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LiCl-effect on asymmetric intramolecular hydroamination catalyzed by binaphthylamido yttrium complexes

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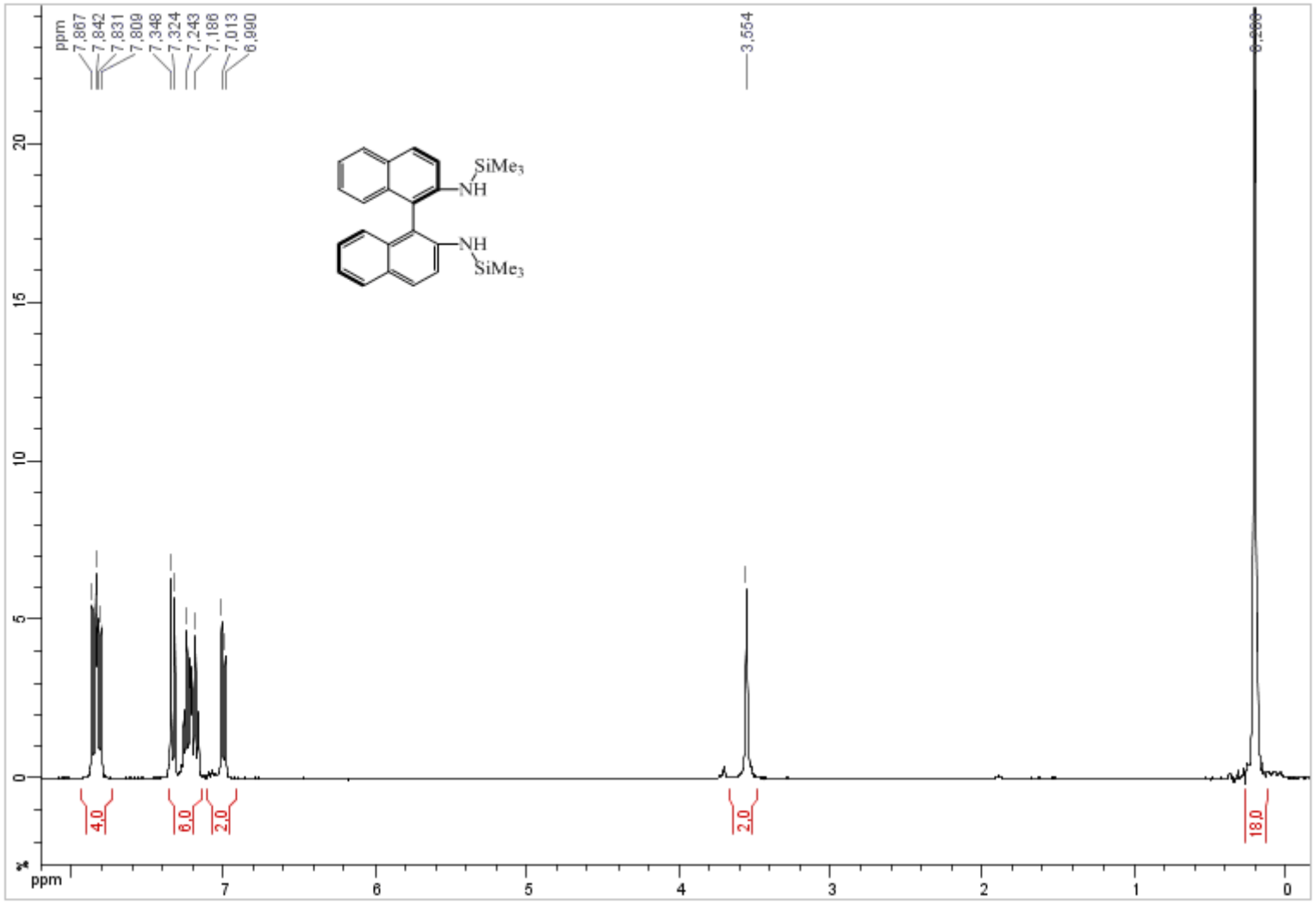
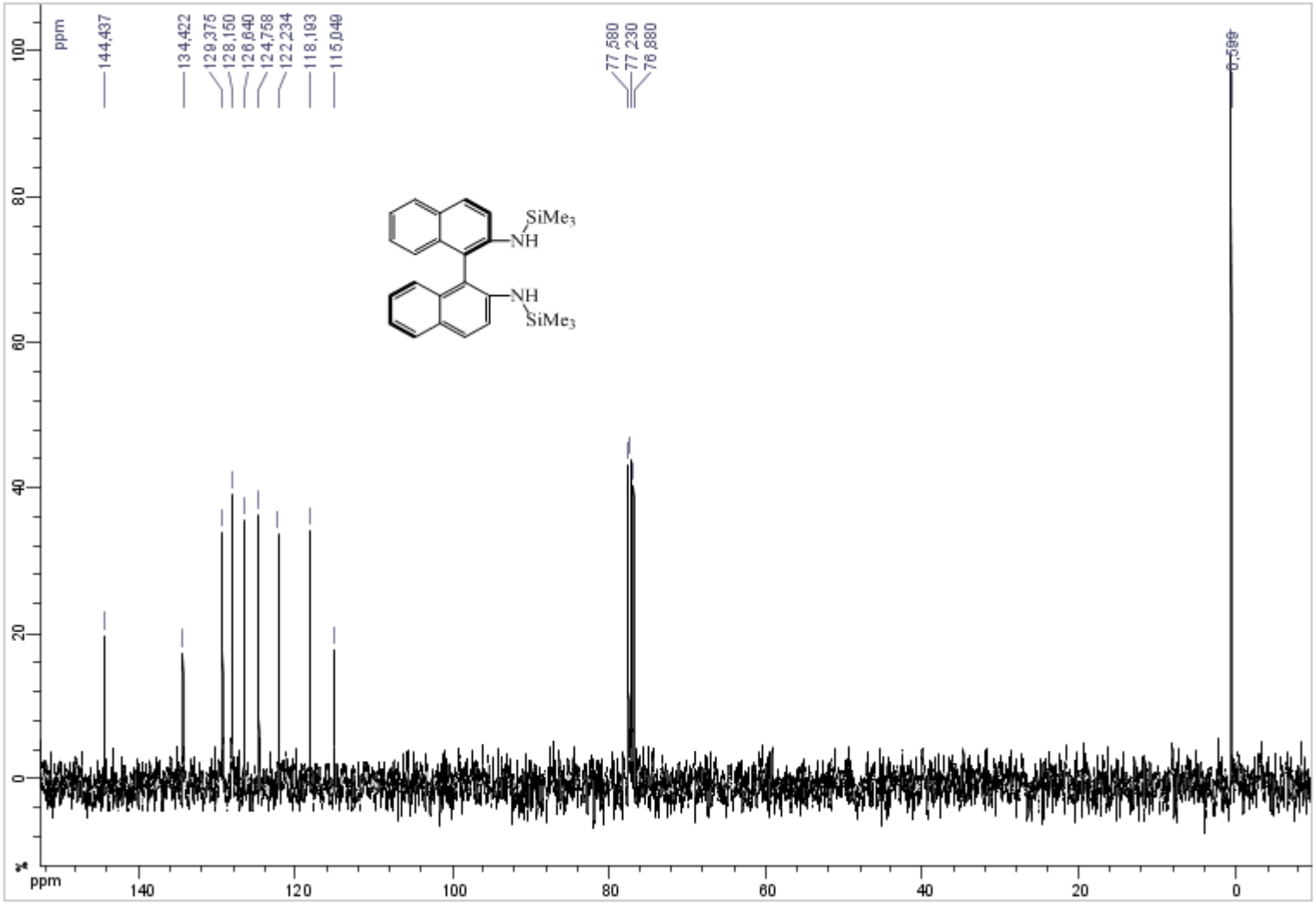
^{1}H NMR spectrum of (R)-N^2,N^2'-bis(trimethylsilyl)-[1,1'-binaphthalene]-2,2'-diamine ligand (2)



^{13}C NMR spectrum of (R)-N^2,N^2'-bis(trimethylsilyl)-[1,1'-binaphthalene]-2,2'-diamine ligand (2)



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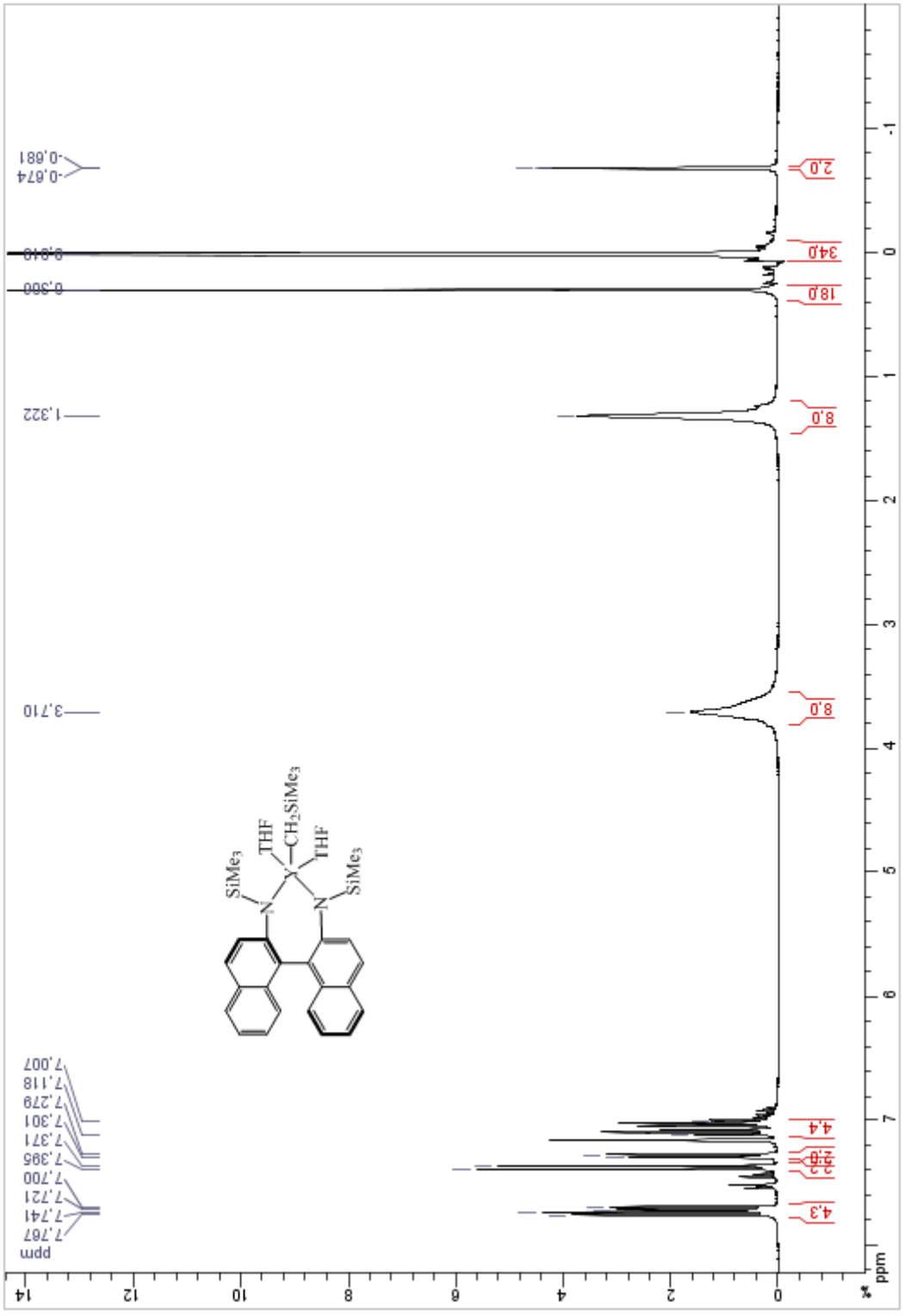
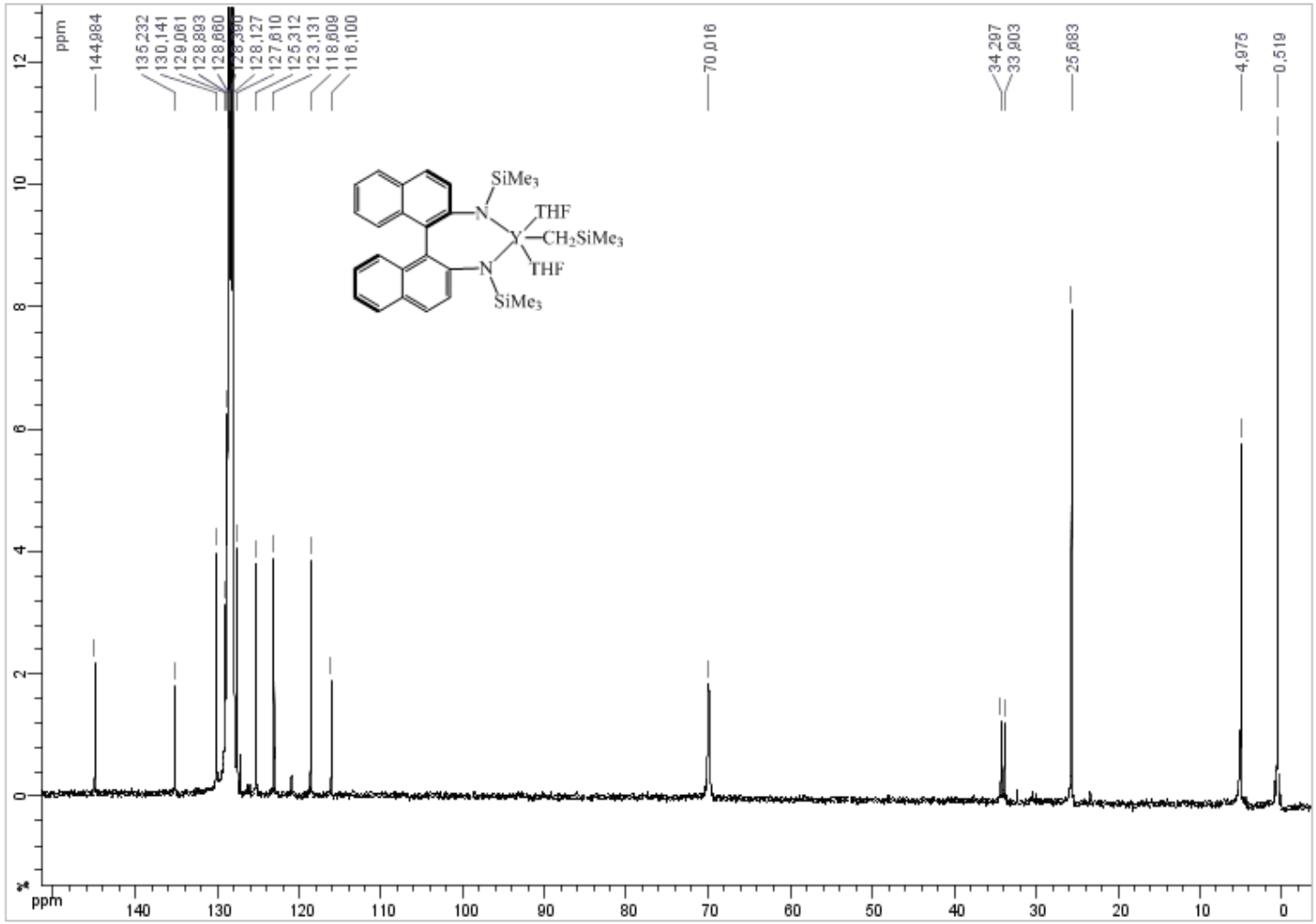
^{1}H NMR spectrum of in situ generated [{(R)-$C_{20}H_{12}$(NSiMe$_3$)$_2$}Y{CH_2SiMe_3}THF$_2$] (2a)



^{13}C NMR spectrum of in situ generated [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}Y{CH_2SiMe_3}THF_2] (2a)



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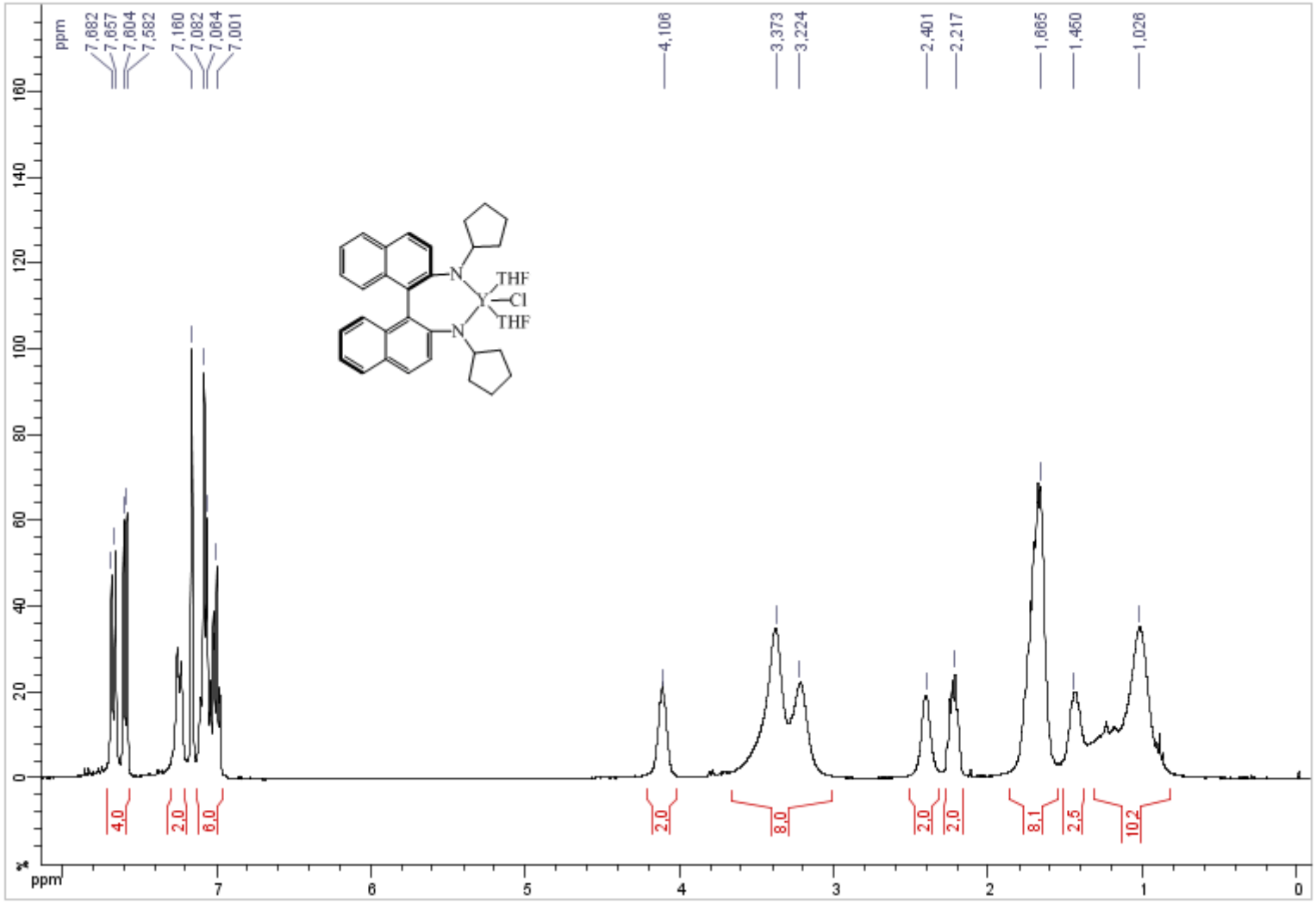
^{1}H NMR spectrum of [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}YCl(THF)$_2$]} (1d)



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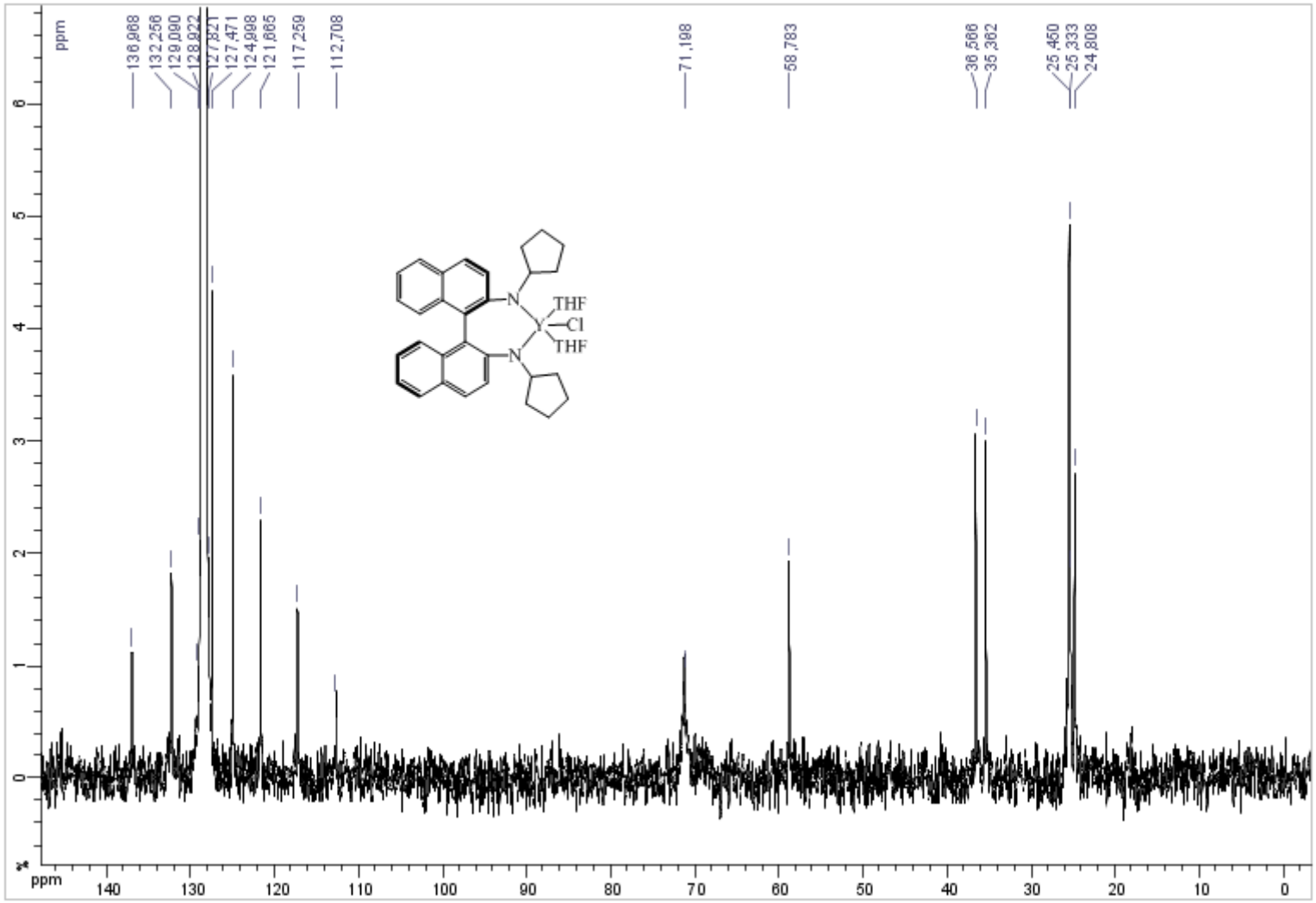

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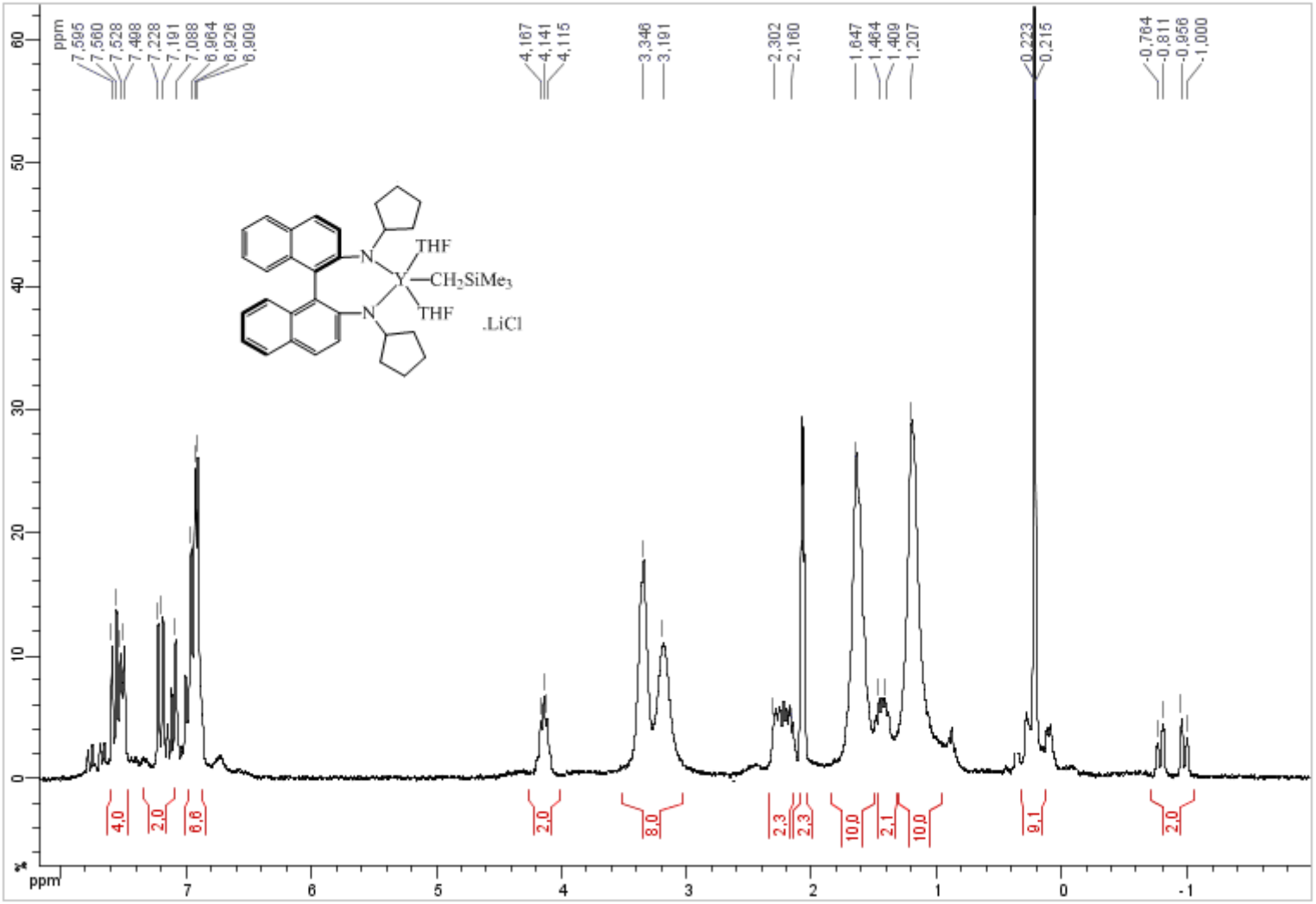
^{1}H NMR spectrum of [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}Y{CH_2SiMe_3}{$LiCl(THF)_2$}] (1a·LiCl)



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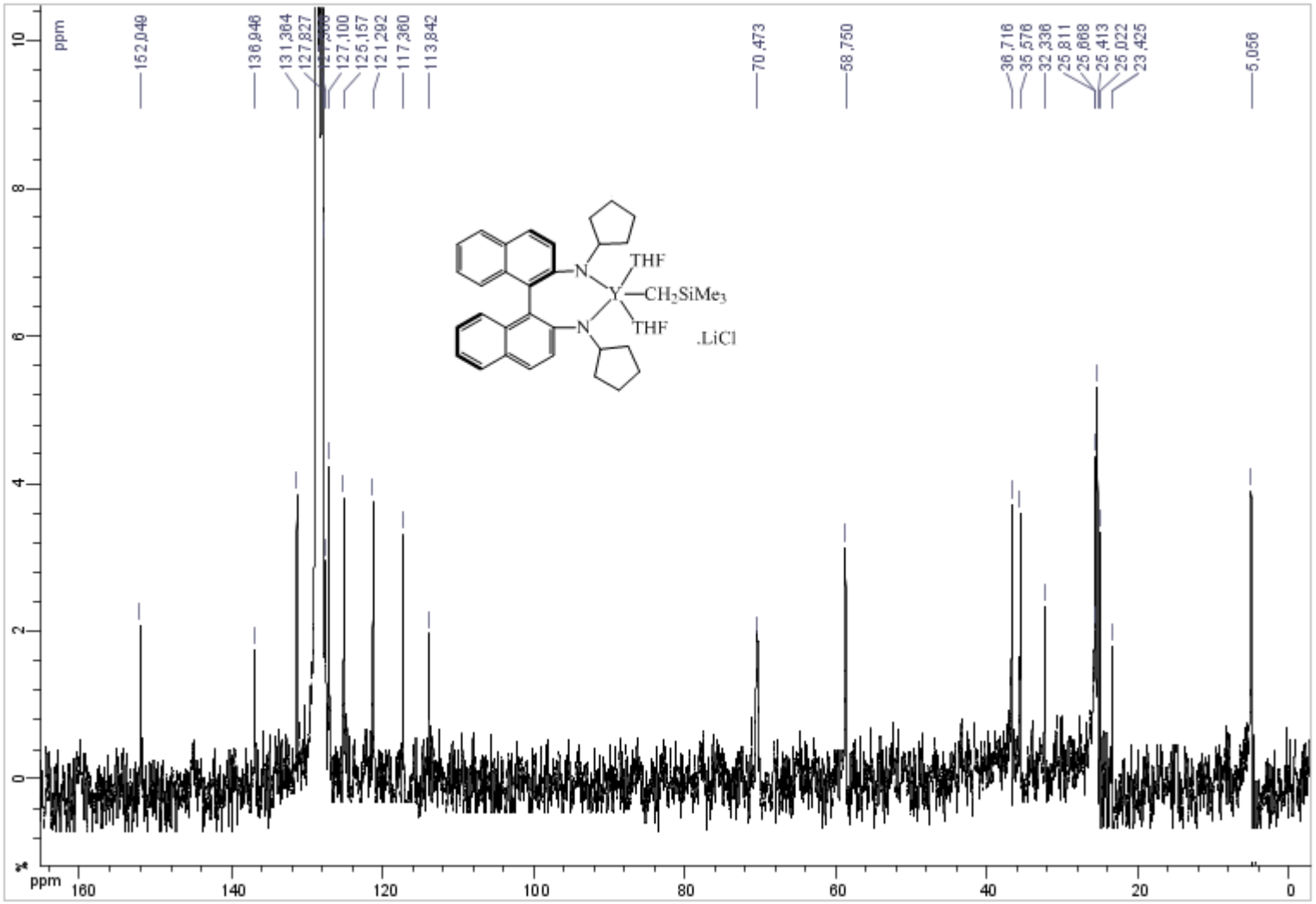
^{13}C NMR spectrum of [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}Y{CH_2SiMe_3}{LiCl$(THF)_2$}] (1a·LiCl)



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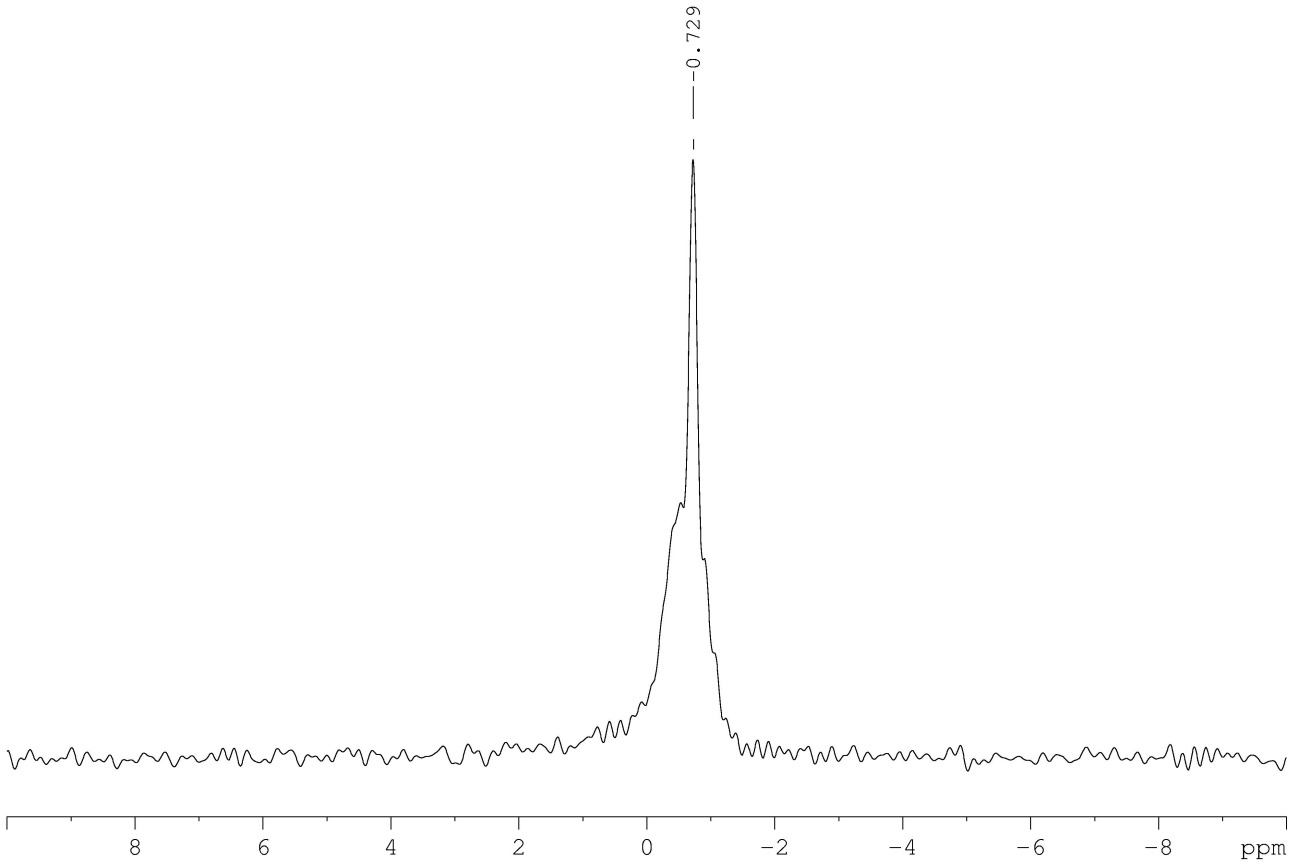
^{7}Li NMR spectrum of [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}Y{CH_2SiMe_3}{LiCl$(THF)_2$}] (1a·LiCl)



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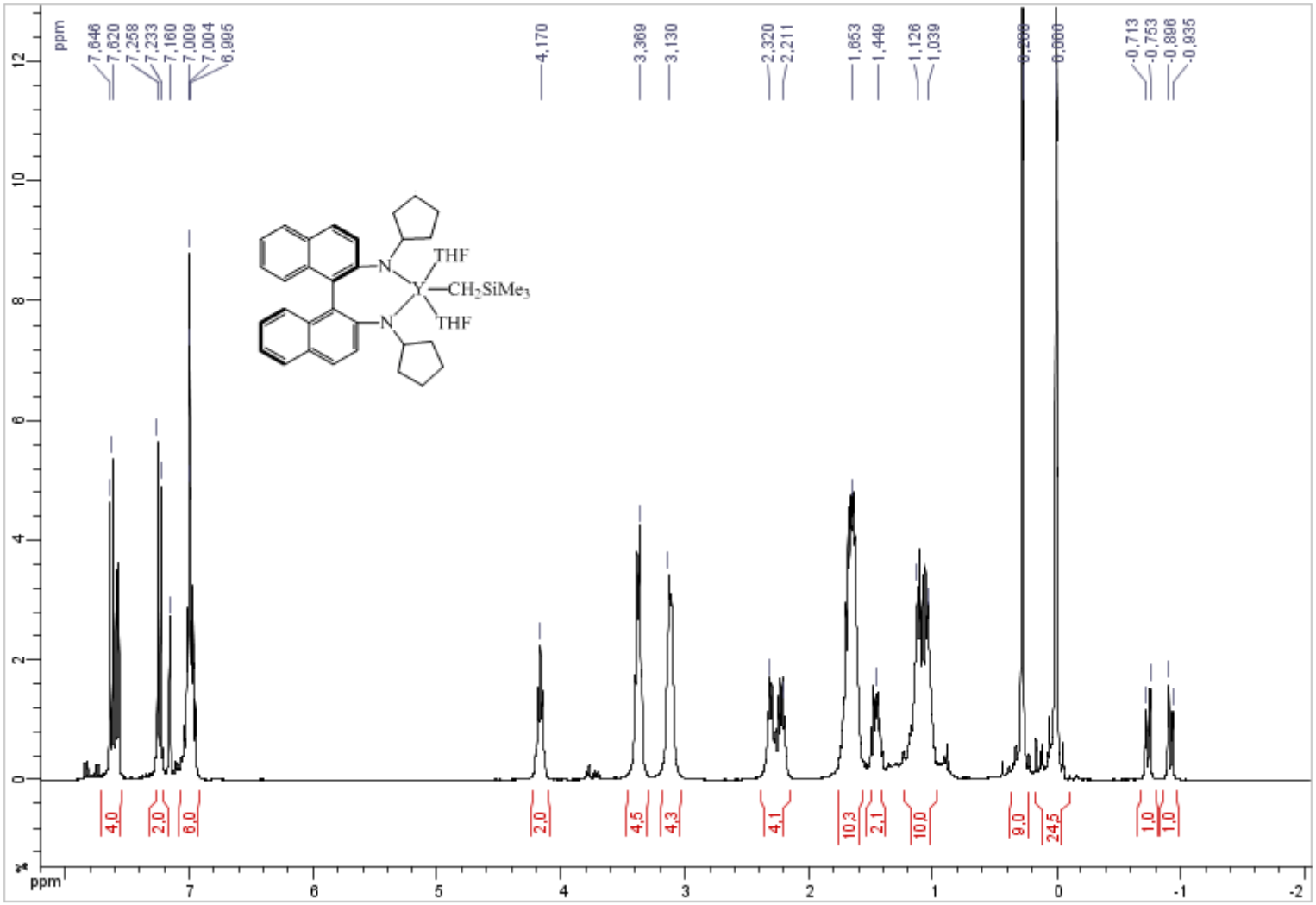
^{1}H NMR spectrum of in situ generated [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}Y{CH_2SiMe_3}THF_2] (1a)



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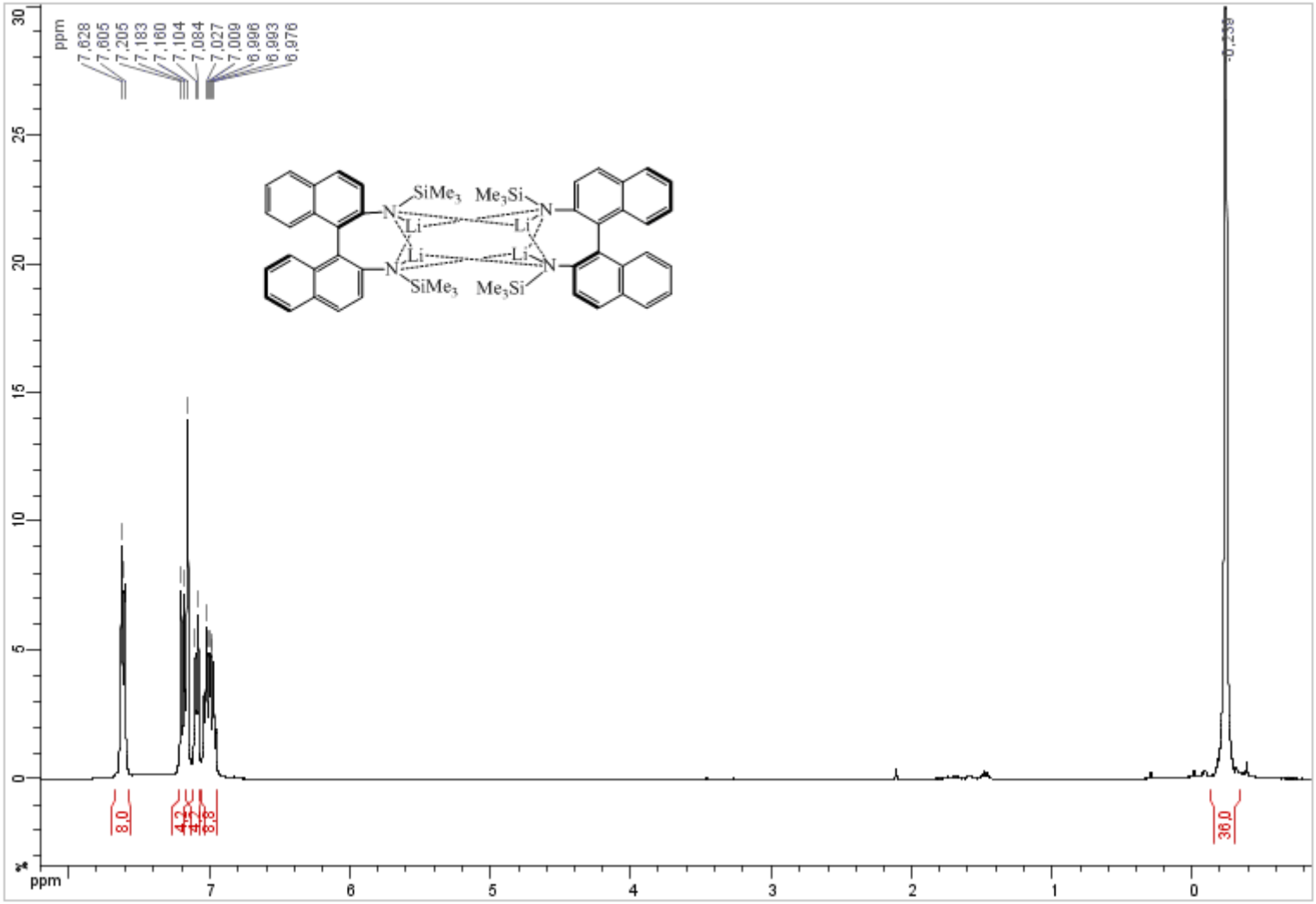
^{1}H NMR spectrum of lithium salt $[Li_2\{(R)\text{-}C_{20}H_{12}(NSiMe_3)_2\}]_2$ (2c)



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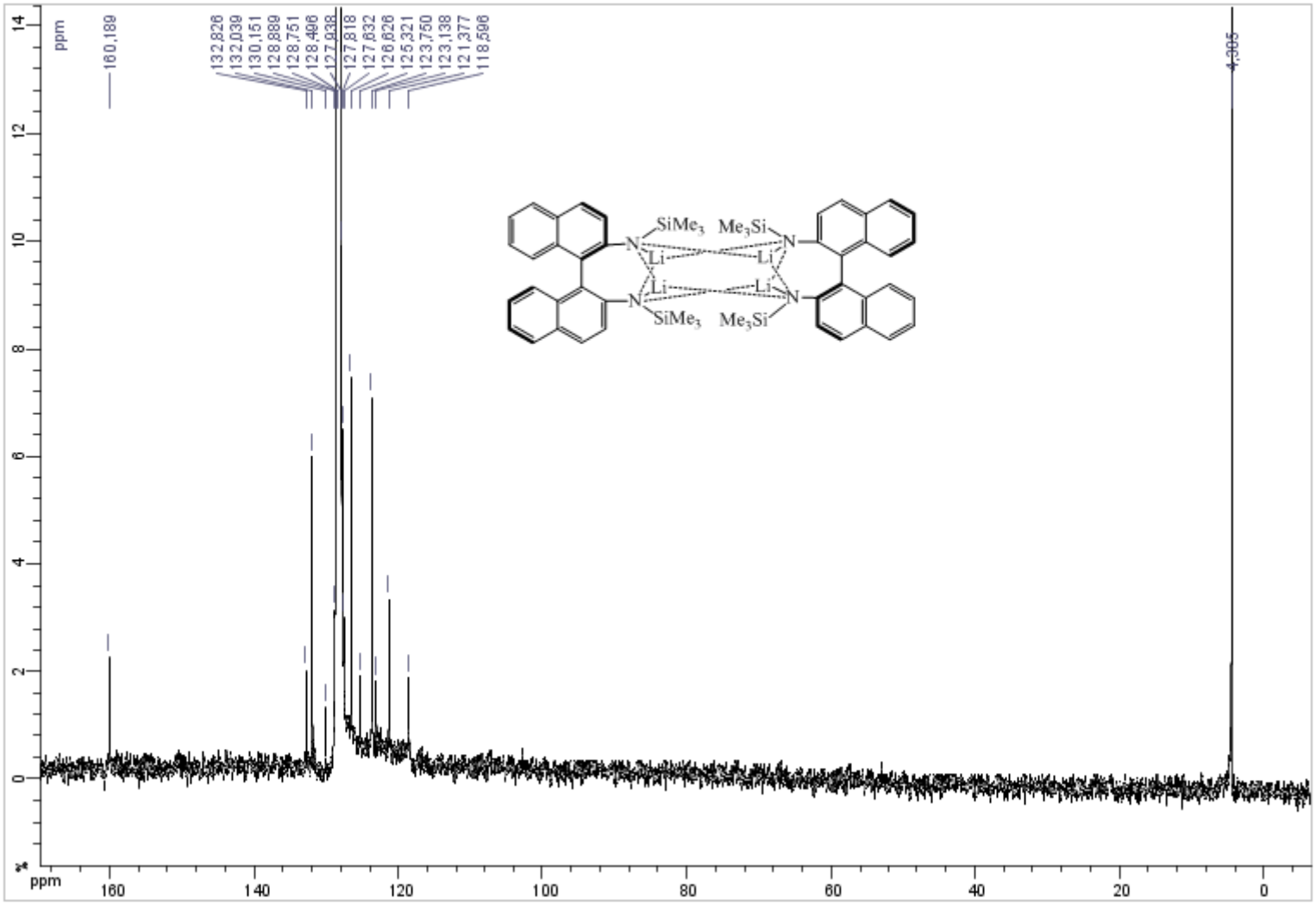
^{13}C NMR spectrum of lithium salt $[Li_2\{(R)\text{-}C_{20}H_{12}(NSiMe_3)_2\}]_2$ (2c)



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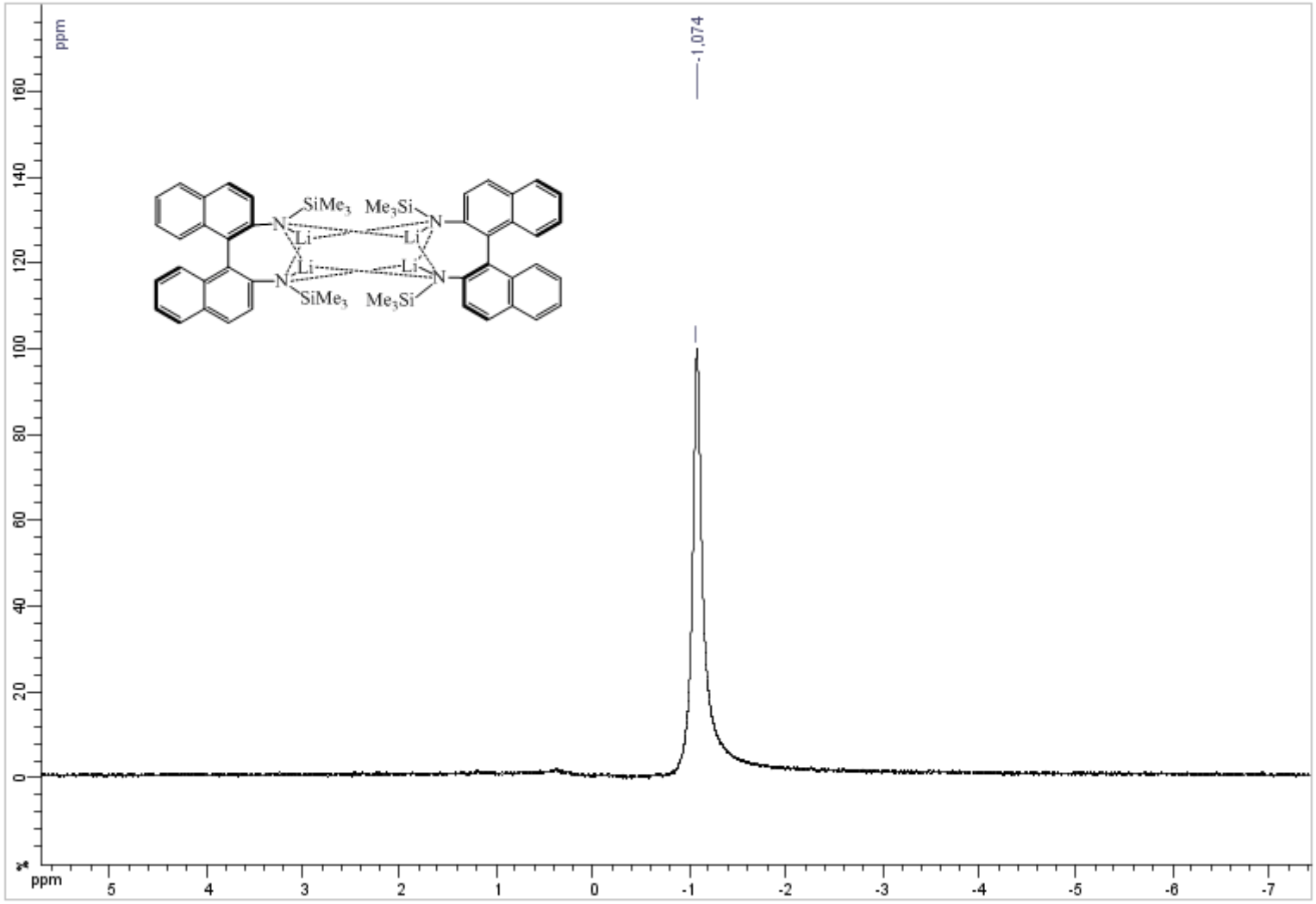
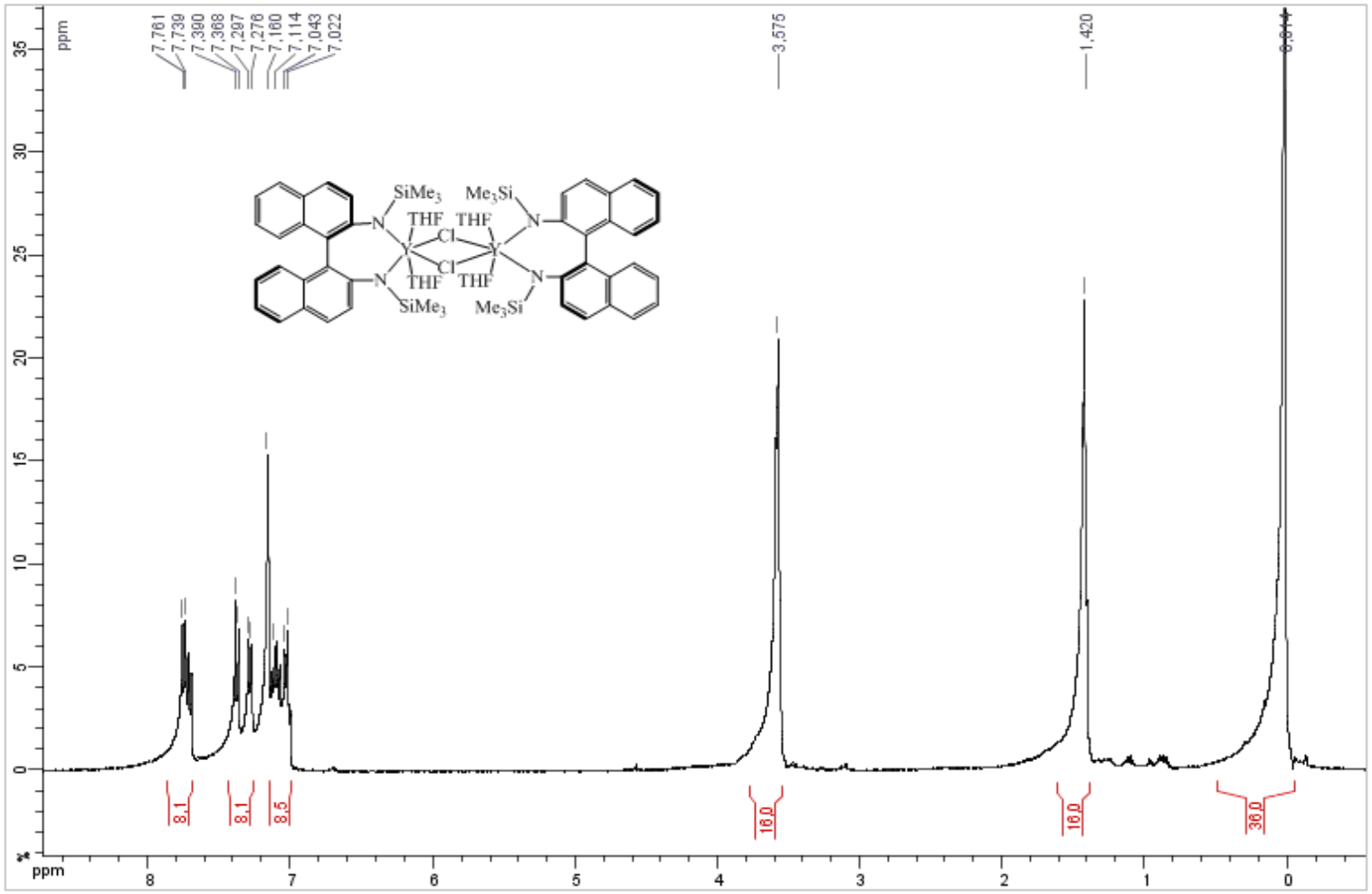
^{7}Li NMR spectrum of lithium salt $[Li_2\{(R)\text{-}C_{20}H_{12}(NSiMe_3)_2\}]_2$ (2c)



^{1}H NMR spectrum of neutral chloride yttrium complex [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}YCl(THF)$_2$]$_2$ (2d)



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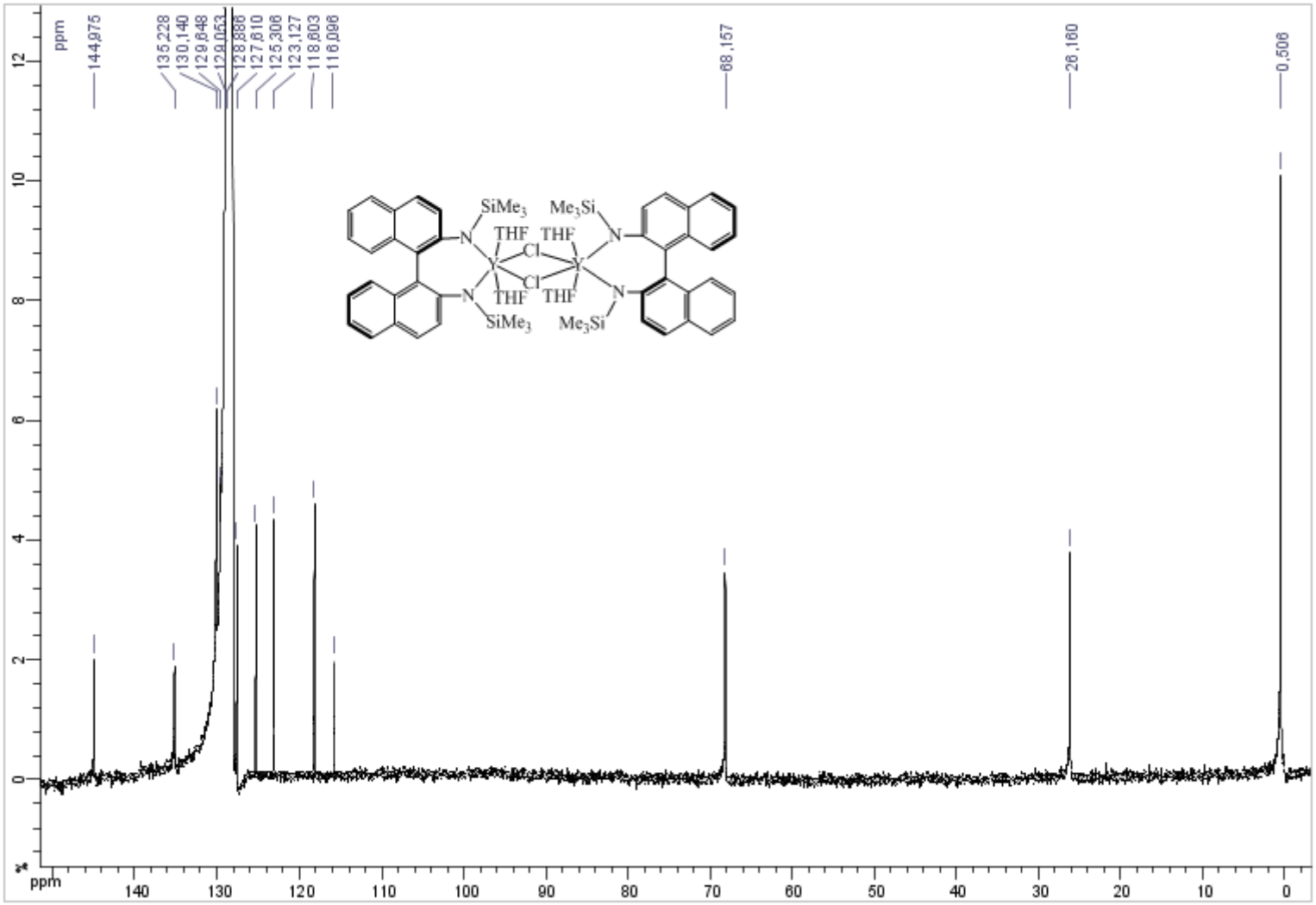
^{13}C NMR spectrum of neutral chloride yttrium complex [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}YCl(THF)$_2$]$_2$ (2d)



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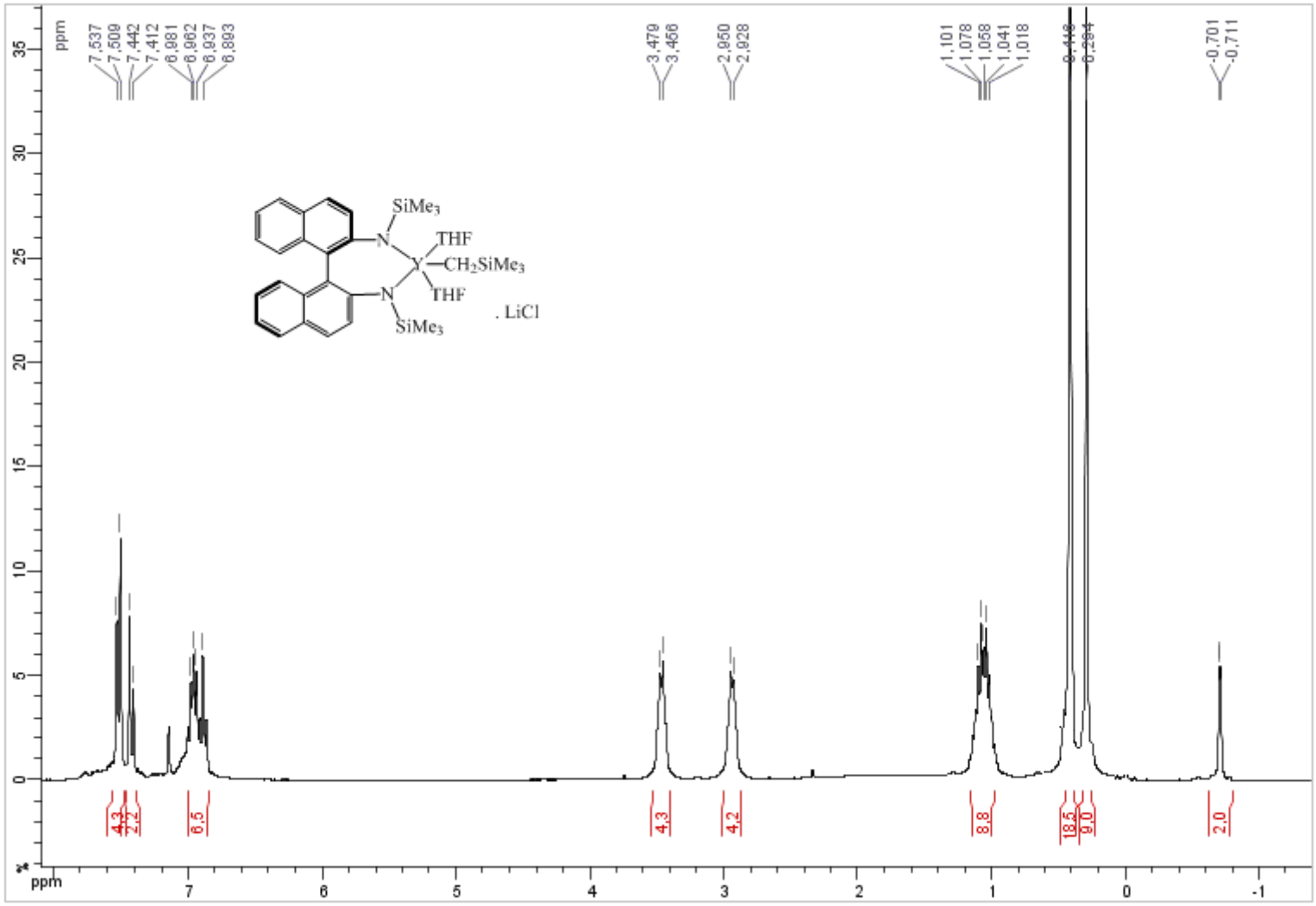
^{1}H NMR spectrum of [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}Y{CH_2SiMe_3}{$LiCl(THF)_2$}] (2a·LiCl)



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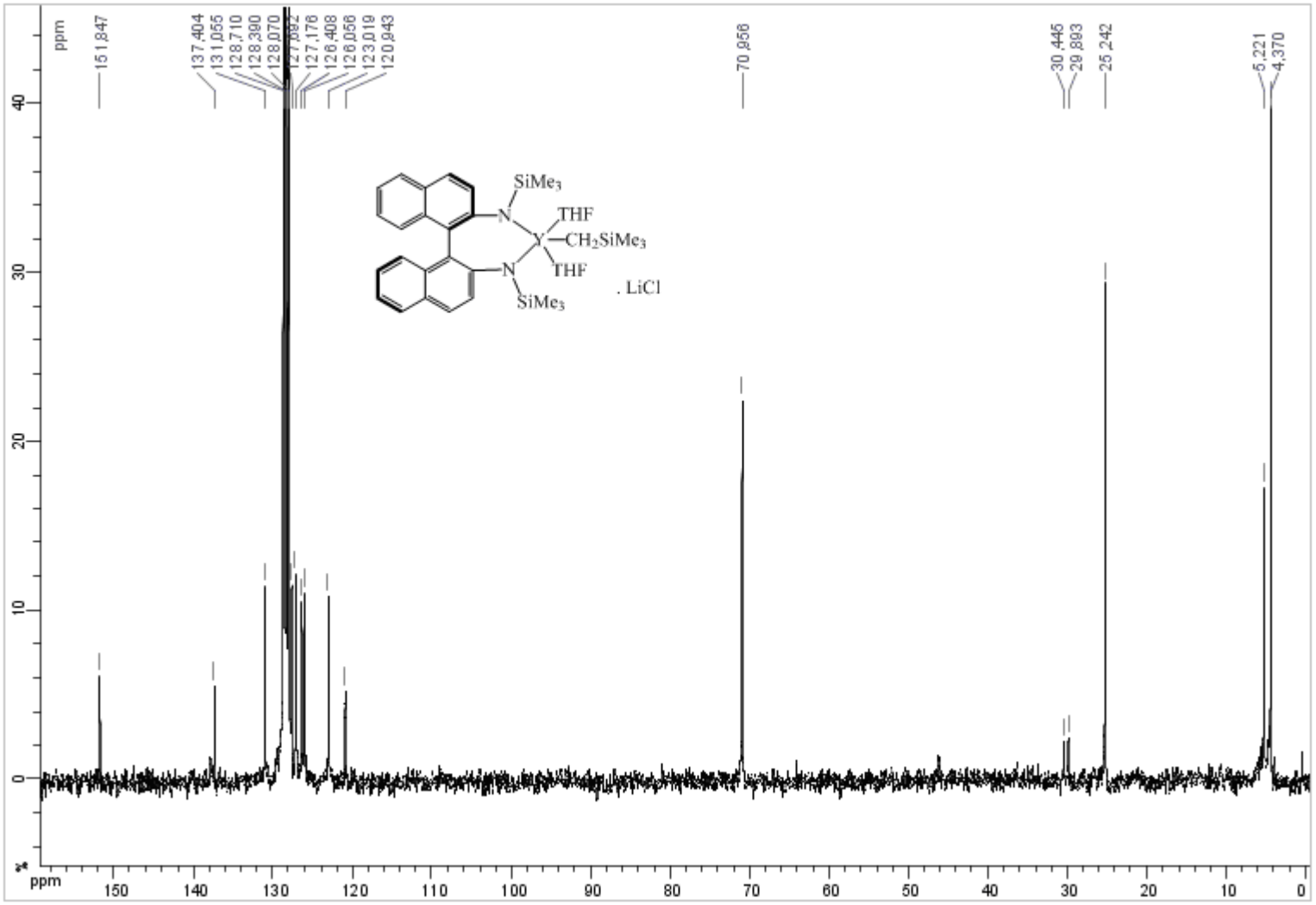
^{13}C NMR spectrum of [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}Y{CH_2SiMe_3}{$LiCl(THF)_2$}] (2a·LiCl)



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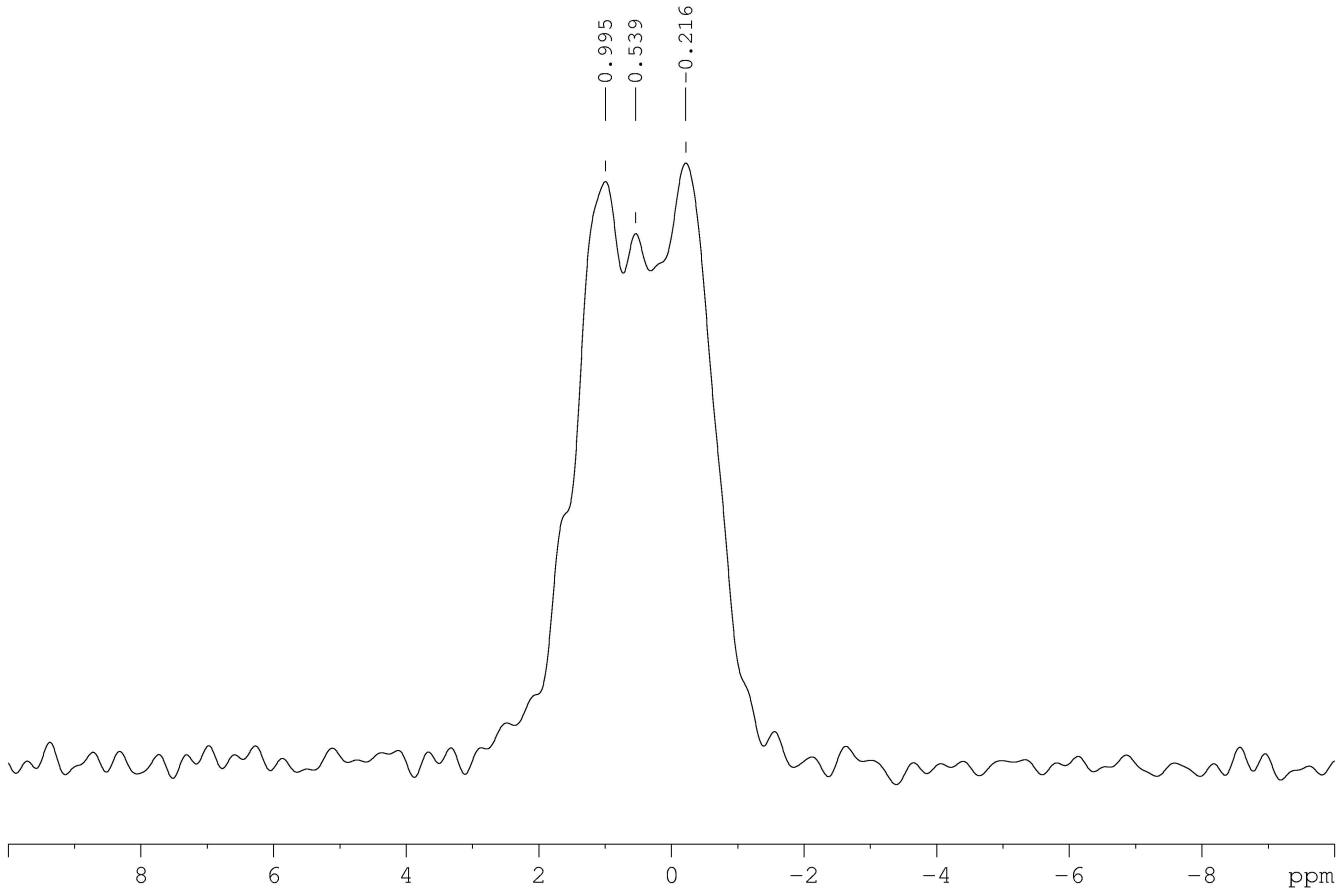
^{7}Li NMR spectrum of [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}Y{CH_2SiMe_3}{LiCl$(THF)_2$}] (2a·LiCl)



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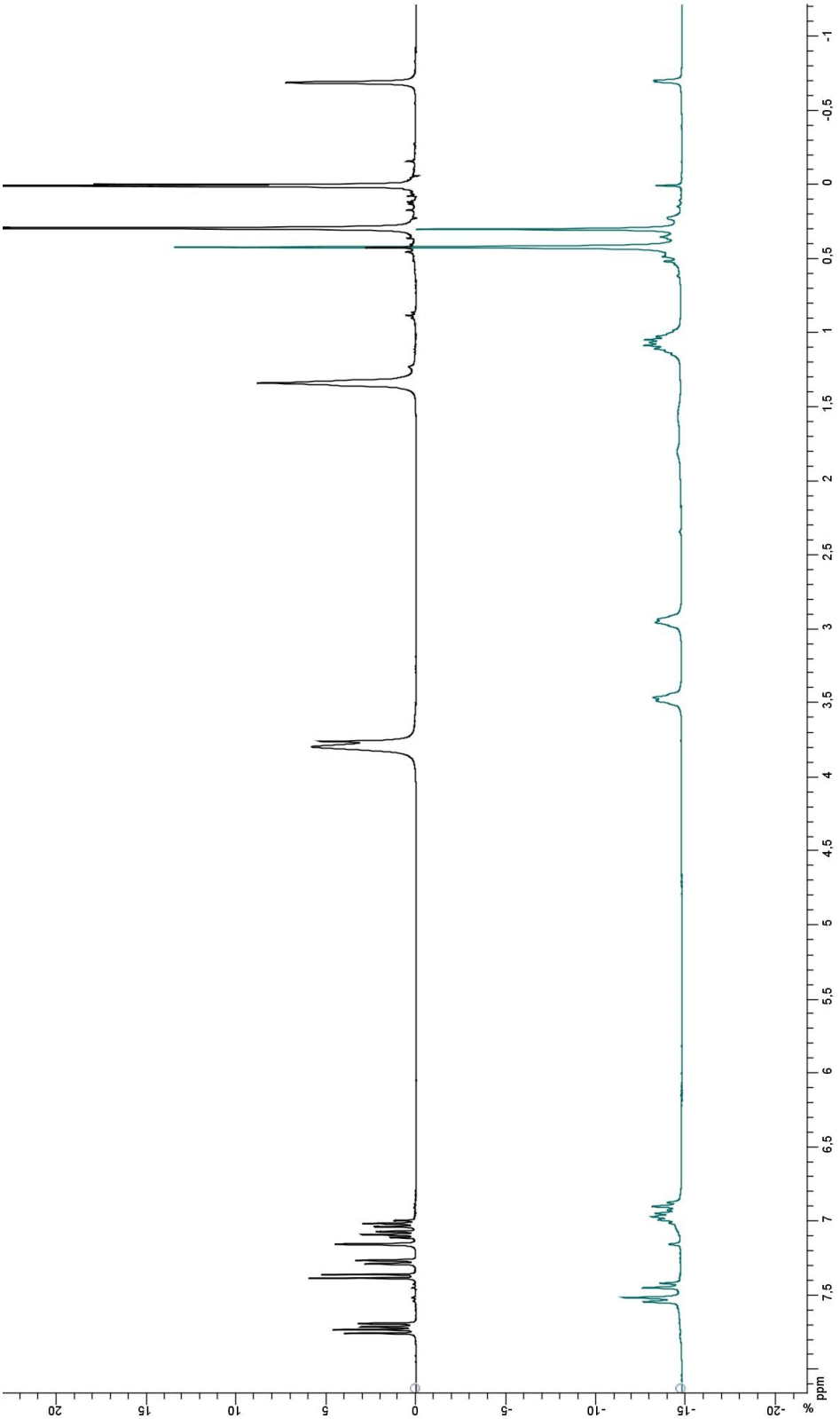
^{1}H NMR comparison between [{(R)-$C_{20}H_{12}$(NSiMe$_3$)$_2$}Y{CH_2SiMe_3}THF$_2$] (2a) (in black) and [{(R)-$C_{20}H_{12}$(NSiMe$_3$)$_2$}Y{CH_2SiMe_3}{LiCl(THF)$_2$}] (2a·LiCl) (in green)



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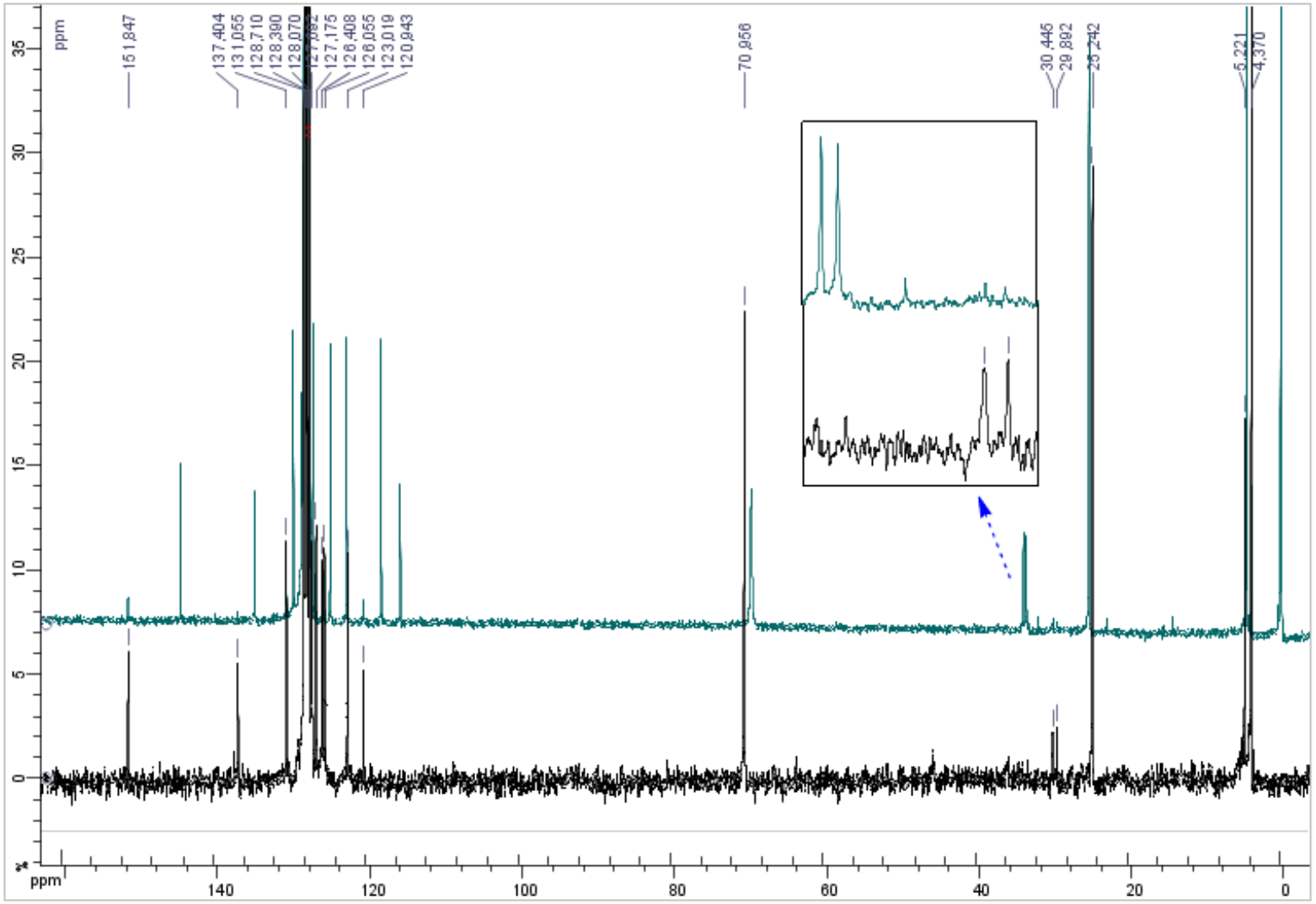
^{13}C NMR comparison between [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}Y{CH_2SiMe_3}THF_2] (2a) (in green) and [{(R)-$C_{20}H_{12}(NSiMe_3)_2$}Y{CH_2SiMe_3}{$LiCl(THF)_2$}] (2a·LiCl) (in black)



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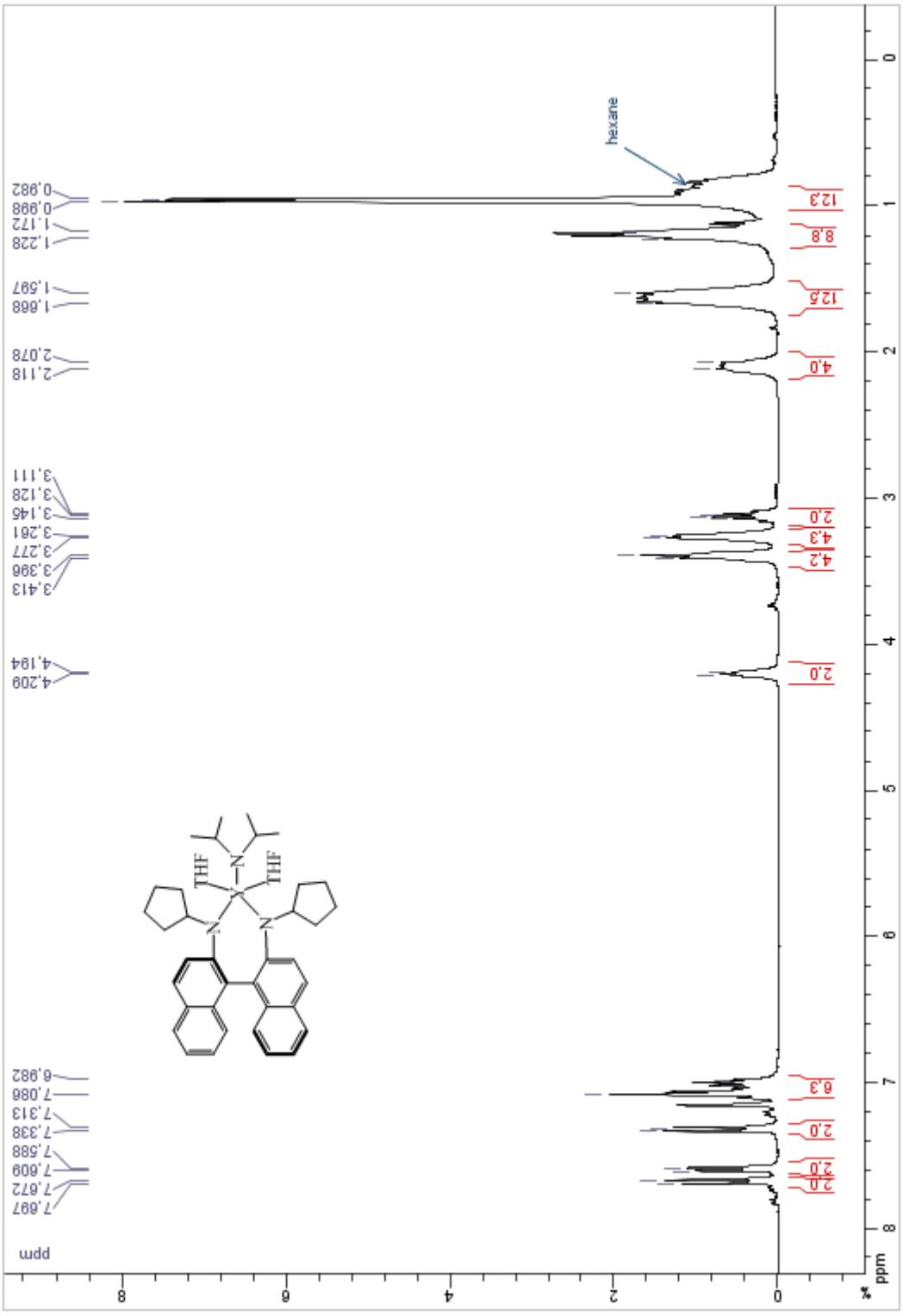
^{1}H NMR spectrum of in situ generated [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}Y{N^iPr_2}THF$_2$] (1b)



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^{13}C NMR spectrum of [{(R)-$C_{20}H_{12}(NC_5H_9)_2$}Y{CH_2SiMe_3}THF_2] (1b)