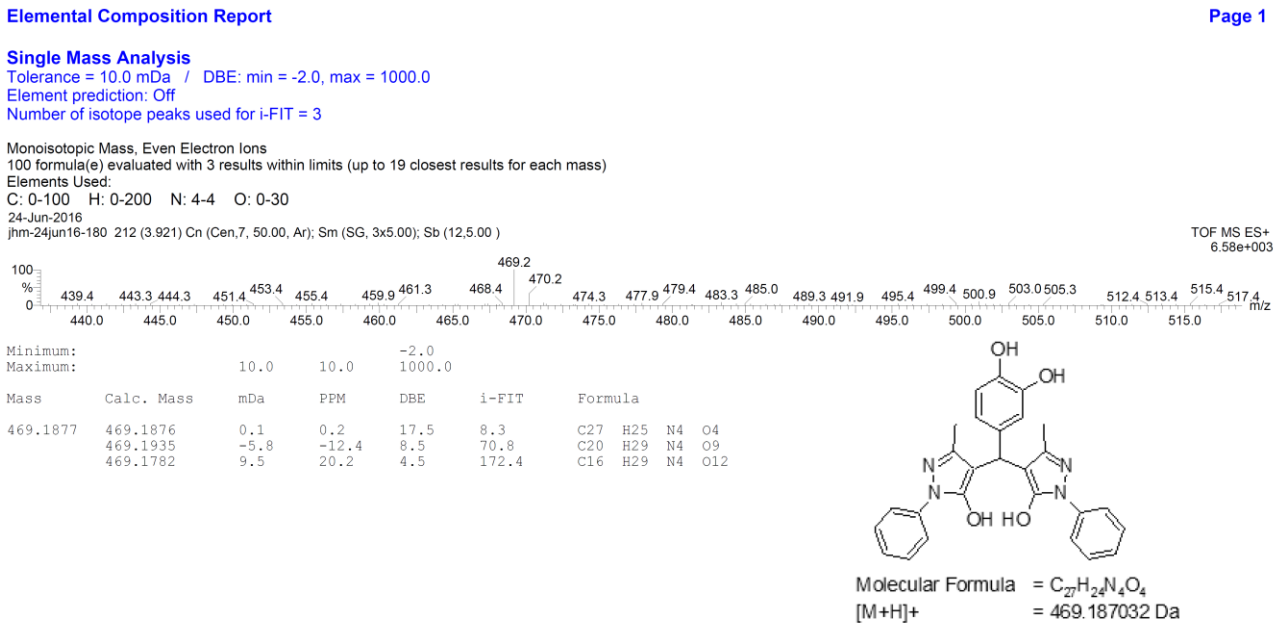

Fig. S17. HRMS spectrum of compound **3i**.

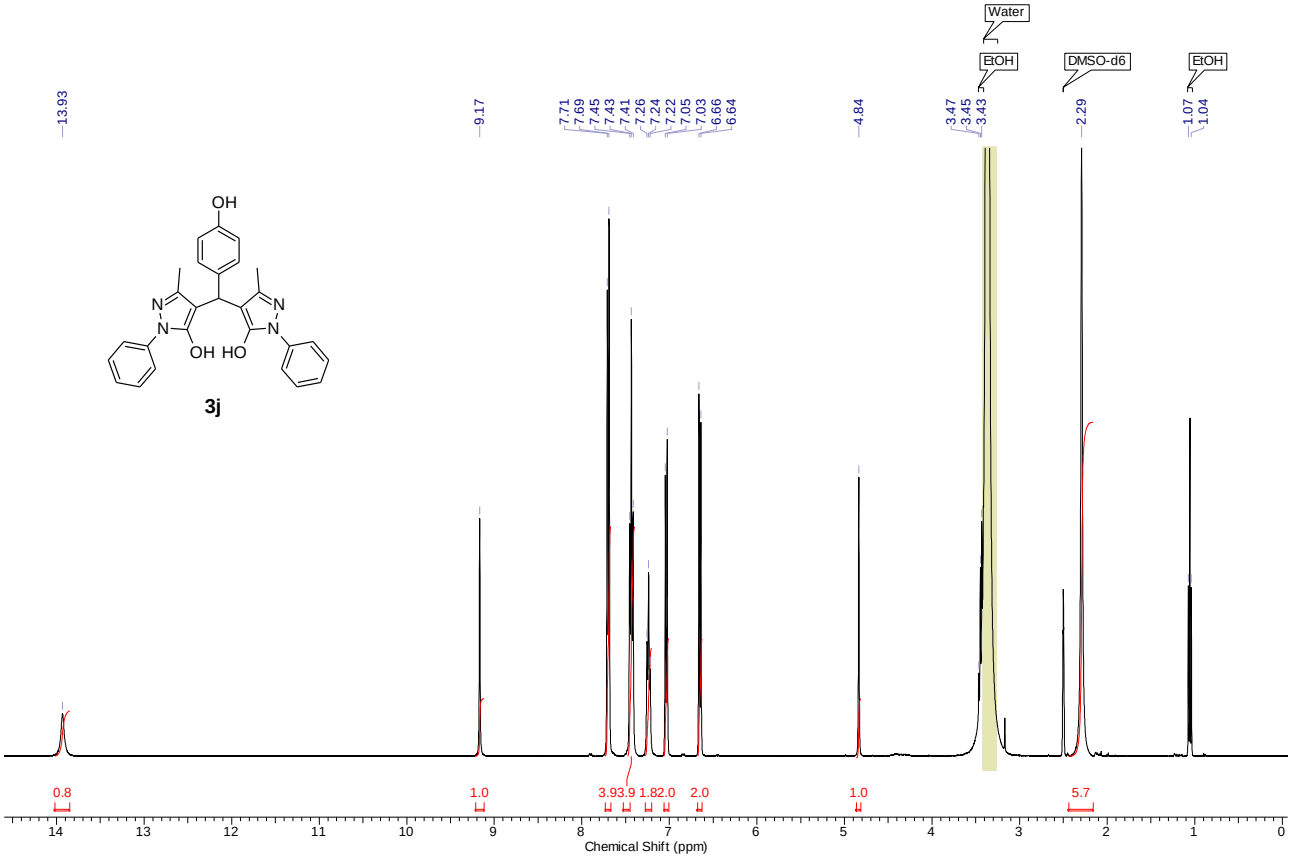

Fig. S18. ^{1}H NMR spectrum of compound **3j**.

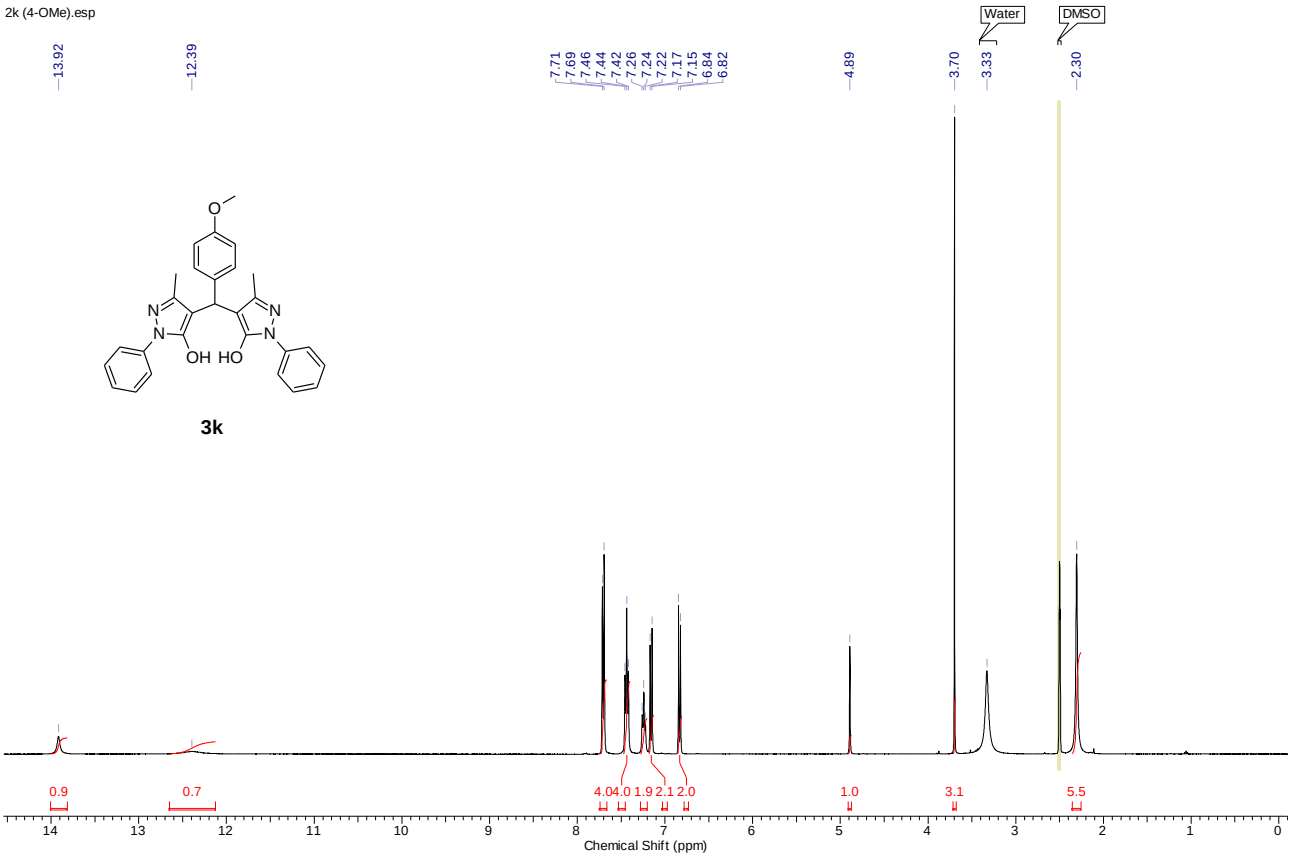

Fig. S19. ^{1}H NMR spectrum of compound **3k**.

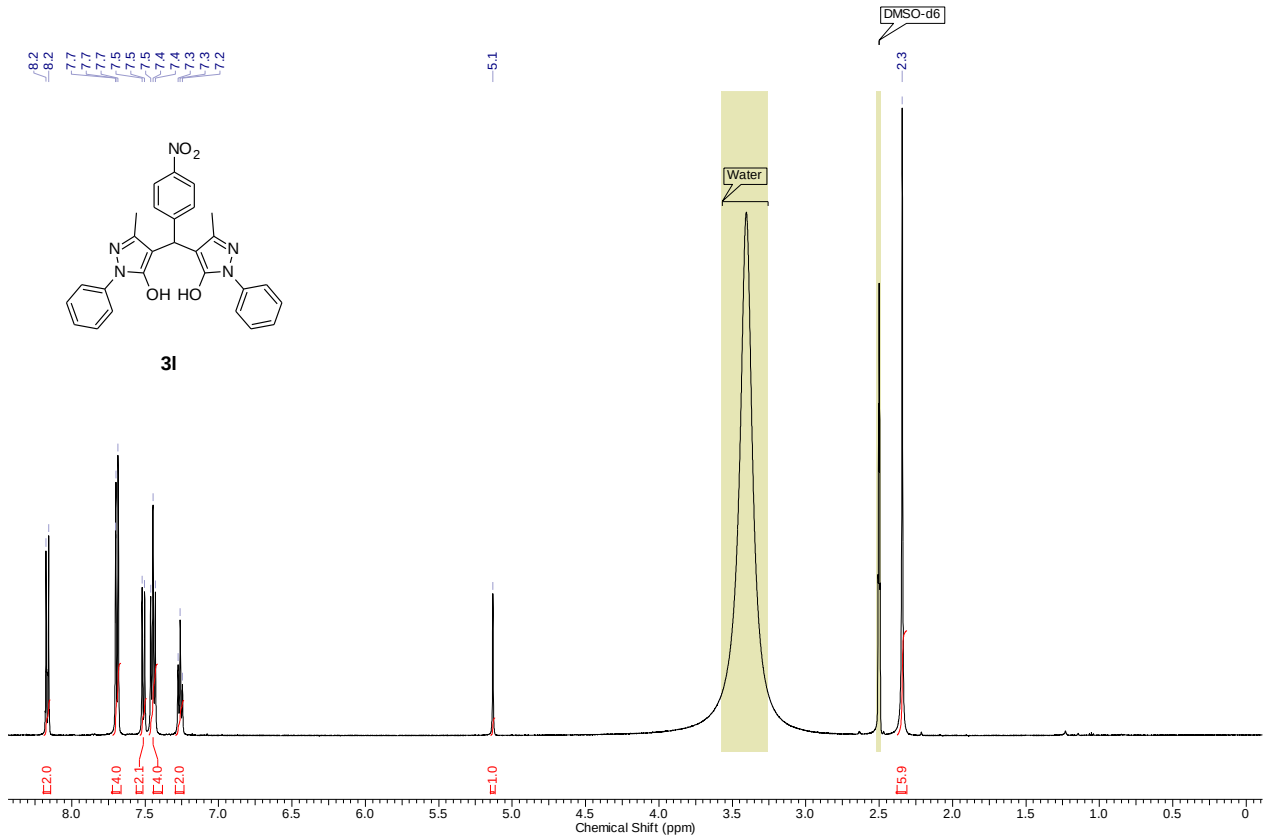

Fig. S20. ^{1}H NMR spectrum of compound **3l**.

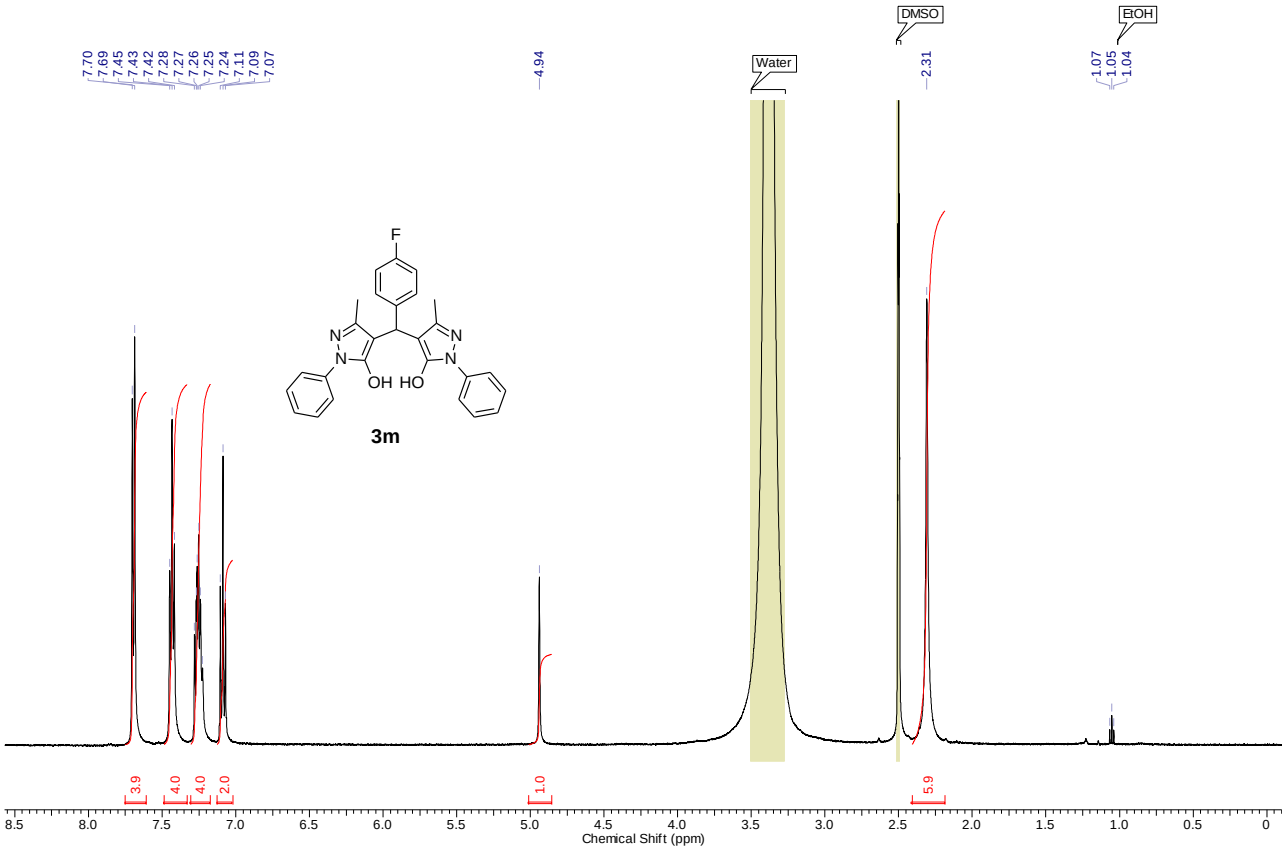

Fig. S21. ^{1}H NMR spectrum of compound **3m**.

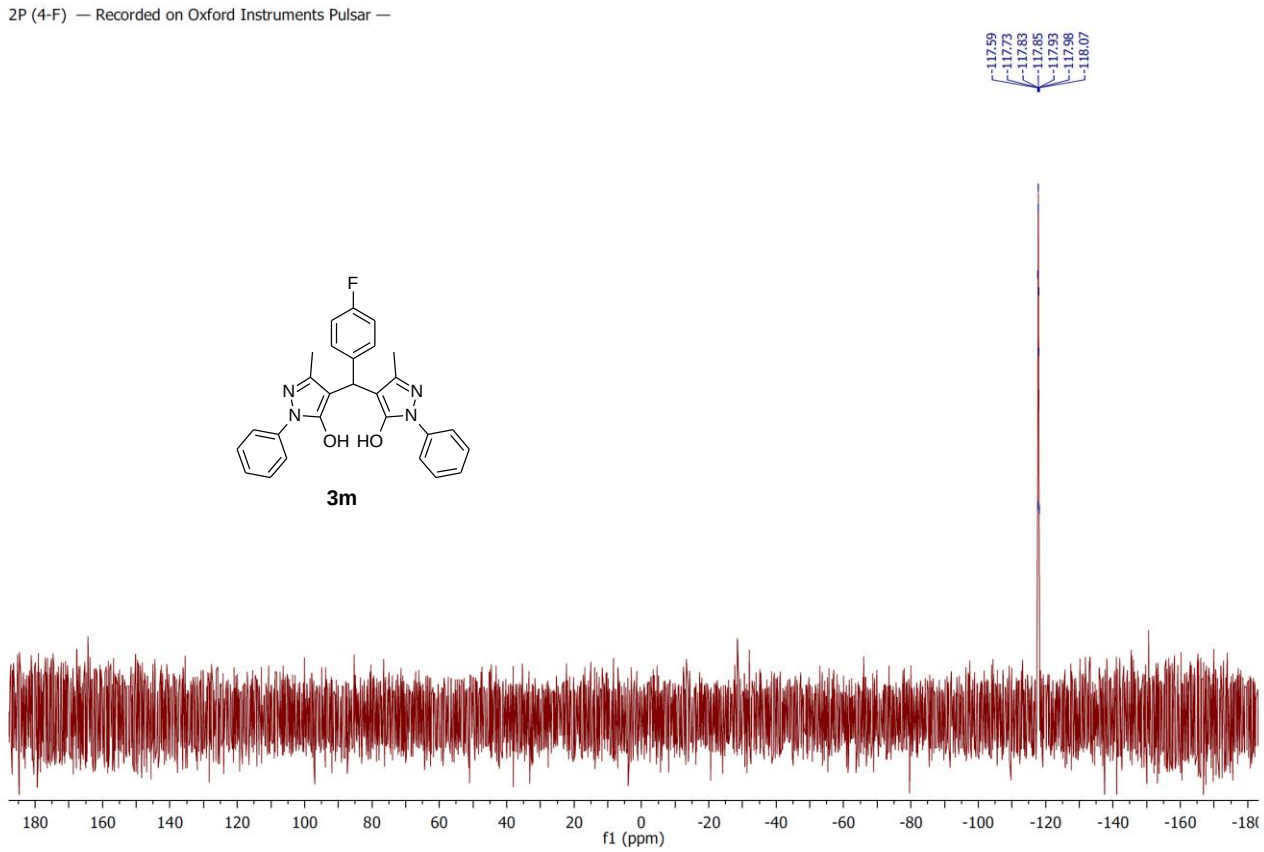

Fig. S22. ^{19}F NMR spectrum of compound **3m**.

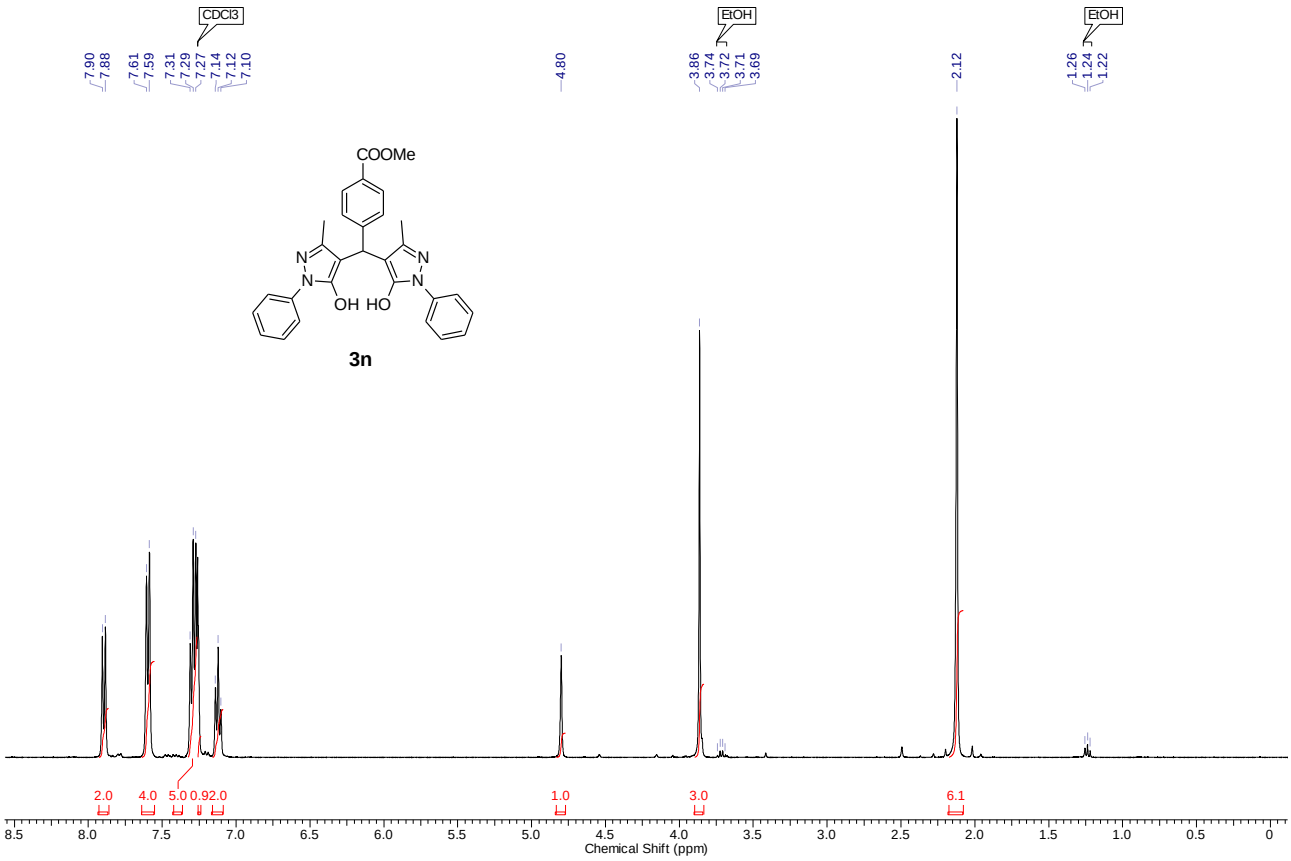

Fig. S23. ^{1}H NMR spectrum of compound **3n**.

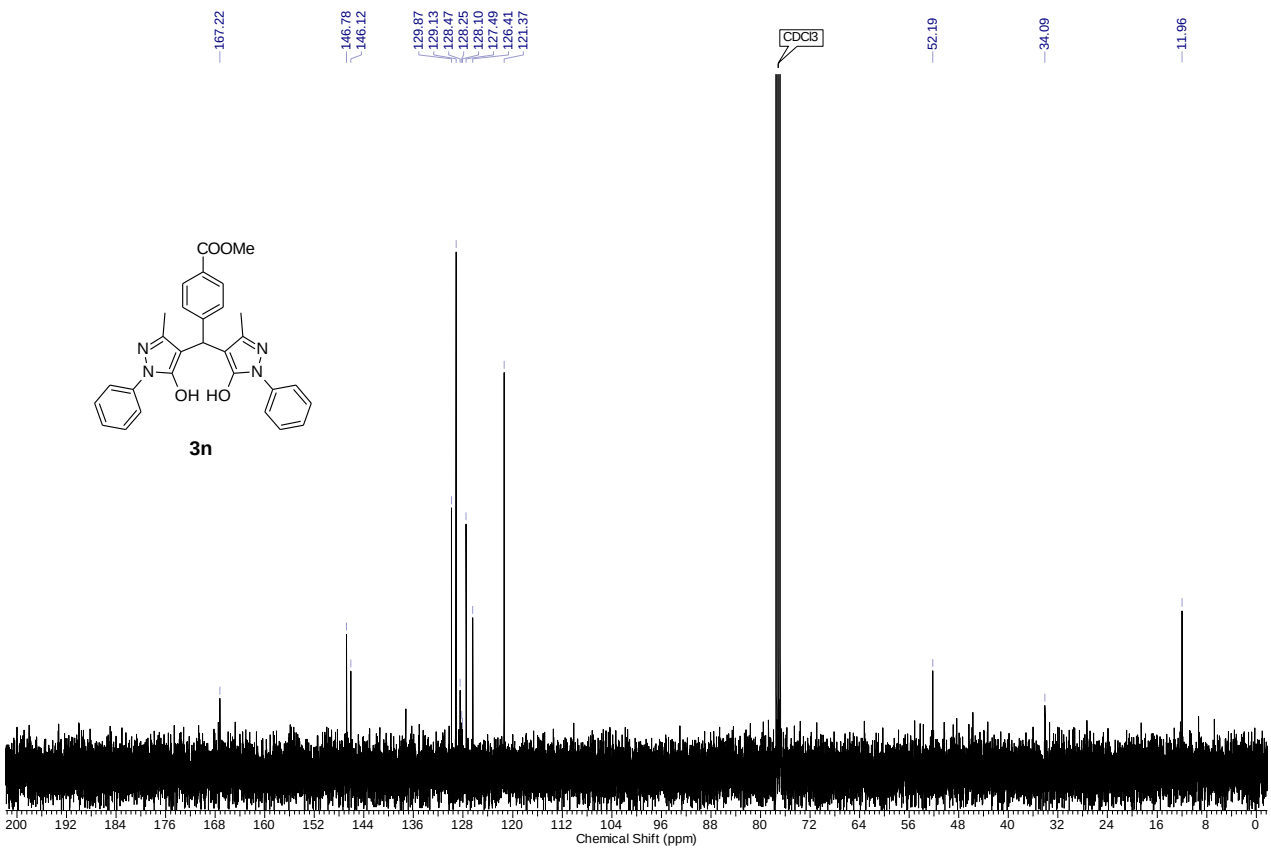

Fig. S24. ^{13}C NMR spectrum of compound **3n**.

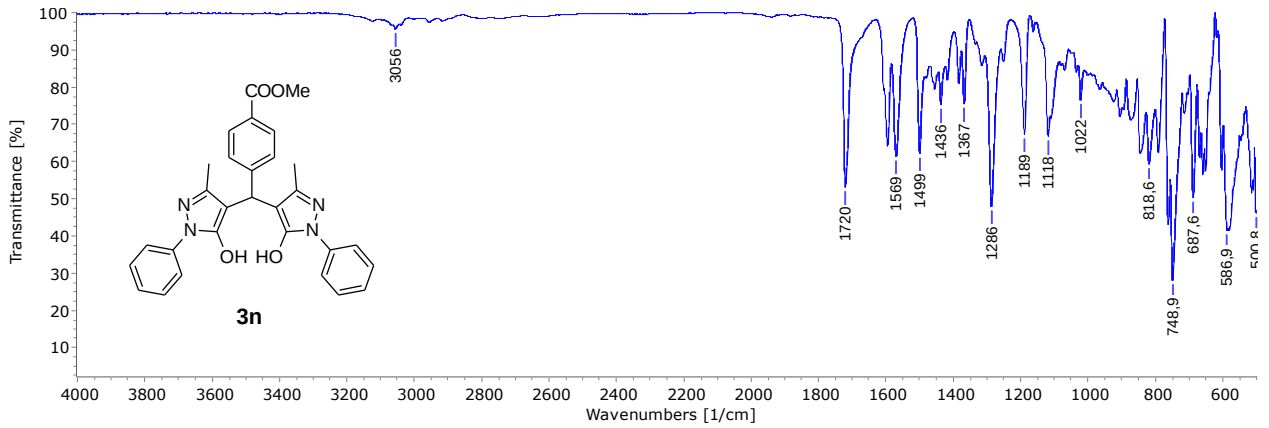

Fig. S25. FTIR spectrum of compound **3n**.

Acquisition Parameter

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Mass Range Mode	UltraScan	Scan Begin	200 m/z	Scan End	600 m/z
Accumulation Time	100000 µs	RF Level	63 %	Trap Drive	54.1
SPS Target Mass	400 m/z	Averages	5 Spectra	n/a	n/a

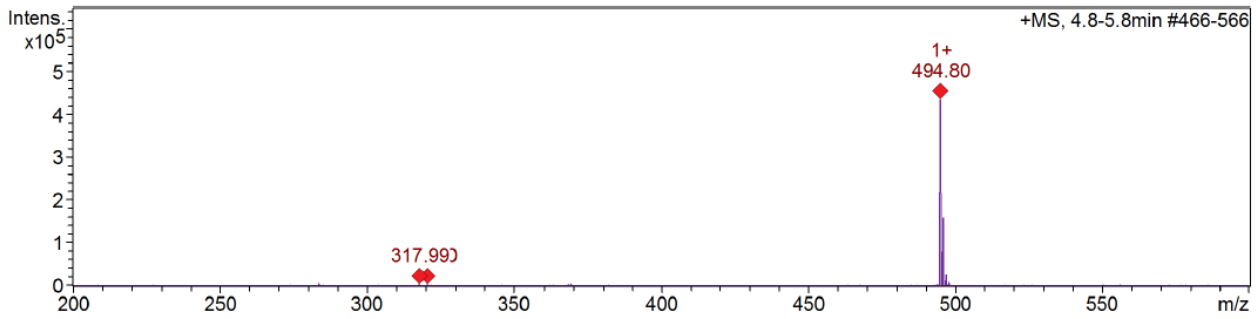

Fig. S26. ESI-MS spectrum of compound **3n**.

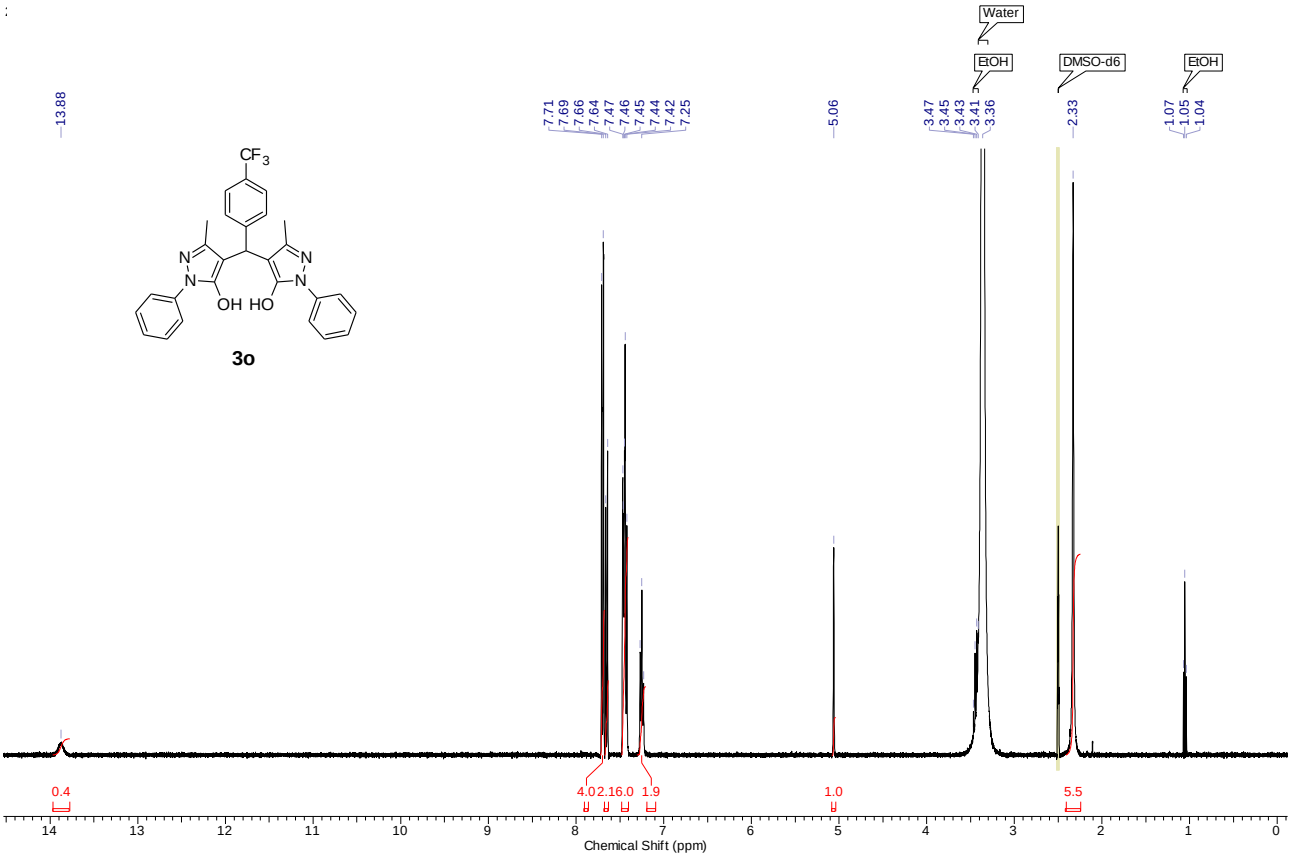

Fig. S27. ^{1}H NMR spectrum of compound **3o**.

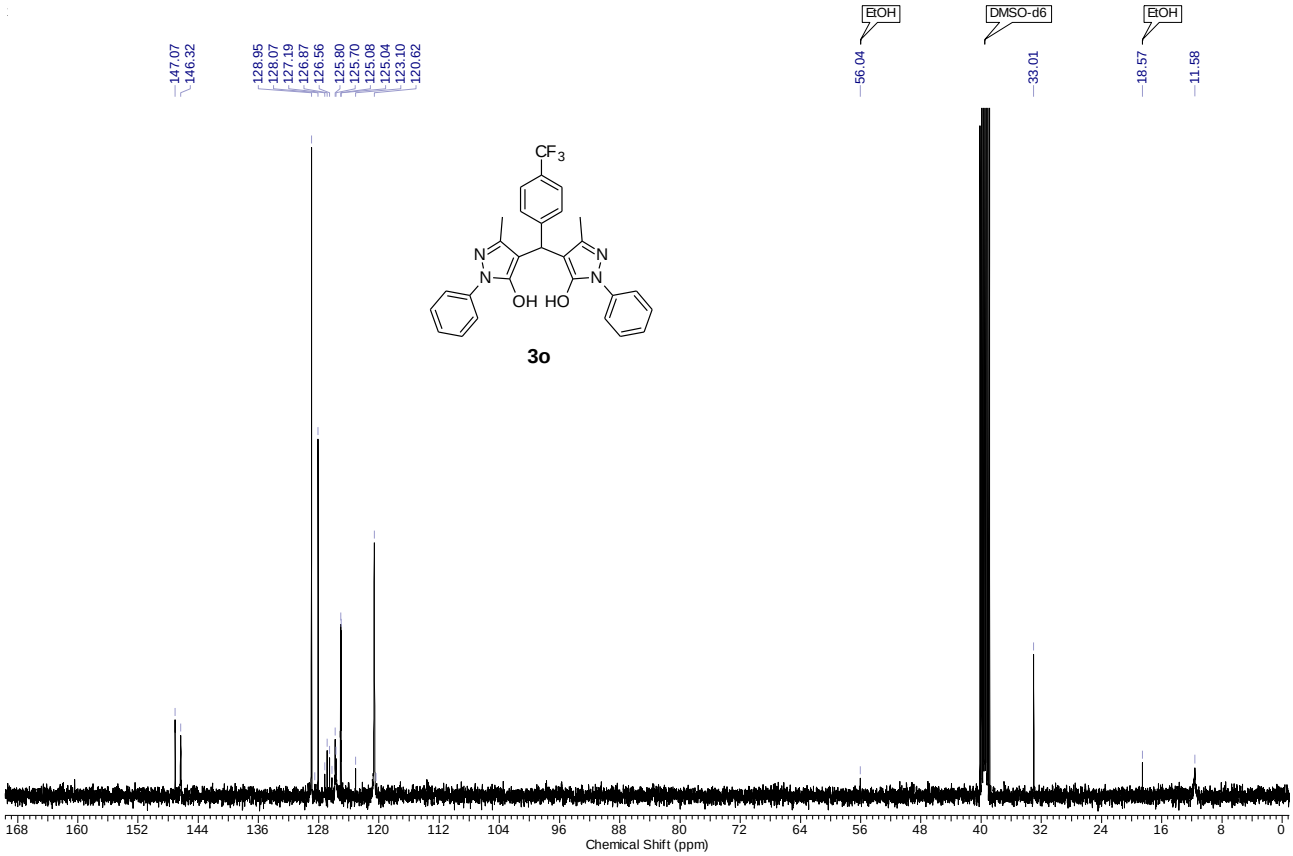

Fig. S28. ^{13}C NMR spectrum of compound **3o**.

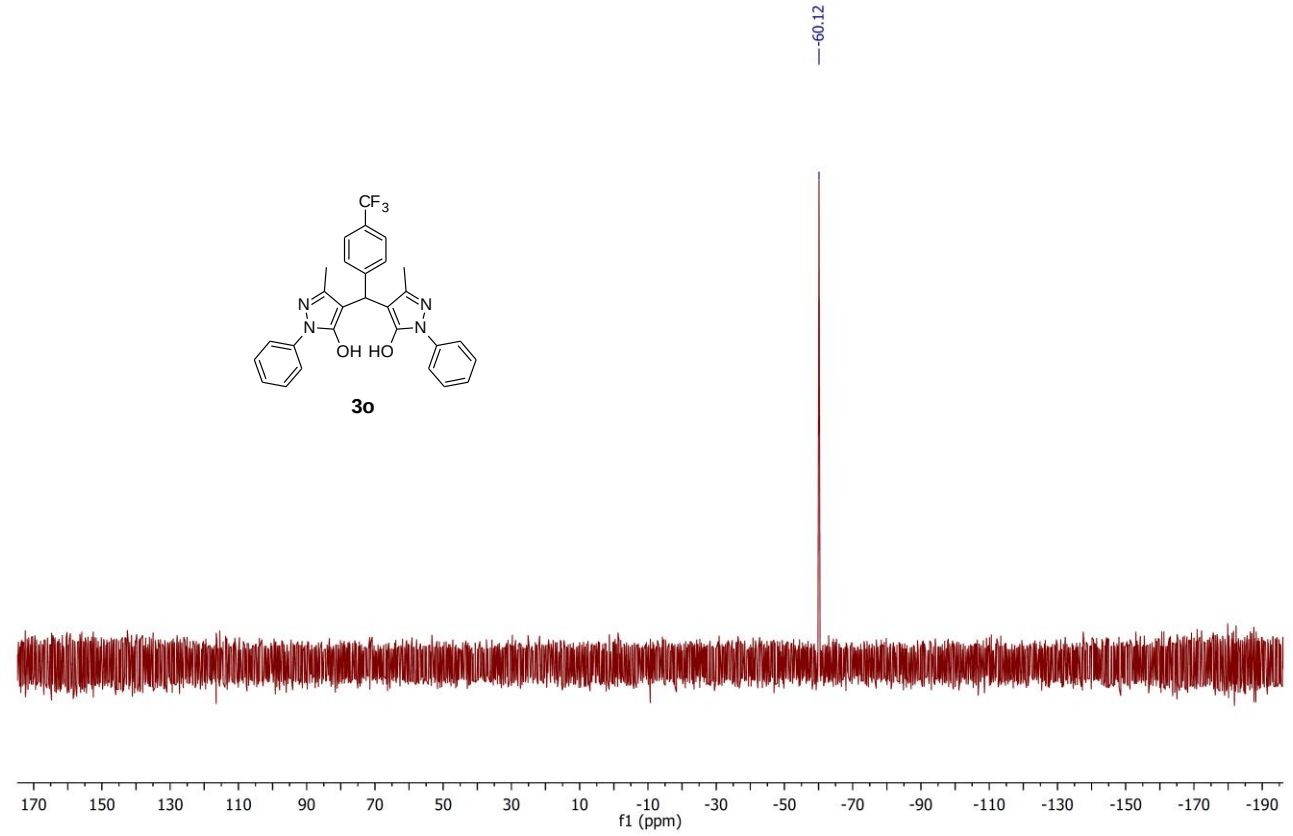

Fig. S29. ^{19}F NMR spectrum of compound **3o**.

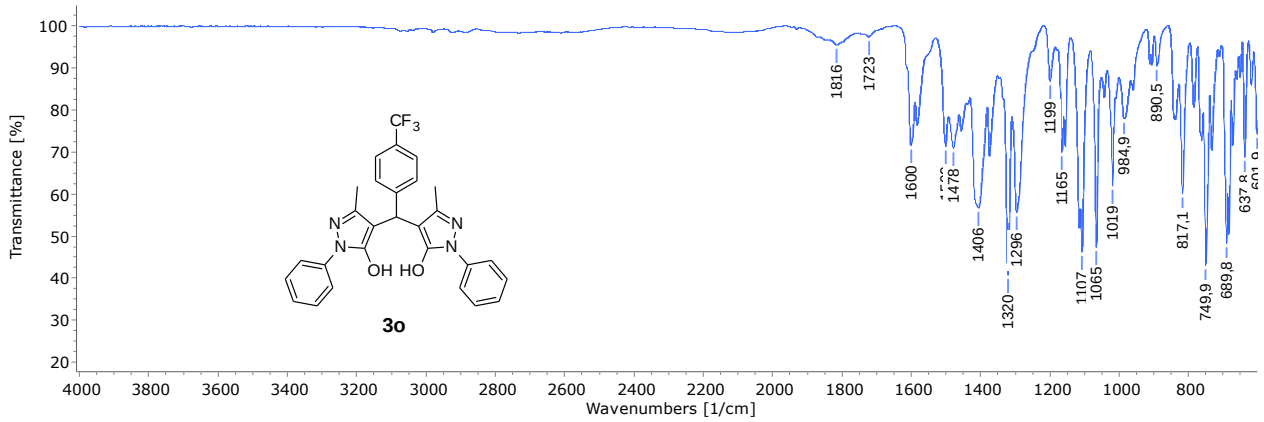

Fig. S30. FTIR spectrum of compound **3o**.

Acquisition Parameter

Ion Source Type	ESI	Ion Polarity	Positive	Alternating Ion Polarity	off
Mass Range Mode	UltraScan	Scan Begin	200 m/z	Scan End	600 m/z
Accumulation Time	517 µs	RF Level	63 %	Trap Drive	54.1
SPS Target Mass	400 m/z	Averages	5 Spectra	n/a	n/a

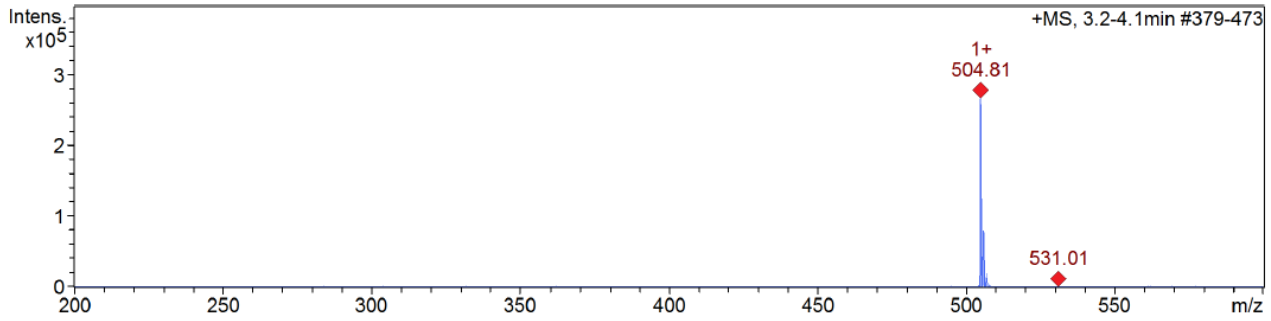

Fig. S31. ESI-MS spectrum of compound **3o**.

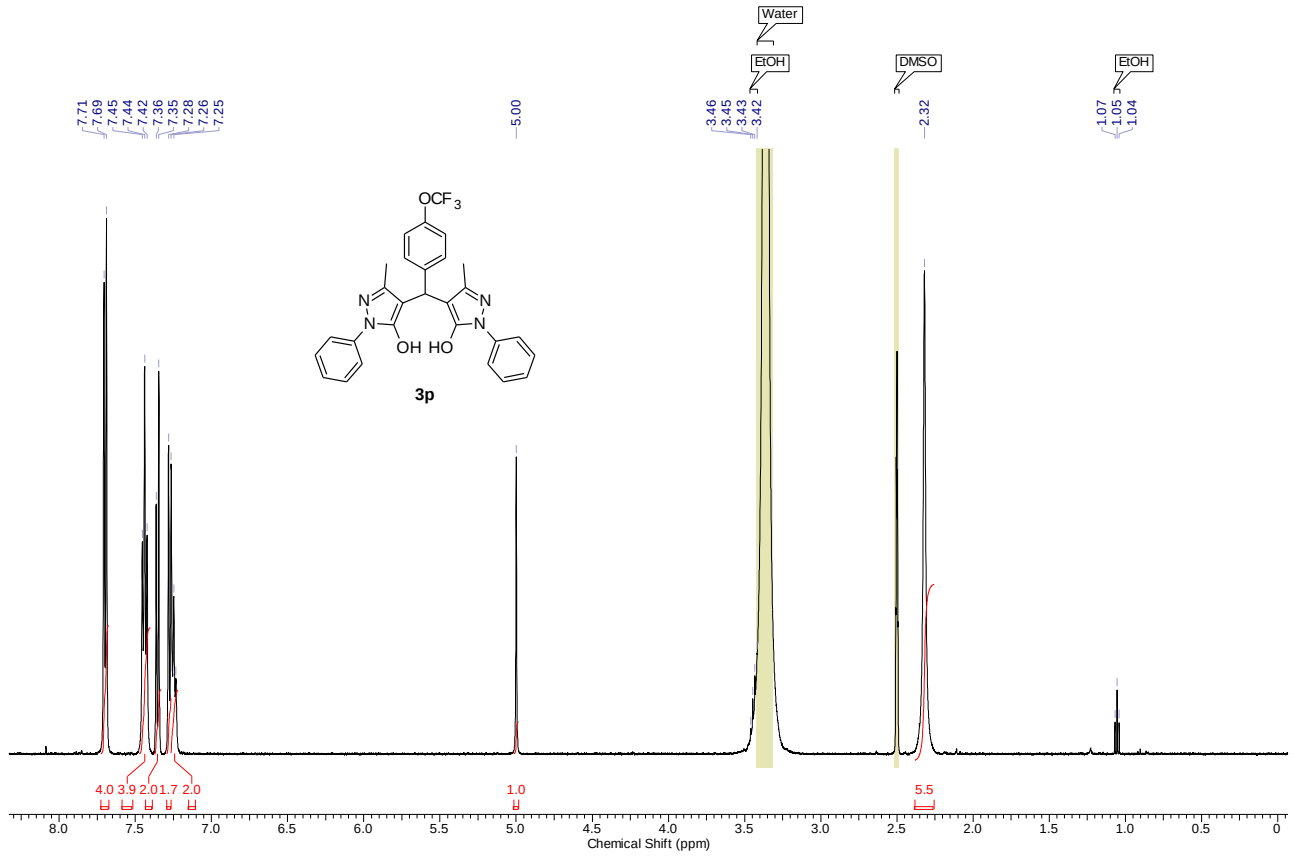

Fig. S32. ^{1}H NMR spectrum of compound **3p**.

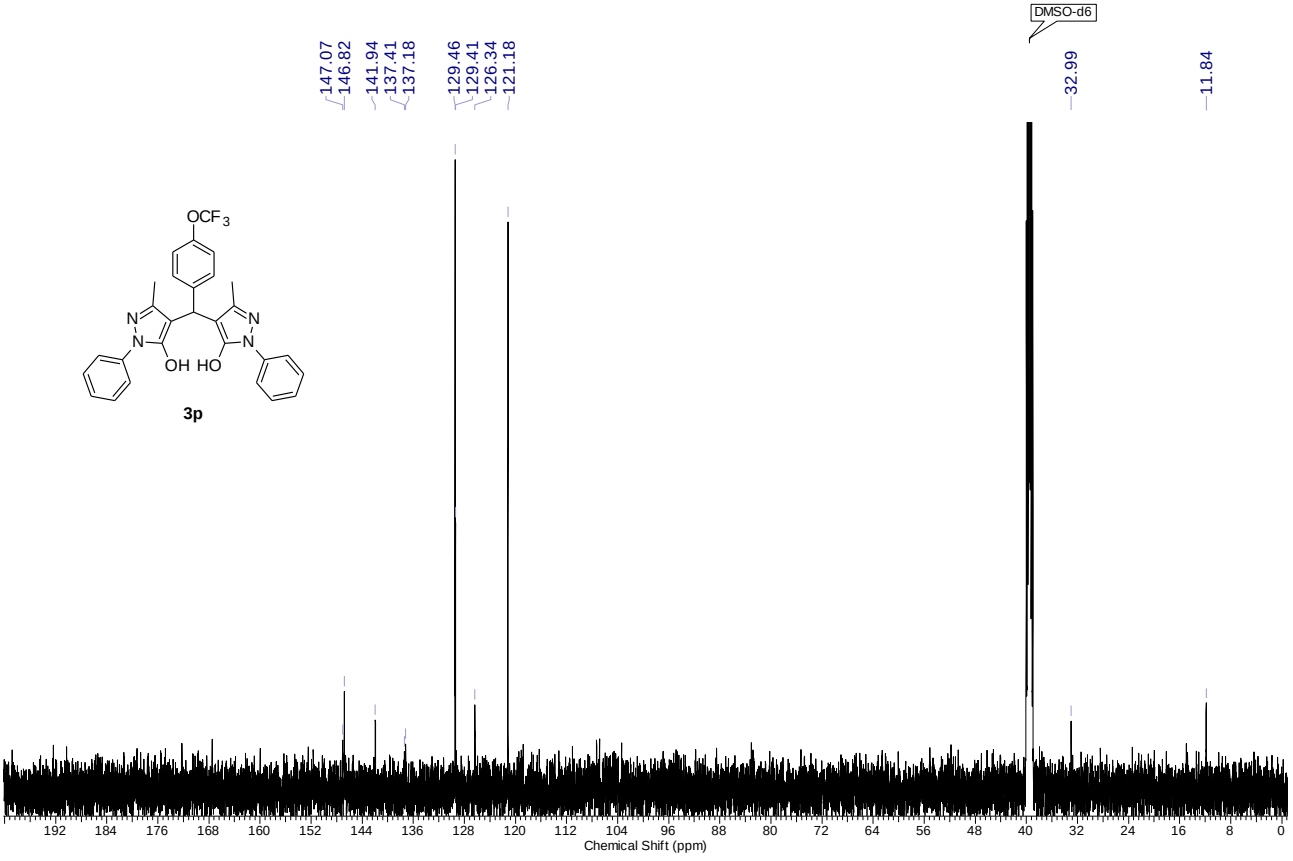

Fig. S33. ^{13}C NMR spectrum of compound **3p**.

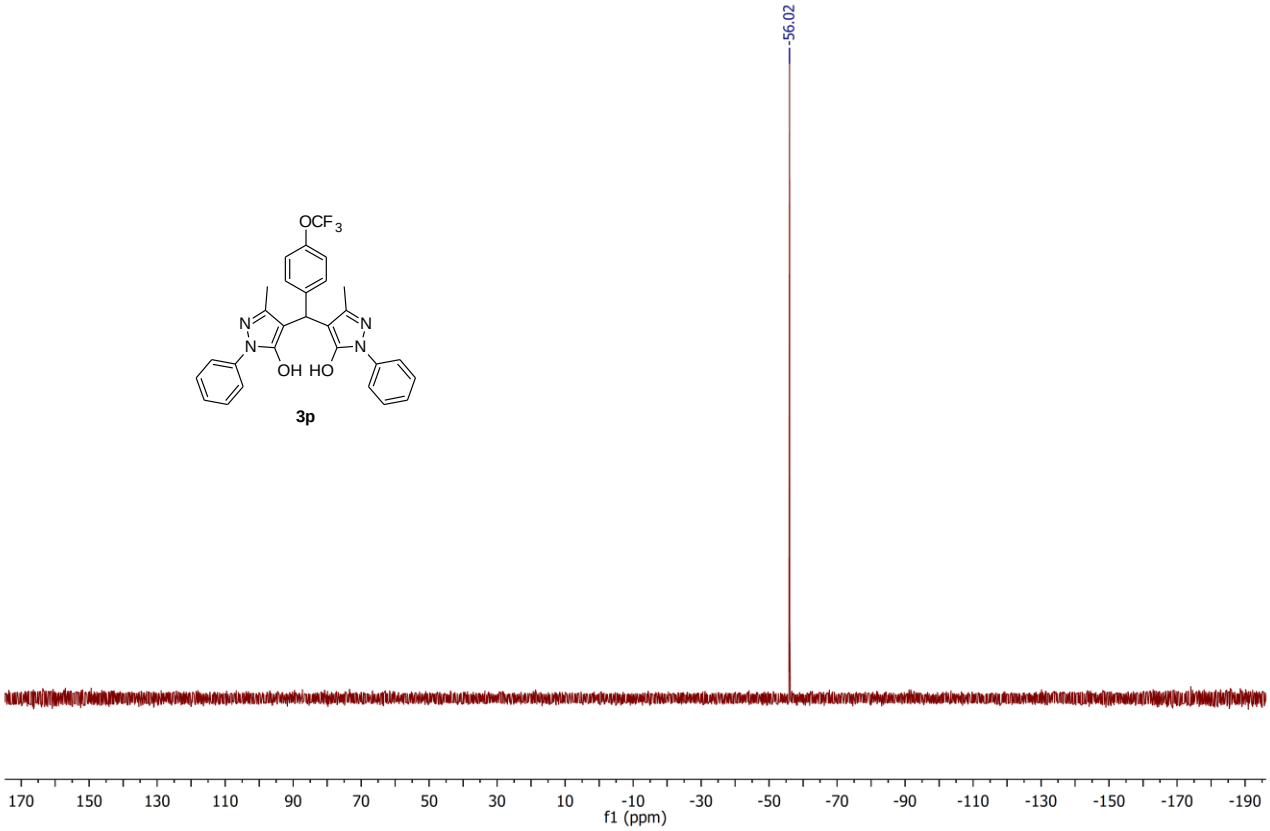

Fig. S34. ^{19}F NMR spectrum of compound **3p**.

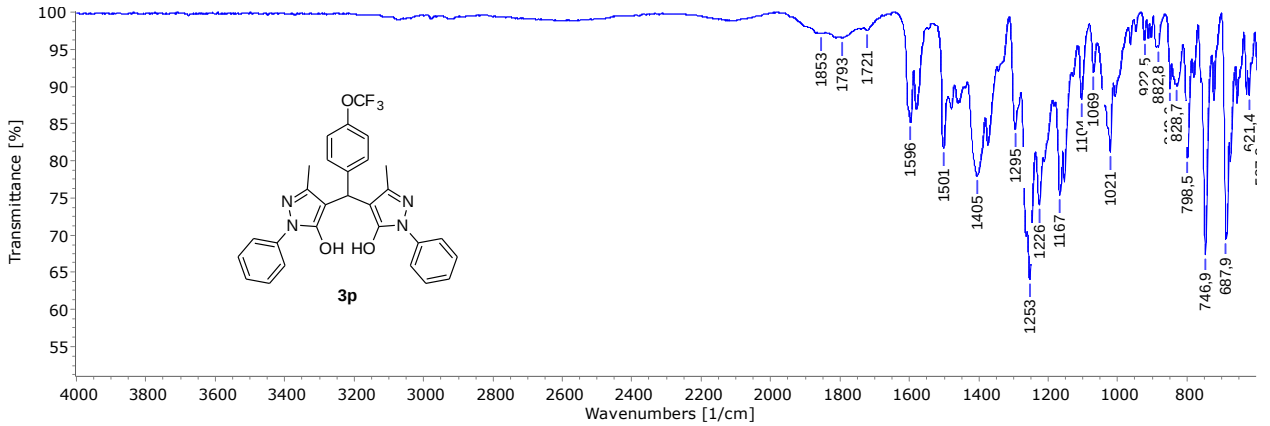

Fig. S35. FTIR spectrum of compound **3p**.

Acquisition Parameter

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SPS Target Mass	400 m/z	Averages	5 Spectra	n/a	n/a

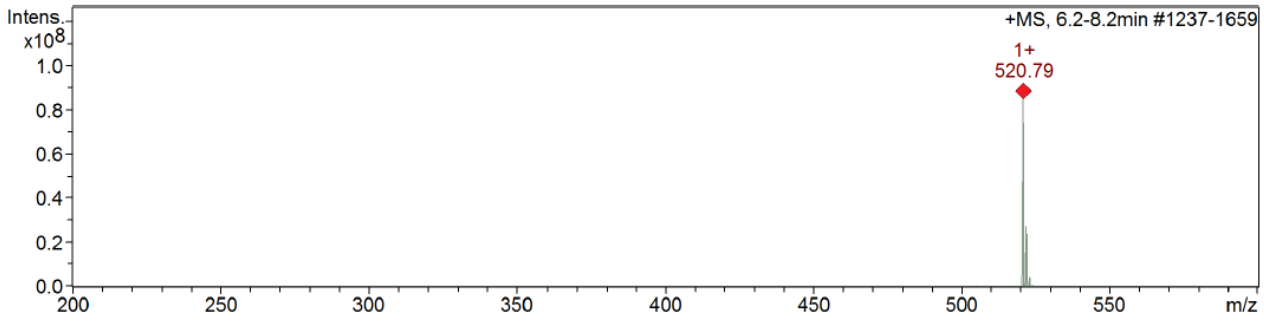

Fig. S36. ESI-MS spectrum of compound **3p**.

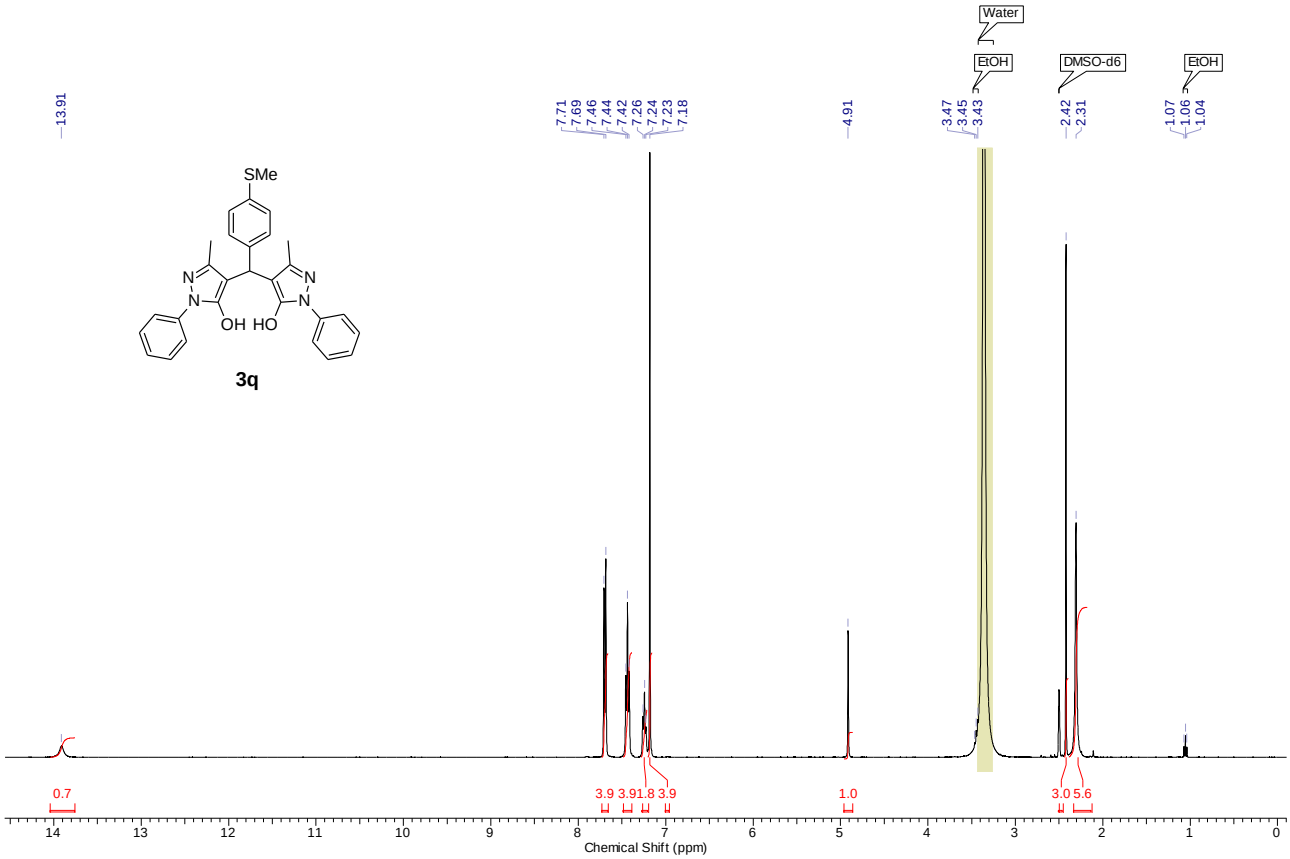

Fig. S37. ^{1}H NMR spectrum of compound **3q**.