Supporting Information

Ni-Catalyzed C-H Functionalization in the Formation of a Complex Heterocycle, the Synthesis of the Potent JAK2 Inhibitor, BMS-911543

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martin.eastgate@bms.com

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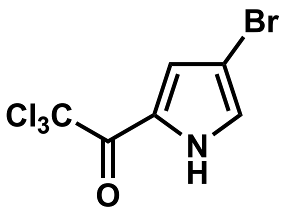
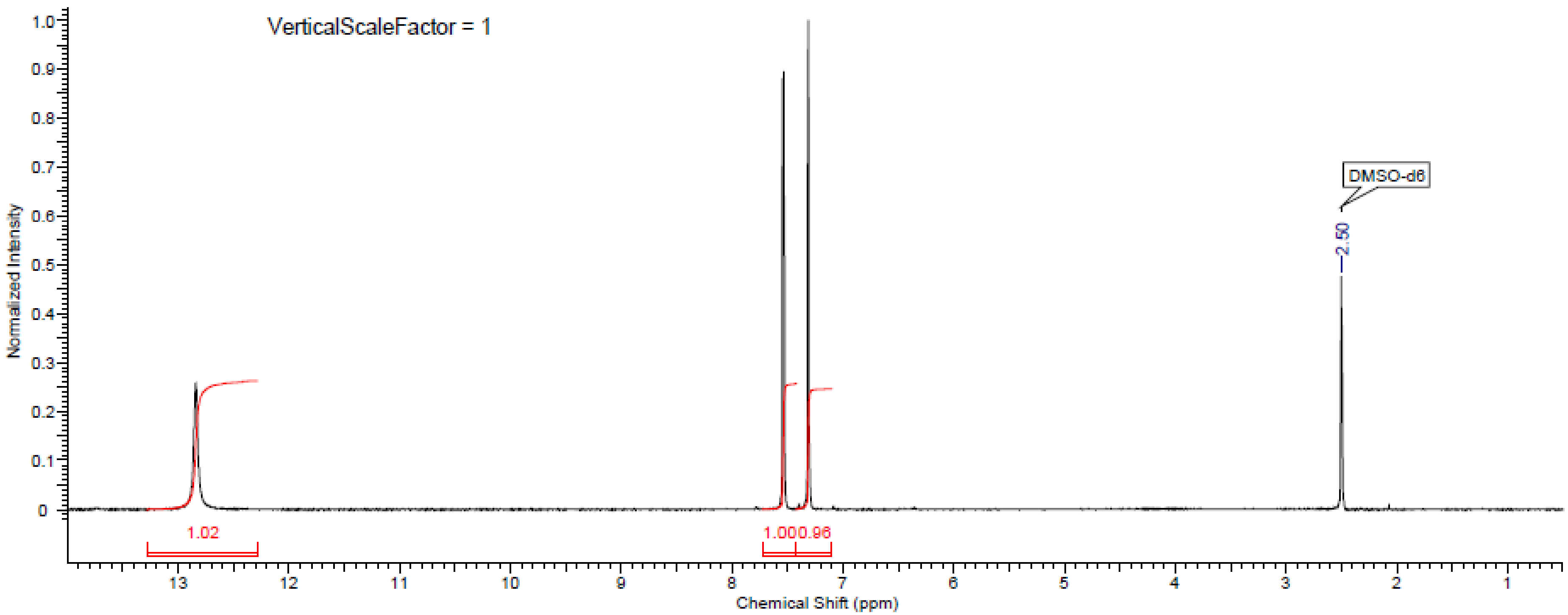
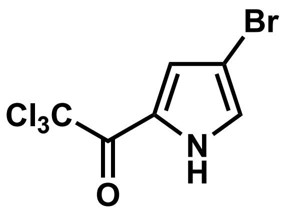


1-(4-bromo-1H-pyrrol-2-yl)-2,2,2-trichloroethanone





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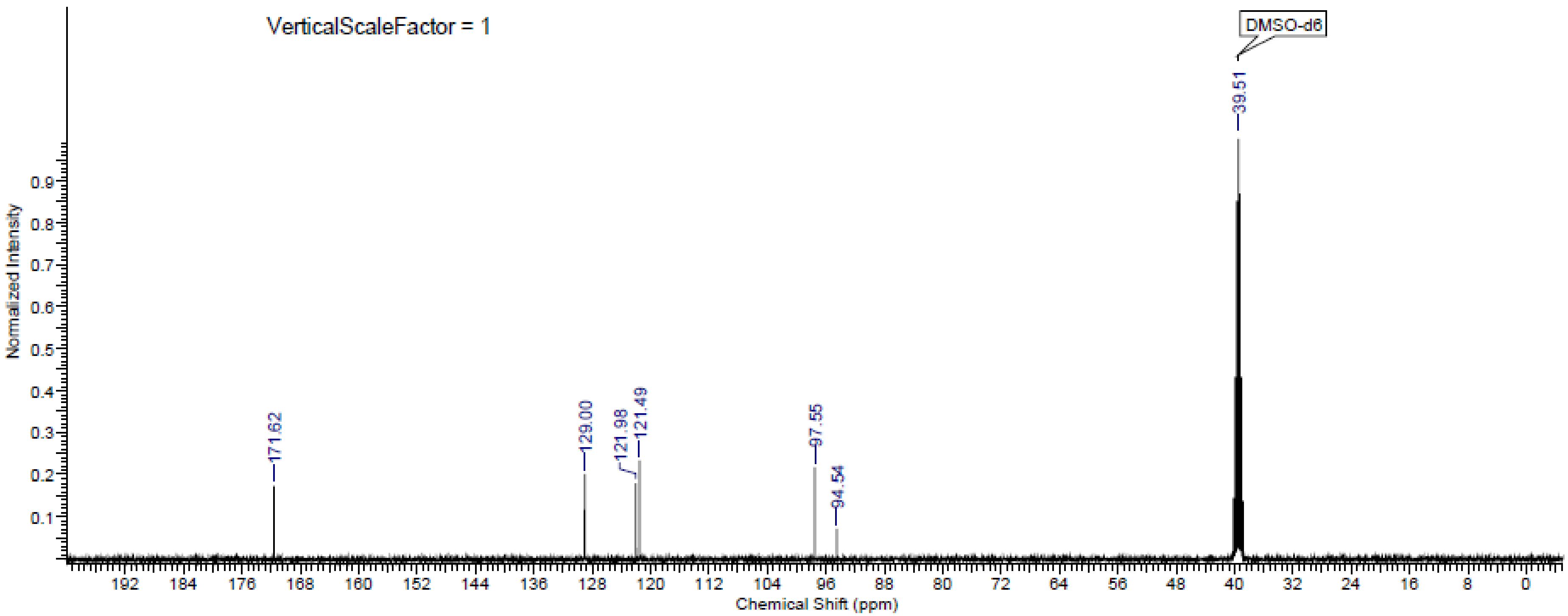

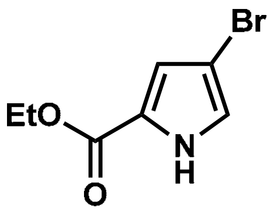

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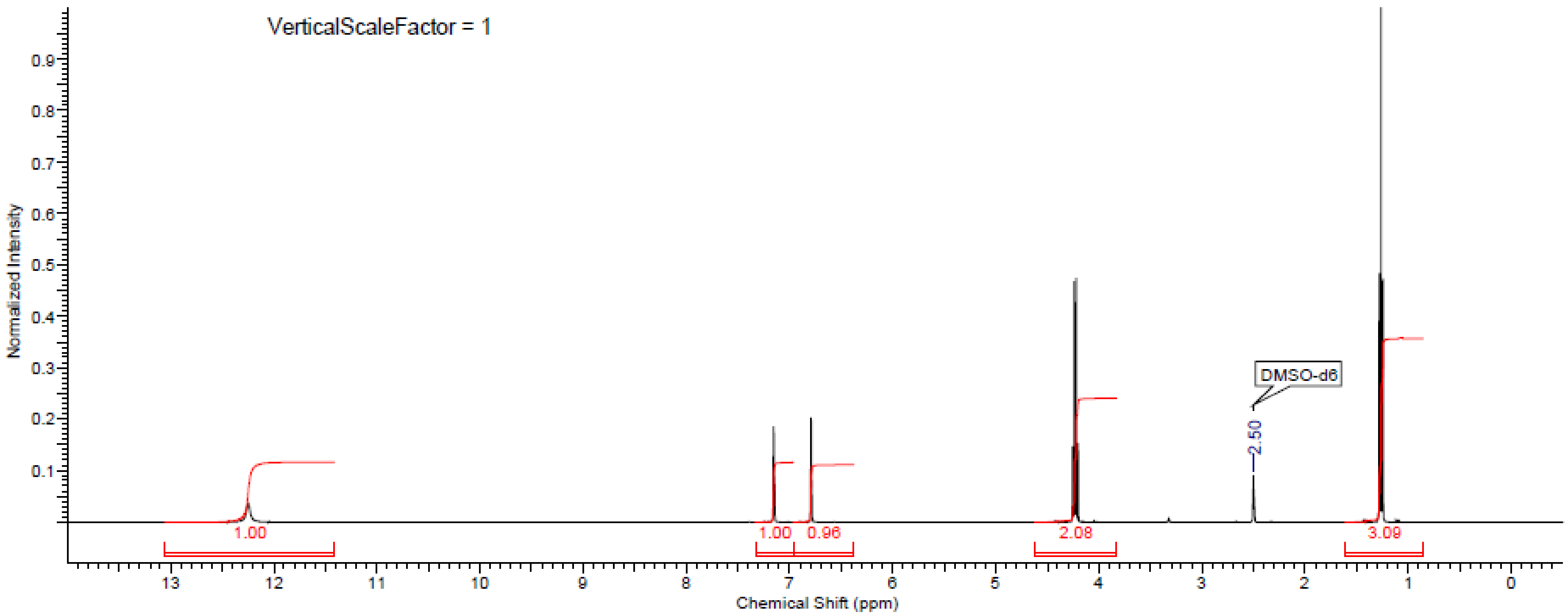

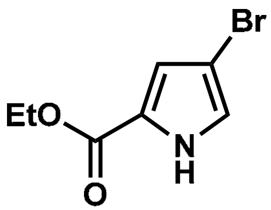

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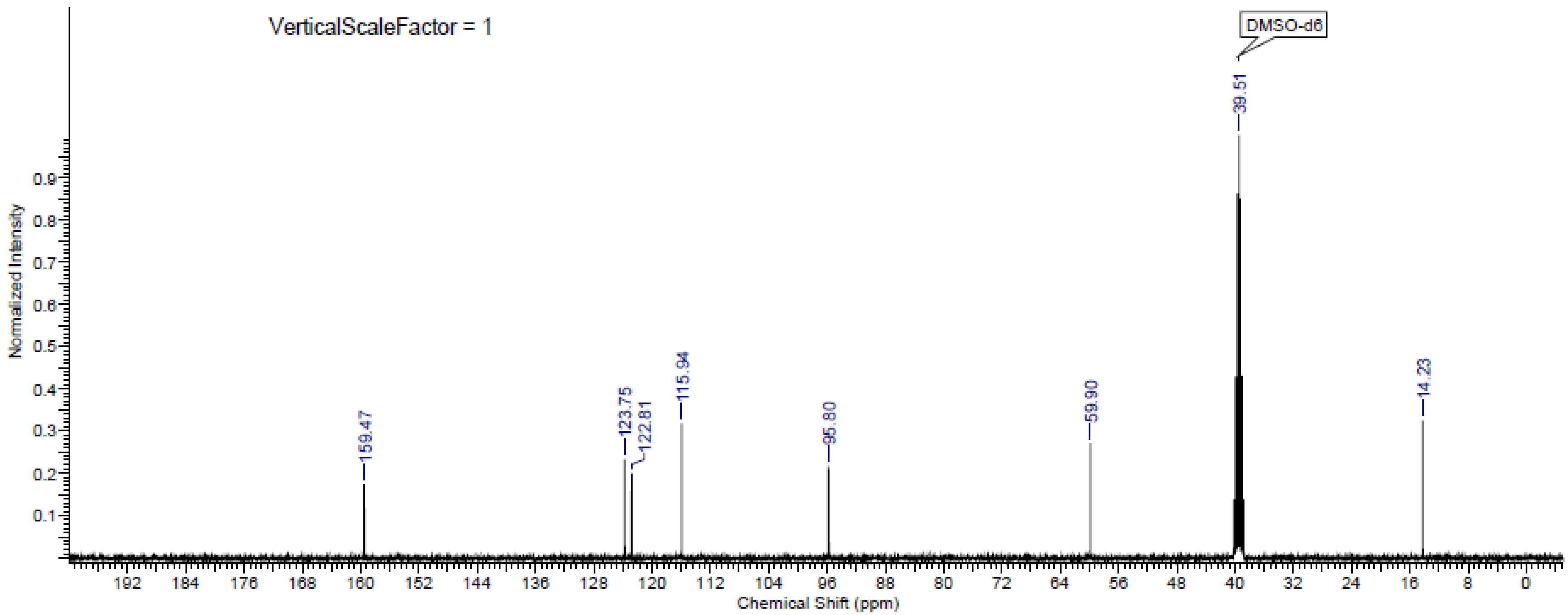

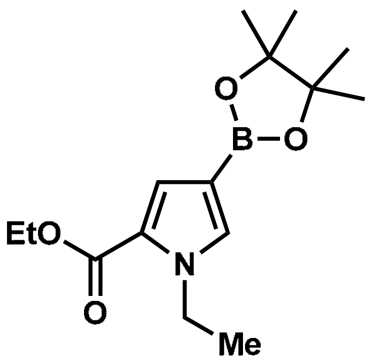

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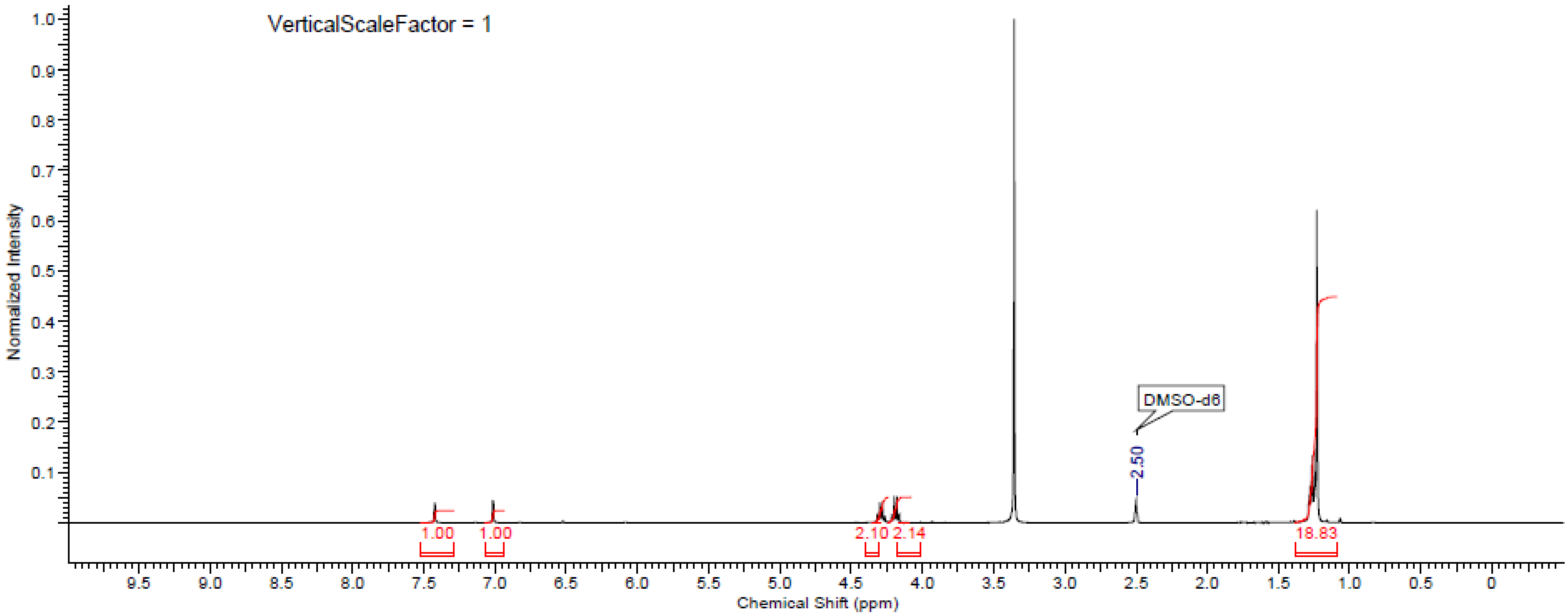

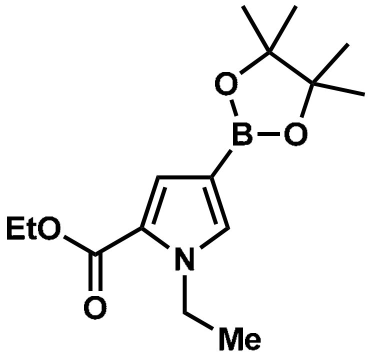

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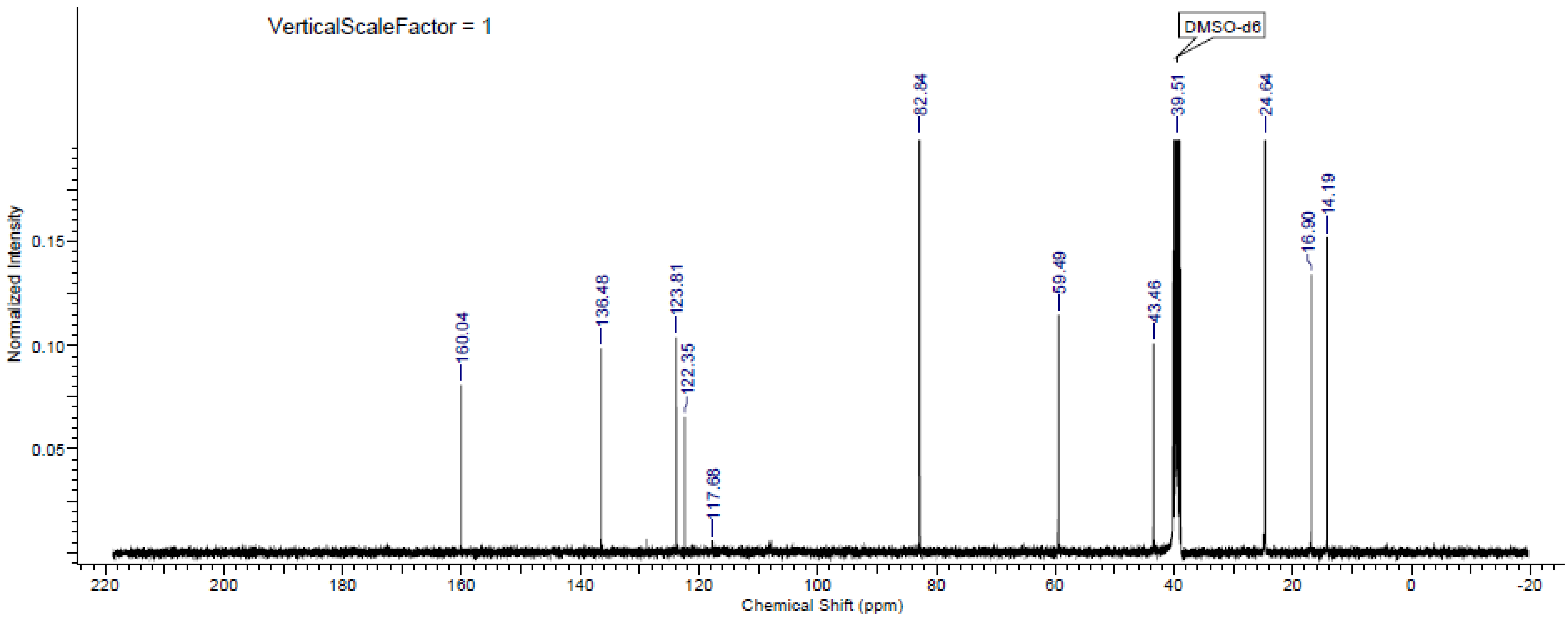

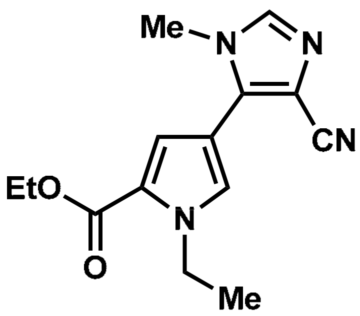

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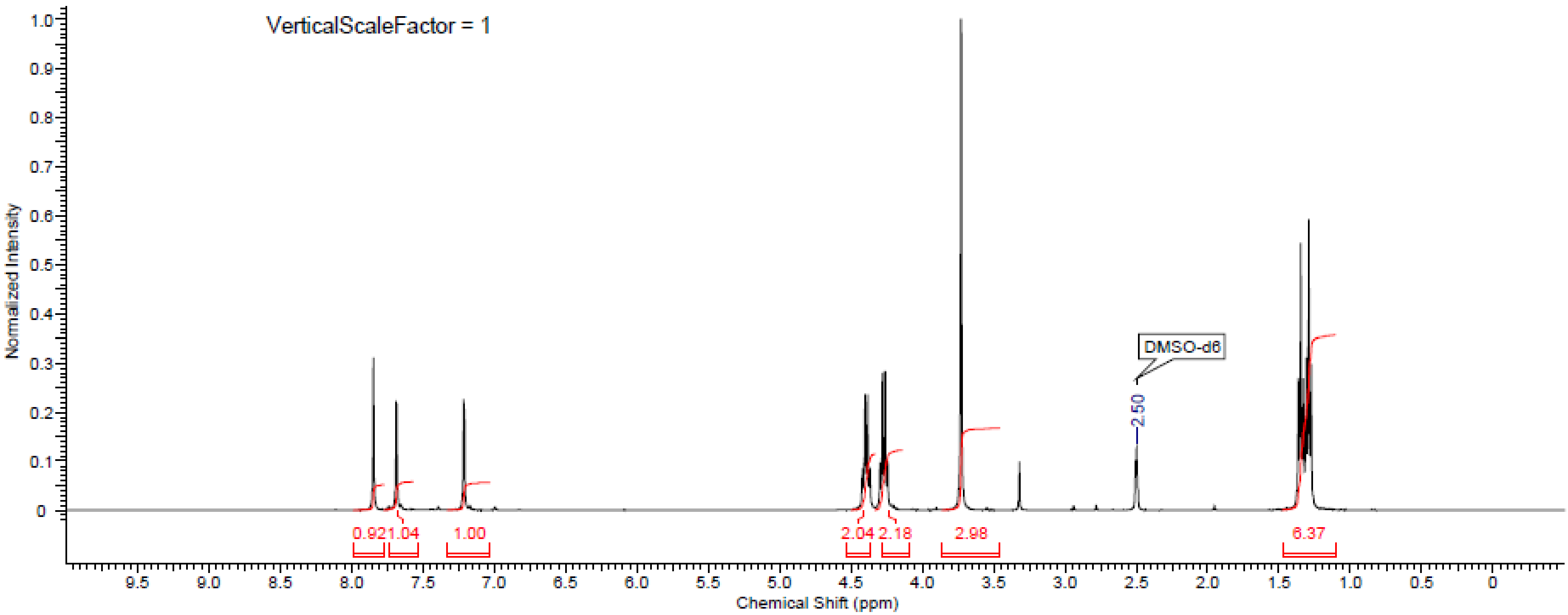

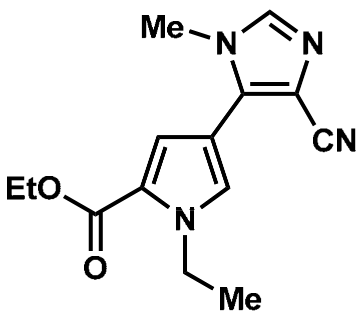

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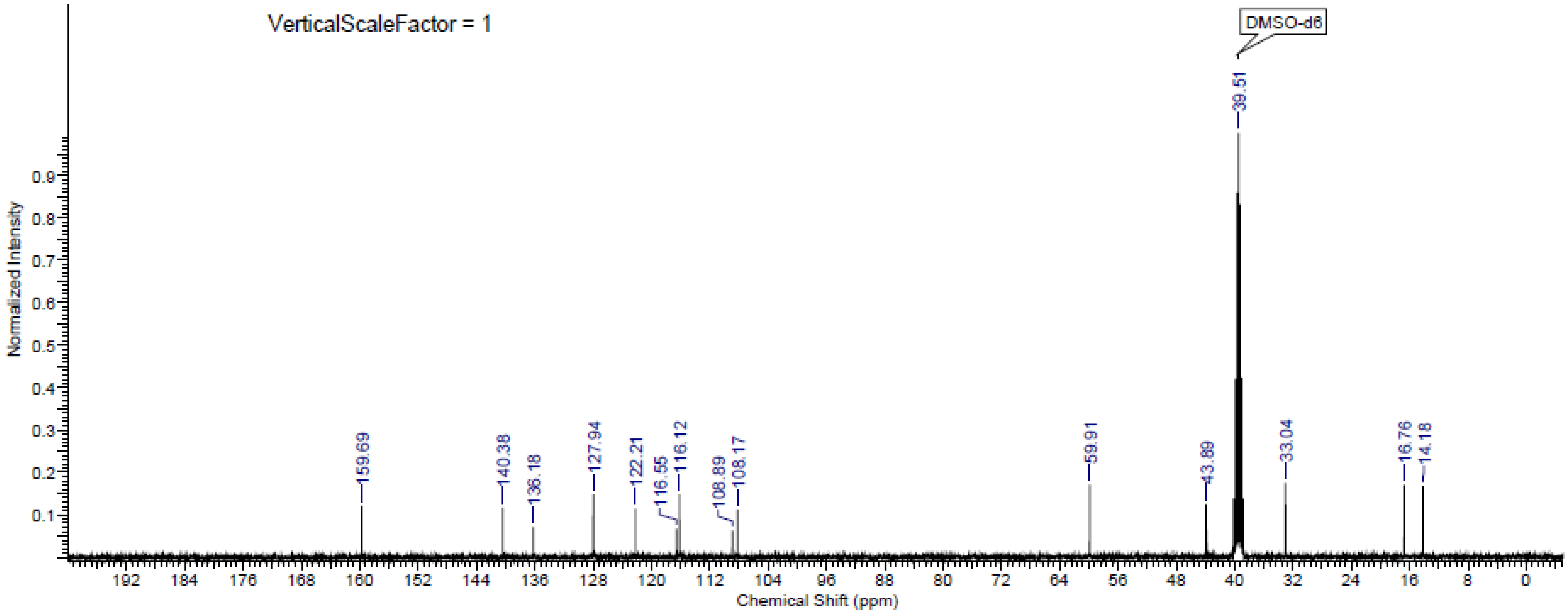

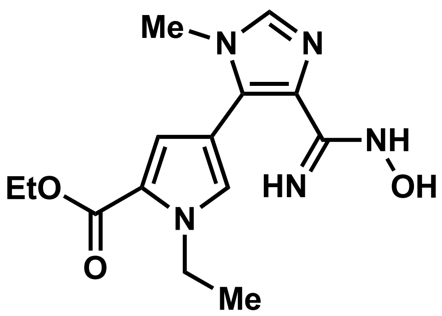

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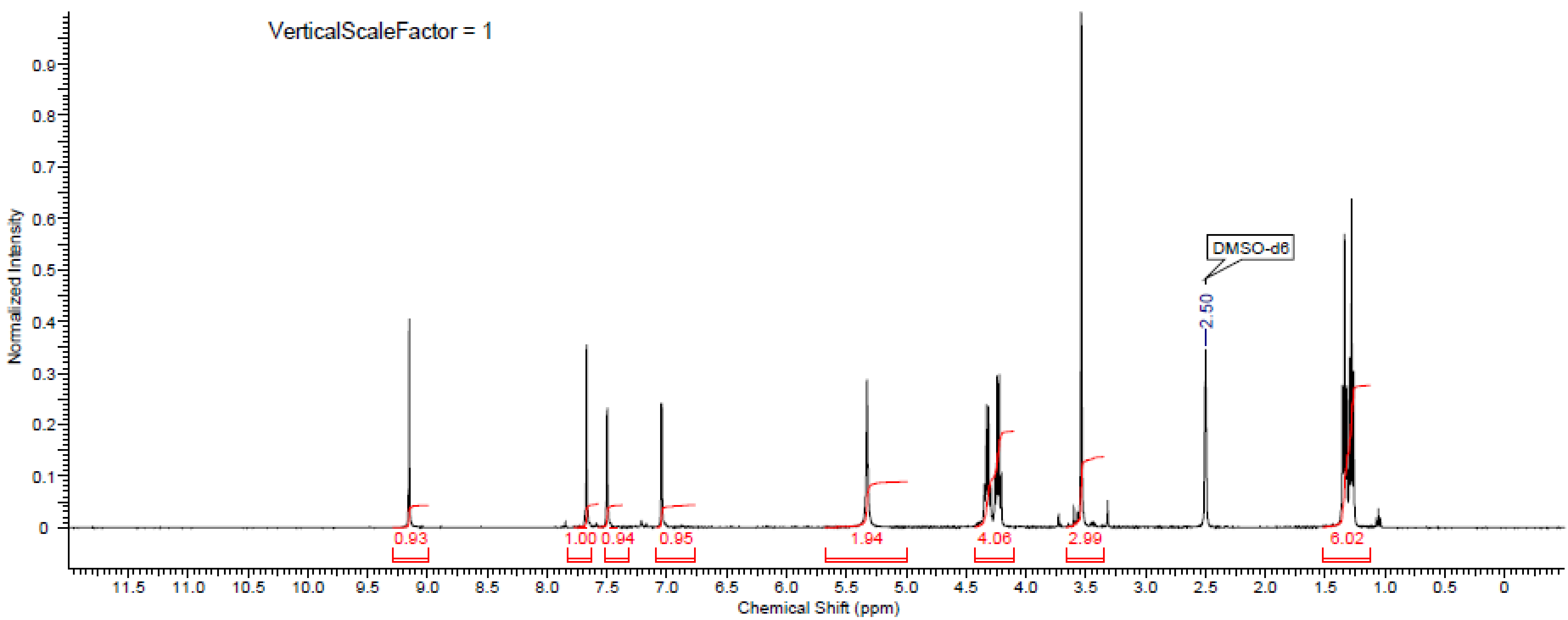

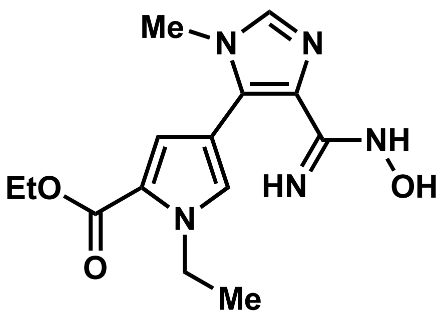

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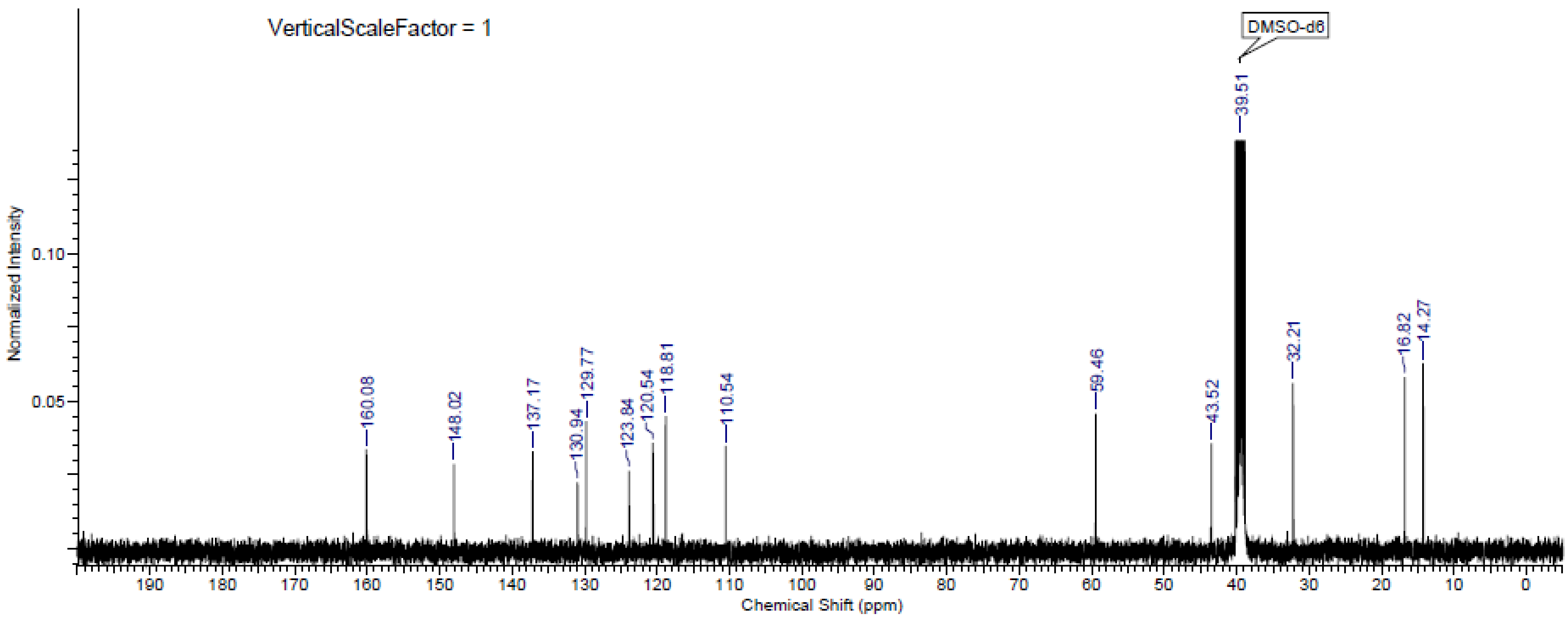

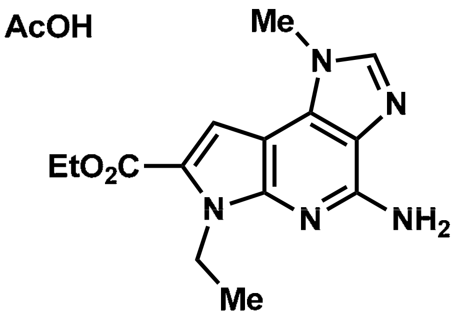

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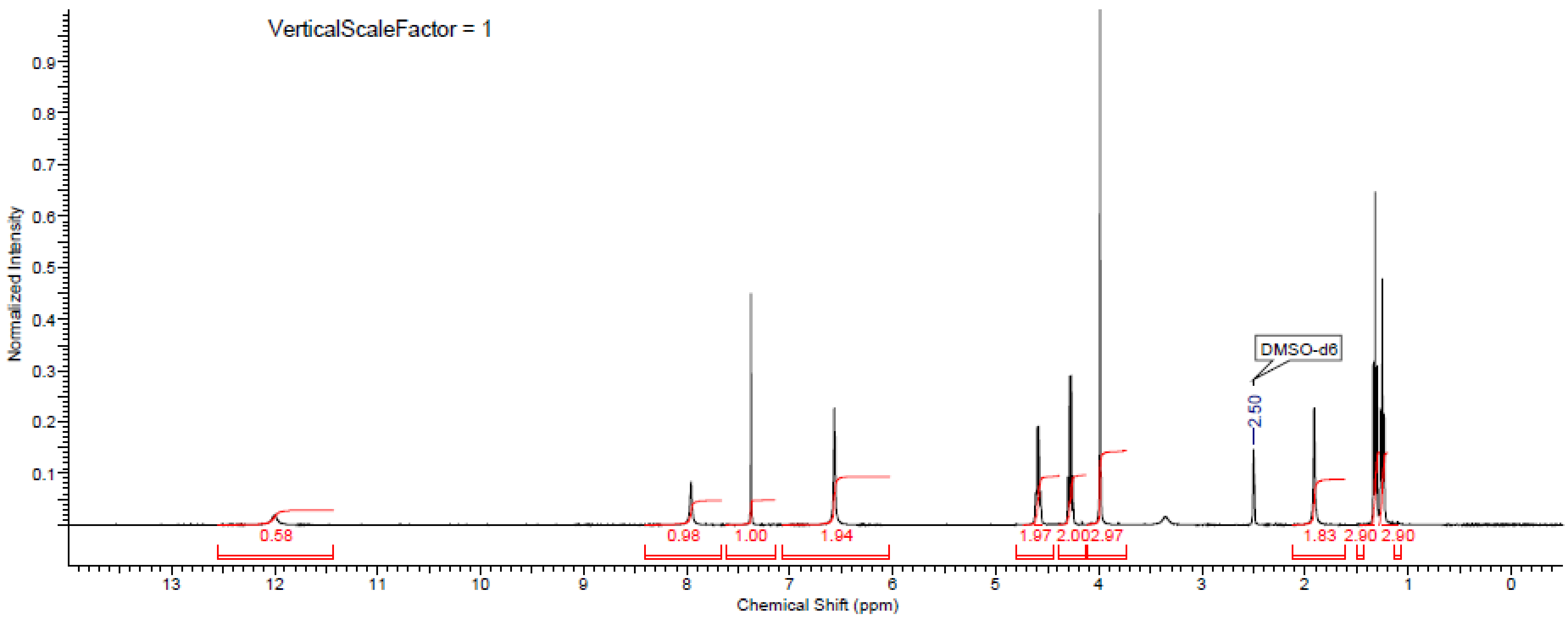

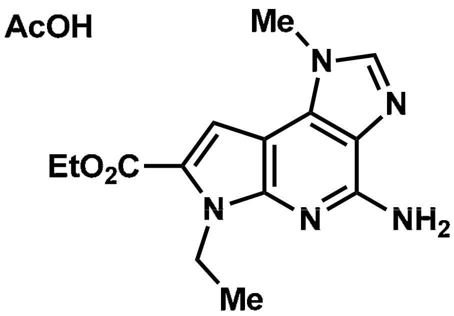

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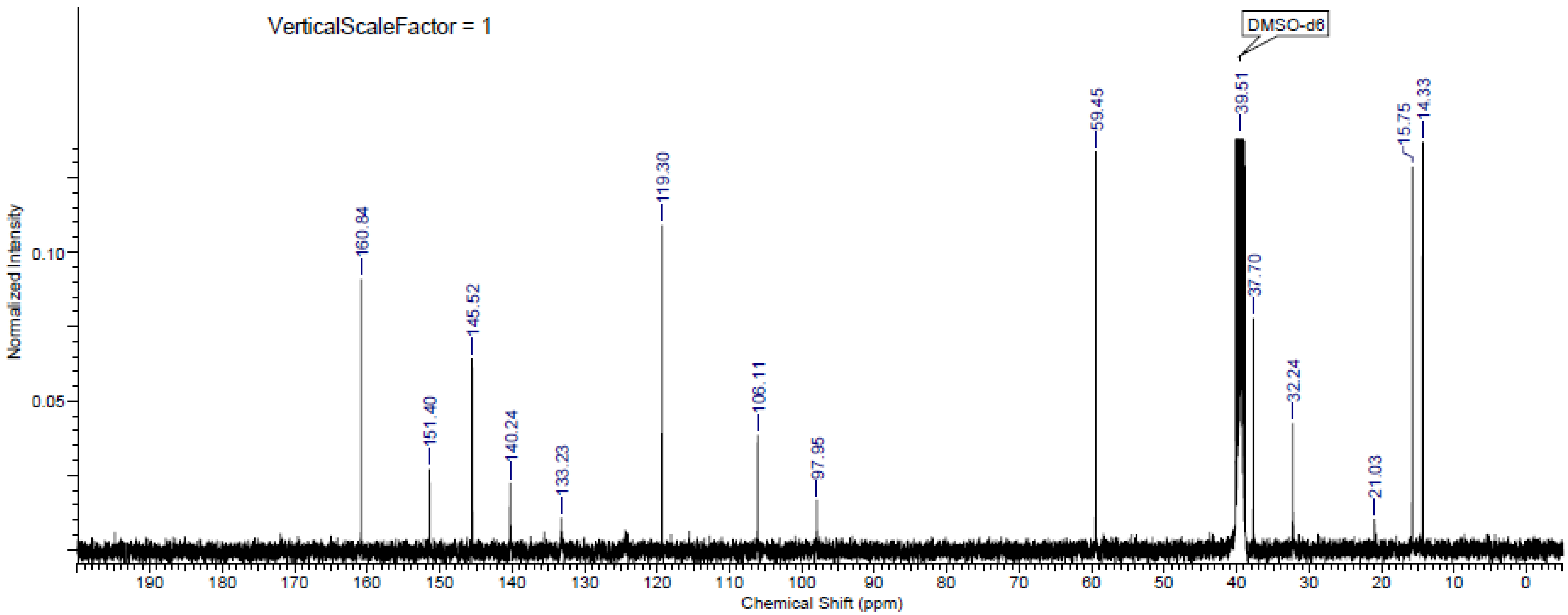

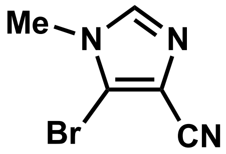

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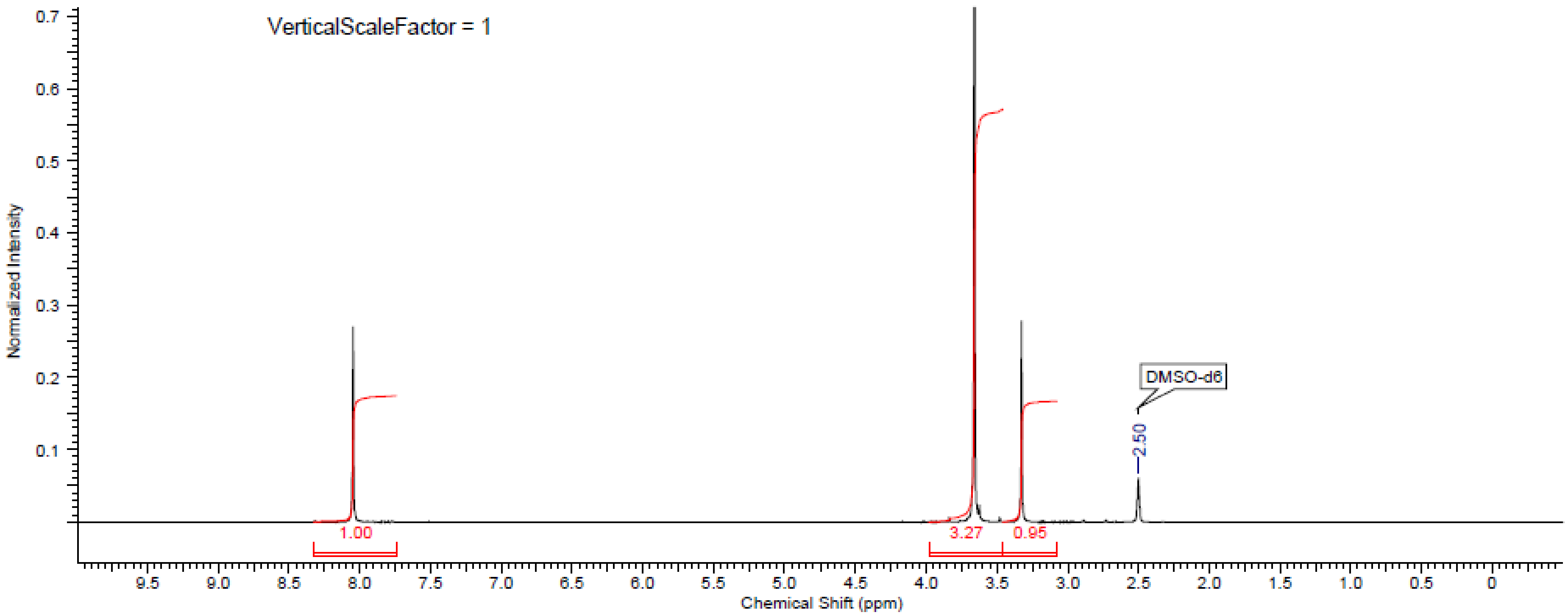

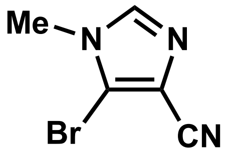

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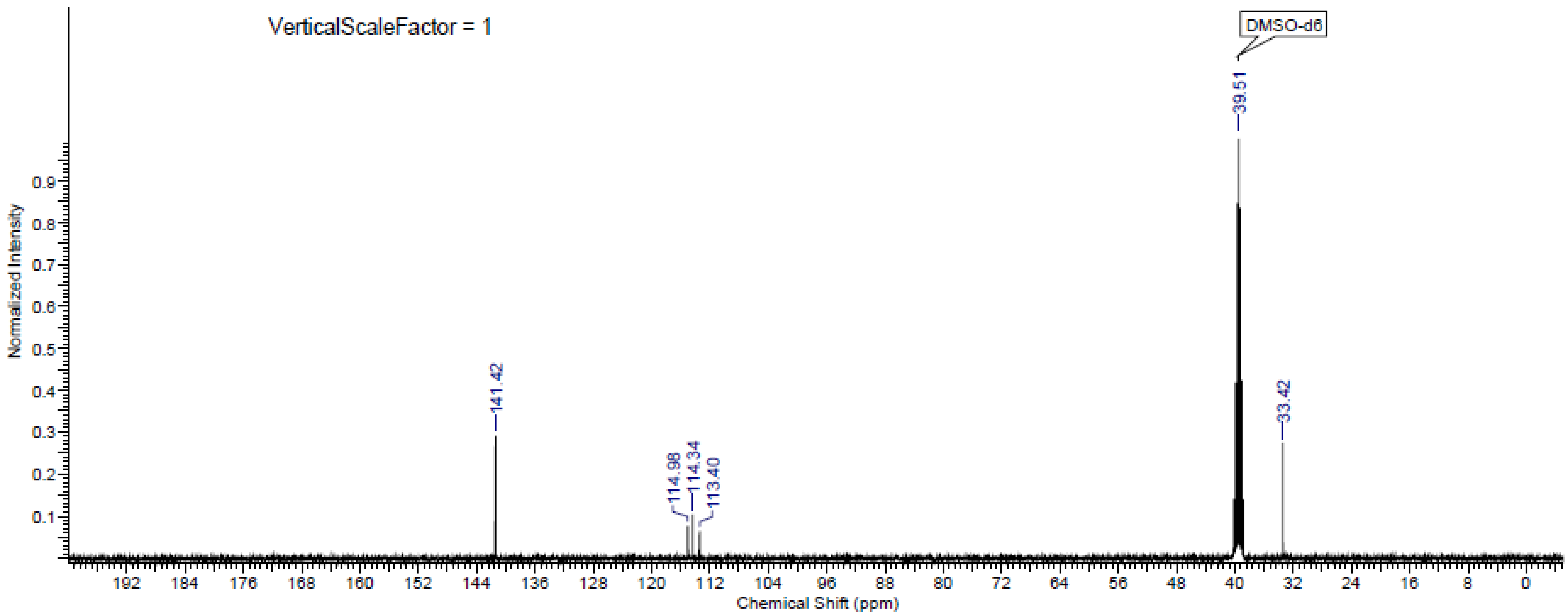

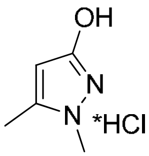

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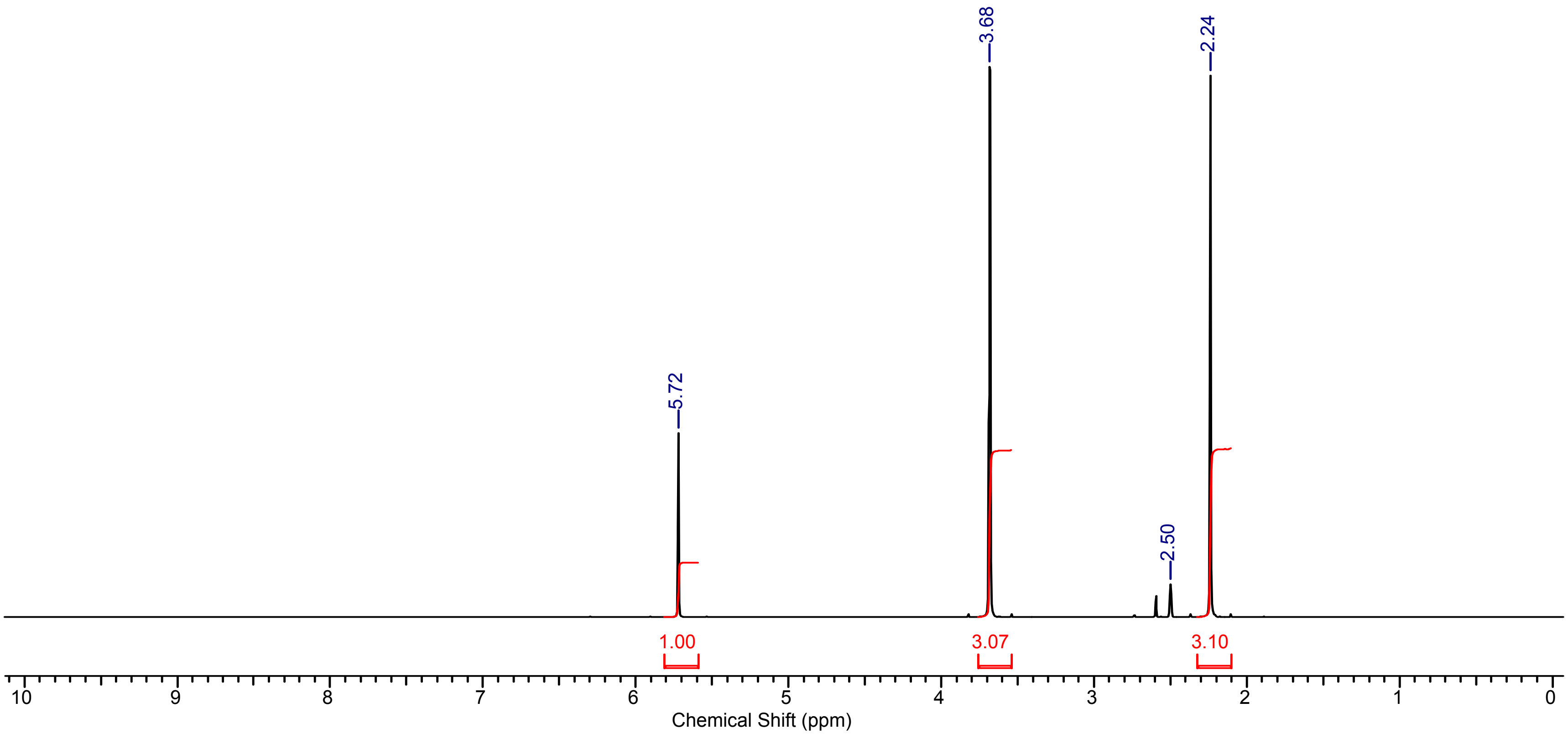

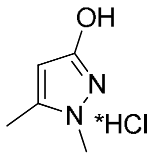

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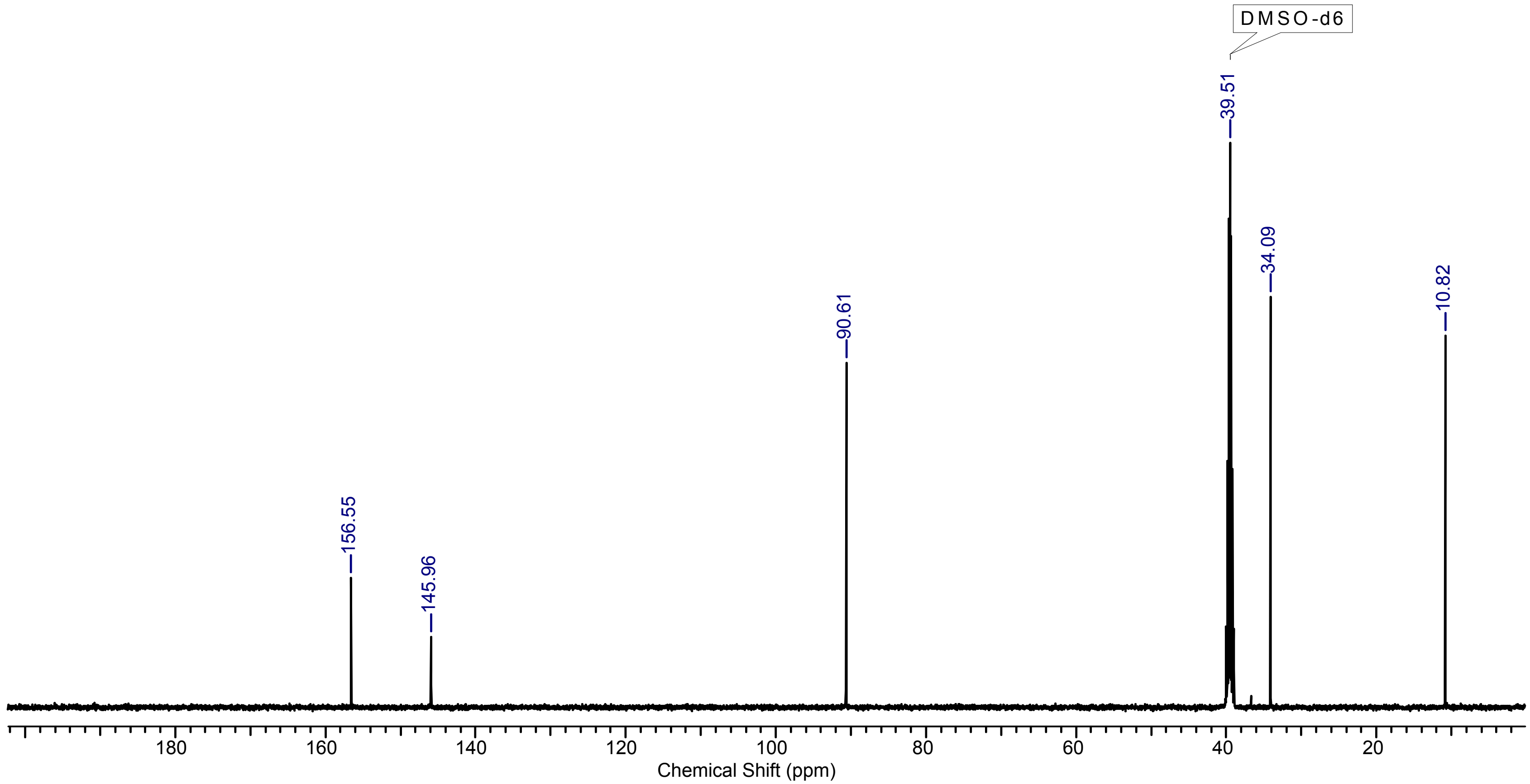
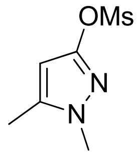
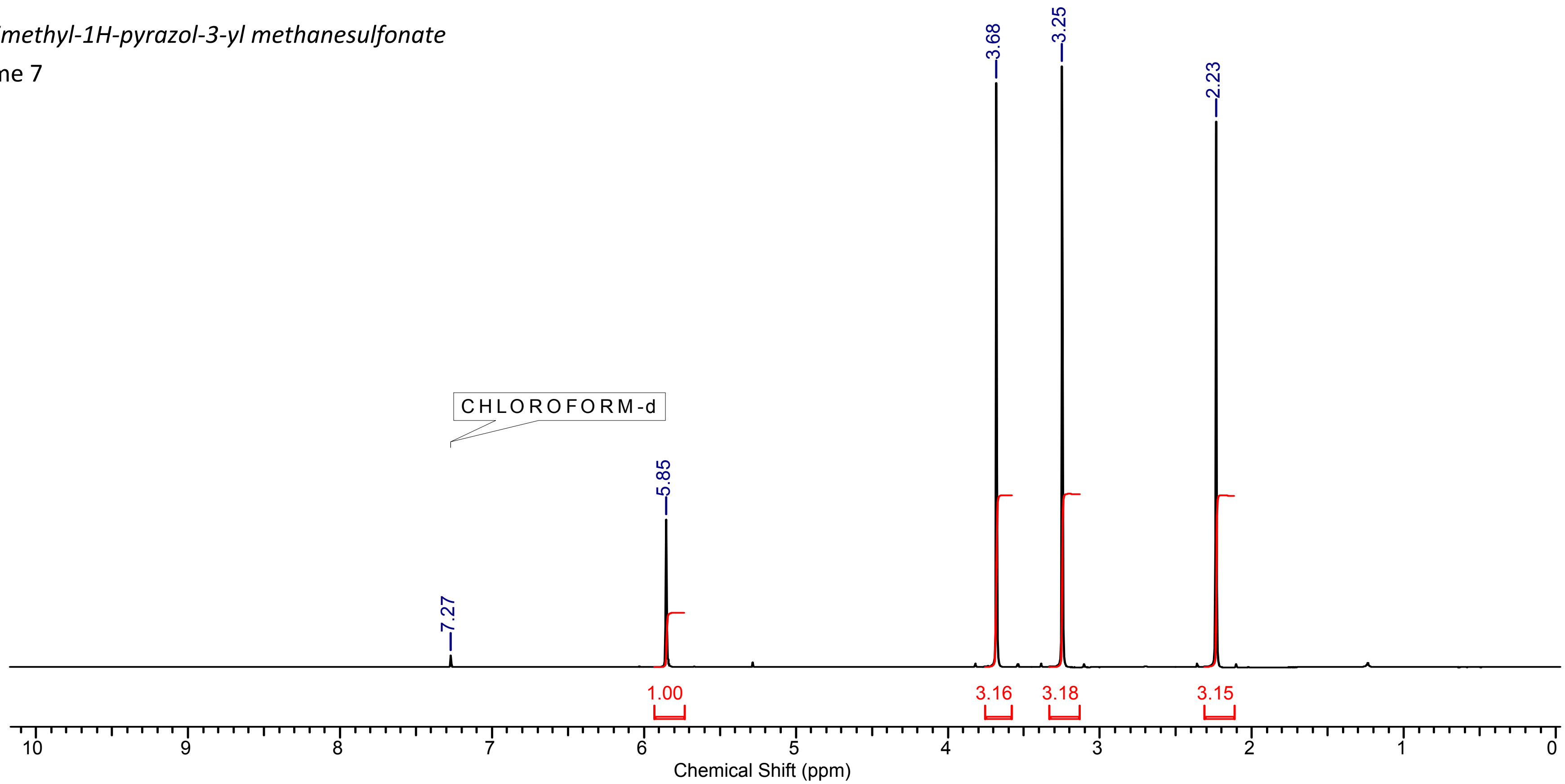
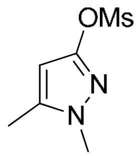




1,5-dimethyl-1H-pyrazol-3-yl methanesulfonate

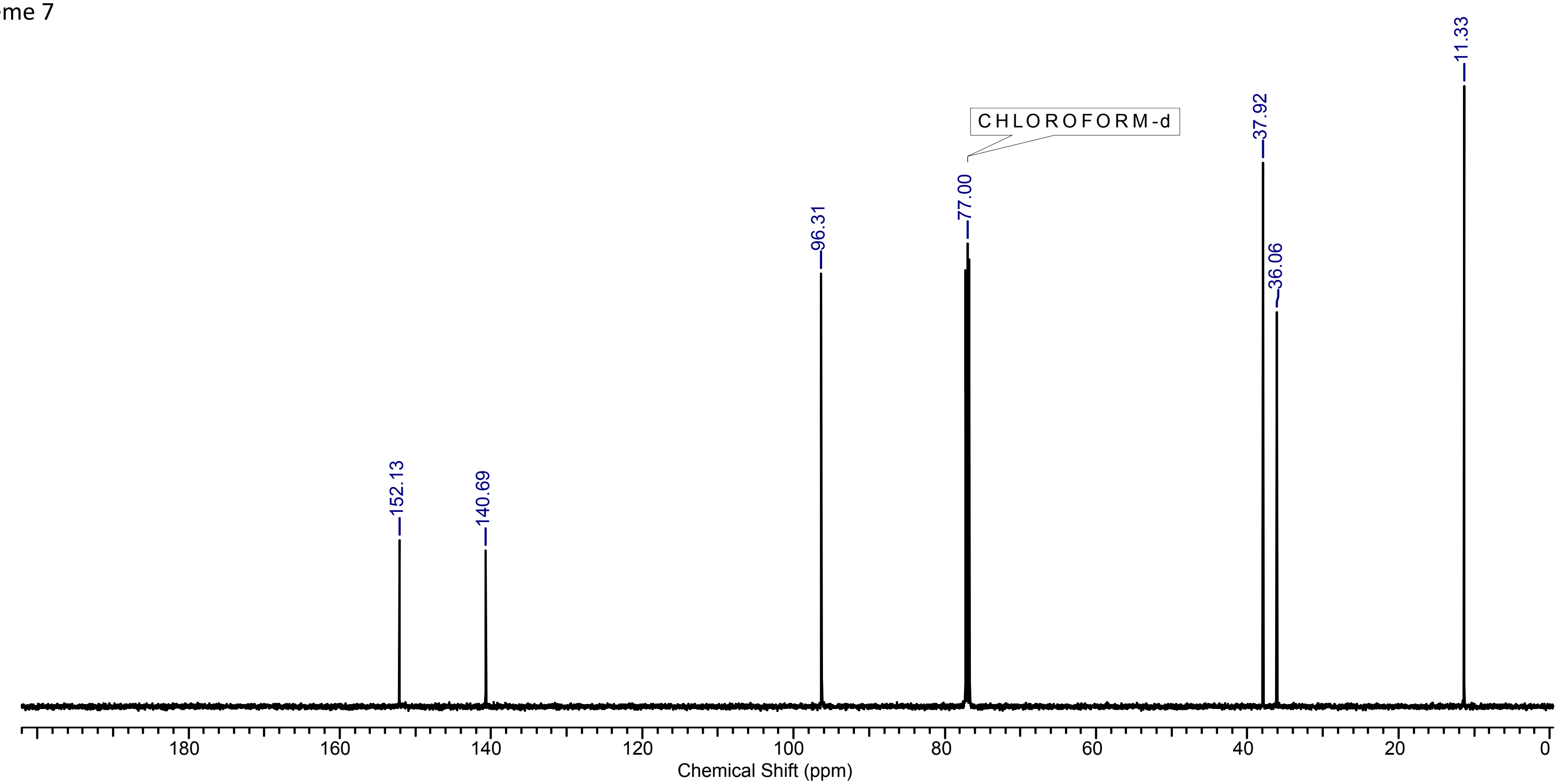
Scheme 7

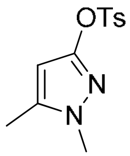




1,5-dimethyl-1H-pyrazol-3-yl methanesulfonate

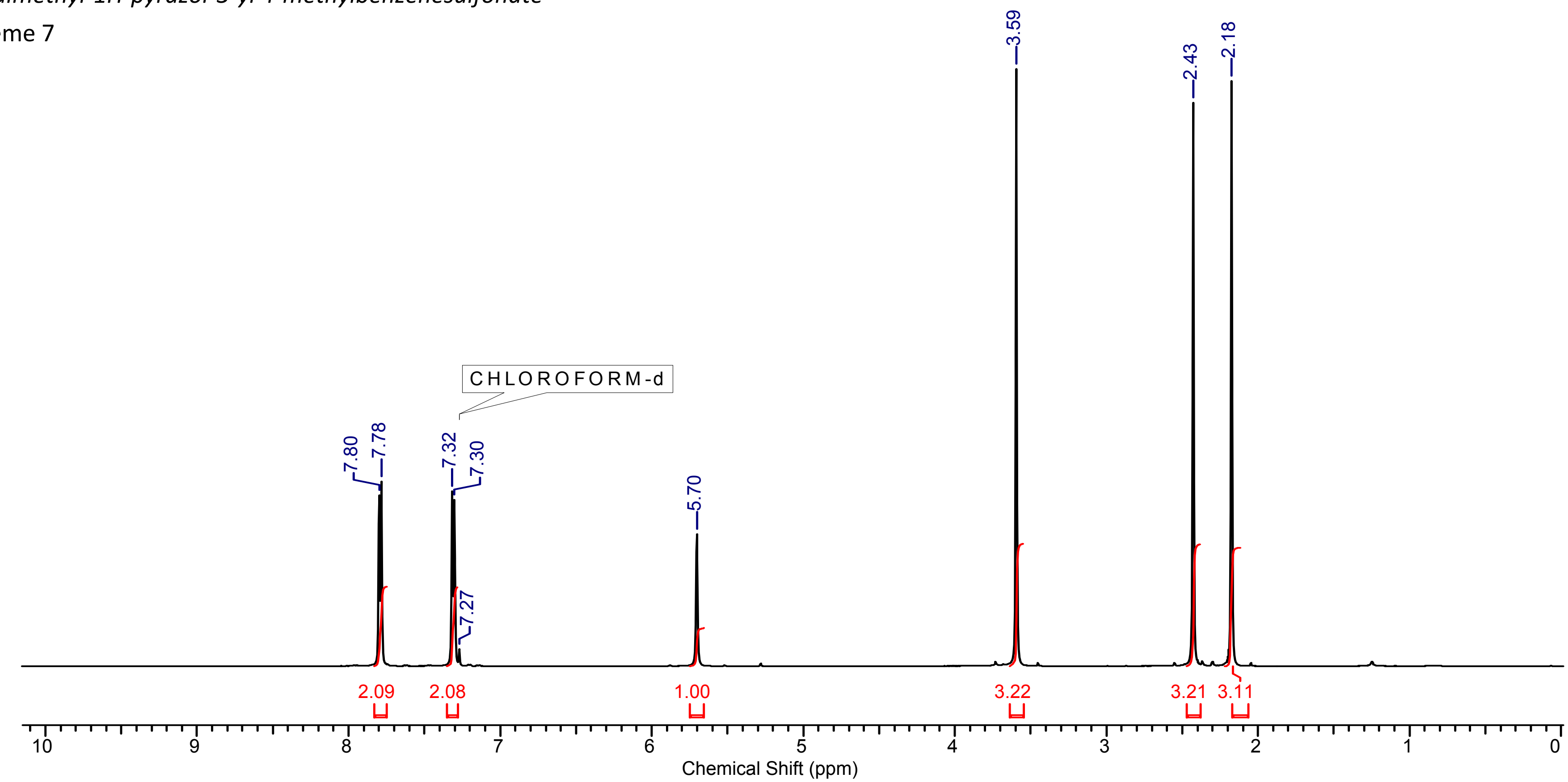
Scheme 7

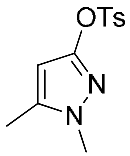




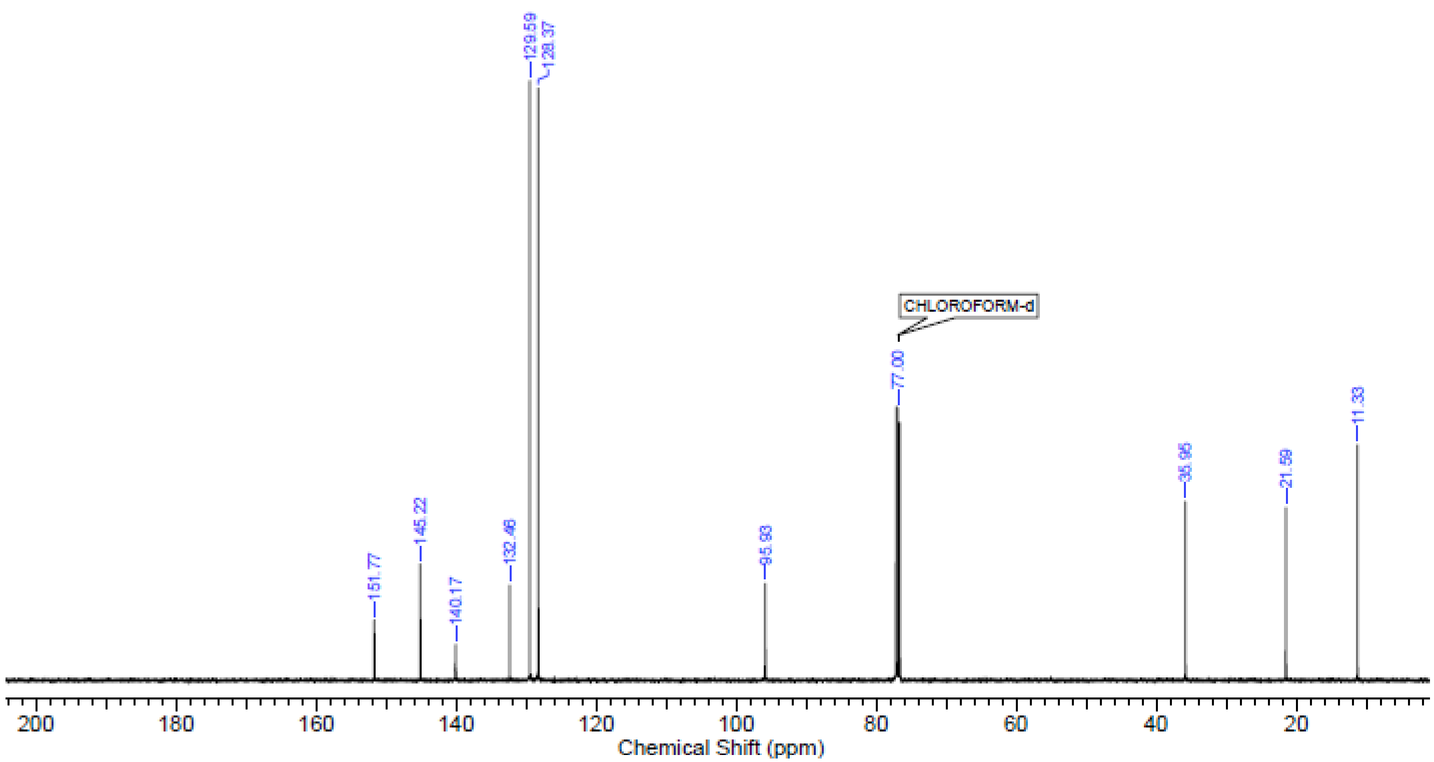
1,5-dimethyl-1H-pyrazol-3-yl 4-methylbenzenesulfonate

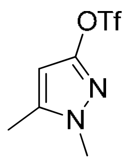
Scheme 7





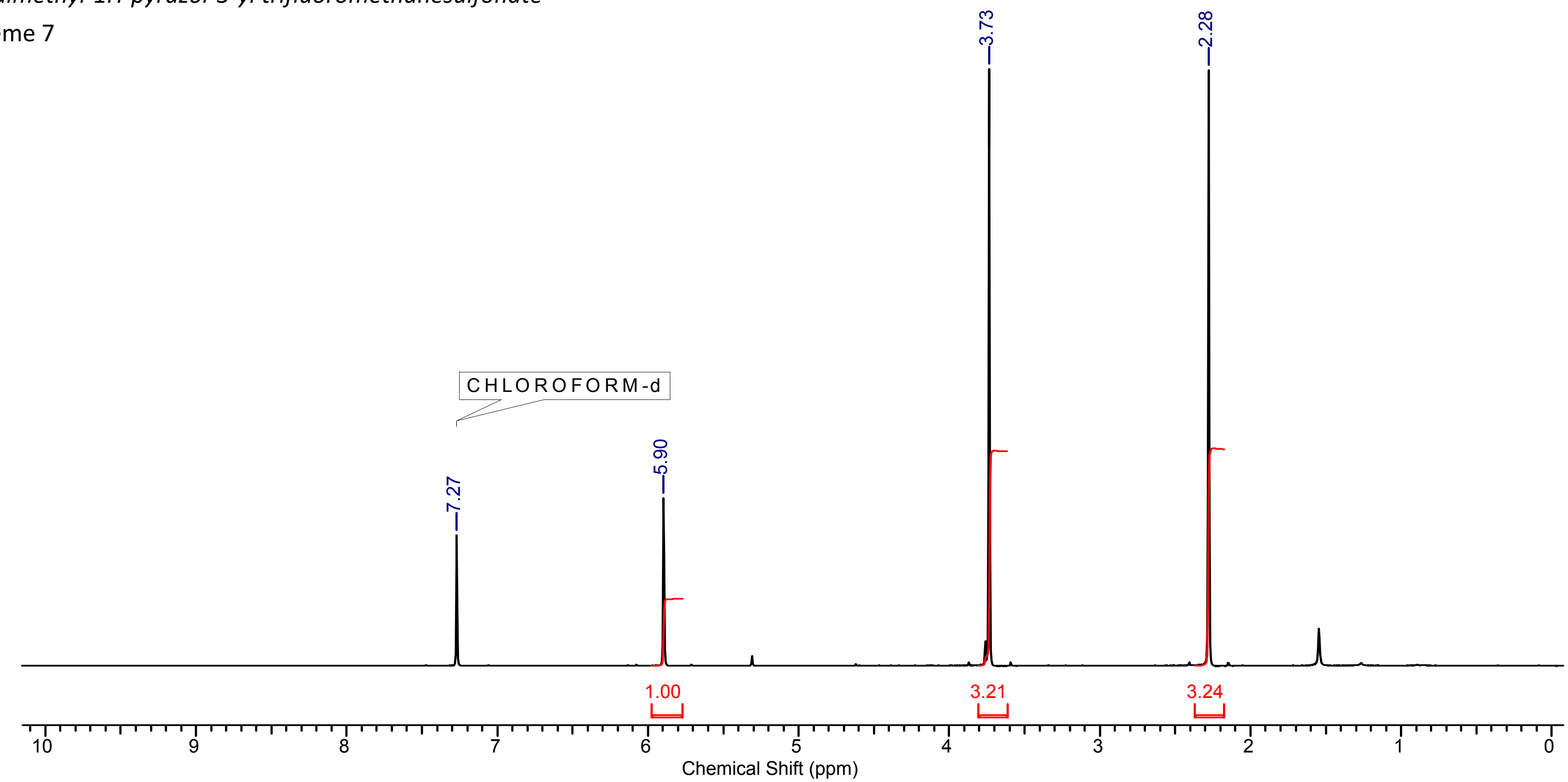
1,5-dimethyl-1H-pyrazol-3-yl 4-methylbenzenesulfonate
Scheme 7

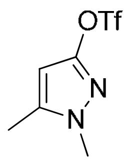




1,5-dimethyl-1H-pyrazol-3-yl trifluoromethanesulfonate

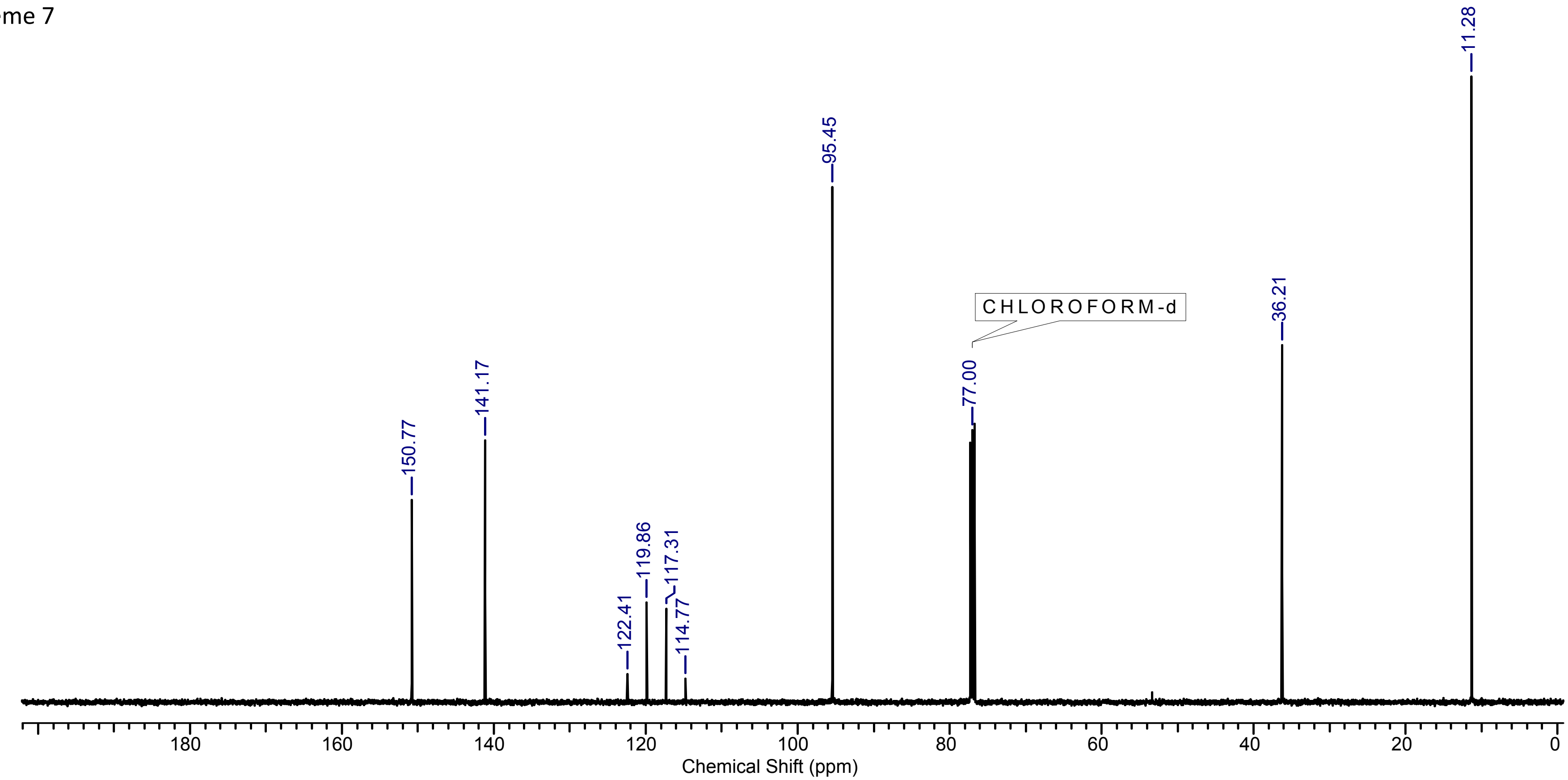
Scheme 7

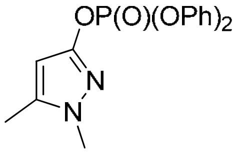




1,5-dimethyl-1H-pyrazol-3-yl trifluoromethanesulfonate

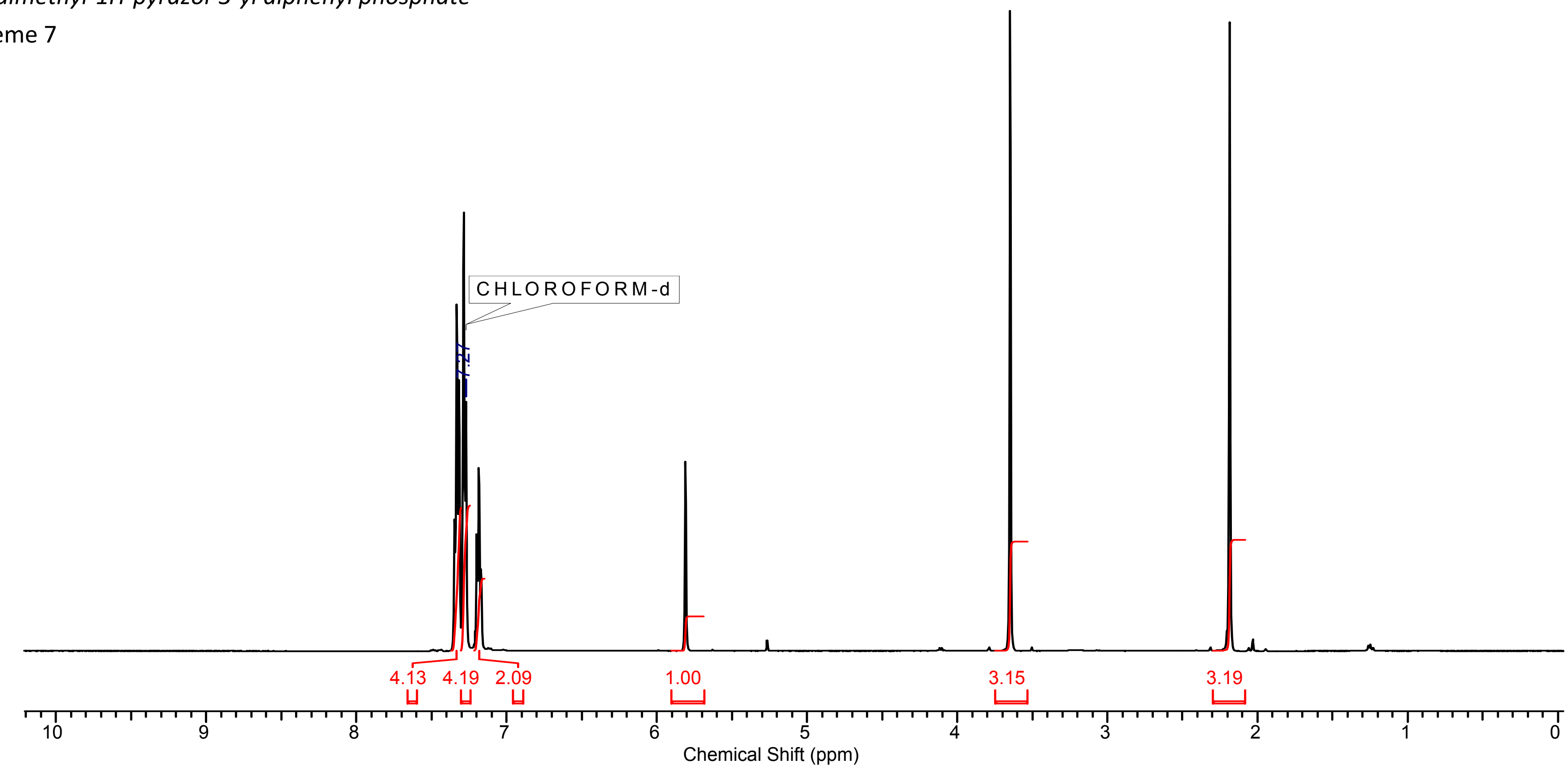
Scheme 7

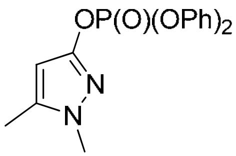




1,5-dimethyl-1H-pyrazol-3-yl diphenyl phosphate

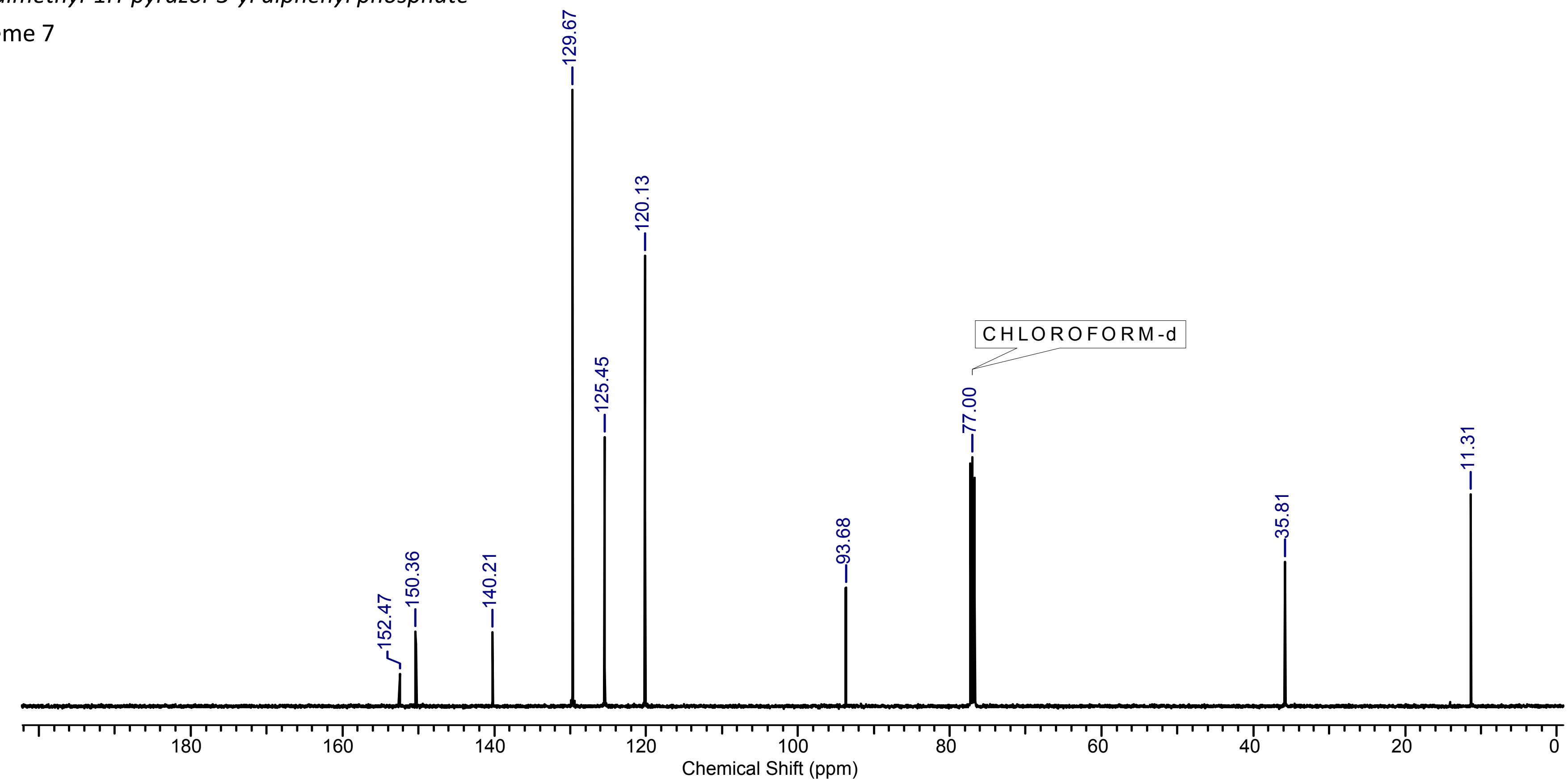
Scheme 7

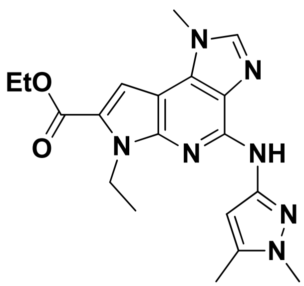




1,5-dimethyl-1H-pyrazol-3-yl diphenyl phosphate

Scheme 7





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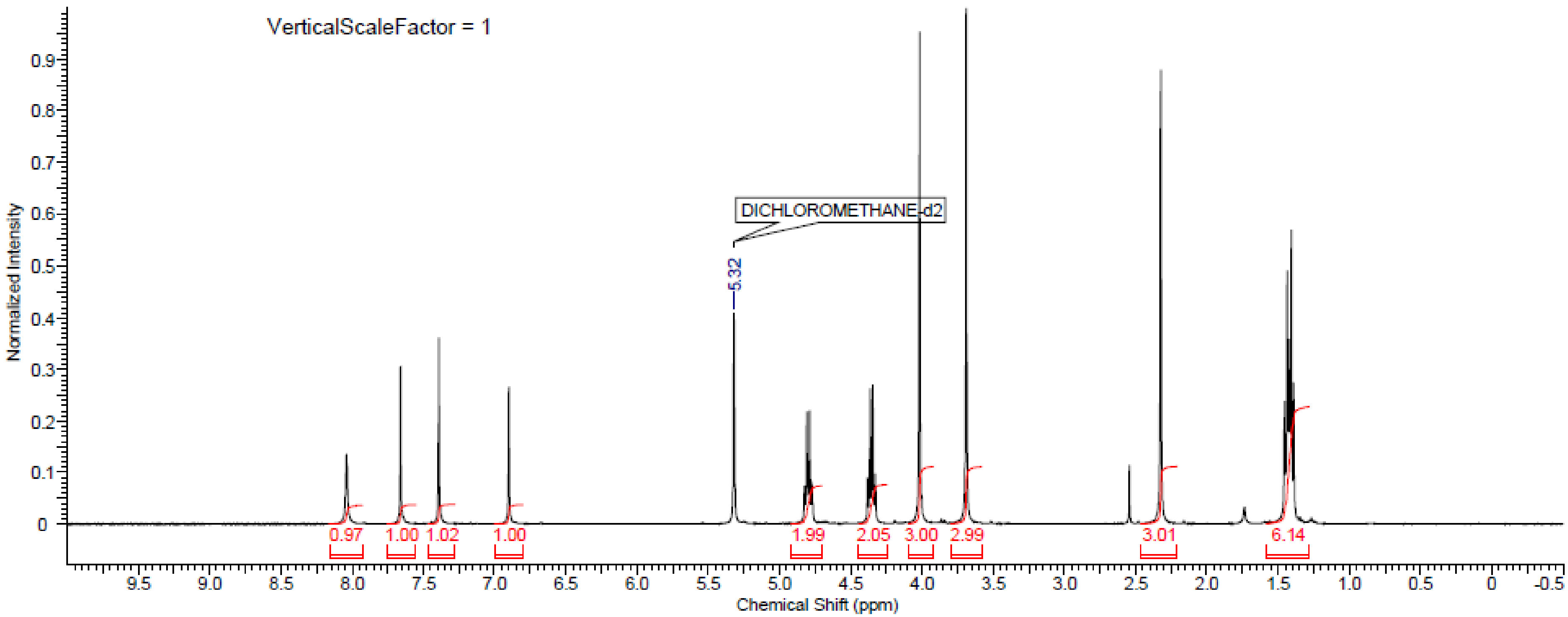

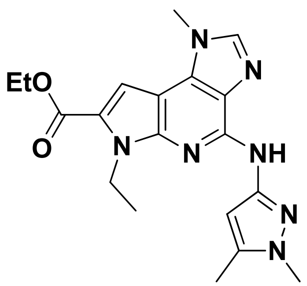

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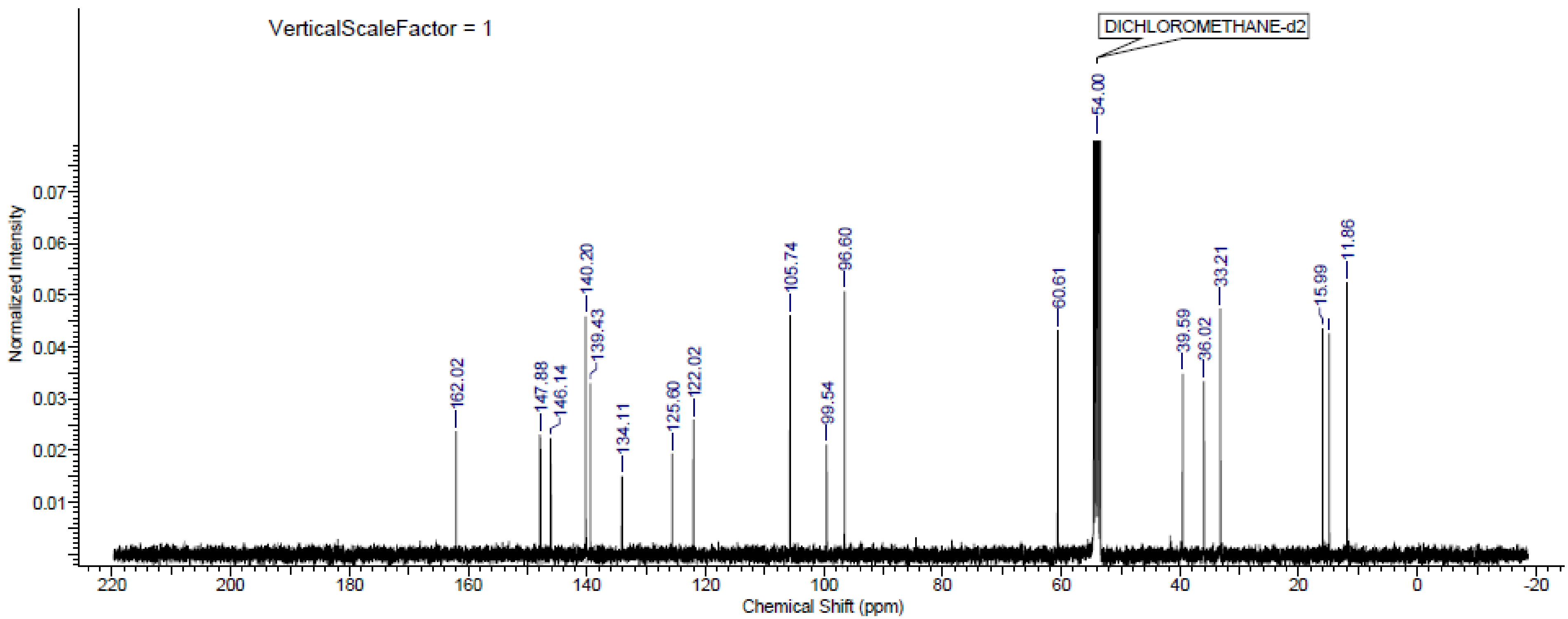
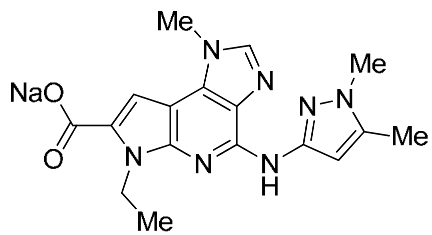
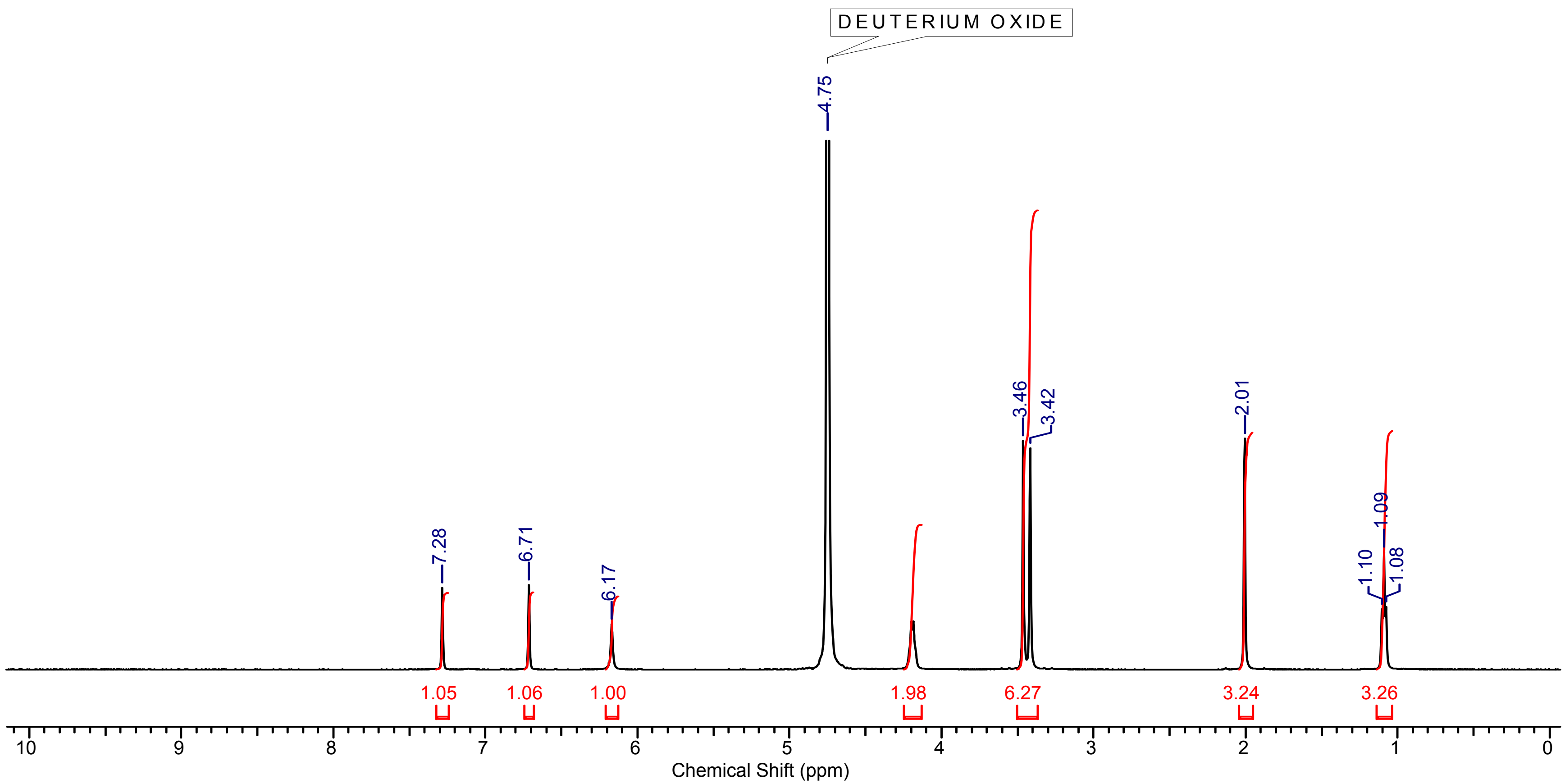
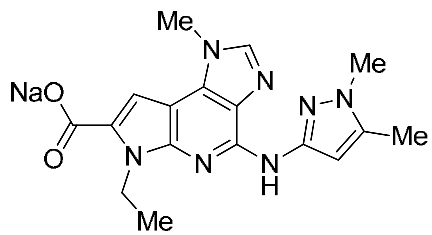


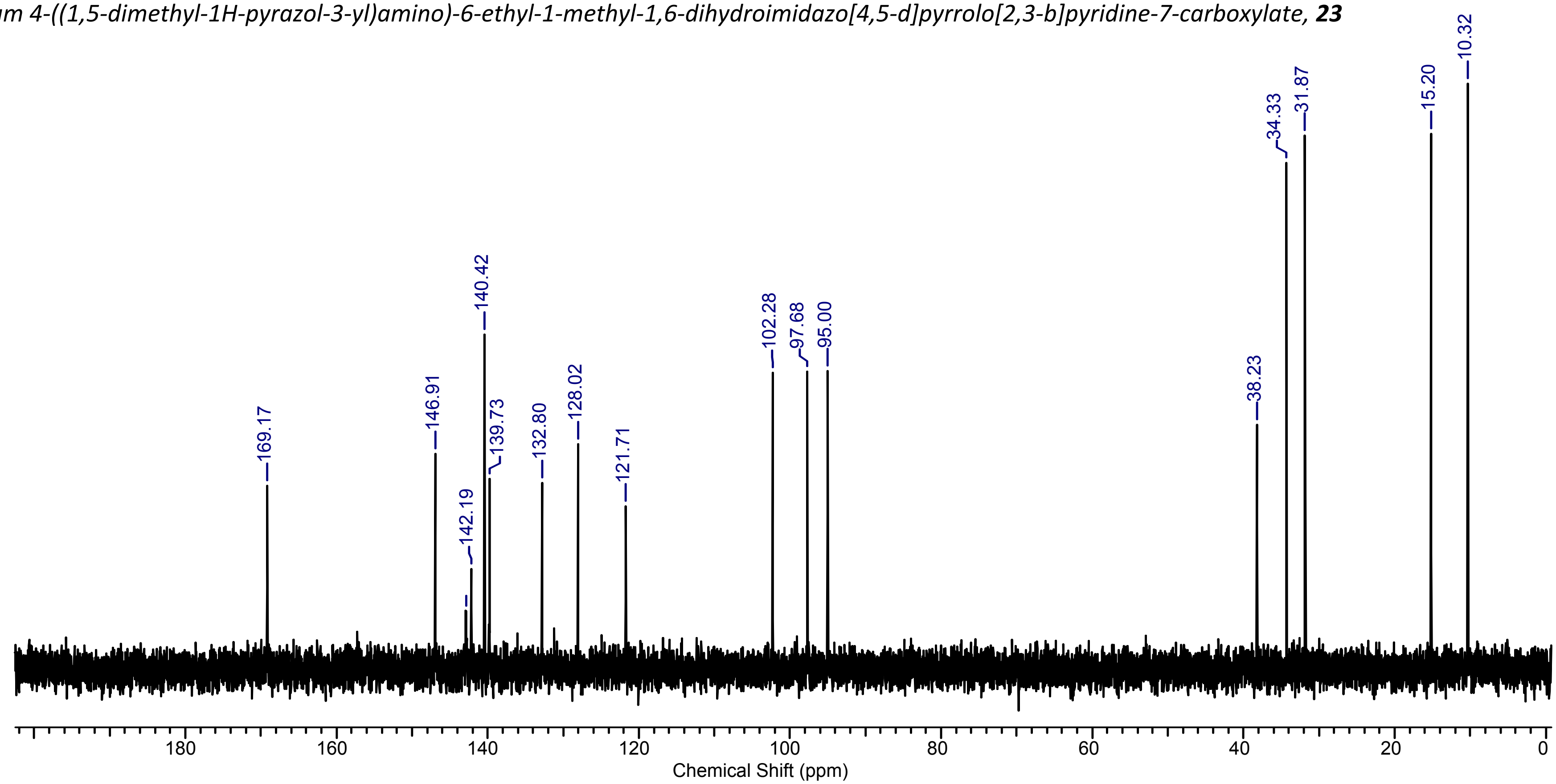


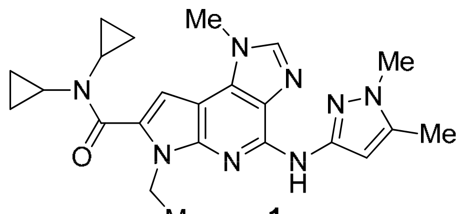
*Sodium 4-((1,5-dimethyl-1H-pyrazol-3-yl)amino)-6-ethyl-1-methyl-1,6-dihydroimidazo[4,5-d]pyrrolo[2,3-b]pyridine-7-carboxylate, **23***





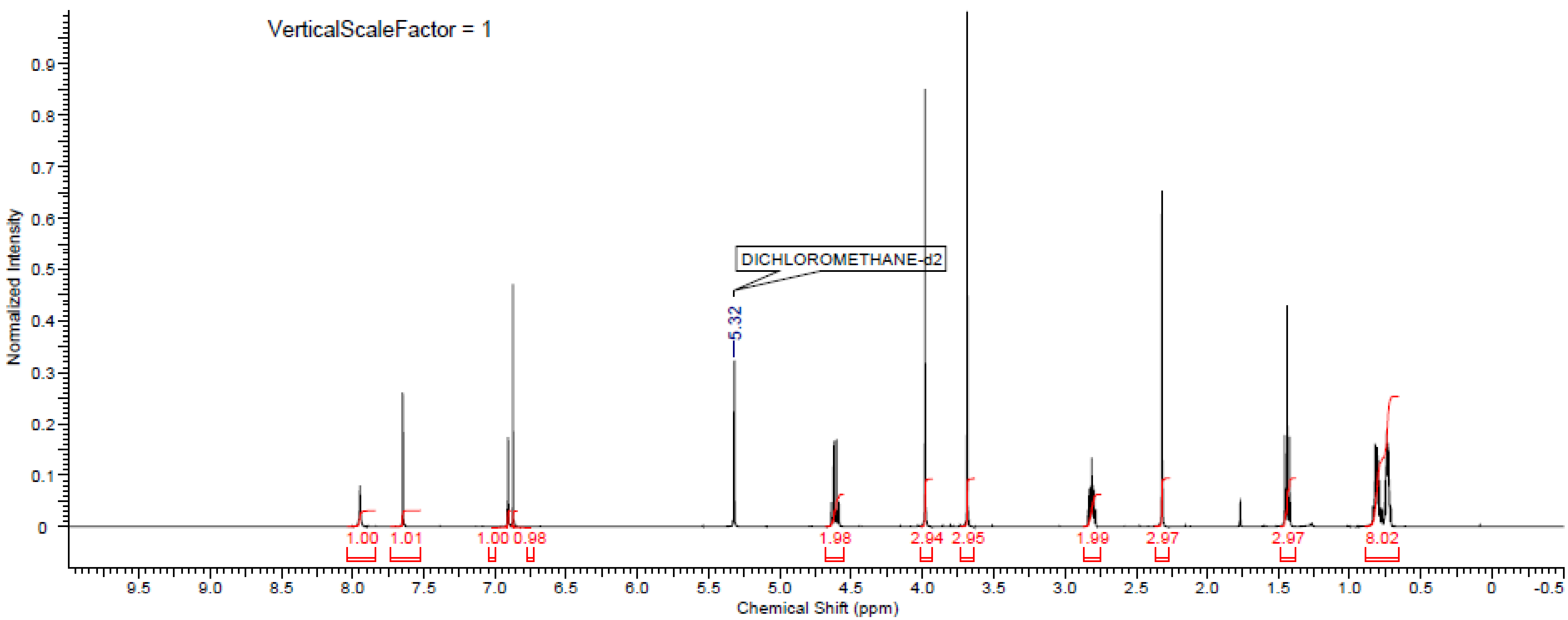
Sodium 4-((1,5-dimethyl-1H-pyrazol-3-yl)amino)-6-ethyl-1-methyl-1,6-dihydroimidazo[4,5-d]pyrrolo[2,3-b]pyridine-7-carboxylate, ***23***

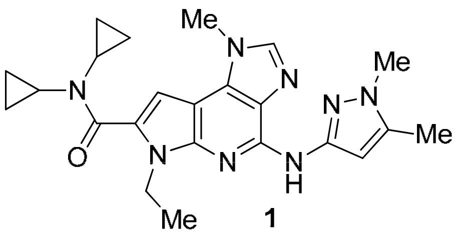




1

N,N-dicyclopropyl-4-((1,5-dimethyl-1H-pyrazol-3-yl)amino)-6-ethyl-1-methyl-1,6-dihydroimidazo[4,5-d]pyrrolo[2,3-b]pyridine-7-carboxamide, ***1***





1

N,N-dicyclopropyl-4-((1,5-dimethyl-1H-pyrazol-3-yl)amino)-6-ethyl-1-methyl-1,6-dihydroimidazo[4,5-d]pyrrolo[2,3-b]pyridine-7-carboxamide, ***1***