Supporting Information

Iodoferrocene as partner in *N*-arylation of amides

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Putative palladium complex synthesis

A Schlenk tube containing iodoferrocene (62.4 mg, 0.20 mmol, 1.00 equiv), palladium acetate (44.9 mg, 0.20 mmol, 1.00 equiv), cataCXium® (71.7 mg, 0.20 mmol, 1.00 equiv) and thallium carbonate (187.5 mg, 0.20 mmol, 1.00 equiv) was subjected to three cycles of vacuum/argon before degassed toluene (1.0 mL) was added. The Schlenk tube was isolated from the manifold and was heated at 110 °C overnight. The reaction mixture was cooled to rt and was directly purified by column chromatography on silica, eluting with petroleum ether-AcOEt (10:1 to 80:20) to give the complex as a dark red solid (35 mg).

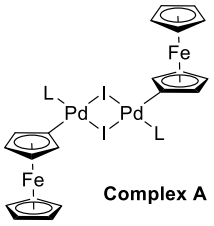
^{1}H NMR (500 MHz, $CDCl_3$) δ (ppm) 0.88 (t, J = 7.2 Hz, 3H, CH_3), 1.29 (m, 2H), 1.77-1.69 (m, 14H), 2.03 (br s, 8H), 2.23 (br s, 12H), 4.28 (s, 2H, 2 x FcCH), 4.56 (s, 2H, 2 x FcCH), 4.61 (s, 5H, Cp).

^{13}C NMR (125 MHz, $CDCl_3$) δ (ppm) 14.0 (s), 22.7 (d, J = 21.1 Hz), 25.3 (d, J = 13.5 Hz), 28.9 (d, J = 9.0 Hz), 28.9 (d, J = 9.0 Hz), 29.7 (s), 29.8 (s), 36.3 (s), 40.3 (s), 42.3 (d, J = 15.8 Hz), 67.1 (s, 2 x FcCH), 70.0 (s, Cp), 75.3 (d, J = 4.2 Hz, 2 x FcCH).

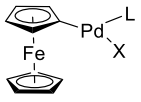
See NMR spectra p. 3-5.

Despite all our efforts, we were not able to grow crystals suitable for crystallography due to the high solubility of the compound in common organic solvents, as already noticed by Manners on related complexes.[1] Although full elucidation of the complex structure by NMR analysis was not possible, the spectra obtained support the formation of an oxidative addition complex: ferrocenic protons appeared deshielded by ^{1}H NMR spectroscopy, as already observed on related complex,[2] while a coupling was noticed between phosphorous and the ferrocenic carbons by ^{13}C NMR spectroscopy. NOESY NMR experiment further supports such complex formation as a correlation between ferrocenic proton, adjacent to the palladium center, and two aliphatic signals, tentatively assigned to be part of the adamantyl moiety and butyl chain (2.23 and 1.77-1.69 ppm, respectively) was observed.[3]

Considering the cataCXium® complexes reported in the literature,[3] a dimeric structure of such as complex A might be relevant. However, as thallium carbonate used as base is proposed to precipitate iodides,[4, 5] a structure such as complex B might also be possible.

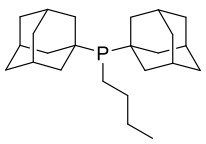


Complex A

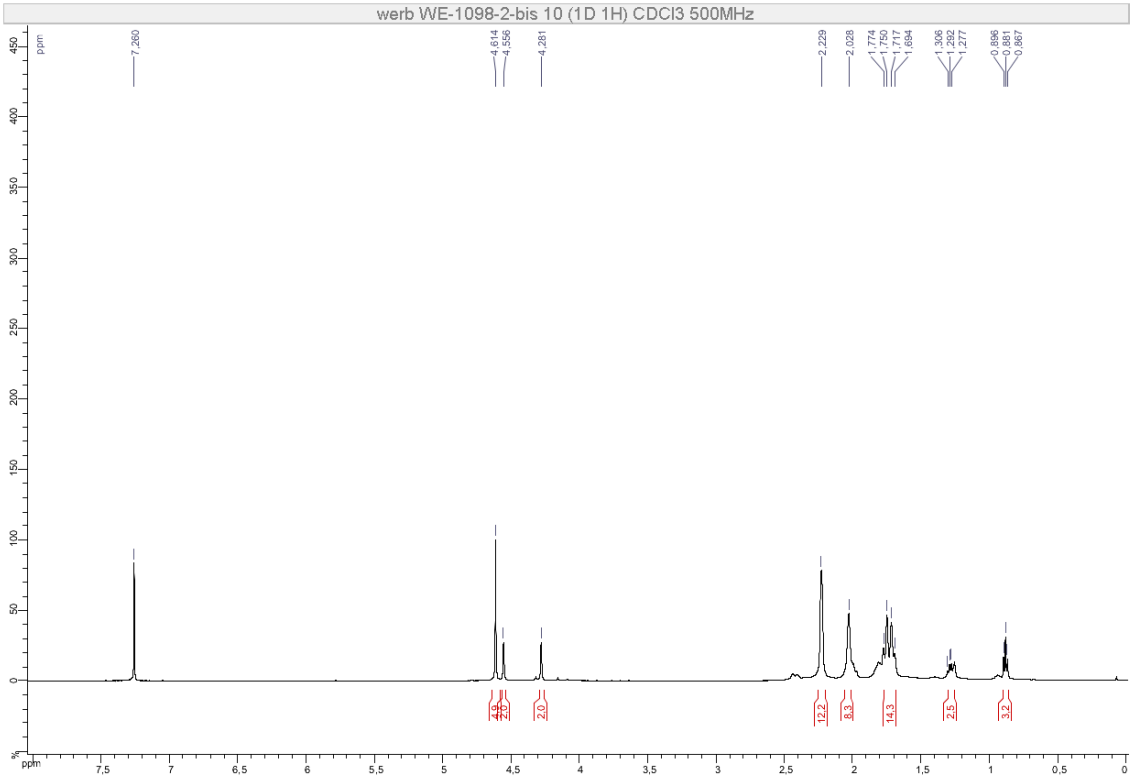


Complex B

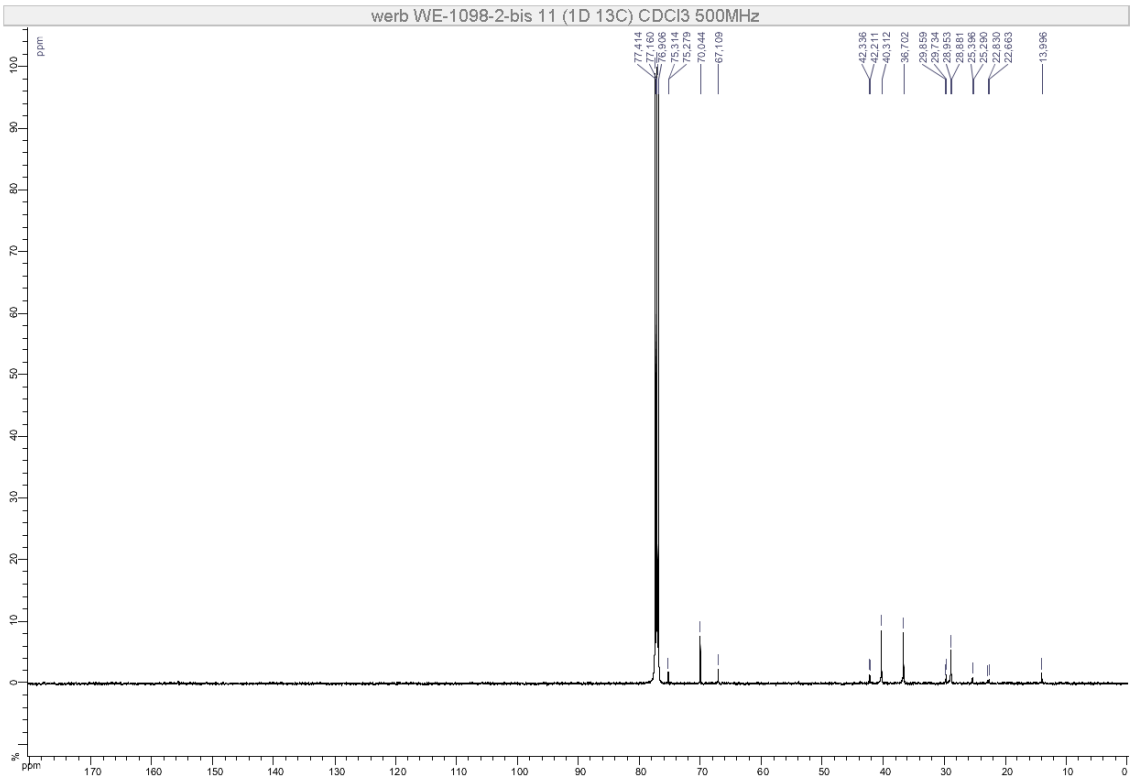
L:



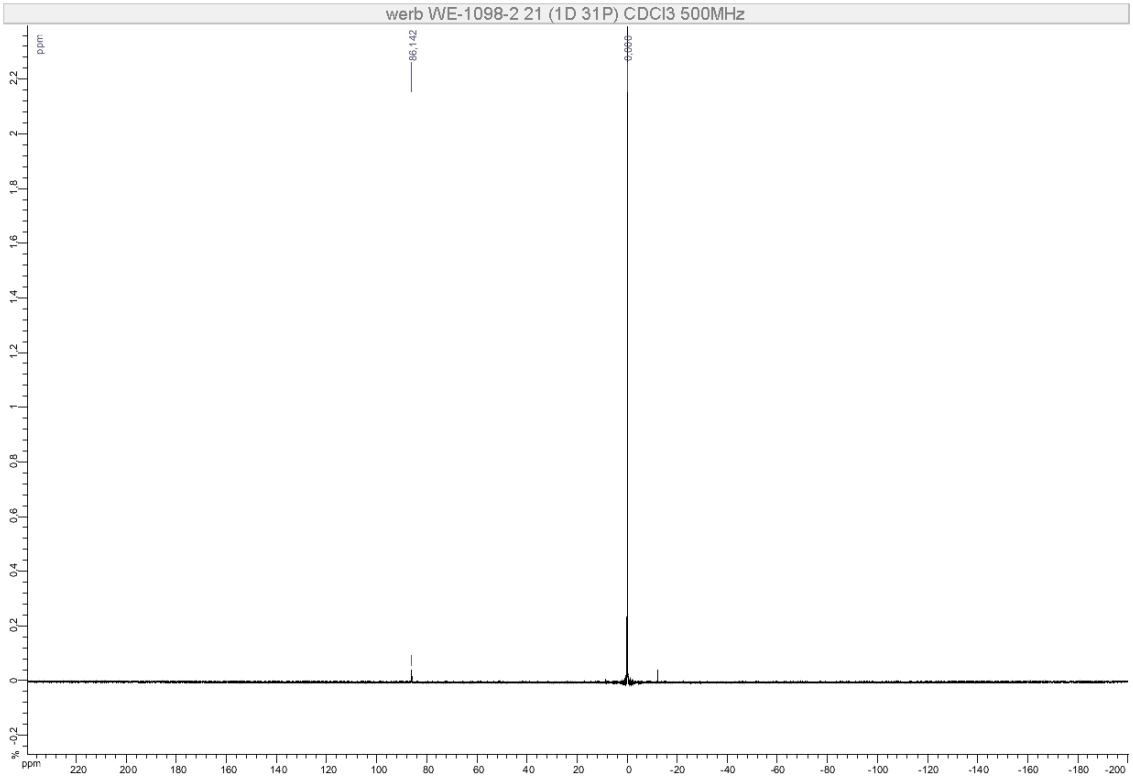
^{1}H NMR (500 MHz, $CDCl_3$)



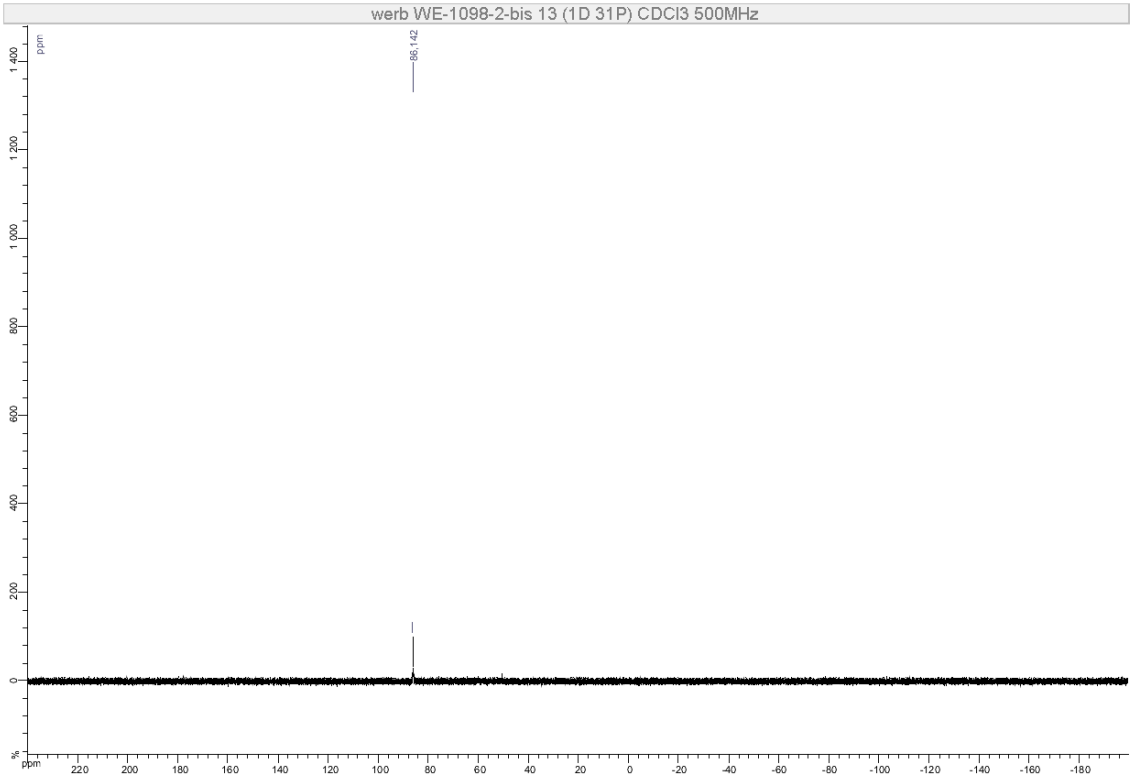
^{13}C NMR (500 MHz, $CDCl_3$)



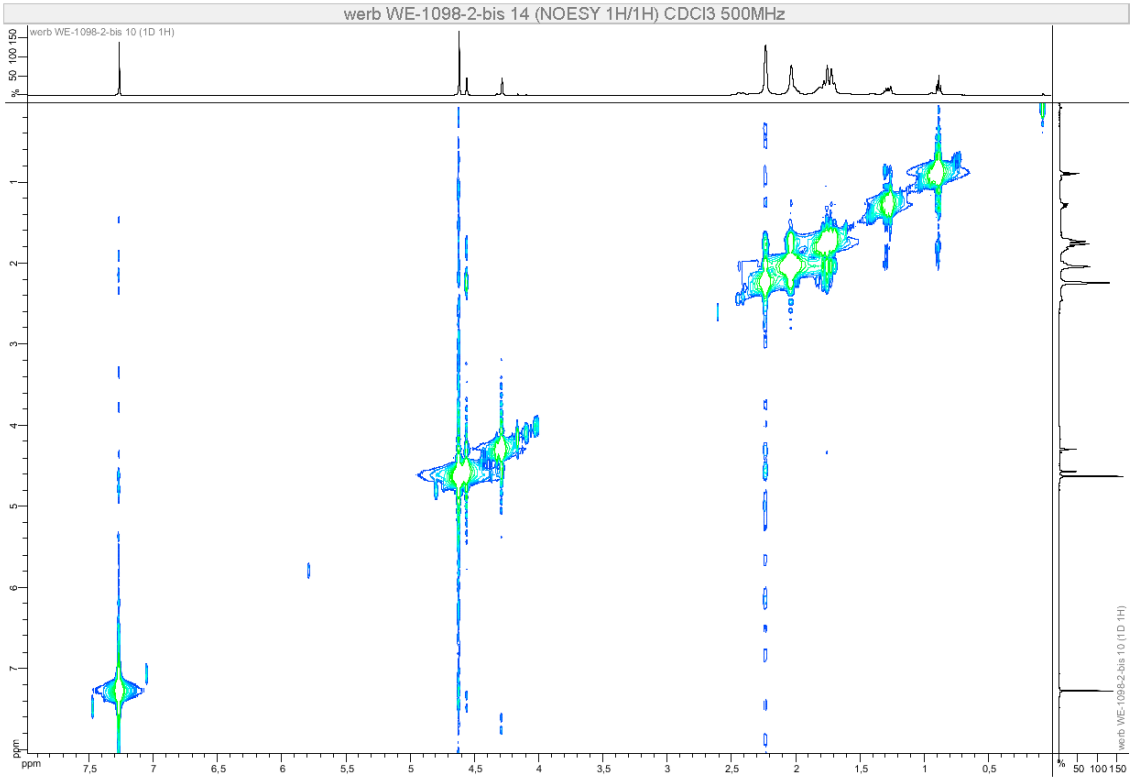
^{31}P NMR (202 MHz, $CDCl_3$) – H_3PO_4 (85%) as internal reference



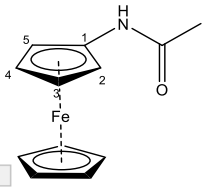
^{31}P NMR (202 MHz, $CDCl_3$)



NOESY NMR (500 MHz, $CDCl_3$)

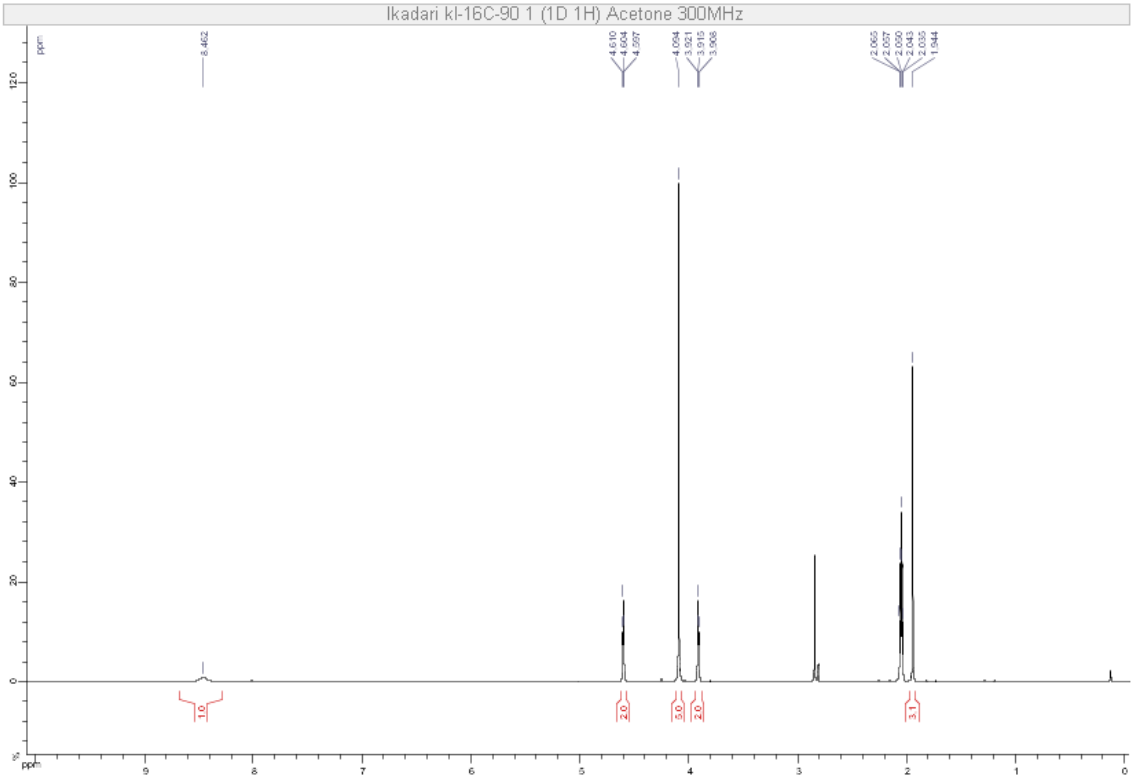


NMR Spectra

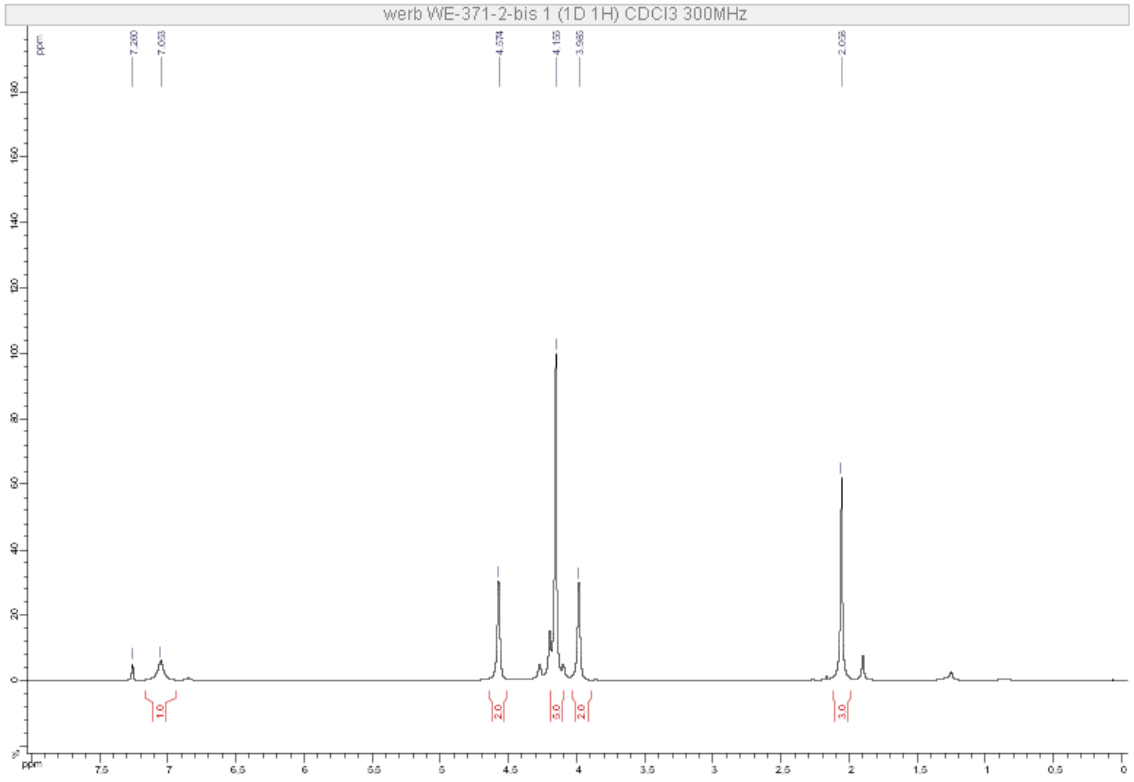


***N*-Ferrocenylacetamide** (**2-Me**, mixture of rotamers)

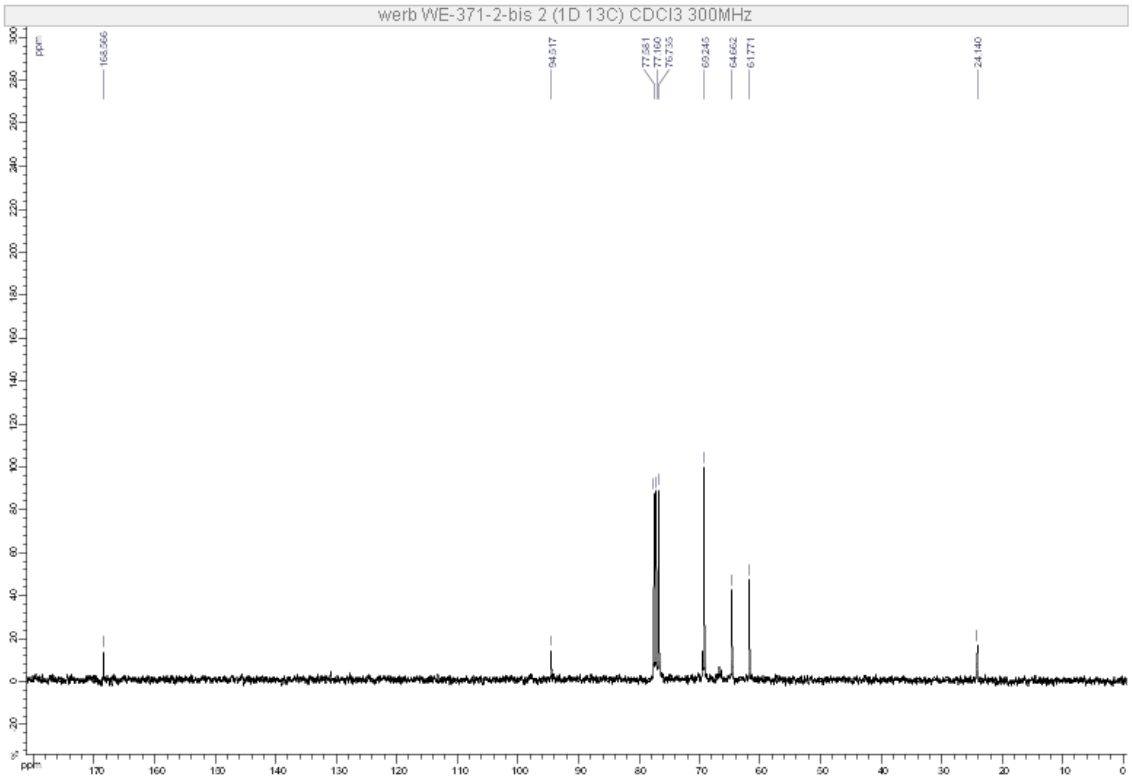
^{1}H NMR (300 MHz, $(CD_3)_2CO$)



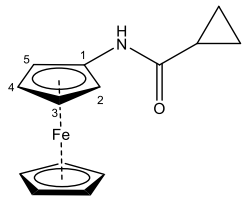
^{1}H NMR (300 MHz, $CDCl_3$)



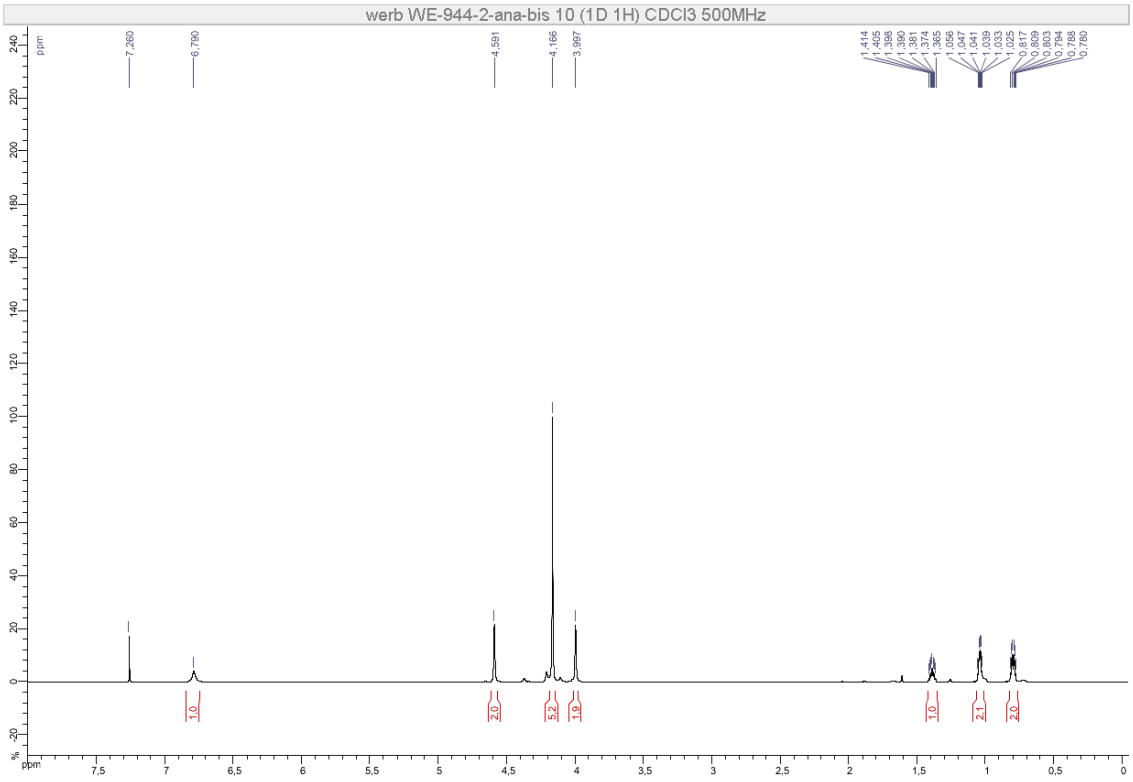
^{13}C NMR (75 MHz, $CDCl_3$)



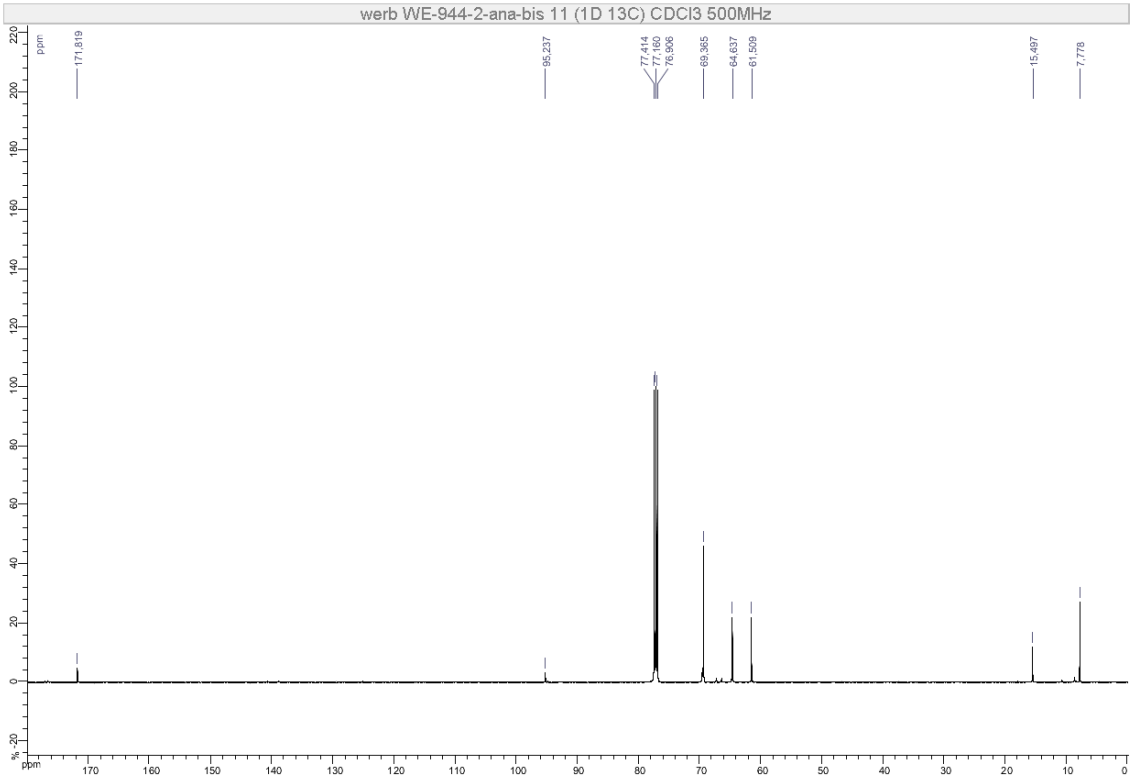
N-(Ferrocenyl)cyclopropanecarboxamide (2-cPr)



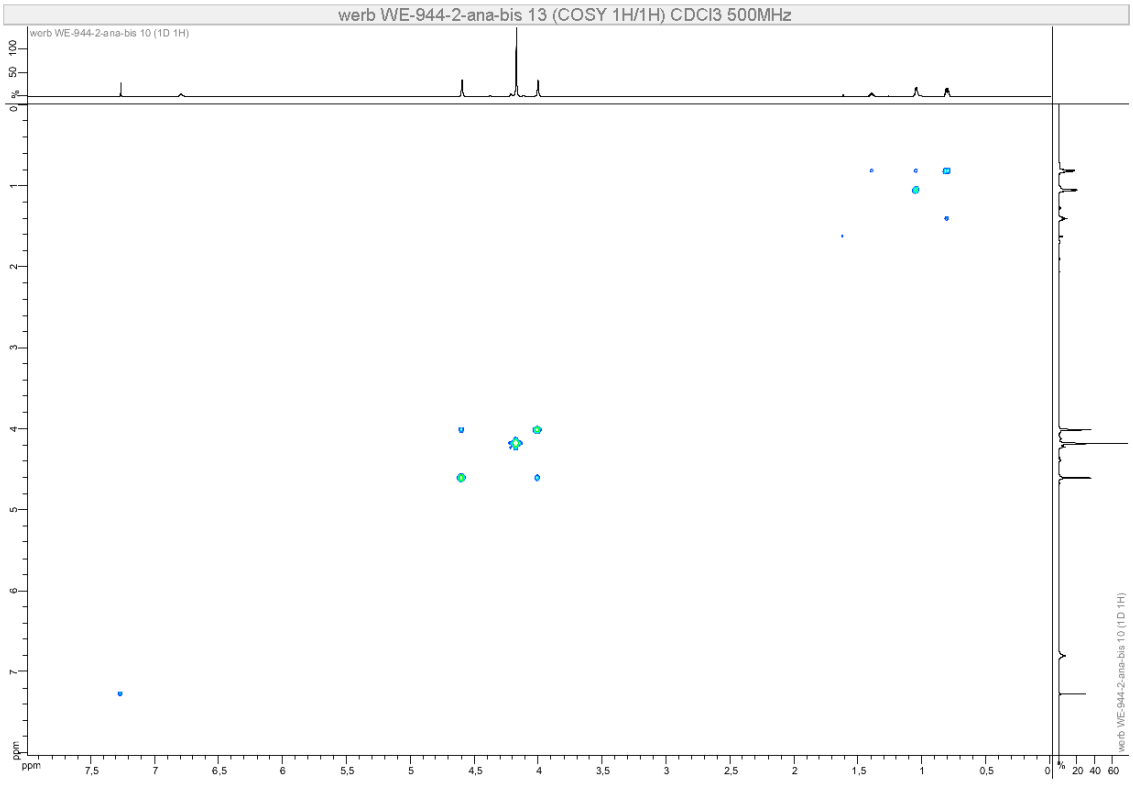
^{1}H NMR (500 MHz, $CDCl_3$)



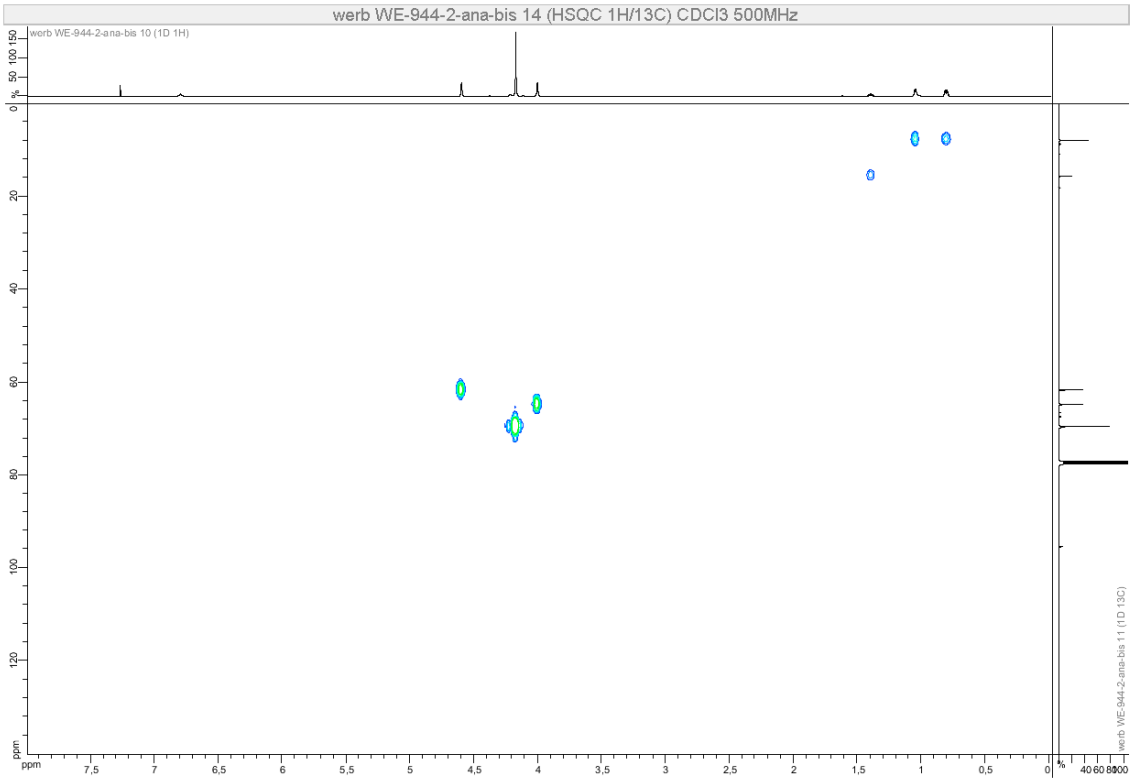
^{13}C NMR (126 MHz, $CDCl_3$)



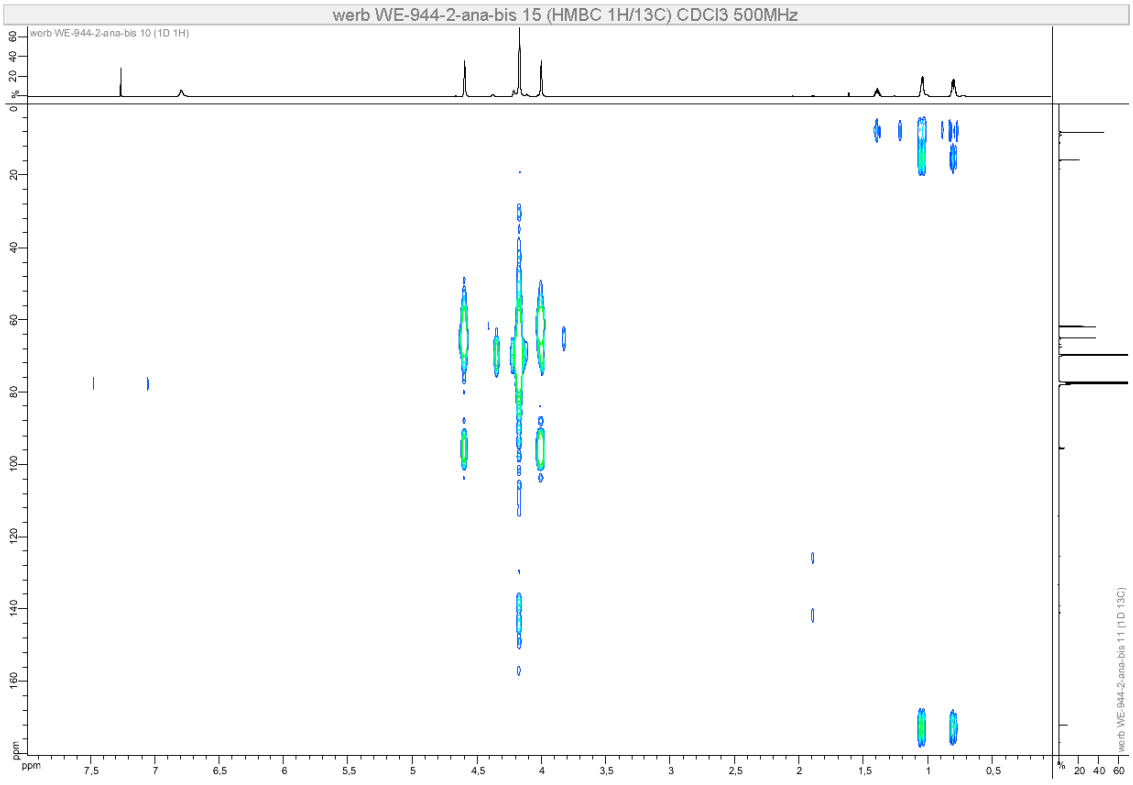
COSY (500 MHz, $CDCl_3$)



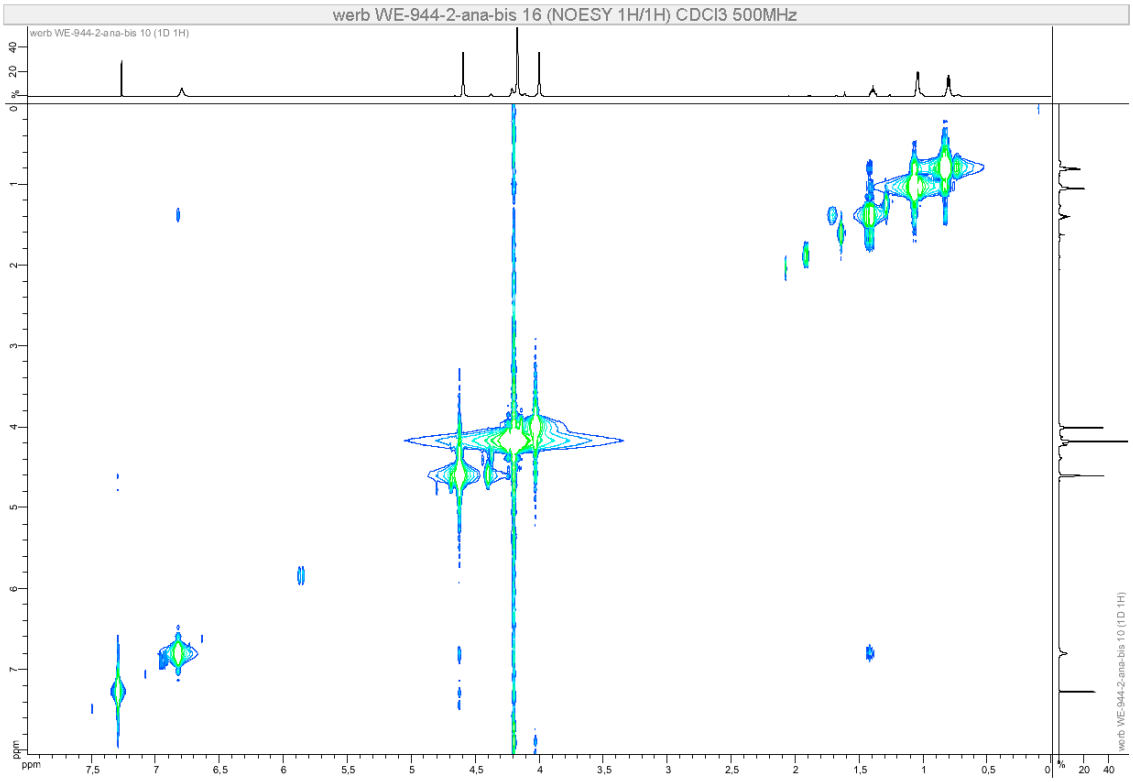
HSQC (500 MHz, $CDCl_3$)



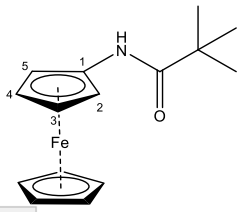
HMBC (500 MHz, $CDCl_3$)



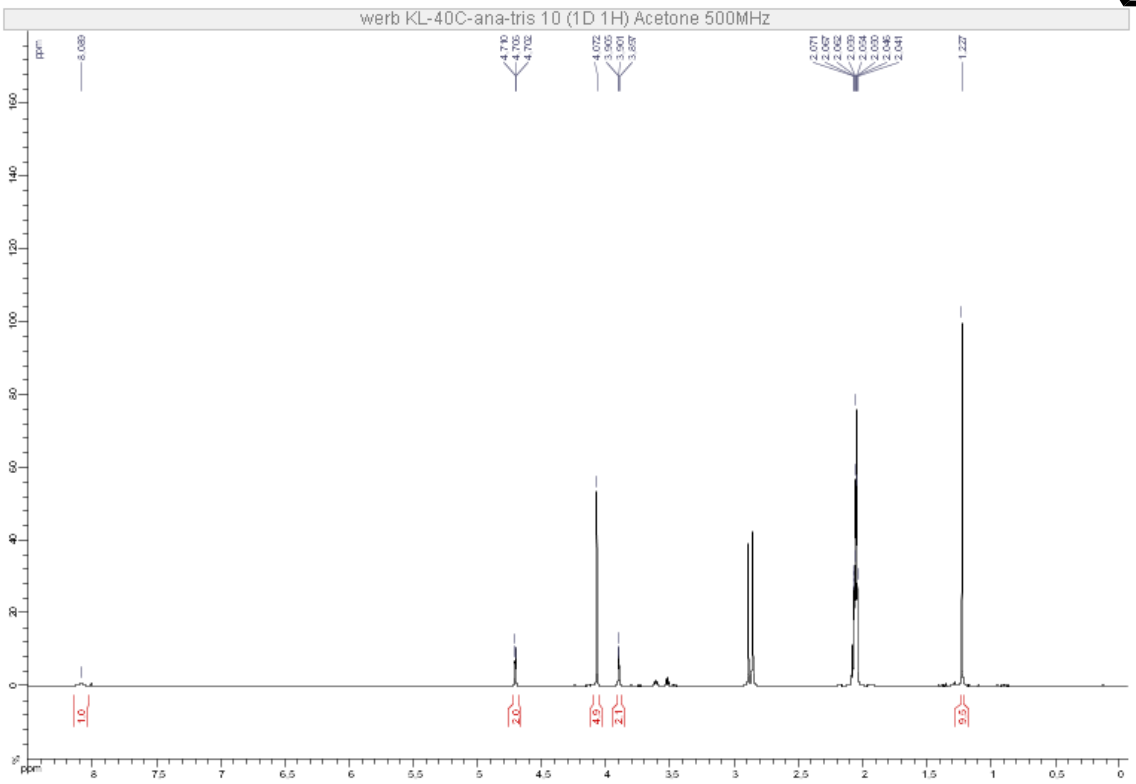
NOESY (500 MHz, $(CD_3)_2SO$)



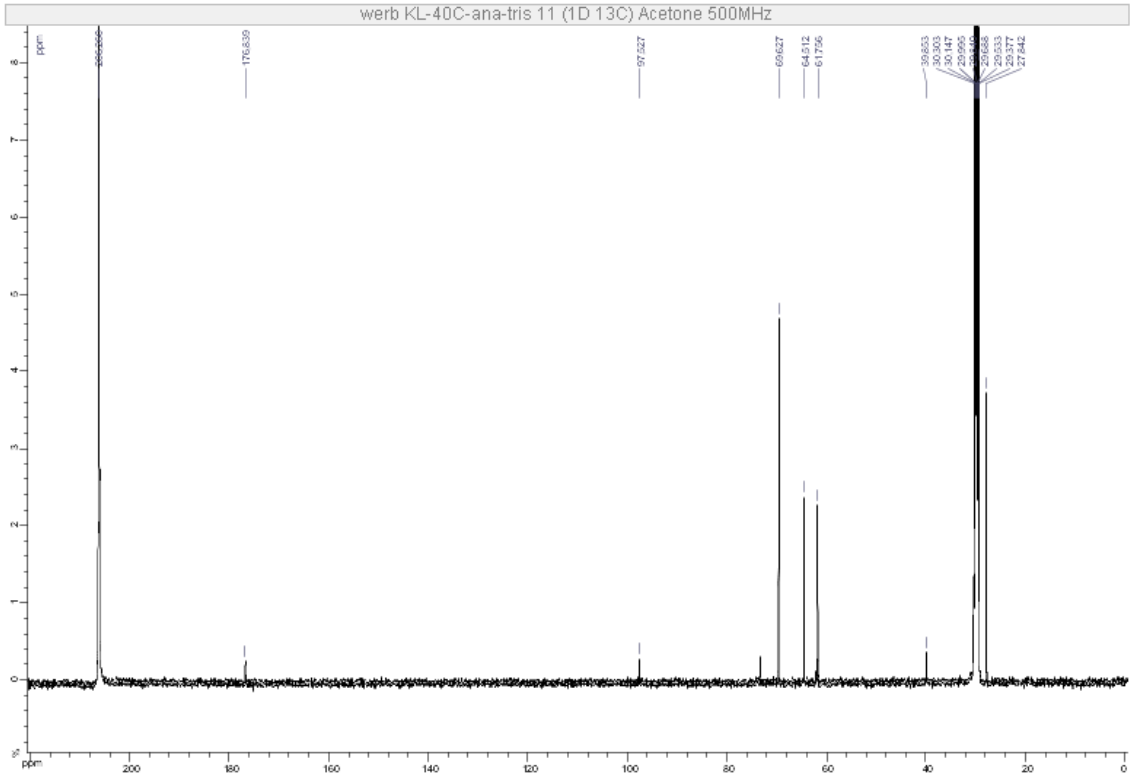
_N_-Ferrocenylpivalamide (2-_t_Bu)



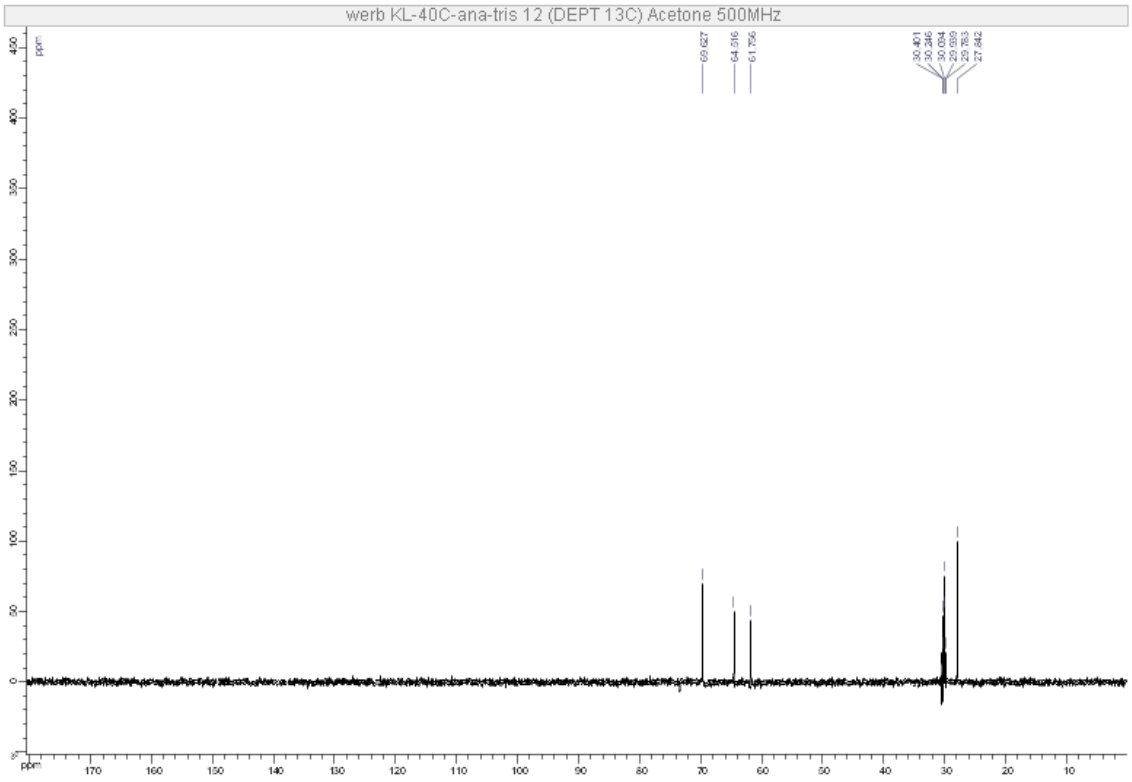
^{1}H NMR (500 MHz, $(CD_3)_2CO$)



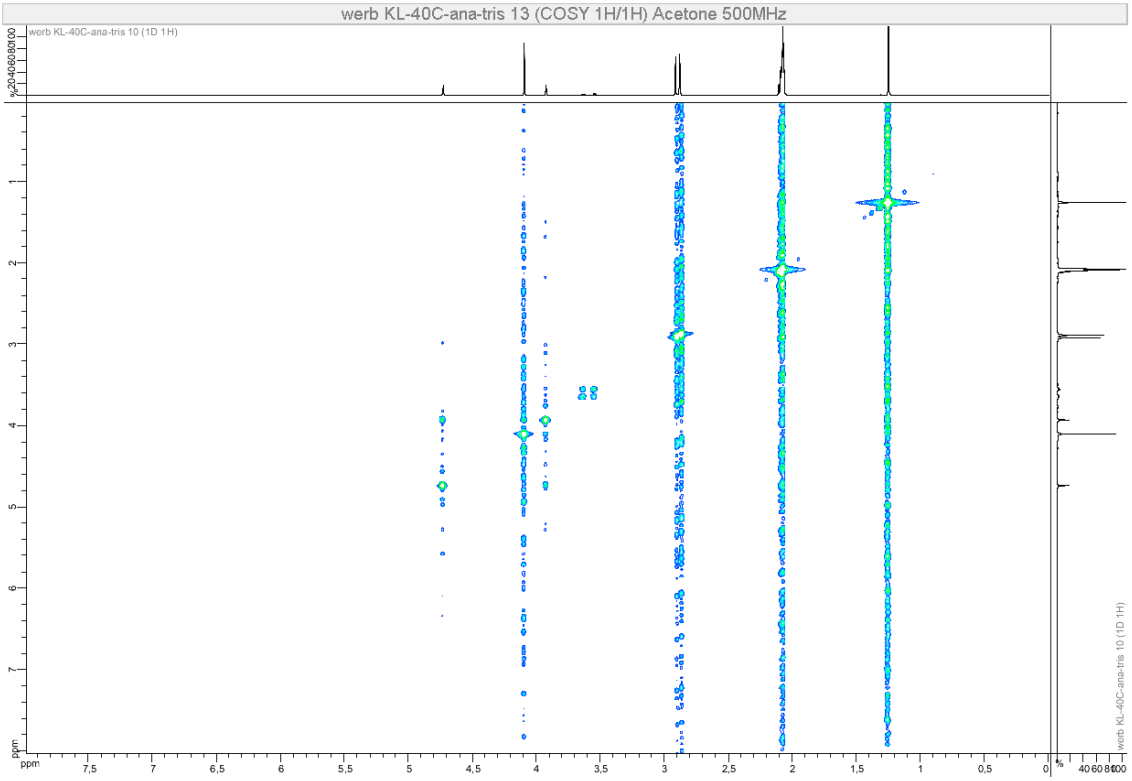
^{13}C NMR (126 MHz, $(CD_3)_2CO$)



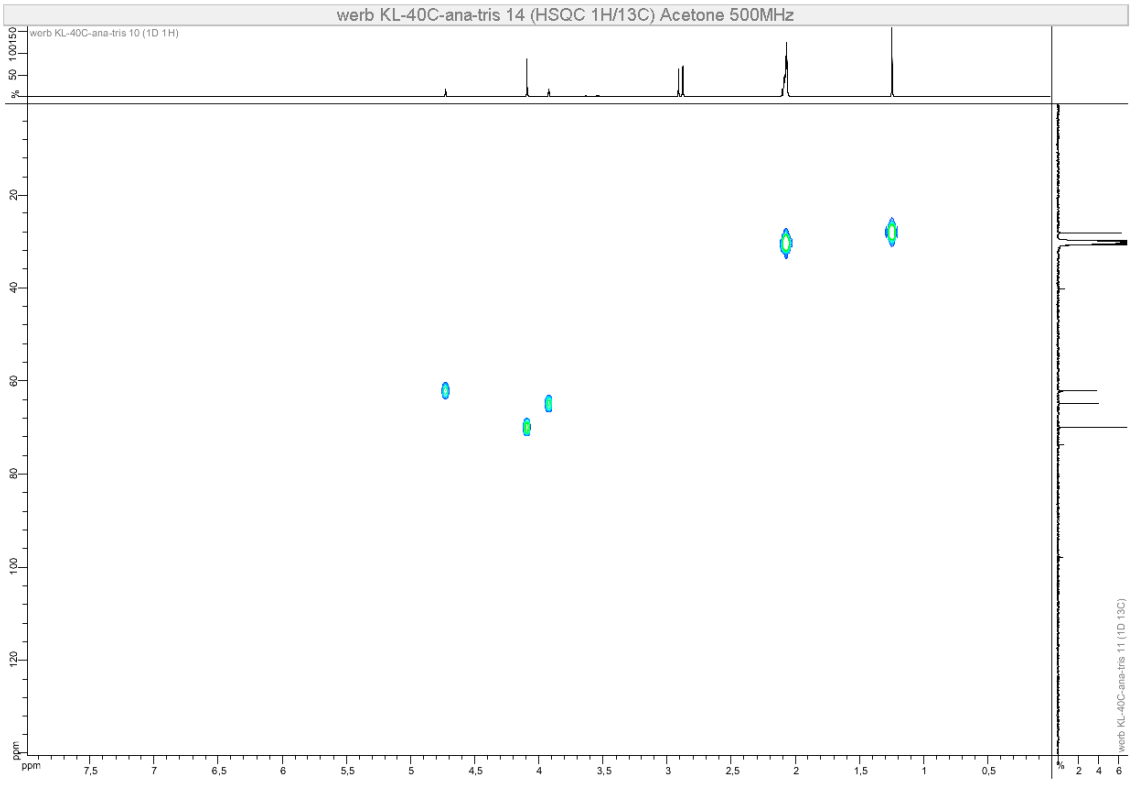
DEPT 135 (126 MHz, $(CD_3)_2CO$)



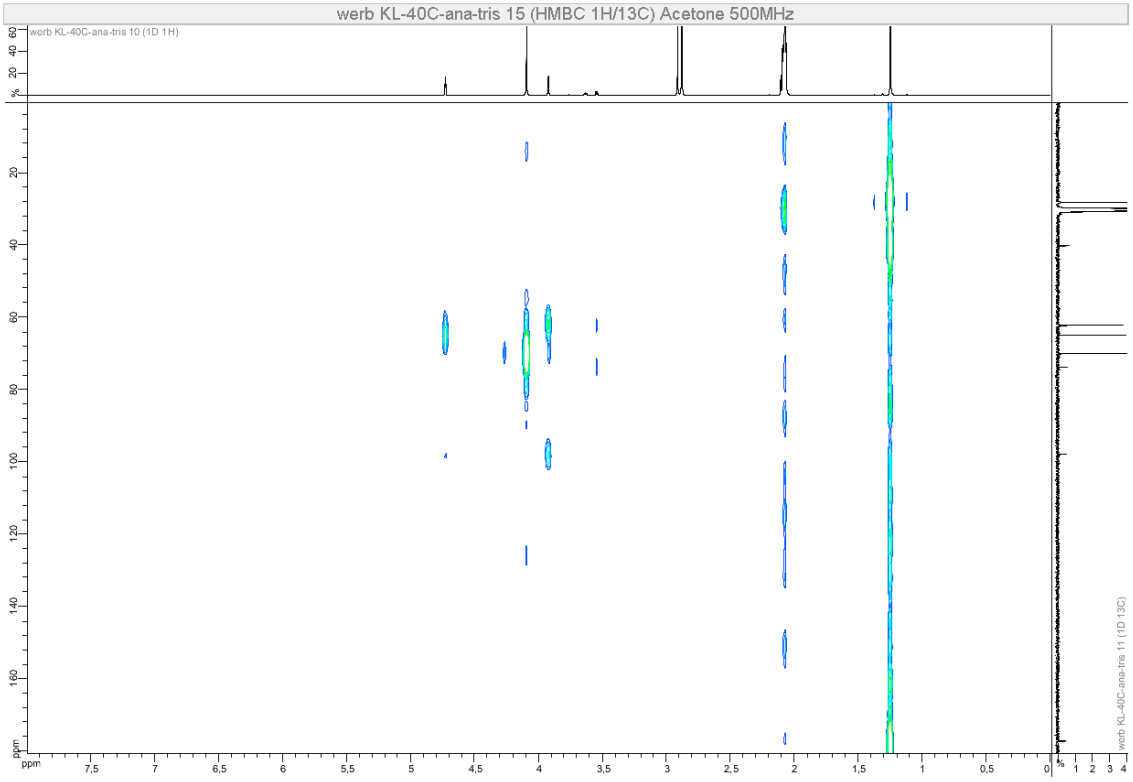
COSY (500 MHz, $(CD_3)_2CO$)



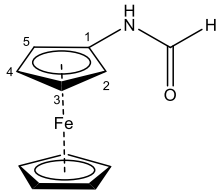
HSQC (500 MHz, $(CD_3)_2CO$)



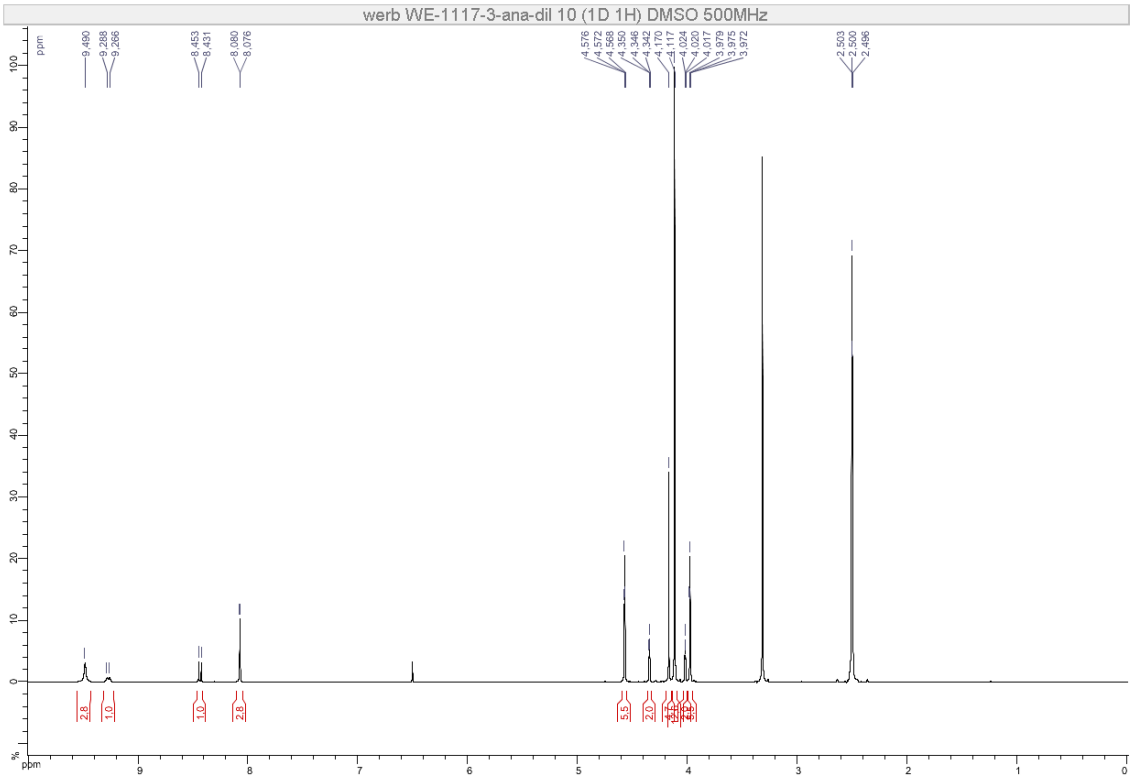
HMBC (500 MHz, $(CD_3)_2CO$)



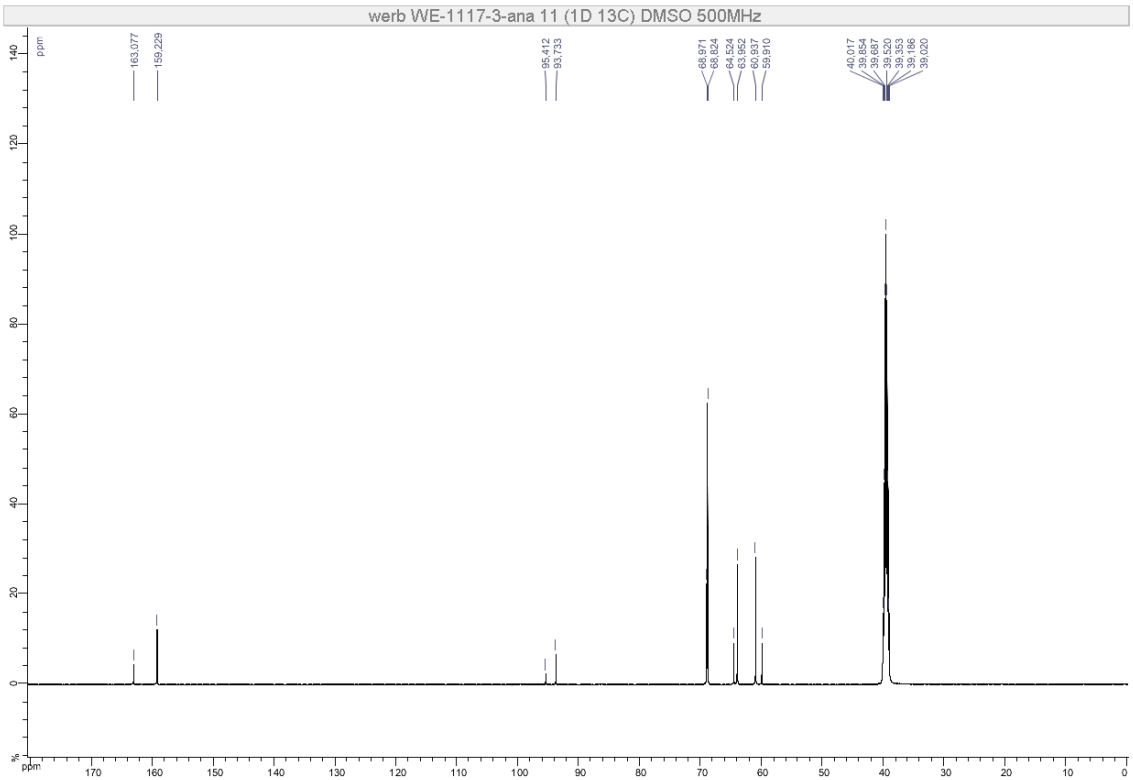
_N_-Ferrocenylformamide (2-H; 2.8:1 (*cis*/*trans*) mixture of rotamers)



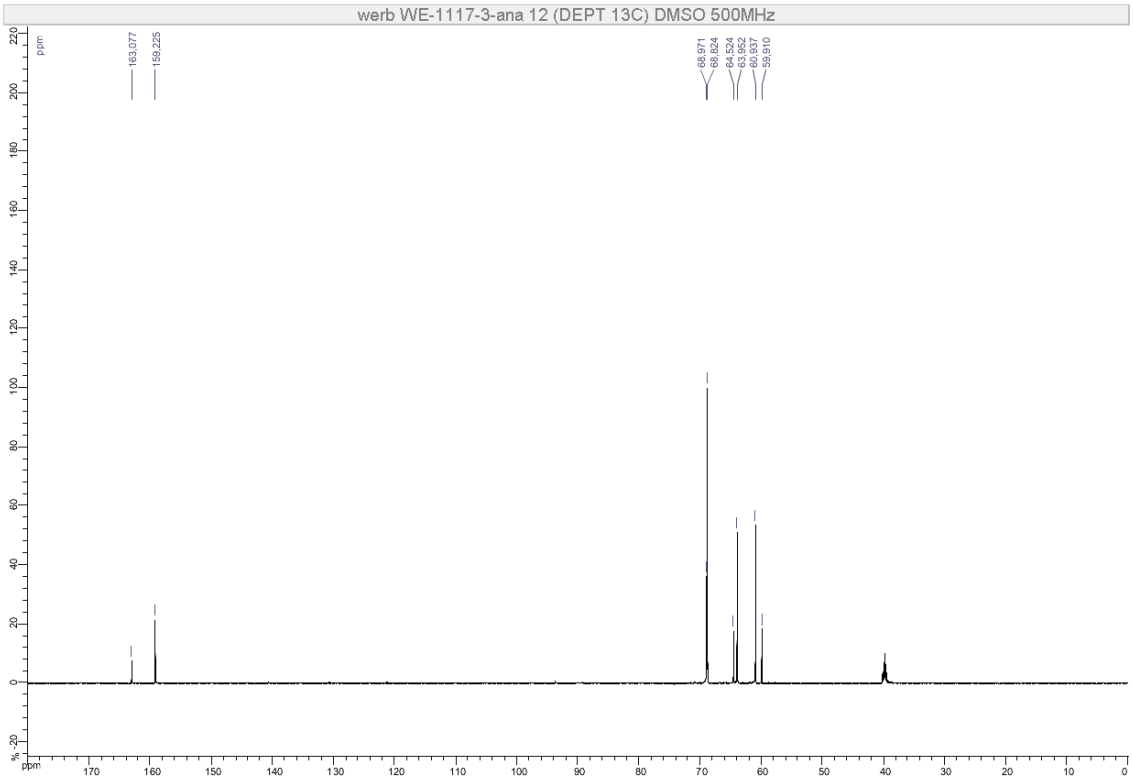
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



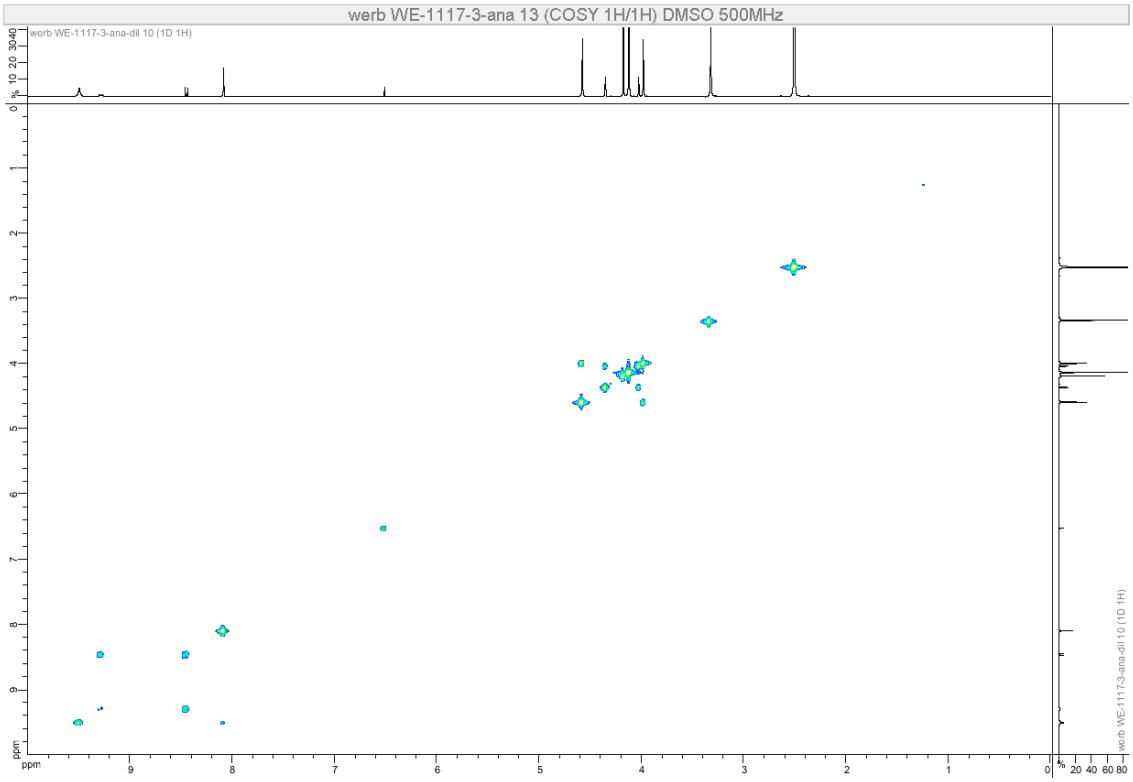
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



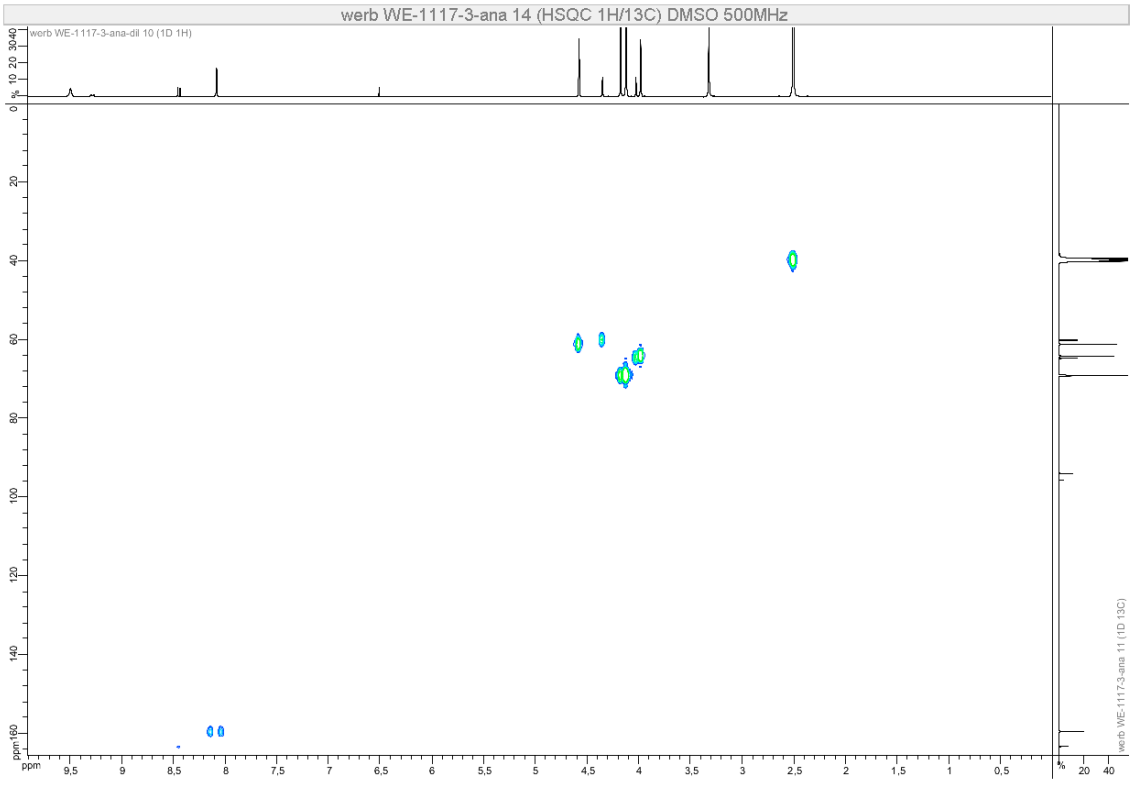
DEPT 135 (126 MHz, $(CD_3)_2SO$)



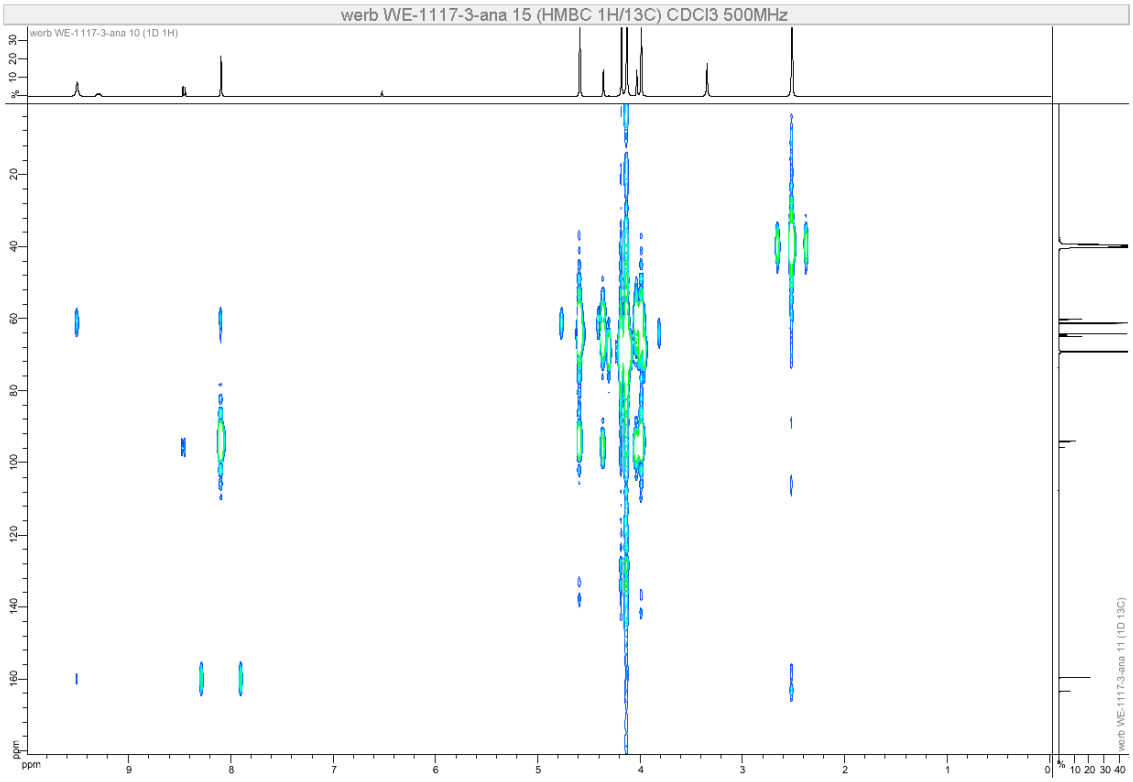
COSY (500 MHz, $(CD_3)_2SO$)



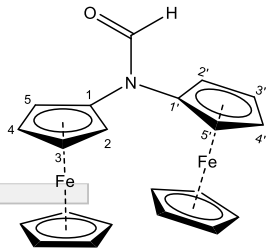
HSQC (500 MHz, $(CD_3)_2SO$)



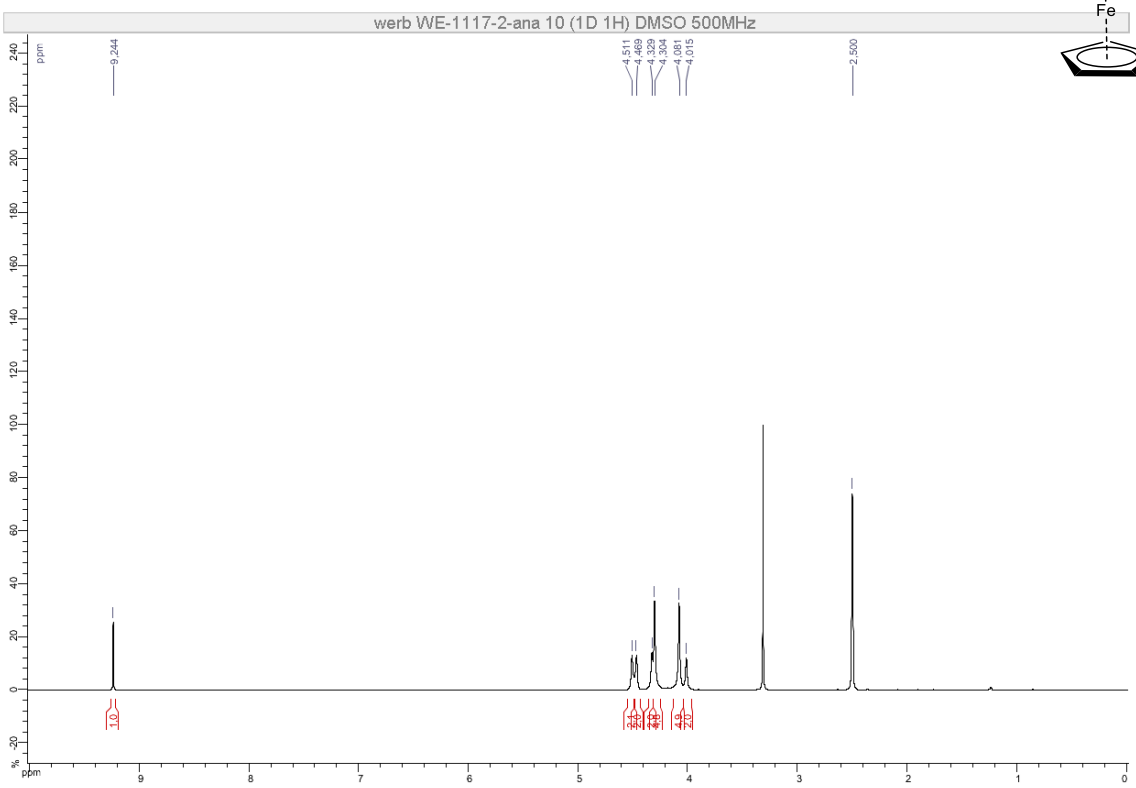
HMBC (500 MHz, $(CD_3)_2SO$)



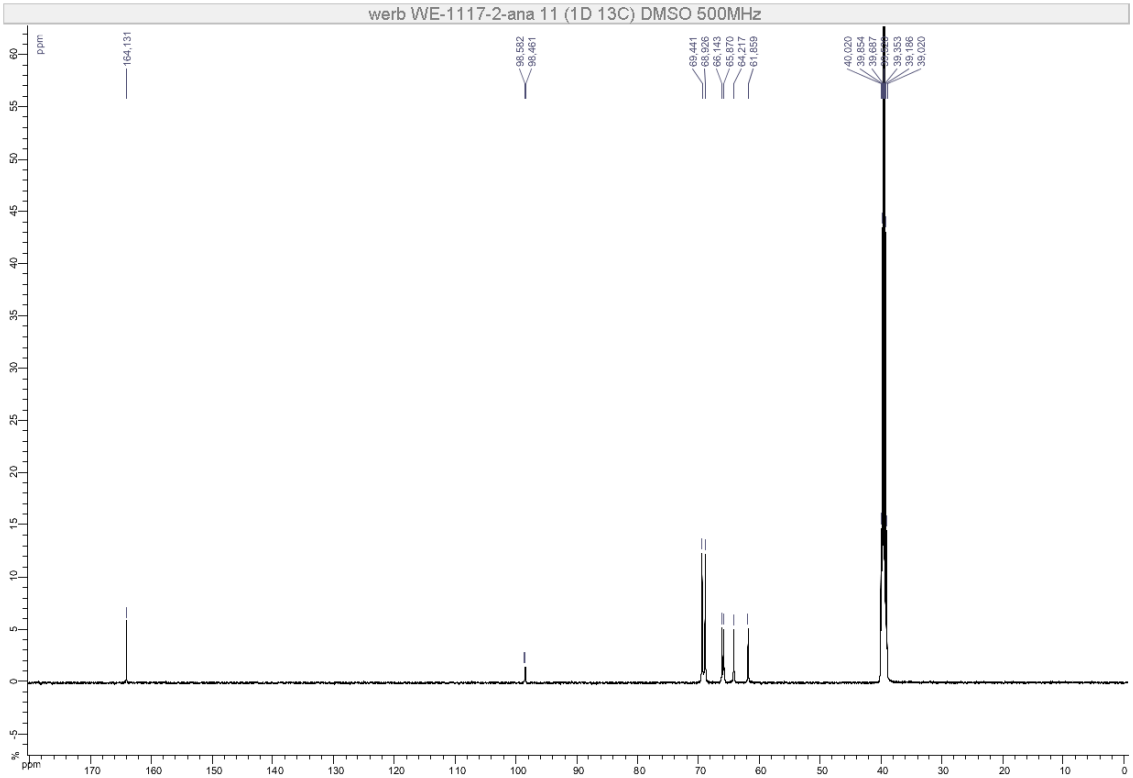
N,N-Diferrocenylformamide



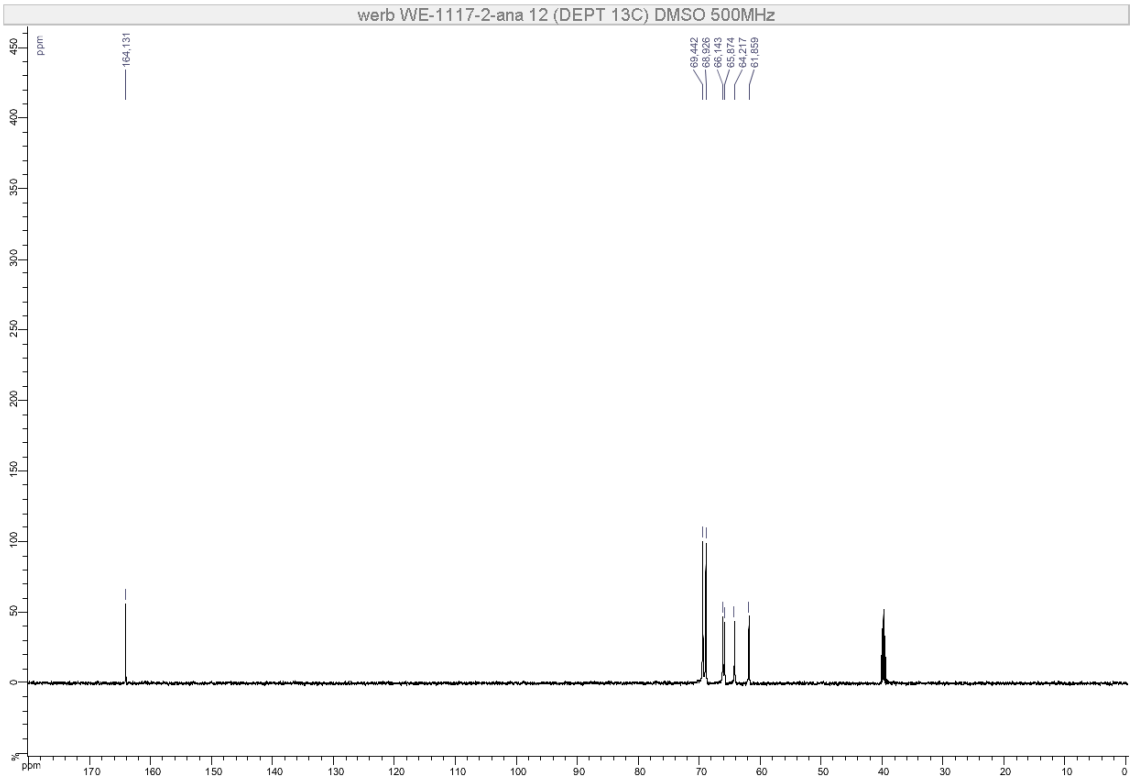
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



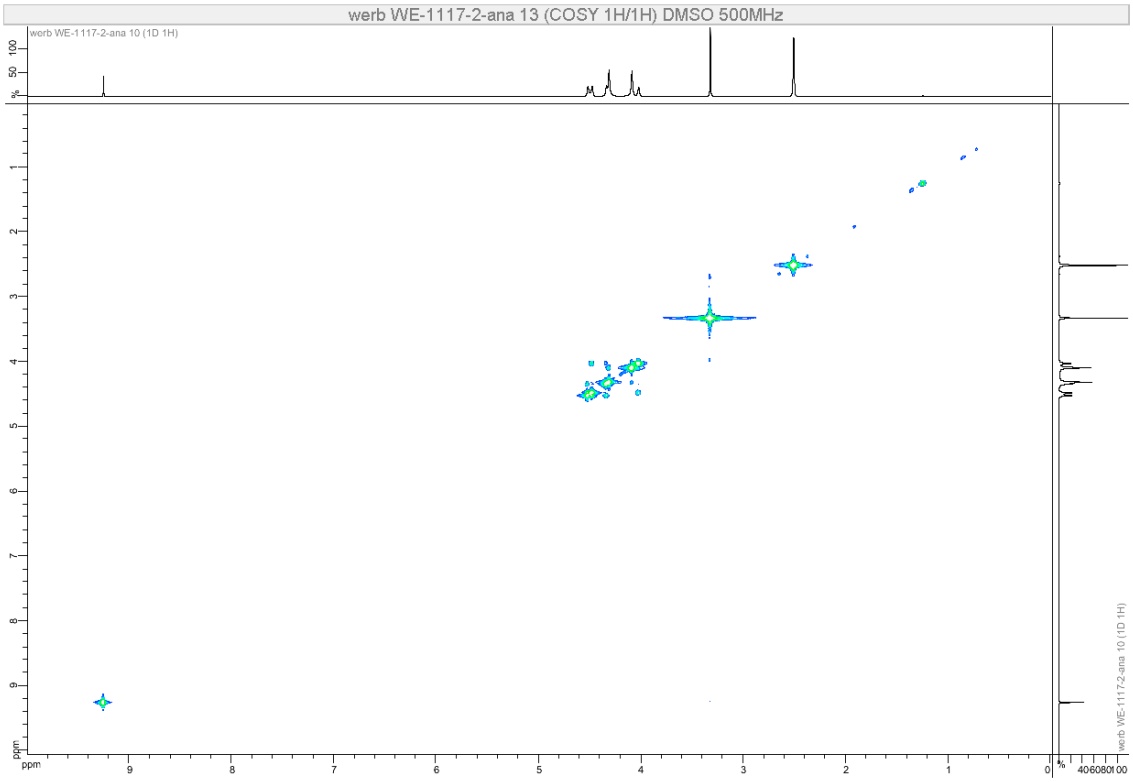
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



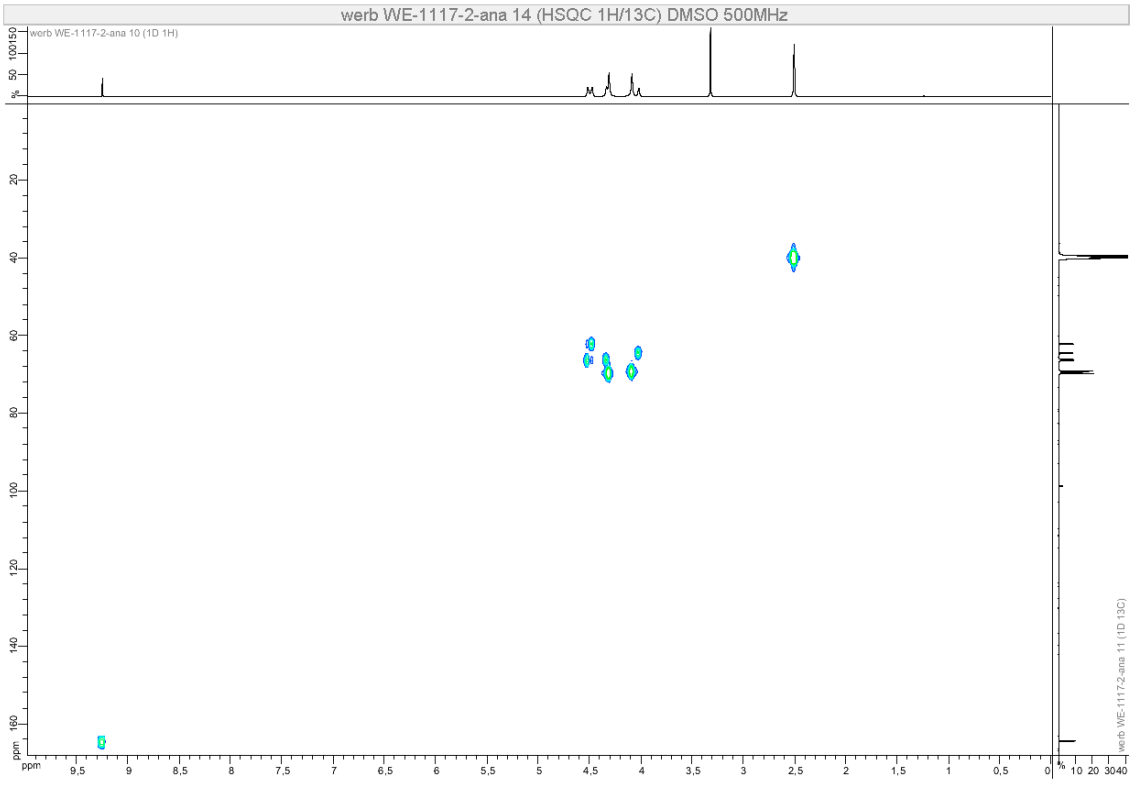
DEPT 135 (126 MHz, $(CD_3)_2SO$)



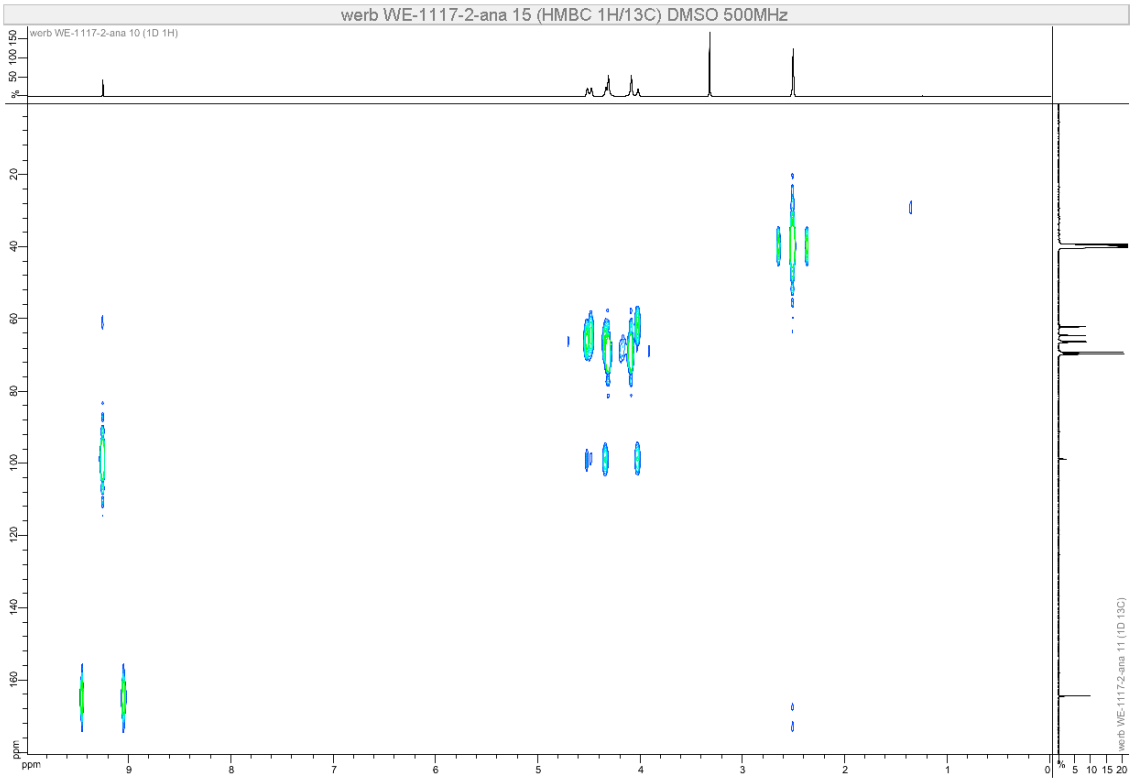
COSY (500 MHz, $(CD_3)_2SO$)



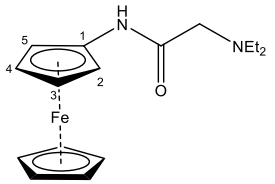
HSQC (500 MHz, $(CD_3)_2SO$)



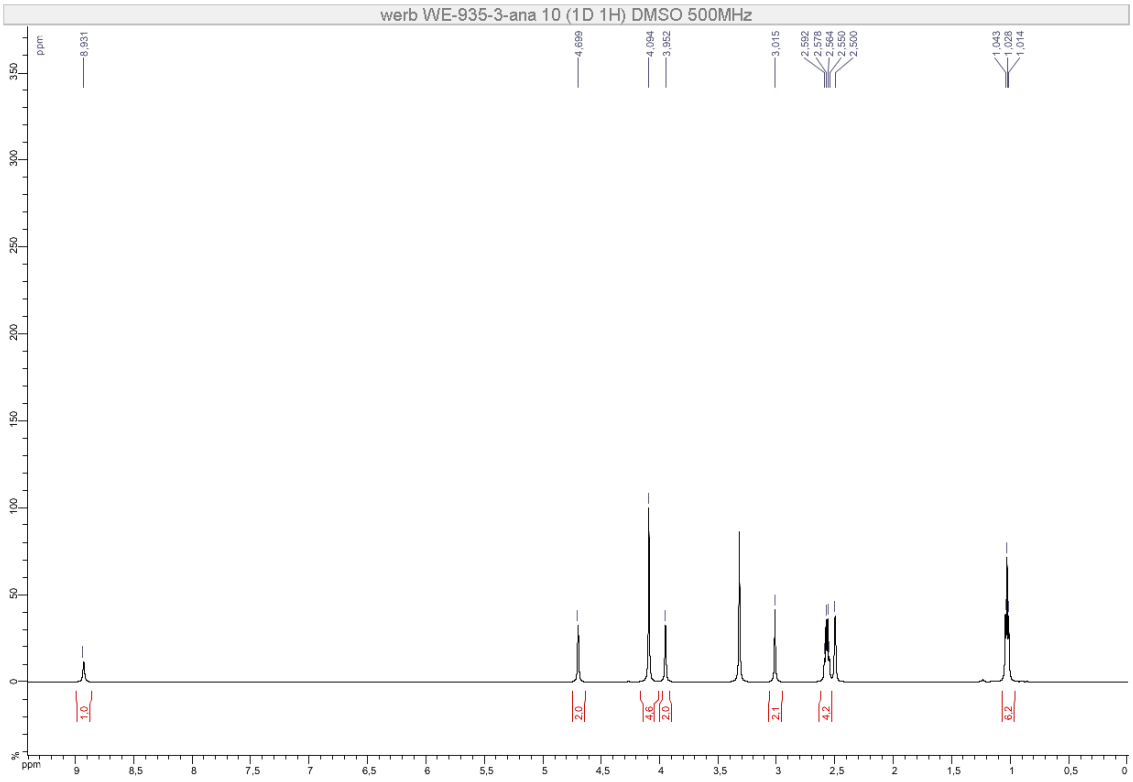
HMBC (500 MHz, $(CD_3)_2SO$)



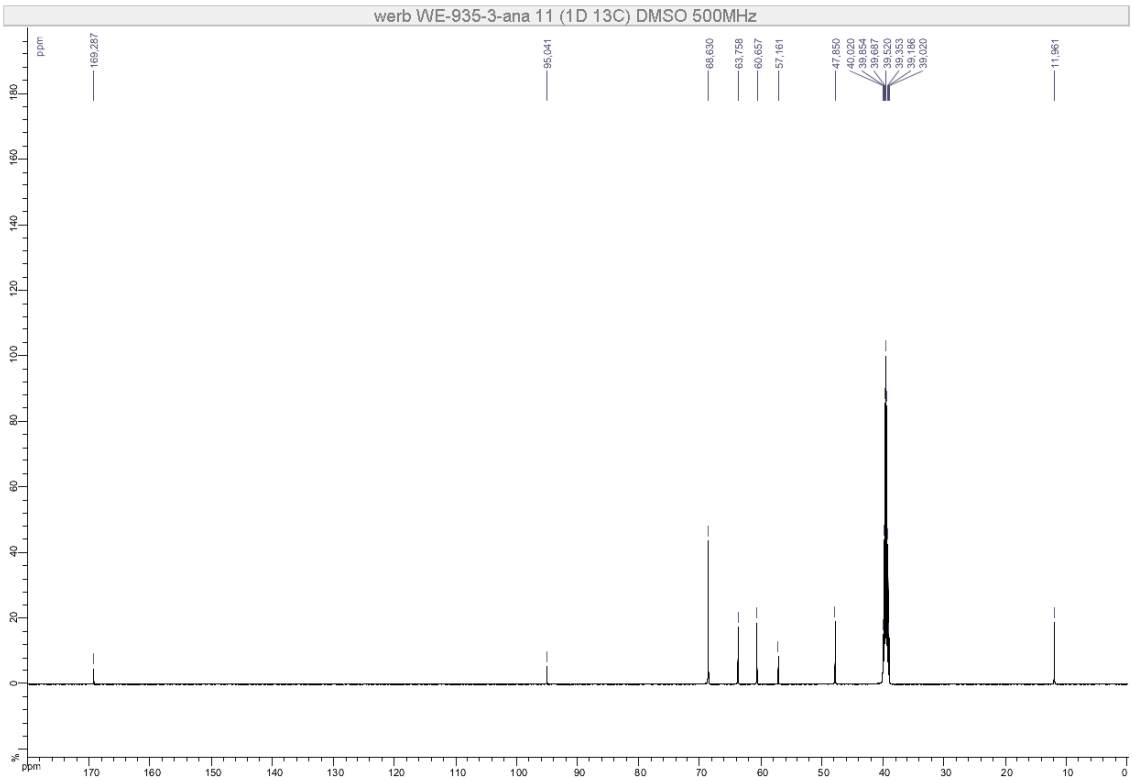
2-(Diethylamino)-*N*-ferrocenylacetamide (2-CH_2NEt_2)



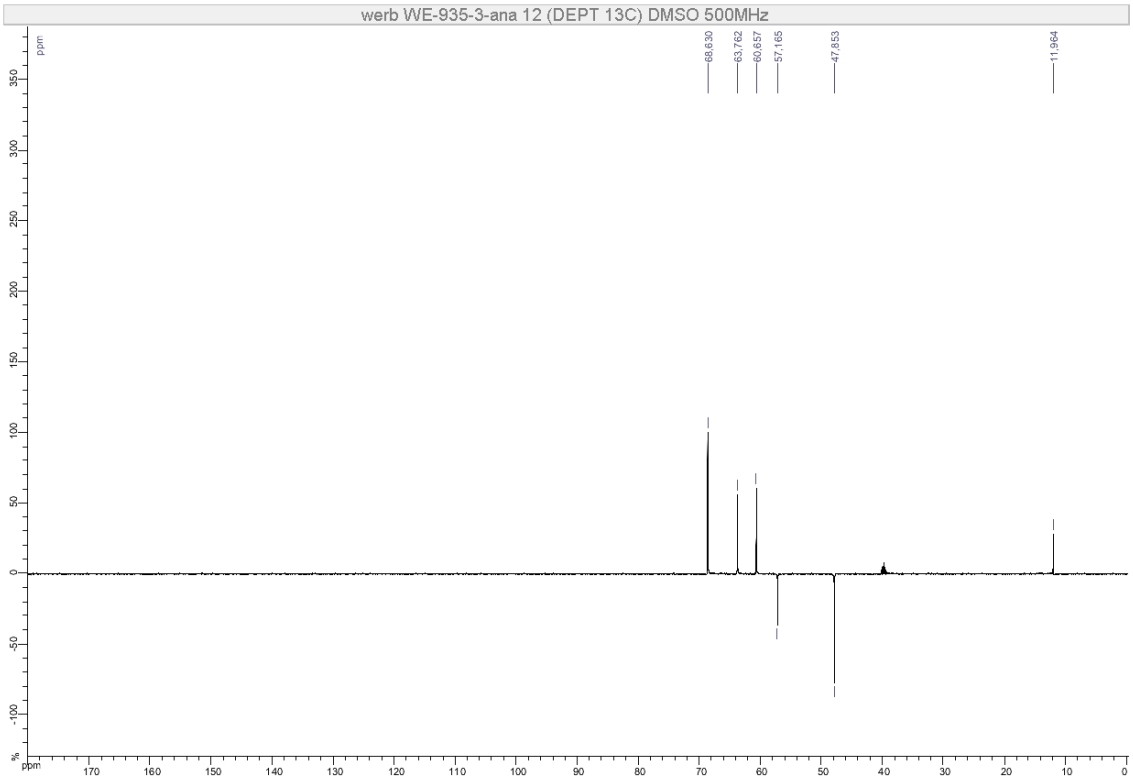
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



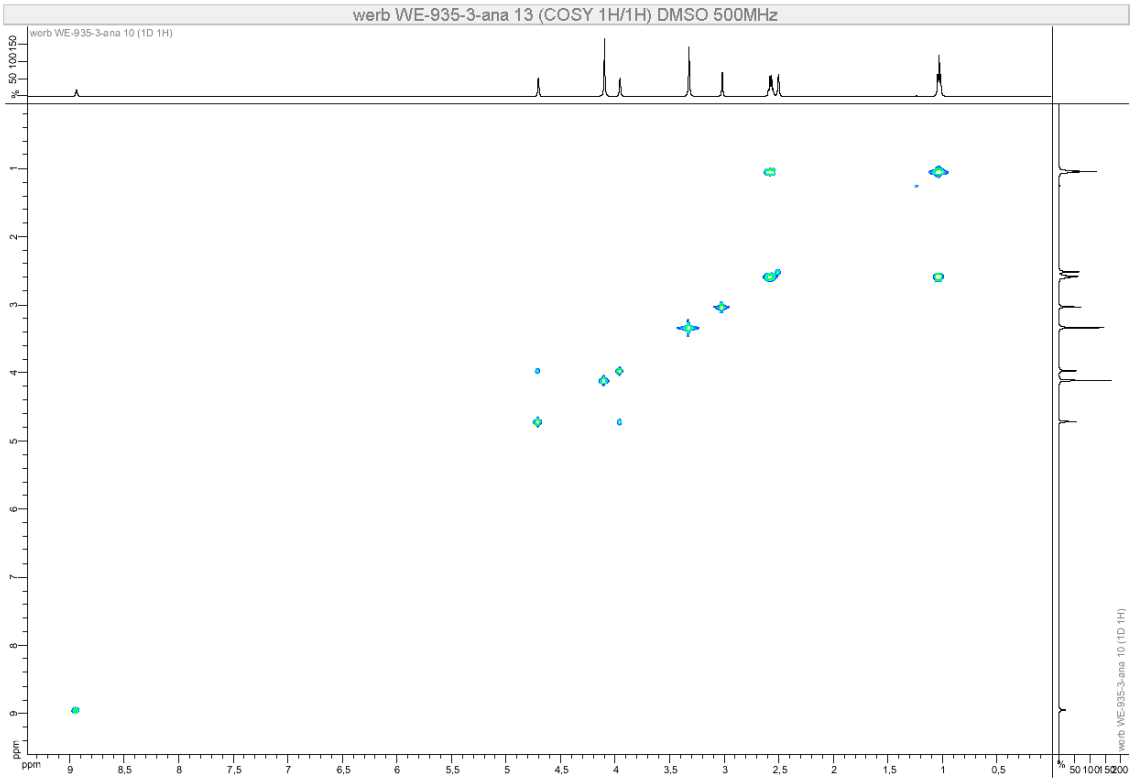
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



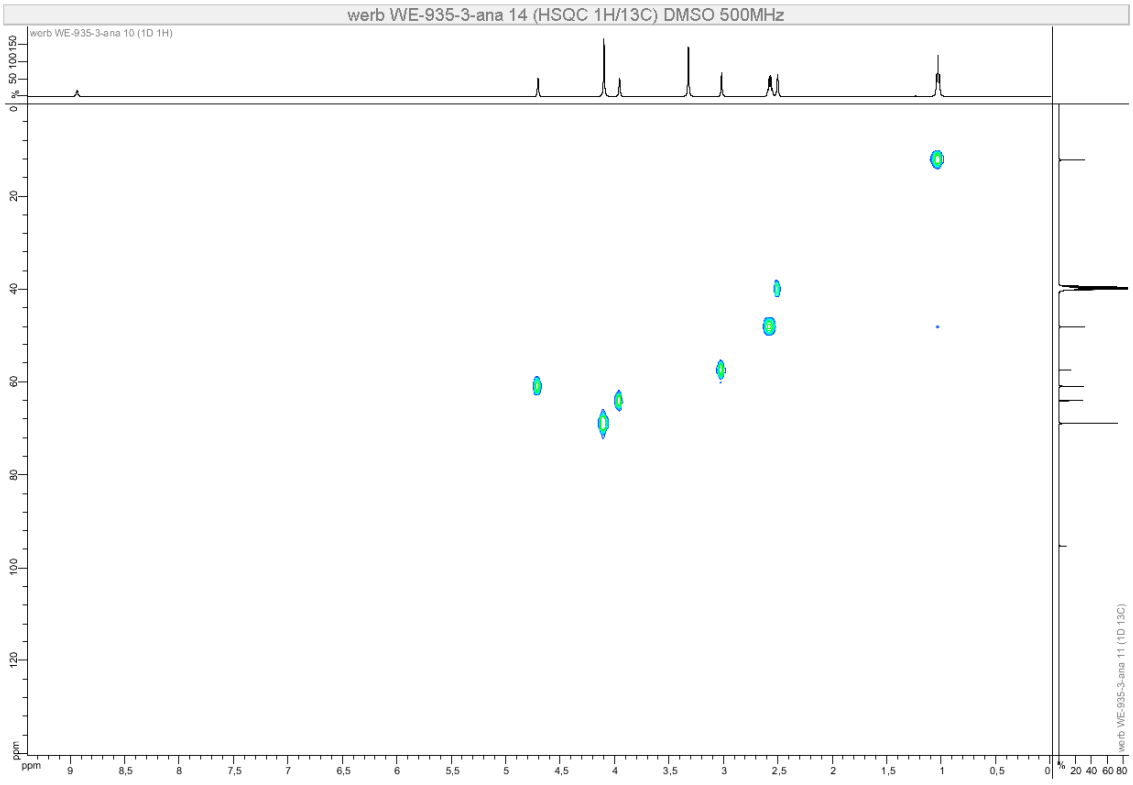
DEPT 135 (126 MHz, $(CD_3)_2SO$)



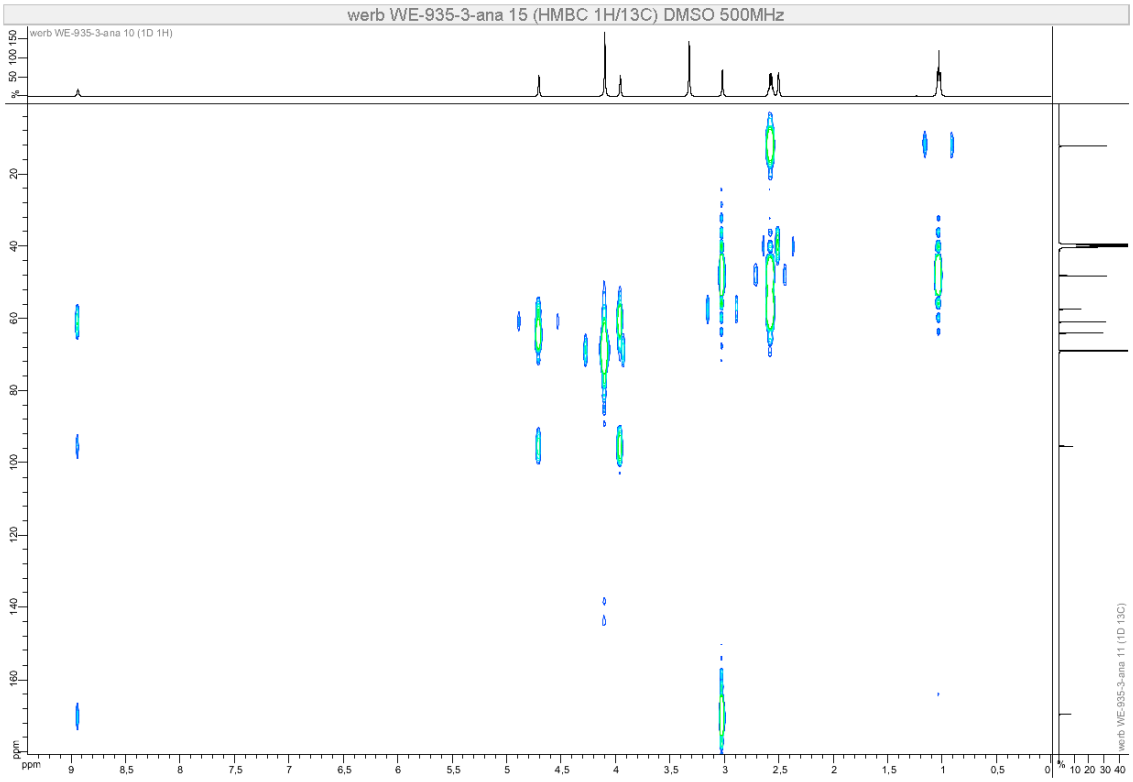
COSY (500 MHz, $(CD_3)_2SO$)



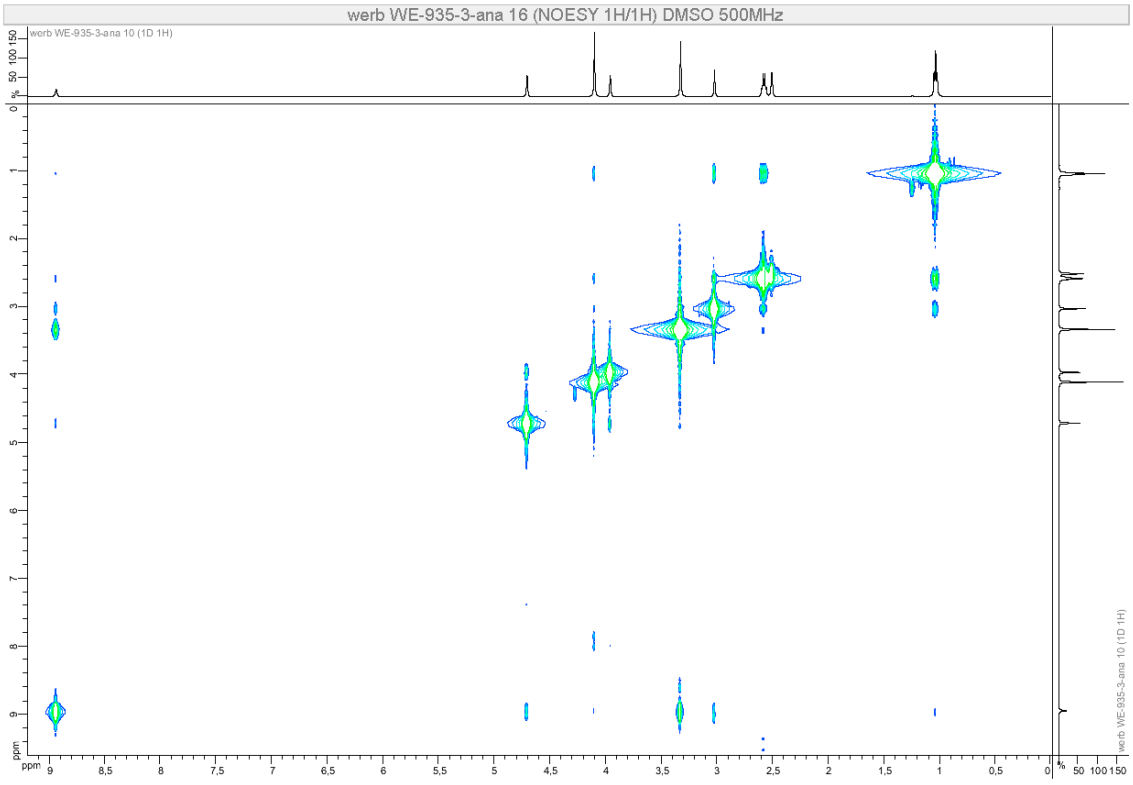
HSQC (500 MHz, $(CD_3)_2SO$)



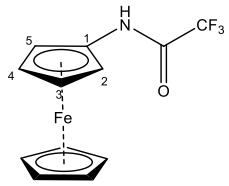
HMBC (500 MHz, $(CD_3)_2SO$)



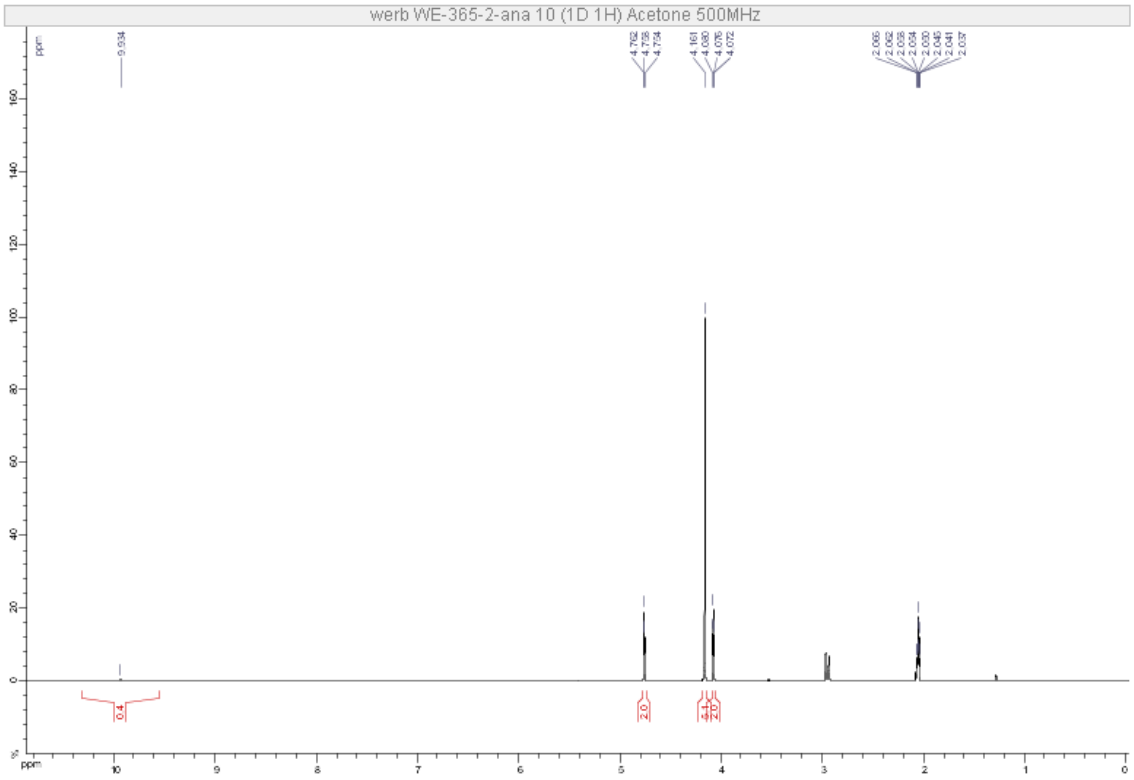
NOESY (500 MHz, $(CD_3)_2SO$)



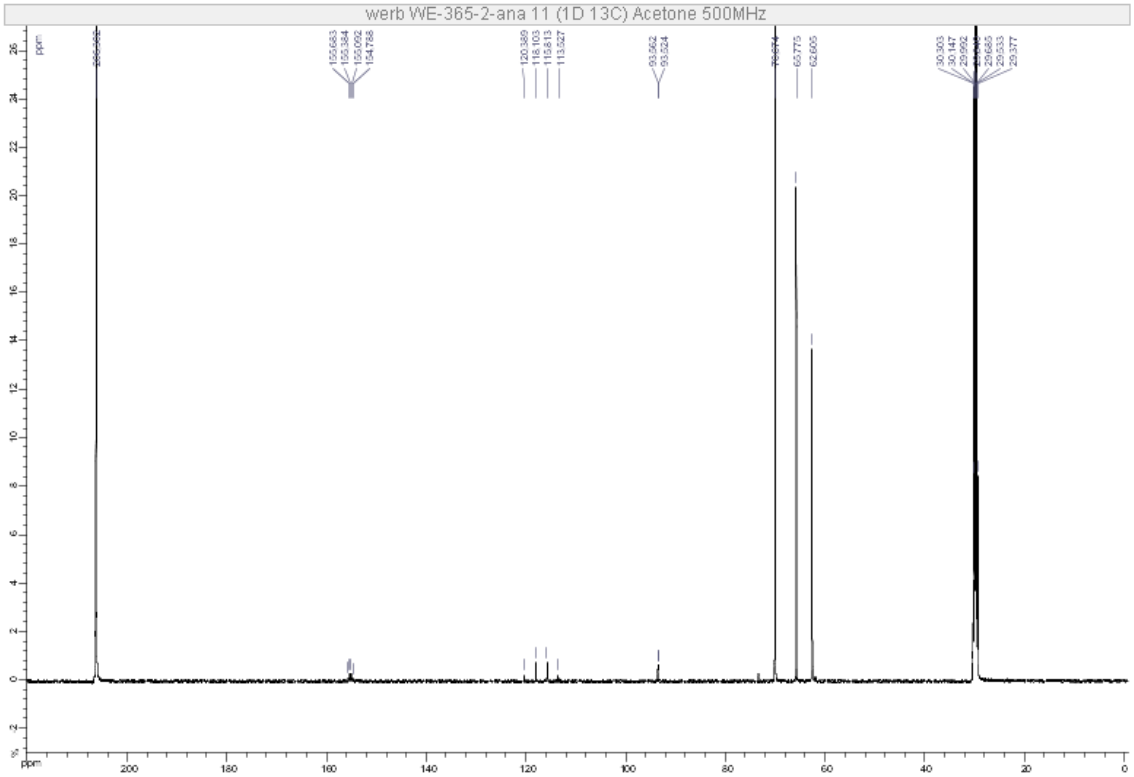
_N_-(Ferrocenyl)trifluoroacetamide (2-CF_3)



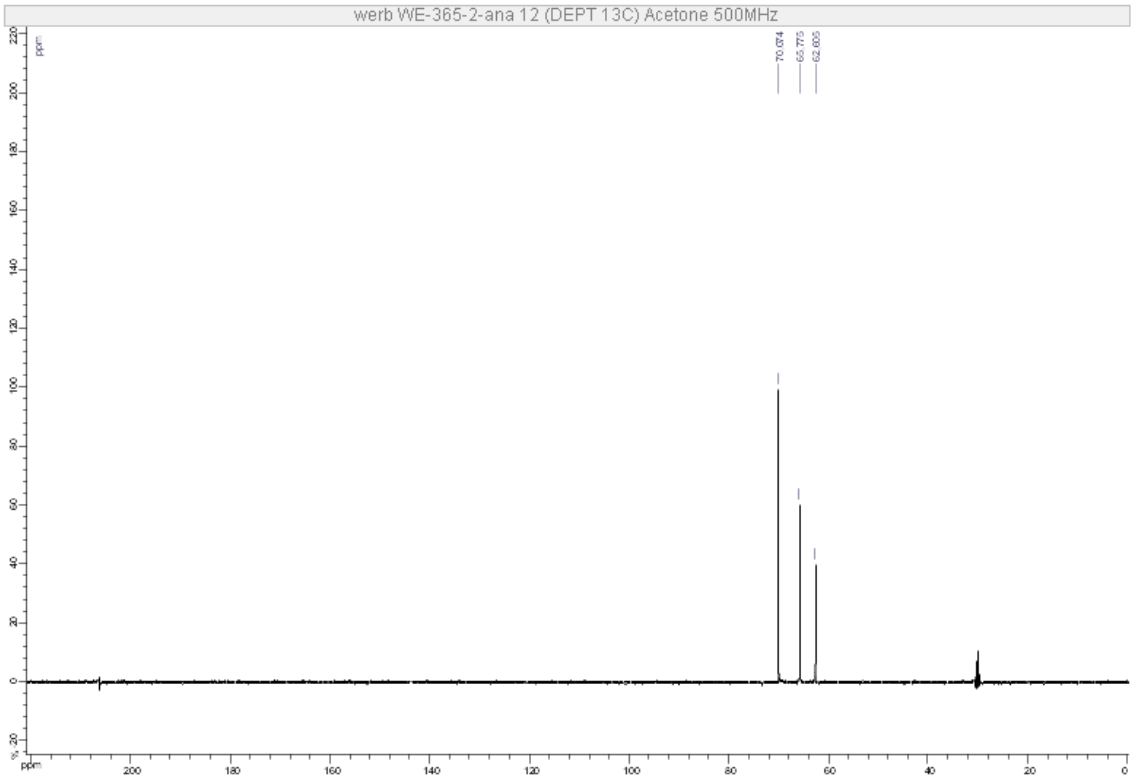
^{1}H NMR (500 MHz, $(CD_3)_2CO$)



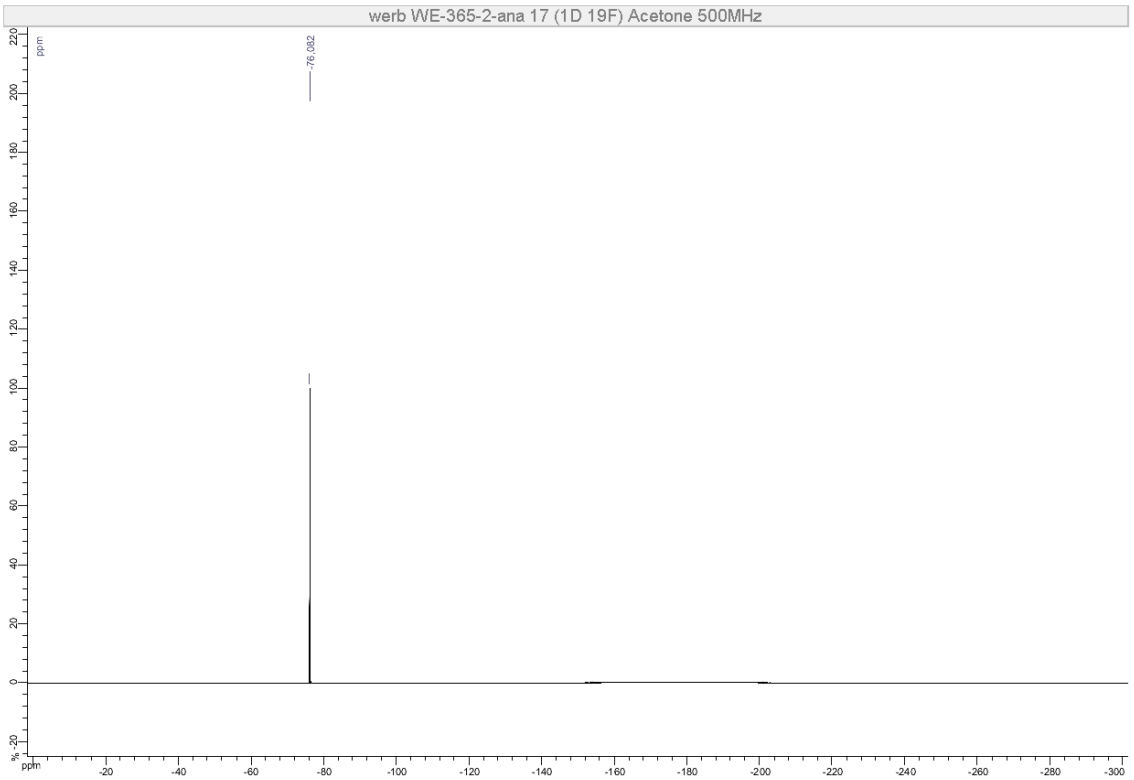
^{13}C NMR (126 MHz, $(CD_3)_2CO$)



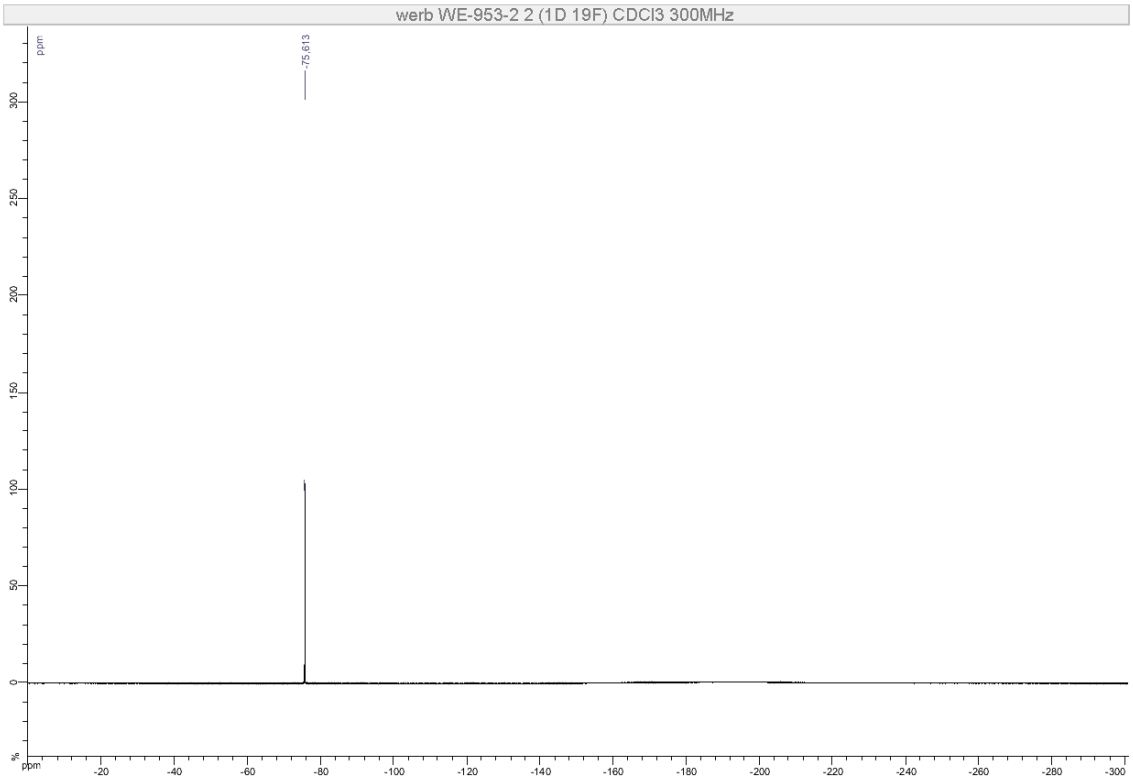
DEPT 135 (126 MHz, $(CD_3)_2CO$)



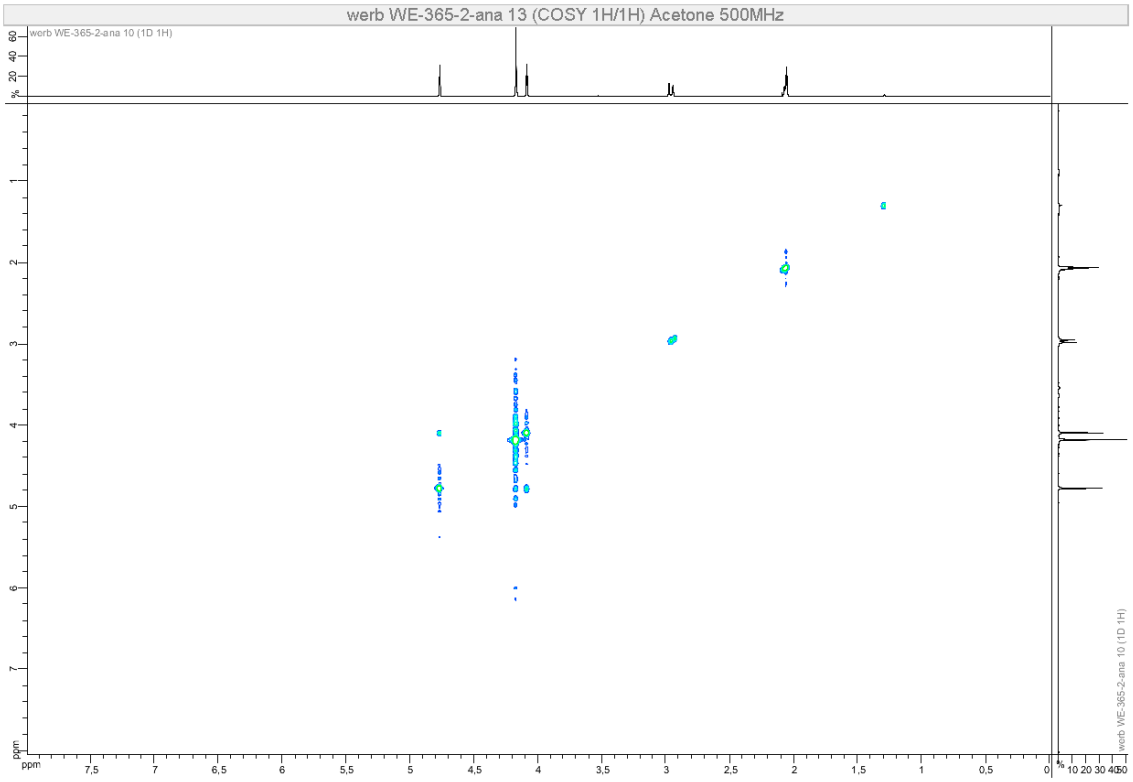
^{19}F NMR (470 MHz, $(CD_3)_2CO$)



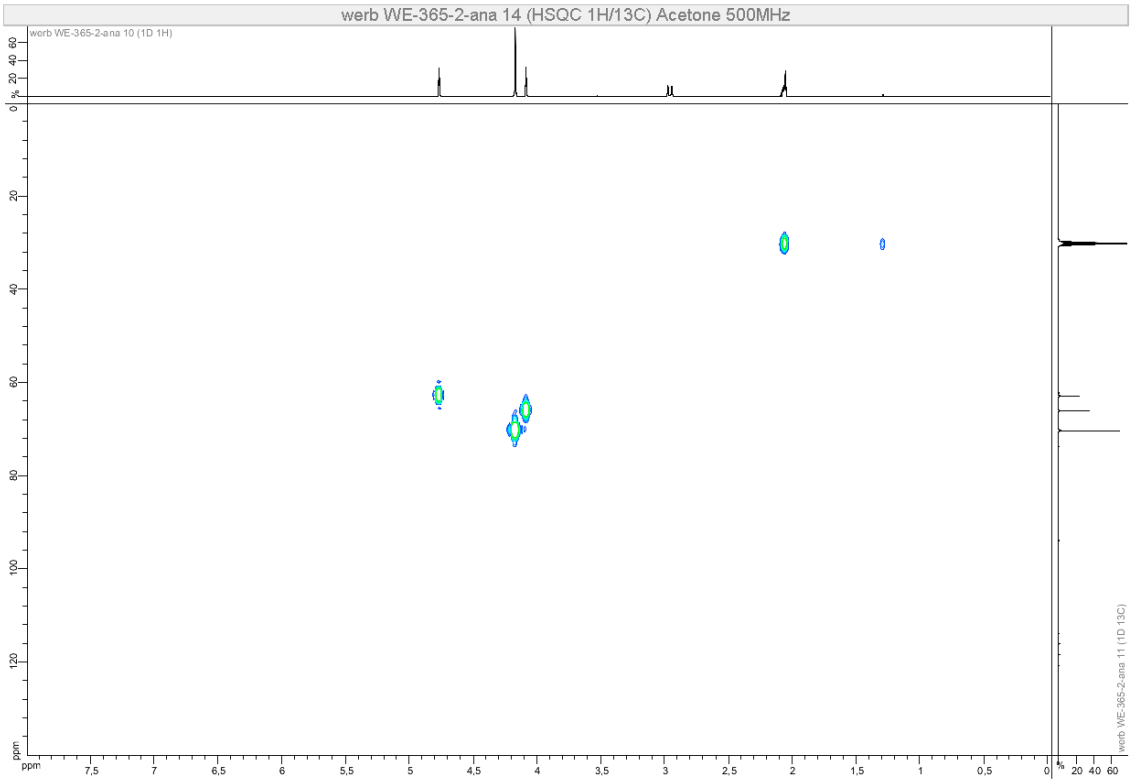
^{19}F NMR (282 MHz, $CDCl_3$)



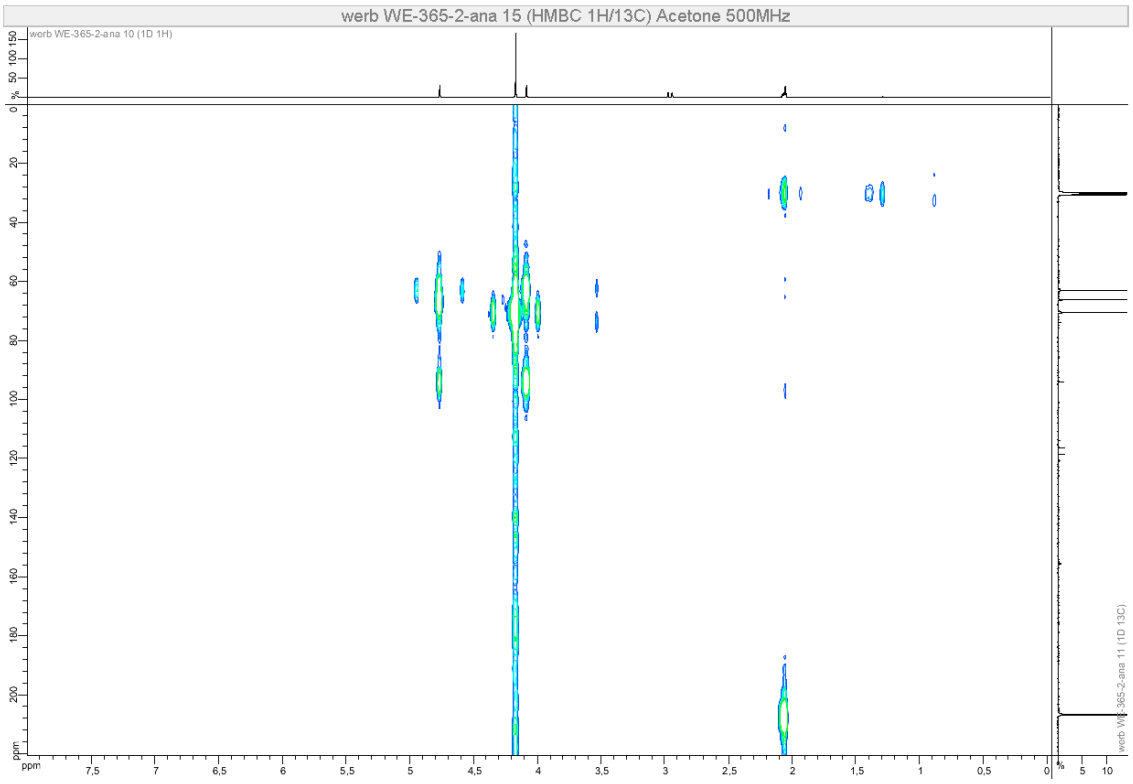
COSY (500 MHz, $(CD_3)_2CO$)



HSQC (500 MHz, $(CD_3)_2CO$)

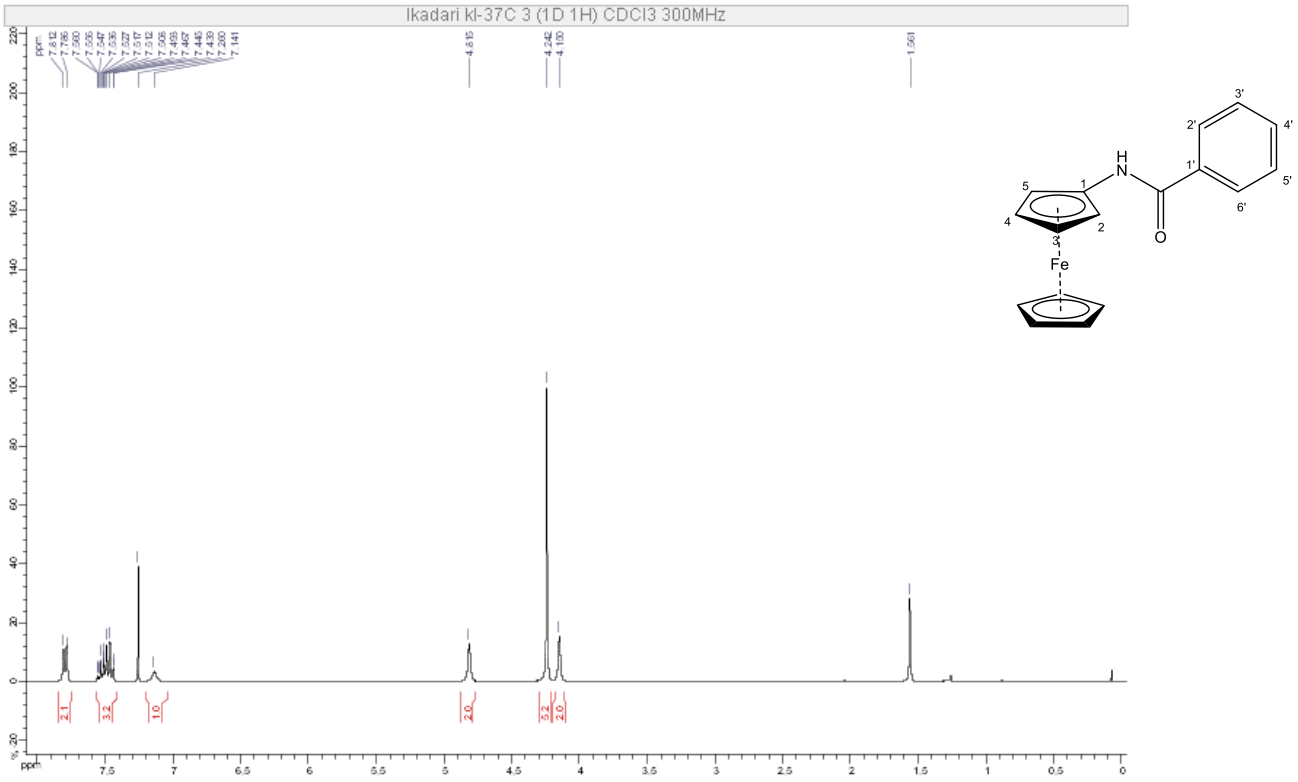


HMBC (500 MHz, $(CD_3)_2CO$)

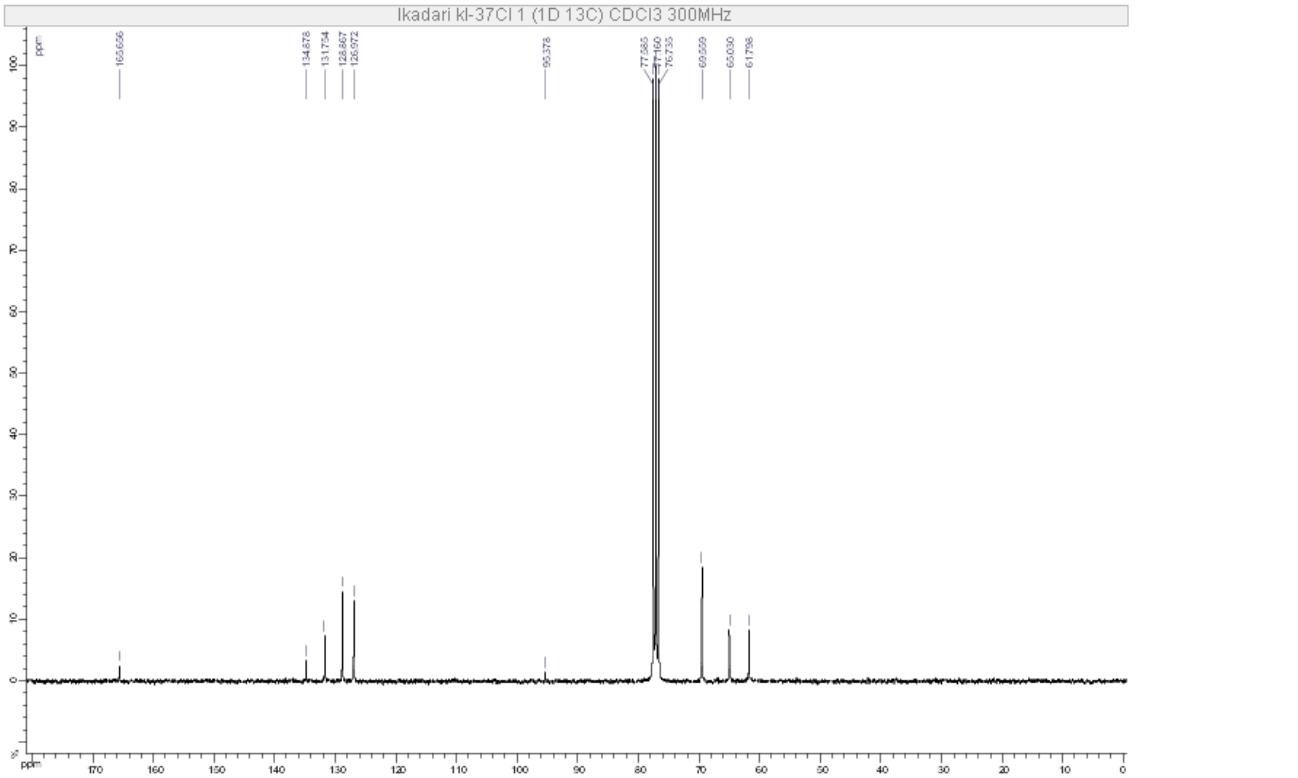


_N_-Ferrocenylbenzamide (2-Ph)

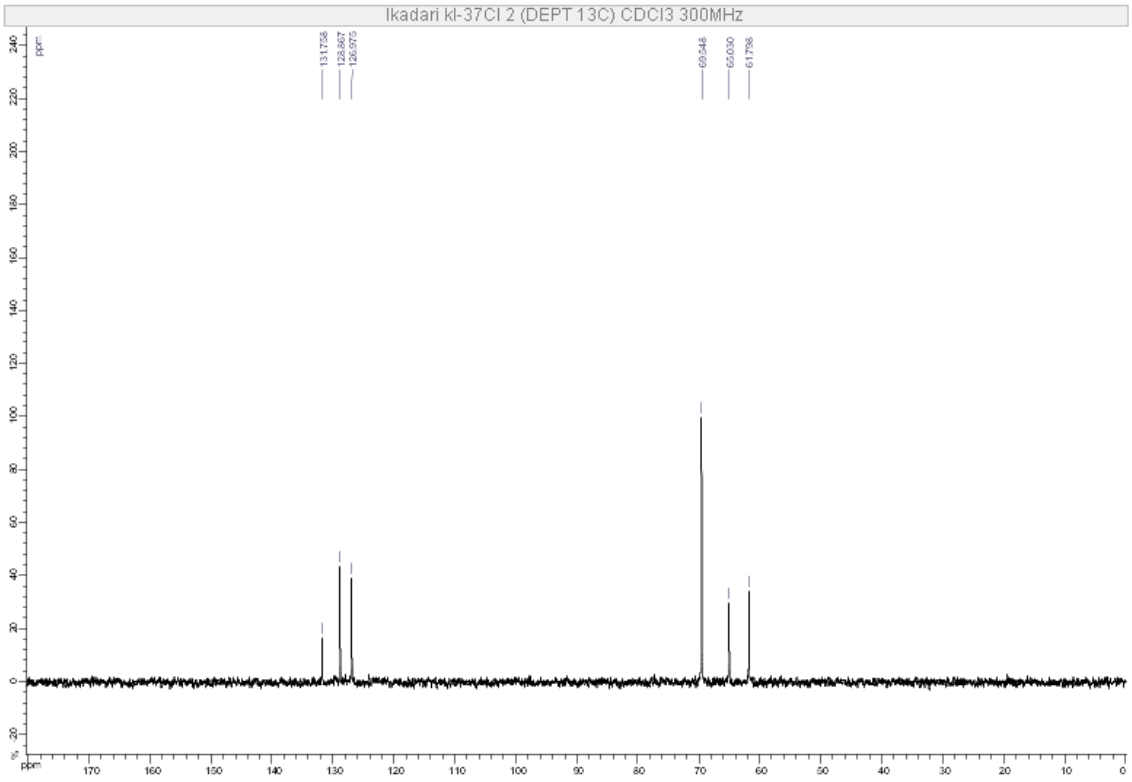
^{1}H NMR (300 MHz, $CDCl_3$)



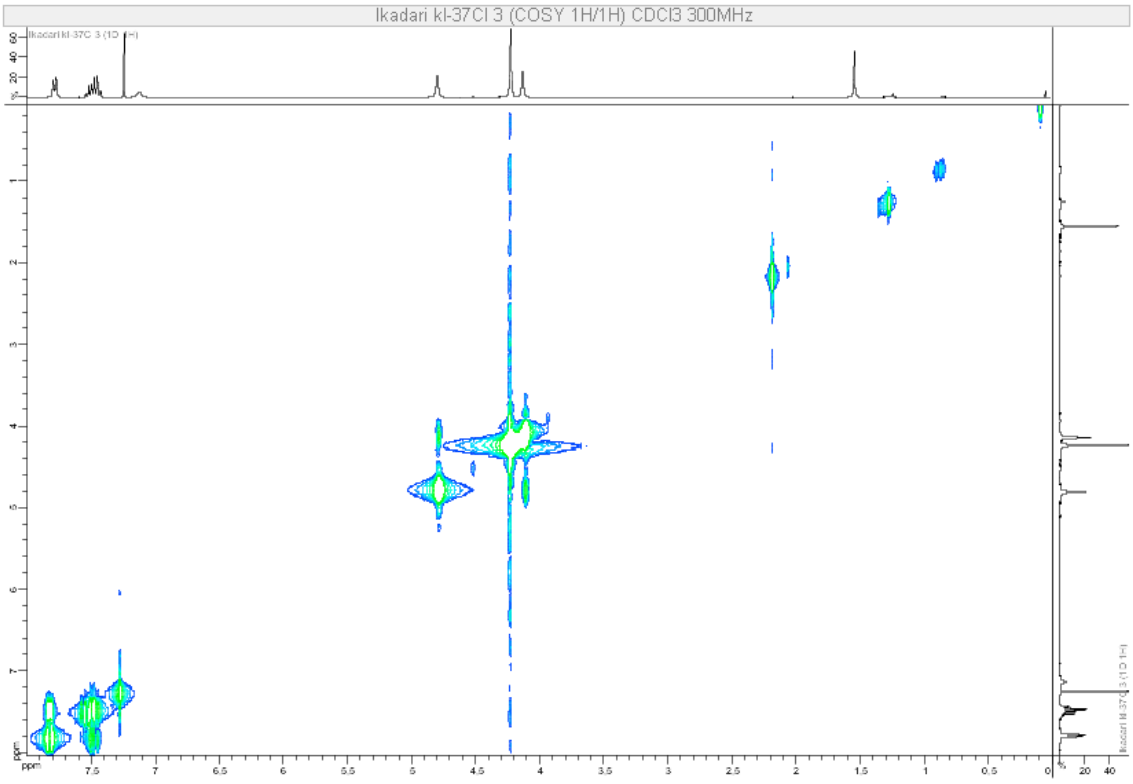
^{13}C NMR (75 MHz, $CDCl_3$)



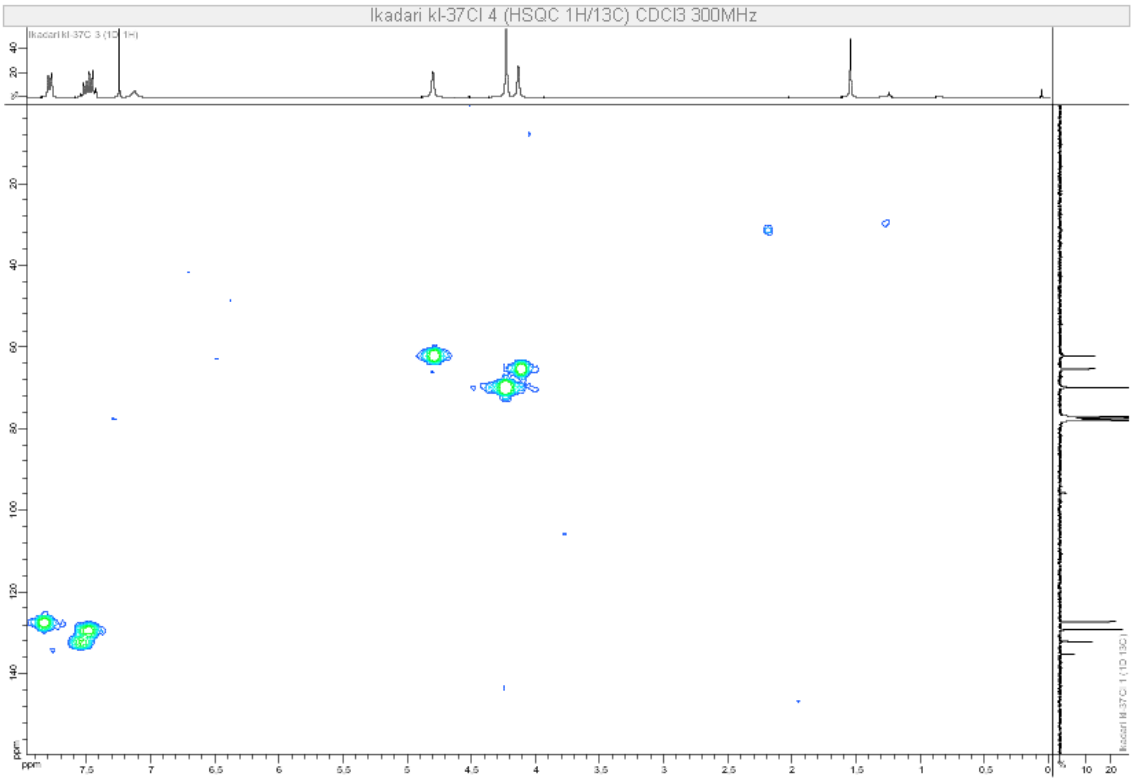
DEPT 135 (75 MHz, $CDCl_3$)



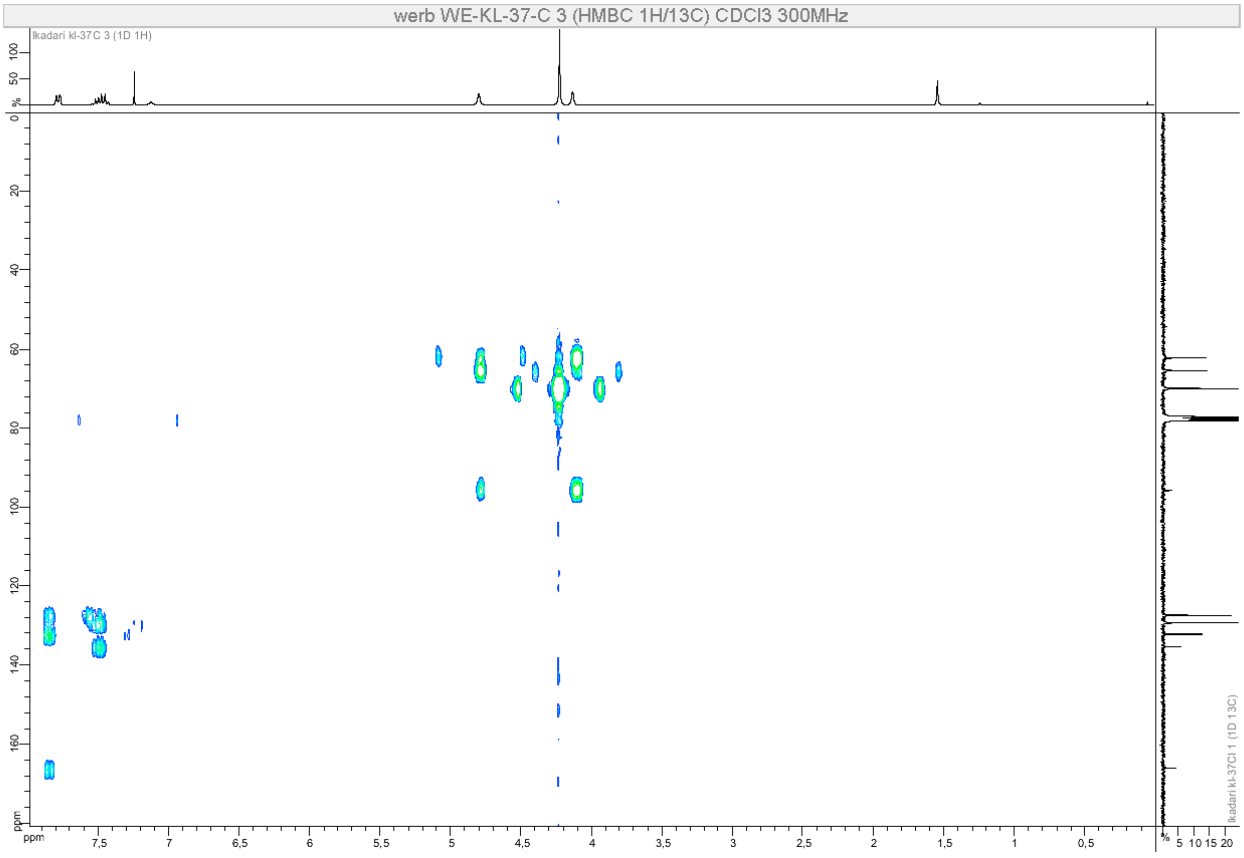
COSY (300 MHz, $CDCl_3$)



HSQC (300 MHz, $CDCl_3$)

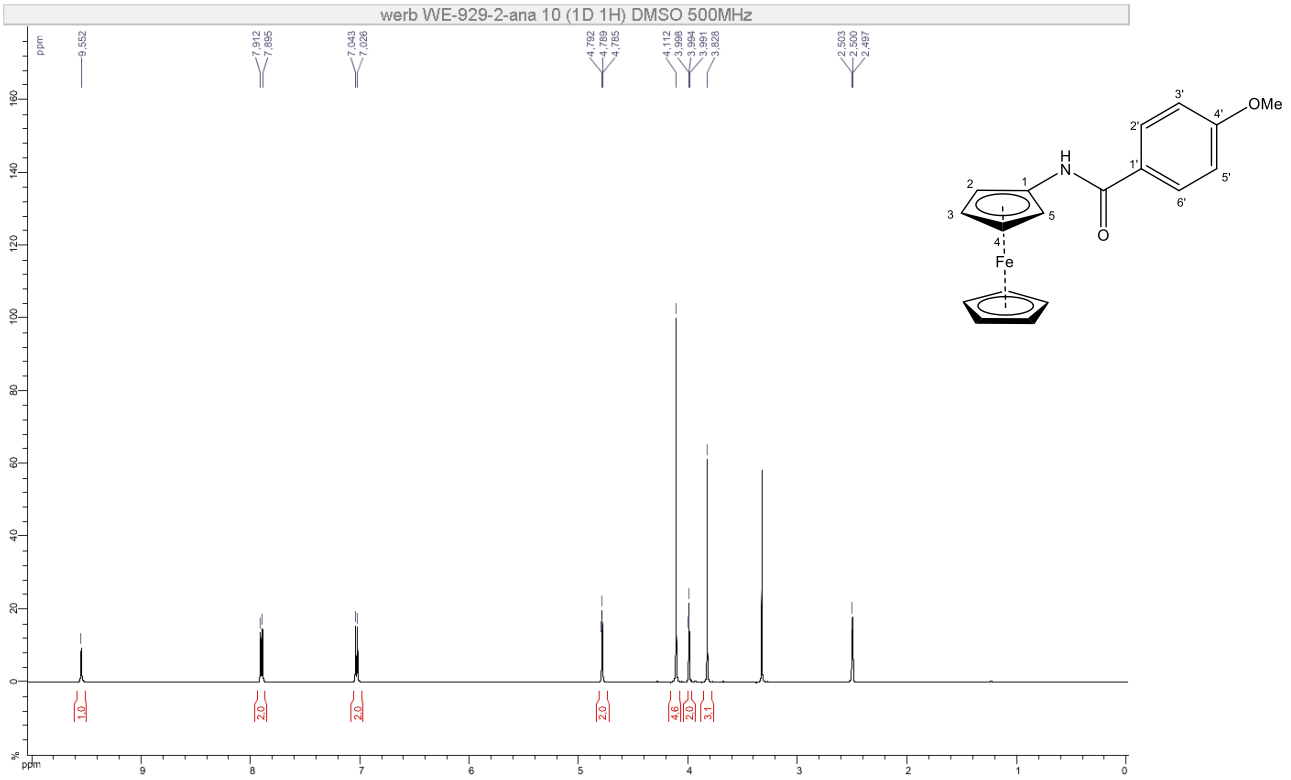


HMBC (300 MHz, $CDCl_3$)

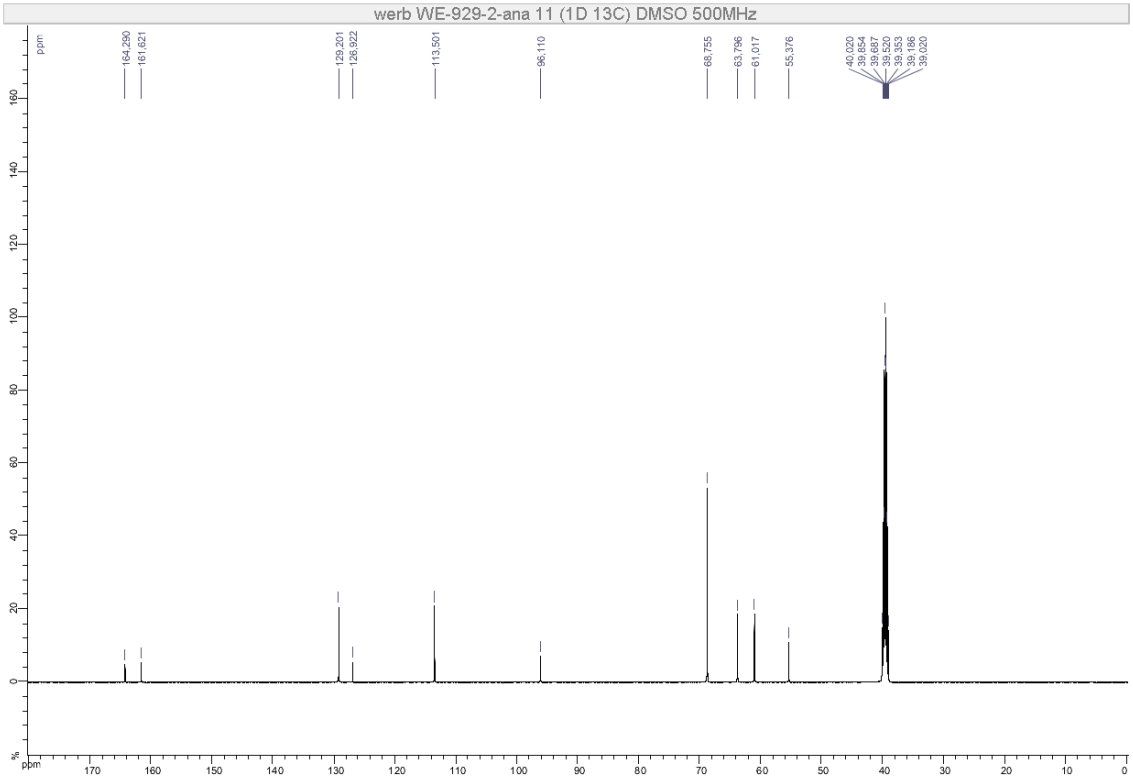


N-Ferrocenyl-4-methoxybenzamide (2-4OMe)

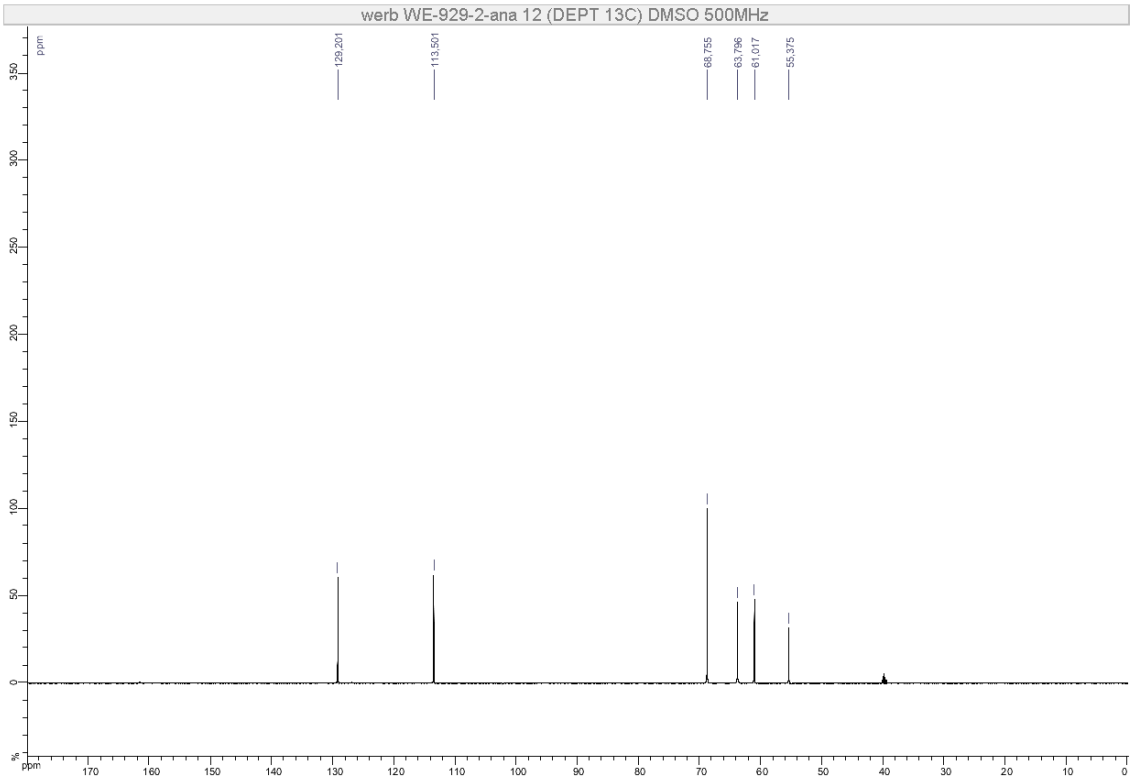
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



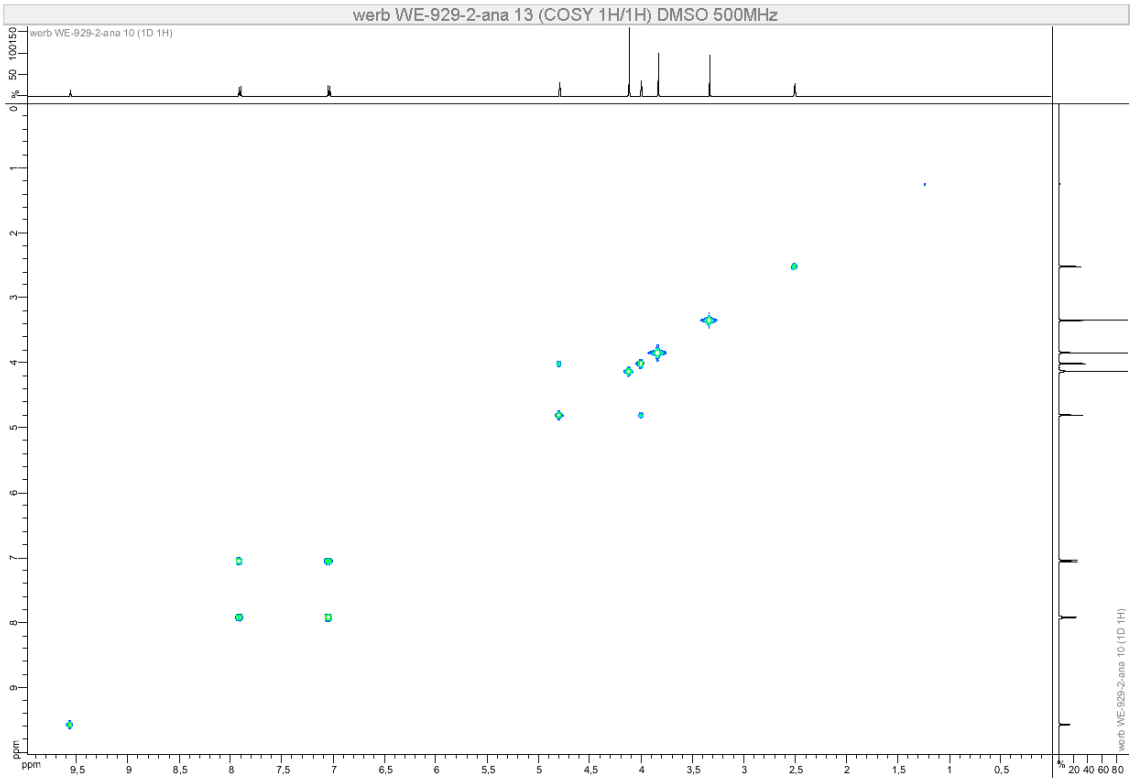
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



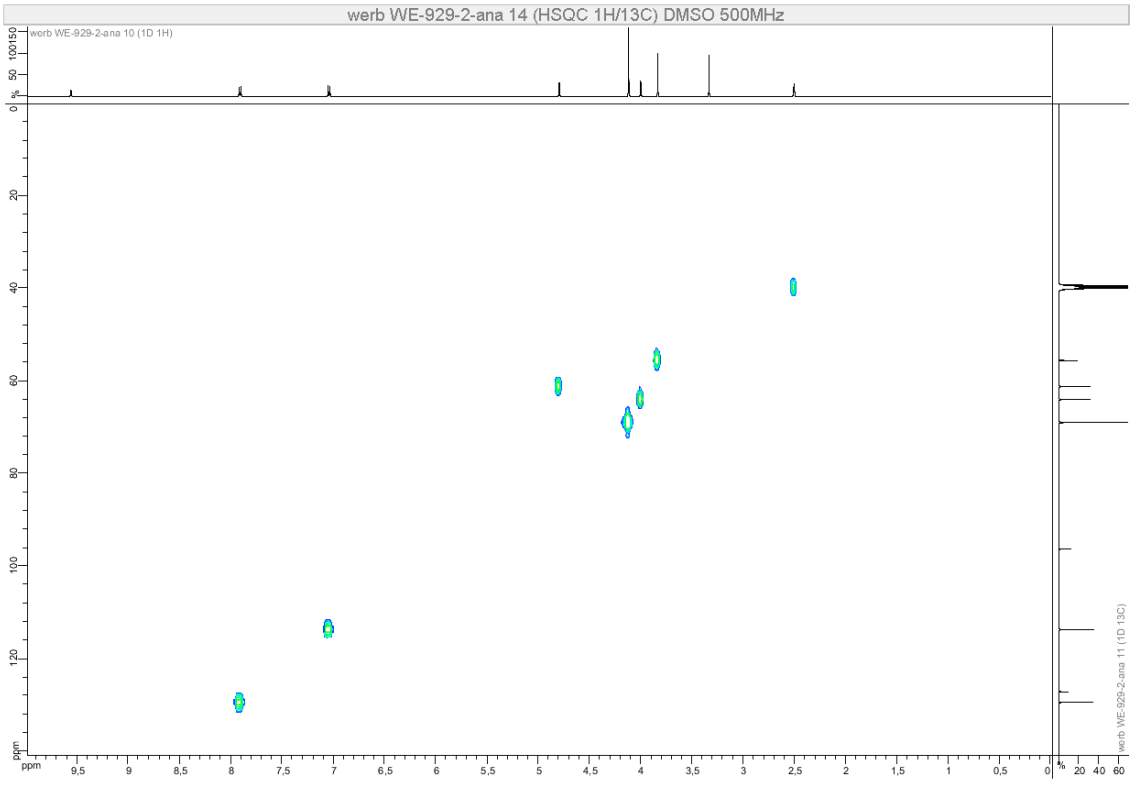
DEPT 135 (126 MHz, $(CD_3)_2SO$)



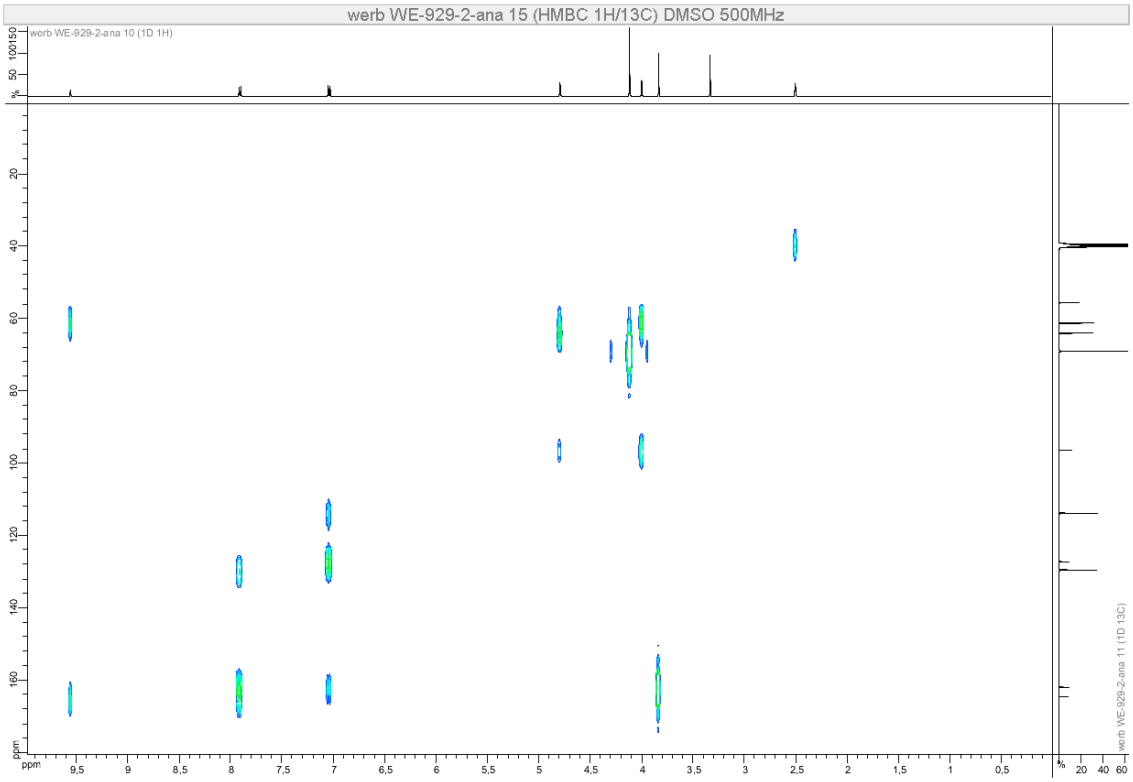
COSY (500 MHz, $(CD_3)_2SO$)



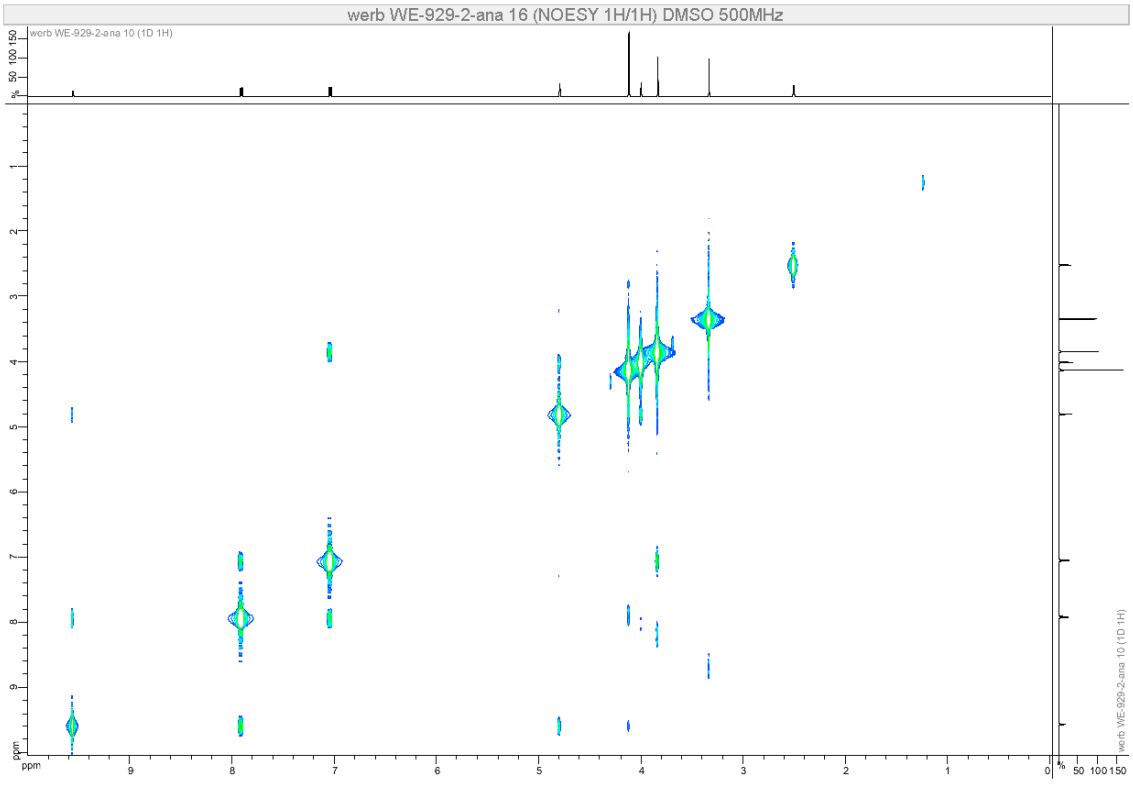
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

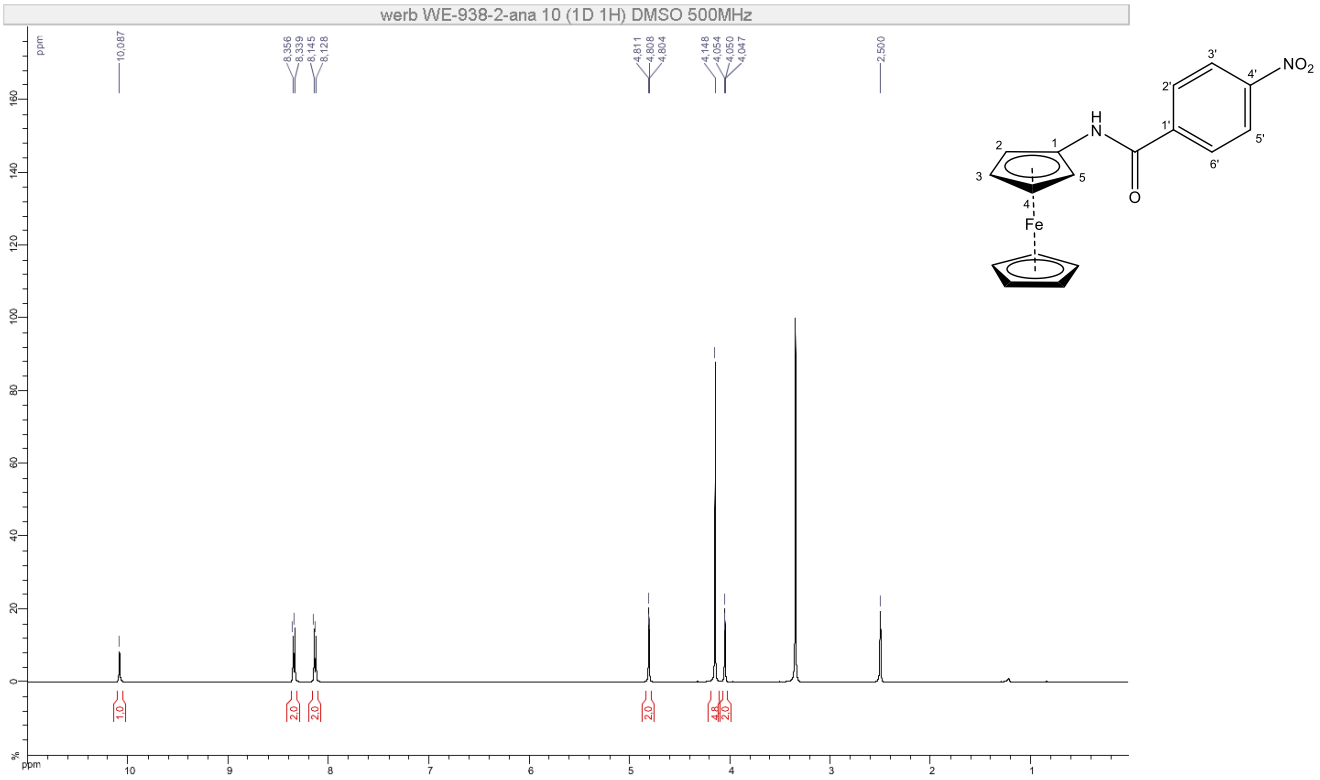


NOESY (500 MHz, $(CD_3)_2SO$)

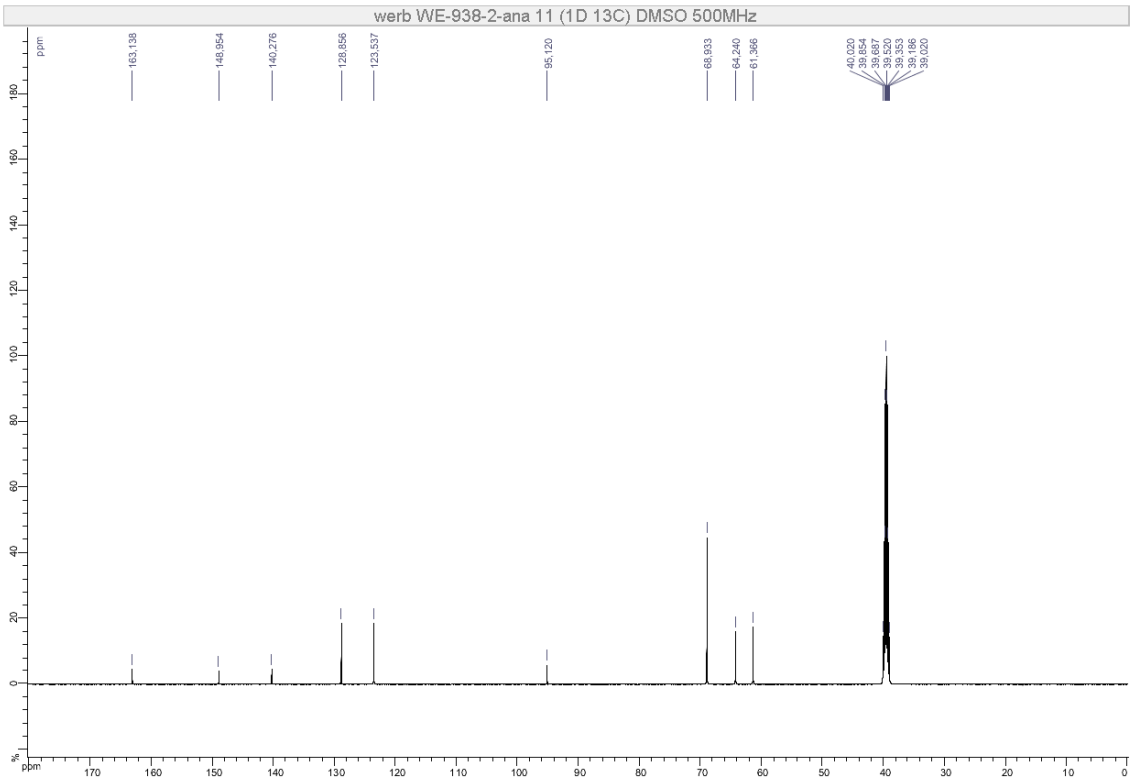


N-Ferrocenyl-4-nitrobenzamide (2-4NO_2)

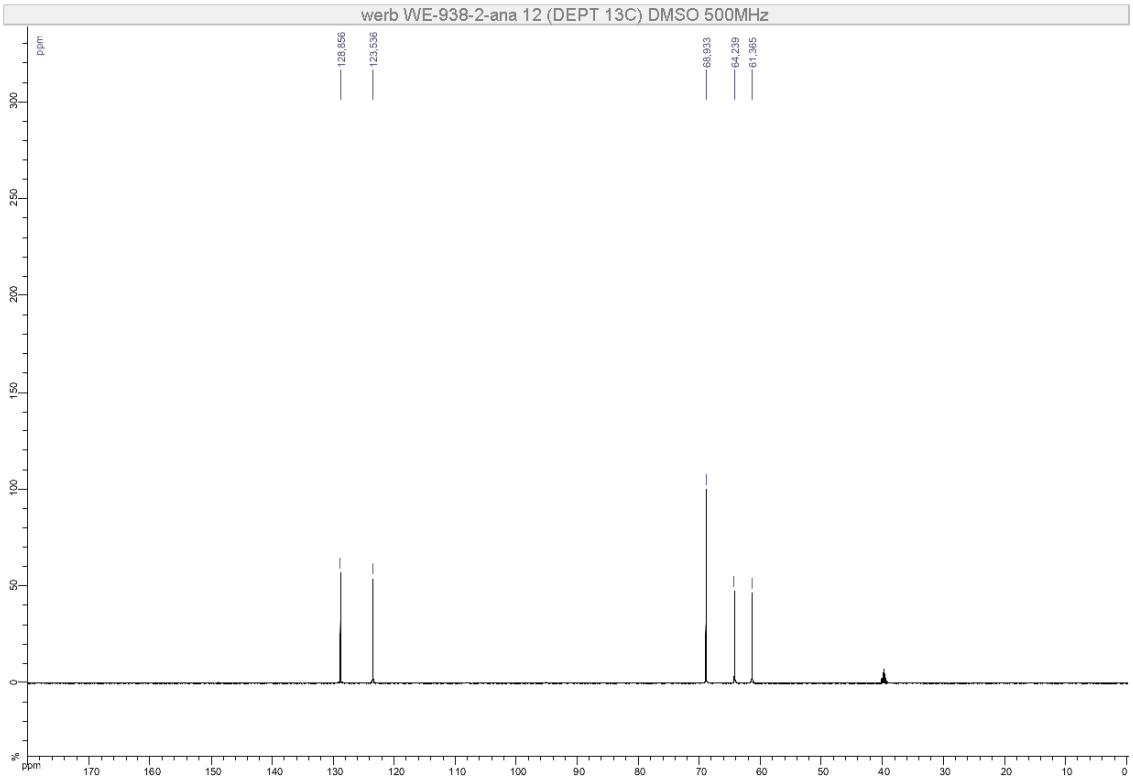
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



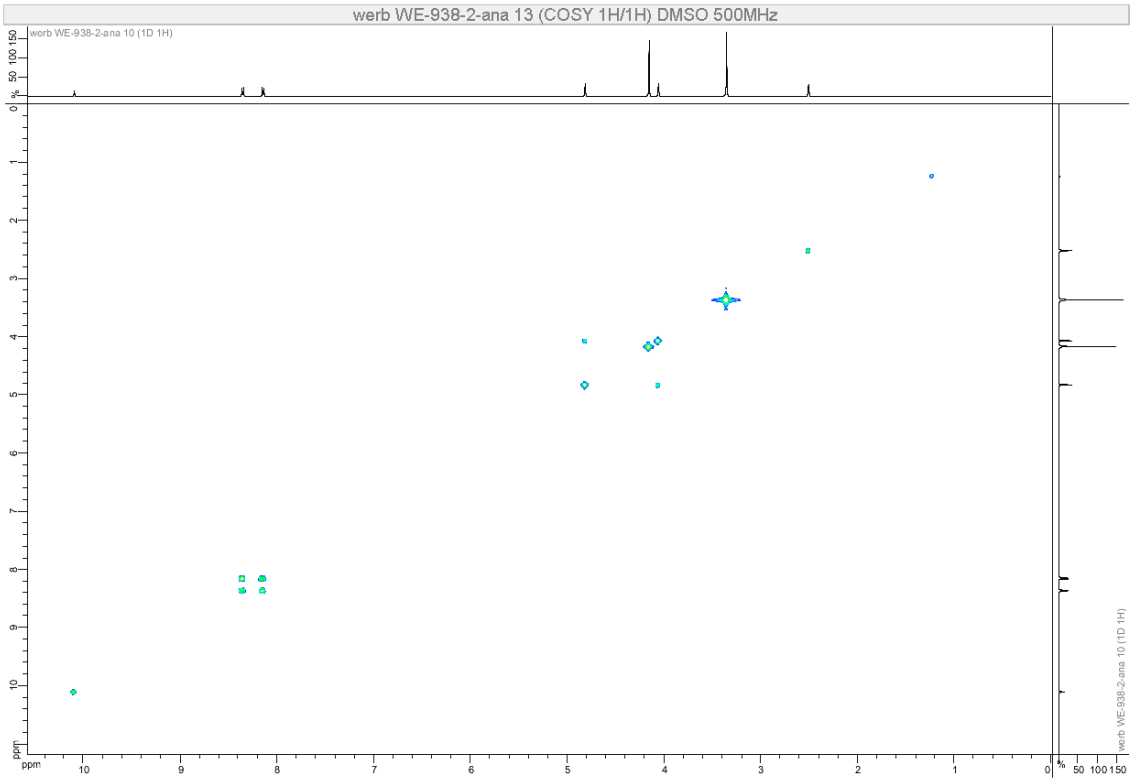
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



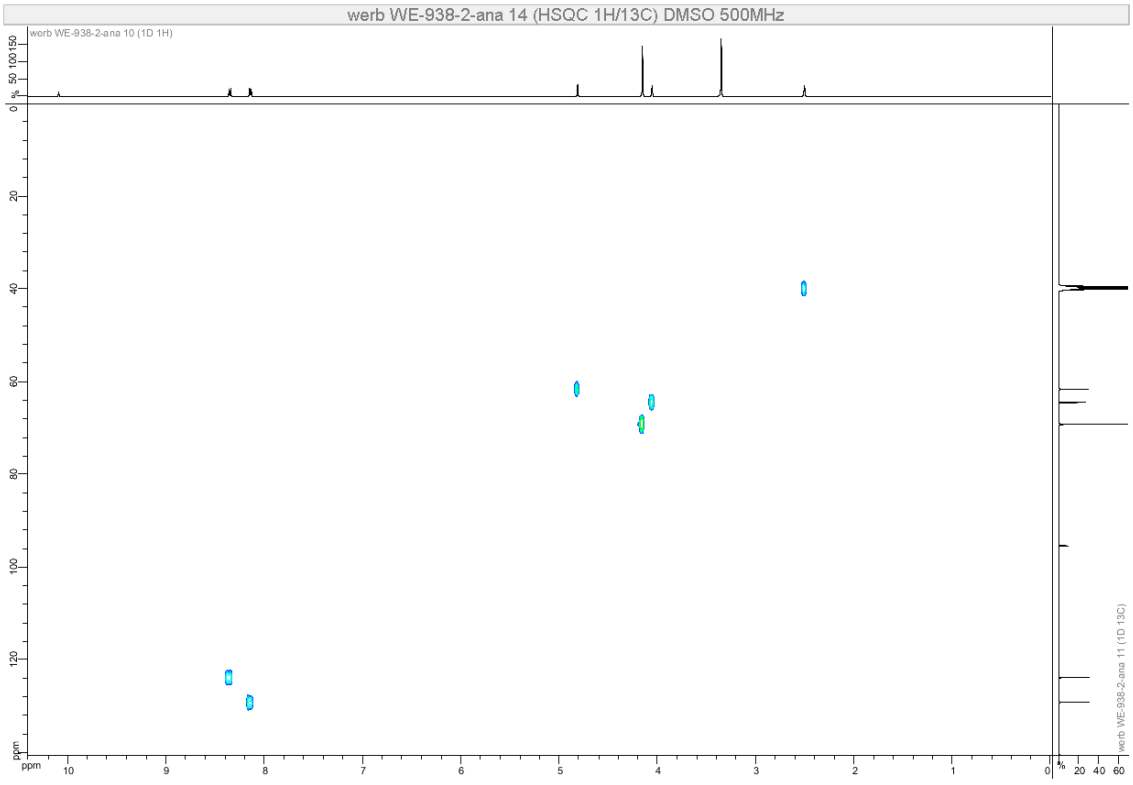
DEPT 135 (126 MHz, $(CD_3)_2SO$)



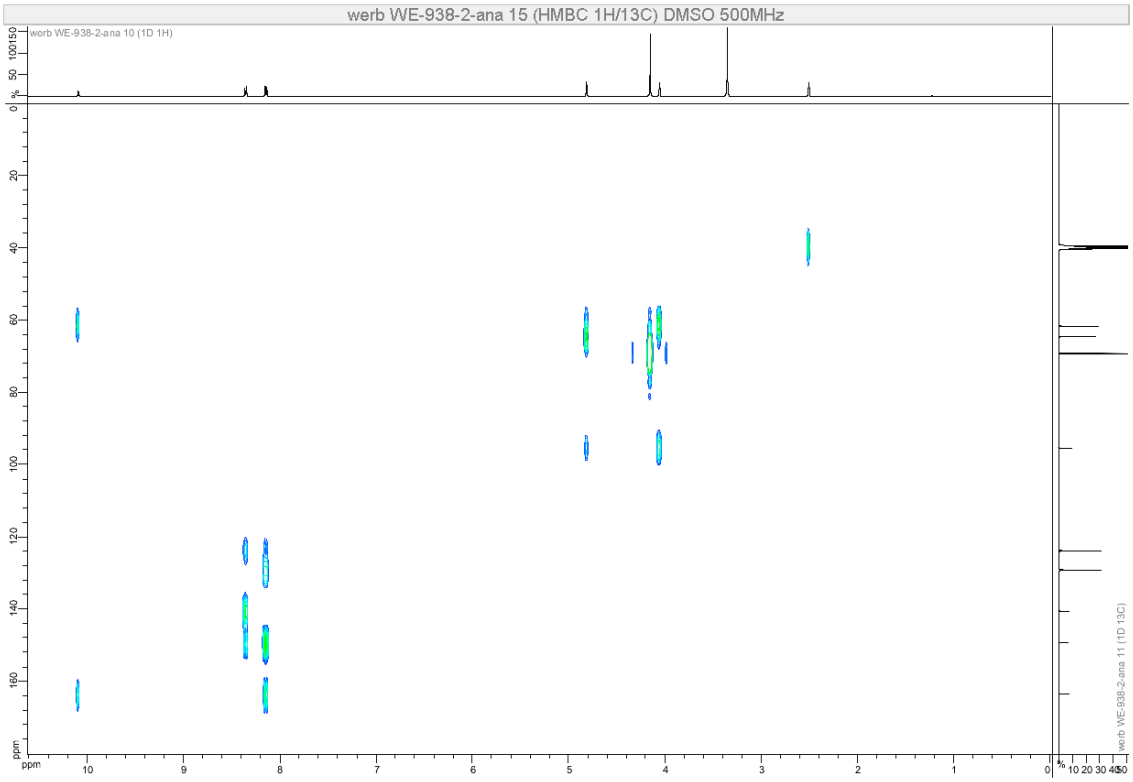
COSY (500 MHz, $(CD_3)_2SO$)



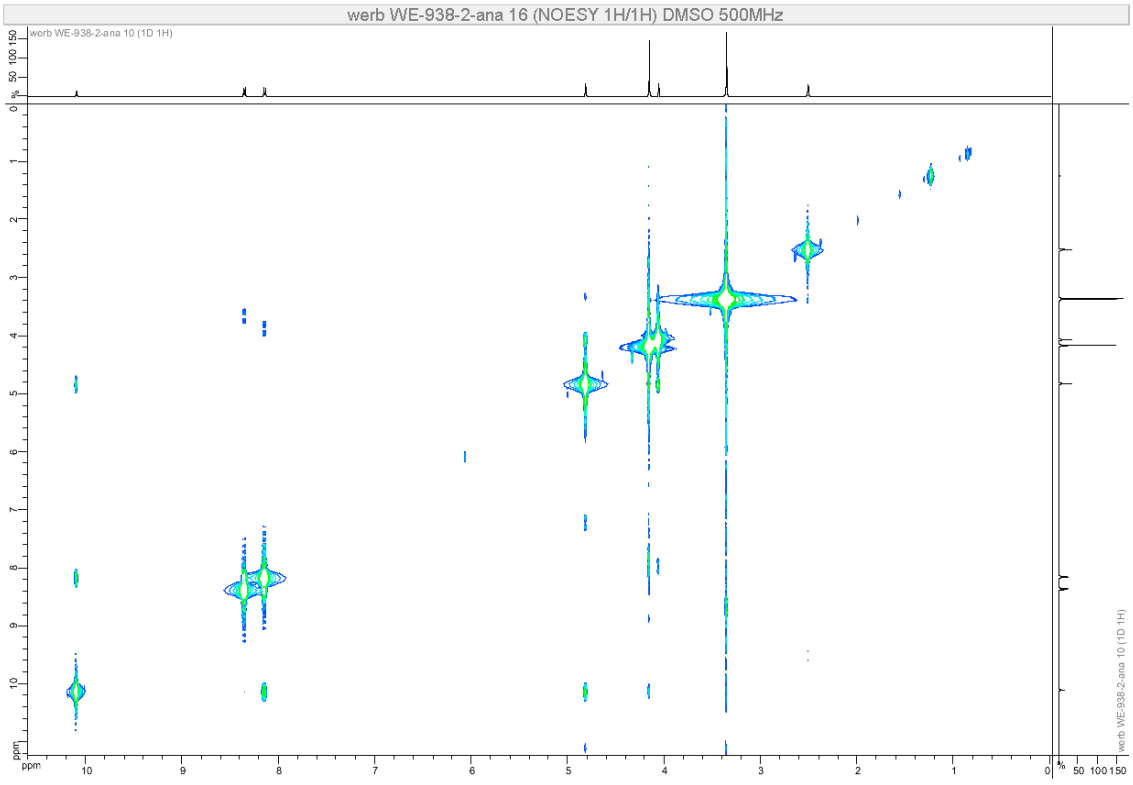
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

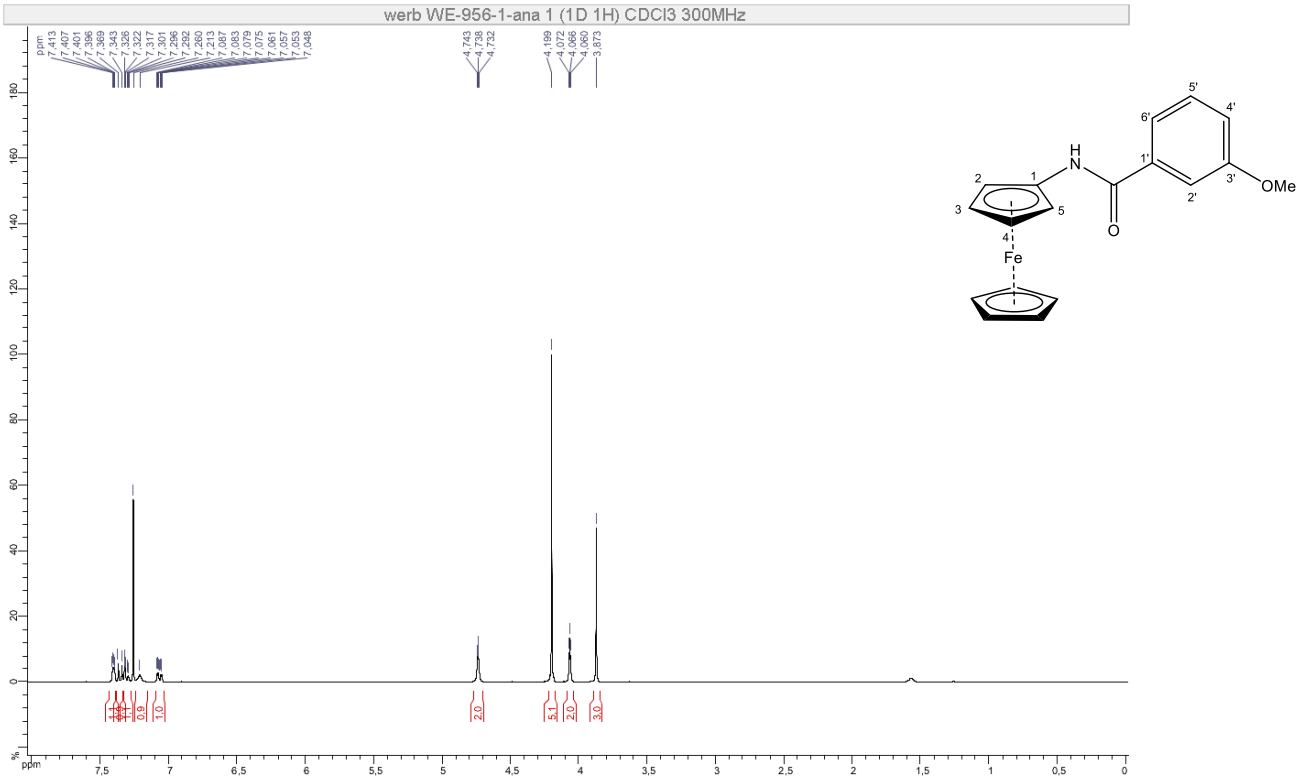


NOESY (500 MHz, $(CD_3)_2SO$)

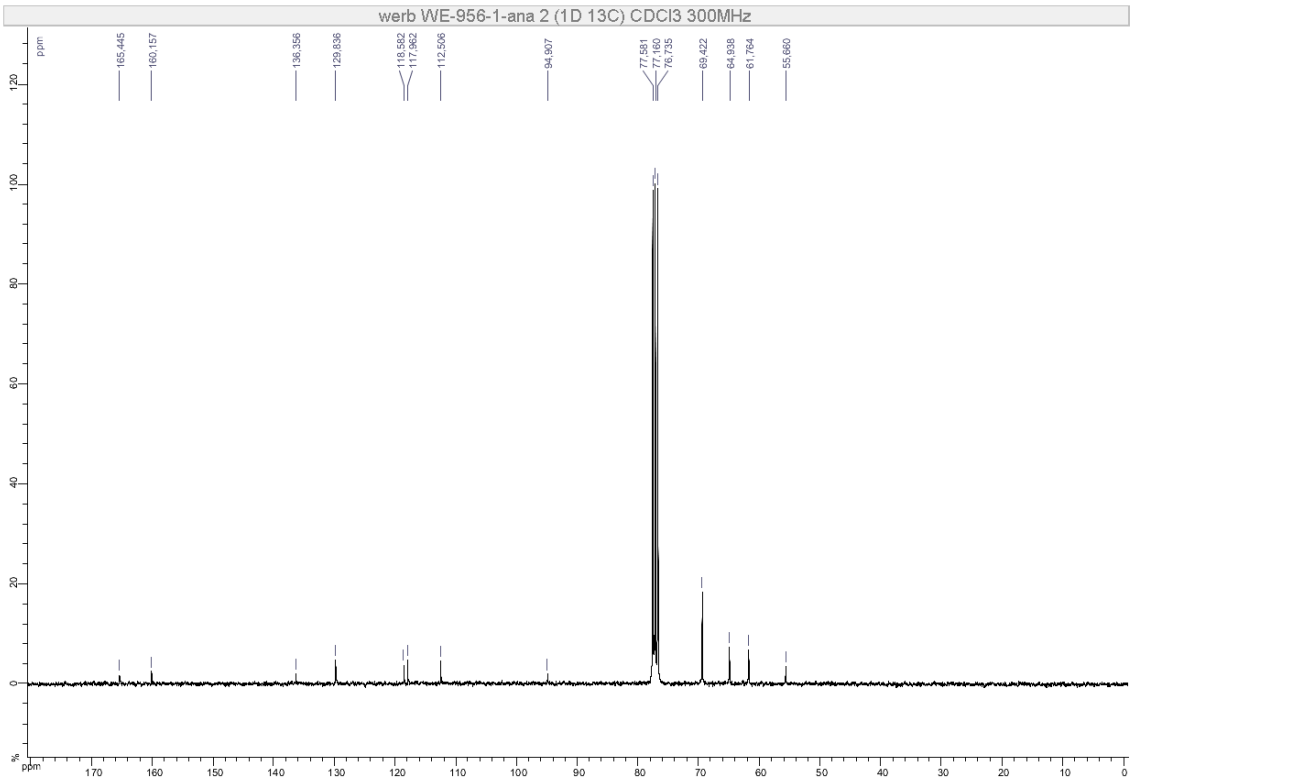


N-Ferrocenyl-3-methoxybenzamide (2-3OMe)

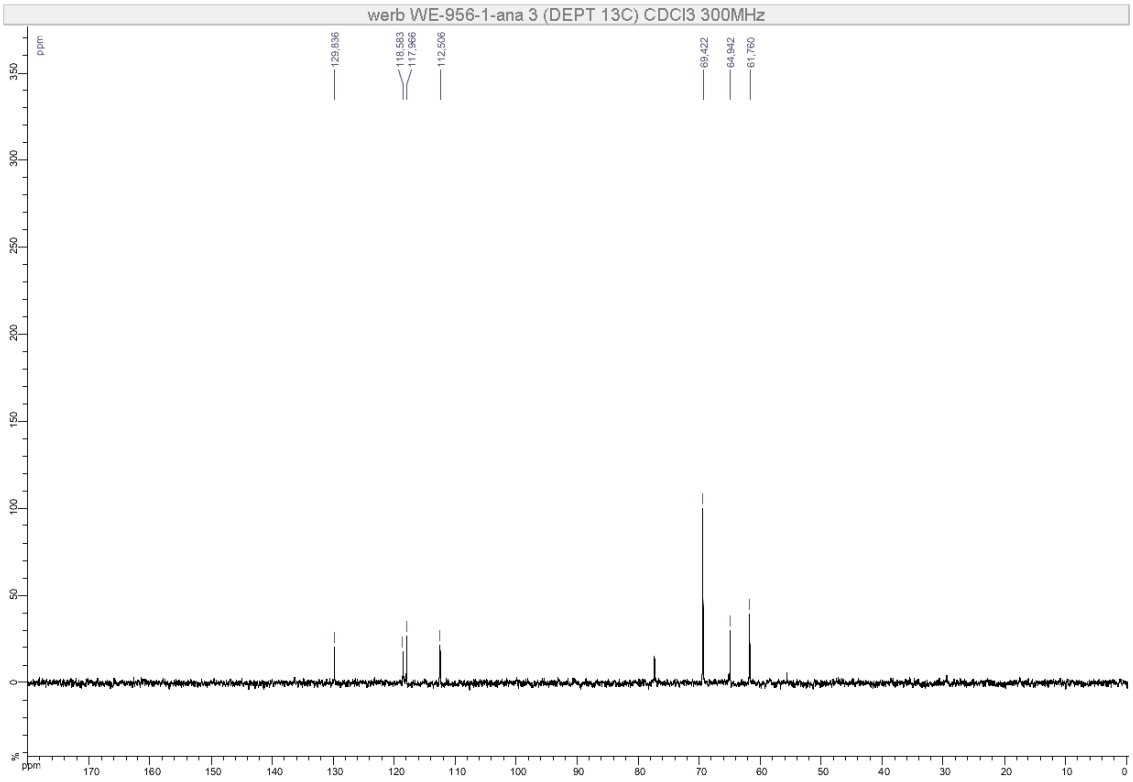
^{1}H NMR (300 MHz, $CDCl_3$)



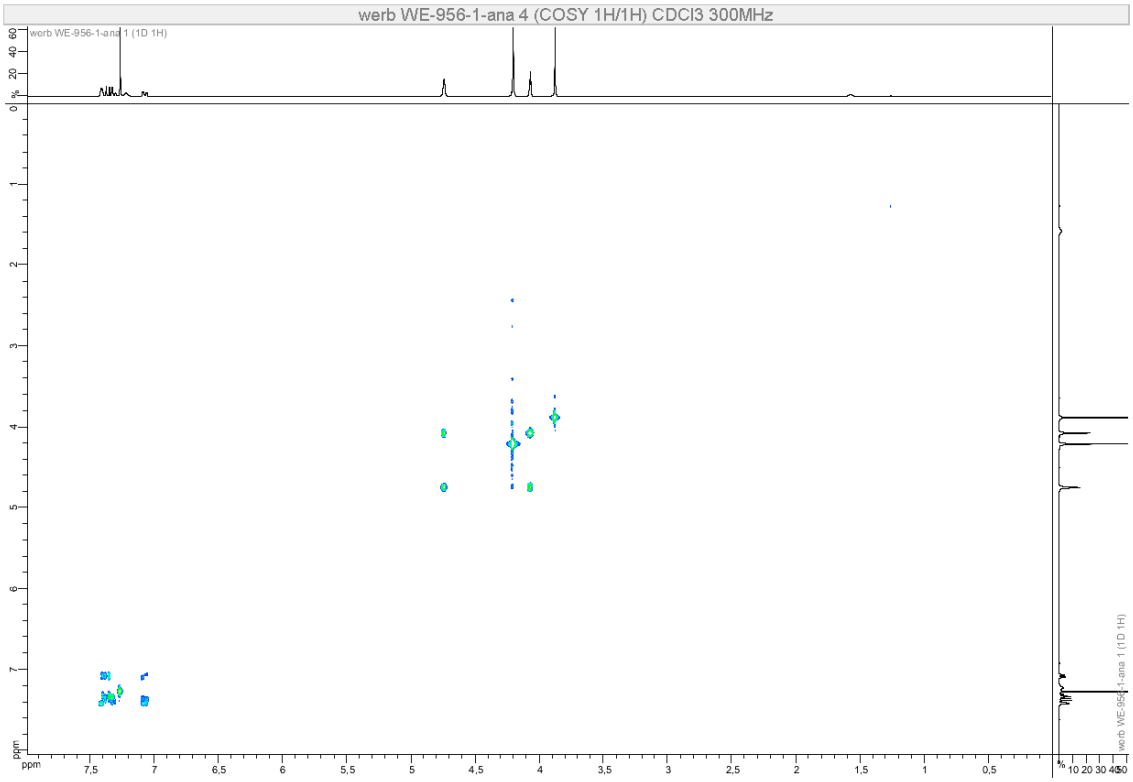
^{13}C NMR (75 MHz, $CDCl_3$)



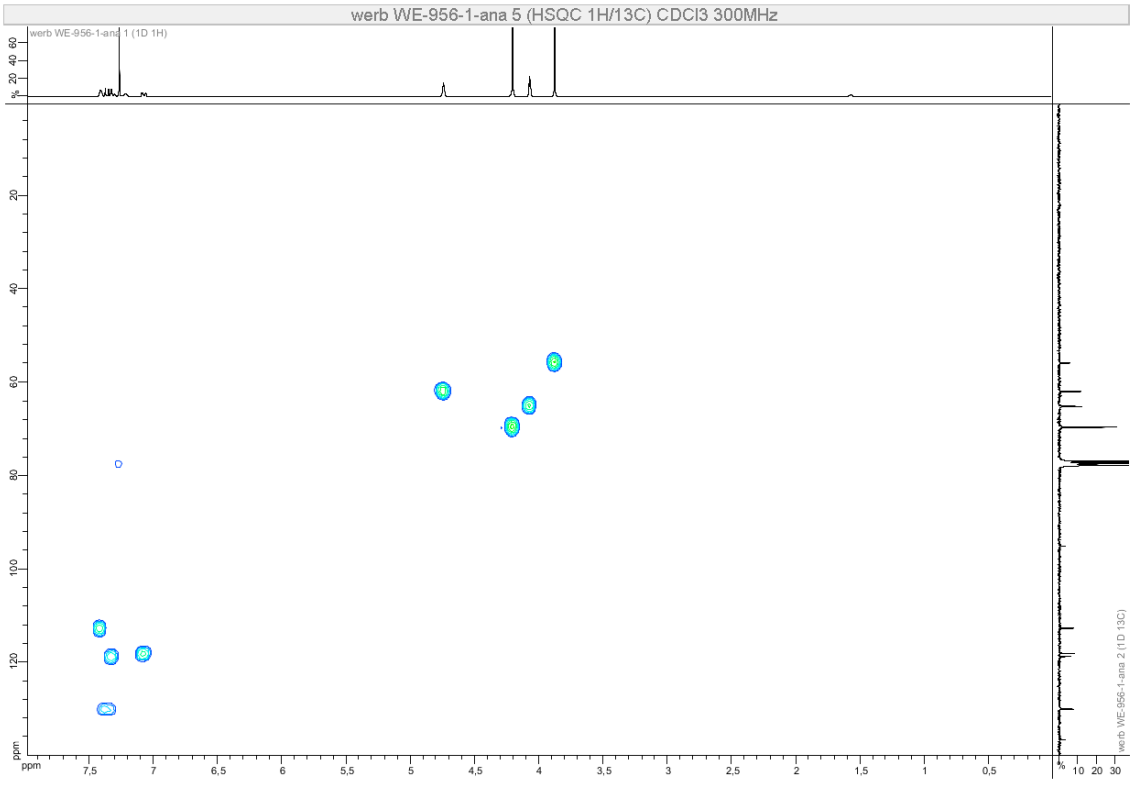
DEPT 135 (75 MHz, $CDCl_3$)



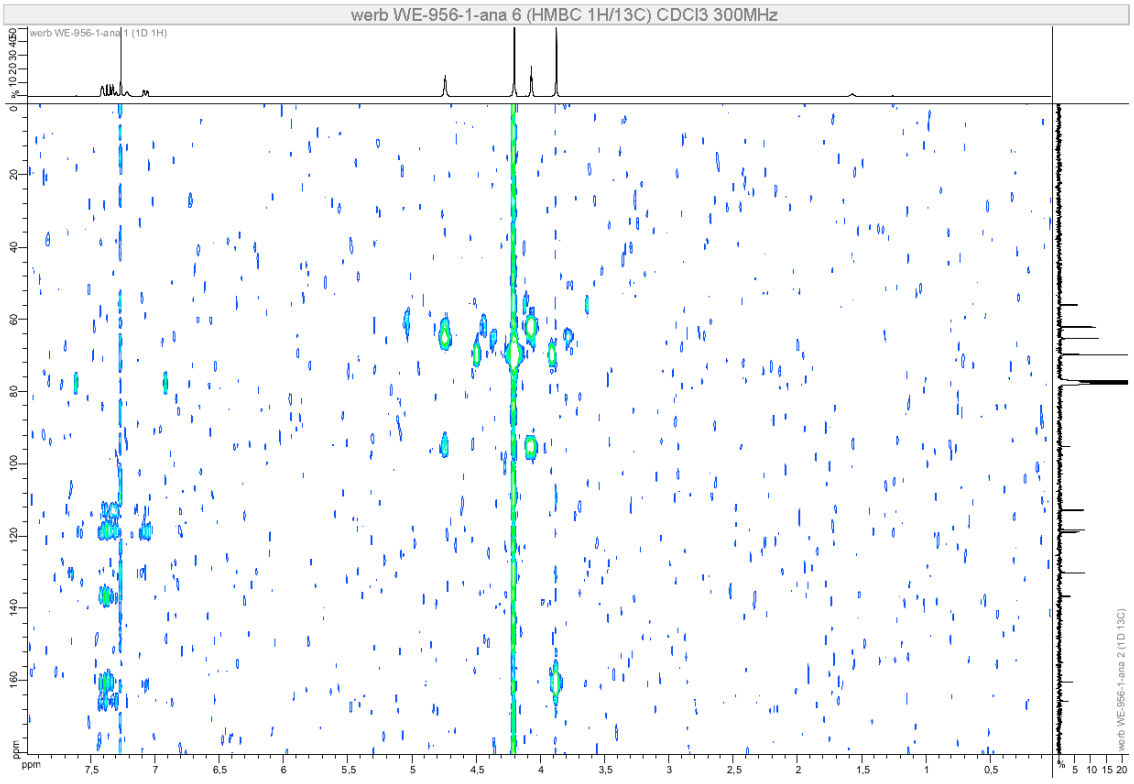
COSY (300 MHz, $CDCl_3$)



HSQC (300 MHz, $CDCl_3$)

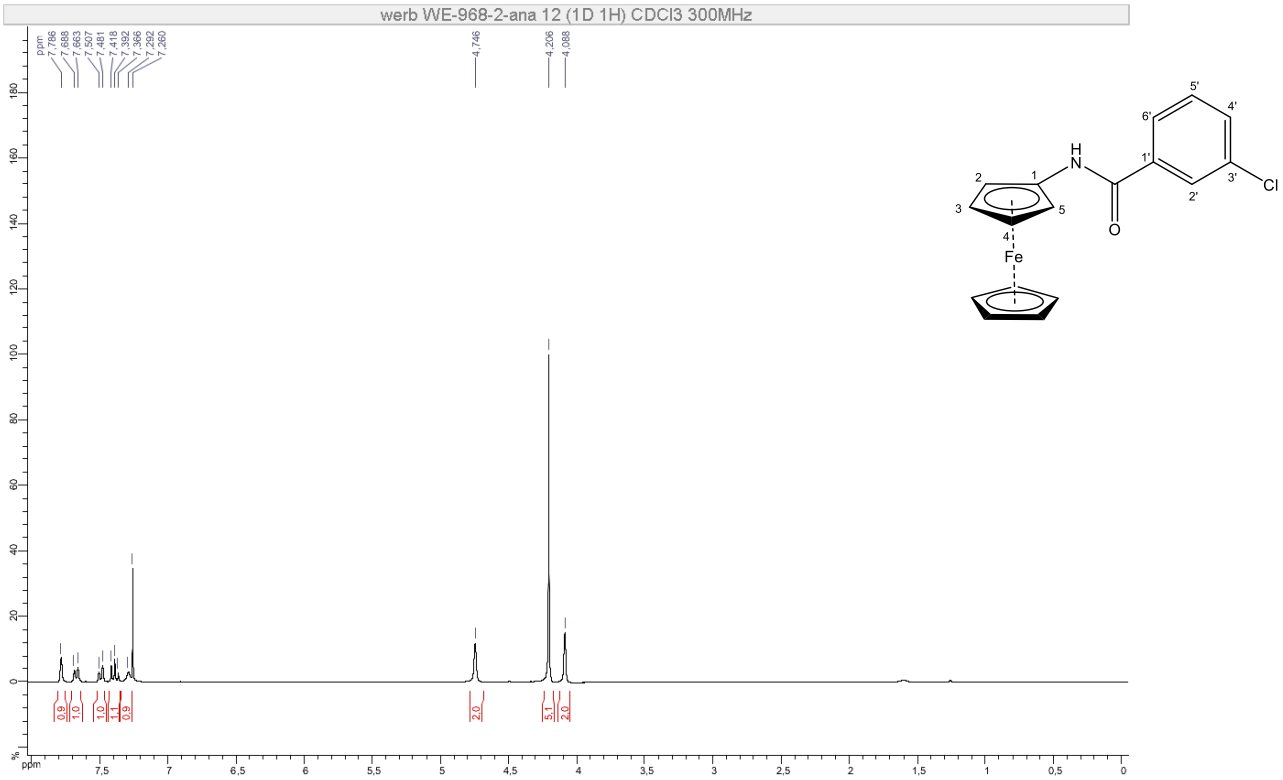


HMBC (300 MHz, $CDCl_3$)

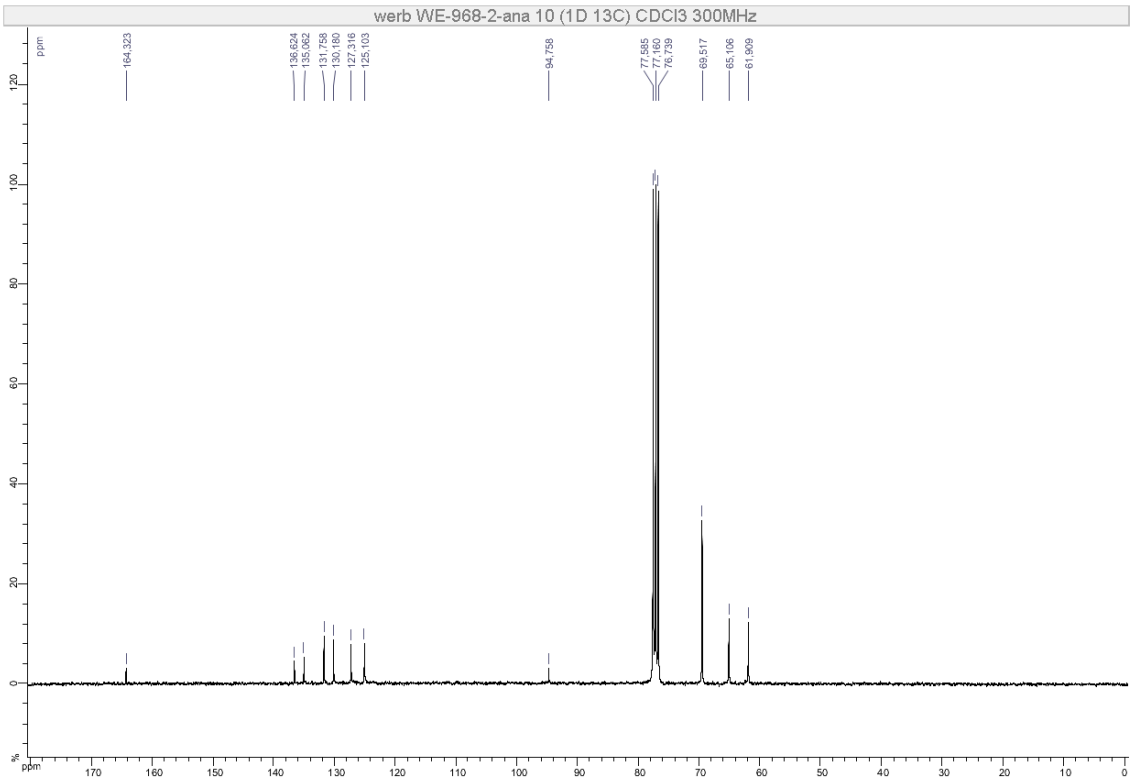


3-Chloro-*N*-ferrocenylbenzamide (2-3Cl)

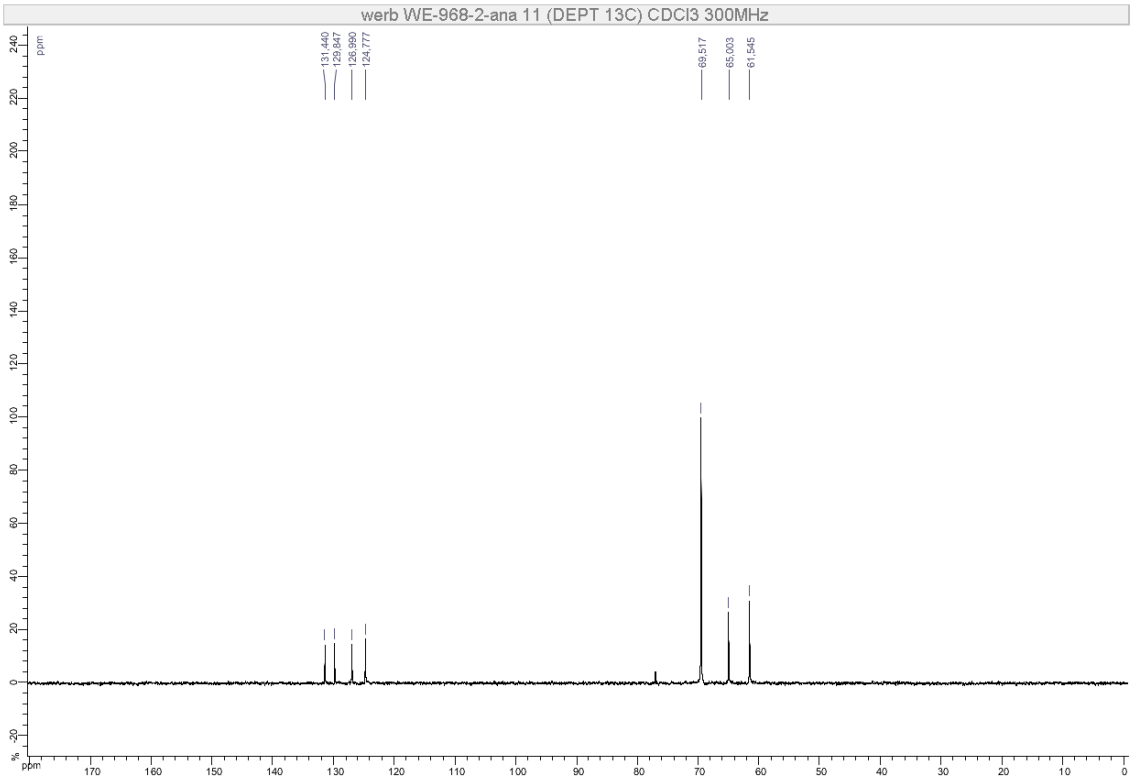
^{1}H NMR (300 MHz, $CDCl_3$)



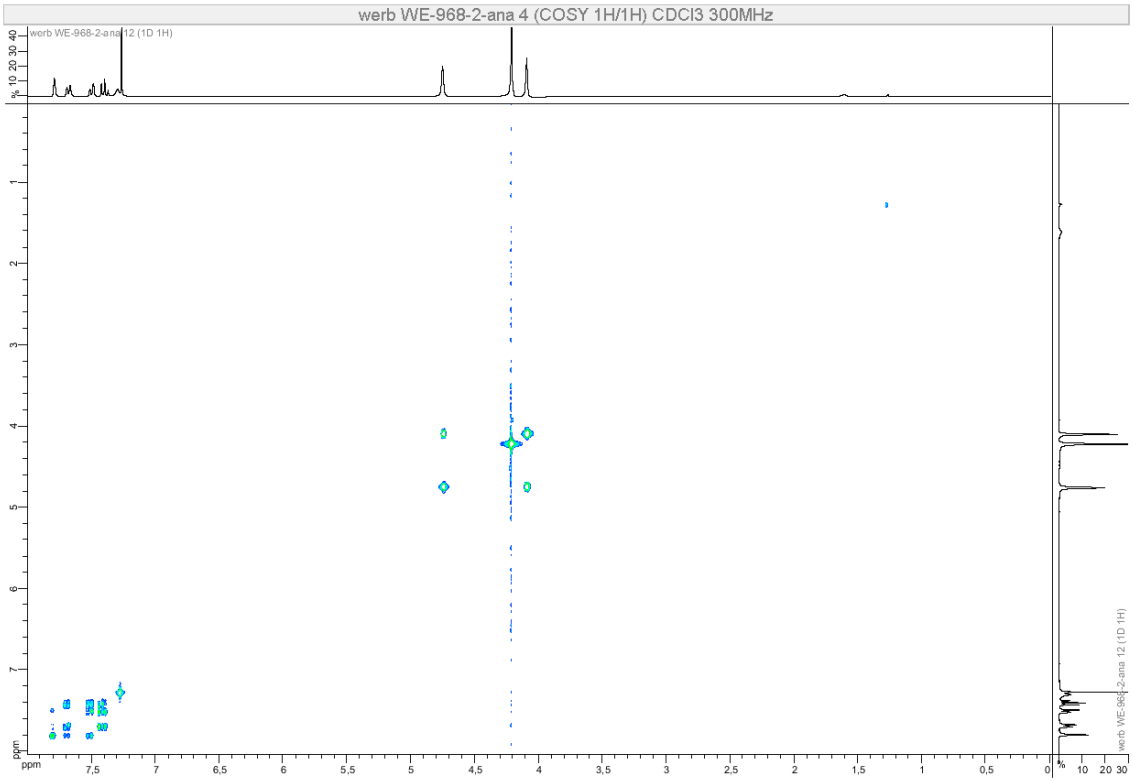
^{13}C NMR (75 MHz, $CDCl_3$)



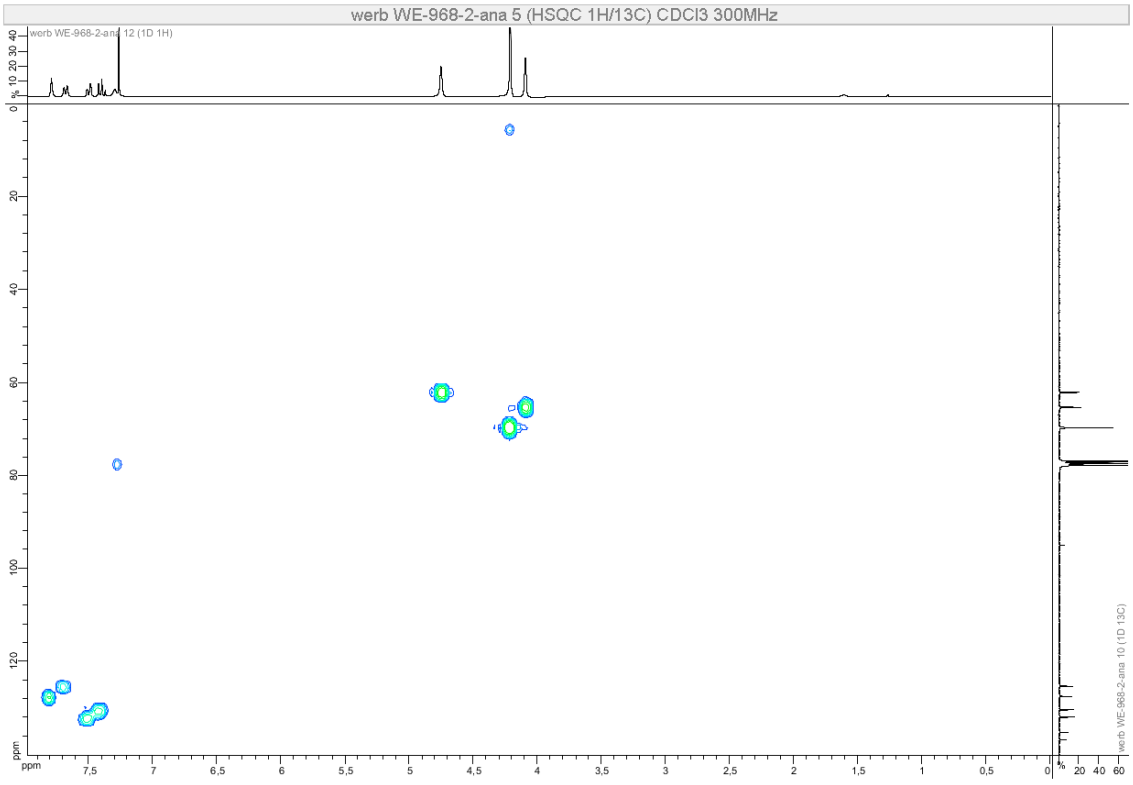
DEPT 135 (75 MHz, $CDCl_3$)



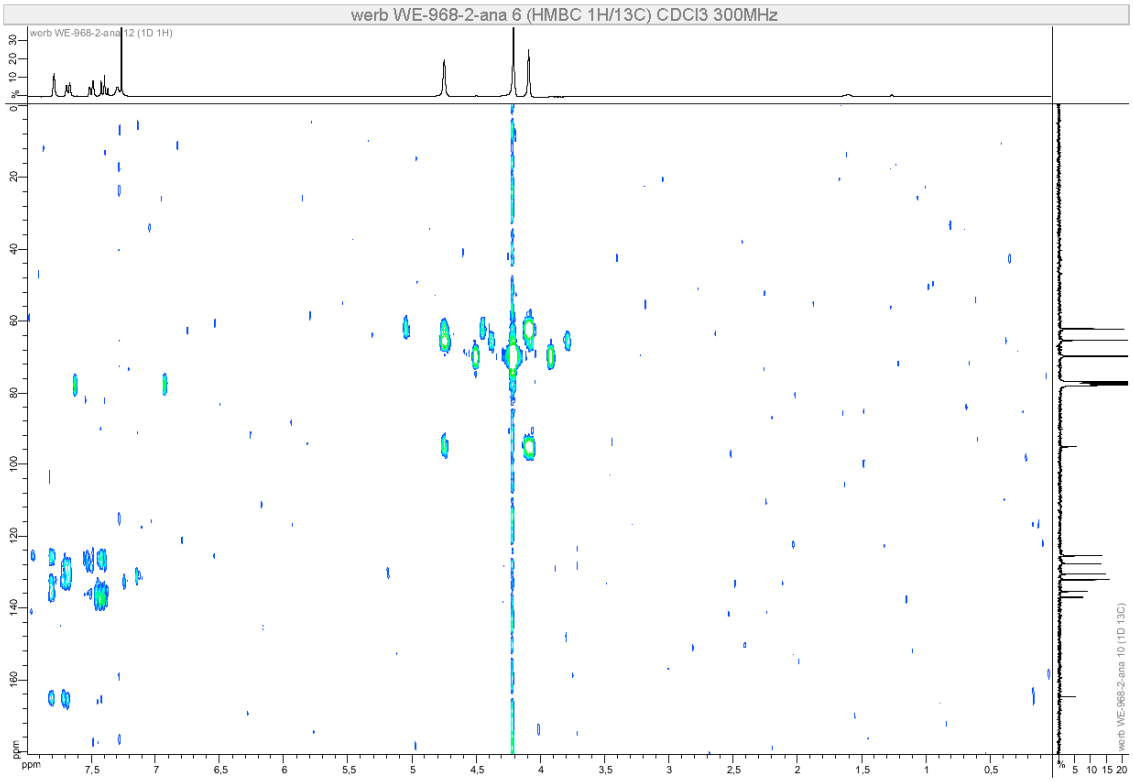
COSY (300 MHz, $CDCl_3$)



HSQC (300 MHz, $CDCl_3$)

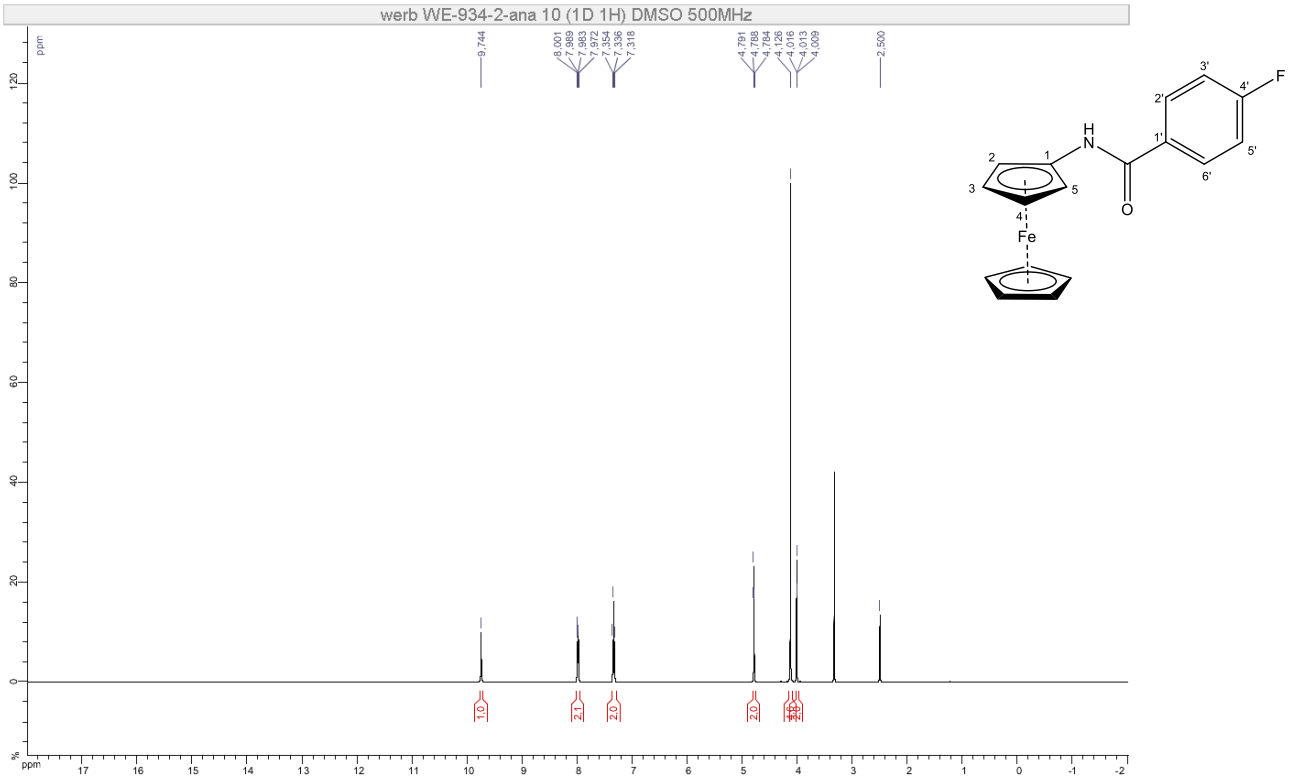


HMBC (300 MHz, $CDCl_3$)

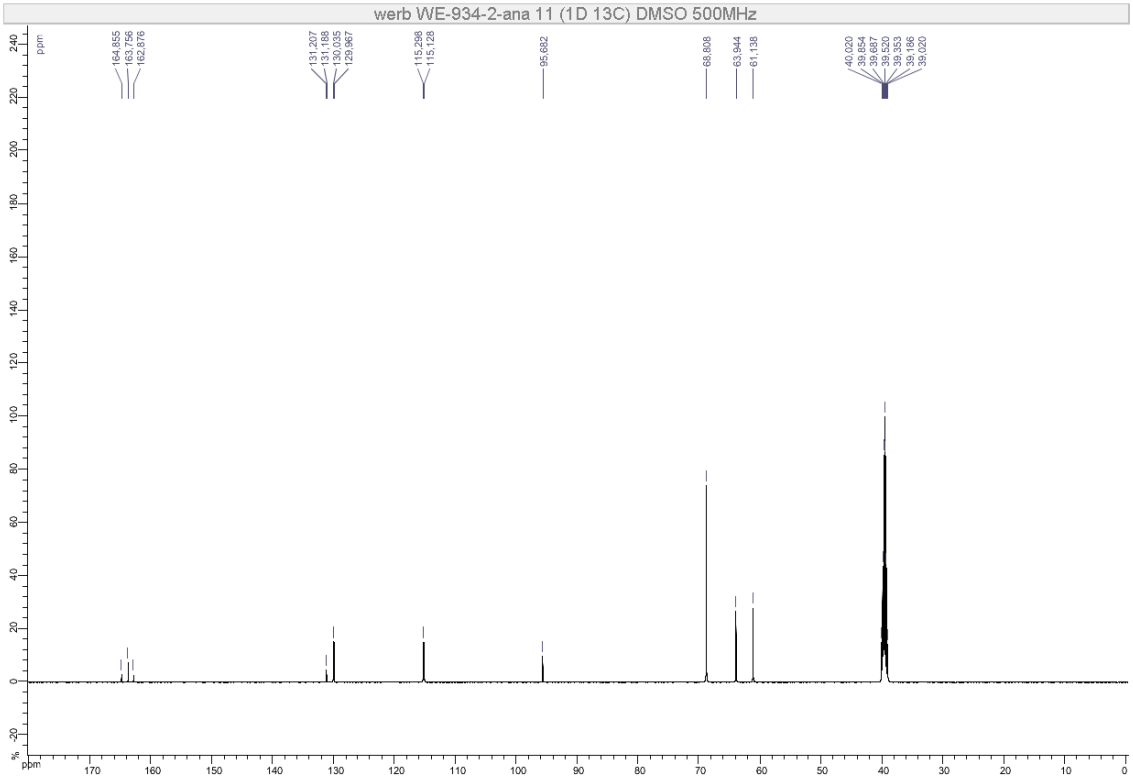


N-Ferrocenyl-4-fluorobenzamide (2-4F)

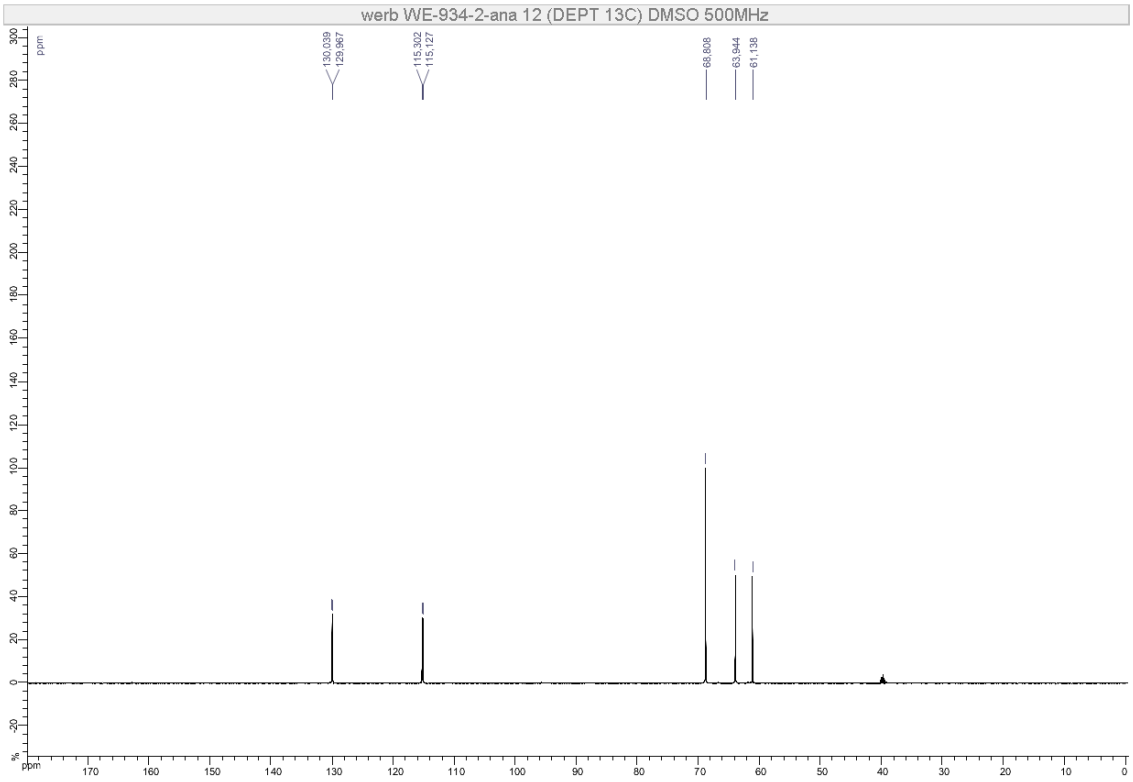
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



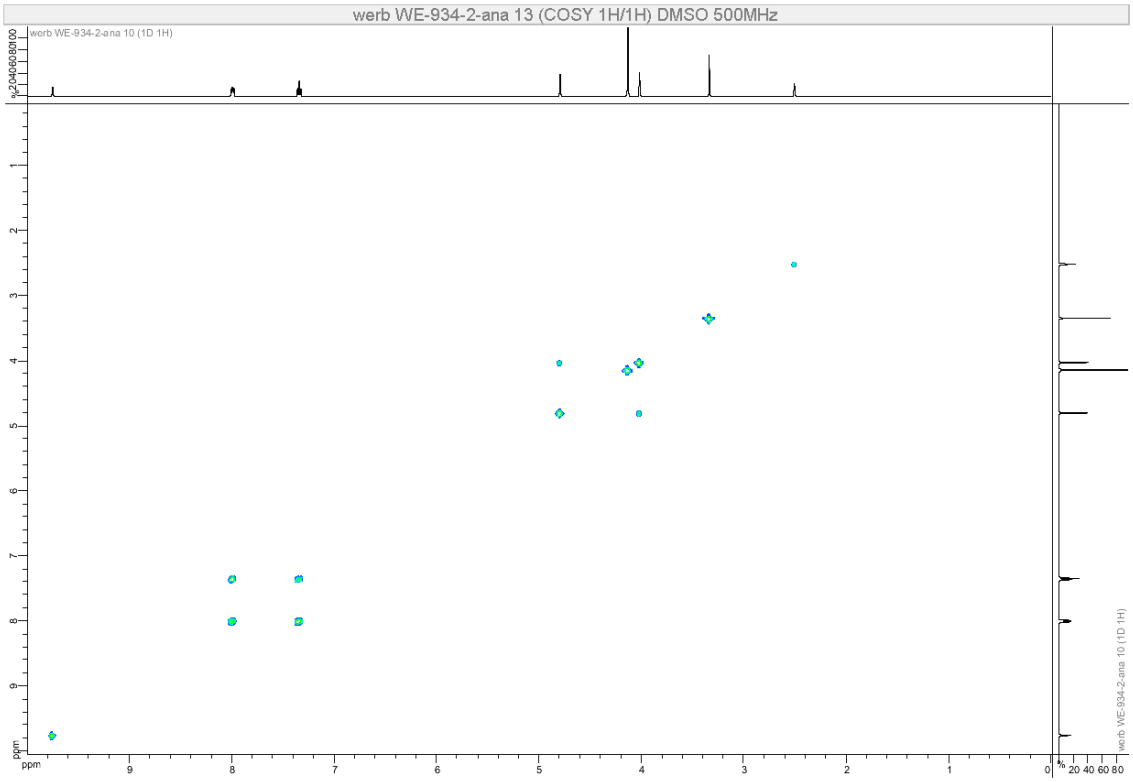
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



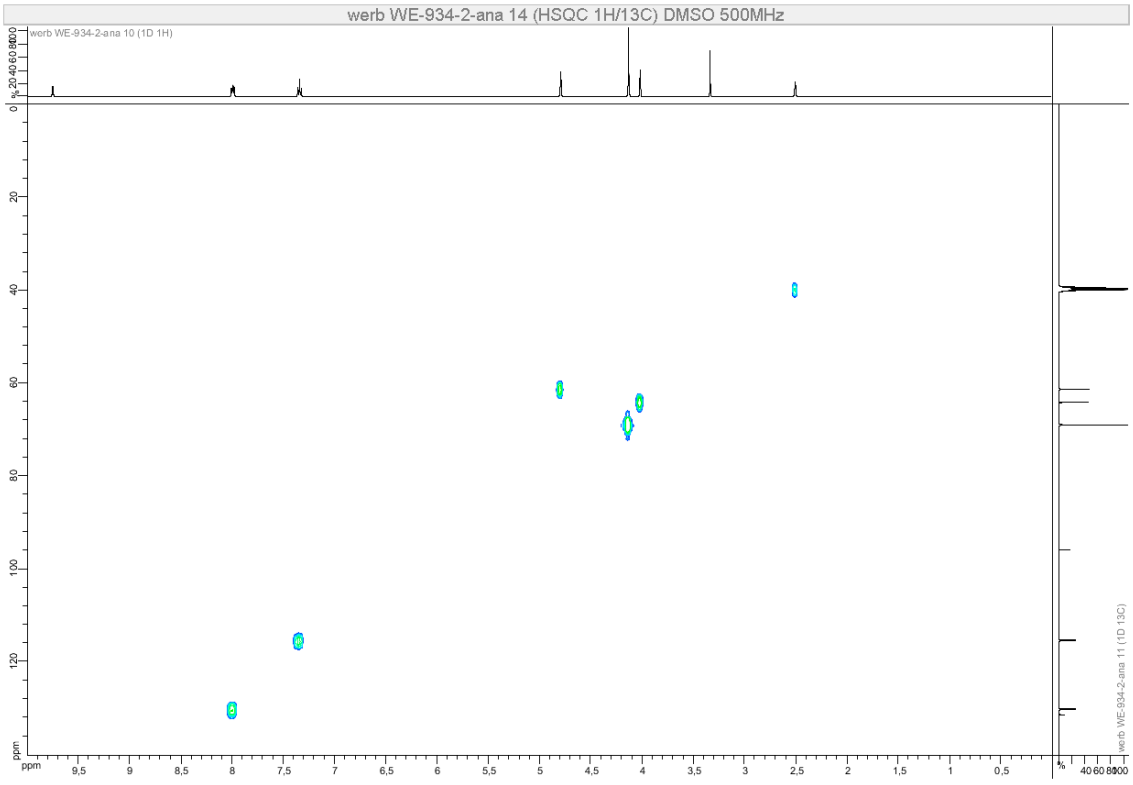
DEPT 135 (126 MHz, $(CD_3)_2SO$)



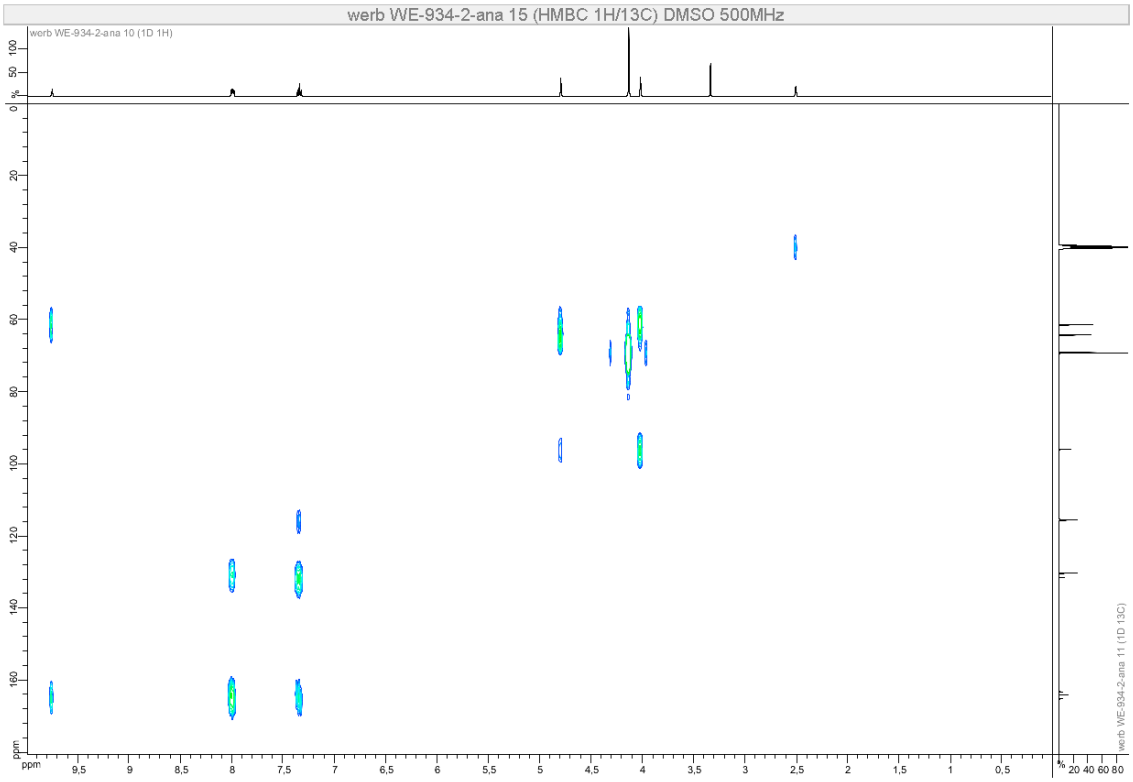
COSY (500 MHz, $(CD_3)_2SO$)



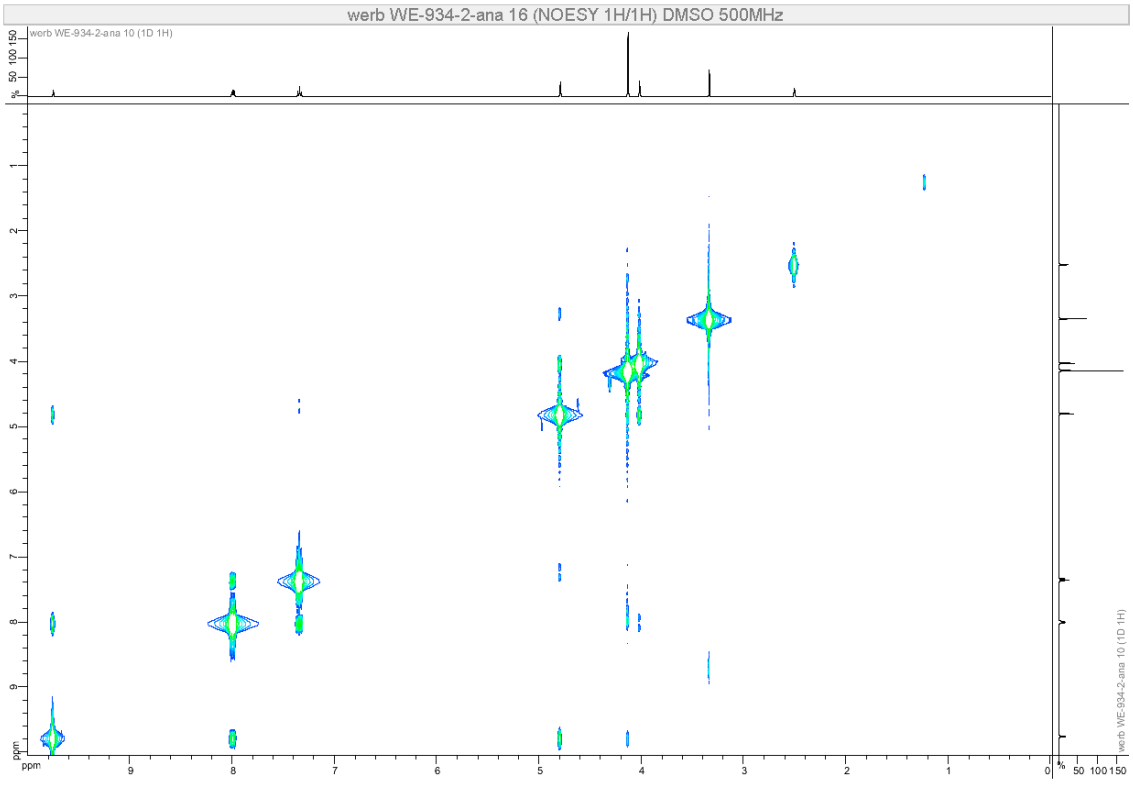
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

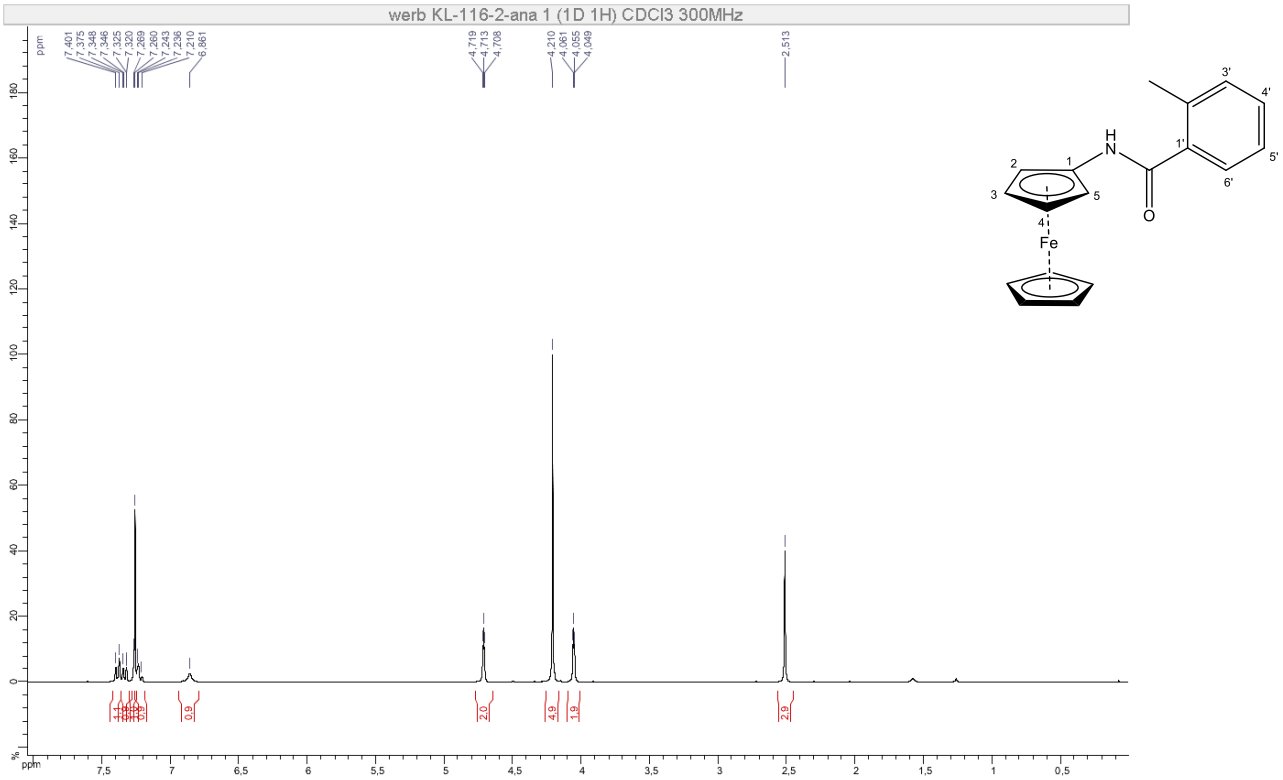


NOESY (500 MHz, $(CD_3)_2SO$)

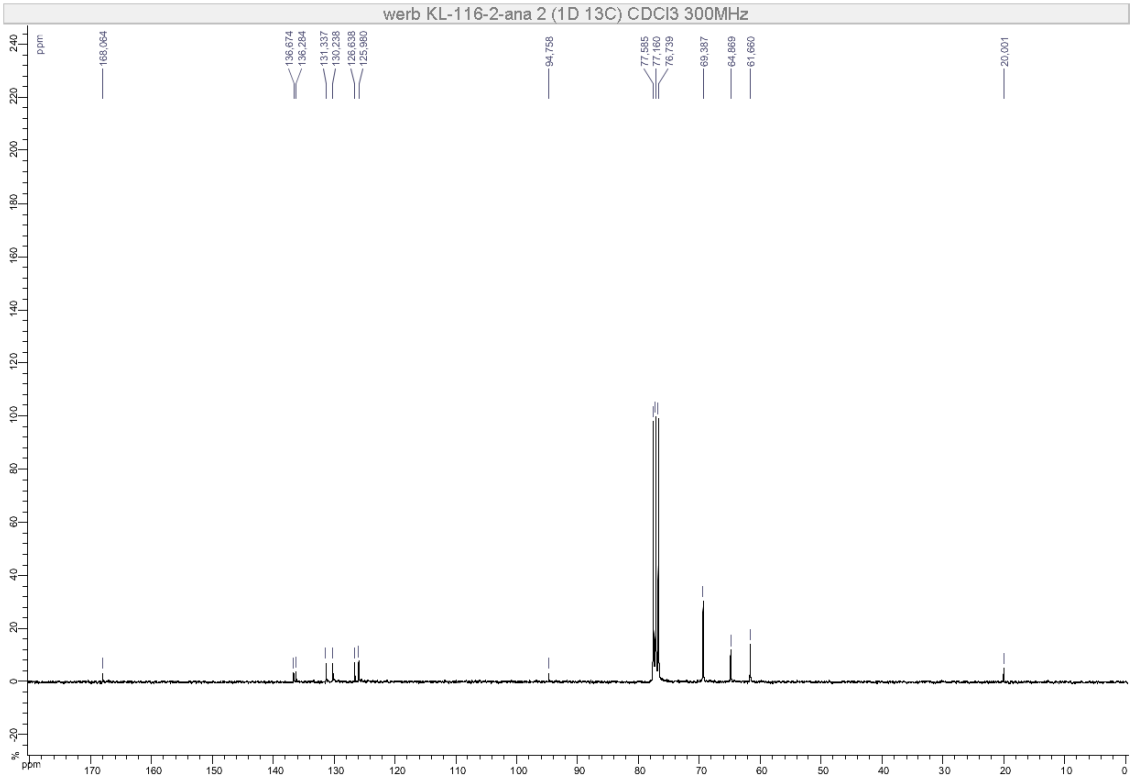


N-Ferrocenyl-2-methylbenzamide (2-2Me)

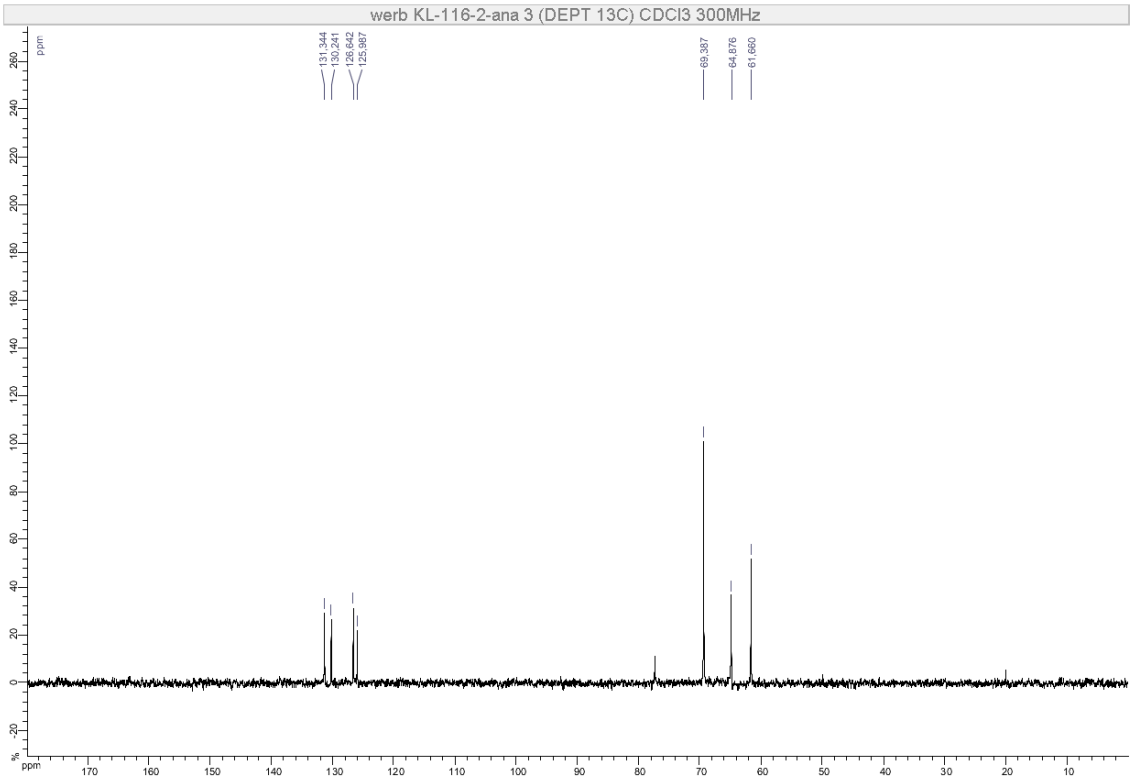
^{1}H NMR (300 MHz, $CDCl_3$)



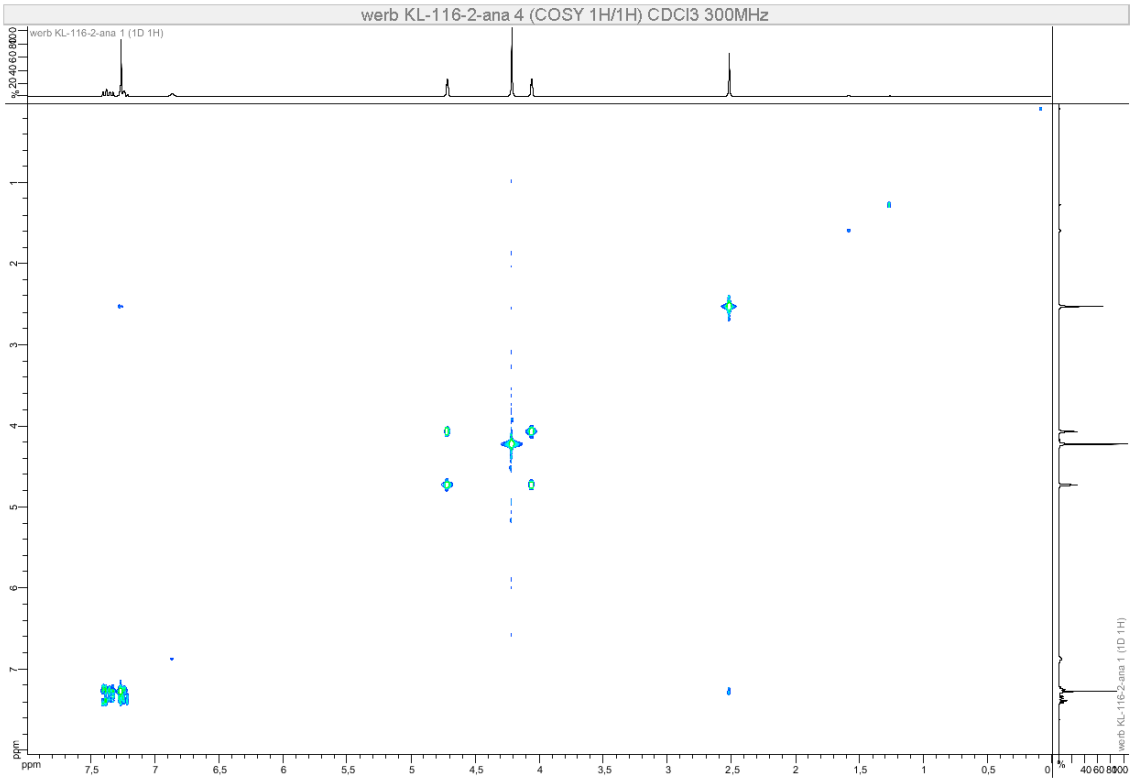
^{13}C NMR (75 MHz, $CDCl_3$)



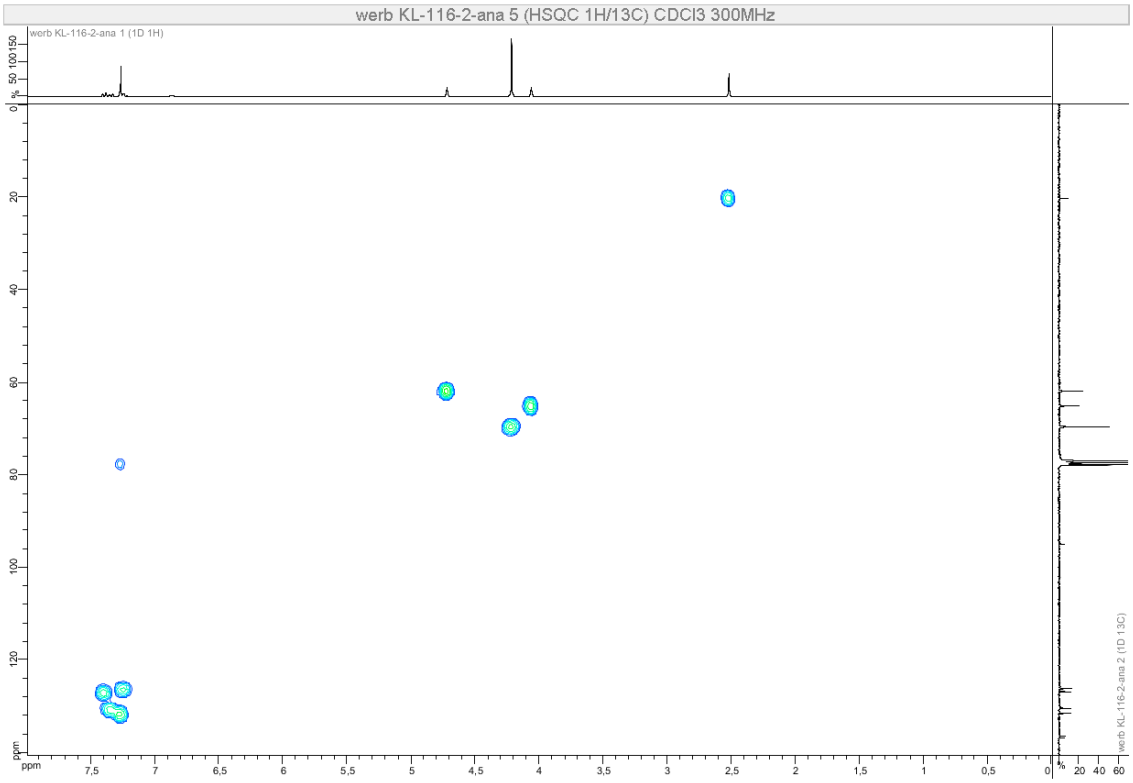
DEPT 135 (75 MHz, $CDCl_3$)



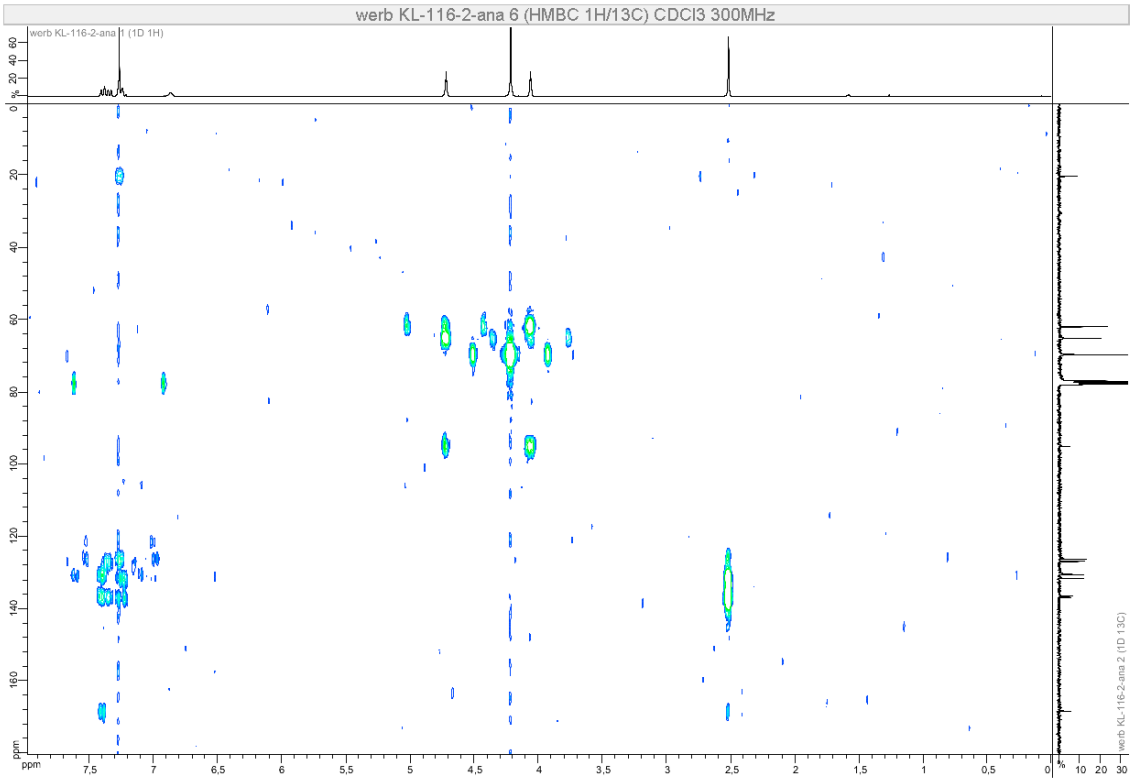
COSY (300 MHz, $CDCl_3$)



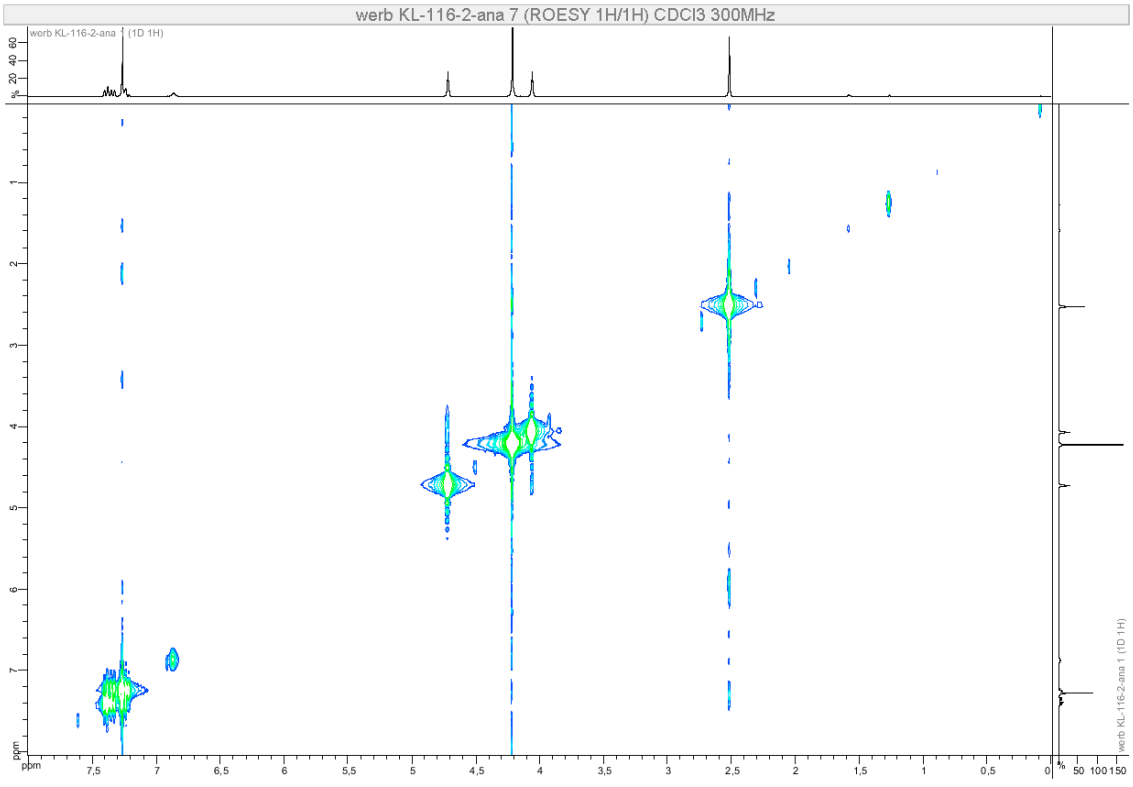
HSQC (300 MHz, $CDCl_3$)



HMBC (300 MHz, $CDCl_3$)

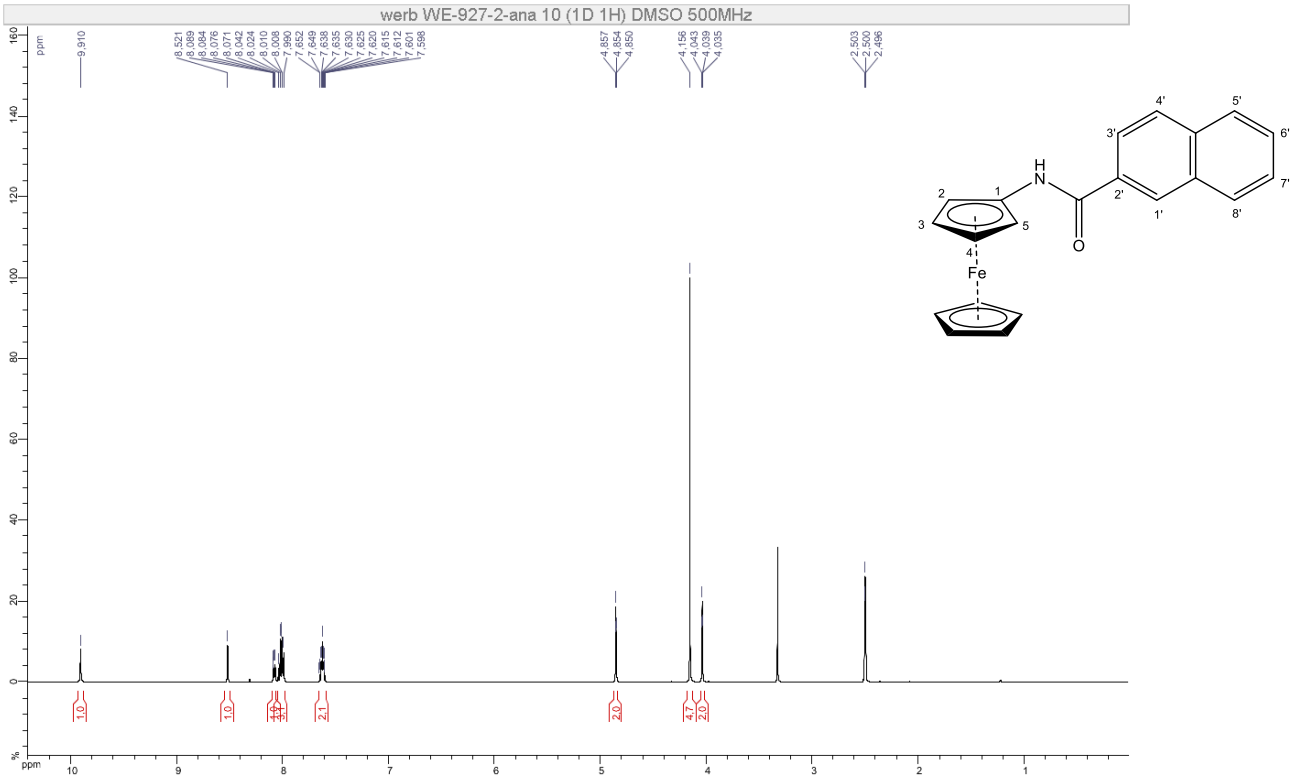


ROESY (300 MHz, $CDCl_3$)

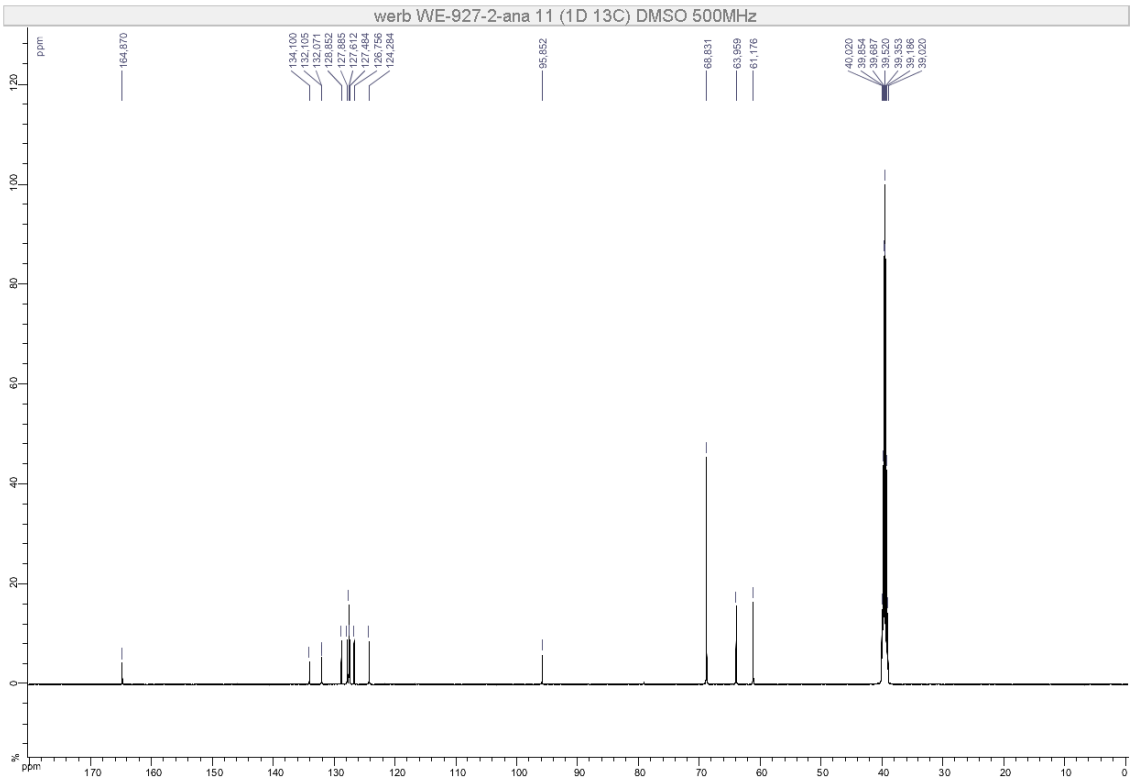


N-Ferrocenyl-2-naphthalenecarboxamide (2-Naph)

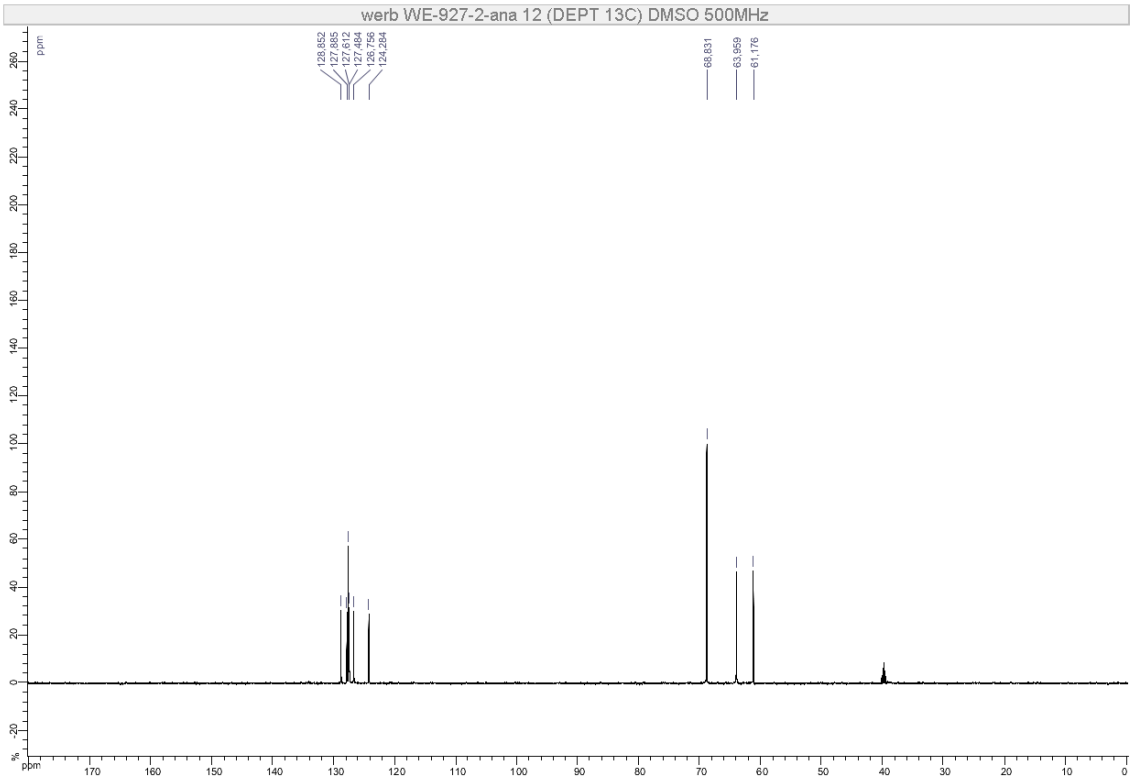
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



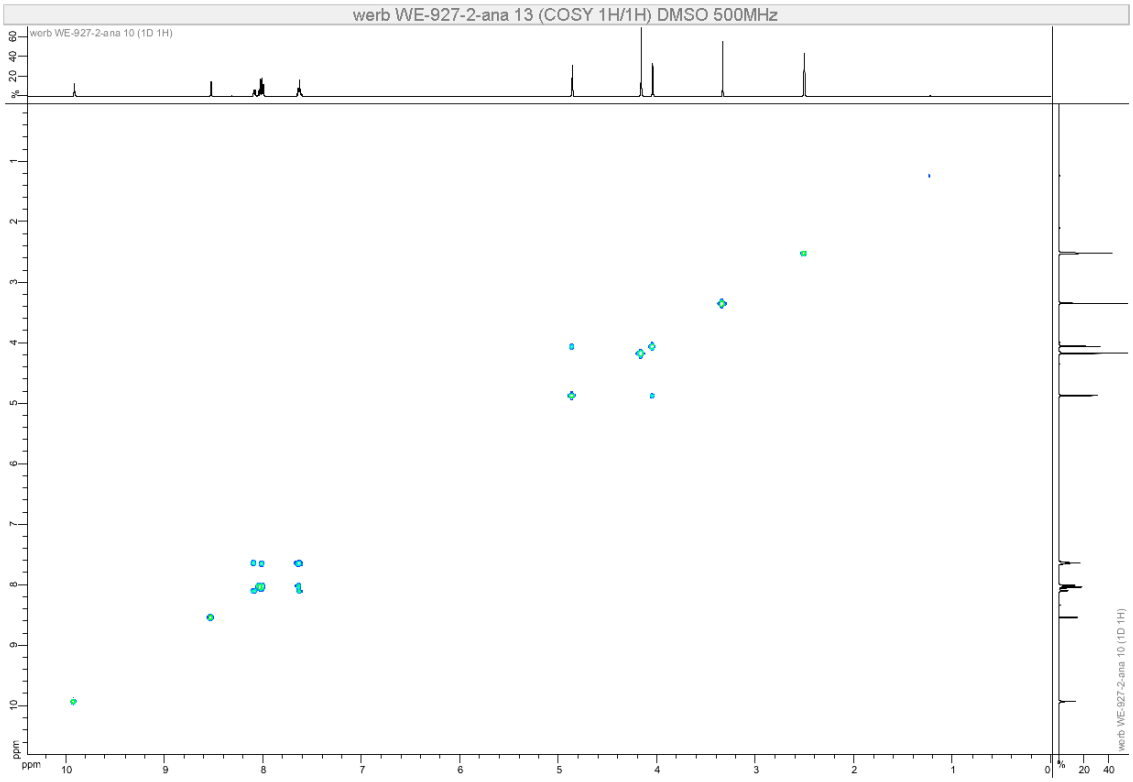
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



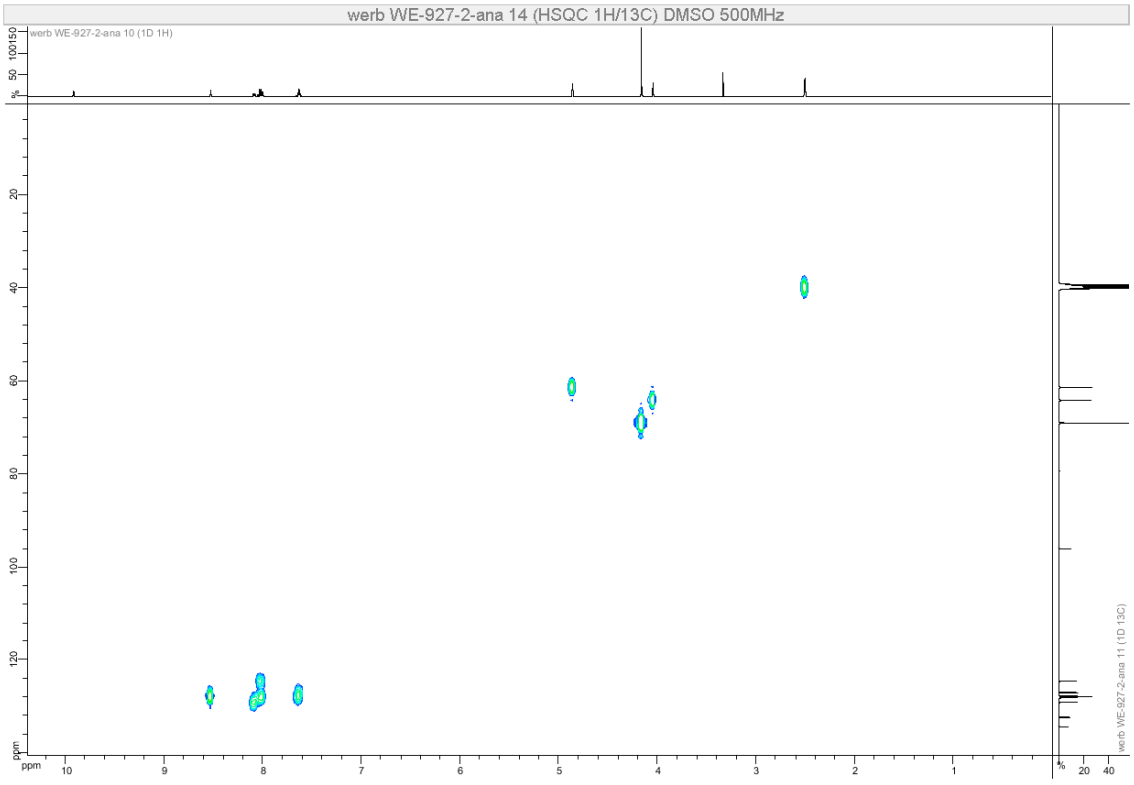
DEPT 135 (126 MHz, $(CD_3)_2SO$)



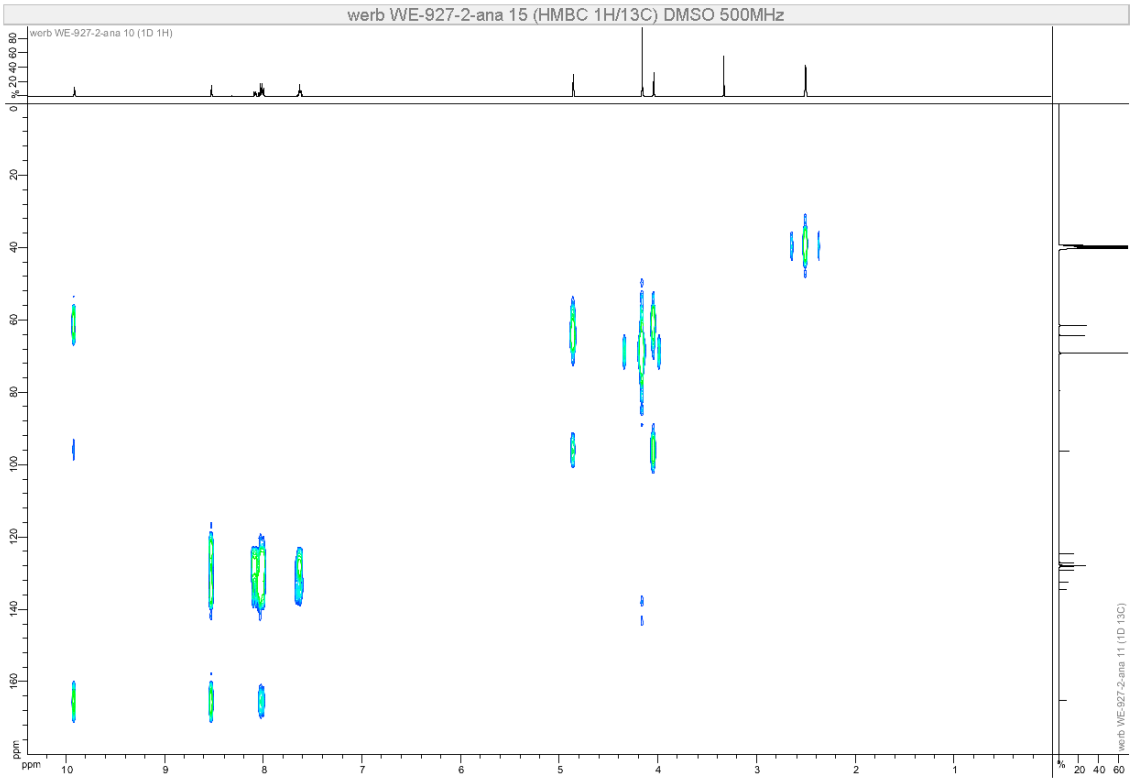
COSY (500 MHz, $(CD_3)_2SO$)



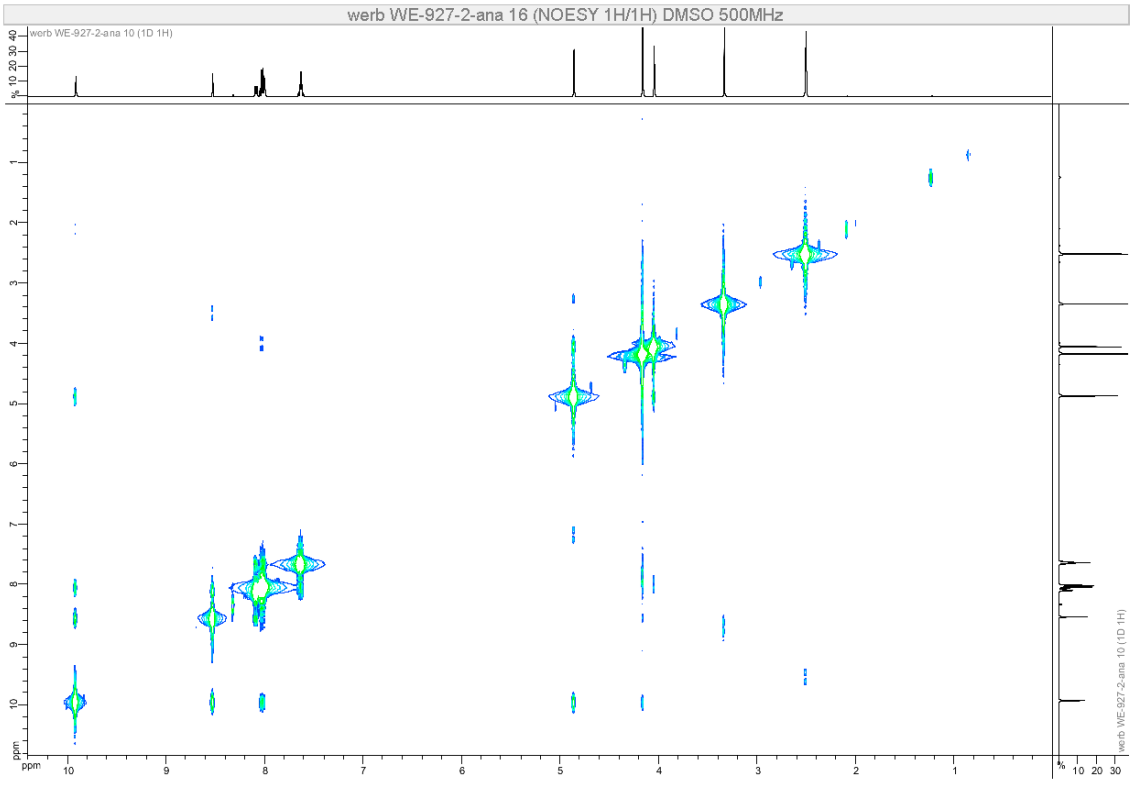
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

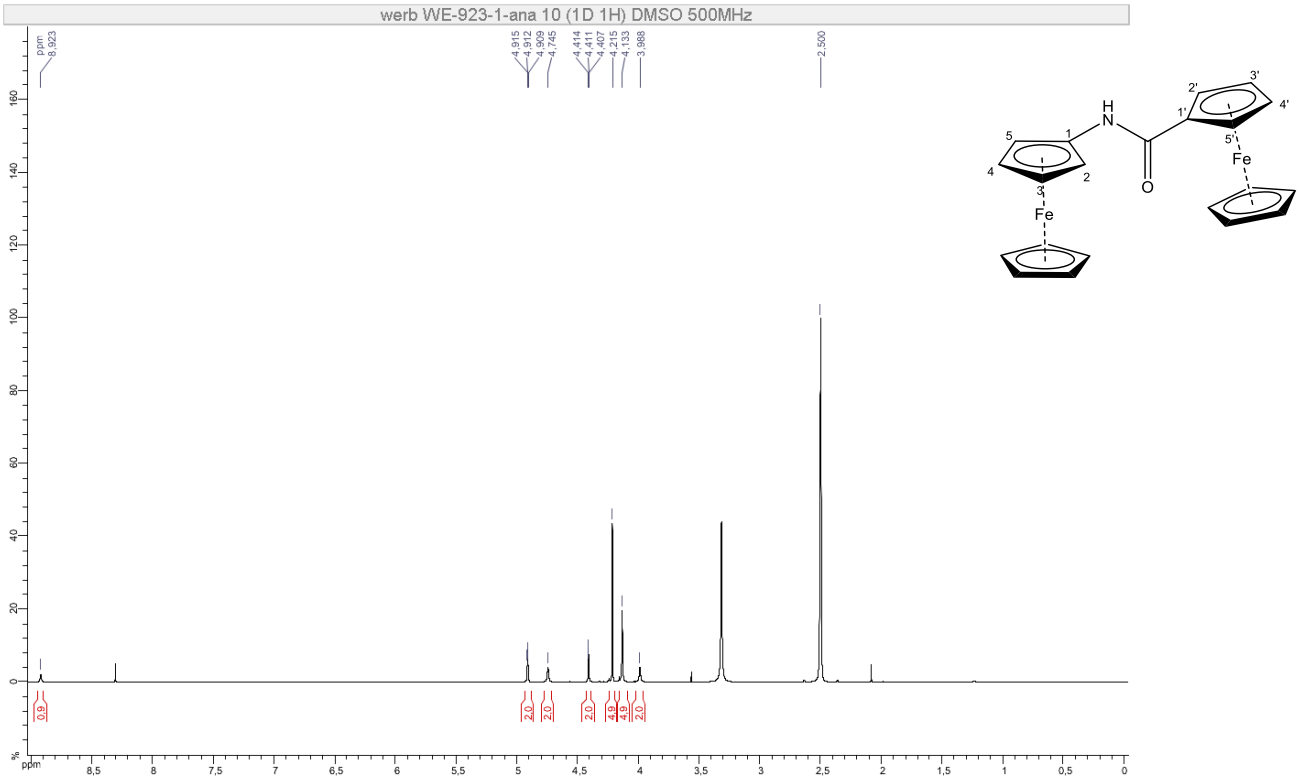


NOESY (500 MHz, $(CD_3)_2SO$)

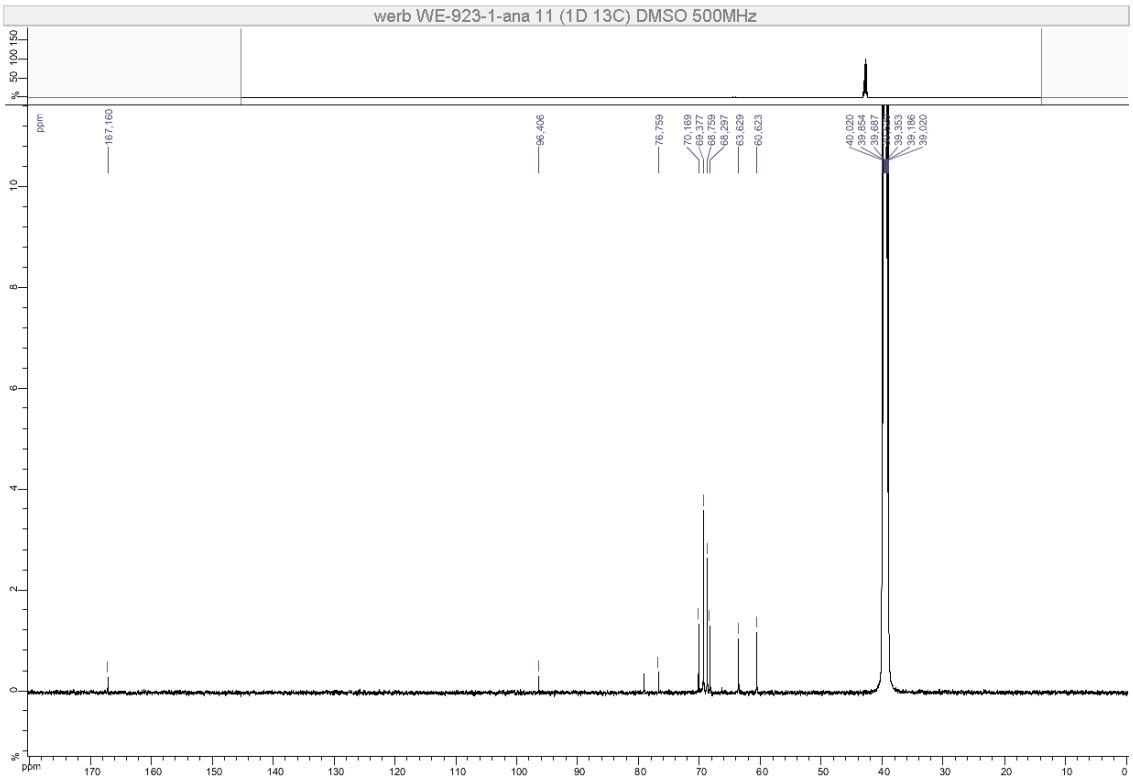


N-(Ferrocenyl)ferrocenecarboxamide (2-Fc)

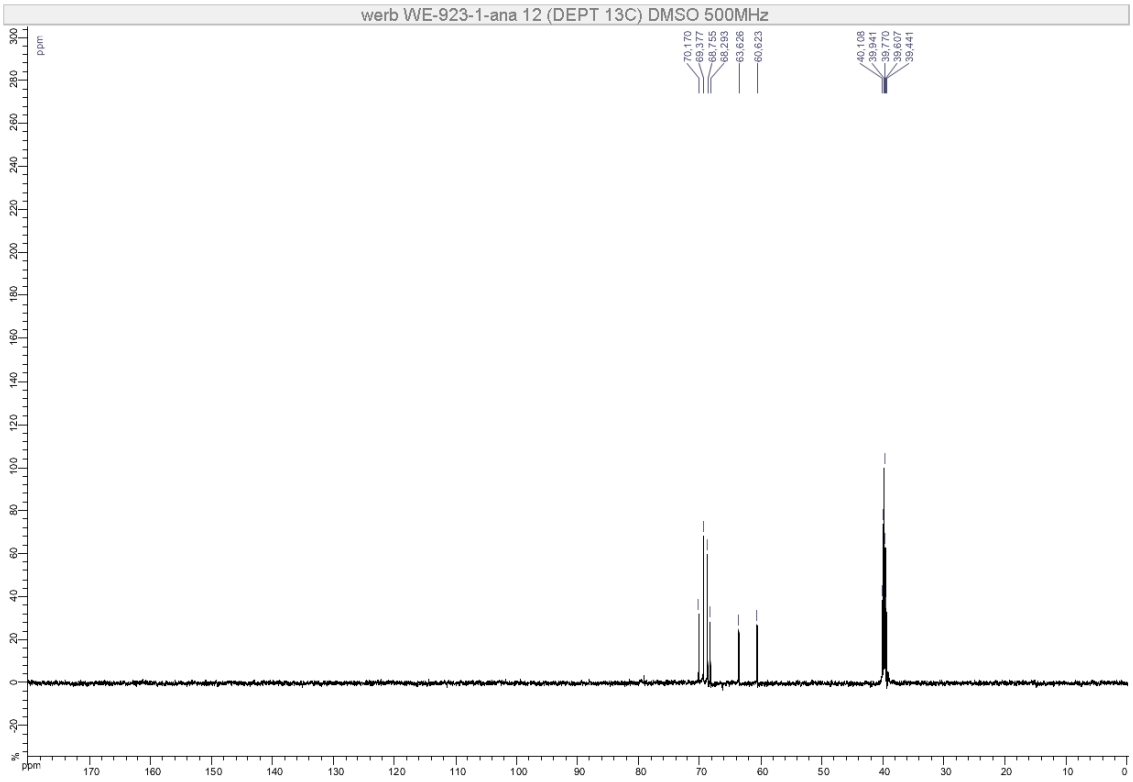
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



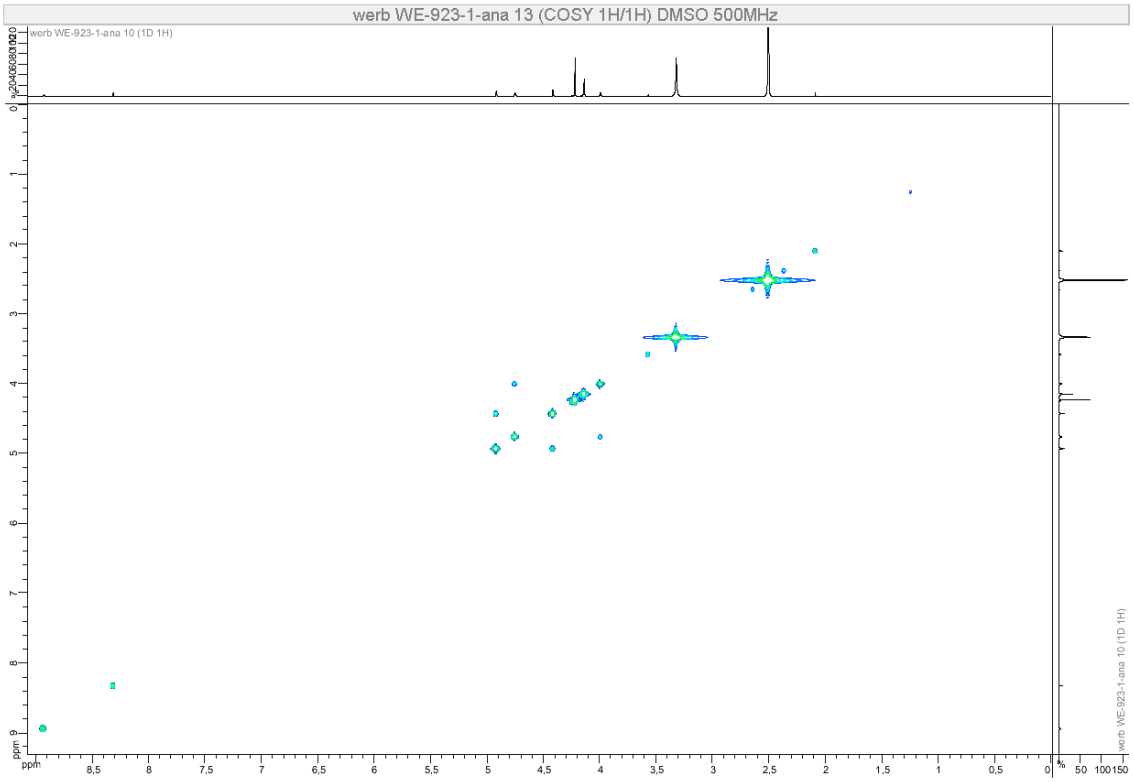
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



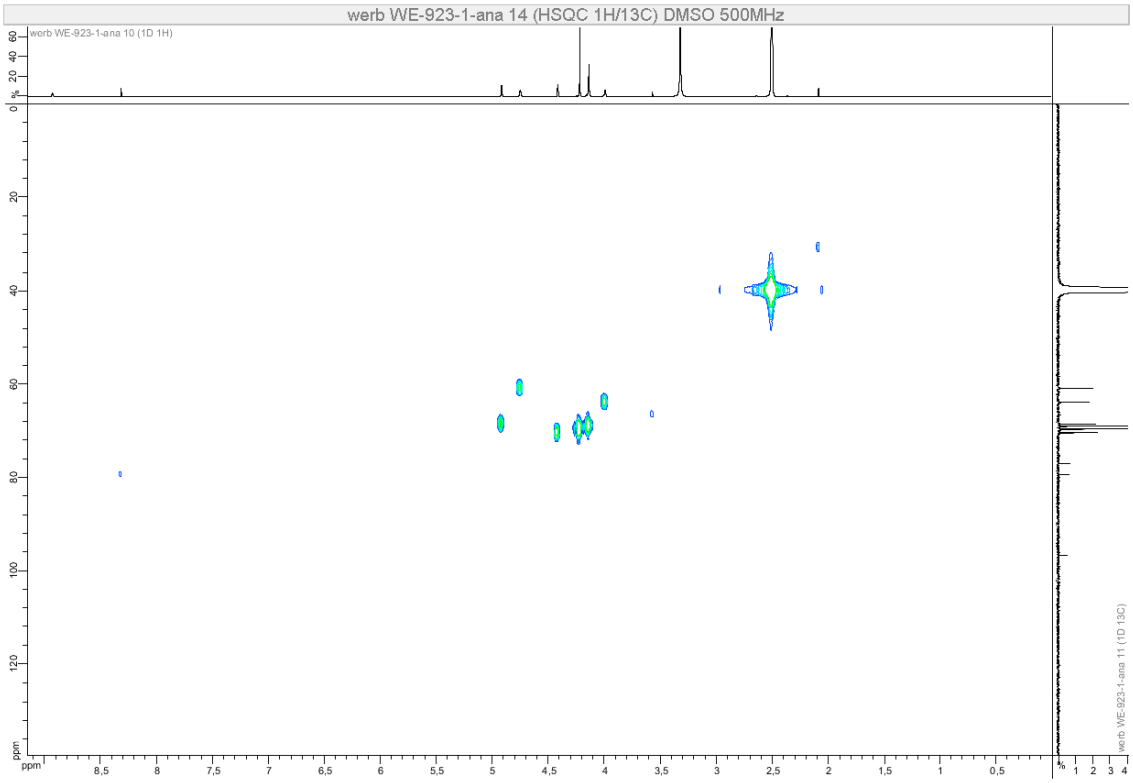
DEPT 135 (126 MHz, $(CD_3)_2SO$)



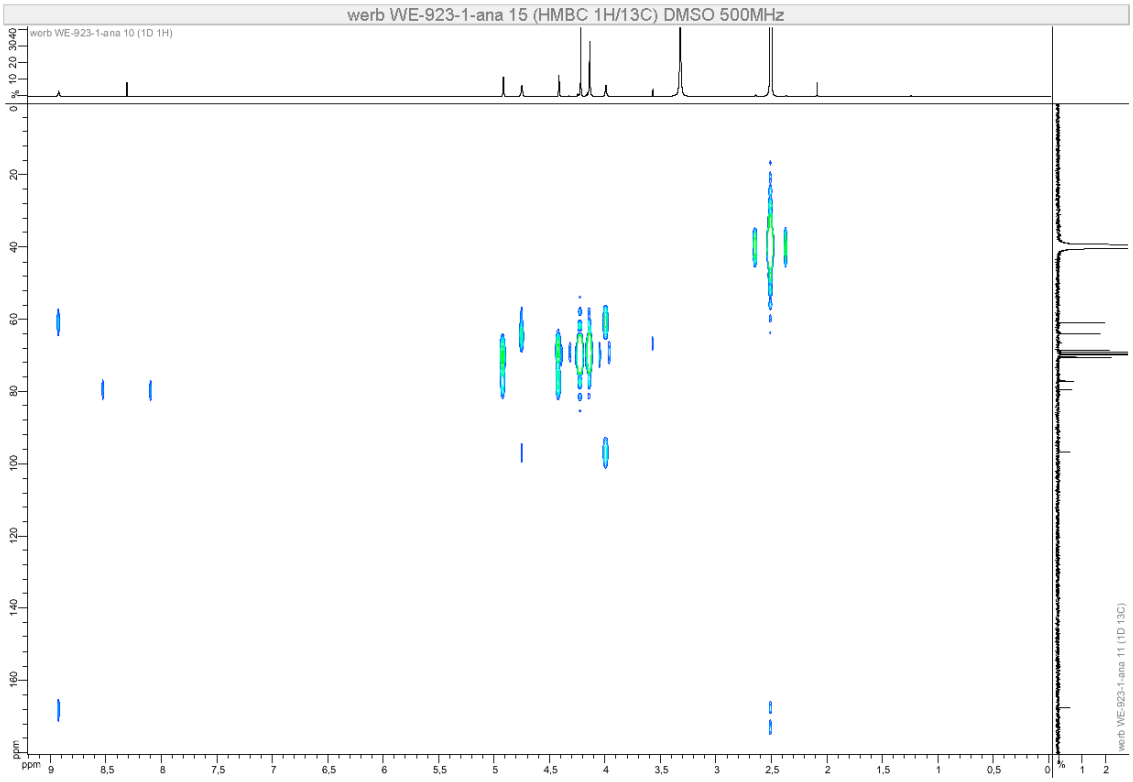
COSY (500 MHz, $(CD_3)_2SO$)



HSQC (500 MHz, $(CD_3)_2SO$)

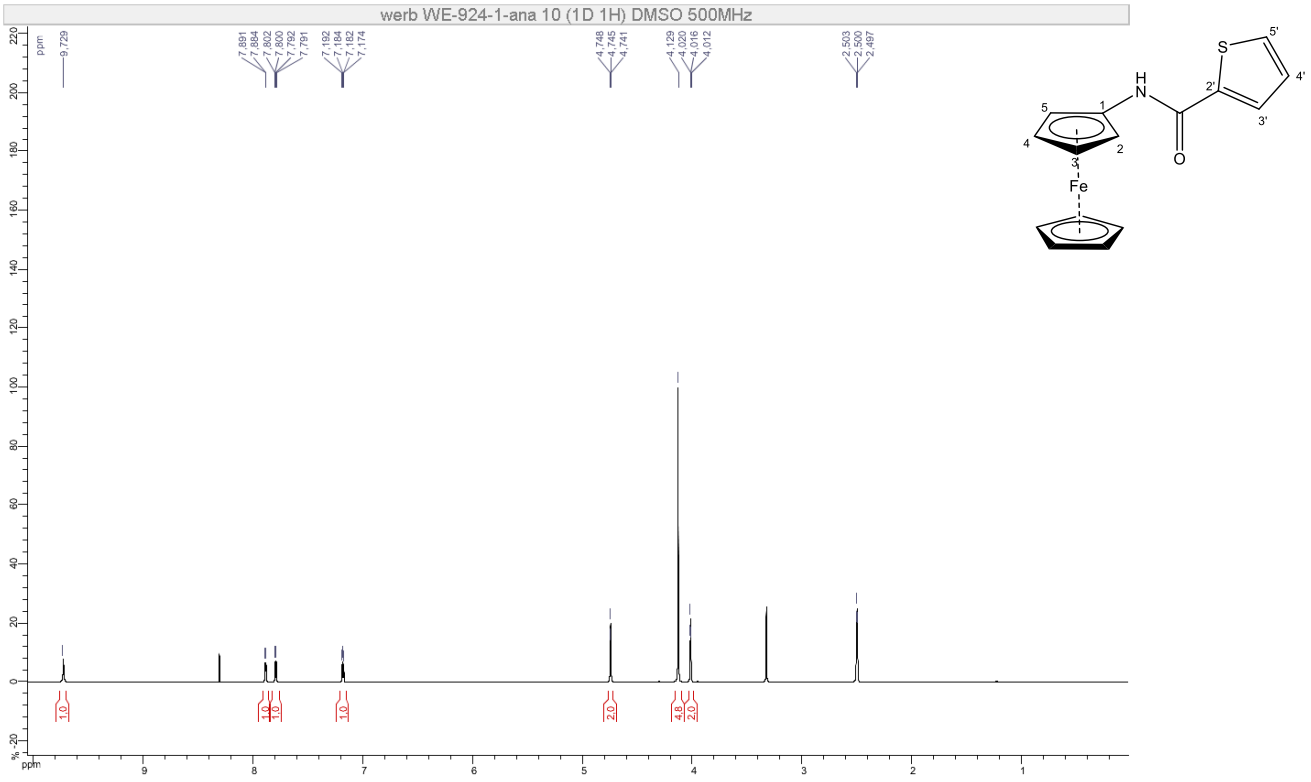


HMBC (500 MHz, $(CD_3)_2SO$)

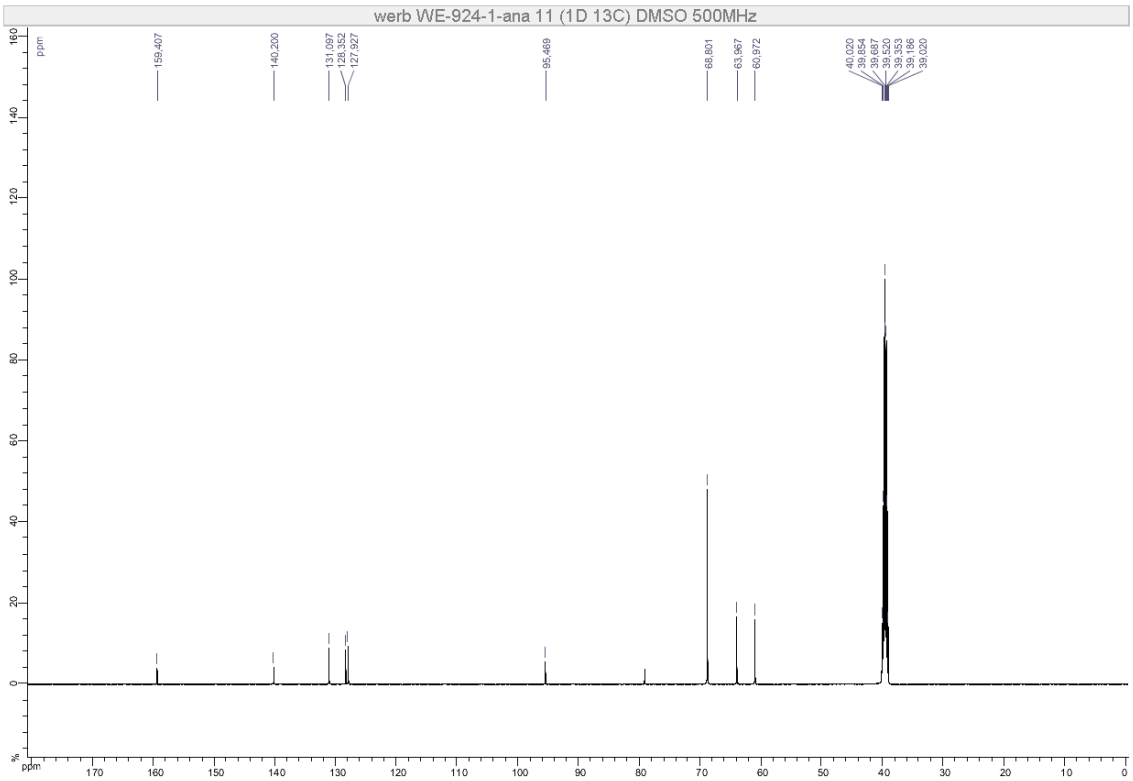


N-Ferrocenyl-2-thiophenecarboxamide (**2-2Th**)

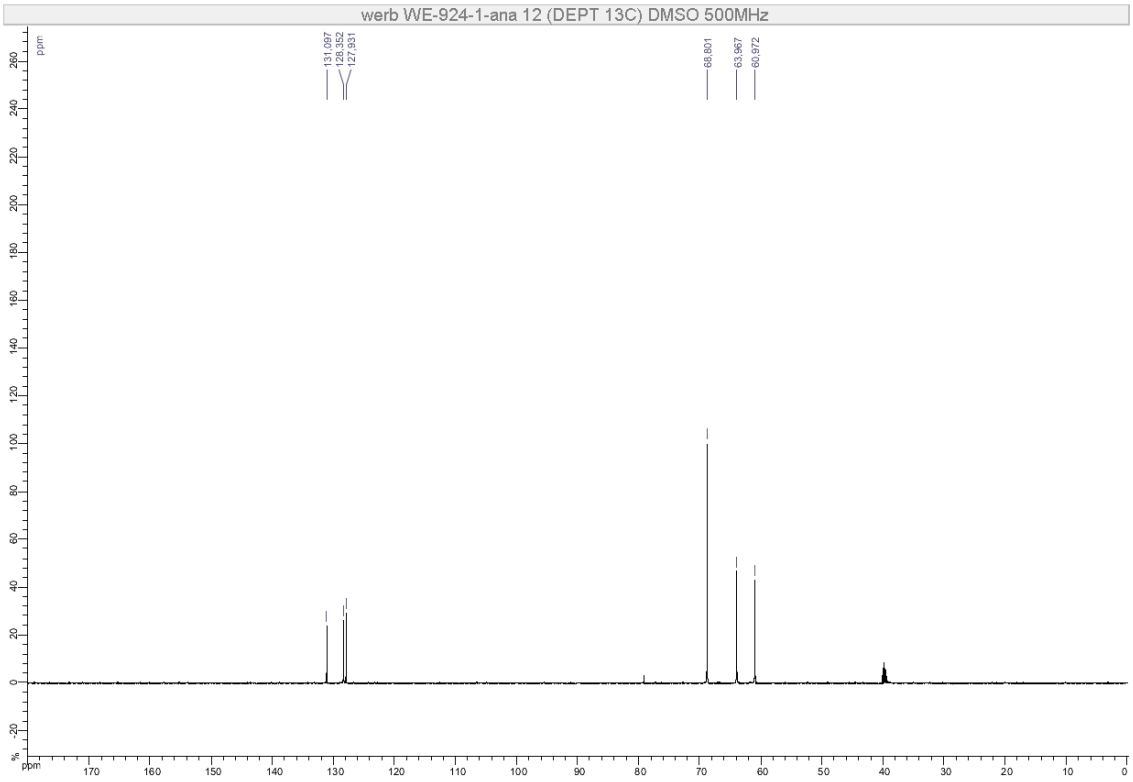
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



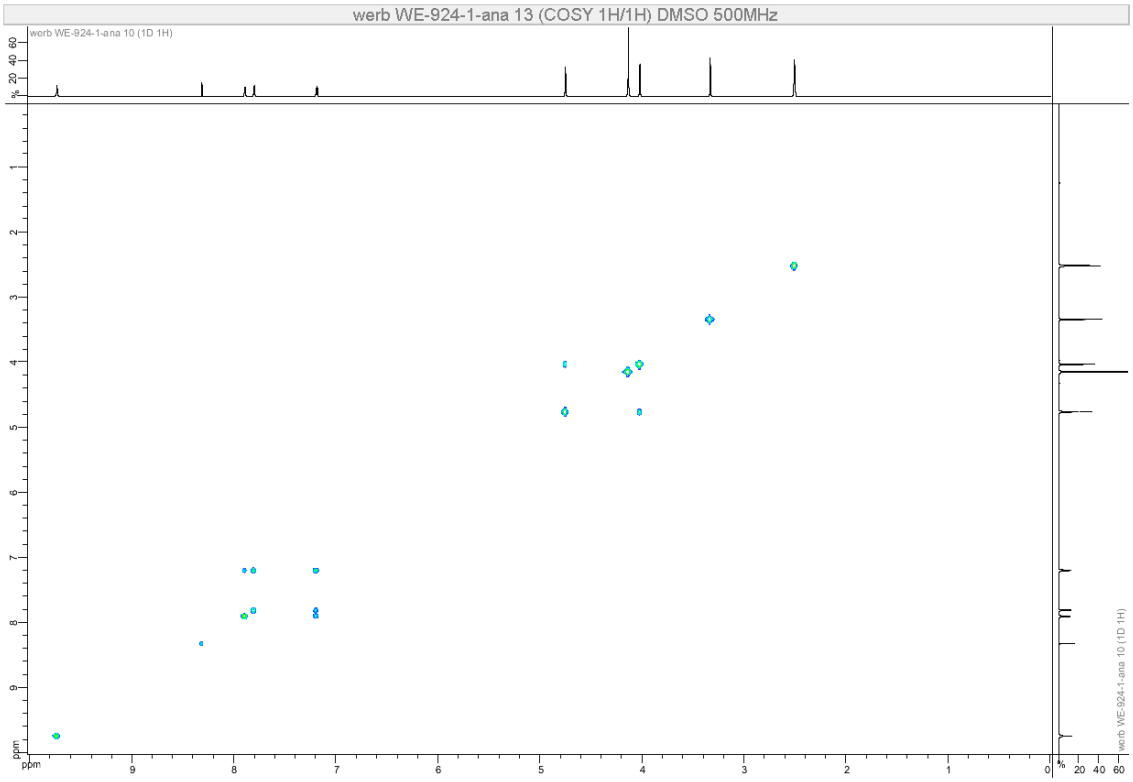
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



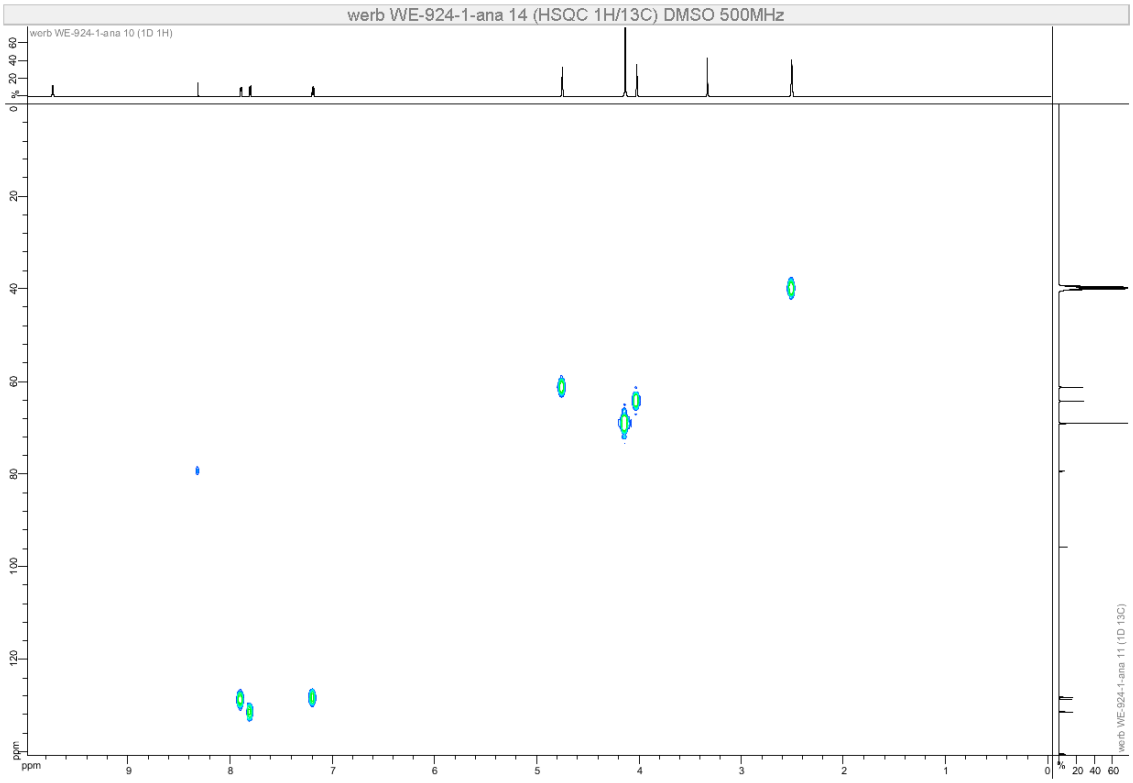
DEPT 135 (126 MHz, $(CD_3)_2SO$)



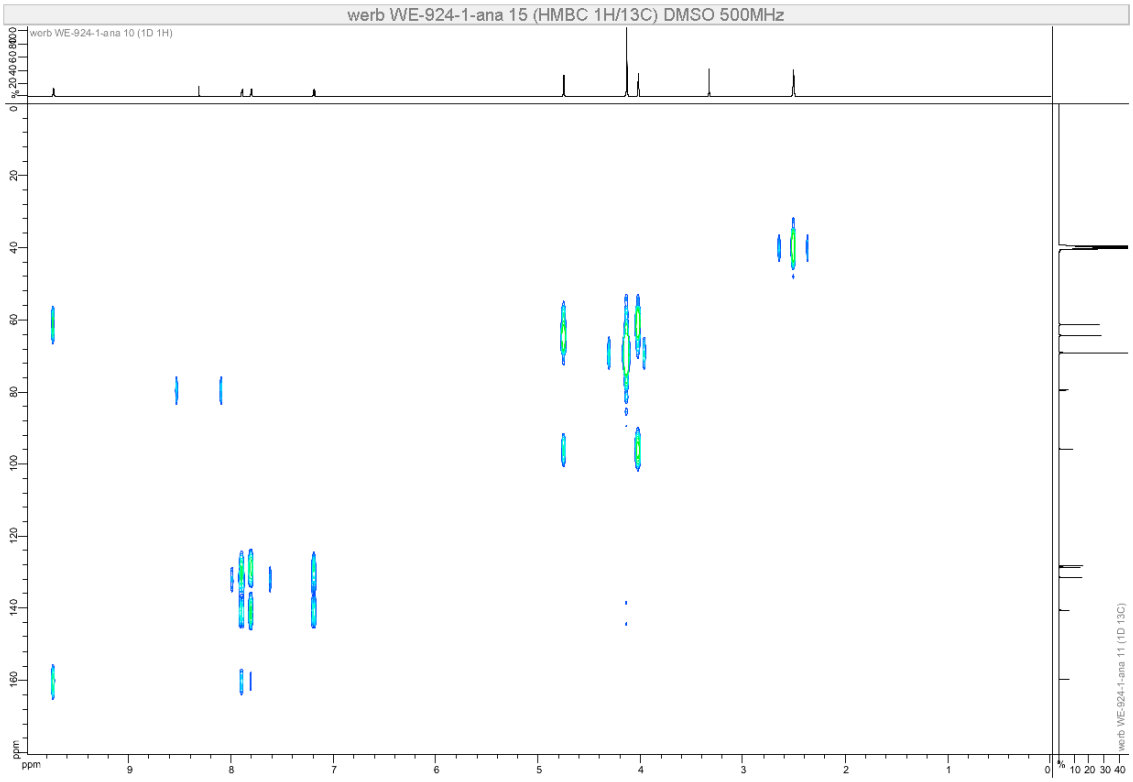
COSY (500 MHz, $(CD_3)_2SO$)



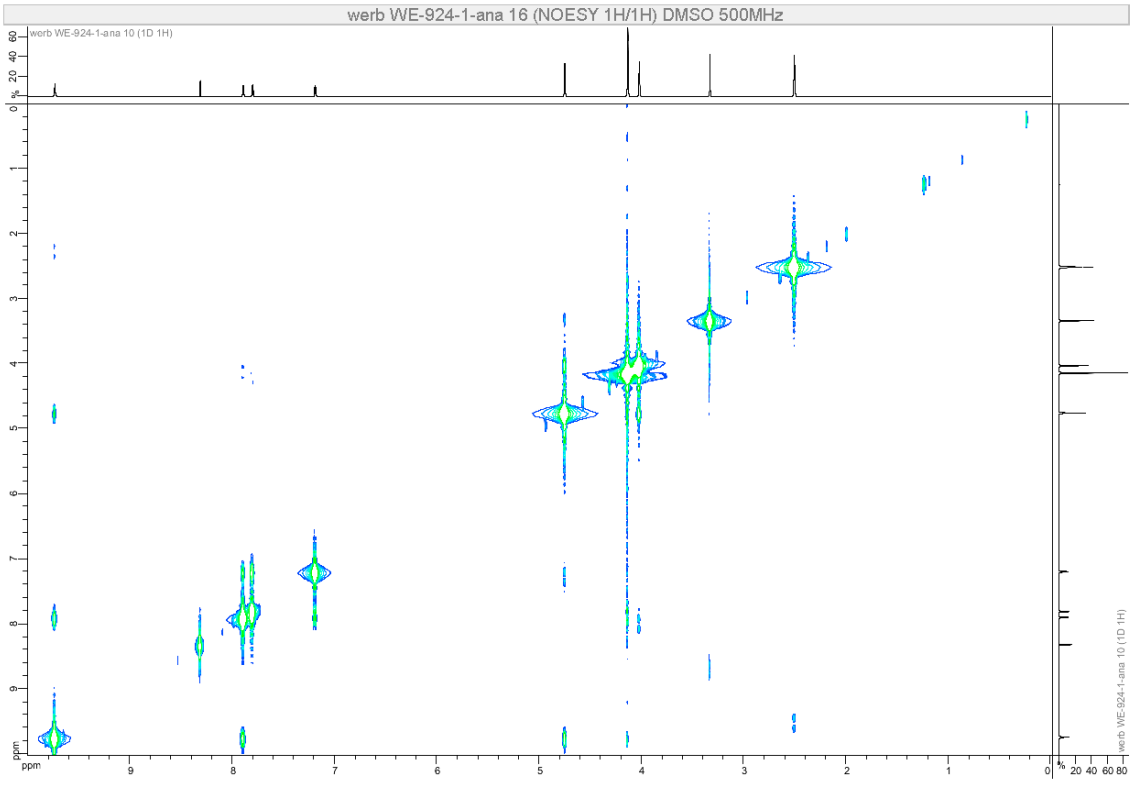
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

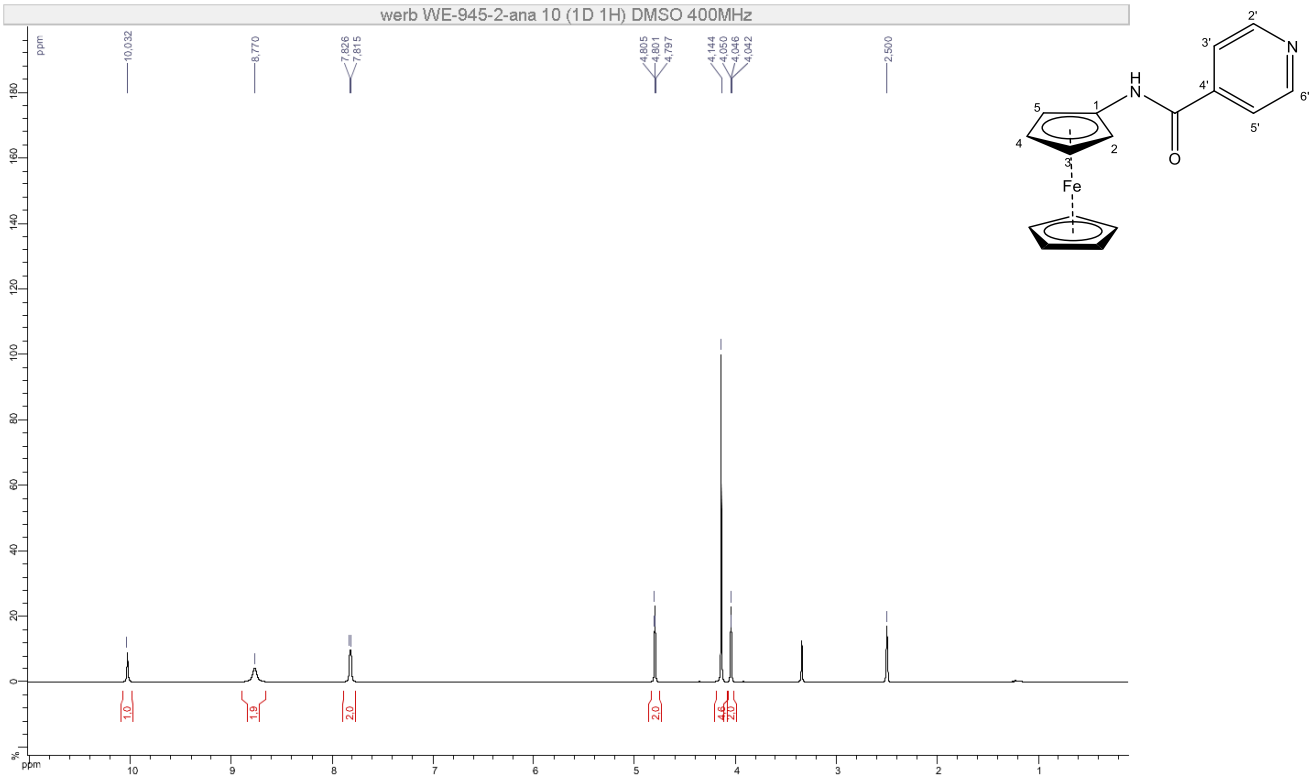


NOESY (500 MHz, $(CD_3)_2SO$)

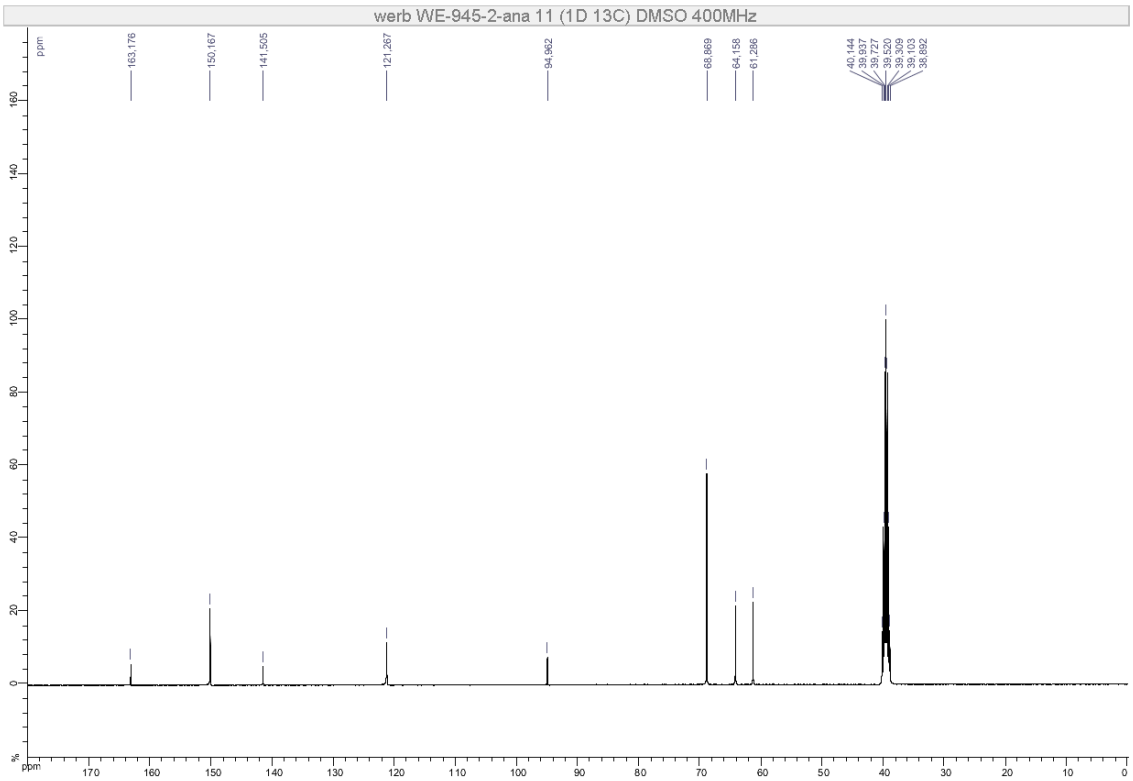


N-Ferrocenylisonicotinamide (2-4Py)

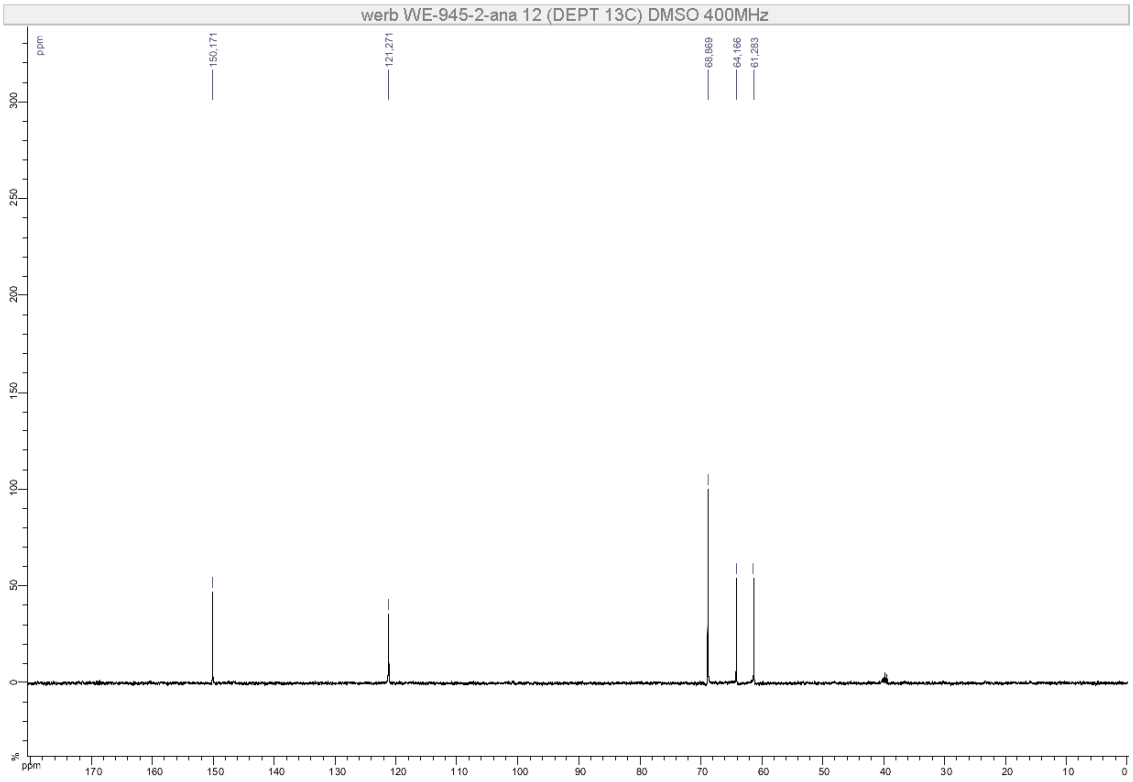
^{1}H NMR (400 MHz, $(CD_3)_2SO$)



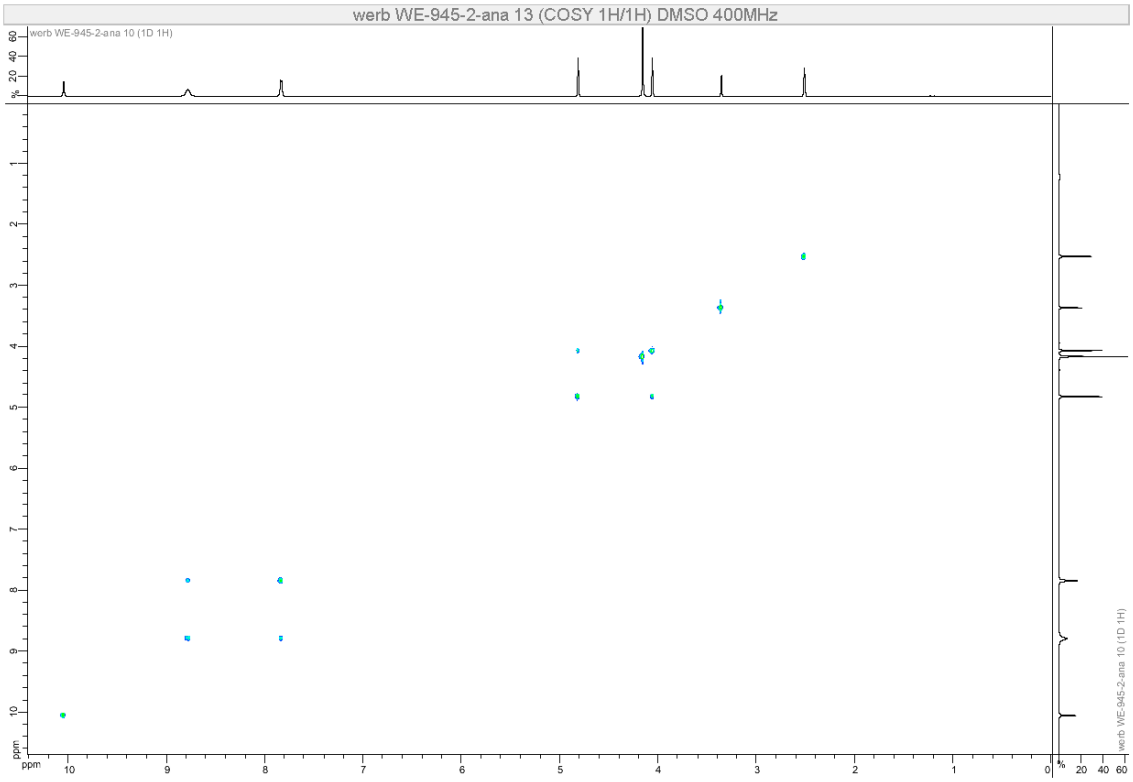
^{13}C NMR (100 MHz, $(CD_3)_2SO$)



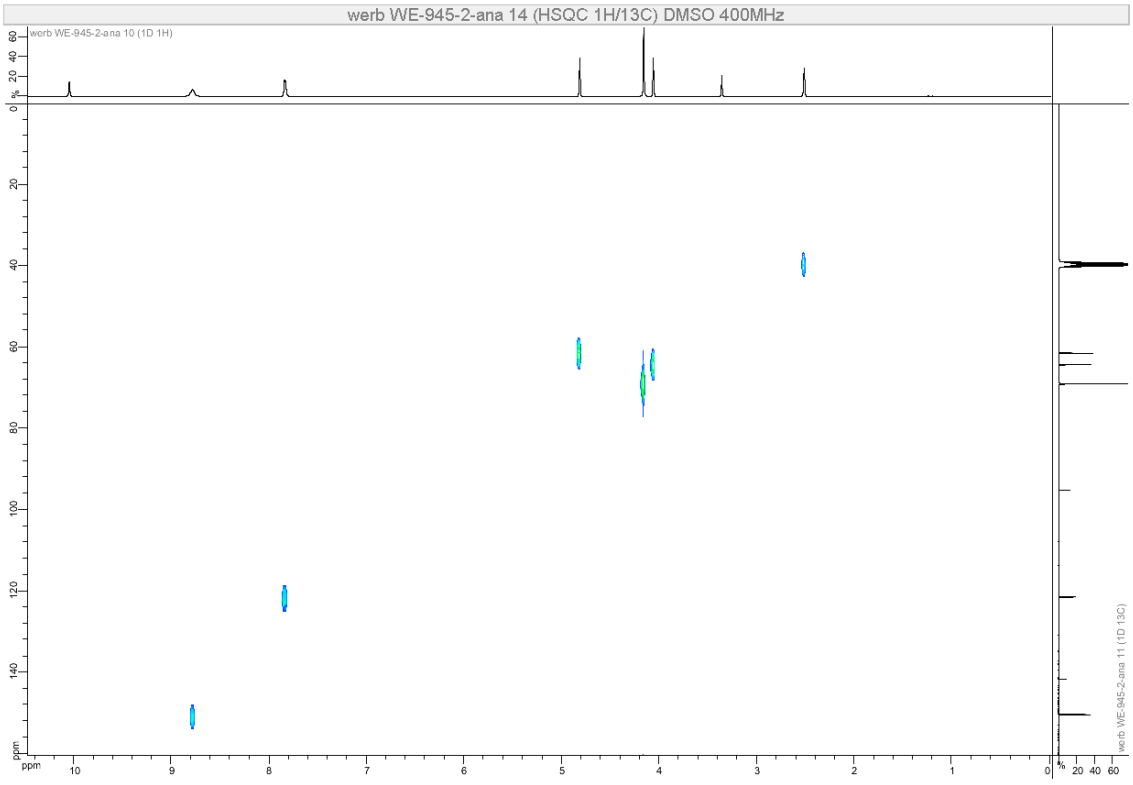
DEPT 135 (100 MHz, $(CD_3)_2SO$)



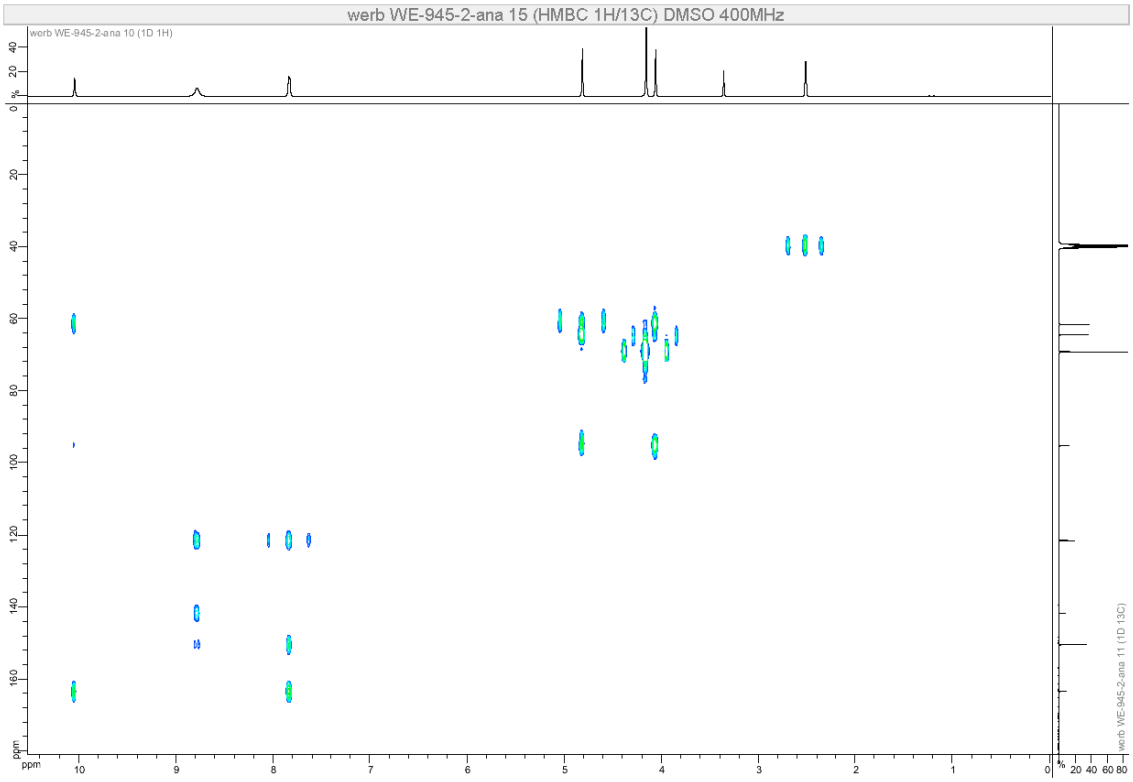
COSY (500 MHz, $(CD_3)_2SO$)



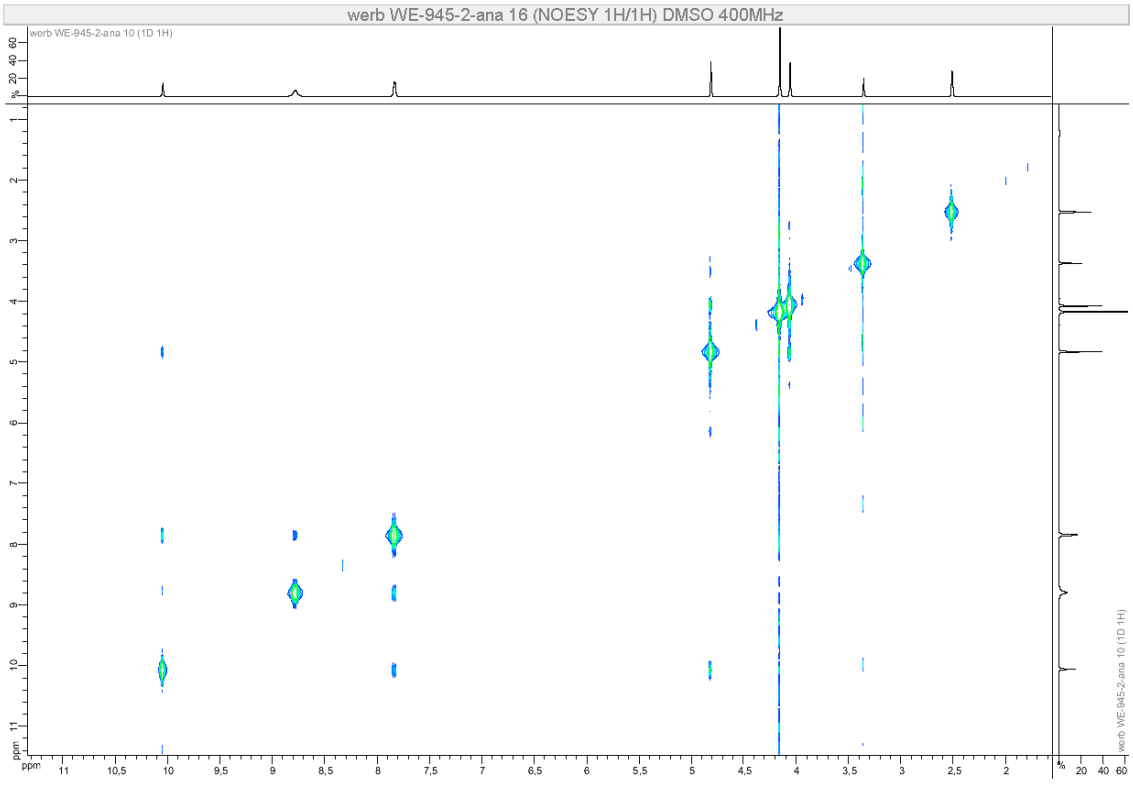
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

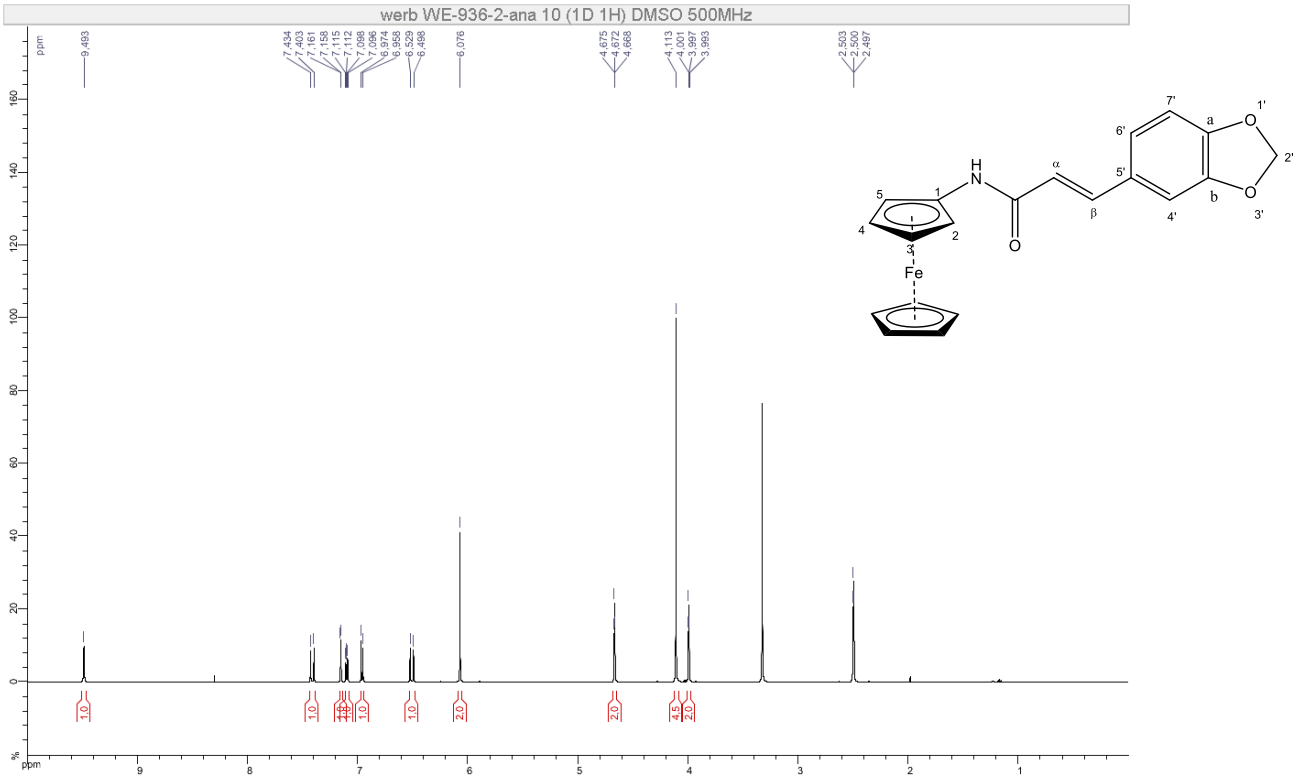


NOESY (500 MHz, $(CD_3)_2SO$)

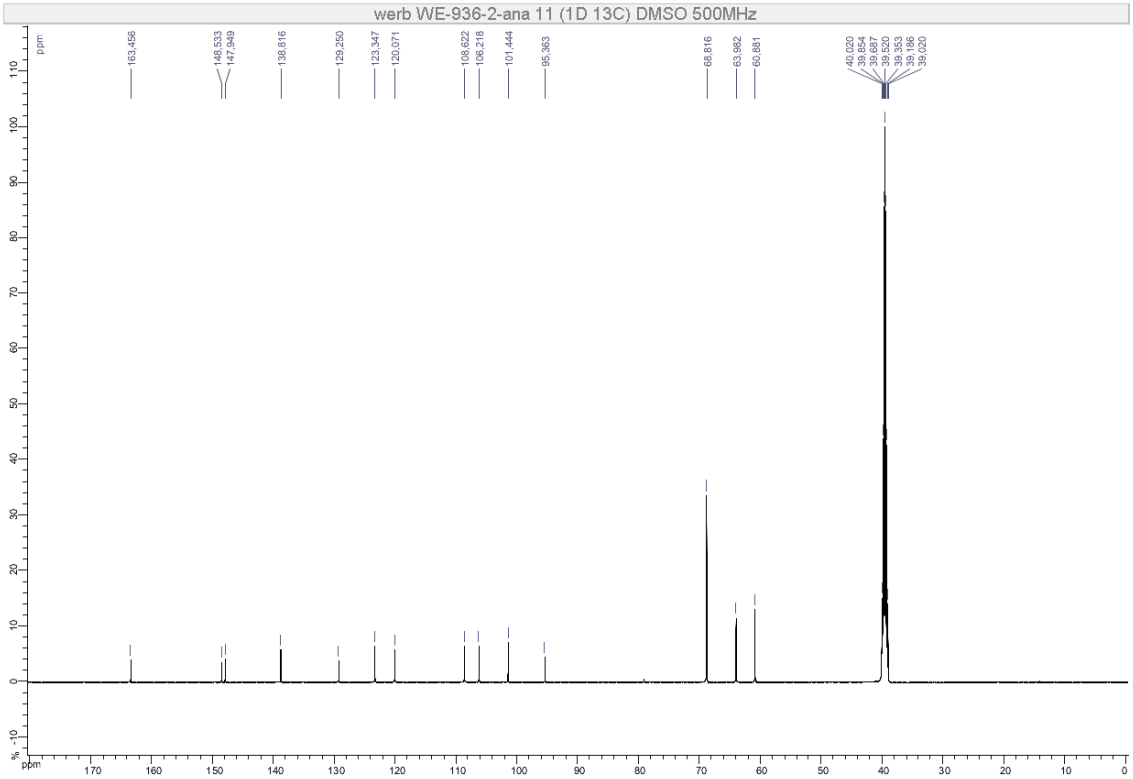


3-(5-(1,3-Benzodioxolyl))-*N*-ferrocenylacrylamide (2-Acry)

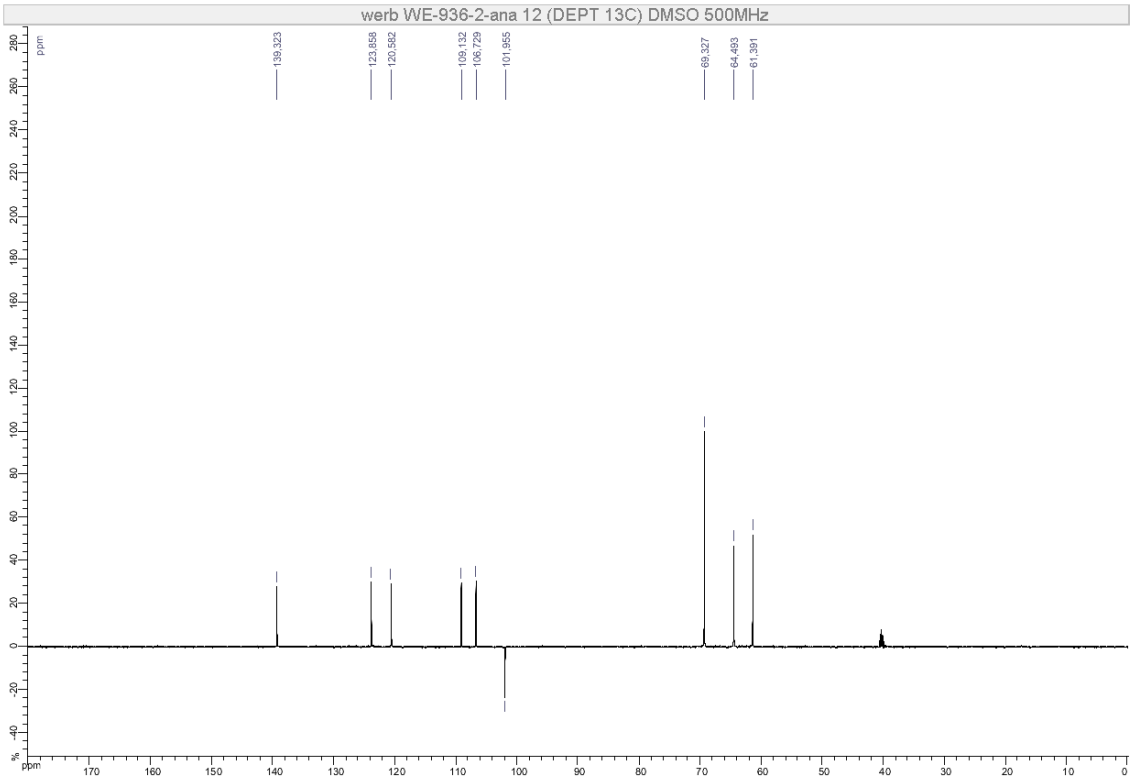
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



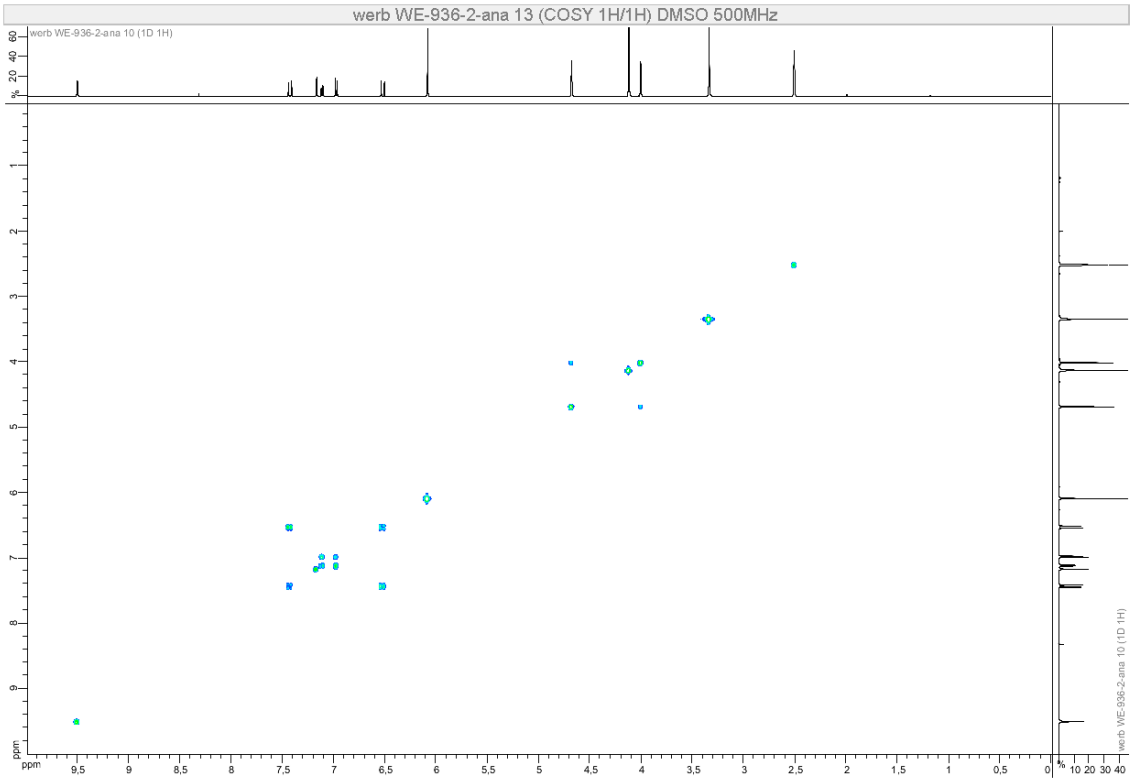
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



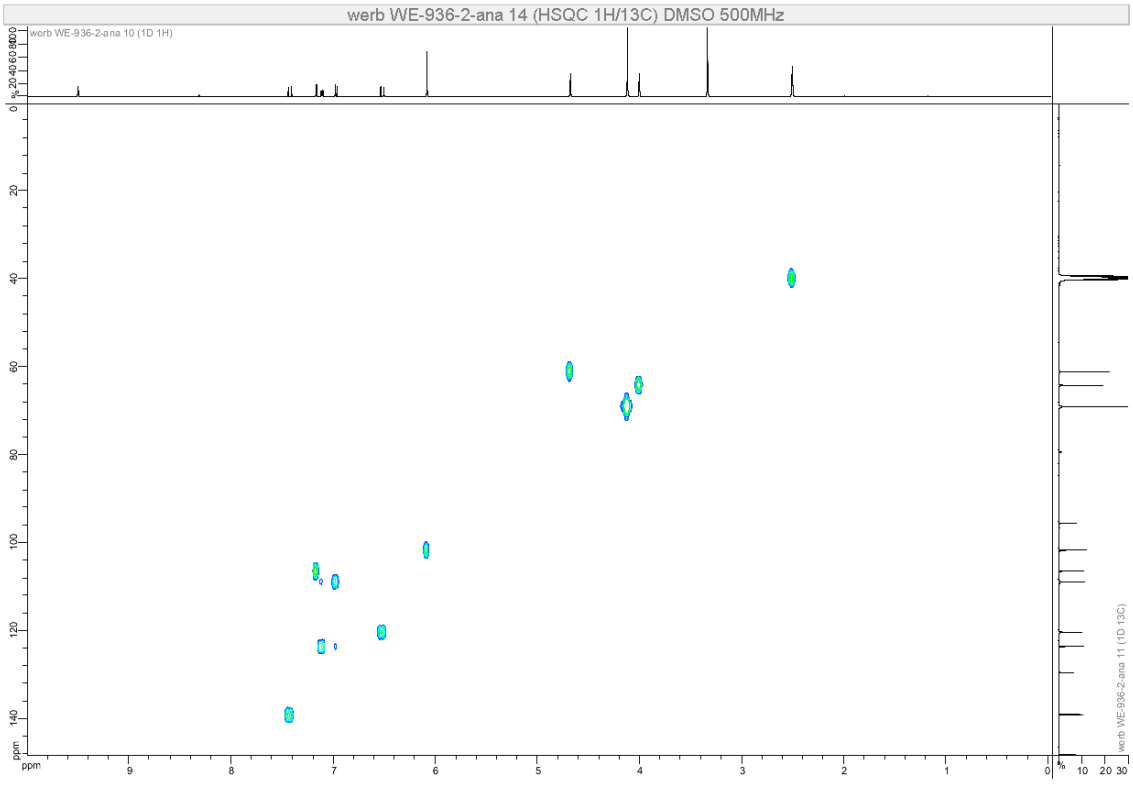
DEPT 135 (126 MHz, $(CD_3)_2SO$)



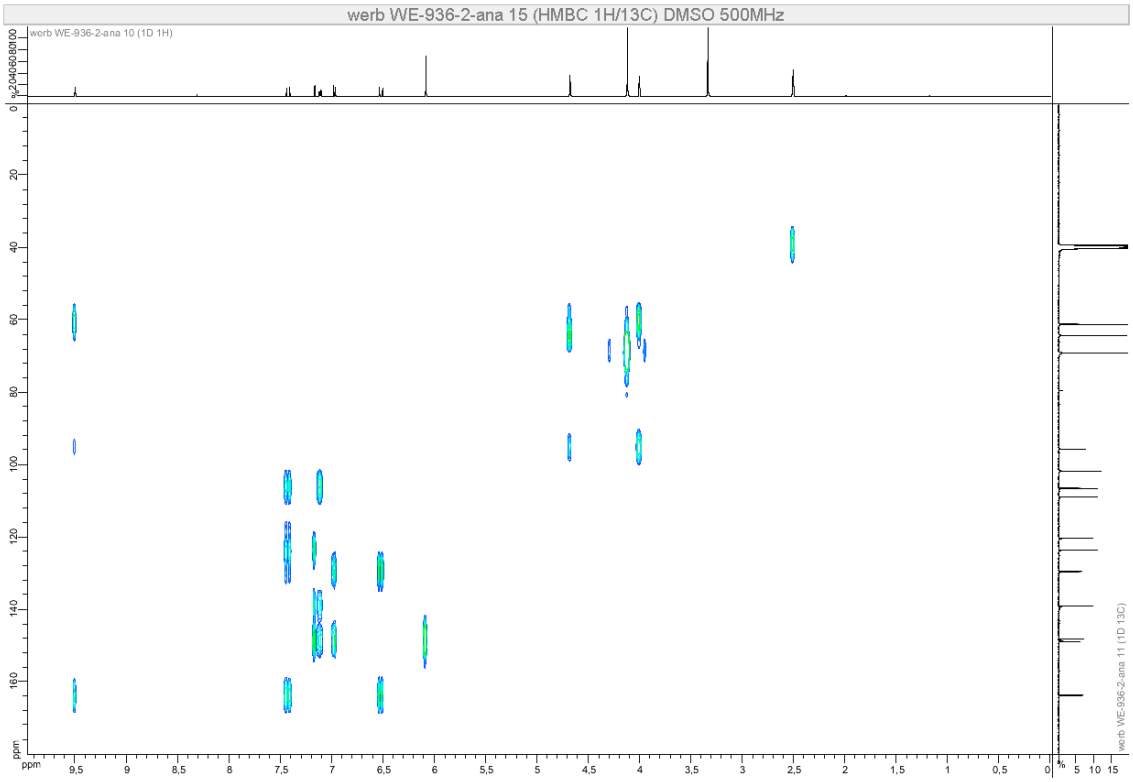
COSY (500 MHz, $(CD_3)_2SO$)



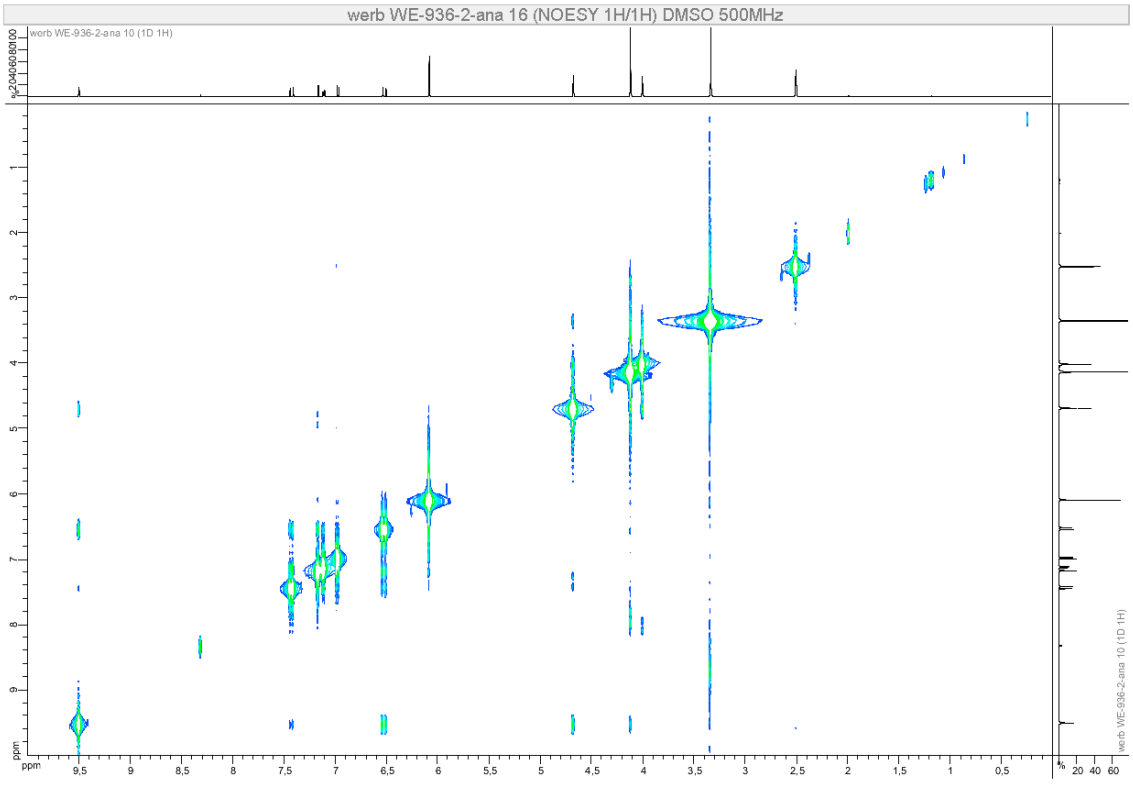
HSQC (500 MHz, $(CD_3)_2SO$)



HMBC (500 MHz, $(CD_3)_2SO$)

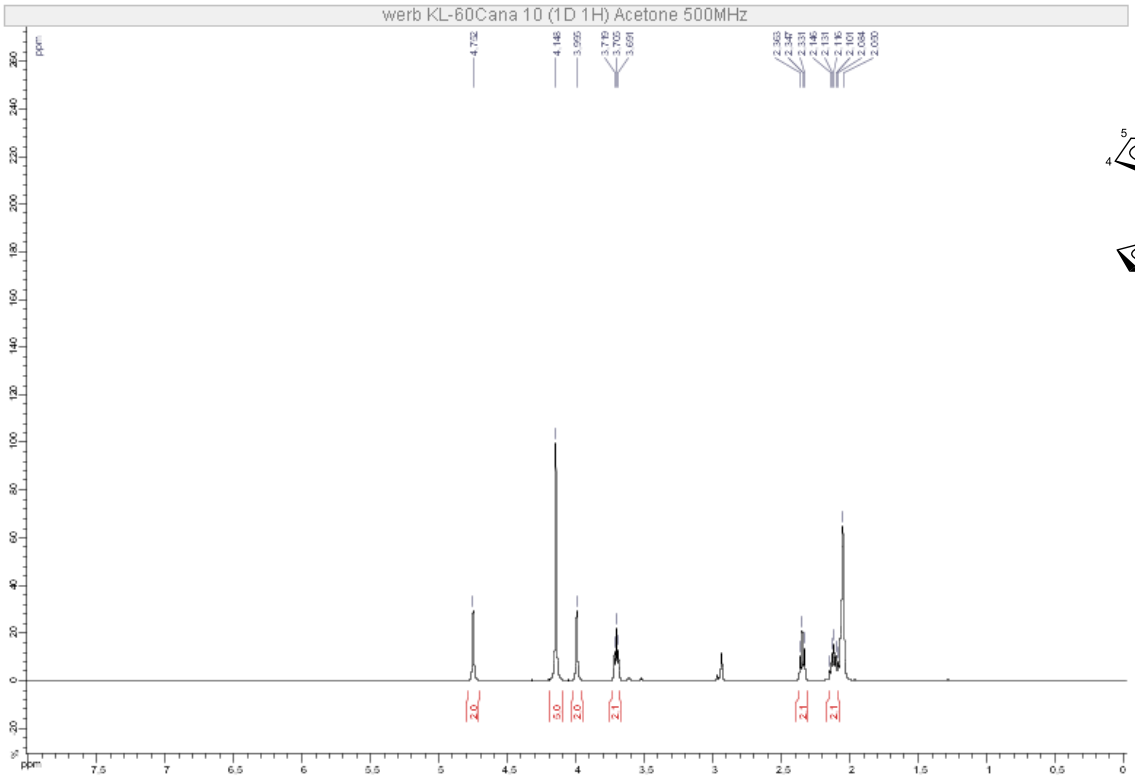


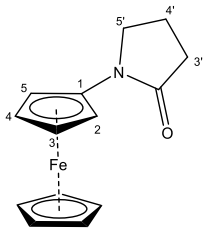
NOESY (500 MHz, $(CD_3)_2SO$)



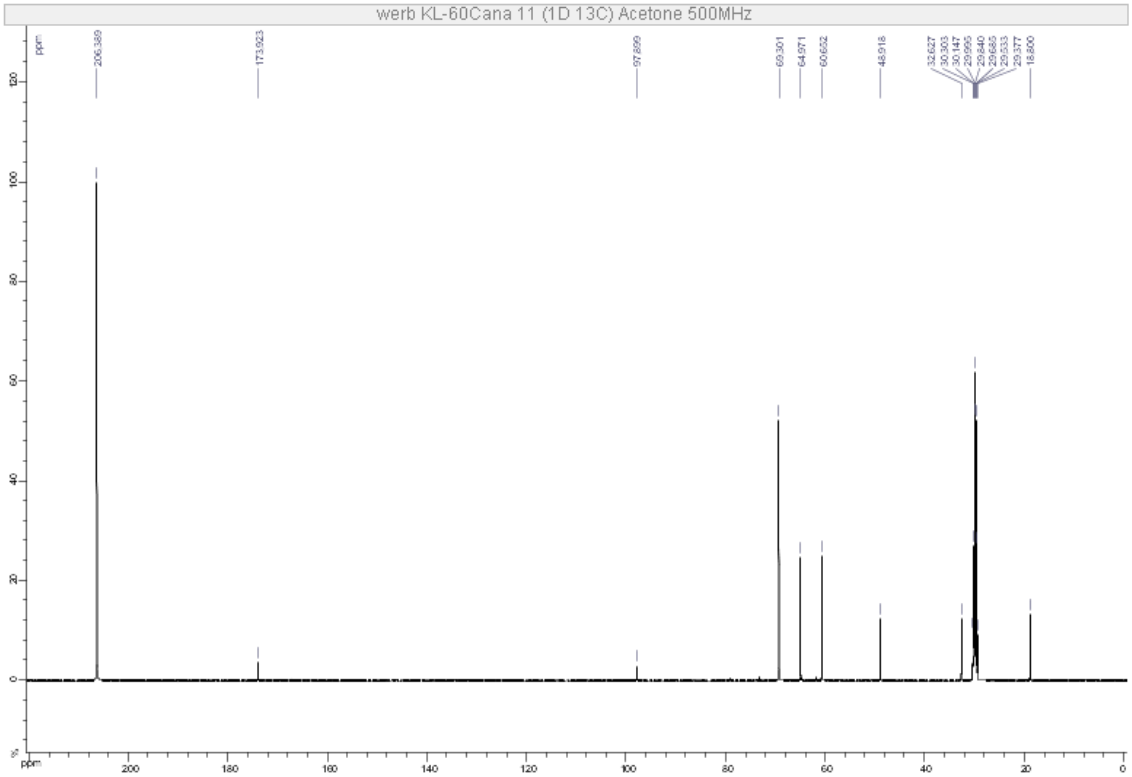
_N_-Ferrocenylpyrrolidinone (2-Pyrr)

^{1}H NMR (500 MHz, $(CD_3)_2CO$)

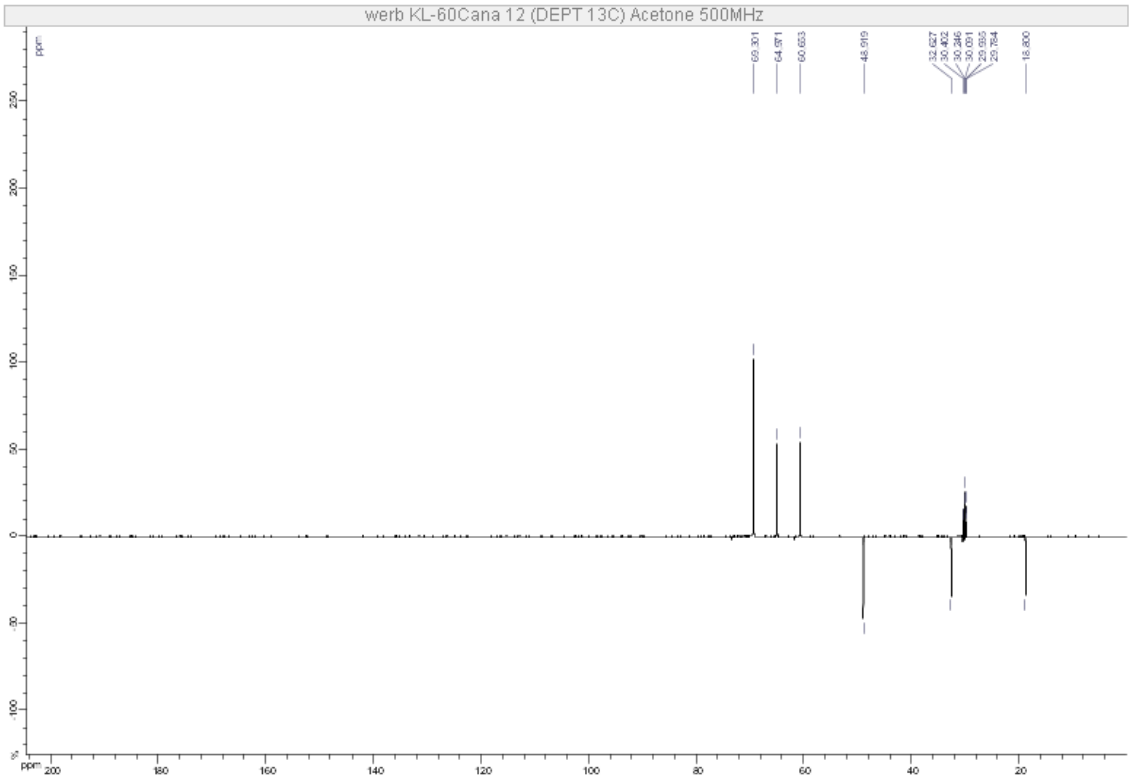




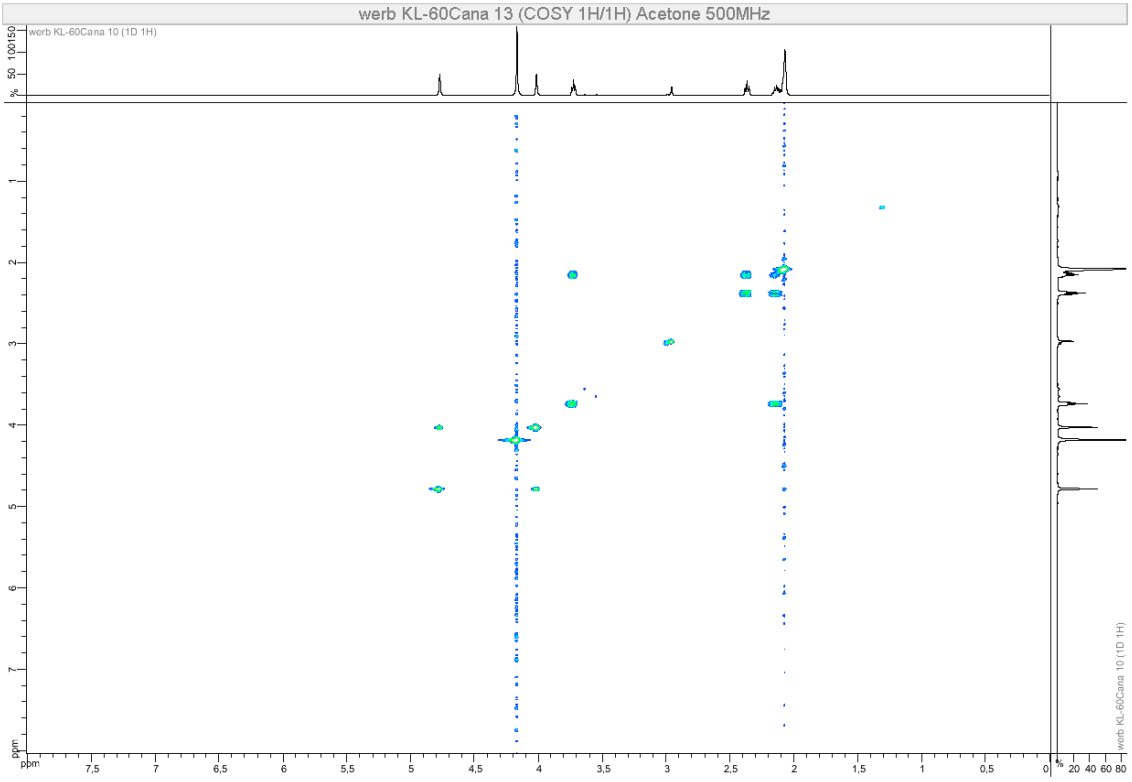
^{13}C NMR (126 MHz, $(CD_3)_2CO$)



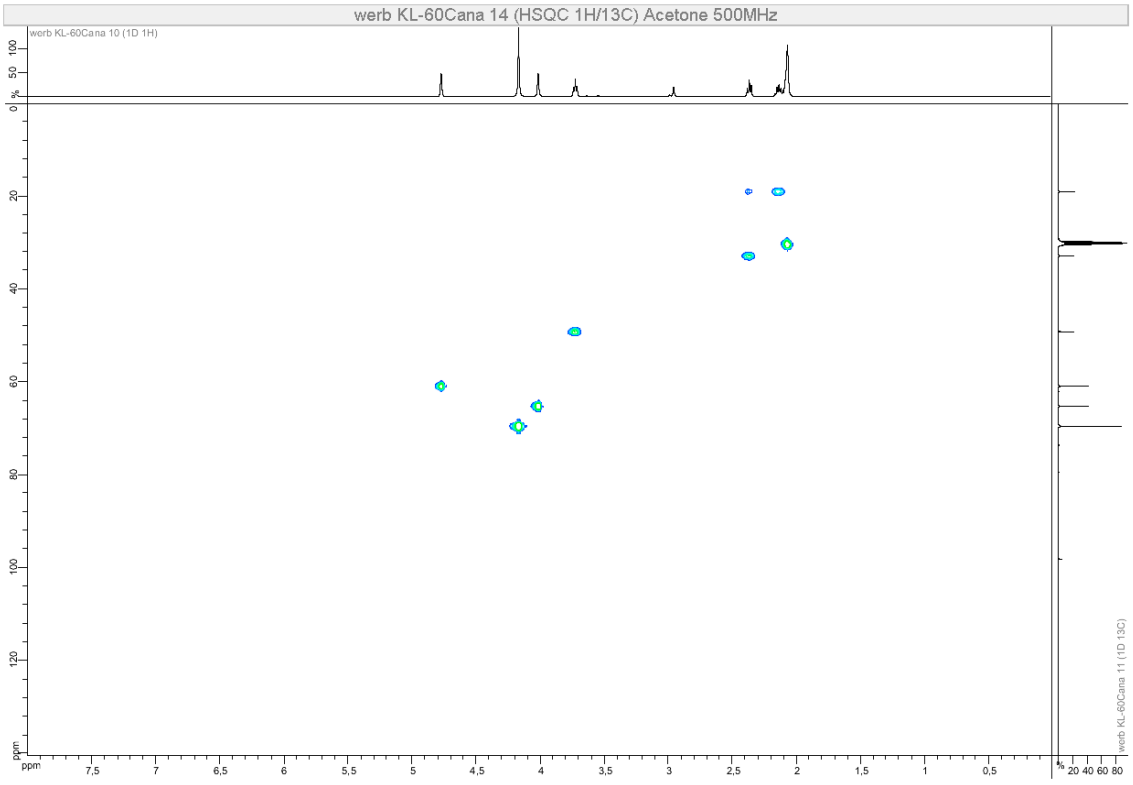
DEPT 135 (126 MHz, $(CD_3)_2CO$)



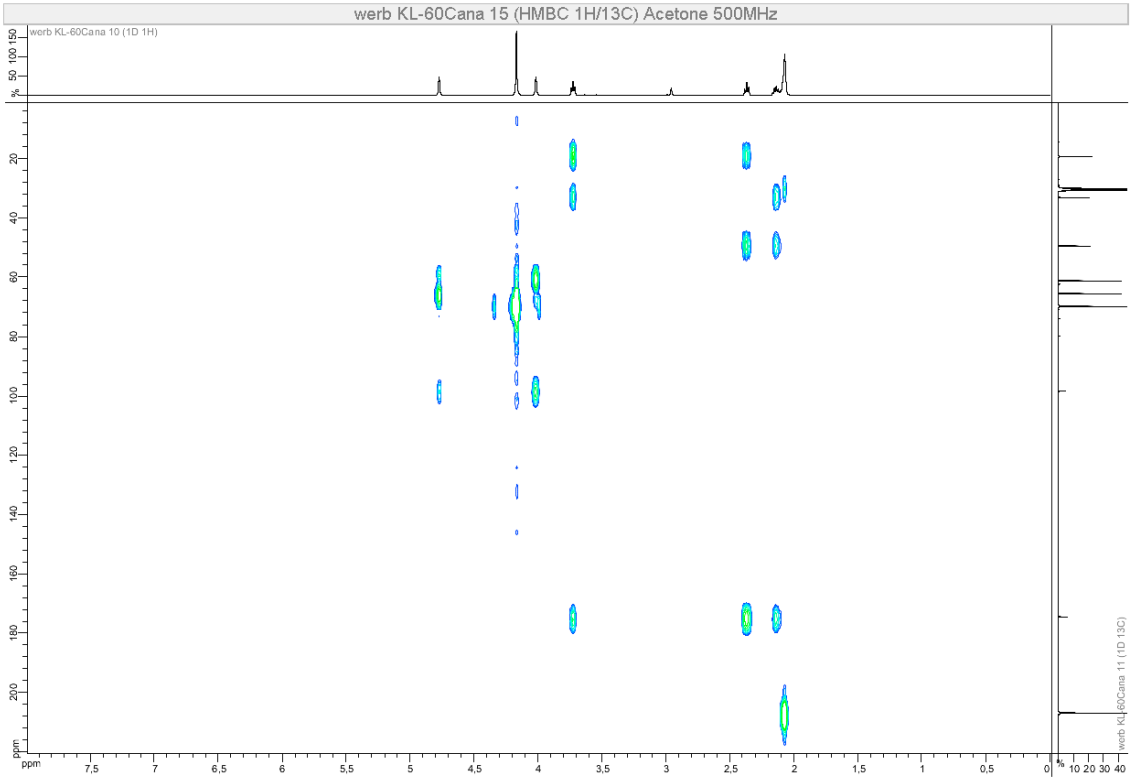
COSY (500 MHz, $(CD_3)_2CO$)



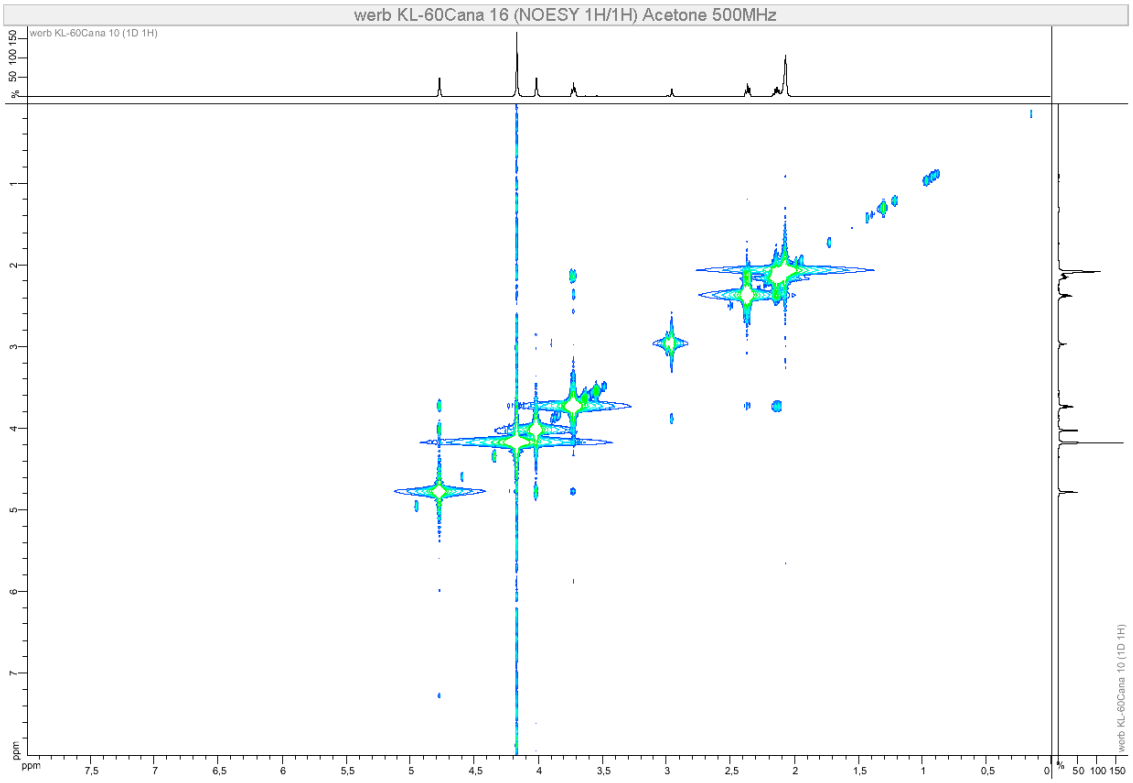
HSQC (500 MHz, $(CD_3)_2CO$)



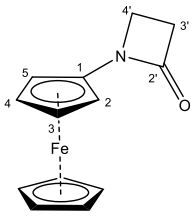
HMBC (500 MHz, $(CD_3)_2CO$)



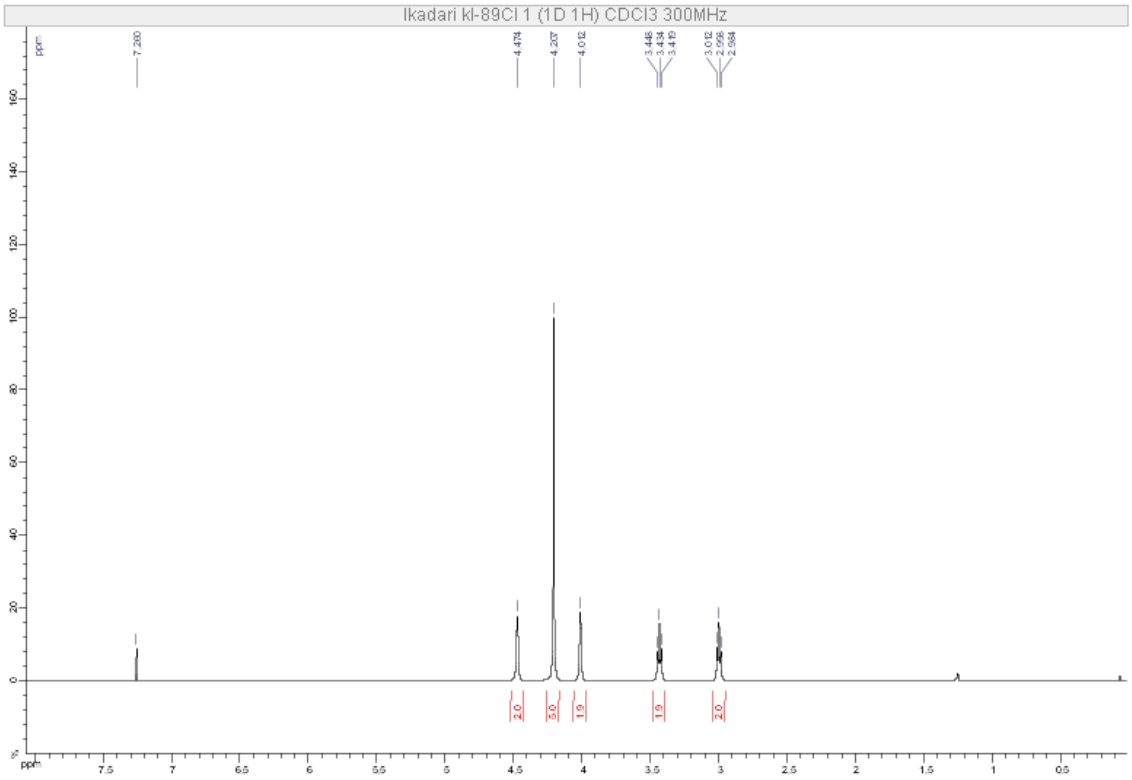
NOESY (500 MHz, $(CD_3)_2CO$)



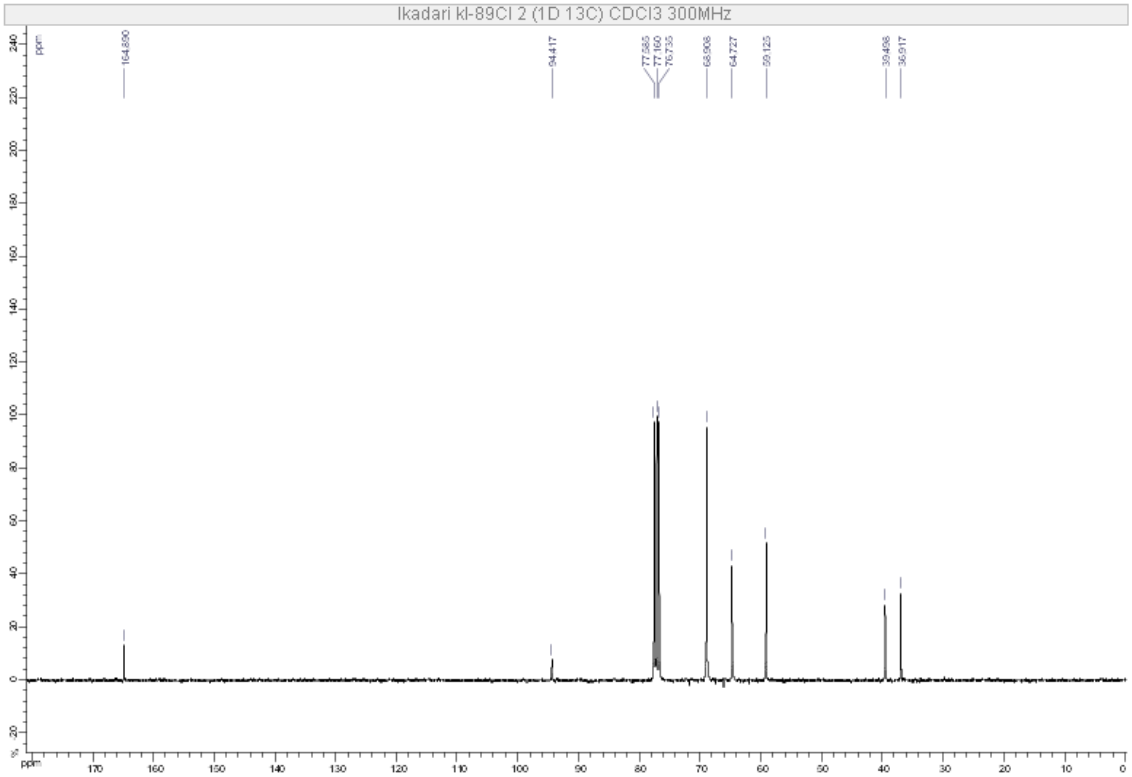
_N_-Ferrocenyl-2-azetidinone (2-Azet)



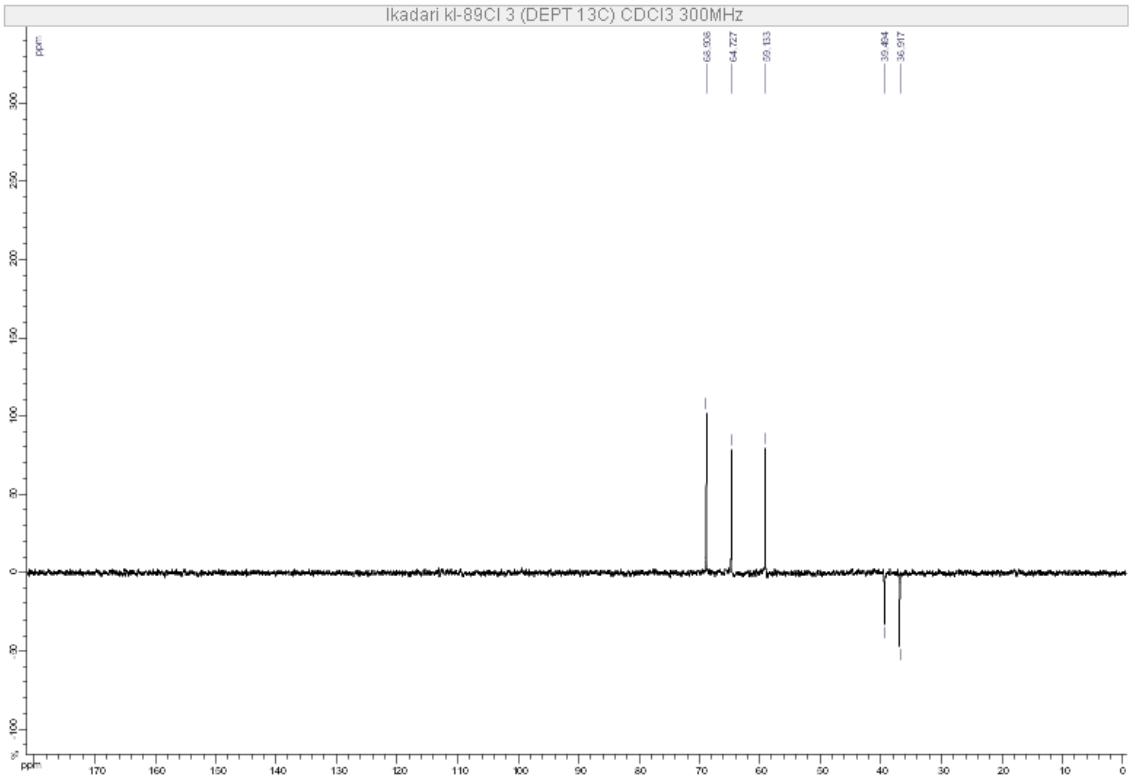
^{1}H NMR (300 MHz, $CDCl_3$)



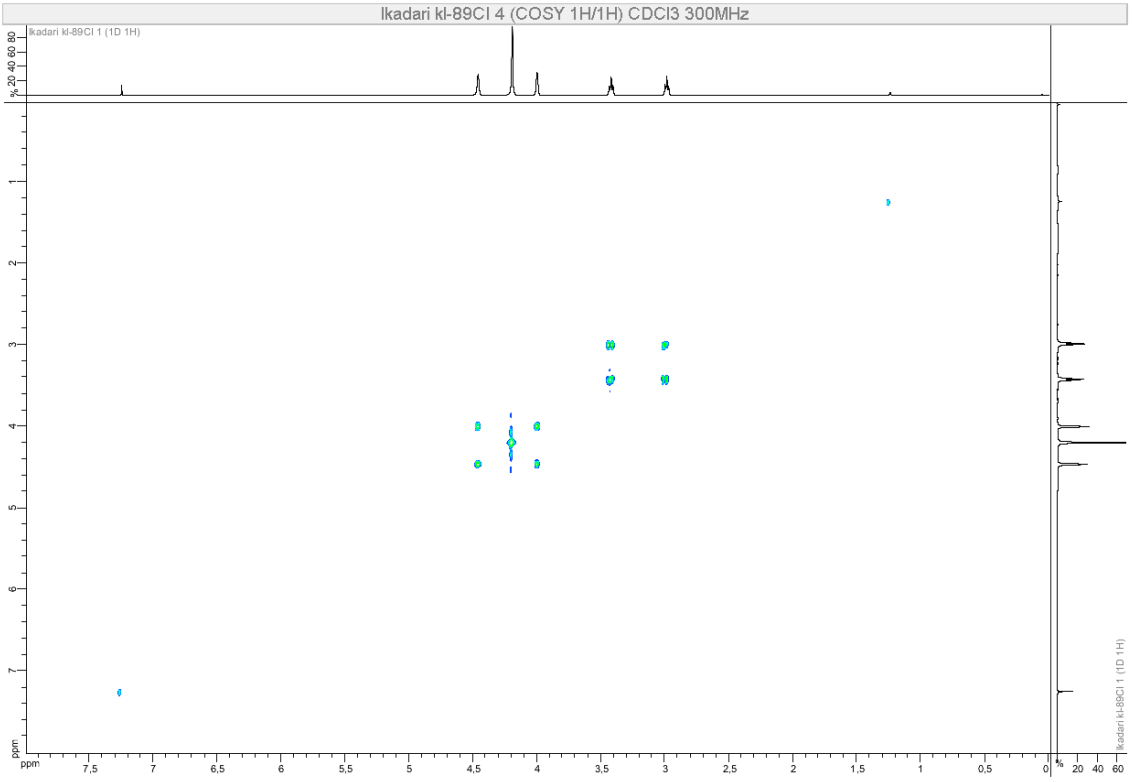
^{13}C NMR (75 MHz, $CDCl_3$)



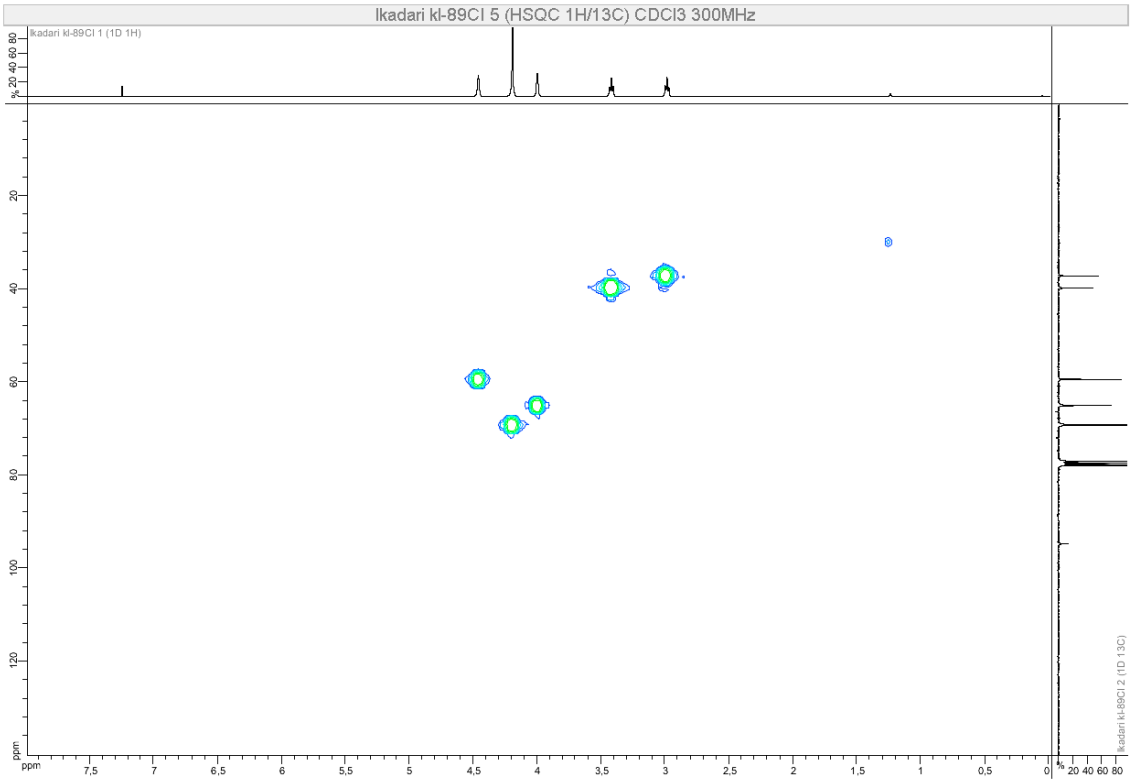
DEPT 135 (75 MHz, $CDCl_3$)



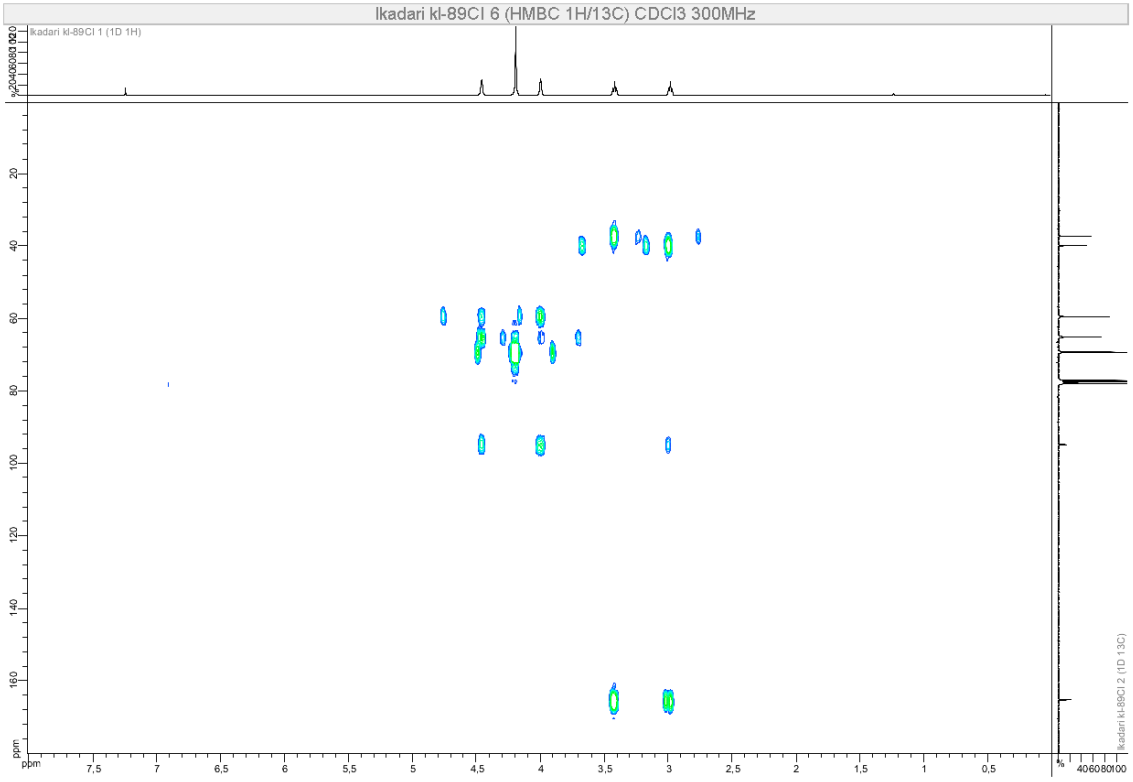
COSY (300 MHz, $CDCl_3$)



HSQC (300 MHz, $CDCl_3$)

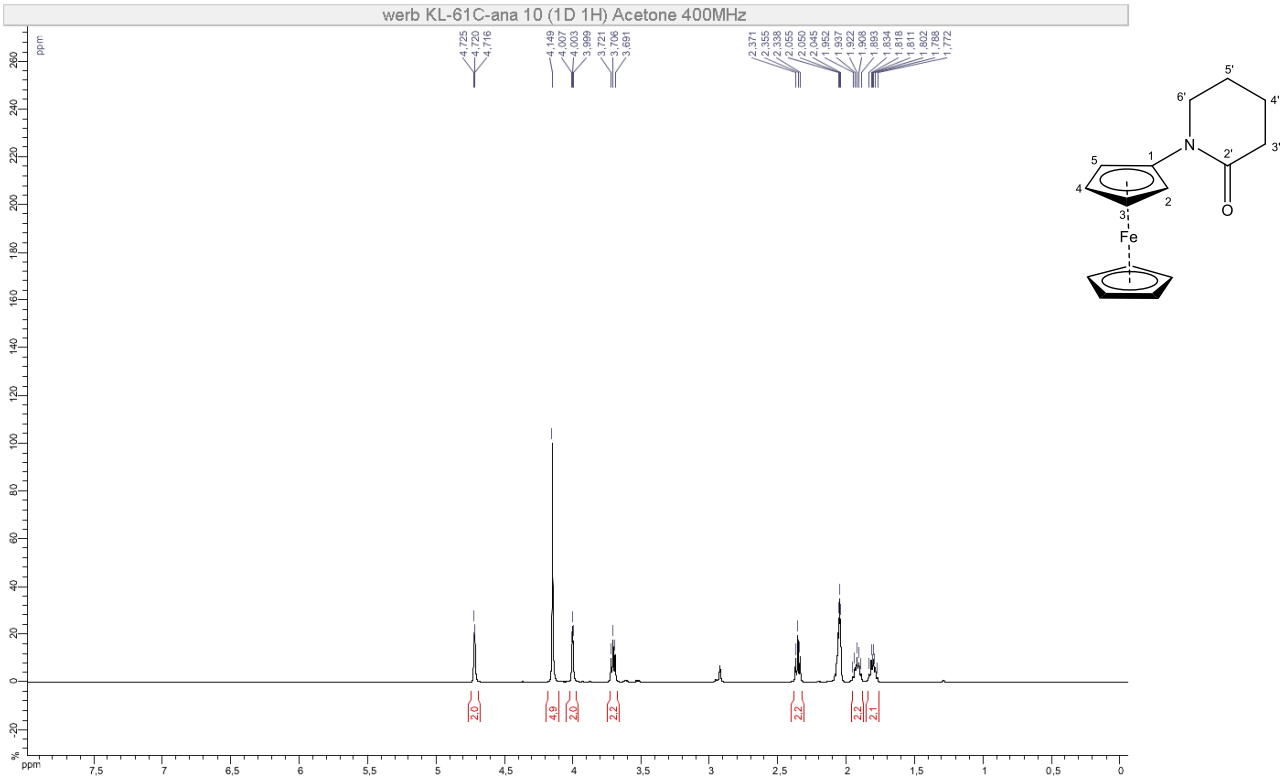


HMBC (300 MHz, $CDCl_3$)

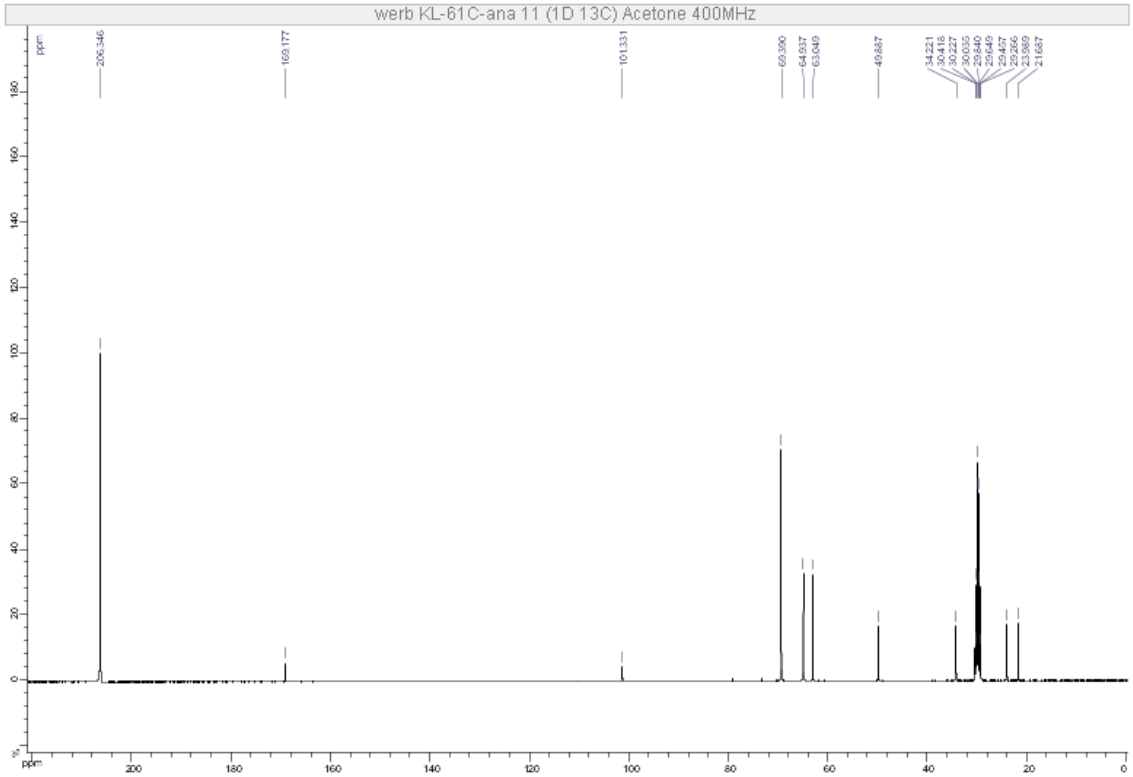


_N_-Ferrocenyl-2-piperidinone (2-Pipe)

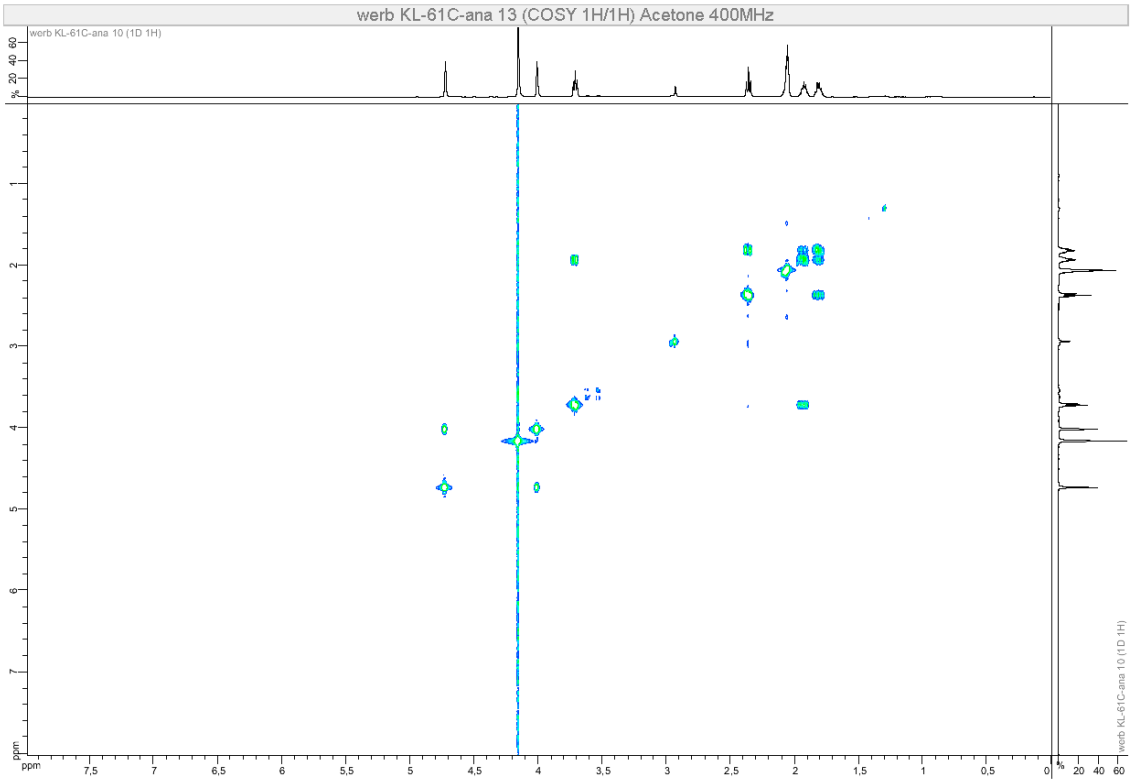
^{1}H NMR (400 MHz, $(CD_3)_2CO$)



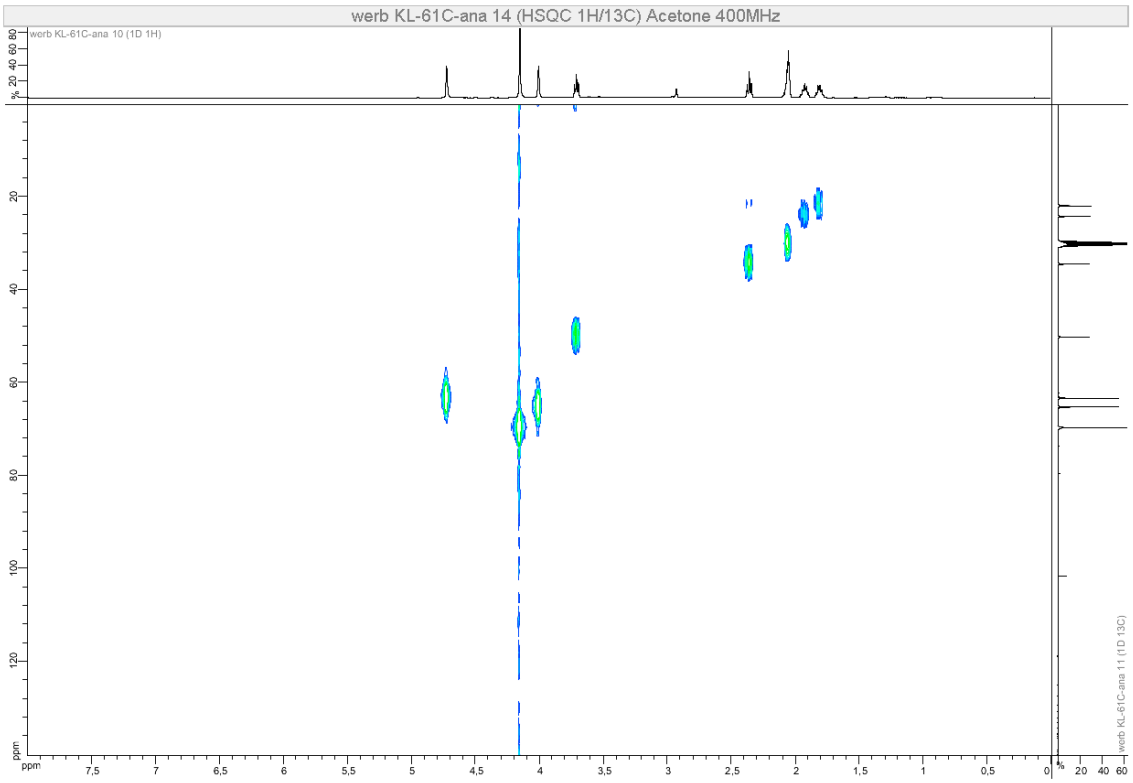
^{13}C NMR (100 MHz, $(CD_3)_2CO$)



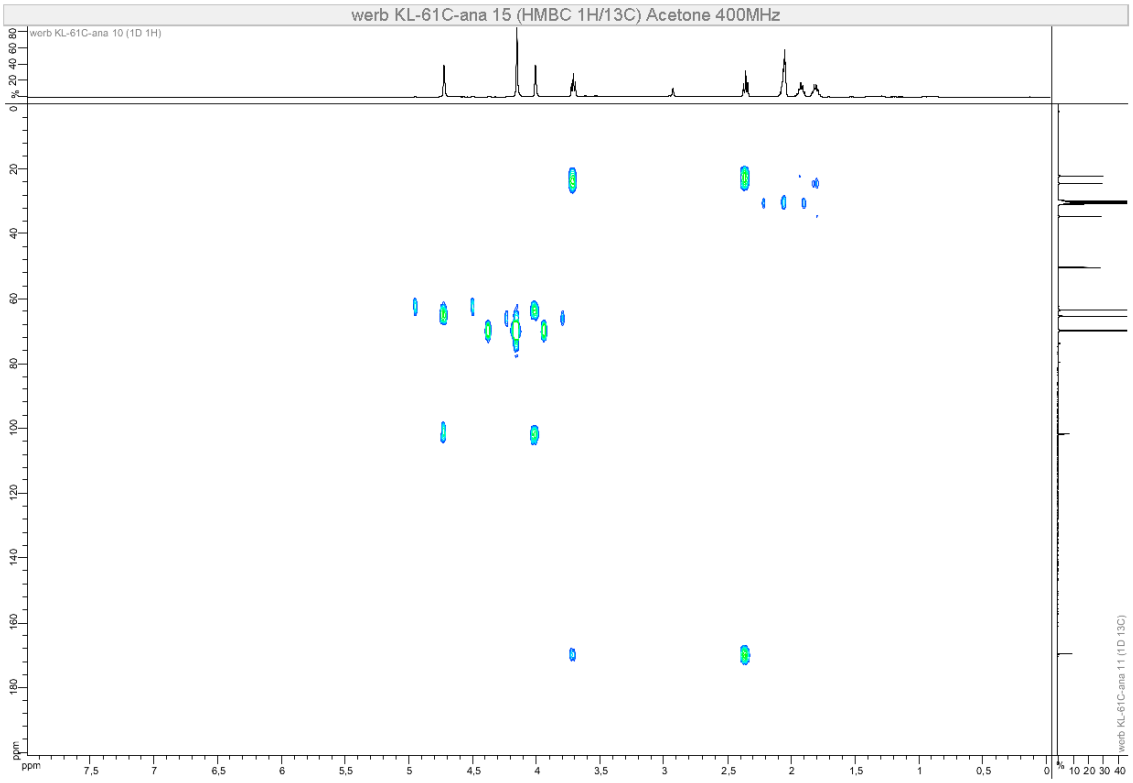
COSY (400 MHz, $(CD_3)_2CO$)



HSQC (400 MHz, $(CD_3)_2CO$)

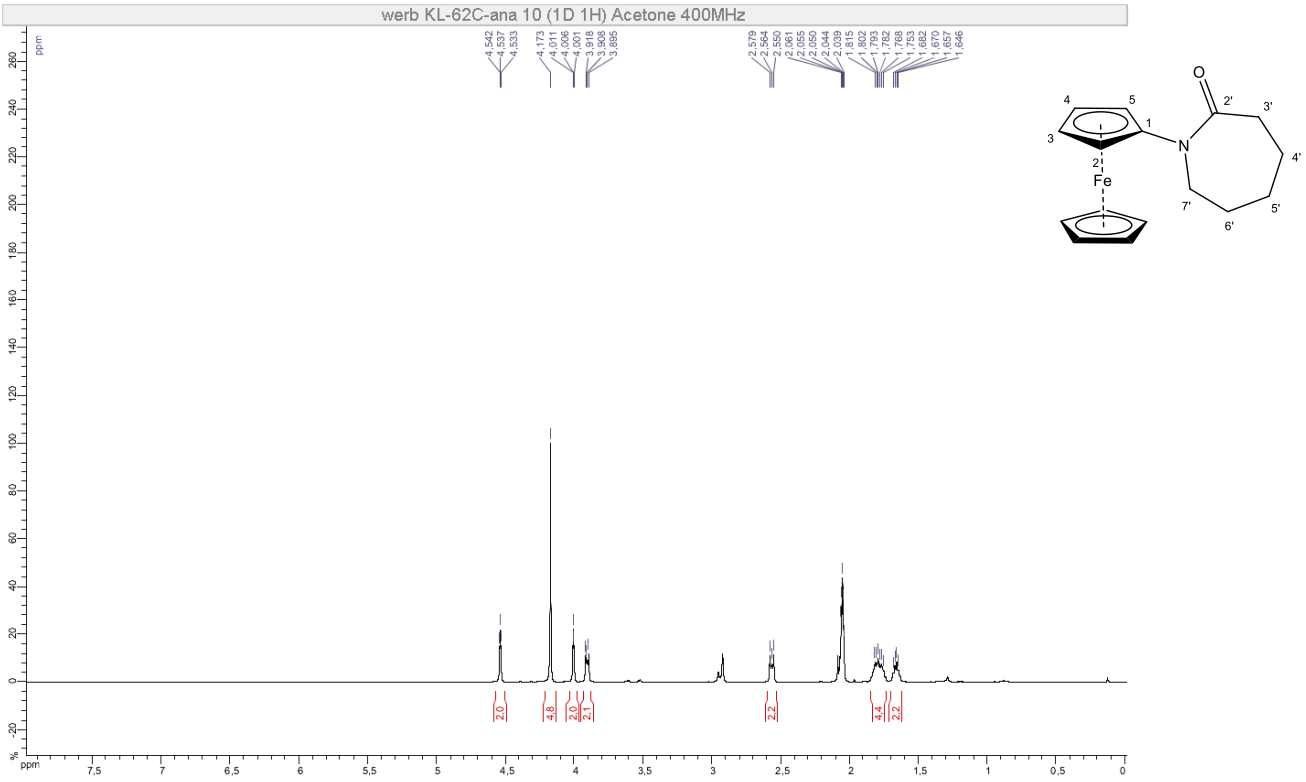


HMBC (400 MHz, $(CD_3)_2CO$)

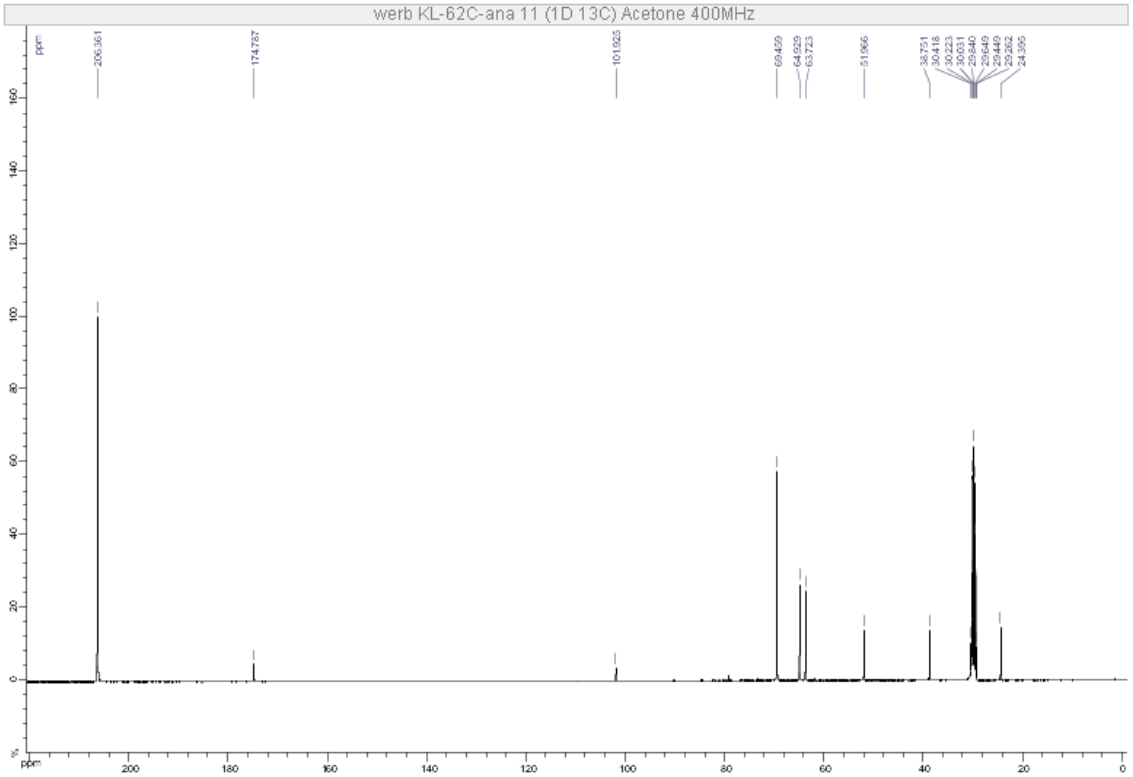


N-(Ferrocenyl)hexahydro-2-azepinone (2-Azep)

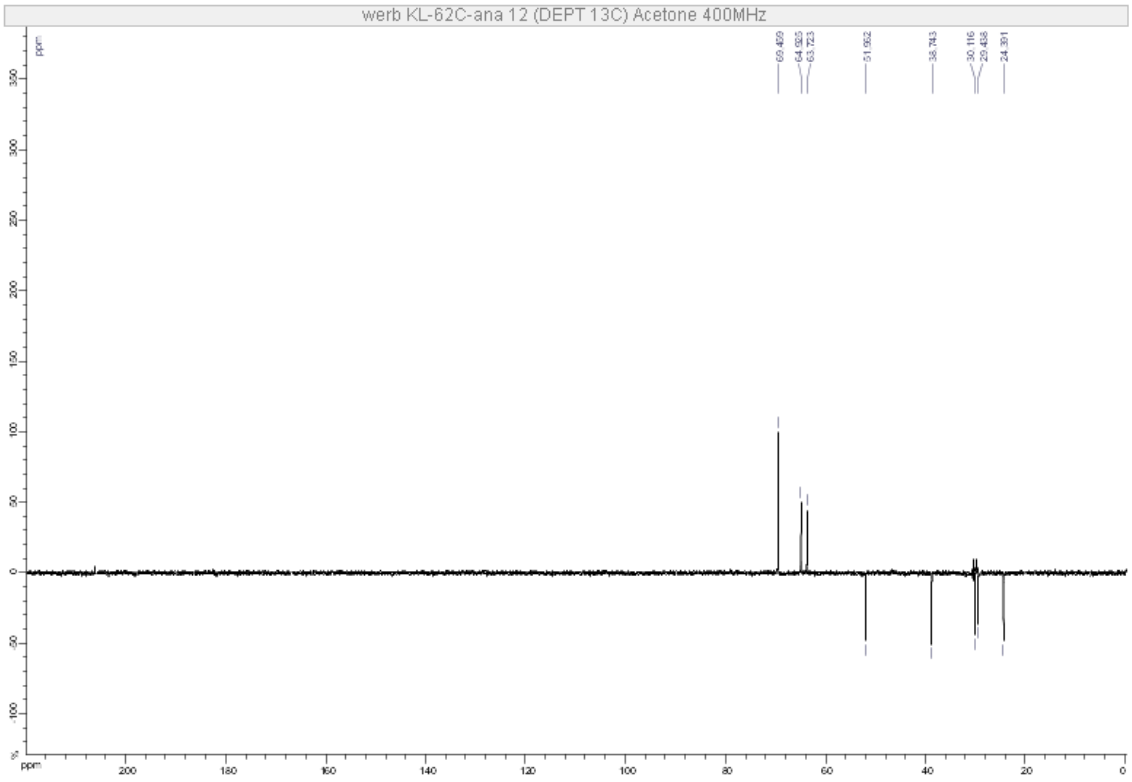
^{1}H NMR (400 MHz, $(CD_3)_2CO$)



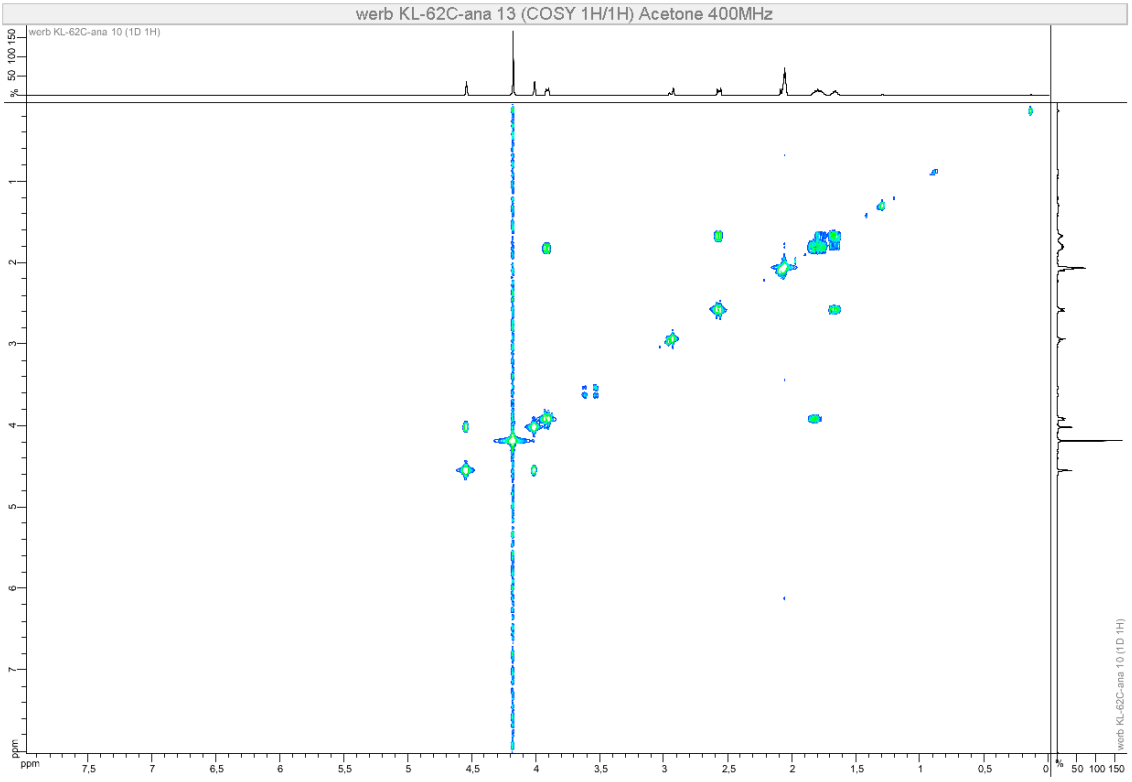
^{13}C NMR (100 MHz, $(CD_3)_2CO$)



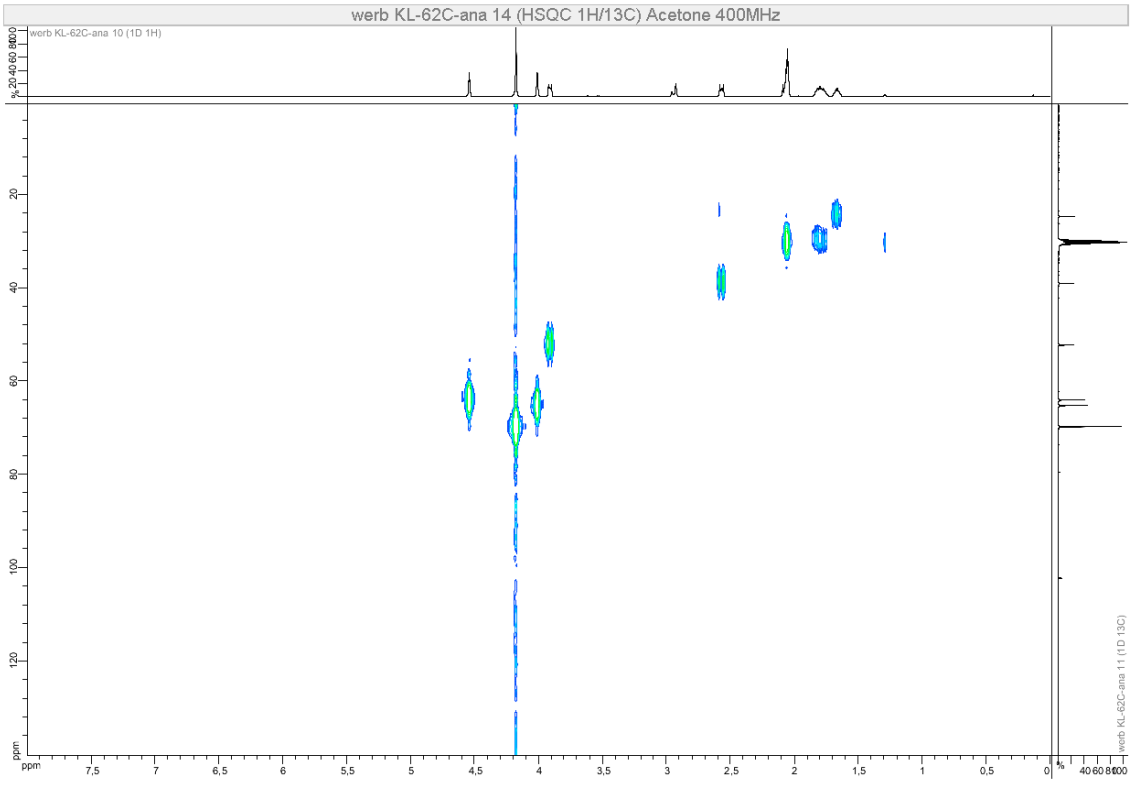
DEPT 135 (100 MHz, $(CD_3)_2CO$)



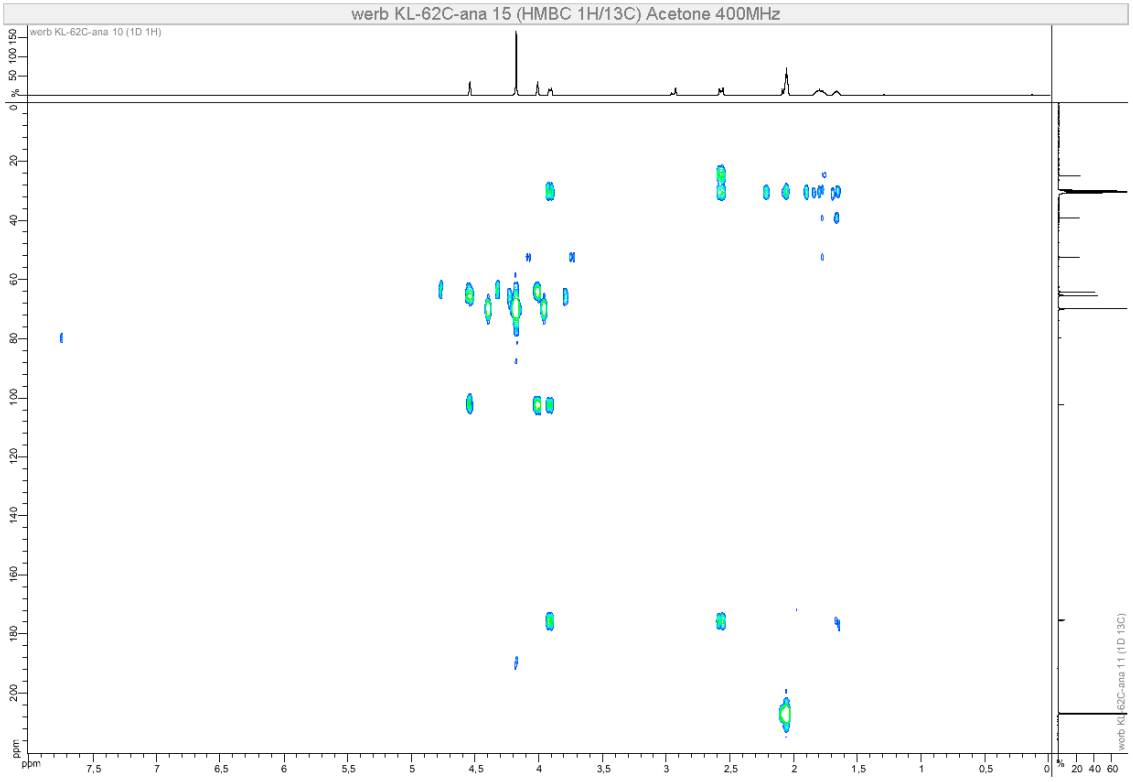
COSY (400 MHz, $(CD_3)_2CO$)



HSQC (400 MHz, $(CD_3)_2CO$)

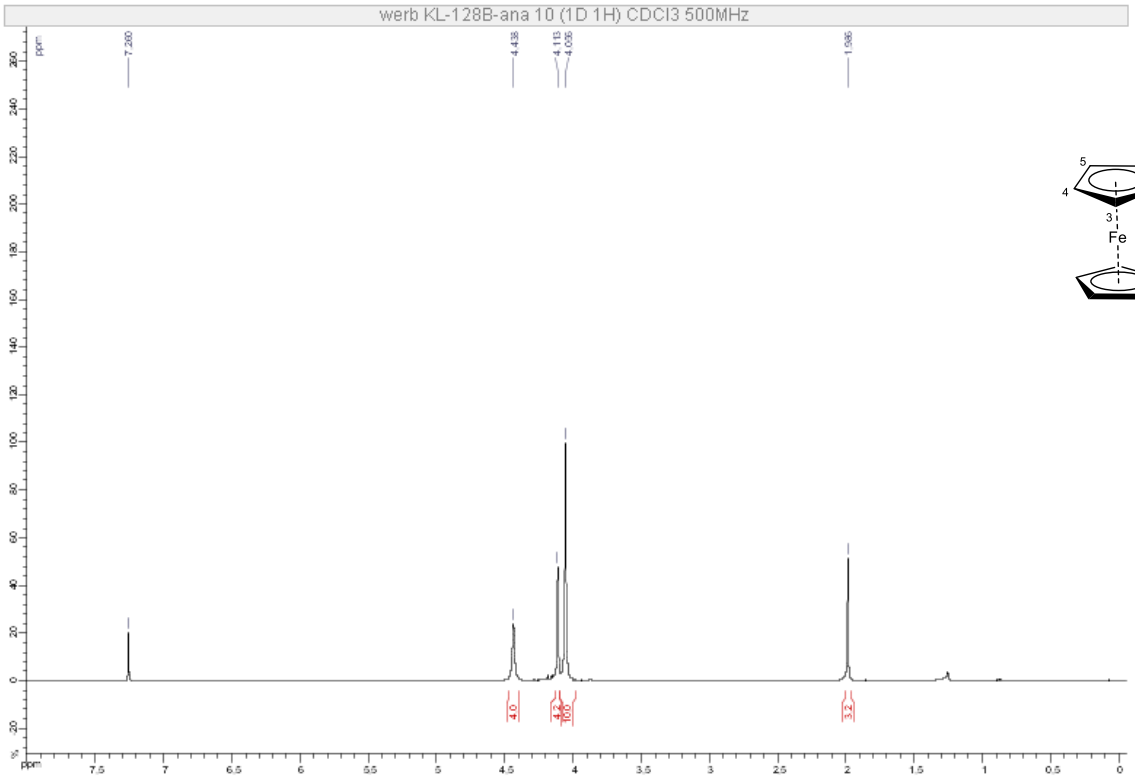


HMBC (400 MHz, $(CD_3)_2CO$)

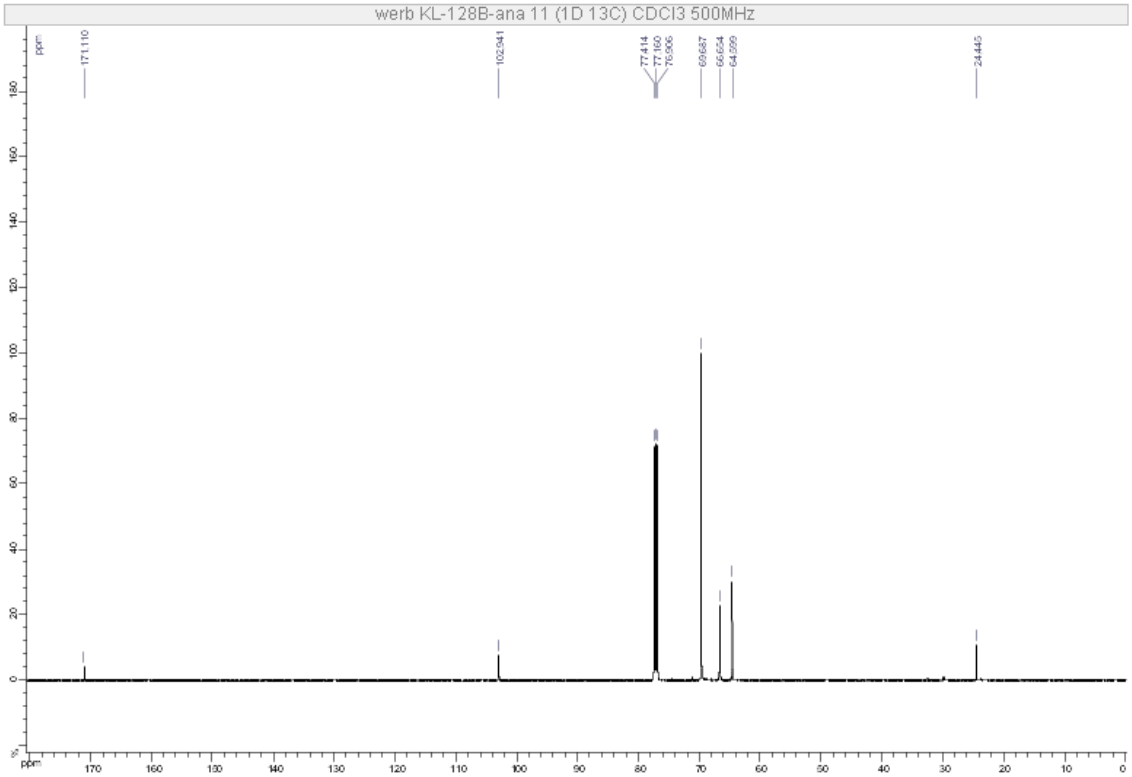


***N*,*N*-Diferrocenylacetamide (2-AcFc)**

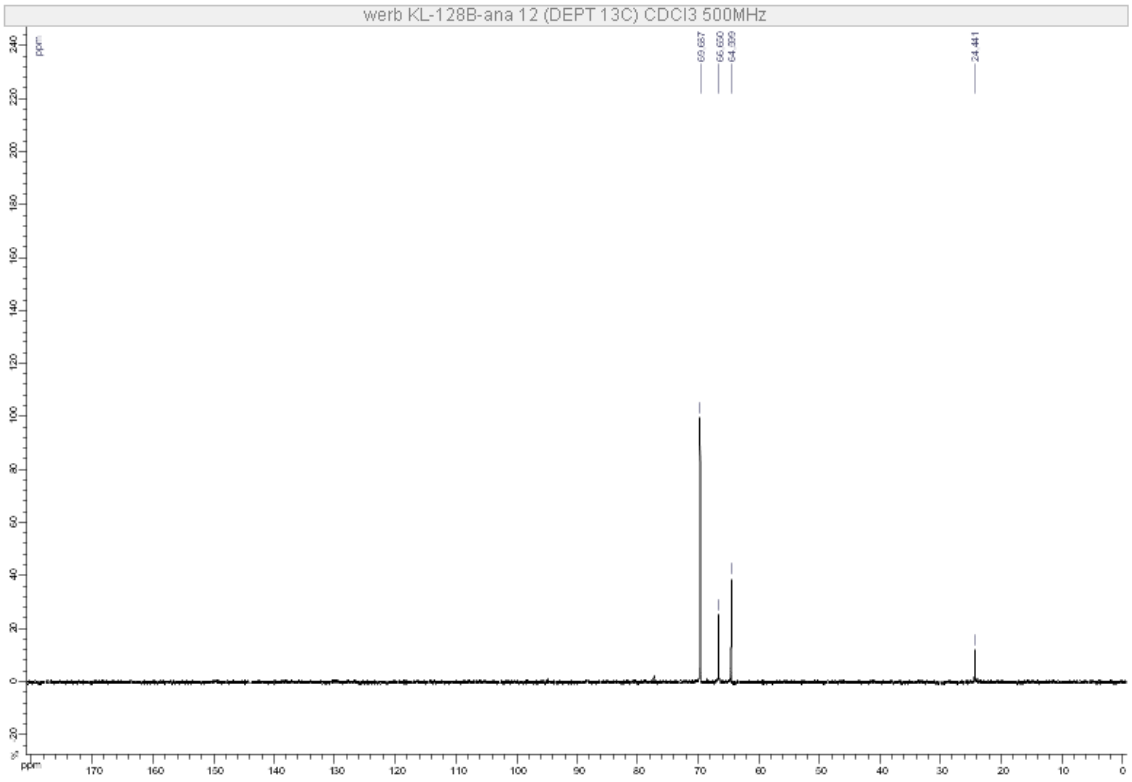
^{1}H NMR (500 MHz, $CDCl_3$)



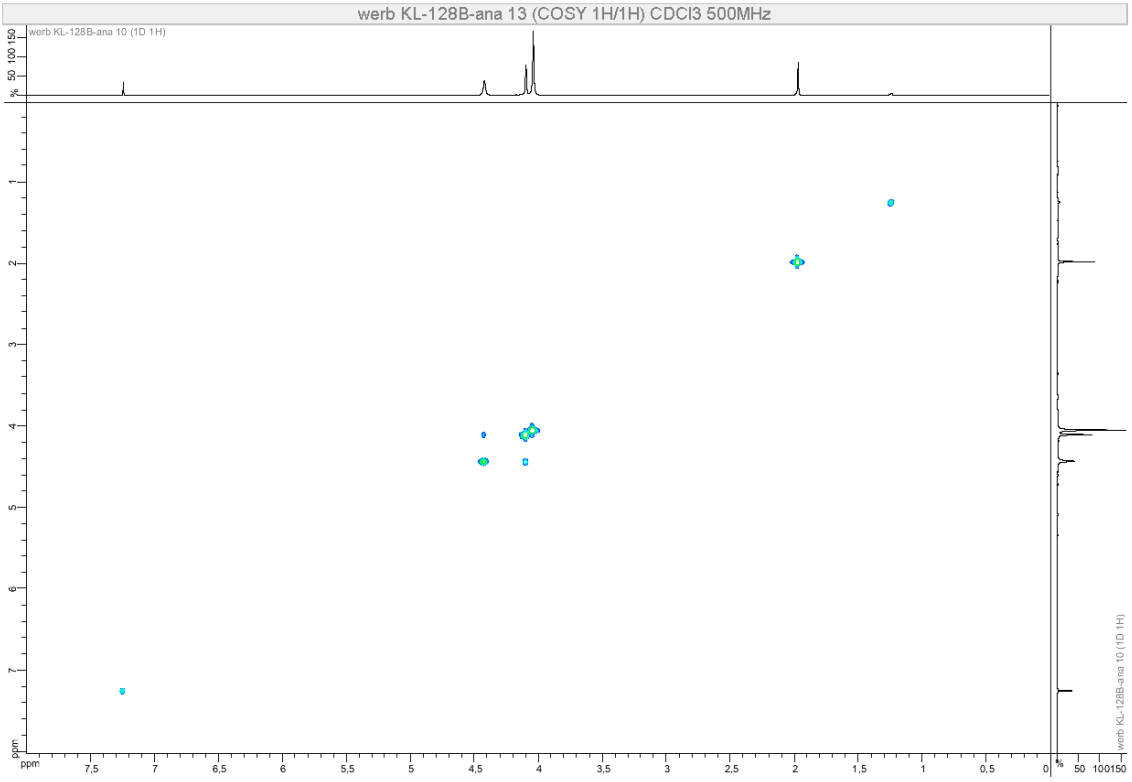
^{13}C NMR (126 MHz, $CDCl_3$)



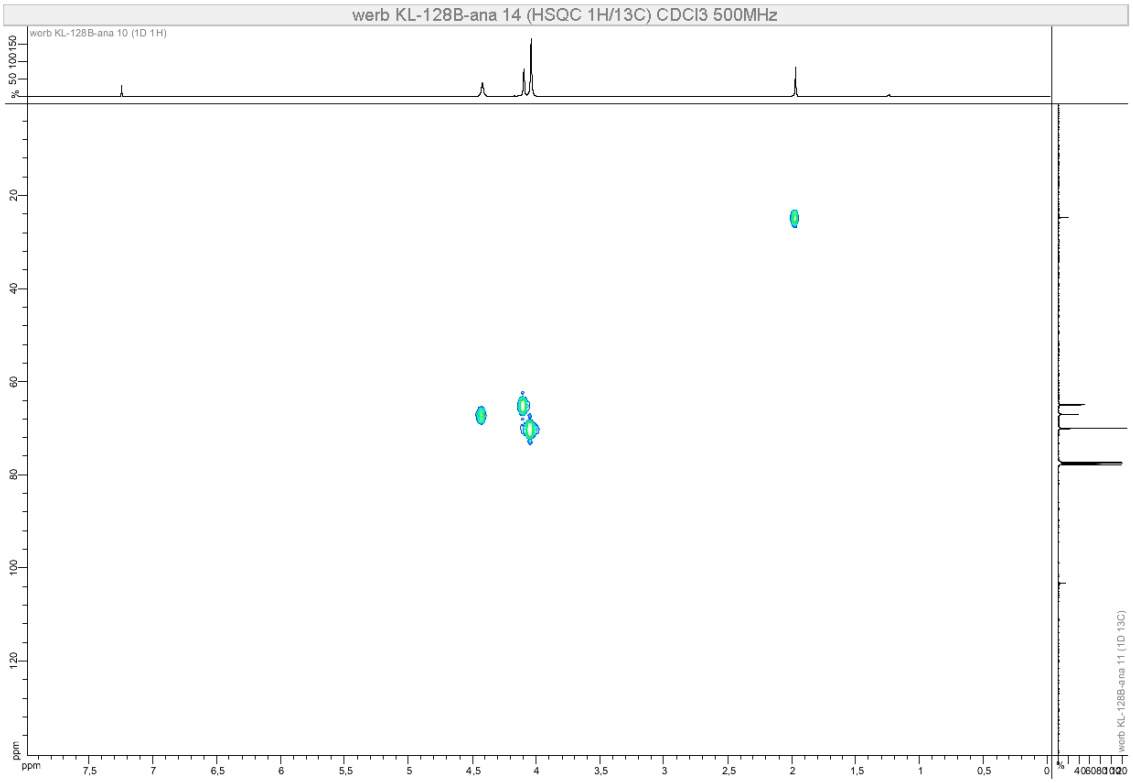
DEPT 135 (126 MHz, $CDCl_3$)



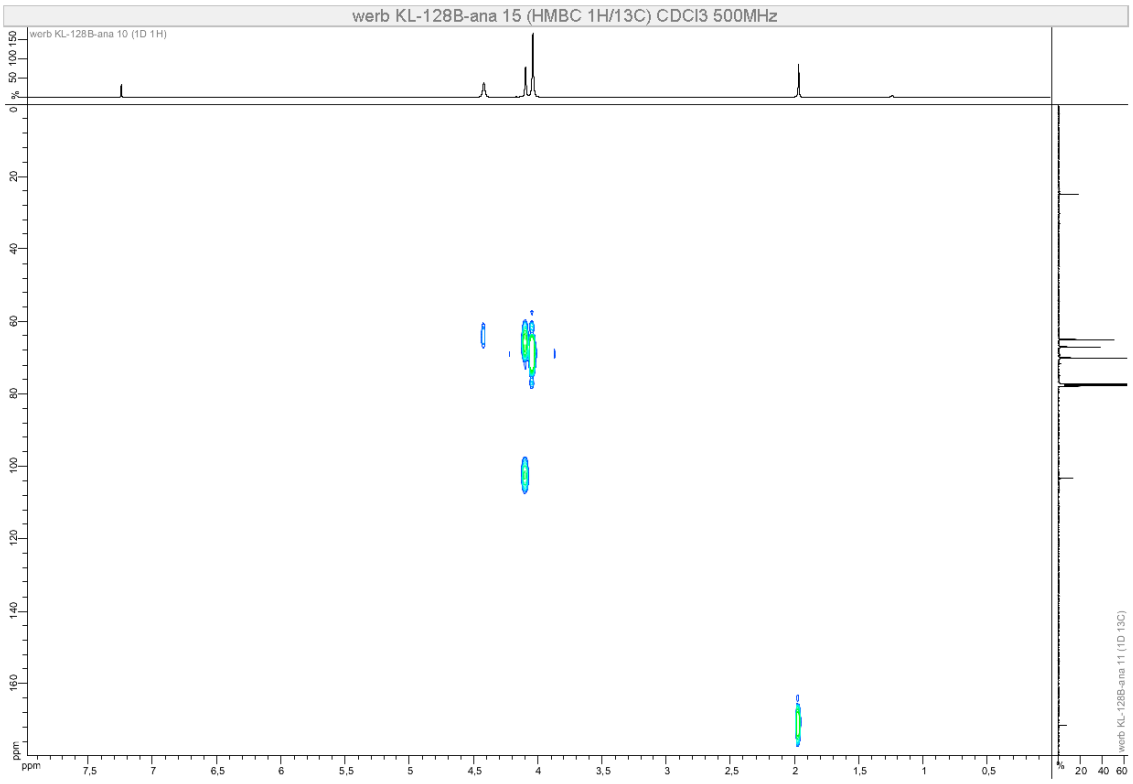
COSY (500 MHz, $CDCl_3$)



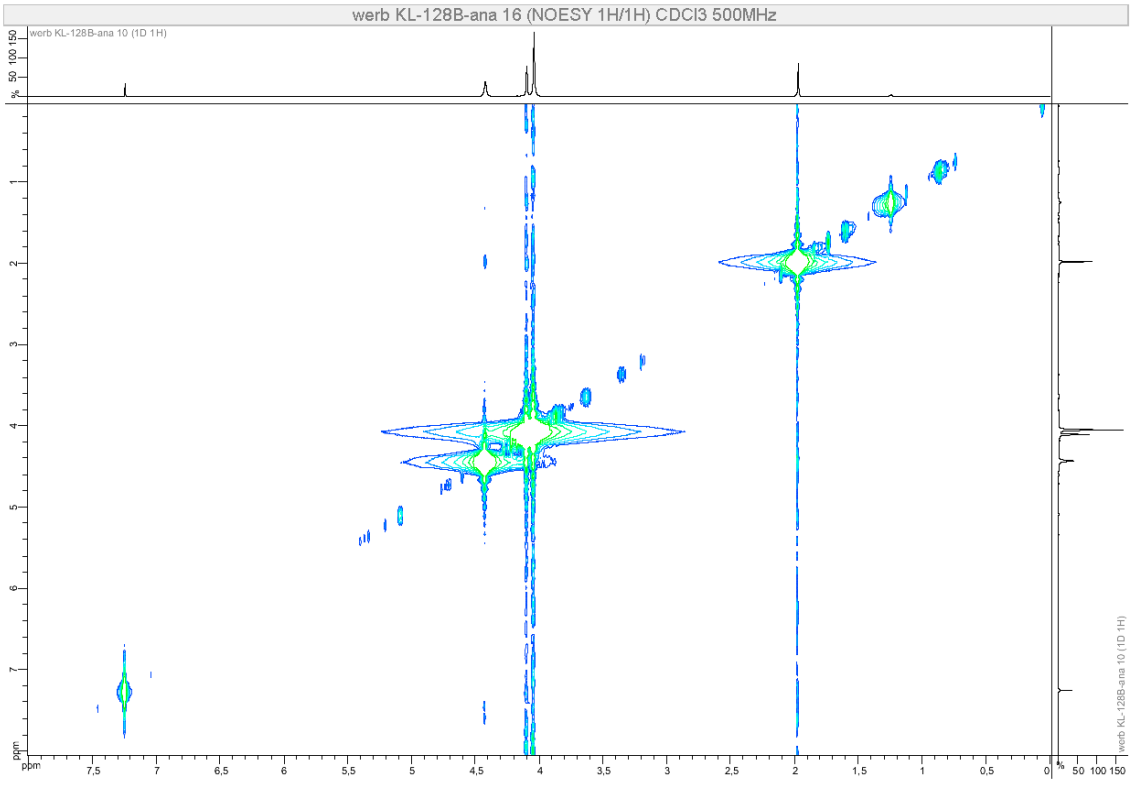
HSQC (500 MHz, $CDCl_3$)



HMBC (500 MHz, $CDCl_3$)

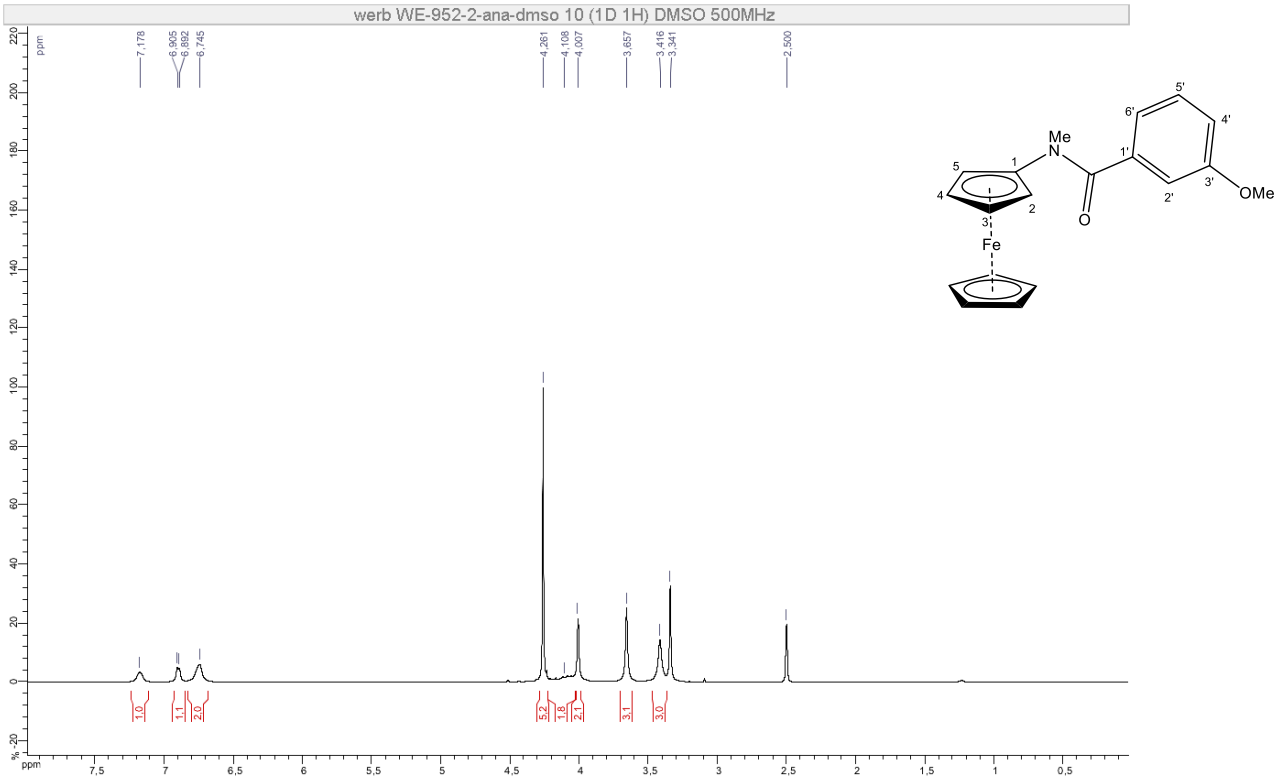


NOESY (500 MHz, $CDCl_3$)

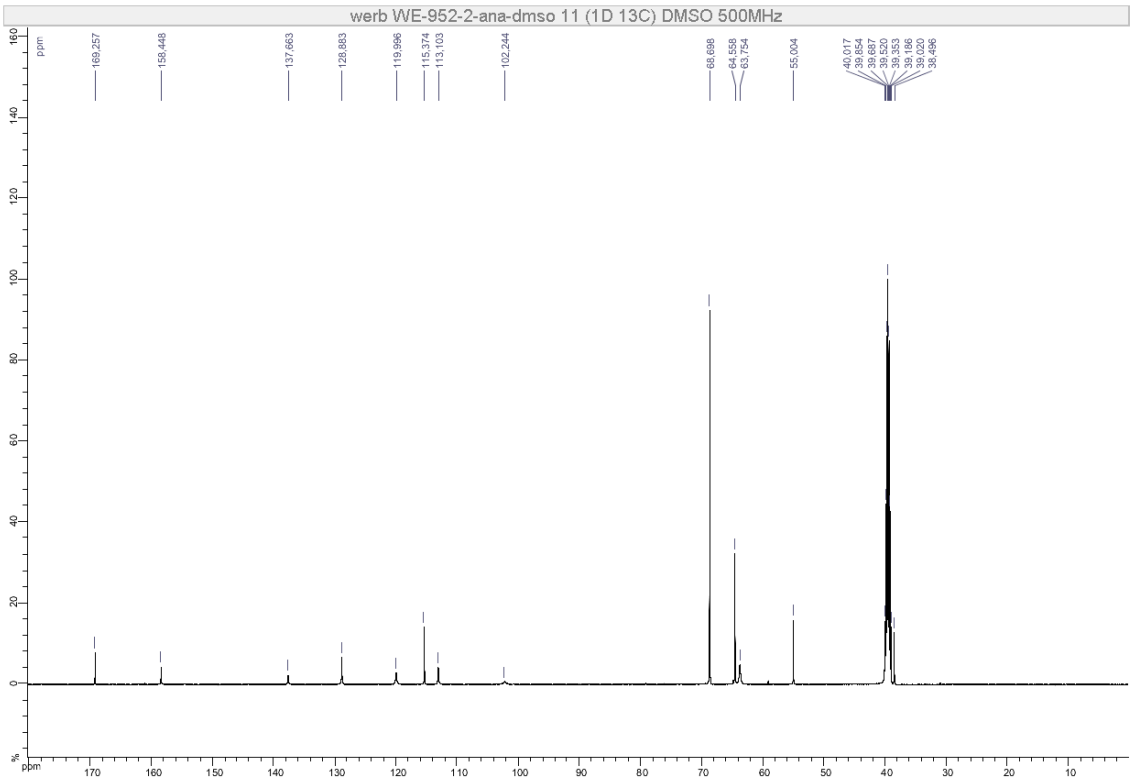


N-Ferrocenyl-3-methoxy-*N*-methylbenzamide (2-3OMeMe)

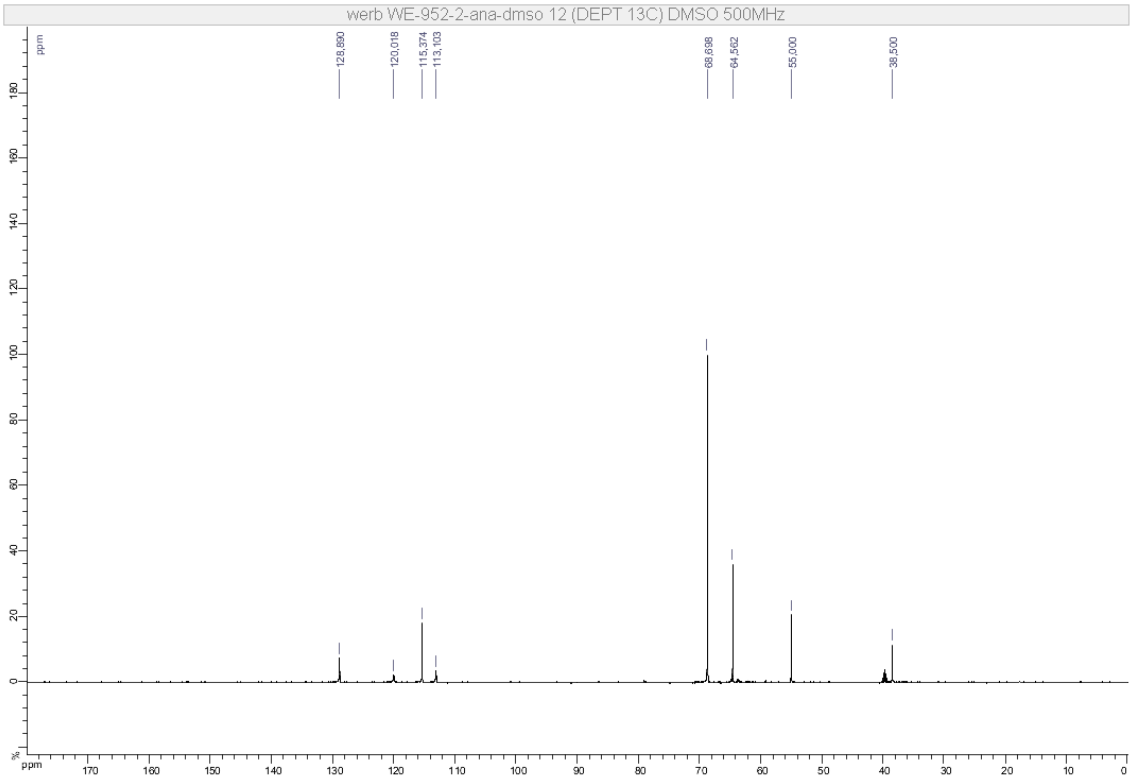
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



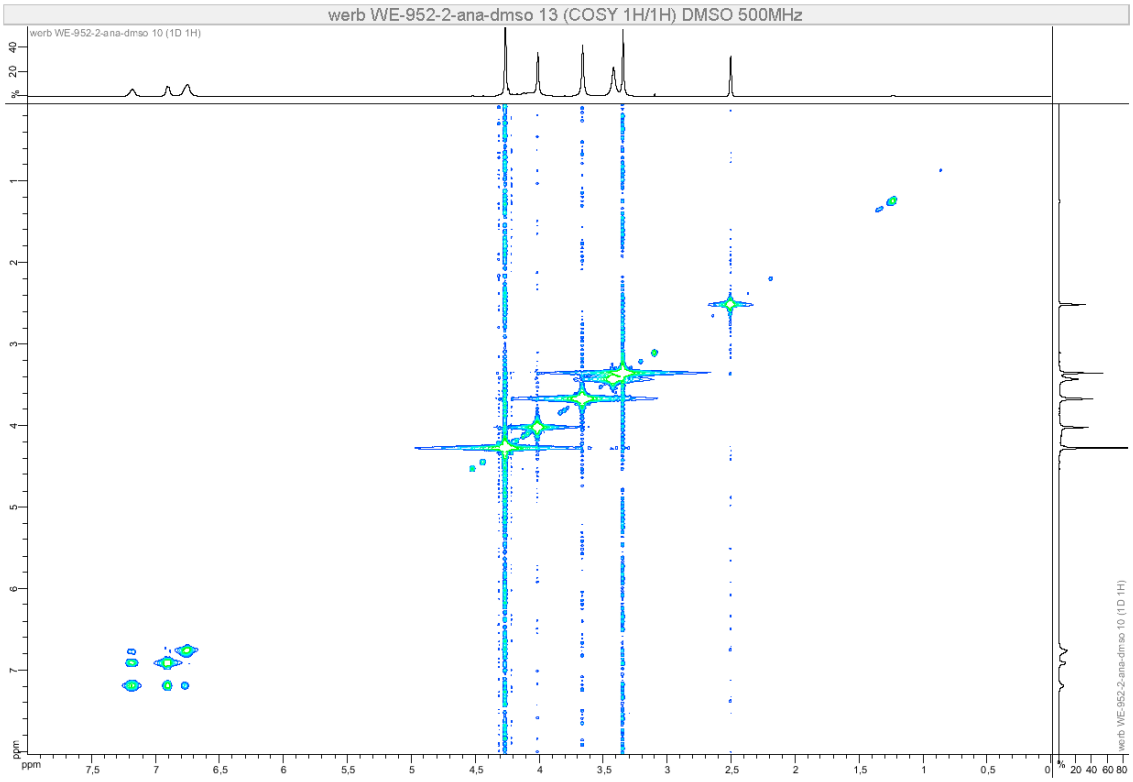
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



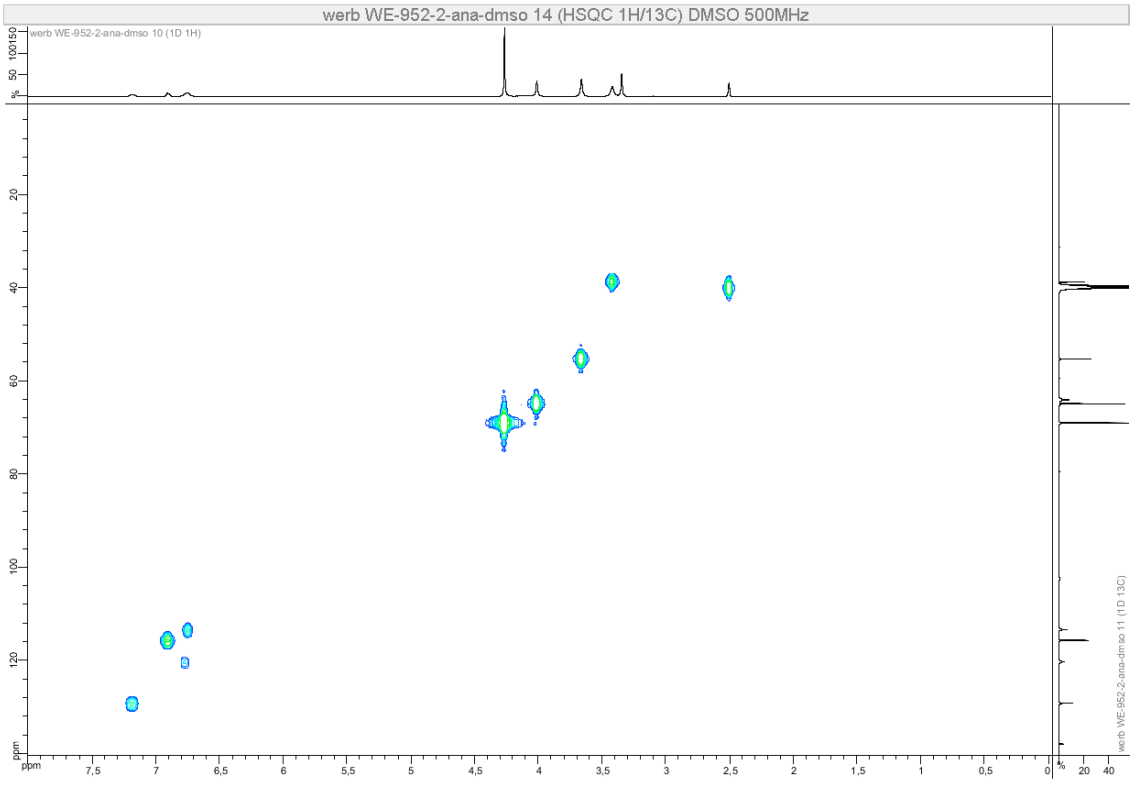
DEPT 135 (126 MHz, $(CD_3)_2SO$)



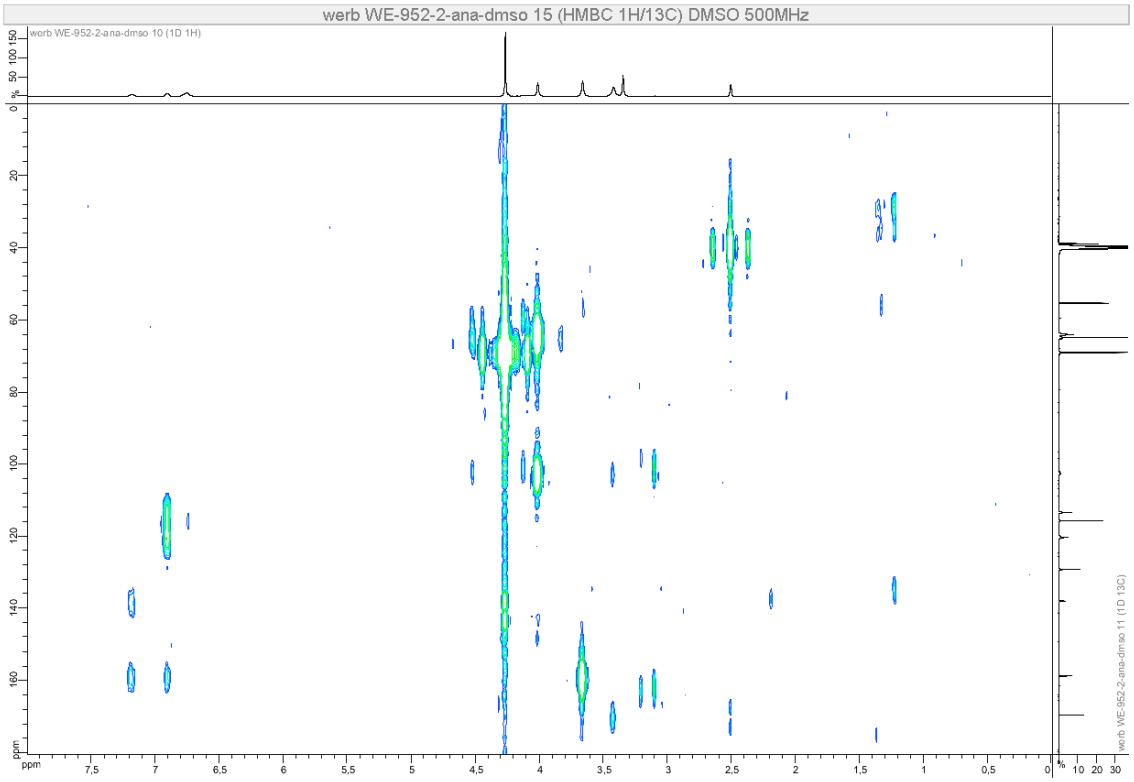
COSY (500 MHz, $(CD_3)_2SO$)



HSQC (500 MHz, $(CD_3)_2SO$)

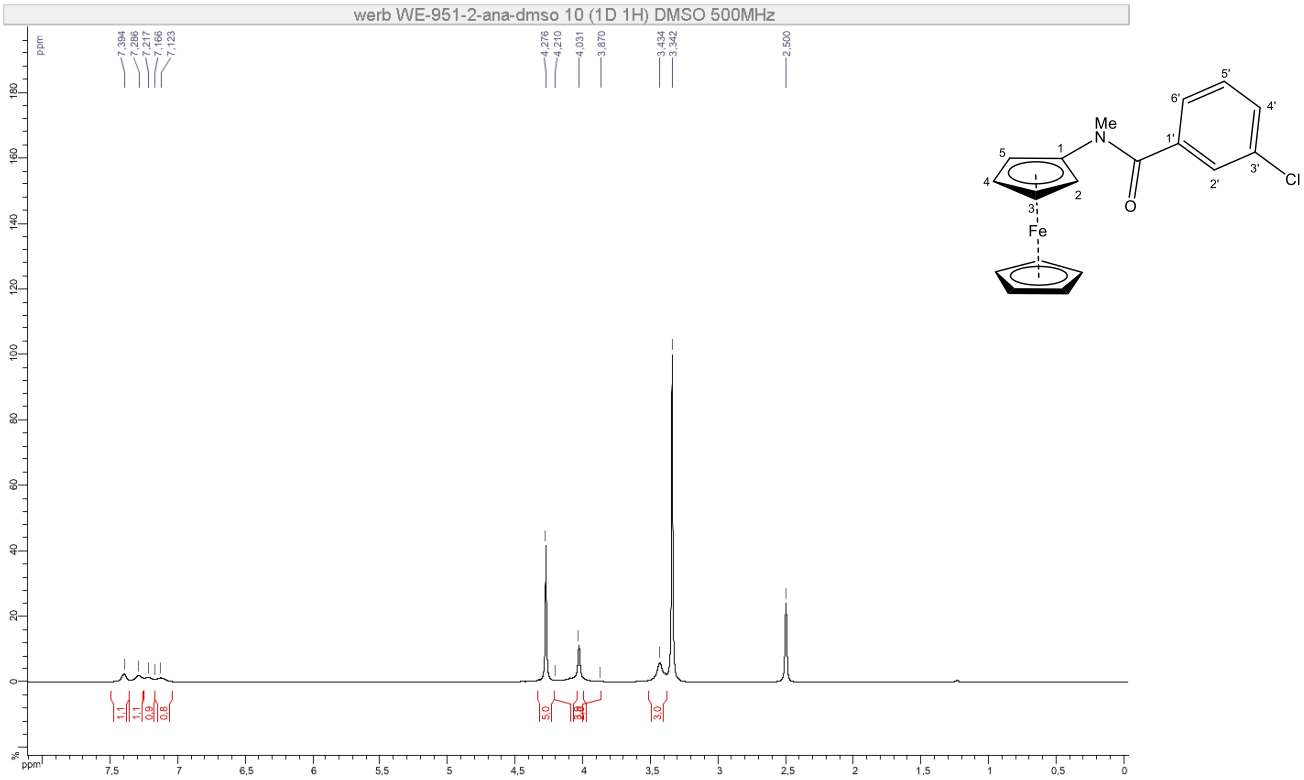


HMBC (500 MHz, $(CD_3)_2SO$)

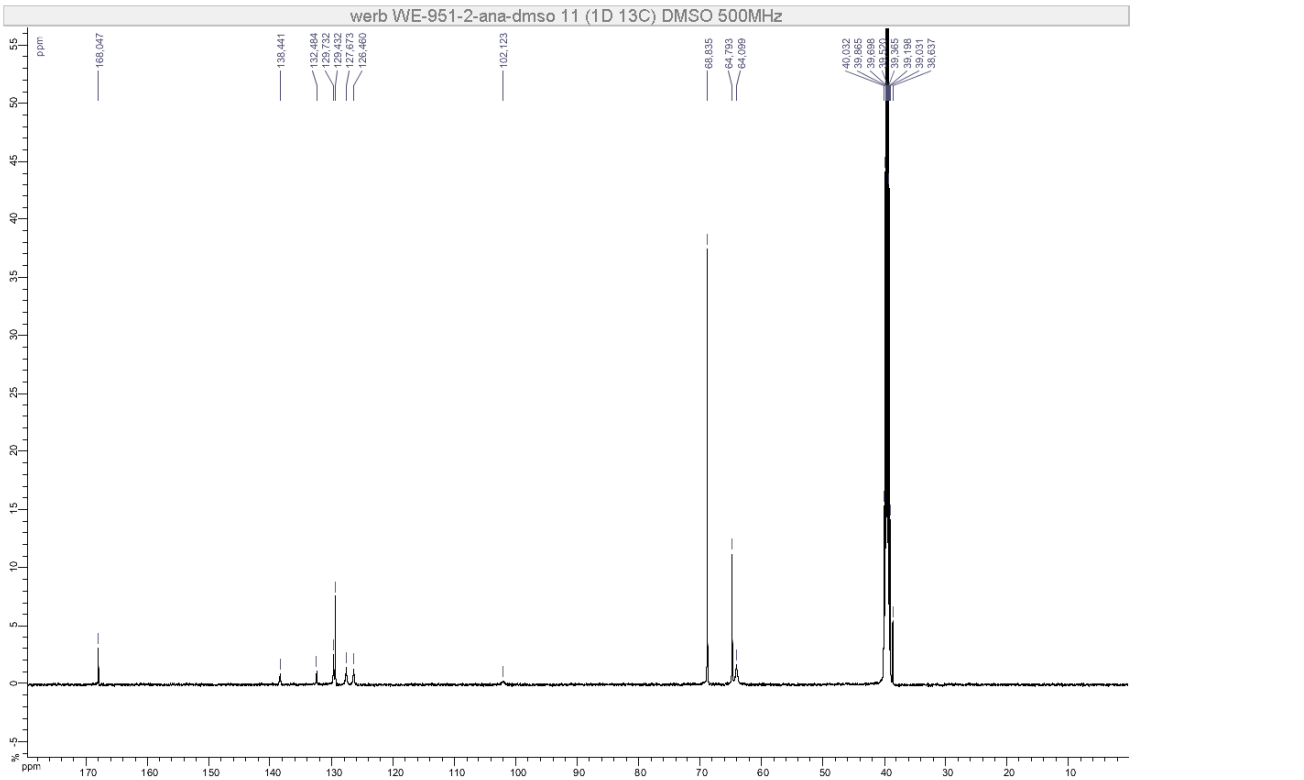


3-Chloro-*N*-ferrocenyl-*N*-methylbenzamide (2-3ClMe)

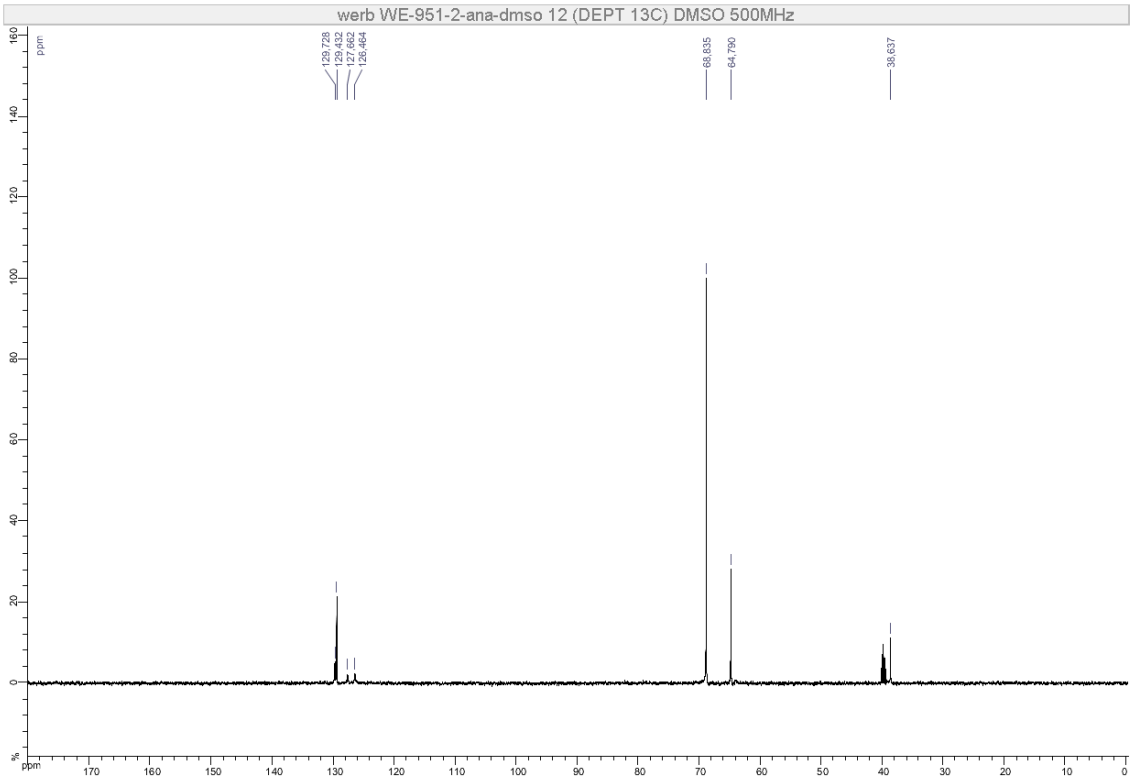
^{1}H NMR (500 MHz, $(CD_3)_2SO$)



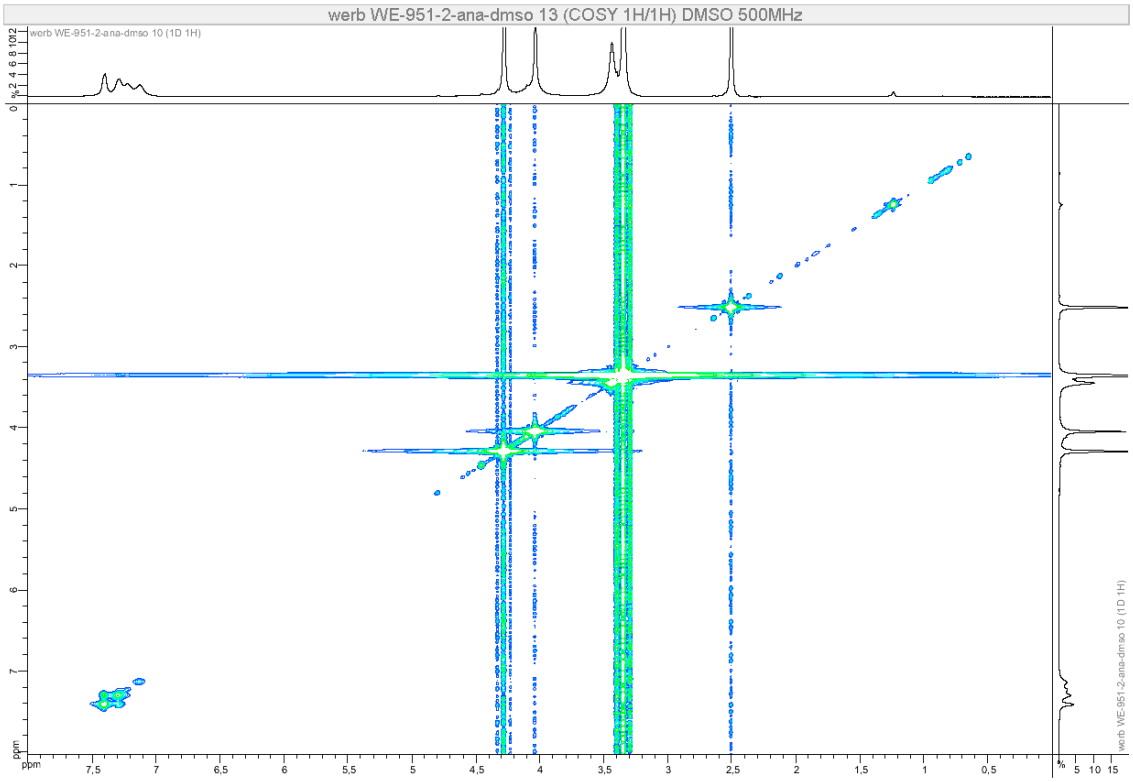
^{13}C NMR (126 MHz, $(CD_3)_2SO$)



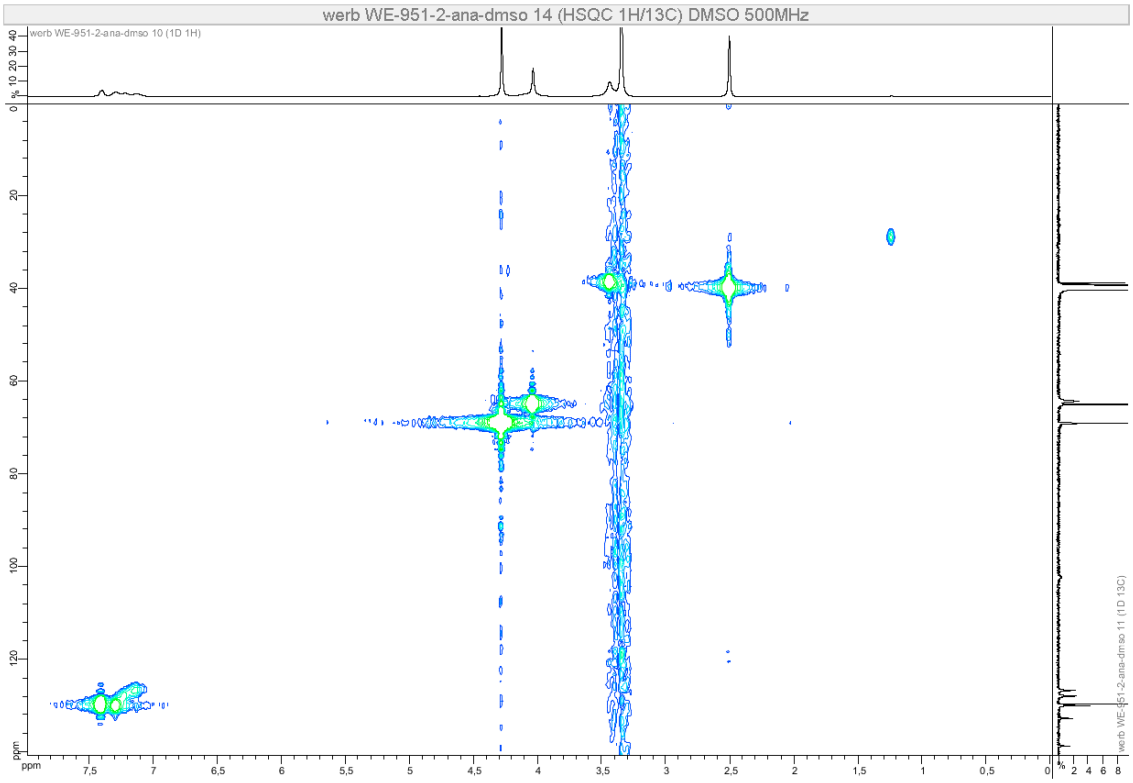
DEPT 135 (126 MHz, $(CD_3)_2SO$)



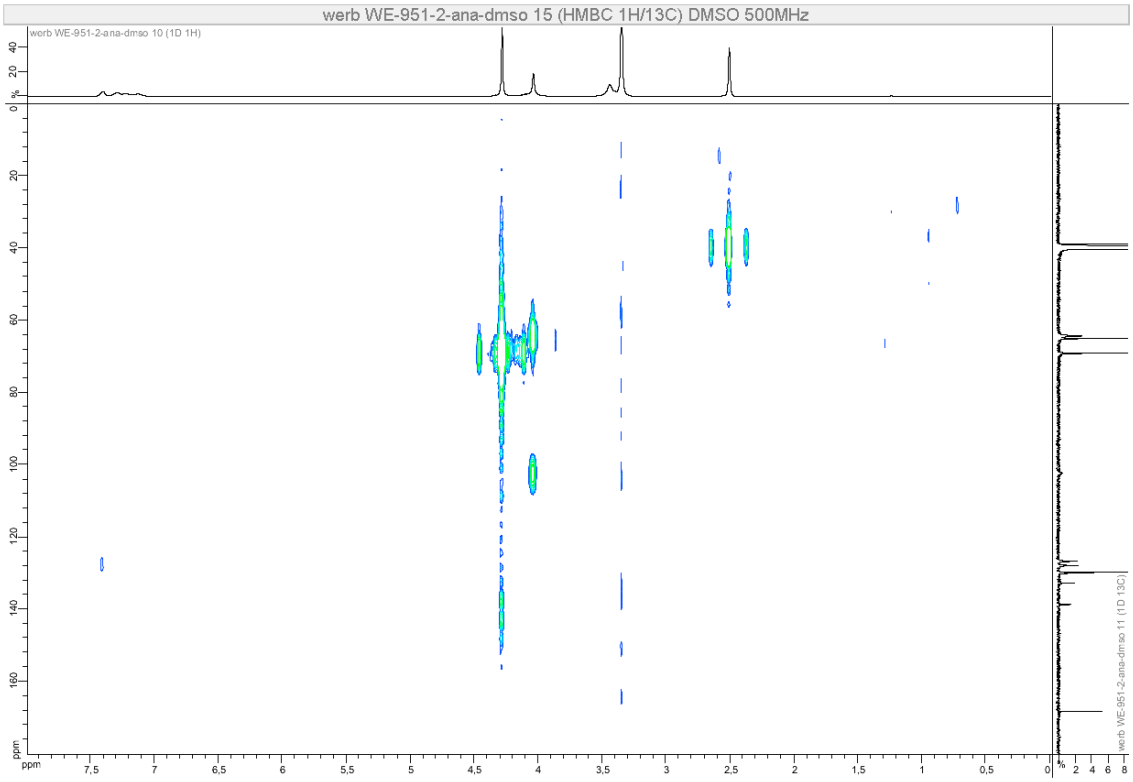
COSY (500 MHz, $(CD_3)_2SO$)



HSQC (500 MHz, $(CD_3)_2SO$)

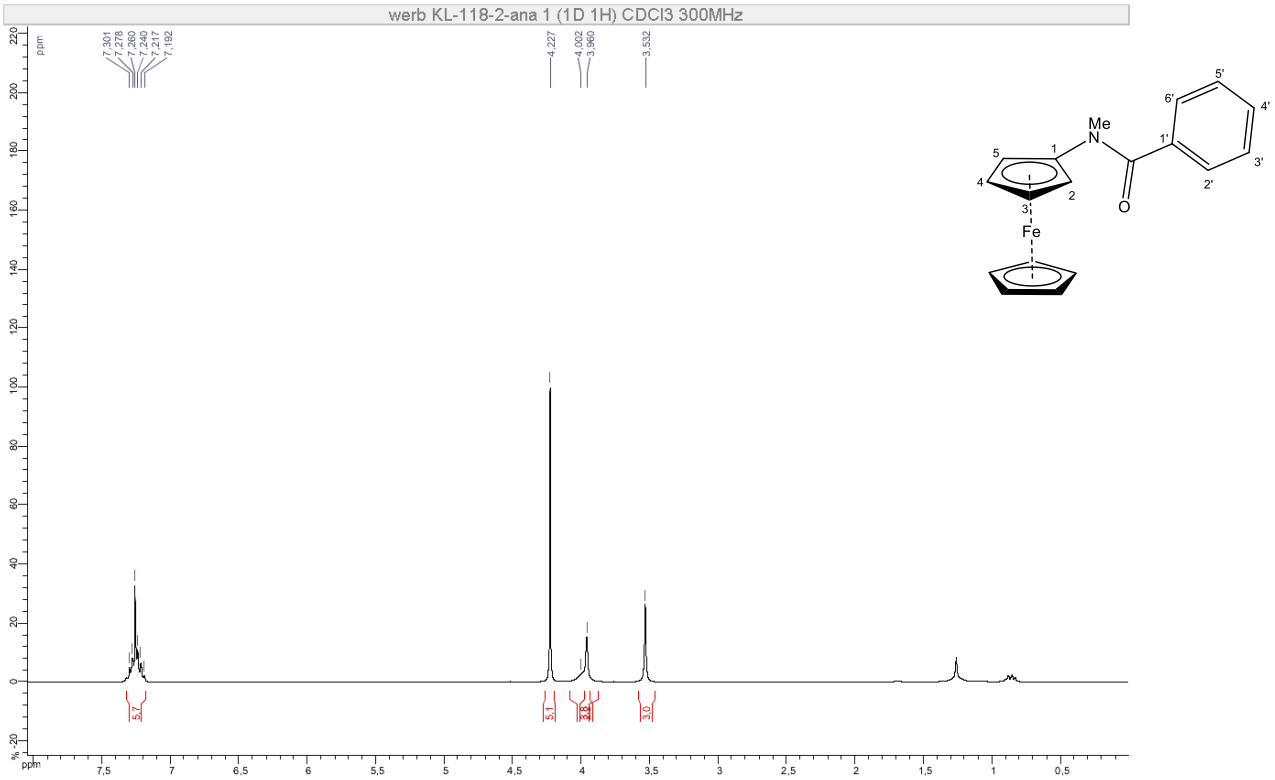


HMBC (500 MHz, $(CD_3)_2SO$)

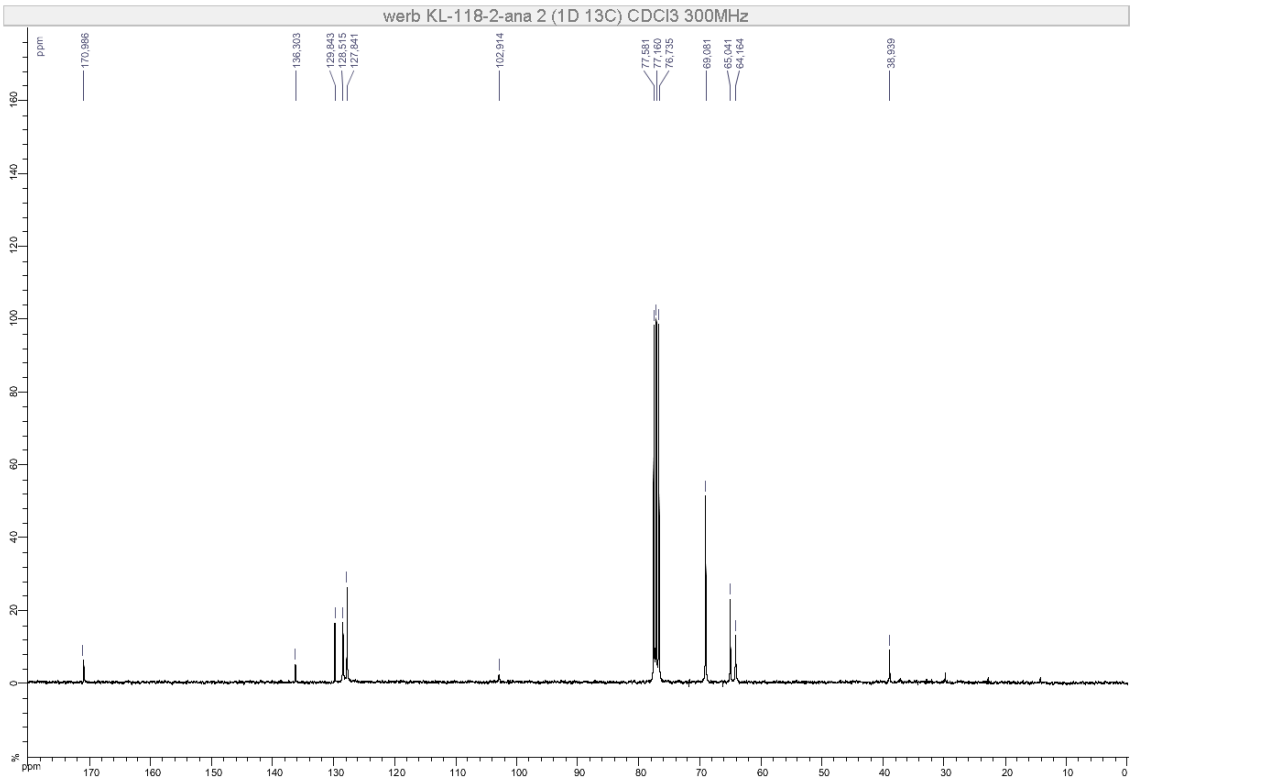


N-Ferrocenyl-*N*-methylbenzamide (2-PhMe)

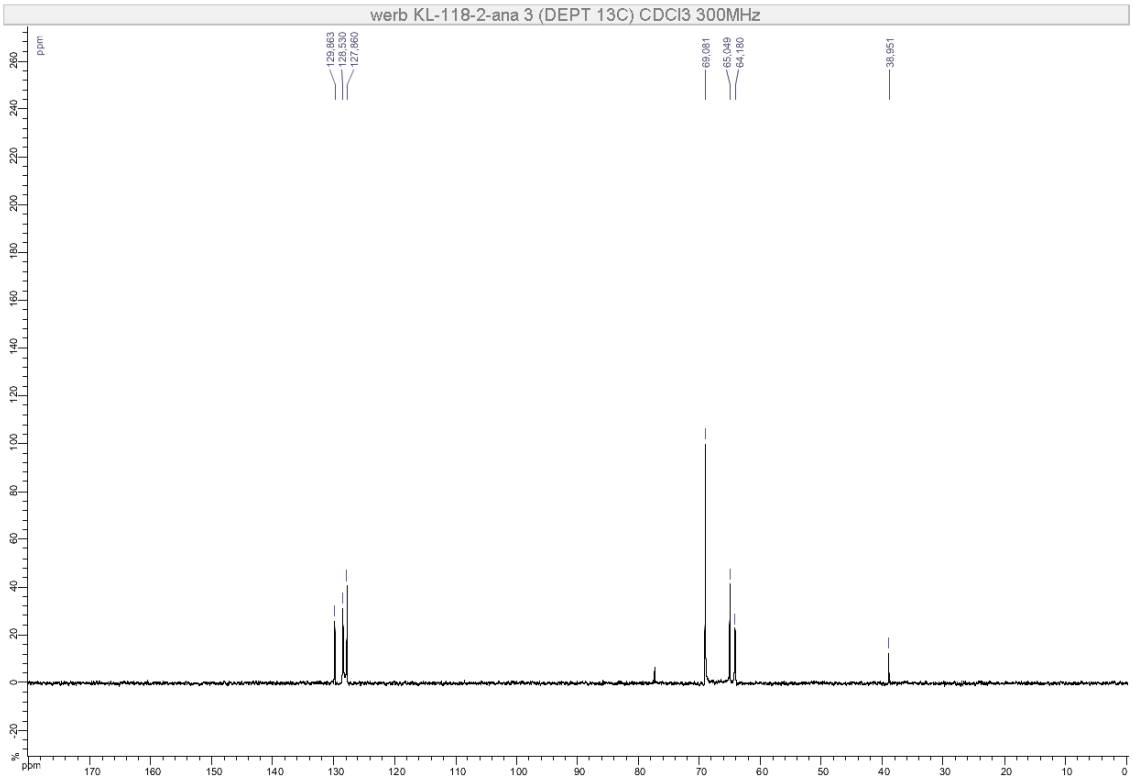
^{1}H NMR (300 MHz, $CDCl_3$)



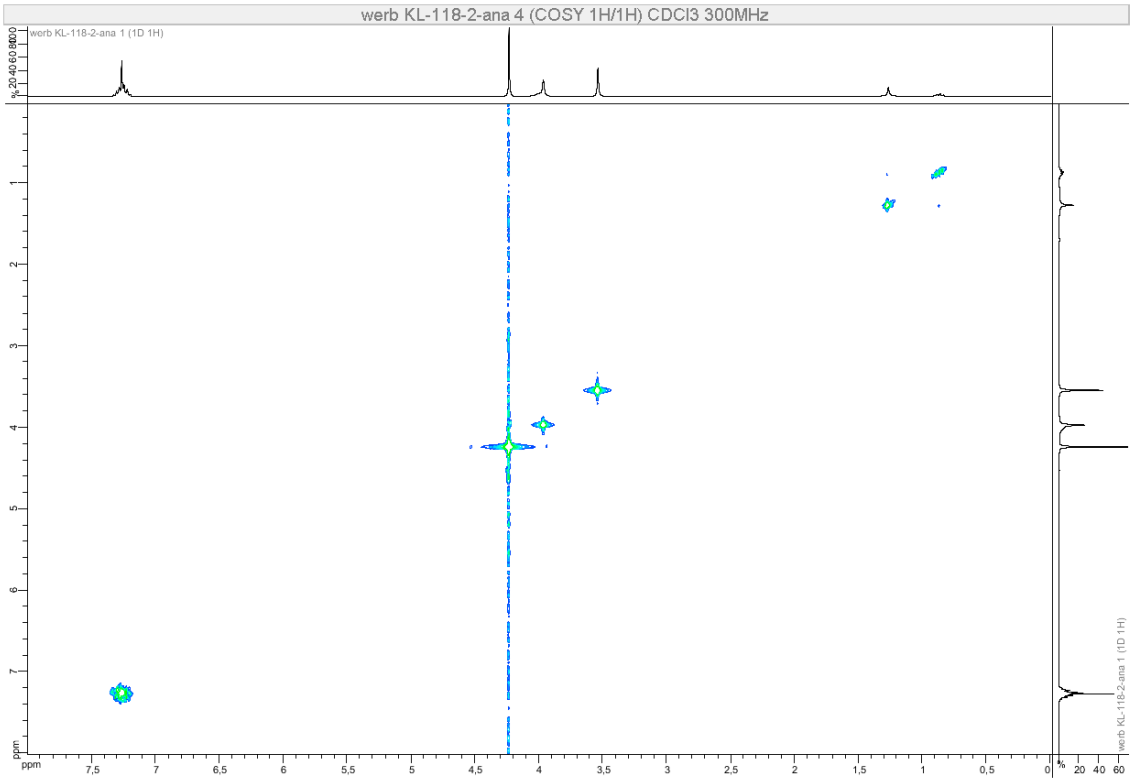
^{13}C NMR (75 MHz, $CDCl_3$)



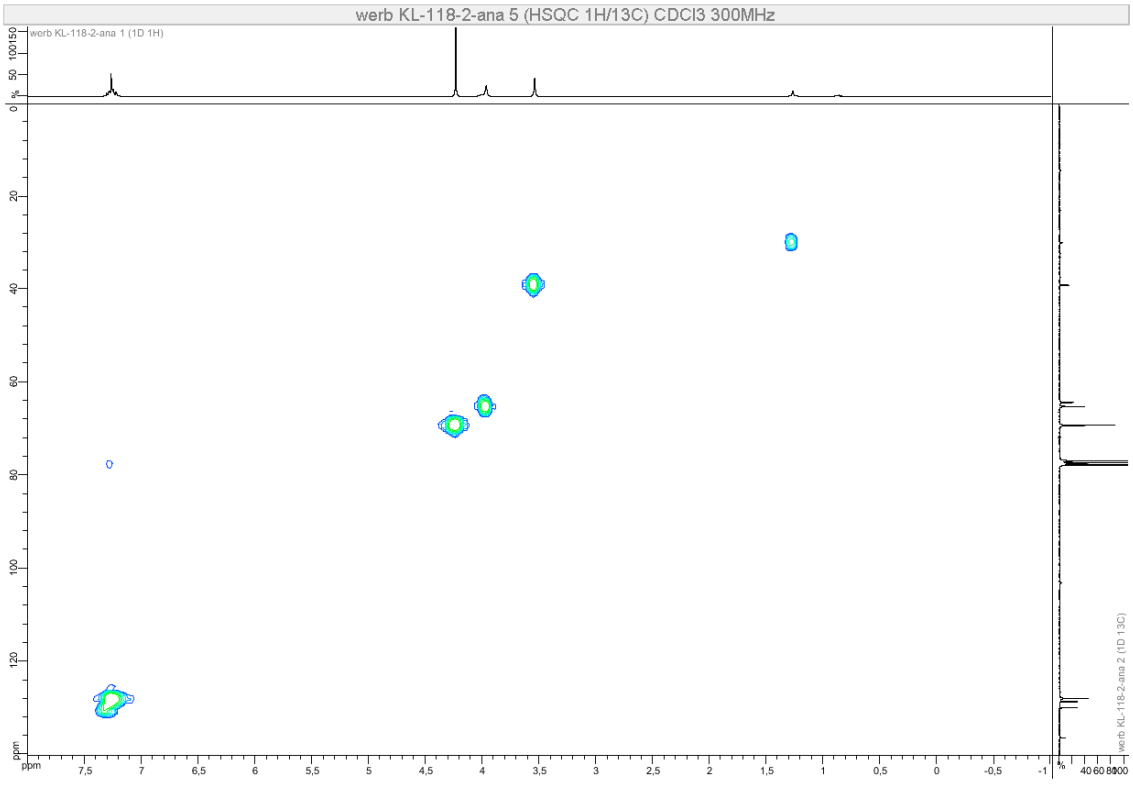
DEPT 135 (75 MHz, $CDCl_3$)



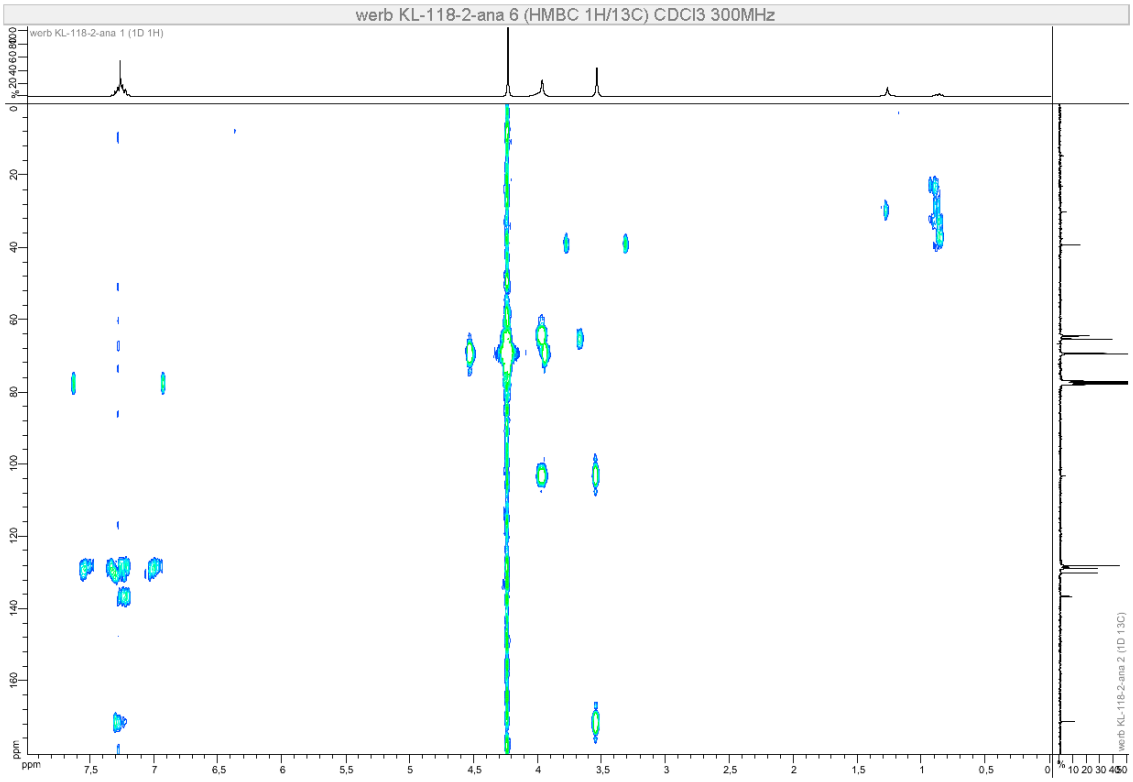
COSY (300 MHz, $CDCl_3$)



HSQC (300 MHz, $CDCl_3$)

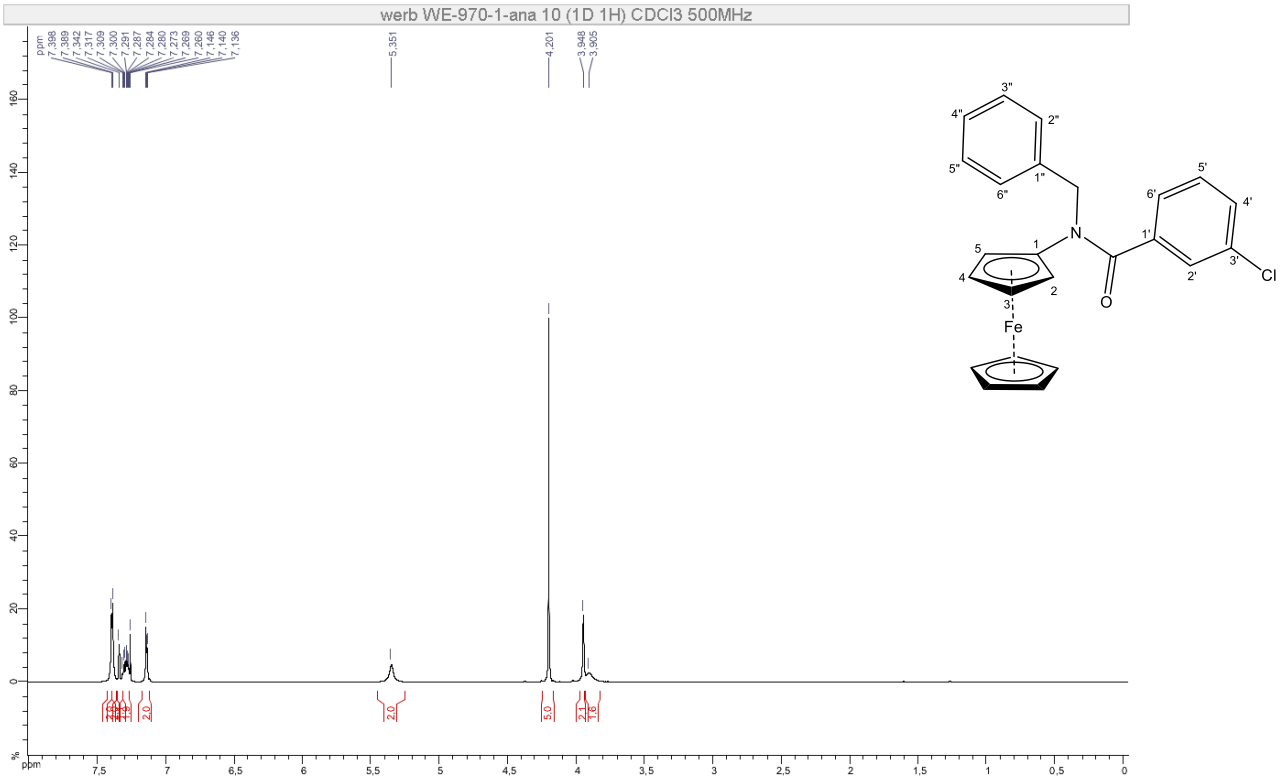


HMBC (300 MHz, $CDCl_3$)

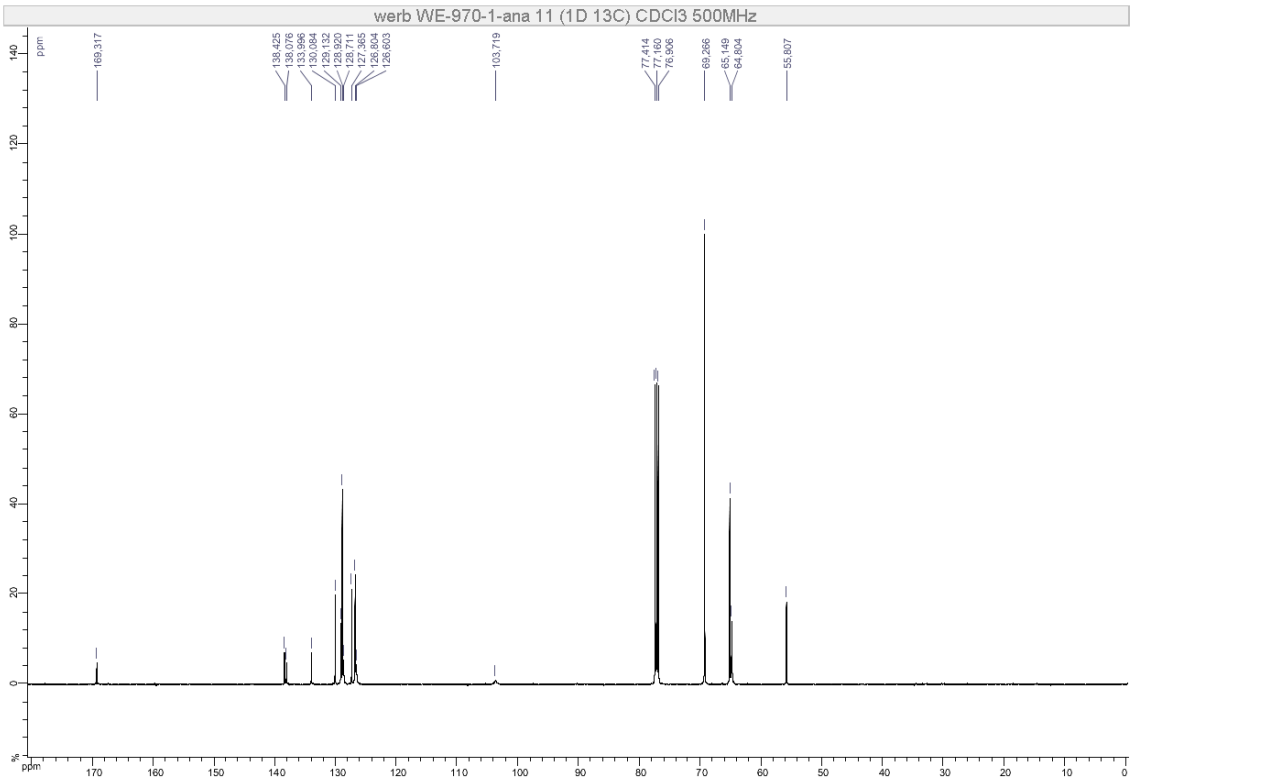


N-Benzyl-3-chloro-*N*-ferrocenylbenzamide (2-3ClBn)

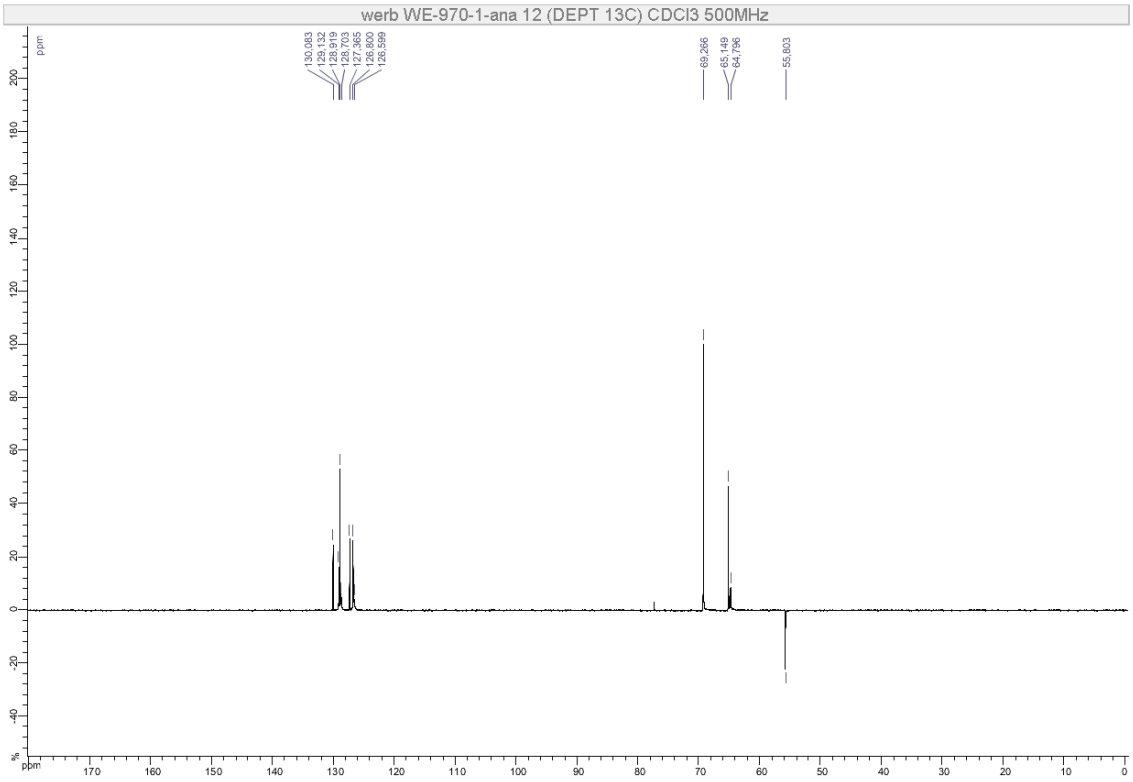
^{1}H NMR (500 MHz, $CDCl_3$)



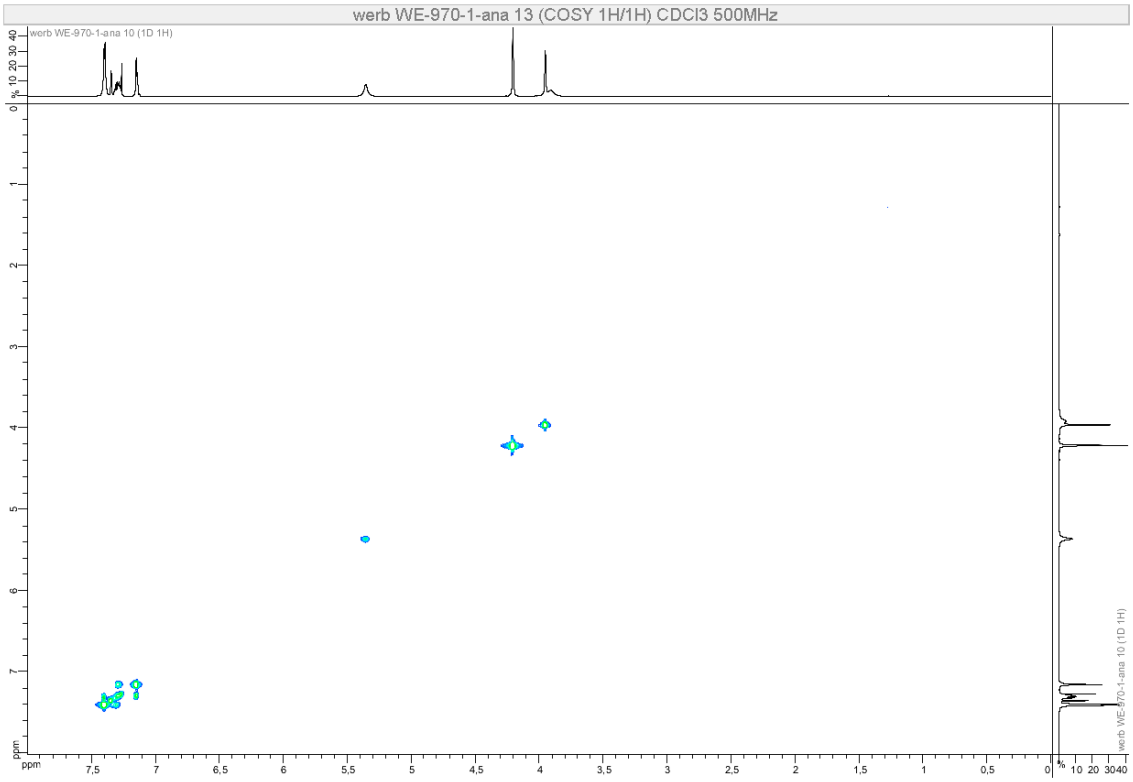
^{13}C NMR (126 MHz, $CDCl_3$)



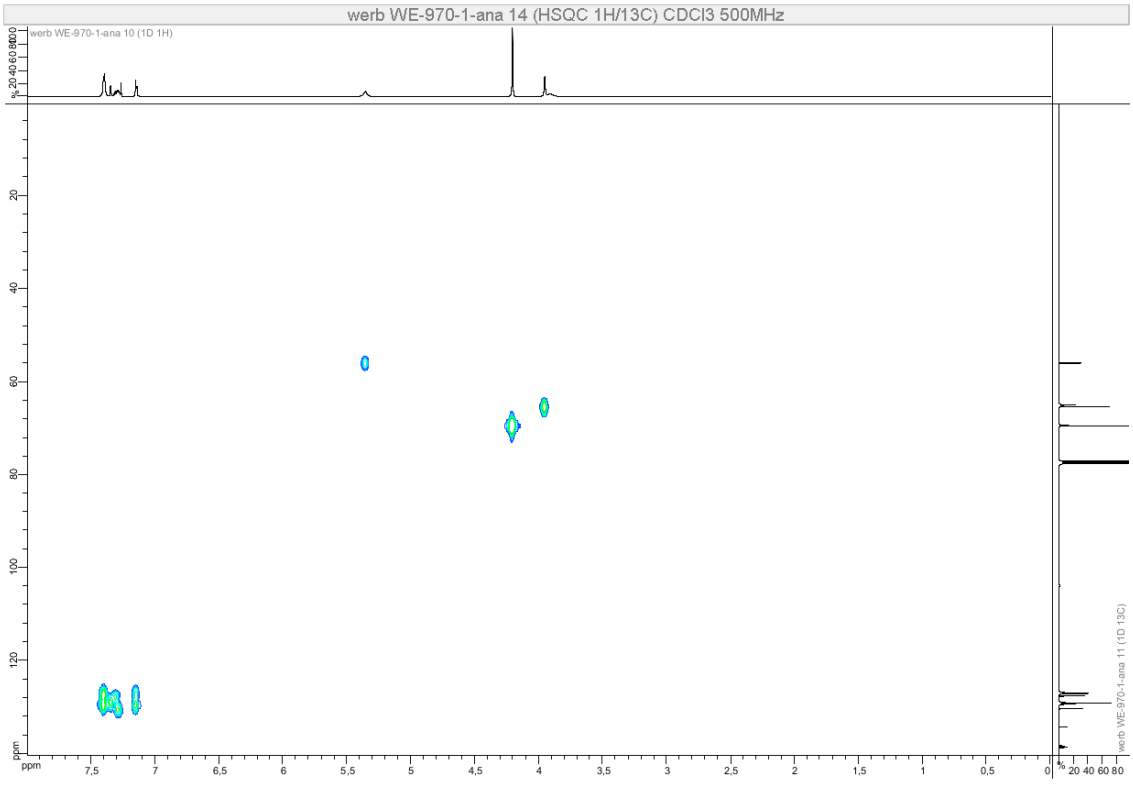
DEPT 135 (126 MHz, $CDCl_3$)



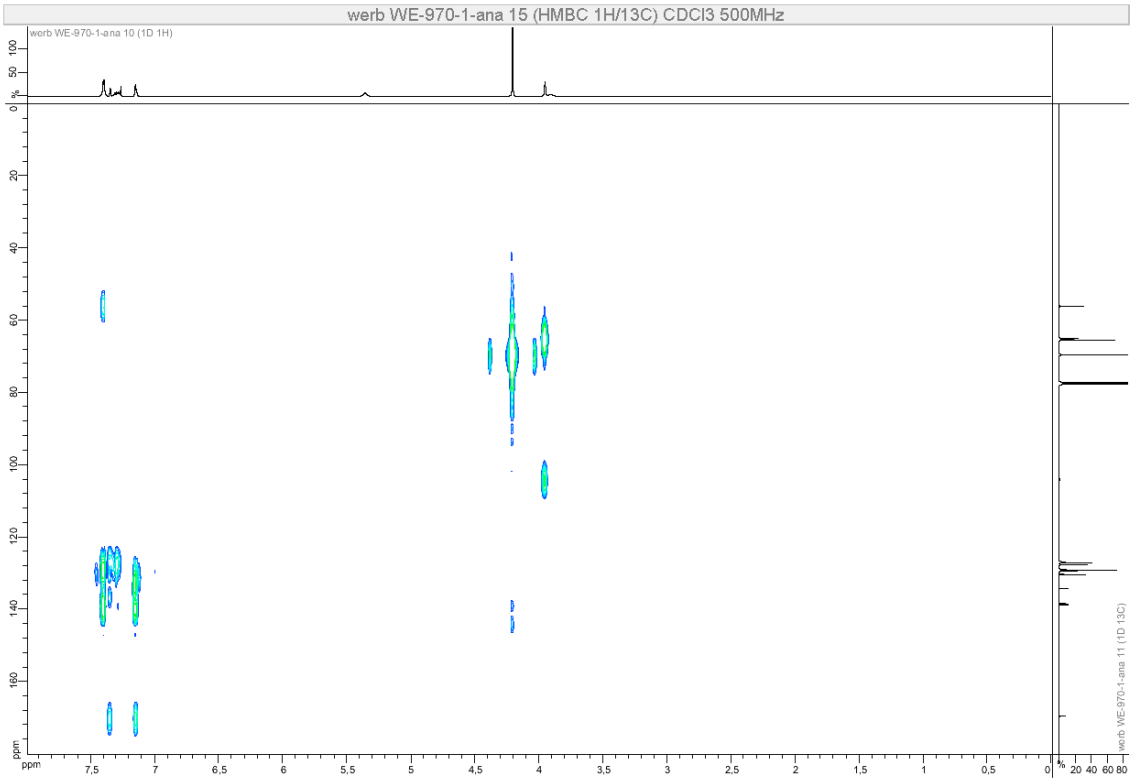
COSY (500 MHz, $CDCl_3$)



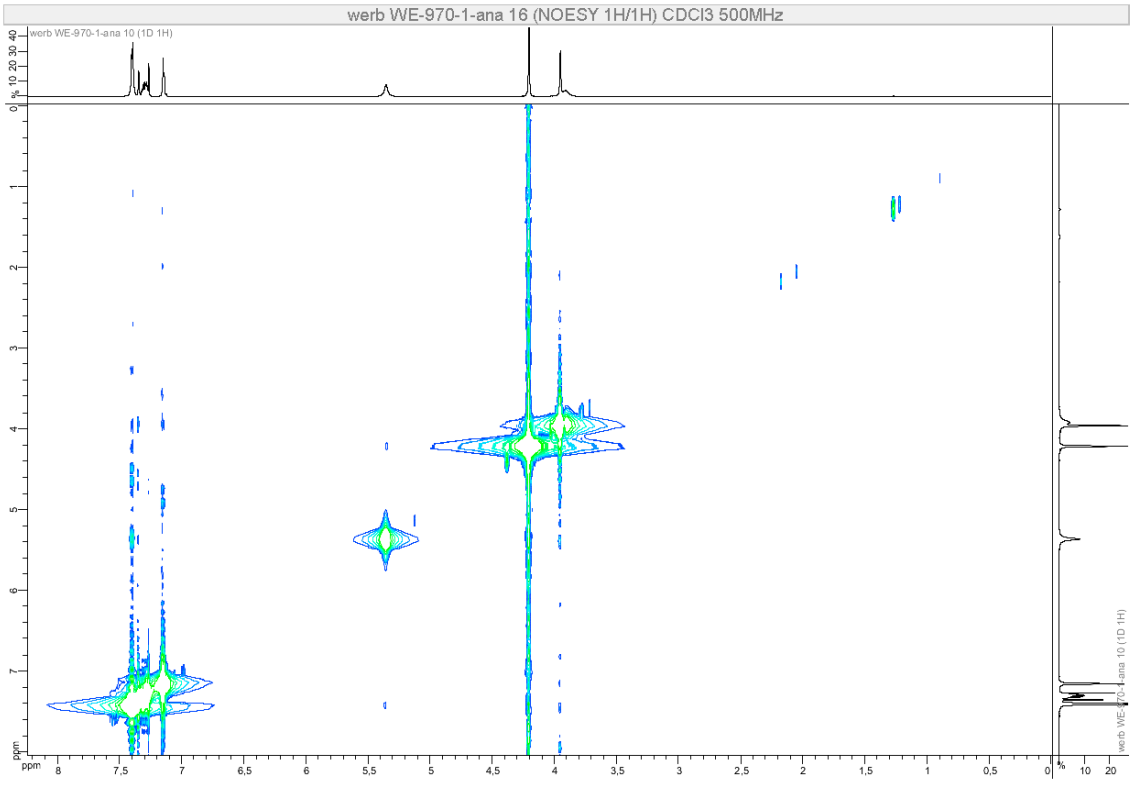
HSQC (500 MHz, $CDCl_3$)



HMBC (500 MHz, $CDCl_3$)

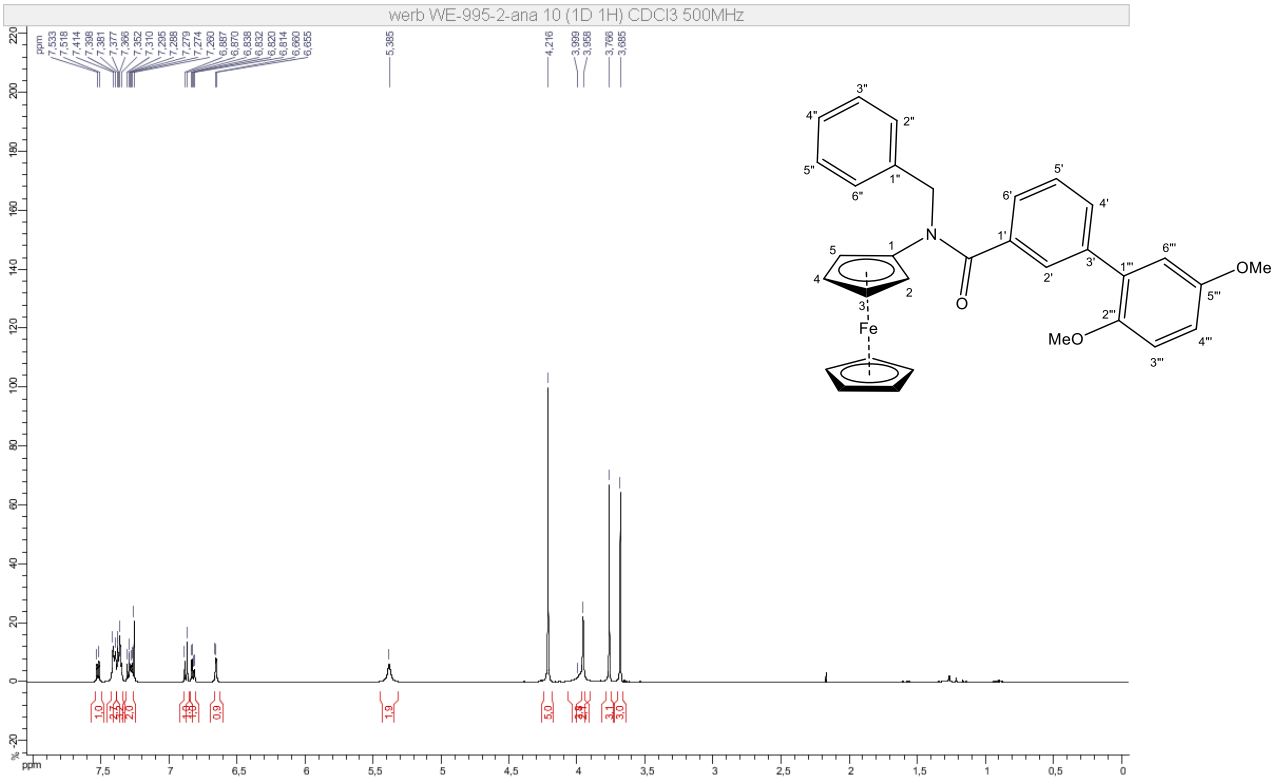


NOESY (500 MHz, $CDCl_3$)

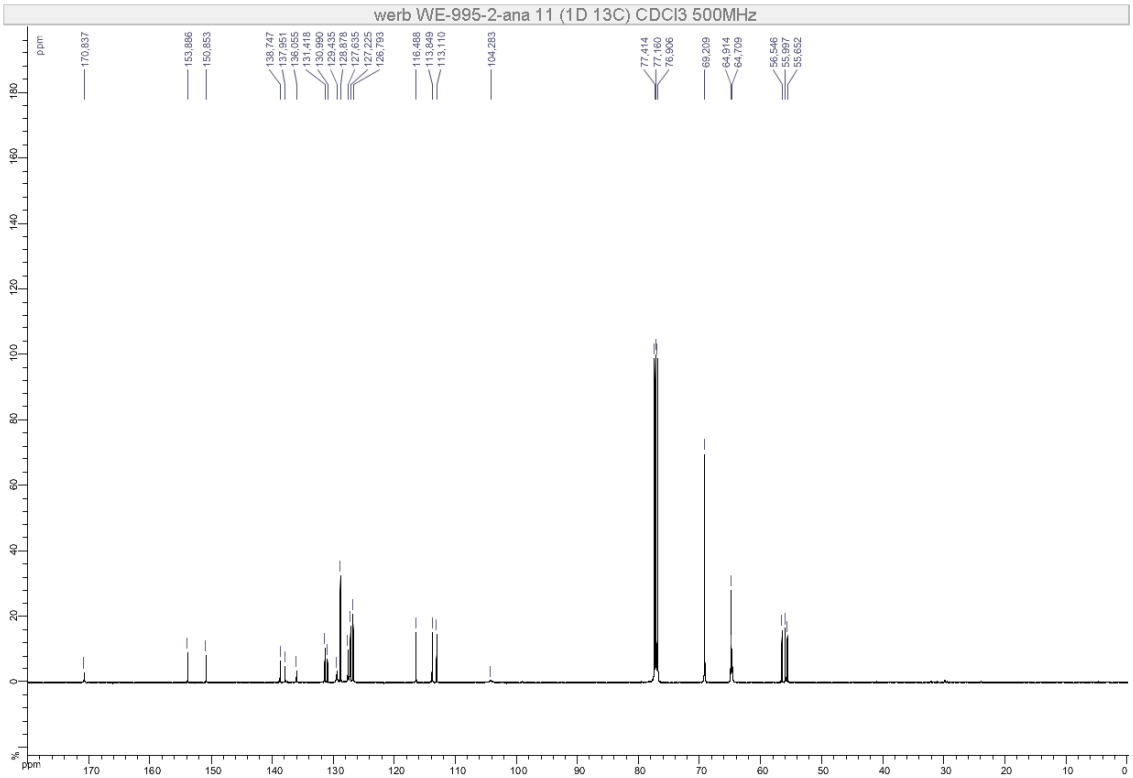


N-Benzyl-3-(2,5-dimethoxyphenyl)-*N*-ferrocenylbenzamide (2-PF1)

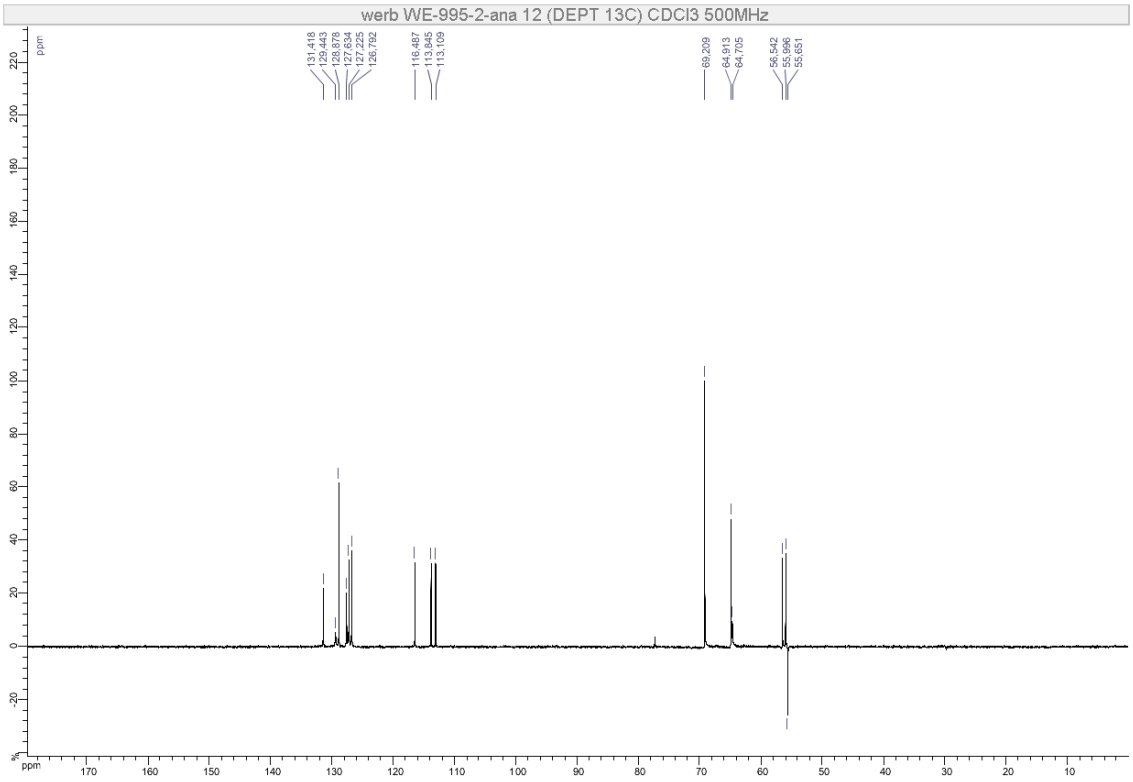
^{1}H NMR (500 MHz, $CDCl_3$)



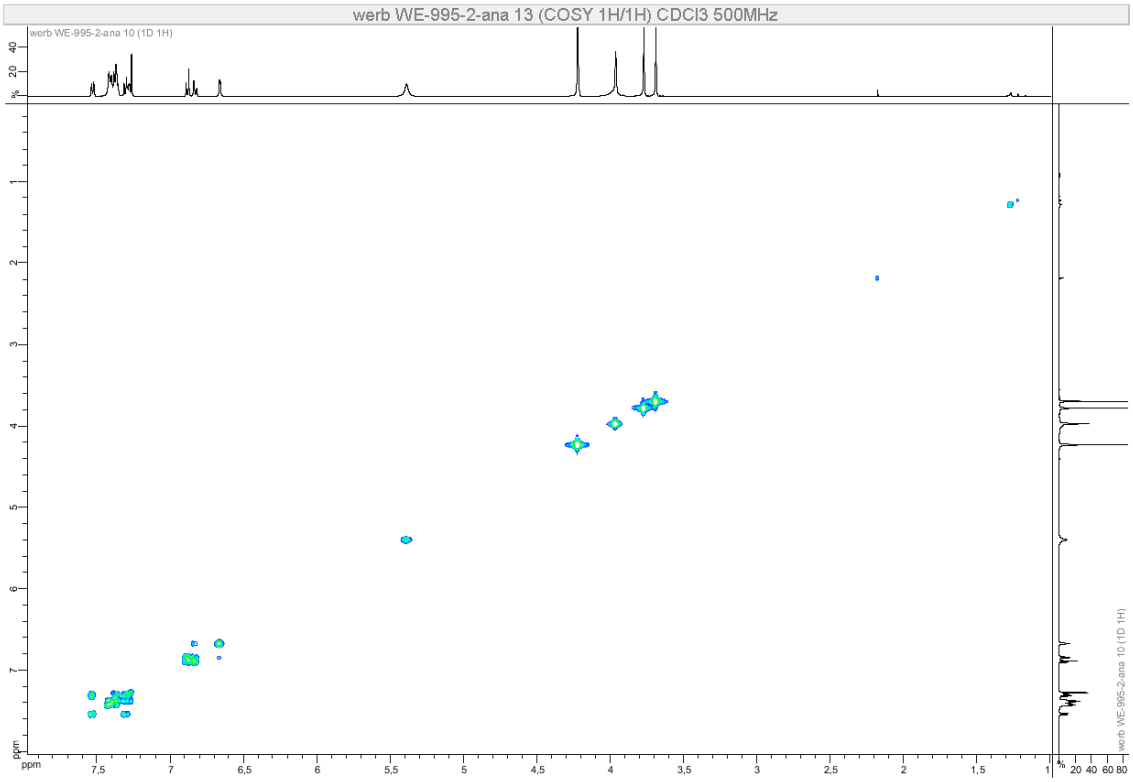
^{13}C NMR (126 MHz, $CDCl_3$)



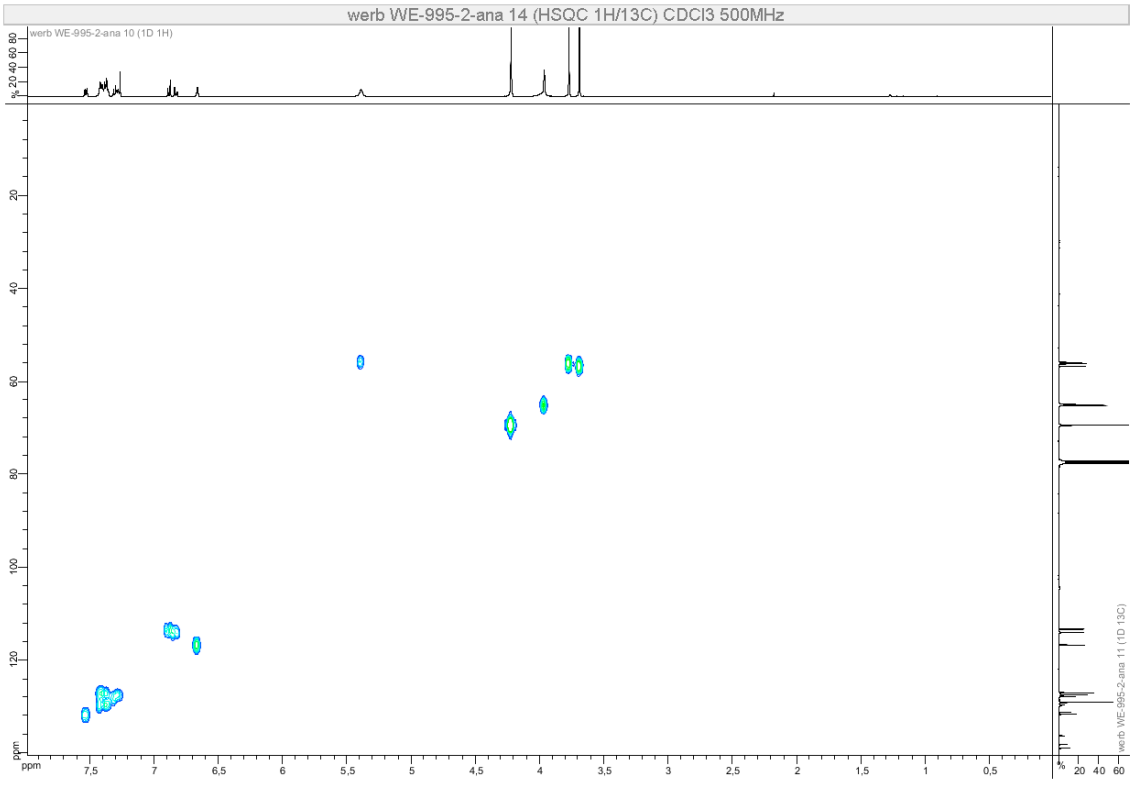
DEPT 135 (126 MHz, $CDCl_3$)



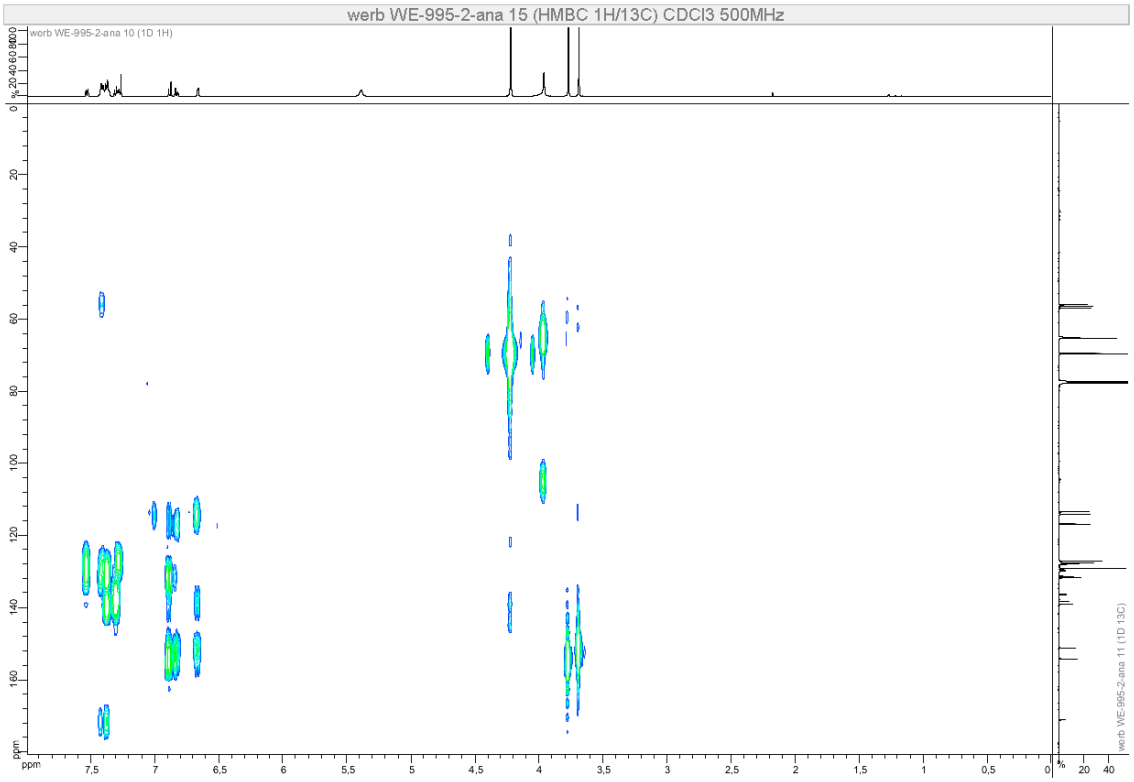
COSY (500 MHz, $CDCl_3$)



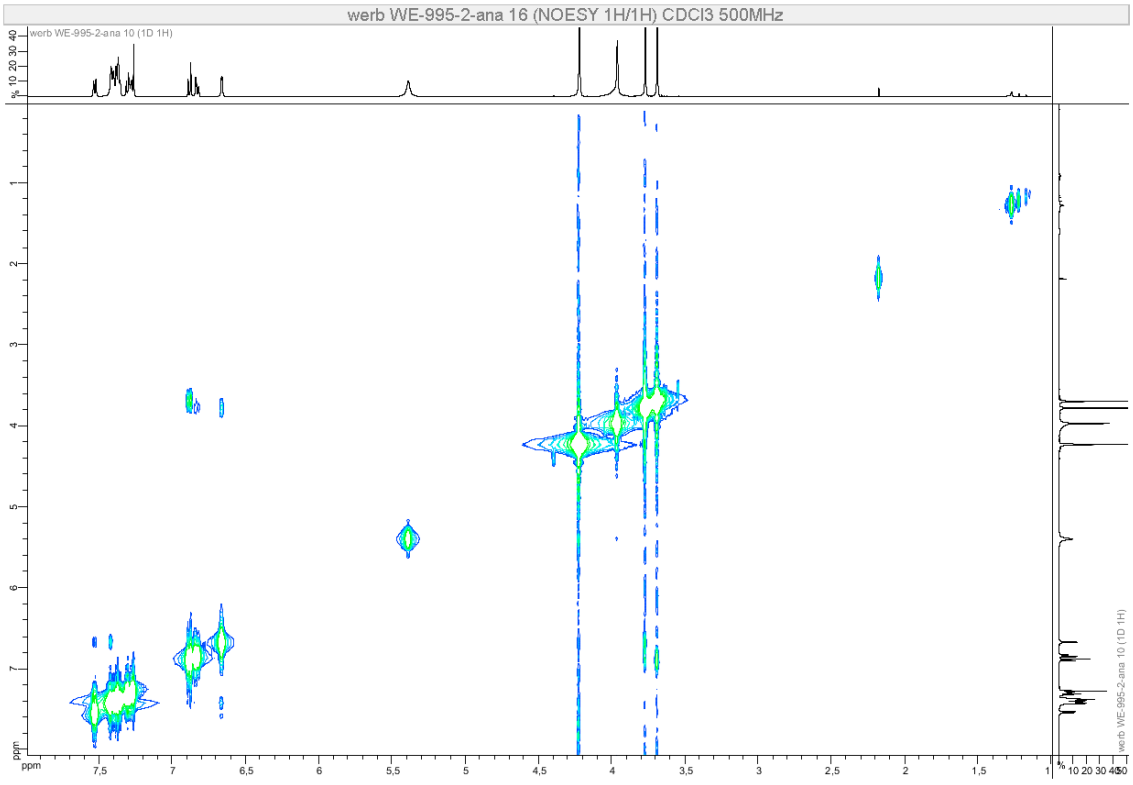
HSQC (500 MHz, $CDCl_3$)



HMBC (500 MHz, $CDCl_3$)

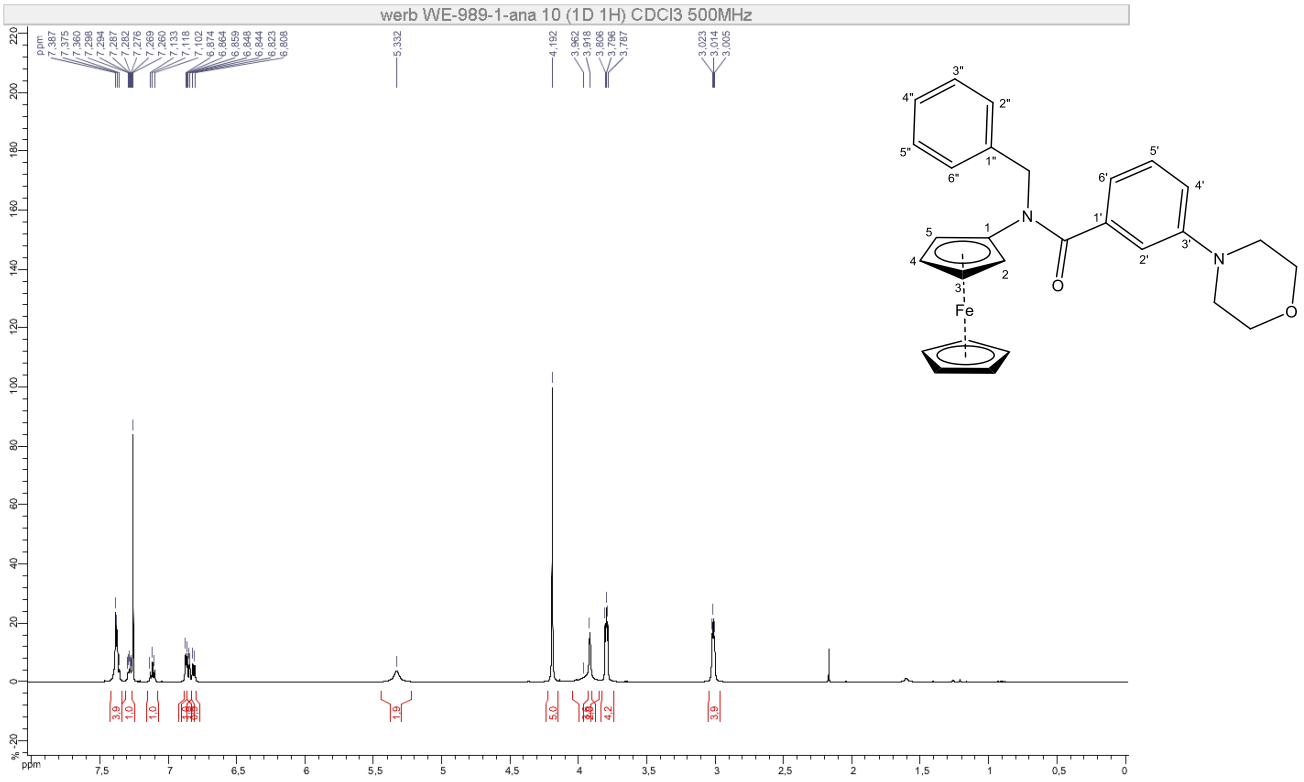


NOESY (500 MHz, $CDCl_3$)

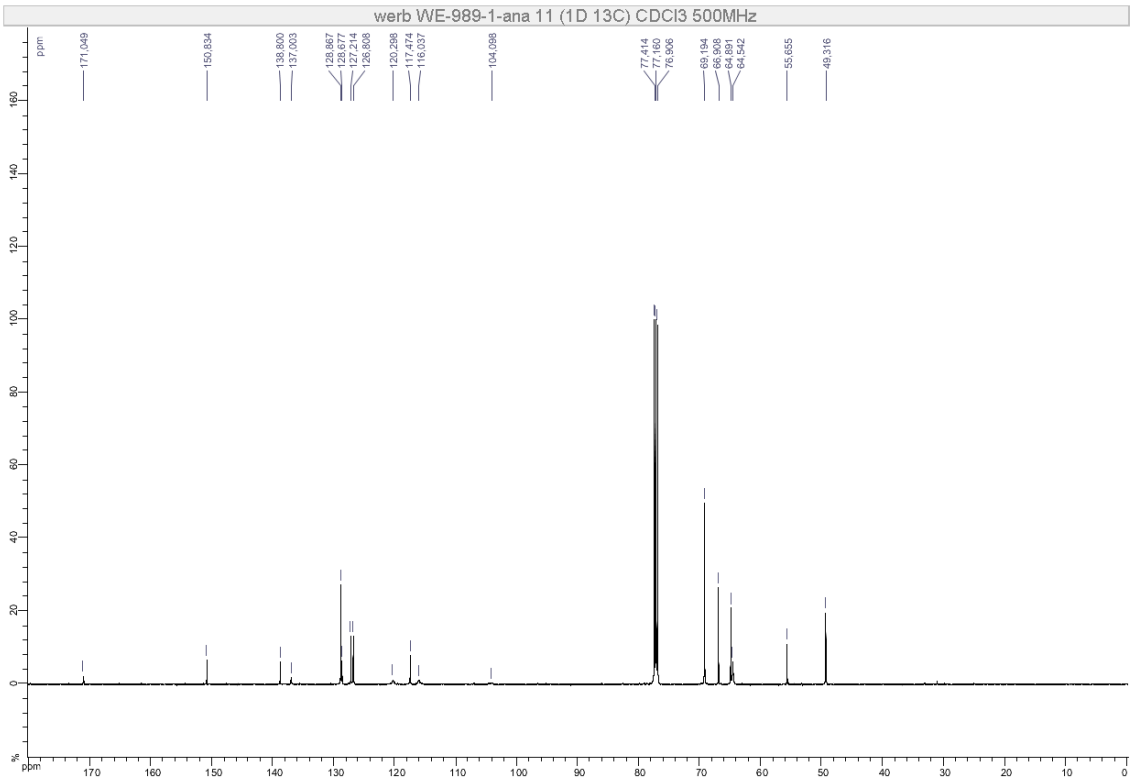


N-Benzyl-*N*-ferrocenyl-3-(*N*-morpholino)benzamide (2-PF2)

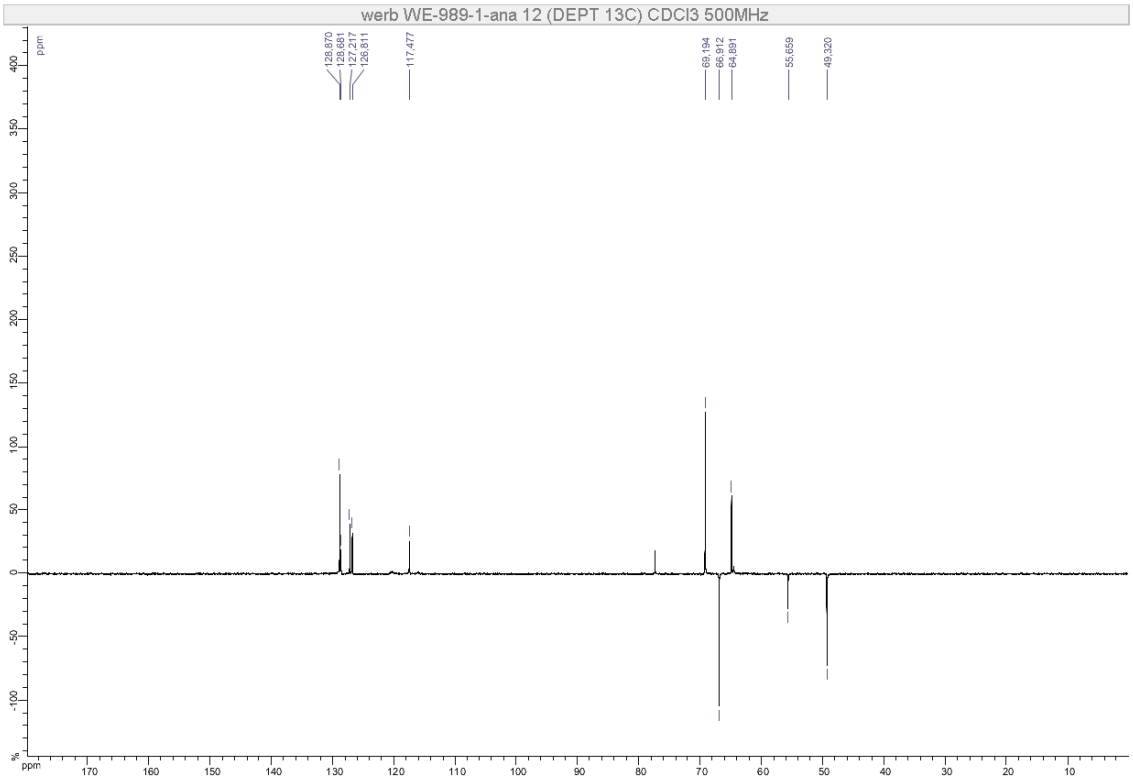
^{1}H NMR (500 MHz, $CDCl_3$)



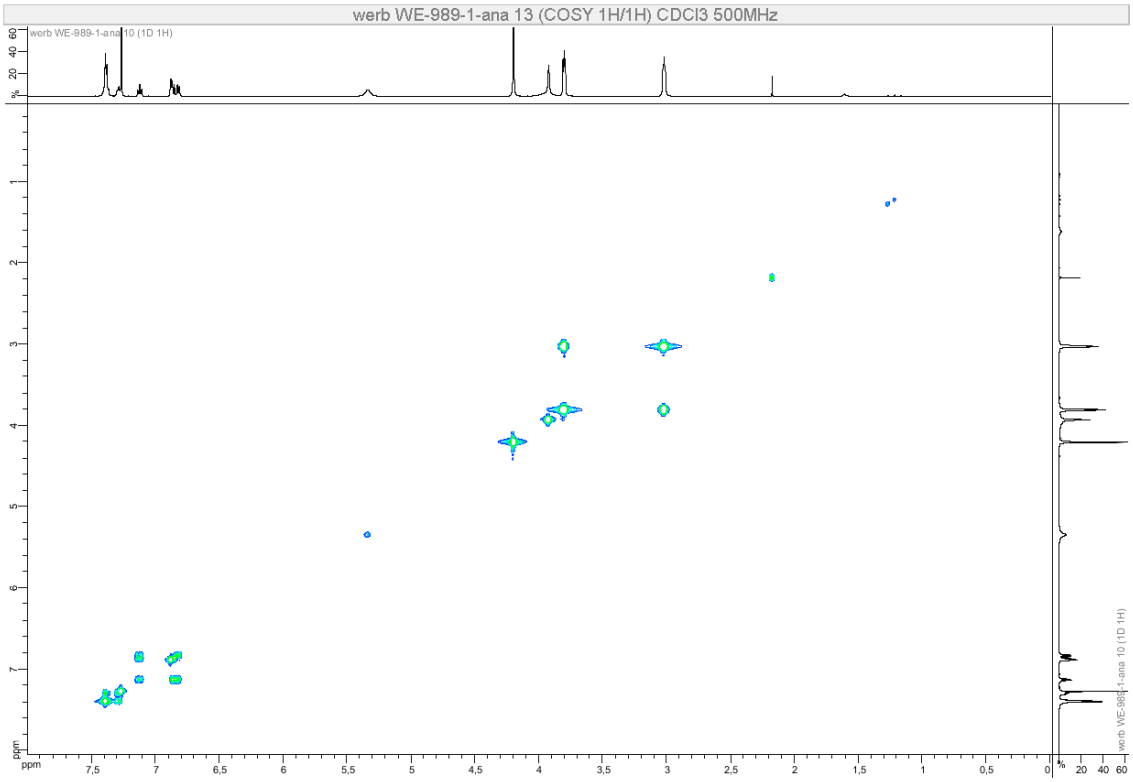
^{13}C NMR (126 MHz, $CDCl_3$)



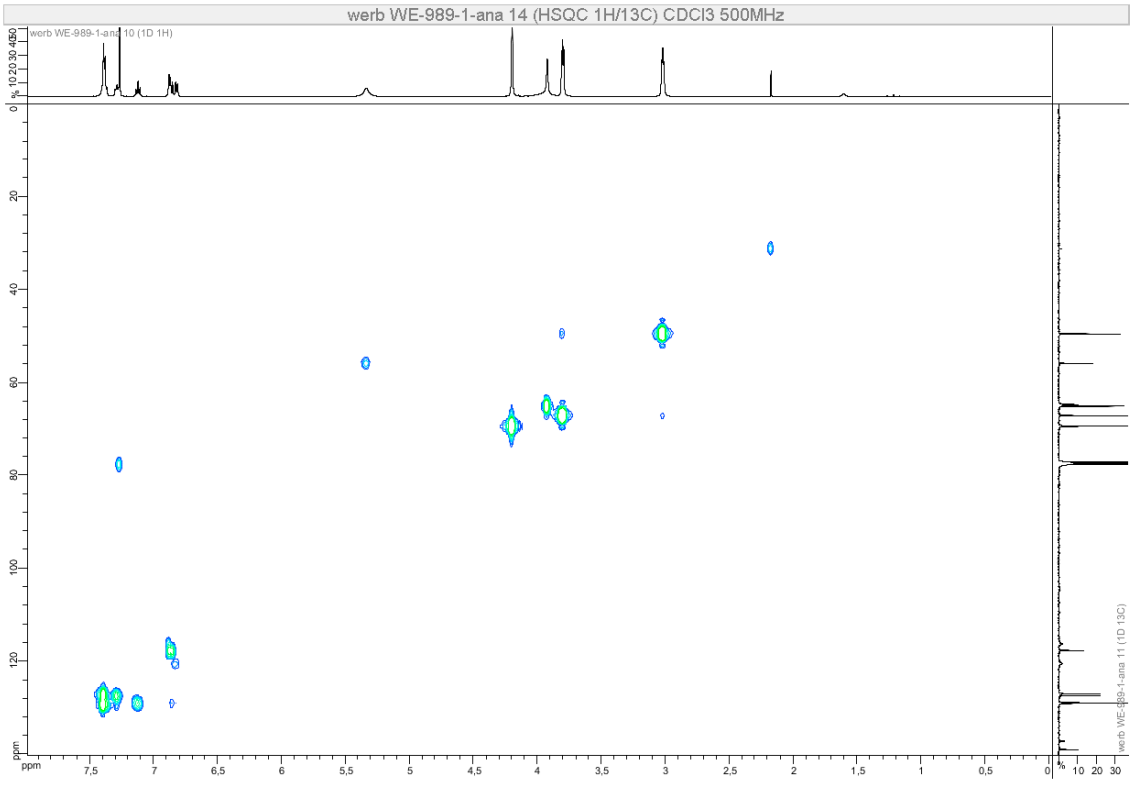
DEPT 135 (126 MHz, $CDCl_3$)



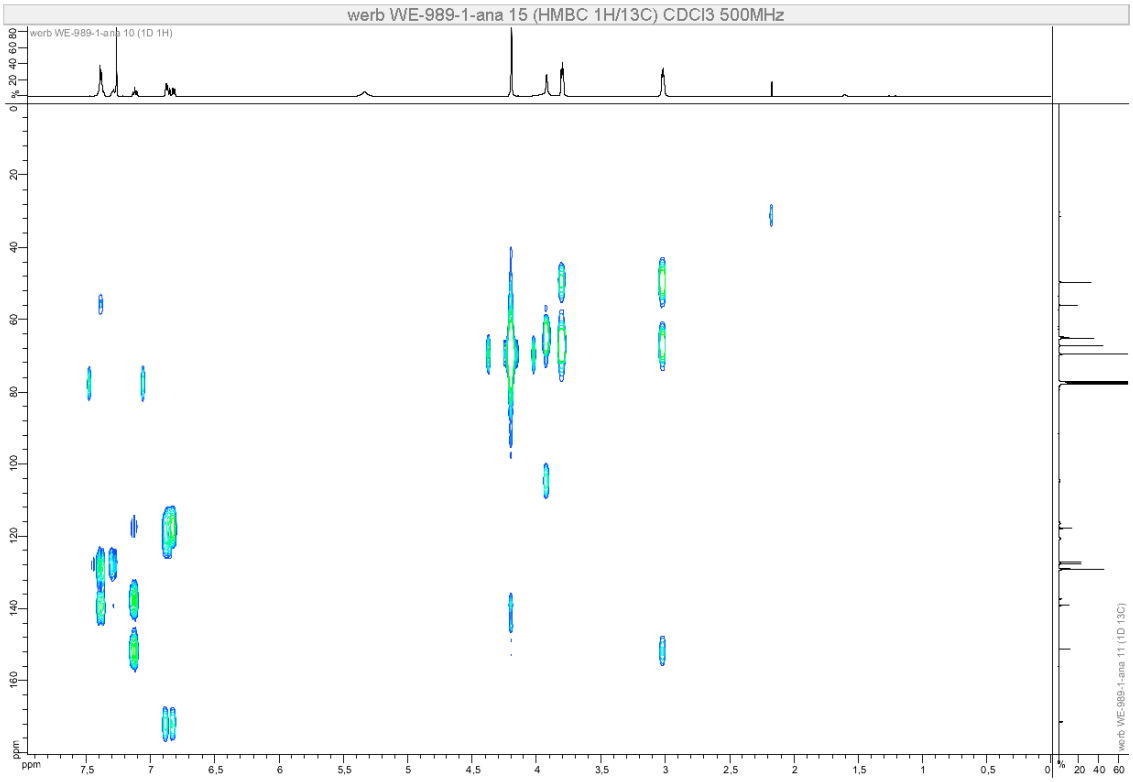
COSY (500 MHz, $CDCl_3$)



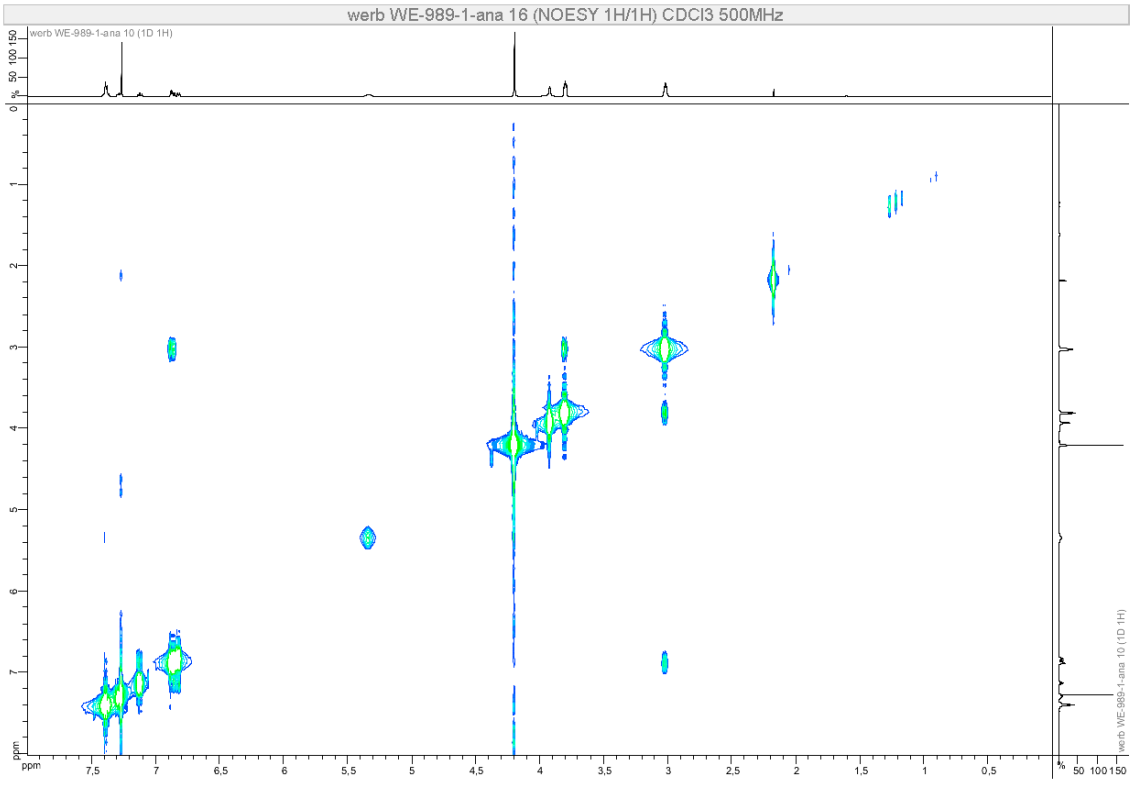
HSQC (500 MHz, $CDCl_3$)



HMBC (500 MHz, $CDCl_3$)

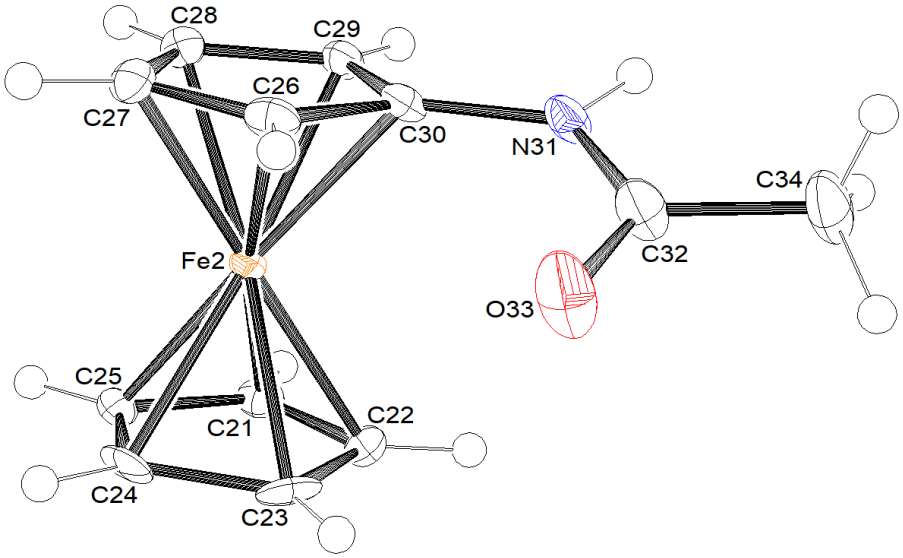


NOESY (500 MHz, $CDCl_3$)

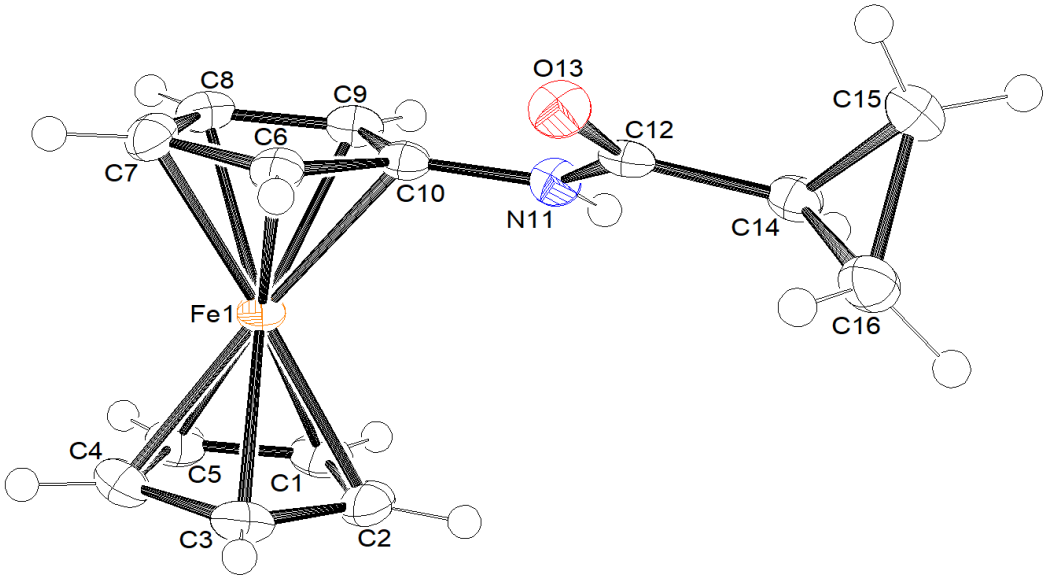


ORTEP Diagrams (50% probability)

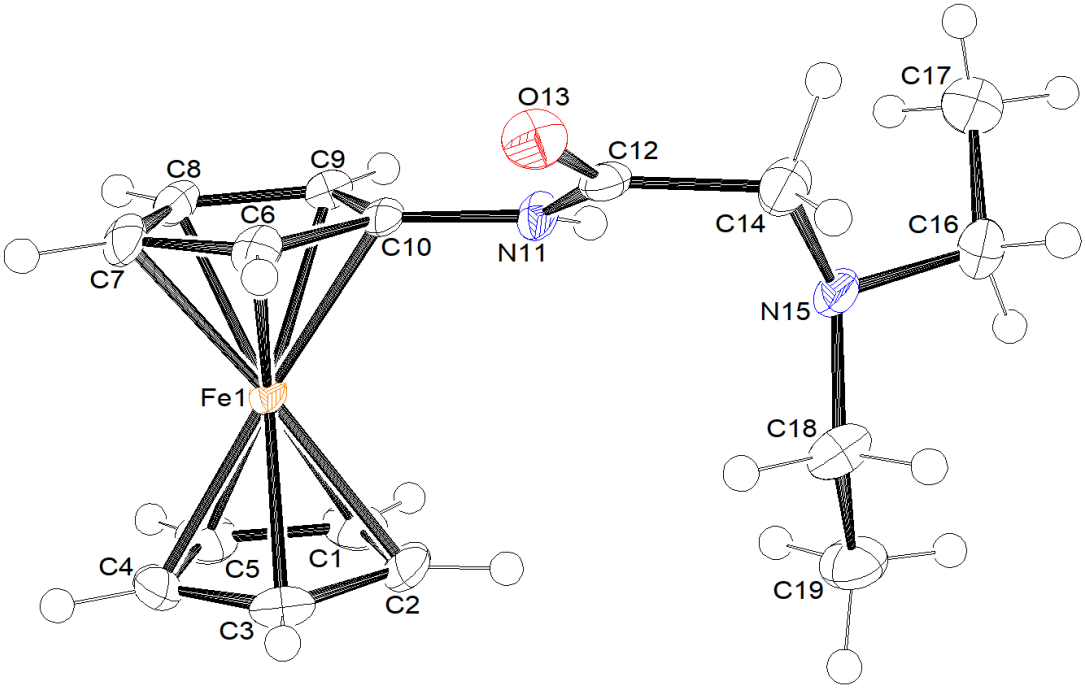
***N*-Ferrocenylacetamide (2-Me**; mixture of rotamers)



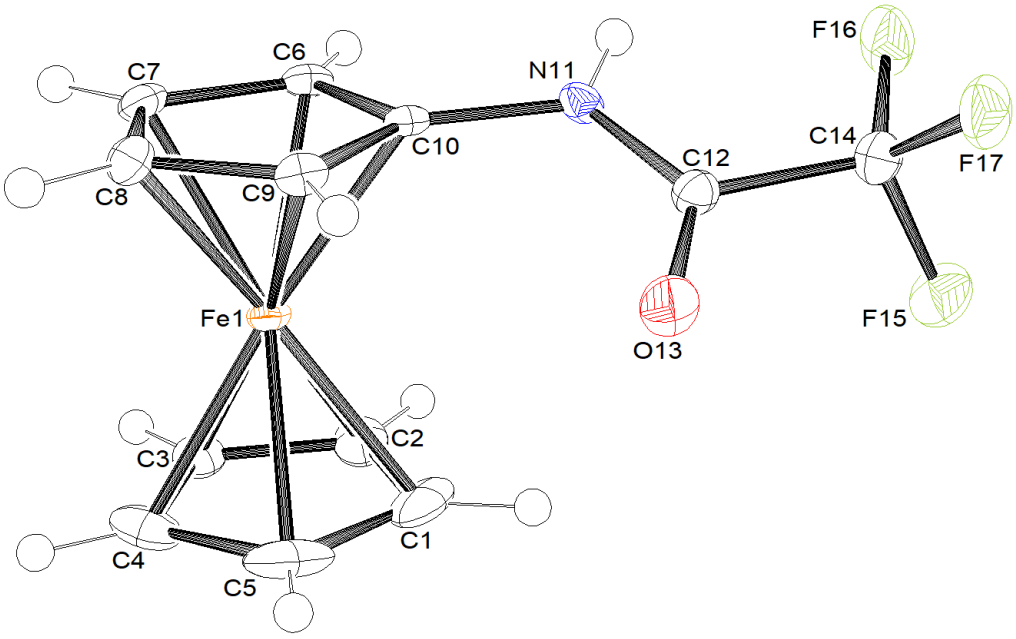
***N*-(Ferrocenyl)cyclopropanecarboxamide (2-cPr)**



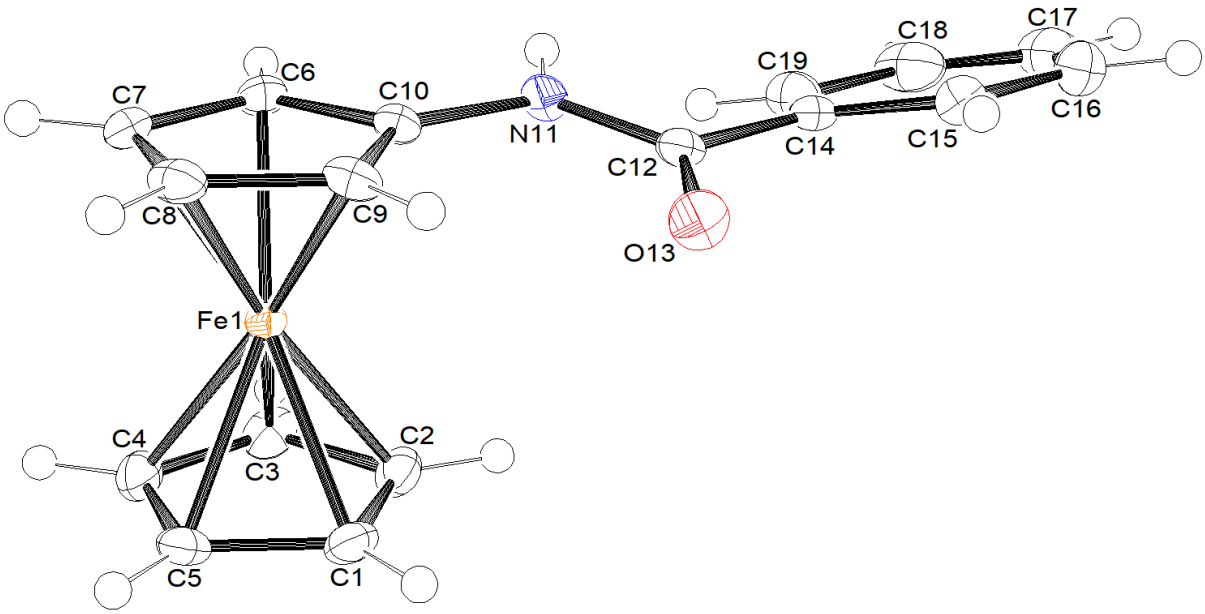
2-(Diethylamino)-*N*-ferrocenylacetamide (2-CH_2NEt_2)



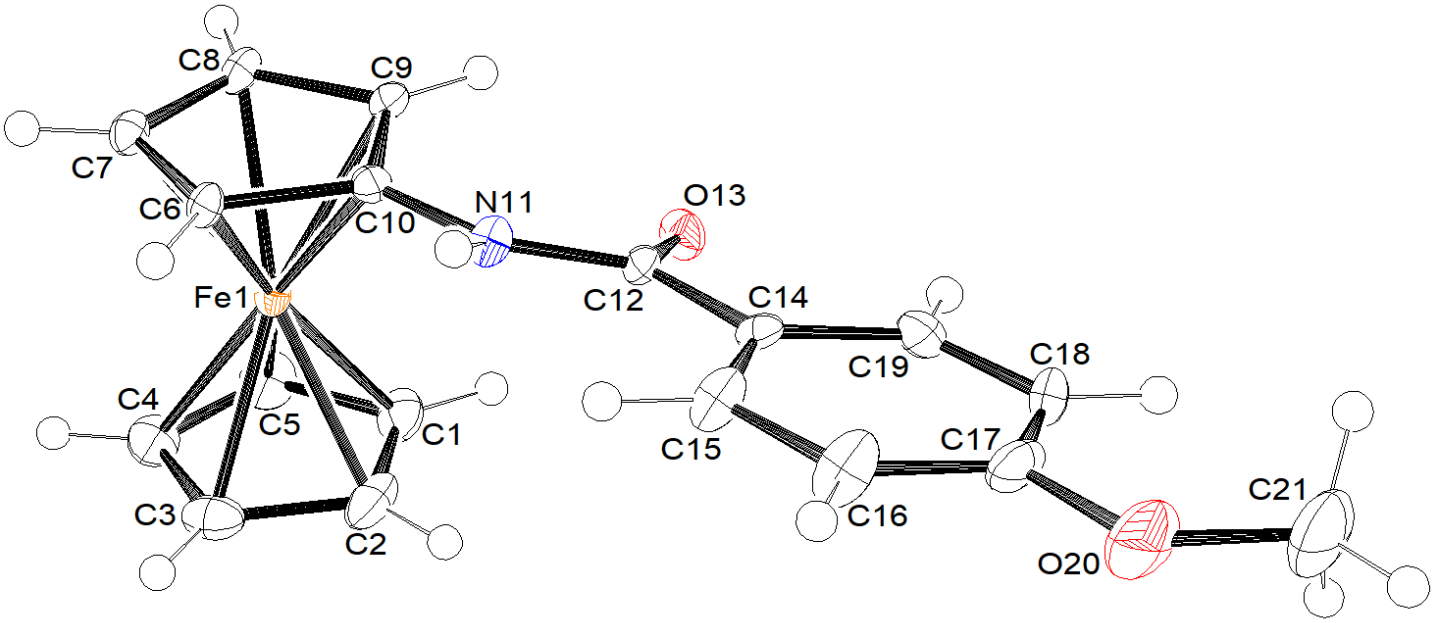
***N*-(Ferrocenyl)trifluoroacetamide (2-CF_3)**



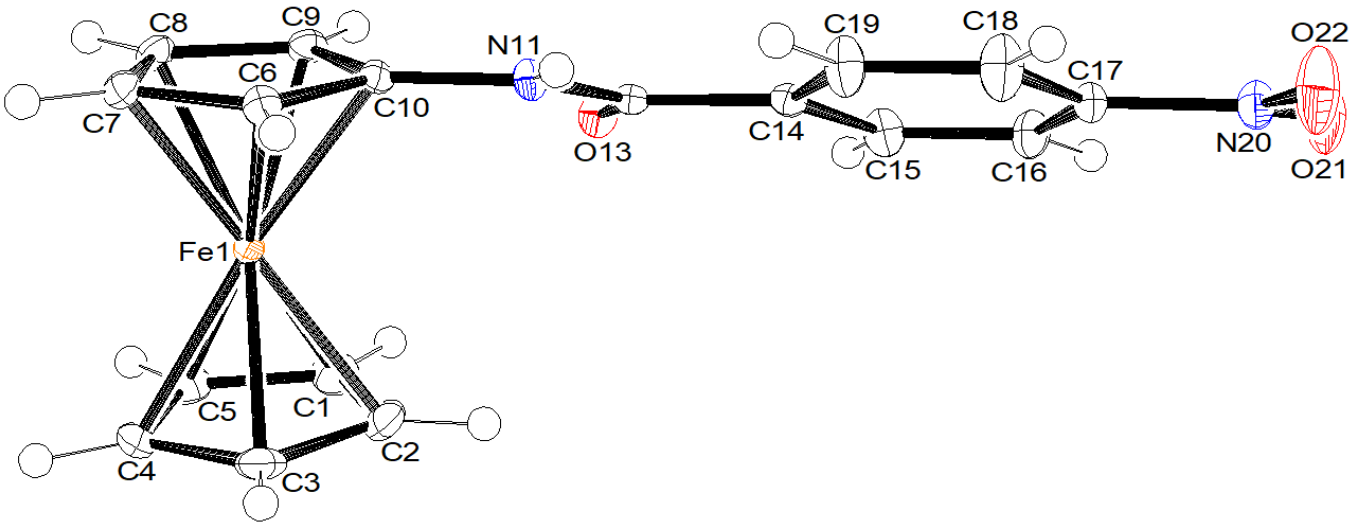
***N*-Ferrocenylbenzamide (2-Ph)**



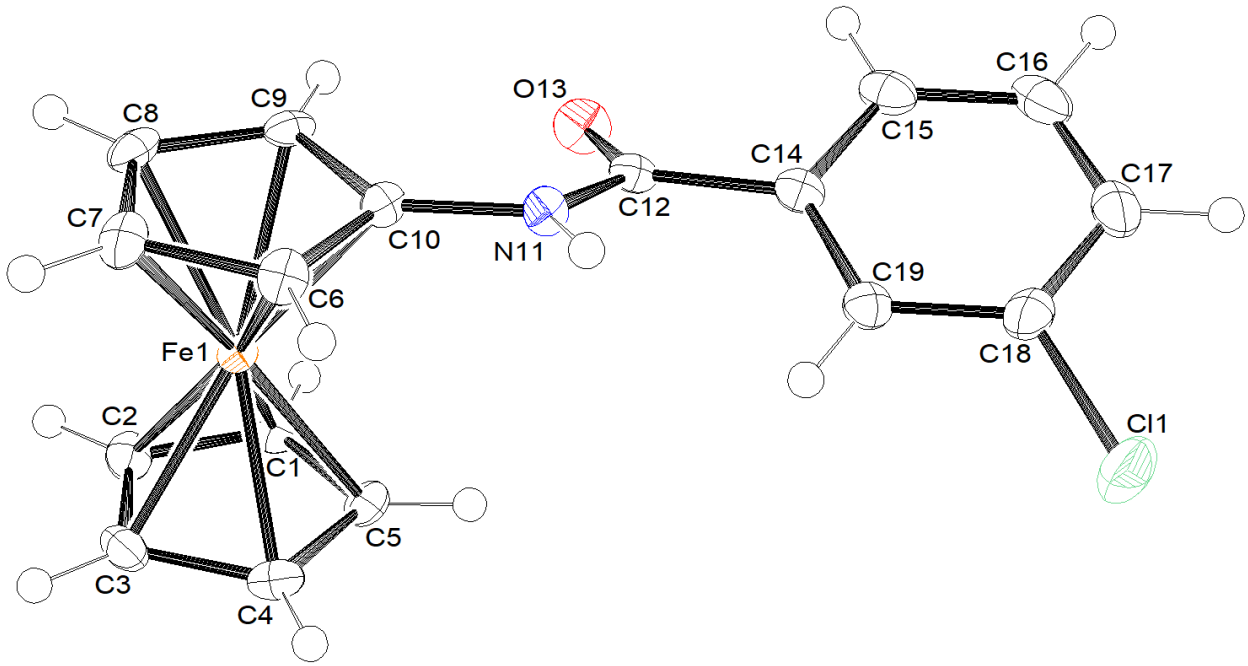
***N*-Ferrocenyl-4-methoxybenzamide (2-4OMe)**



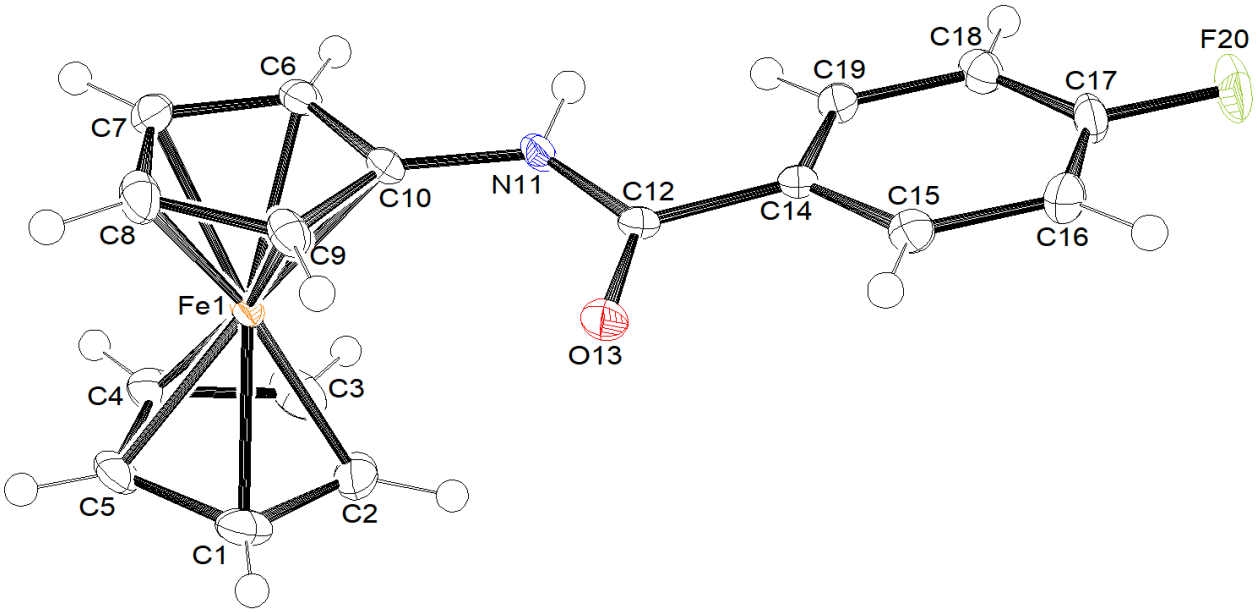
_N_-Ferrocenyl-4-nitrobenzamide (2-4NO$_2$)



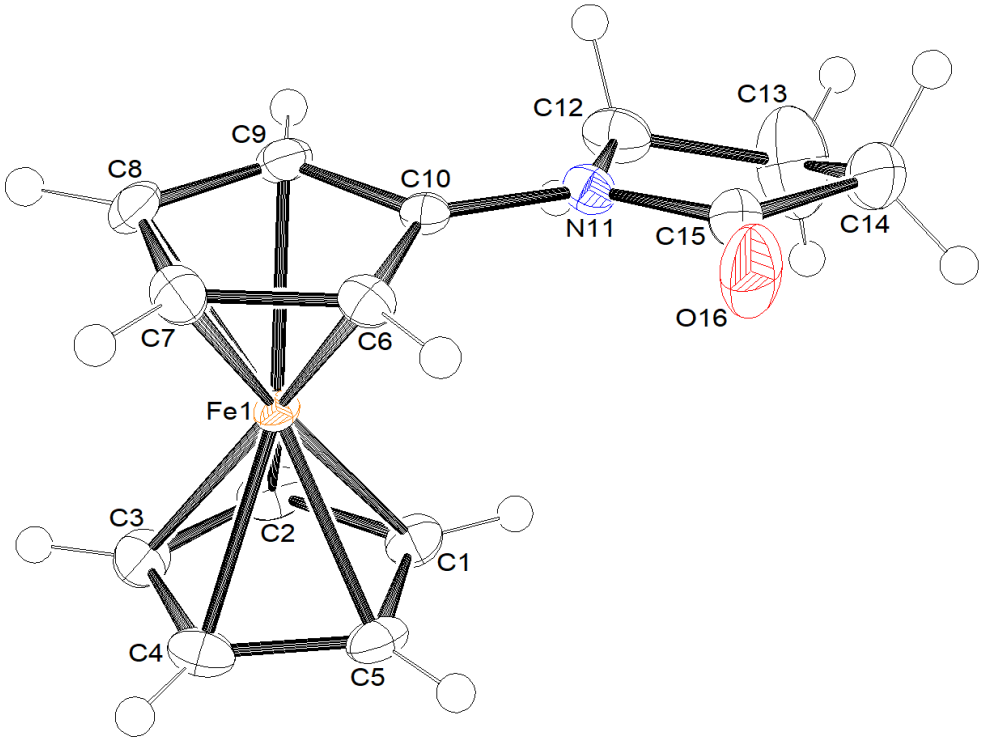
3-Chloro-_N_-ferrocenylbenzamide (2-3Cl)



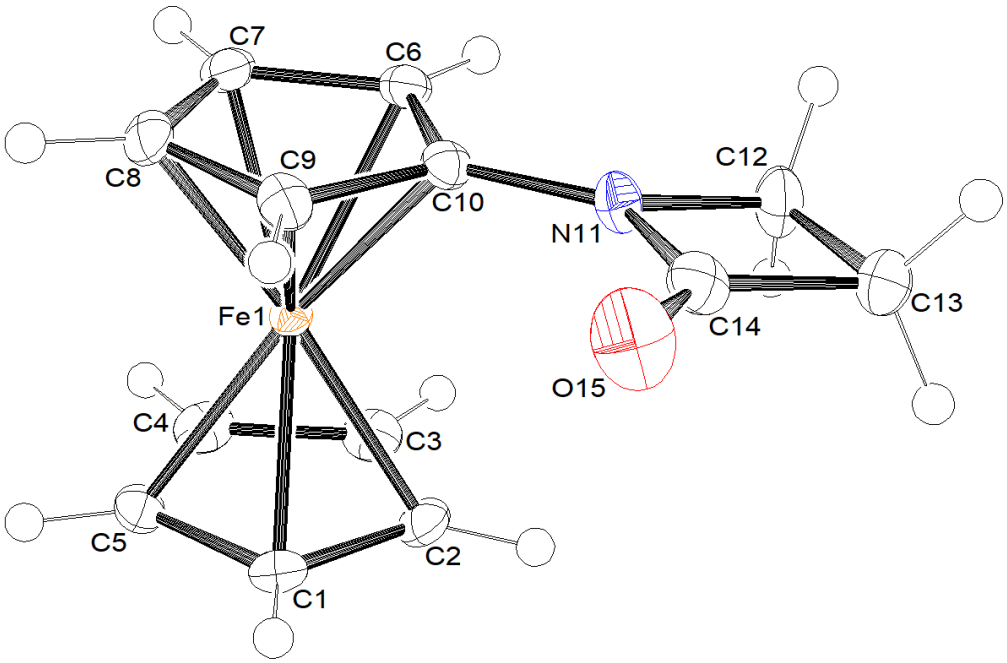
_N_-Ferrocenyl-4-fluorobenzamide (2-4F)



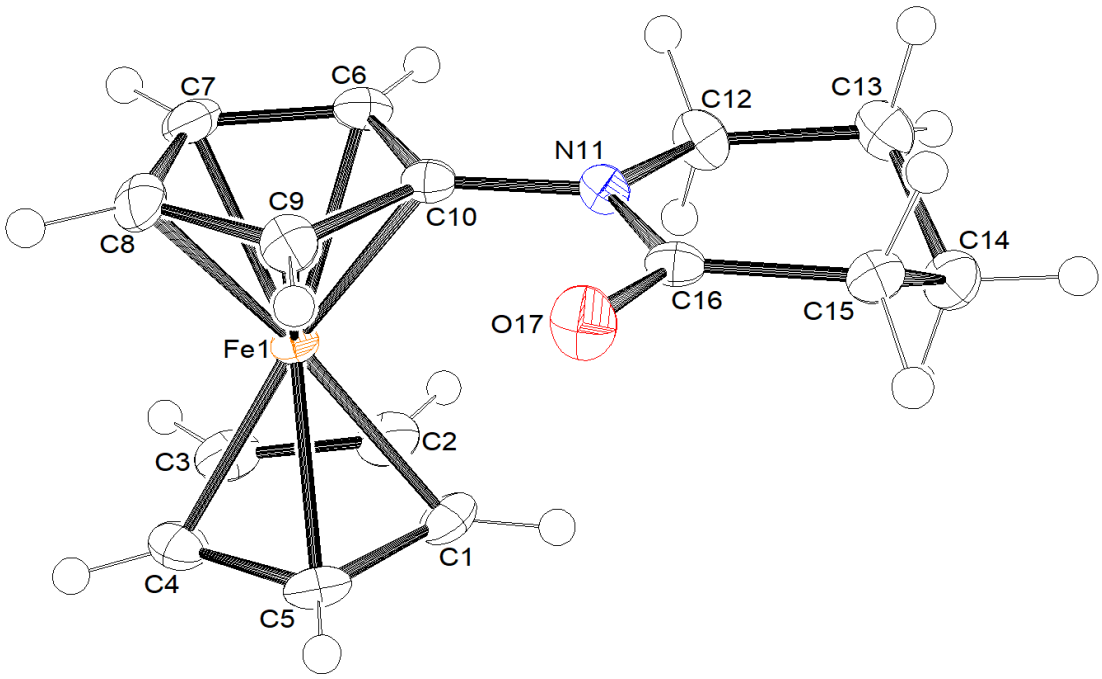
_N_-Ferrocenylpyrrolidinone (2-Pyrr)



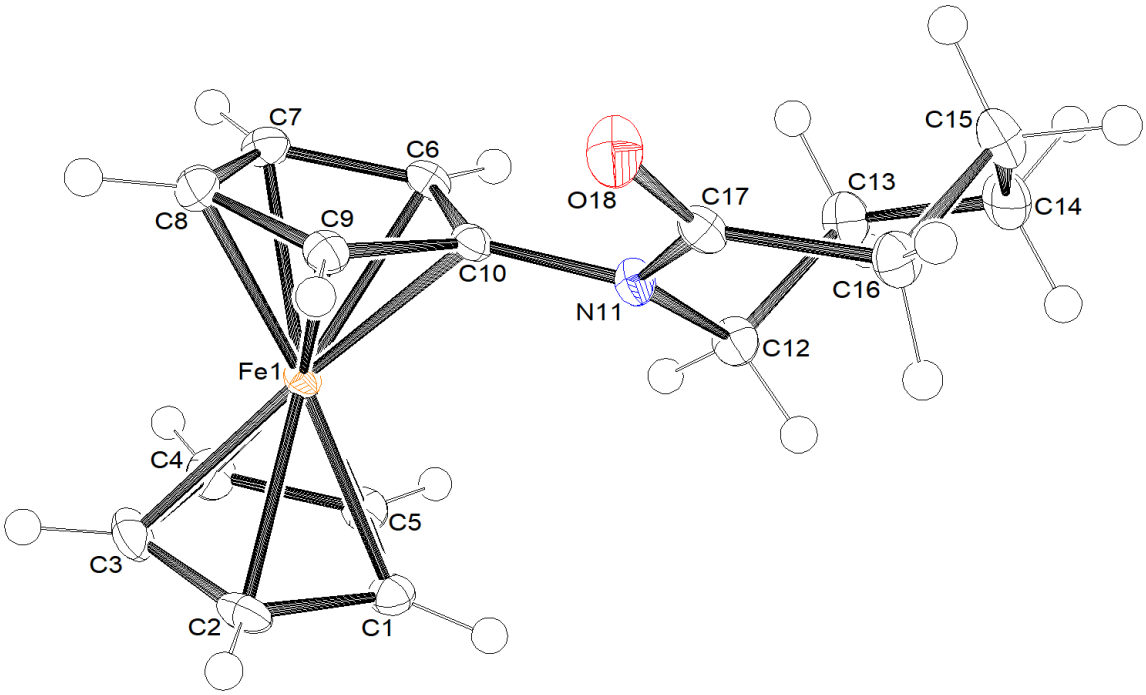
***N*-Ferrocenyl-2-azetidinone (2-Azet)**



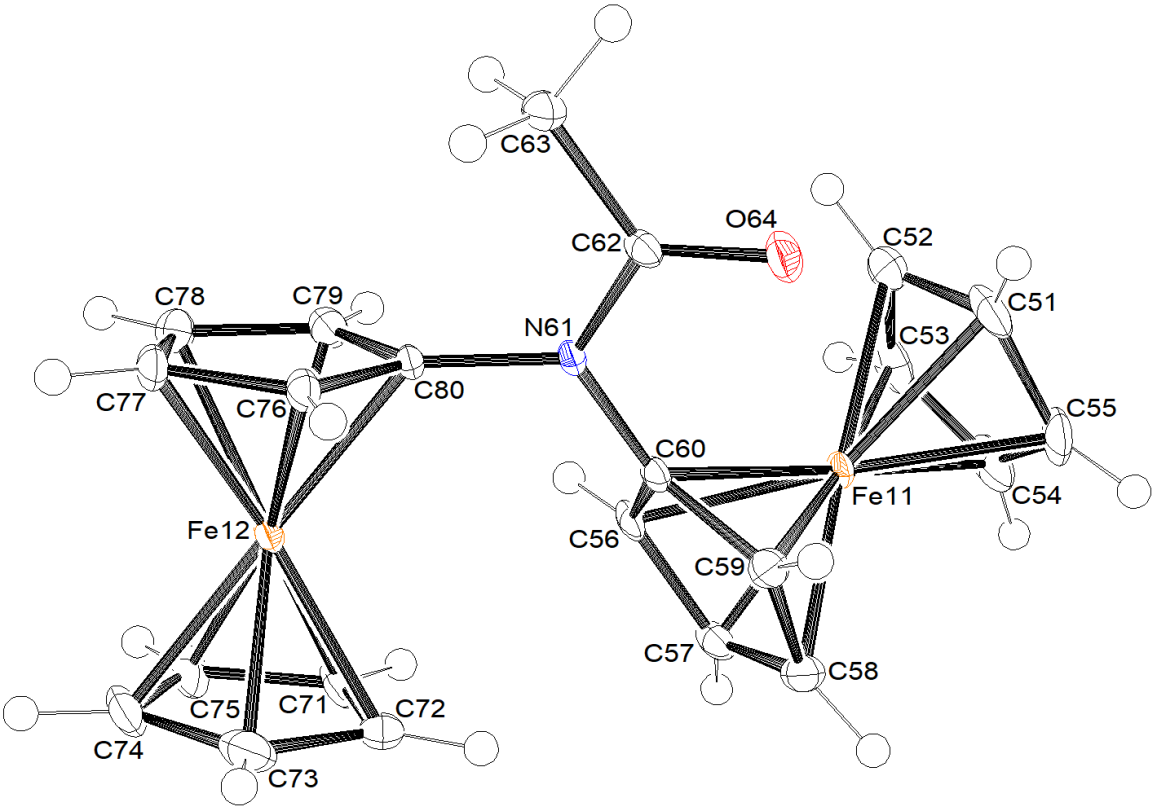
***N*-Ferrocenyl-2-piperidinone (2-Pipe)**



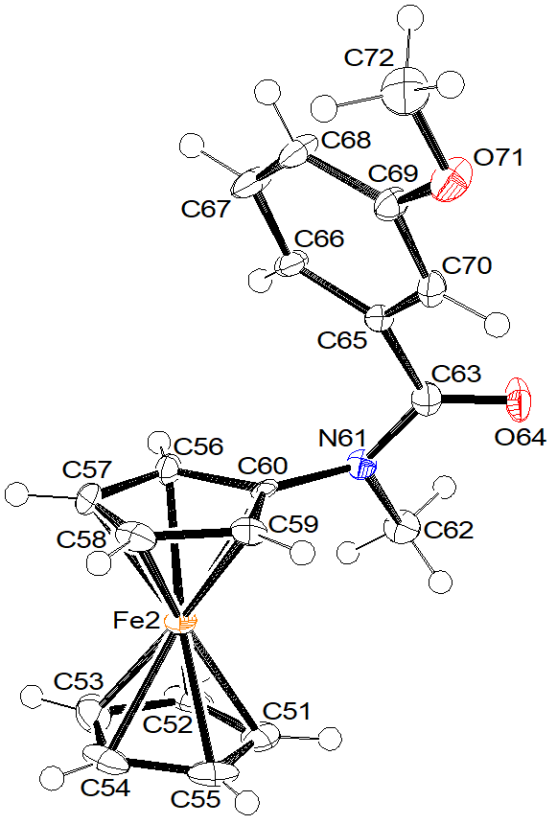
***N*-(Ferrocenyl)hexahydro-2-azepinone (2-Azep)**



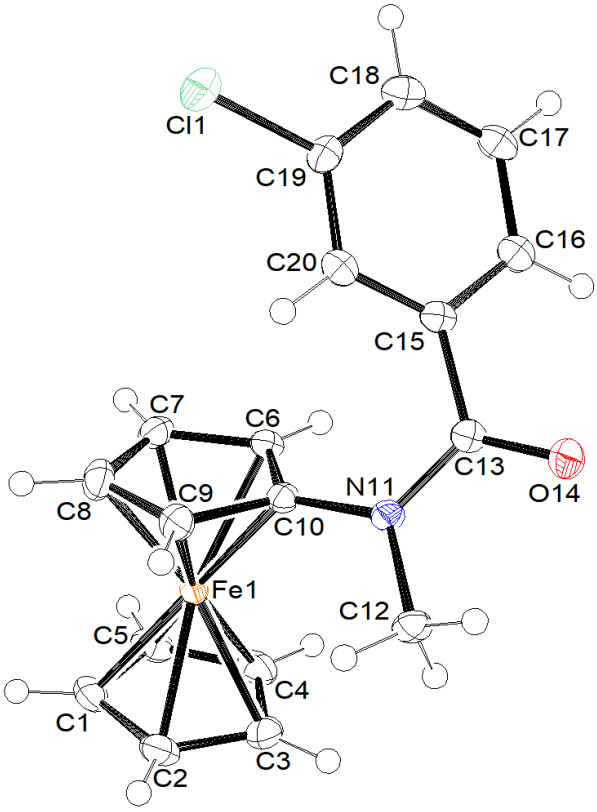
***N*,*N*-Diferrocenylacetamide (2-AcFc)**



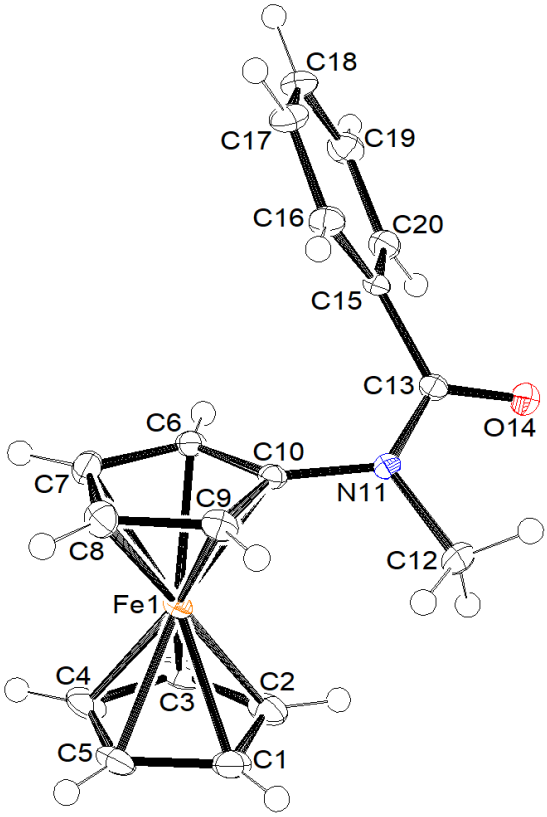
_N_-Ferrocenyl-3-methoxy-_N_-methylbenzamide (2-3OMeMe)



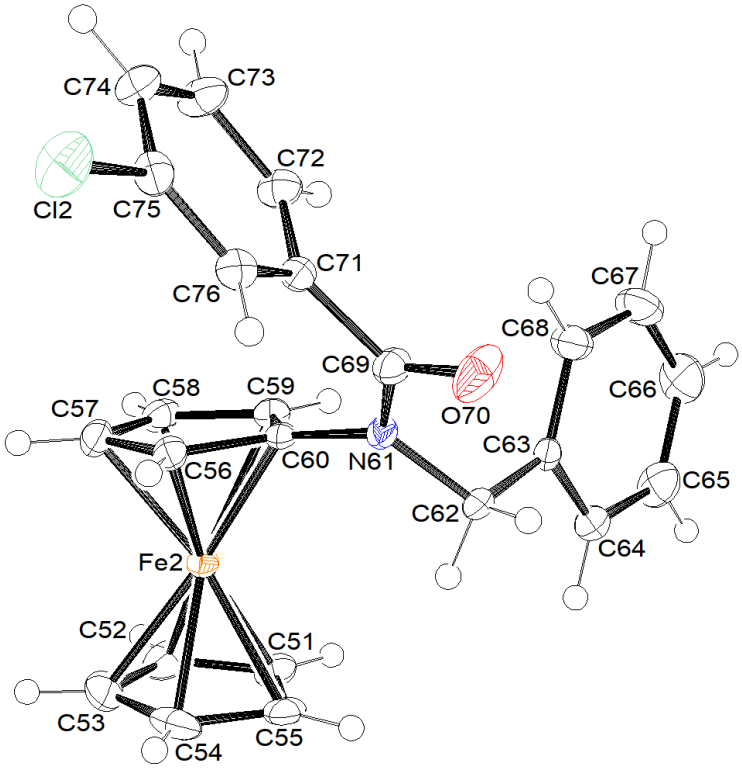
3-Chloro-_N_-ferrocenyl-_N_-methylbenzamide (2-3ClMe)



_N_-Ferrocenyl-_N_-methylbenzamide (2-PhMe)



_N_-Benzyl-3-chloro-_N_-ferrocenylbenzamide (2-3ClBn)



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