Supporting Information

Synthesis and Suzuki-Miyaura Cross-Coupling of Enantioenriched Secondary Potassium β-Trifluoroboratoamides: Catalytic, Asymmetric Conjugate Addition of Bisboronic Acid and Tetrakis(dimethylamino)diboron to α,β-Unsaturated Carbonyl Compounds

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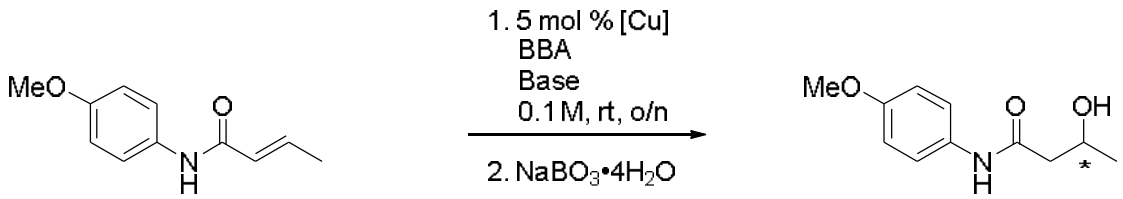
Contents:

High Throughput Experimentation was performed at the Penn/Merck Center for High Throughput Experimentation at the University of Pennsylvania. The screens were analyzed by HPLC with addition of an internal standard. The areas for the internal standard (IS), starting amide (SM) and product (P or Prod) from each screen are shown in the tables below. The ratios calculated are pertinent only to that specific screen; the ratios from one screen should not be qualitatively compared to those from a different screen.

Reaction for all screens shown below:



Ligand Abbreviation	Ligand Name
Josiphos SL-J015-1	(*R*)-1-{(S_P)-2-[Di(2-furyl)phosphino]ferrocenyl}ethyldi(3,5-xylyl)phosphine
Josiphos SL-J505-1	(*R*)-1-[(S_P)-2-(Di-*tert*-butylphosphino)ferrocenyl]ethylbis(2-methylphenyl)phosphine
Josiphos SL-J004-1	(*R*)-1-[(S_P)-2-(Dicyclohexylphosphino)ferrocenylethyl]diphenylphosphine
Josiphos SL-J011-1	(*R*)-1-{(S_P)-2-[Bis[4-(trifluoromethyl)phenyl]phosphino]ferrocenyl}ethyldi-*tert*-butylphosphine
Josiphos SL-J009-1	(*R*)-1-[(S_P)-2-(Dicyclohexylphosphino)ferrocenyl]ethyldi-*tert*-butylphosphine
Josiphos SL-J013-1	(*R*)-1-[(S_P)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl}ethyldi-*tert*-butylphosphine
Josiphos SL-J005-1	(*R*)-1-[(S_P)-2-(Diphenylphosphino)ferrocenyl]ethyldi(3,5-xylyl)phosphine
Josiphos SL-J006-1	(*R*)-1-{(S_P)-2-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ferrocenyl}ethyldicyclohexylphosphine
Josiphos SL-J007-1	(*R*)-1-{(S_P)-2-[Bis(4-methoxy-3,5-dimethylphenyl)phosphino]ferrocenyl}ethyldicyclohexylphosphine
Josiphos SL-J002-1	(*R*)-1-[(S_P)-2-(Diphenylphosphino)ferrocenyl]ethyldi-*tert*-butylphosphine
Josiphos SL-J003-1	(*R*)-1-[(S_P)-2-(Dicyclohexylphosphino)ferrocenyl]ethyldicyclohexylphosphine
Josiphos SL-J008-1	(*R*)-1-{(S_P)-2-[Bis[3,5-bis(trifluoromethyl)phenyl]phosphino]ferrocenyl}ethyldi(3,5-xylyl)phosphine
Josiphos SL-J001-1	(*R*)-1-[(S_P)-2-(Diphenylphosphino)ferrocenyl]ethyldicyclohexylphosphine
Josiphos SL-J502-1	(*R*)-1-[(S_P)-2-(Di-*tert*-butylphosphino)ferrocenyl]ethyldiphenylphosphine
SL-A116	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis(diisopropylphosphine)
SL-A101-1	(*R*)-(+)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis(diphenylphosphine)
MeOBIPHEP SL-A104-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis[bis(3,4,5-trimethoxyphenyl)phosphine]
MeOBIPHEP SL-A108-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis(di-2-furylphosphine)
MeOBIPHEP SL-A107-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis{bis[3,5-diisopropyl-4-(dimethylamino)phenyl]phosphine}
MeOBIPHEP SL-A121-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis[bis(3,5-di-*tert*-butylphenyl)phosphine]
MeOBIPHEP SL-A120-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis[bis(3,5-dimethylphenyl)phosphine]
MeOBIPHEP SL-A109-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis[bis(3,5-di-*tert*-butyl-4-methoxyphenyl)phosphine]
MeOBIPHEP SL-A102-1	(*R*)-(6,6′-Dimethoxybiphenyl-2,2′-diyl)bis[bis(4-methylphenyl)phosphine]
TaniaPhos T001	(R_P)-1-[(*R*)-α-(Dimethylamino)-2-(diphenylphosphino)benzyl]-2-diphenylphosphinoferrocene
TaniaPhos T002	(R_P)-1-Dicyclohexylphosphino-2-[(*R*)-α-(dimethylamino)-2-(dicyclohexylphosphino)benzyl]ferrocene

WalPhos W001	(*R*)-1-{(R_P)-2-[2-(Diphenylphosphino)phenyl]ferrocenyl}ethylbis[3,5-bis-(trifluoromethyl)phenyl]phosphine
WalPhos W002	(*R*)-1-{(R_P)-2-[2-(Diphenylphosphino)phenyl]ferrocenyl}ethyldiphenylphosphine
MandyPhos M001	(R_P,R'_P)-1,1′-Bis[(*S*)-α-(dimethylamino)benzyl]-2,2′-bis(diphenylphosphino)ferrocene
MandyPhos M004	(S_P,S'_P)-1,1′-Bis[bis(4-methoxy-3,5-dimethylphenyl)phosphino]-2,2′-bis[(*R*)-α-(dimethylamino)benzyl]ferrocene
ROPhos P001	(+)-1,2-Bis[(2S,5S)-2,5-dimethyl-(3S,4S)-3,4-dihydroxyphospholano]benzene bis(trifluoromethanesulfonate)salt
TSDPEN	(1*S*,2*S*)-1,2-Bis(2-hydroxyphenyl)ethylenediamine
L4019	(R)-4,5-Dihydro-1,3-bis-([2.2]paracyclophan-4-yl)imidazolinium chloride
P-PHOS	(*R*)-(+)-2,2′,6,6′-Tetramethoxy-4,4′-bis(diphenylphosphino)-3,3′-bipyridine
BDPP	(2*S*,4*S*)-2,4-Bis(diphenylphosphino)pentane
T-BINAP	(*R*)-(+)-2,2′-Bis(di-*p*-tolylphosphino)-1,1′-binaphthyl
SI-PHOS	*N*-Dimethyl-[(*R*)-1,1′-spirobiindane-7,7′-diyl]phosphoramidite
SEGPHOS	(*R*)-(+)-5,5′-Bis(diphenylphosphino)-4,4′-bi-1,3-benzodioxole
QUINOXP	(*R*,*R*)-(–)-2,3-Bis(*tert*-butylmethylphosphino)quinoxaline
H8BINAP	(*R*)-(+)-2,2′-Bis(diphenylphospino)-5,5′,6,6′,7,7′,8,8′-octahydro-1,1′-binaphthyl
DMSEG	(R)-(−)-5,5′-Bis(diphenylphosphino)-4,4′-bi-1,3-benzodioxole
DTBMSEG	(*R*)-(−)-5,5′-Bis[di(3,5-di-*tert*-butyl-4-methoxyphenyl)phosphino]-4,4′-bi-1,3-benzodioxole
PYBOX	2,6-Bis[(3aS,8aR)-3a,8a-dihydro-8H-indeno[1,2-d]oxazolin-2-yl]pyridine
DIOP	(+)-2,3-*O*-Isopropylidene-2,3-dihydroxy-1,4-bis(diphenylphosphino)butane
ISOBORNEOL	(2S)-(−)-3-exo-(morpholino)isoborneol
L680192	2,2-Bis((4*S*)-(–)-4-isopropyloxazoline)propane
L4026	(2R,5R)-1-{[(2R,5R)-2,5-Diphenylpyrrolidin-1-yl]methylene}-2,5-diphenylpyrrolidinium tetrafluoroborate

Screen 1-A:

Ligand	Copper Source	Base	Solvent
Josiphos SL-J015-1	CuCl	NaO*t*Bu	MeOH
Josiphos SL-J505-1	CuBr	KO*t*Bu	EtOH
Josiphos SL-J004-1	Cu(MeCN)4PF6		
Josiphos SL-J011-1			
Josiphos SL-J009-1			
Josiphos SL-J013-1			
Josiphos SL-J005-1			
Josiphos SL-J006-1			
Josiphos SL-J007-1			
Josiphos SL-J002-1			
Josiphos SL-J003-1			
Josiphos SL-J008-1			
Josiphos SL-J001-1			
Josiphos SL-J502-1			
SL-A116			
SL-A101-1			
MeOBIPHEP SL-A104-1			
MeOBIPHEP SL-A108-1			
MeOBIPHEP SL-A107-1			

MeOBIPHEP SL-A121-1
MeOBIPHEP SL-A120-1
MeOBIPHEP SL-A109-1
MeOBIPHEP SL-A102-1

P/IS Ratio	Ligand	Copper Source	Base	Solvent
1.745091811	L1	CuCl	NaOtBu	EtOH
0	L1	CuBr	NaOtBu	EtOH
0.337964613	L1	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L1	CuCl	KOtBu	EtOH
0.155500355	L1	CuBr	KOtBu	EtOH
0	L1	Cu(MeCN)4PF6	KOtBu	EtOH
0.107533599	L1	CuCl	NaOtBu	MeOH
0.109707526	L1	CuBr	NaOtBu	MeOH
0	L1	Cu(MeCN)4PF6	NaOtBu	MeOH
0.061048007	L1	CuCl	KOtBu	MeOH
1.995617413	L1	CuBr	KOtBu	MeOH
0	L1	Cu(MeCN)4PF6	KOtBu	MeOH
0.083161469	L10	CuCl	NaOtBu	EtOH
0	L10	CuBr	NaOtBu	EtOH
0.164412354	L10	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L10	CuCl	KOtBu	EtOH
0.144379817	L10	CuBr	KOtBu	EtOH
0.196589694	L10	Cu(MeCN)4PF6	KOtBu	EtOH
0.046483704	L10	CuCl	NaOtBu	MeOH
0.065873773	L10	CuBr	NaOtBu	MeOH
0.367734152	L10	Cu(MeCN)4PF6	NaOtBu	MeOH
2.336137167	L10	CuCl	KOtBu	MeOH
1.338718243	L10	CuBr	KOtBu	MeOH
0.201038673	L10	Cu(MeCN)4PF6	KOtBu	MeOH
0.273209748	L11	CuCl	NaOtBu	EtOH
0.051605801	L11	CuBr	NaOtBu	EtOH
3.520951248	L11	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L11	CuCl	KOtBu	EtOH
0.124819293	L11	CuBr	KOtBu	EtOH
0	L11	Cu(MeCN)4PF6	KOtBu	EtOH
0	L11	CuCl	NaOtBu	MeOH
0	L11	CuBr	NaOtBu	MeOH
0.085741643	L11	Cu(MeCN)4PF6	NaOtBu	MeOH
0	L11	CuCl	KOtBu	MeOH

1.929481838	L11	CuBr	KOtBu	MeOH
0.050182023	L11	Cu(MeCN)4PF6	KOtBu	MeOH
0.160552479	L12	CuCl	NaOtBu	EtOH
0.04200212	L12	CuBr	NaOtBu	EtOH
0.096900881	L12	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L12	CuCl	KOtBu	EtOH
0.059673275	L12	CuBr	KOtBu	EtOH
0	L12	Cu(MeCN)4PF6	KOtBu	EtOH
0	L12	CuCl	NaOtBu	MeOH
0	L12	CuBr	NaOtBu	MeOH
0.070196311	L12	Cu(MeCN)4PF6	NaOtBu	MeOH
1.830145995	L12	CuCl	KOtBu	MeOH
0.230618396	L12	CuBr	KOtBu	MeOH
0.726998267	L12	Cu(MeCN)4PF6	KOtBu	MeOH
1.316608573	L13	CuCl	NaOtBu	EtOH
1.246201682	L13	CuBr	NaOtBu	EtOH
0.82915111	L13	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L13	CuCl	KOtBu	EtOH
0.298119603	L13	CuBr	KOtBu	EtOH
1.757881461	L13	Cu(MeCN)4PF6	KOtBu	EtOH
1.799846181	L13	CuCl	NaOtBu	MeOH
0.884677533	L13	CuBr	NaOtBu	MeOH
0.06660501	L13	Cu(MeCN)4PF6	NaOtBu	MeOH
0	L13	CuCl	KOtBu	MeOH
0.47167042	L13	CuBr	KOtBu	MeOH
2.087908852	L13	Cu(MeCN)4PF6	KOtBu	MeOH
0.151472212	L14	CuCl	NaOtBu	EtOH
0	L14	CuBr	NaOtBu	EtOH
0.102471871	L14	Cu(MeCN)4PF6	NaOtBu	EtOH
0.510108891	L14	CuCl	KOtBu	EtOH
0	L14	CuBr	KOtBu	EtOH
0	L14	Cu(MeCN)4PF6	KOtBu	EtOH
1.059825237	L14	CuCl	NaOtBu	MeOH
0.190516905	L14	CuBr	NaOtBu	MeOH
0	L14	Cu(MeCN)4PF6	NaOtBu	MeOH
1.879155407	L14	CuCl	KOtBu	MeOH
0.613406603	L14	CuBr	KOtBu	MeOH
0.348227784	L14	Cu(MeCN)4PF6	KOtBu	MeOH
0.321244657	L15	CuCl	NaOtBu	EtOH
1.544644927	L15	CuBr	NaOtBu	EtOH

0.174805259	L15	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L15	CuCl	KOtBu	EtOH
0	L15	CuBr	KOtBu	EtOH
0.155263062	L15	Cu(MeCN)4PF6	KOtBu	EtOH
0	L15	CuCl	NaOtBu	MeOH
0.049938388	L15	CuBr	NaOtBu	MeOH
0.965519976	L15	Cu(MeCN)4PF6	NaOtBu	MeOH
1.330204258	L15	CuCl	KOtBu	MeOH
0	L15	CuBr	KOtBu	MeOH
0	L15	Cu(MeCN)4PF6	KOtBu	MeOH
0	L16	CuCl	NaOtBu	EtOH
0.262764872	L16	CuBr	NaOtBu	EtOH
0	L16	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L16	CuCl	KOtBu	EtOH
0	L16	CuBr	KOtBu	EtOH
0	L16	Cu(MeCN)4PF6	KOtBu	EtOH
0.382338642	L16	CuCl	NaOtBu	MeOH
0.049470939	L16	CuBr	NaOtBu	MeOH
0	L16	Cu(MeCN)4PF6	NaOtBu	MeOH
0.083904209	L16	CuCl	KOtBu	MeOH
0.878142218	L16	CuBr	KOtBu	MeOH
1.629710127	L16	Cu(MeCN)4PF6	KOtBu	MeOH
1.3715489	L17	CuCl	NaOtBu	EtOH
0	L17	CuBr	NaOtBu	EtOH
0.124231347	L17	Cu(MeCN)4PF6	NaOtBu	EtOH
0.052634961	L17	CuCl	KOtBu	EtOH
0	L17	CuBr	KOtBu	EtOH
0	L17	Cu(MeCN)4PF6	KOtBu	EtOH
0	L17	CuCl	NaOtBu	MeOH
0.743155791	L17	CuBr	NaOtBu	MeOH
0.228429479	L17	Cu(MeCN)4PF6	NaOtBu	MeOH
0	L17	CuCl	KOtBu	MeOH
1.338703898	L17	CuBr	KOtBu	MeOH
0	L17	Cu(MeCN)4PF6	KOtBu	MeOH
0	L18	CuCl	NaOtBu	EtOH
0.807421196	L18	CuBr	NaOtBu	EtOH
0.199888869	L18	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L18	CuCl	KOtBu	EtOH
0	L18	CuBr	KOtBu	EtOH
0	L18	Cu(MeCN)4PF	KOtBu	EtOH

		6		
0.514100467	L18	CuCl	NaOtBu	MeOH
0	L18	CuBr	NaOtBu	MeOH
0	L18	Cu(MeCN)4PF6	NaOtBu	MeOH
1.000322505	L18	CuCl	KOtBu	MeOH
0.816880568	L18	CuBr	KOtBu	MeOH
0.057290157	L18	Cu(MeCN)4PF6	KOtBu	MeOH
1.735721958	L19	CuCl	NaOtBu	EtOH
1.107318861	L19	CuBr	NaOtBu	EtOH
0.570899065	L19	Cu(MeCN)4PF6	NaOtBu	EtOH
2.285712178	L19	CuCl	KOtBu	EtOH
0.053279765	L19	CuBr	KOtBu	EtOH
0.252268087	L19	Cu(MeCN)4PF6	KOtBu	EtOH
0	L19	CuCl	NaOtBu	MeOH
2.89813542	L19	CuBr	NaOtBu	MeOH
0.076541865	L19	Cu(MeCN)4PF6	NaOtBu	MeOH
0.142014049	L19	CuCl	KOtBu	MeOH
0	L19	CuBr	KOtBu	MeOH
1.023691077	L19	Cu(MeCN)4PF6	KOtBu	MeOH
0	L2	CuCl	NaOtBu	EtOH
0.139997523	L2	CuBr	NaOtBu	EtOH
1.465535728	L2	Cu(MeCN)4PF6	NaOtBu	EtOH
1.45804815	L2	CuCl	KOtBu	EtOH
0.692065081	L2	CuBr	KOtBu	EtOH
0	L2	Cu(MeCN)4PF6	KOtBu	EtOH
1.09508593	L2	CuCl	NaOtBu	MeOH
0	L2	CuBr	NaOtBu	MeOH
0.045644684	L2	Cu(MeCN)4PF6	NaOtBu	MeOH
0.938201625	L2	CuCl	KOtBu	MeOH
0.093819904	L2	CuBr	KOtBu	MeOH
1.42241303	L2	Cu(MeCN)4PF6	KOtBu	MeOH
2.07758674	L20	CuCl	NaOtBu	EtOH
0.441378799	L20	CuBr	NaOtBu	EtOH
0.127771457	L20	Cu(MeCN)4PF6	NaOtBu	EtOH
0.077283969	L20	CuCl	KOtBu	EtOH
0	L20	CuBr	KOtBu	EtOH
0	L20	Cu(MeCN)4PF6	KOtBu	EtOH
0.160402369	L20	CuCl	NaOtBu	MeOH
0.21191701	L20	CuBr	NaOtBu	MeOH
0	L20	Cu(MeCN)4PF6	NaOtBu	MeOH

0.20882906	L20	CuCl	KOtBu	MeOH
2.773303734	L20	CuBr	KOtBu	MeOH
0	L20	Cu(MeCN)4PF6	KOtBu	MeOH
0.949235959	L21	CuCl	NaOtBu	EtOH
0	L21	CuBr	NaOtBu	EtOH
0.061306043	L21	Cu(MeCN)4PF6	NaOtBu	EtOH
0.501682201	L21	CuCl	KOtBu	EtOH
0.154255242	L21	CuBr	KOtBu	EtOH
0	L21	Cu(MeCN)4PF6	KOtBu	EtOH
0	L21	CuCl	NaOtBu	MeOH
0.10387084	L21	CuBr	NaOtBu	MeOH
0	L21	Cu(MeCN)4PF6	NaOtBu	MeOH
0.210518441	L21	CuCl	KOtBu	MeOH
3.424212771	L21	CuBr	KOtBu	MeOH
0.306166699	L21	Cu(MeCN)4PF6	KOtBu	MeOH
0.470384963	L22	CuCl	NaOtBu	EtOH
0.171546171	L22	CuBr	NaOtBu	EtOH
0.550331866	L22	Cu(MeCN)4PF6	NaOtBu	EtOH
0.075043489	L22	CuCl	KOtBu	EtOH
0.732649501	L22	CuBr	KOtBu	EtOH
0	L22	Cu(MeCN)4PF6	KOtBu	EtOH
1.886274864	L22	CuCl	NaOtBu	MeOH
0.267230399	L22	CuBr	NaOtBu	MeOH
0.275176826	L22	Cu(MeCN)4PF6	NaOtBu	MeOH
0	L22	CuCl	KOtBu	MeOH
2.753119032	L22	CuBr	KOtBu	MeOH
0.255426446	L22	Cu(MeCN)4PF6	KOtBu	MeOH
0.069084401	L23	CuCl	NaOtBu	EtOH
1.835529474	L23	CuBr	NaOtBu	EtOH
0	L23	Cu(MeCN)4PF6	NaOtBu	EtOH
0.350472819	L23	CuCl	KOtBu	EtOH
0.36328276	L23	CuBr	KOtBu	EtOH
0	L23	Cu(MeCN)4PF6	KOtBu	EtOH
0	L23	CuCl	NaOtBu	MeOH
0	L23	CuBr	NaOtBu	MeOH
0.103488147	L23	Cu(MeCN)4PF6	NaOtBu	MeOH
0.559266474	L23	CuCl	KOtBu	MeOH
5.181595724	L23	CuBr	KOtBu	MeOH
0.329516461	L23	Cu(MeCN)4PF6	KOtBu	MeOH
0	L3	CuCl	NaOtBu	EtOH

0.311874579	L3	CuBr	NaOtBu	EtOH
0.303045857	L3	Cu(MeCN)4PF6	NaOtBu	EtOH
0.168861717	L3	CuCl	KOtBu	EtOH
0.520745142	L3	CuBr	KOtBu	EtOH
0.118642626	L3	Cu(MeCN)4PF6	KOtBu	EtOH
0.365969948	L3	CuCl	NaOtBu	MeOH
1.067762148	L3	CuBr	NaOtBu	MeOH
0	L3	Cu(MeCN)4PF6	NaOtBu	MeOH
1.975325234	L3	CuCl	KOtBu	MeOH
0.683870223	L3	CuBr	KOtBu	MeOH
0.37159605	L3	Cu(MeCN)4PF6	KOtBu	MeOH
0.457042519	L4	CuCl	NaOtBu	EtOH
0.146497034	L4	CuBr	NaOtBu	EtOH
1.721778805	L4	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L4	CuCl	KOtBu	EtOH
0	L4	CuBr	KOtBu	EtOH
0	L4	Cu(MeCN)4PF6	KOtBu	EtOH
0.181789649	L4	CuCl	NaOtBu	MeOH
0	L4	CuBr	NaOtBu	MeOH
0.306460091	L4	Cu(MeCN)4PF6	NaOtBu	MeOH
0	L4	CuCl	KOtBu	MeOH
0	L4	CuBr	KOtBu	MeOH
1.473506325	L4	Cu(MeCN)4PF6	KOtBu	MeOH
0	L5	CuCl	NaOtBu	EtOH
0	L5	CuBr	NaOtBu	EtOH
0.191630487	L5	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L5	CuCl	KOtBu	EtOH
0.300059756	L5	CuBr	KOtBu	EtOH
0	L5	Cu(MeCN)4PF6	KOtBu	EtOH
0	L5	CuCl	NaOtBu	MeOH
0.244382839	L5	CuBr	NaOtBu	MeOH
0.066735711	L5	Cu(MeCN)4PF6	NaOtBu	MeOH
0.06019048	L5	CuCl	KOtBu	MeOH
0.465653814	L5	CuBr	KOtBu	MeOH
2.180496832	L5	Cu(MeCN)4PF6	KOtBu	MeOH
0.100105754	L6	CuCl	NaOtBu	EtOH
0	L6	CuBr	NaOtBu	EtOH
0.150044972	L6	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L6	CuCl	KOtBu	EtOH
0	L6	CuBr	KOtBu	EtOH

0	L6	Cu(MeCN)4PF6	KOtBu	EtOH
0	L6	CuCl	NaOtBu	MeOH
0.09181772	L6	CuBr	NaOtBu	MeOH
0.246864956	L6	Cu(MeCN)4PF6	NaOtBu	MeOH
1.458392185	L6	CuCl	KOtBu	MeOH
0	L6	CuBr	KOtBu	MeOH
0	L6	Cu(MeCN)4PF6	KOtBu	MeOH
0	L7	CuCl	NaOtBu	EtOH
0	L7	CuBr	NaOtBu	EtOH
0.224385837	L7	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L7	CuCl	KOtBu	EtOH
0	L7	CuBr	KOtBu	EtOH
0	L7	Cu(MeCN)4PF6	KOtBu	EtOH
0	L7	CuCl	NaOtBu	MeOH
0.150342976	L7	CuBr	NaOtBu	MeOH
0	L7	Cu(MeCN)4PF6	NaOtBu	MeOH
2.288570962	L7	CuCl	KOtBu	MeOH
0.269261823	L7	CuBr	KOtBu	MeOH
1.650301589	L7	Cu(MeCN)4PF6	KOtBu	MeOH
0.55845394	L8	CuCl	NaOtBu	EtOH
2.175922874	L8	CuBr	NaOtBu	EtOH
2.114322716	L8	Cu(MeCN)4PF6	NaOtBu	EtOH
0.287163766	L8	CuCl	KOtBu	EtOH
1.355478301	L8	CuBr	KOtBu	EtOH
0	L8	Cu(MeCN)4PF6	KOtBu	EtOH
0	L8	CuCl	NaOtBu	MeOH
0	L8	CuBr	NaOtBu	MeOH
0.283841179	L8	Cu(MeCN)4PF6	NaOtBu	MeOH
2.248520991	L8	CuCl	KOtBu	MeOH
0.167046941	L8	CuBr	KOtBu	MeOH
0.156682058	L8	Cu(MeCN)4PF6	KOtBu	MeOH
0.049938447	L9	CuCl	NaOtBu	EtOH
0	L9	CuBr	NaOtBu	EtOH
1.17380282	L9	Cu(MeCN)4PF6	NaOtBu	EtOH
0	L9	CuCl	KOtBu	EtOH
0.525420857	L9	CuBr	KOtBu	EtOH
0.066737141	L9	Cu(MeCN)4PF6	KOtBu	EtOH
0	L9	CuCl	NaOtBu	MeOH
0	L9	CuBr	NaOtBu	MeOH
1.0781532	L9	Cu(MeCN)4PF	NaOtBu	MeOH

		6		
0	L9	CuCl	KOtBu	MeOH
0.560707167	L9	CuBr	KOtBu	MeOH
1.470648661	L9	Cu(MeCN)4PF6	KOtBu	MeOH

L1	**Josiphos SL-J015-1**
L2	**Josiphos SL-J505-1**
L3	**Josiphos SL-J004-1**
L4	**Josiphos SL-J011-1**
L5	**Josiphos SL-J009-1**
L6	**Josiphos SL-J013-1**
L7	**Josiphos SL-J005-1**
L8	**Josiphos SL-J006-1**
L9	**Josiphos SL-J007-1**
L10	**Josiphos SL-J002-1**
L11	**Josiphos SL-J003-1**
L12	**Josiphos SL-J008-1**
L13	**Josiphos SL-J001-1**
L14	**Josiphos SL-J502-1**
L15	**SL-A116**
L16	**SL-A101-1**
L17	**MeOBIPHEP SL-A104-1**
L18	**MeoBIPHEP SL-A108-1**
L19	**MeoBIPHEP SL-A107-1**
L20	**MeOBIPHEP SL-A121-1**
L21	**MeOBIPHEP SL-A120-1**
L22	**MeOBIPHEP SL-A109-1**
L23	**MeOBIPHEP SL-A102-1**

Screen 1-B:

Lig	Copper Source	Solvent	Base
Josiphos J001	CuCl	EtOH	NaO*t*Bu
Josiphos J002	Cu(MeCN)4PF6	meOH	KO*t*Bu
Josiphos J003			NaOMe
Josiphos J005			
TaniaPhos T001			
TaniaPhos T002			
WalPhos W001			
WalPhos W002			
MandyPhos M001			
MandyPhos M004			
ROPhos P001			
SL-A101			
SL-A109			

1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane

(*S*,*S*)-i-Pr-DUPHOS

P/IS	Lig	Copper Source	Solvent	Base
0.397638	J001	CuCl	EtOH	NaOtBu
0.65703	J001	CuCl	EtOH	KOtBu
0.19401	J001	CuCl	EtOH	NaOMe
0.678478	J001	CuCl	MeOH	NaOtBu
0.036458	J001	CuCl	MeOH	KOtBu
0.036891	J001	CuCl	MeOH	NaOMe
0.036939	J001	Cu(MeCN)4PF6	EtOH	NaOtBu
1.242063	J001	Cu(MeCN)4PF6	EtOH	KOtBu
0.545932	J001	Cu(MeCN)4PF6	EtOH	NaOMe
1.56168	J001	Cu(MeCN)4PF6	MeOH	NaOtBu
0.720627	J001	Cu(MeCN)4PF6	MeOH	KOtBu
0.510996	J001	Cu(MeCN)4PF6	MeOH	NaOMe
0.533854	J002	CuCl	EtOH	NaOtBu
0.120051	J002	CuCl	EtOH	KOtBu
0.236641	J002	CuCl	EtOH	NaOMe
0.091954	J002	CuCl	MeOH	NaOtBu
0.015385	J002	CuCl	MeOH	KOtBu
0.020645	J002	CuCl	MeOH	NaOMe
0.015544	J002	Cu(MeCN)4PF6	EtOH	NaOtBu
0.013141	J002	Cu(MeCN)4PF6	EtOH	KOtBu
0.01039	J002	Cu(MeCN)4PF6	EtOH	NaOMe
0.088918	J002	Cu(MeCN)4PF6	MeOH	NaOtBu
0.010363	J002	Cu(MeCN)4PF6	MeOH	KOtBu
0.007762	J002	Cu(MeCN)4PF6	MeOH	NaOMe
0.974684	J003	CuCl	EtOH	NaOtBu
0.010243	J003	CuCl	EtOH	KOtBu
1.722721	J003	CuCl	EtOH	NaOMe
0.007874	J003	CuCl	MeOH	NaOtBu
2.107868	J003	CuCl	MeOH	KOtBu
1.650064	J003	CuCl	MeOH	NaOMe
1.743295	J003	Cu(MeCN)4PF6	EtOH	NaOtBu
1.971903	J003	Cu(MeCN)4PF6	EtOH	KOtBu
1.933758	J003	Cu(MeCN)4PF6	EtOH	NaOMe
2.734584	J003	Cu(MeCN)4PF6	MeOH	NaOtBu
1.025575	J003	Cu(MeCN)4PF6	MeOH	KOtBu
2.621967	J003	Cu(MeCN)4PF6	MeOH	NaOMe

0.918987	J005	CuCl	EtOH	NaOtBu
0.455808	J005	CuCl	EtOH	KOtBu
1.069913	J005	CuCl	EtOH	NaOMe
2.07314	J005	CuCl	MeOH	NaOtBu
1.692884	J005	CuCl	MeOH	KOtBu
0.587719	J005	CuCl	MeOH	NaOMe
0.565	J005	Cu(MeCN)4PF6	EtOH	NaOtBu
1.195214	J005	Cu(MeCN)4PF6	EtOH	KOtBu
1.220681	J005	Cu(MeCN)4PF6	EtOH	NaOMe
2.086902	J005	Cu(MeCN)4PF6	MeOH	NaOtBu
2.217391	J005	Cu(MeCN)4PF6	MeOH	KOtBu
2.171679	J005	Cu(MeCN)4PF6	MeOH	NaOMe
0.6	T001	CuCl	EtOH	NaOtBu
0.167506	T001	CuCl	EtOH	KOtBu
0.24625	T001	CuCl	EtOH	NaOMe
0.868586	T001	CuCl	MeOH	NaOtBu
0.134085	T001	CuCl	MeOH	KOtBu
0.09637	T001	CuCl	MeOH	NaOMe
0.174505	T001	Cu(MeCN)4PF6	EtOH	NaOtBu
0.192308	T001	Cu(MeCN)4PF6	EtOH	KOtBu
0.217337	T001	Cu(MeCN)4PF6	EtOH	NaOMe
0.059776	T001	Cu(MeCN)4PF6	MeOH	NaOtBu
0.04703	T001	Cu(MeCN)4PF6	MeOH	KOtBu
0.05625	T001	Cu(MeCN)4PF6	MeOH	NaOMe
0.269279	T002	CuCl	EtOH	NaOtBu
0.059418	T002	CuCl	EtOH	KOtBu
0.727848	T002	CuCl	EtOH	NaOMe
2.653652	T002	CuCl	MeOH	NaOtBu
0.086683	T002	CuCl	MeOH	KOtBu
0.084263	T002	CuCl	MeOH	NaOMe
0.083541	T002	Cu(MeCN)4PF6	EtOH	NaOtBu
1.185232	T002	Cu(MeCN)4PF6	EtOH	KOtBu
0.567127	T002	Cu(MeCN)4PF6	EtOH	NaOMe
1.88642	T002	Cu(MeCN)4PF6	MeOH	NaOtBu
2.553191	T002	Cu(MeCN)4PF6	MeOH	KOtBu
2.80917	T002	Cu(MeCN)4PF6	MeOH	NaOMe
0.110444	W001	CuCl	EtOH	NaOtBu
0.078067	W001	CuCl	EtOH	KOtBu
0.427148	W001	CuCl	EtOH	NaOMe
0.836045	W001	CuCl	MeOH	NaOtBu
0.10111	W001	CuCl	MeOH	KOtBu
0.006196	W001	CuCl	MeOH	NaOMe
0.159402	W001	Cu(MeCN)4PF6	EtOH	NaOtBu

0.143033	W001	Cu(MeCN)4PF6	EtOH	KOtBu
0.156212	W001	Cu(MeCN)4PF6	EtOH	NaOMe
0.069051	W001	Cu(MeCN)4PF6	MeOH	NaOtBu
0.071951	W001	Cu(MeCN)4PF6	MeOH	KOtBu
0.577157	W001	Cu(MeCN)4PF6	MeOH	NaOMe
1.09201	W002	CuCl	EtOH	NaOtBu
0.560248	W002	CuCl	EtOH	KOtBu
1.103659	W002	CuCl	EtOH	NaOMe
2.518972	W002	CuCl	MeOH	NaOtBu
0.09878	W002	CuCl	MeOH	KOtBu
0.006127	W002	CuCl	MeOH	NaOMe
0.004938	W002	Cu(MeCN)4PF6	EtOH	NaOtBu
1.212714	W002	Cu(MeCN)4PF6	EtOH	KOtBu
1.093902	W002	Cu(MeCN)4PF6	EtOH	NaOMe
2.653563	W002	Cu(MeCN)4PF6	MeOH	NaOtBu
2.591787	W002	Cu(MeCN)4PF6	MeOH	KOtBu
2.629091	W002	Cu(MeCN)4PF6	MeOH	NaOMe
1.328475	M001	CuCl	EtOH	NaOtBu
1.695599	M001	CuCl	EtOH	KOtBu
0.001091	M001	CuCl	EtOH	NaOMe
1.418634	M001	CuCl	MeOH	NaOtBu
1.5086	M001	CuCl	MeOH	KOtBu
1.507937	M001	CuCl	MeOH	NaOMe
1.238876	M001	Cu(MeCN)4PF6	EtOH	NaOtBu
1.154817	M001	Cu(MeCN)4PF6	EtOH	KOtBu
1.555961	M001	Cu(MeCN)4PF6	EtOH	NaOMe
1.454982	M001	Cu(MeCN)4PF6	MeOH	NaOtBu
1.402174	M001	Cu(MeCN)4PF6	MeOH	KOtBu
1.044677	M001	Cu(MeCN)4PF6	MeOH	NaOMe
0.889976	M004	CuCl	EtOH	NaOtBu
0.477723	M004	CuCl	EtOH	KOtBu
0.604423	M004	CuCl	EtOH	NaOMe
0.142331	M004	CuCl	MeOH	NaOtBu
0.115764	M004	CuCl	MeOH	KOtBu
0.131611	M004	CuCl	MeOH	NaOMe
0.137136	M004	Cu(MeCN)4PF6	EtOH	NaOtBu
0.515892	M004	Cu(MeCN)4PF6	EtOH	KOtBu
0.825062	M004	Cu(MeCN)4PF6	EtOH	NaOMe
0.493888	M004	Cu(MeCN)4PF6	MeOH	NaOtBu
0.574755	M004	Cu(MeCN)4PF6	MeOH	KOtBu
0.626919	M004	Cu(MeCN)4PF6	MeOH	NaOMe
1.033898	P001	CuCl	EtOH	NaOtBu

0.675309	P001	CuCl	EtOH	KOtBu
1.165012	P001	CuCl	EtOH	NaOMe
0.15889	P001	CuCl	MeOH	NaOtBu
0.01476	P001	CuCl	MeOH	KOtBu
0.049751	P001	CuCl	MeOH	NaOMe
0.771684	P001	Cu(MeCN)4PF6	EtOH	NaOtBu
0.788945	P001	Cu(MeCN)4PF6	EtOH	KOtBu
1.530414	P001	Cu(MeCN)4PF6	EtOH	NaOMe
0.43309	P001	Cu(MeCN)4PF6	MeOH	NaOtBu
0.520732	P001	Cu(MeCN)4PF6	MeOH	KOtBu
0.644815	P001	Cu(MeCN)4PF6	MeOH	NaOMe
0.310513	A101	CuCl	EtOH	NaOtBu
0.292653	A101	CuCl	EtOH	KOtBu
0.412639	A101	CuCl	EtOH	NaOMe
0.428925	A101	CuCl	MeOH	NaOtBu
0.034739	A101	CuCl	MeOH	KOtBu
0.135741	A101	CuCl	MeOH	NaOMe
0.153563	A101	Cu(MeCN)4PF6	EtOH	NaOtBu
0.353374	A101	Cu(MeCN)4PF6	EtOH	KOtBu
0.50601	A101	Cu(MeCN)4PF6	EtOH	NaOMe
0.159228	A101	Cu(MeCN)4PF6	MeOH	NaOtBu
0.15942	A101	Cu(MeCN)4PF6	MeOH	KOtBu
0.252682	A101	Cu(MeCN)4PF6	MeOH	NaOMe
0.138015	A109	CuCl	EtOH	NaOtBu
0.420526	A109	CuCl	EtOH	KOtBu
0.110837	A109	CuCl	EtOH	NaOMe
0.063882	A109	CuCl	MeOH	NaOtBu
0.034653	A109	CuCl	MeOH	KOtBu
0.079853	A109	CuCl	MeOH	NaOMe
0.451613	A109	Cu(MeCN)4PF6	EtOH	NaOtBu
0.502475	A109	Cu(MeCN)4PF6	EtOH	KOtBu
0.160494	A109	Cu(MeCN)4PF6	EtOH	NaOMe
0.082324	A109	Cu(MeCN)4PF6	MeOH	NaOtBu
0.001198	A109	Cu(MeCN)4PF6	MeOH	KOtBu
0.021028	A109	Cu(MeCN)4PF6	MeOH	NaOMe
2.600703	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	CuCl	EtOH	NaOtBu
2.709178	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	CuCl	EtOH	KOtBu
2.610651	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	CuCl	EtOH	NaOMe
1.465844	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	CuCl	MeOH	NaOtBu
1.091856	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	CuCl	MeOH	KOtBu

1.181058	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	CuCl	MeOH	NaOMe
1.028143	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	Cu(MeCN)4PF6	EtOH	NaOtBu
2.075935	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	Cu(MeCN)4PF6	EtOH	KOtBu
2.171893	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	Cu(MeCN)4PF6	EtOH	NaOMe
1.812956	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	Cu(MeCN)4PF6	MeOH	NaOtBu
1.93833	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	Cu(MeCN)4PF6	MeOH	KOtBu
1.515672	1,2-Bis[(2*S*,5*S*)-2,5-diisopropylphospholano]ethane	Cu(MeCN)4PF6	MeOH	NaOMe
0.44881	(*S*,*S*)-i-Pr-DUPHOS	CuCl	EtOH	NaOtBu
0.396635	(*S*,*S*)-i-Pr-DUPHOS	CuCl	EtOH	KOtBu
0.429963	(*S*,*S*)-i-Pr-DUPHOS	CuCl	EtOH	NaOMe
0.240537	(*S*,*S*)-i-Pr-DUPHOS	CuCl	MeOH	NaOtBu
0.225885	(*S*,*S*)-i-Pr-DUPHOS	CuCl	MeOH	KOtBu
0.222494	(*S*,*S*)-i-Pr-DUPHOS	CuCl	MeOH	NaOMe
0.242718	(*S*,*S*)-i-Pr-DUPHOS	Cu(MeCN)4PF6	EtOH	NaOtBu
0.446886	(*S*,*S*)-i-Pr-DUPHOS	Cu(MeCN)4PF6	EtOH	KOtBu
0.00122	(*S*,*S*)-i-Pr-DUPHOS	Cu(MeCN)4PF6	EtOH	NaOMe
0.302184	(*S*,*S*)-i-Pr-DUPHOS	Cu(MeCN)4PF6	MeOH	NaOtBu
0.285714	(*S*,*S*)-i-Pr-DUPHOS	Cu(MeCN)4PF6	MeOH	KOtBu
0.324228	(*S*,*S*)-i-Pr-DUPHOS	Cu(MeCN)4PF6	MeOH	NaOMe
1.690931	*S*,*S*-Me-BozPhos	CuCl	EtOH	NaOtBu
1.914081	*S*,*S*-Me-BozPhos	CuCl	EtOH	KOtBu
1.988138	*S*,*S*-Me-BozPhos	CuCl	EtOH	NaOMe
1.337947	*S*,*S*-Me-BozPhos	CuCl	MeOH	NaOtBu
1.376579	*S*,*S*-Me-BozPhos	CuCl	MeOH	KOtBu
1.347191	*S*,*S*-Me-BozPhos	CuCl	MeOH	NaOMe
0	*S*,*S*-Me-BozPhos	Cu(MeCN)4PF6	EtOH	NaOtBu
0	*S*,*S*-Me-BozPhos	Cu(MeCN)4PF6	EtOH	KOtBu
0	*S*,*S*-Me-BozPhos	Cu(MeCN)4PF6	EtOH	NaOMe
1.493743	*S*,*S*-Me-BozPhos	Cu(MeCN)4PF6	MeOH	NaOtBu
1.537844	*S*,*S*-Me-BozPhos	Cu(MeCN)4PF6	MeOH	KOtBu
1.764097	*S*,*S*-Me-BozPhos	Cu(MeCN)4PF6	MeOH	NaOMe

Screen 2:

Solvent	Base	Lig	Copper Source
THF/EtOH	KOMe (1 eq)	TSDPEN	CuCl
EtOH	NaO*t*Bu (1 eq)	L4019	
	KOMe (0.3 eq)	P-PHOS	
		BDPP	

T-BINAP
SI-PHOS
SEGPHOS
QUINOXP
H8BINAP
DMSEG
DTBMSEG
PYBOX
DIOP
ISOBORNEOL
L680192
L4026

P/IS	Solvent	Base	Lig
0.656245	THF/EtOH	30% KOMe	TSDPEN
0.668491	THF/EtOH	30% KOMe	L4019
1.376753	THF/EtOH	30% KOMe	P-PHOS
2.041838	THF/EtOH	30% KOMe	BDPP
1.133252	THF/EtOH	30% KOMe	T-BINAP
2.021933	THF/EtOH	30% KOMe	SI-PHOS
0.790196	THF/EtOH	30% KOMe	SEGPHOS
2.148606	THF/EtOH	30% KOMe	QUINOXP
0.606539	THF/EtOH	30% KOMe	H8BINAP
0.727864	THF/EtOH	30% KOMe	DMSEG
0.636224	THF/EtOH	30% KOMe	DTBMSEG
0.785619	THF/EtOH	30% KOMe	PYBOX
2.02251	THF/EtOH	30% KOMe	DIOP
0.966893	THF/EtOH	30% KOMe	ISOBORNEOL
0	THF/EtOH	30% KOMe	L680192
0.517263	THF/EtOH	30% KOMe	L4026
0.908348	EtOH	30% KOMe	TSDPEN
1.907065	EtOH	30% KOMe	L4019
0.791761	EtOH	30% KOMe	P-PHOS
1.585064	EtOH	30% KOMe	BDPP
0.536845	EtOH	30% KOMe	T-BINAP
2.017474	EtOH	30% KOMe	SI-PHOS
2.121193	EtOH	30% KOMe	SEGPHOS
0.317455	EtOH	30% KOMe	QUINOXP
0.472133	EtOH	30% KOMe	H8BINAP
0.366804	EtOH	30% KOMe	DMSEG
0.747695	EtOH	30% KOMe	DTBMSEG
0.409246	EtOH	30% KOMe	PYBOX
0.942743	EtOH	30% KOMe	DIOP
1.92415	EtOH	30% KOMe	ISOBORNEOL
0.288743	EtOH	30% KOMe	L680192
0.446385	EtOH	30% KOMe	L4026
1.299504	THF/EtOH	100% KOMe	TSDPEN

0.67906	THF/EtOH	100% KOMe	L4019
1.830777	THF/EtOH	100% KOMe	P-PHOS
1.872404	THF/EtOH	100% KOMe	BDPP
1.586868	THF/EtOH	100% KOMe	T-BINAP
1.561378	THF/EtOH	100% KOMe	SI-PHOS
2.114155	THF/EtOH	100% KOMe	SEGPHOS
1.310541	THF/EtOH	100% KOMe	QUINOXP
1.187942	THF/EtOH	100% KOMe	H8BINAP
1.536486	THF/EtOH	100% KOMe	DMSEG
0.586587	THF/EtOH	100% KOMe	DTBMSEG
1.79532	THF/EtOH	100% KOMe	PYBOX
1.879143	THF/EtOH	100% KOMe	DIOP
1.949496	THF/EtOH	100% KOMe	ISOBORNEOL
1.990982	THF/EtOH	100% KOMe	L680192
1.463468	THF/EtOH	100% KOMe	L4026
2.312283	EtOH	100% KOMe	TSDPEN
0.260064	EtOH	100% KOMe	L4019
1.453354	EtOH	100% KOMe	P-PHOS
2.030701	EtOH	100% KOMe	BDPP
2.020201	EtOH	100% KOMe	T-BINAP
1.11044	EtOH	100% KOMe	SI-PHOS
0.778548	EtOH	100% KOMe	SEGPHOS
2.218701	EtOH	100% KOMe	QUINOXP
0.614301	EtOH	100% KOMe	H8BINAP
1.066018	EtOH	100% KOMe	DMSEG
0.633348	EtOH	100% KOMe	DTBMSEG
0.702564	EtOH	100% KOMe	PYBOX
2.046092	EtOH	100% KOMe	DIOP
2.020534	EtOH	100% KOMe	ISOBORNEOL
2.458053	EtOH	100% KOMe	L680192
0.81329	EtOH	100% KOMe	L4026
1.313059	THF/EtOH	100% NaOtBu	TSDPEN
1.582472	THF/EtOH	100% NaOtBu	L4019
1.843662	THF/EtOH	100% NaOtBu	P-PHOS
0.139049	THF/EtOH	100% NaOtBu	BDPP
2.032076	THF/EtOH	100% NaOtBu	T-BINAP
1.565135	THF/EtOH	100% NaOtBu	SI-PHOS
2.00649	THF/EtOH	100% NaOtBu	SEGPHOS
0.472921	THF/EtOH	100% NaOtBu	QUINOXP
1.333286	THF/EtOH	100% NaOtBu	H8BINAP
1.221851	THF/EtOH	100% NaOtBu	DMSEG
2.315701	THF/EtOH	100%	DTBMSEG

		NaOtBu	
0.939396	THF/EtOH	100% NaOtBu	PYBOX
1.807193	THF/EtOH	100% NaOtBu	DIOP
1.81734	THF/EtOH	100% NaOtBu	ISOBORNEOL
2.442484	THF/EtOH	100% NaOtBu	L680192
2.482793	THF/EtOH	100% NaOtBu	L4026
1.980405	EtOH	100% NaOtBu	TSDPEN
2.258977	EtOH	100% NaOtBu	L4019
0.071429	EtOH	100% NaOtBu	P-PHOS
2.076045	EtOH	100% NaOtBu	BDPP
1.222838	EtOH	100% NaOtBu	T-BINAP
2.274281	EtOH	100% NaOtBu	SI-PHOS
0.365572	EtOH	100% NaOtBu	SEGPHOS
1.897321	EtOH	100% NaOtBu	QUINOXP
0.795546	EtOH	100% NaOtBu	H8BINAP
1.452351	EtOH	100% NaOtBu	DMSEG
2.135887	EtOH	100% NaOtBu	DTBMSEG
1.222081	EtOH	100% NaOtBu	PYBOX
1.97988	EtOH	100% NaOtBu	DIOP
2.295937	EtOH	100% NaOtBu	ISOBORNEOL
2.484418	EtOH	100% NaOtBu	L680192
2.206374	EtOH	100% NaOtBu	L4026

Screen 3:

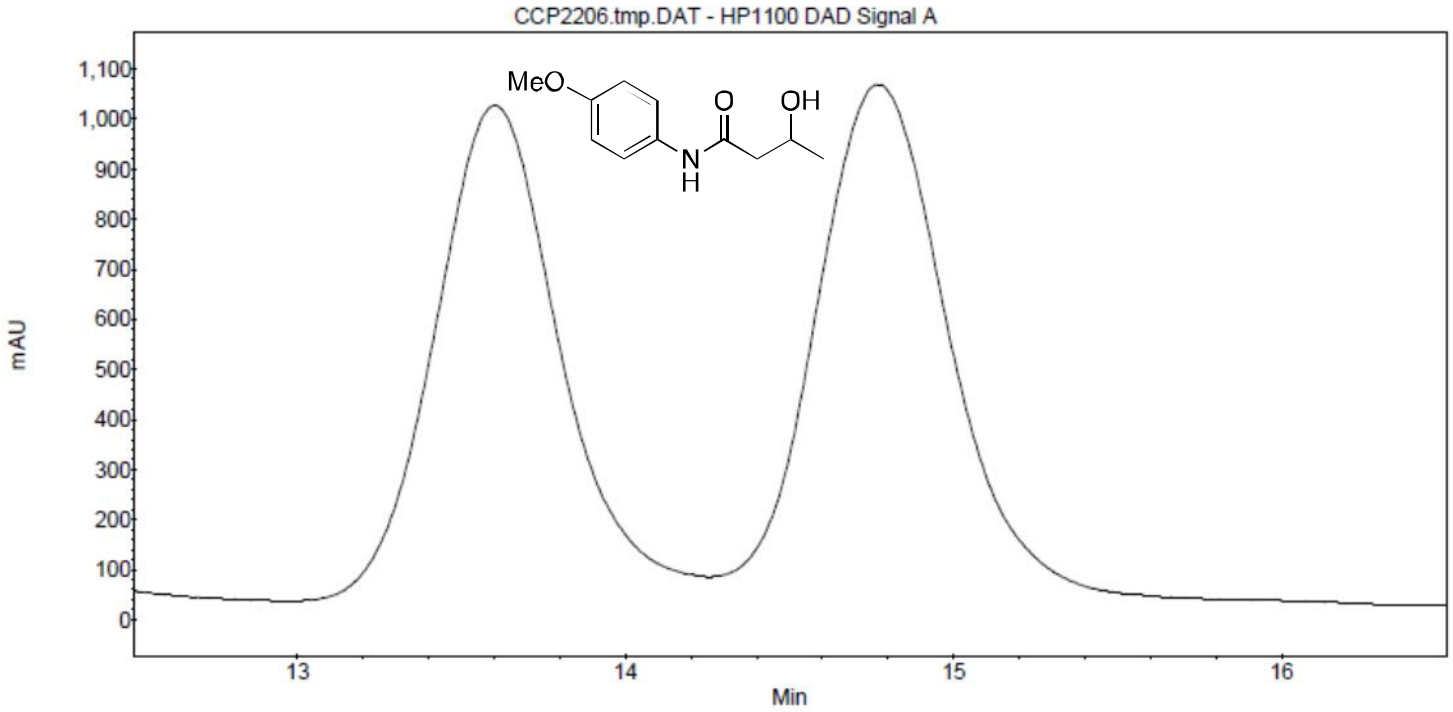
Copper Source	Solvent	Base
CuCl	THF/EtOH	LiOMe
	EtOH	KOMe (2 eq)
	Tol/EtOH	NaO*t*Bu
	MeOH	KOMe (1 eq)

P/IS	SM/IS	Copper Source	Solvent	Base
0.904621	1.919561	CuCl	THF/EtOH	LiOMe
1.284356	1.935944	CuCl	EtOH	LiOMe
0.455347	2.249269	CuCl	Tol/EtOH	LiOMe
1.299996	1.573508	CuCl	MeOH	LiOMe
1.820372	1.308925	CuCl	THF/EtOH	KOMe (2 eq)
2.020508	0.779745	CuCl	EtOH	KOMe (2 eq)
2.599796	1.040214	CuCl	Tol/EtOH	KOMe (2 eq)
2.930012	0.405905	CuCl	MeOH	KOMe (2 eq)
2.498416	1.035116	CuCl	THF/EtOH	KOMe
2.996465	0.585672	CuCl	EtOH	KOMe
3.121672	0.548854	CuCl	Tol/EtOH	KOMe
3.164455	0.121214	CuCl	MeOH	KOMe
3.34314	0.342271	CuCl	THF/EtOH	NaOtBu
3.313477	0.459934	CuCl	EtOH	NaOtBu
3.255249	0.41157	CuCl	Tol/EtOH	NaOtBu
3.22456	0.123677	CuCl	MeOH	NaOtBu

Chromatograms:

Analysis of 3-Hydroxy-*N*-(4-methoxyphenyl)butanamide (2a-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

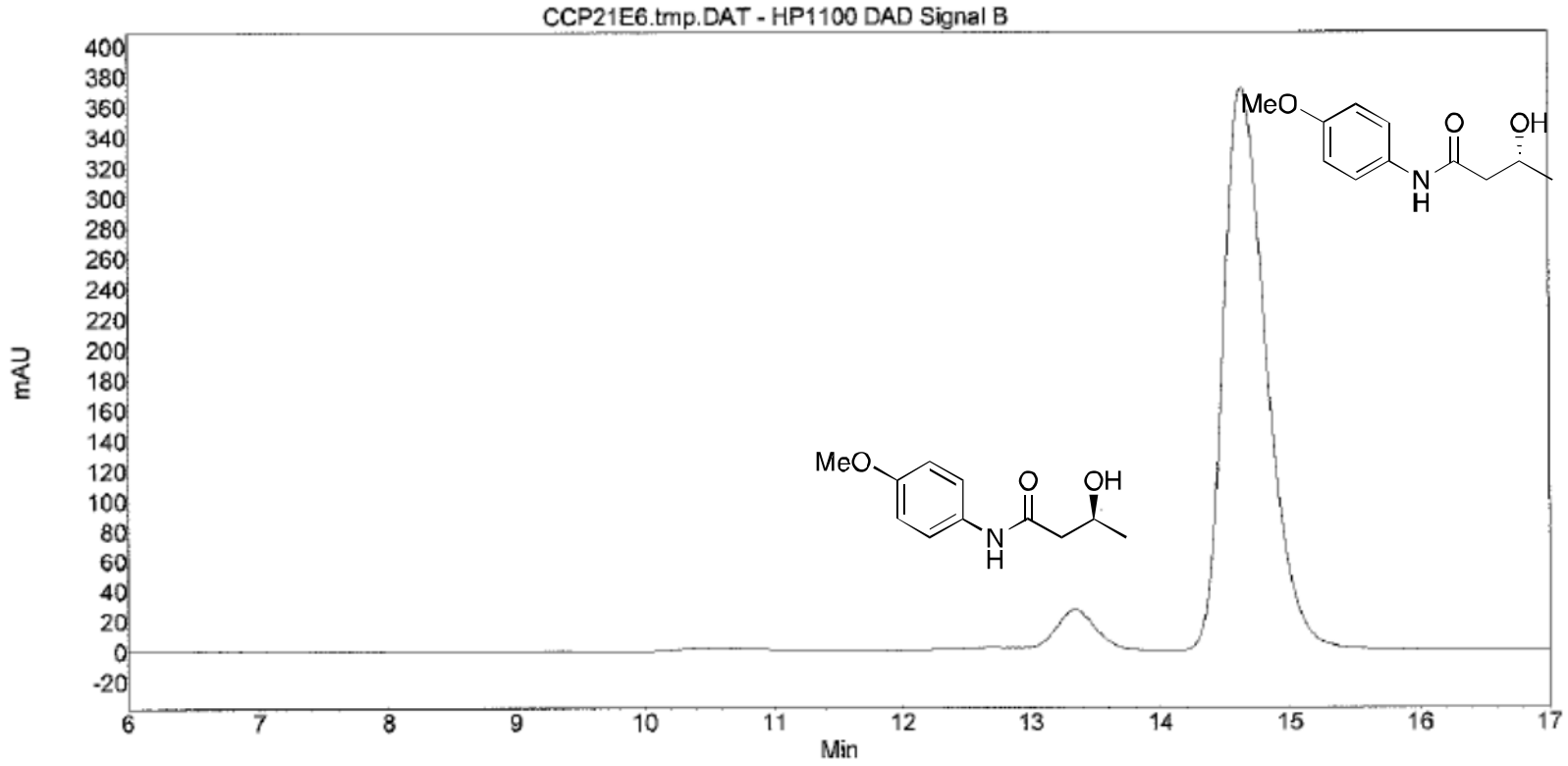


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	13.60	418.7929	1.18	974.21	6588.56	0.00	1337.0816	0.39
2	UNKNOWN	14.77	429.1280	1.10	985.40	7315.77	1.09	1352.4384	0.41
Total			847.9209						

Analysis of (*R*)-3-Hydroxy-*N*-(4-methoxyphenyl)butanamide (2a-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

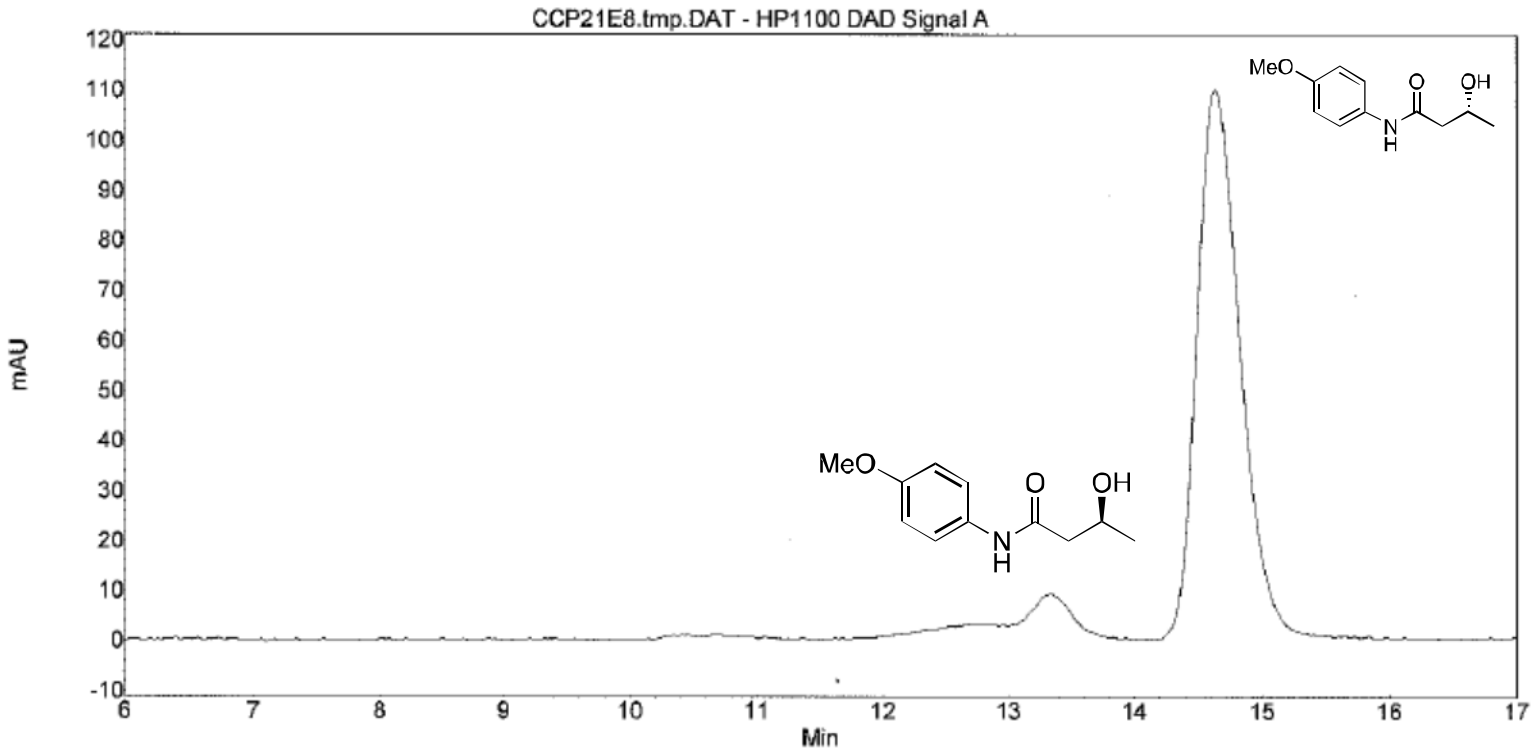


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	12.93	13.35	14.10	0.00	6.43	26.7	9.9	6.427
2	UNKNOWN	14.10	14.63	16.64	0.00	93.57	371.7	144.6	93.573
Total						100.00	398.4	154.6	100.000

Analysis of (*R*)-3-Hydroxy-*N*-(4-methoxyphenyl)butanamide (2a-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

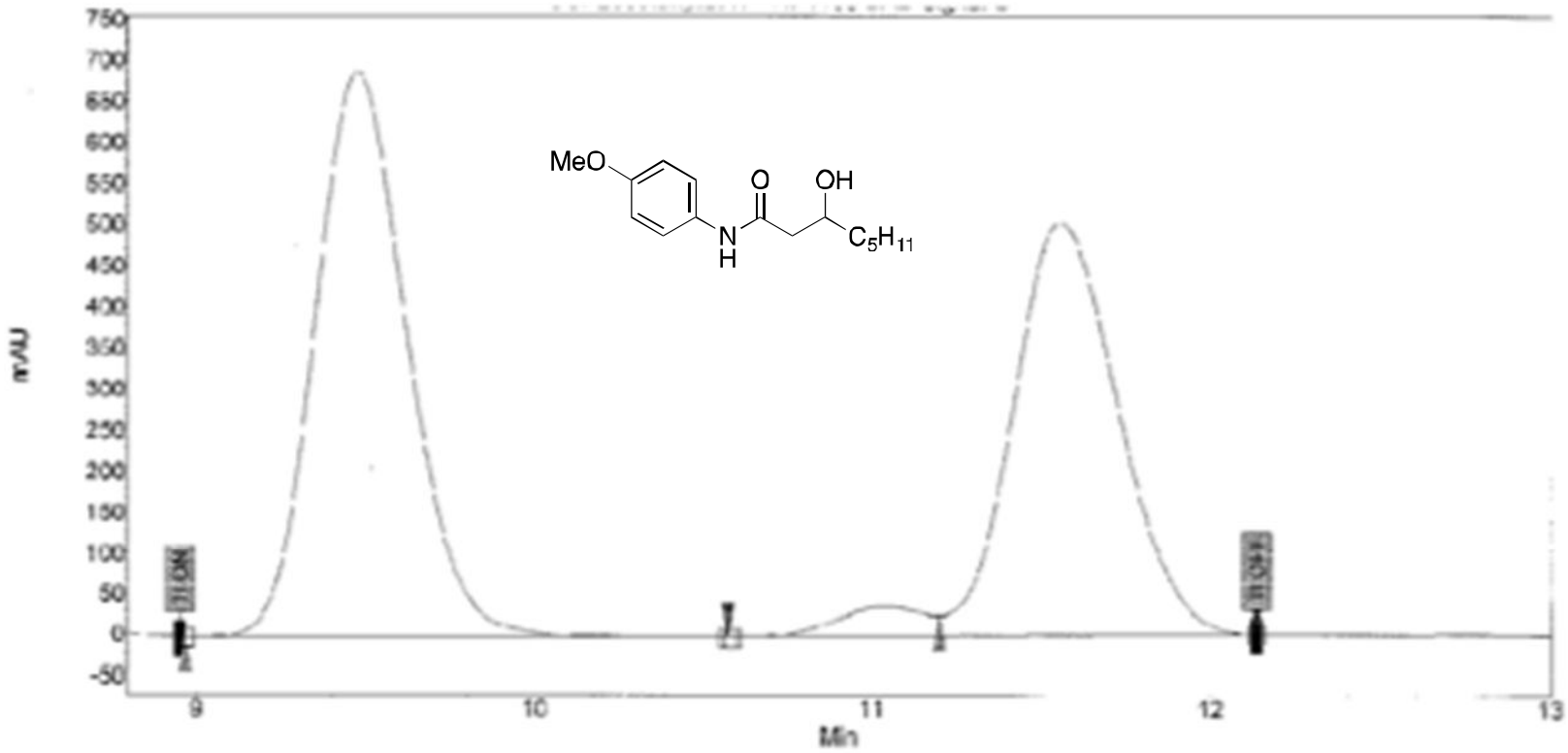


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	13.35	2.8500	0.95	7.82	10195.20	0.00	23.5562	0.34
2	UNKNOWN	14.63	42.1337	1.34	109.58	9302.84	1.10	330.0324	0.36
Total			44.9836						

Analysis of 3-Hydroxy-*N*-(4-methoxyphenyl)octanamide (2b-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

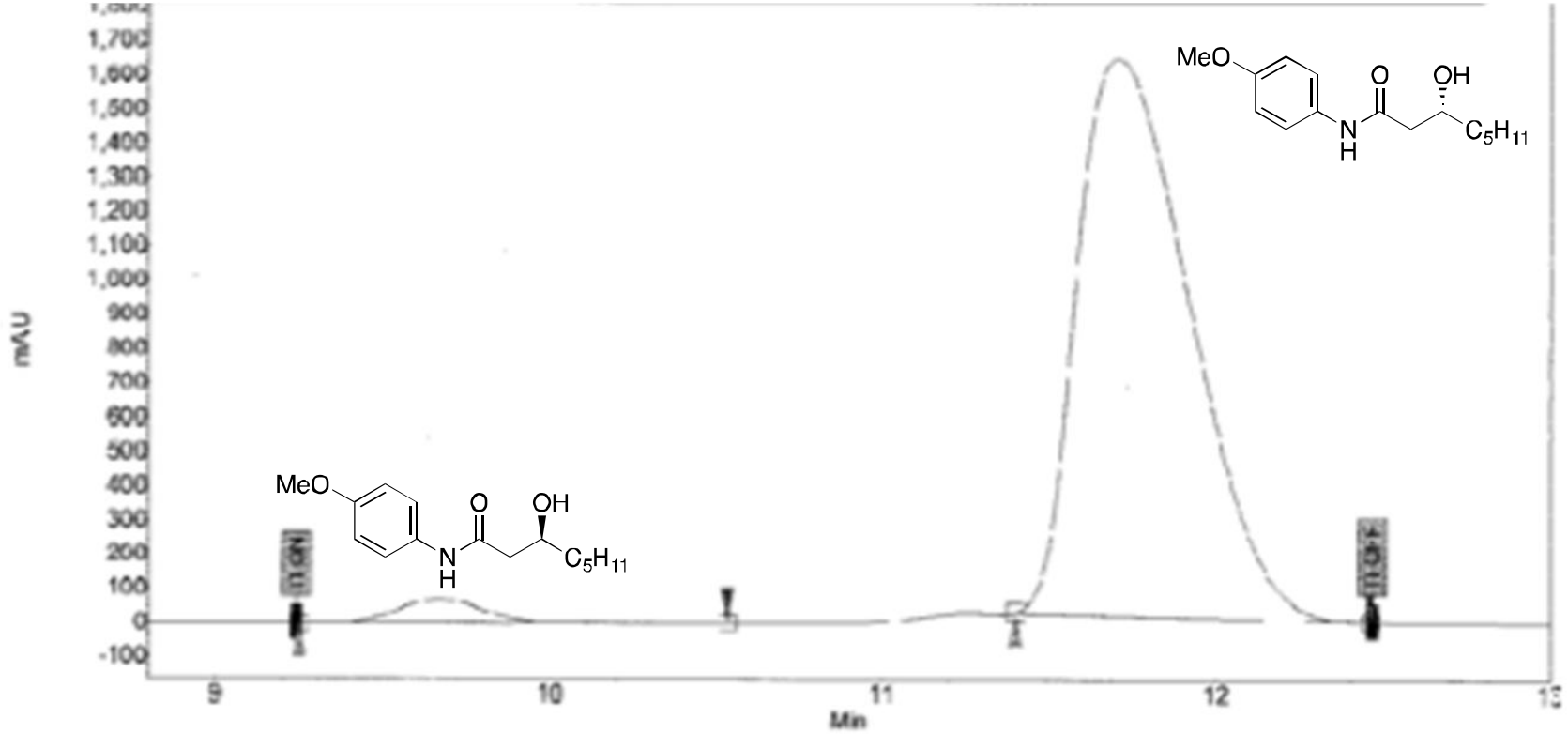


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	8.97	9.47	10.57	0.00	54.45	666.6	210.1	54.454
2	UNKNOWN	11.20	11.55	12.13	0.00	45.55	503.5	180.8	45.546
Total						100.00	1192.1	396.9	100.000

Analysis of (*R*)-3-Hydroxy-*N*-(4-methoxyphenyl)octanamide (2b-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

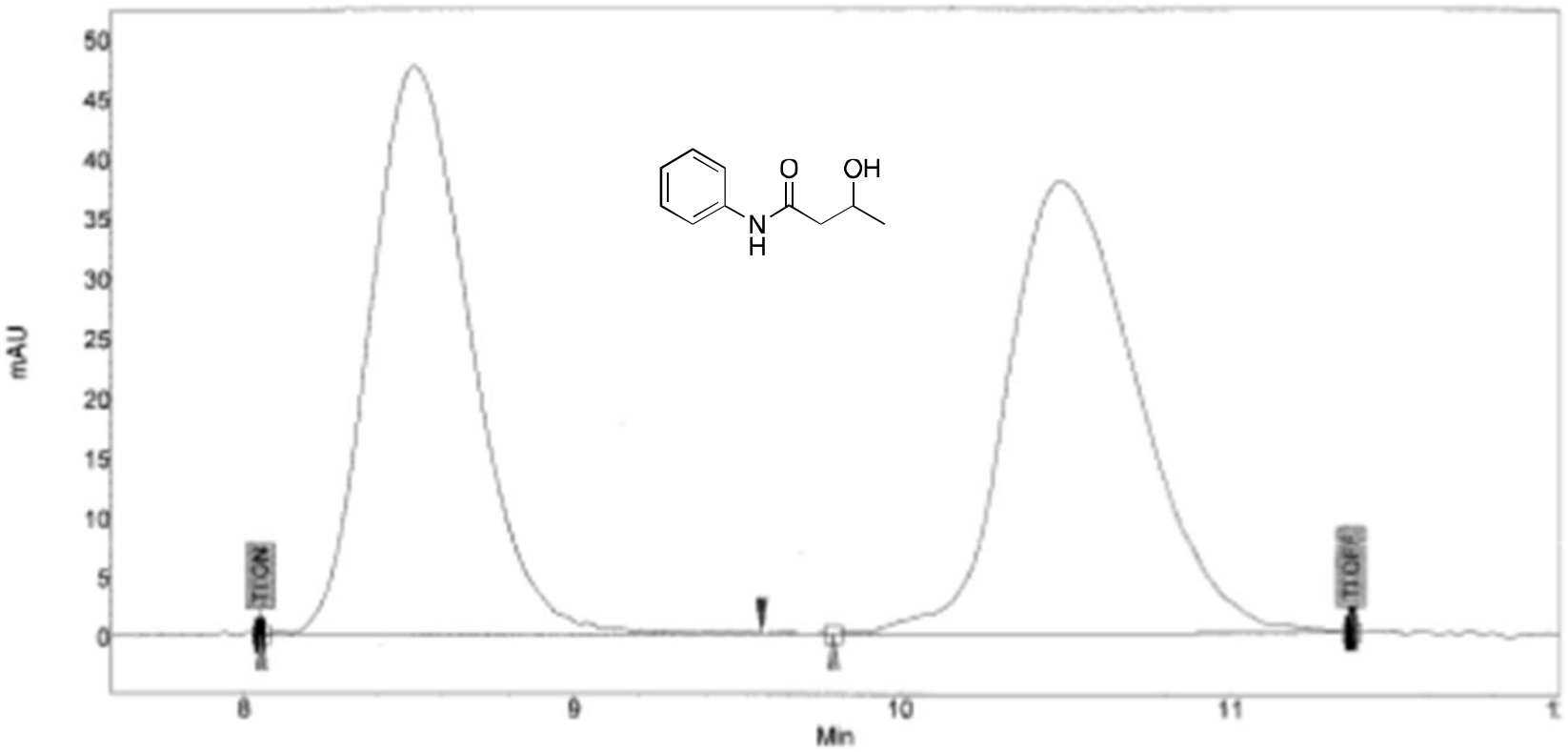


Peak results:

Indbx	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV Min]	[%]
1	UNKNOWN	9.25	9.67	10.53	0.00	3.06	64.1	19.9	3.061
2	UNKNOWN	11.40	11.71	12.46	0.00	96.94	1528.3	630.7	96.939
Total						100.00	1592.4	650.6	100.000

Analysis of 3-Hydroxy-*N*-phenylbutanamide (2c-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

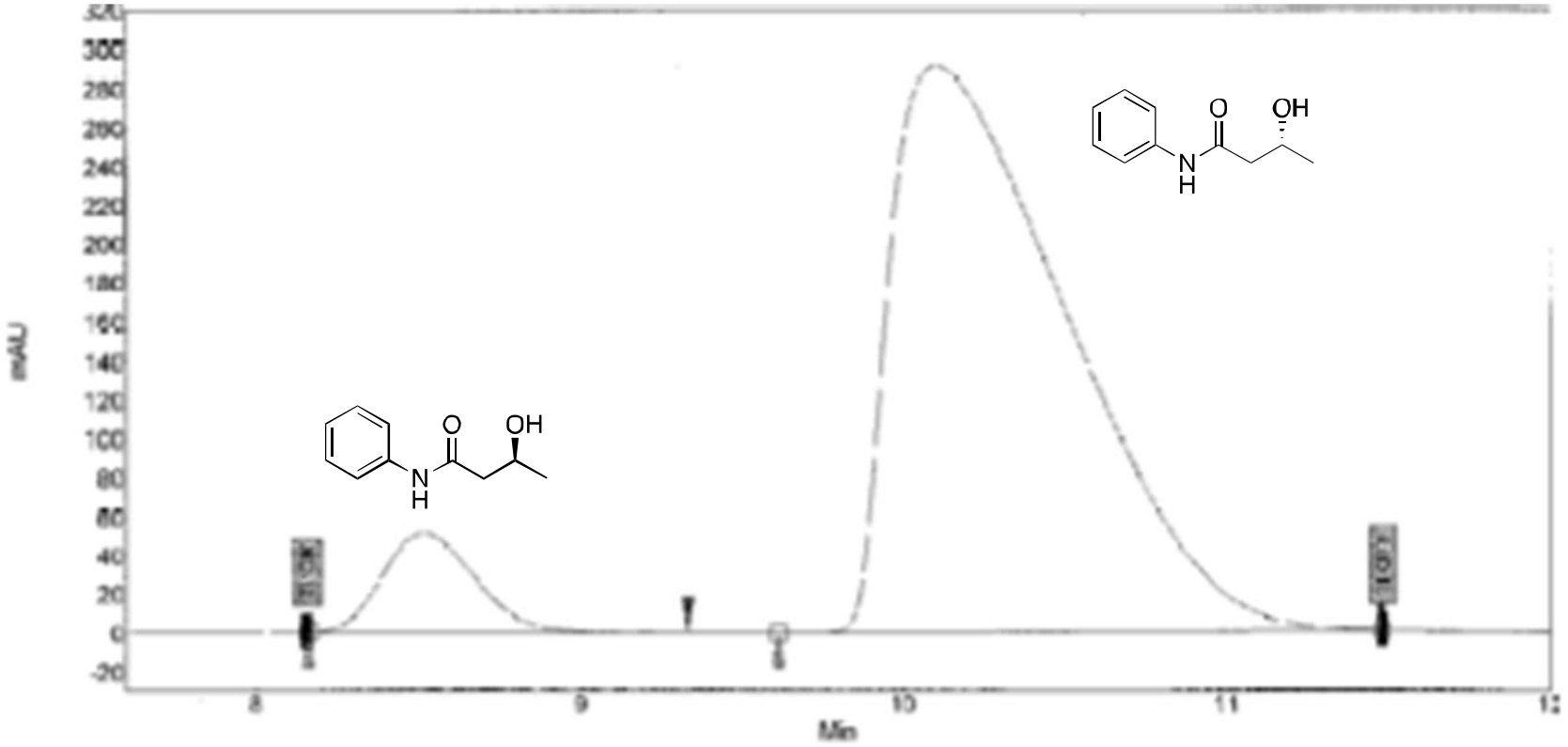


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	8.51	16.8402	1.23	47.56	3815.55	0.00	46.2419	0.33
2	UNKNOWN	10.49	17.2973	1.24	37.83	3473.01	1.23	36.7829	0.42
Total			34.1376						

Analysis of (*R*)-3-Hydroxy-*N*-phenylbutanamide (2c-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

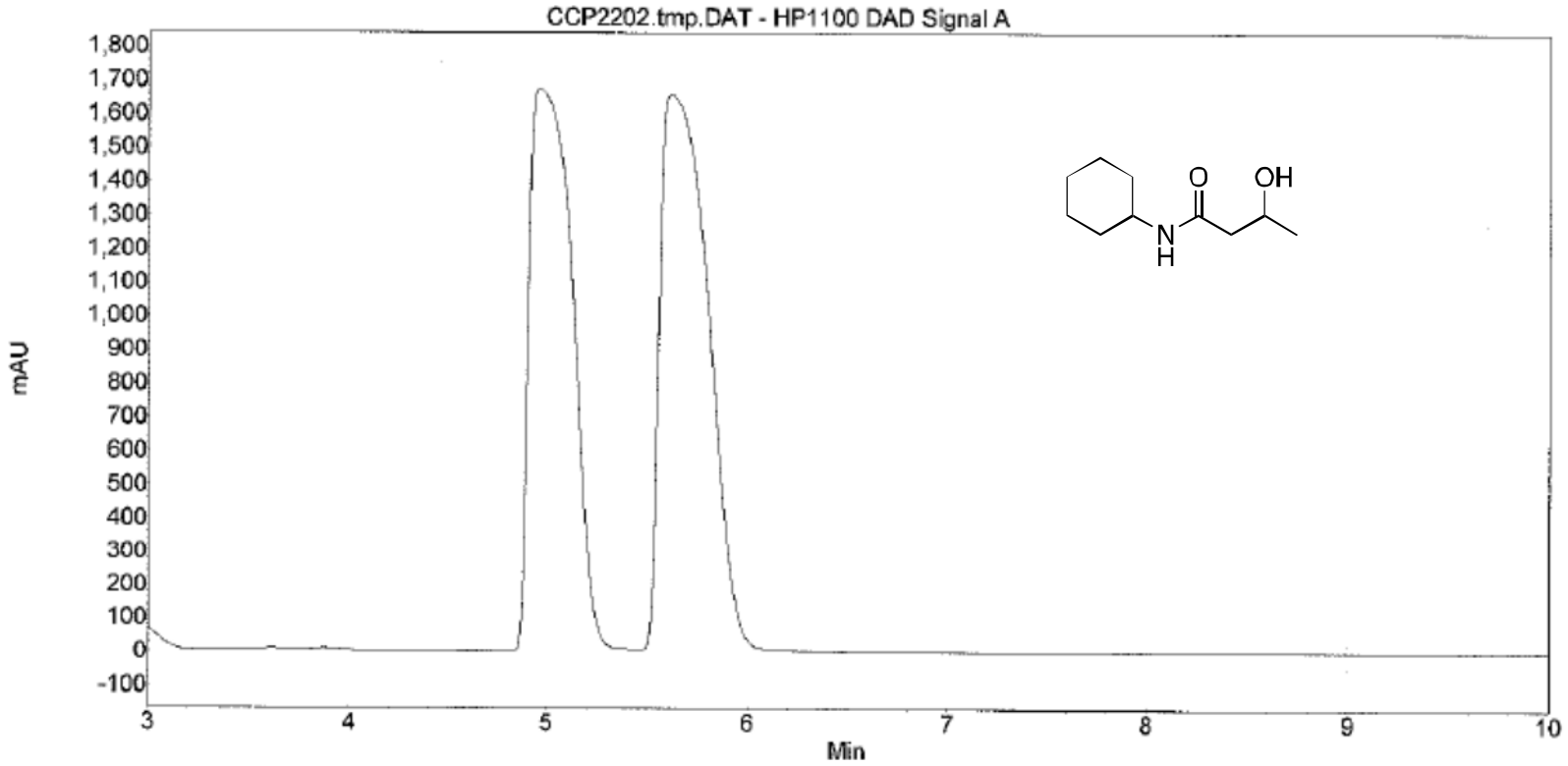


Peak results:

Index	Name	Time [Min]	Area [mAU*min]	As USP	Height [mAU]	NTP USP	Selectivity	Signal to Noise Ratio	Width [Min]
1	UNKNOWN	8.81	16.5198	1.19	51.10	4371.58	0.00	49.2762	0.30
2	UNKNOWN	10.11	183.5412	2.41	290.08	1543.70	1.19	279.7388	0.61
Total			200.0598						

Analysis of *N*-Cyclohexyl-3-hydroxybutanamide (2d-OH) using SFC (Column OD-H, 10% i-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

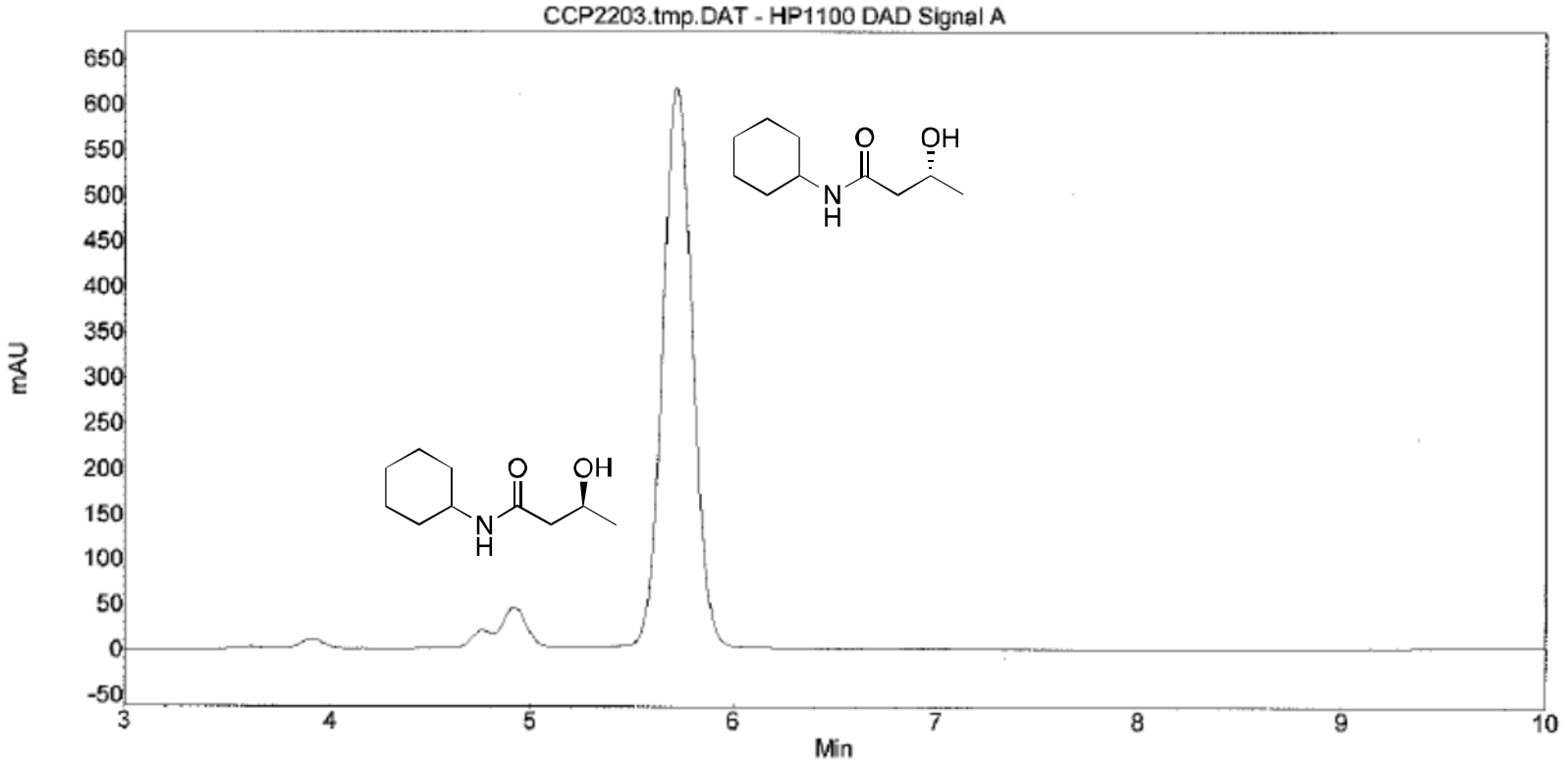


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.96	415.1601	2.10	1669.38	3192.15	0.00	284.5519	0.25
2	UNKNOWN	5.61	431.4351	2.31	1627.49	3204.86	1.13	277.4114	0.27
Total			846.5952						

Analysis of (*R*)-*N*-Cyclohexyl-3-hydroxybutanamide (2d-OH) using SFC (Column OD-H, 10% i-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

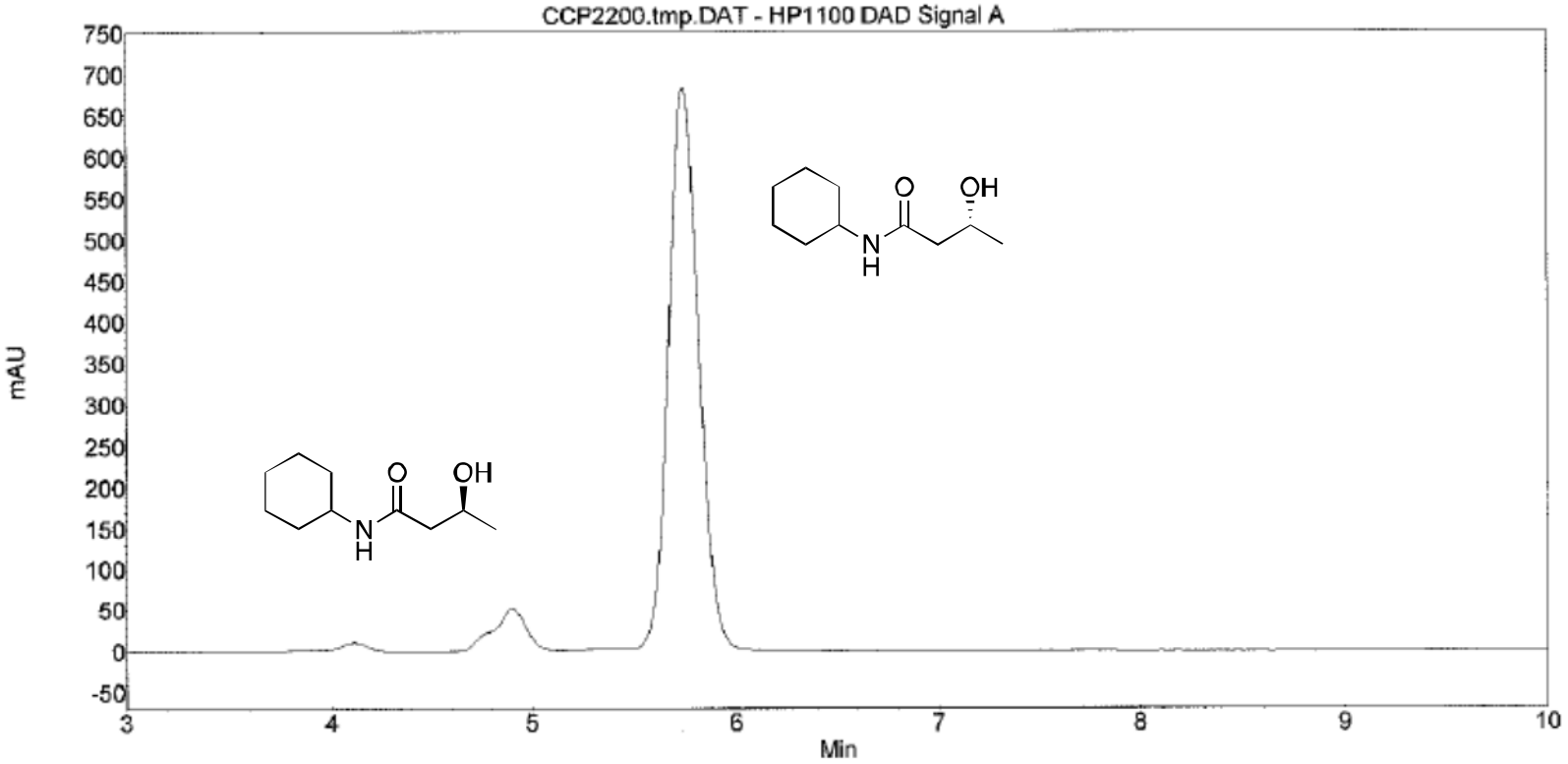


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.92	5.9428	0.77	39.30	8619.38	0.00	143.1687	0.12
2	UNKNOWN	5.72	105.9349	1.07	616.40	6671.53	1.16	2245.7603	0.16
Total			111.8777						

Analysis of (*R*)-*N*-Cyclohexyl-3-hydroxybutanamide (2d-OH) using SFC (Column OD-H, 10% i-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

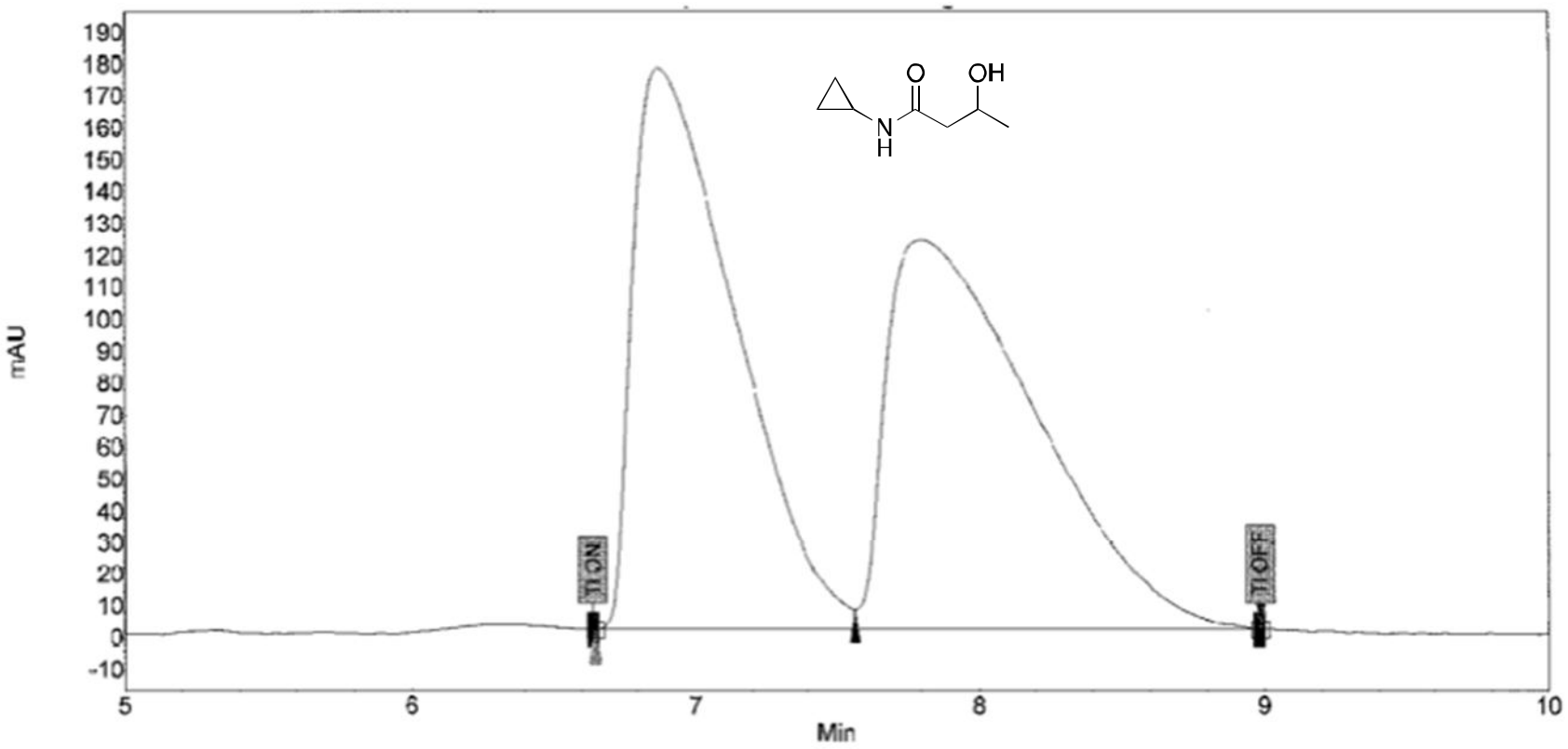


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.91	6.0068	0.82	41.46	7505.21	0.00	75.4053	0.13
2	UNKNOWN	5.75	117.6686	1.06	682.78	6712.60	1.17	1241.7006	0.16
Total			123.6754						

Analysis of *N*-Cyclopropyl-3-hydroxyoctanamide (2e-OH) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

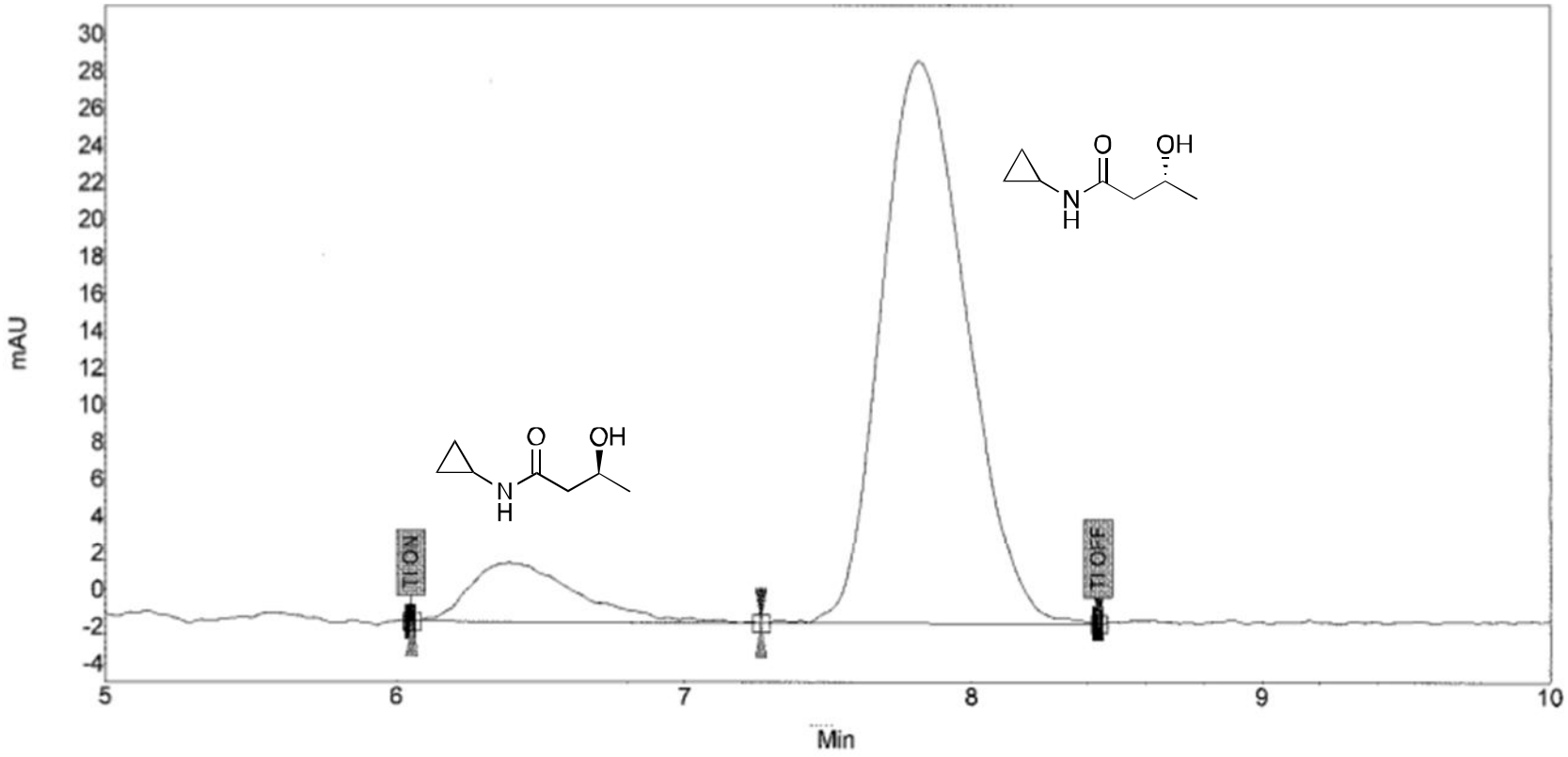


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	6.87	73.0122	2.56	176.21	1592.38	0.00	89.9301	0.40
2	UNKNOWN	7.81	74.0925	2.39	122.32	1023.15	1.14	62.4249	0.59
Total			147.1046						

Analysis of (*R*)-*N*-Cyclopropyl-3-hydroxyoctanamide (2e-OH) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

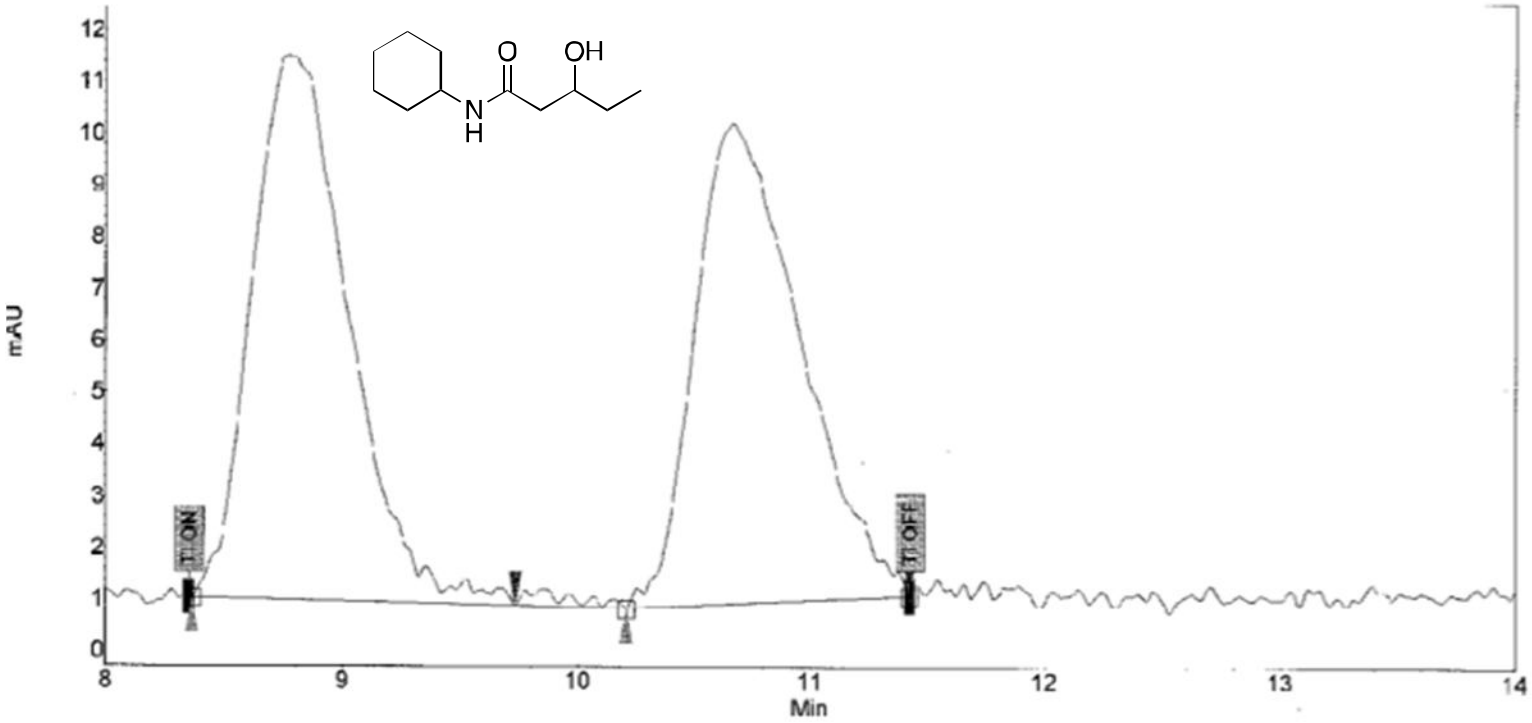


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	6.07	6.38	6.67	0.00	7.15	2.6	0.8	7.154
2	UNKNOWN	7.44	7.81	8.29	0.00	92.85	30.2	10.2	92.846
Total						100.00	32.7	11.0	100.000

Analysis of *N*-Cyclohexyl-3-hydroxypentanamide (2f-OH) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

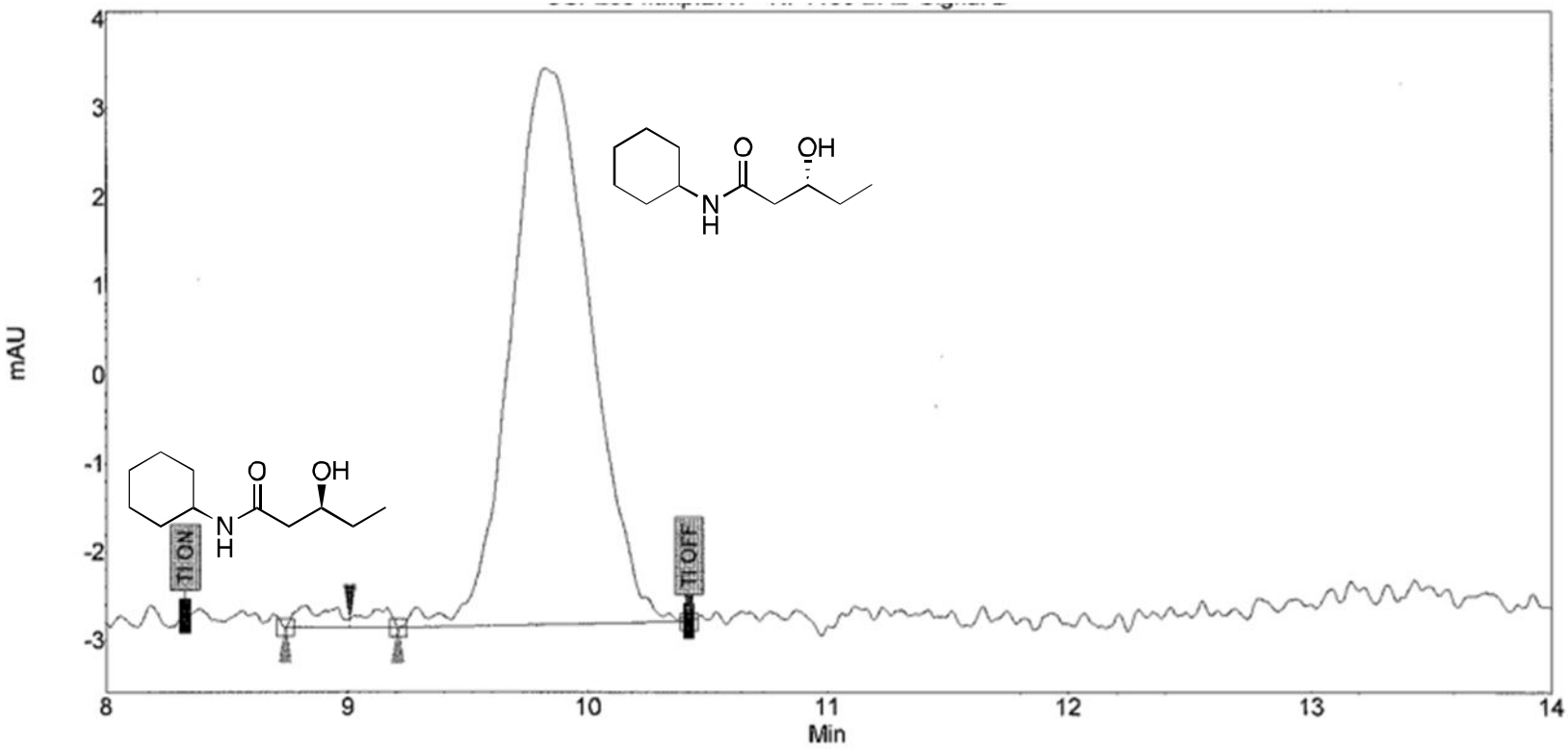


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	8.77	4.9842	1.30	10.52	2783.63	0.00	3.9414	0.44
2	UNKNOWN	10.67	4.8831	1.55	9.29	2891.60	1.22	3.4816	0.49
Total			9.8672						

Analysis of (*R*)-*N*-Cyclohexyl-3-hydroxypentanamide (2f-OH) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

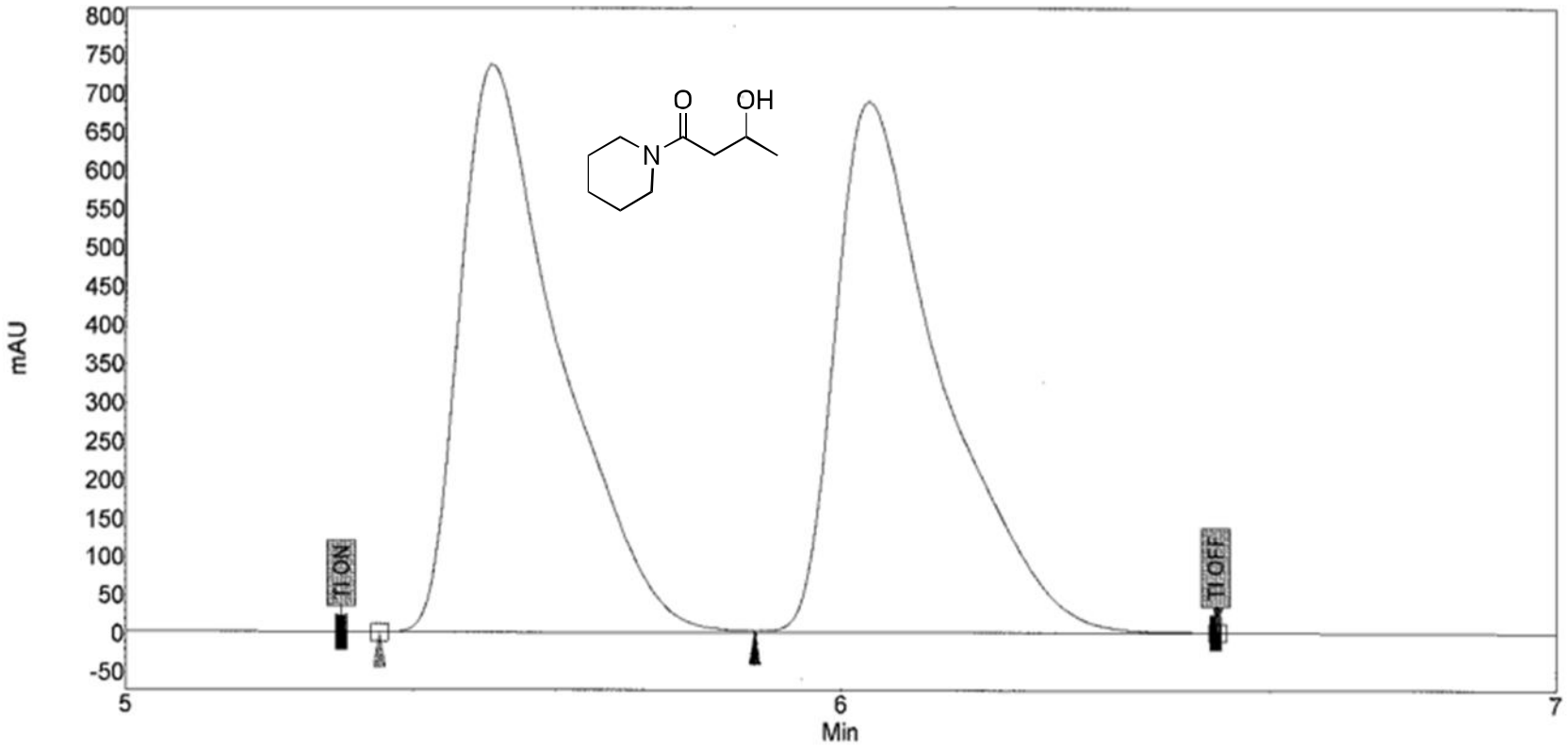


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	8.75	8.83	9.01	0.00	1.69	0.2	0.0	1.689
2	UNKNOWN	9.21	9.82	10.42	0.00	98.31	6.3	2.4	98.311
Total						100.00	6.5	2.4	100.000

Analysis of 3-Hydroxy-1-(piperidin-1-yl)butan-1-one (2g-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

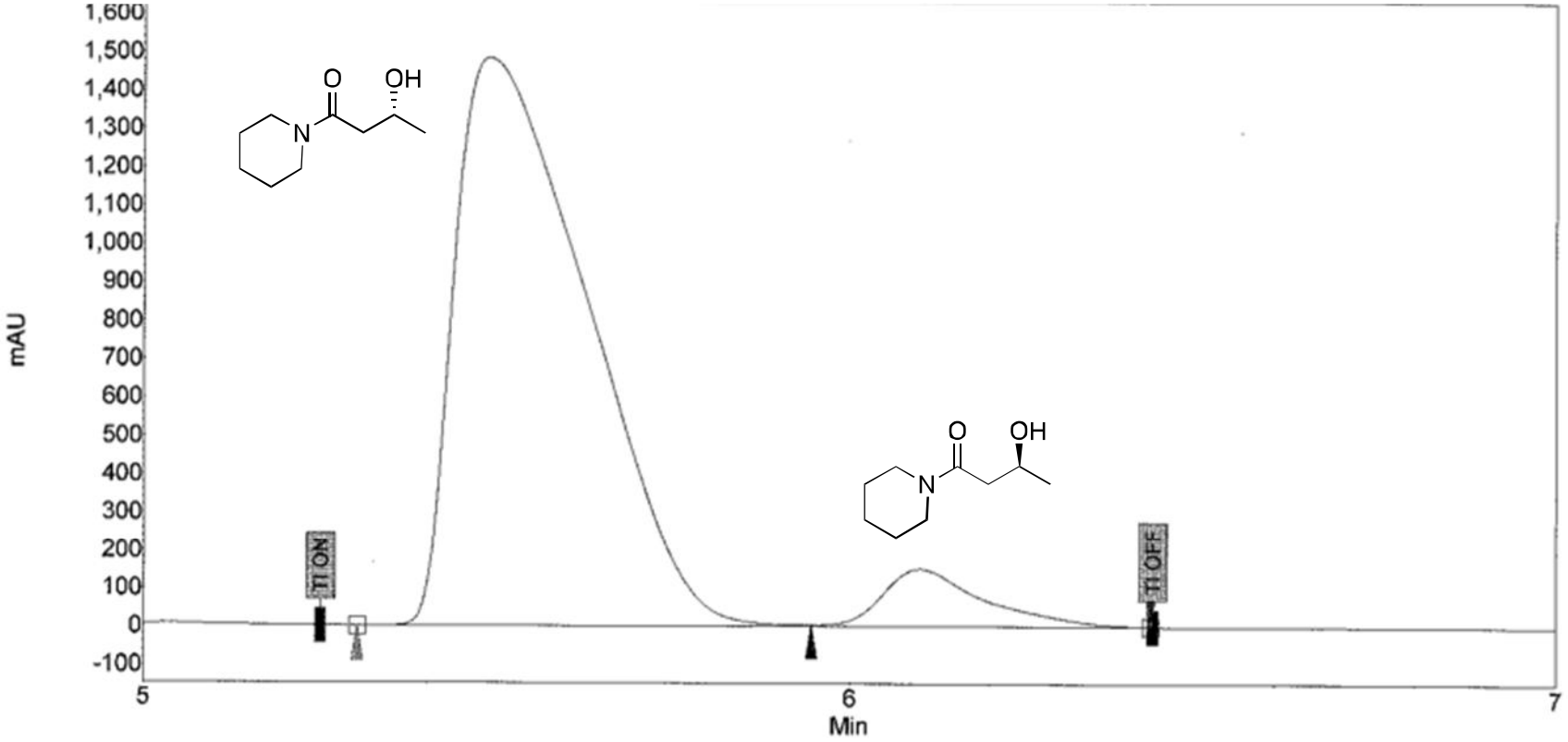


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	5.51	118.5023	1.87	735.57	8410.97	0.00	410.9275	0.14
2	UNKNOWN	6.04	119.1272	1.88	688.91	9066.71	1.10	384.8615	0.15
Total			237.6294						

Analysis of (*R*)-3-Hydroxy-1-(piperidin-1-yl)butan-1-one (2g-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product:

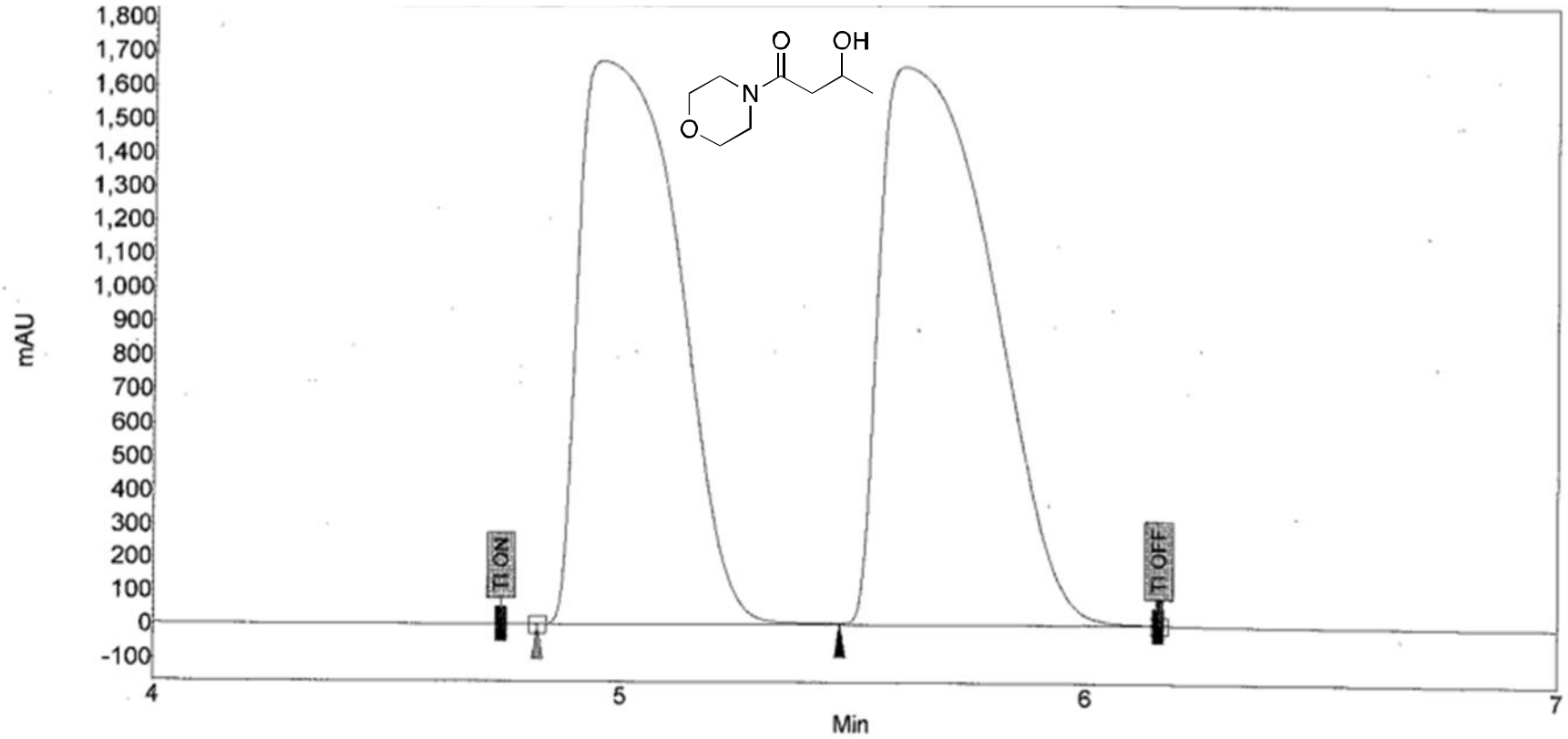


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	5.49	321.8286	2.11	1482.74	3660.79	0.00	389.6508	0.21
2	UNKNOWN	6.10	24.8640	1.59	148.97	10031.33	1.11	39.1474	0.14
Total			346.6926						

Analysis of 3-Hydroxy-1-morpholinobutan-1-one (2h-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

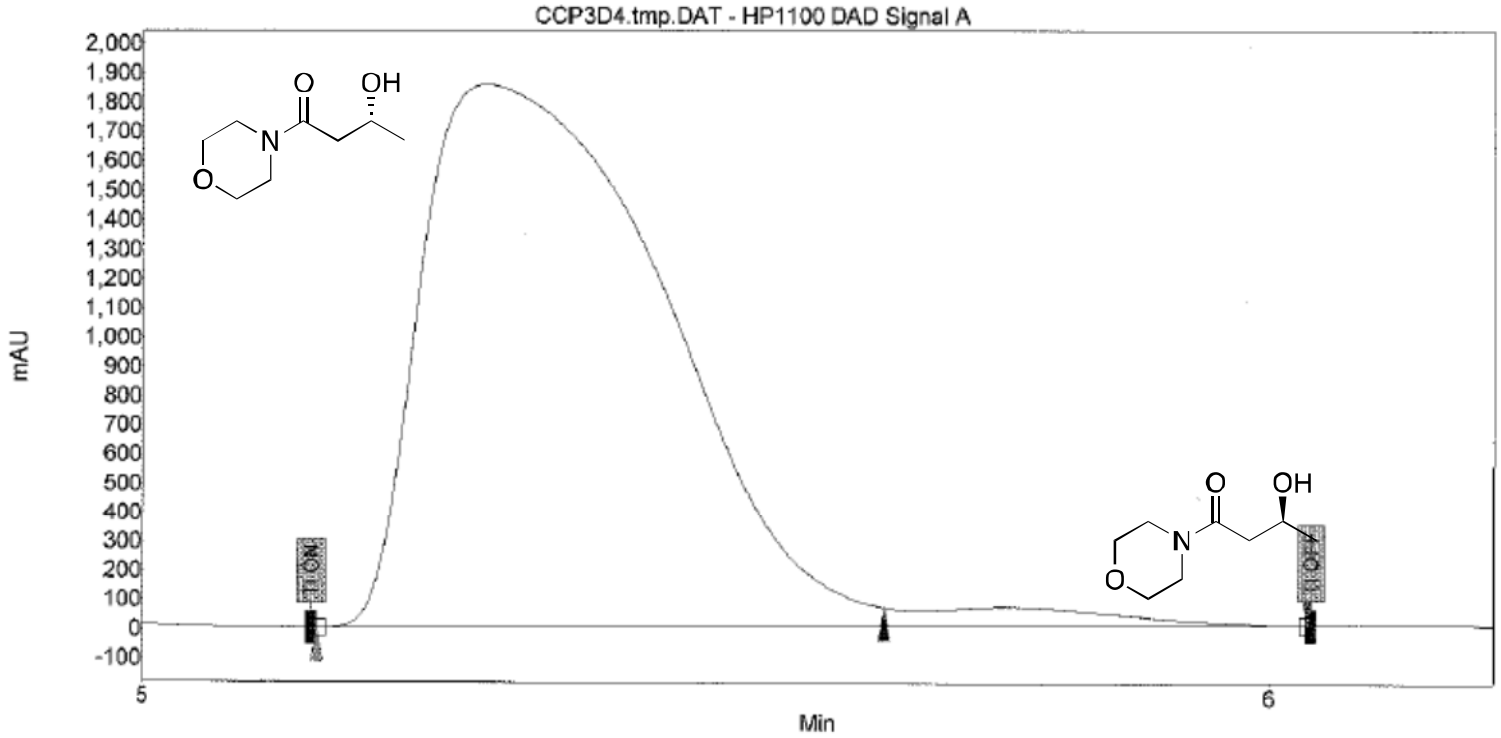


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.96	416.2065	2.10	1670.06	3188.72	0.00	284.6689	0.25
2	UNKNOWN	5.61	454.4243	2.31	1651.69	3052.69	1.13	281.5370	0.28
Total			870.6308						

Analysis of (*R*)-3-Hydroxy-1-morpholinobutan-1-one (2h-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

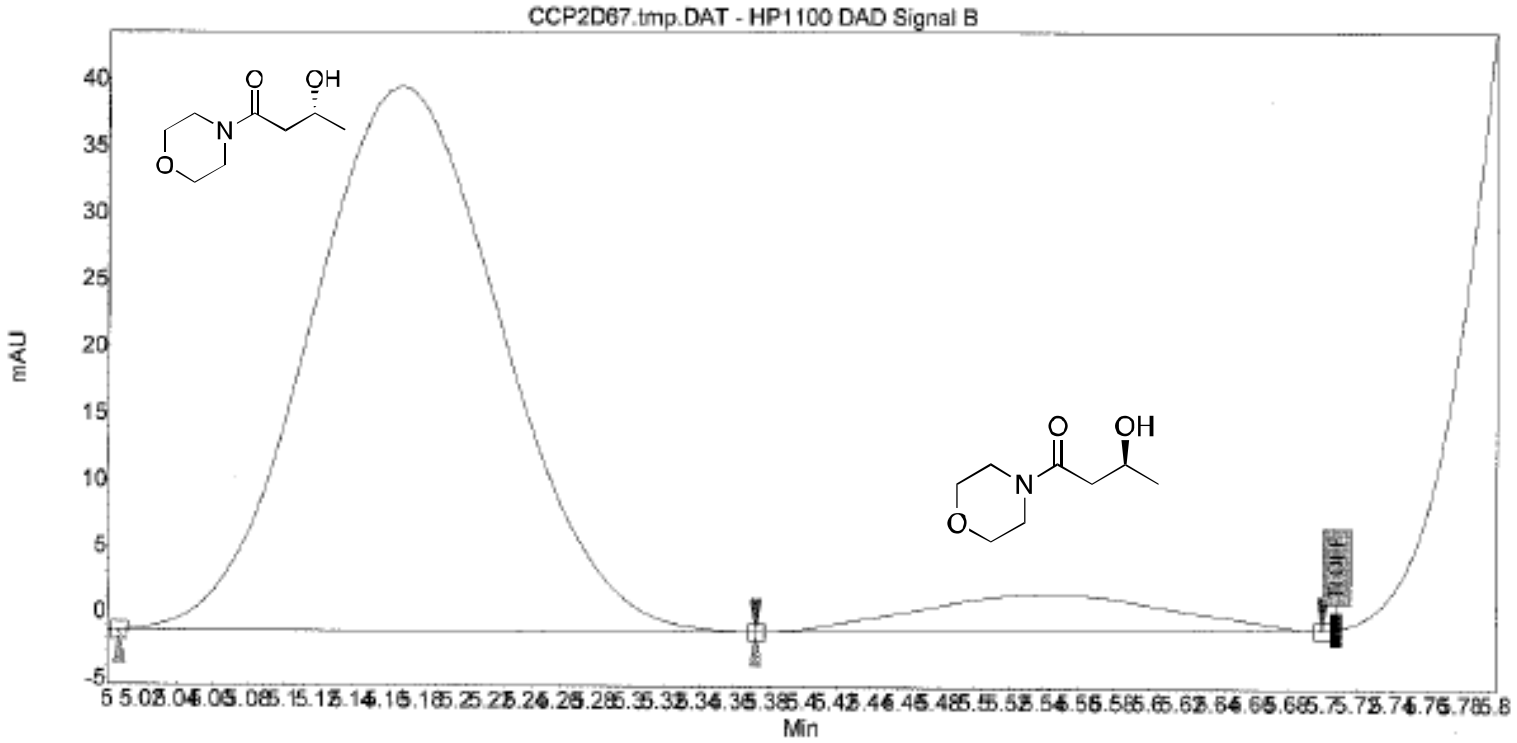


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	5.30	462.1349	2.18	1852.63	3255.92	0.00	7547.0674	0.25
2	UNKNOWN	5.77	14.1444	1.75	66.25	917.78	1.09	269.8670	0.23
Total			476.2793						

Analysis of (*R*)-3-Hydroxy-1-morpholinobutan-1-one (2h-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

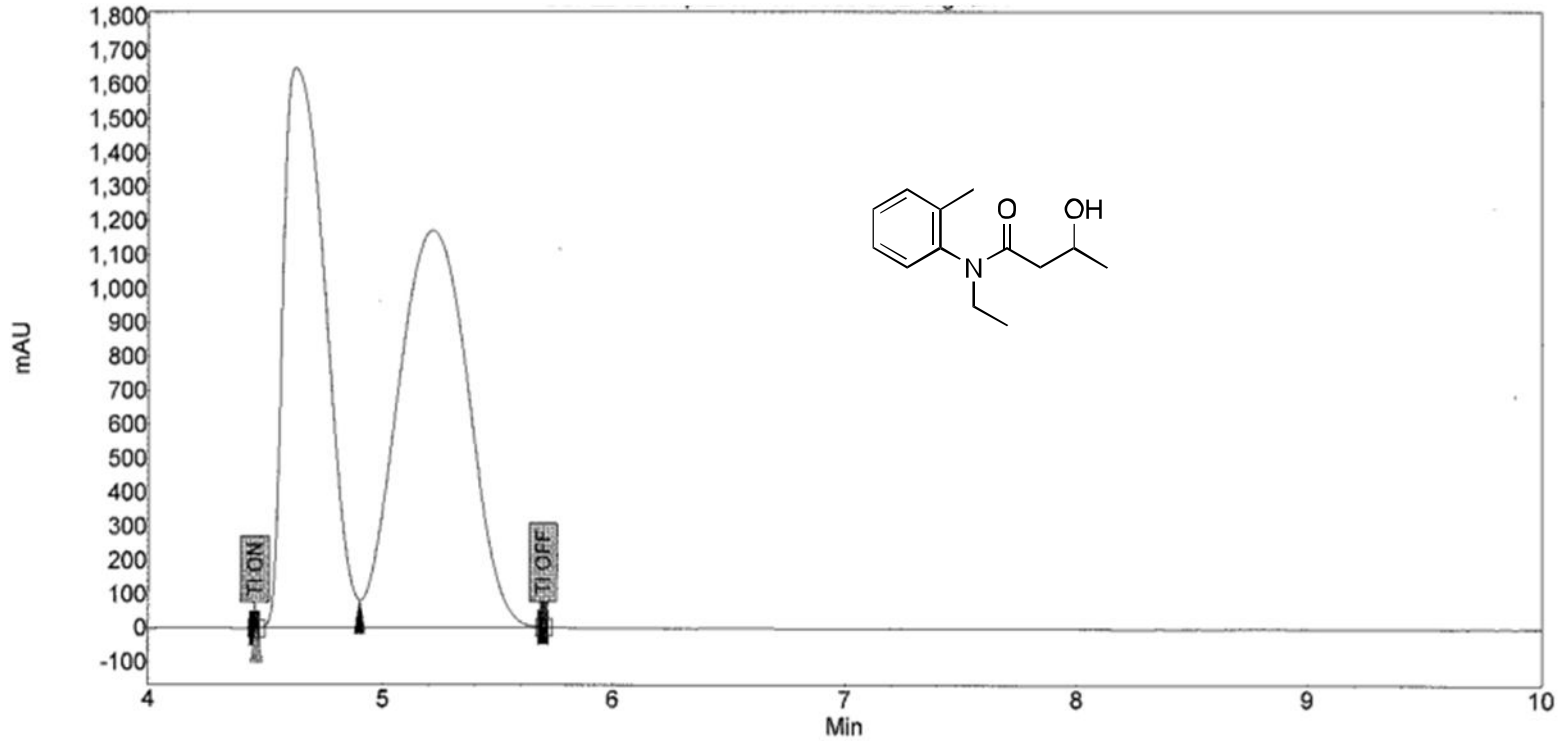


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	5.01	5.17	5.37	0.00	91.82	40.8	5.2	91.818
2	UNKNOWN	5.37	5.54	5.70	0.00	8.18	2.7	0.5	8.182
Total						100.00	43.5	5.7	100.000

Analysis of *N*-Ethyl-3-hydroxy-*N*-(*o*-tolyl)butanamide (2j-OH) using SFC (Column AD-H, 10% *i*-PrOH:CH_3CN (85:15), 2 mL, 10_MPa).

Chromatogram of oxidized racemic borylation product:

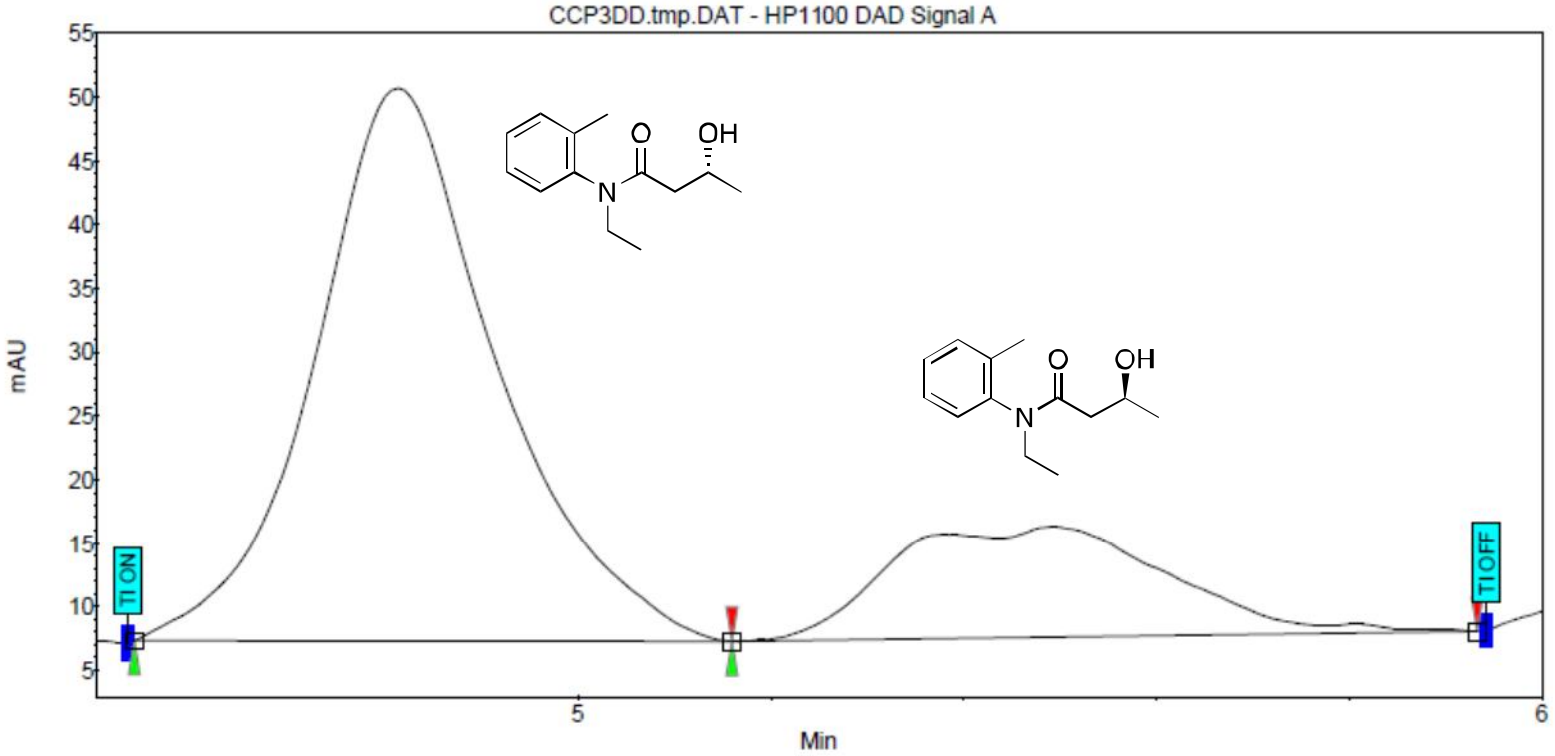


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.63	340.9325	1.80	1647.82	3509.20	0.00	3334.0082	0.20
2	UNKNOWN	5.22	413.7077	1.01	1169.34	1397.68	1.13	2365.9091	0.35
Total			754.6402						

Analysis of (*R*)-*N*-Ethyl-3-hydroxy-*N*-(*o*-tolyl)butanamide (2j-OH) using SFC (Column AD-H, 10% *i*-PrOH:CH_3CN (85:15), 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from BBA:

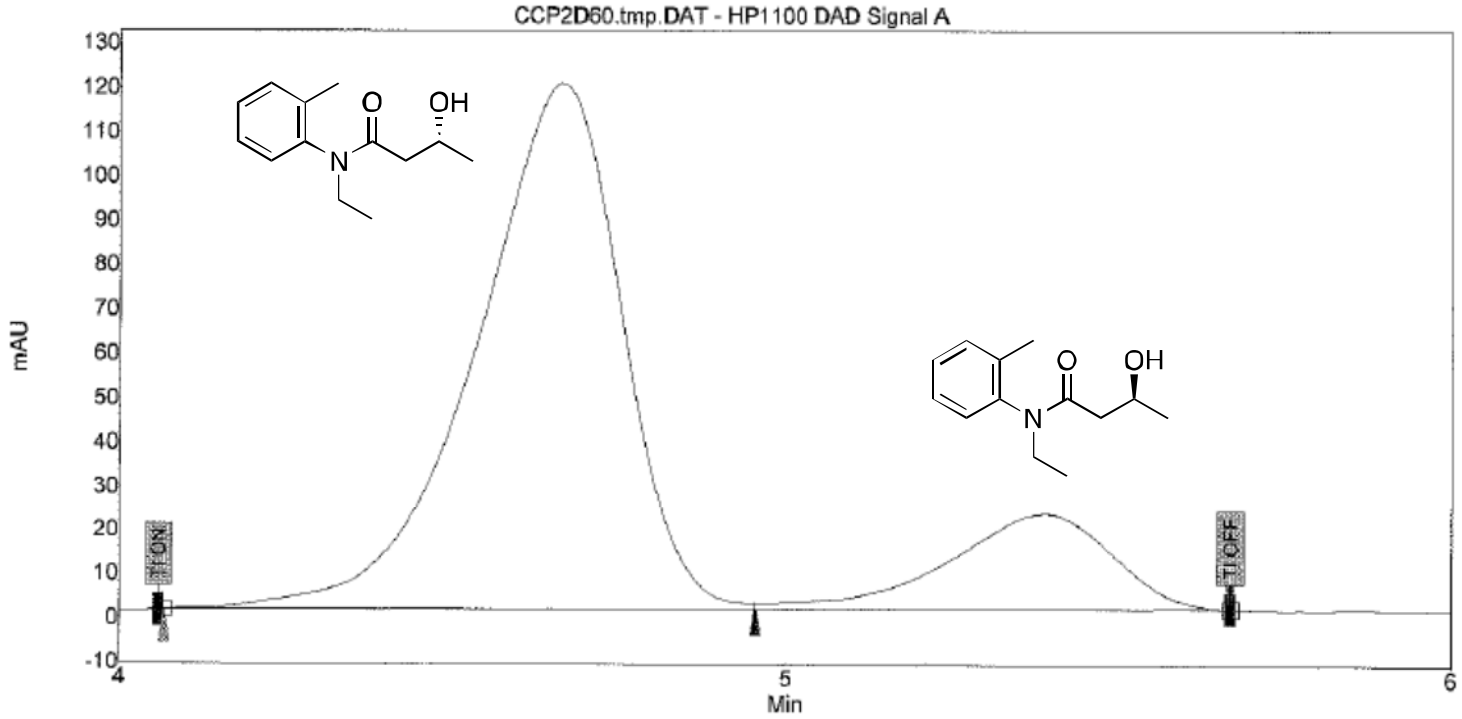


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.81	9.4756	1.12	43.36	3405.49	0.00	4.4163	0.19
2	UNKNOWN	5.49	2.8917	1.34	8.72	2281.19	1.14	0.8879	0.32
Total			12.3673						

Analysis of (*R*)-*N*-Ethyl-3-hydroxy-*N*-(*o*-tolyl)butanamide (2j-OH) using SFC (Column AD-H, 10% *i*-PrOH:CH_3CN (85:15), 2 mL, 10_MPa).

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

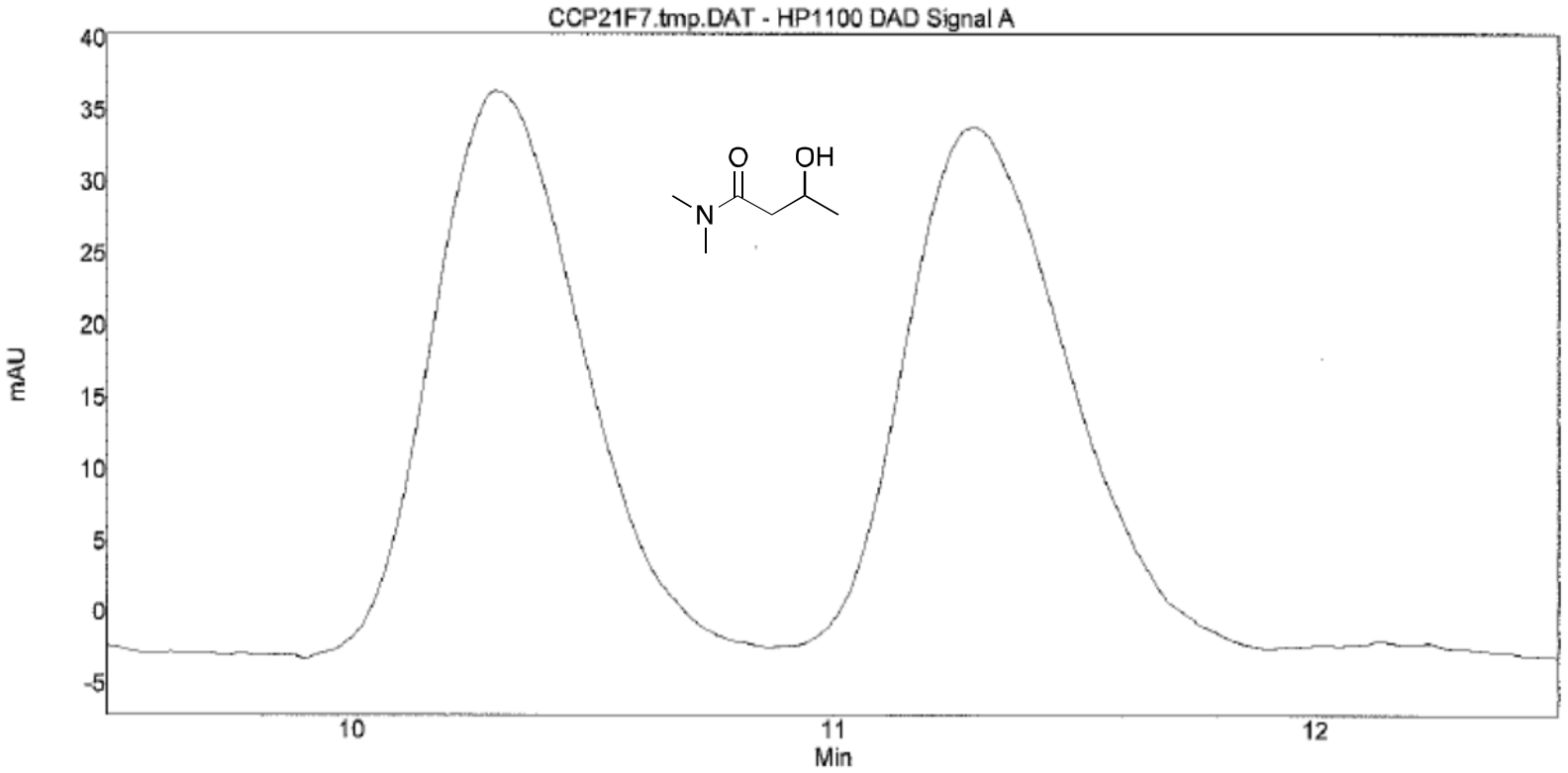


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	4.66	29.9523	0.82	118.81	2179.57	0.00	1.4835	0.23
2	UNKNOWN	5.39	6.0714	0.75	21.58	2371.15	1.16	0.2694	0.26
Total			36.0237						

Analysis of 3-Hydroxy-*N*,*N*-dimethylbutanamide (2k-OH) using SFC (Column R,R-Whelk, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

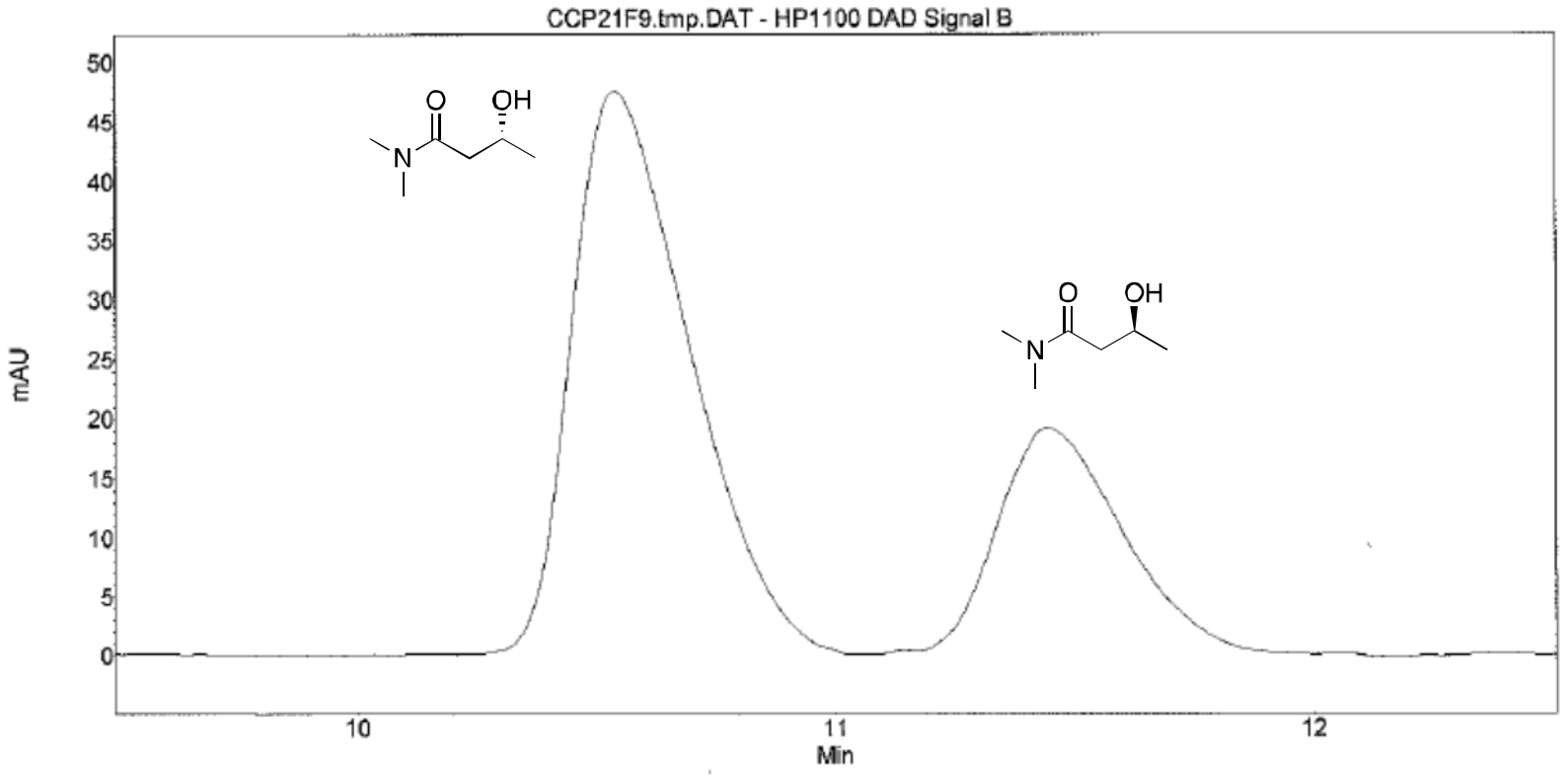


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.30	14.2926	1.27	39.45	5174.57	0.00	80.5924	0.34
2	UNKNOWN	11.29	14.3339	1.28	36.53	5252.76	1.10	74.6179	0.37
Total			28.6265						

Analysis of (*R*)-3-Hydroxy-*N*,*N*-dimethylbutanamide (2k-OH) using SFC (Column R,R-Whelk, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from BBA:

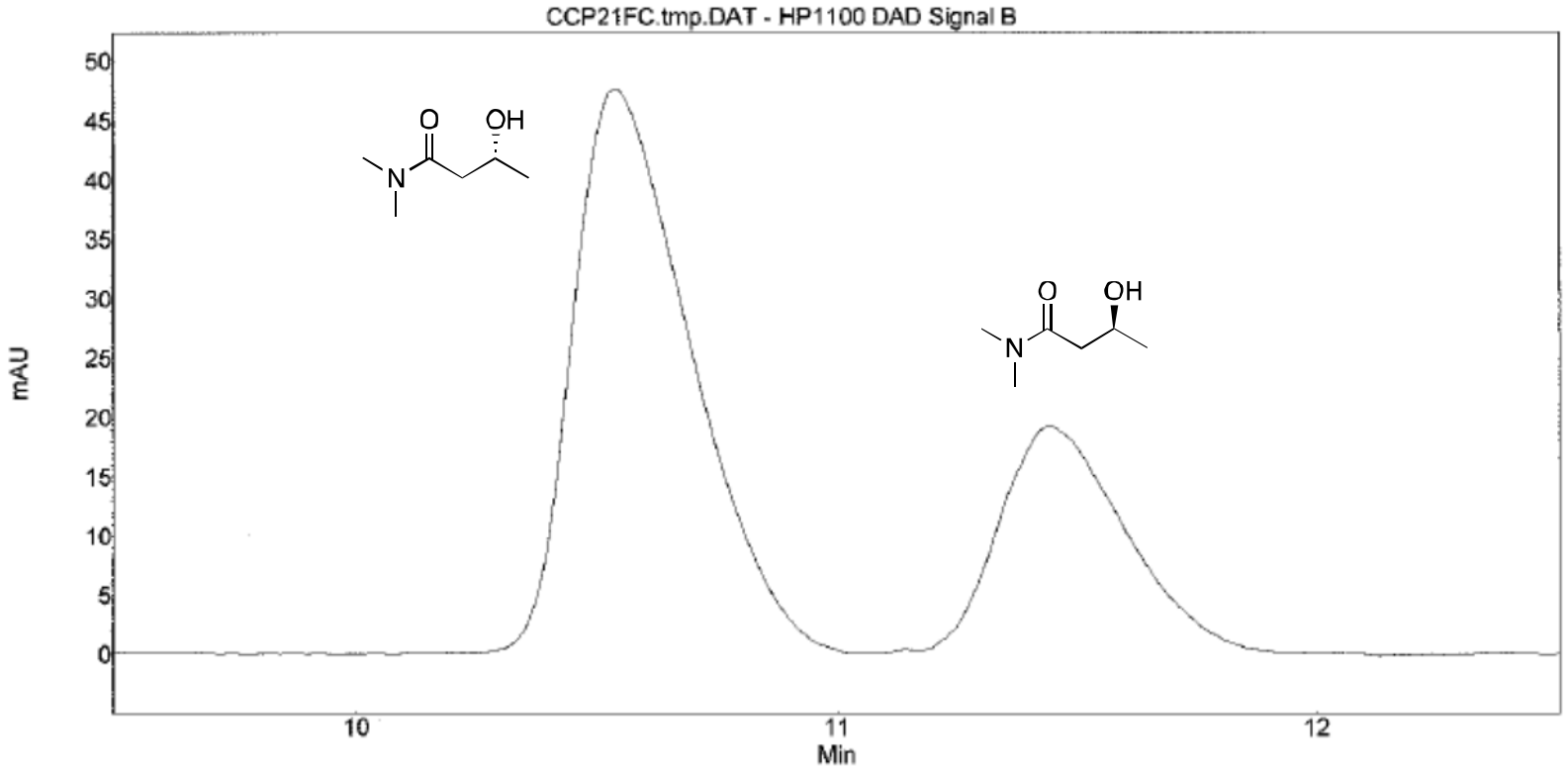


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	10.07	10.54	11.06	0.00	69.36	47.6	13.7	69.355
2	UNKNOWN	11.06	11.45	12.13	0.00	30.64	19.3	6.0	30.645
Total						100.00	66.9	19.7	100.000

Analysis of (*R*)-3-Hydroxy-*N*,*N*-dimethylbutanamide (2k-OH) using SFC (Column R,R-Whelk, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

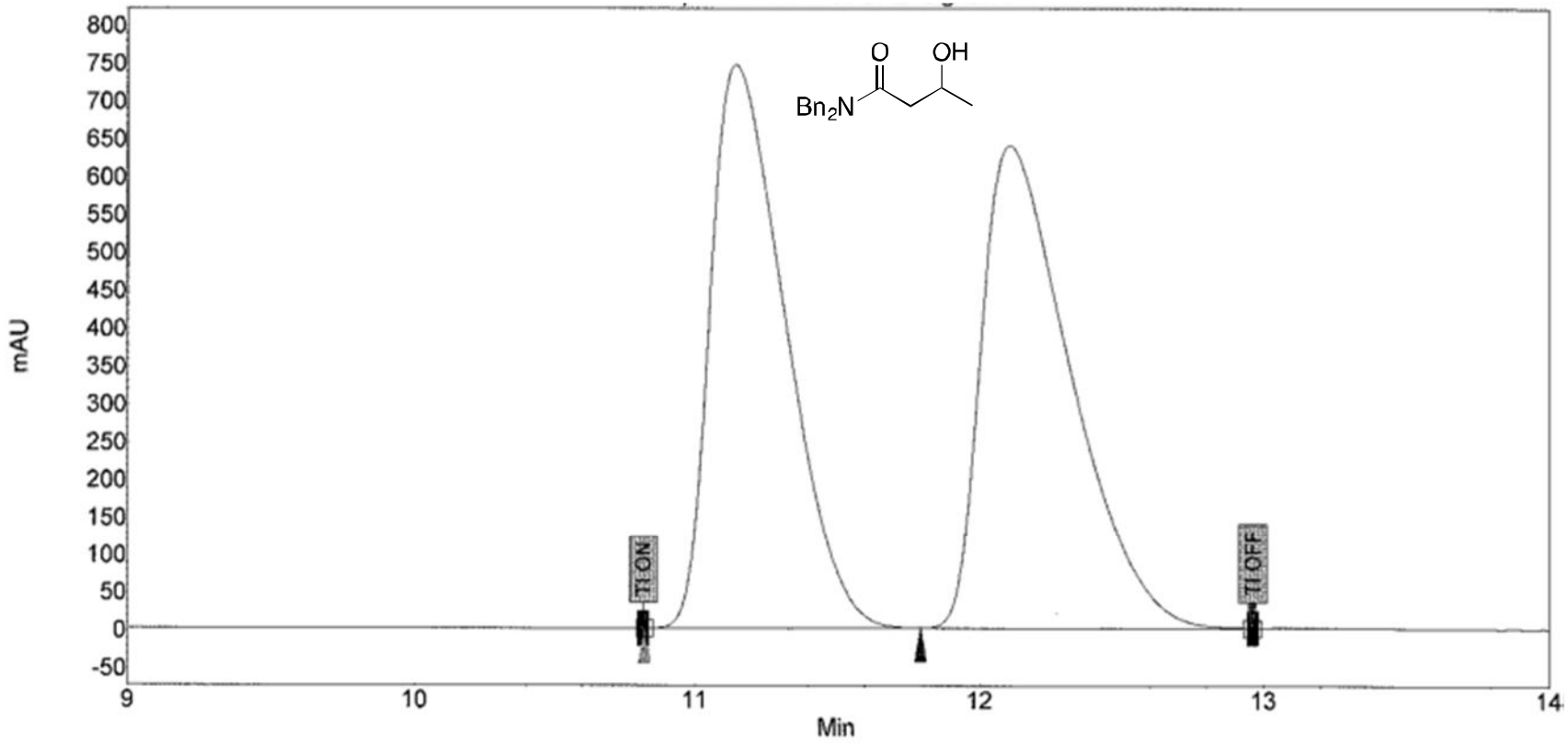


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	10.37	10.54	11.03	0.00	70.29	44.9	12.3	70.295
2	UNKNOWN	11.10	11.44	11.79	0.00	29.71	18.3	5.2	29.705
Total						100.00	63.3	17.5	100.000

Analysis of *N*,*N*-Dibenzyl-3-hydroxybutanamide (2l-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

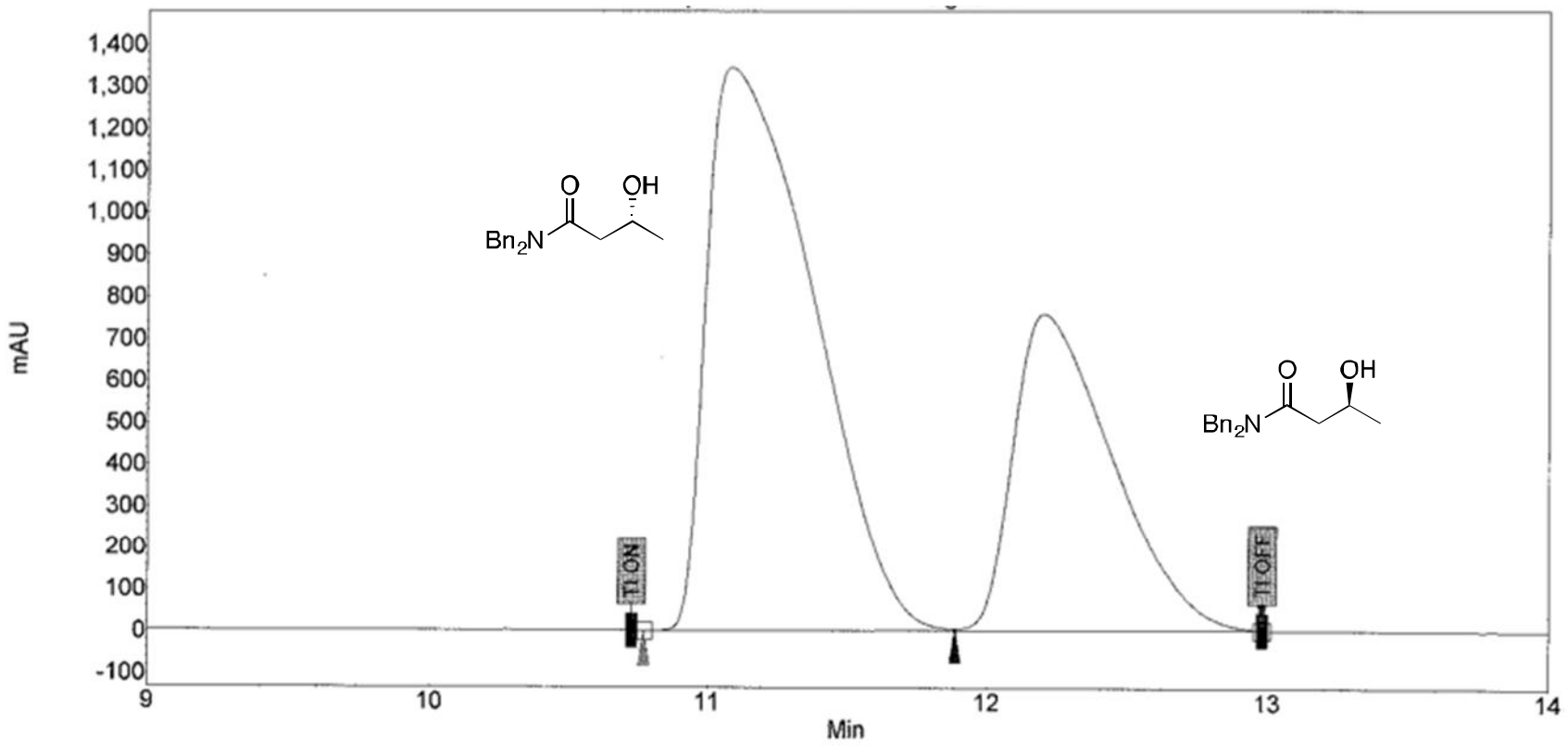


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	11.15	228.0478	1.59	745.88	8004.45	0.00	138.3408	0.29
2	UNKNOWN	12.11	232.4902	1.82	639.03	6749.75	1.09	118.5221	0.34
Total			460.5379						

Analysis of (*R*)-*N*,*N*-Dibenzyl-3-hydroxybutanamide (2l-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from BBA:

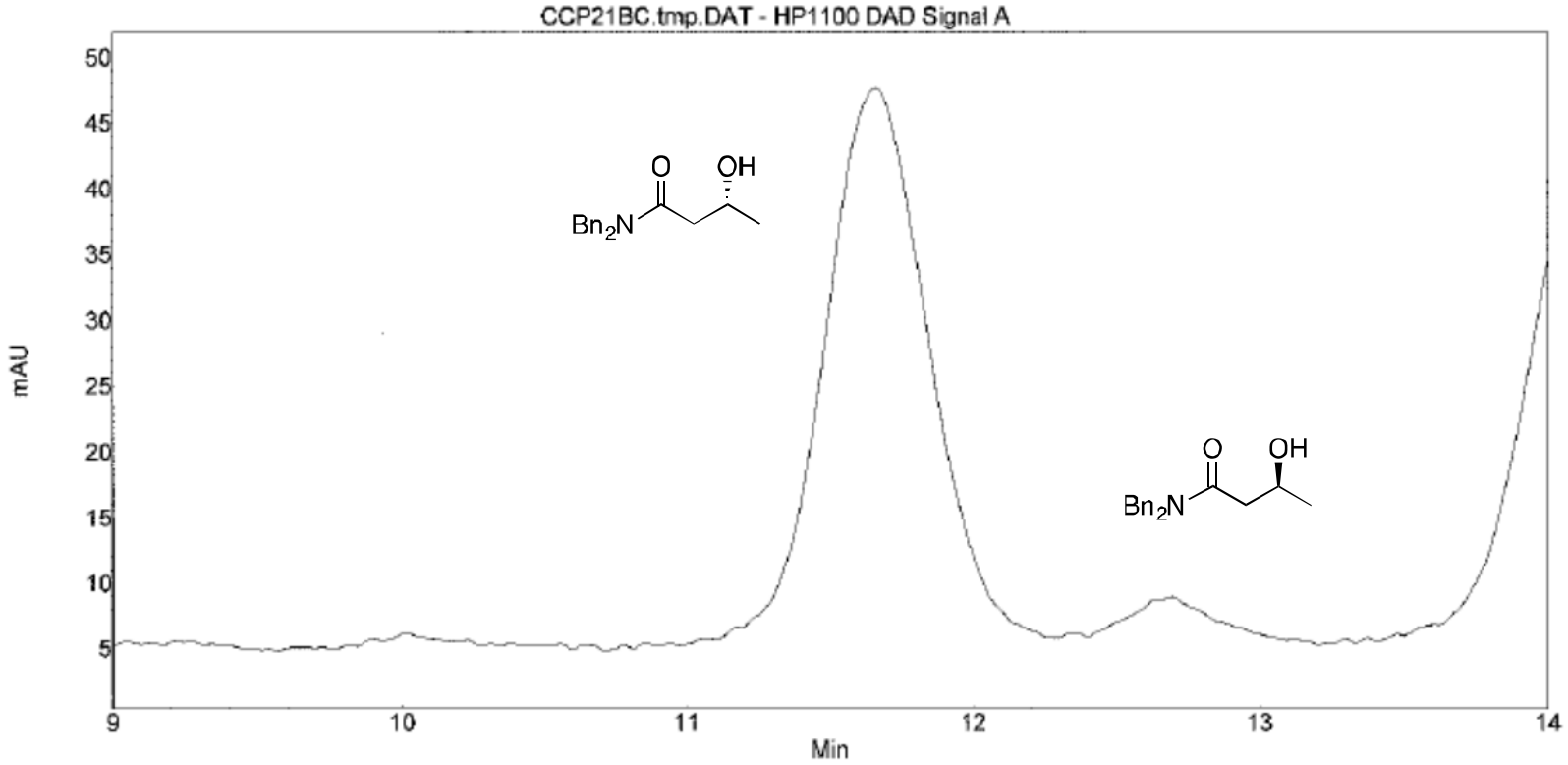


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	11.09	591.4202	2.29	1341.01	3865.16	0.00	192.7929	0.44
2	UNKNOWN	12.20	307.8245	1.82	754.06	5341.49	1.10	108.4087	0.39
Total			899.2447						

Analysis of (*R*)-*N*,*N*-Dibenzyl-3-hydroxybutanamide (2l-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

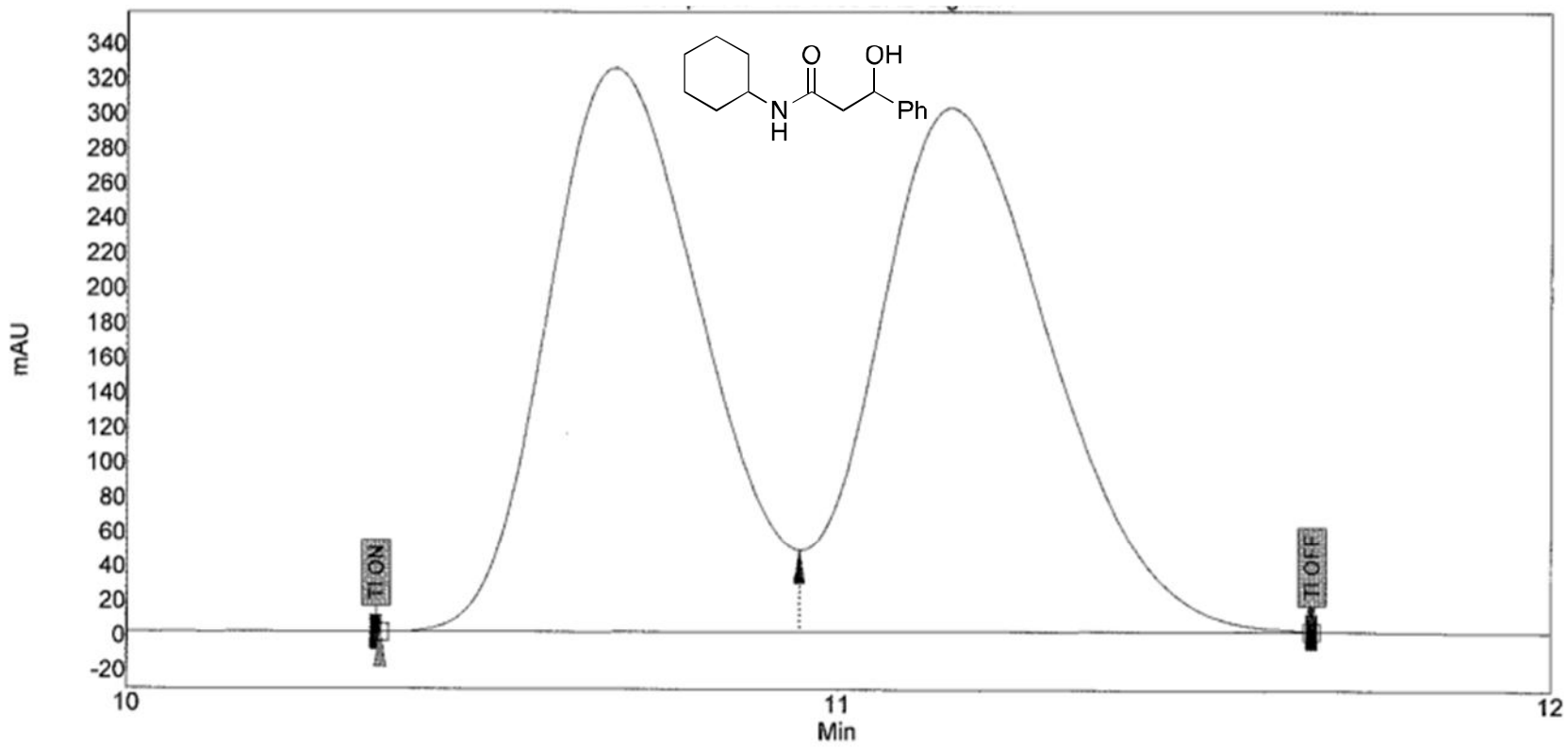


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	11.67	11.3148	1.06	33.34	7339.00	0.00	3.5986	0.33
2	UNKNOWN	12.70	1.2386	0.96	3.39	10524.63	1.09	0.3658	0.31
Total			12.5534						

Analysis of *N*-Cyclohexyl-3-hydroxy-3-phenylpropanamide (2m-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

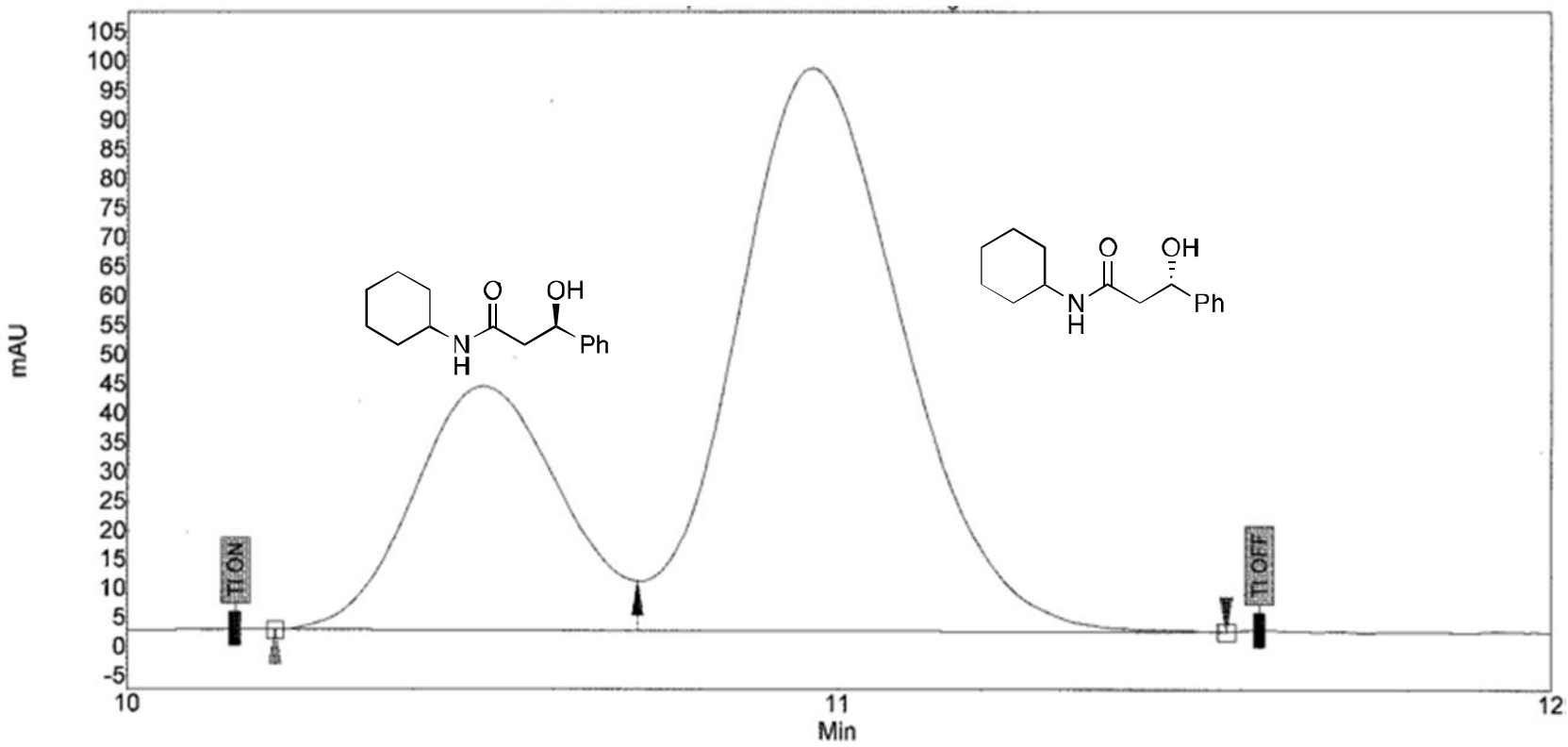


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.69	82.3371	1.13	323.67	10689.58	0.00	1001.8781	0.24
2	UNKNOWN	11.16	85.1214	1.28	300.55	9827.75	1.04	930.2964	0.26
Total			167.4585						

Analysis of (*S*)-*N*-Cyclohexyl-3-hydroxy-3-phenylpropanamide (2m-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from BBA:

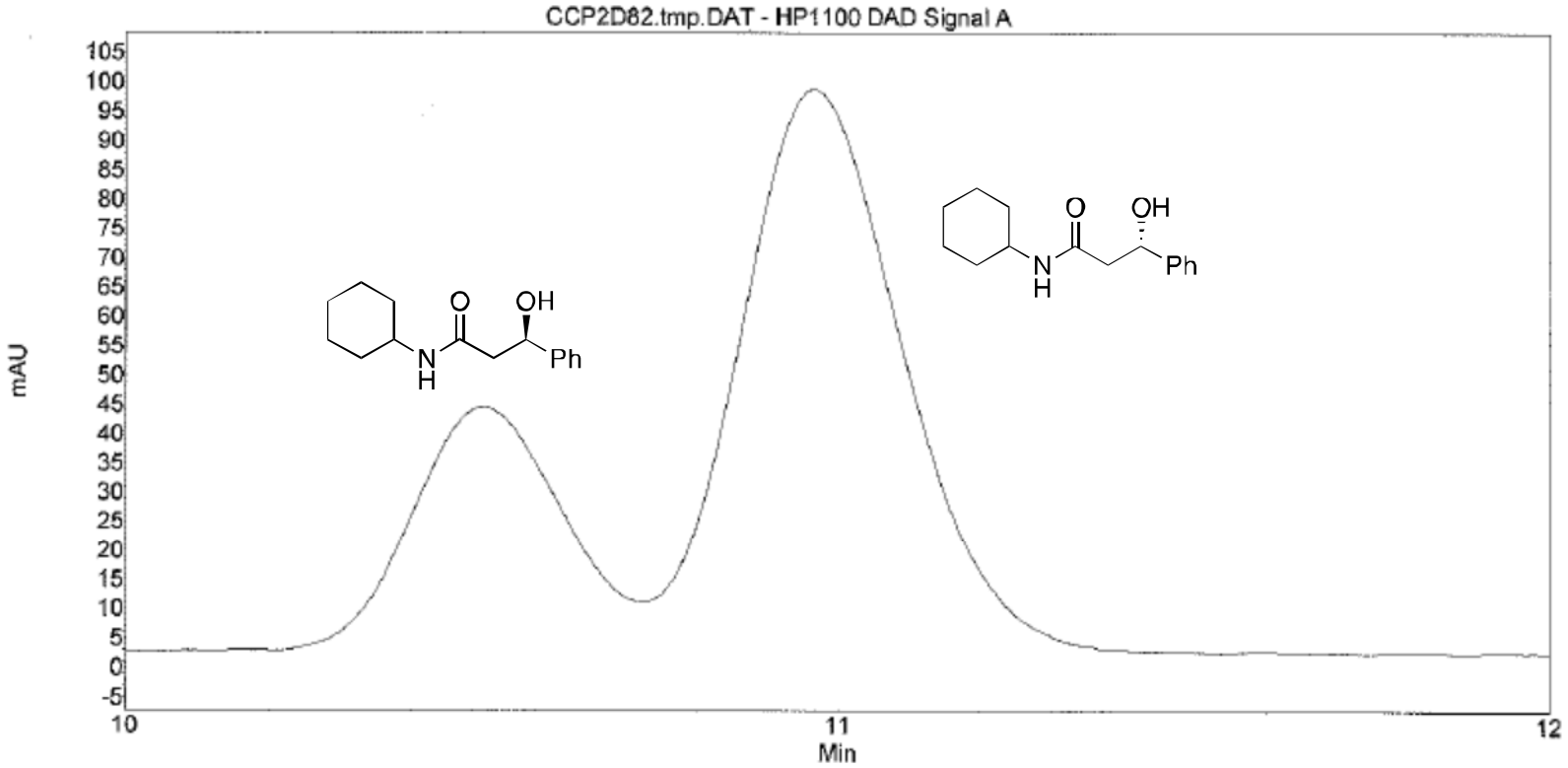


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.50	10.1737	1.01	41.74	11160.82	0.00	69.2590	0.23
2	UNKNOWN	10.97	25.7755	1.11	96.05	10644.86	1.04	159.3687	0.25
Total			35.9492						

Analysis of (*S*)-*N*-Cyclohexyl-3-hydroxy-3-phenylpropanamide (2m-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from tetrakis(dimethylamino)diboron:

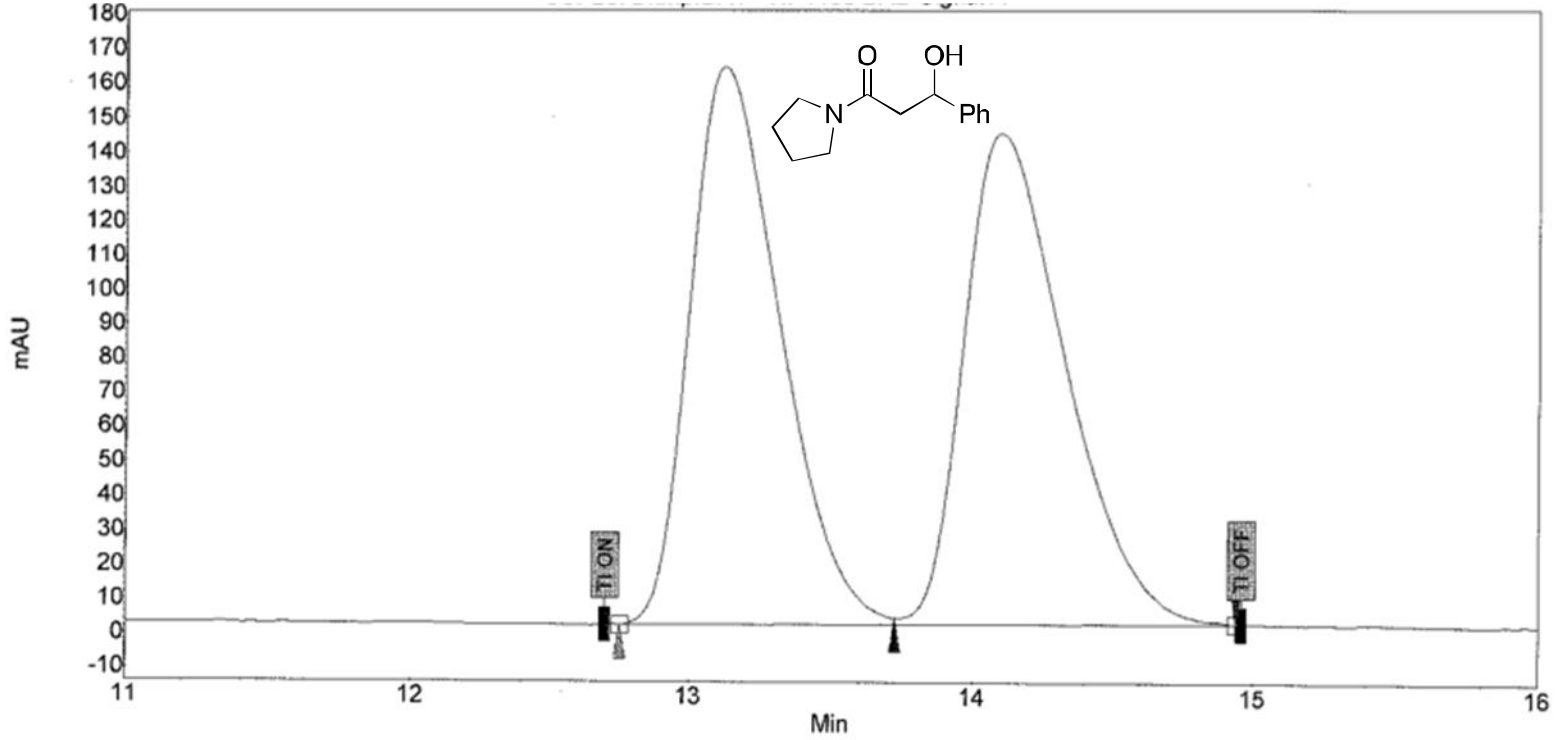


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.50	7.4780	1.18	35.30	14553.64	0.00	58.5738	0.21
2	UNKNOWN	10.97	23.8683	1.05	92.68	11226.80	1.04	153.7824	0.24
Total			31.3463						

Analysis of 3-Hydroxy-3-phenyl-1-(pyrrolidin-1-yl)propan-1-one (2n-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

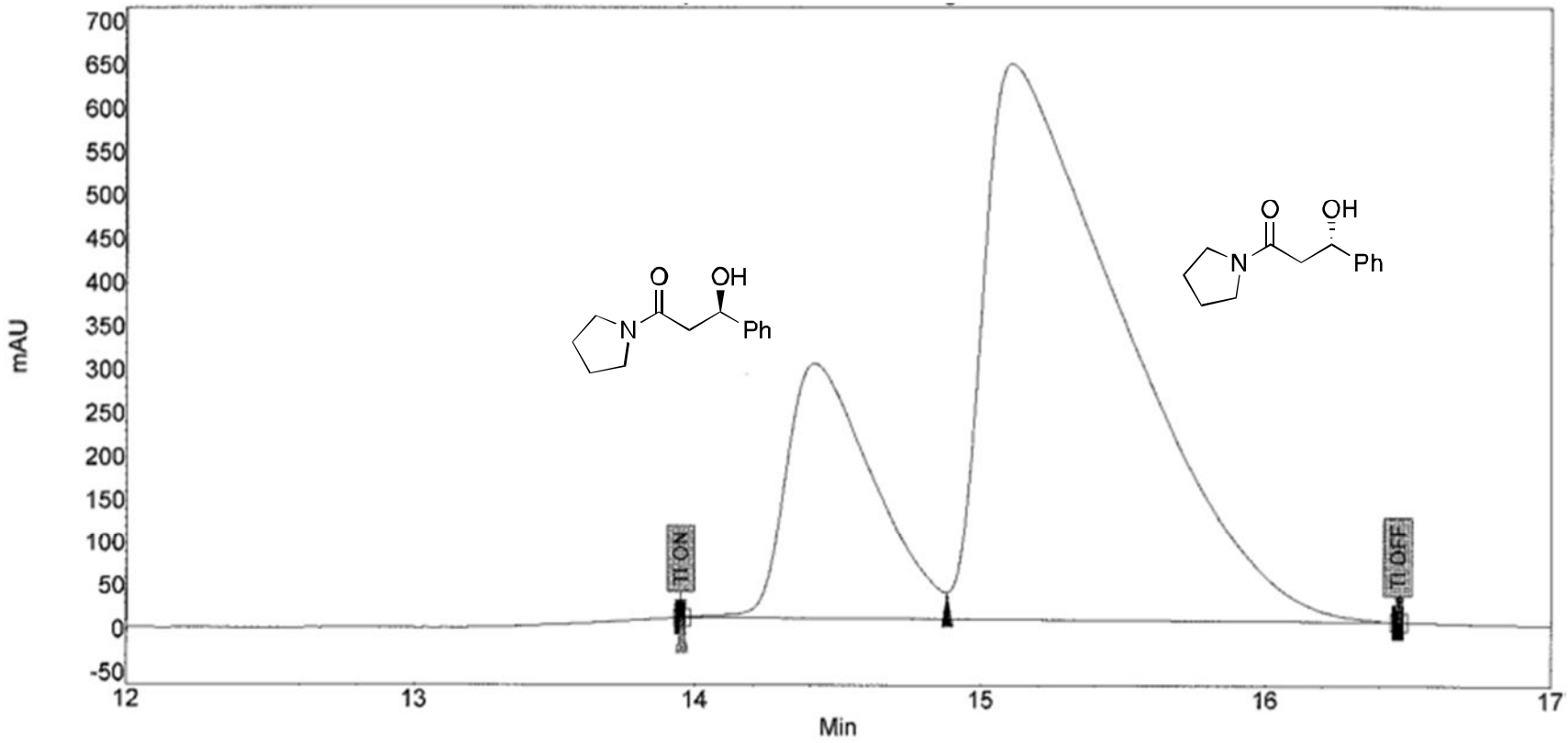


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	13.12	59.2911	1.44	161.64	8028.76	0.00	13.0343	0.34
2	UNKNOWN	14.10	59.5638	1.53	142.07	7156.64	1.07	11.4559	0.39
Total			118.8549						

Analysis of (*S*)-3-Hydroxy-3-phenyl-1-(pyrrolidin-1-yl)propan-1-one (2n-OH) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product:

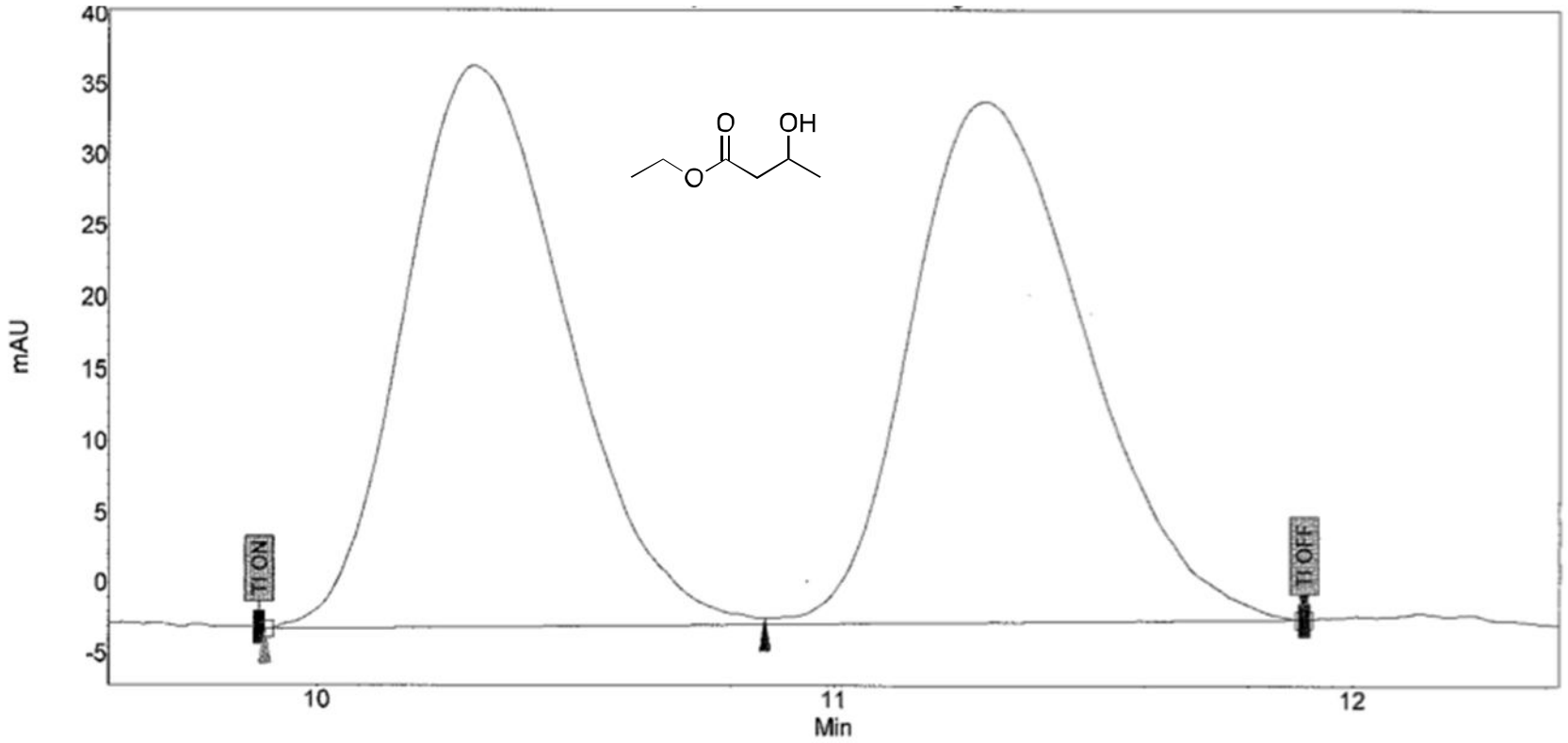


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	14.41	104.2411	1.65	293.66	9471.54	0.00	30.3092	0.34
2	UNKNOWN	15.11	368.4941	2.70	639.09	3804.64	1.05	65.9615	0.54
Total			472.7352						

Analysis of Ethyl 3-hydroxybutanoate (7a-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

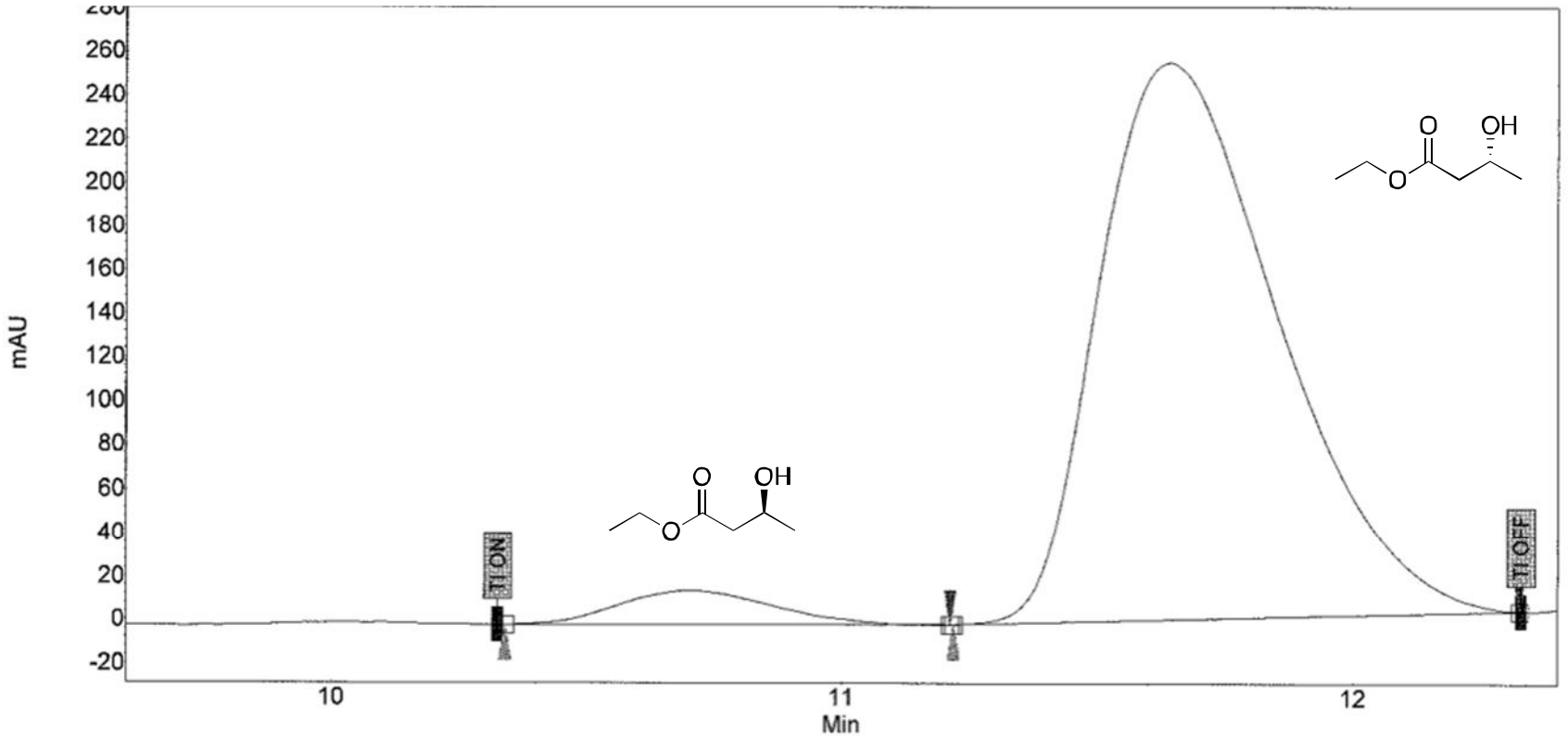


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.30	14.2926	1.27	39.45	5174.57	0.00	80.5924	0.34
2	UNKNOWN	11.29	14.3339	1.28	36.53	5252.76	1.10	74.6179	0.37
Total			28.6265						

Analysis of (*R*)-Ethyl 3-hydroxybutanoate (7a-OH) using SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from BBA:

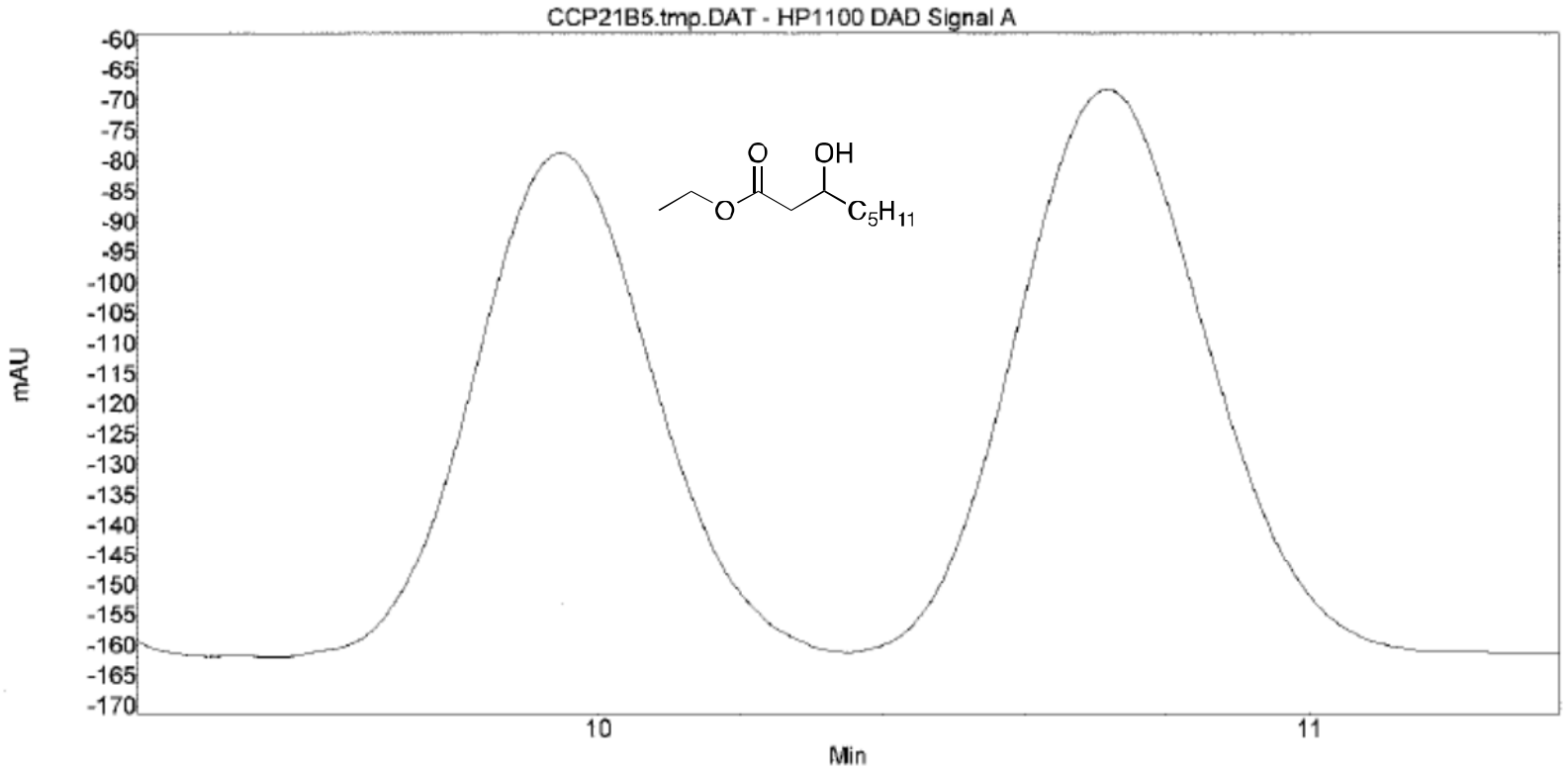


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.71	5.4330	1.15	15.55	5882.34	0.00	33.7447	0.33
2	UNKNOWN	11.64	102.6920	1.52	254.39	5304.62	1.09	551.8863	0.38
Total			108.1250						

Analysis of Ethyl-3-hydroxyoctanoate using (7b-OH) SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

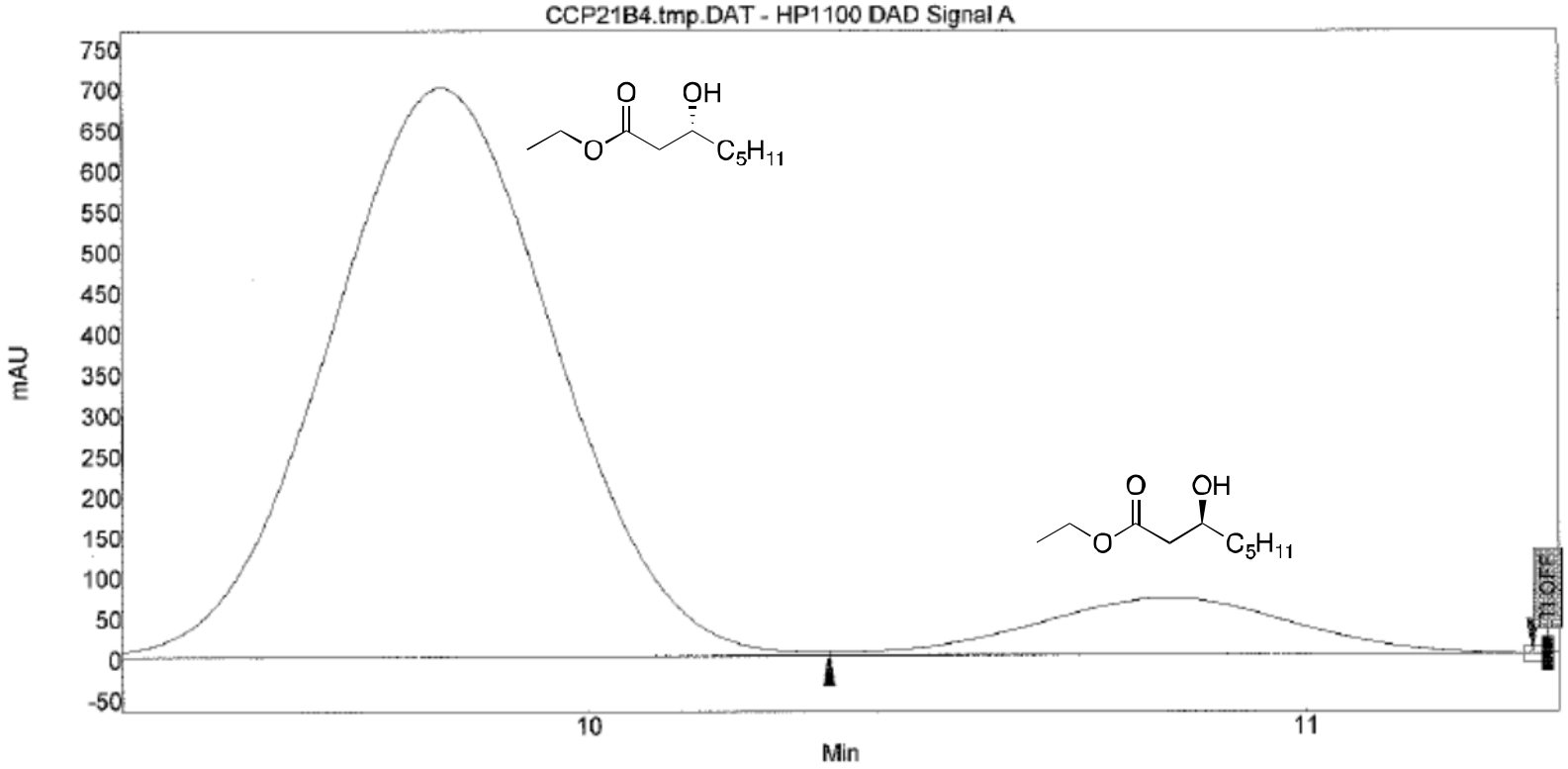


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	9.95	24.2851	1.07	82.84	7174.51	0.00	0.9337	0.28
2	UNKNOWN	10.71	25.4099	1.10	87.65	8150.51	1.08	0.9880	0.28
Total			49.6949						

Analysis of (*R*)-Ethyl-3-hydroxyoctanoate using (7b-OH) SFC (Column AD-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from BBA:

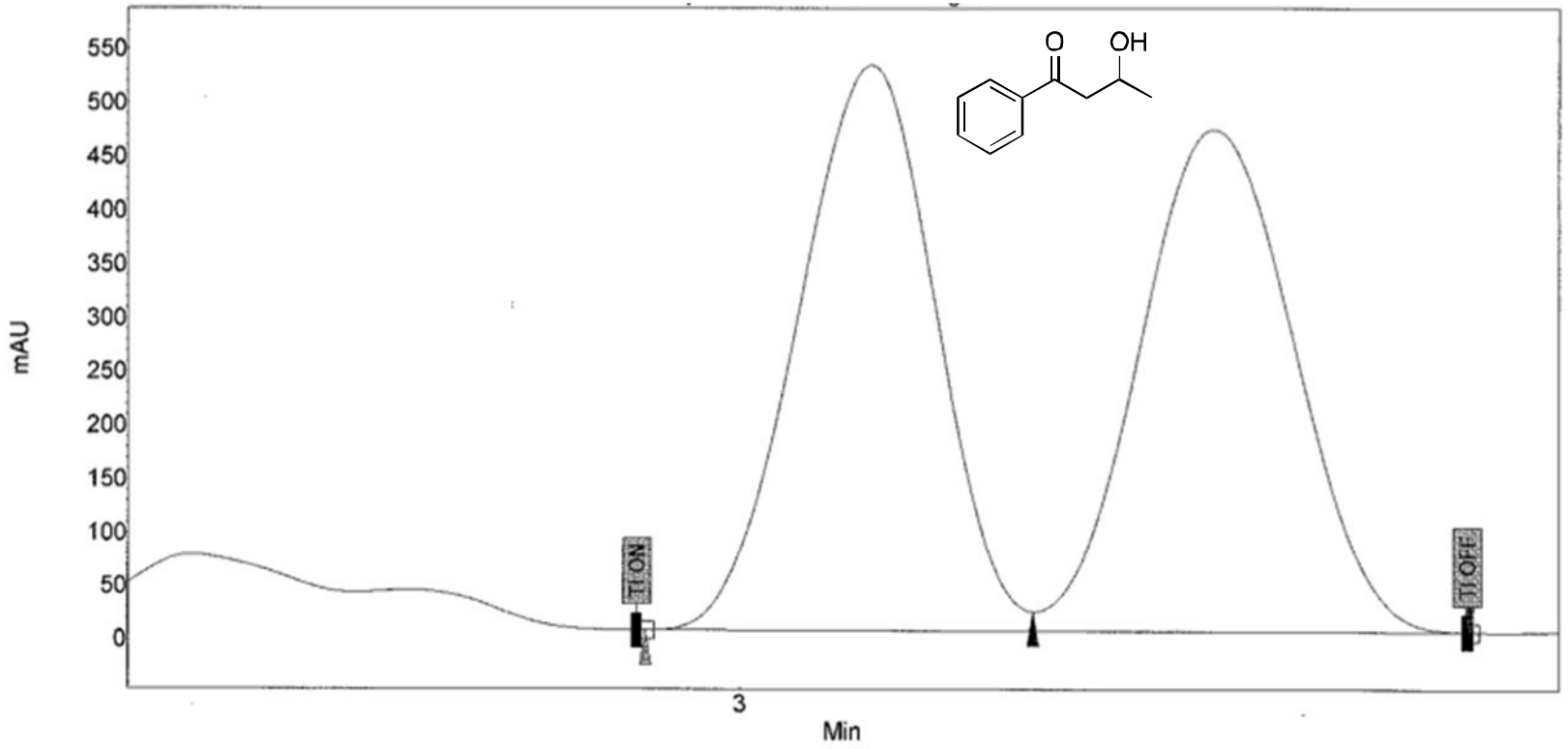


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	9.79	257.6532	1.02	698.09	4285.74	0.00	569.0045	0.35
2	UNKNOWN	10.81	28.9661	0.94	69.75	4243.08	1.10	56.8523	0.39
Total			286.6193						

Analysis of 3-Hydroxy-1-phenylbutan-1-one (7c-OH) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

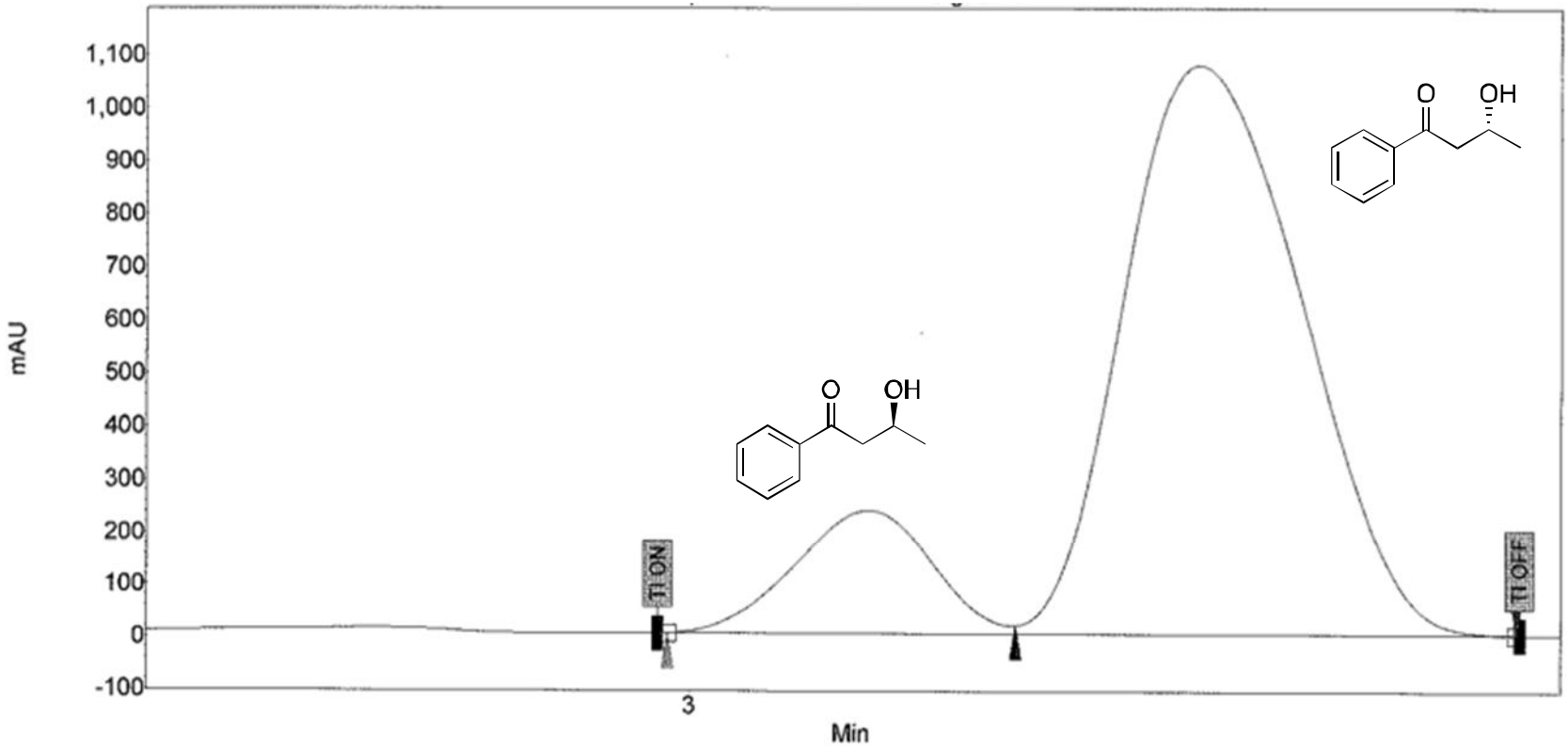


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	3.13	81.5532	0.97	526.71	2467.86	0.00	205.4261	0.15
2	UNKNOWN	3.47	82.0909	1.01	467.43	2427.78	1.11	182.3069	0.17
Total			163.6441						

Analysis of (*R*)-3-Hydroxy-1-phenylbutan-1-one (7c-OH) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product:

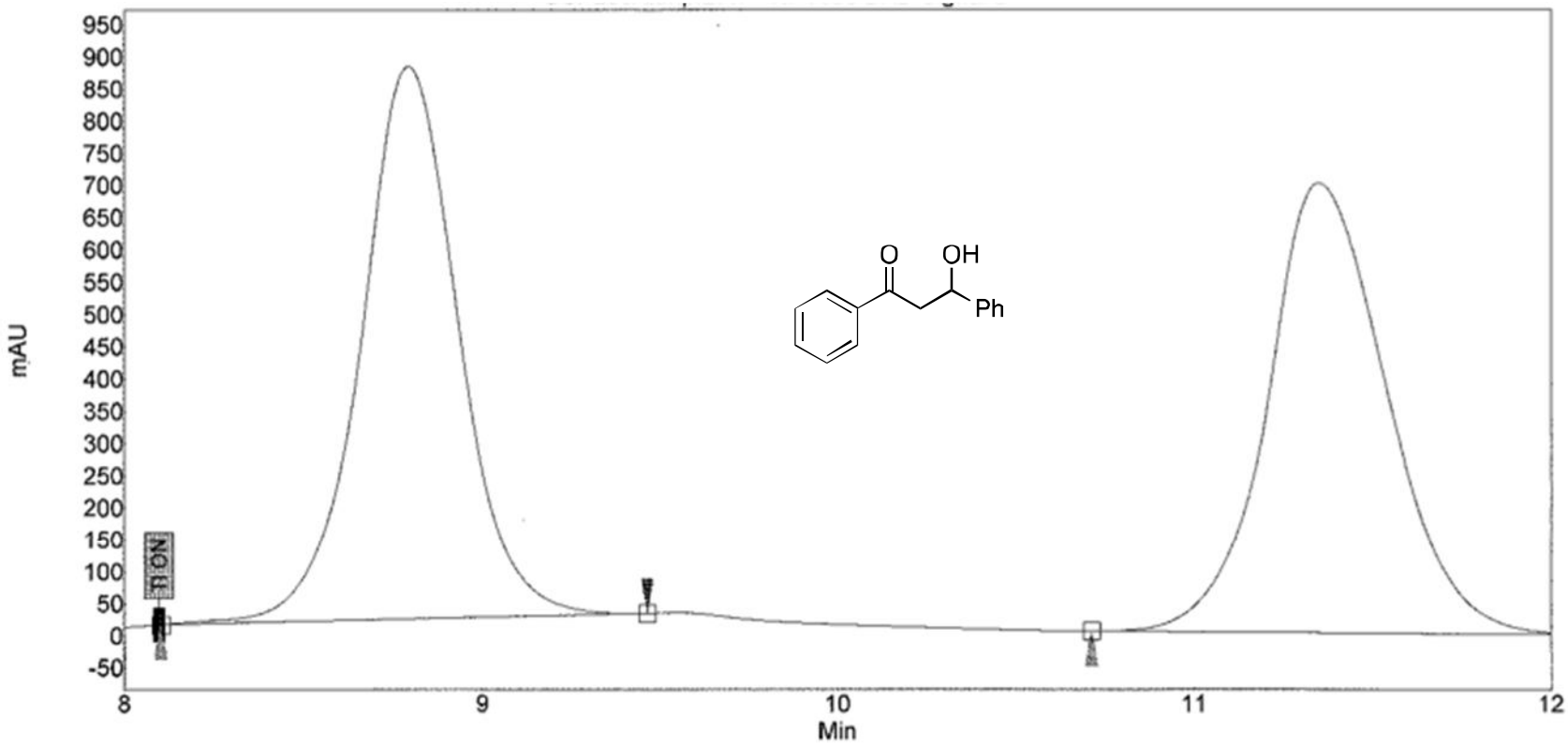


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	3.17	33.9887	0.94	234.53	2902.09	0.00	91.8863	0.14
2	UNKNOWN	3.47	203.1895	1.22	1073.54	2082.17	1.09	420.5948	0.19
Total			237.1782						

Analysis of 3-Hydroxy-1,3-diphenylpropan-1-one (7d-OH) using SFC (Column R,R-Whelk, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized racemic borylation product:

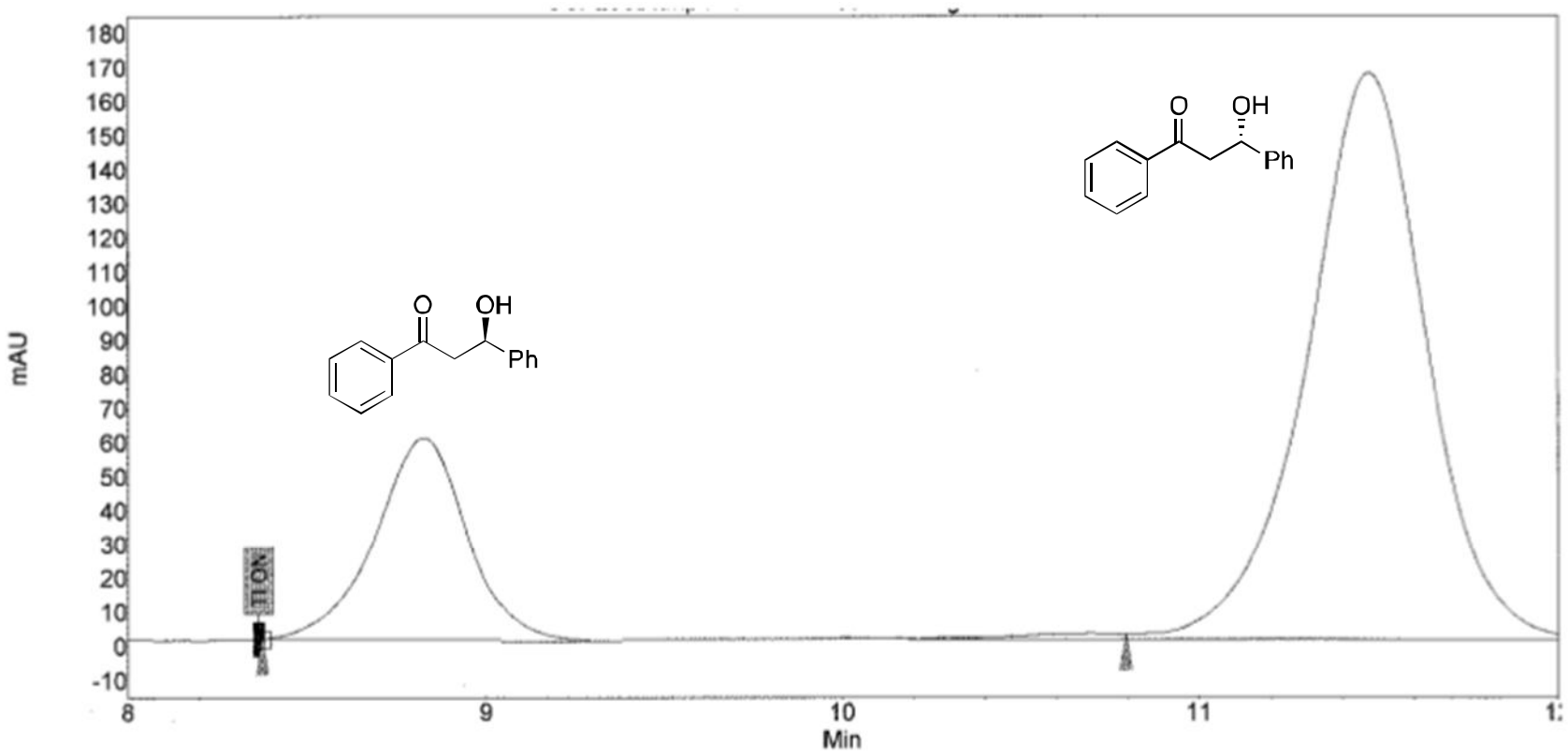


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	8.10	8.79	9.47	0.00	50.21	858.3	273.0	50.209
2	UNKNOWN	10.71	11.35	12.23	0.00	49.79	698.3	270.7	49.791
Total						100.00	1556.6	543.8	100.000

Analysis of (*S*)-3-Hydroxy-1,3-diphenylpropan-1-one (7d-OH) using SFC (Column R,R-Whelk, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of oxidized enantioenriched borylation product from BBA:

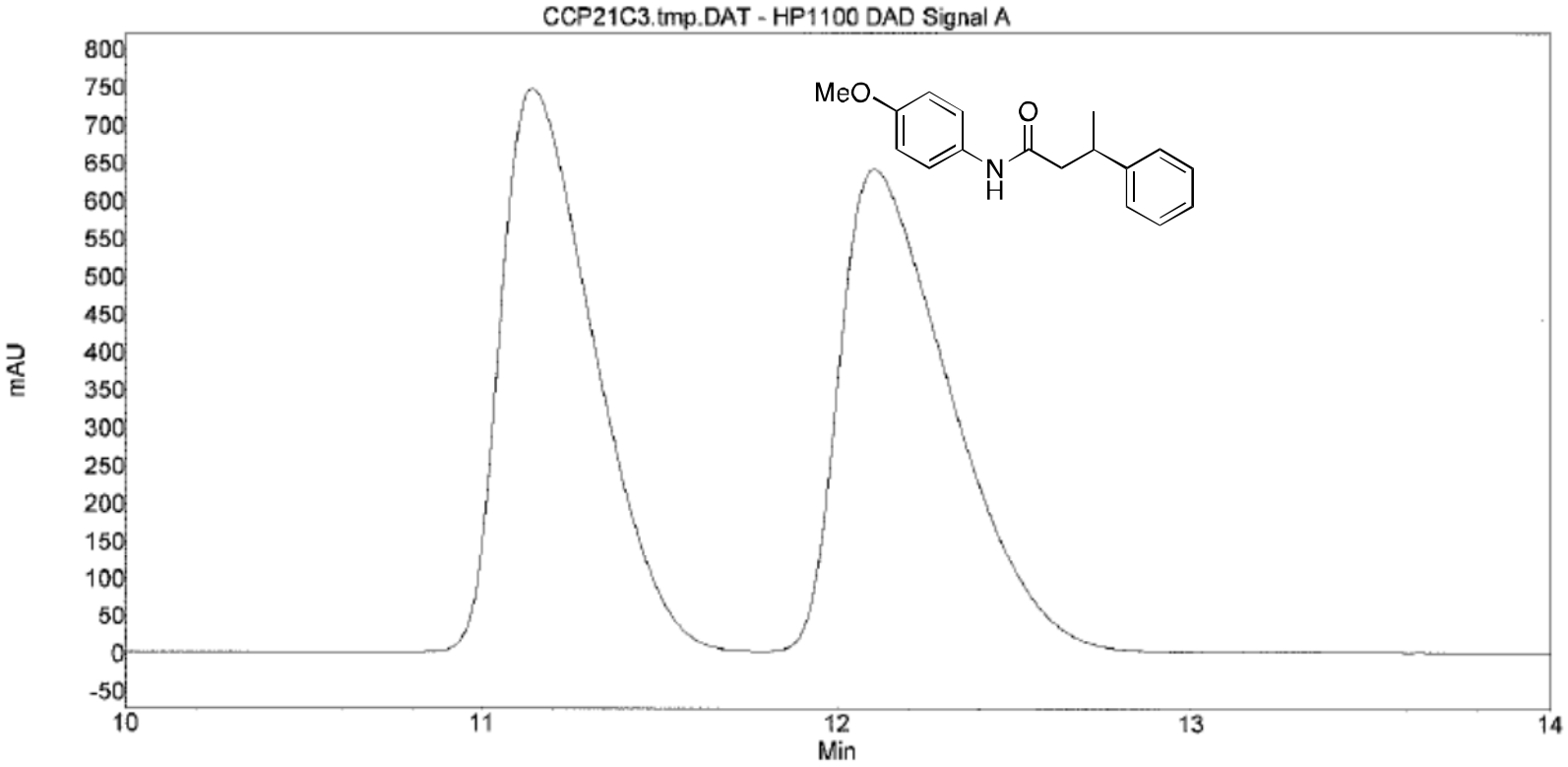


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	8.82	17.6262	0.98	59.20	5811.38	0.00	5.5823	0.27
2	UNKNOWN	11.47	63.9925	0.95	166.21	6064.37	1.30	15.6729	0.34
Total			81.6187						

Analysis of *N*-(4-Methoxyphenyl)-3-phenylbutanamide (8) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of racemic cross-coupling product:

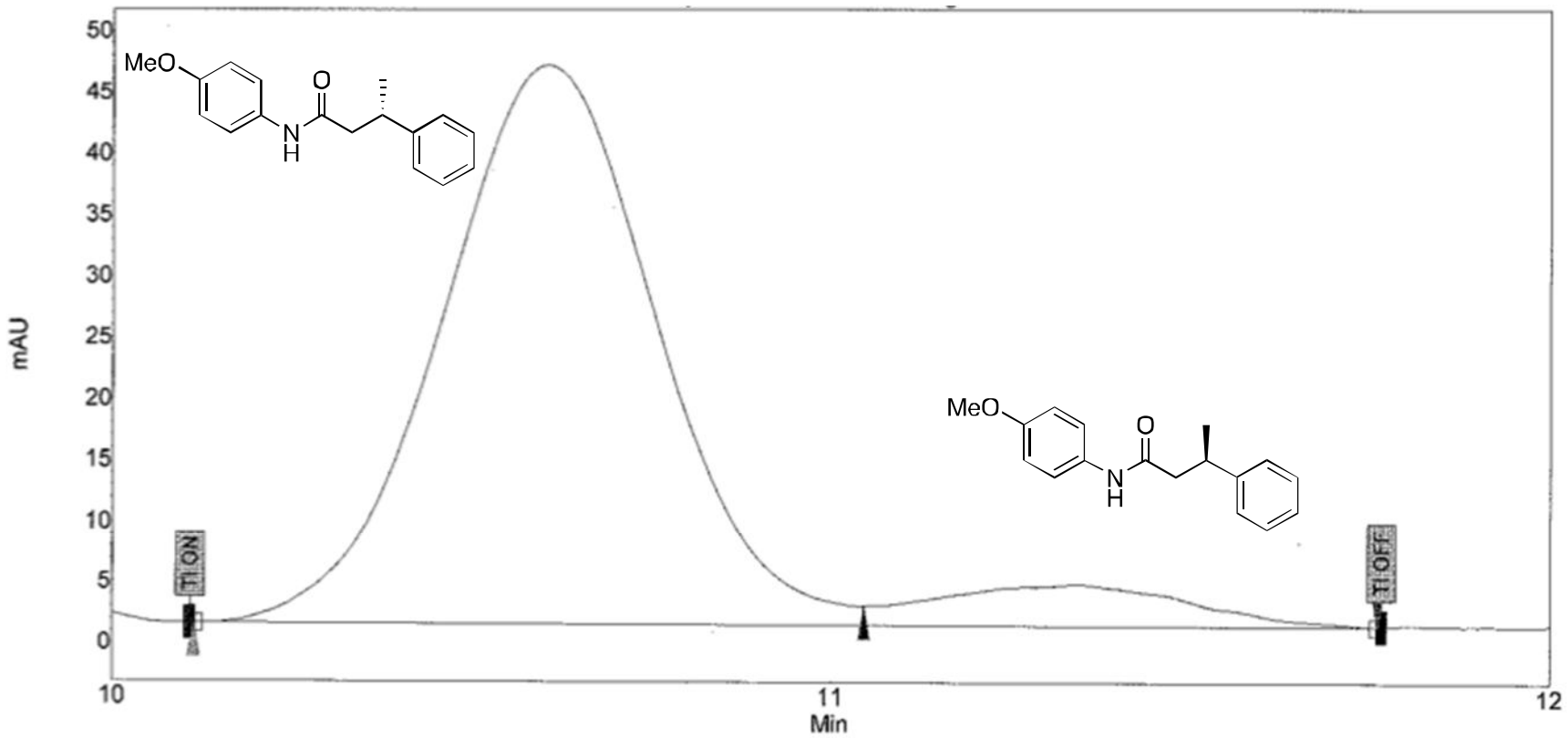


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	11.15	228.0510	1.59	745.88	8004.39	0.00	138.3412	0.29
2	UNKNOWN	12.11	232.5042	1.82	639.03	6749.56	1.09	118.5237	0.34
Total			460.5552						

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-phenylbutanamide (8a from ArCl) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of enantioenriched cross-coupling product with aryl chloride:

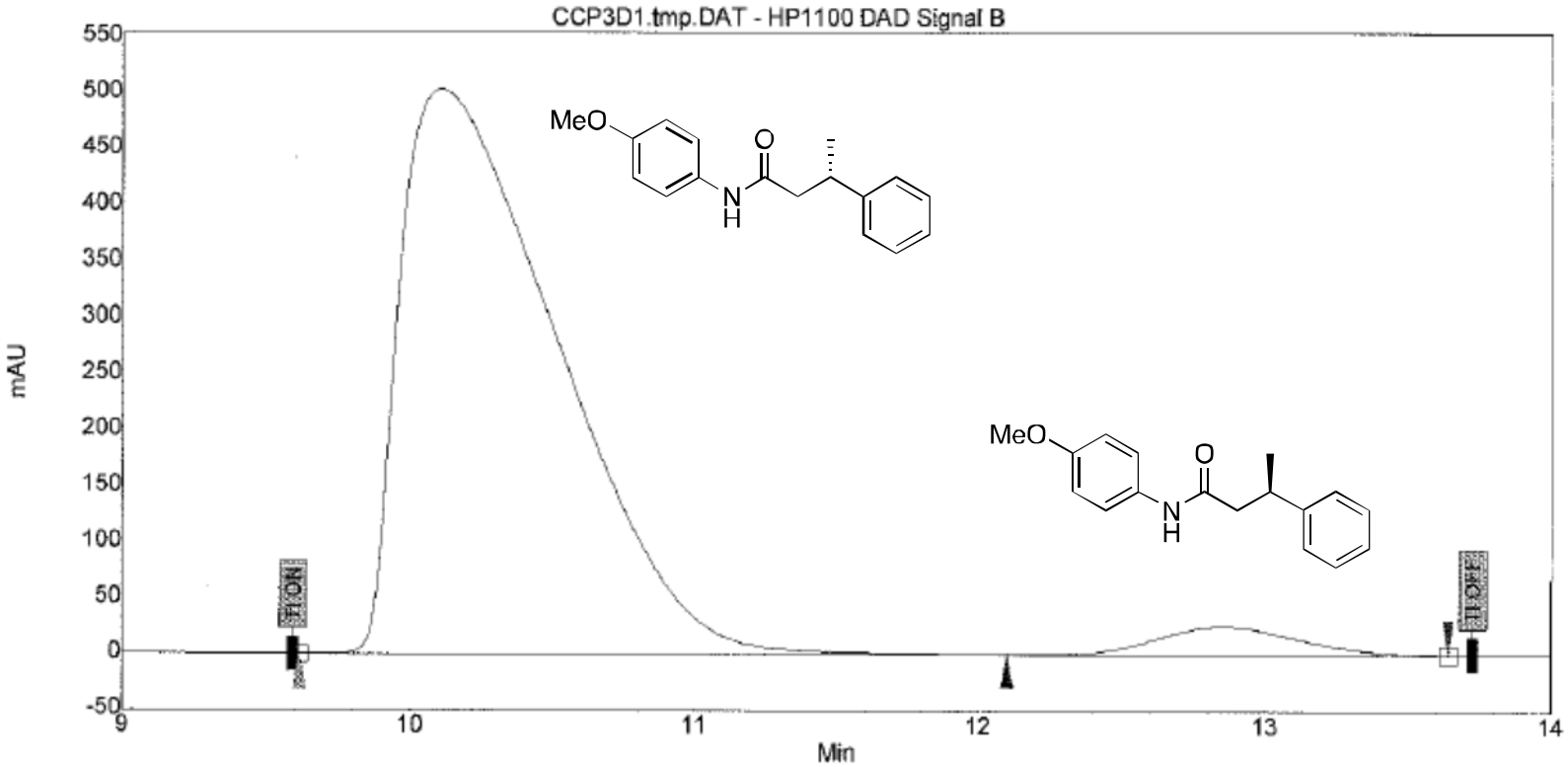


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	10.11	10.61	11.05	0.00	91.86	45.6	15.8	91.863
2	UNKNOWN	11.05	11.35	11.76	0.00	8.14	3.4	1.4	8.137
Total						100.00	48.9	17.2	100.000

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-phenylbutanamide (8a from ArBr) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of enantioenriched cross-coupling product with aryl bromide:

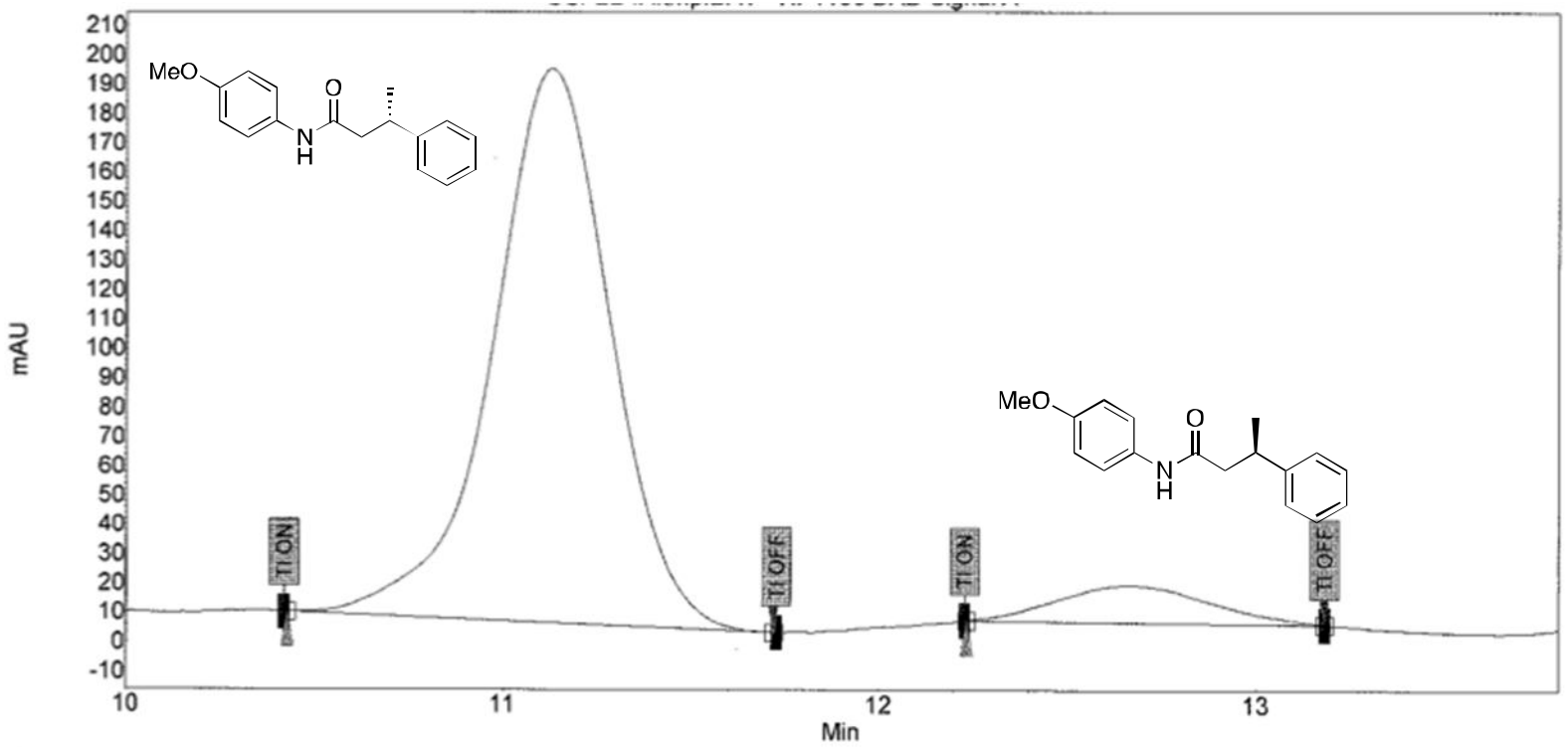


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	9.61	10.11	12.10	0.00	95.71	503.1	320.9	95.708
2	UNKNOWN	12.10	12.85	13.64	0.00	4.29	25.2	14.4	4.292
Total						100.00	528.3	335.3	100.000

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-phenylbutanamide (8 from ArOMs) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of enantioenriched cross-coupling product with aryl mesylate:

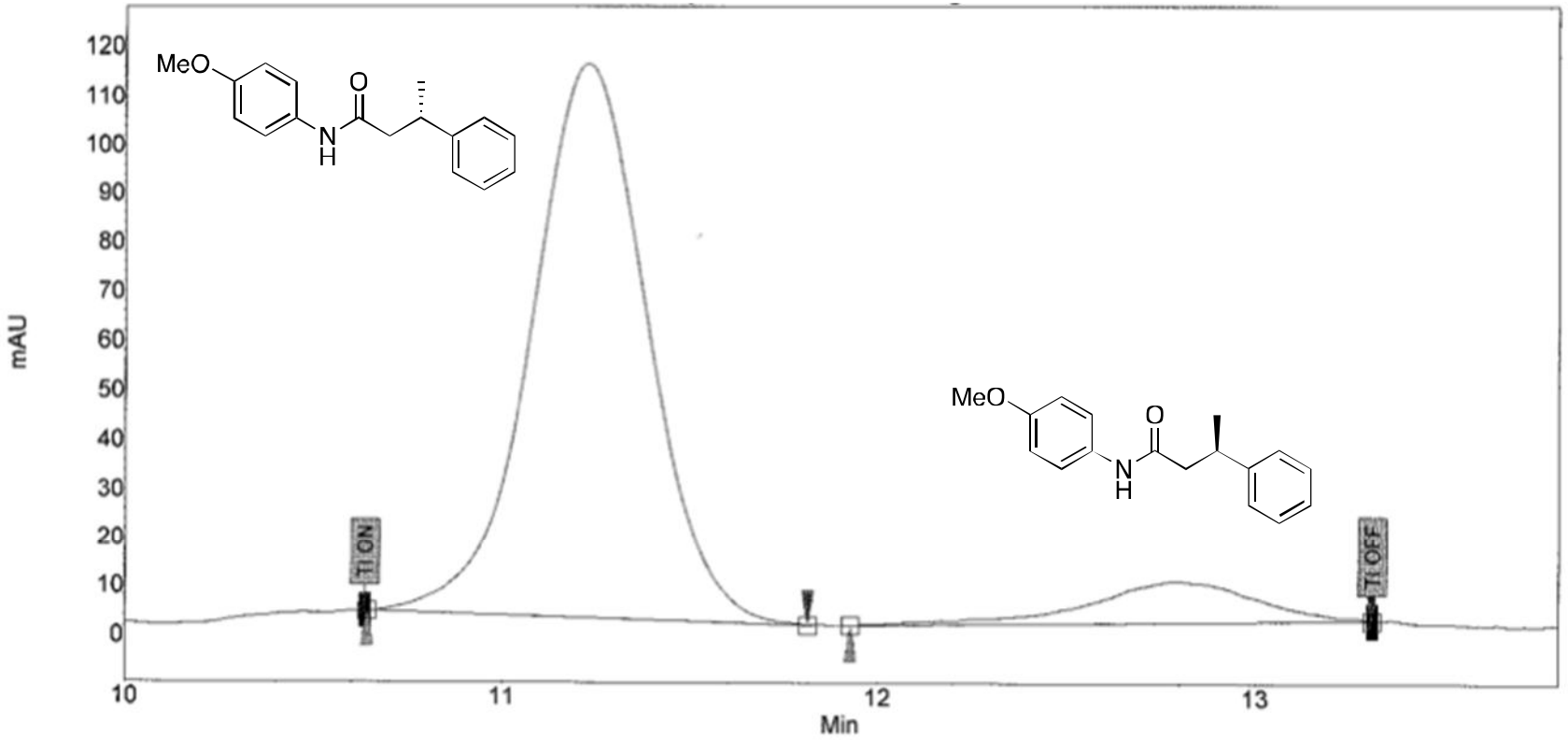


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	11.13	68.4236	0.86	188.78	6361.69	0.00	306.3204	0.32
2	UNKNOWN	12.67	5.8663	0.99	12.63	4836.55	1.14	20.4931	0.45
Total			74.2899						

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-phenylbutanamide (8a from ArOTf) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of enantioenriched cross-coupling product with aryl triflate:

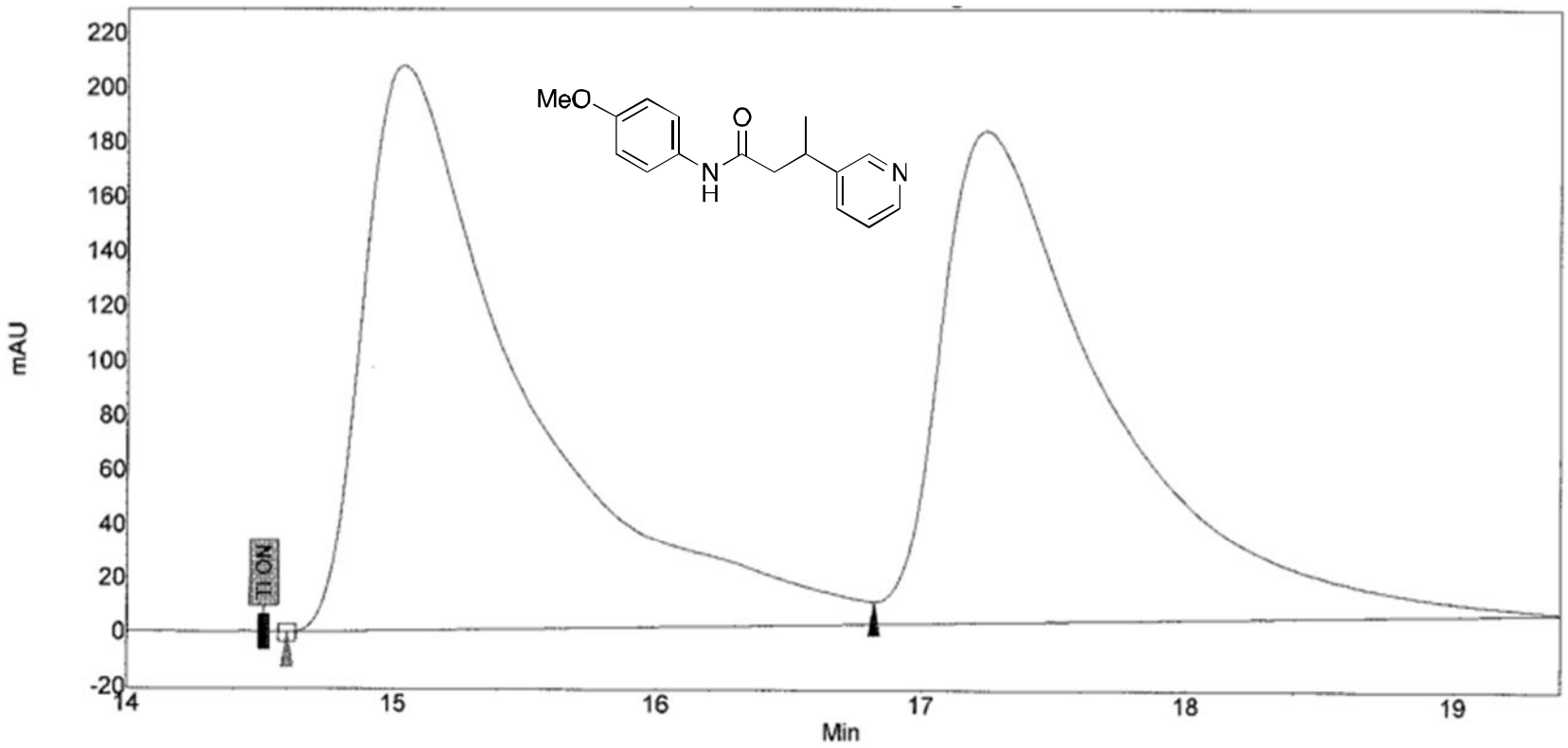


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	11.23	40.0976	0.96	113.04	6573.29	0.00	208.9299	0.32
2	UNKNOWN	12.79	4.3252	0.95	8.47	5203.10	1.14	15.6472	0.45
Total			44.4228						

Analysis of *N*-(4-Methoxyphenyl)-3-(pyridin-3-yl)butanamide (12a) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of racemic cross-coupling product:

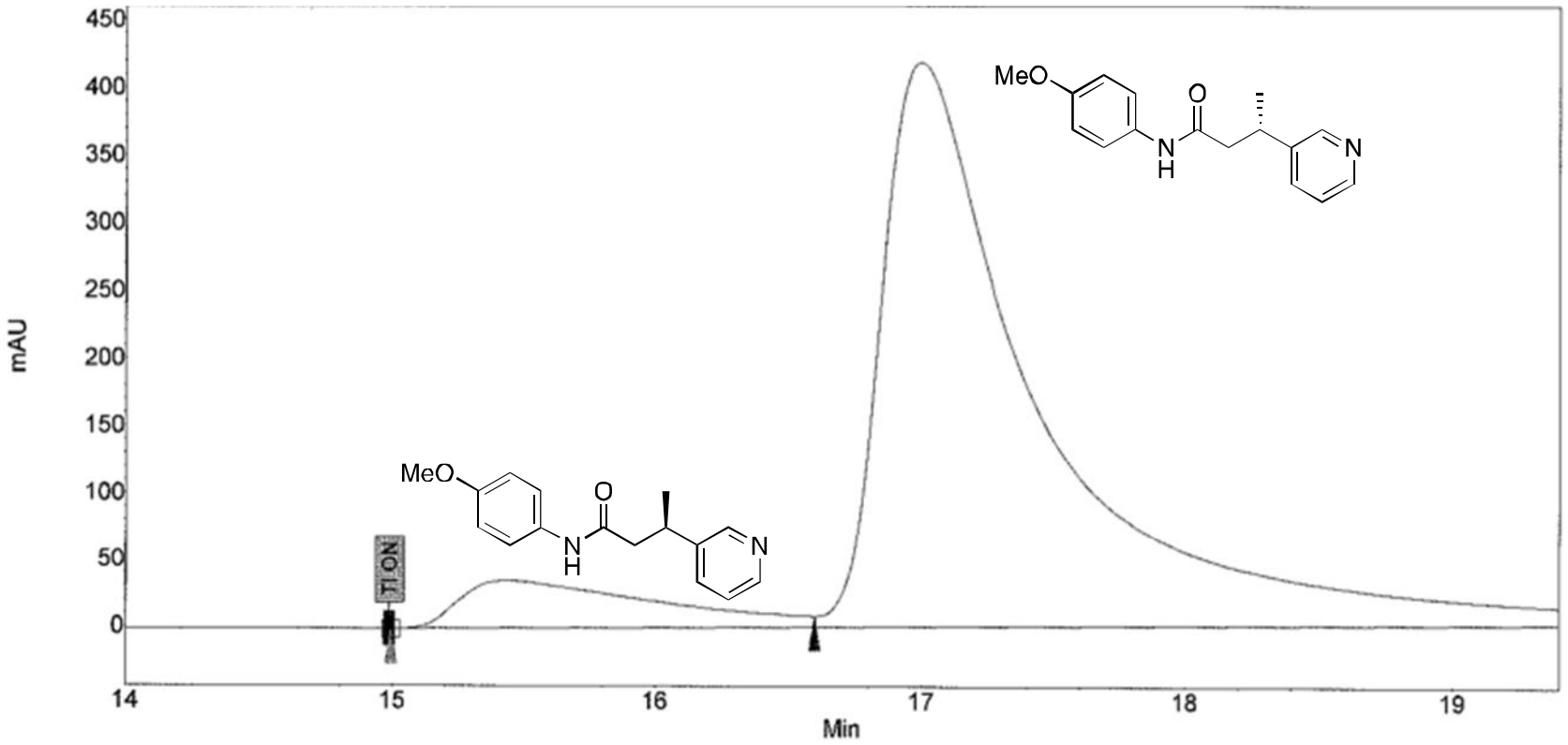


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	14.60	15.03	16.82	0.00	52.44	207.2	147.6	52.438
2	UNKNOWN	16.82	17.24	19.45	0.00	47.56	180.1	133.8	47.562
Total						100.00	387.3	281.4	100.000

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-(pyridin-3-yl)butanamide (12a) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of enantioenriched cross-coupling product:

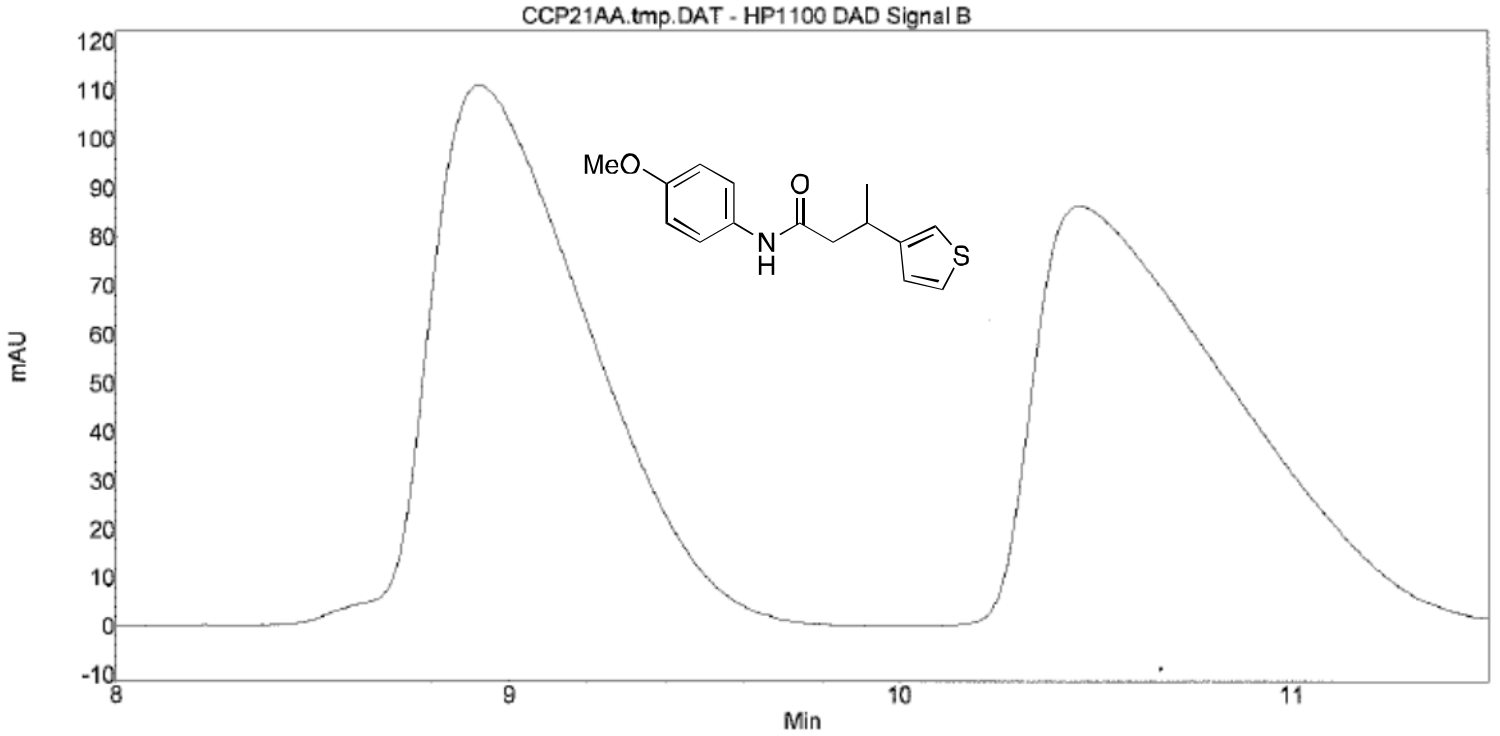


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	14.99	15.43	16.59	0.00	9.15	35.0	30.3	9.147
2	UNKNOWN	16.59	16.99	21.05	0.00	90.85	418.2	300.7	90.853
Total						100.00	453.2	331.0	100.000

Analysis of *N*-(4-Methoxyphenyl)-3-(thiophen-3-yl)butanamide (12b) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of racemic cross-coupling product:

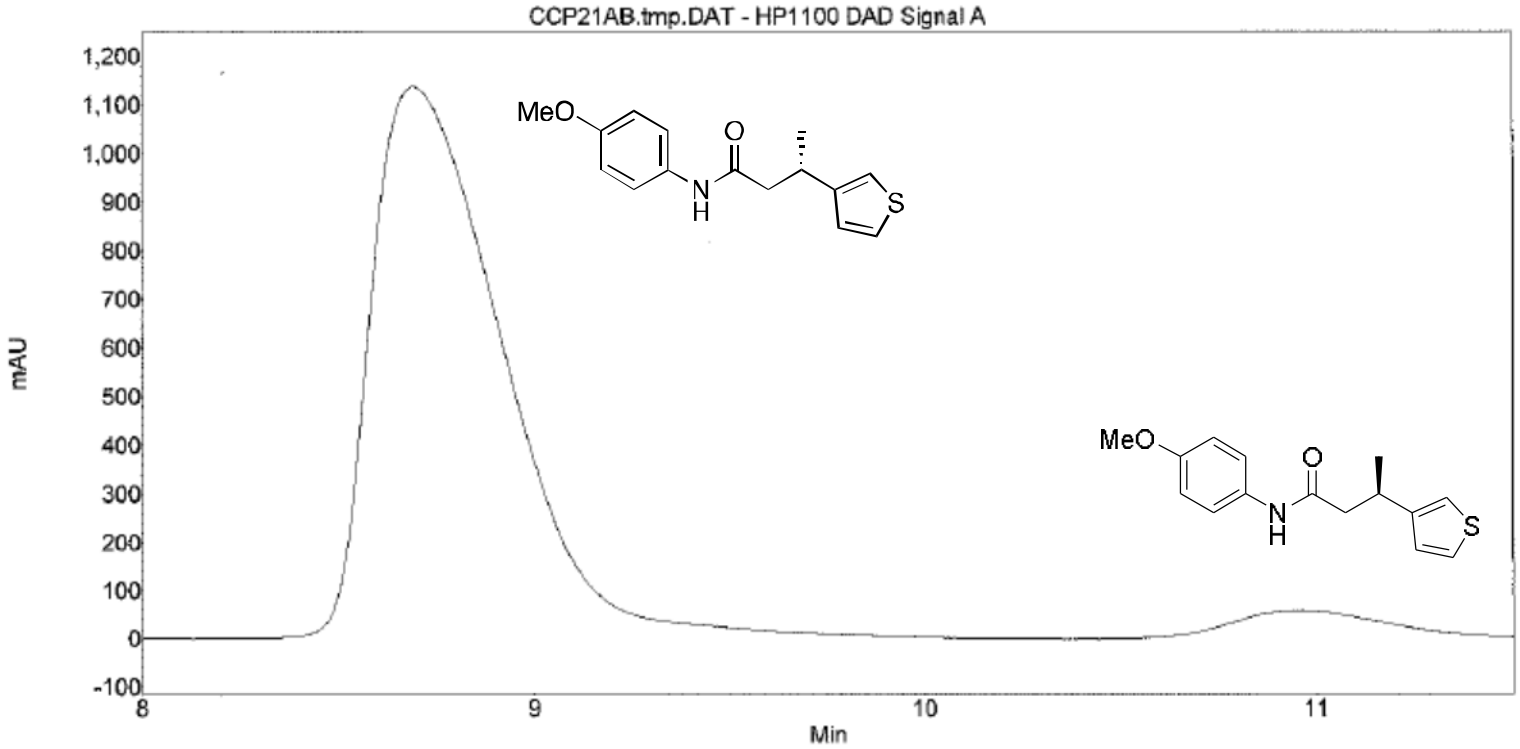


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	8.34	8.92	9.97	0.00	51.06	111.1	52.3	51.056
2	UNKNOWN	10.07	10.46	11.60	0.00	48.94	86.1	50.1	48.944
Total						100.00	197.1	102.4	100.000

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-(thiophen-3-yl)butanamide (12b) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of enantioenriched cross-coupling product:

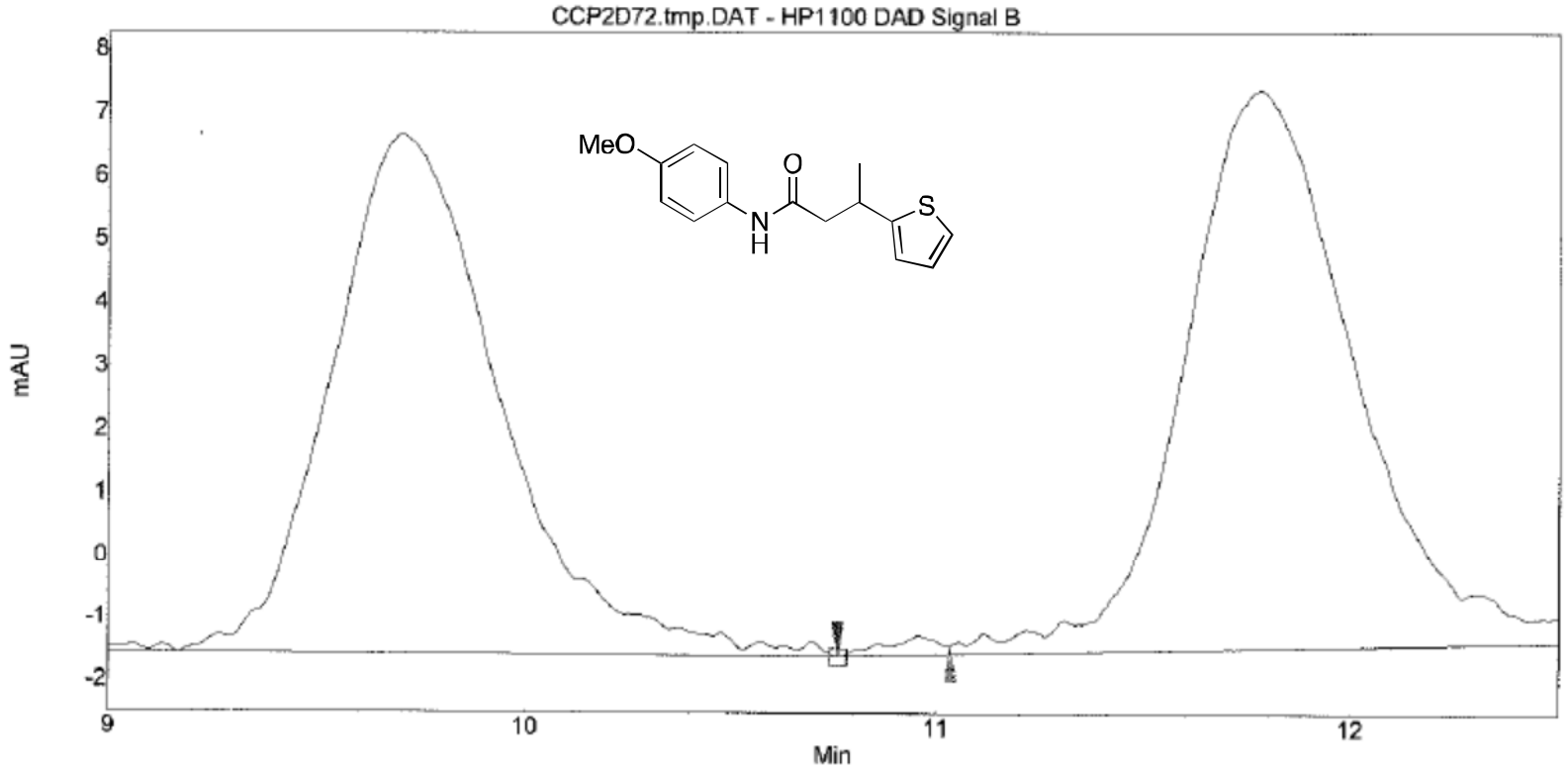


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	8.69	447.8291	1.75	1135.84	3287.07	0.00	3322.9064	0.37
2	UNKNOWN	10.95	25.5115	1.28	56.88	3782.34	1.26	166.3971	0.43
Total			473.3406						

Analysis of *N*-(4-Methoxyphenyl)-3-(thiophen-2-yl)butanamide (12c) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of racemic cross-coupling product:

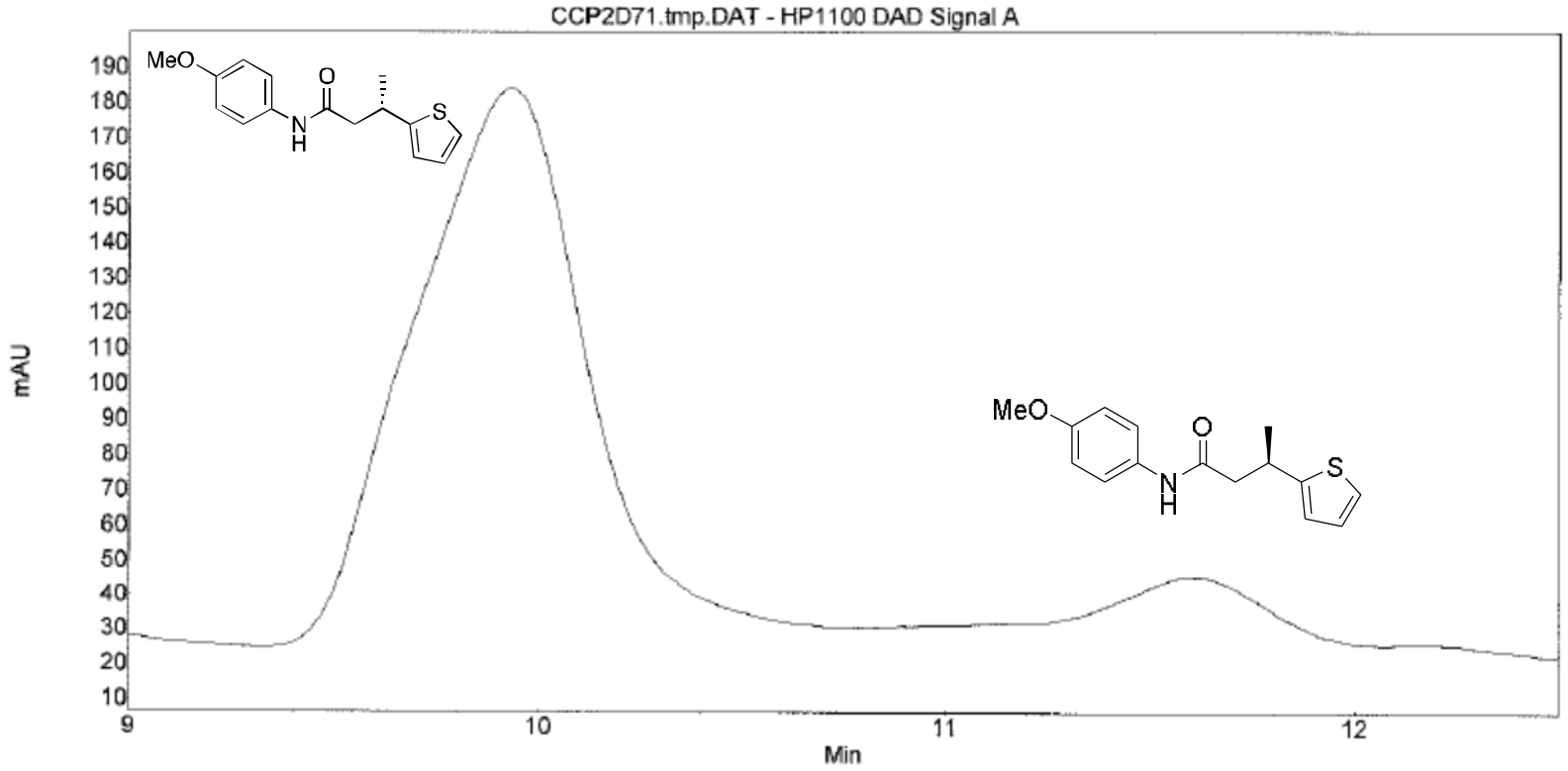


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	8.99	9.70	10.76	0.00	47.66	8.2	3.9	47.657
2	UNKNOWN	11.03	11.78	12.86	0.00	52.34	8.8	4.3	52.343
Total						100.00	17.1	8.2	100.000

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-(thiophen-2-yl)butanamide (12c) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of enantioenriched cross-coupling product:

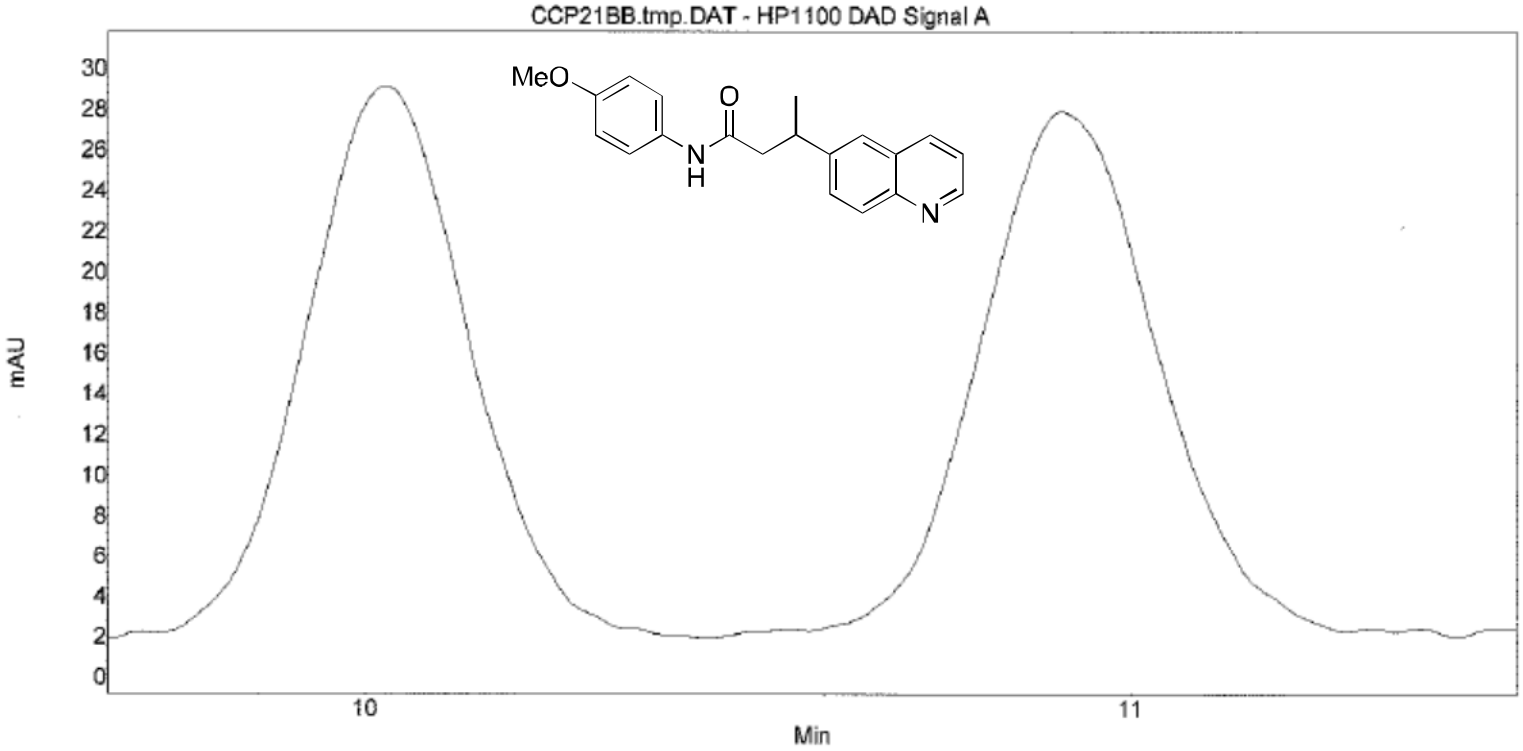


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	9.93	78.6173	1.16	158.14	2590.72	0.00	14.2280	0.47
2	UNKNOWN	11.61	8.3300	0.66	16.58	5105.11	1.17	1.4915	0.38
Total			86.9472						

Analysis of *N*-(4-Methoxyphenyl)-3-(quinolin-6-yl)butanamide (12d) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of racemic cross-coupling product:

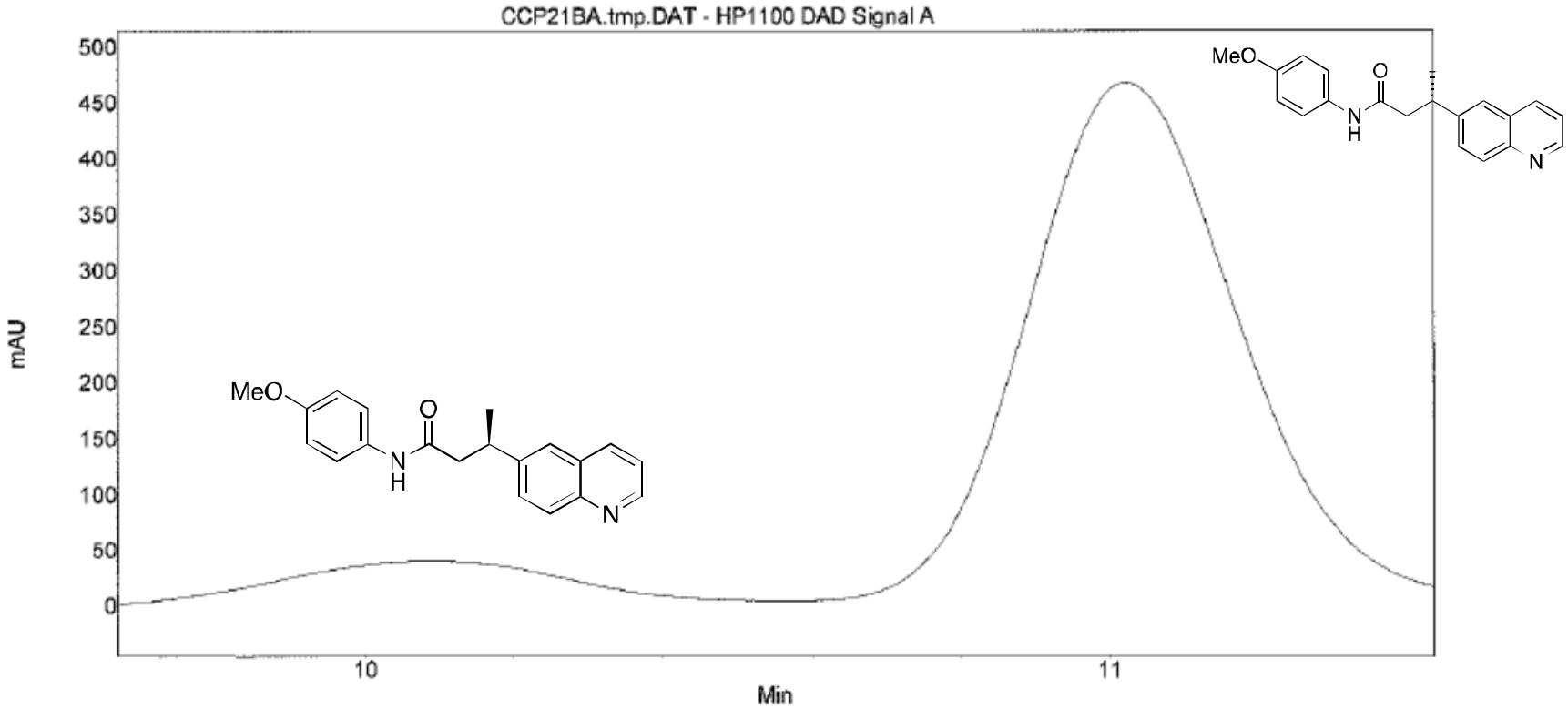


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.03	6.8914	1.06	27.30	10297.71	0.00	36.1278	0.23
2	UNKNOWN	10.91	7.0392	1.09	25.89	10839.77	1.09	34.2602	0.25
Total			13.9305						

Analysis of (*S*)-*N*-(4-Methoxyphenyl)-3-(quinolin-6-yl)butanamide (12d) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of enantioenriched cross-coupling product:

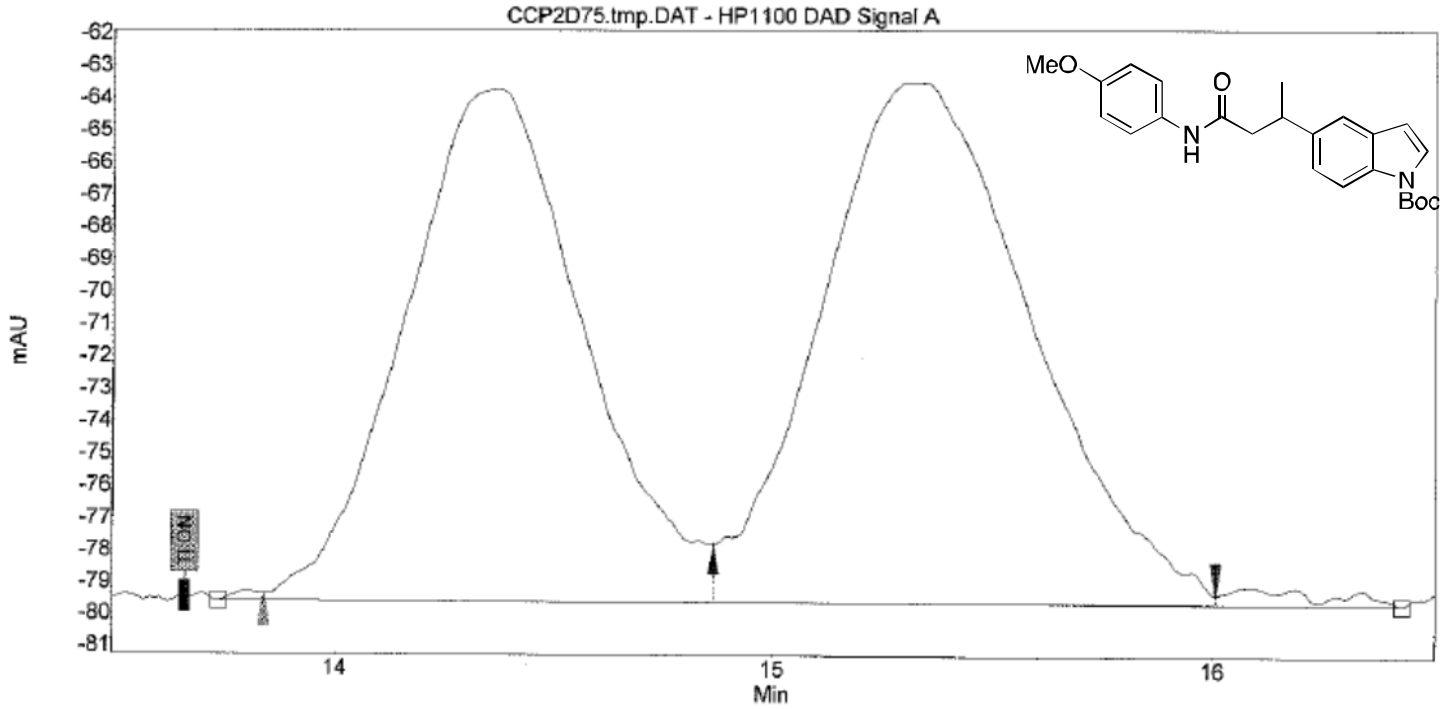


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.09	13.5422	1.00	34.26	4080.30	0.00	52.5473	0.39
2	UNKNOWN	11.02	148.1432	1.13	461.15	7450.46	1.09	707.3960	0.30
Total			161.6853						

Analysis of *tert*-Butyl-5-(4-((4-methoxyphenyl)amino)-4-oxobutan-2-yl)-1*H*-indole-1-carboxylate (12e) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of oxidized racemic cross-coupling product:

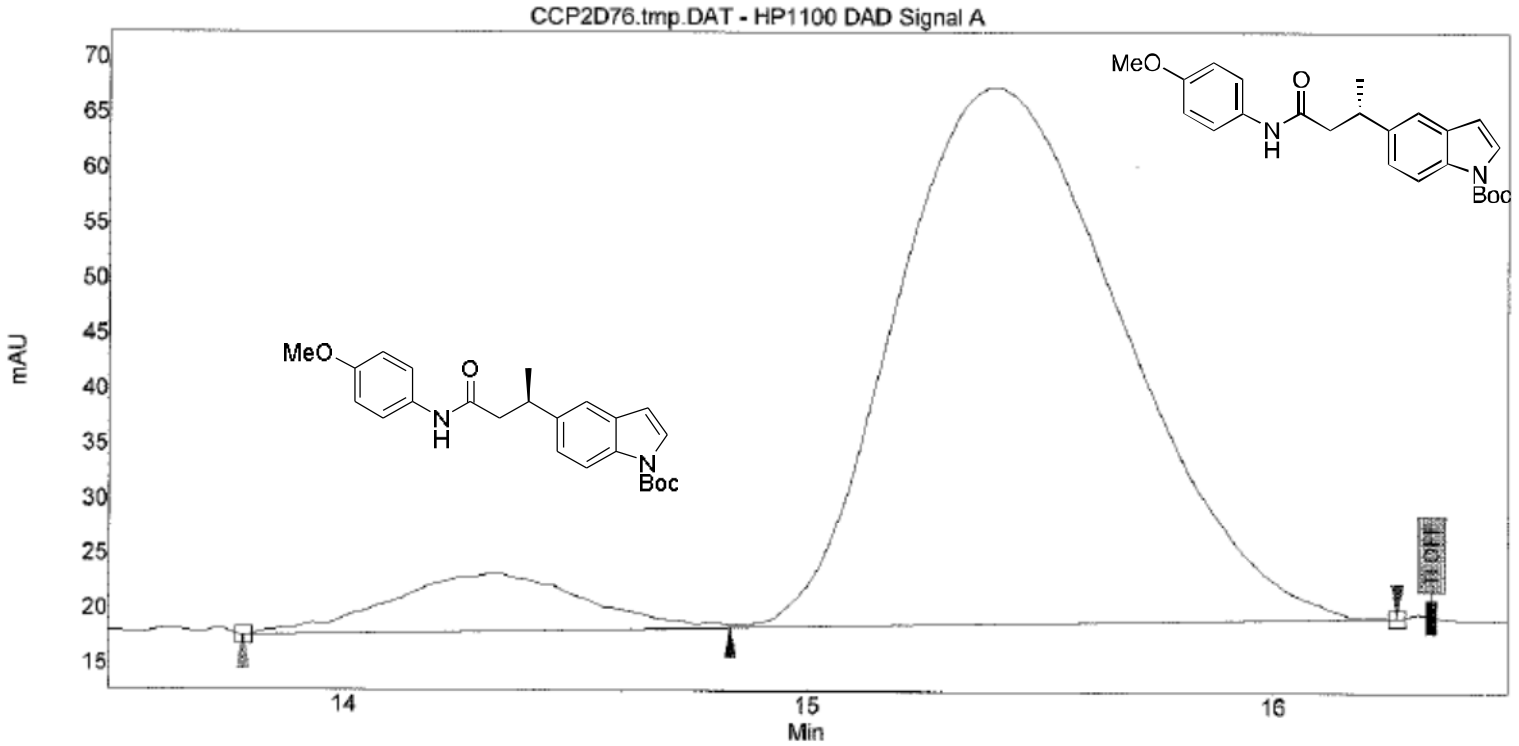


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	14.37	7.5341	1.03	15.86	6497.56	0.00	0.1737	0.44
2	UNKNOWN	15.31	8.8954	1.25	16.08	5345.51	1.06	0.1760	0.51
Total			16.4295						

Analysis of (*S*)-*tert*-Butyl-5-(4-((4-methoxyphenyl)amino)-4-oxobutan-2-yl)-1*H*-indole-1-carboxylate (12e) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of enantioenriched cross-coupling product:

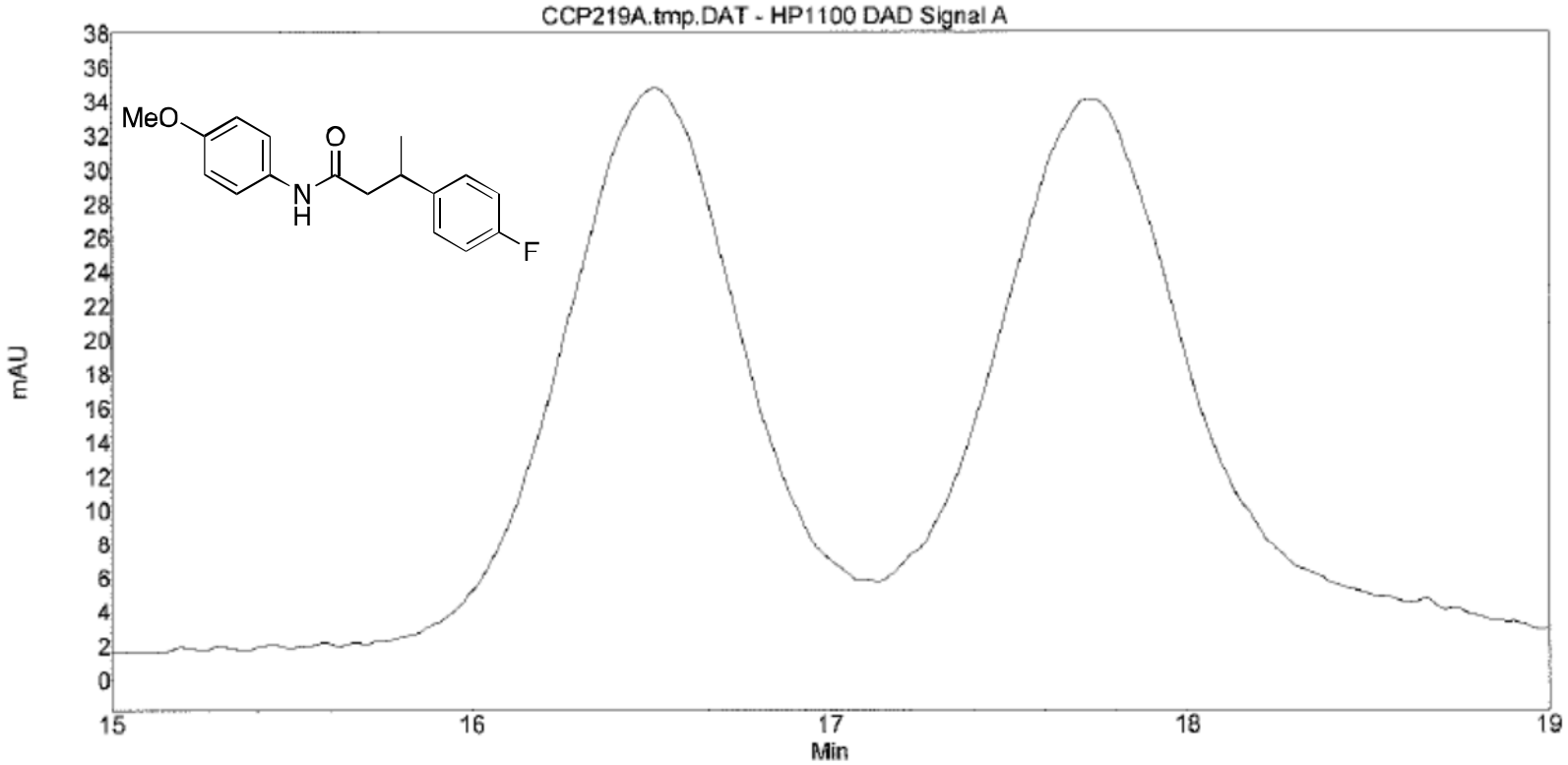


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	14.31	2.5370	1.08	5.19	6756.43	0.00	1.1327	0.44
2	UNKNOWN	15.40	27.3814	1.28	48.59	4781.35	1.08	10.5966	0.54
Total			29.9184						

Analysis of 3-(4-Fluorophenyl)-*N*-(4-methoxyphenyl)butanamide (13a) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of racemic cross-coupling product:

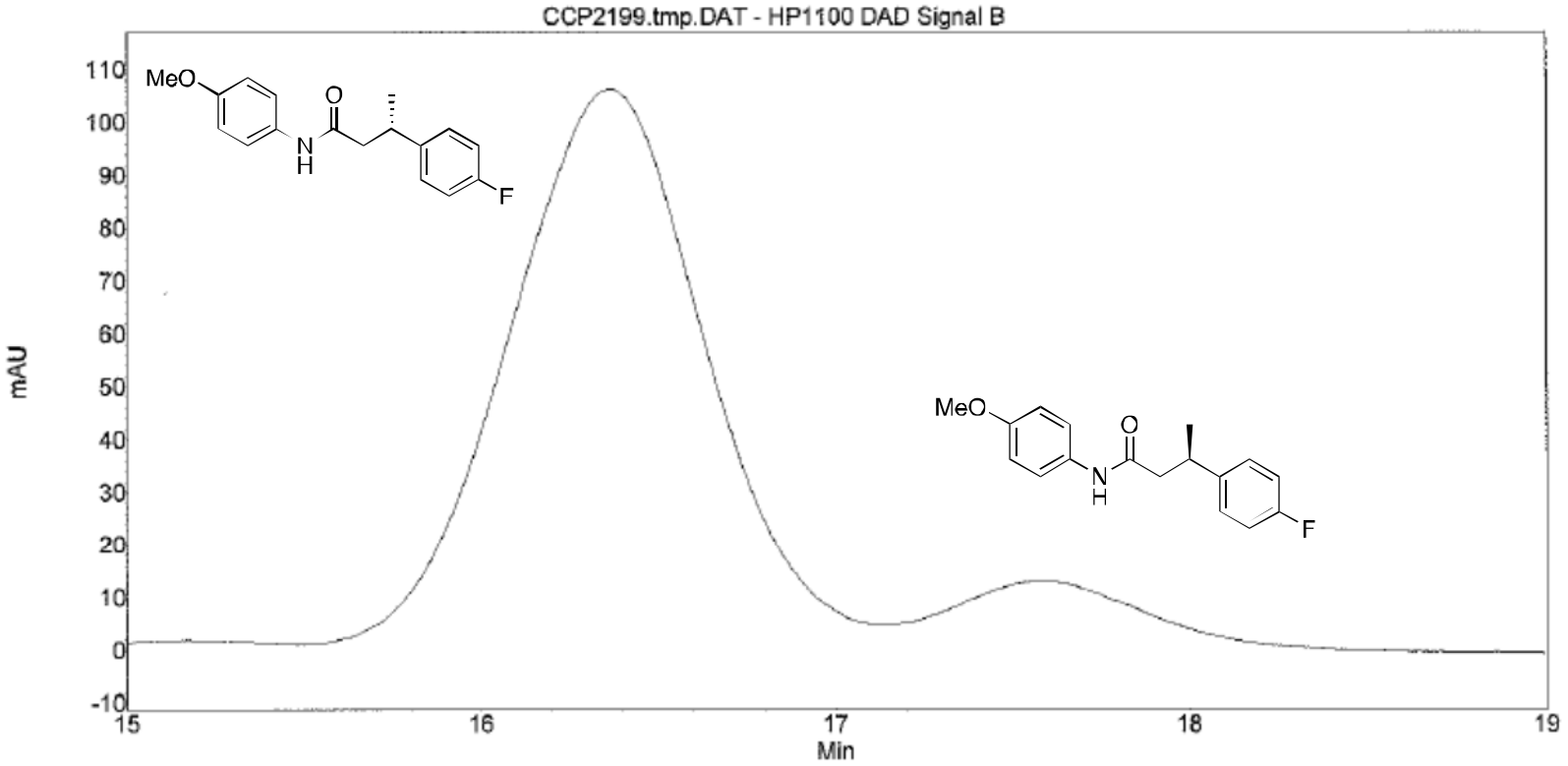


Peak results:

Index	Name	Time	Area	As USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	16.51	18.9899	1.04	32.52	5116.39	0.00	78.5507	0.54
2	UNKNOWN	17.71	20.1729	1.35	31.49	5498.06	1.07	76.0481	0.56
Total			39.1628						

Analysis of (*S*)-3-(4-Fluorophenyl)-*N*-(4-methoxyphenyl)butanamide (13a) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of enantioenriched cross-coupling product:

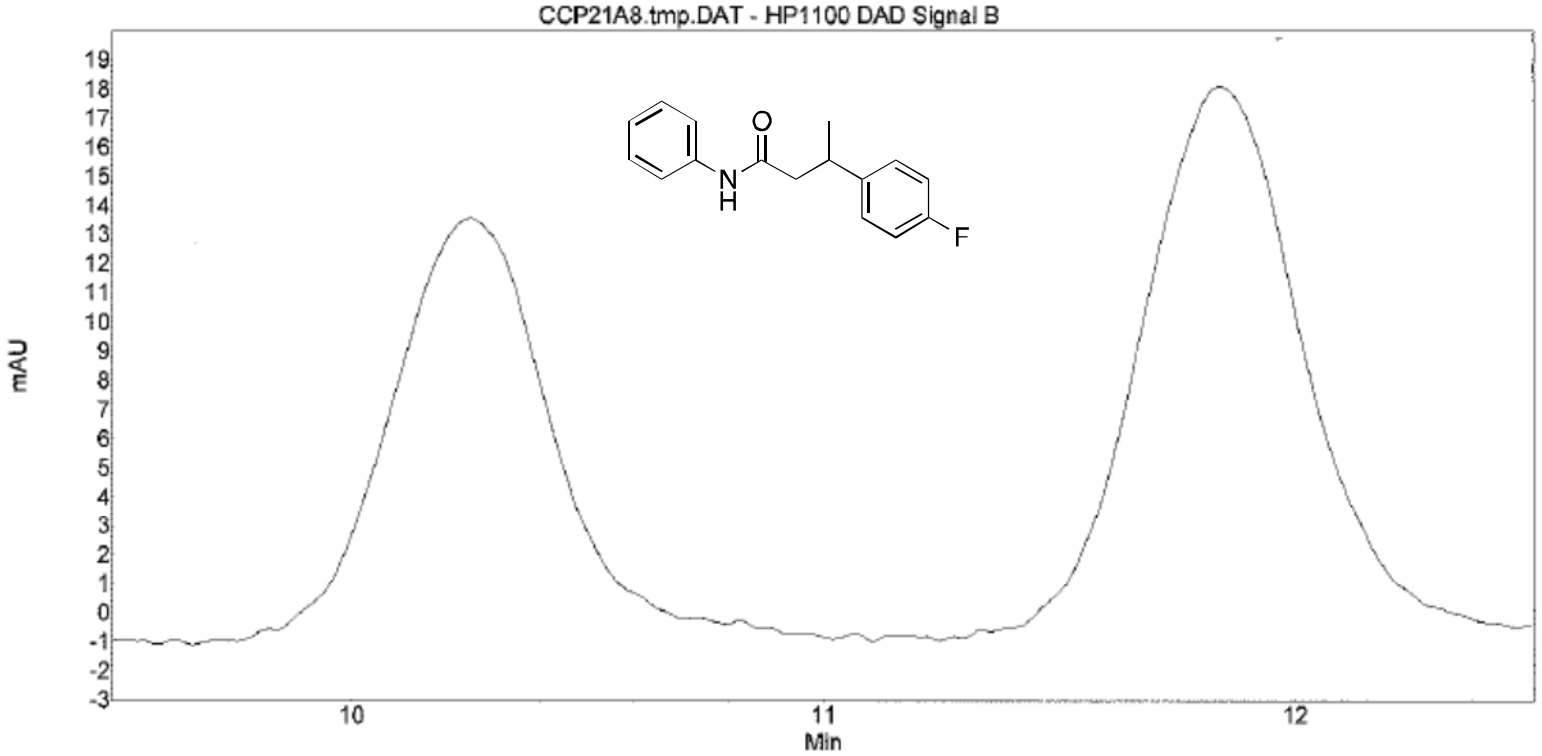


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	15.49	16.37	17.12	0.00	93.20	104.2	65.6	93.201
2	UNKNOWN	17.12	17.59	18.00	0.00	6.80	9.5	4.8	6.799
Total						100.00	113.6	70.4	100.000

Analysis of 3-(4-Fluorophenyl)-*N*-phenylbutanamide (13b) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of racemic cross-coupling product:

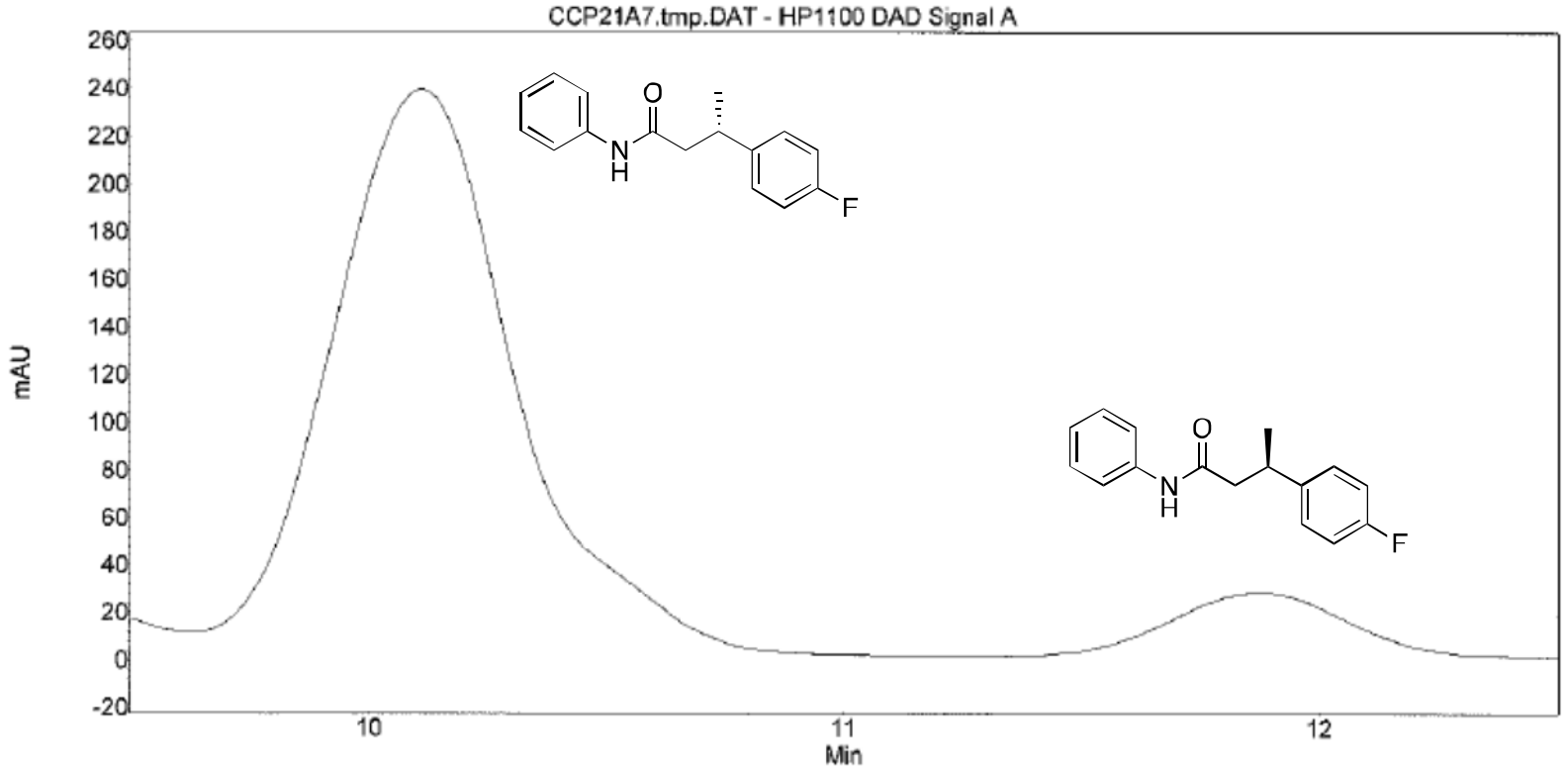


Peak results:

Index	Name	Start	Time	End	RT Offset	Quantity	Height	Area	Area
		[Min]	[Min]	[Min]	[Min]	[% Area]	[µV]	[µV.Min]	[%]
1	UNKNOWN	9.67	10.25	11.25	0.00	49.55	14.6	5.9	49.552
2	UNKNOWN	11.30	11.84	12.17	0.00	50.45	17.2	6.0	50.448
Total						100.00	31.8	11.9	100.000

Analysis of (*S*)-3-(4-Fluorophenyl)-*N*-phenylbutanamide (13b) using SFC (Column OJ-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of enantioenriched cross-coupling product:

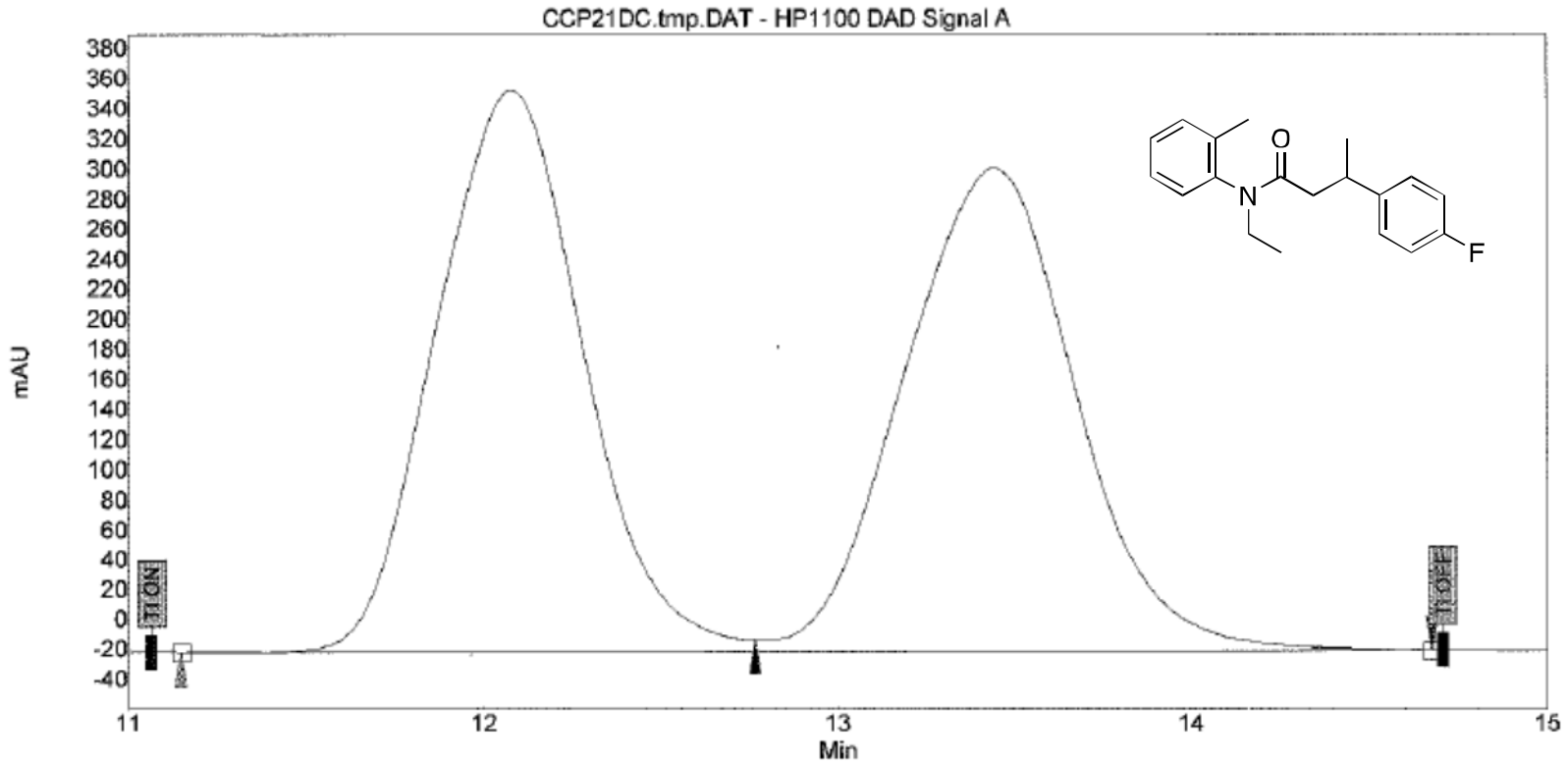


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	10.11	100.9355	1.17	231.42	3752.69	0.00	558.9254	0.39
2	UNKNOWN	11.88	9.4388	0.97	24.43	5686.68	1.17	59.0135	0.37
Total			110.3743						

Analysis of *N*-Ethyl-3-(4-fluorophenyl)-*N*-(*o*-tolyl)butanamide (13c) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of racemic cross-coupling product:

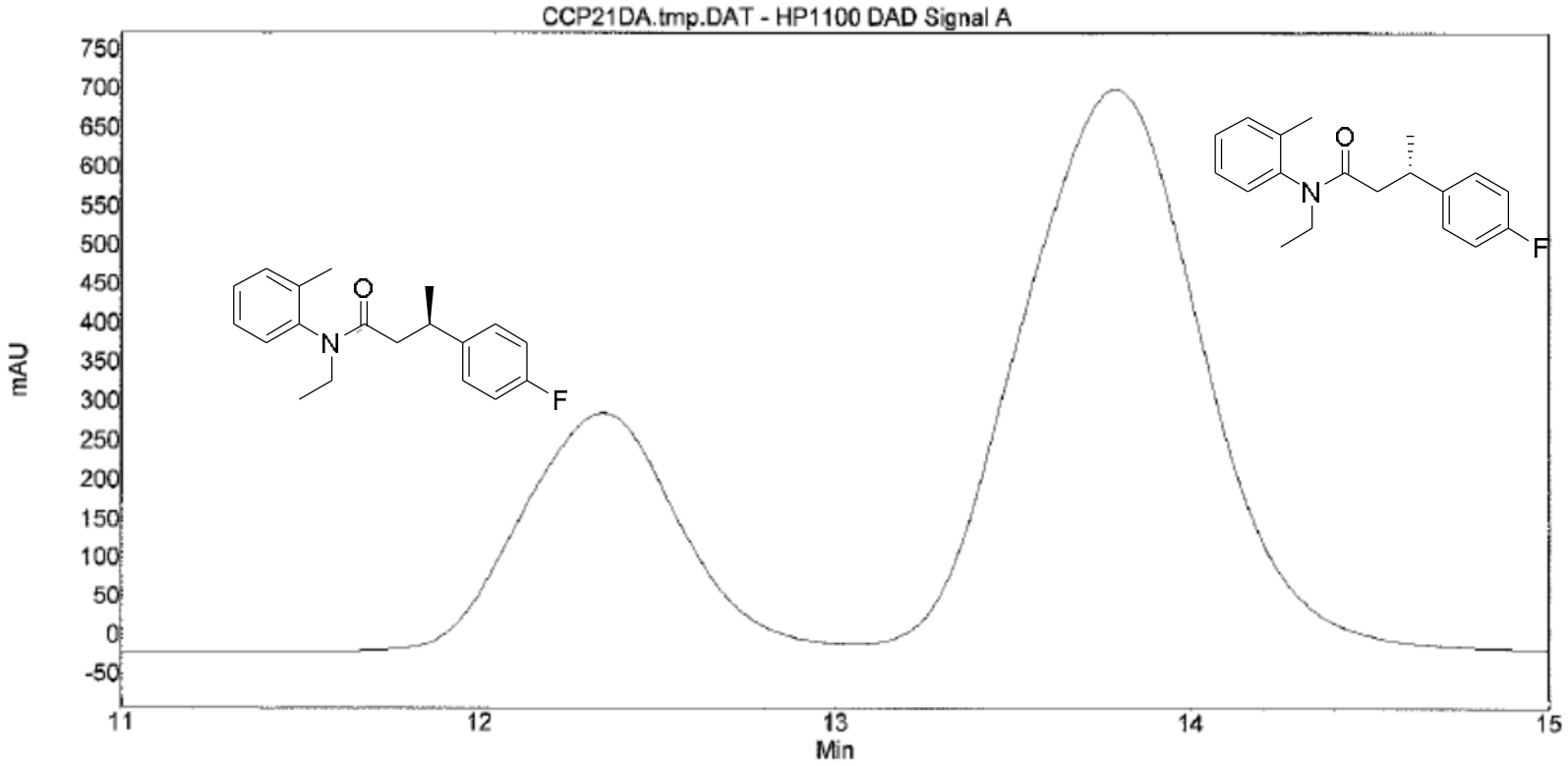


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	12.08	179.9148	1.09	373.88	3878.89	0.00	258.6821	0.45
2	UNKNOWN	13.44	181.3438	1.05	321.64	3596.99	1.11	222.5381	0.53
Total			361.2587						

Analysis of (*S*)-*N*-Ethyl-3-(4-fluorophenyl)-*N*-(*o*-tolyl)butanamide (13c) using SFC (Column OD-H, 10% *i*-PrOH, 2 mL, 10 MPa).

Chromatogram of enantioenriched cross-coupling product:

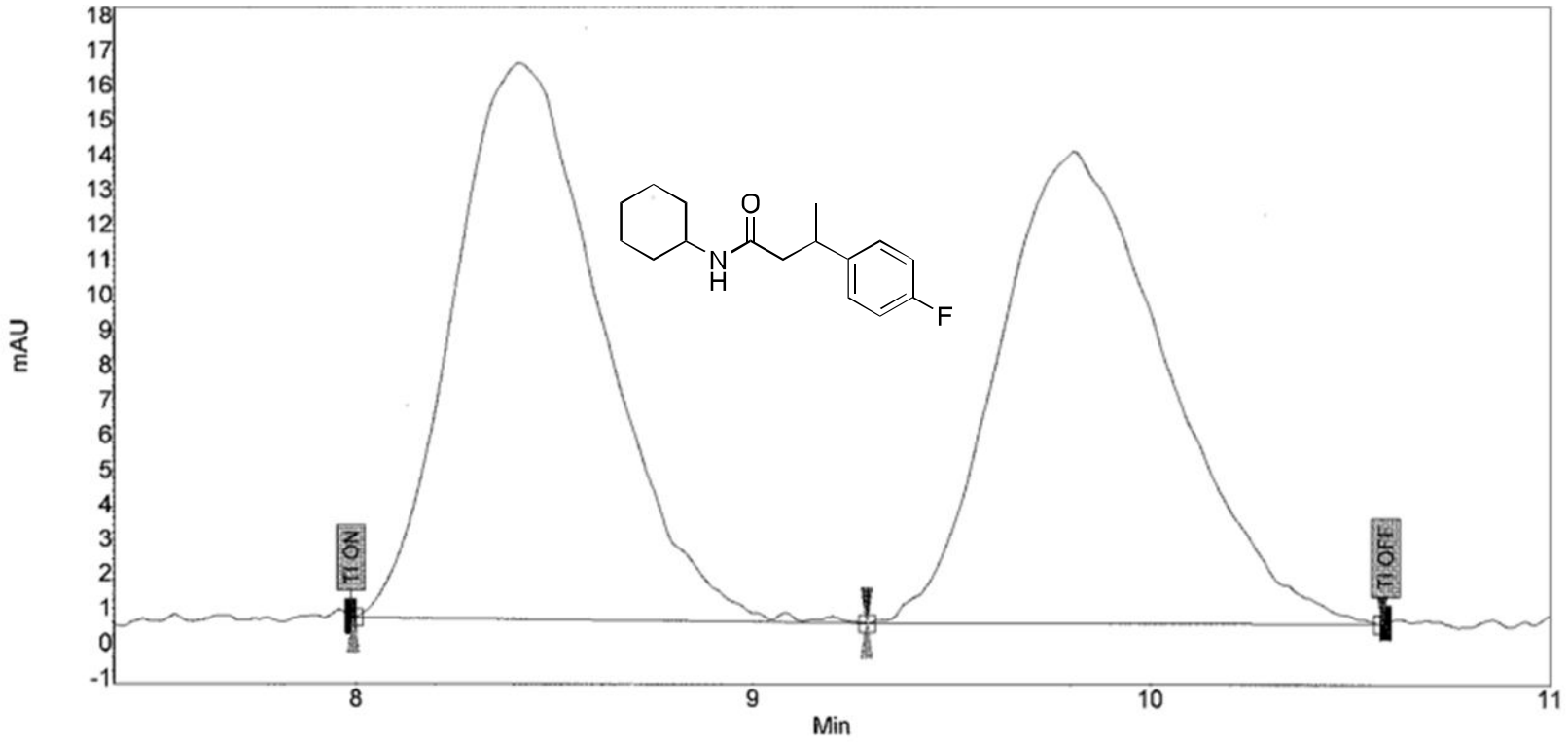


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	12.35	157.2671	1.09	305.53	3622.18	0.00	401.1404	0.48
2	UNKNOWN	13.79	425.6889	1.06	719.02	3415.83	1.12	944.0235	0.56
Total			582.9560						

Analysis of *N*-Cyclohexyl-3-(4-fluorophenyl)butanamide (13d) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of racemic cross-coupling product:

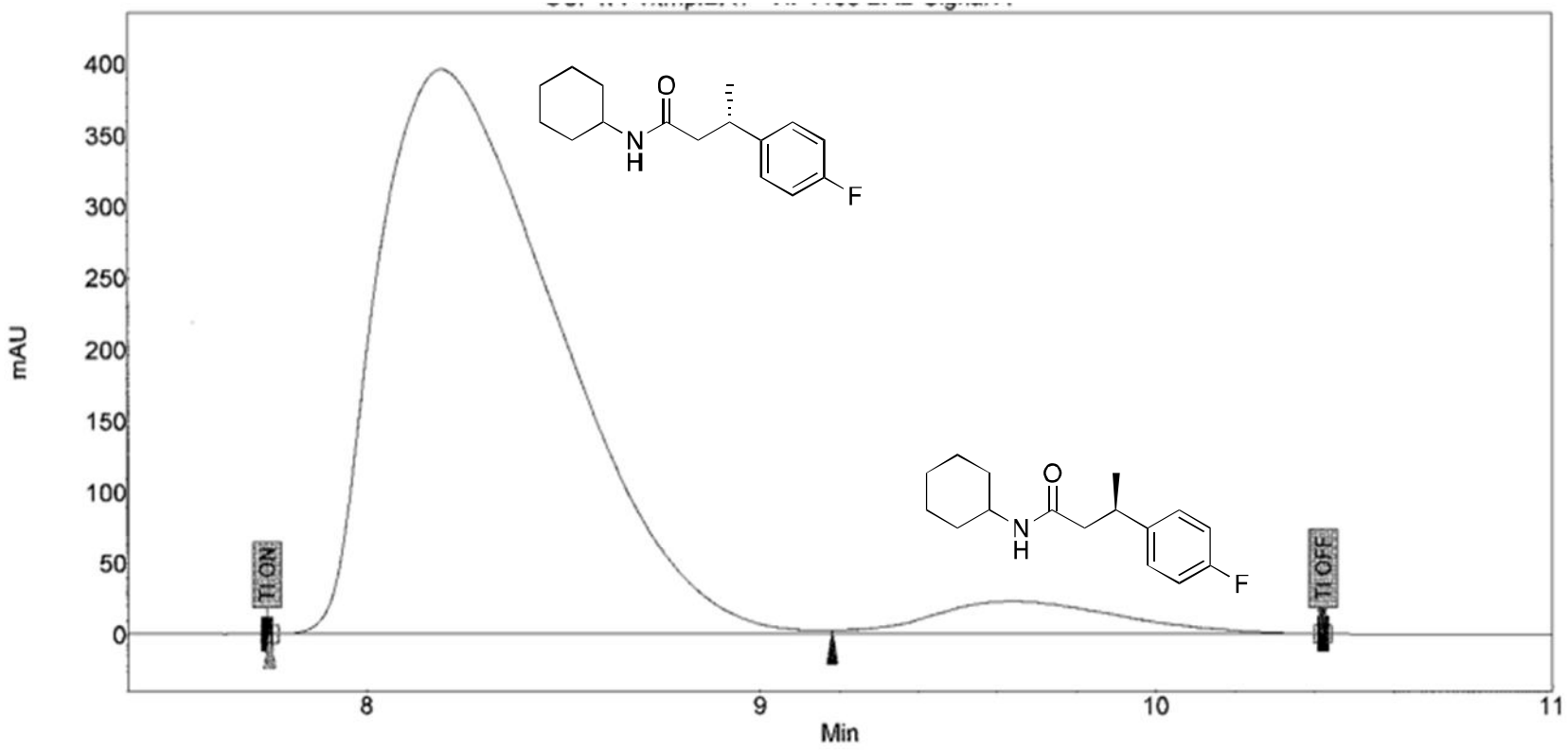


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	8.41	6.9799	1.22	15.95	2532.91	0.00	7.7936	0.41
2	UNKNOWN	9.81	6.7232	1.23	13.53	2665.14	1.17	6.6117	0.46
Total			13.7031						

Analysis of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)butanamide (13d) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa).

Chromatogram of enantioenriched cross-coupling product:

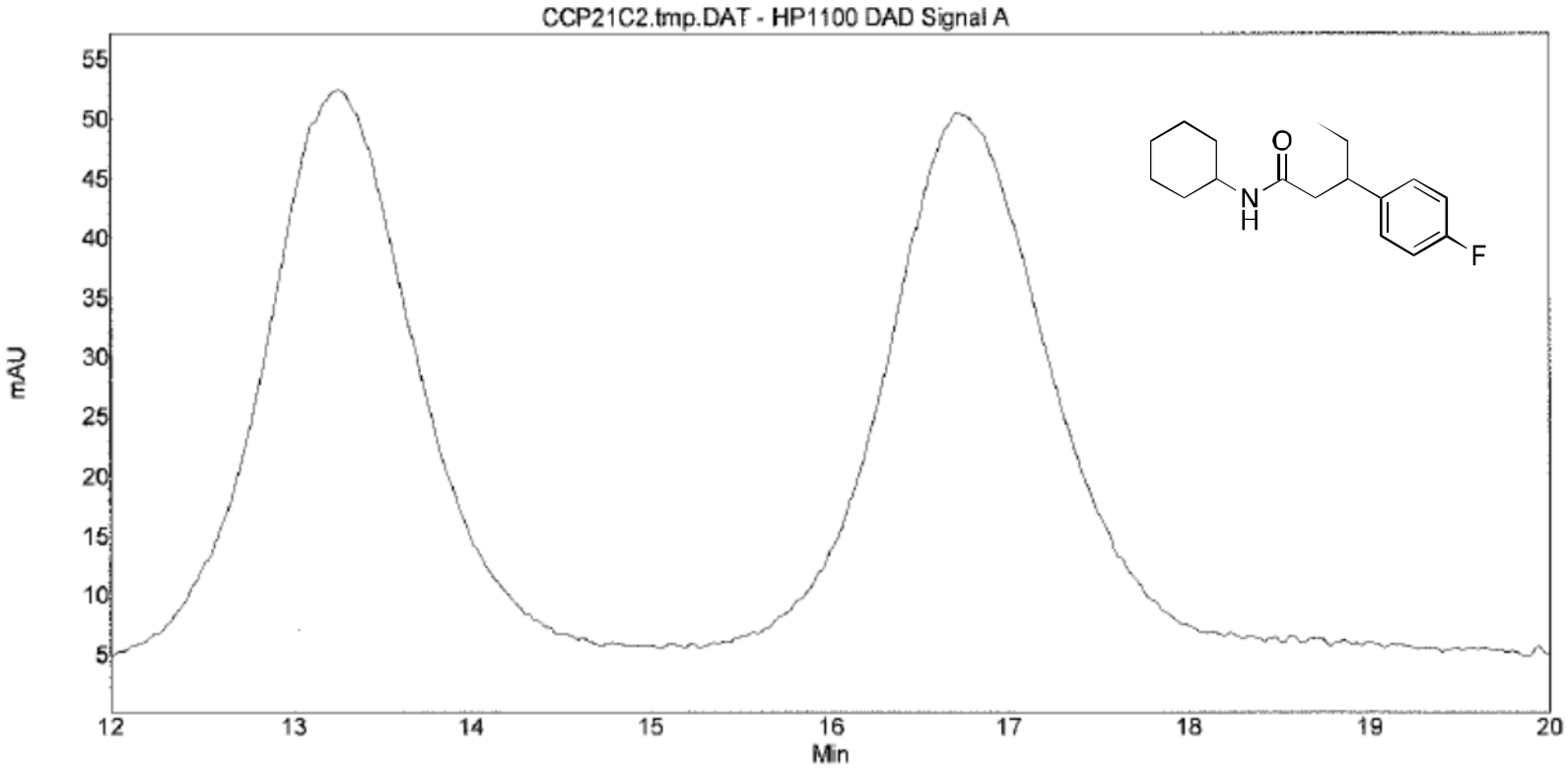


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	8.19	210.8852	1.70	395.54	1439.67	0.00	214.7236	0.52
2	UNKNOWN	9.64	12.3722	1.19	22.53	2036.61	1.18	12.2331	0.52
Total			223.2574						

Analysis of *N*-Cyclohexyl-3-(4-fluorophenyl)pentanamide (13e) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

Chromatogram of racemic cross-coupling product:

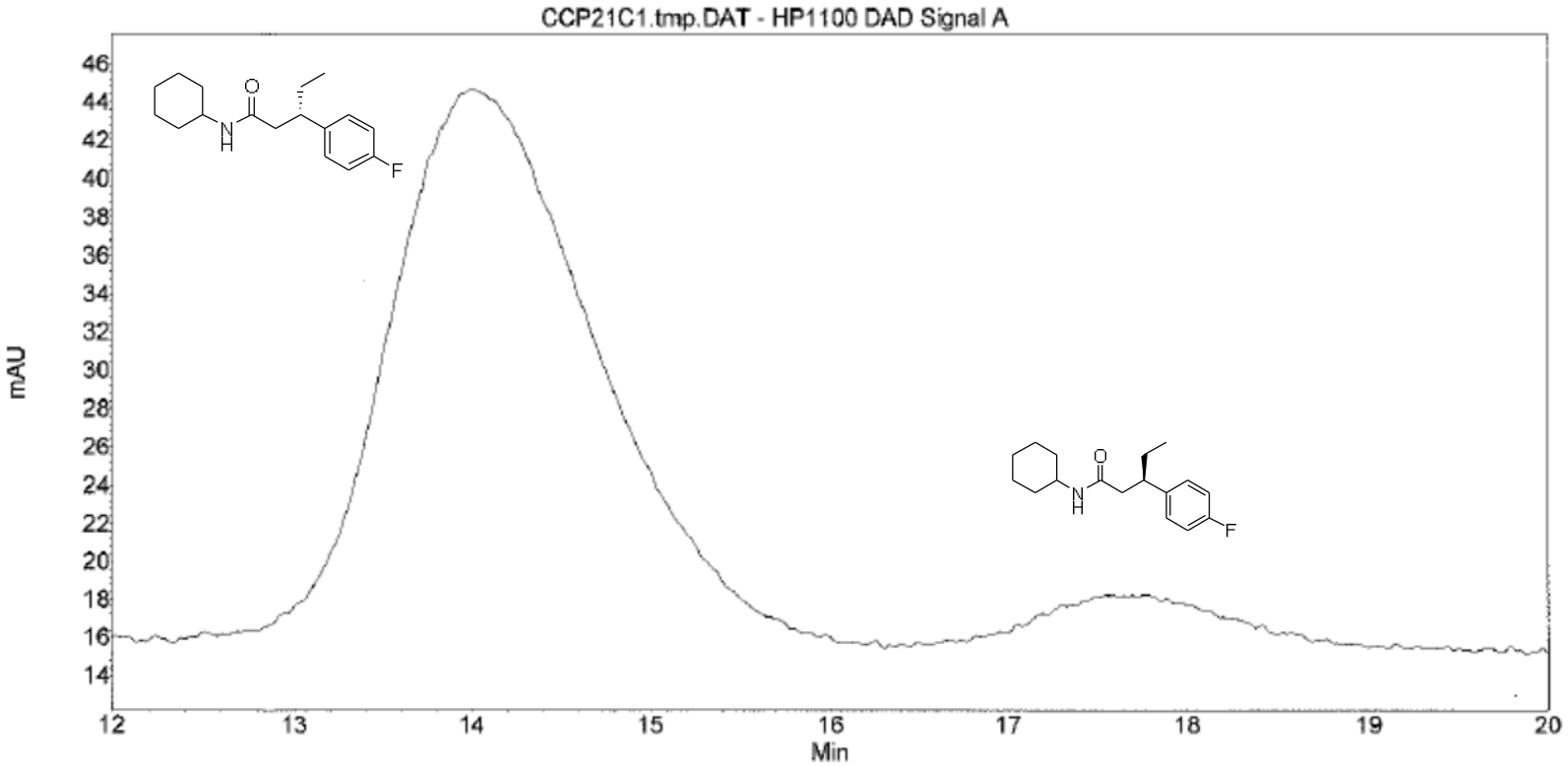


Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	13.25	50.5861	1.14	48.38	1052.23	0.00	77.2158	0.90
2	UNKNOWN	16.71	53.2645	1.13	46.02	1625.39	1.26	73.4552	0.98
Total			103.8506						

Analysis of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)pentanamide (13e) using SFC (Column AS-H, 10% *i*-PrOH, 2 mL, 10_MPa)**.**

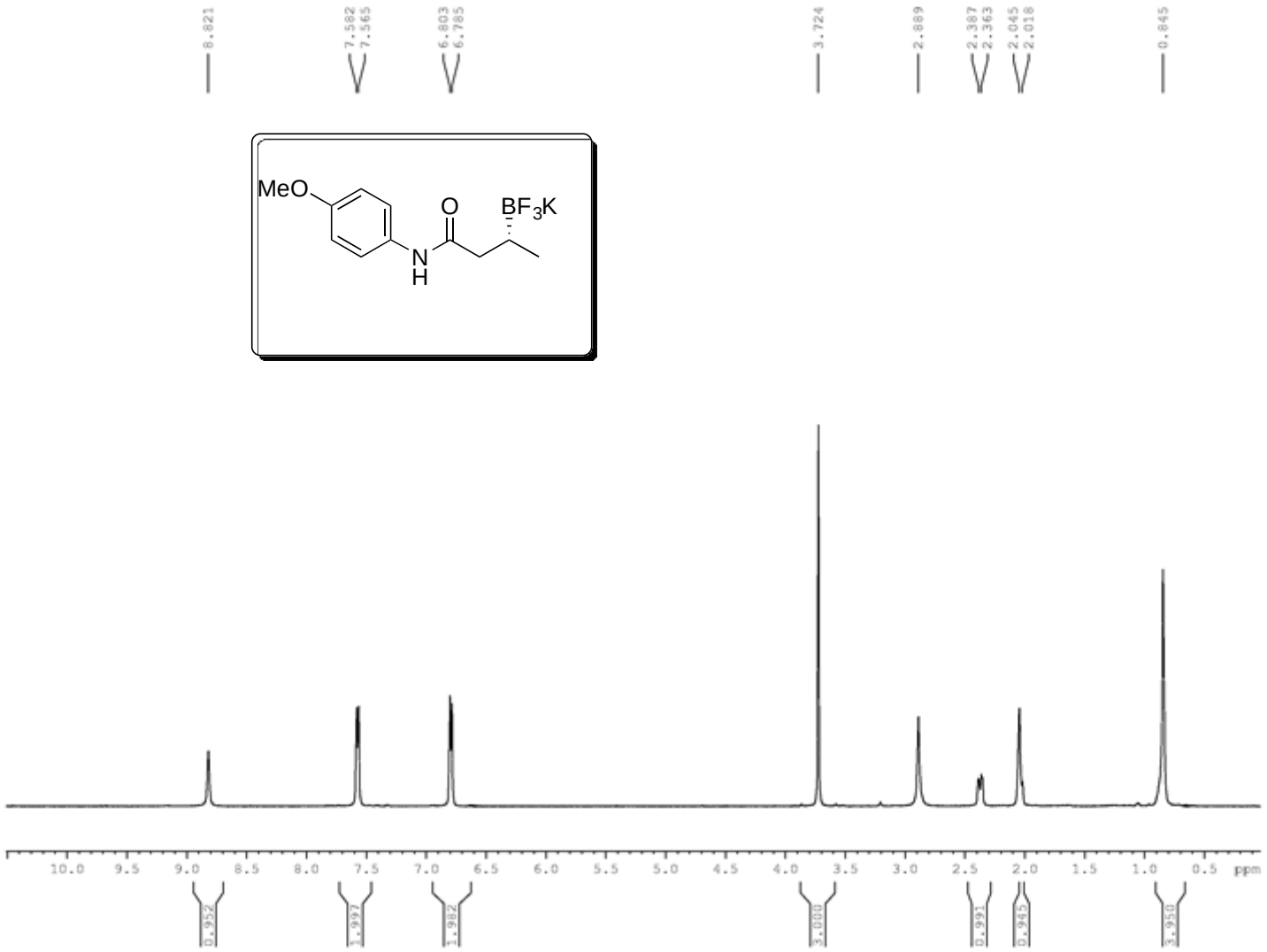
Chromatogram of enantioenriched cross-coupling product:



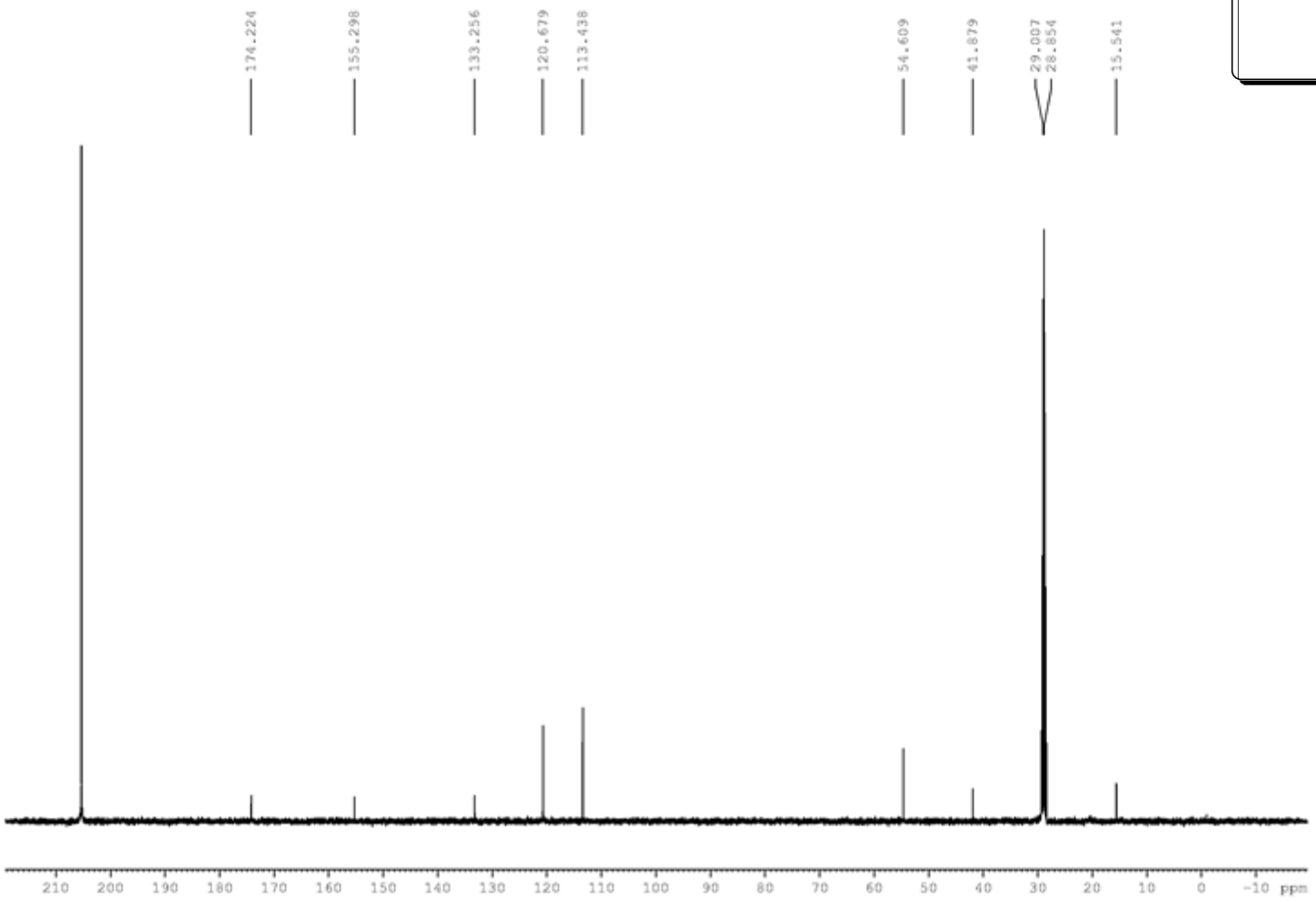
Peak results:

Index	Name	Time	Area	As. USP	Height	NTP USP	Selectivity	Signal to Noise Ratio	Width
		[Min]	[mAU*min]		[mAU]				[Min]
1	UNKNOWN	14.02	39.5788	1.24	29.04	817.30	0.00	56.6380	1.26
2	UNKNOWN	17.55	1.5490	1.17	1.81	2864.41	1.25	3.5294	0.90
Total			41.1278						

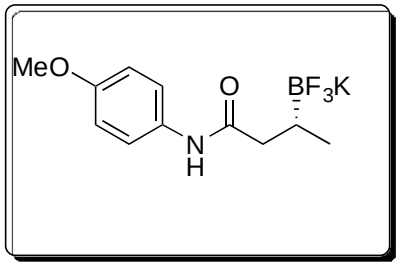
^{1}H NMR (Acetone, 360 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a)



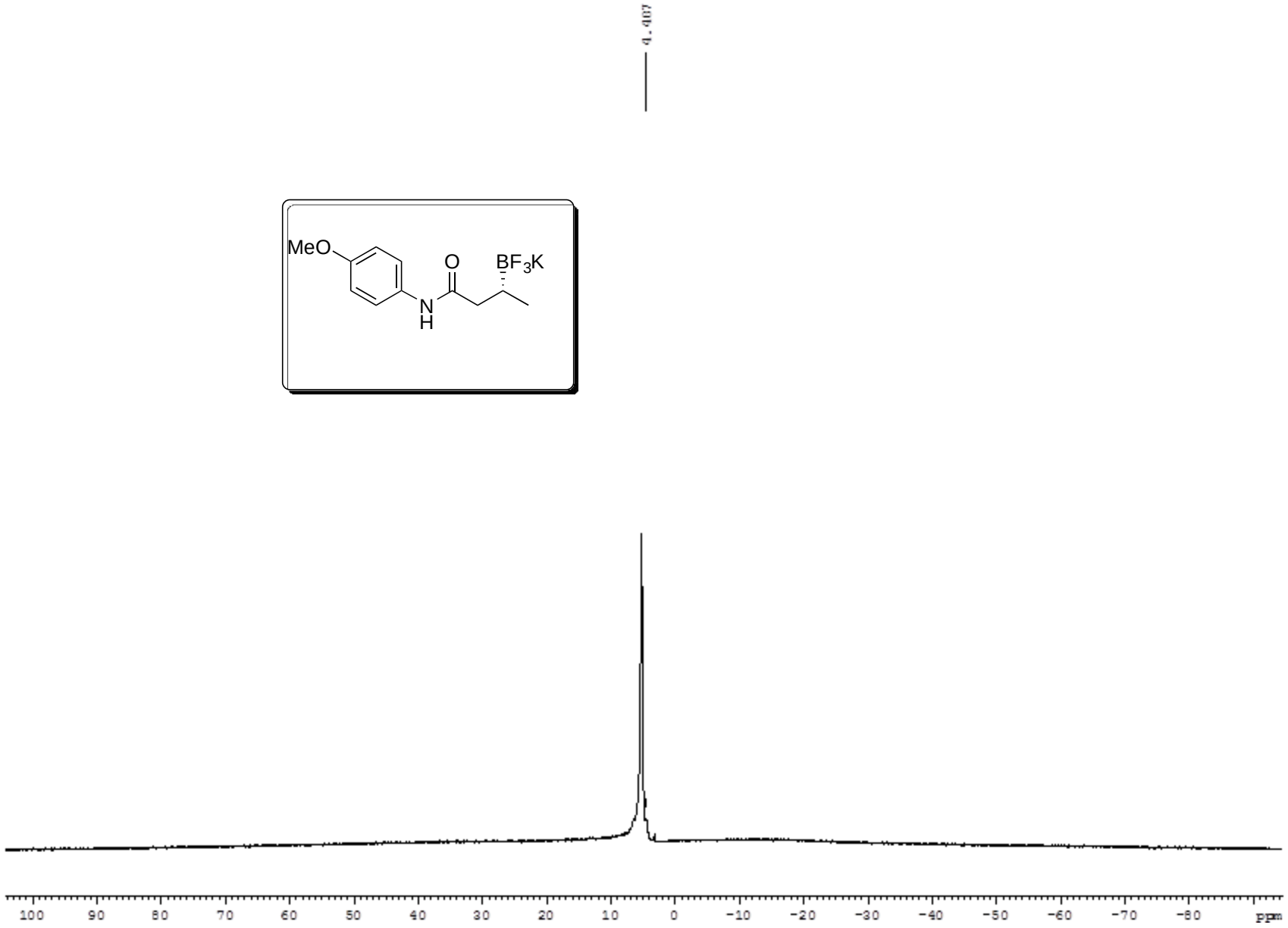
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a)



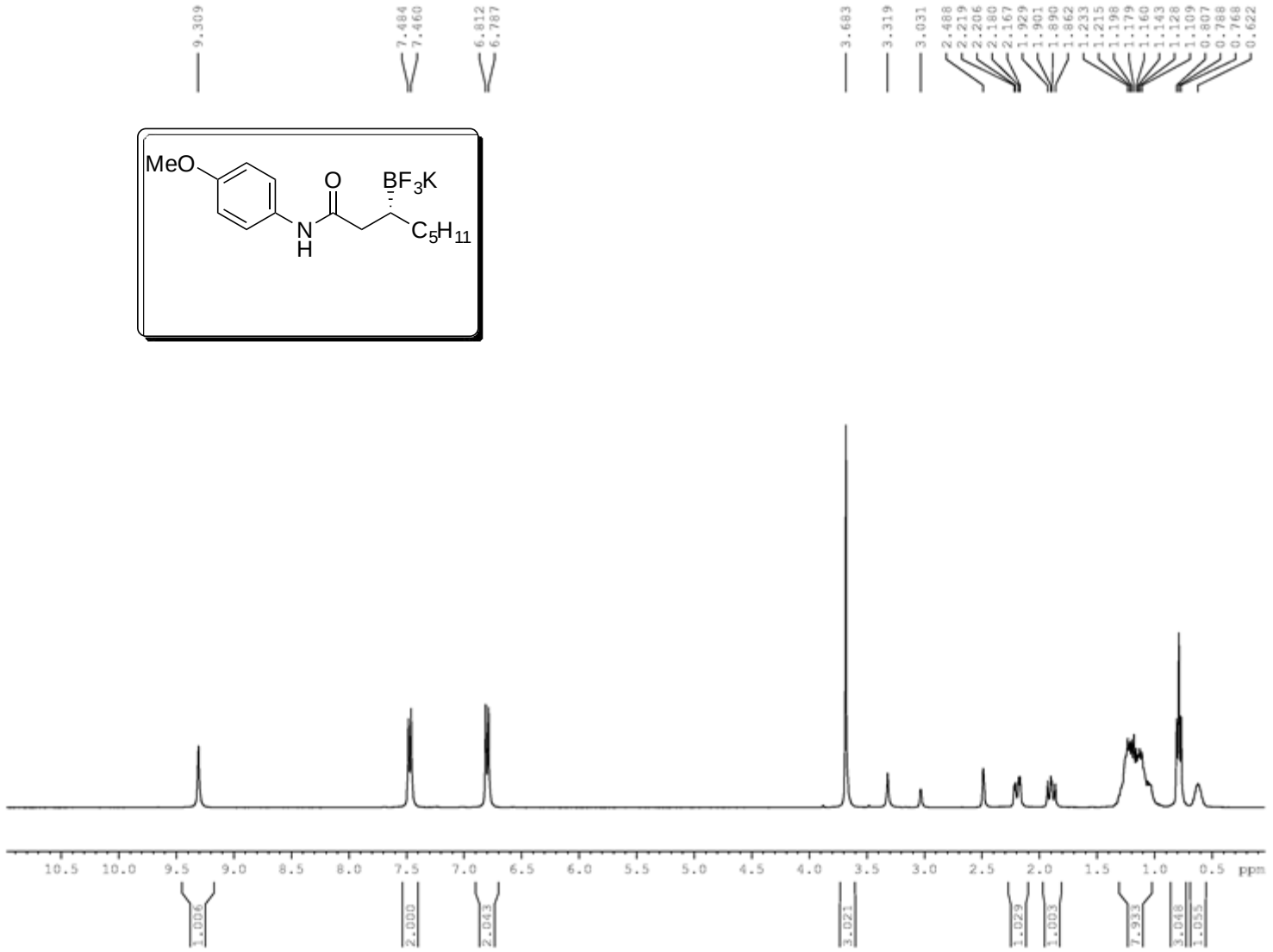
^{19}F NMR (Acetone, 338.8 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a)



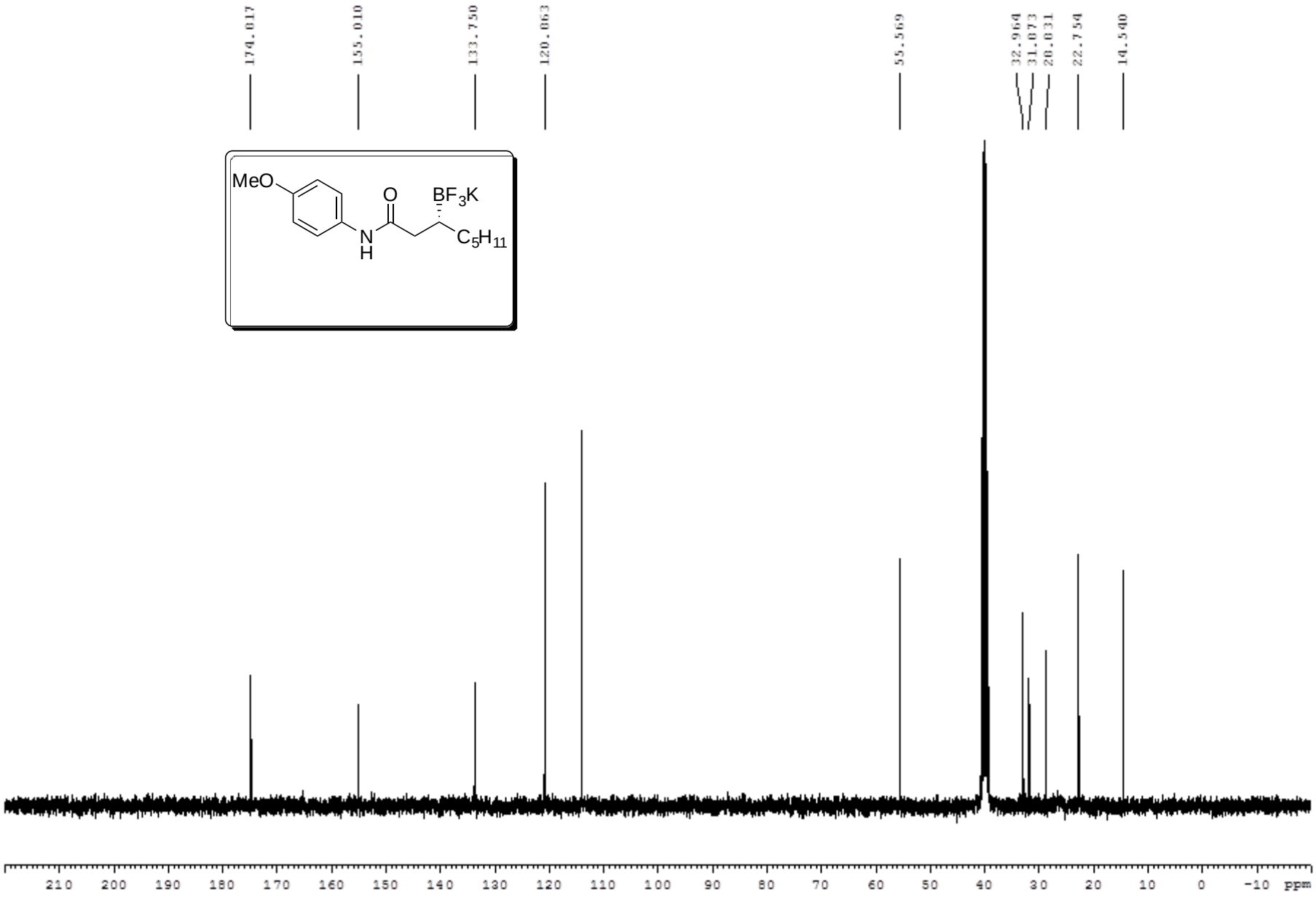
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a)



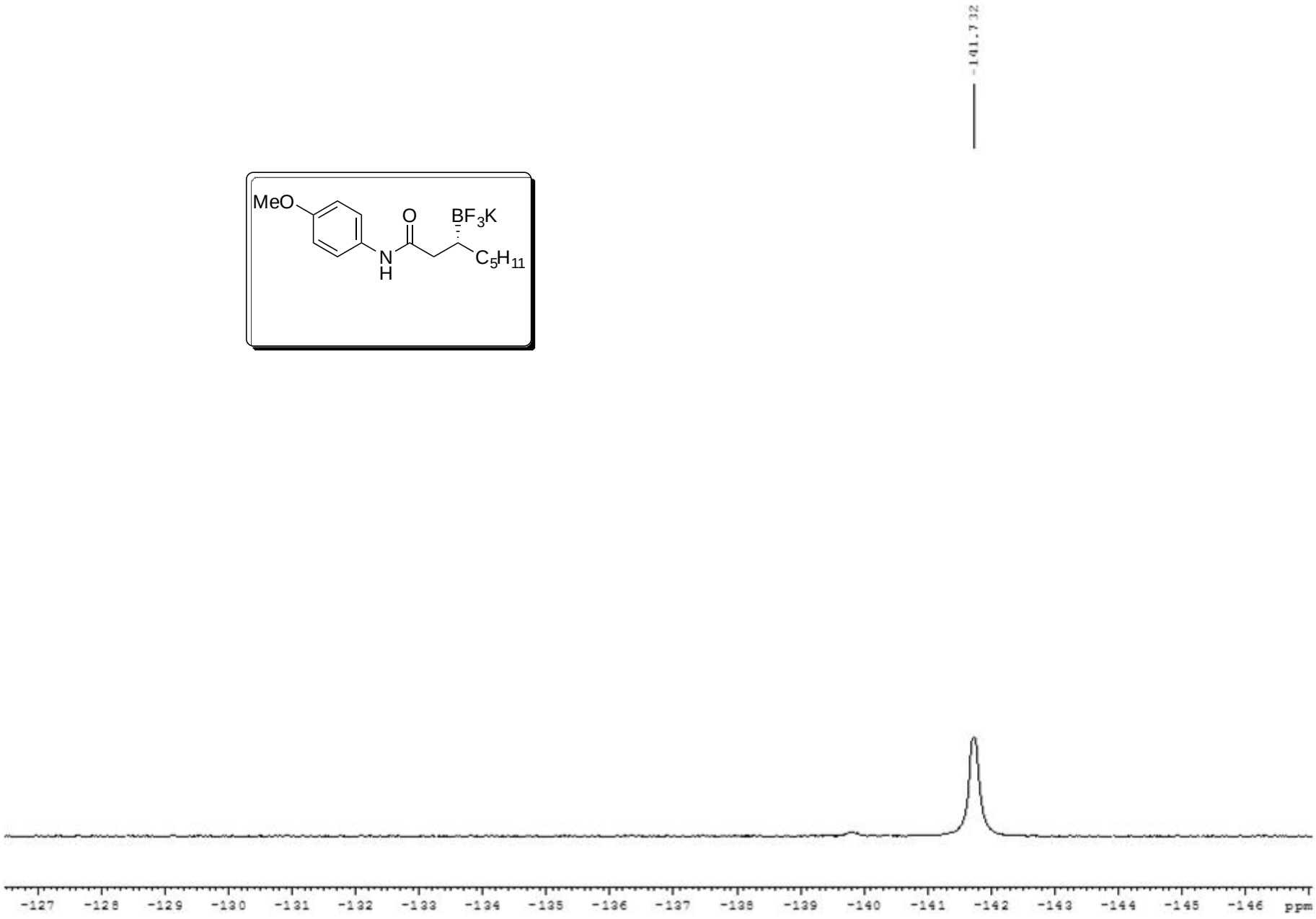
^{1}H NMR (DMSO, 360 MHz) spectrum of Potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)methyloctanamide (2b)



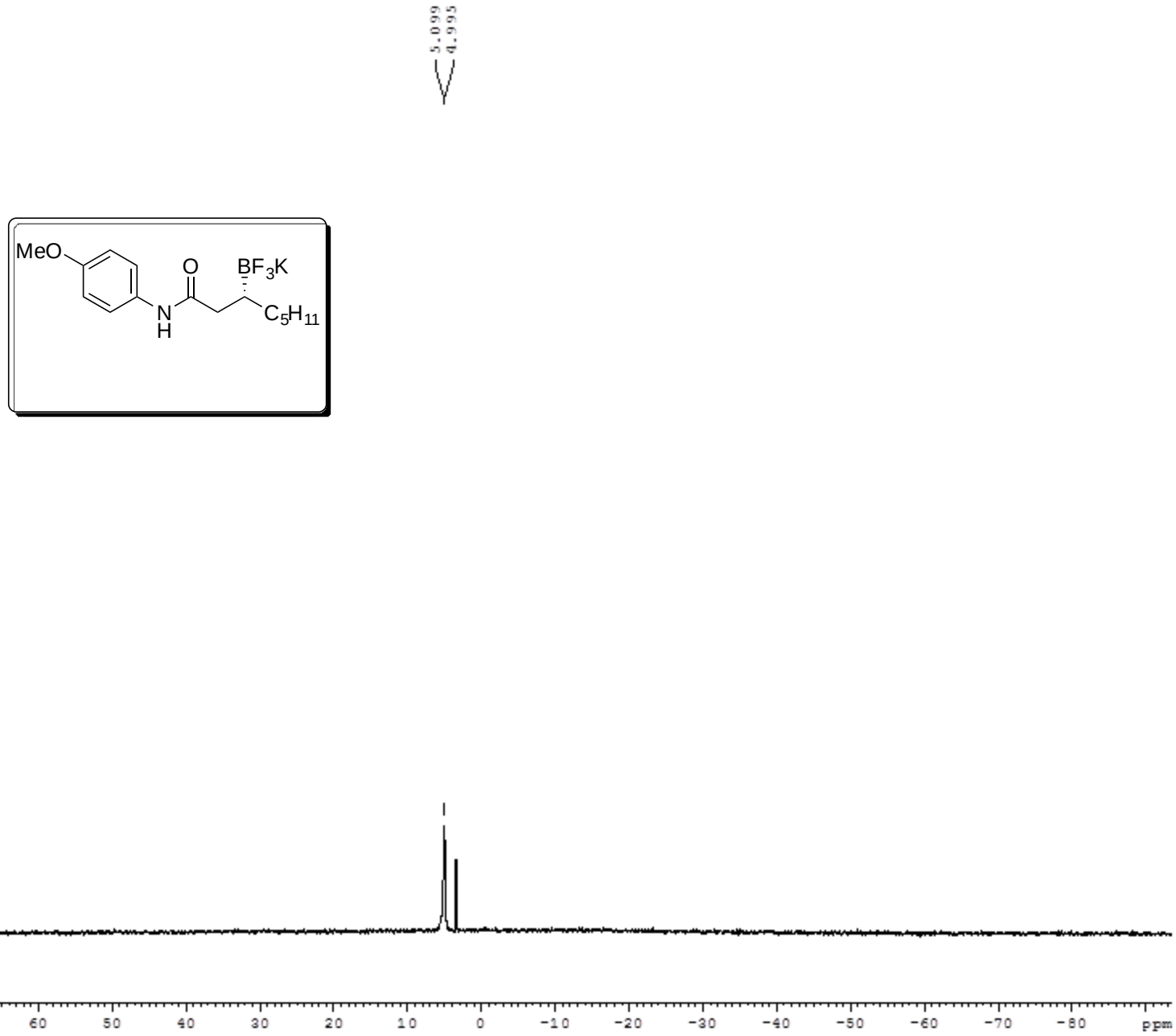
^{13}C NMR (DMSO, 90.5 MHz) spectrum of Potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)methyloctanamide (2b)



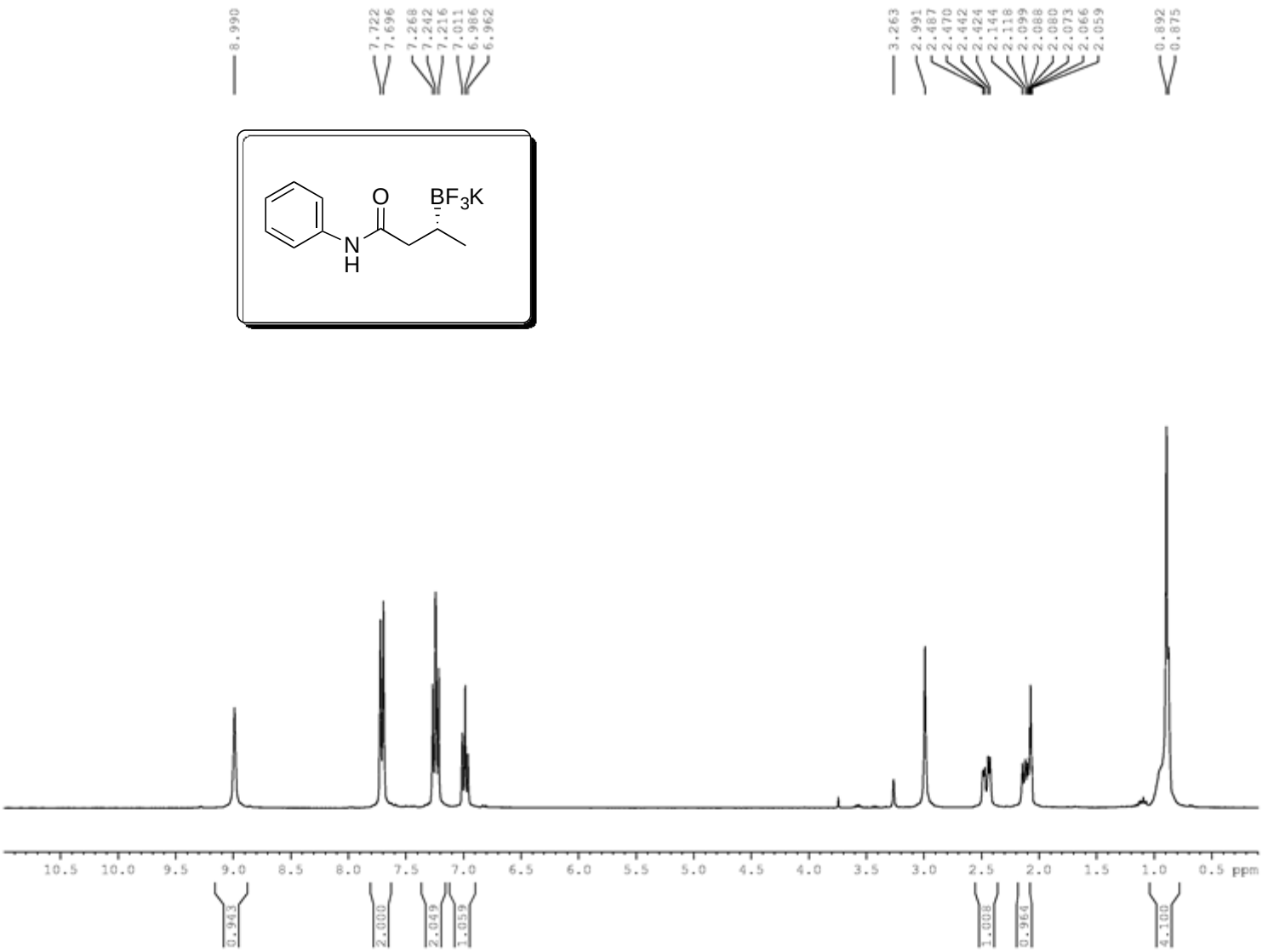
^{19}F NMR (DMSO, 338.8 MHz) spectrum of Potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)methyloctanamide (2b)



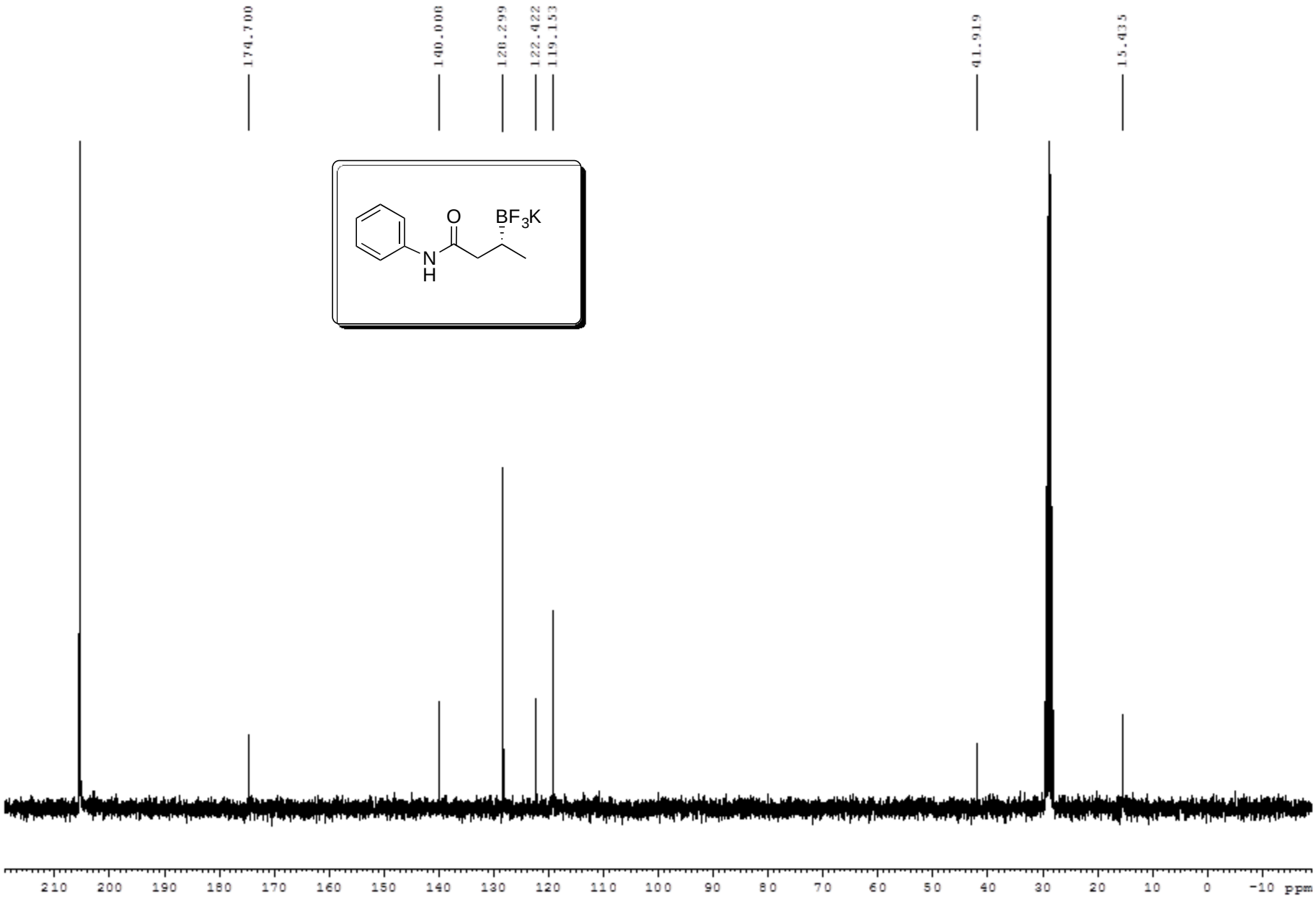
^{11}B NMR (DMSO, 128.4 MHz) spectrum of Potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)methyloctanamide (2b)



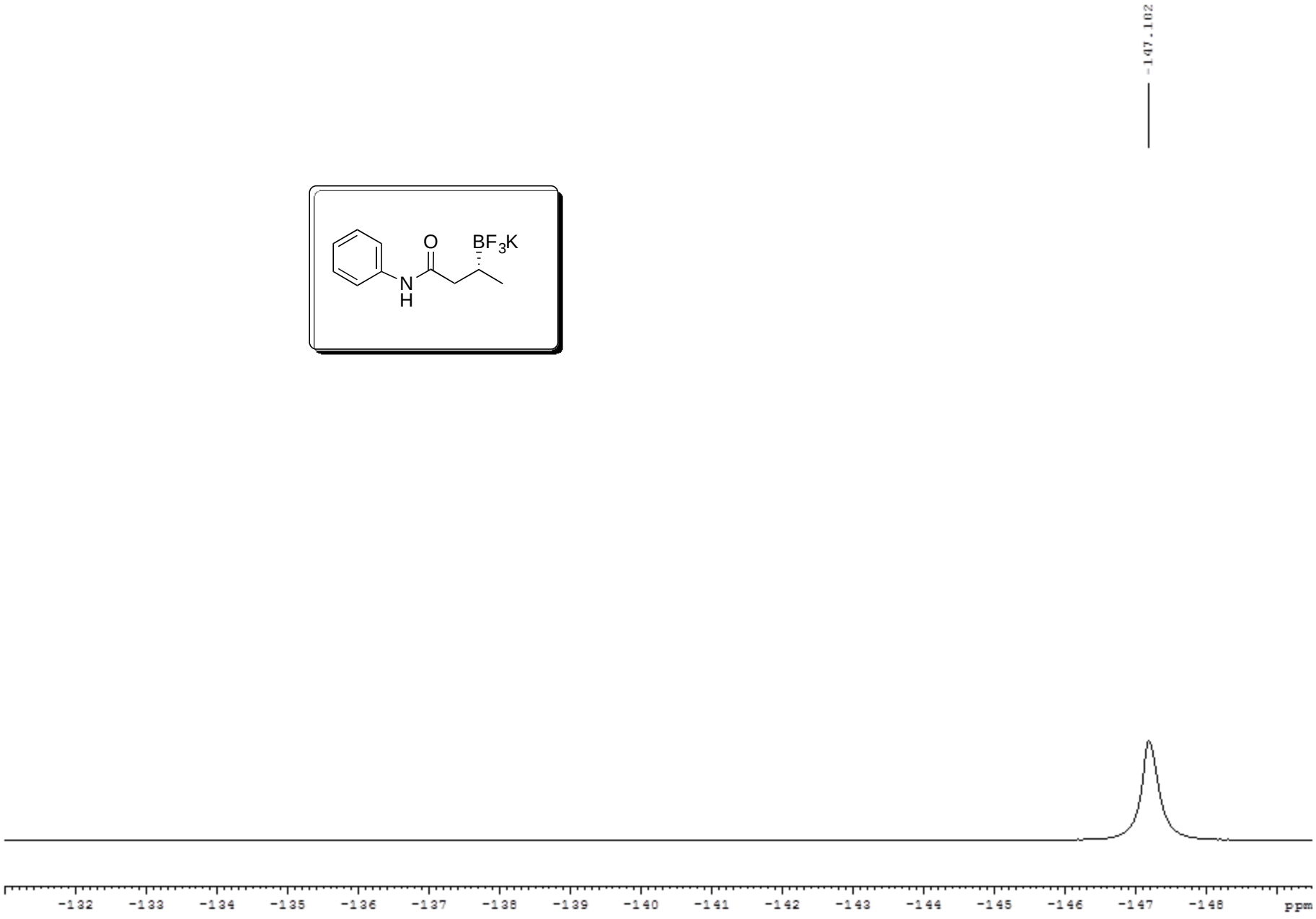
^{1}H NMR (Acetone, 300 MHz) spectrum of potassium (*R*)-*N*-phenyl-3-(trifluoroborato)butanamide (2c)



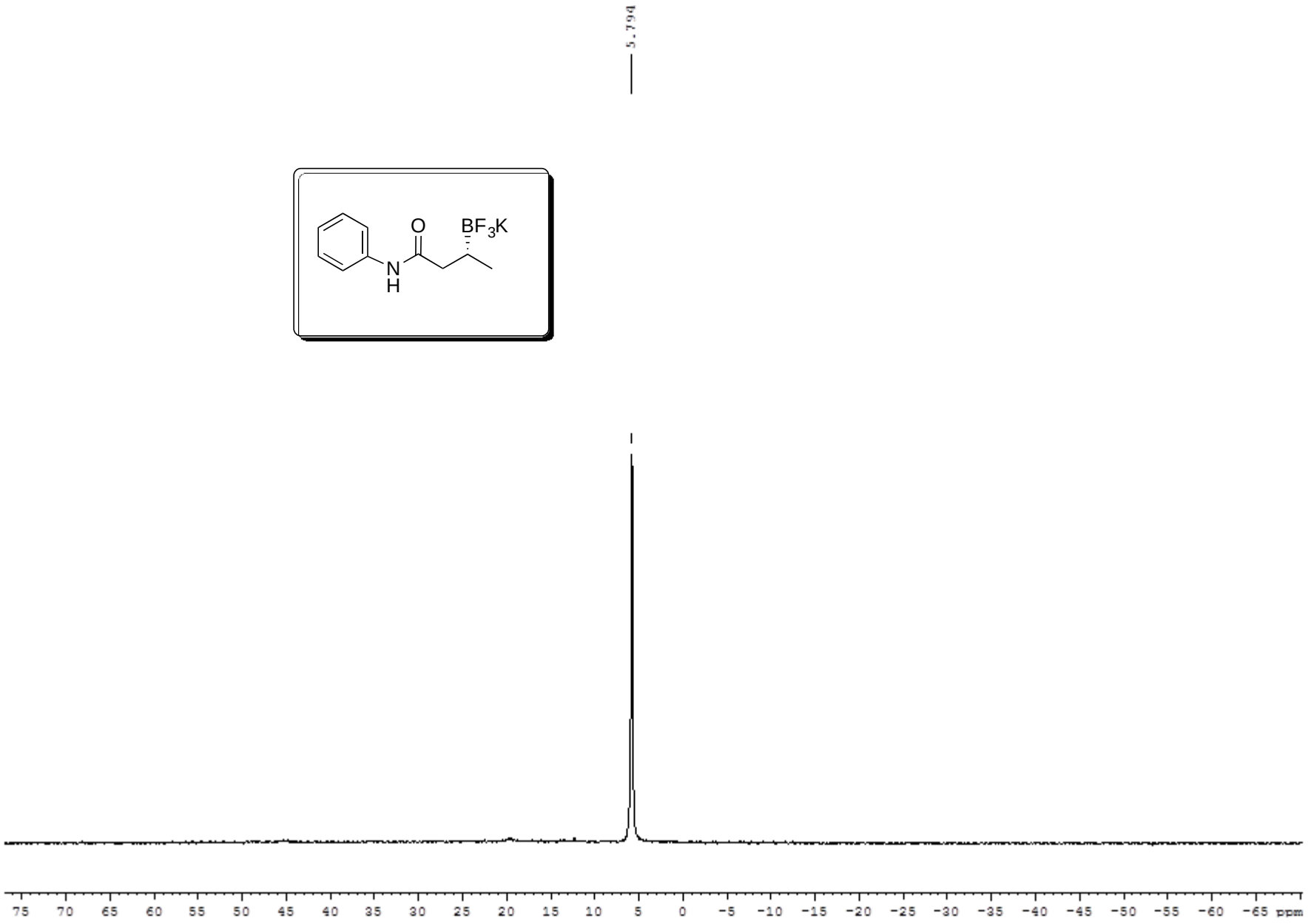
^{13}C NMR (Acetone, 75.4 MHz) spectrum of potassium (*R*)-*N*-phenyl-3-(trifluoroborato)butanamide (2c)



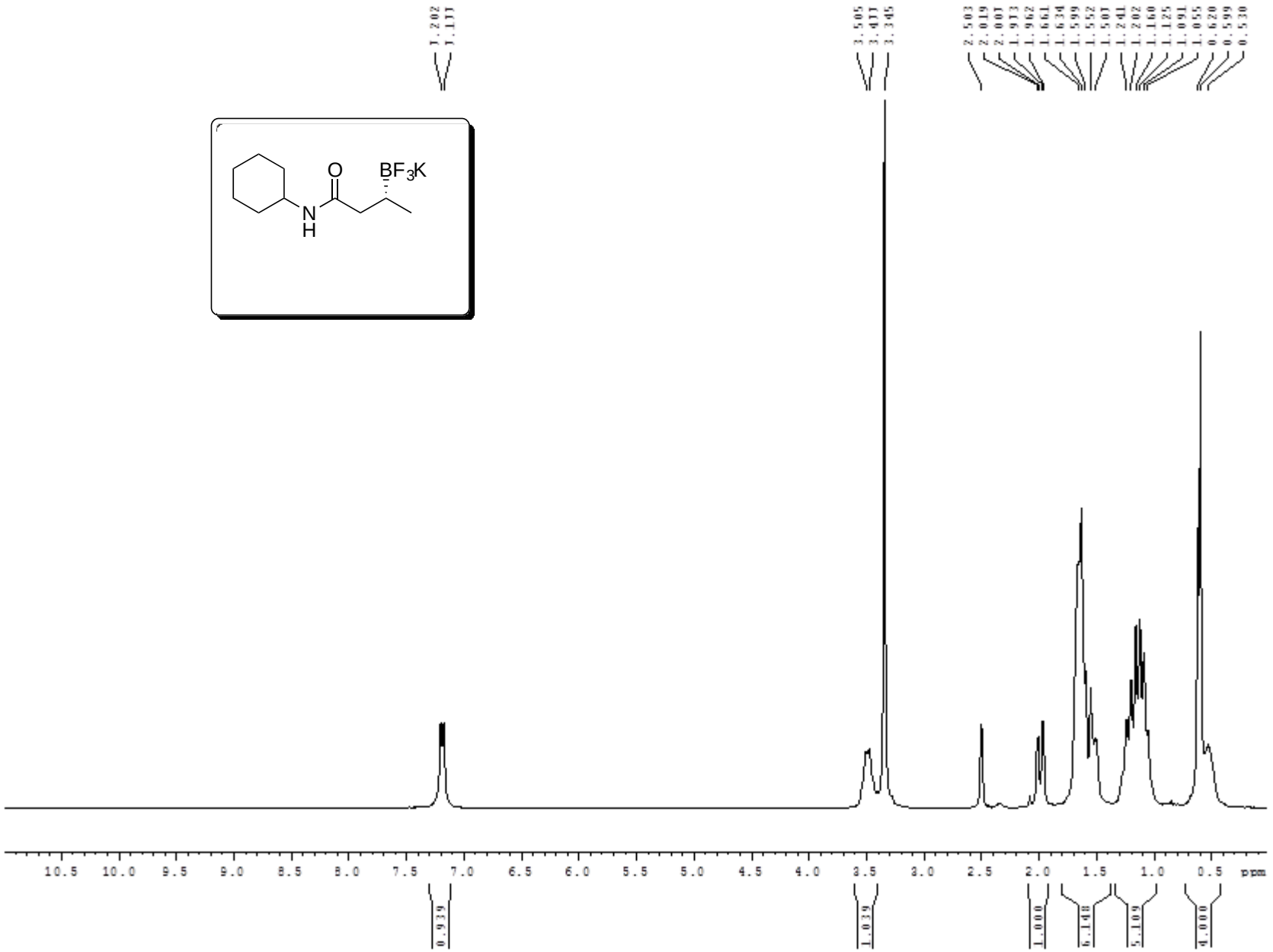
^{19}F NMR (Acetone, 282.4 MHz) spectrum of potassium (*R*)-*N*-phenyl-3-(trifluoroborato)butanamide (2c)



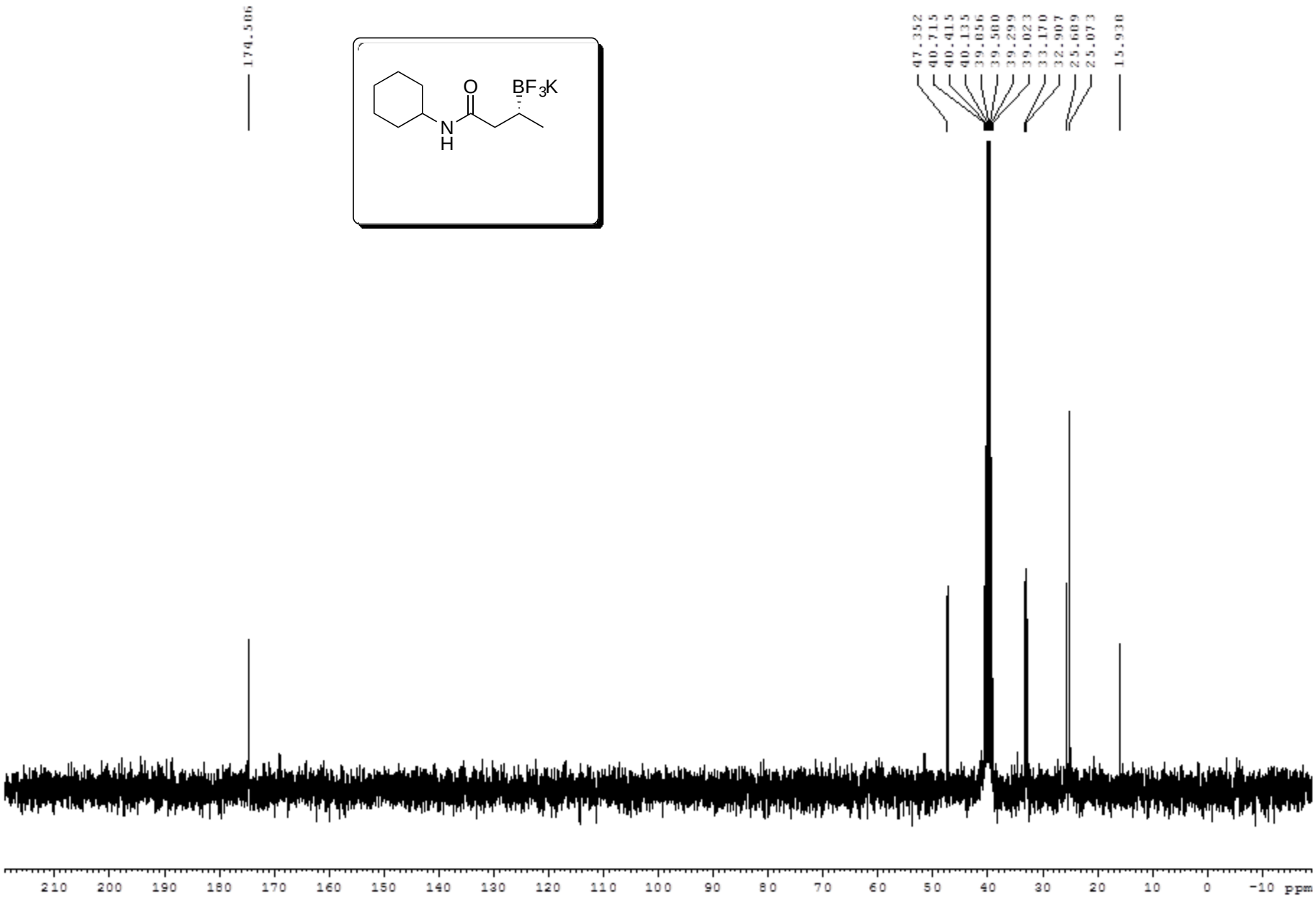
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-*N*-phenyl-3-(trifluoroborato)butanamide (2c)



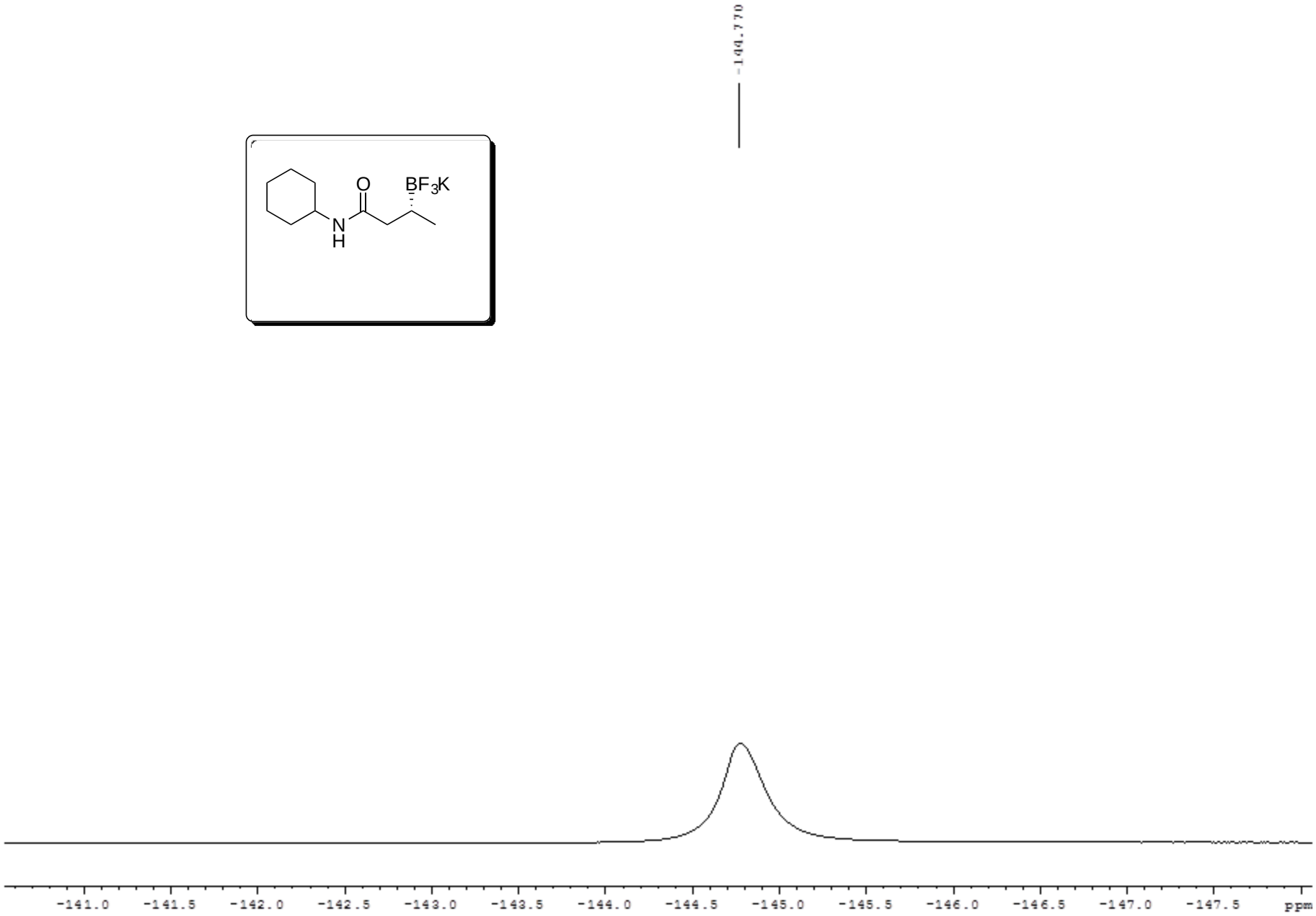
^{1}H NMR (DMSO, 300 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d)



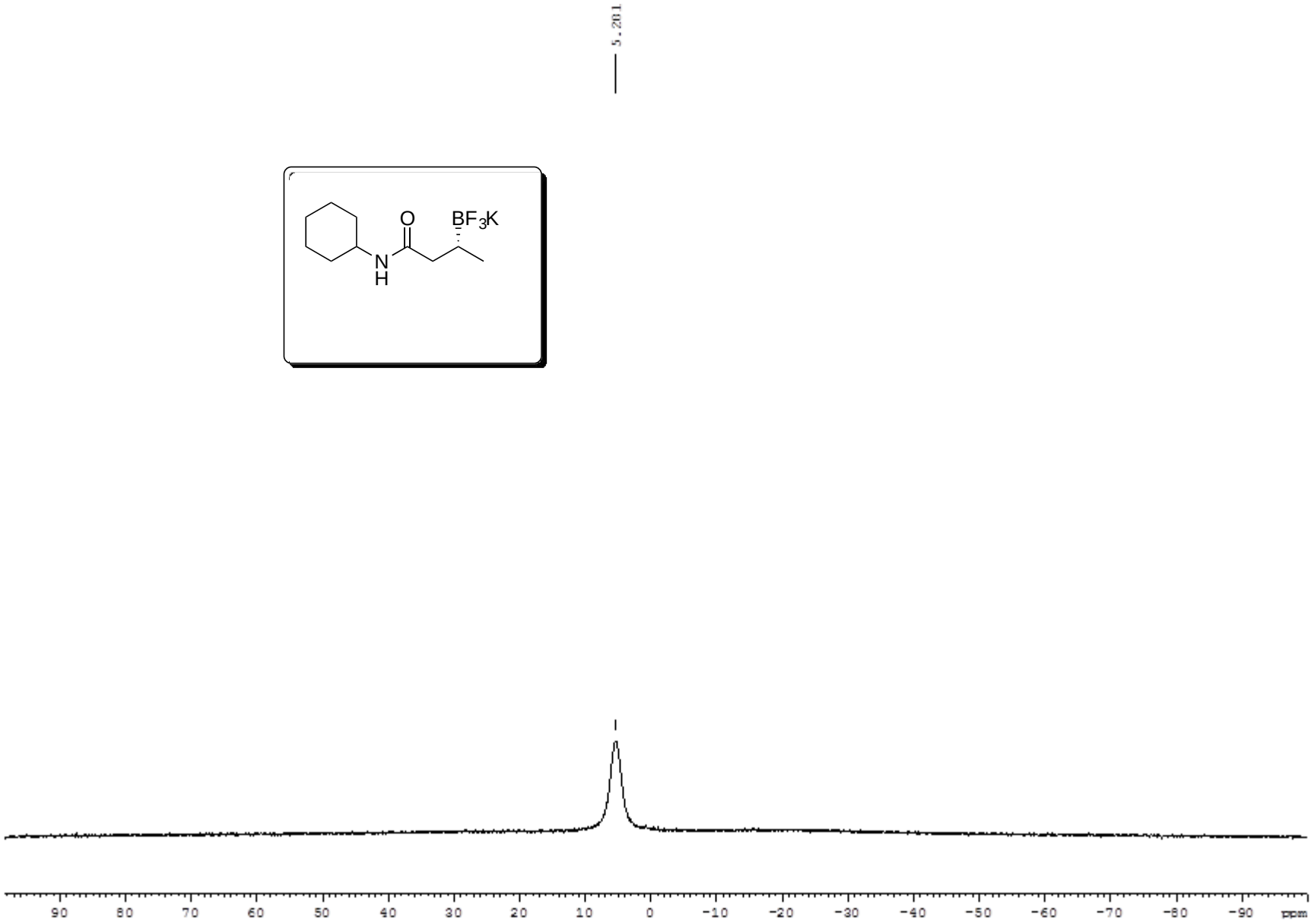
^{13}C NMR (DMSO, 75.4 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d)



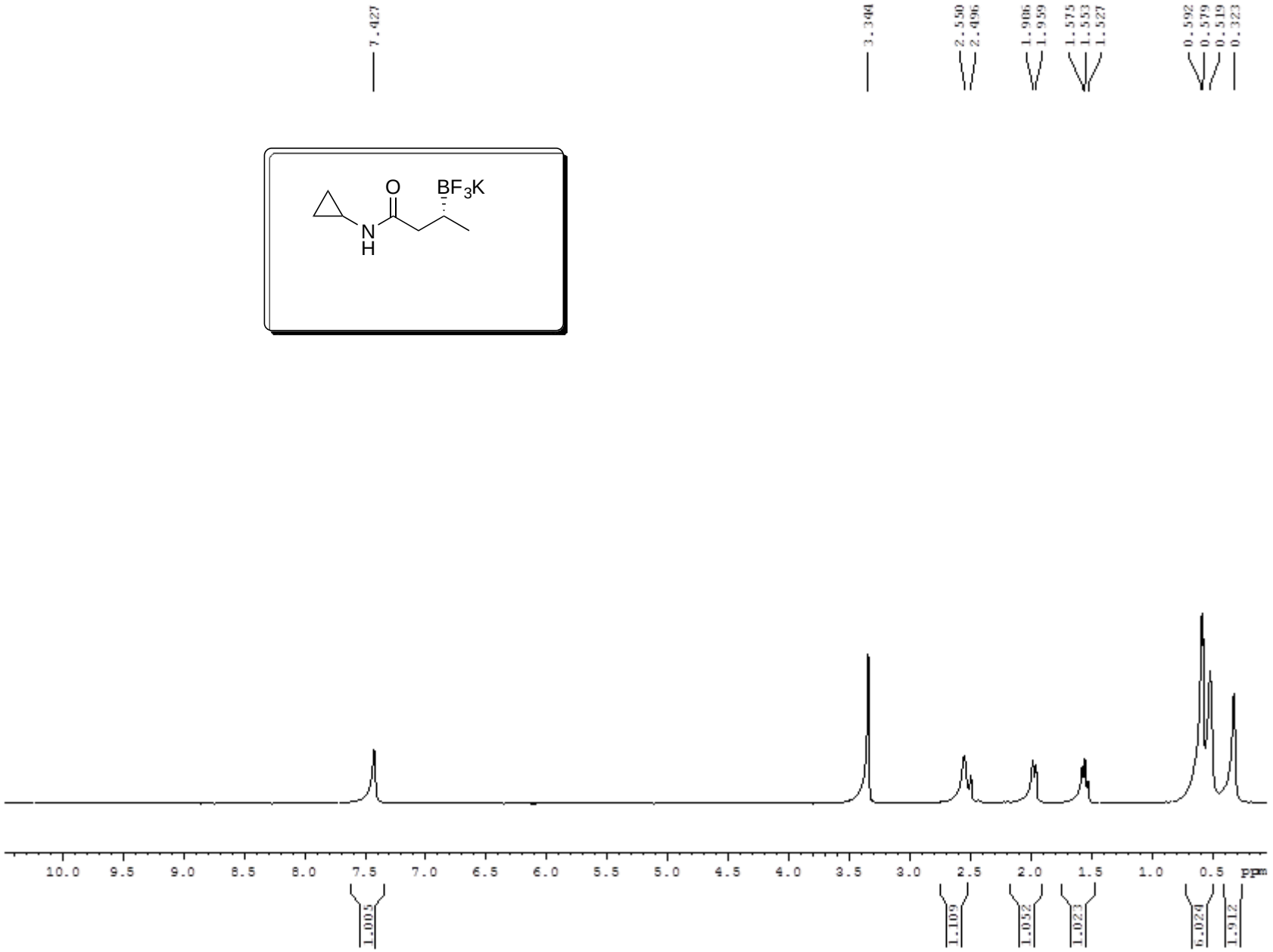
^{19}F NMR (DMSO, 282.4 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d)



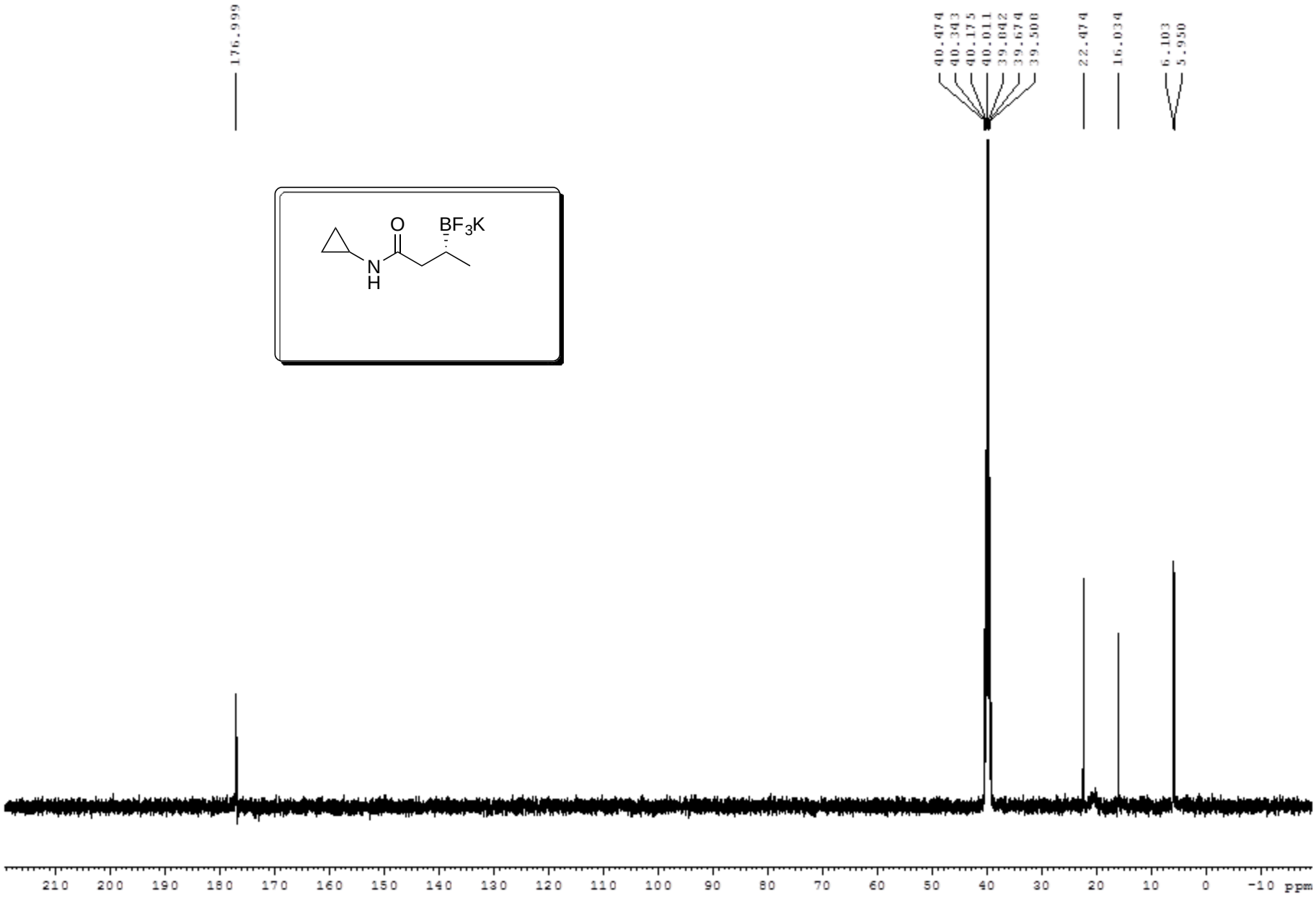
^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d)



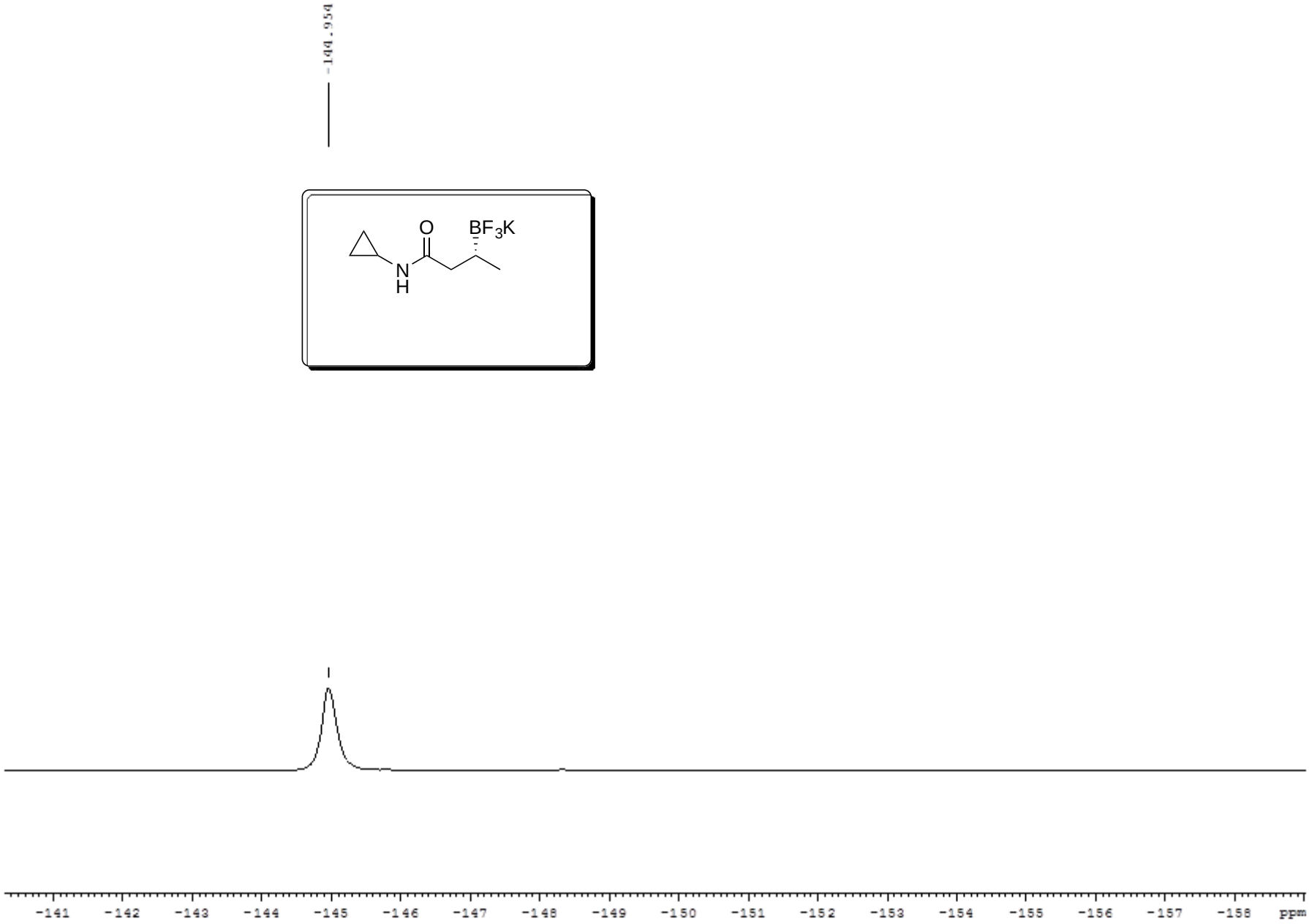
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*R*)-*N*-cyclopropyl-3-(trifluoroborato)butanamide (2e)



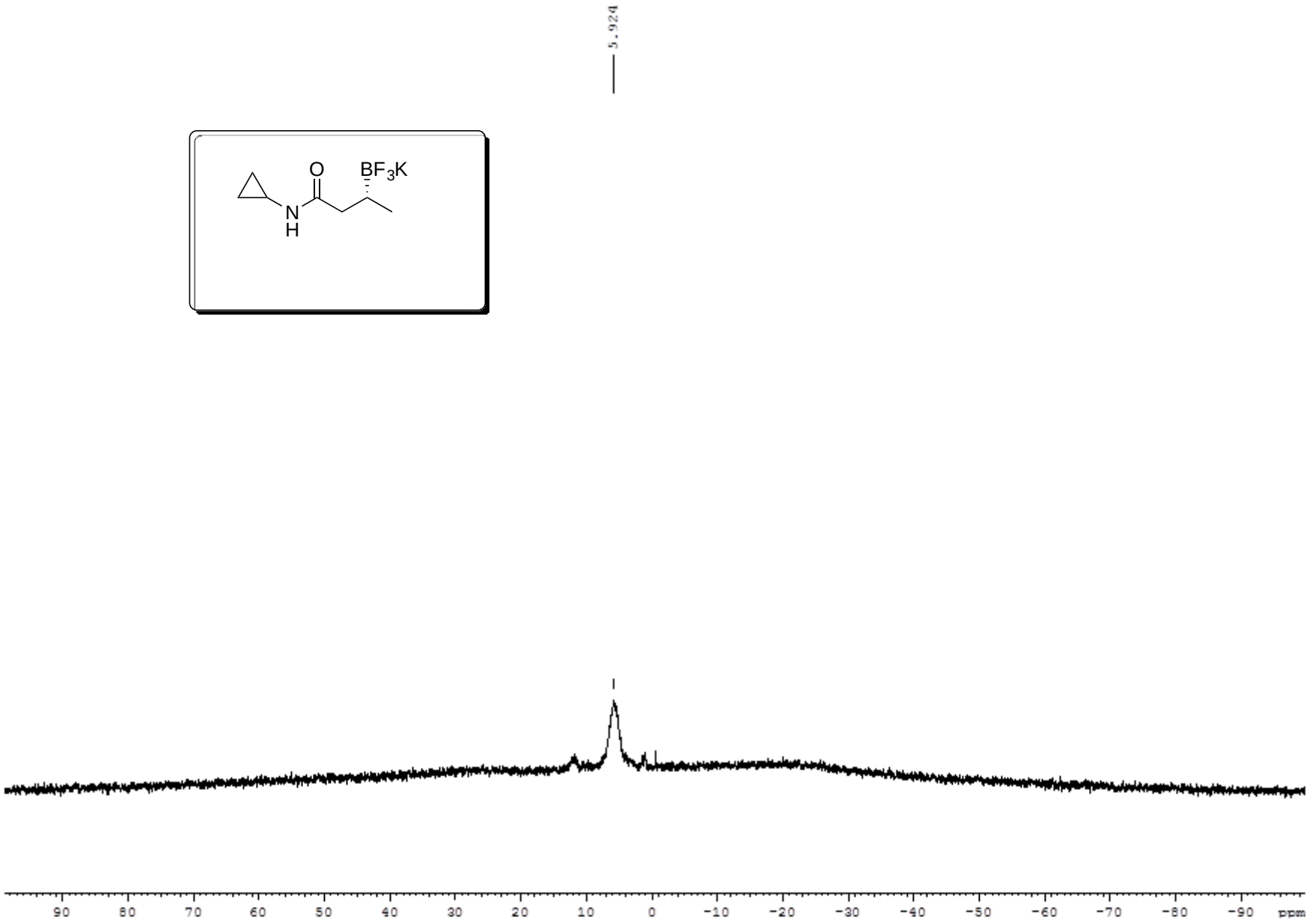
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*R*)-*N*-cyclopropyl-3-(trifluoroborato)butanamide (2e)



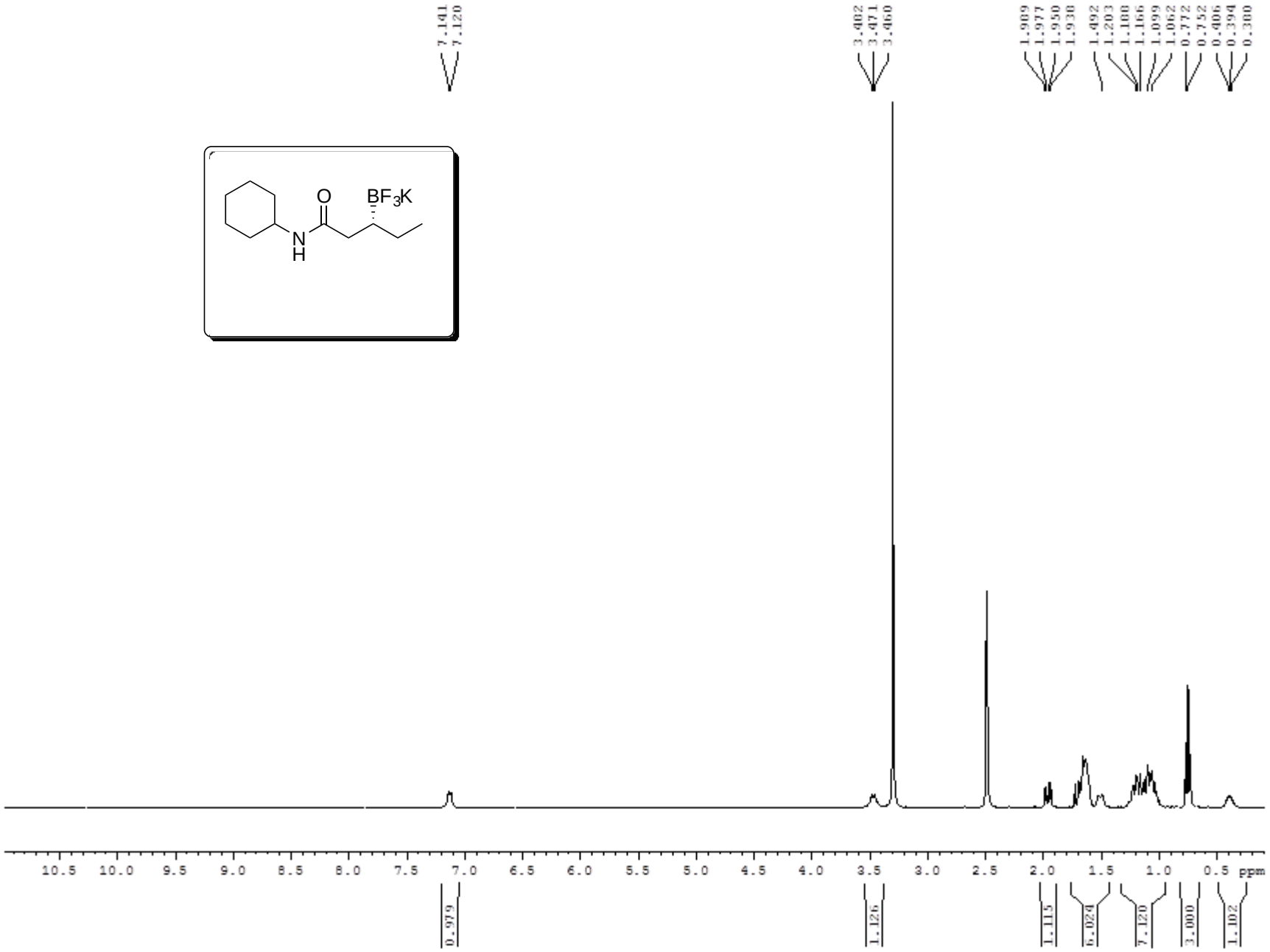
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium (*R*)-*N*-cyclopropyl-3-(trifluoroborato)butanamide (2e)



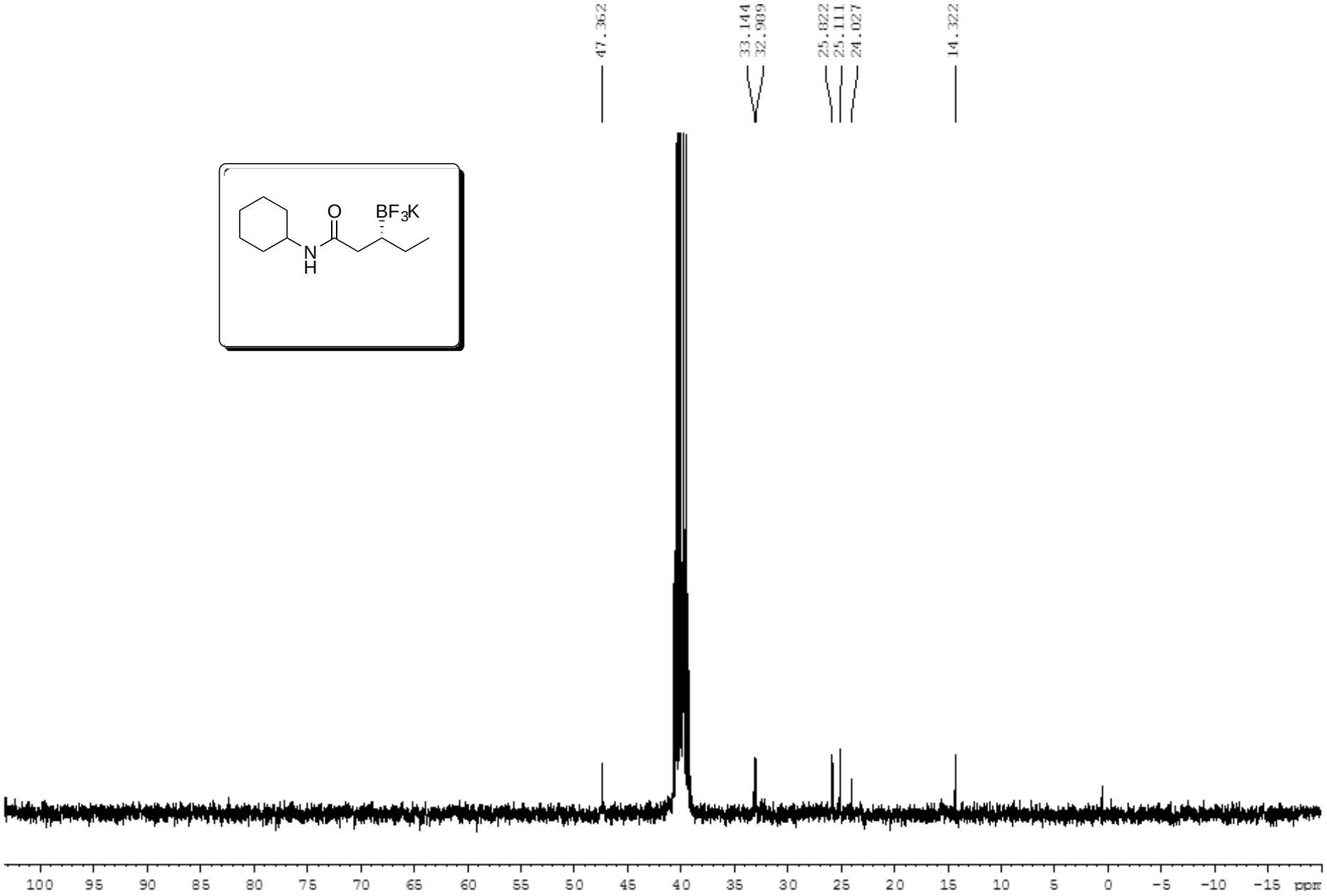
^{11}B NMR (DMSO, 128.4 8MHz) spectrum of potassium (*R*)-*N*-cyclopropyl-3-(trifluoroborato)butanamide (2e)



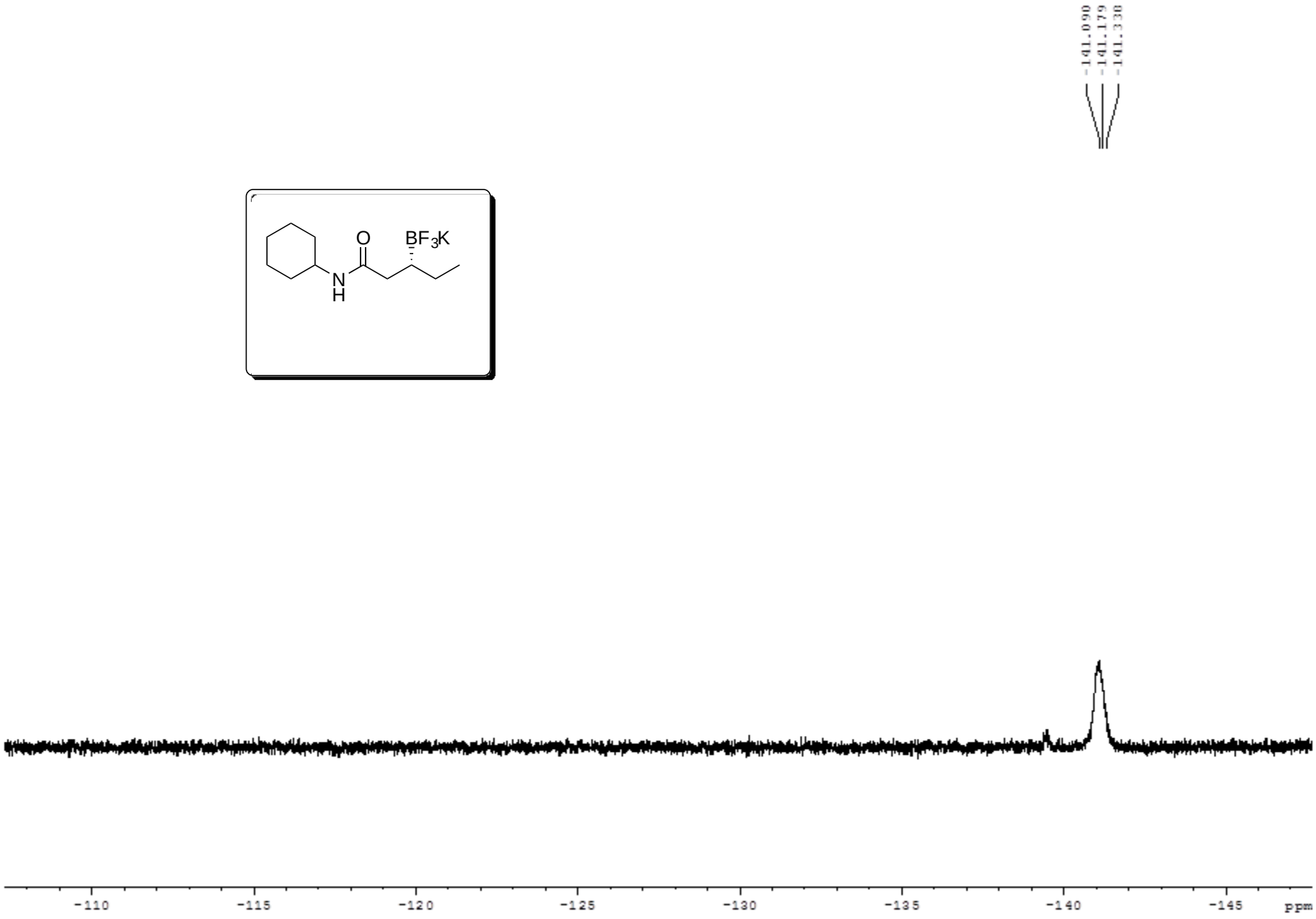
^{1}H NMR (DMSO, 300 MHz) spectrum of Potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)pentanamide (2f)



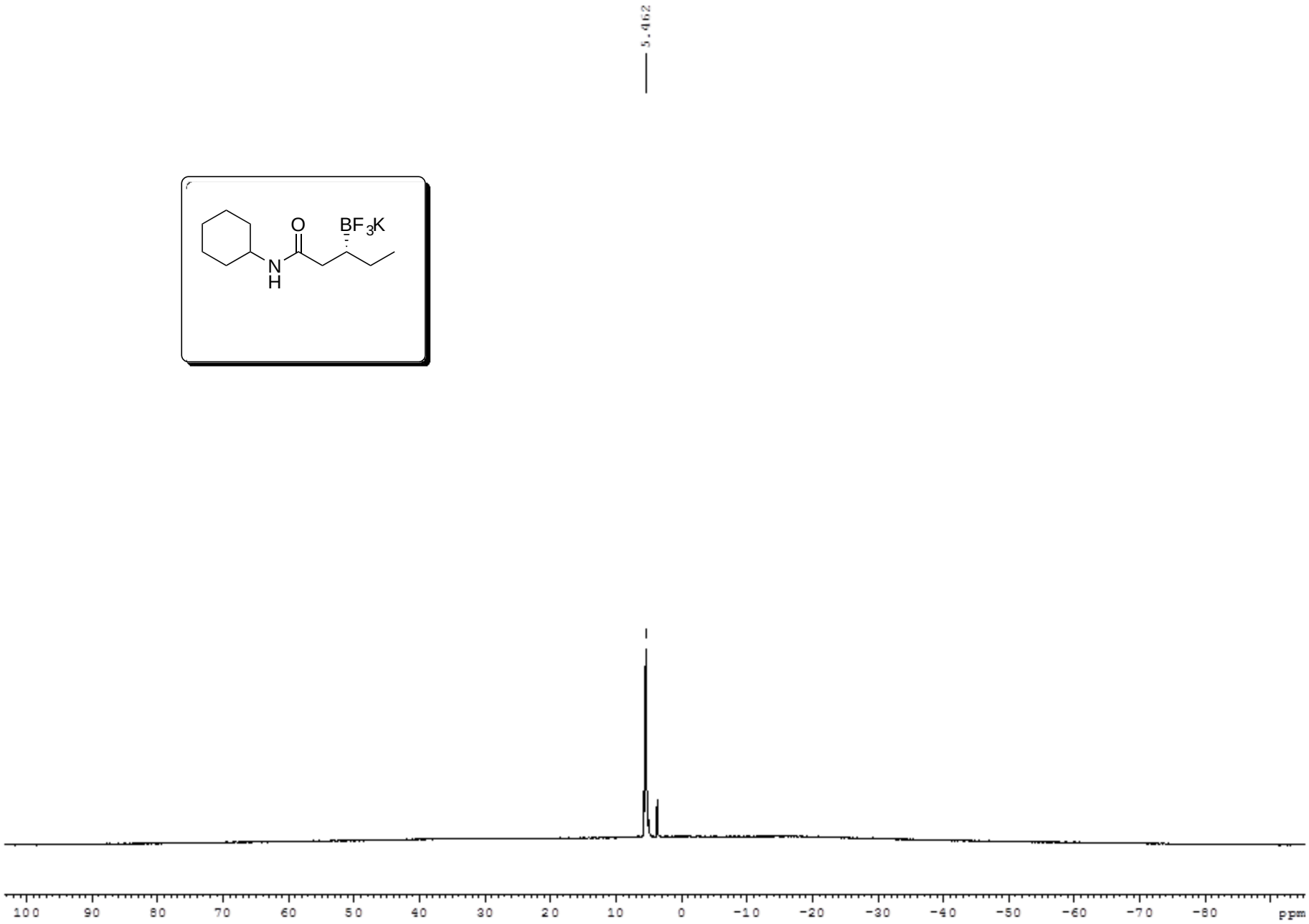
^{13}C NMR (DMSO, 75.4 MHz) spectrum of **Potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)pentanamide (2f)**



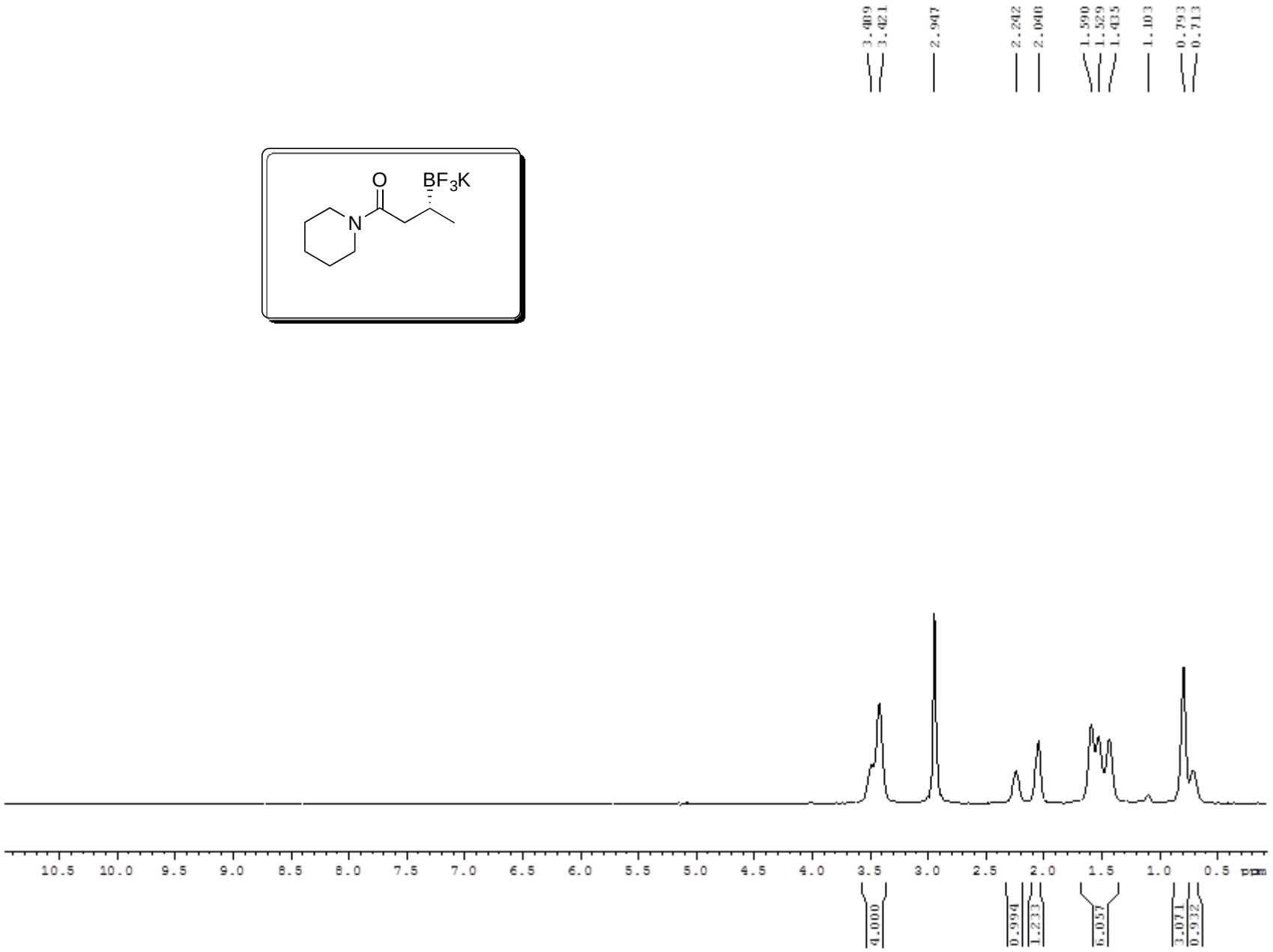
^{19}F NMR (DMSO, 338.8 MHz) spectrum of Potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)pentanamide (2f)



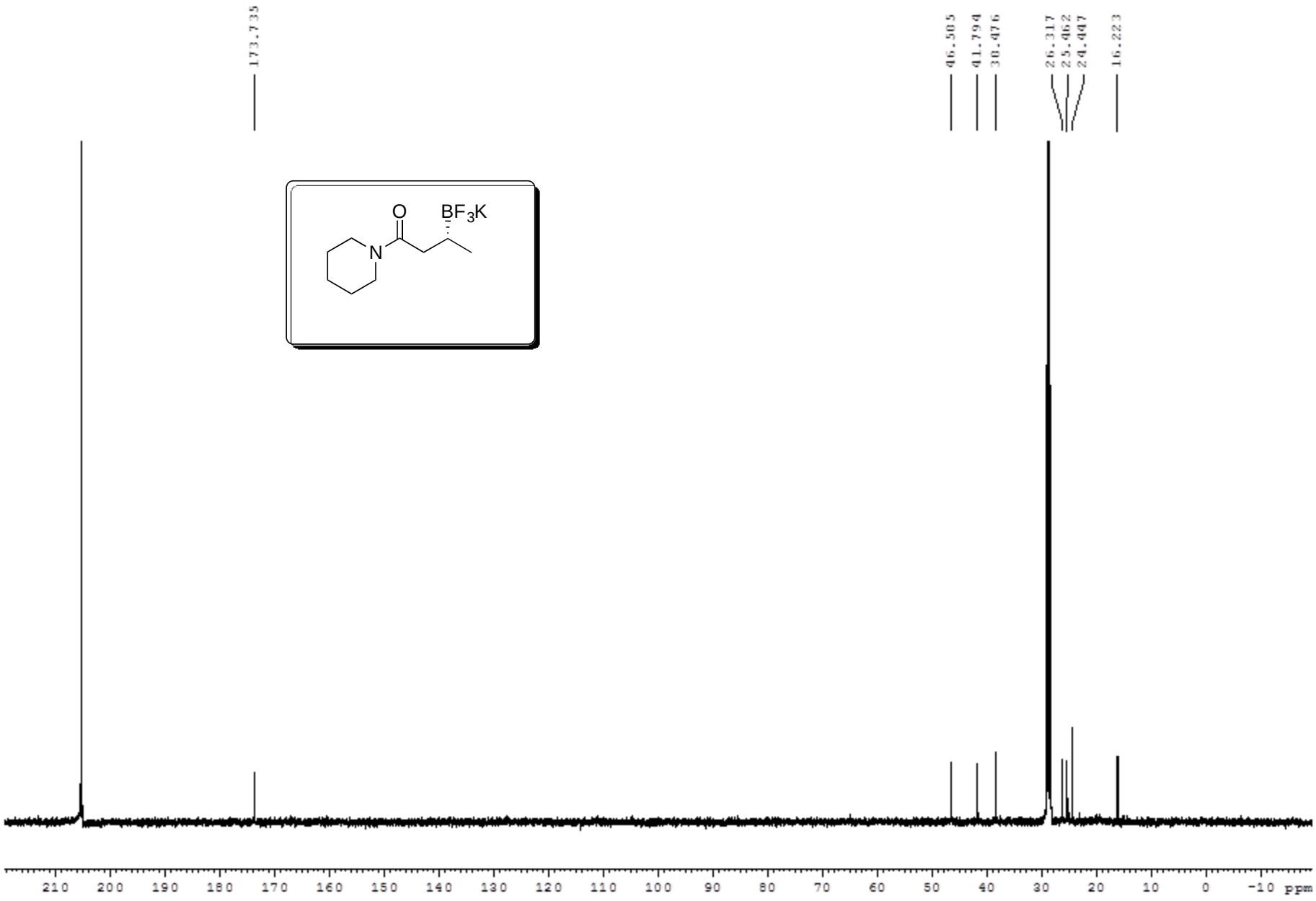
^{11}B NMR (DMSO, 128.4 MHz) spectrum of Potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)pentanamide (2f)



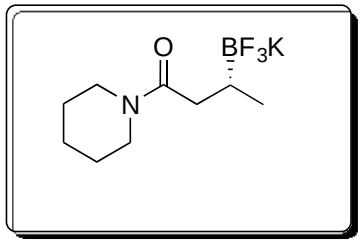
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium 1-(piperidin-1-yl)-3-(trifluoroborato)butan-1-one (2g)



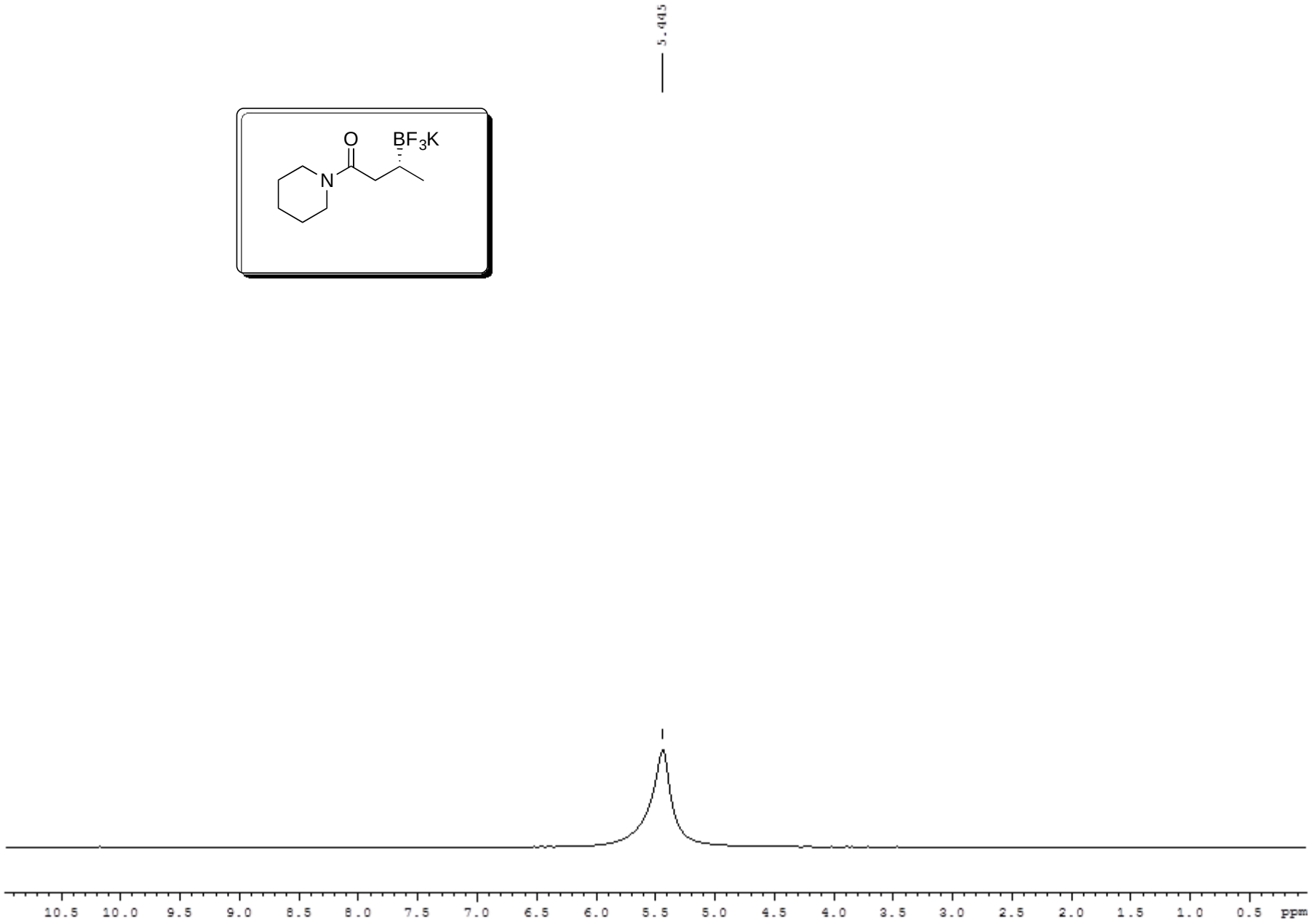
^{13}C NMR (Aceton, 125.8 MHz) spectrum of potassium 1-(piperidin-1-yl)-3-(trifluoroborato)butan-1-one (2g)



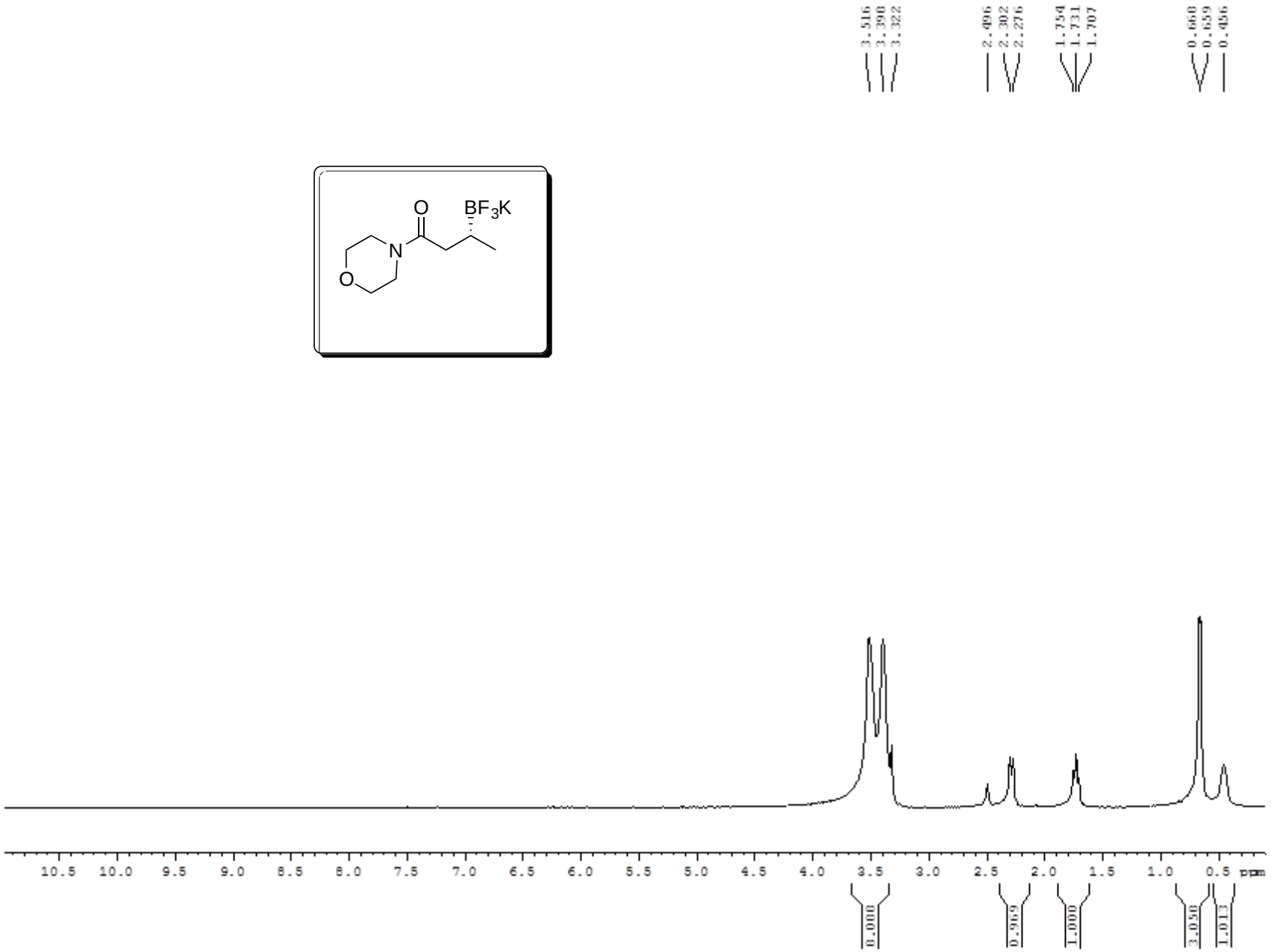
^{19}F NMR (Aceton, 470.8 MHz) spectrum of potassium 1-(piperidin-1-yl)-3-(trifluoroborato)butan-1-one (2g)



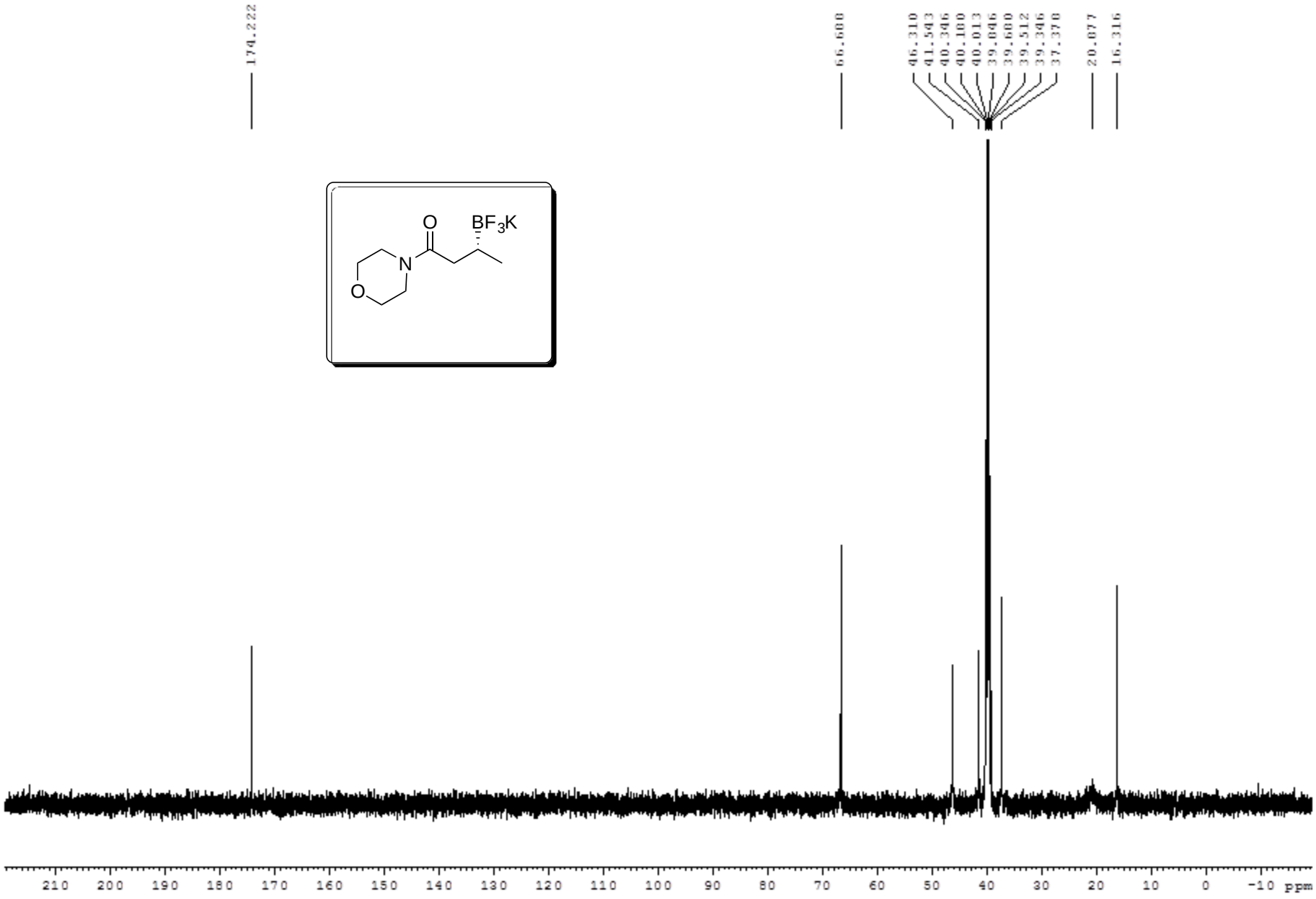
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium 1-(piperidin-1-yl)-3-(trifluoroborato)butan-1-one (2g)



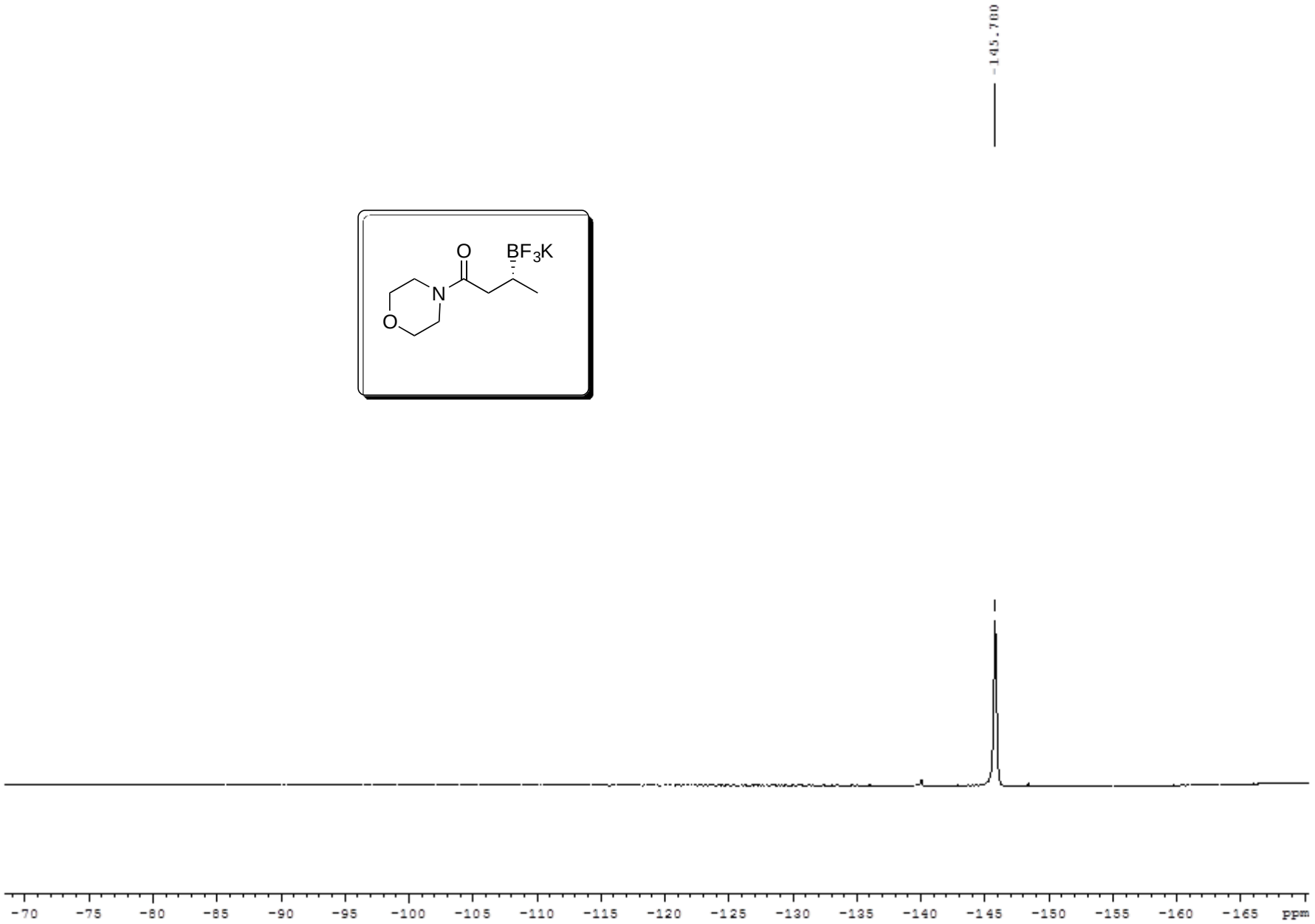
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h)



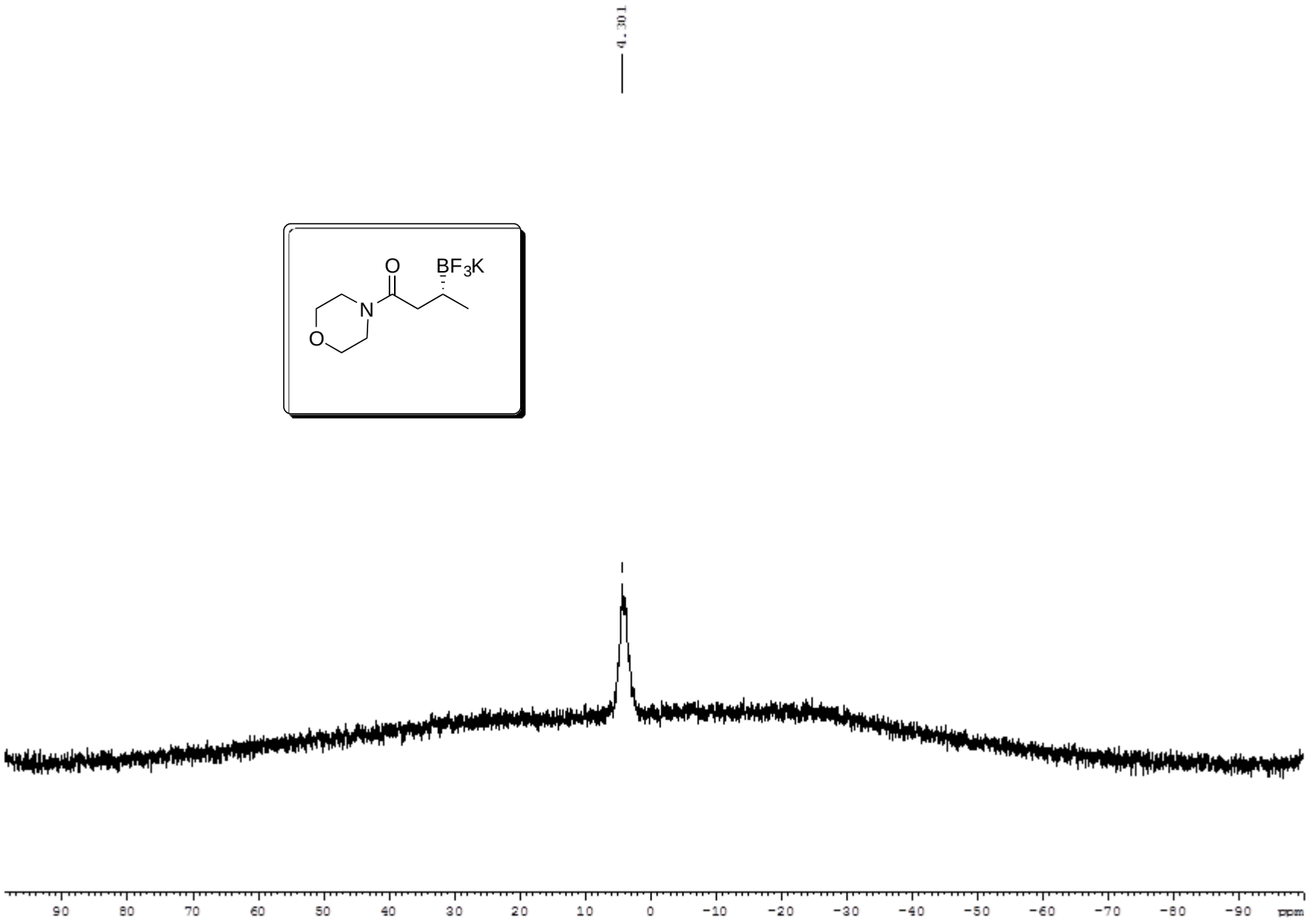
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h)



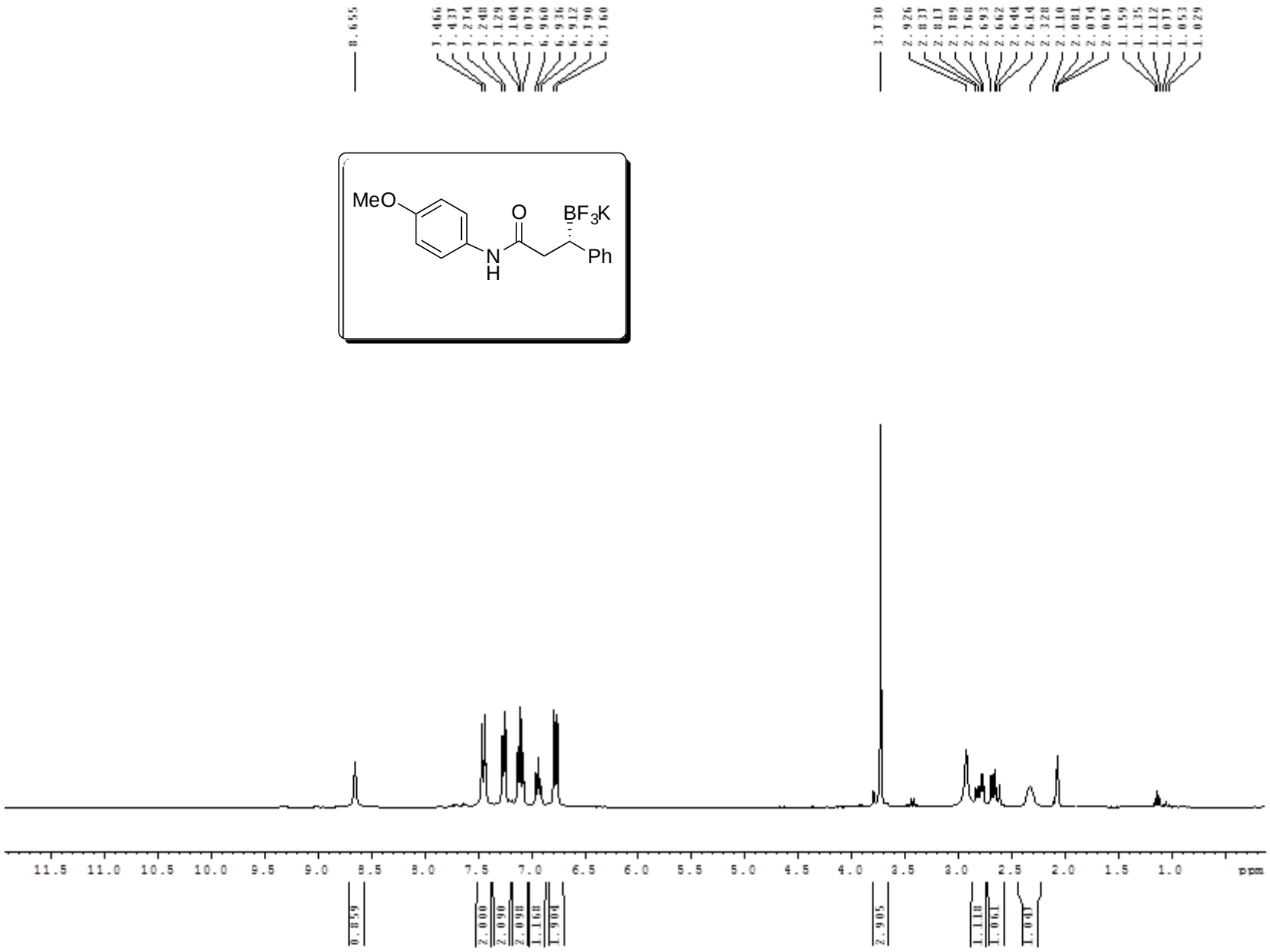
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h)



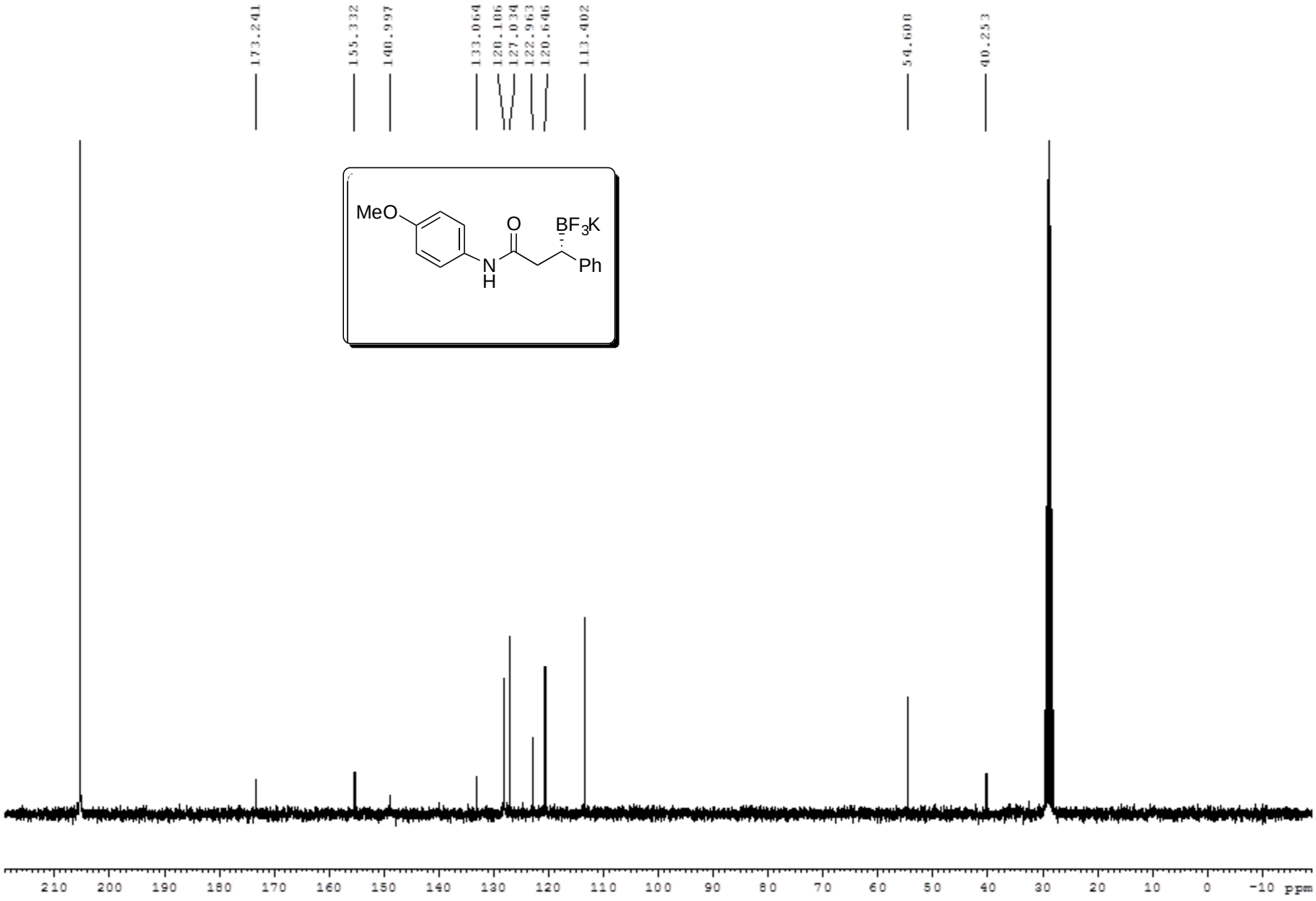
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h)



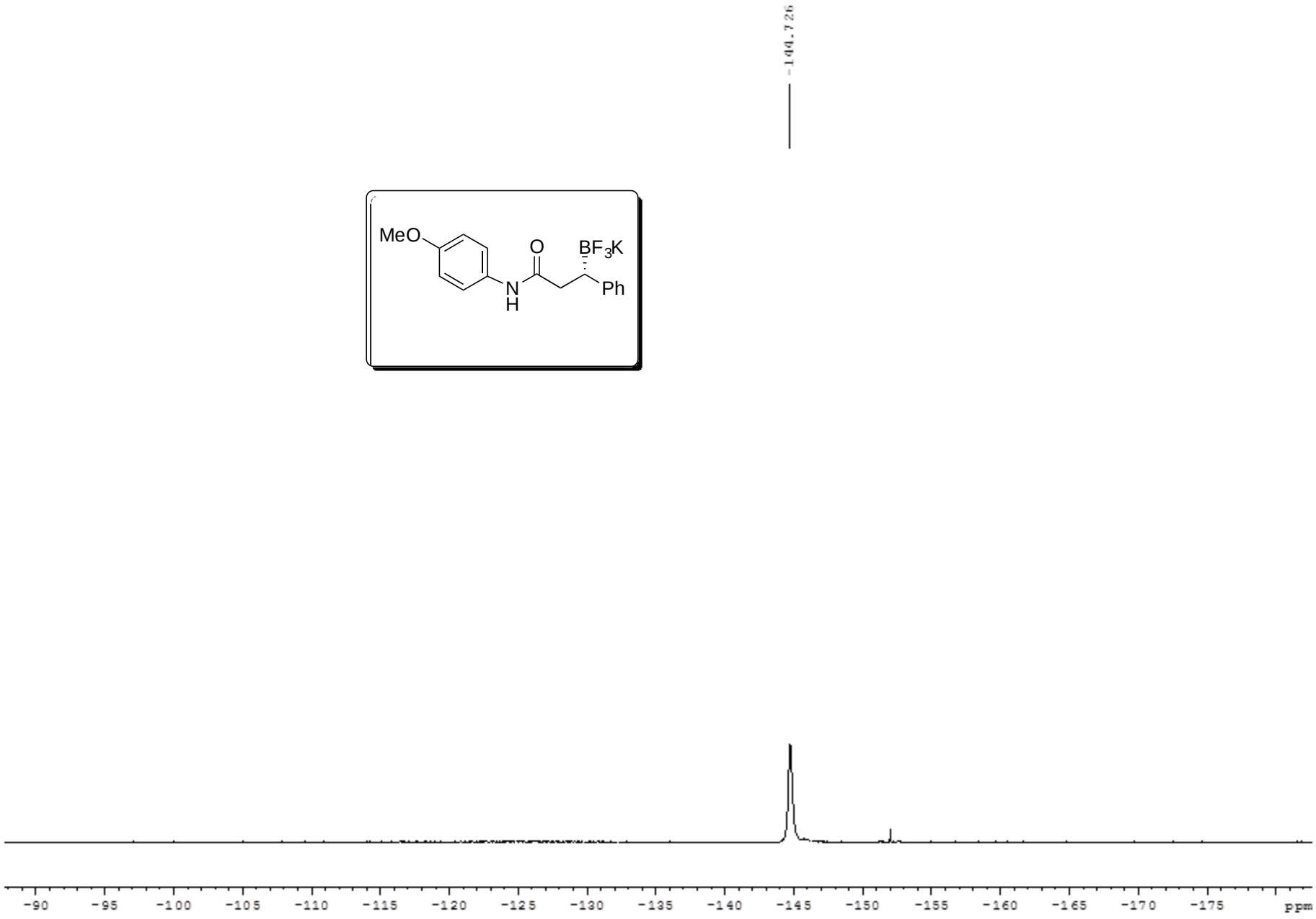
^{1}H NMR (Acetone**, 300 MHz) spectrum of potassium (*S*)-*N*-(4-methoxyphenyl)-3-phenyl-3-(trifluoroborato)propanamide (2i)**



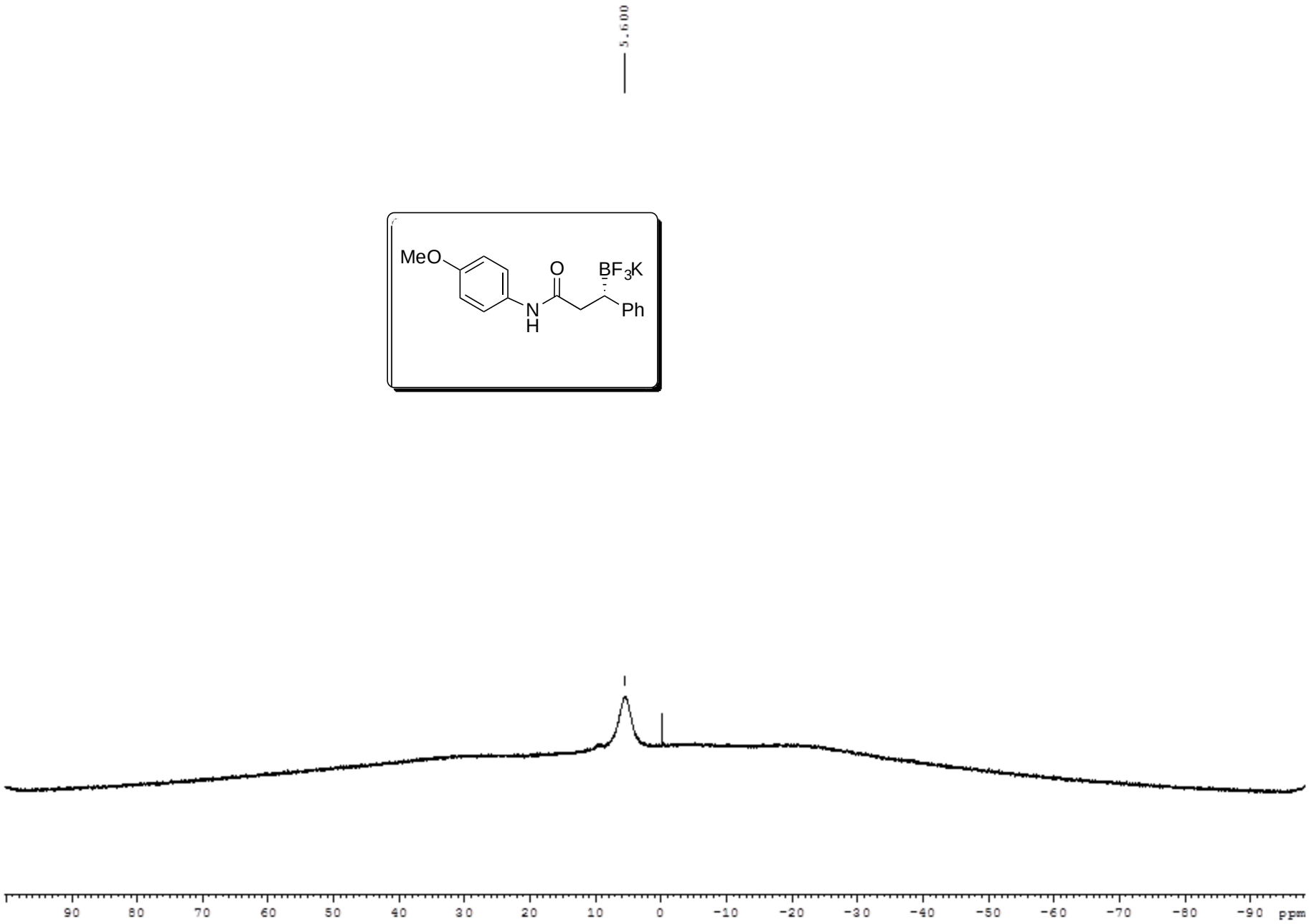
^{13}C NMR (Acetone, 75.4 MHz) spectrum of potassium (*S*)-*N*-(4-methoxyphenyl)-3-phenyl-3-(trifluoroborato)propanamide (2i)



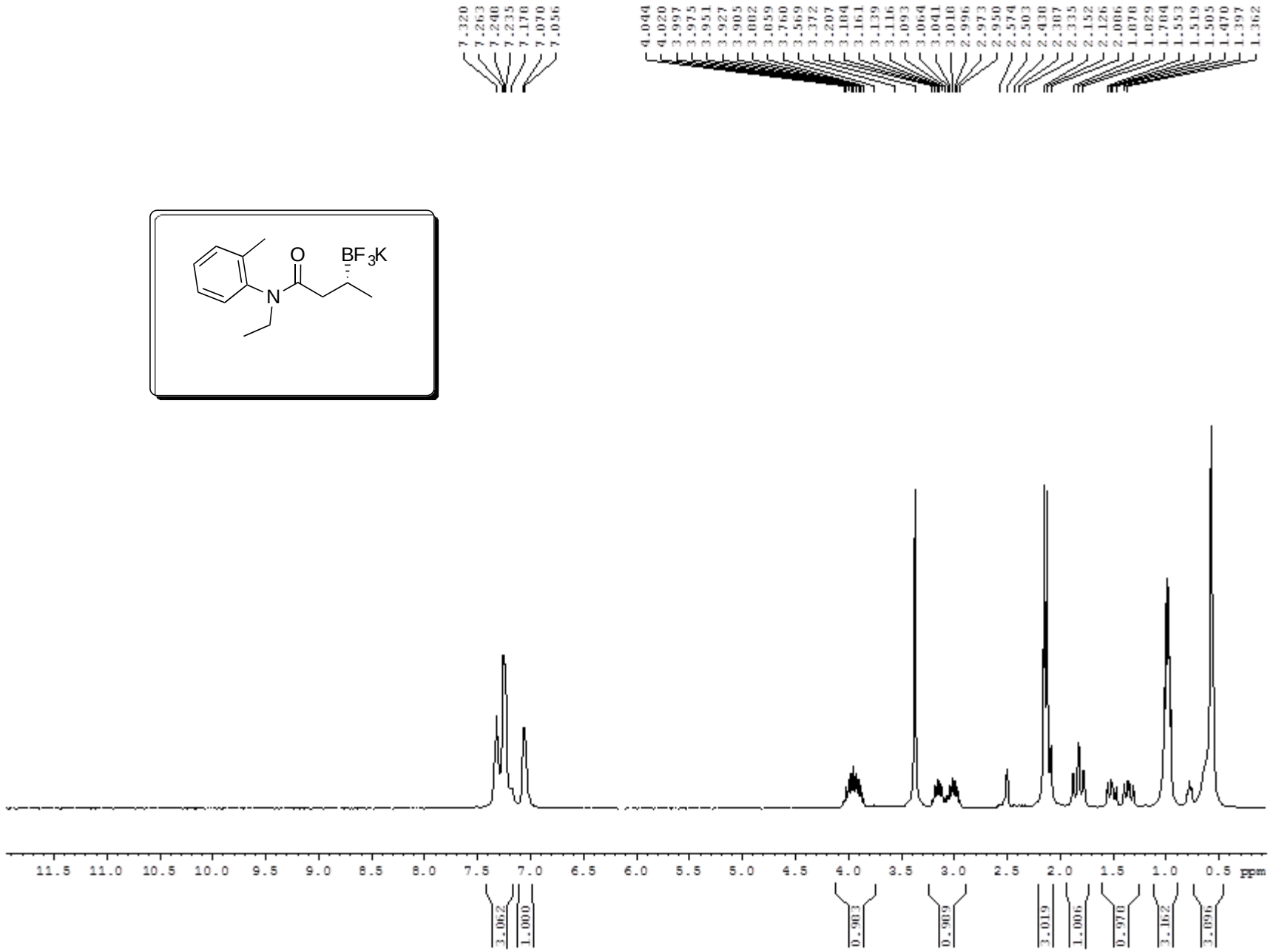
^{19}F NMR (DMSO, 282.4 MHz) spectrum of potassium (*S*)-*N*-(4-methoxyphenyl)-3-phenyl-3-(trifluoroborato)propanamide (2i)



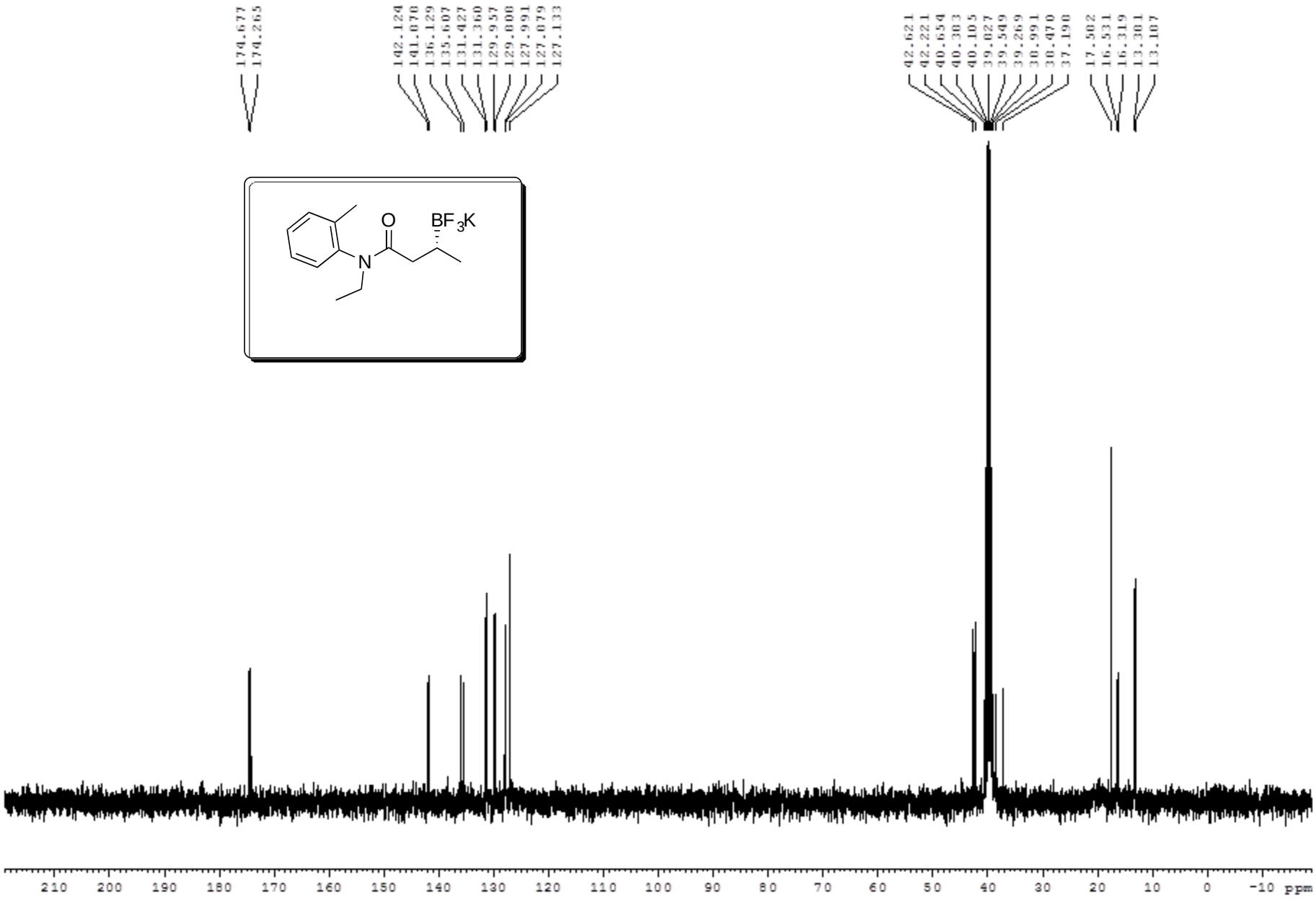
^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium (*S*)-*N*-(4-methoxyphenyl)-3-phenyl-3-(trifluoroborato)propanamide (2i)



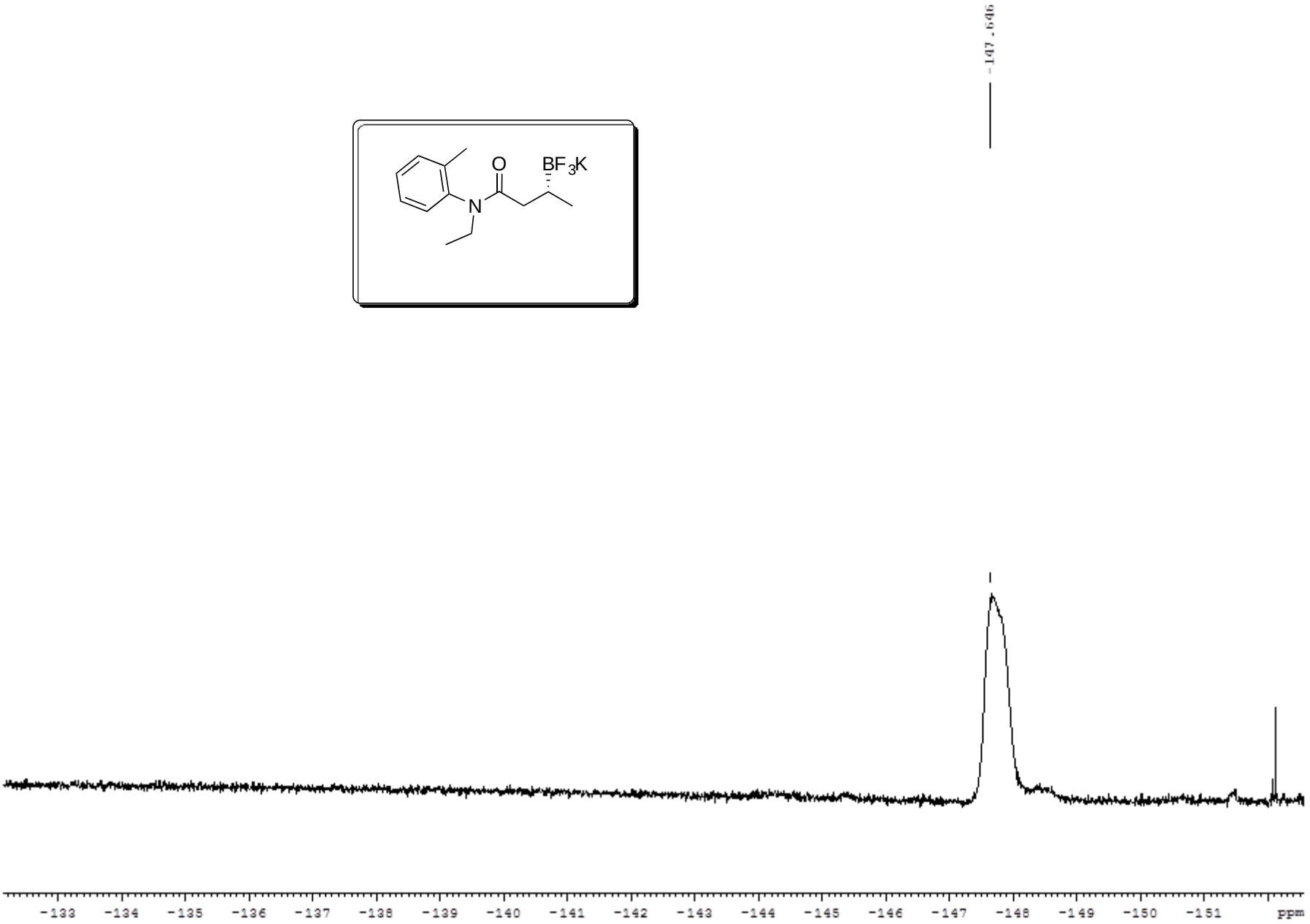
^{1}H NMR (DMSO, 300 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j)



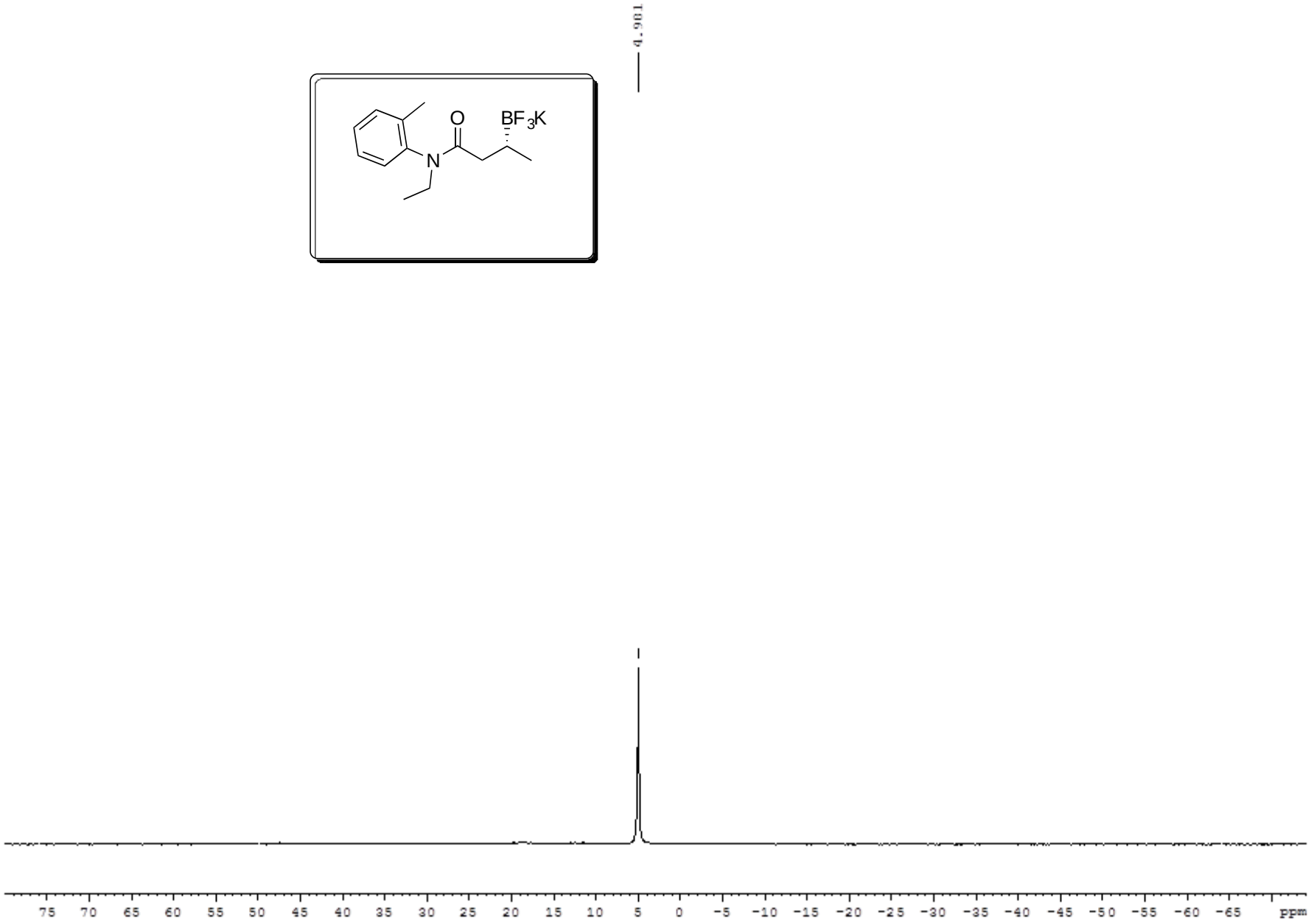
^{13}C NMR (DMSO, 75.4 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j)



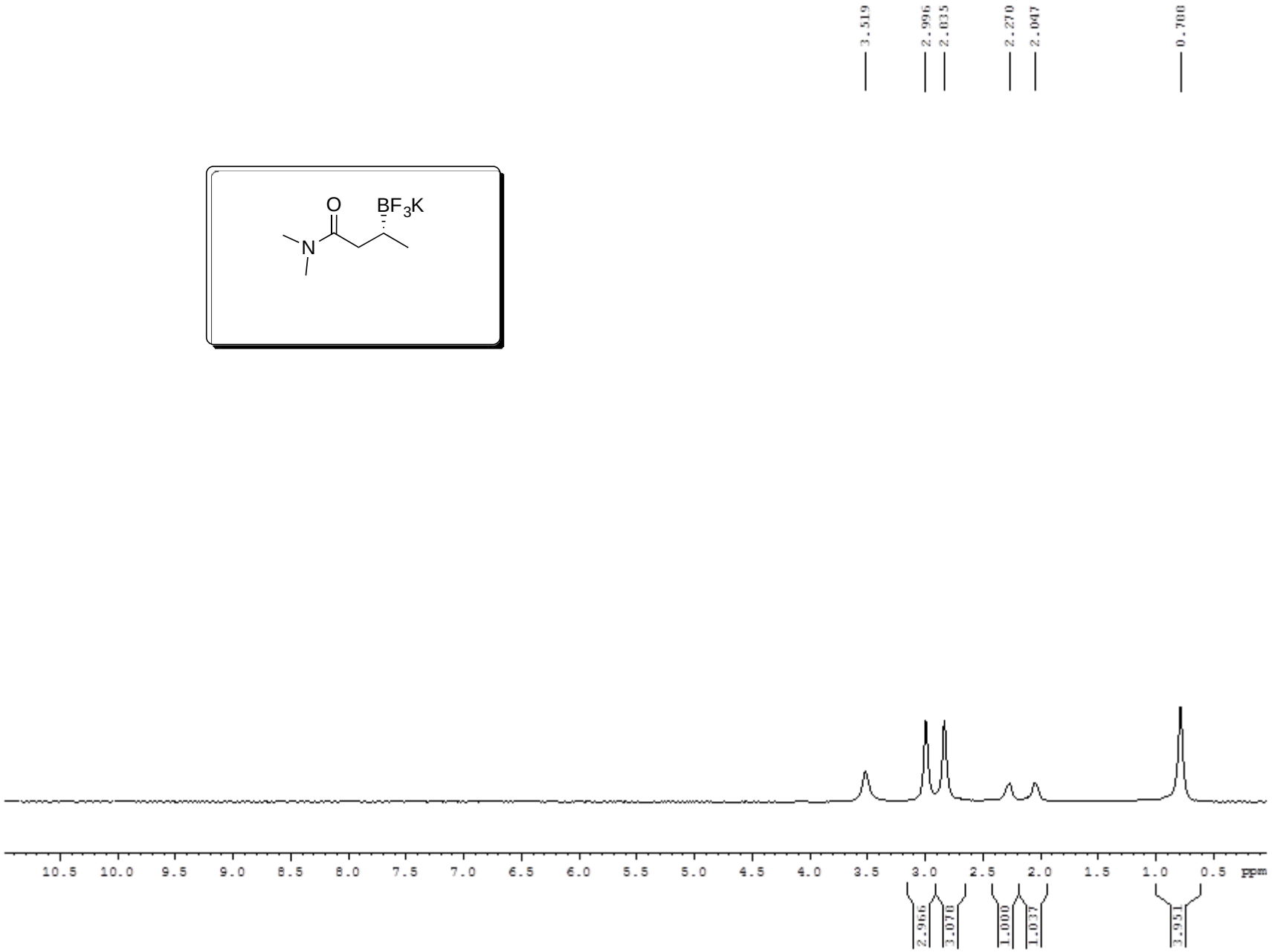
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j)



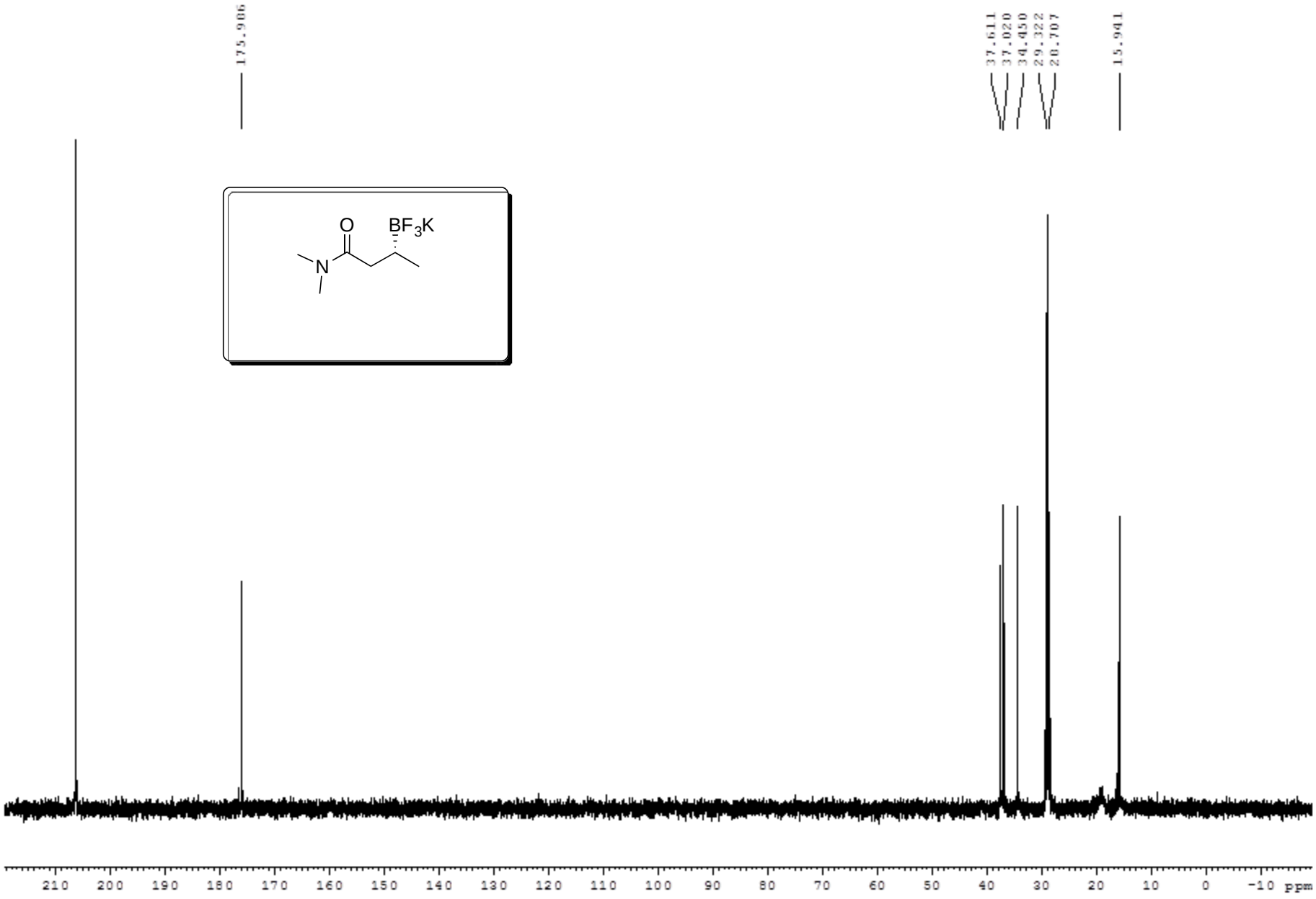
^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j)



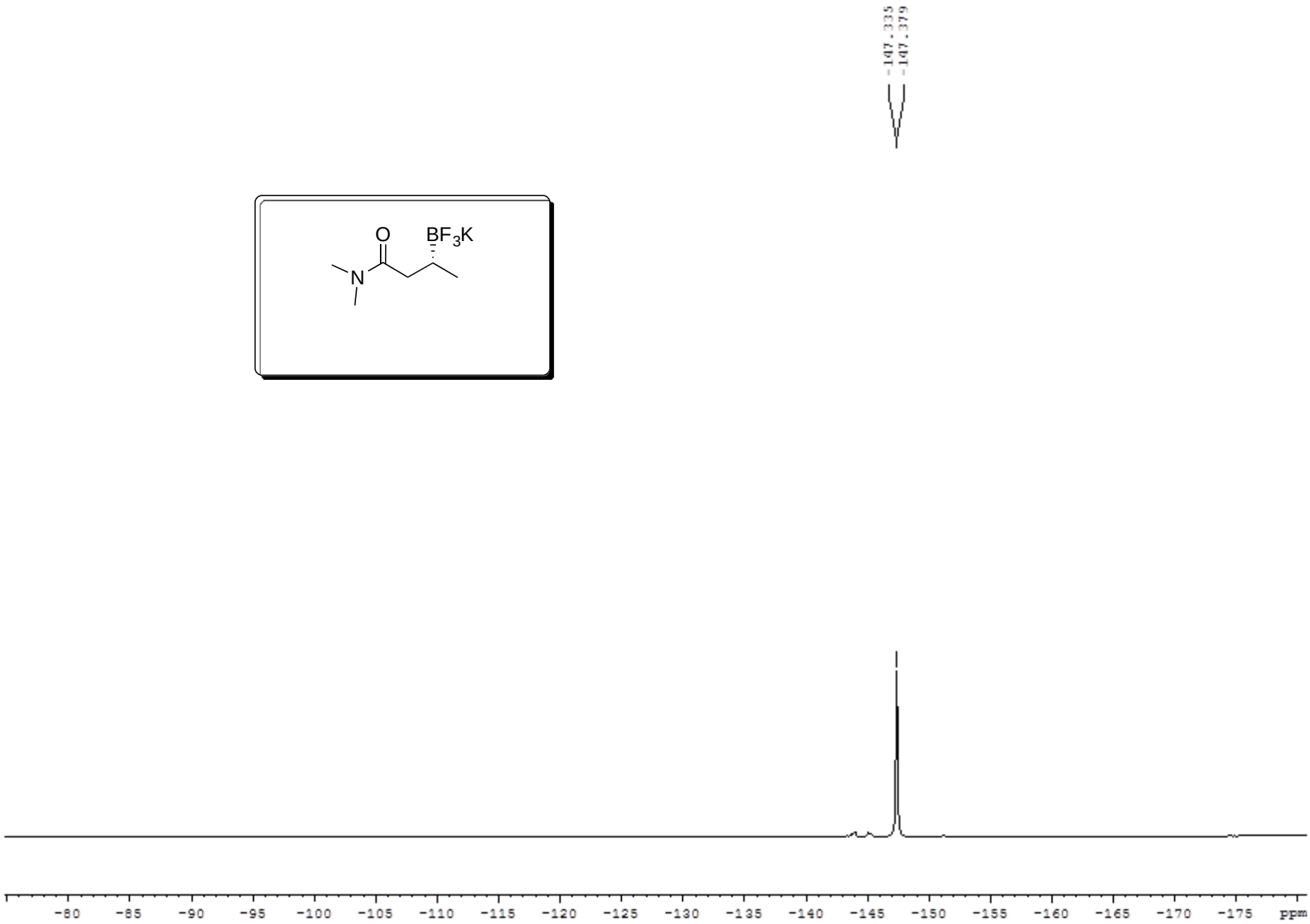
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k)



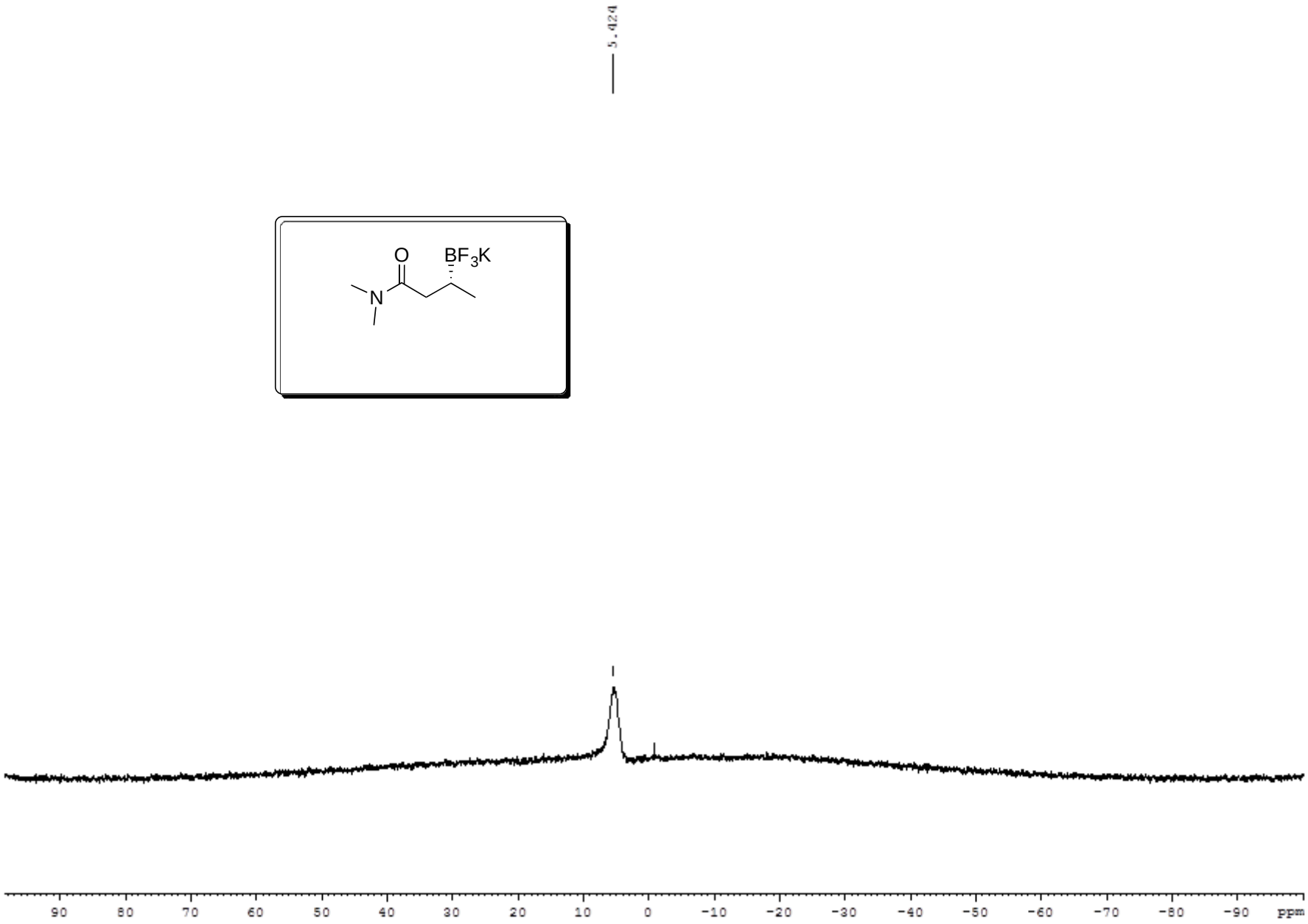
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k)



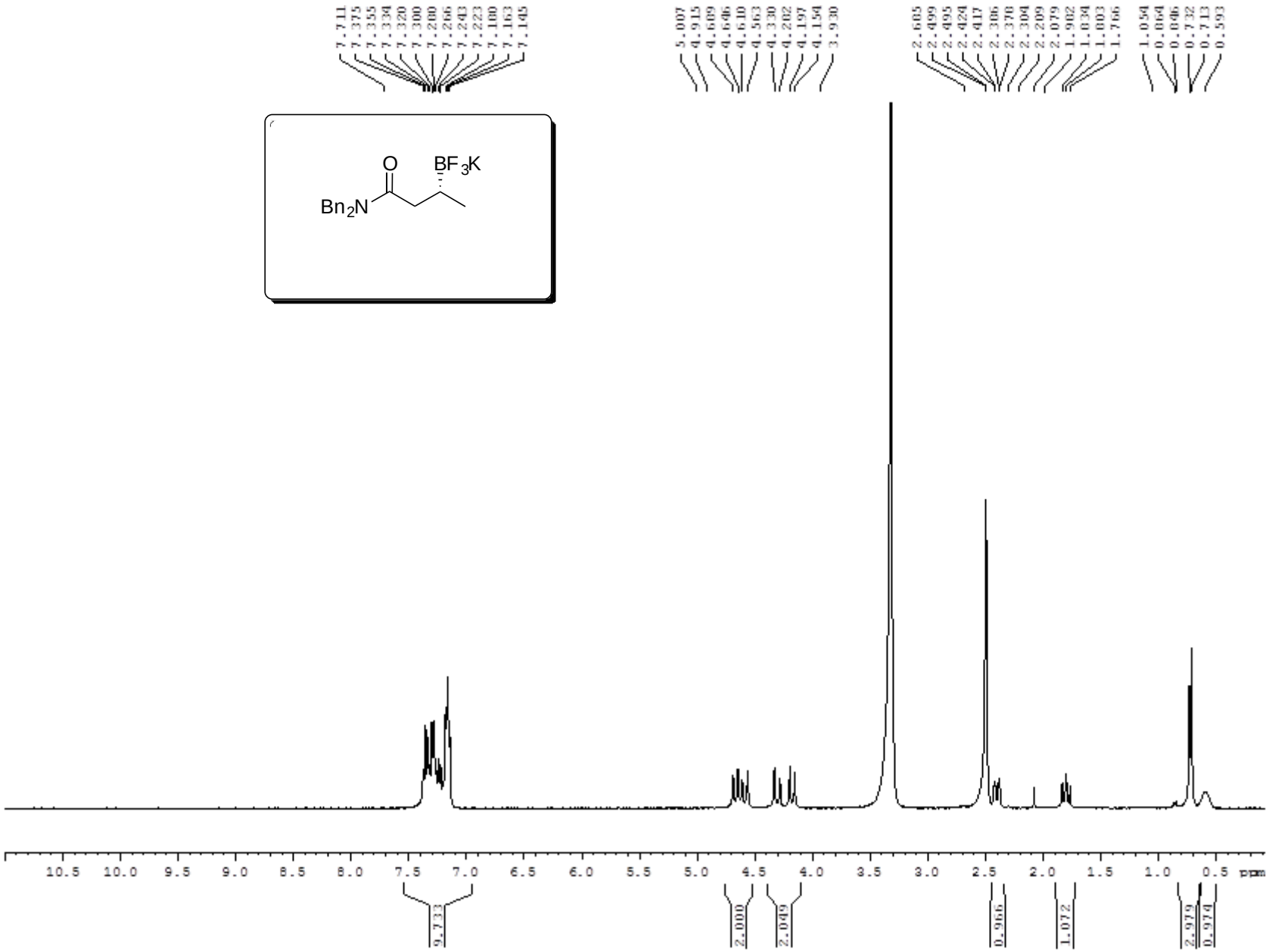
^{19}F NMR (Acetone, 470.8 MHz) spectrum of Potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k)



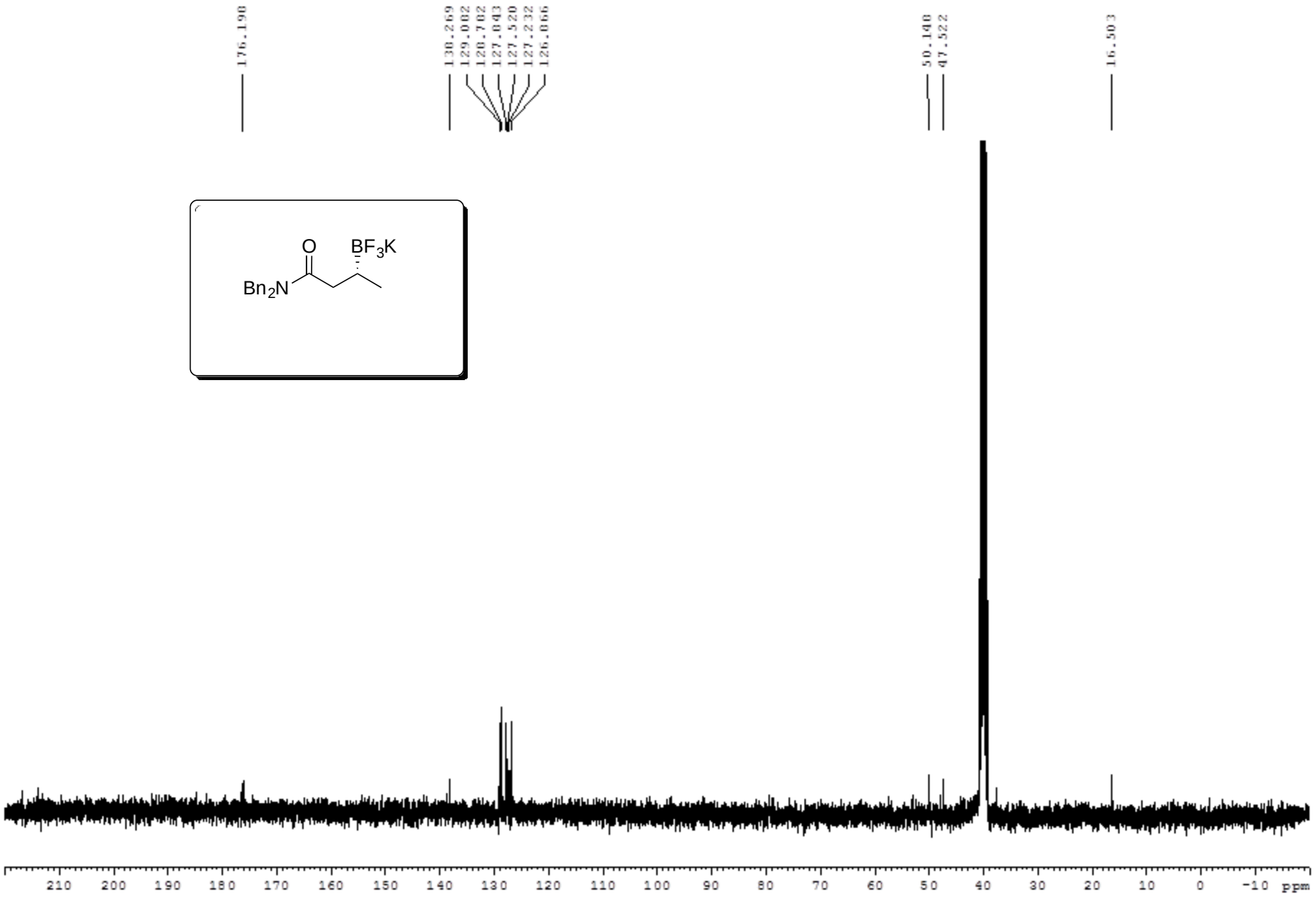
^{11}B NMR (Acetone, 128.4 MHz) spectrum of Potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k)



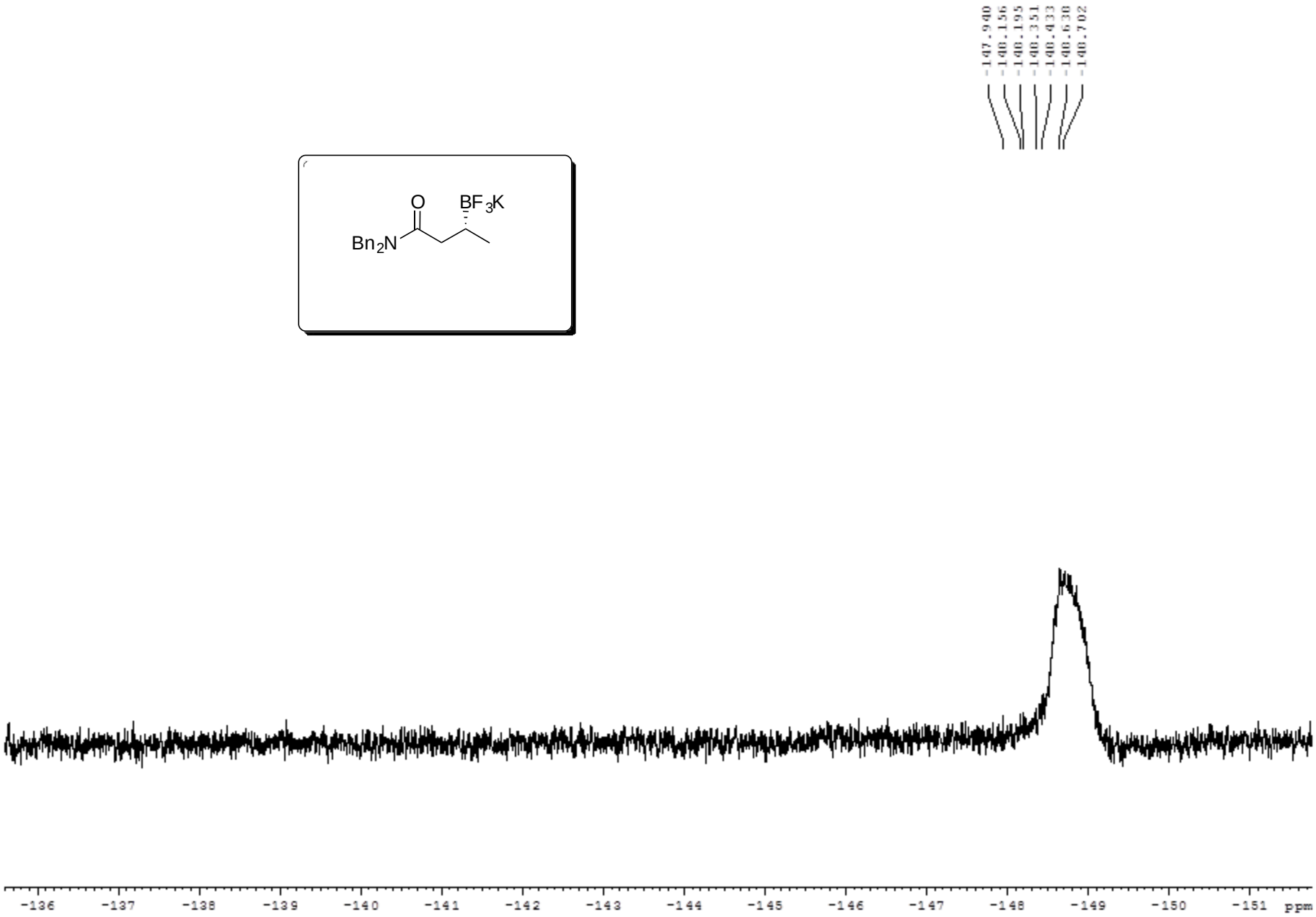
^{1}H NMR (DMSO, 360 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l)



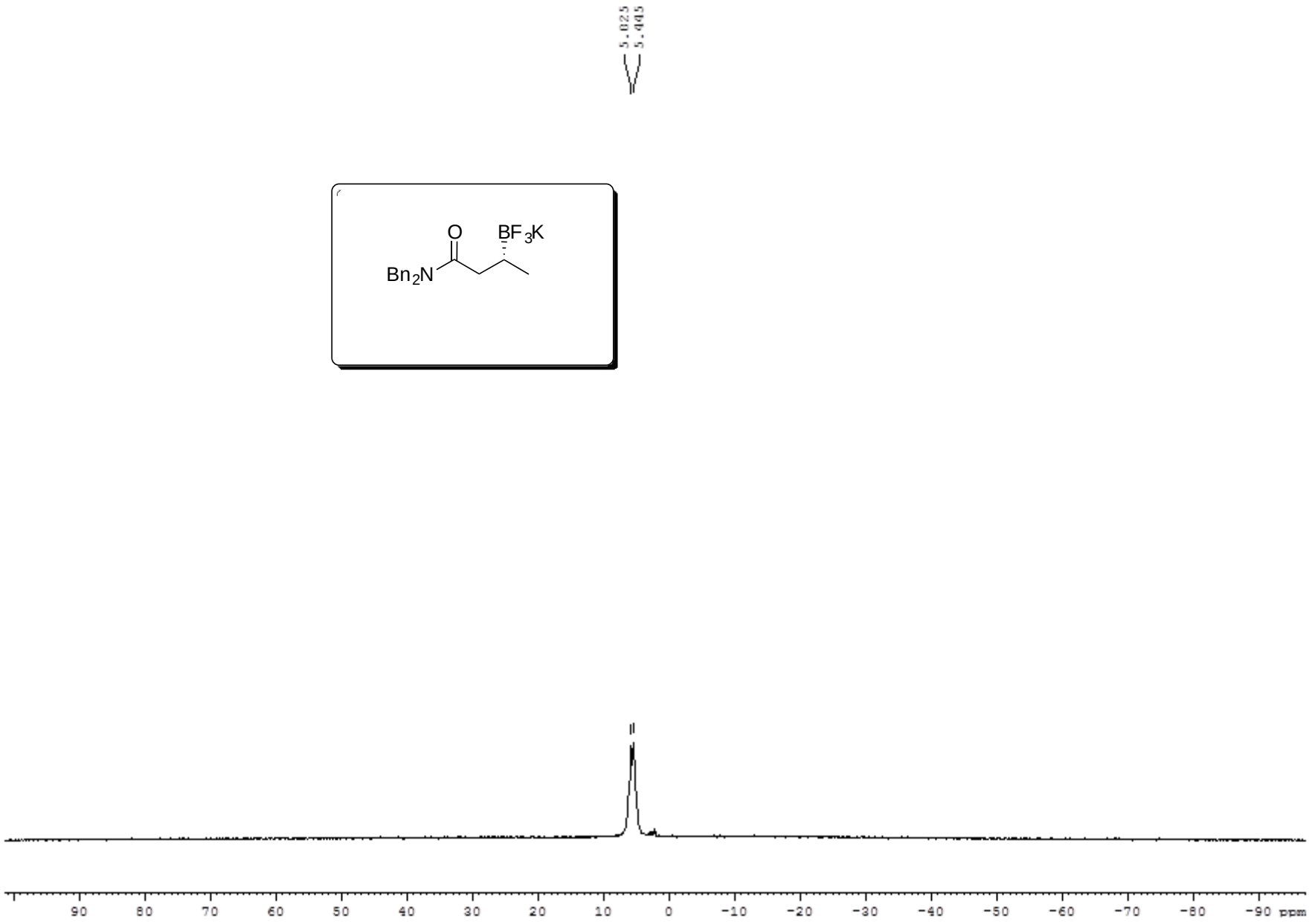
^{13}C NMR (DMSO, 90.5 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l)



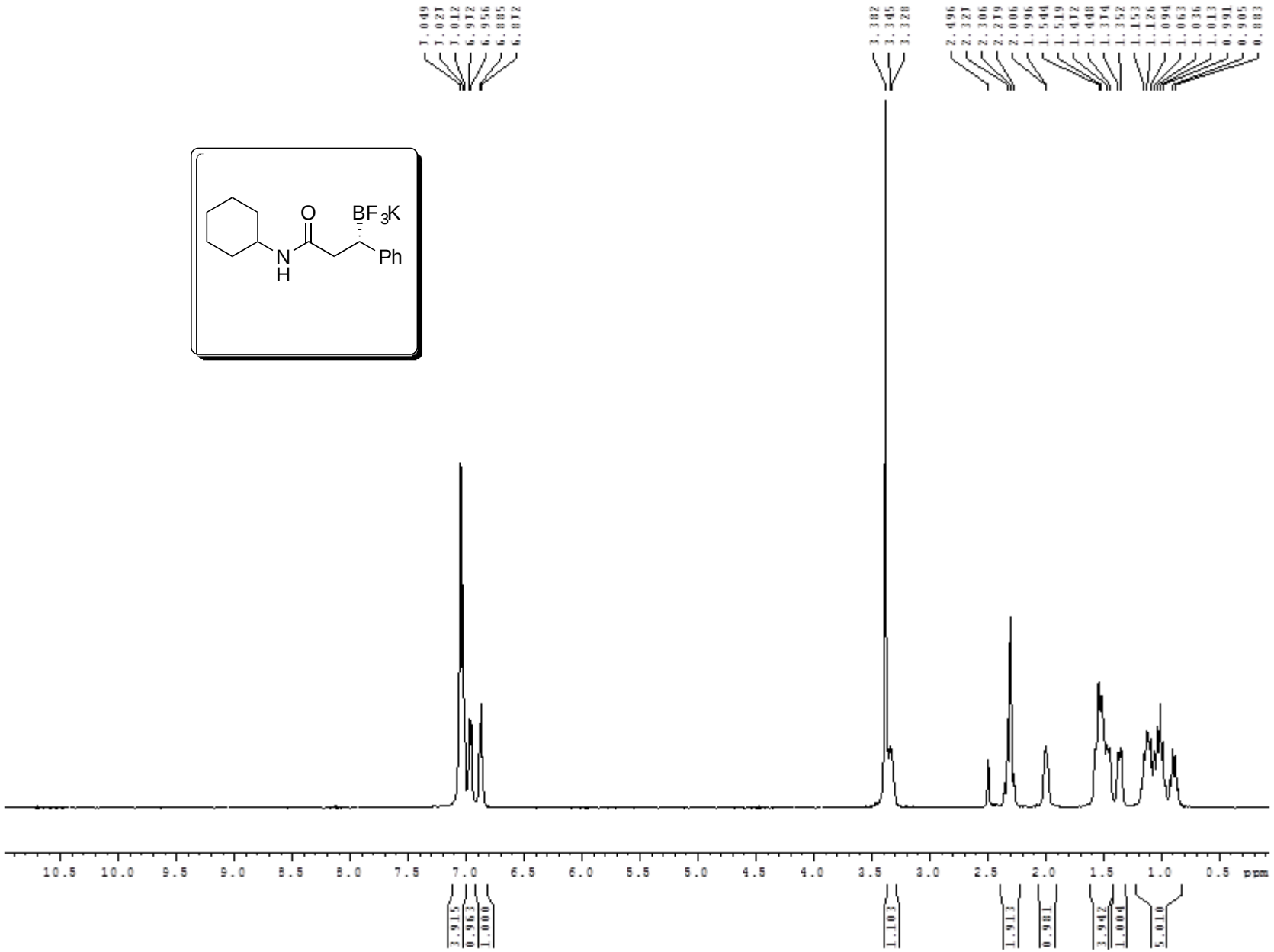
^{19}F NMR (Acetone, 338.8 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l)



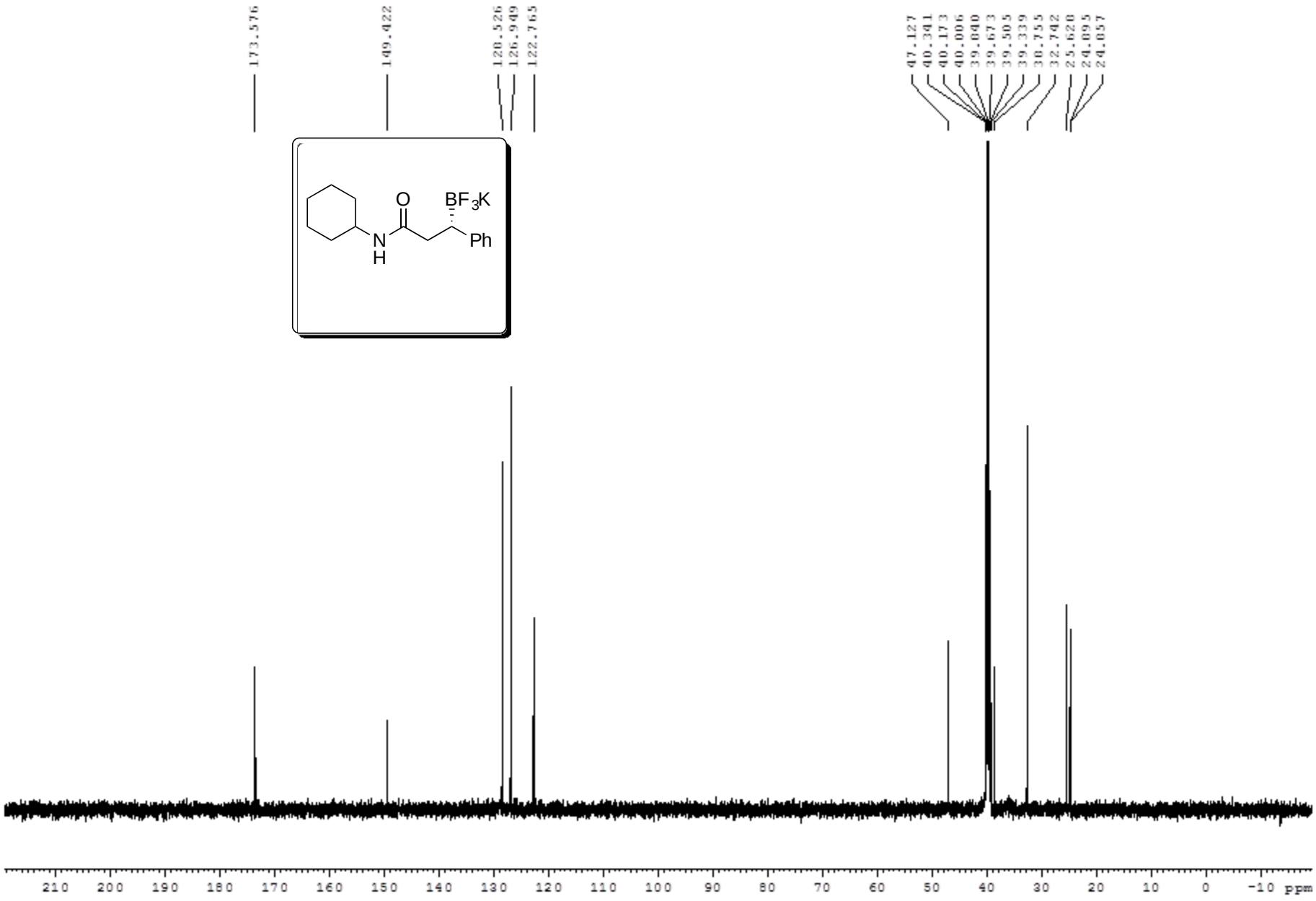
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l)



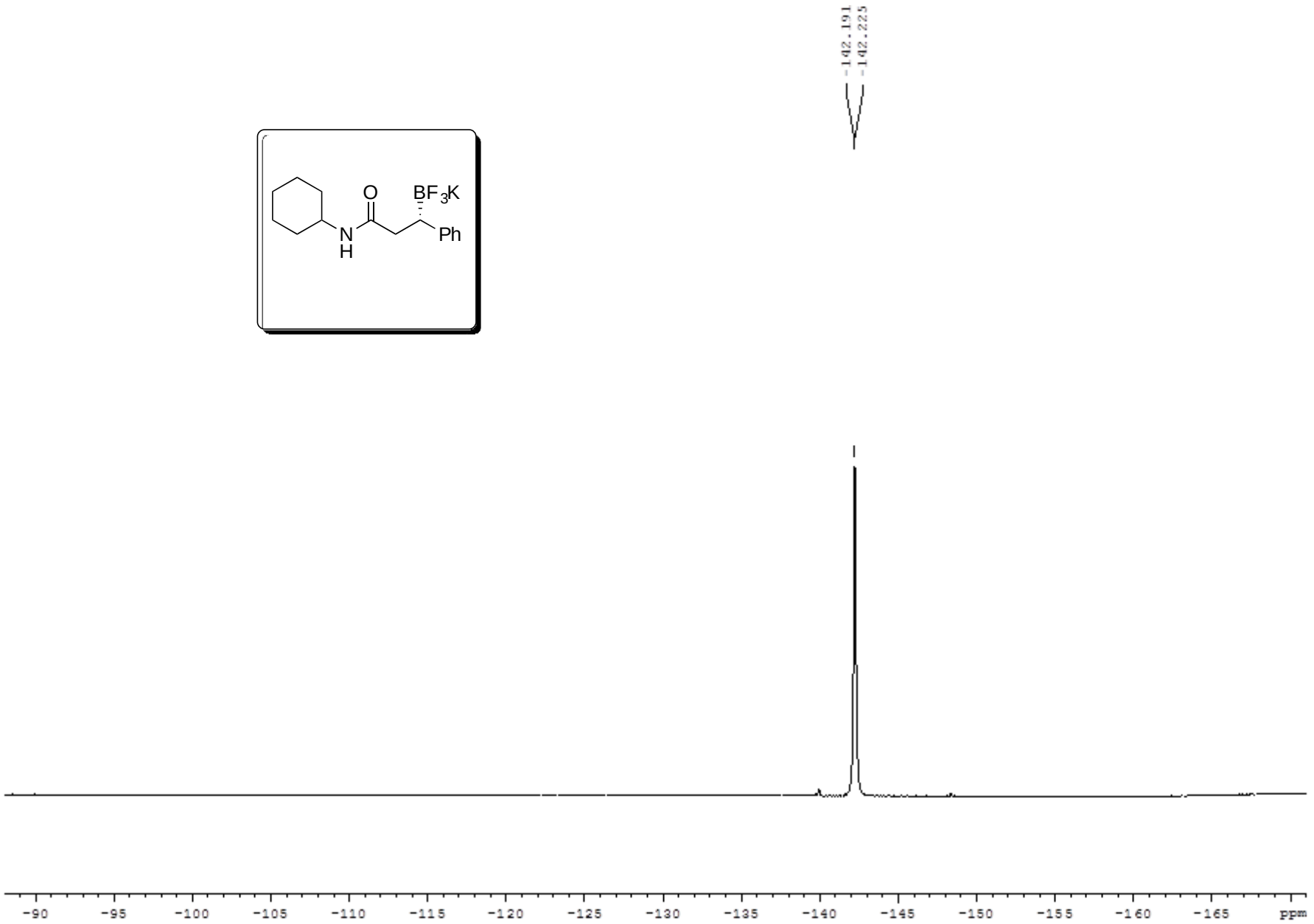
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m)



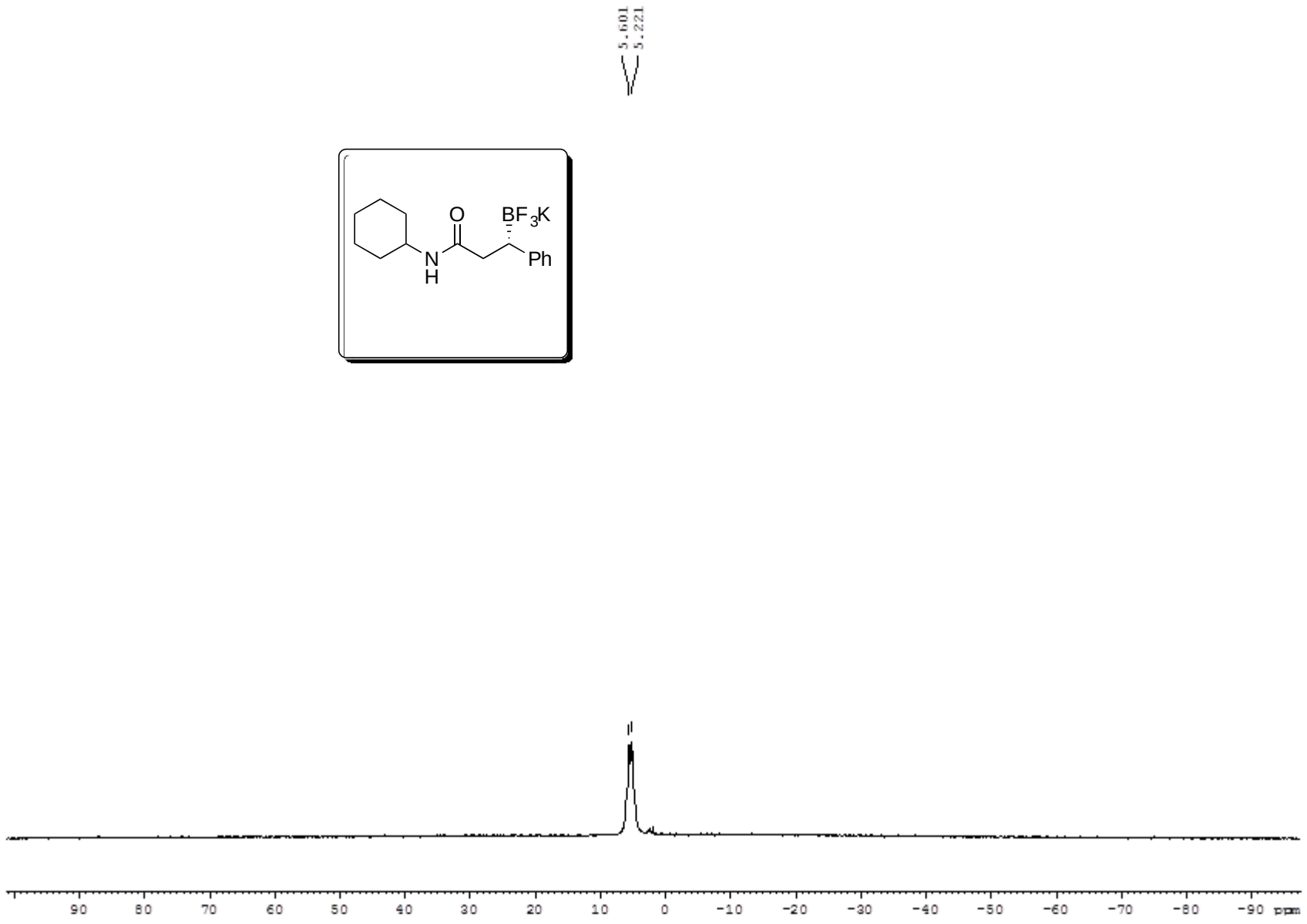
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m)



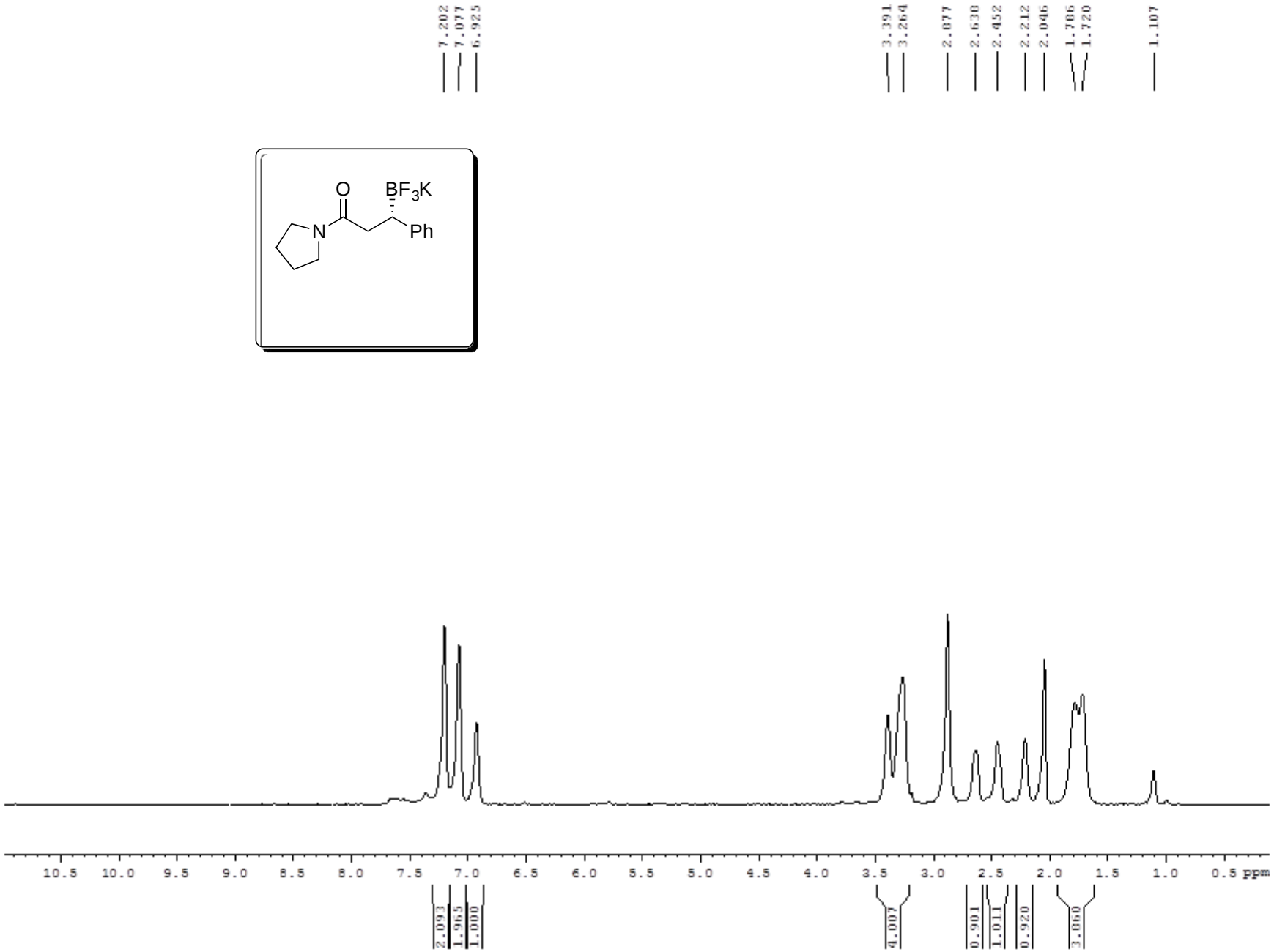
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m)



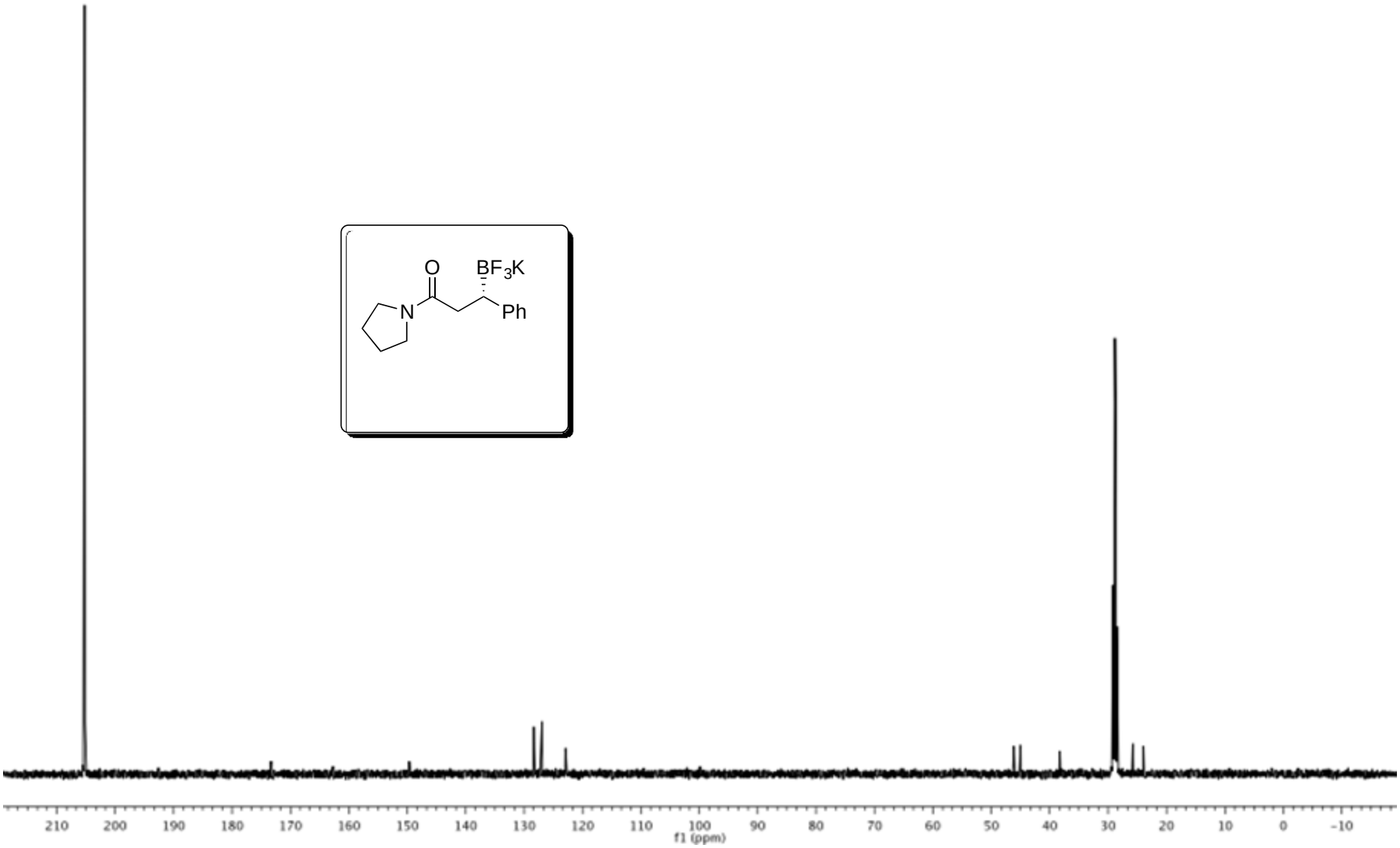
^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m)



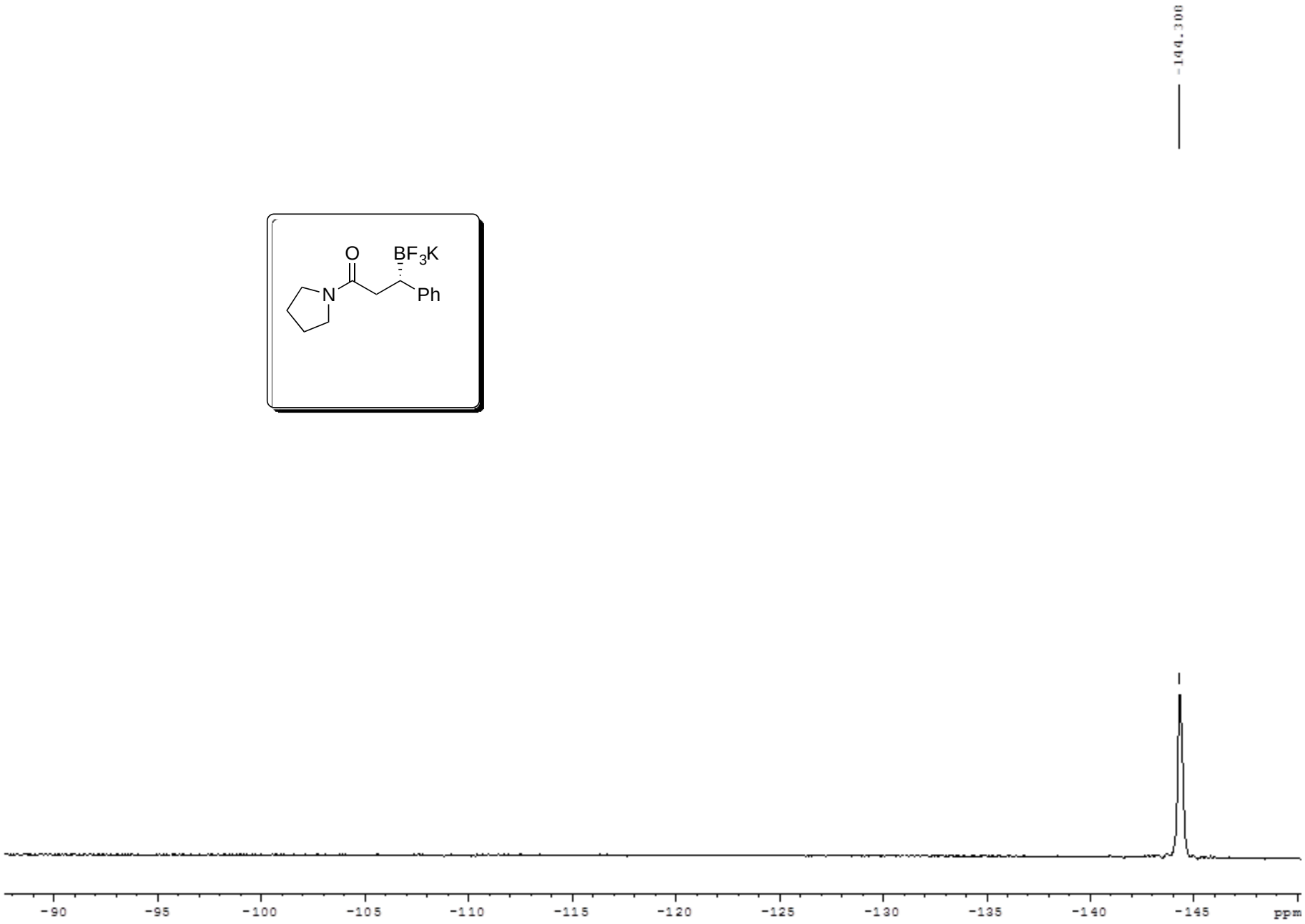
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium 3-phenyl-1-(pyrrolidin-1-yl)-3-(trifluoroborato)propan-1-one (2n)



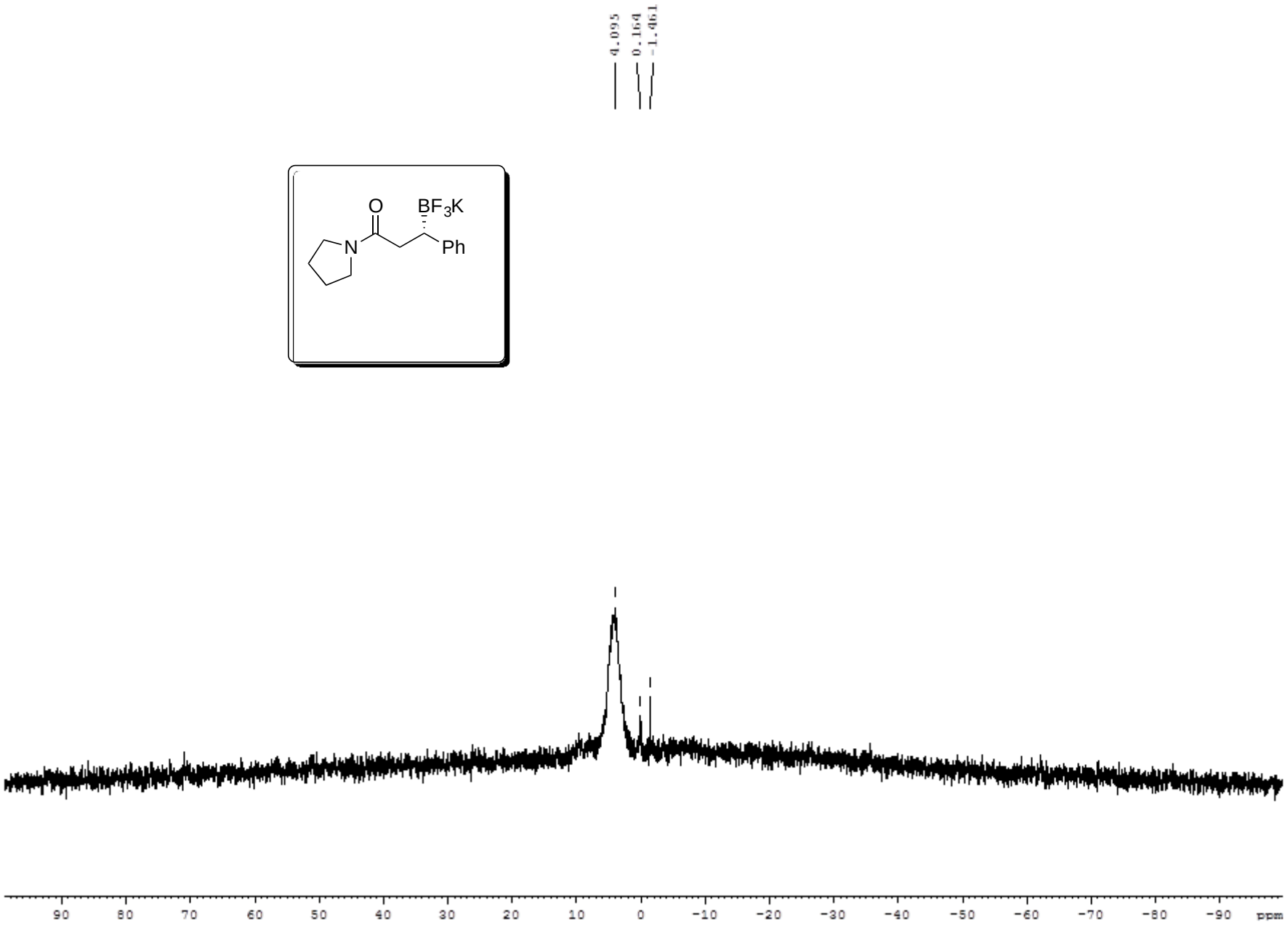
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium 3-phenyl-1-(pyrrolidin-1-yl)-3-(trifluoroborato)propan-1-one (2n)



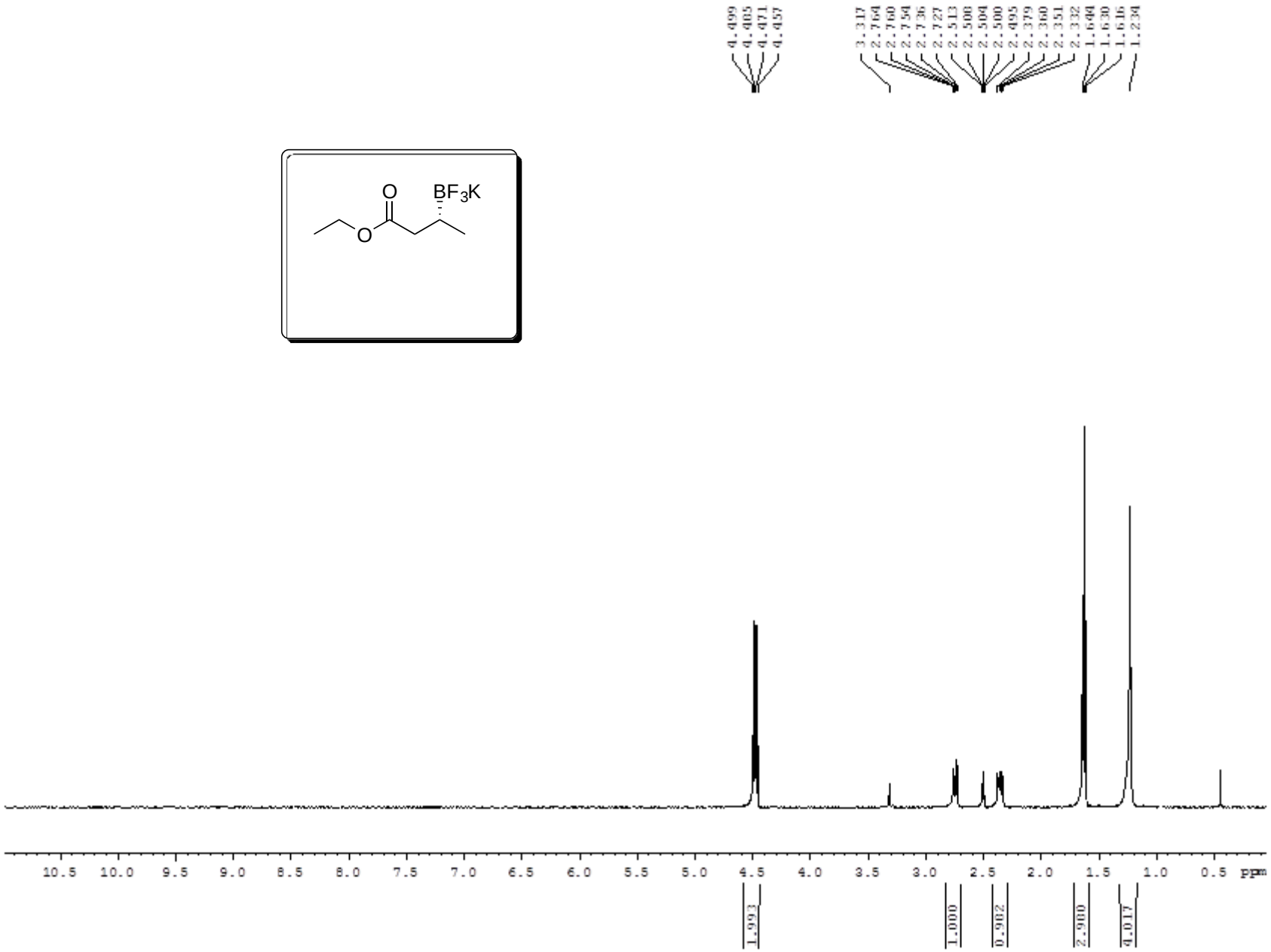
^{19}F NMR (Acetone, 470.8 MHz) spectrum of potassium 3-phenyl-1-(pyrrolidin-1-yl)-3-(trifluoroborato)propan-1-one (2n)



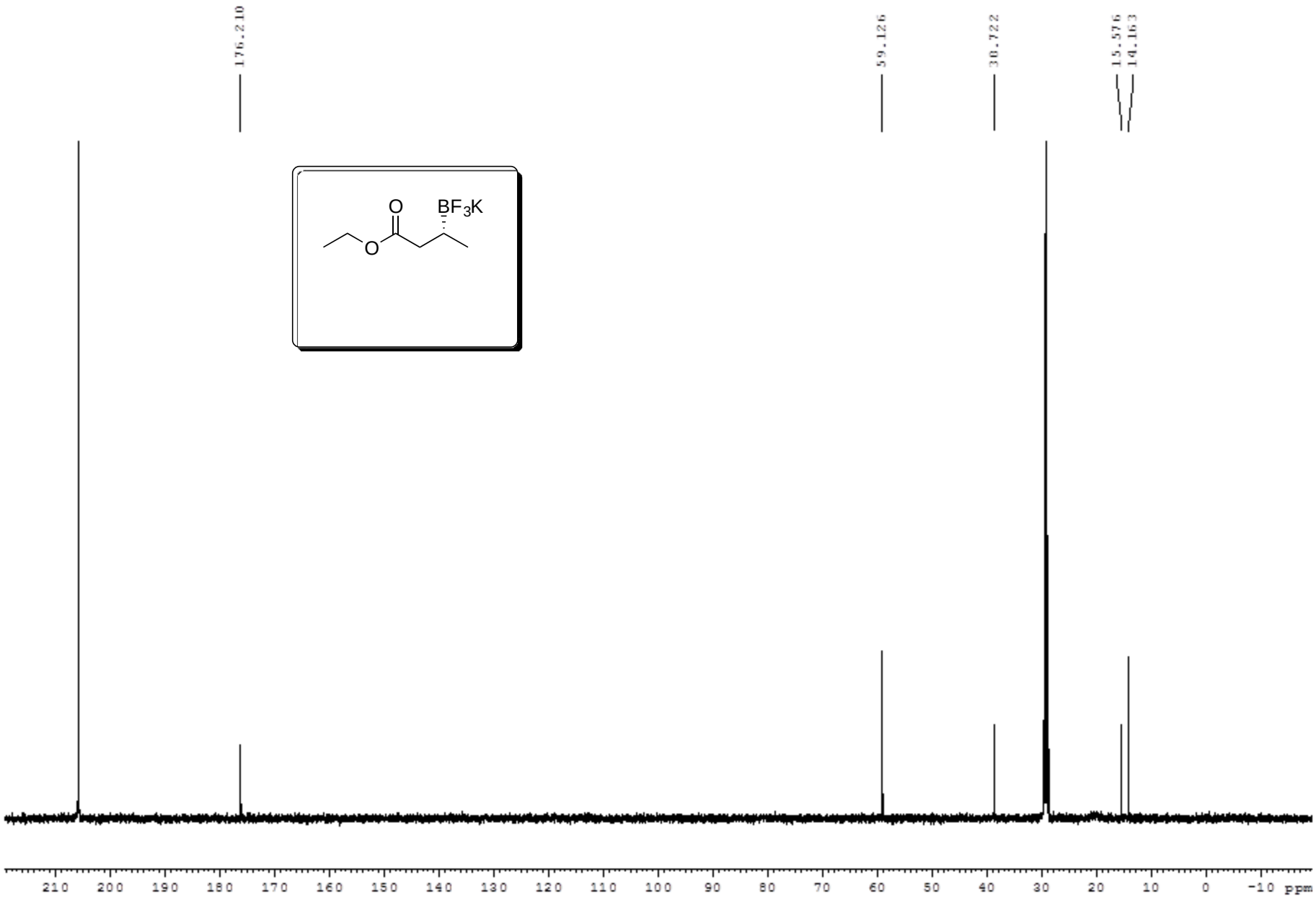
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium 3-phenyl-1-(pyrrolidin-1-yl)-3-(trifluoroborato)propan-1-one (2n)



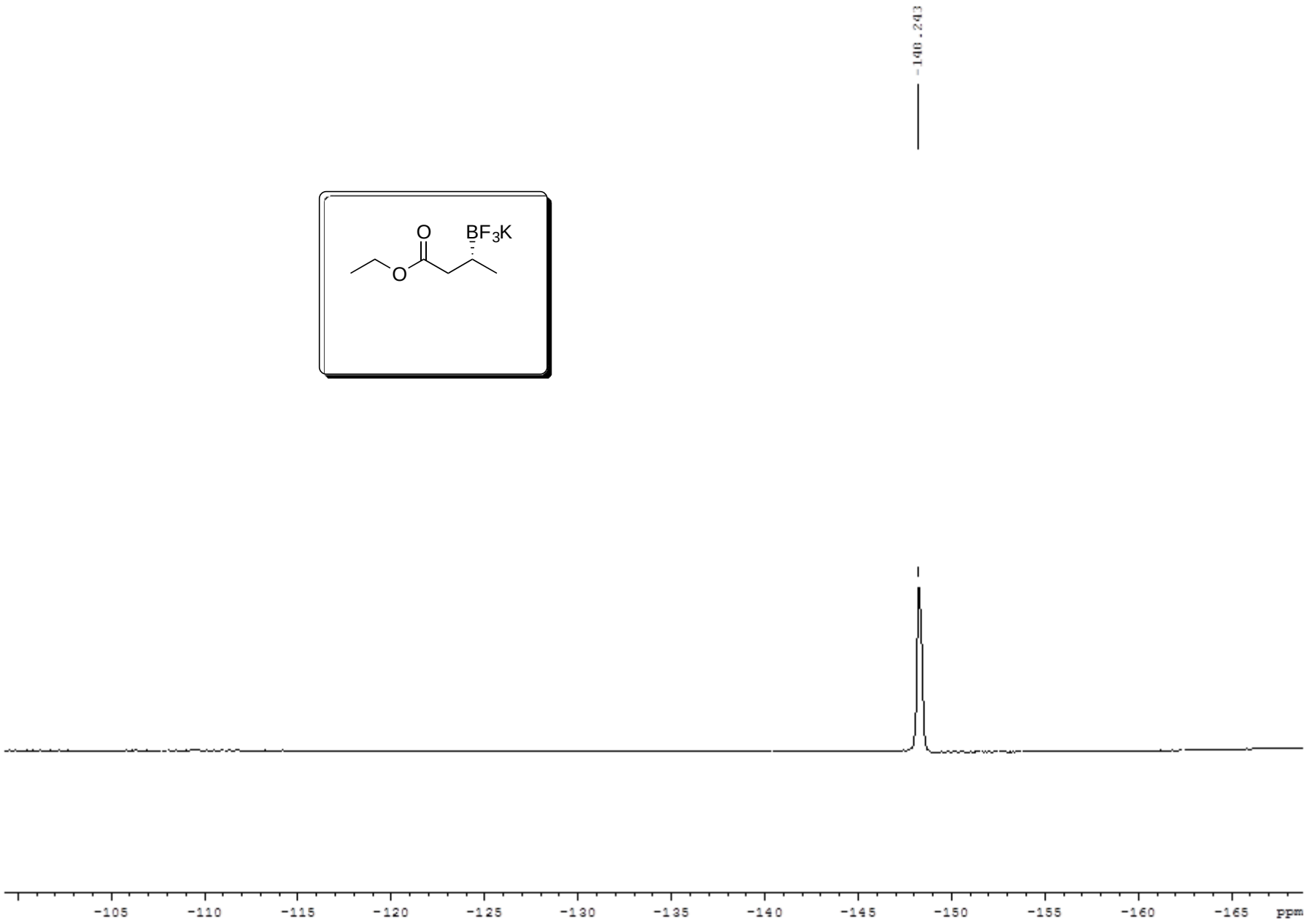
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)butanoate (7a)



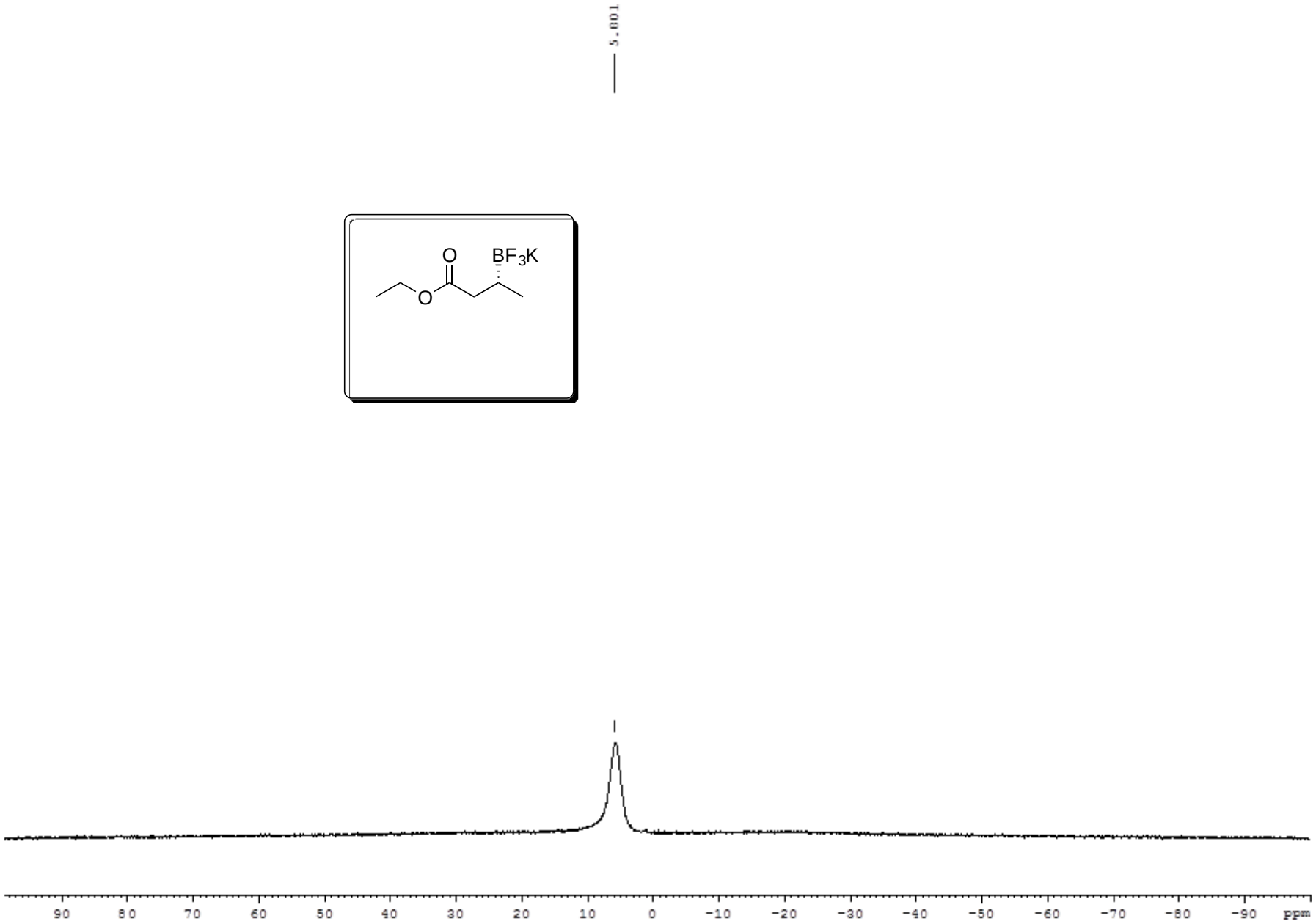
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)butanoate (7a)



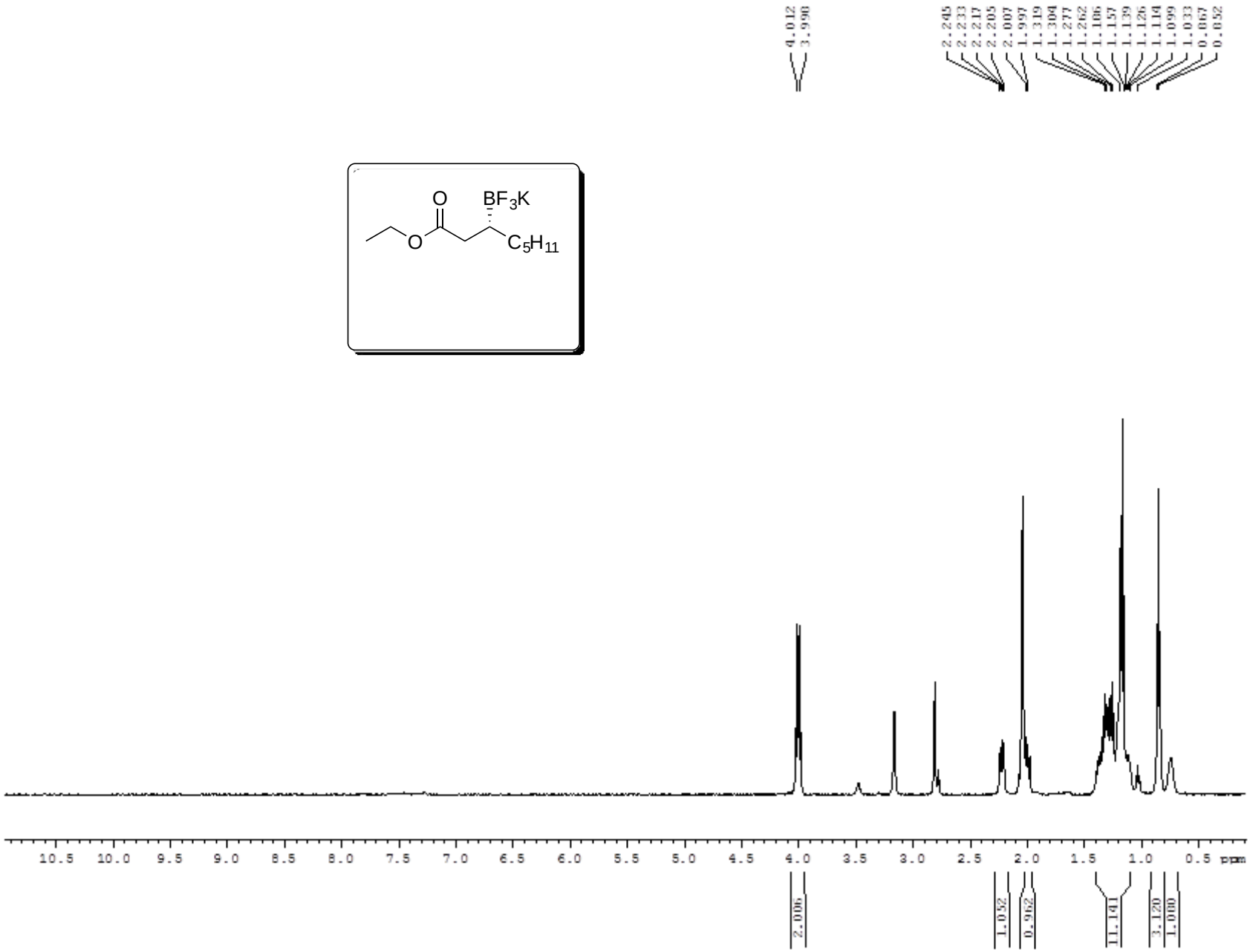
^{19}F NMR (Acetone, 470.8 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)butanoate (7a)



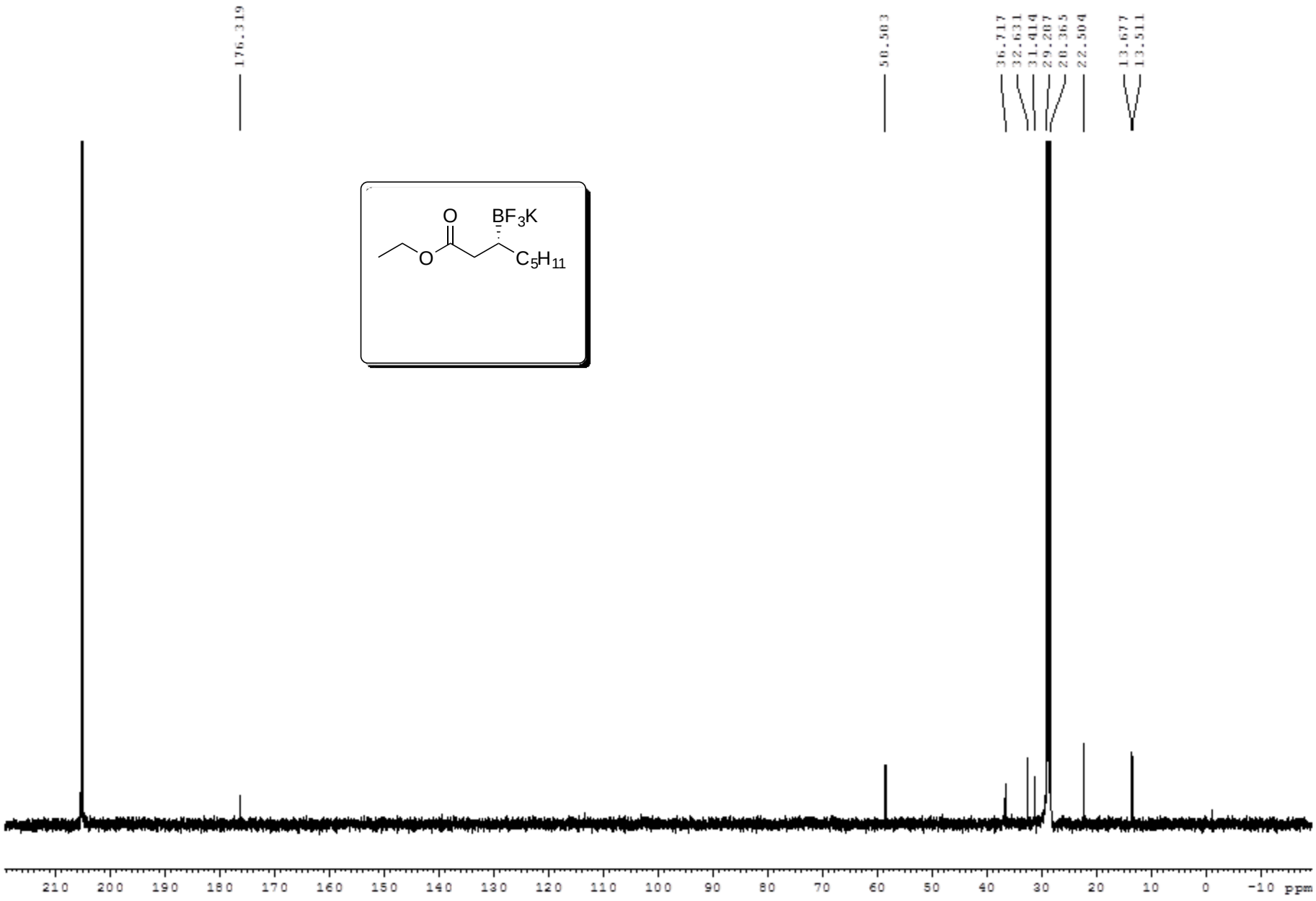
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)butanoate (7a)



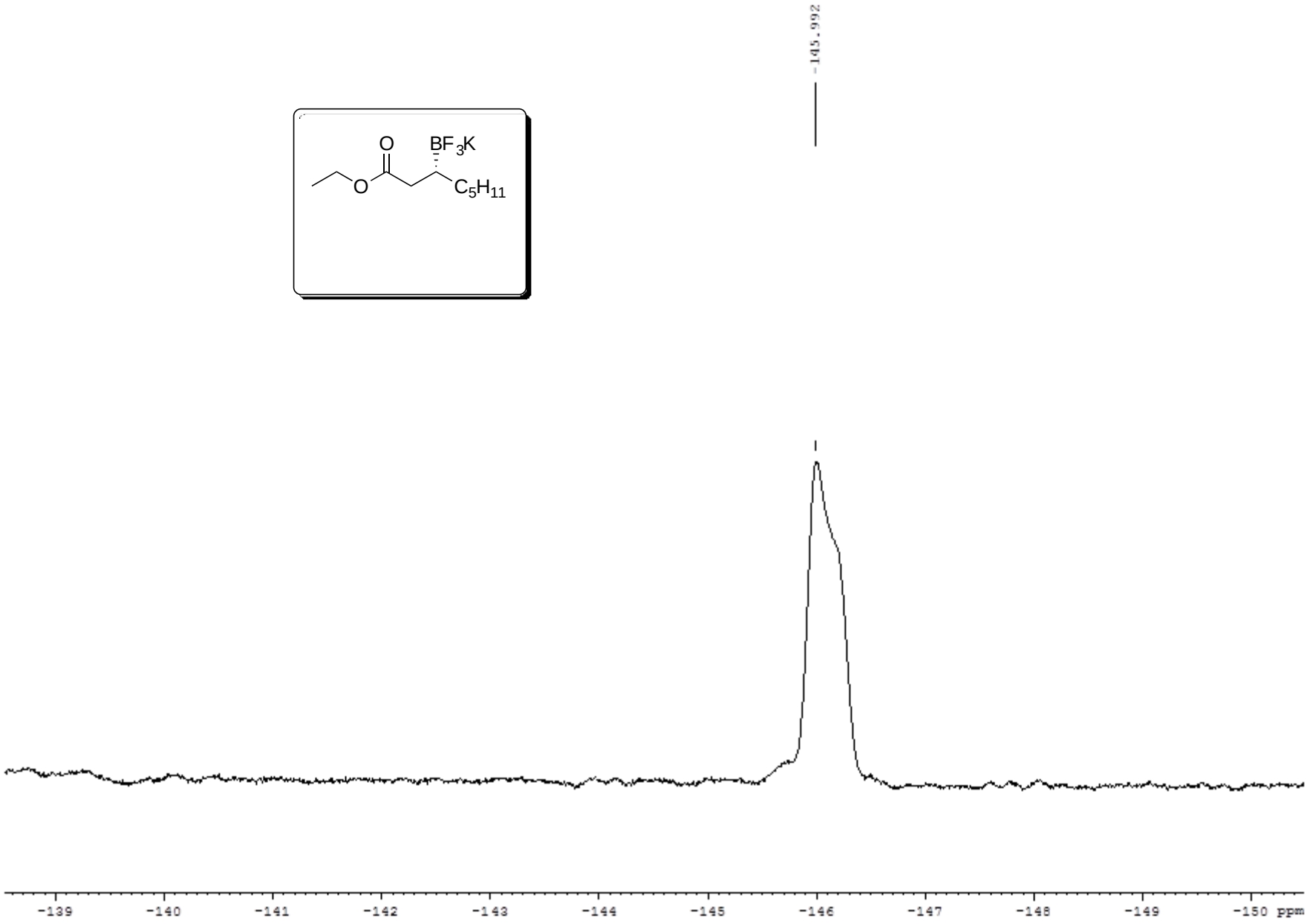
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)octanoate (7b)



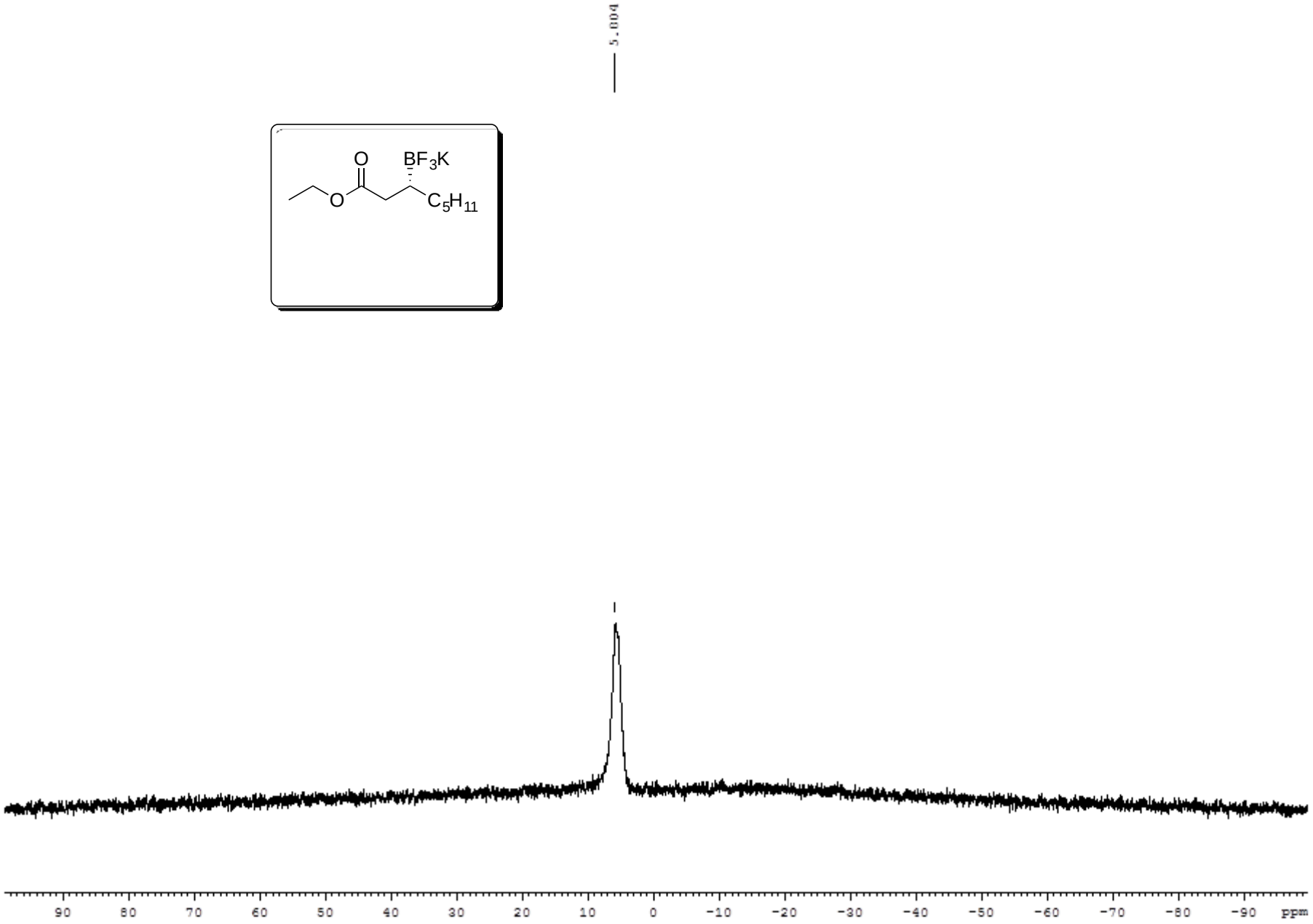
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)octanoate (7b)



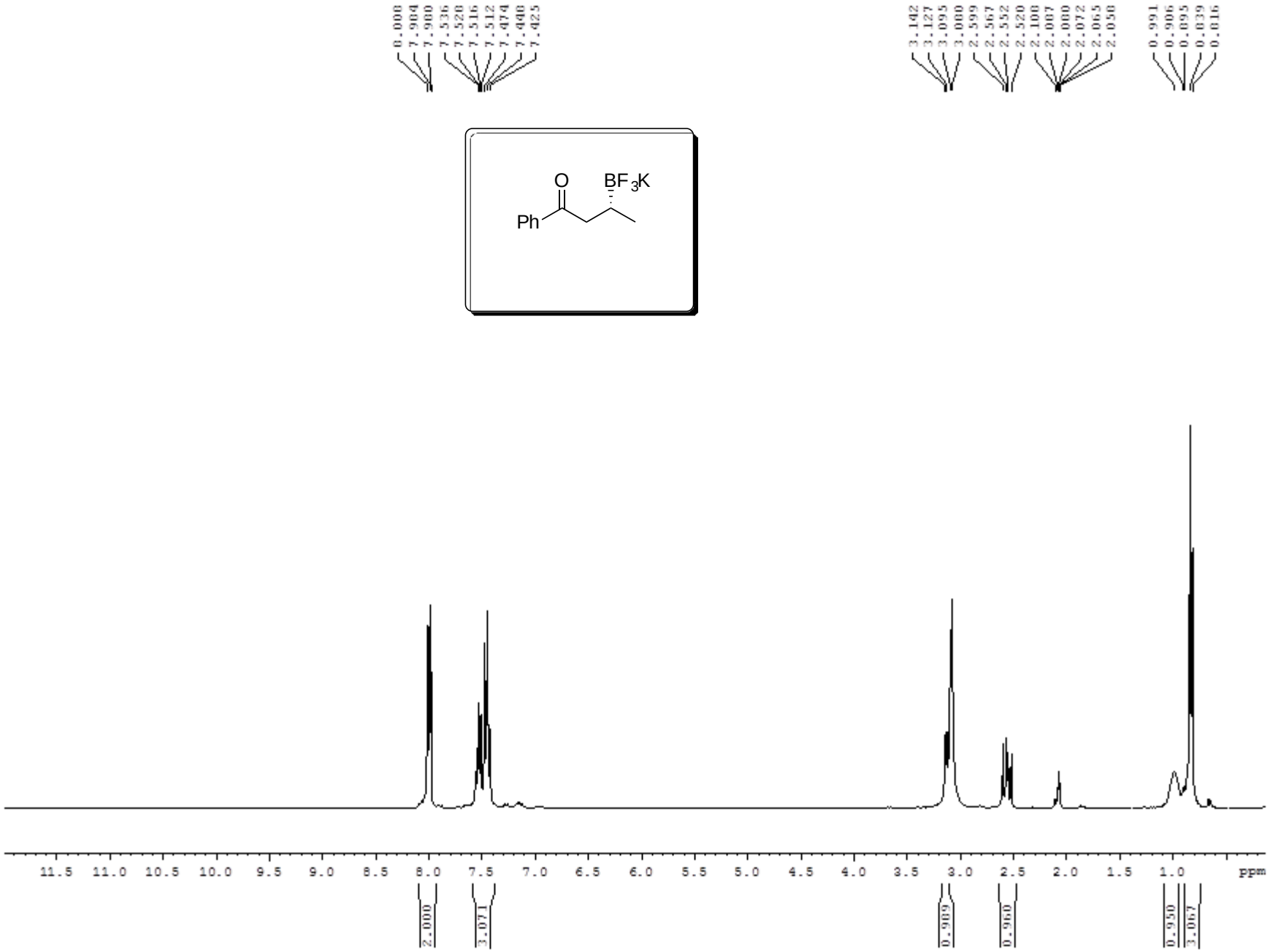
^{19}F NMR (Acetone, 470.8 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)octanoate (7b)



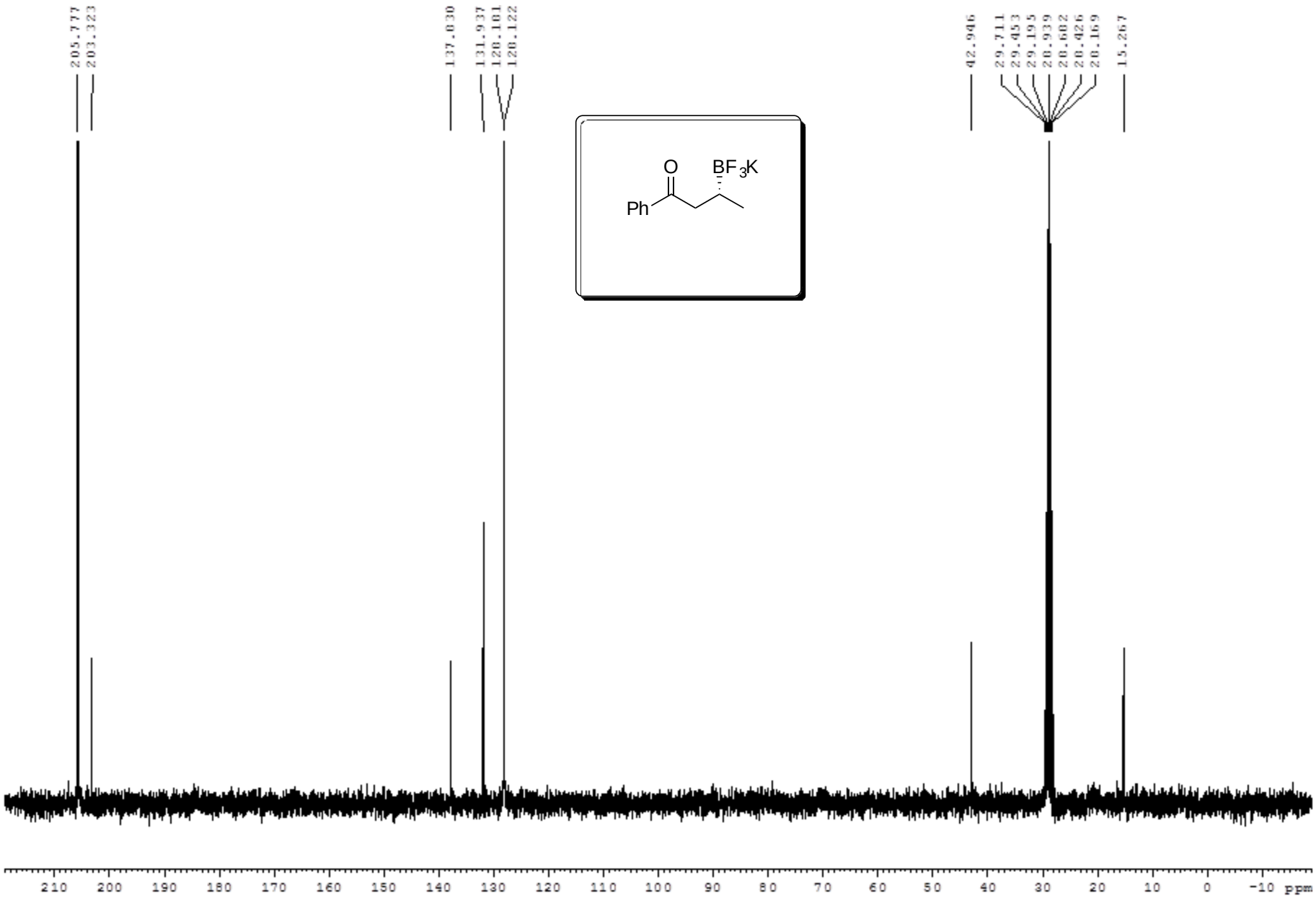
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-ethyl 3-(trifluoroborato)octanoate (7b)



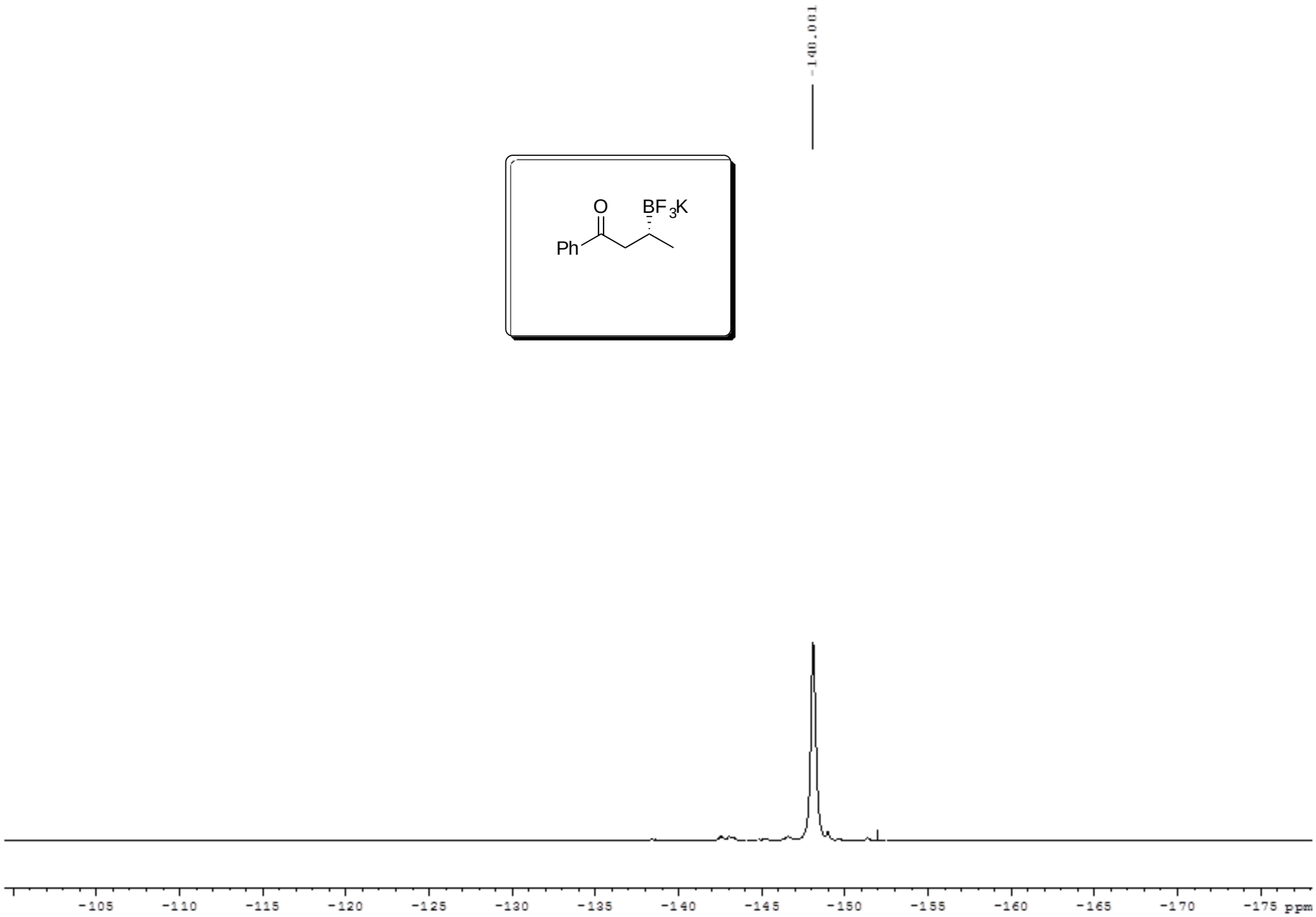
^{1}H NMR (Acetone, 300 MHz) spectrum of potassium (*R*)-3- trifluoroborato -1-phenylbutan-1-one (7c)



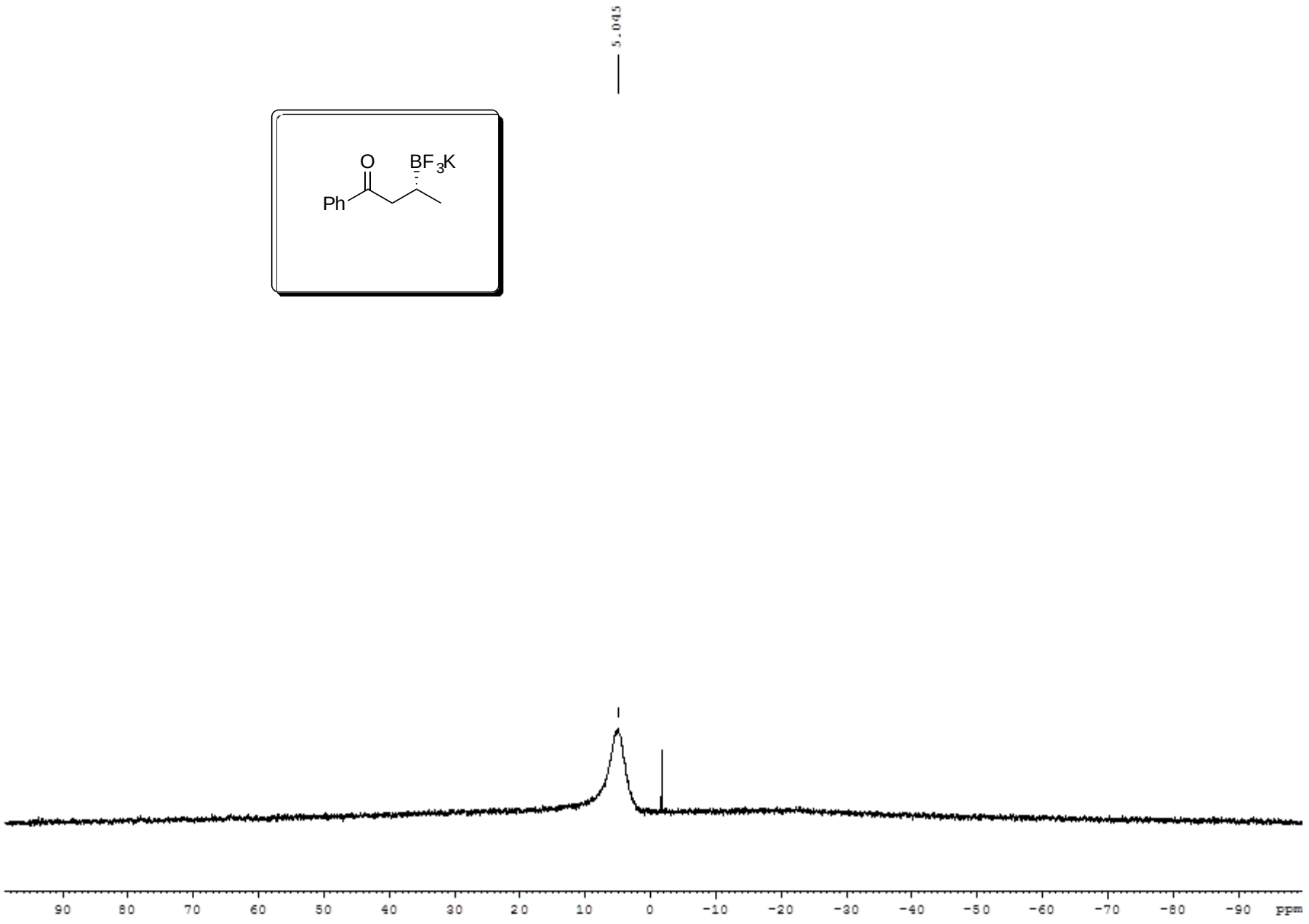
^{13}C NMR (Acetone, 75.4 MHz) spectrum of potassium (*R*)-3- trifluoroborato -1-phenylbutan-1-one (7c)



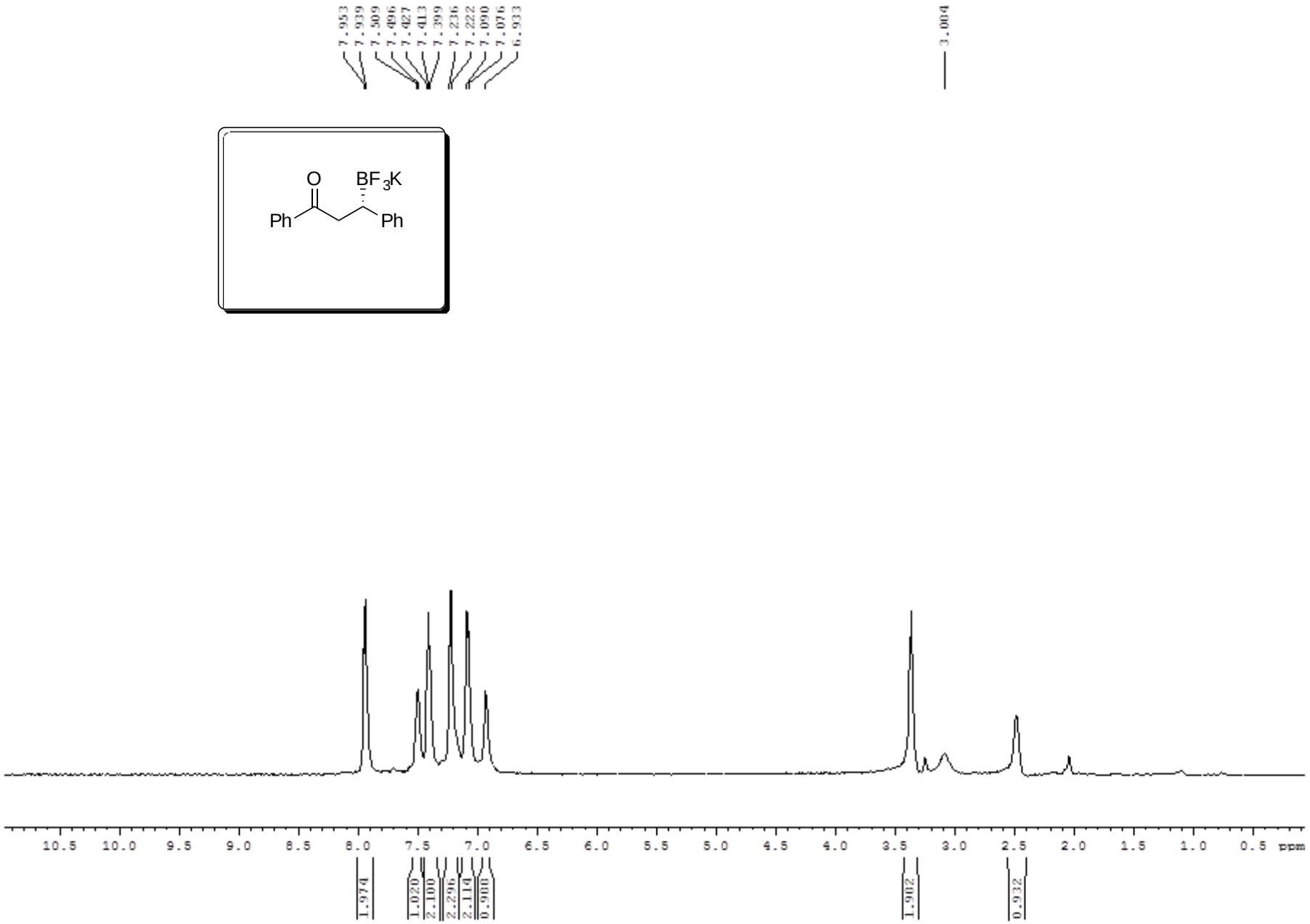
^{19}F NMR (Acetone, 282.4 MHz) spectrum of potassium (*R*)-3- trifluoroborato -1-phenylbutan-1-one (7c)



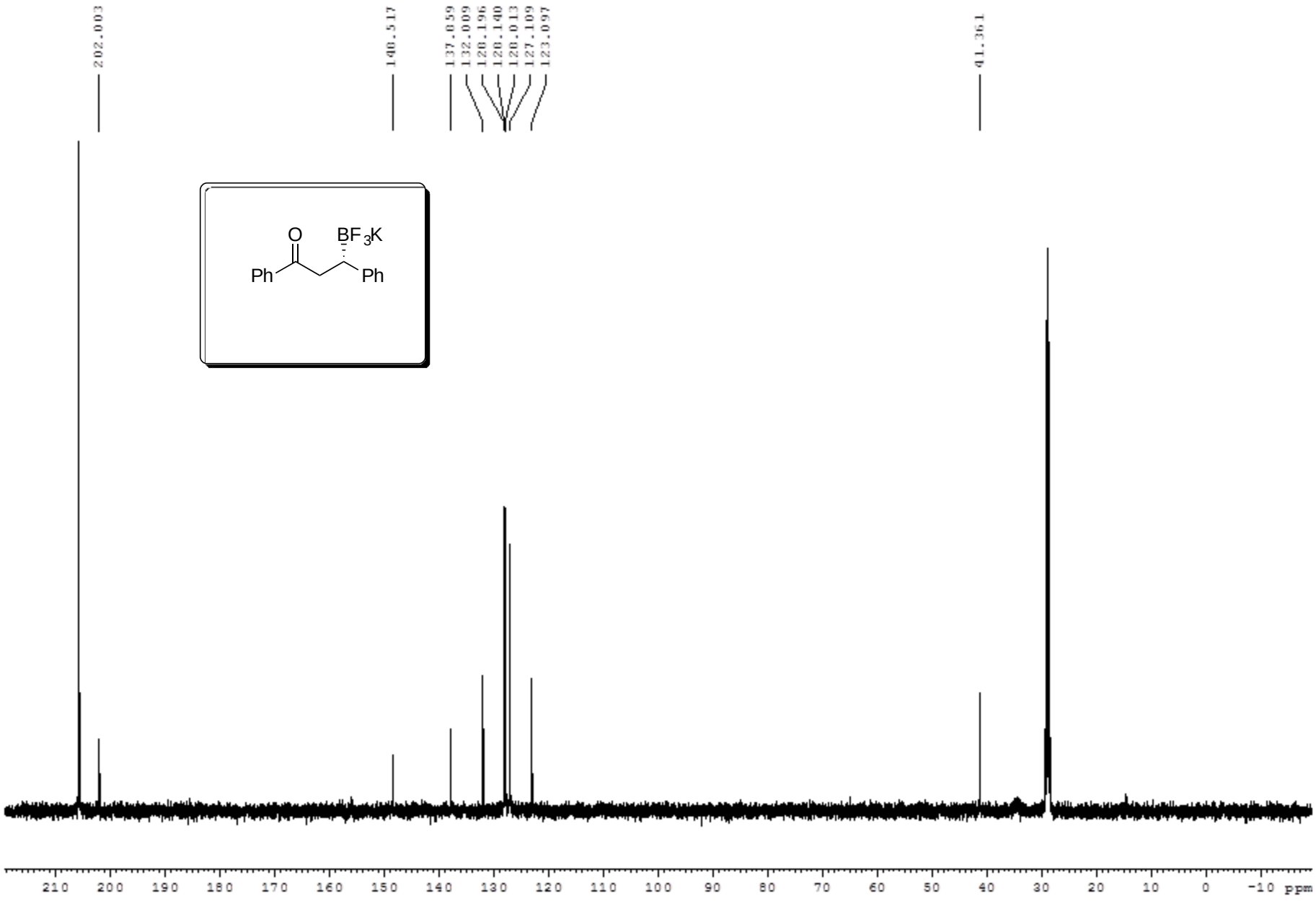
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-3- trifluoroborato -1-phenylbutan-1-one (7c)



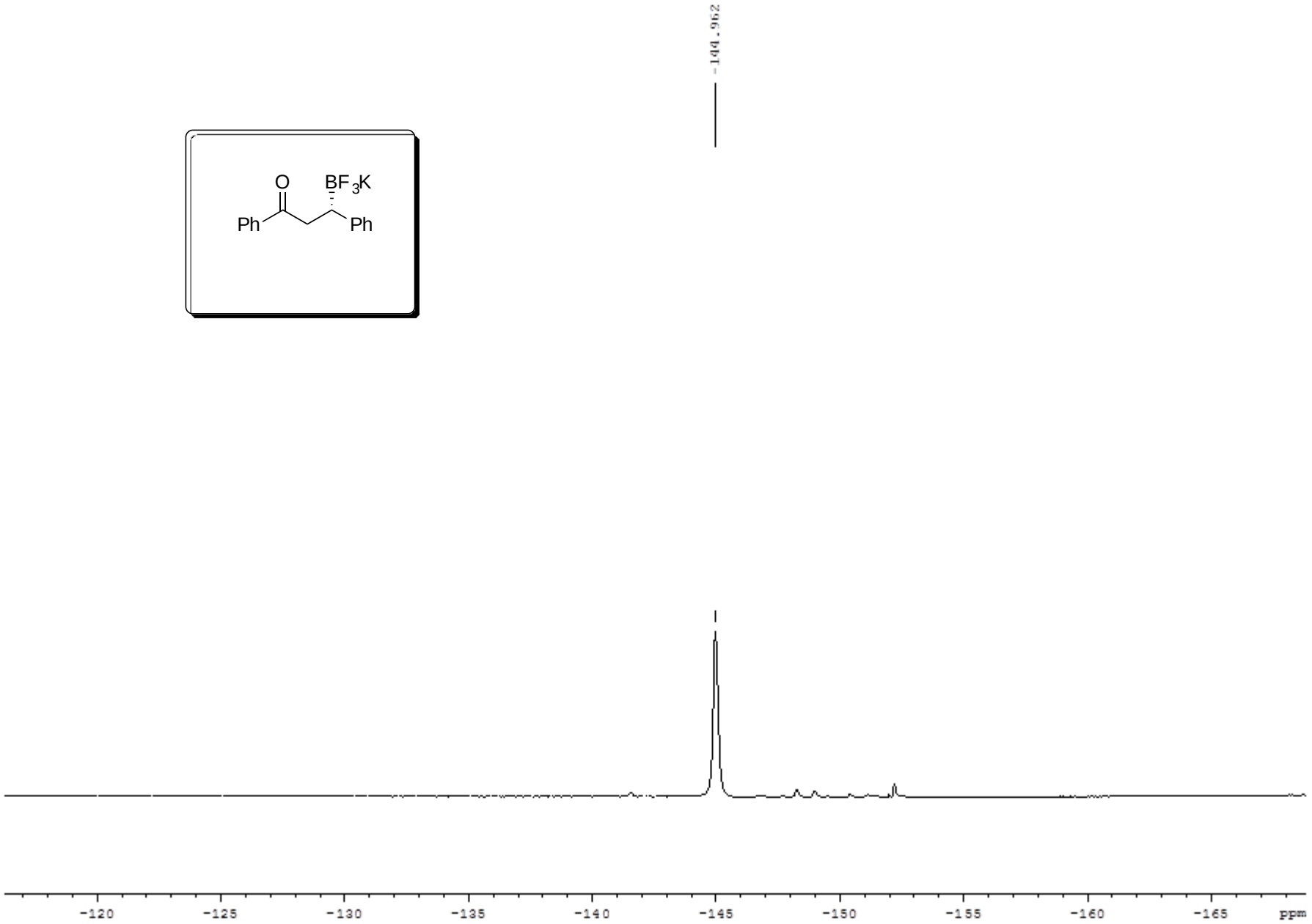
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium (*S*)-1,3-diphenyl-3-(trifluororborato)butan-1-one (7d)



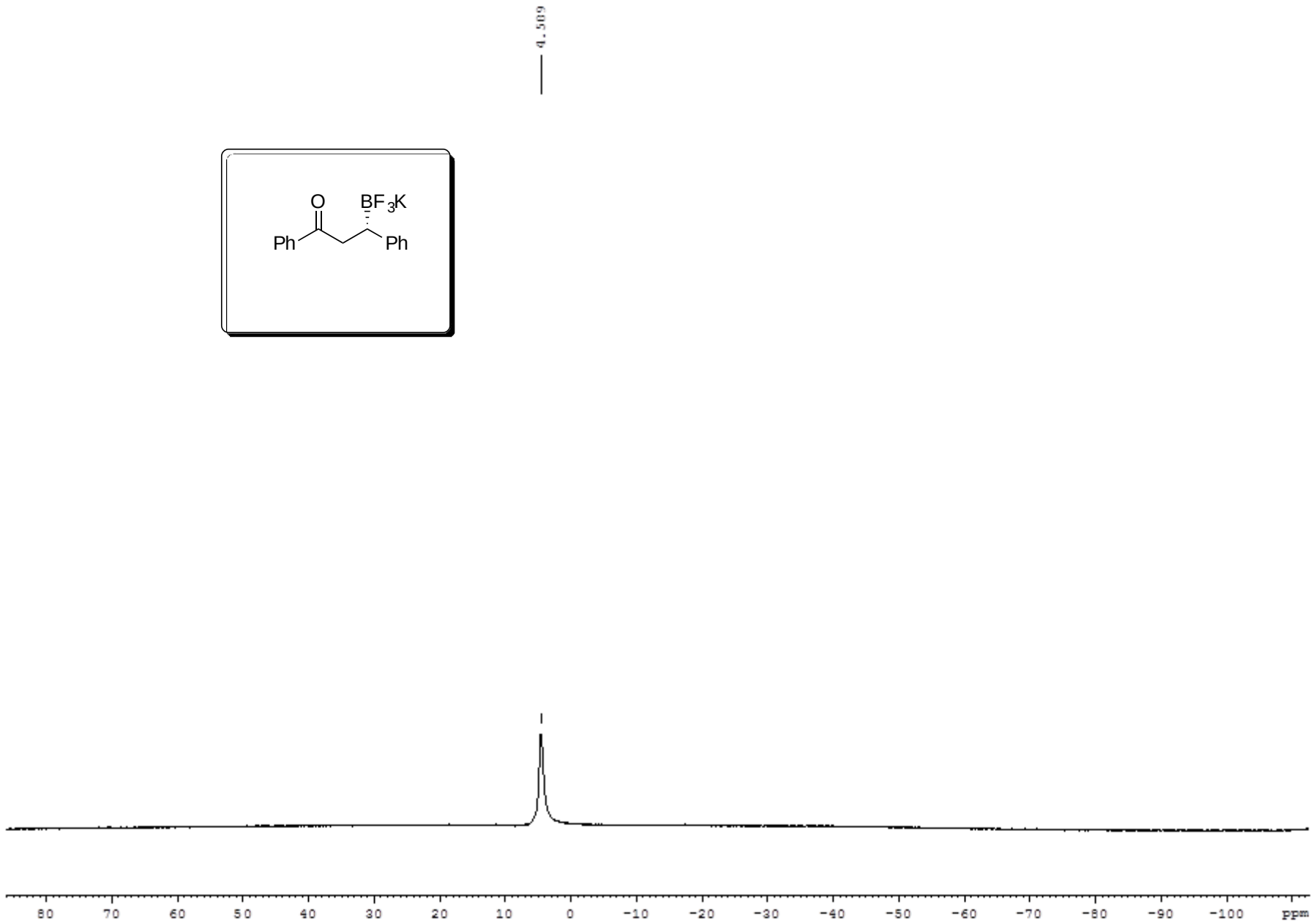
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium (*S*)-1,3-diphenyl-3-(trifluororborato)butan-1-one (7d)



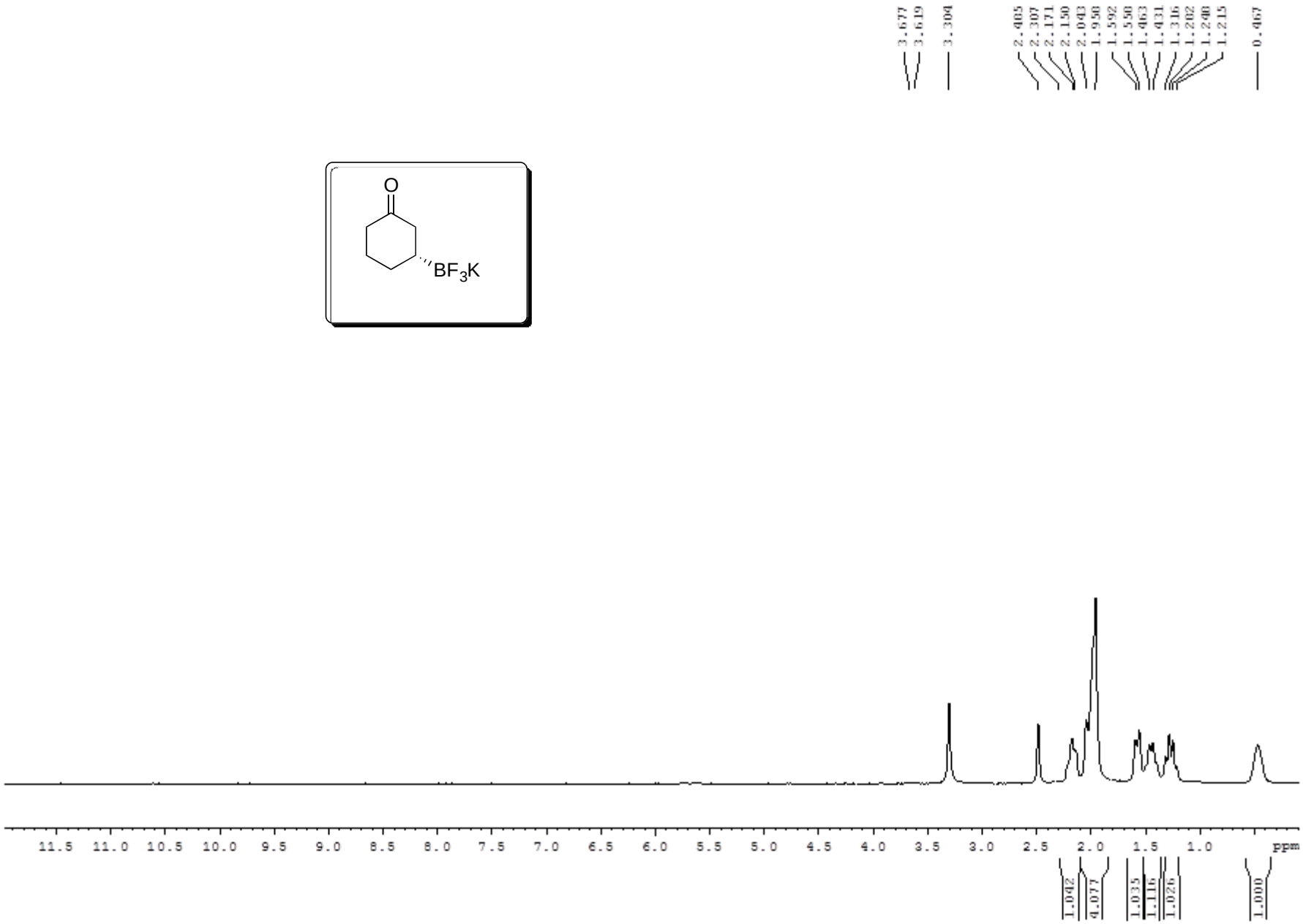
^{19}F NMR (Acetone, 470.8 MHz) spectrum of potassium (*S*)-1,3-diphenyl-3-(trifluororborato)butan-1-one (7d)



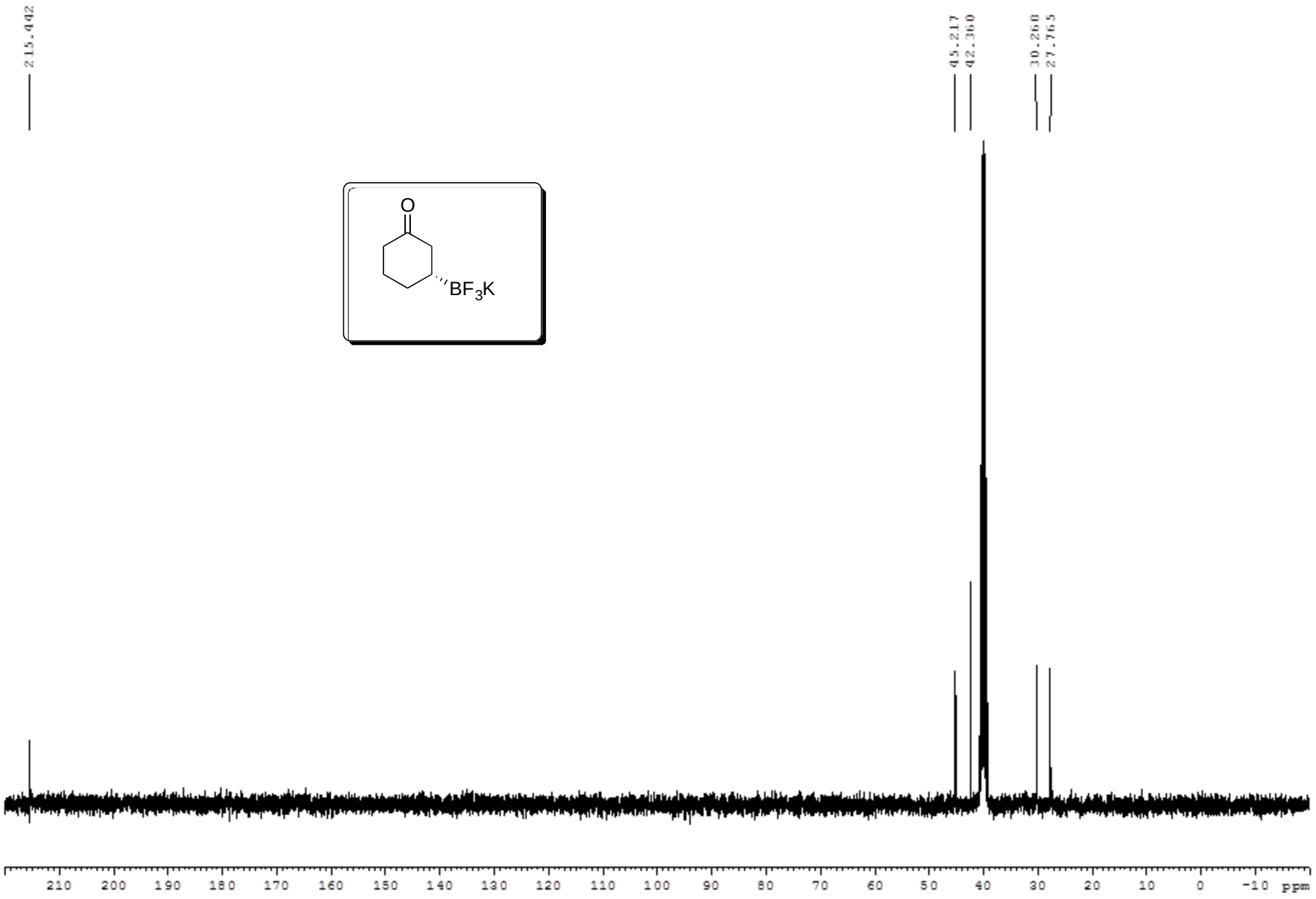
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*S*)-1,3-diphenyl-3-(trifluororborato)butan-1-one (7d)



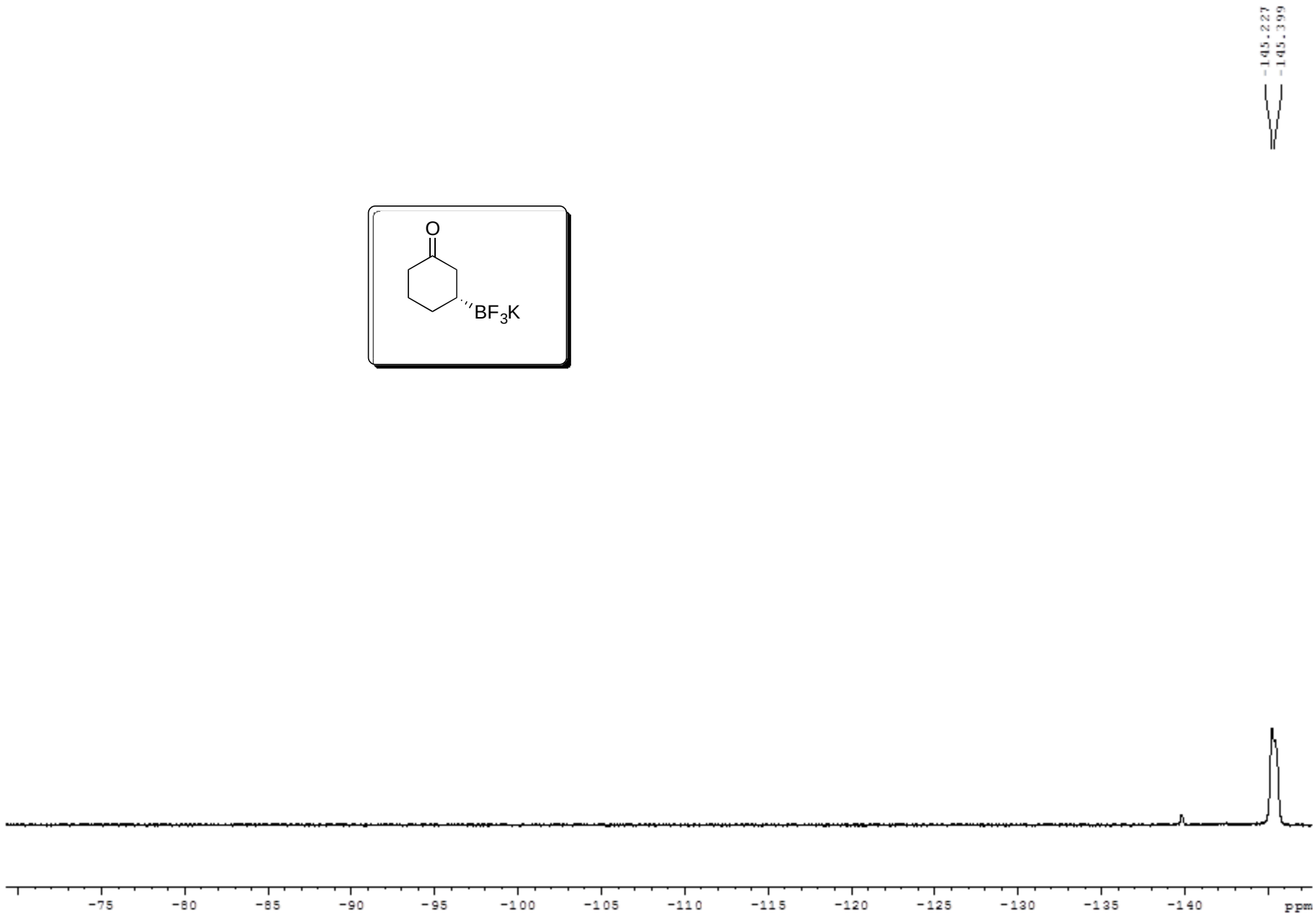
^{1}H NMR (DMSO, 360 MHz) spectrum of potassium (*R*)-3-(Trifluoroborato)cyclohexanone (7e)



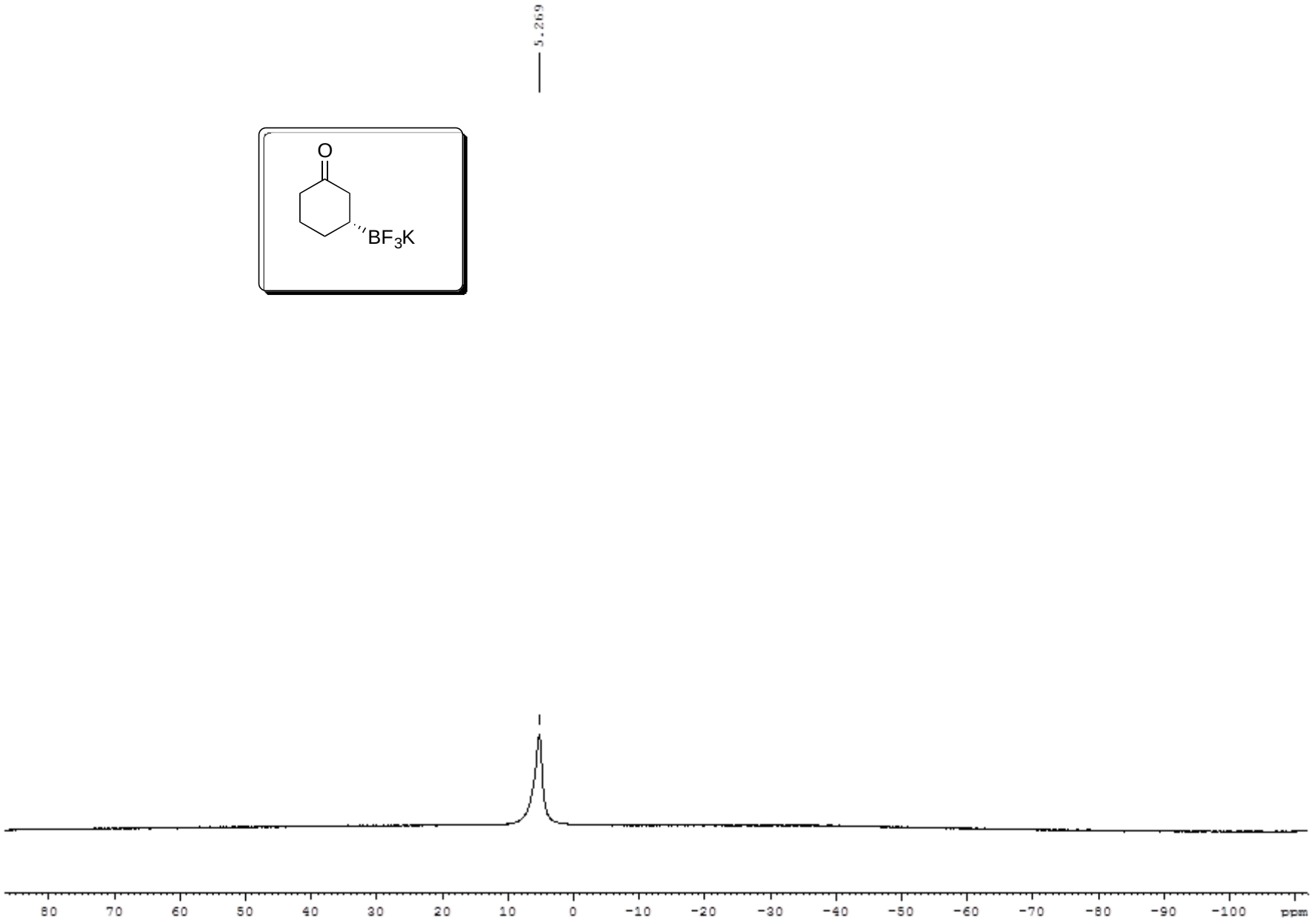
^{13}C NMR (DMSO, 90.5 MHz) spectrum of potassium (*R*)-3-(Trifluoroborato)cyclohexanone (7e)



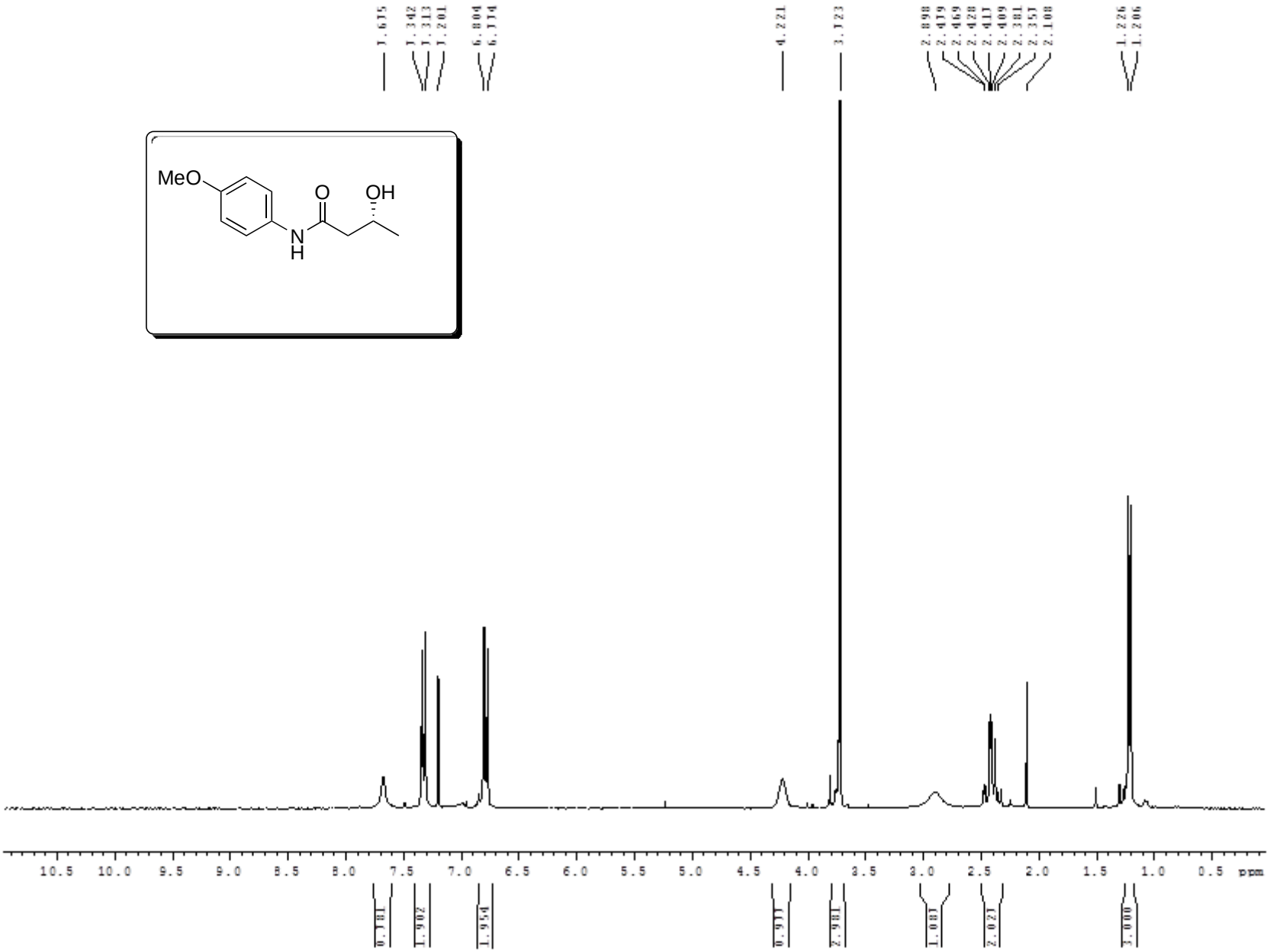
^{19}F NMR (DMSO, 338.8 MHz) spectrum of potassium (*R*)-3-(Trifluoroborato)cyclohexanone (7e)



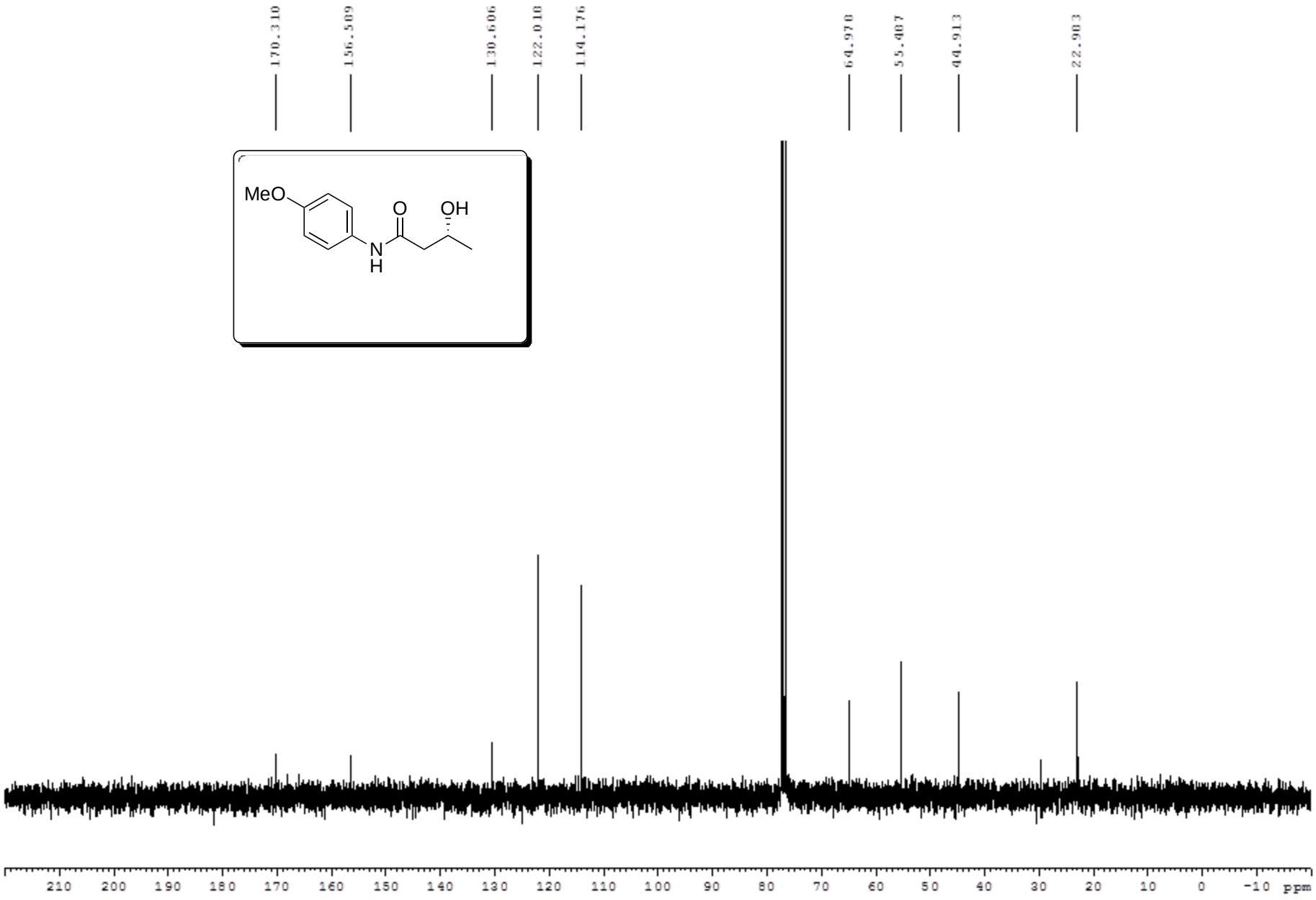
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-3-(Trifluoroborato)cyclohexanone (7e)



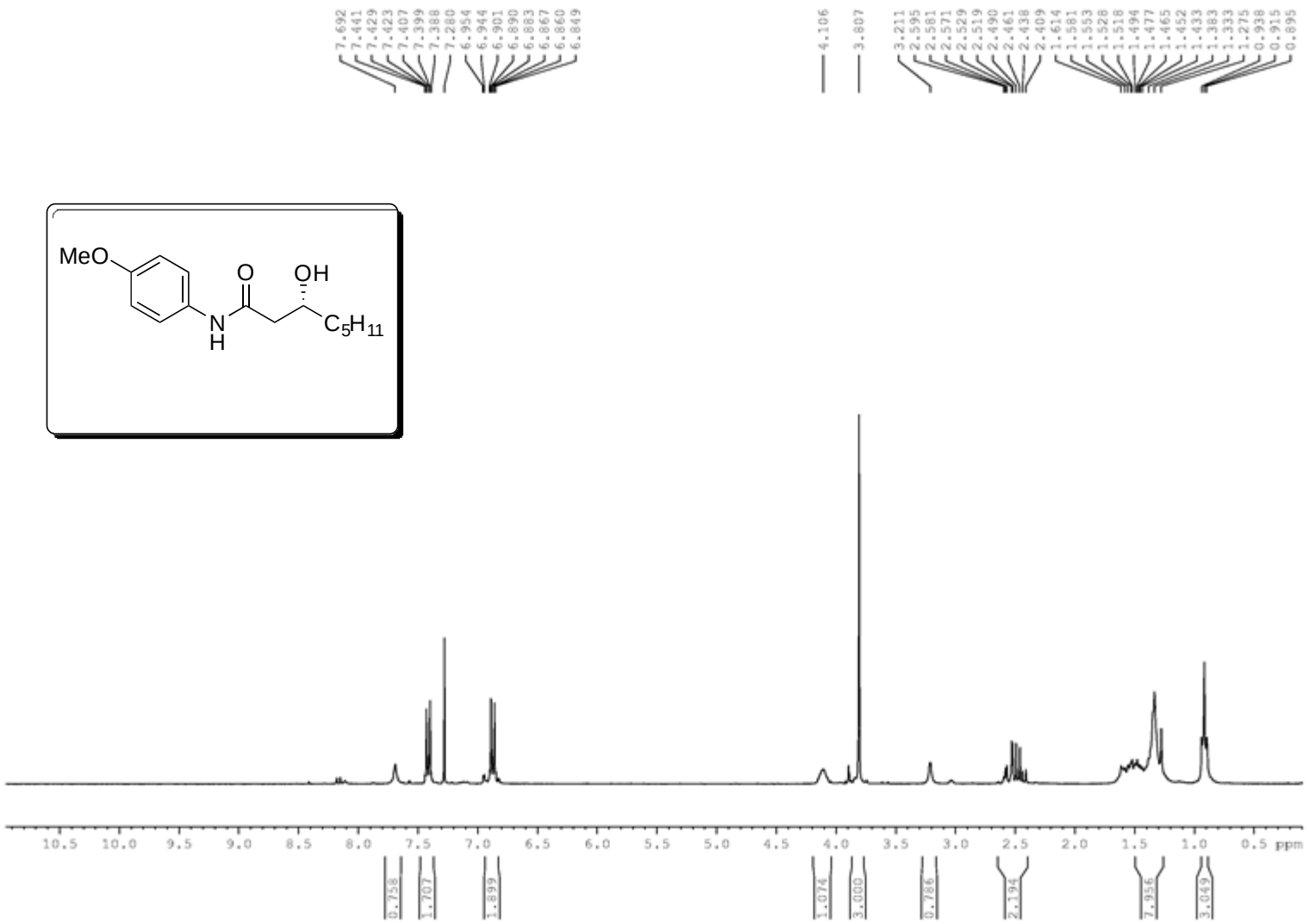
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*R*)-3-hHydroxy-*N*-(4-methoxyphenyl)butanamide (2a-OH)



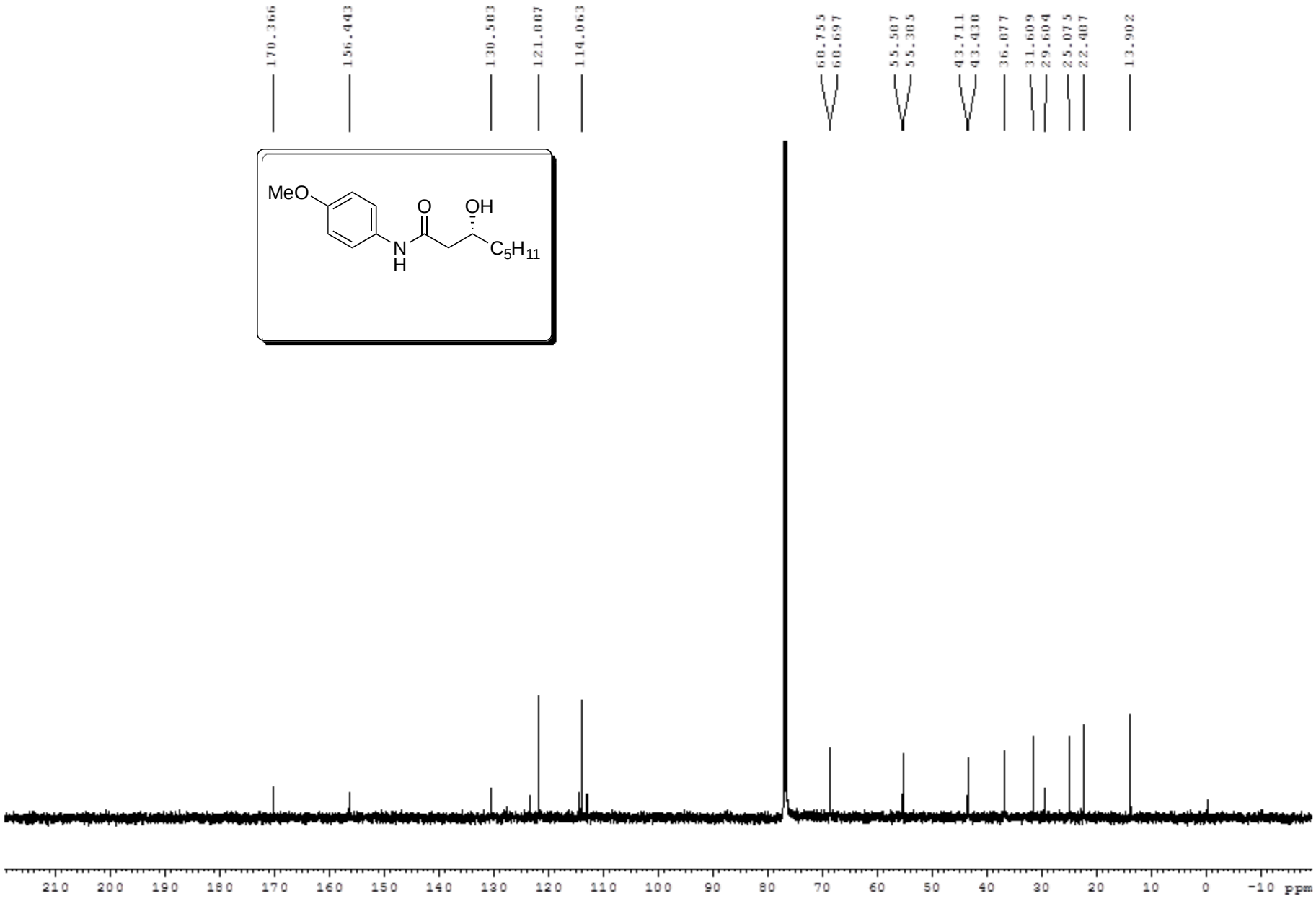
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*R*)-3-hHydroxy-*N*-(4-methoxyphenyl)butanamide (2a-OH)



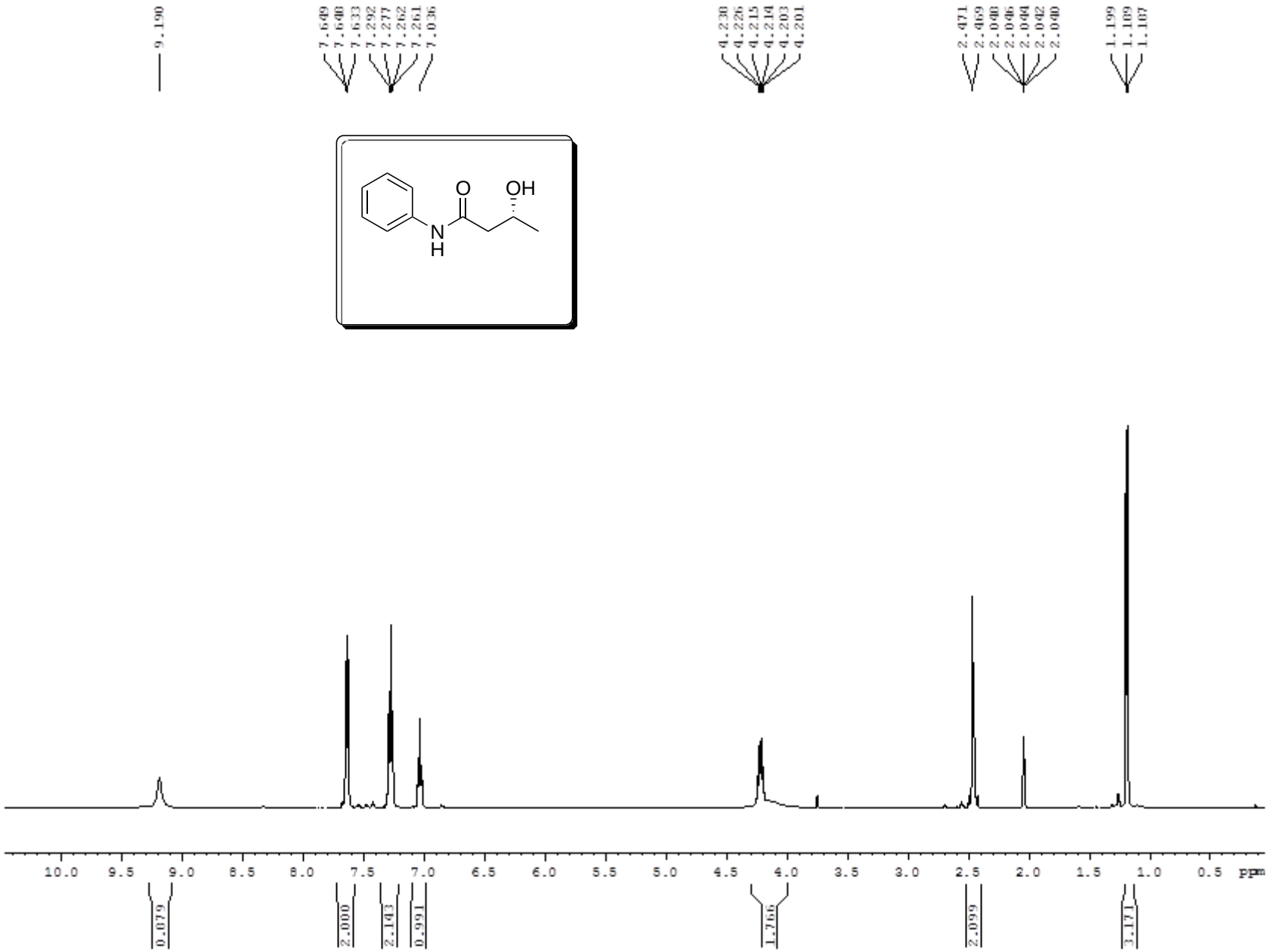
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*R*)- 3-hydroxy-*N*-(4-methoxyphenyl)octanamide (2b-OH)



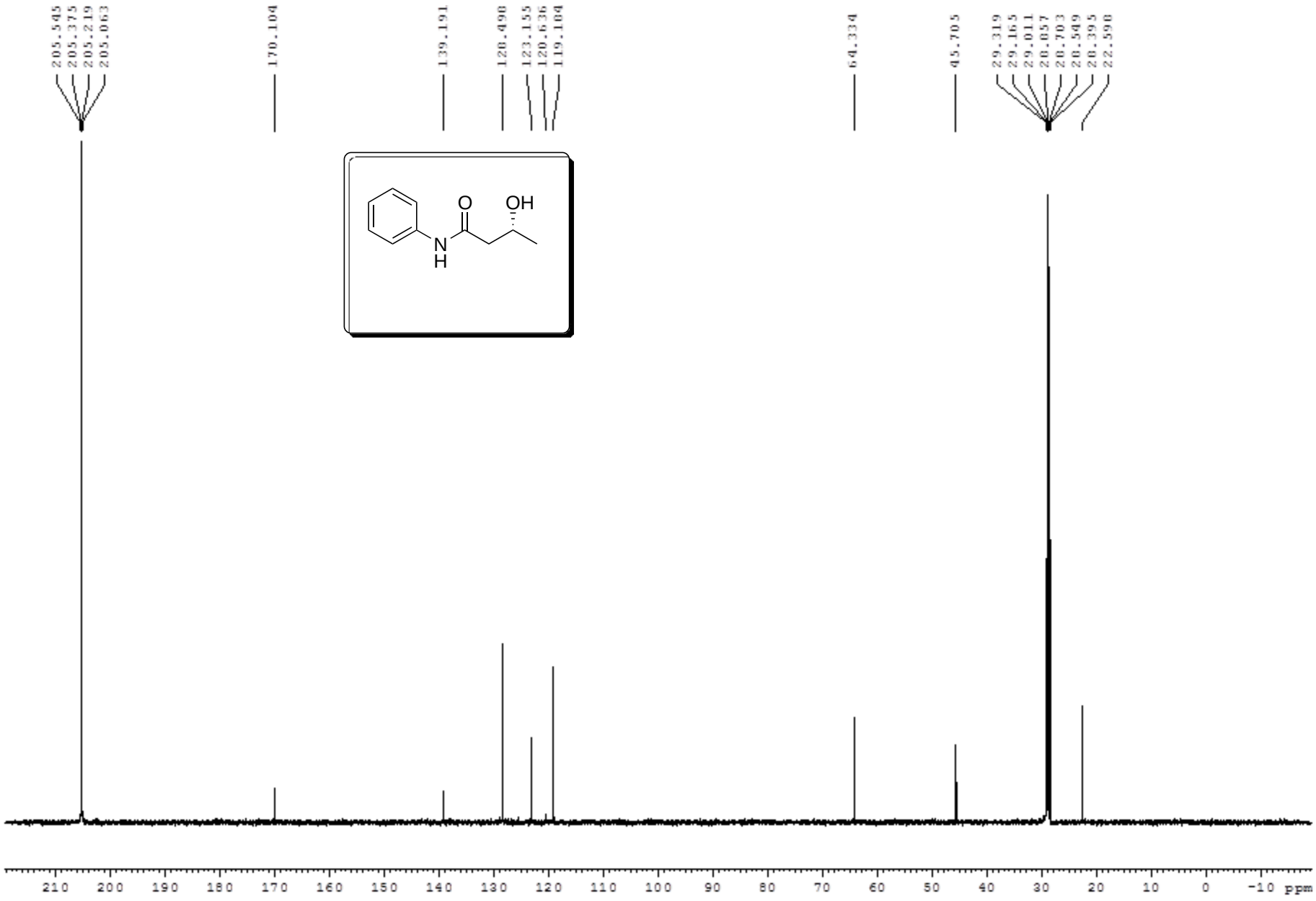
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*R*)- 3-hydroxy-*N*-(4-methoxyphenyl)octanamide (2b-OH)



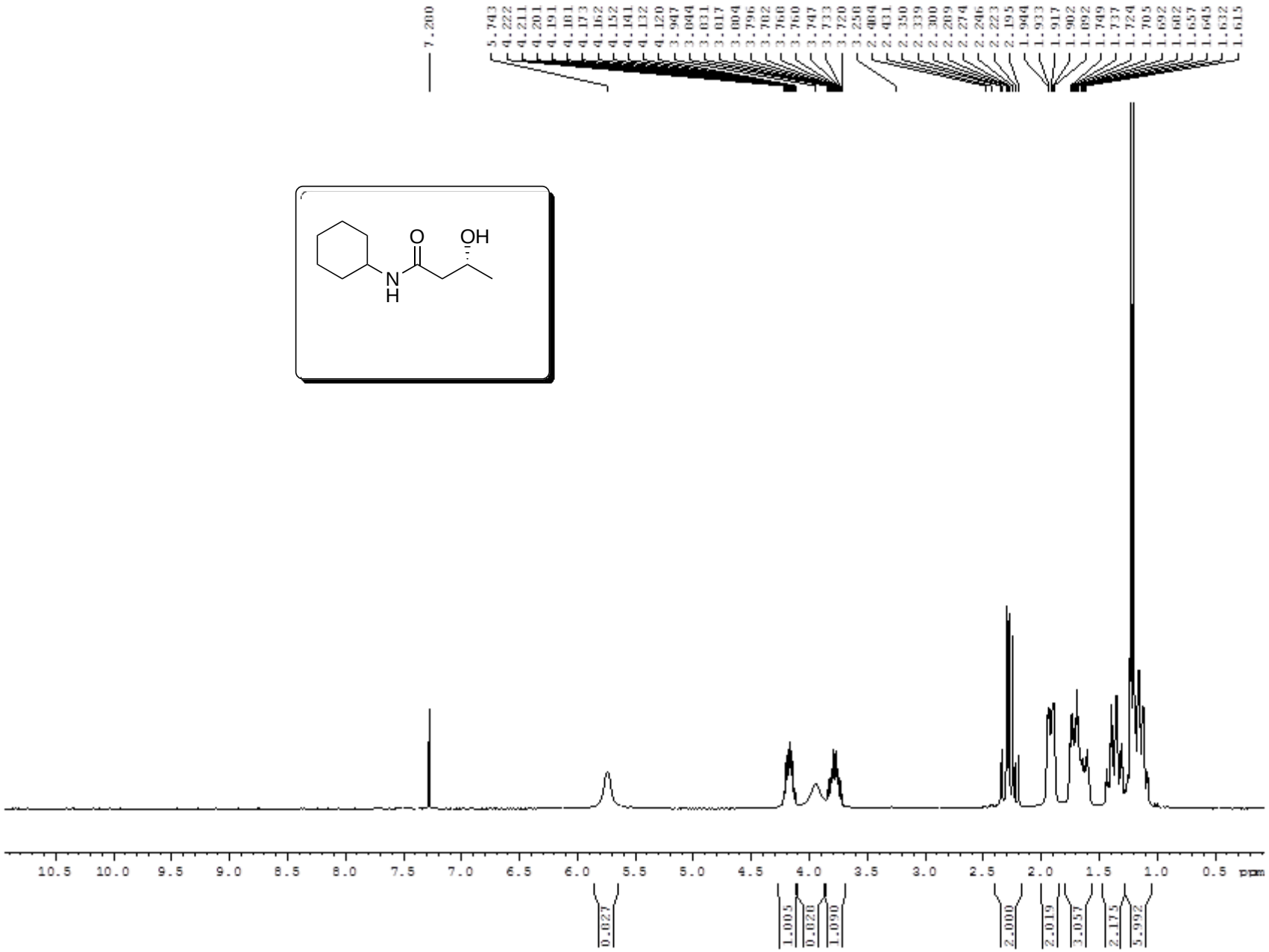
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of (*R*)-3-Hydroxy-*N*-phenylbutanamide (2c-OH)



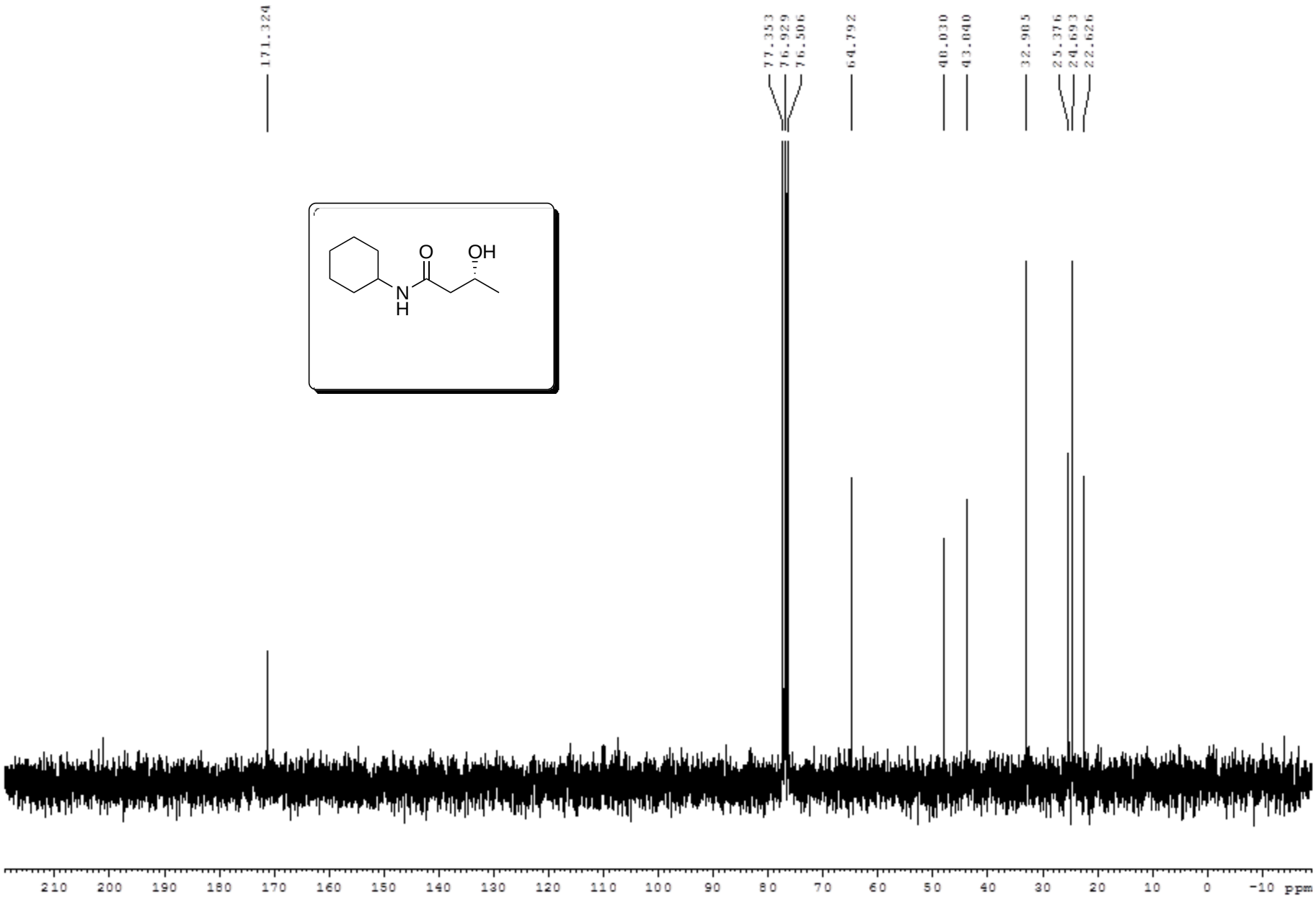
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*R*)-3-Hydroxy-*N*-phenylbutanamide (2c-OH)



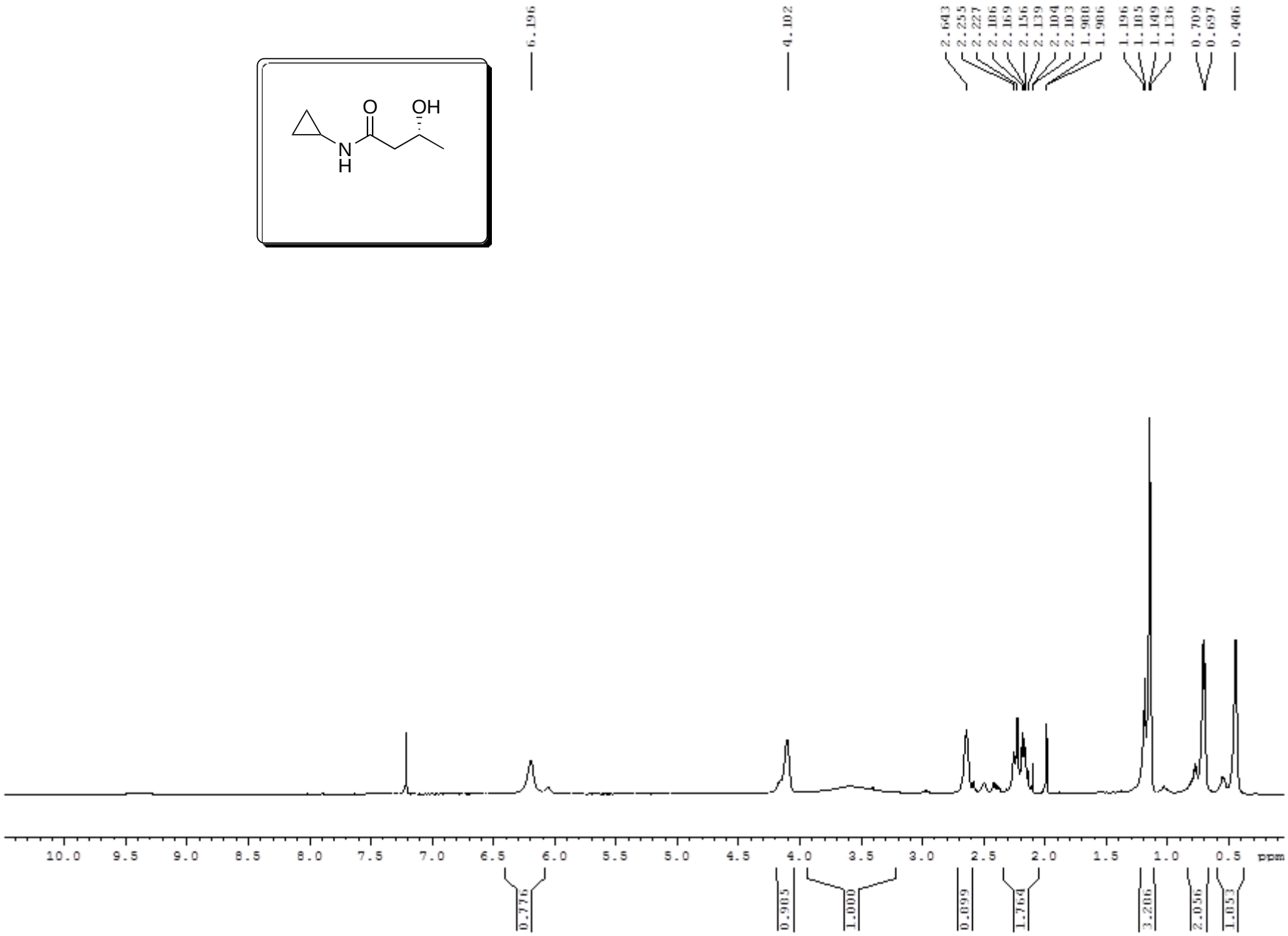
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*R*)-*N*-cyclohexyl-3-hydroxybutanamide (2d-OH)



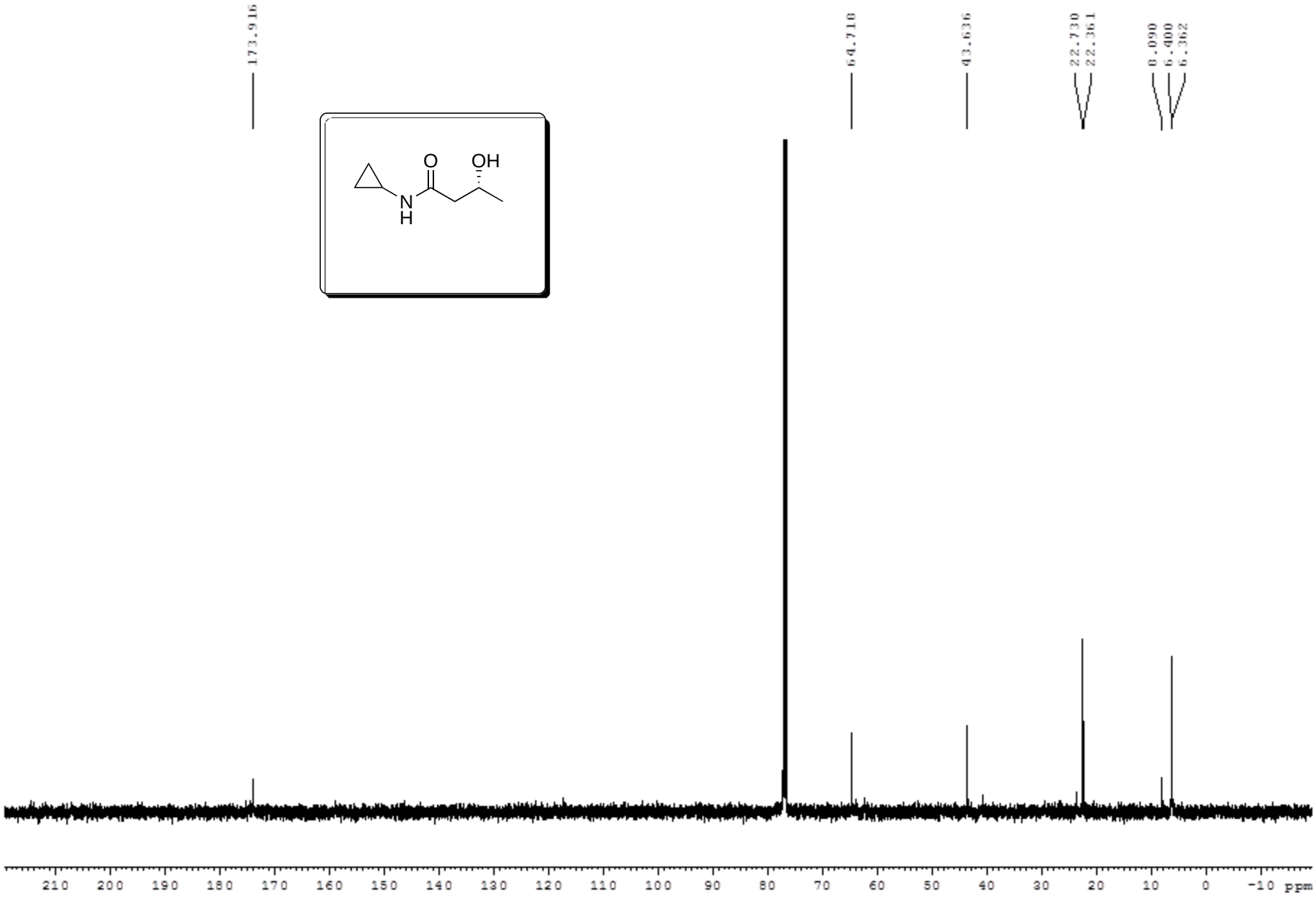
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of ((*R*)-*N*-cyclohexyl-3-hydroxybutanamide (2d-OH)



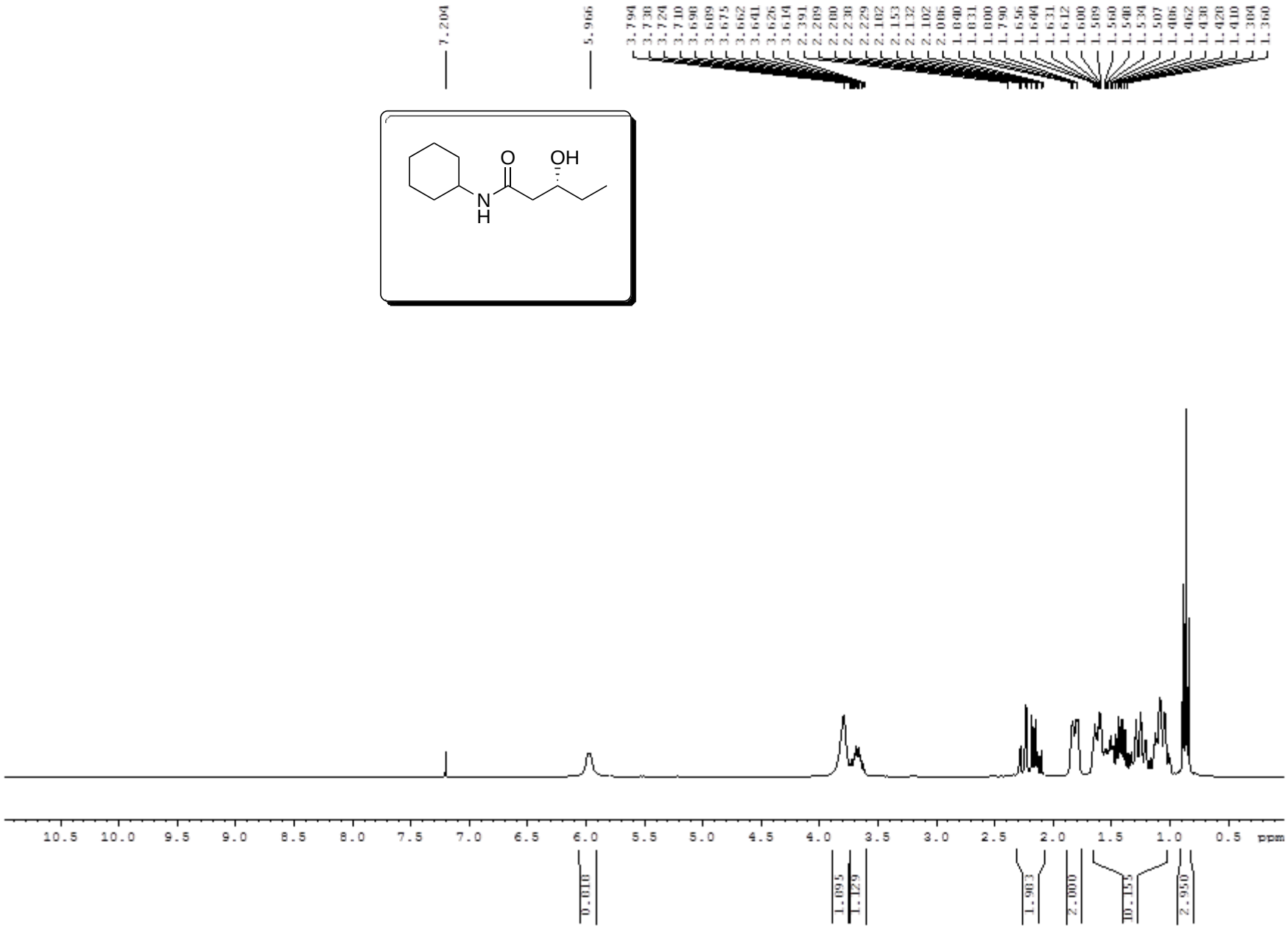
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of *(R)*-*N*-Cyclopropyl-3-hydroxyoctanamide (2e-OH)



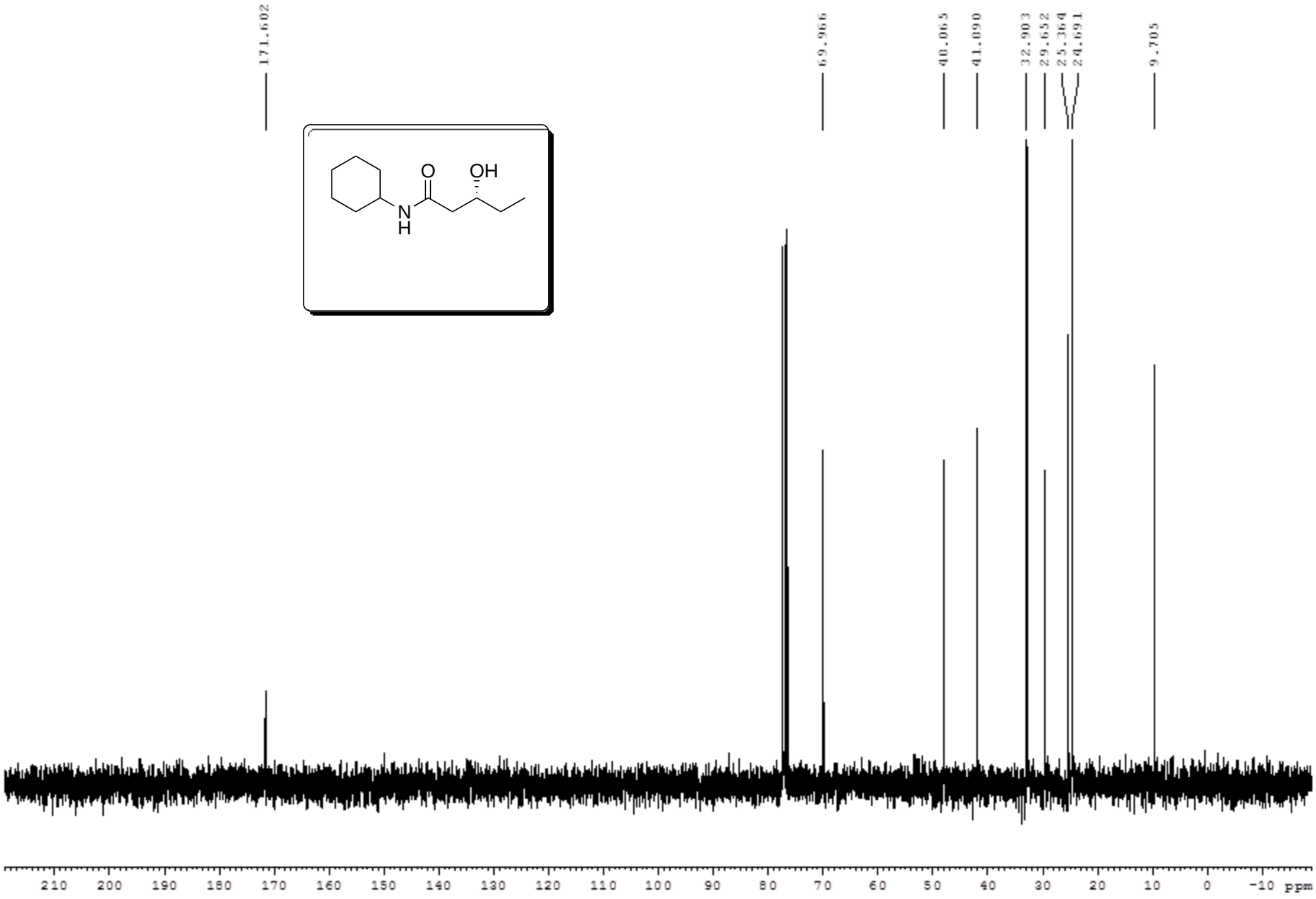
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of *(R)*-*N*-Cyclopropyl-3-hydroxyoctanamide (2e-OH)



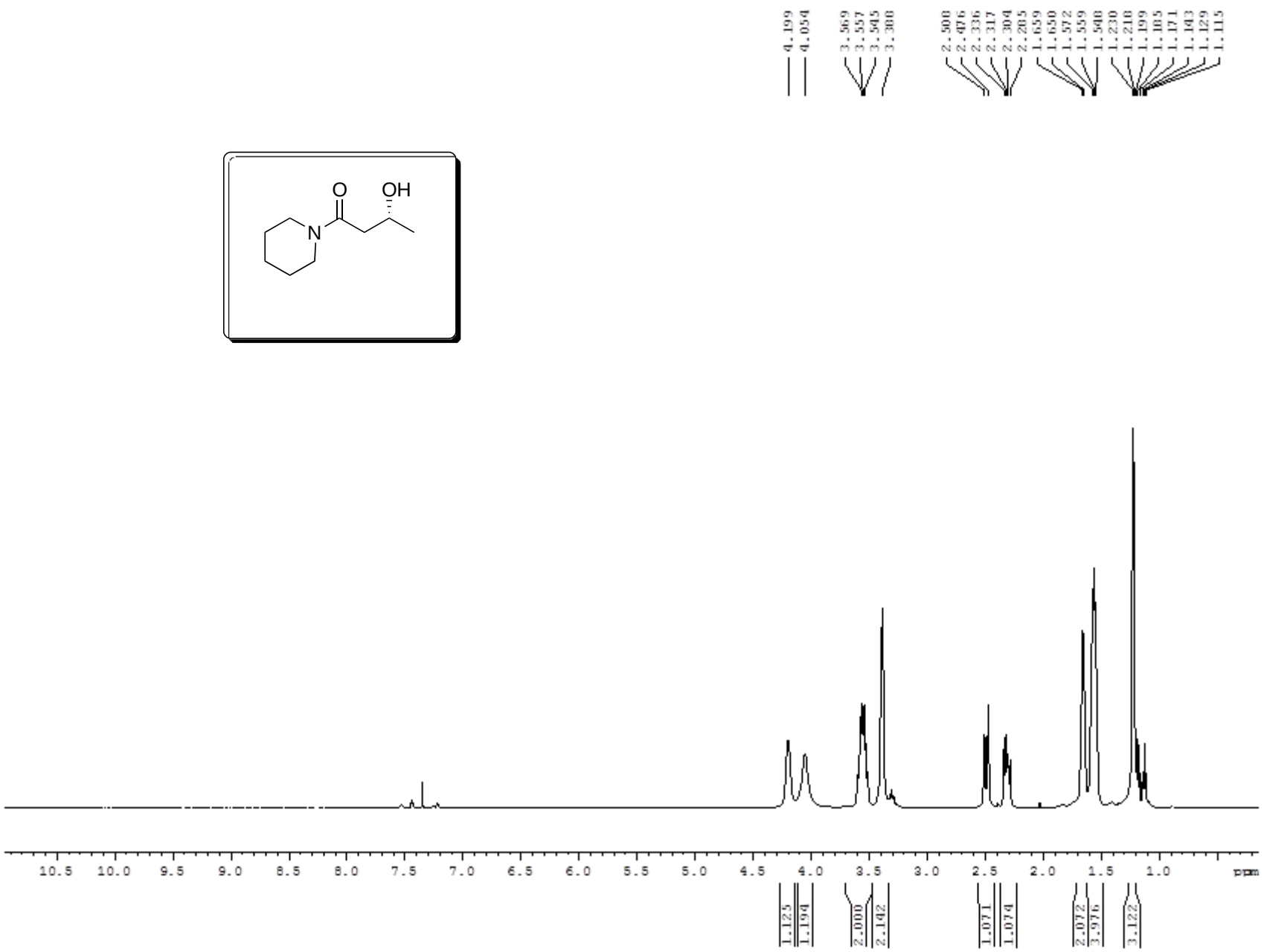
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*R*)-*N*-cyclohexyl-3-hydroxypentanamide (2f-OH)



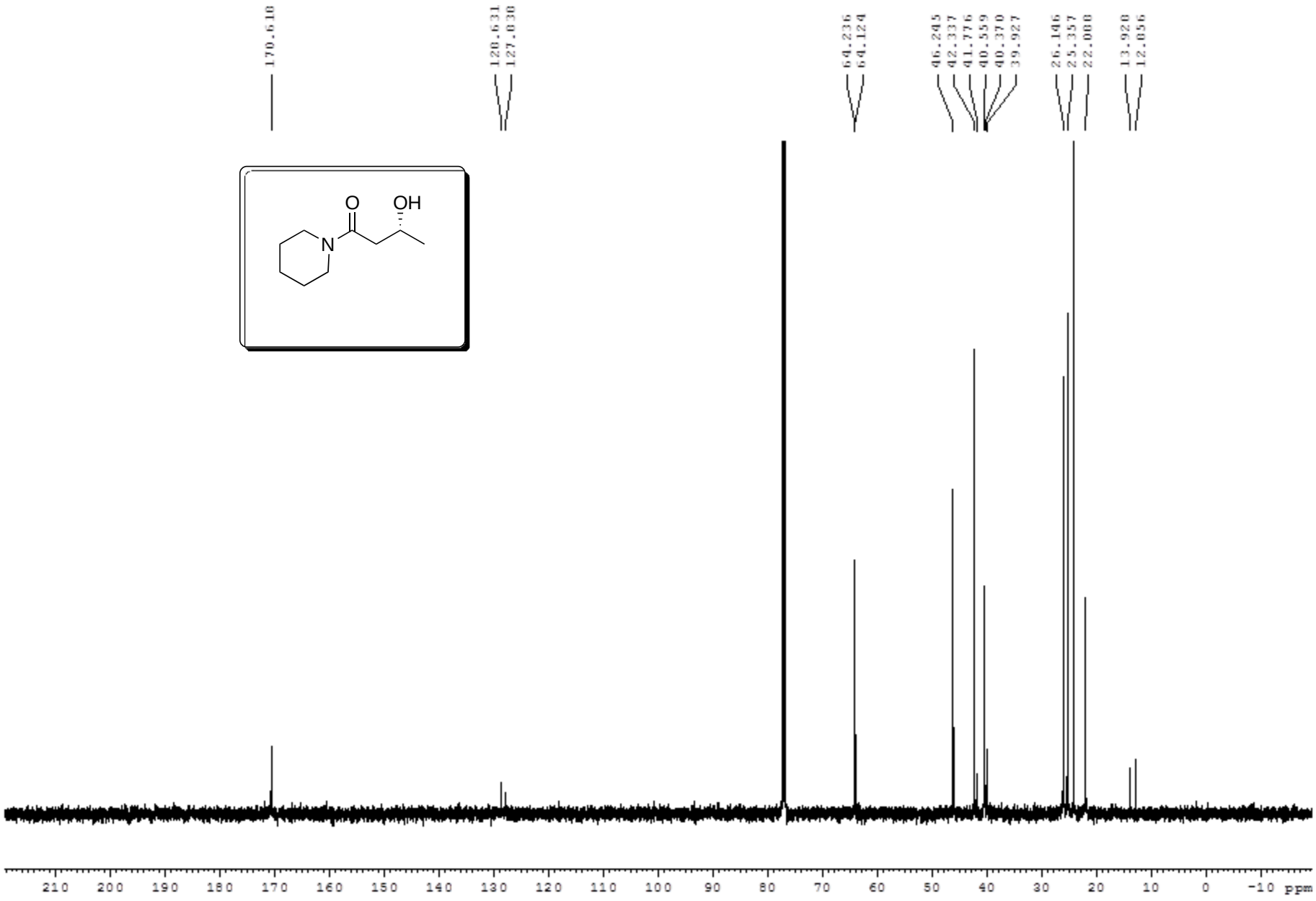
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*R*)-*N*-cyclohexyl-3-hydroxypentanamide (2f-OH)



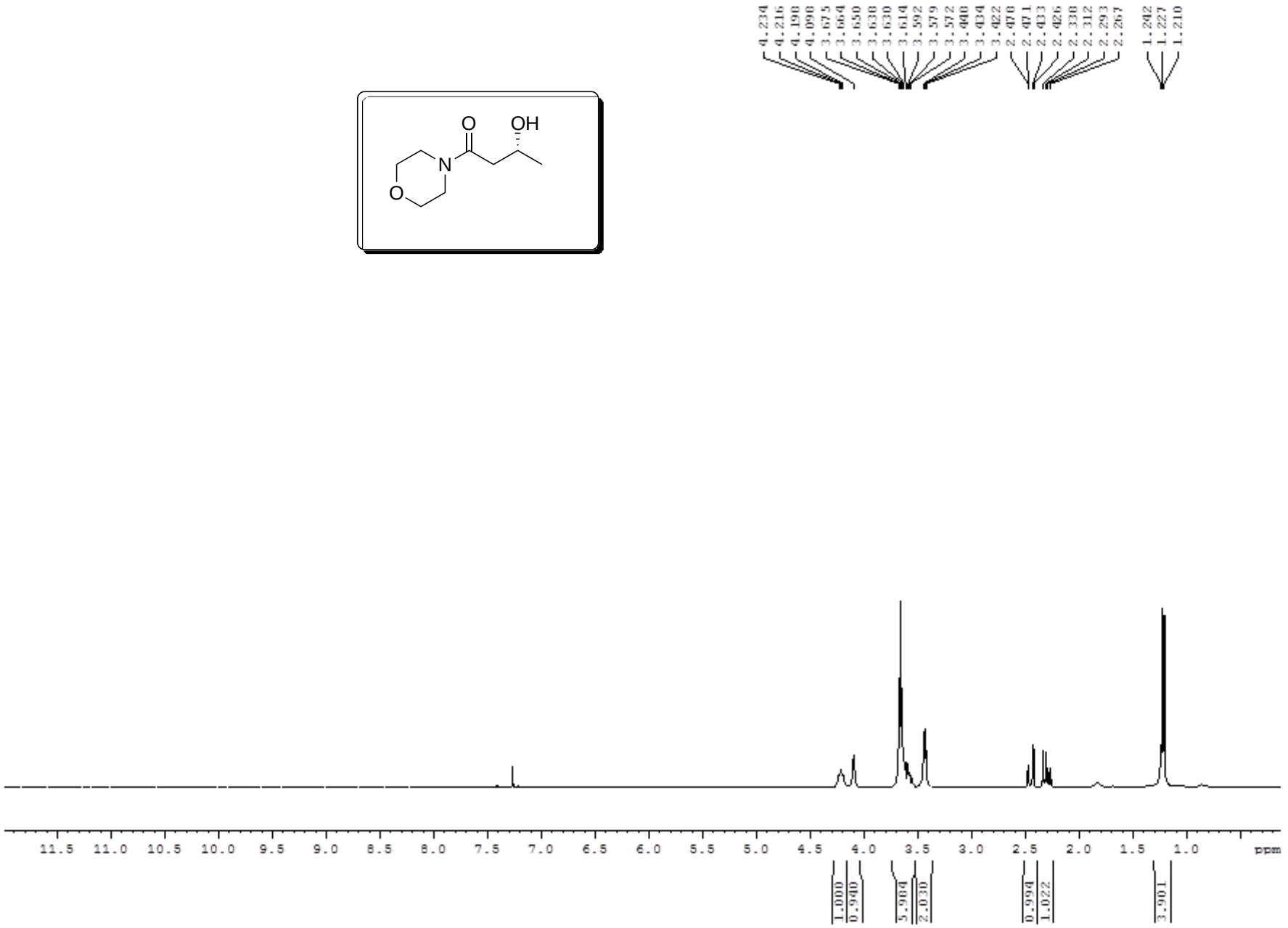
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of *(R)*- 3-Hydroxy-1-(piperidin-1-yl)butan-1-one (2g-OH)



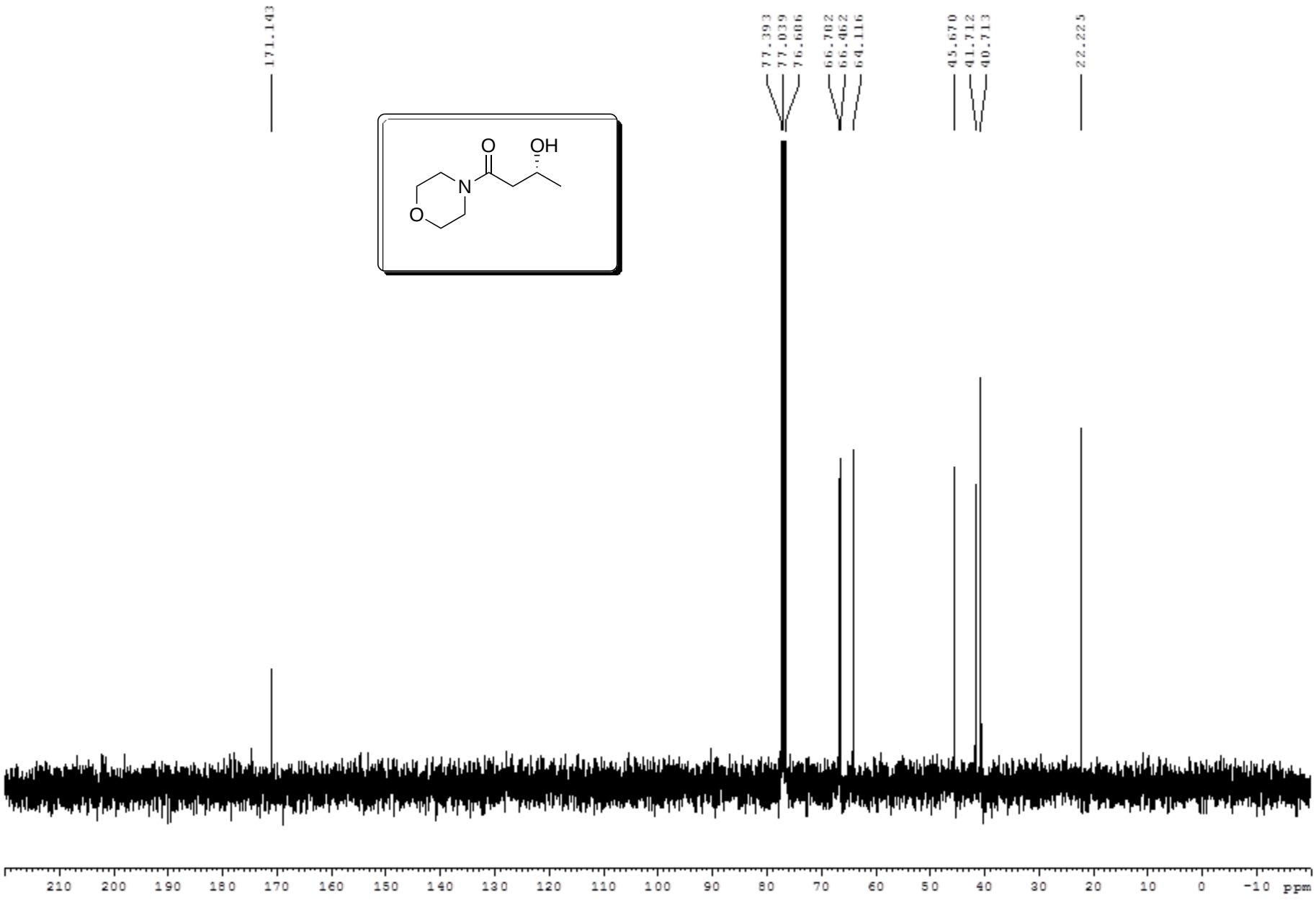
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of *(R)*- 3-Hydroxy-1-(piperidin-1-yl)butan-1-one (2g-OH)



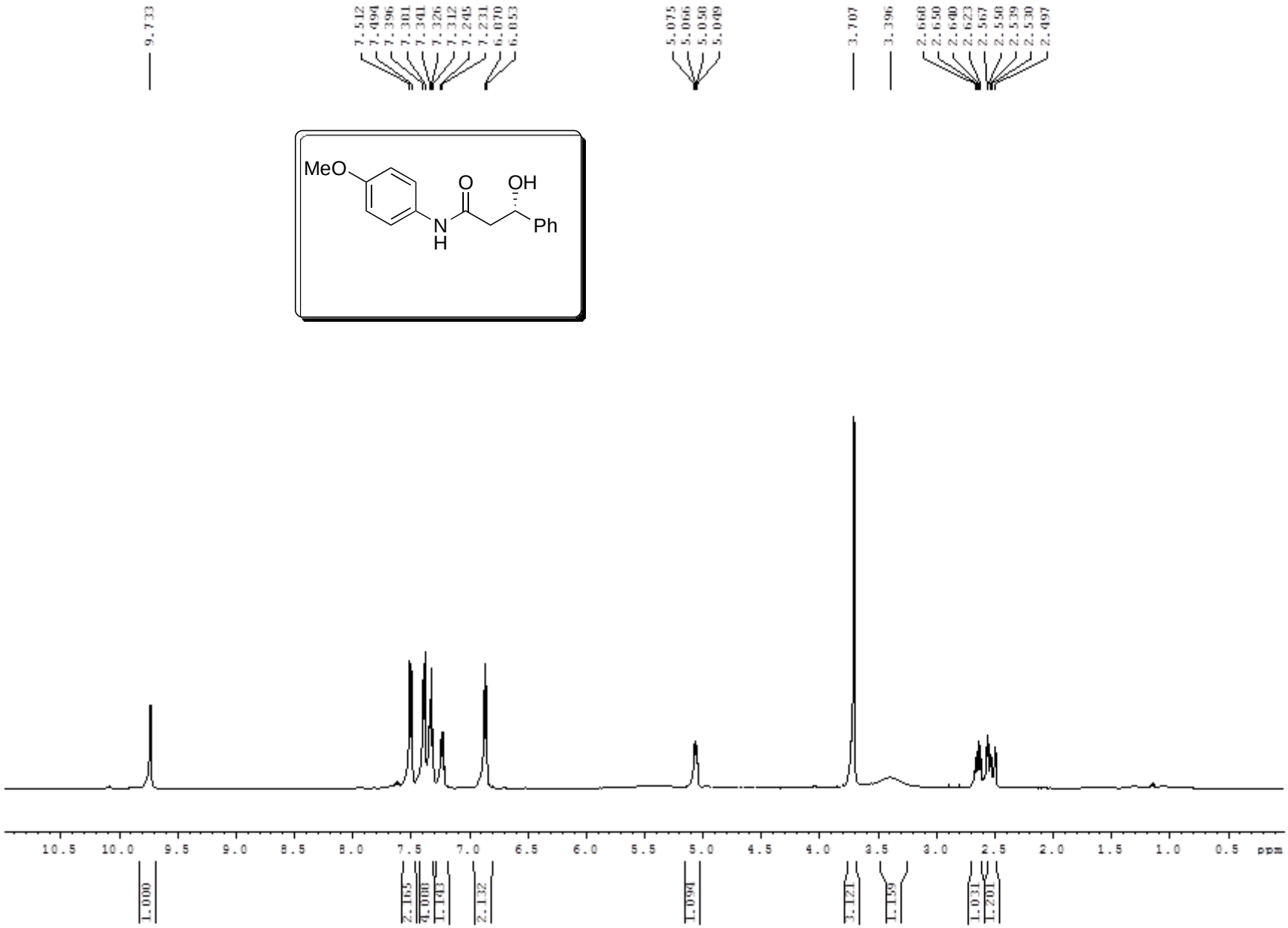
^{1}H NMR ($CDCl_3$, 360 MHz) spectrum of (*R*)-3-Hydroxy-1-morpholinobutan-1-one (2h-OH)



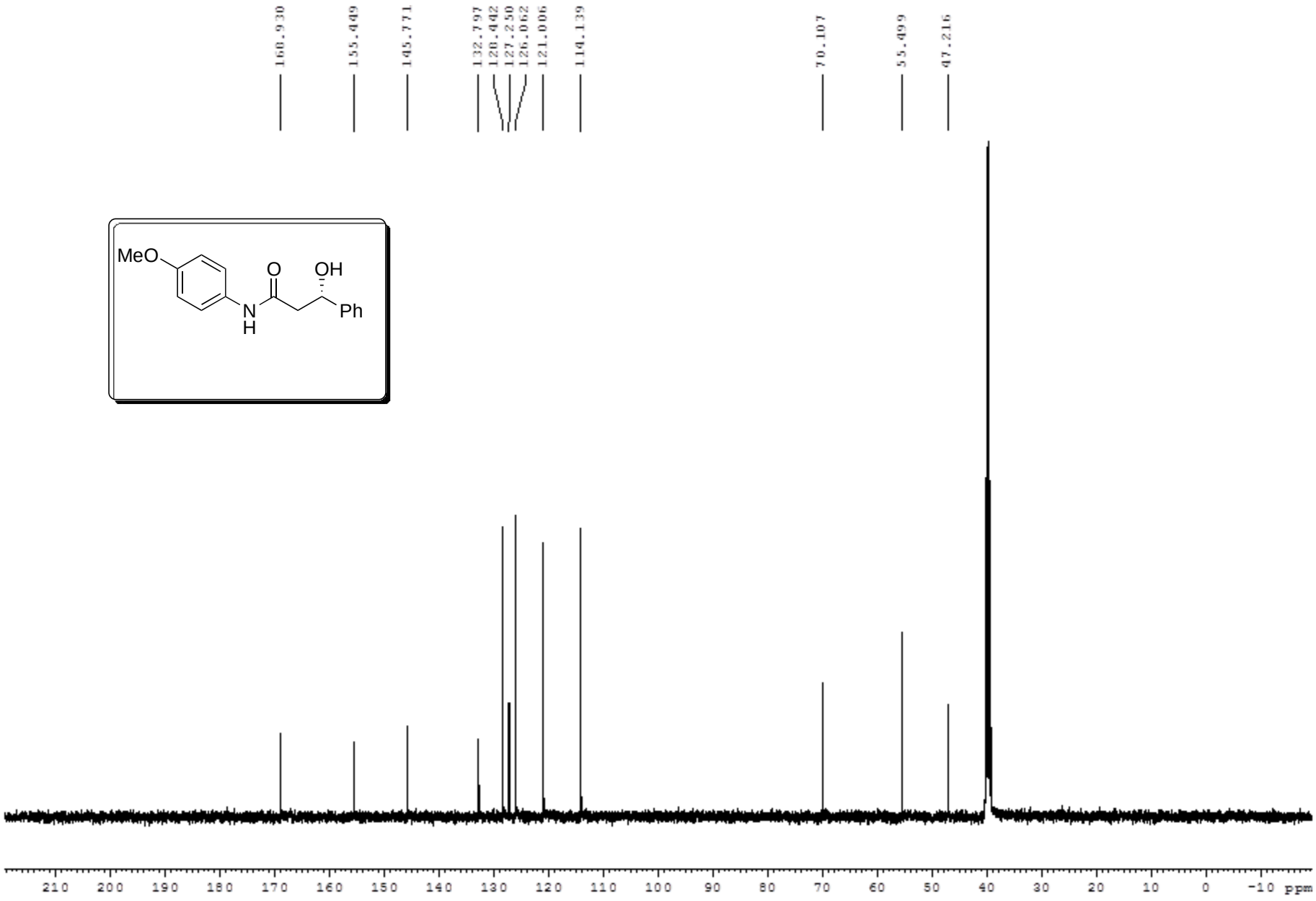
^{13}C NMR ($CDCl_3$, 90.5 MHz) spectrum of (*R*)-3-Hydroxy-1-morpholinobutan-1-one (2h-OH)



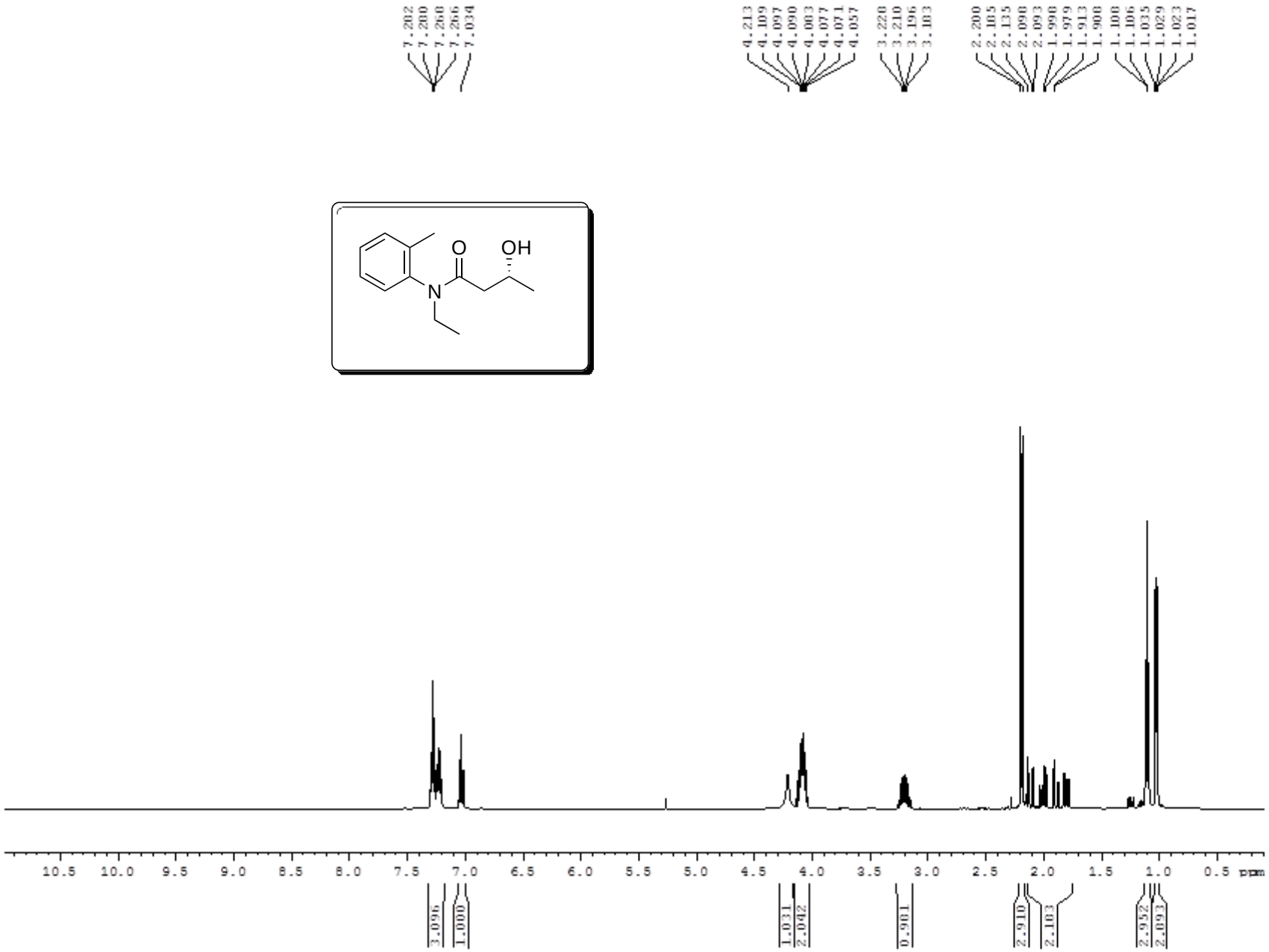
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of (*S*)-3-Hydroxy-*N*-(4-methoxyphenyl)-3-phenylpropanamide (2i-OH)



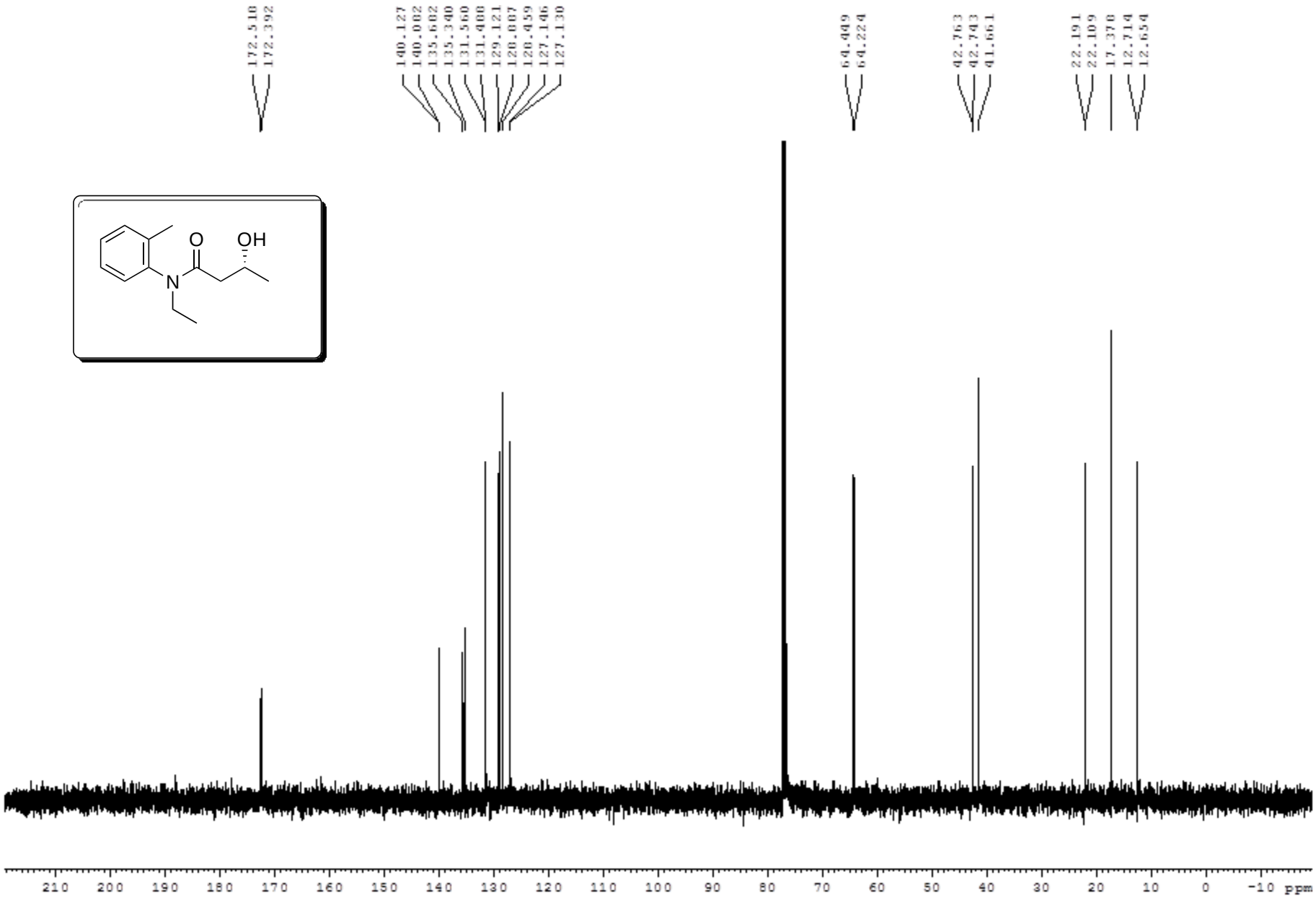
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*S*)-3-Hydroxy-*N*-(4-methoxyphenyl)-3-phenylpropanamide (2i-OH)



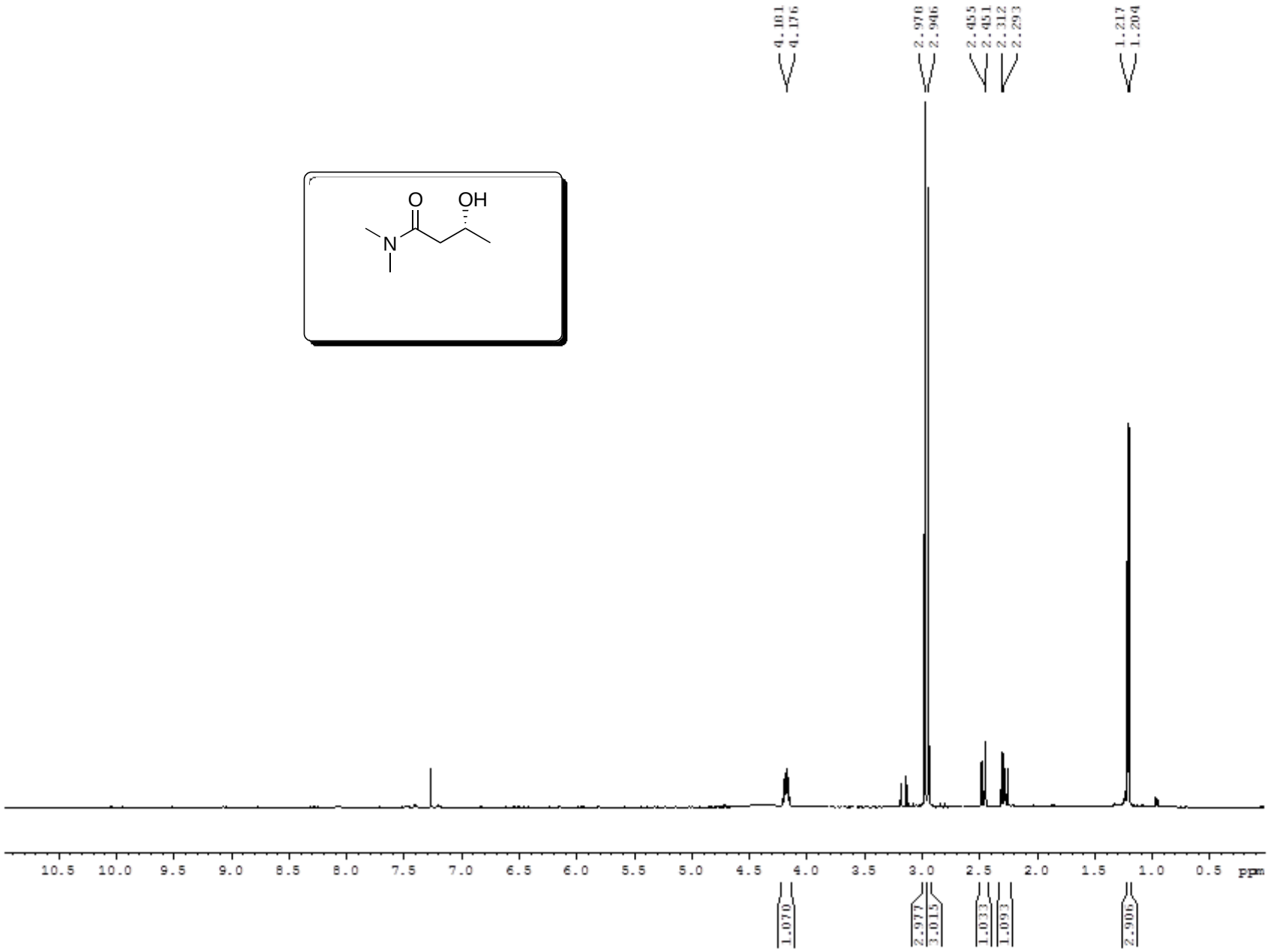
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of potassium *(R)*-*N*-ethyl-3-hydroxy-*N*-(*o*-tolyl)butanamide (2j-OH)



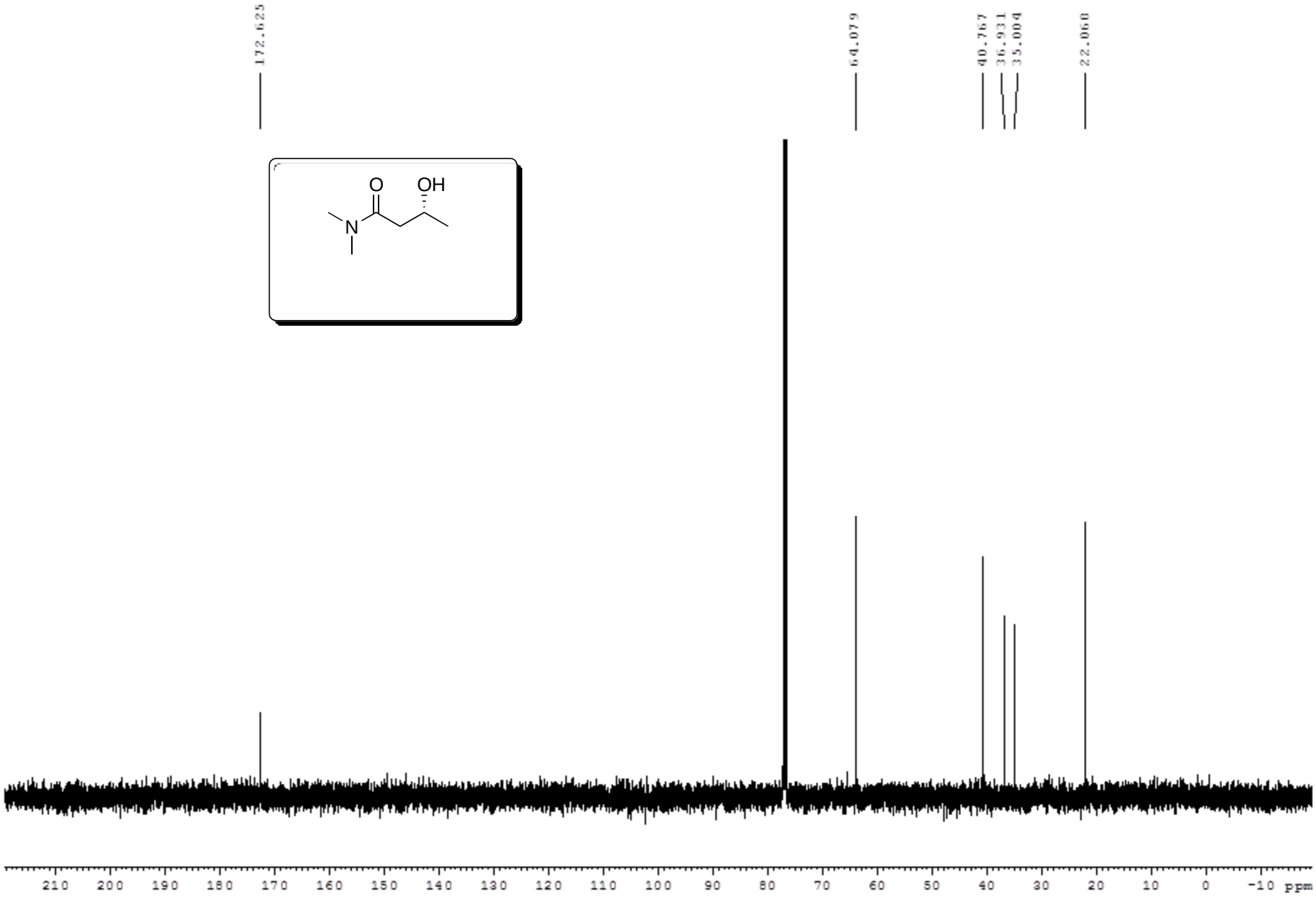
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of potassium *(R)*-*N*-ethyl-3-hydroxy-*N*-(*o*-tolyl)butanamide (2j-OH)



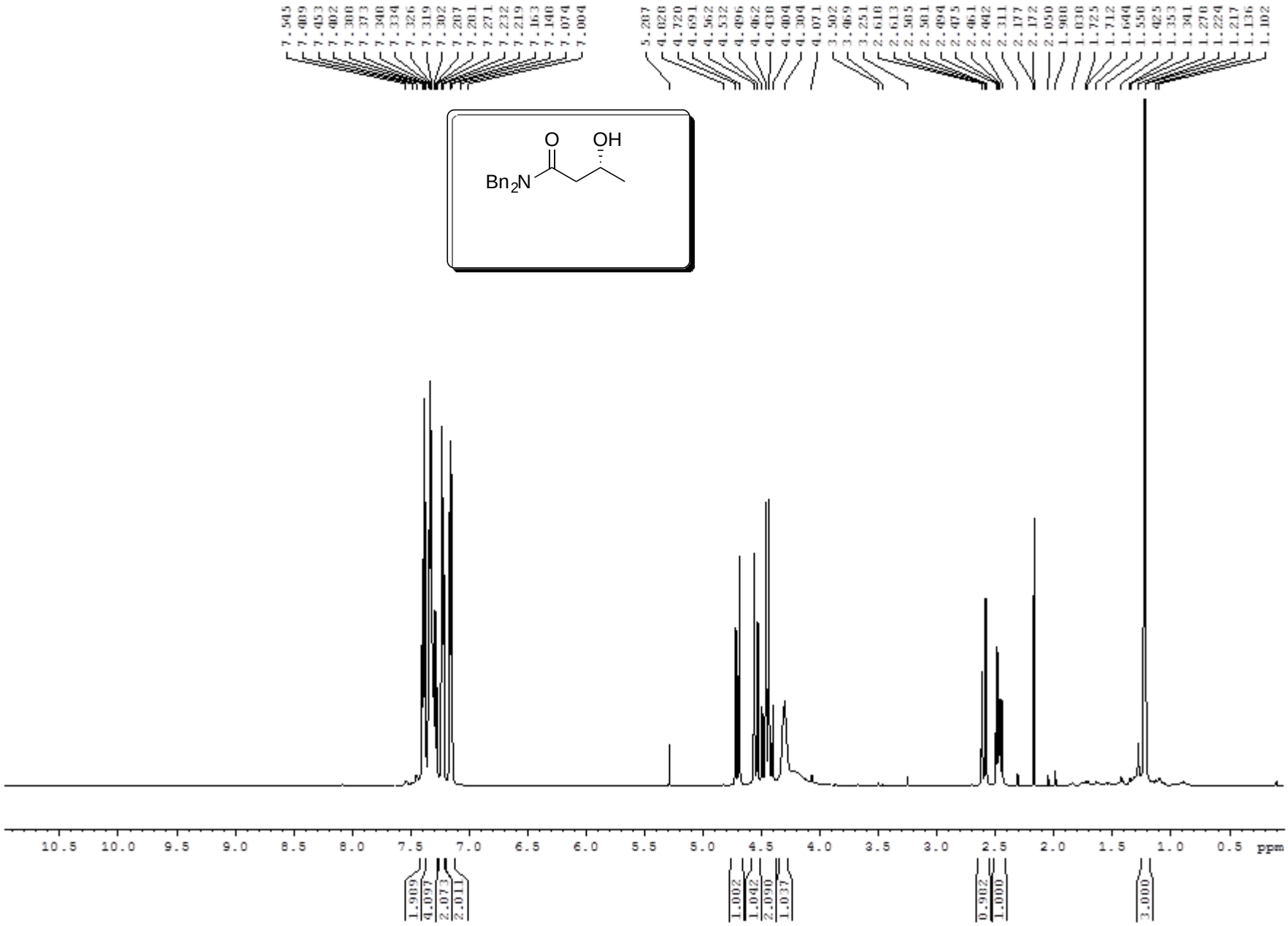
^{1}H NMR ($CDCl_3$**, 500 MHz) spectrum of (*R*)- 3-hydroxy-*N*,*N*-dimethylbutanamide (2k-OH)**



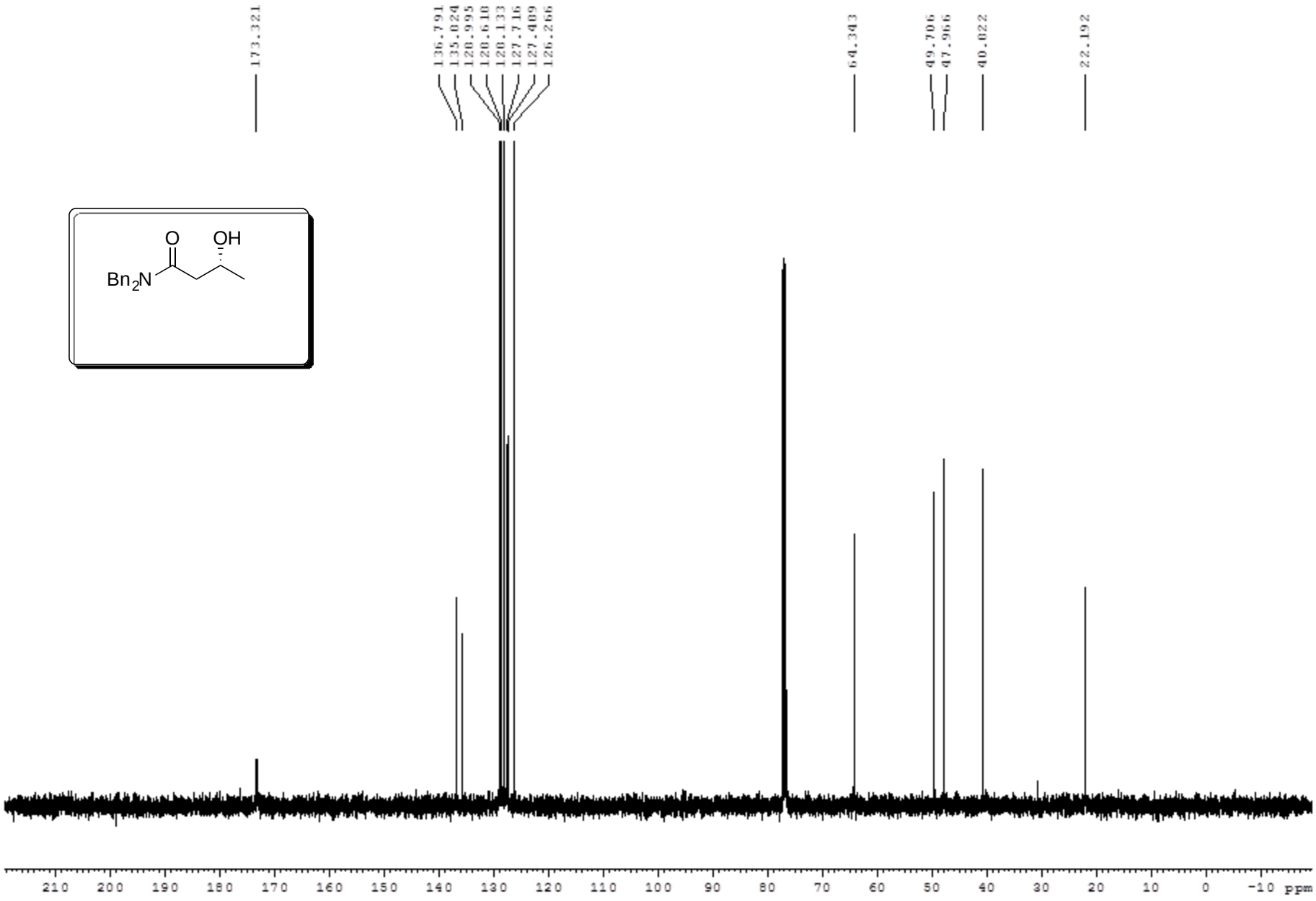
^{13}C NMR ($CDCl_3$**, 125.8 MHz) spectrum of (*R*)- 3-hydroxy-*N*,*N*-dimethylbutanamide (2k-OH)**



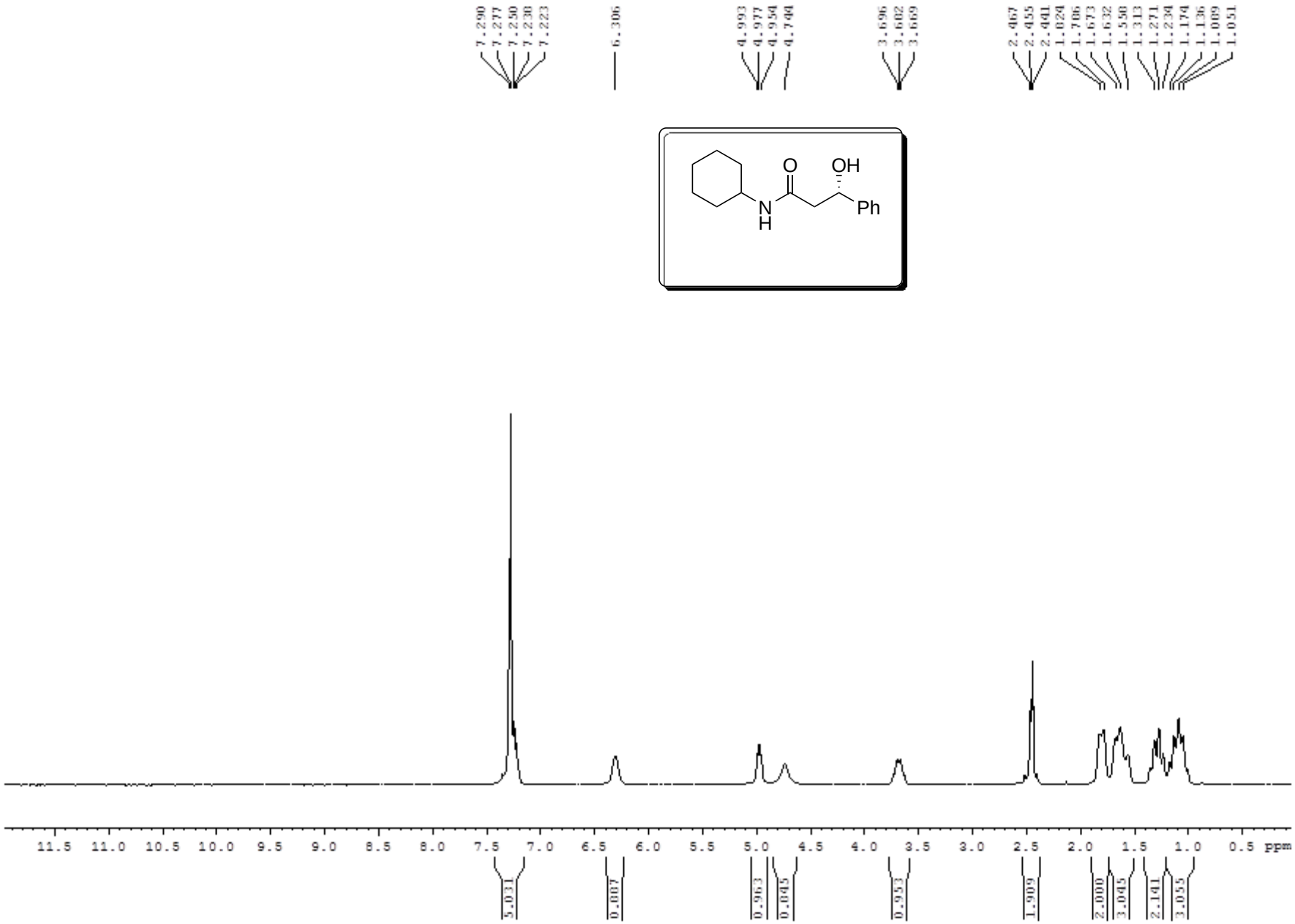
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of (R)-*N*,*N*-Dibenzyl-3-hydroxybutanamide (2l-OH)



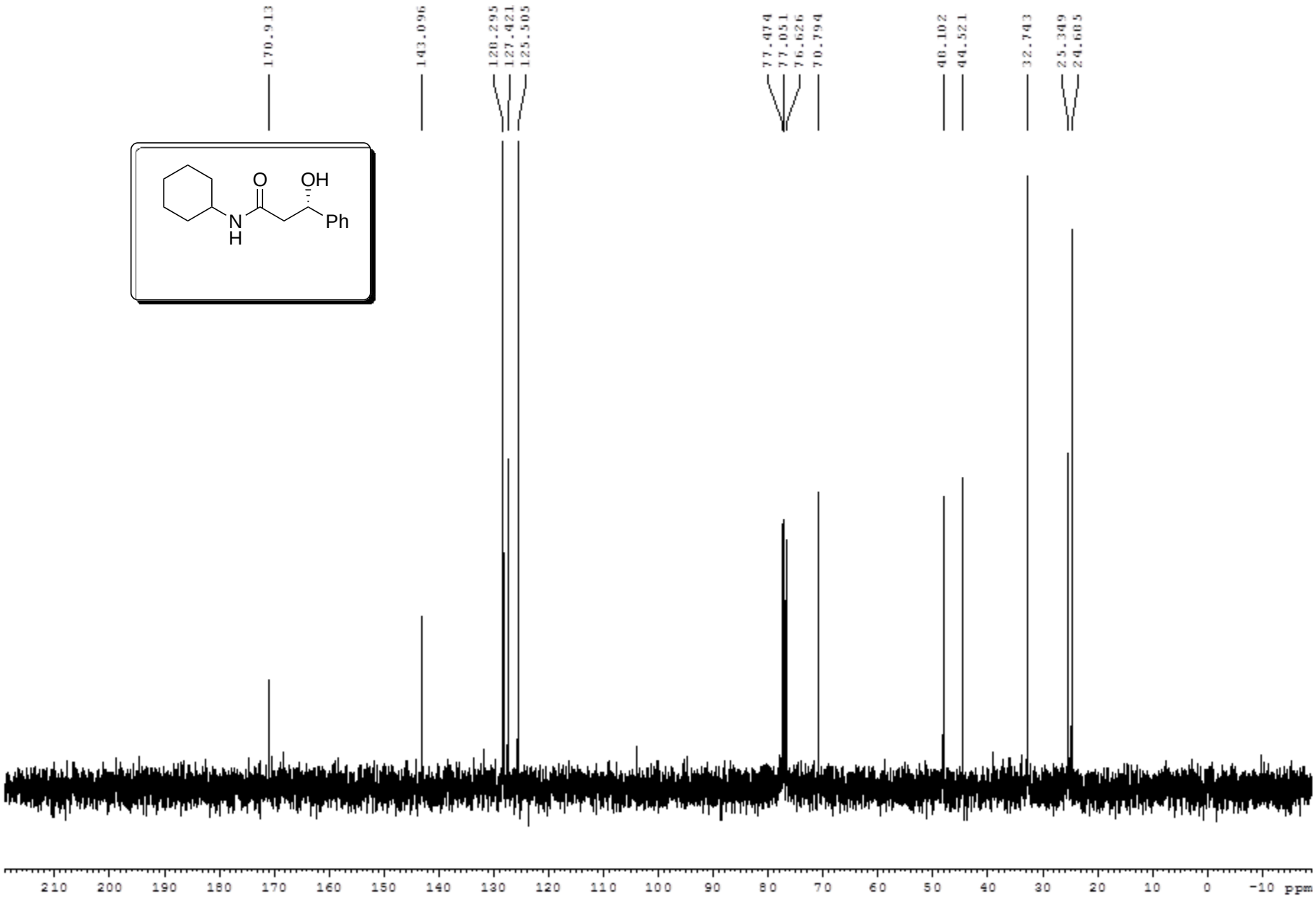
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (R)-*N*,*N*-Dibenzyl-3-hydroxybutanamide (2l-OH)



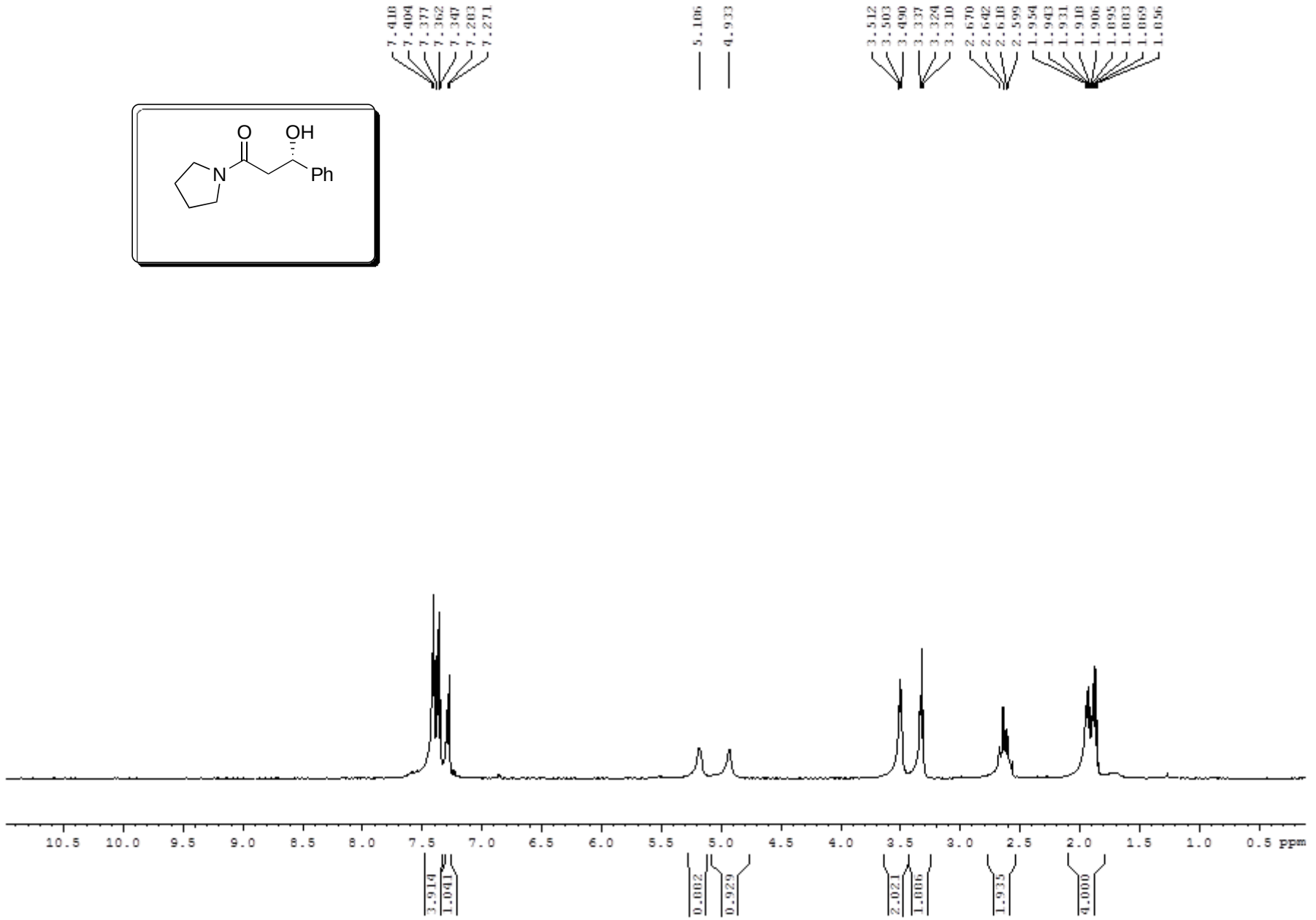
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*S*)- *N*-Cyclohexyl-3-hydroxy-3-phenylpropanamide (2m-OH)



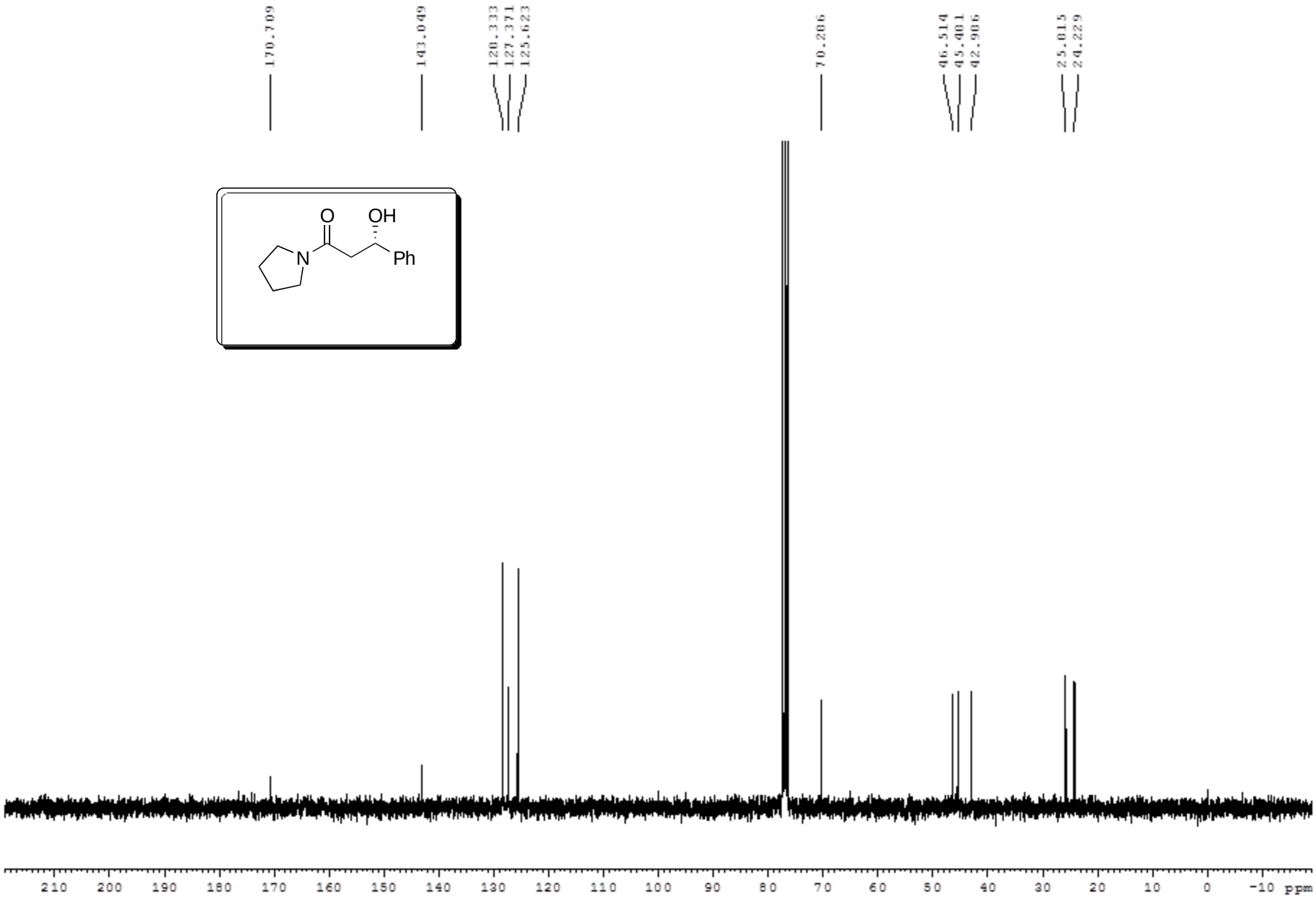
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*S*)- *N*-Cyclohexyl-3-hydroxy-3-phenylpropanamide (2m-OH)



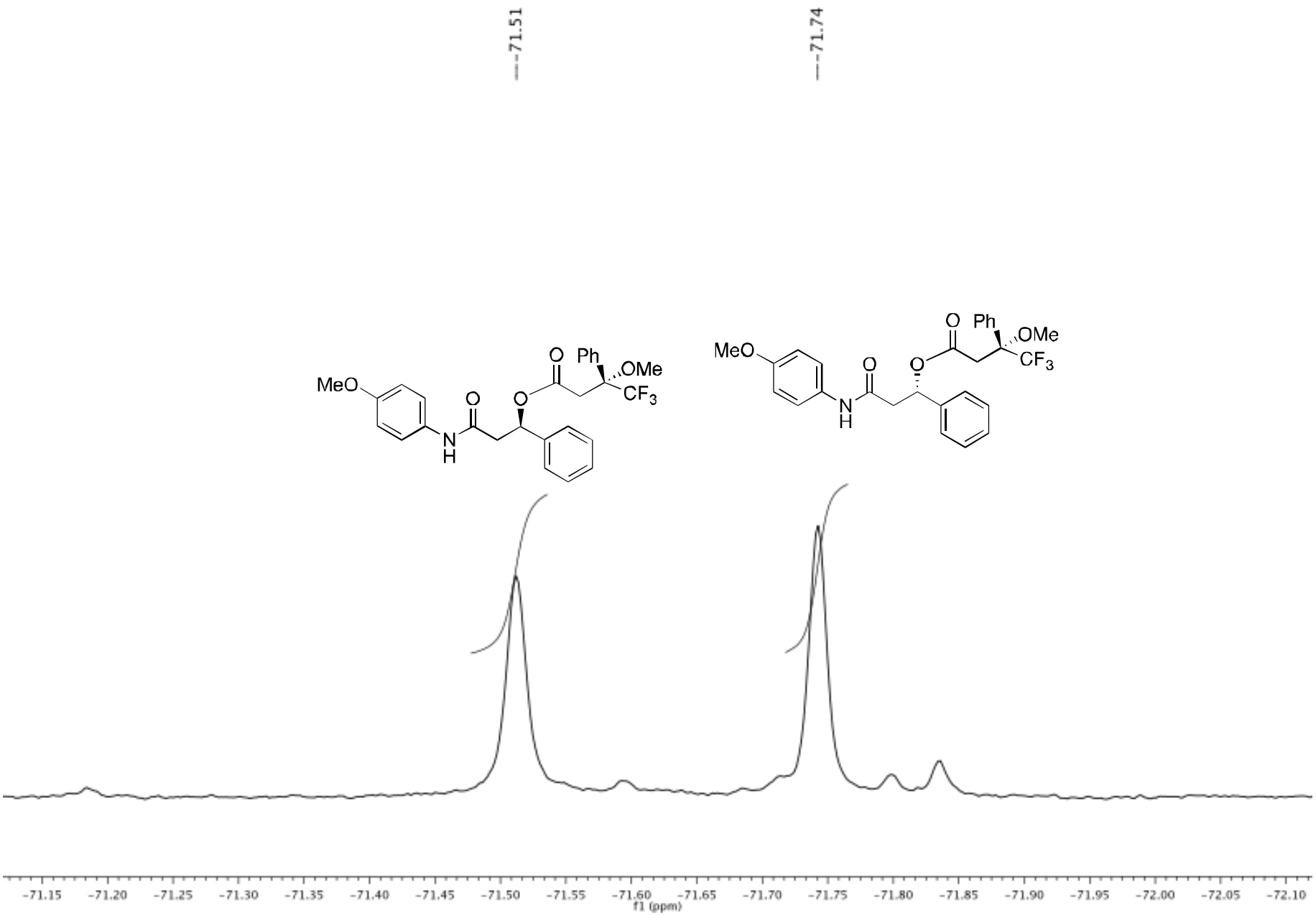
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of *(S)*- 3-Hydroxy-3-phenyl-1-(pyrrolidin-1-yl)propan-1-one (2n-OH)



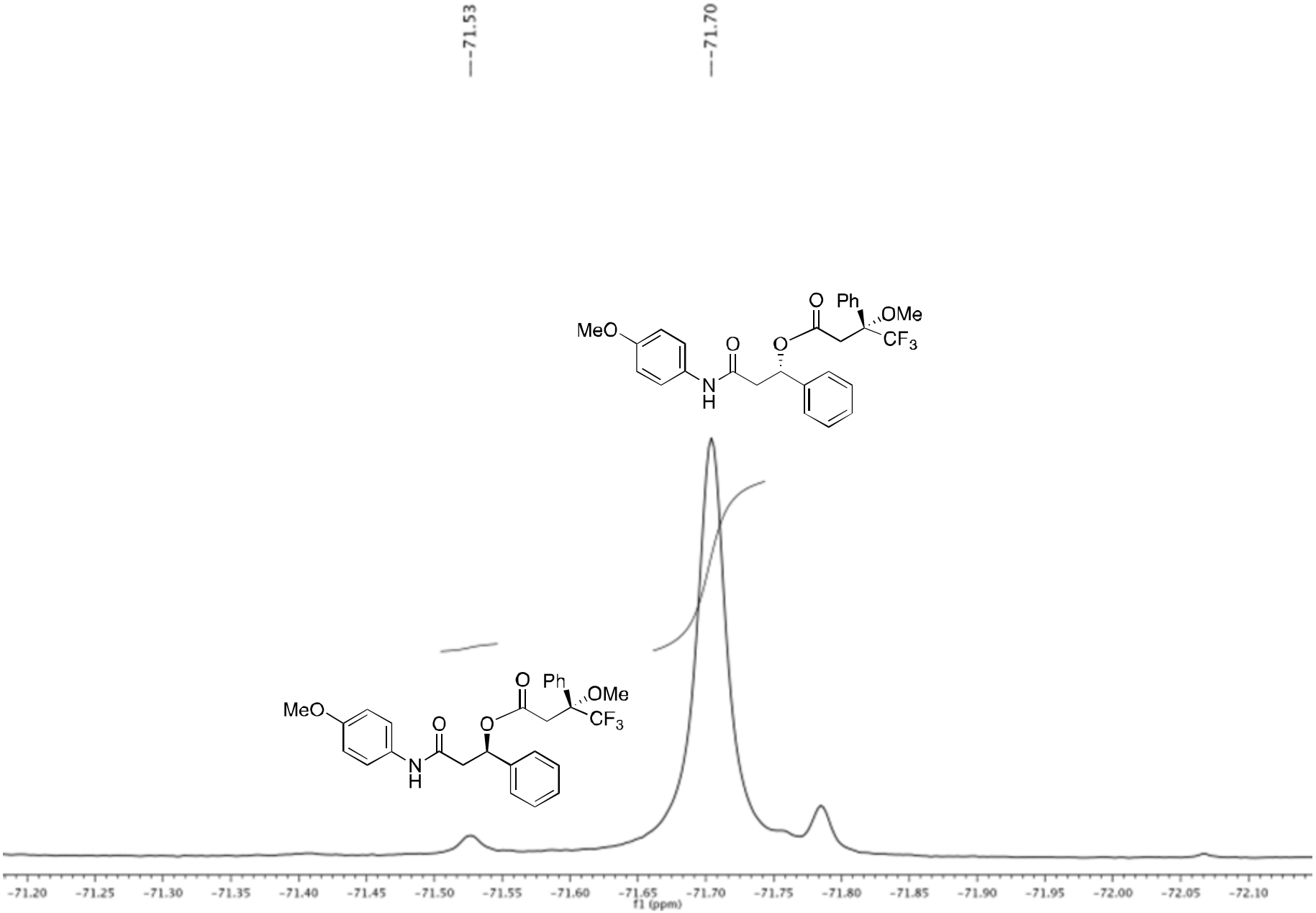
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of *(S)*- 3-Hydroxy-3-phenyl-1-(pyrrolidin-1-yl)propan-1-one (2n-OH)



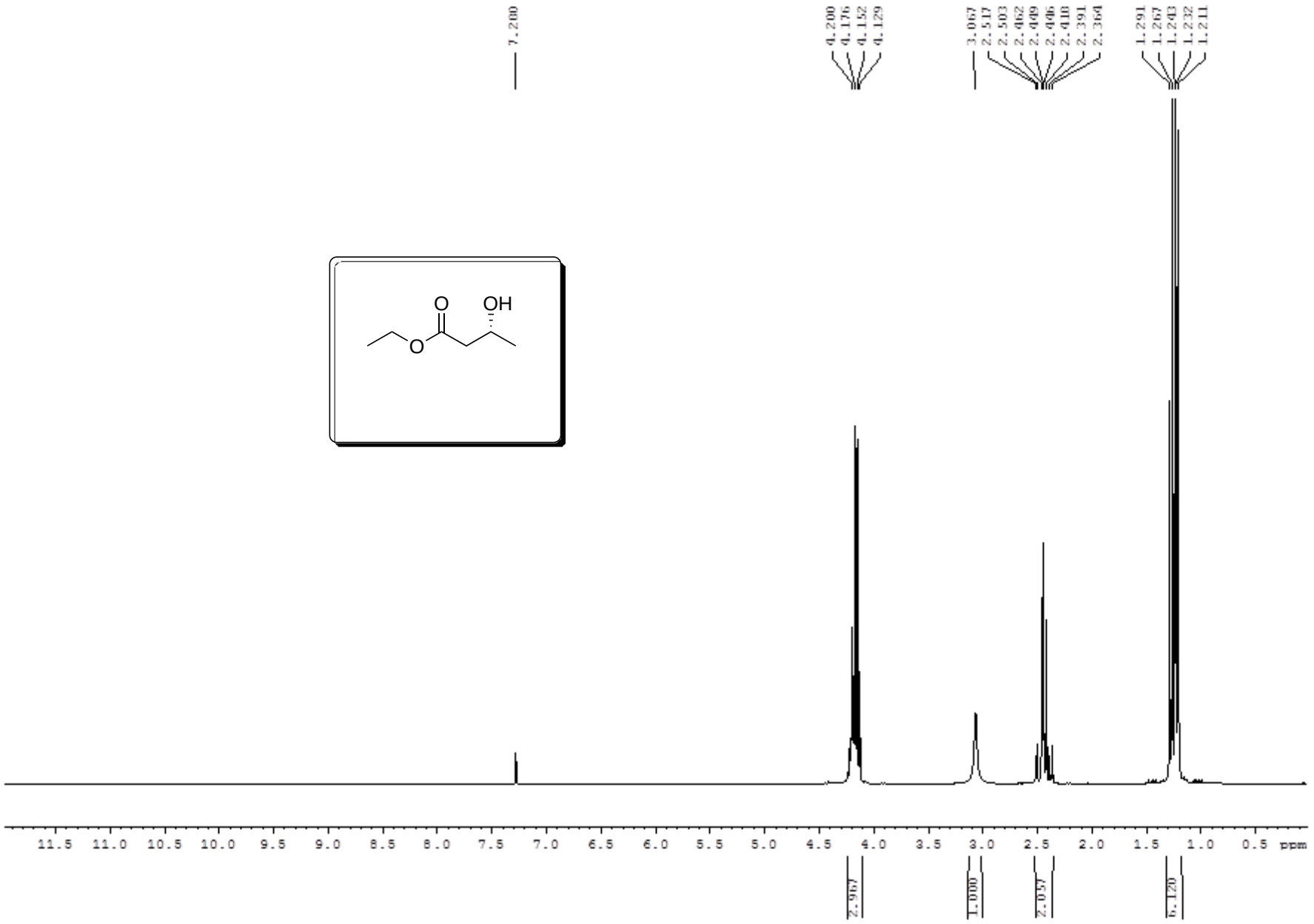
^{19}F NMR ($CDCl_3$, 383.8 MHz) spectrum of (*R*)- and (*S*)-MTPA ester of 3-Hydroxy-*N*-(4-methoxyphenyl)-3-phenylpropanamide



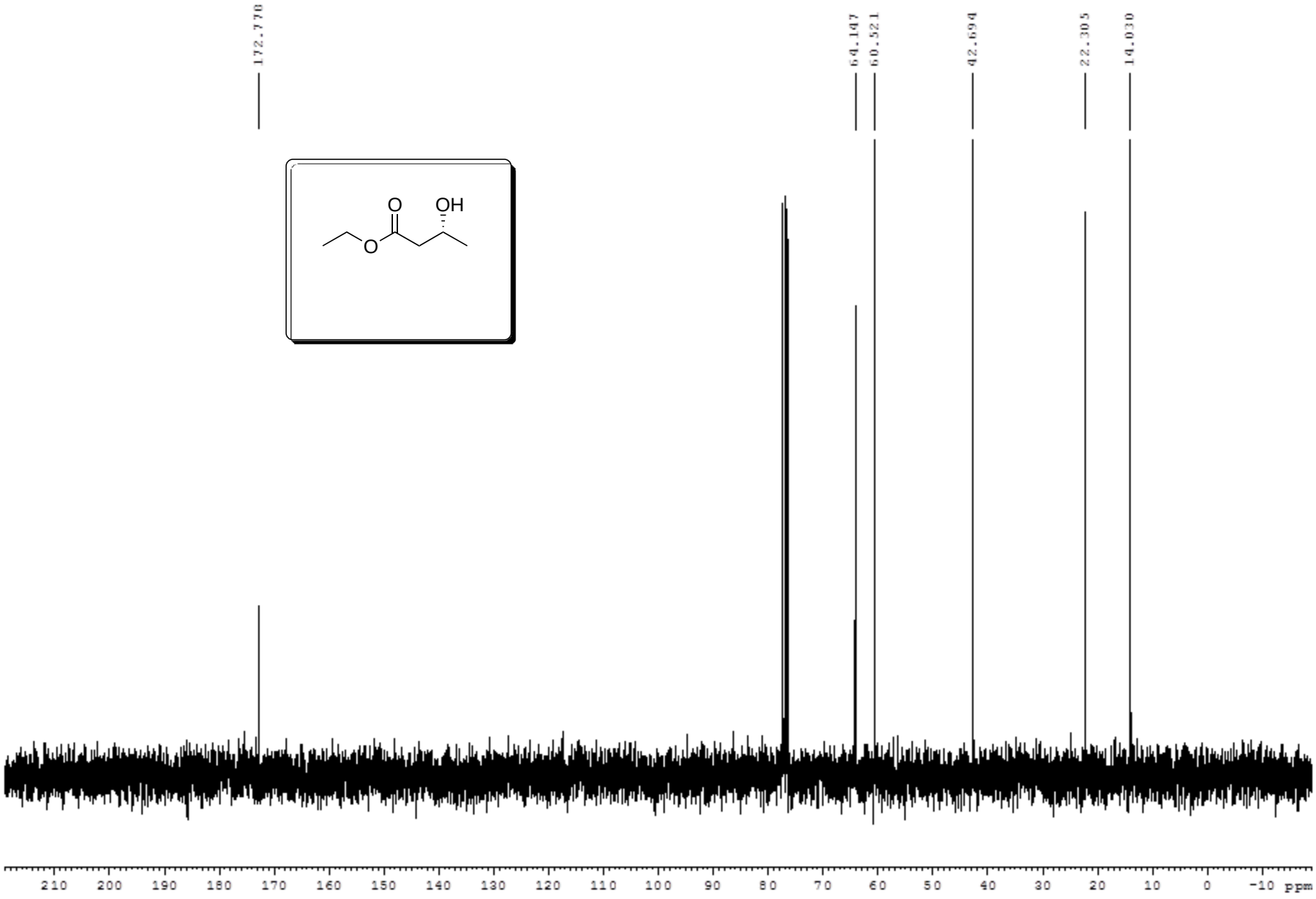
^{19}F NMR ($CDCl_3$, 383.8 MHz) spectrum of (*R*)- and (*S*)-MTPA ester of (*S*)-3-Hydroxy-*N*-(4-methoxyphenyl)-3-phenylpropanamide



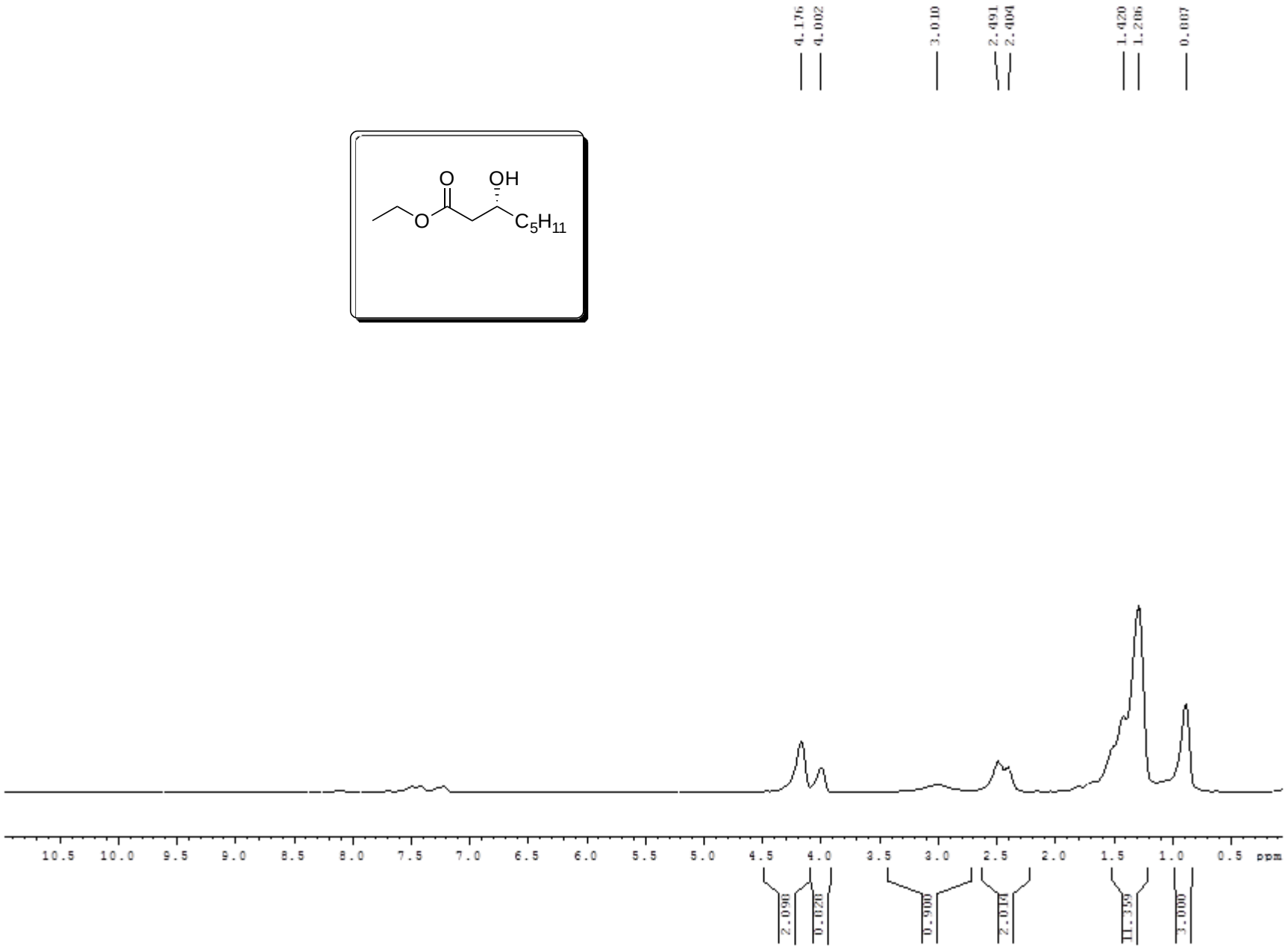
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of ethyl-(*R*)-3-hydroxybutanoate (7a-**OH**)



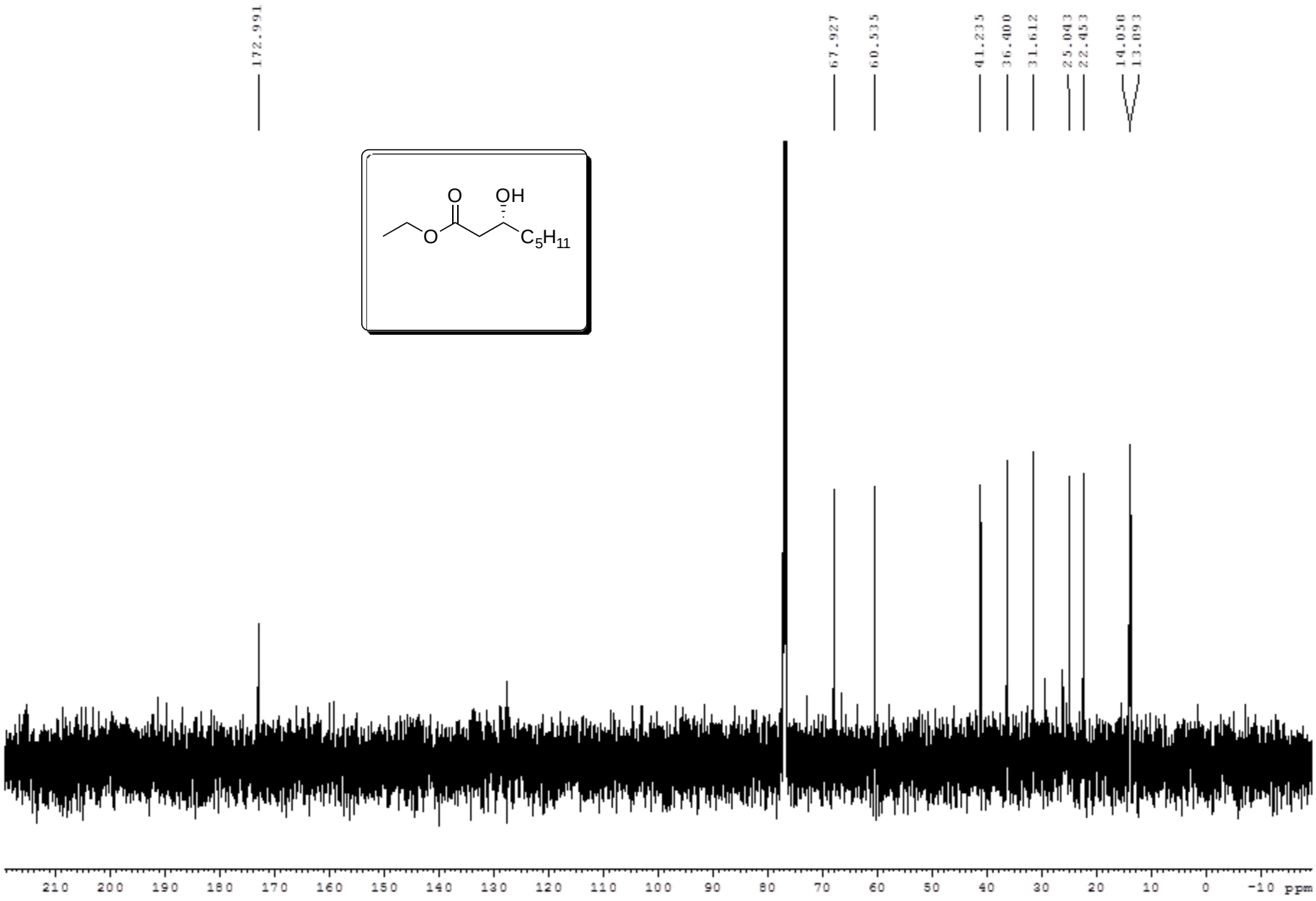
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of ethyl-(*R*)-3-hydroxybutanoate (7a-OH)



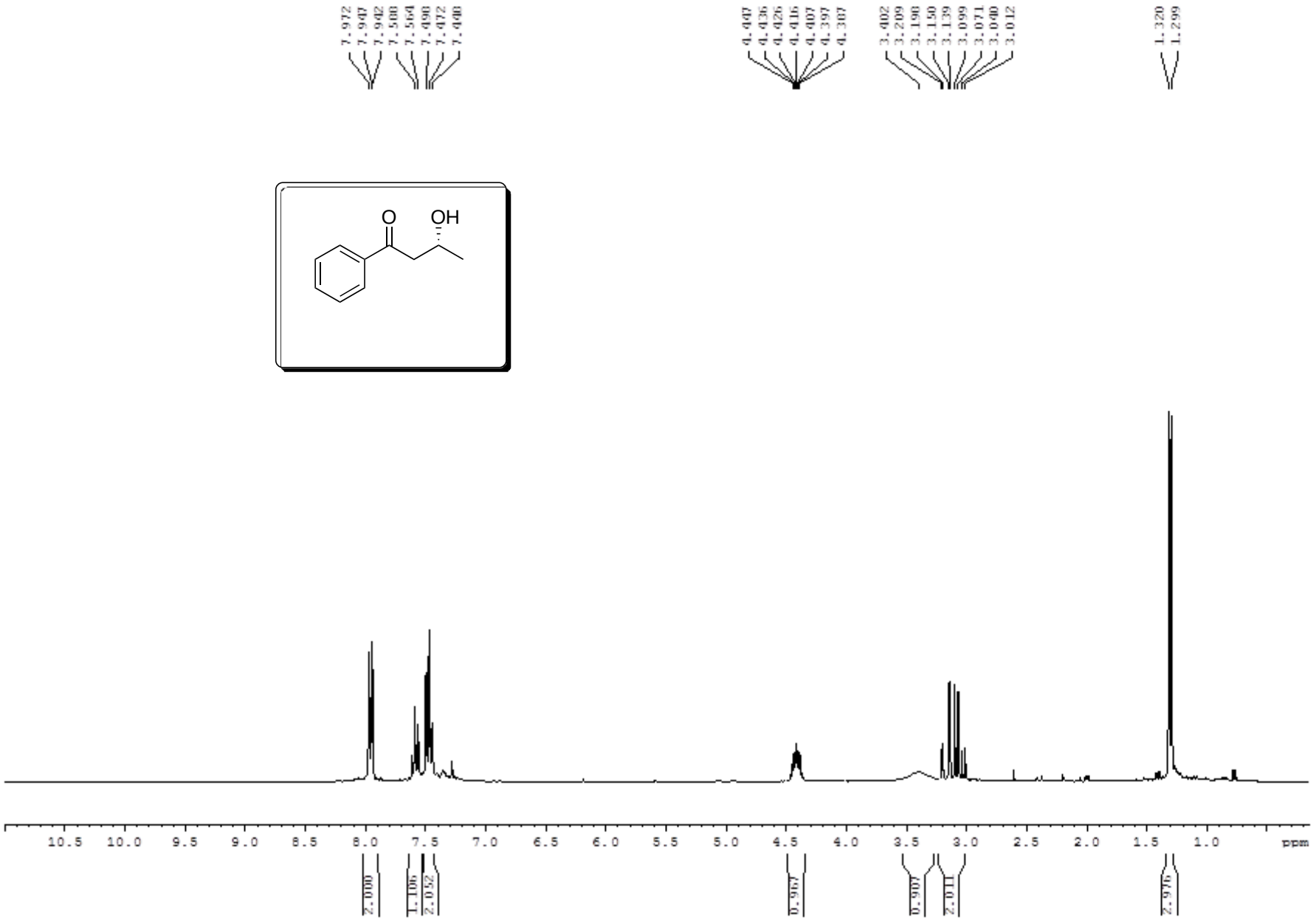
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of Ethyl (*R*)-3-hydroxyoctanoate (7b-**OH**)



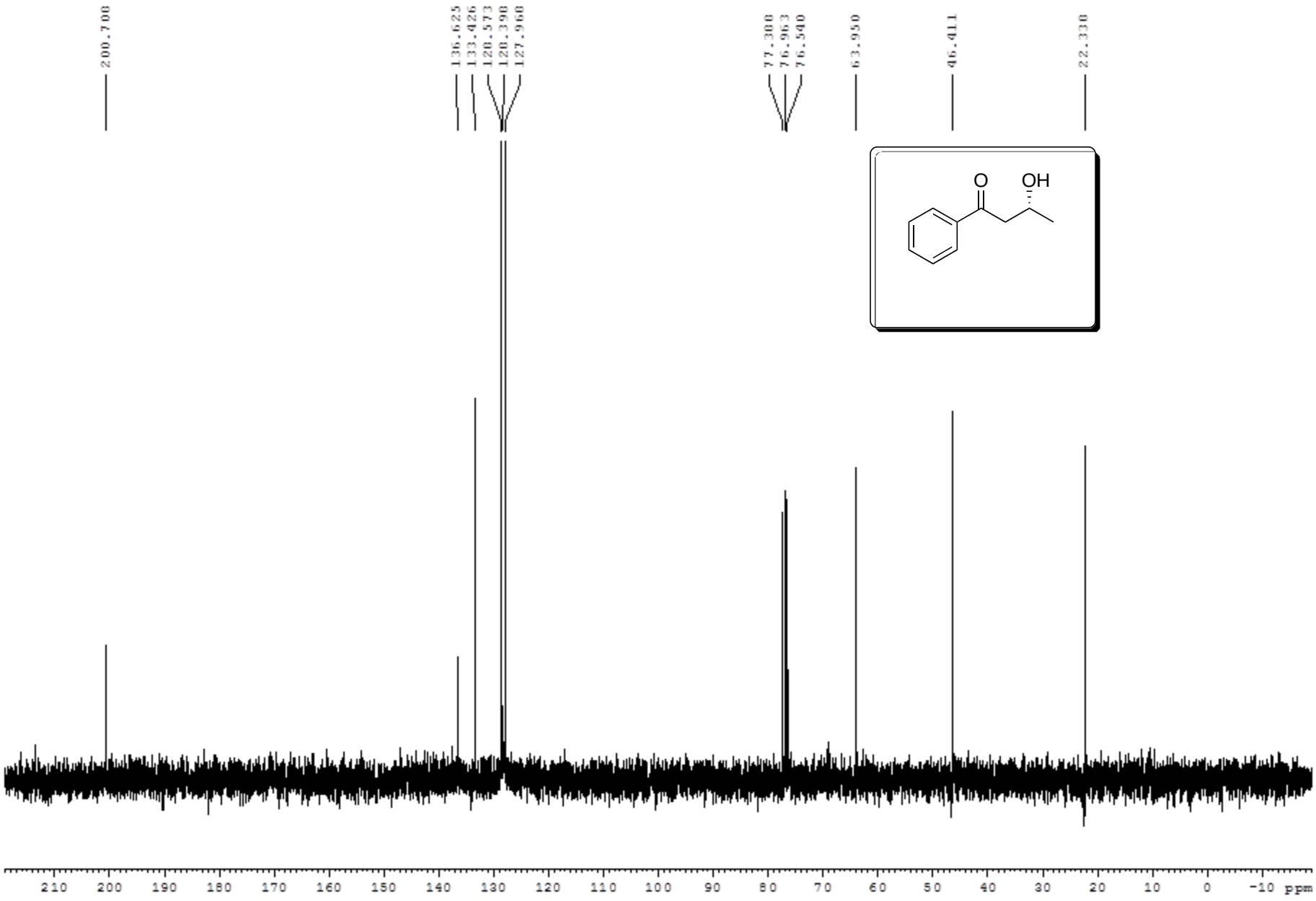
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of Ethyl (*R*)-3-hydroxyoctanoate (7b-OH)



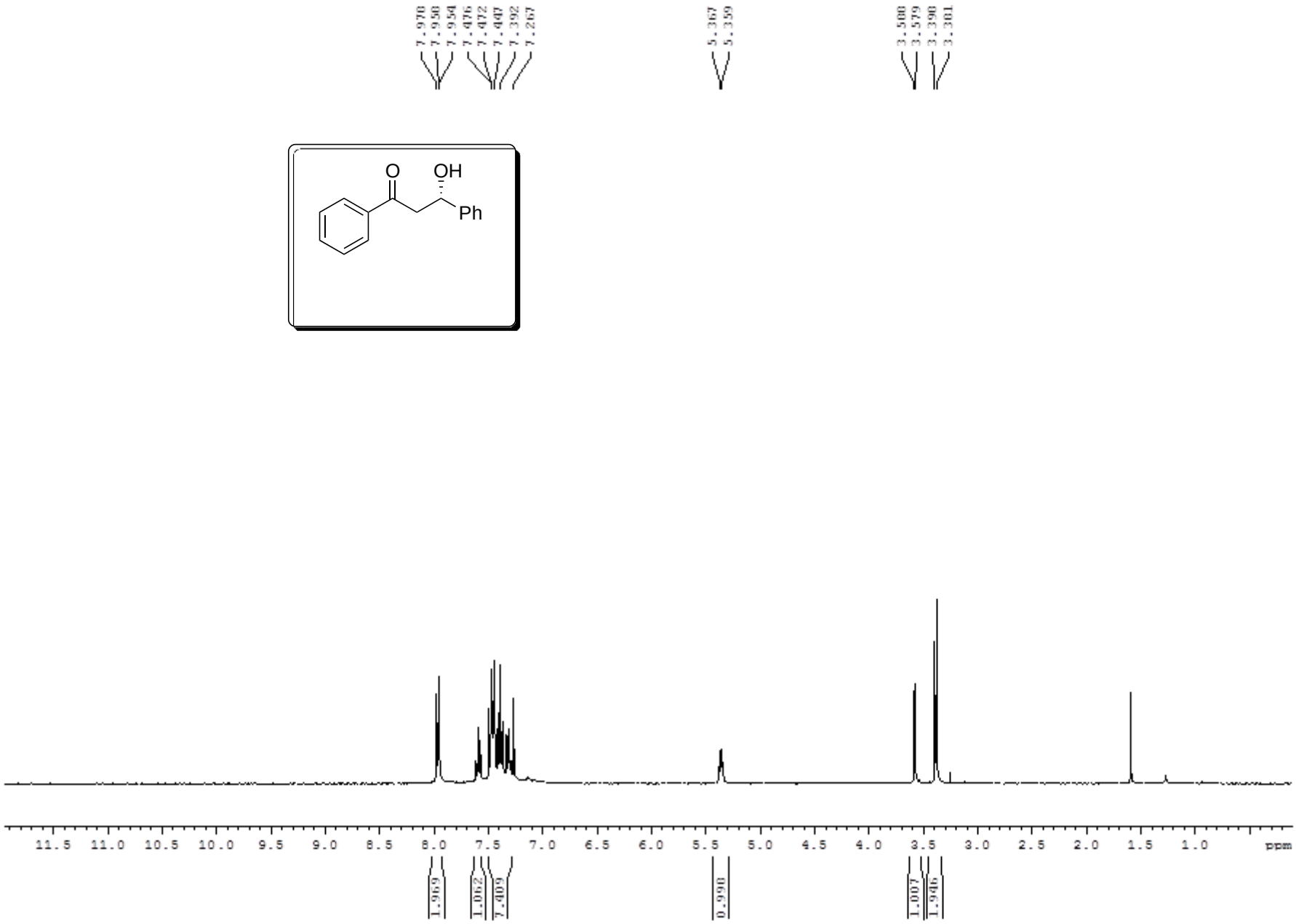
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*R*)-3-Hydroxy-1-phenylbutan-1-one (7c-OH)



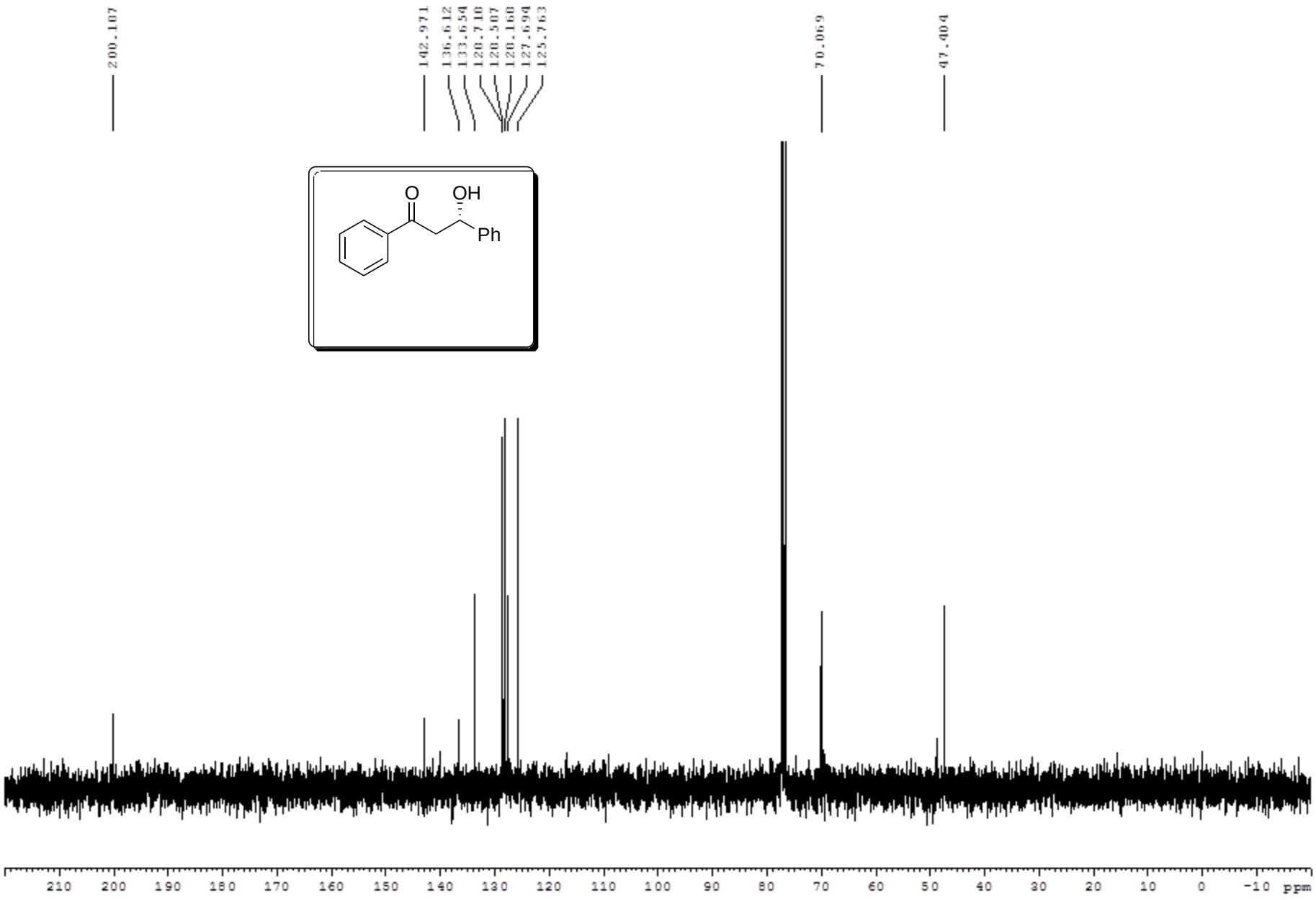
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*R*)-3-Hydroxy-1-phenylbutan-1-one (7c-OH)



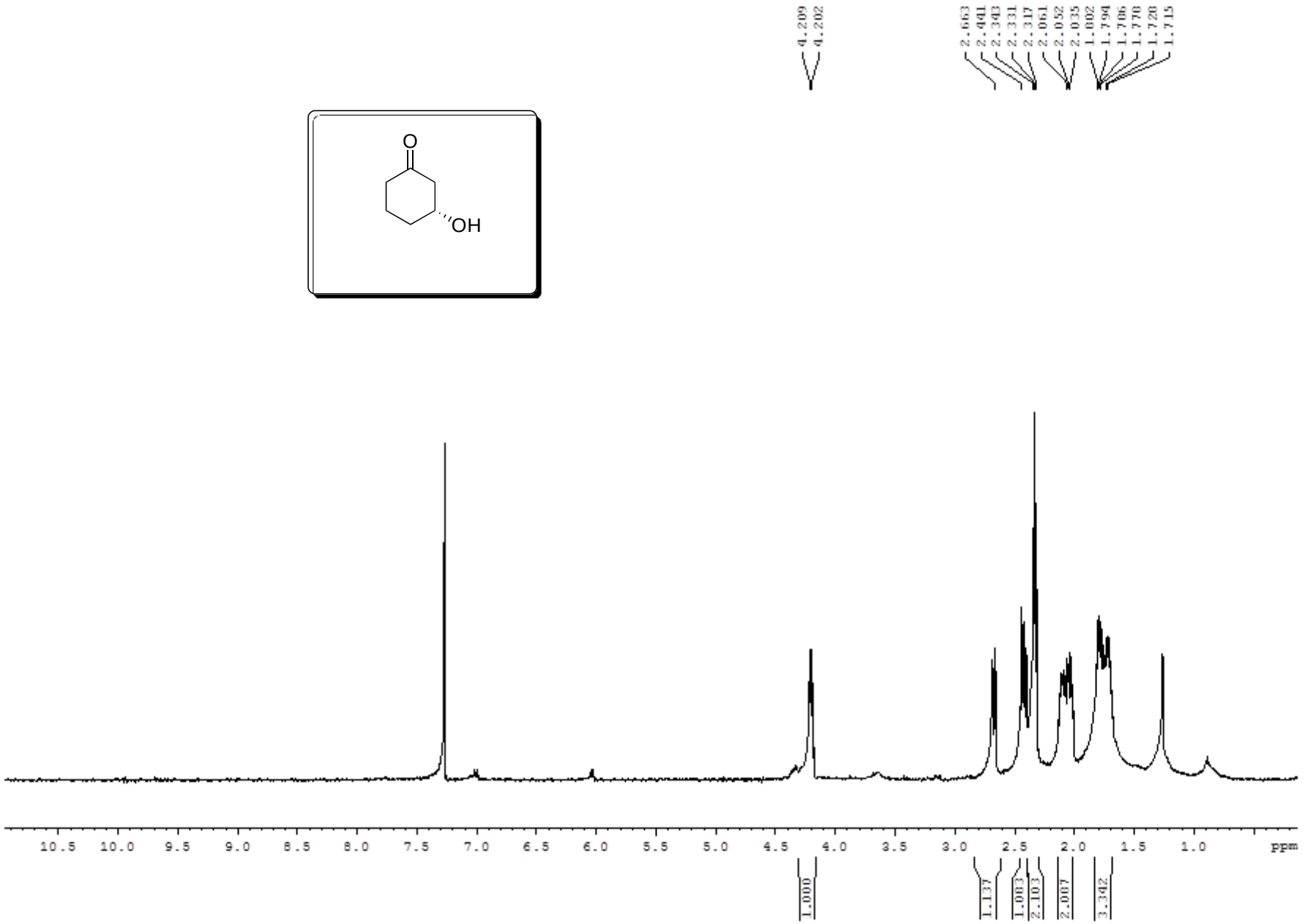
^{1}H NMR ($CDCl_3$, 360 MHz) spectrum of (*S*)-3-hydroxy-1,3-diphenylpropan-1-one (7d-OH)



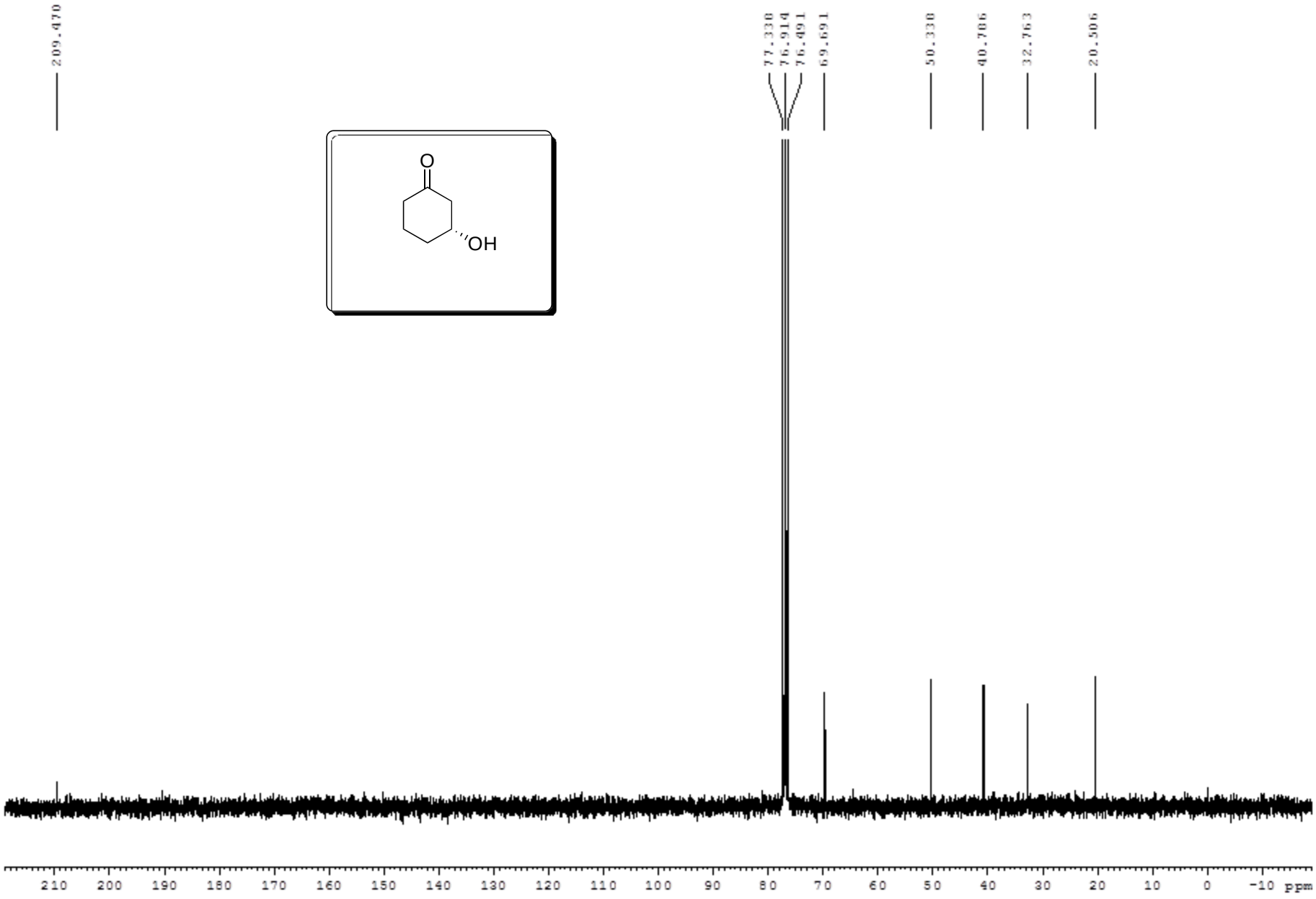
^{13}C NMR ($CDCl_3$, 90.5 MHz) spectrum of (*S*)-3-hydroxy-1,3-diphenylpropan-1-one (7d-OH)



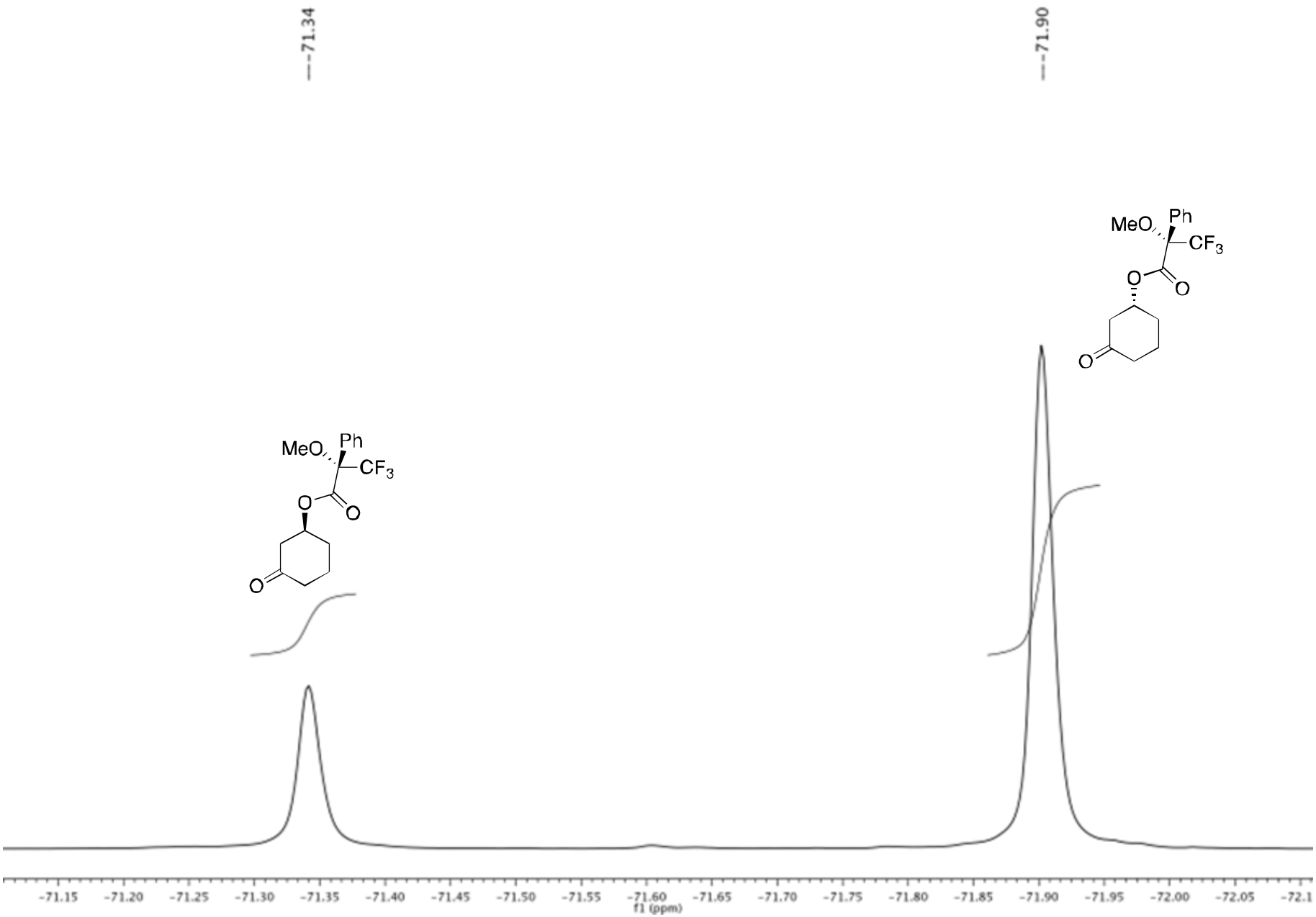
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of (*R*)-3-Hydroxycyclohexane-1-one (7e-OH)



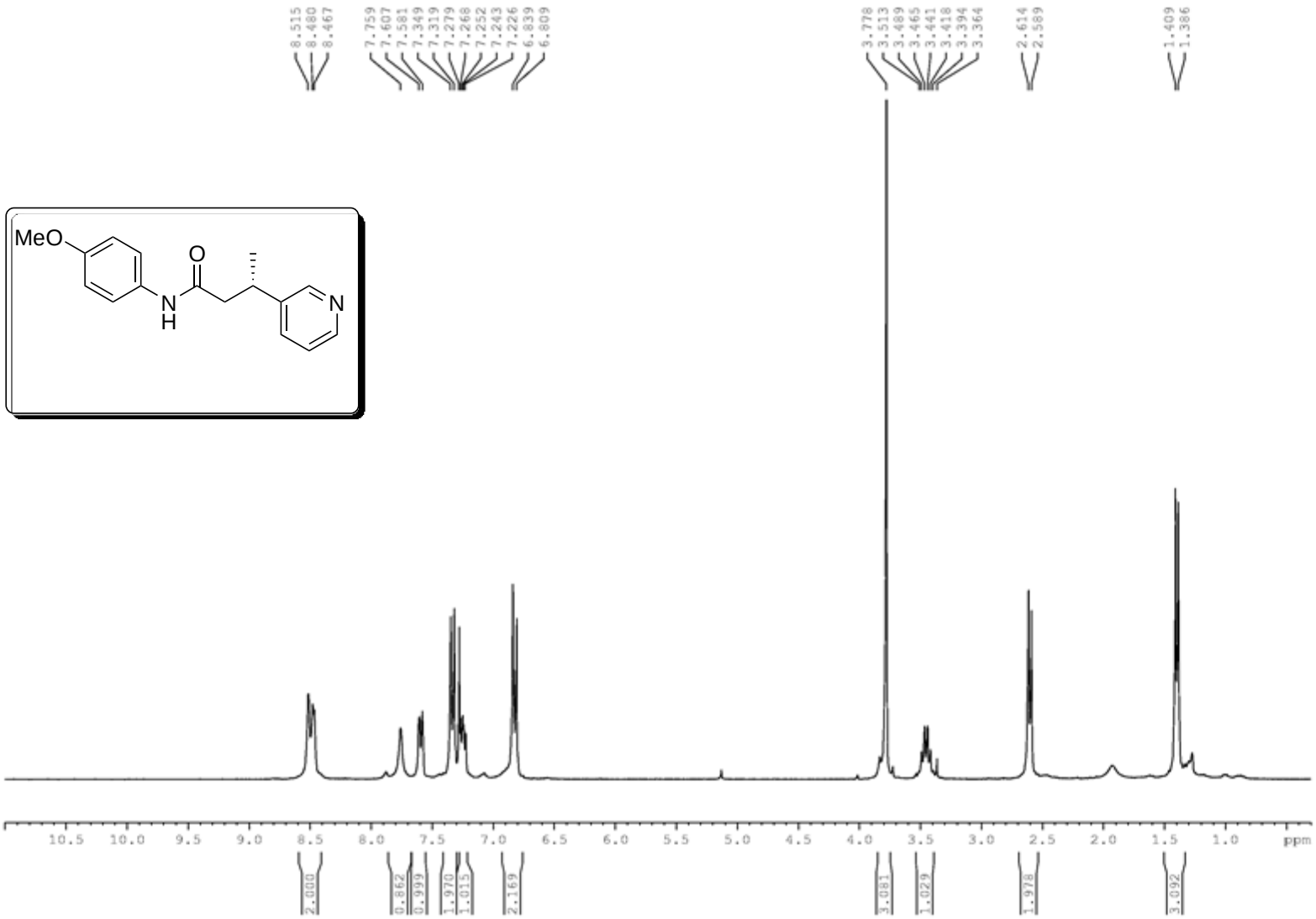
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*R*)-3-Hydroxycyclohexane-1-one (7e-OH)



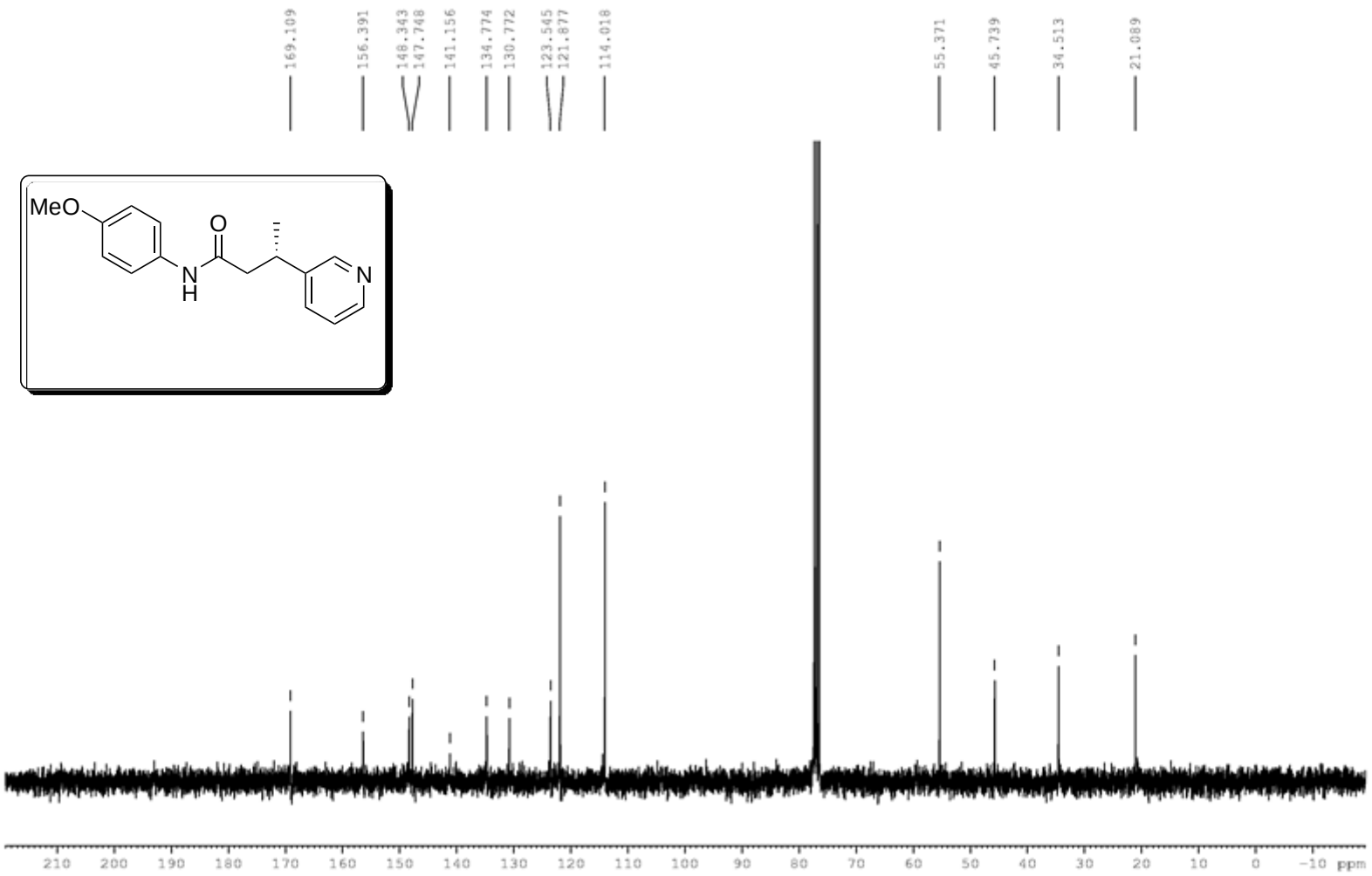
^{19}F NMR ($CDCl_3$, 383.8 MHz) spectrum of (*R*)- and (*S*)-MTPA ester of (*S*)-3-Hydroxy-*N*-(4-methoxyphenyl)-3-phenylpropanamide



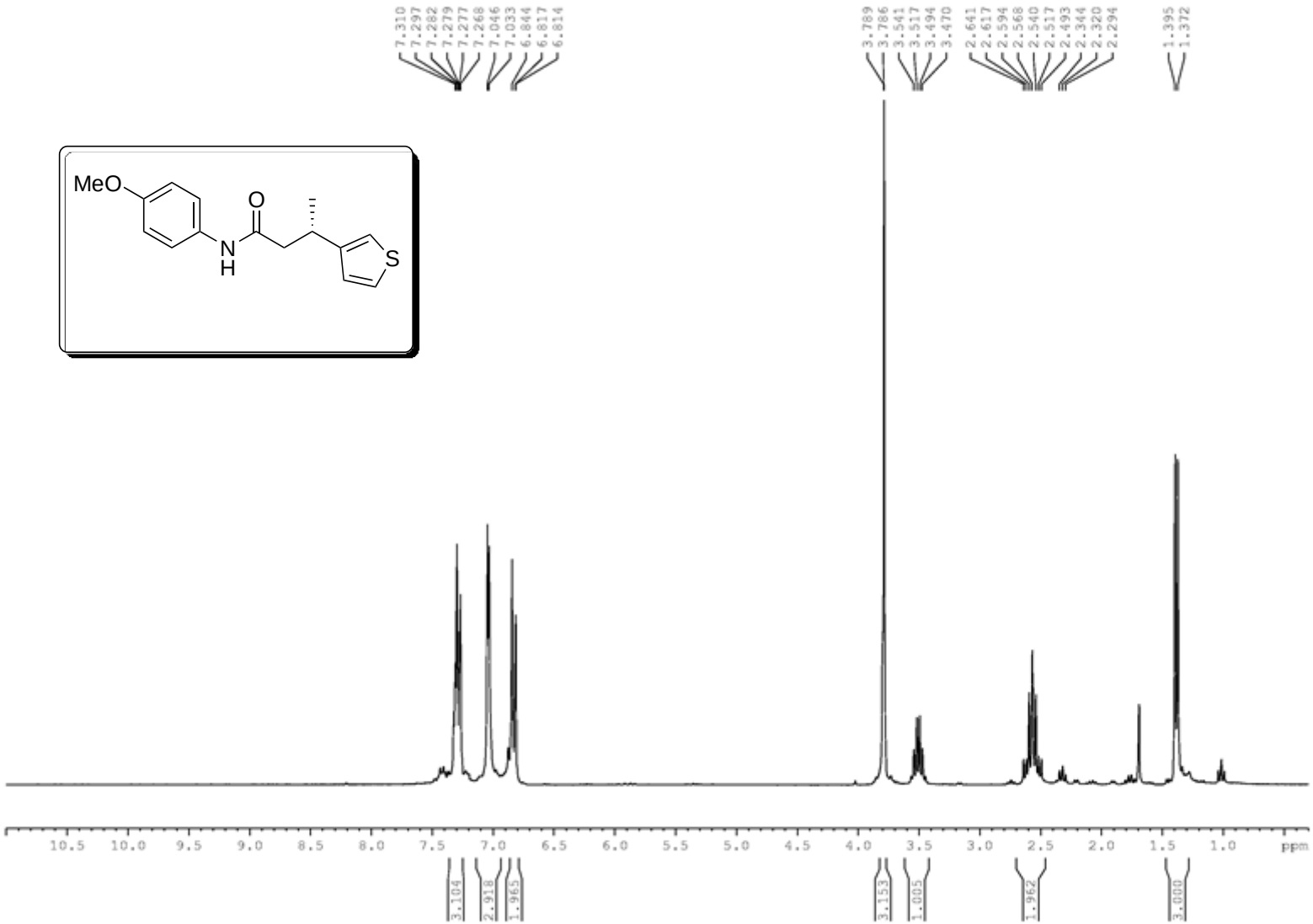
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*S*)-*N*-(4-Methoxyphenyl)-3-(pyridin-3-yl)butanamide (12a)



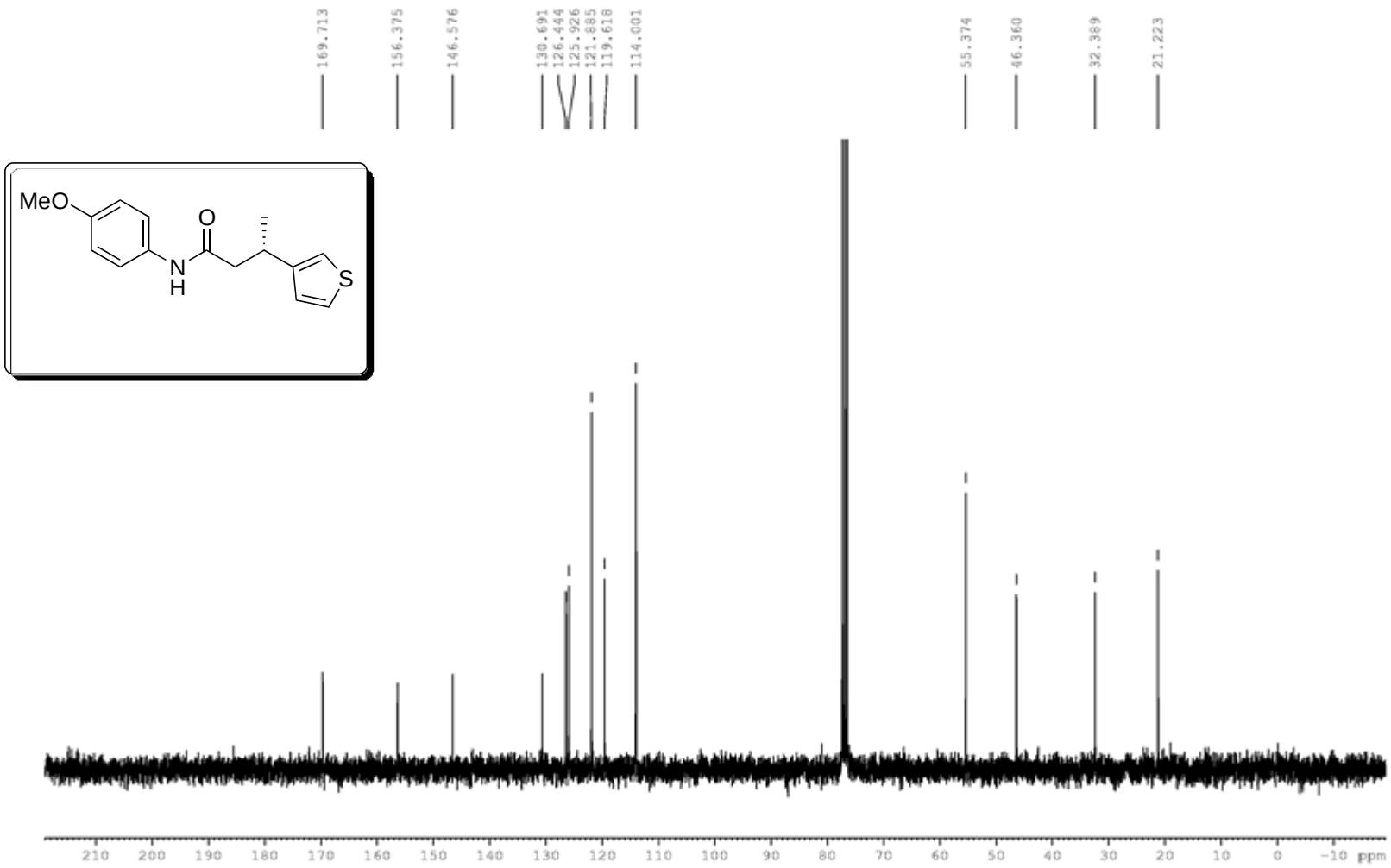
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*S*)-*N*-(4-Methoxyphenyl)-3-(pyridin-3-yl)butanamide (12a)



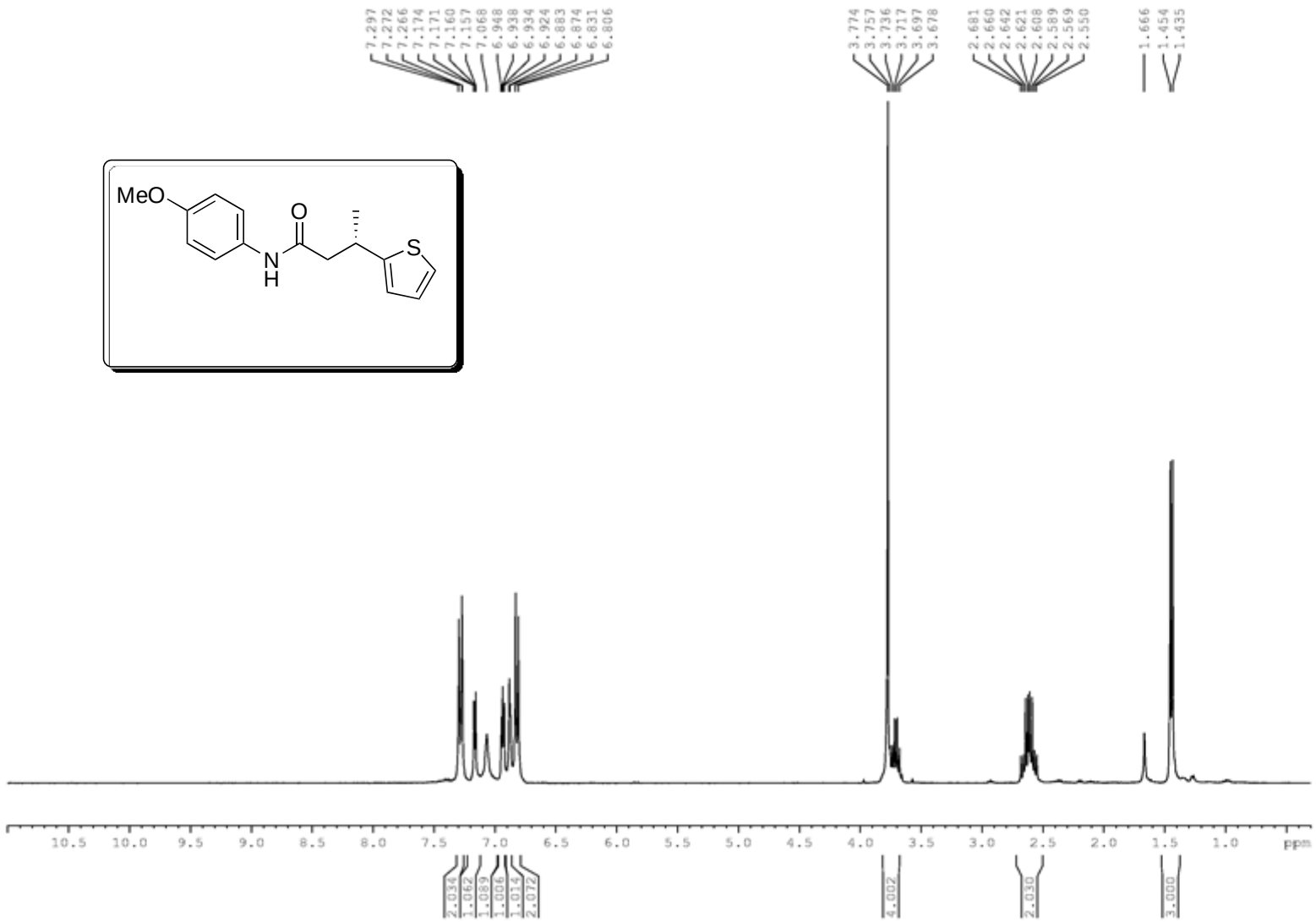
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*S*)-*N*-(4-Methoxyphenyl)-3-(thiophen-3-yl)butanamide (12b)



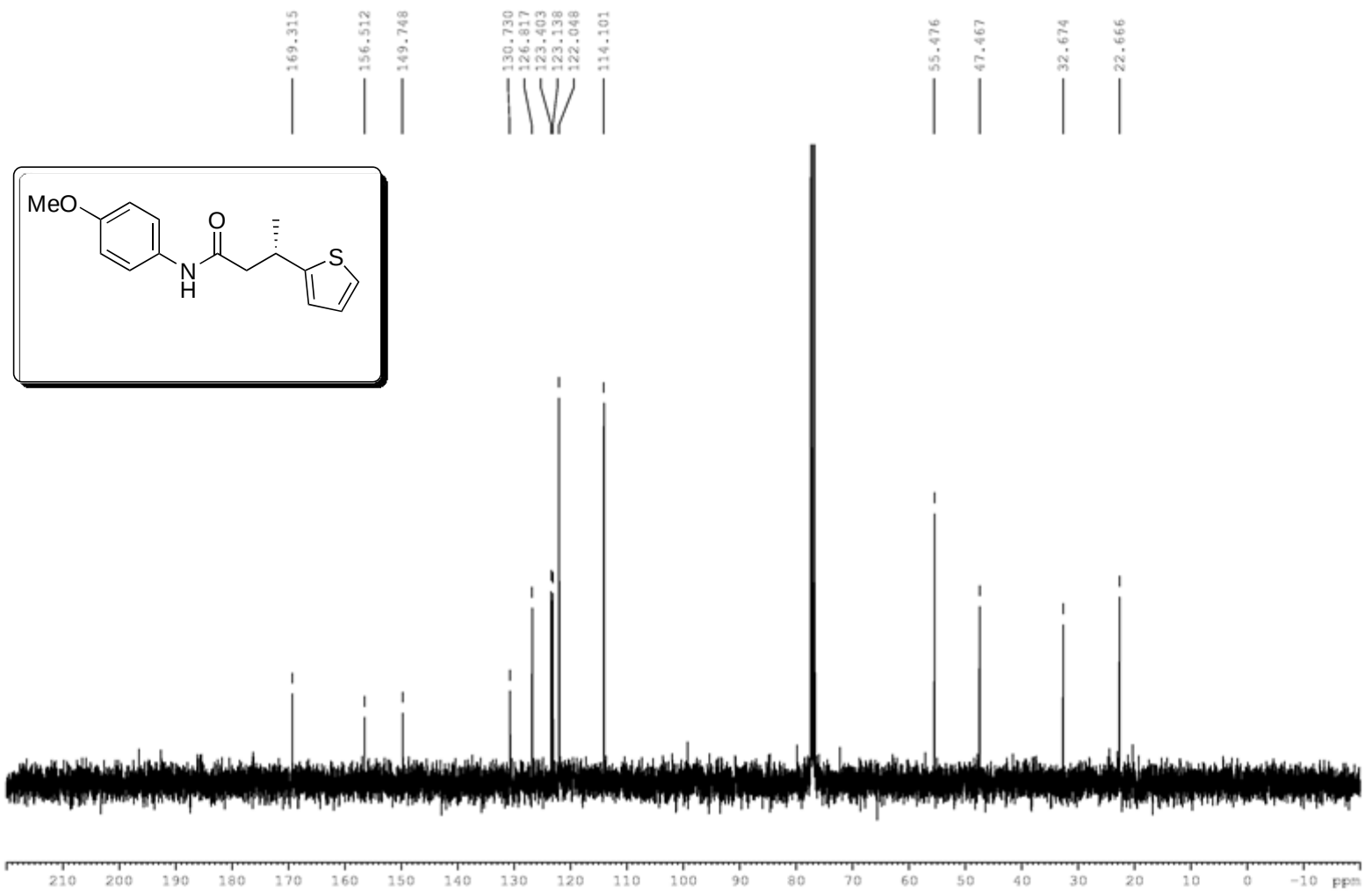
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*S*)-*N*-(4-Methoxyphenyl)-3-(thiophen-3-yl)butanamide (12b)



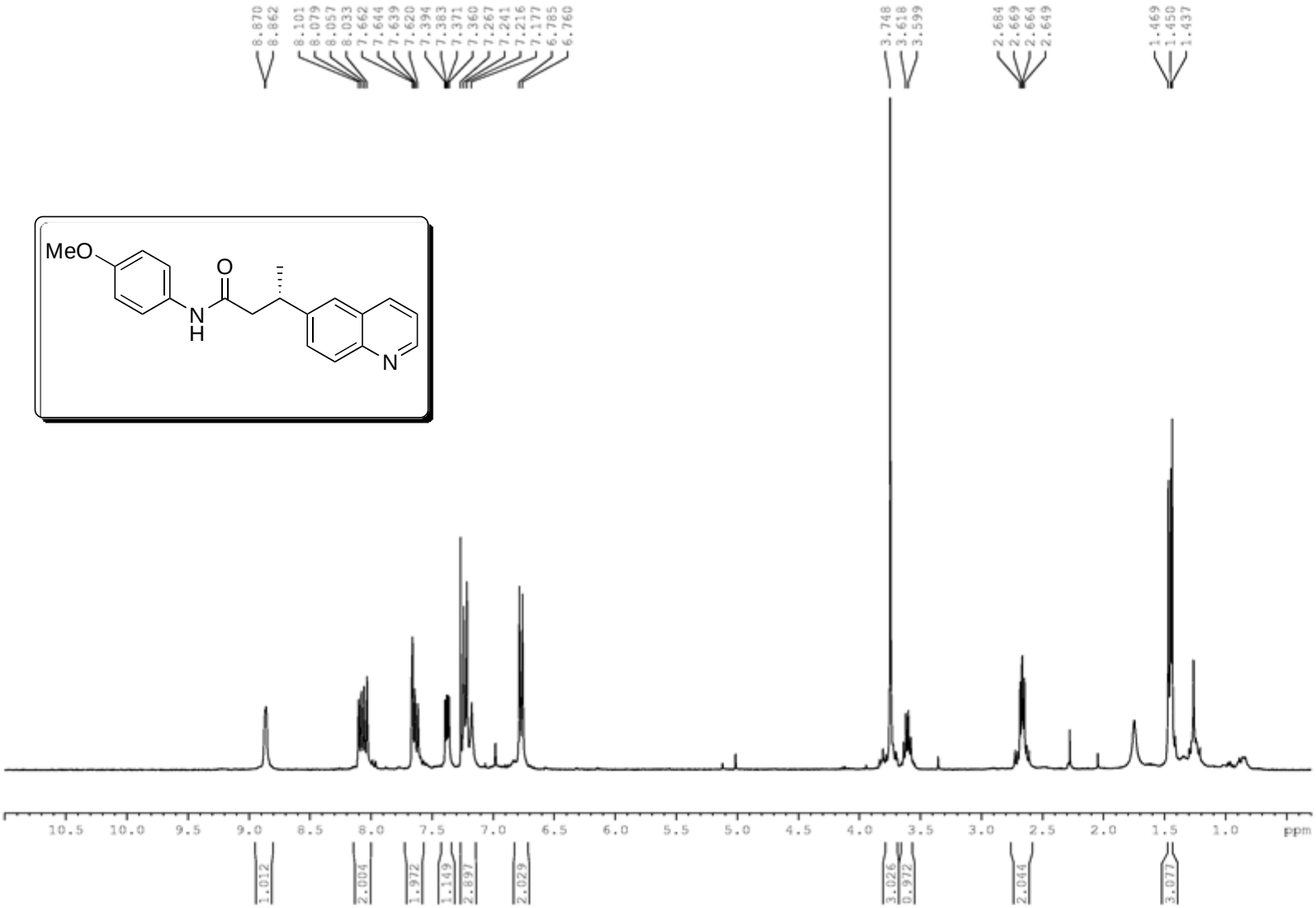
^{1}H NMR ($CDCl_3$, 360 MHz) spectrum of (*S*)-*N*-(4-methoxyphenyl)-3-(thiophen-2-yl)butanamide (12c)



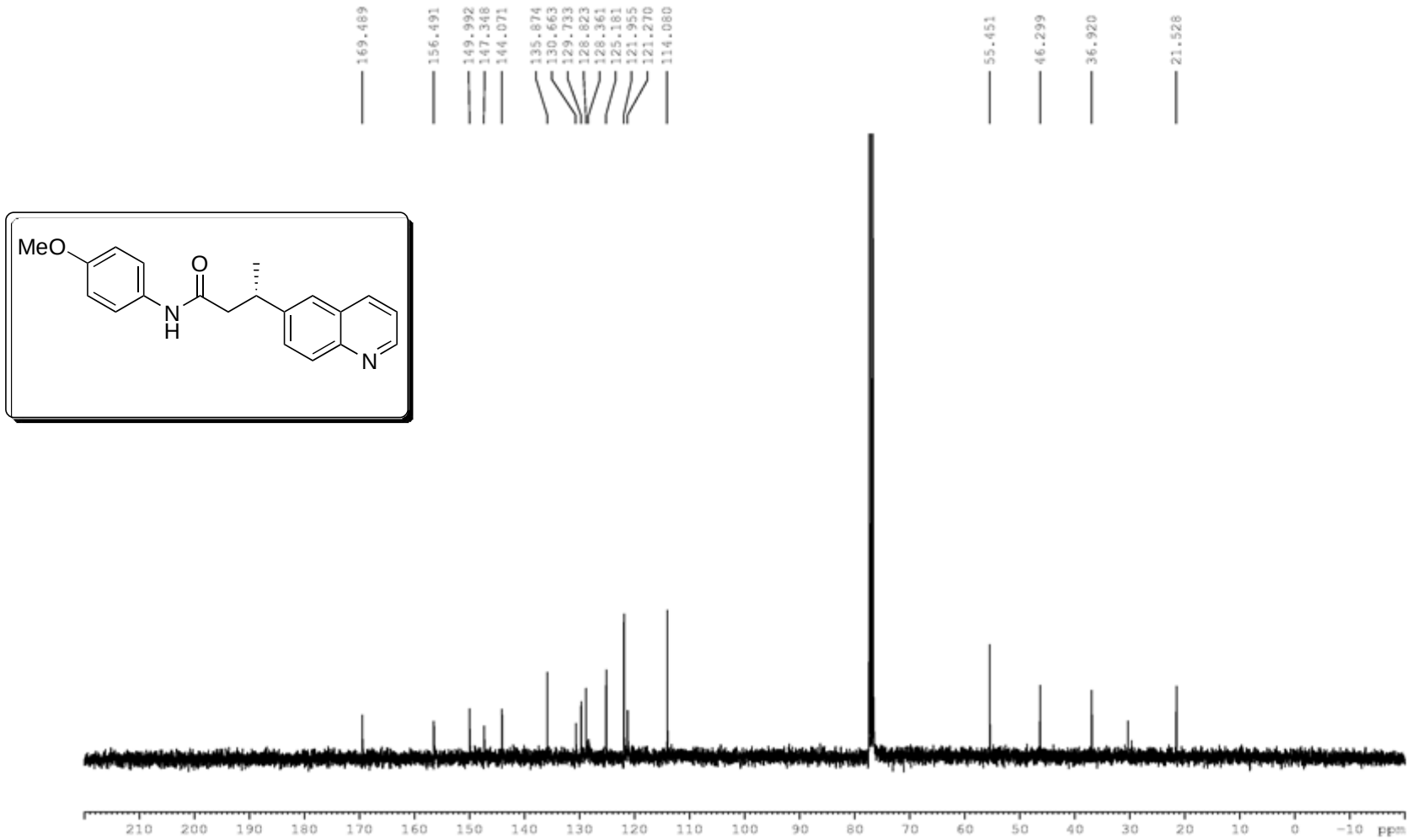
^{13}C NMR ($CDCl_3$, 90.5 MHz) spectrum of (*S*)-*N*-(4-methoxyphenyl)-3-(thiophen-2-yl)butanamide (12c)



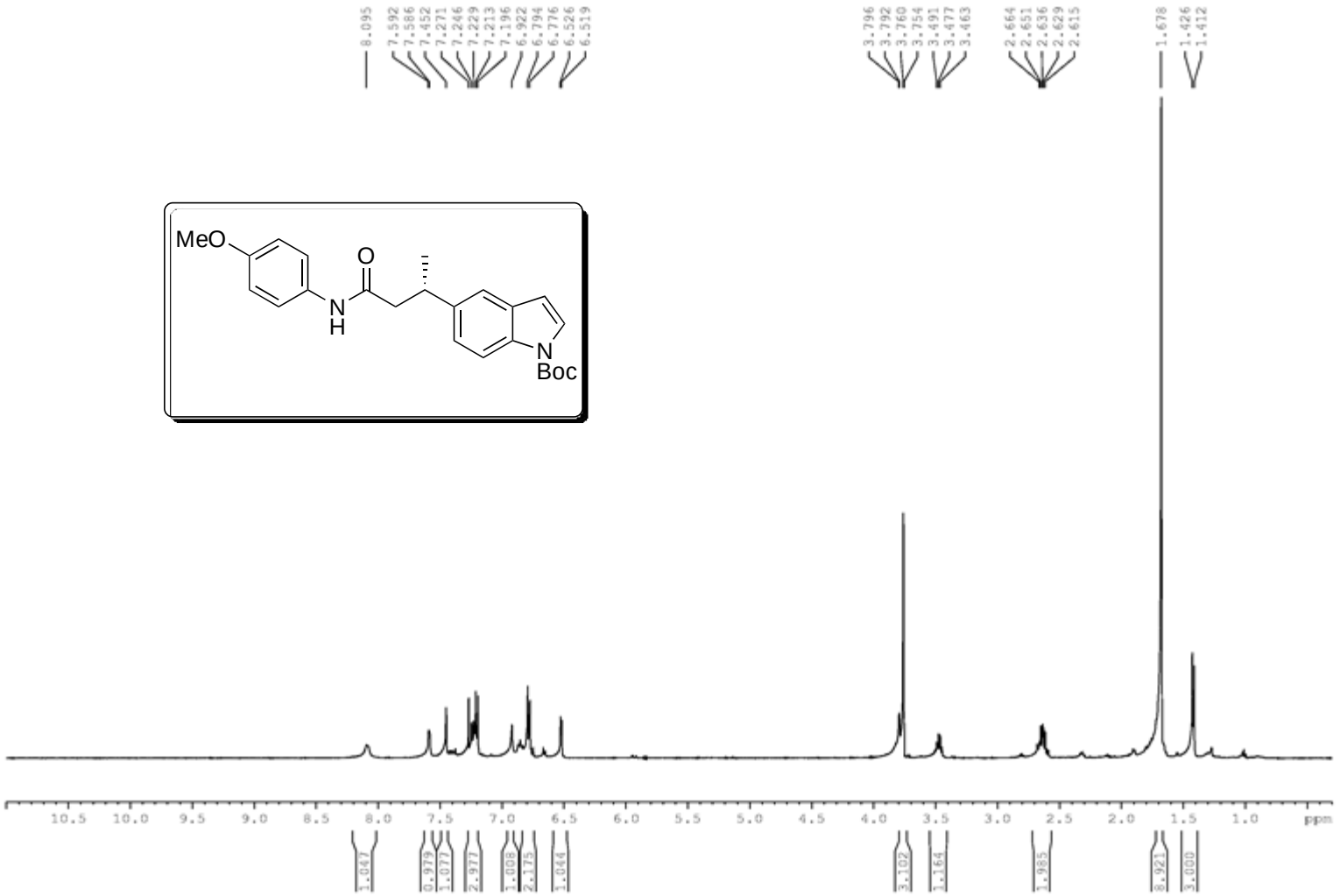
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of *N*-(4-methoxyphenyl)-3-(quinolin-6-yl)butanamide (12d)



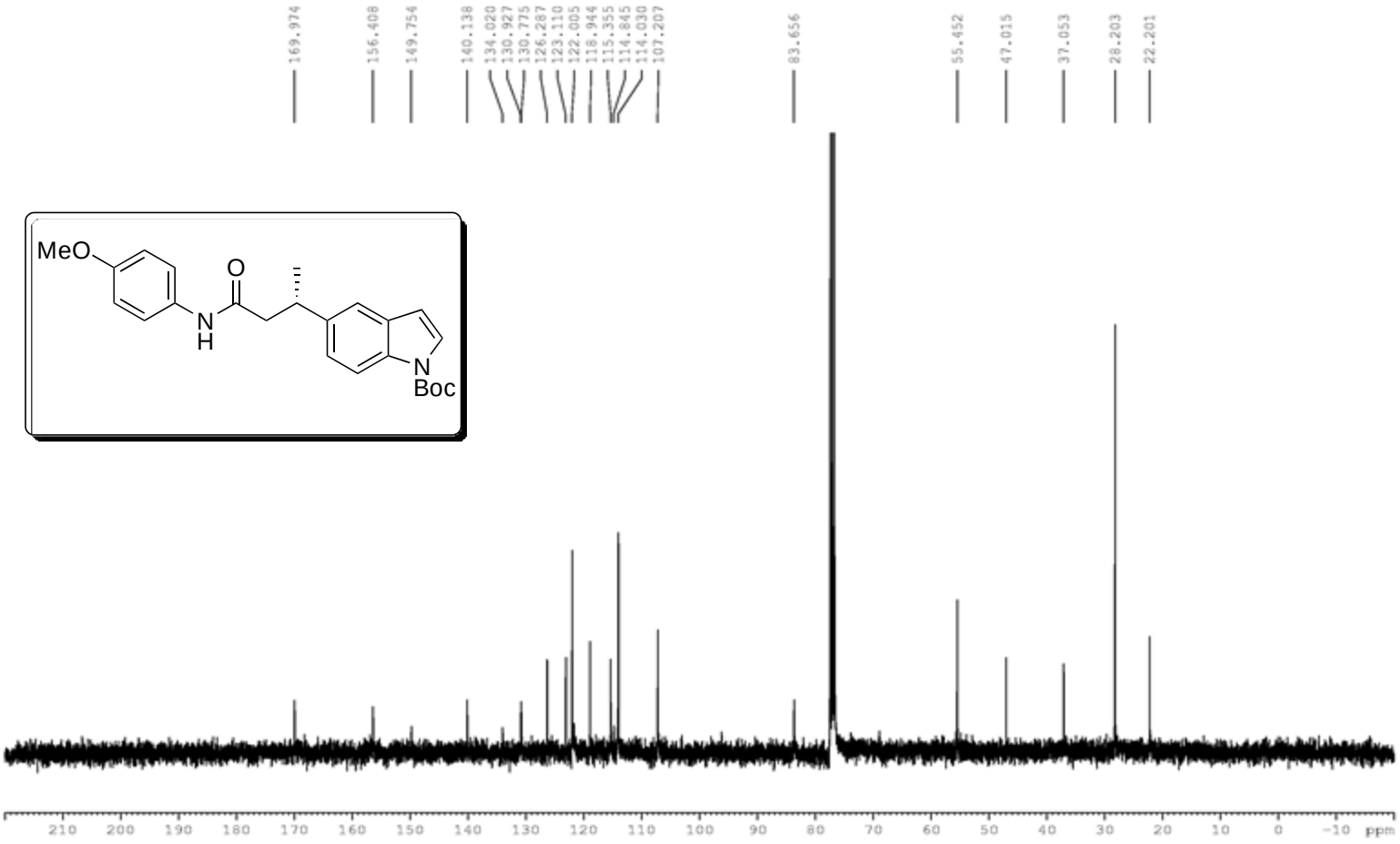
^{13}C NMR ($CDCl_3$, 500 MHz) spectrum of (*S*)-*N*-(4-methoxyphenyl)-3-(quinolin-6-yl)butanamide (12d)



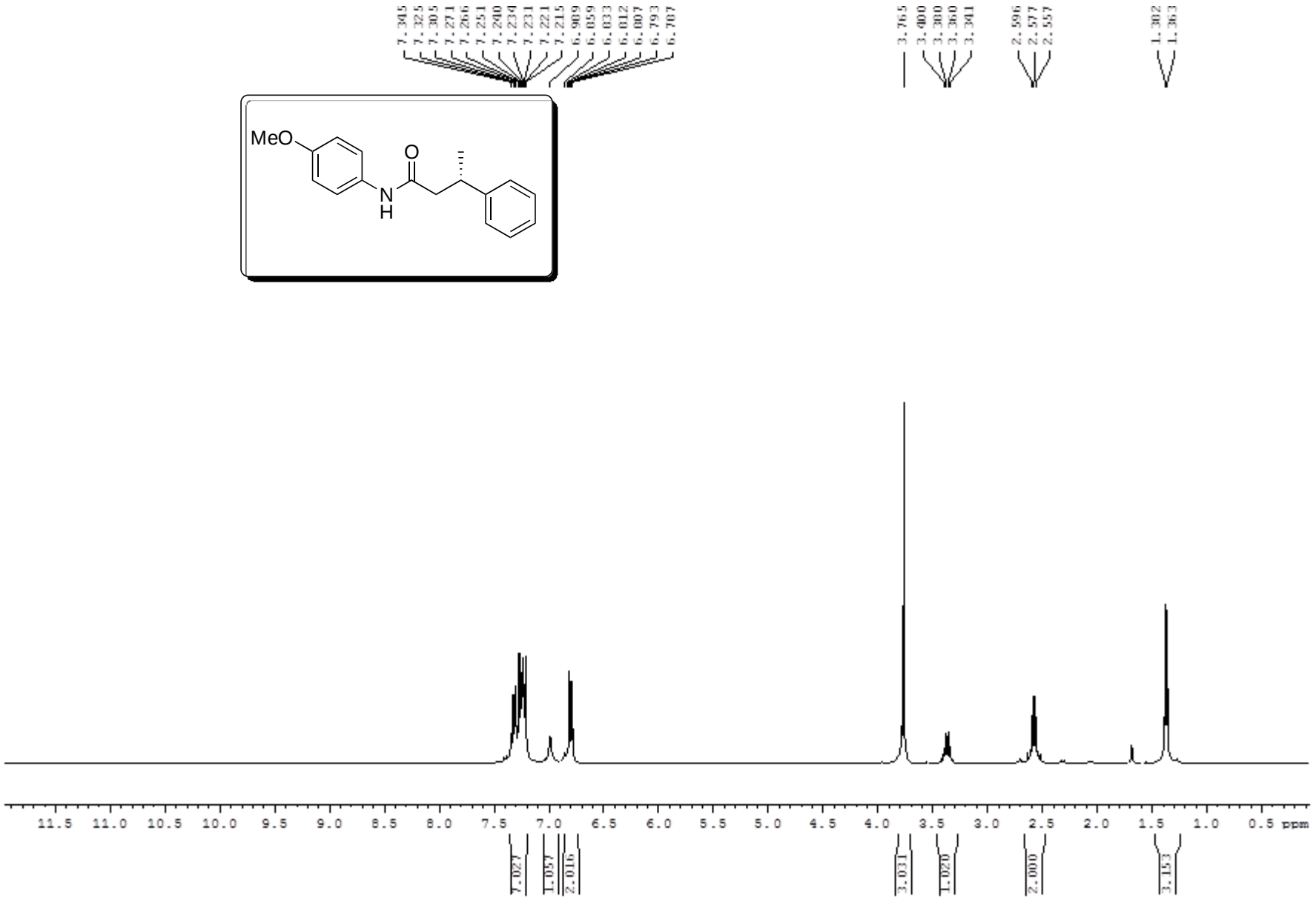
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of *tert*-Butyl-(*S*)-5-(4-((4-methoxyphenyl)amino)-4-oxobutan-2-yl)-1*H*-indole-1-carboxylate (12e)



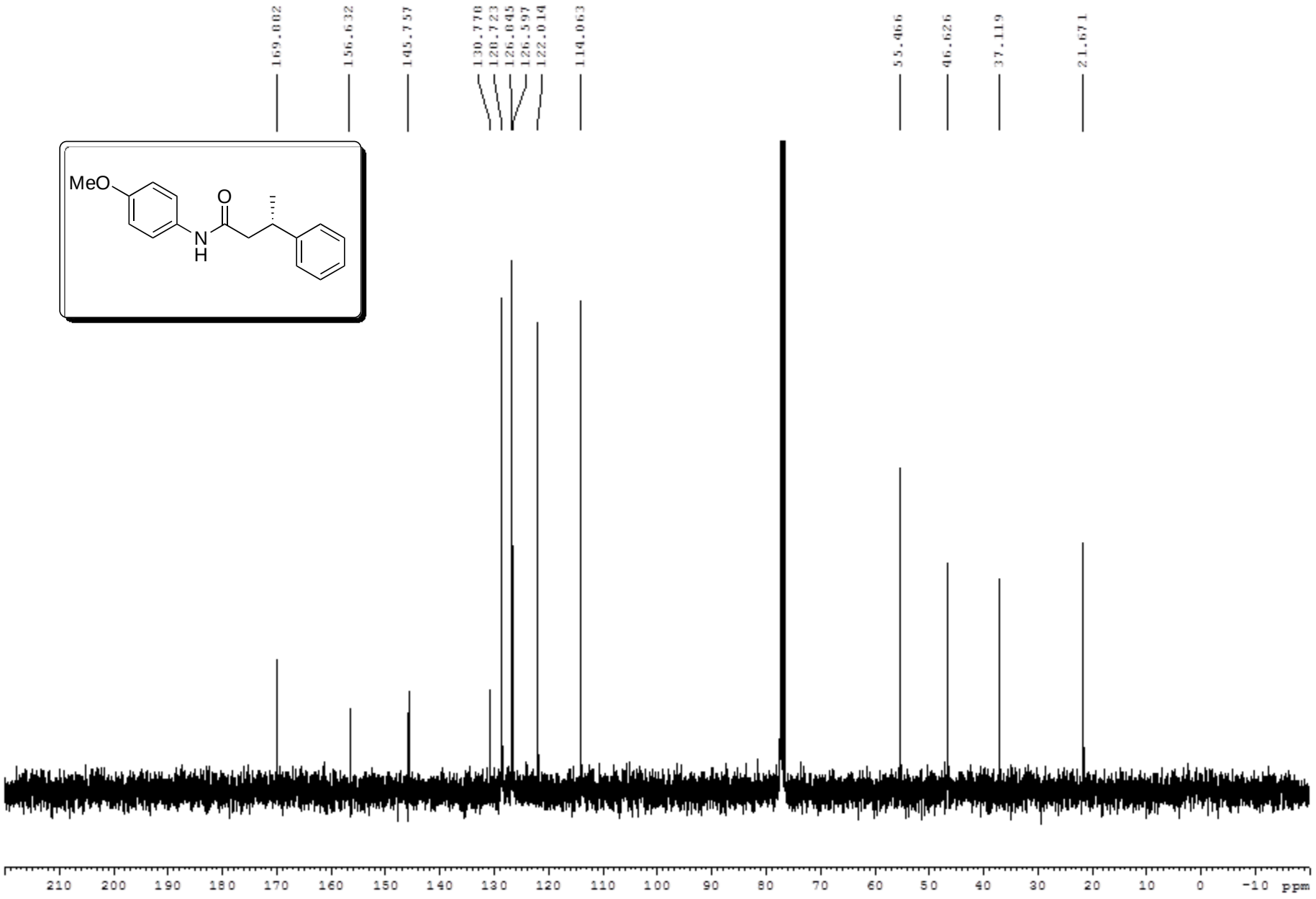
^{13}C NMR ($CDCl_3$, 90.5 MHz) spectrum of *tert*-Butyl-(*S*)-5-(4-((4-methoxyphenyl)amino)-4-oxobutan-2-yl)-1*H*-indole-1-carboxylate (12e)



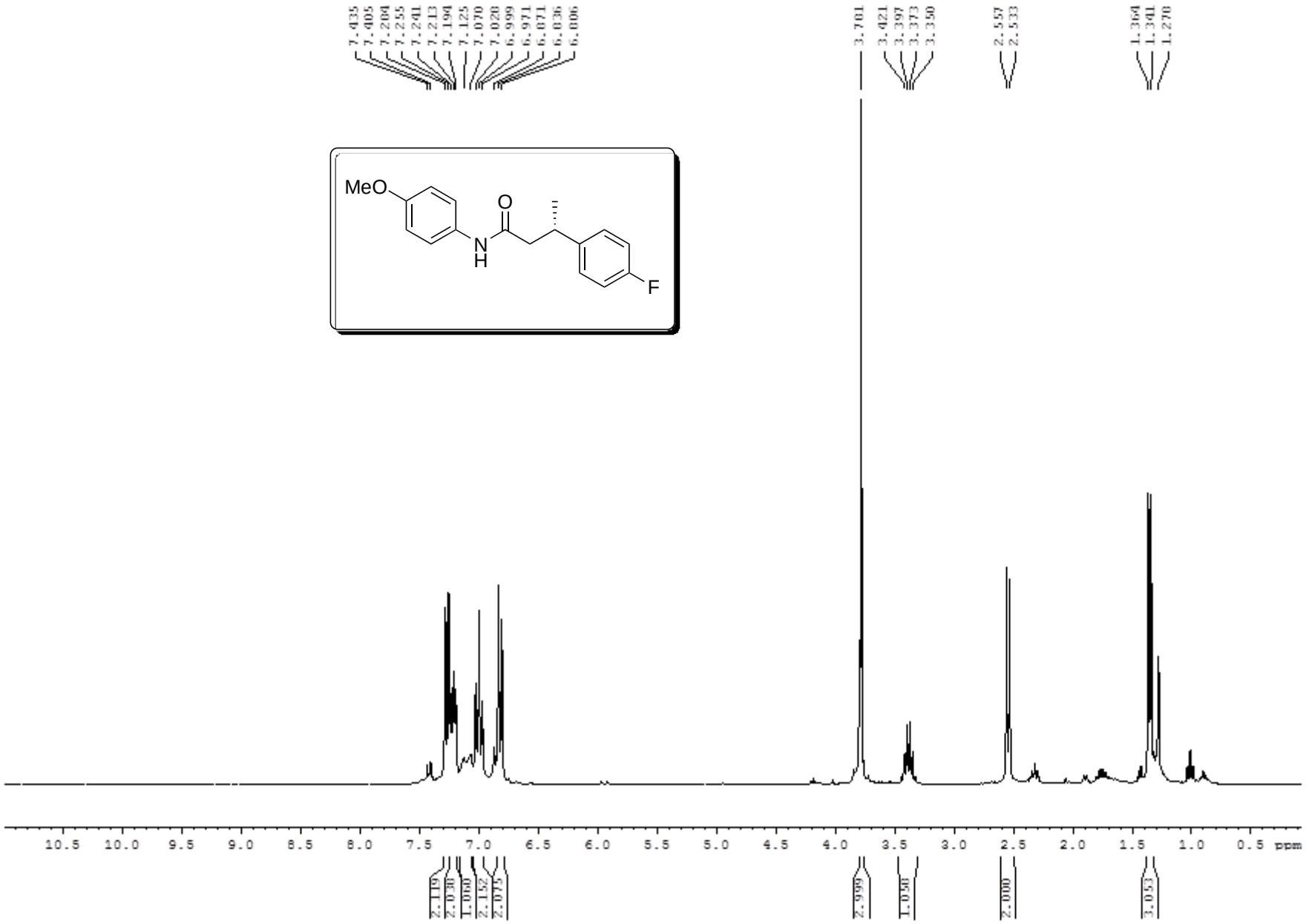
^{1}H NMR ($CDCl_3$, 360 MHz) spectrum of (*S*)-*N*-(4-Methoxyphenyl)-3-phenylbutanamide (8)



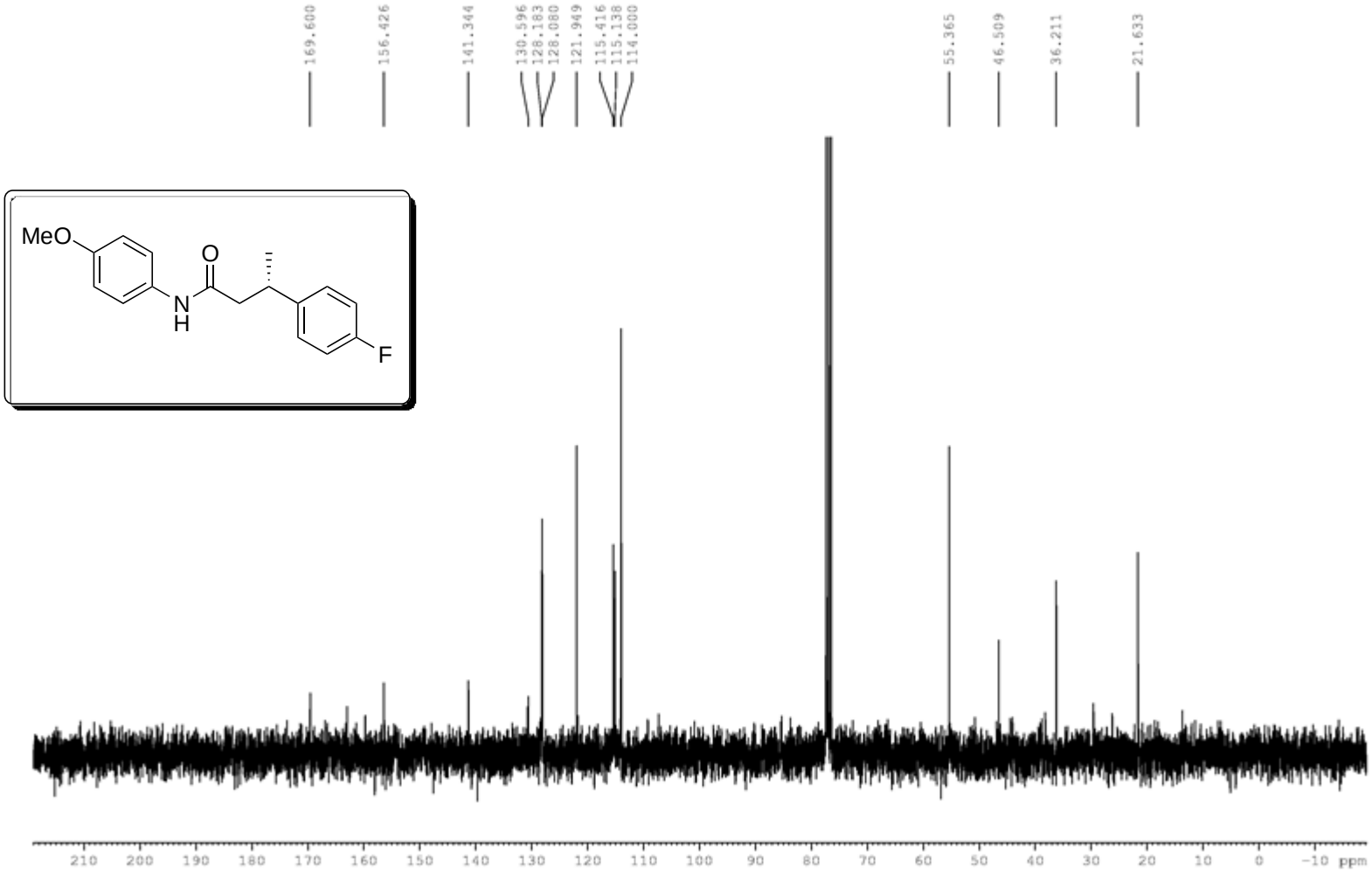
^{13}C NMR ($CDCl_3$, 90.5 MHz) spectrum of (*S*)-*N*-(4-Methoxyphenyl)-3-phenylbutanamide (8)



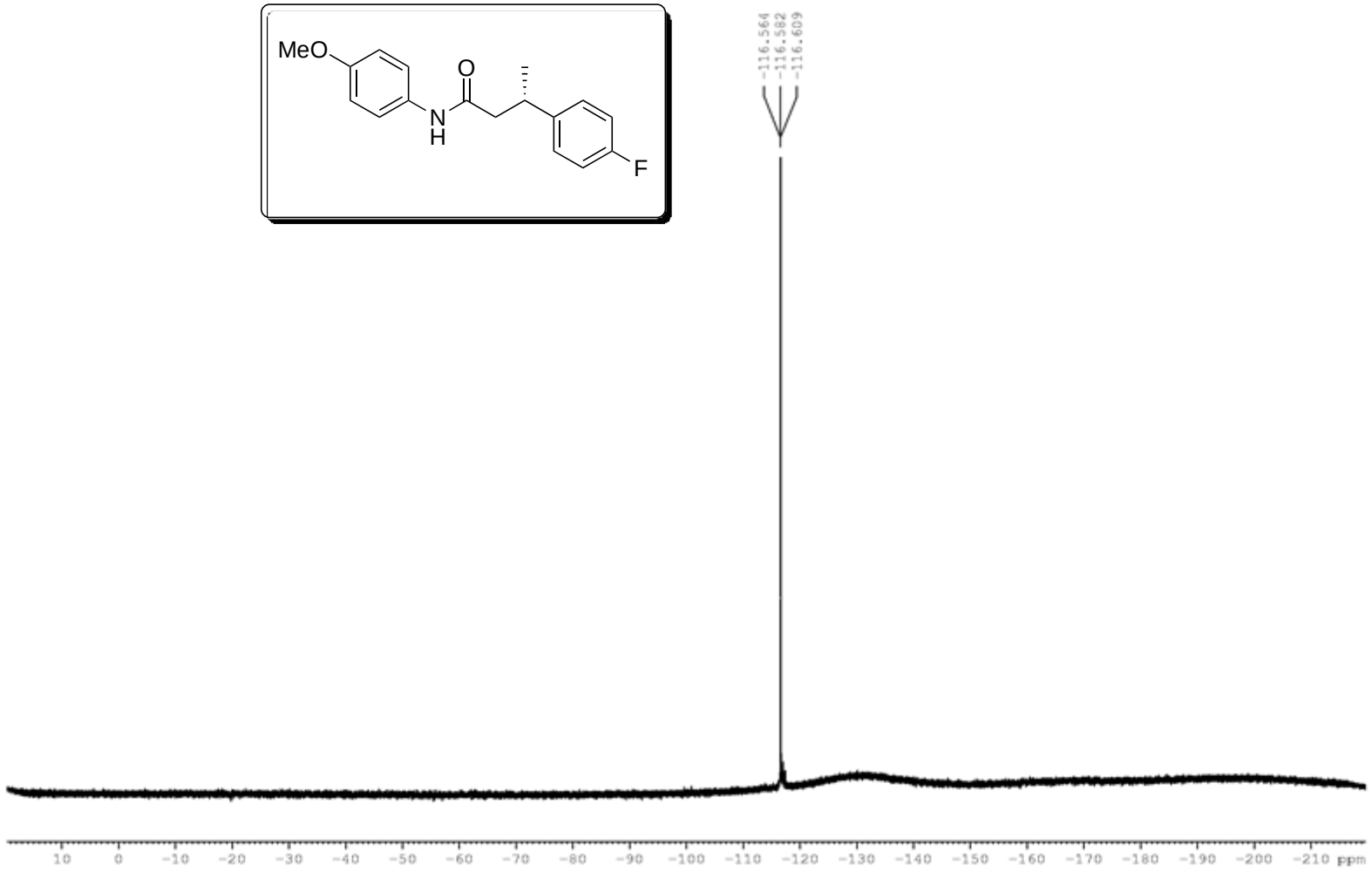
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*S*)-3-(4-Fluorophenyl)-*N*-(4-methoxyphenyl)butanamide (13a)



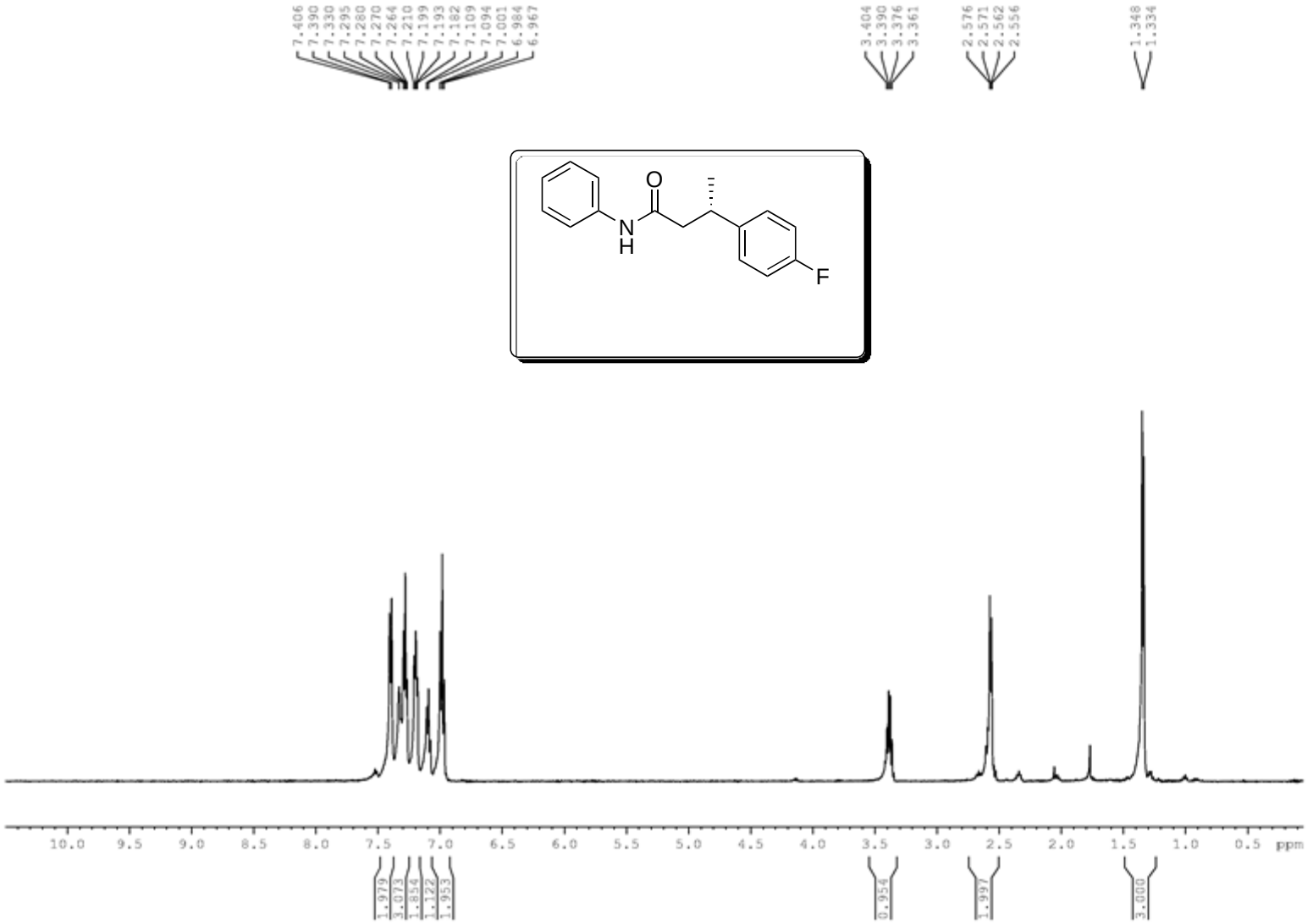
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*S*)-3-(4-Fluorophenyl)-*N*-(4-methoxyphenyl)butanamide (13a)



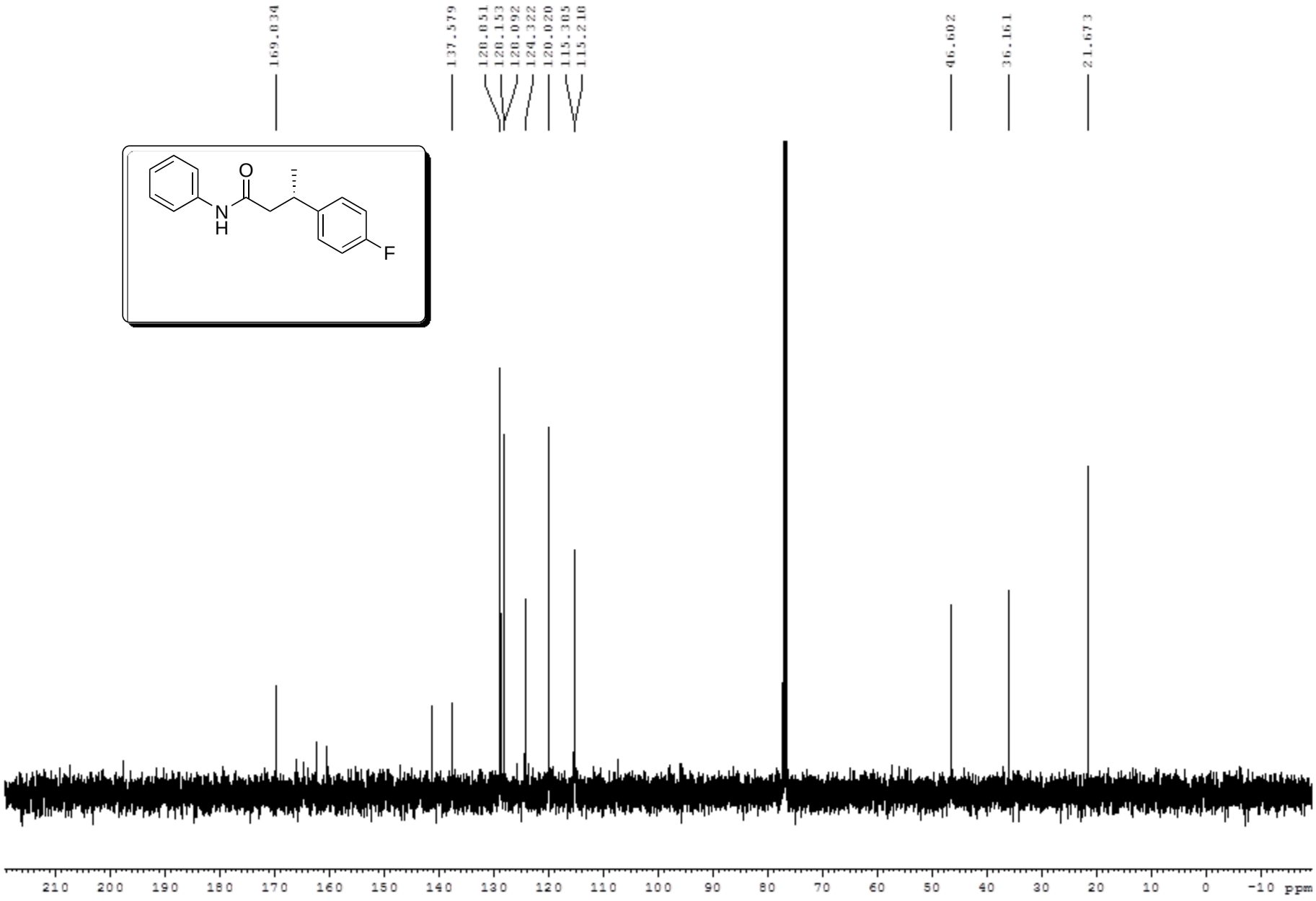
^{19}F NMR ($CDCl_3$, 282.4 MHz) spectrum of (*S*)-3-(4-Fluorophenyl)-*N*-(4-methoxyphenyl)butanamide (13a)



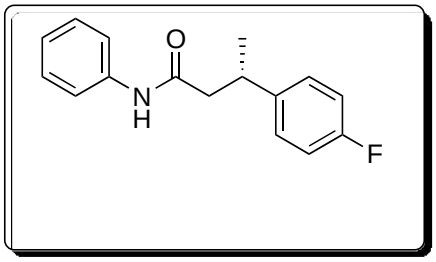
^{1}H NMR ($CDCl_3$, 500 MHz) spectrum of (*S*)-3-(4-Fluorophenyl)-*N*-phenylbutanamide (13b)



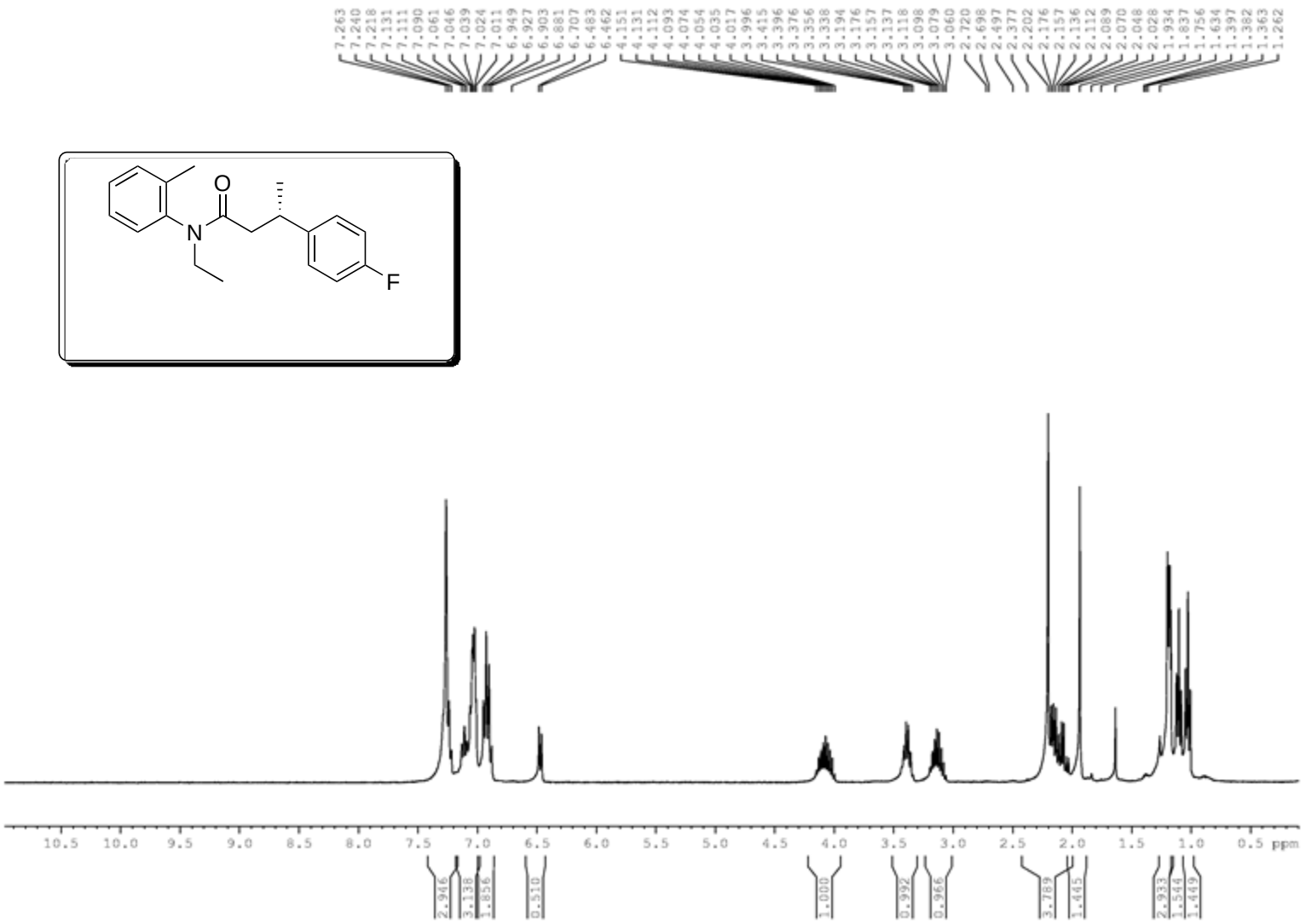
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*S*)-3-(4-Fluorophenyl)-*N*-phenylbutanamide (13b)



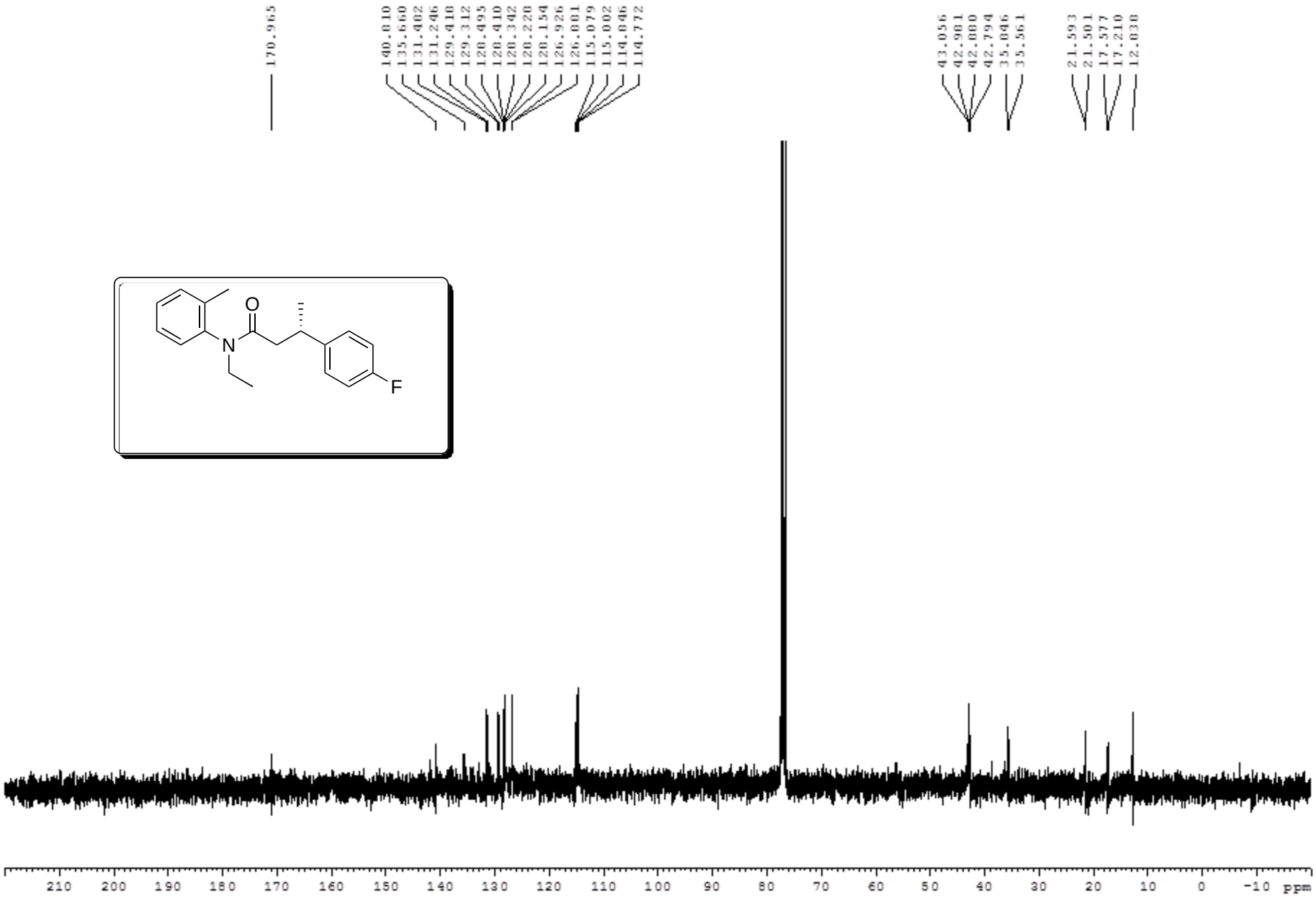
^{19}F NMR ($CDCl_3$,470.8 MHz) spectrum of (*S*)-3-(4-Fluorophenyl)-*N*-phenylbutanamide (13b)



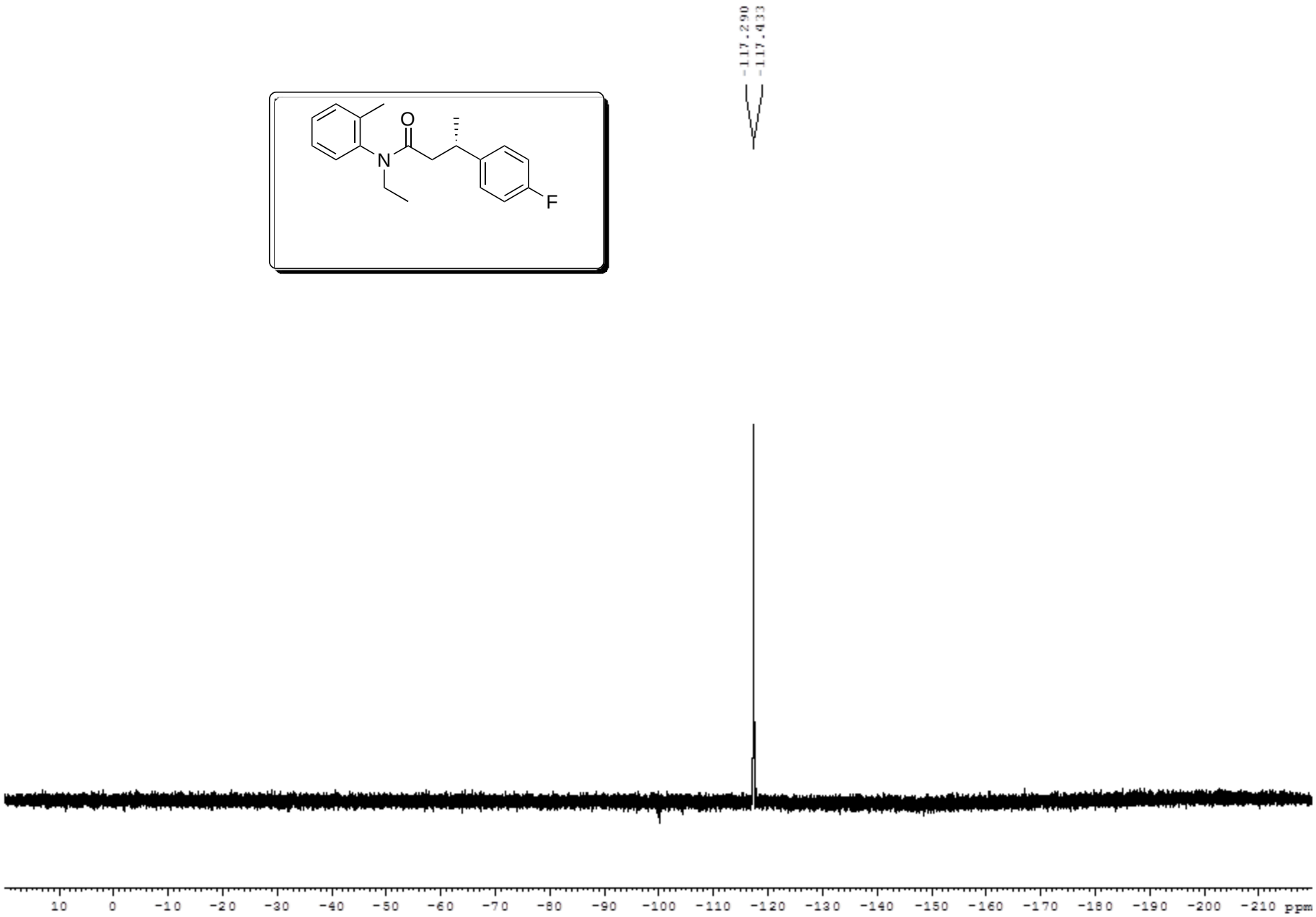
^{1}H NMR ($CDCl_3$, 360 MHz) spectrum of (*S*)-*N*-Ethyl-3-(4-fluorophenyl)-*N*-(*o*-tolyl)butanamide (13c)



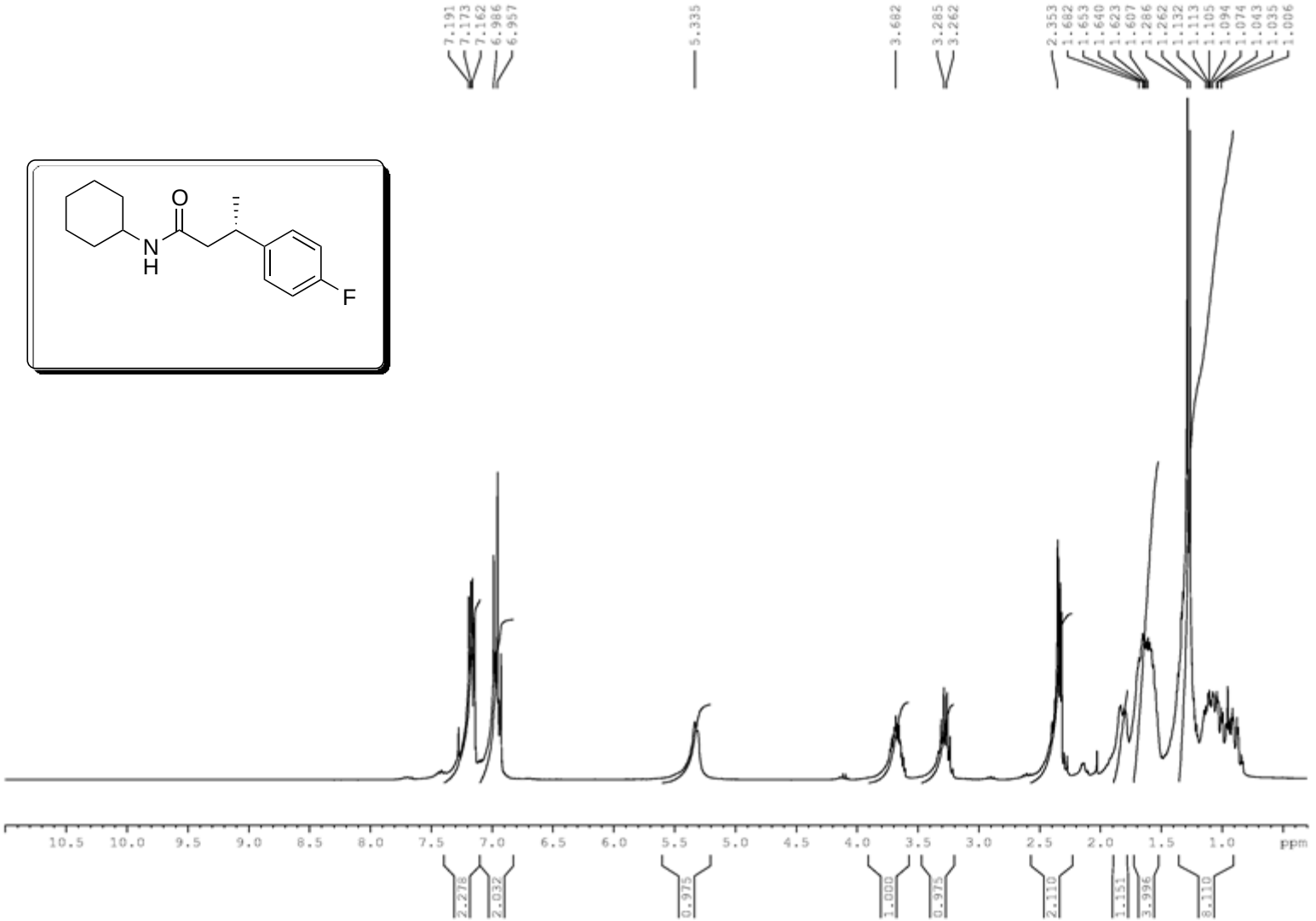
^{13}C NMR ($CDCl_3$, 90.5 MHz) spectrum of (*S*)-*N*-Ethyl-3-(4-fluorophenyl)-*N*-(*o*-tolyl)butanamide (13c)



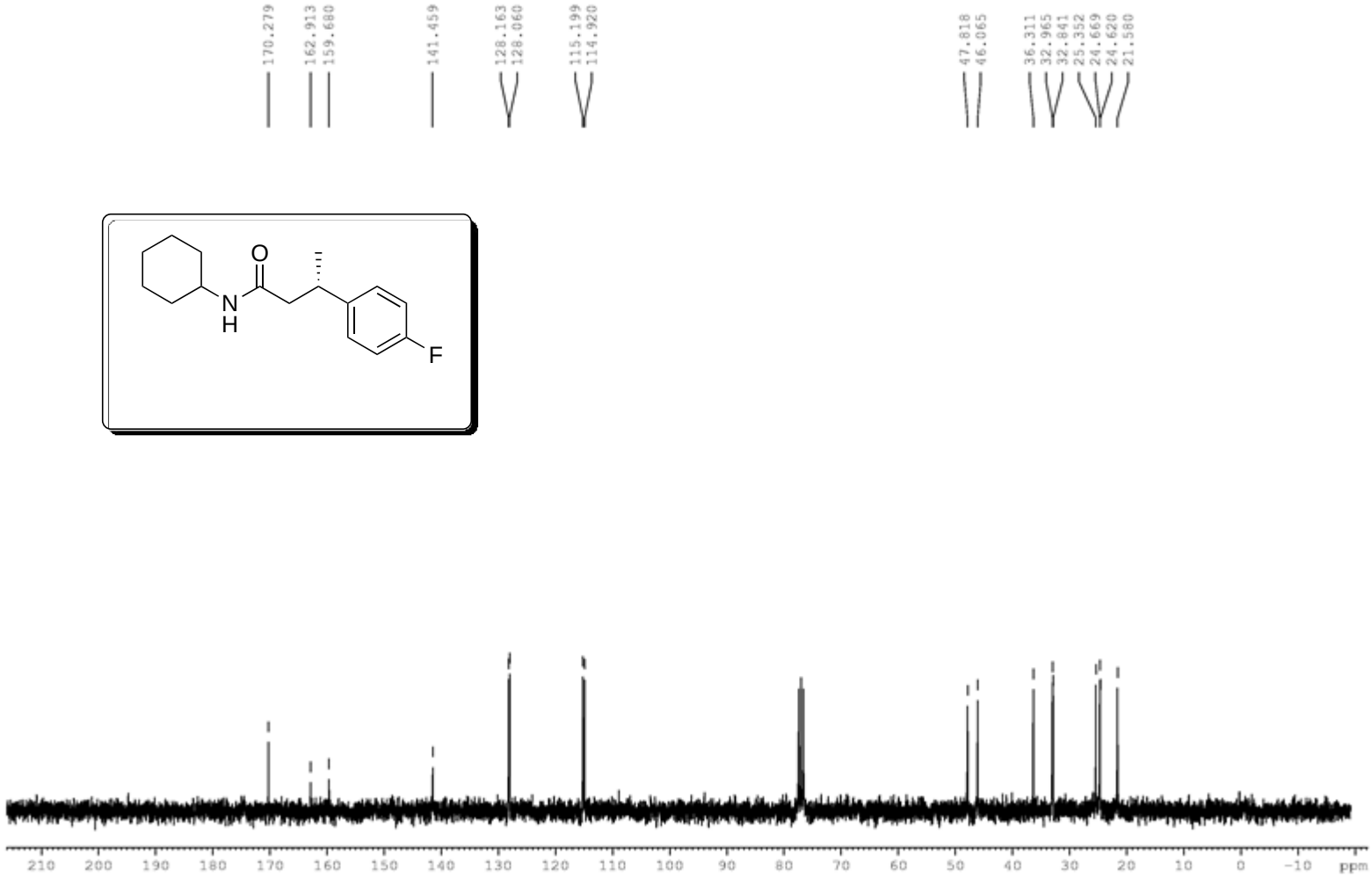
^{19}F NMR ($CDCl_3$, 338.8 MHz) spectrum of (*S*)-*N*-Ethyl-3-(4-fluorophenyl)-*N*-(*o*-tolyl)butanamide (13c)



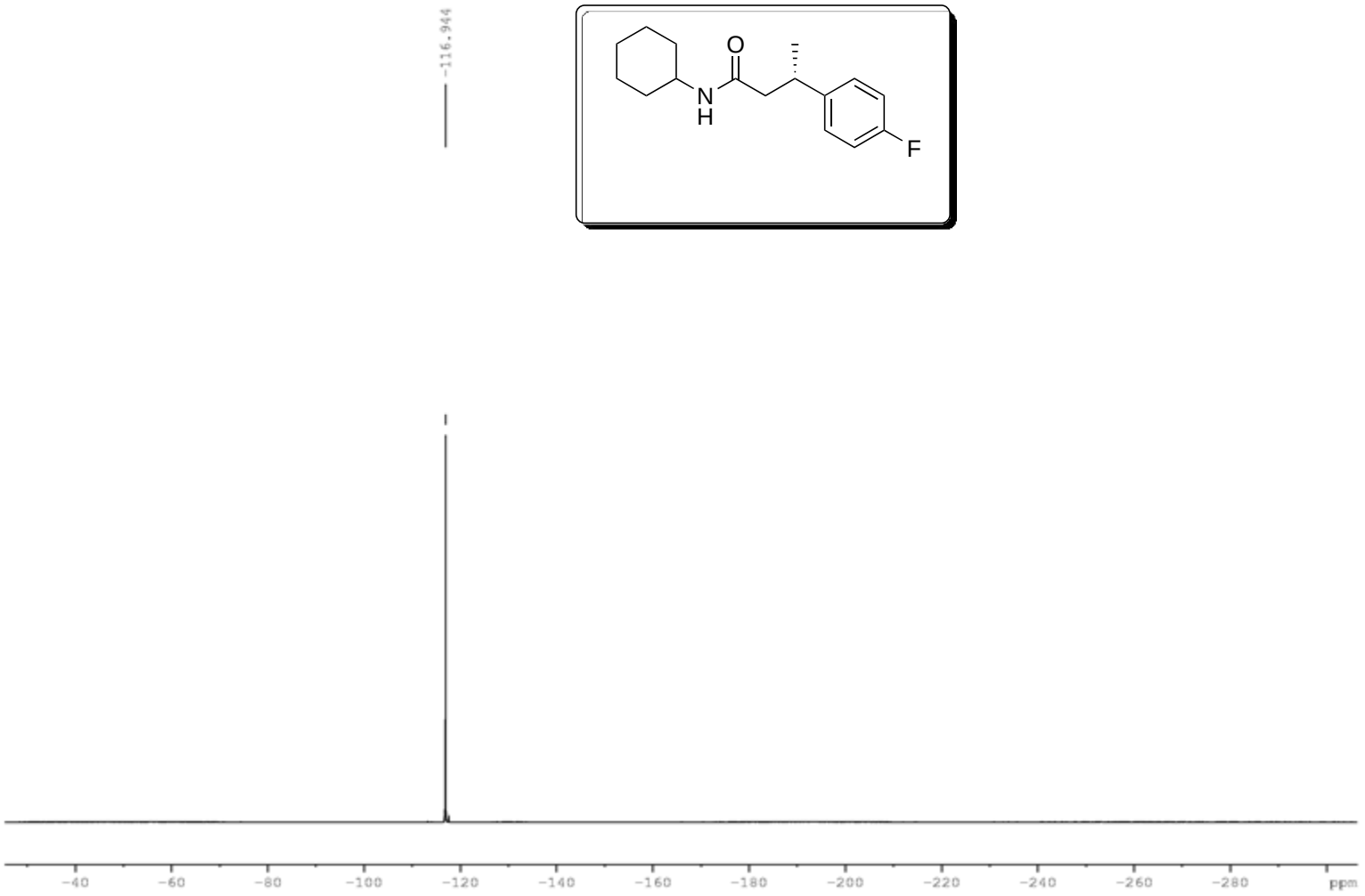
^{1}H NMR ($CDCl_3$, 300 MHz) spectrum of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)butanamide (13d)



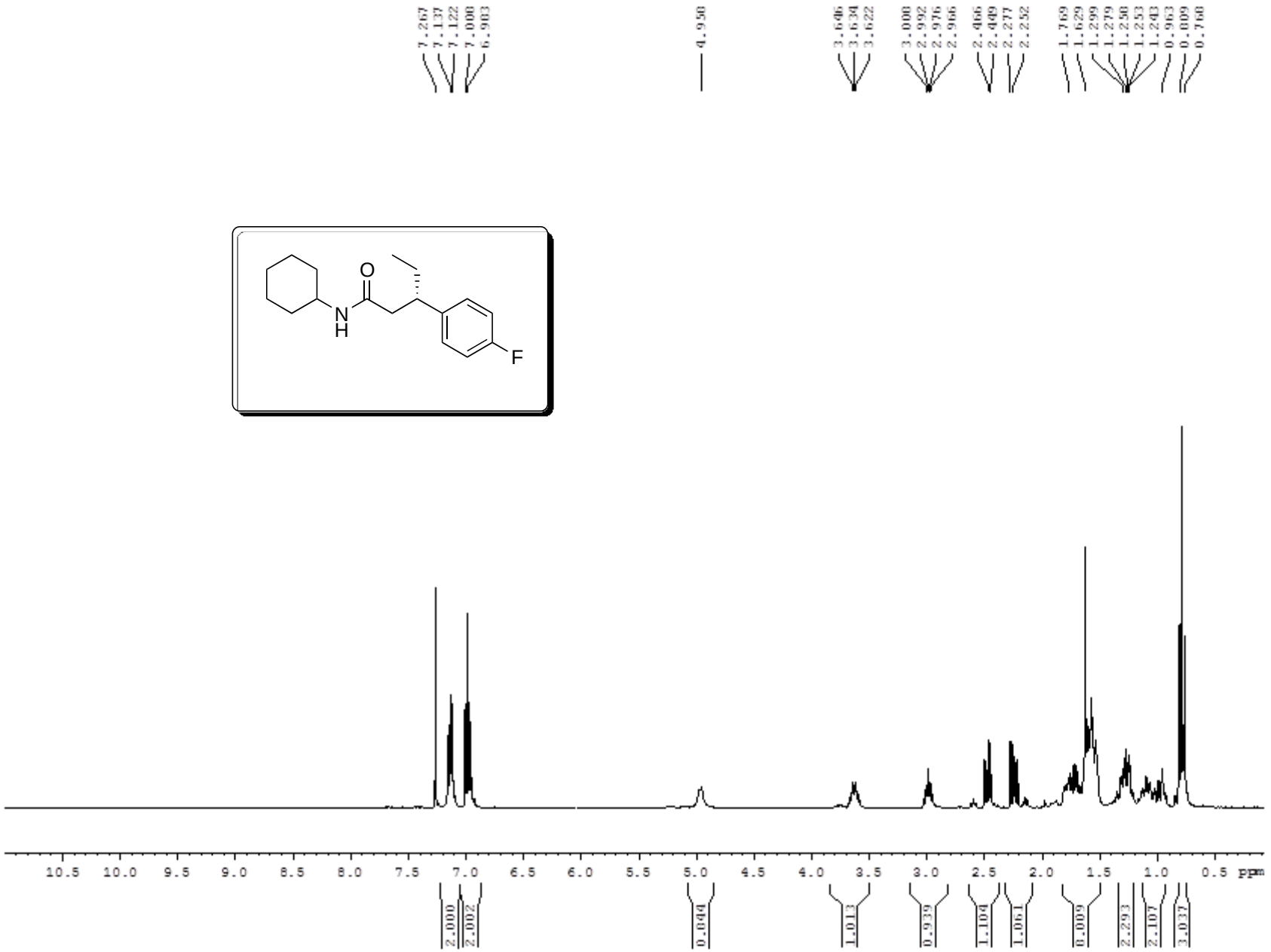
^{13}C NMR ($CDCl_3$, 75.4 MHz) spectrum of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)butanamide (13d)



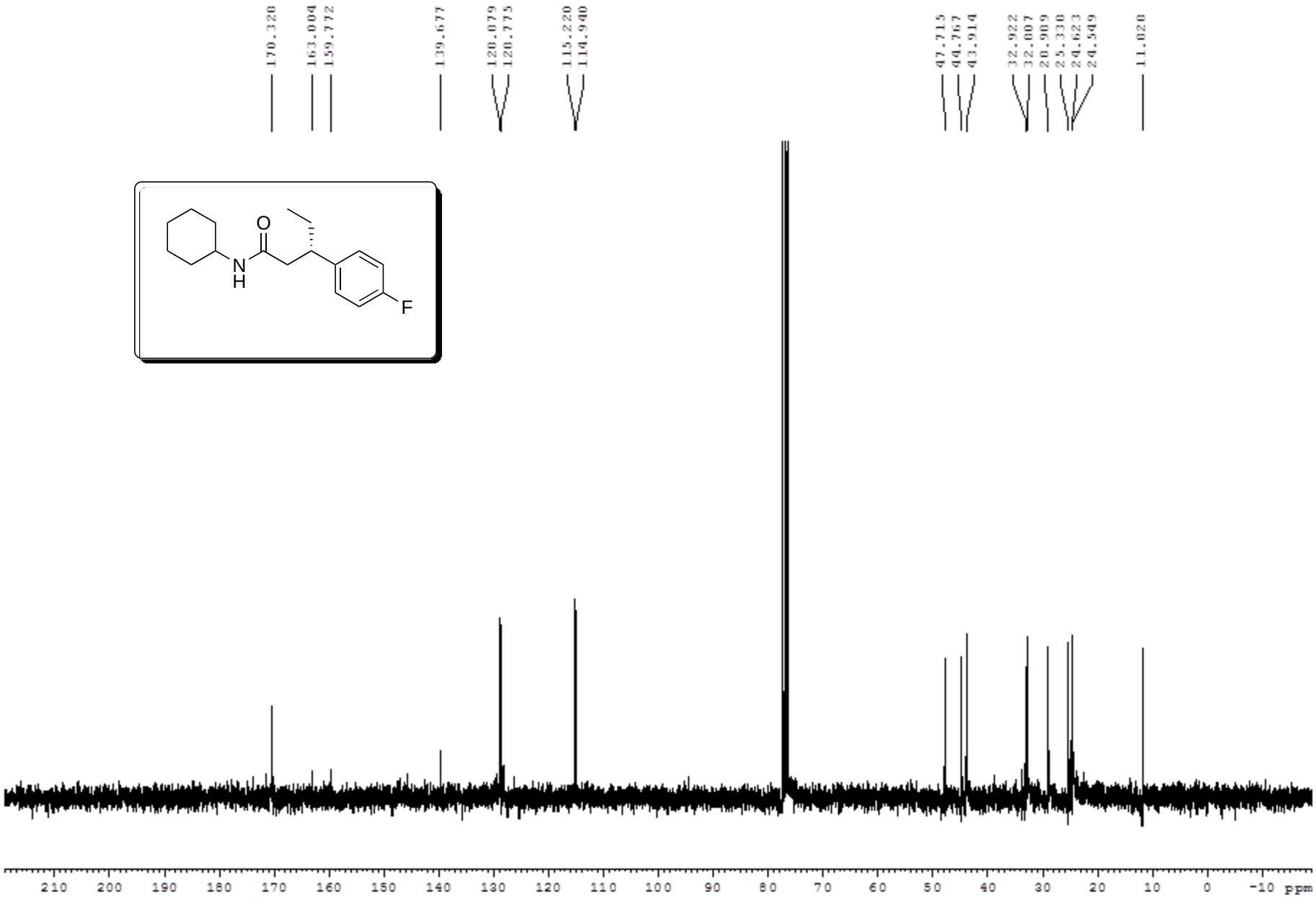
^{19}F NMR ($CDCl_3$, 282.4 MHz) spectrum of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)butanamide (13d)



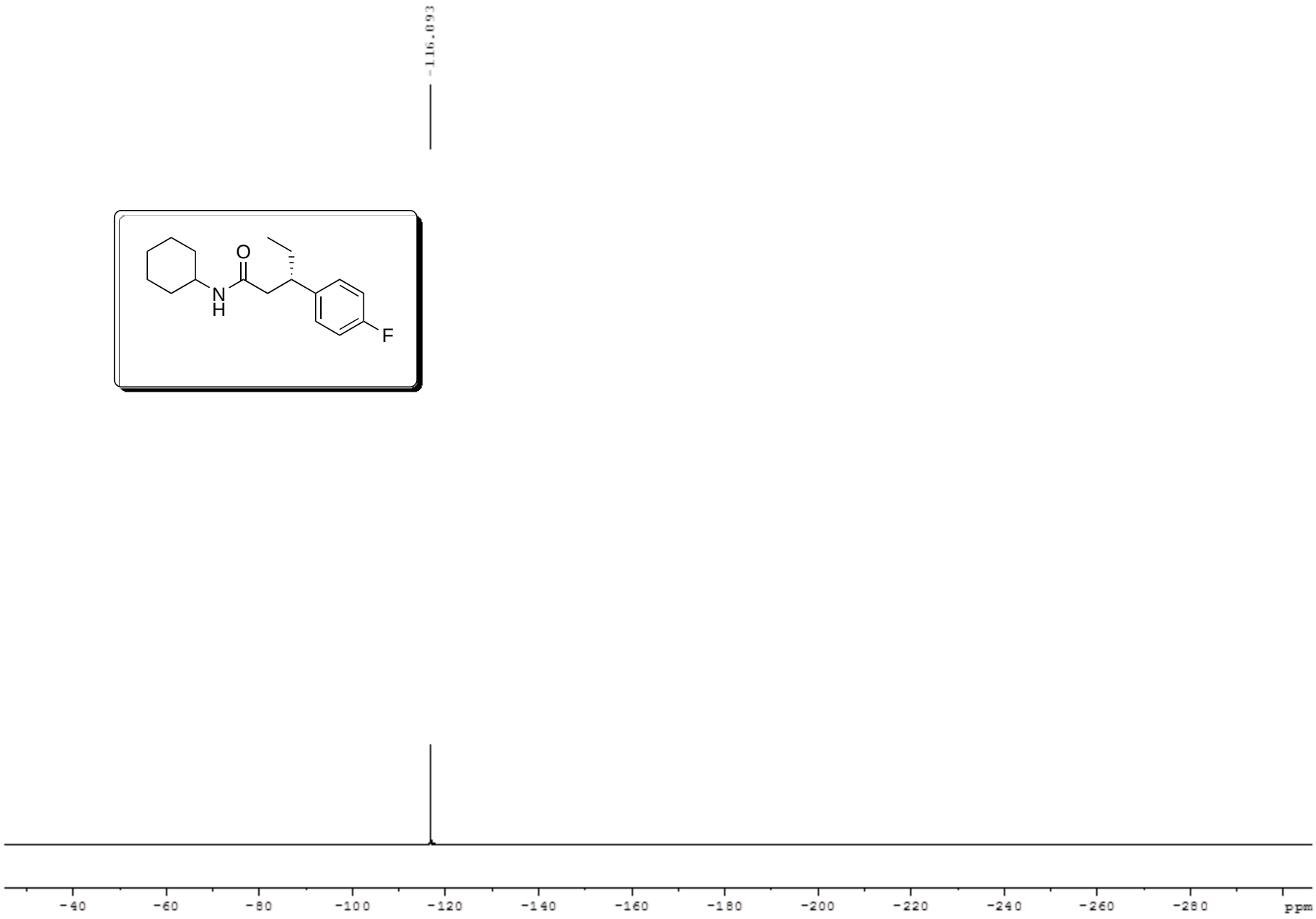
^{1}H NMR ($CDCl_3$, 360 MHz) spectrum of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)pentanamide (13e)



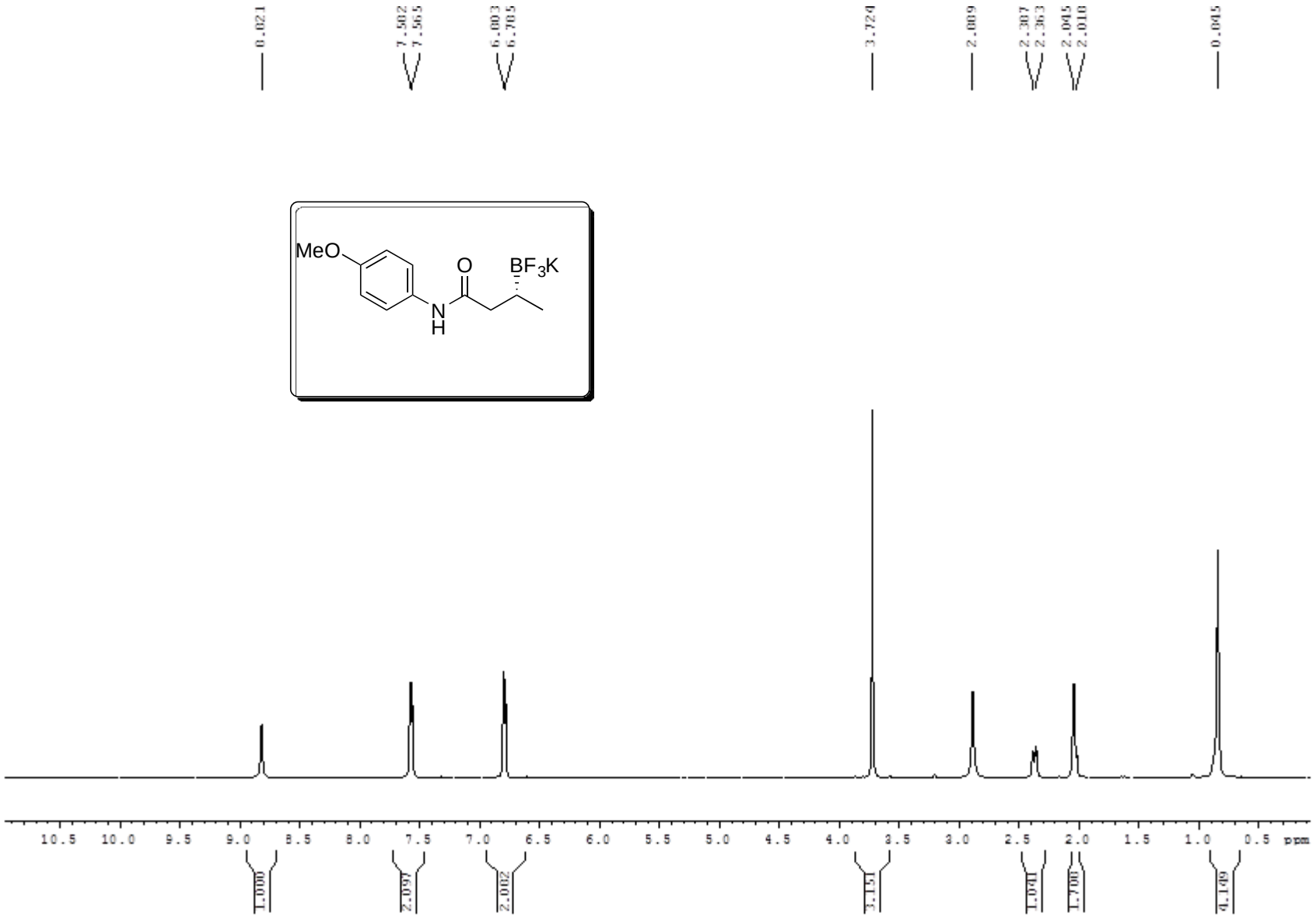
^{13}C NMR ($CDCl_3$, 125.8 MHz) spectrum of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)pentanamide (13e)



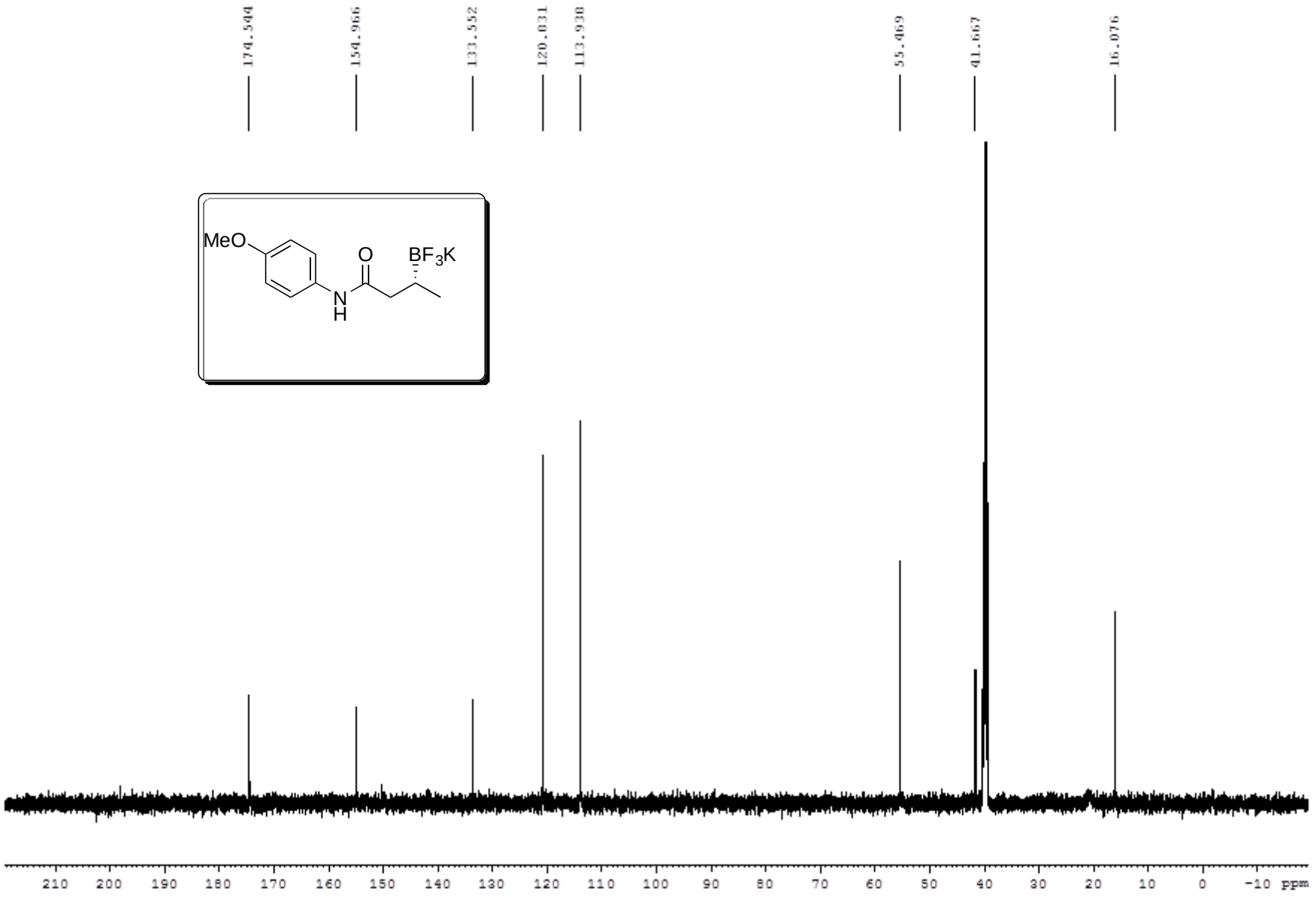
^{19}F NMR (DMSO, 470.8 MHz) spectrum of (*S*)-*N*-Cyclohexyl-3-(4-fluorophenyl)pentanamide (13e)



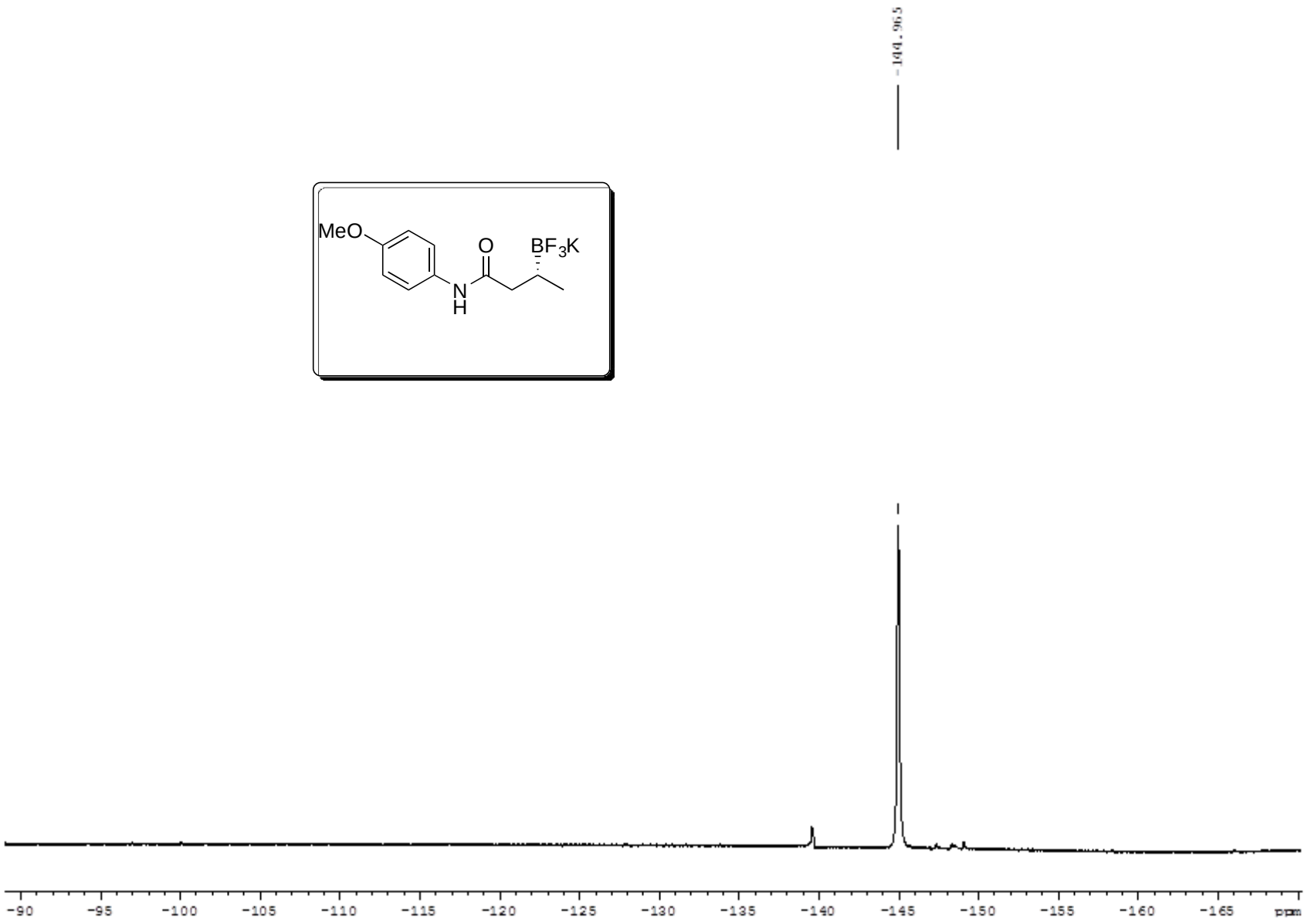
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a) from borylation with tetrakis(dimethylamino)diboron



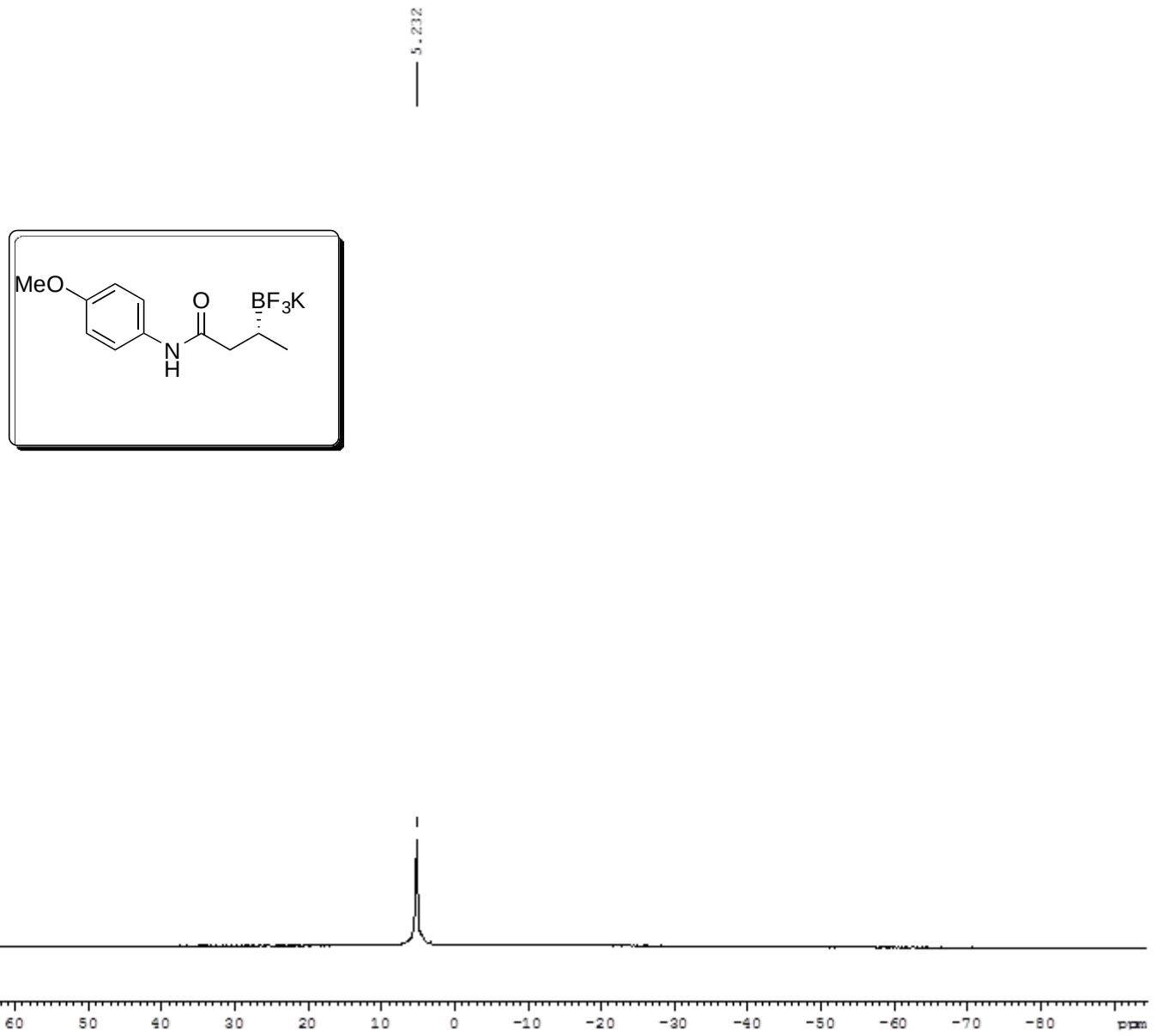
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a) from borylation with tetrakis(dimethylamino)diboron



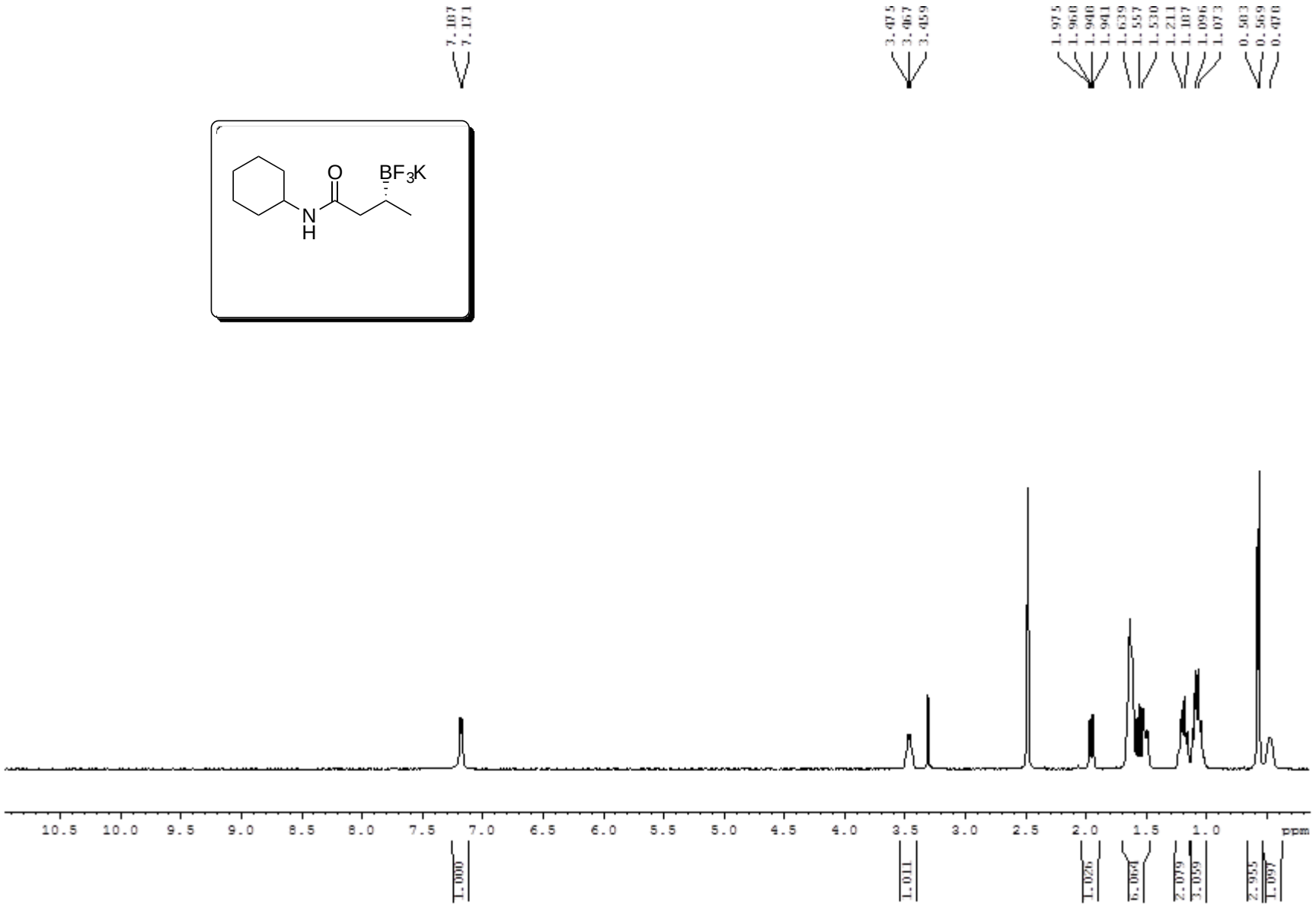
^{19}F NMR (Acetone, 470.8 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a) from borylation with tetrakis(dimethylamino)diboron



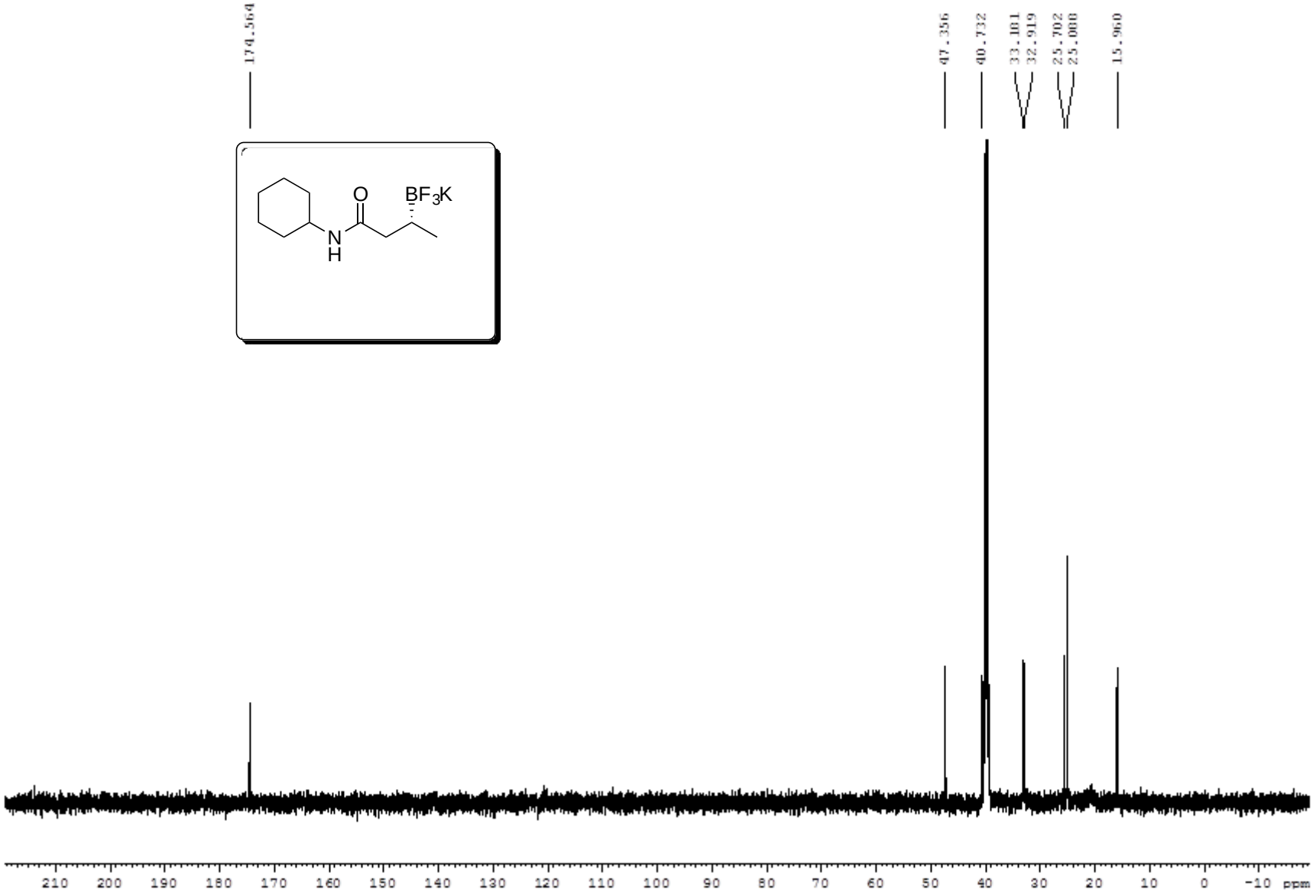
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-*N*-(4-methoxyphenyl)-3-(trifluoroborato)butanamide (2a) from borylation with tetrakis(dimethylamino)diboron



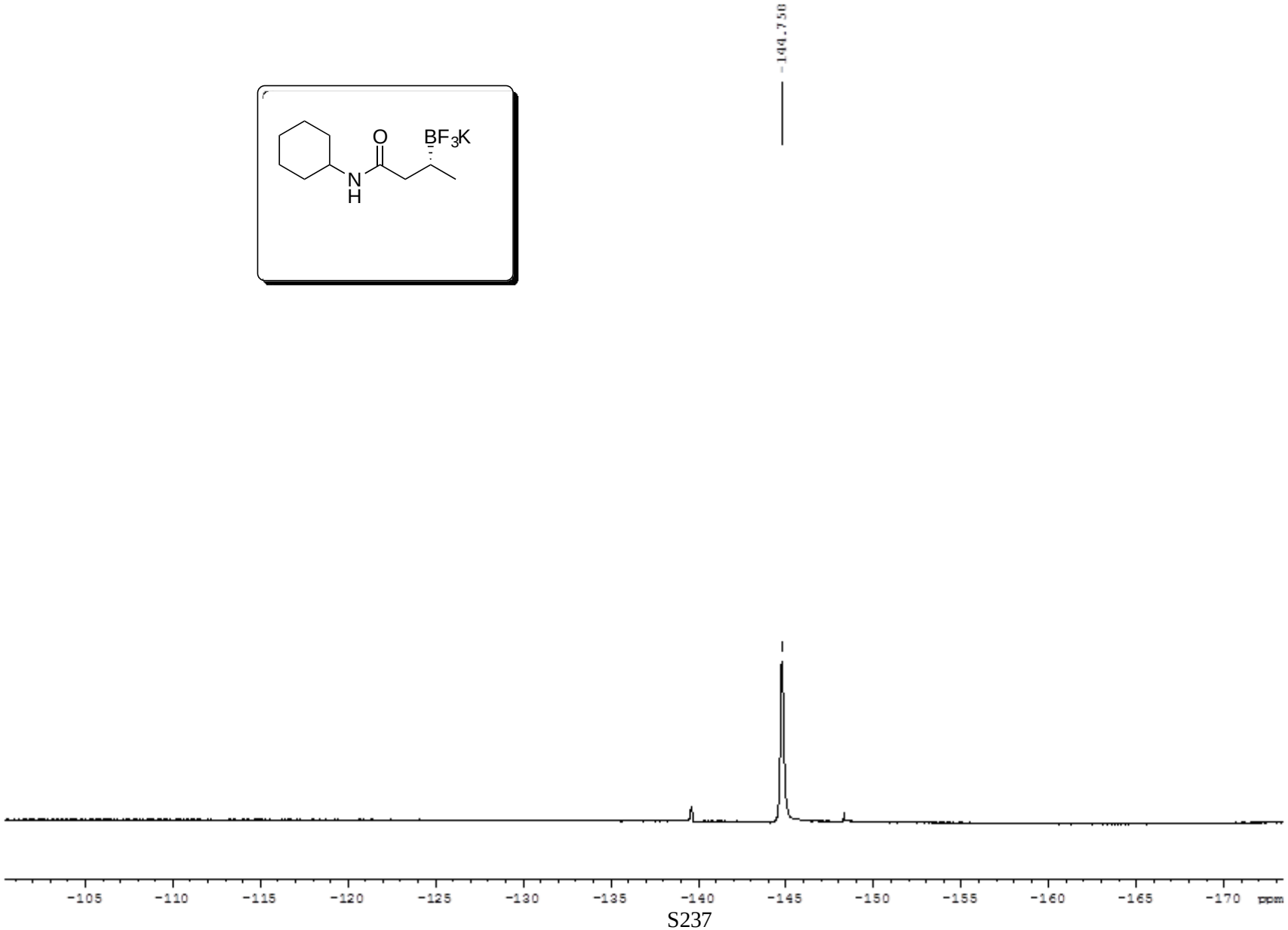
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d) from borylation with tetrakis(dimethylamino)diboron



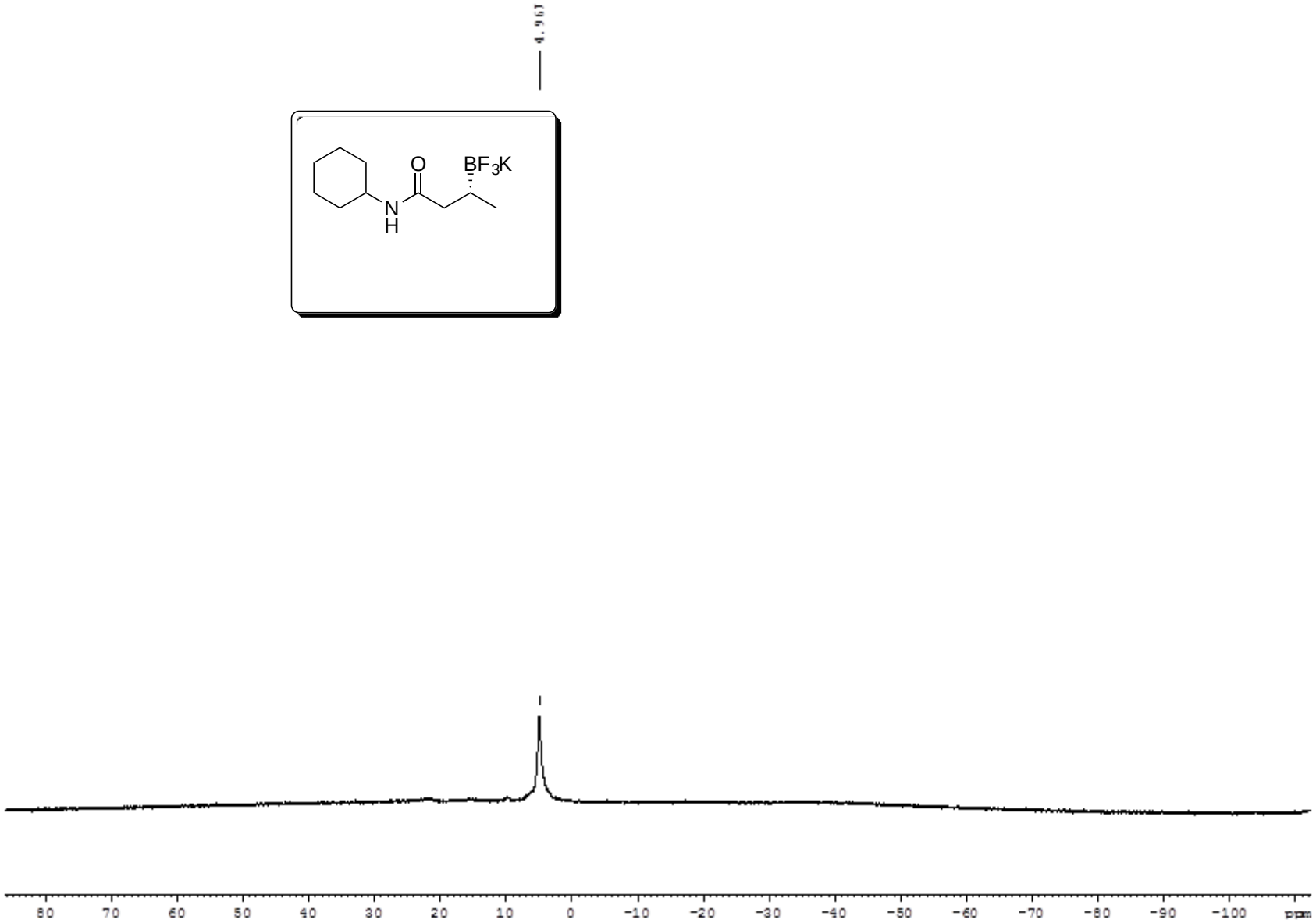
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d) from borylation with tetrakis(dimethylamino)diboron



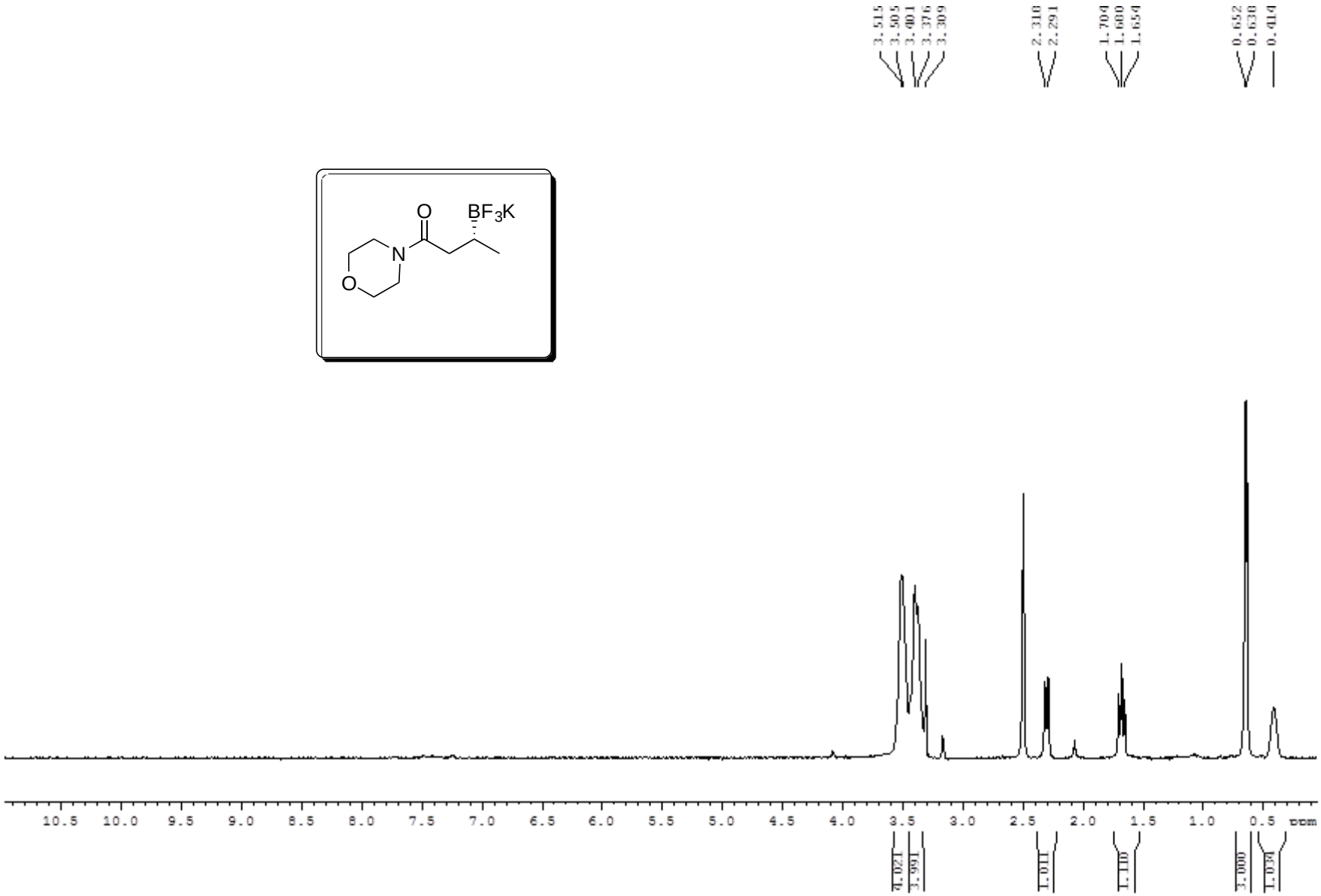
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d) from borylation with tetrakis(dimethylamino)diboron



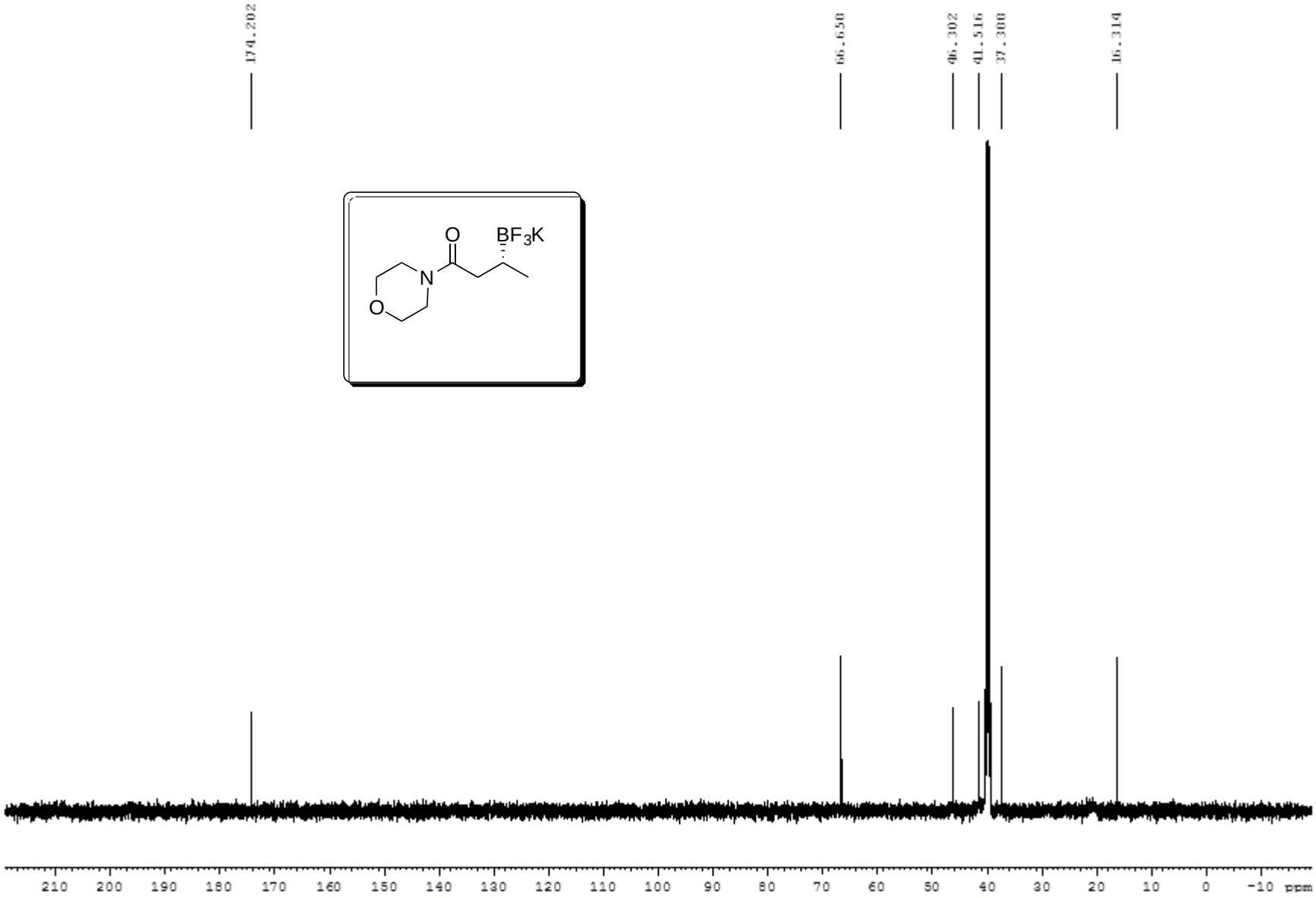
^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium (*R*)-*N*-cyclohexyl-3-(trifluoroborato)butanamide (2d) from borylation with tetrakis(dimethylamino)diboron



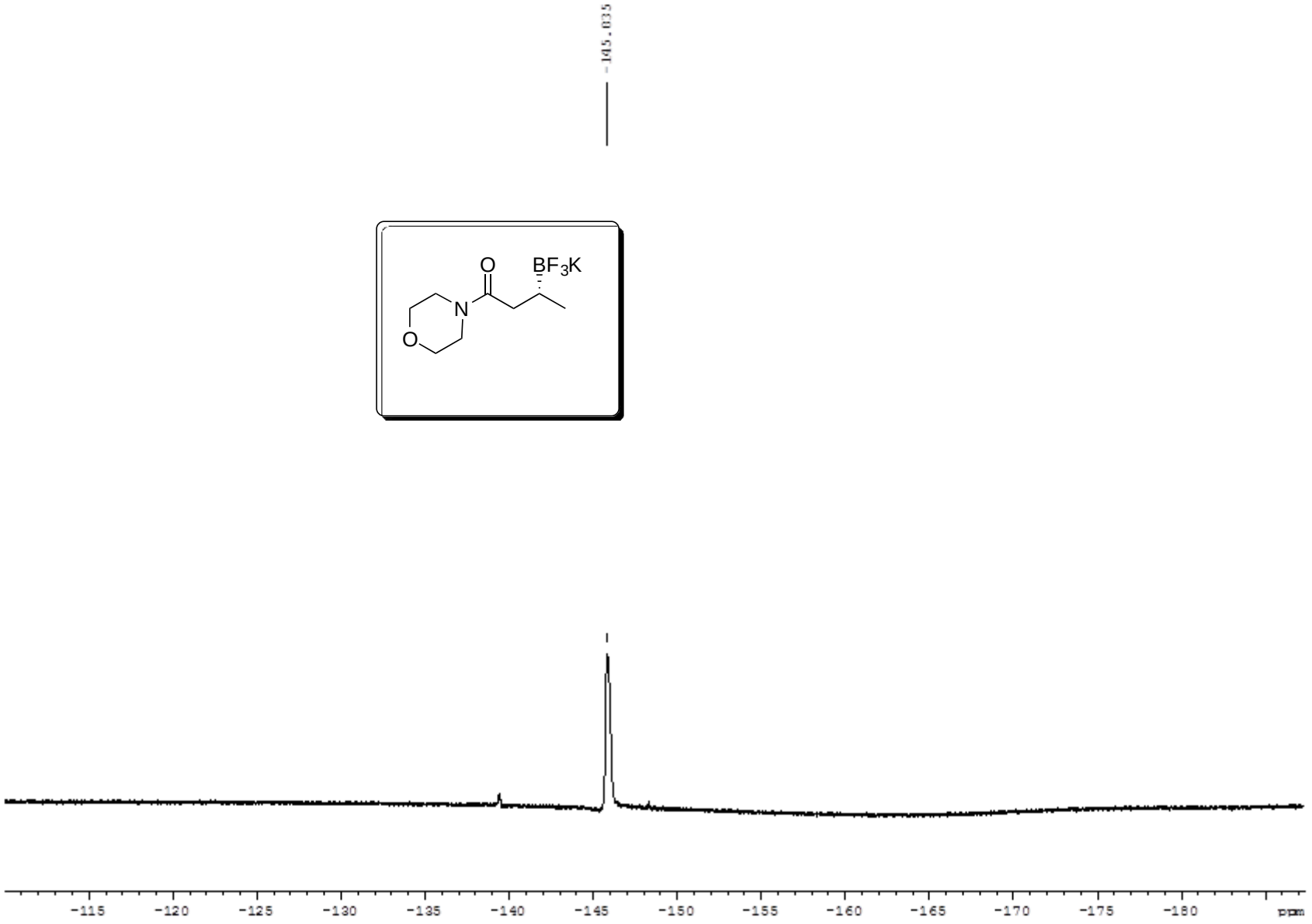
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h) from borylation with tetrakis(dimethylamino)diboron



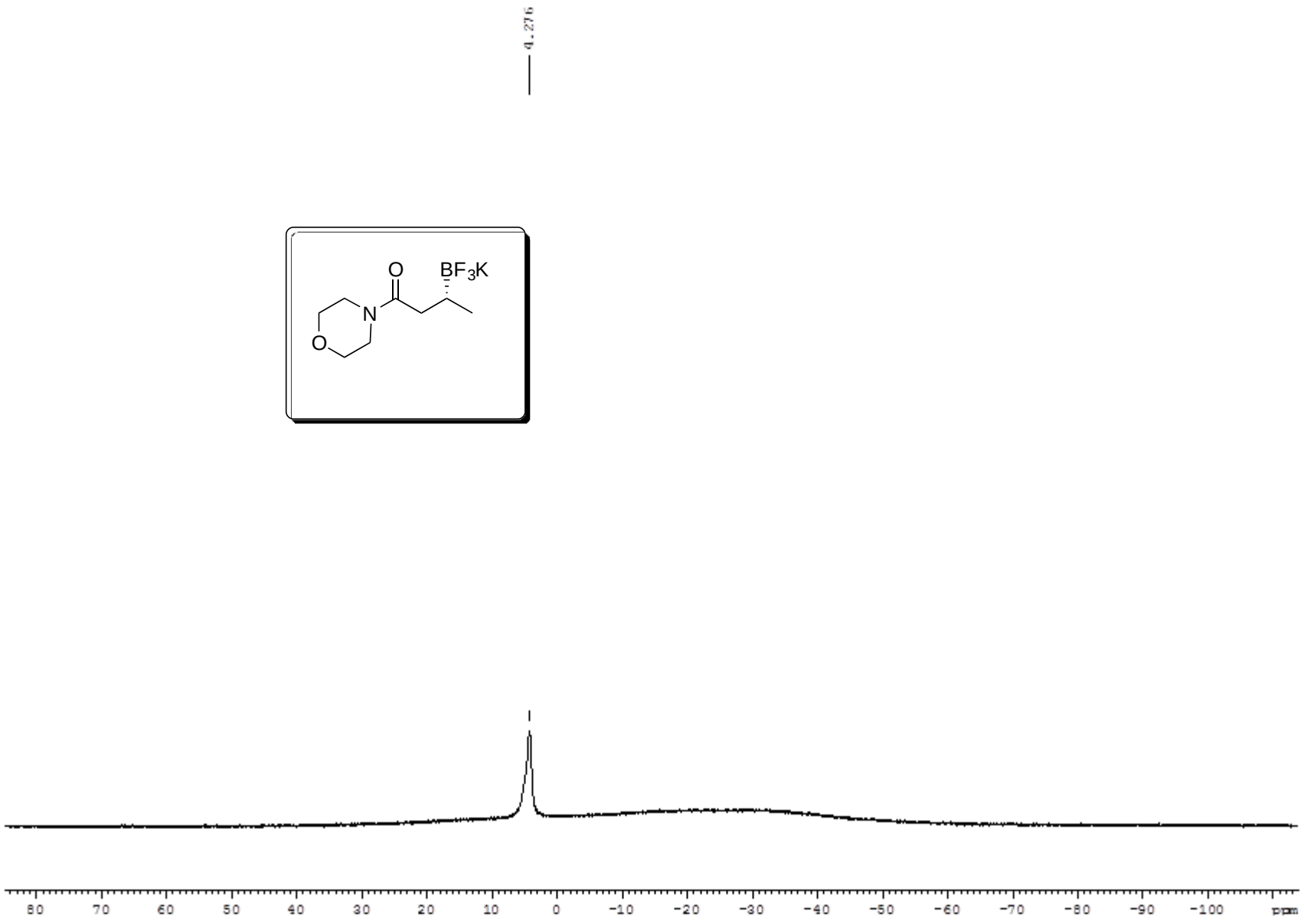
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h) from borylation with tetrakis(dimethylamino)diboron



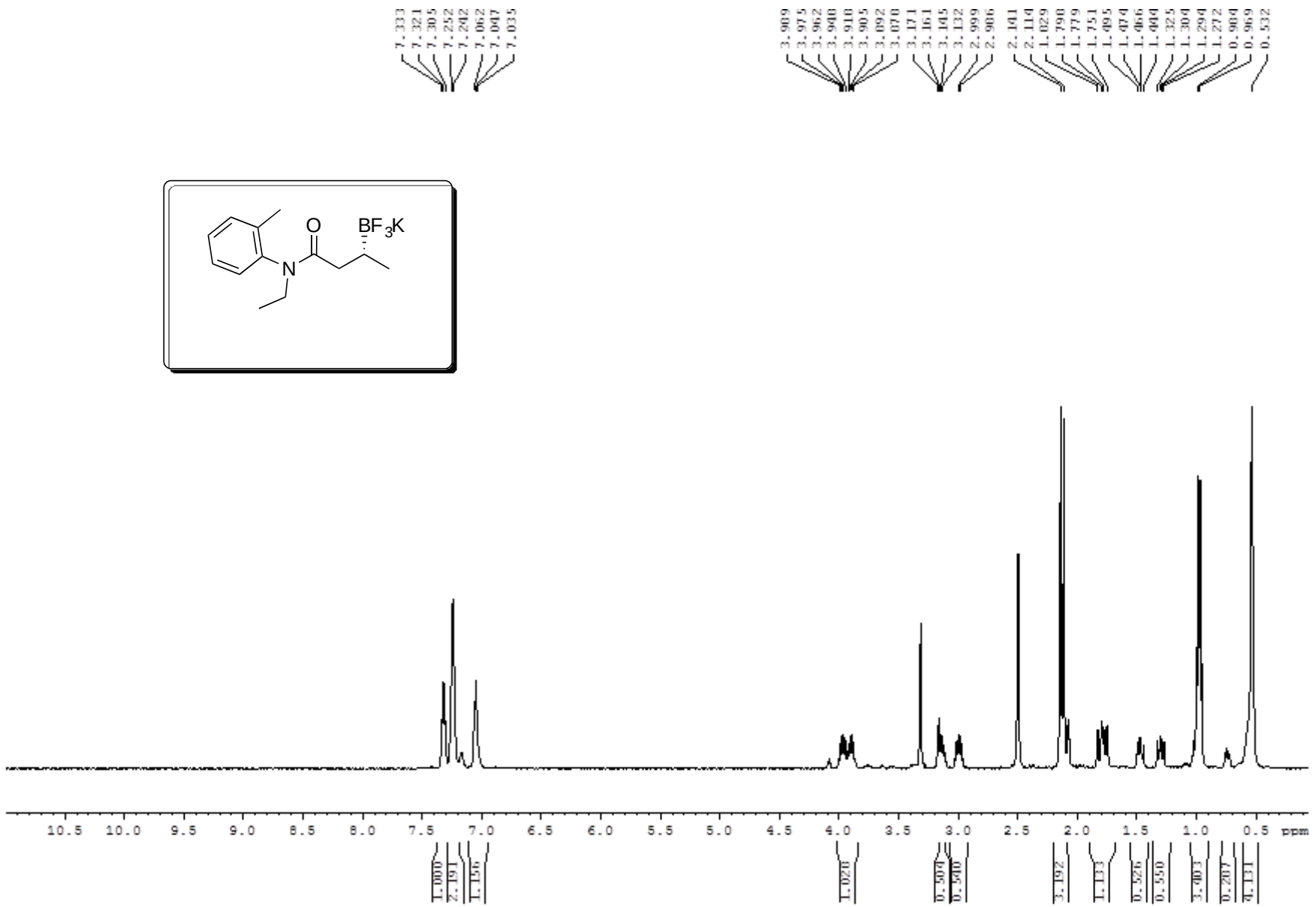
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h) from borylation with tetrakis(dimethylamino)diboron



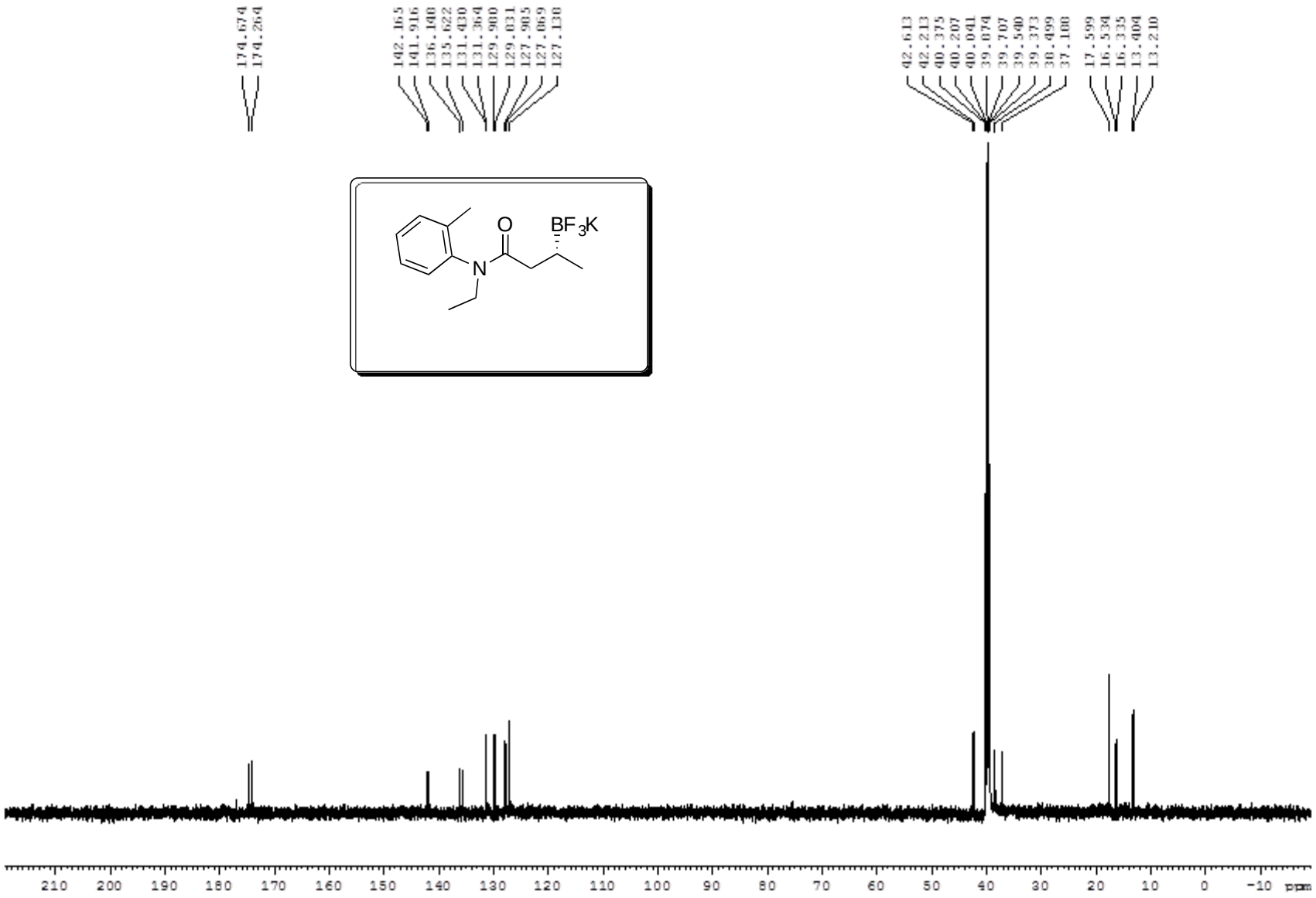
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)- 1-morpholino-3-(trifluoroborato)butan-1-one (2h) from borylation with tetrakis(dimethylamino)diboron



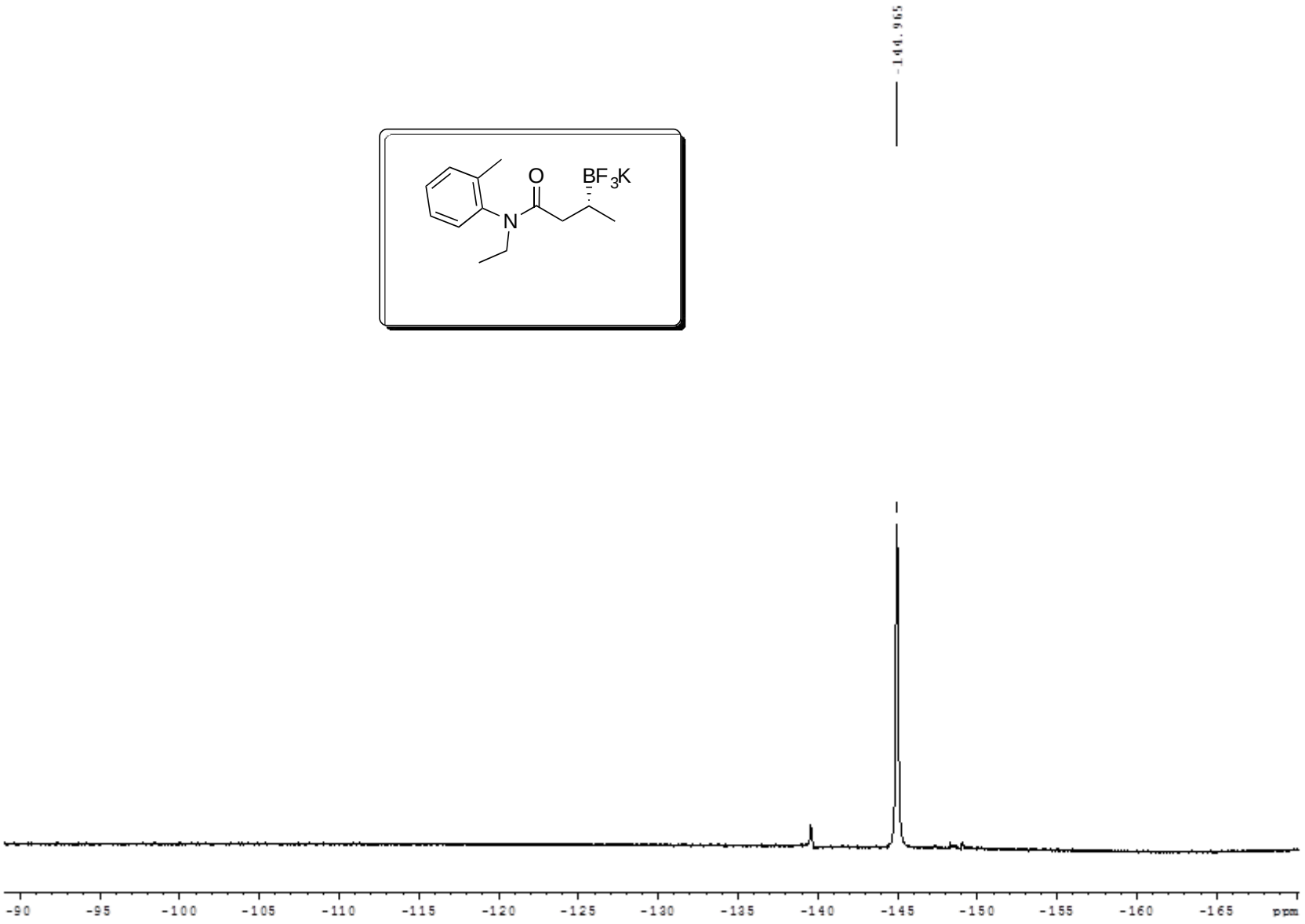
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j) from borylation with tetrakis(dimethylamino)diboron



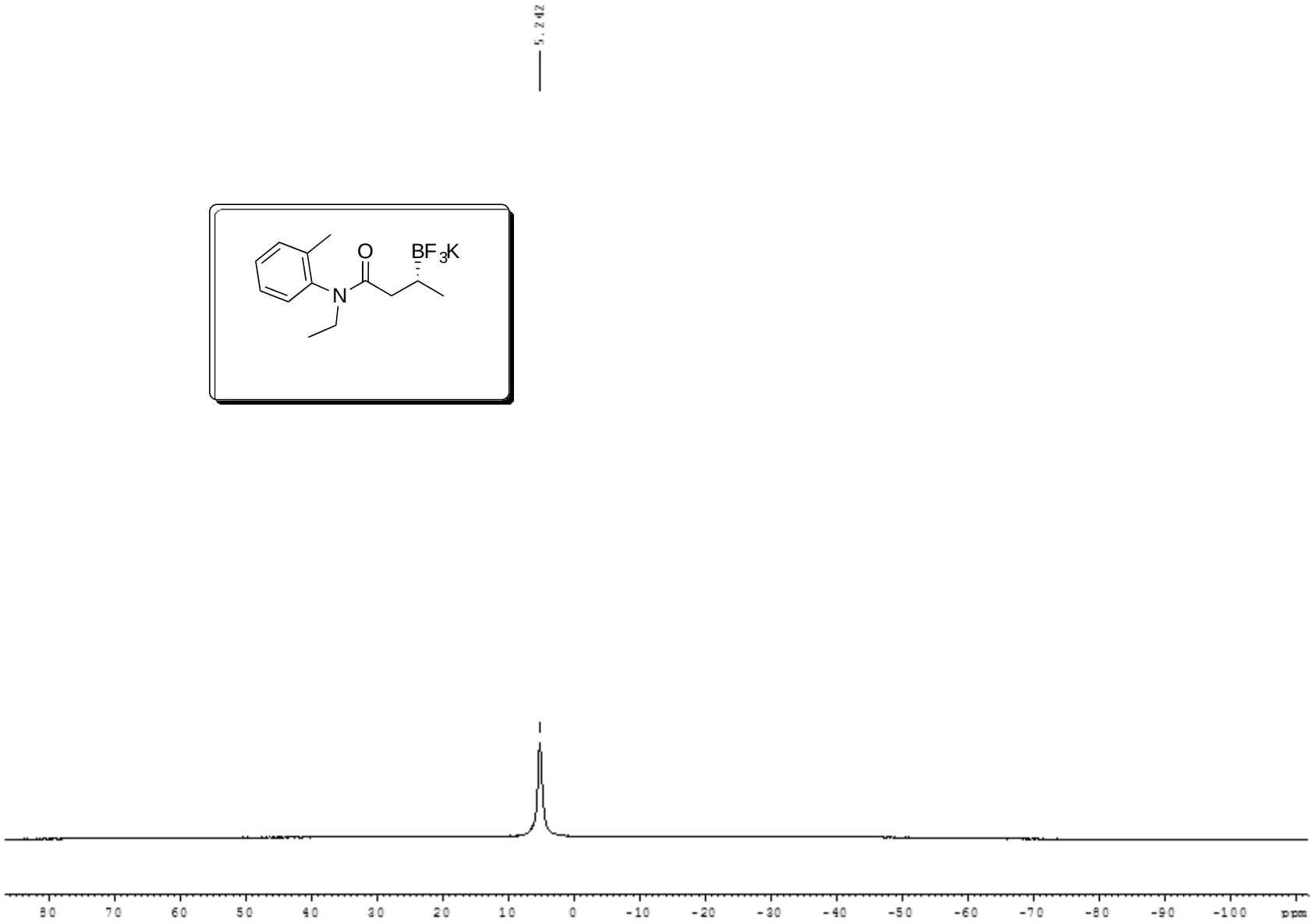
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j) from borylation with tetrakis(dimethylamino)diboron



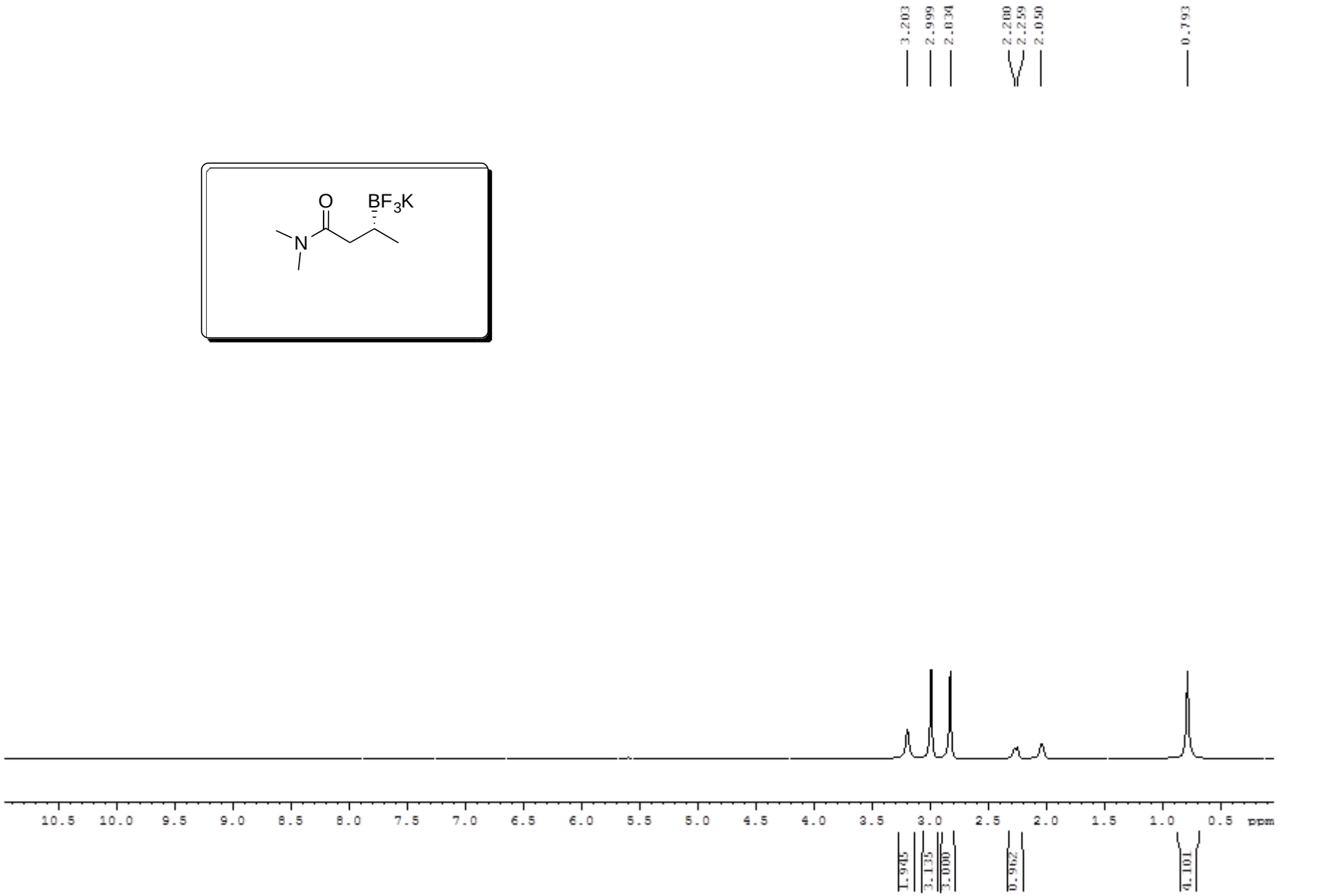
^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j) from borylation with tetrakis(dimethylamino)diboron



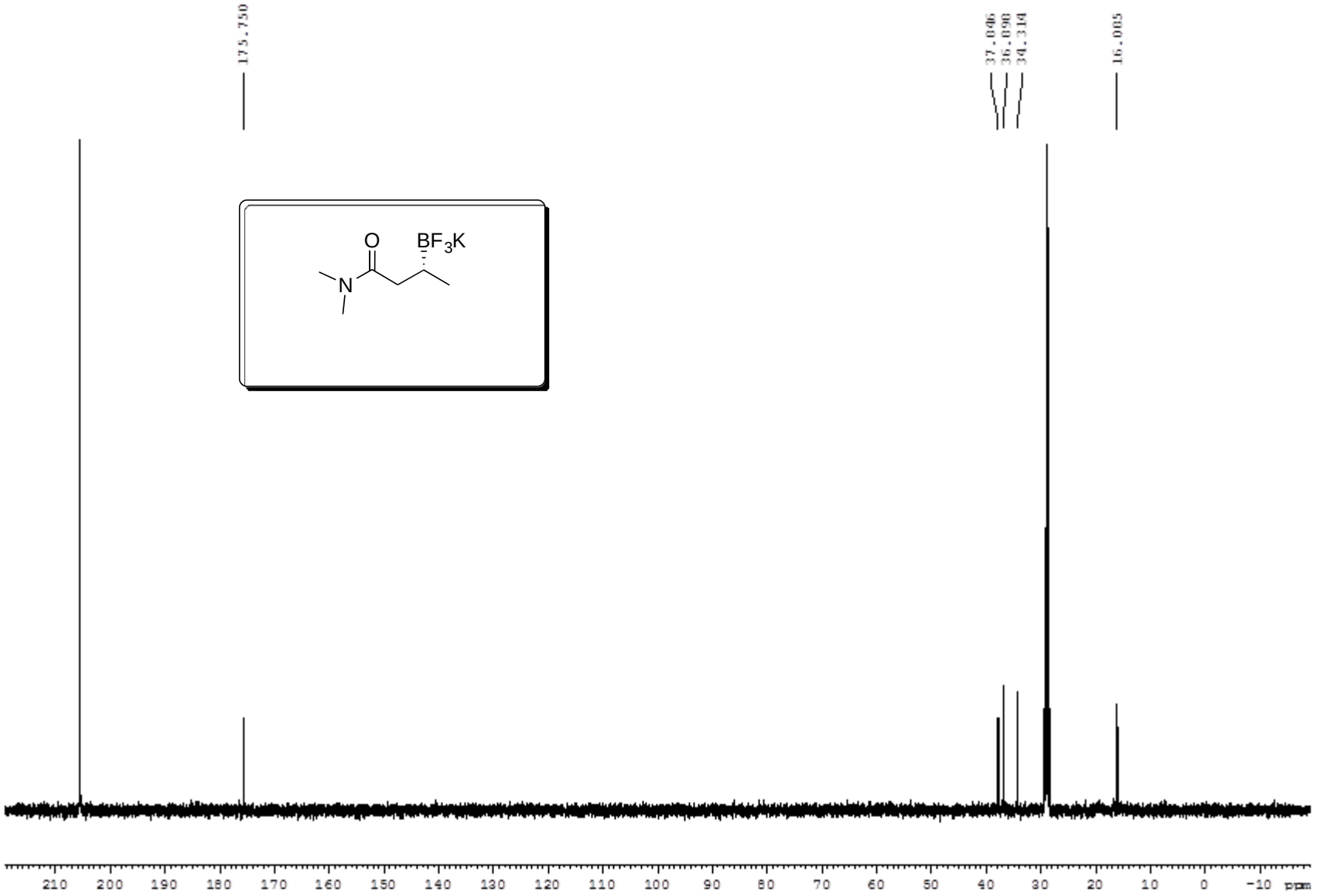
^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium *N*-ethyl-*N*-(o-tolyl)-3-(trifluoroborato)butanamide (2j) from borylation with tetrakis(dimethylamino)diboron



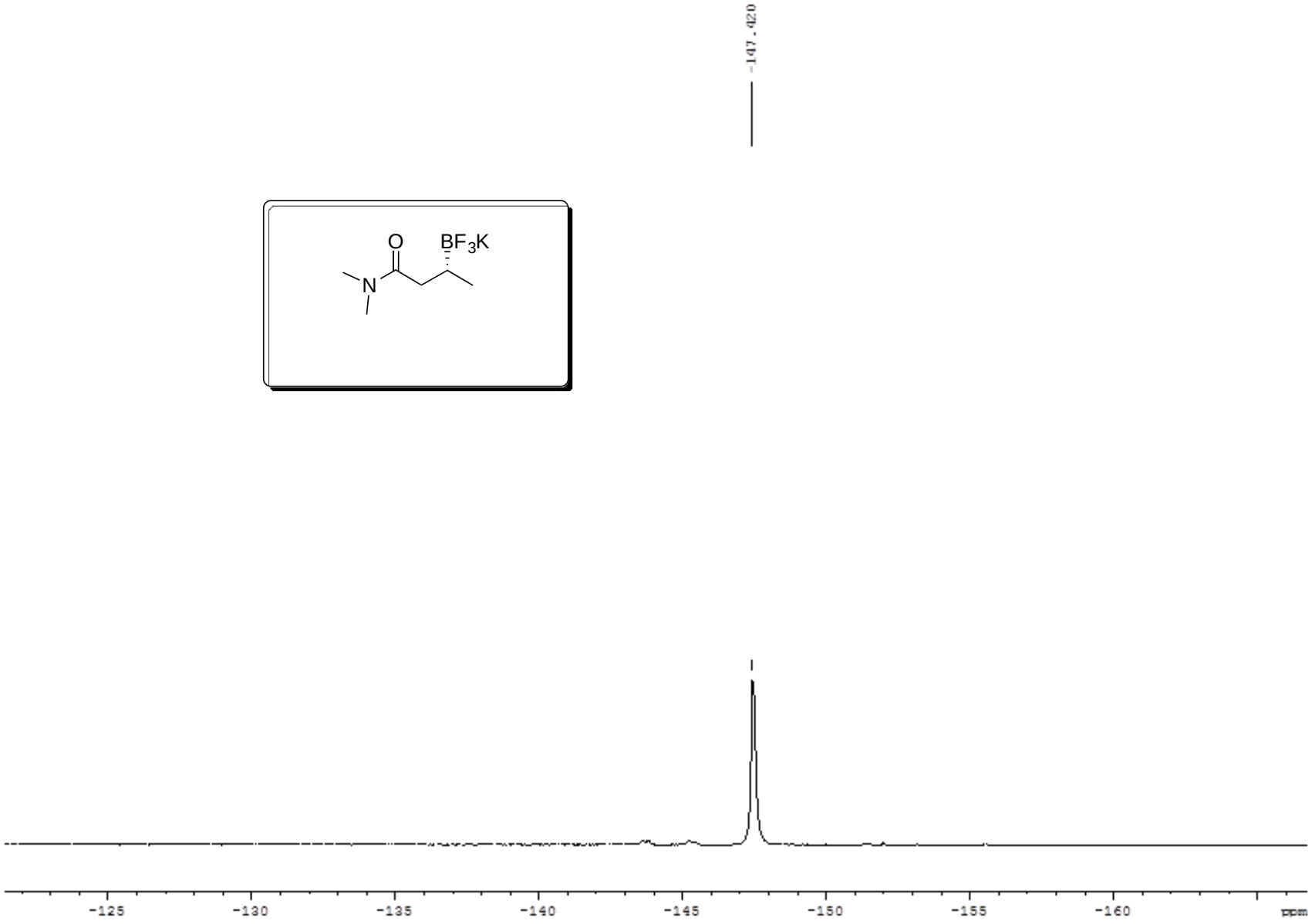
^{1}H NMR (Acetone, 500 MHz) spectrum of potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k) from borylation with tetrakis(dimethylamino)diboron



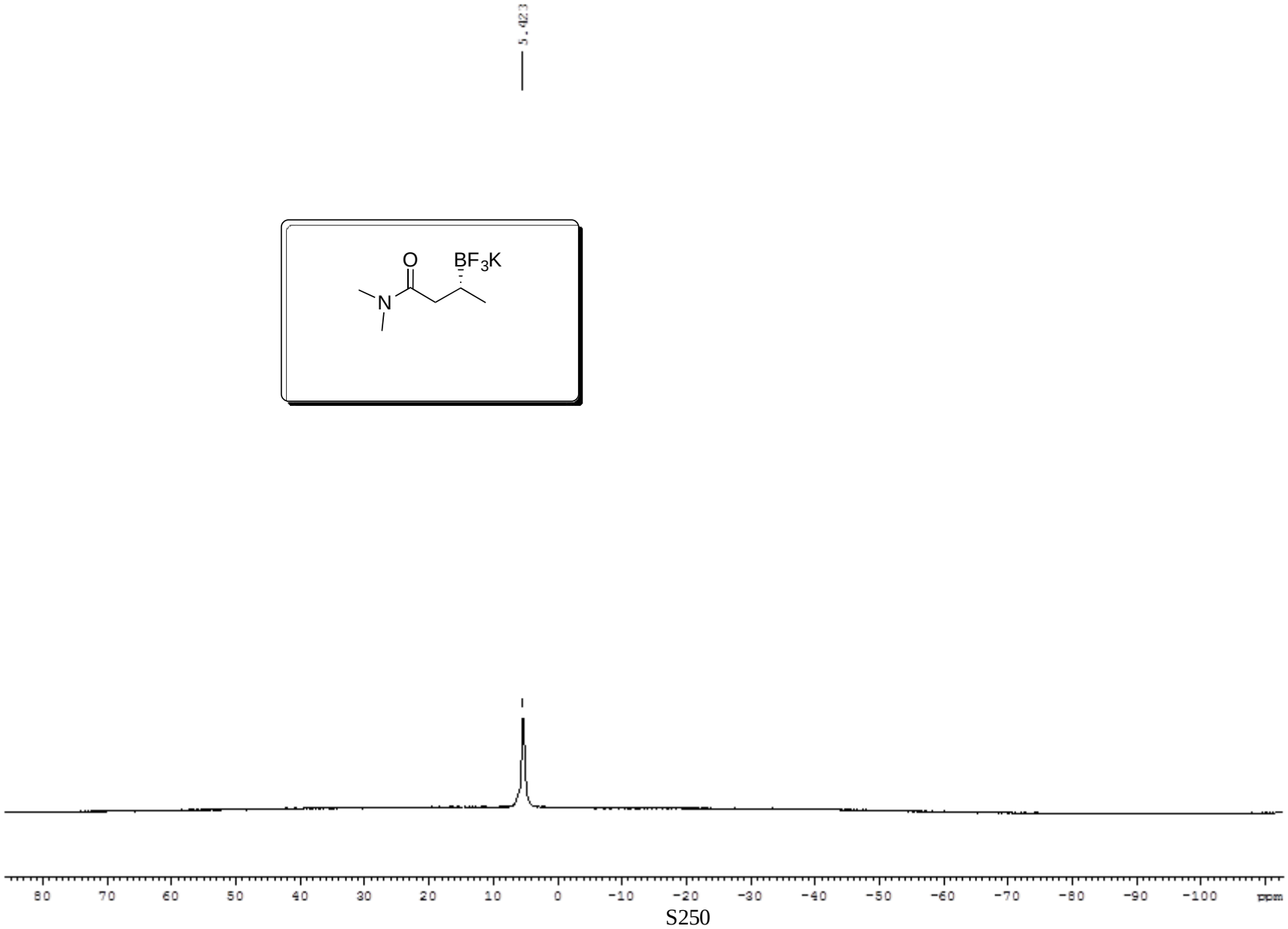
^{13}C NMR (Acetone, 125.8 MHz) spectrum of potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k) from borylation with tetrakis(dimethylamino)diboron



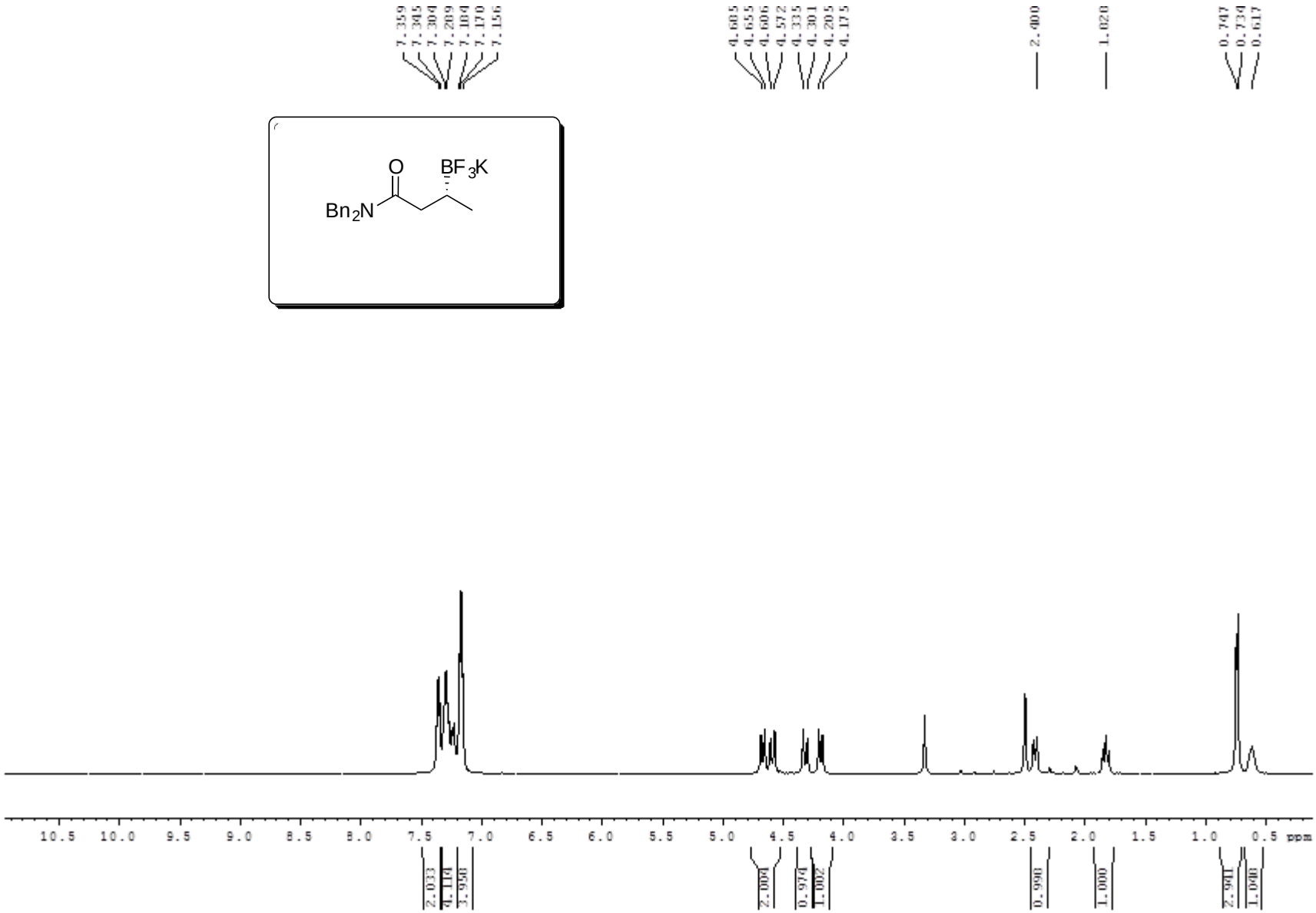
^{19}F NMR (Acetone, 470.8 MHz) spectrum of Potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k) from borylation with tetrakis(dimethylamino)diboron



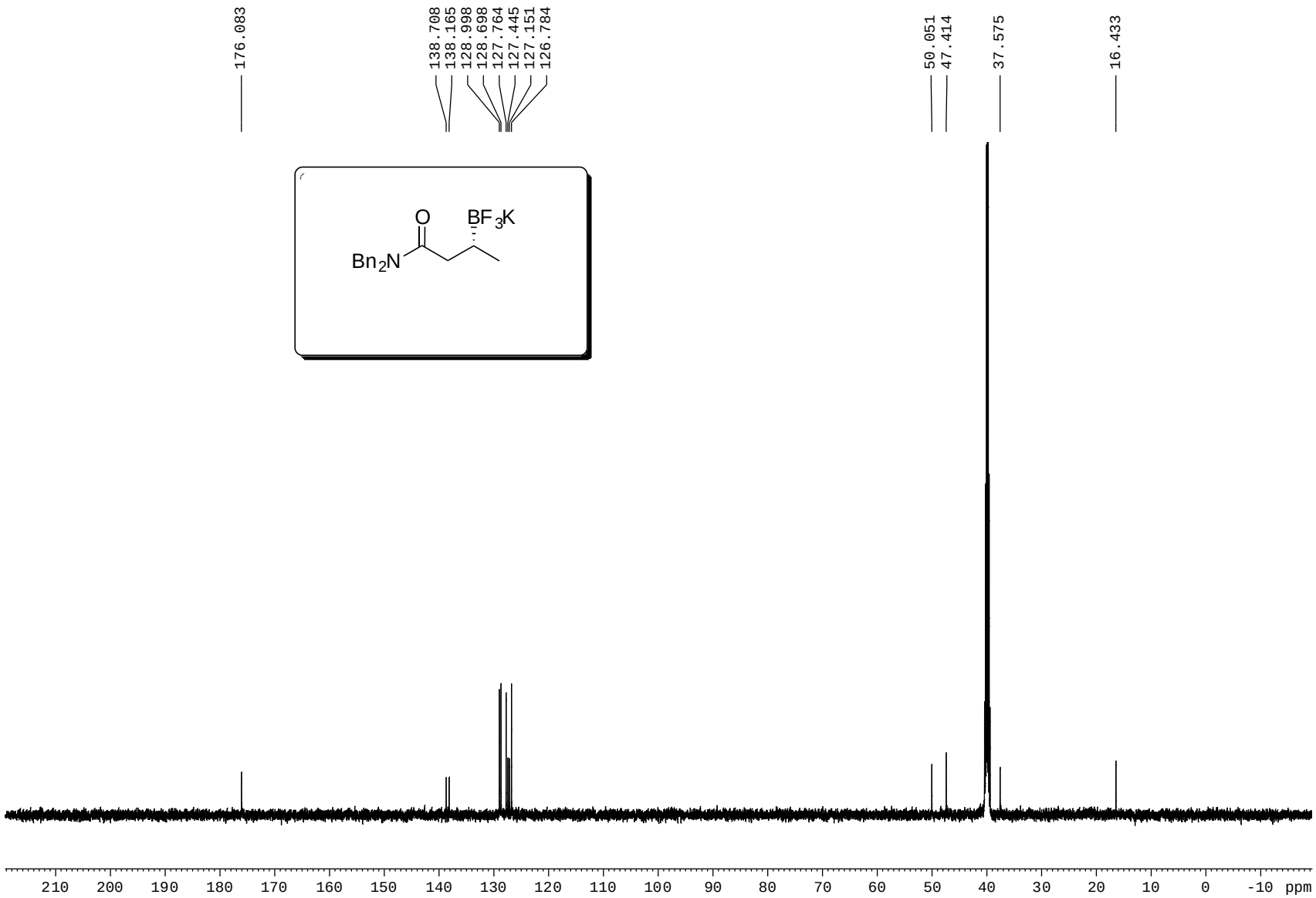
^{11}B NMR (Acetone, 128.4 MHz) spectrum of Potassium (*R*)-*N*,*N*-dimethyl-3-(trifluoroborato)butanamide (2k) from borylation with tetrakis(dimethylamino)diboron



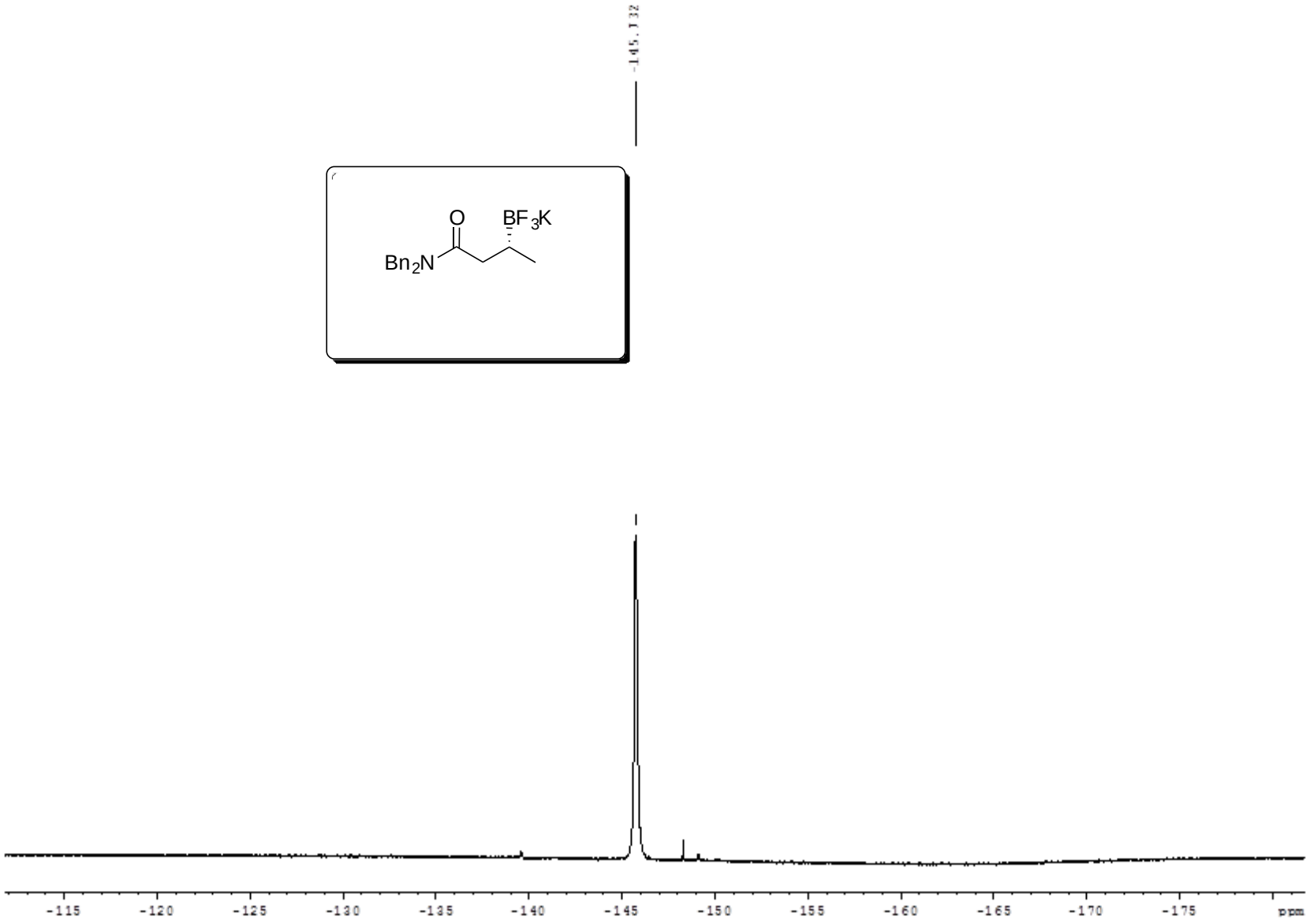
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l) from borylation with tetrakis(dimethylamino)diboron



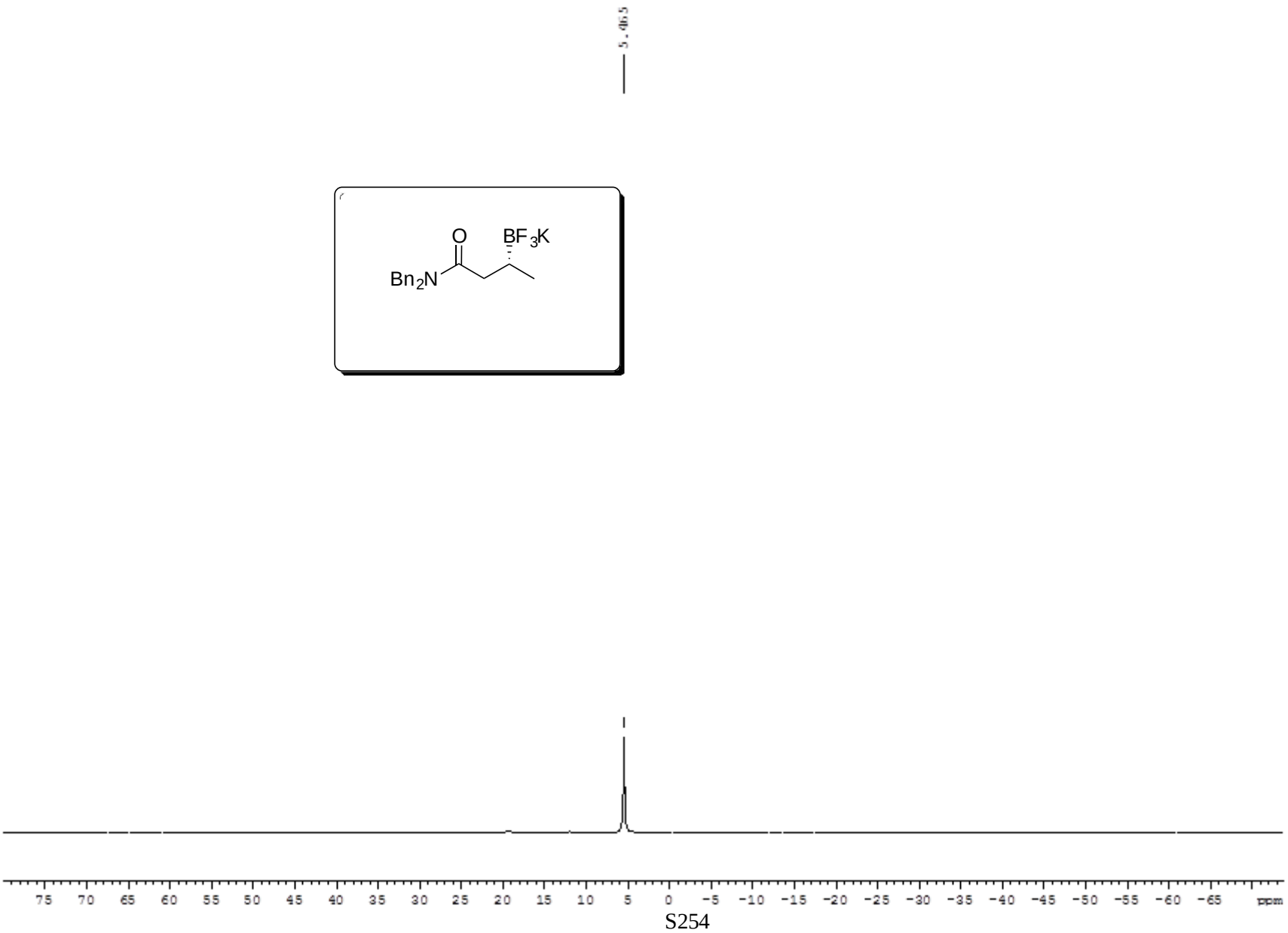
^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l) from borylation with tetrakis(dimethylamino)diboron



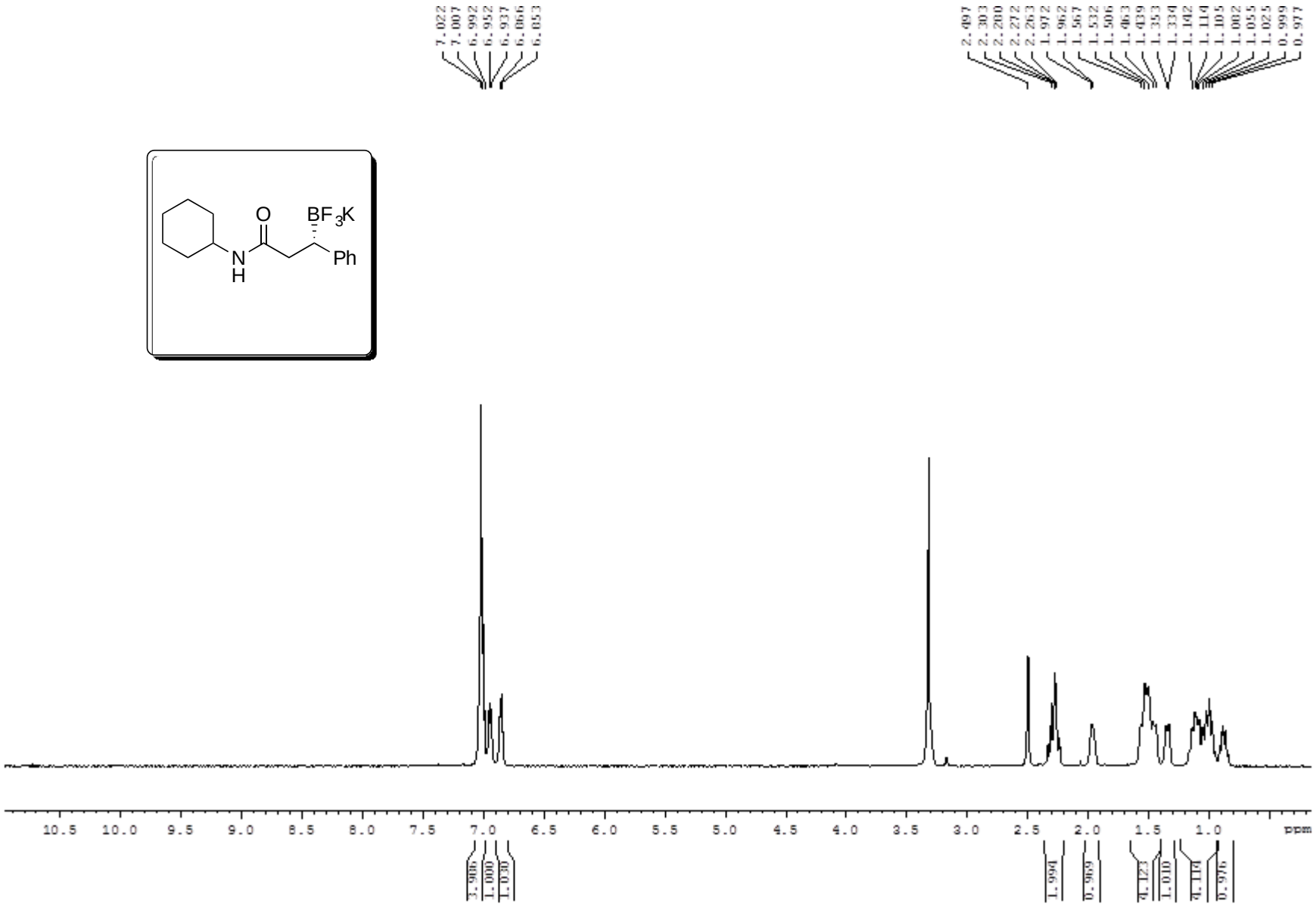
^{19}F NMR (Acetone, 470.8 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l) from borylation with tetrakis(dimethylamino)diboron



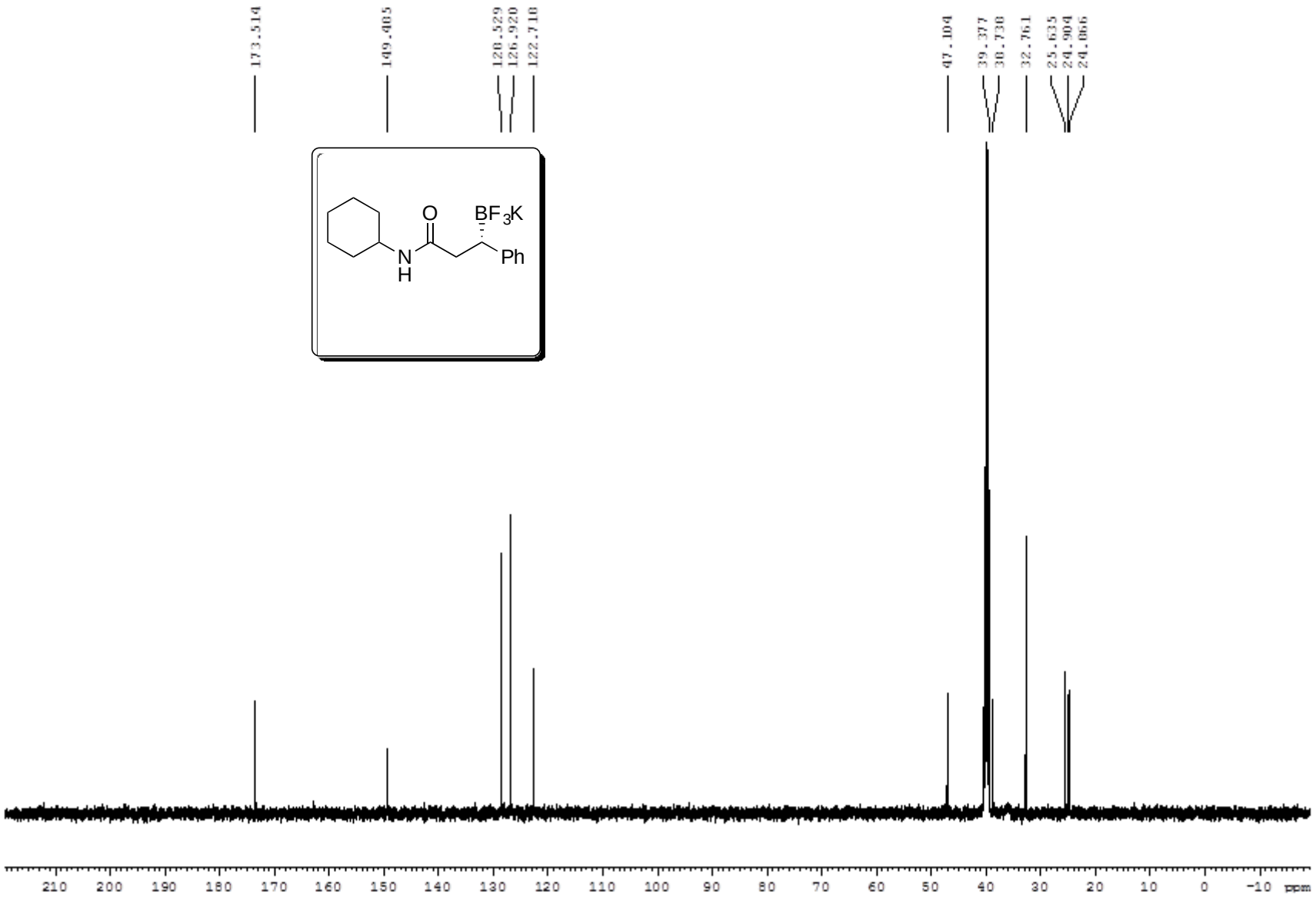
^{11}B NMR (Acetone, 128.4 MHz) spectrum of potassium (*R*)-*N*,*N*-dibenzyl-3-(trifluoroborato)butanamide (2l) from borylation with tetrakis(dimethylamino)diboron



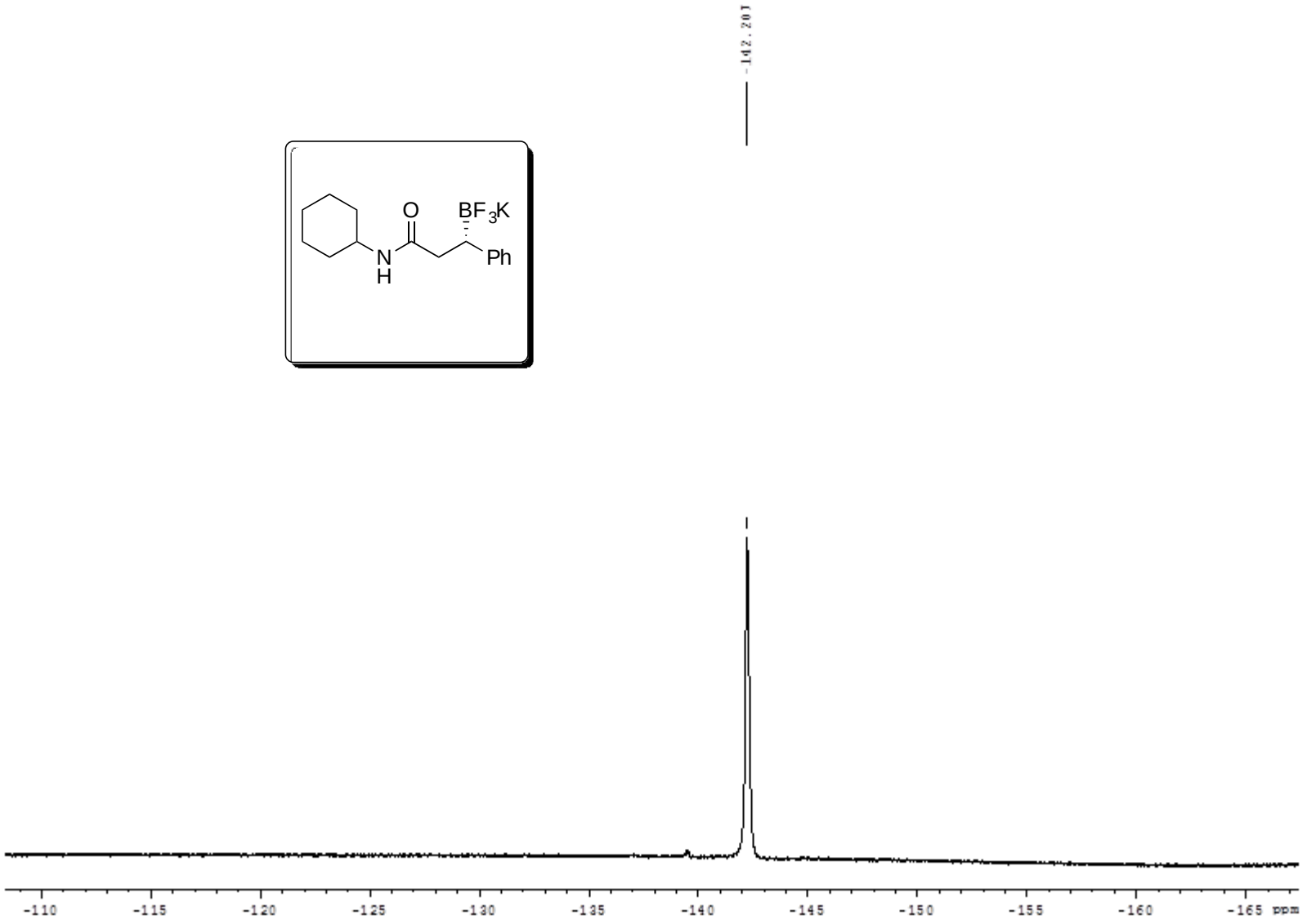
^{1}H NMR (DMSO, 500 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m) from borylation with tetrakis(dimethylamino)diboron



^{13}C NMR (DMSO, 125.8 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m) from borylation with tetrakis(dimethylamino)diboron



^{19}F NMR (DMSO, 470.8 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m) from borylation with tetrakis(dimethylamino)diboron



^{11}B NMR (DMSO, 128.4 MHz) spectrum of potassium (*S*)-*N*-cyclohexyl-3-phenyl-3-(trifluoroborato)propanamide (2m)