Supporting Information

Asymmetric synthesis of (1*R*,2*S*)-1-amino-2-vinylcyclopropanecarboxylic acid by sequential S$_N$2–S$_N$2' dialkylation of (*R*)-*N*-(benzyl)proline-derived glycine Schiff base Ni(II) complex

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[a] *Hamari Chemicals Ltd. 1-4-29 Kunijima, Higashi-Yodogawa-ku, Osaka, Japan 533-0024*
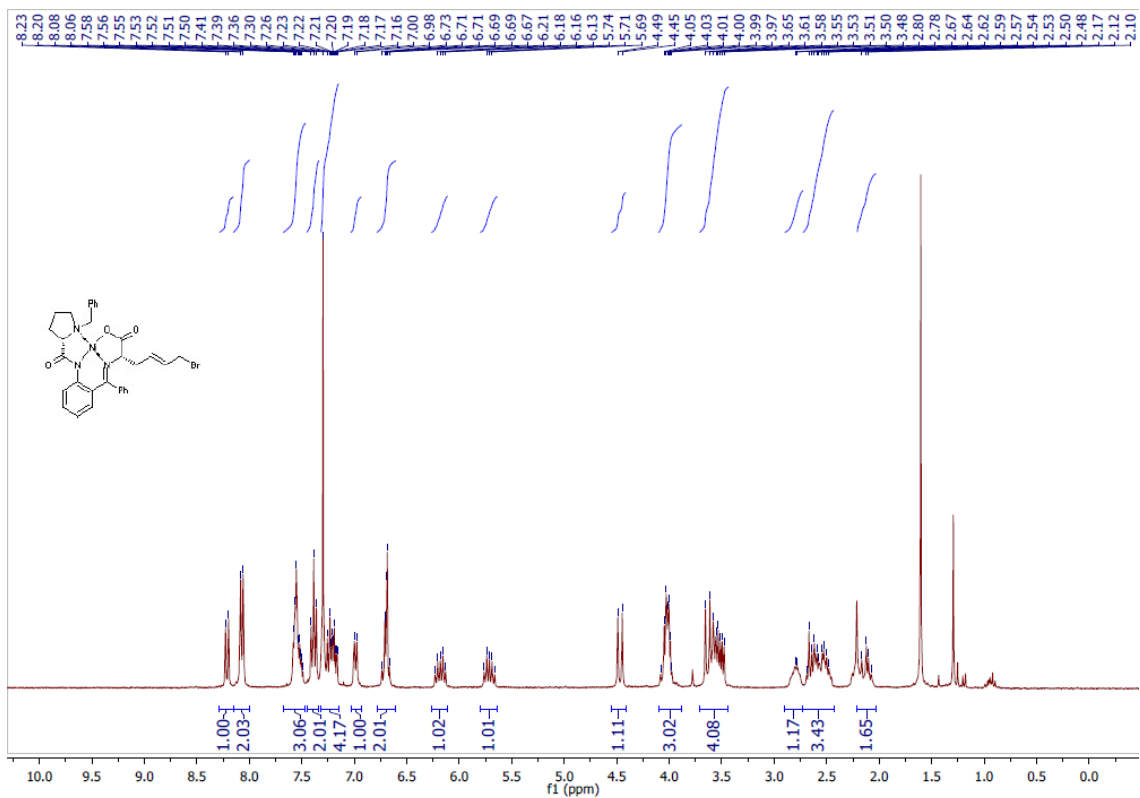[b] *School of Chemistry and Chemical Engineering, Nanjing University, Nanjing, 210093, China*
[c] *Department of Organic Chemistry I, Faculty of Chemistry, University of the Basque Country UPV/EHU, Paseo Manuel Lardizábal 3, 20018 San Sebastián, Spain*
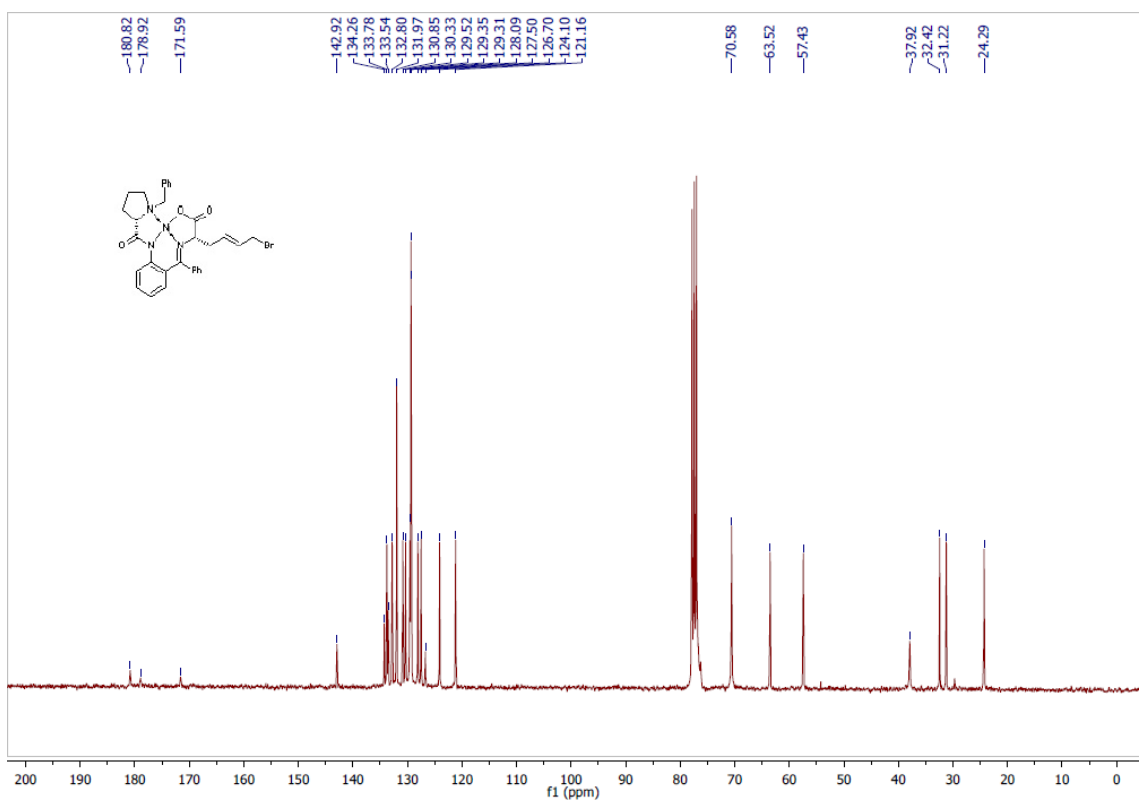[c] *IKERBASQUE, Basque Foundation for Science, María Díaz de Haro 3, 48013 Bilbao, Spain*
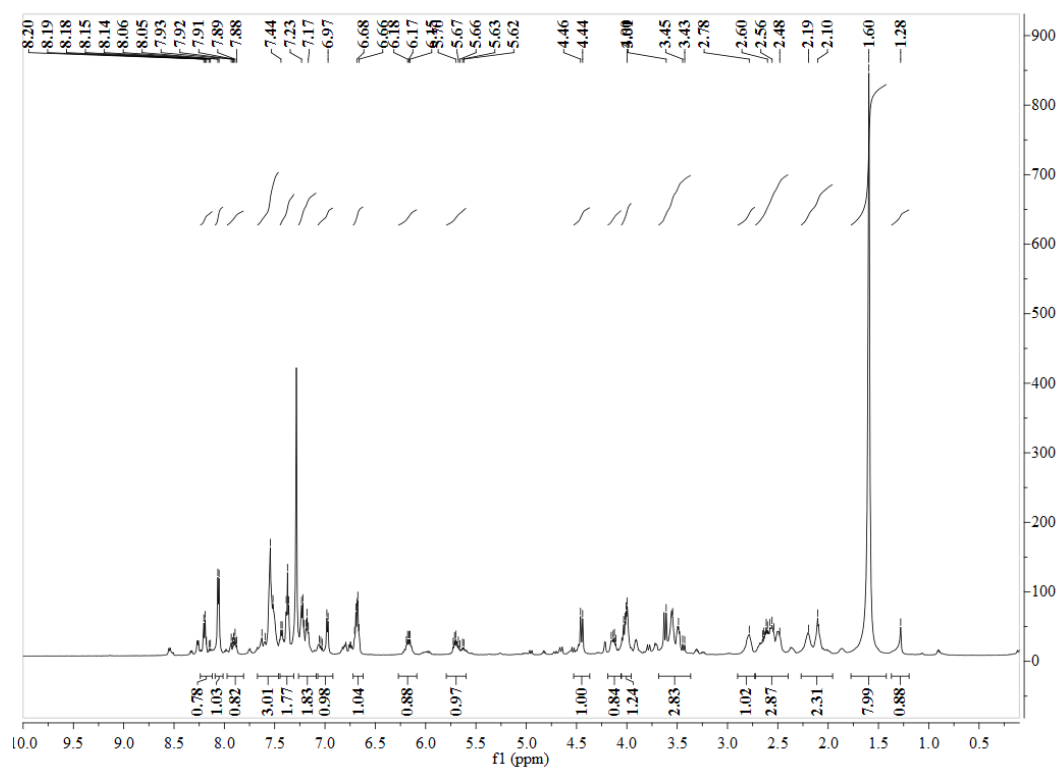
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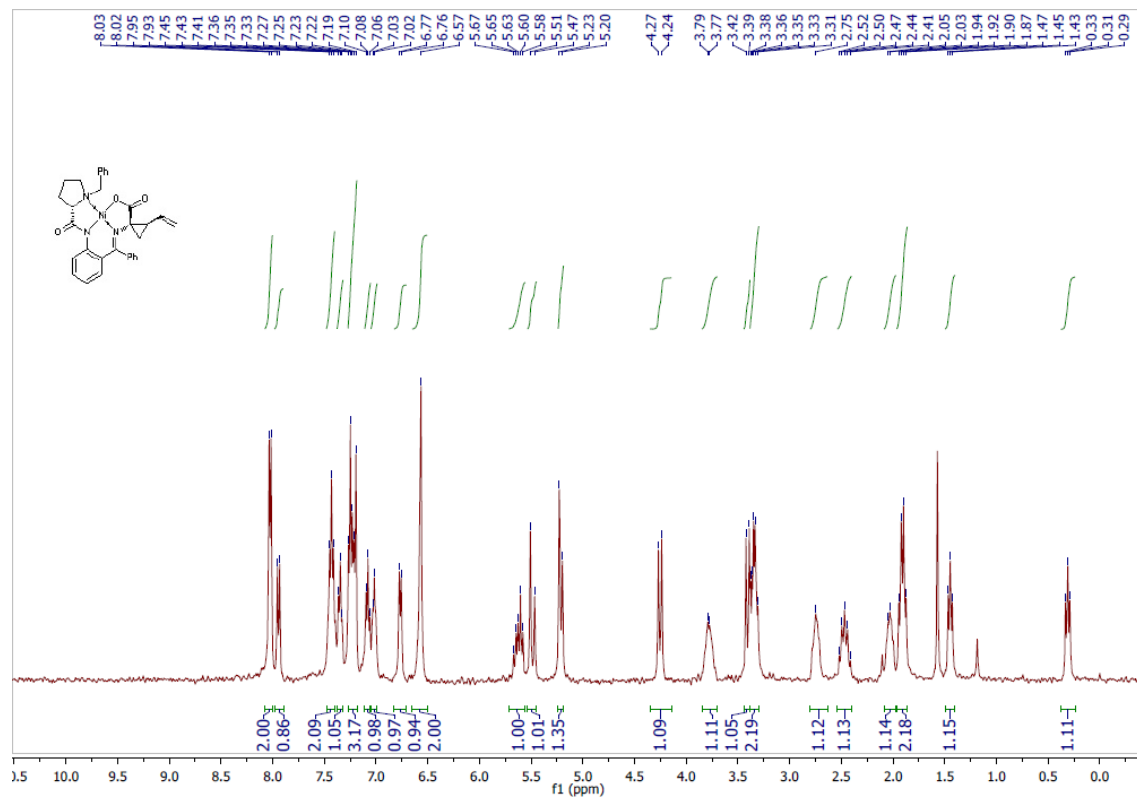# ^{1}H NMR of (S)(2S)-9 (300 MHz, CDCl$_3$):

^{13}C NMR of (S)(2S)-9 (75.5 MHz, CDCl$_3$):
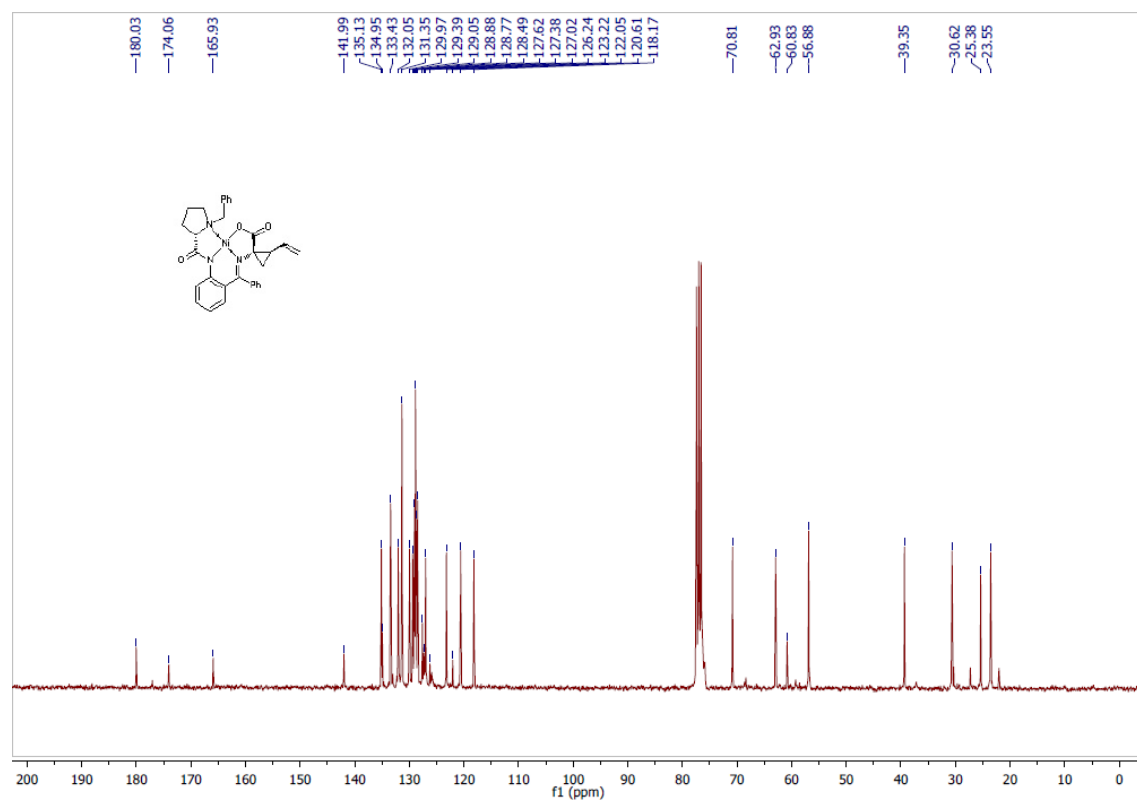
¹H NMR of (*R*)(2*R*)-**9** and (*R*)(2*S*)-**10** (300 MHz, CDCl₃):
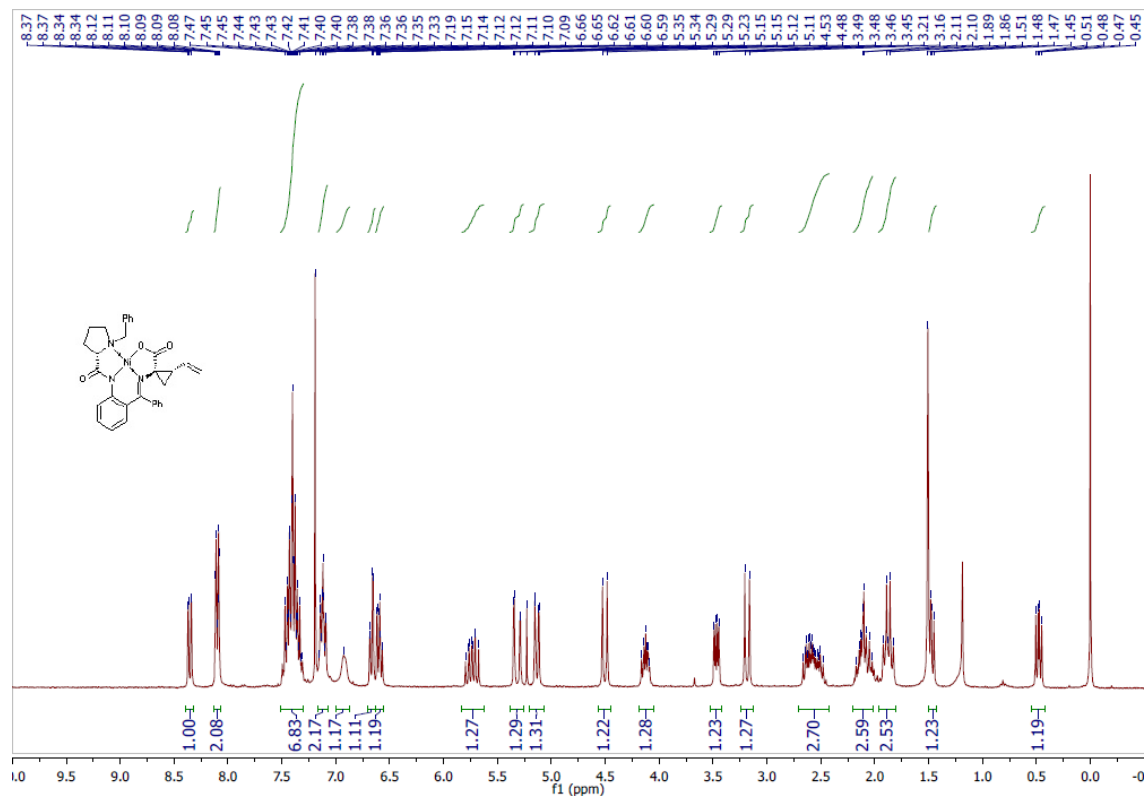
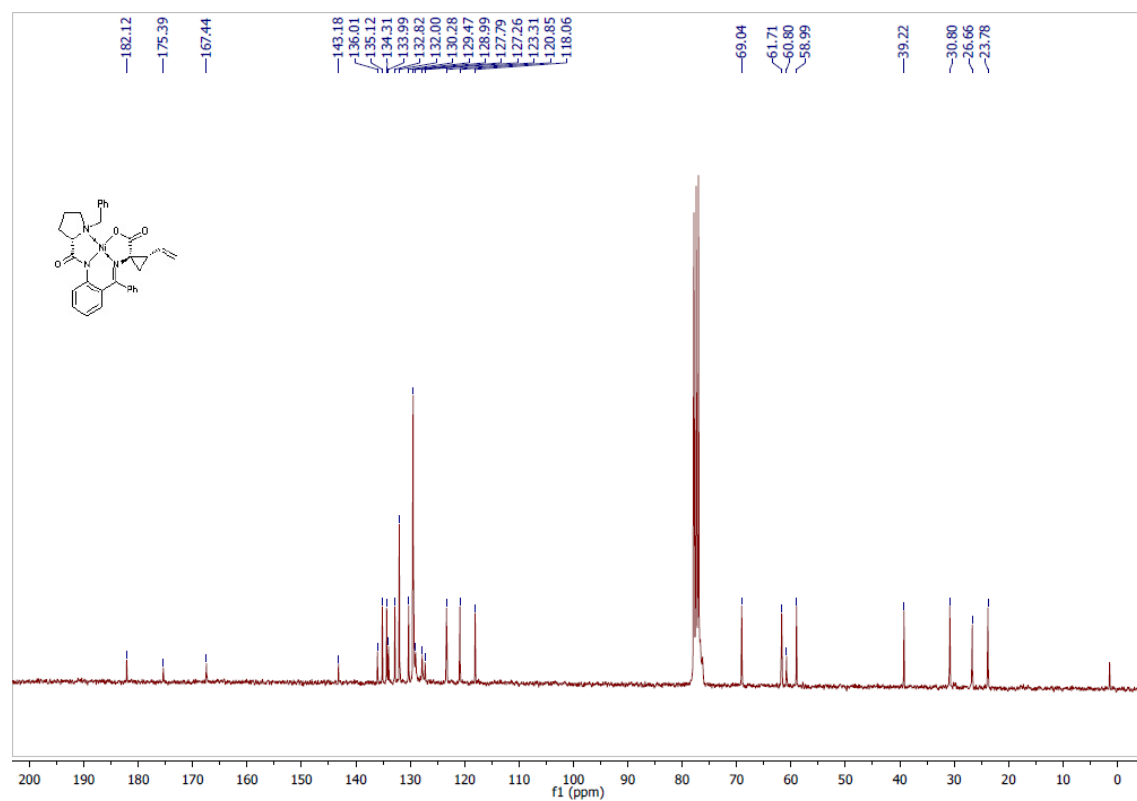## ¹H NMR of (*S*)(2*S*,3*R*)-**11** (300 MHz, CDCl₃):

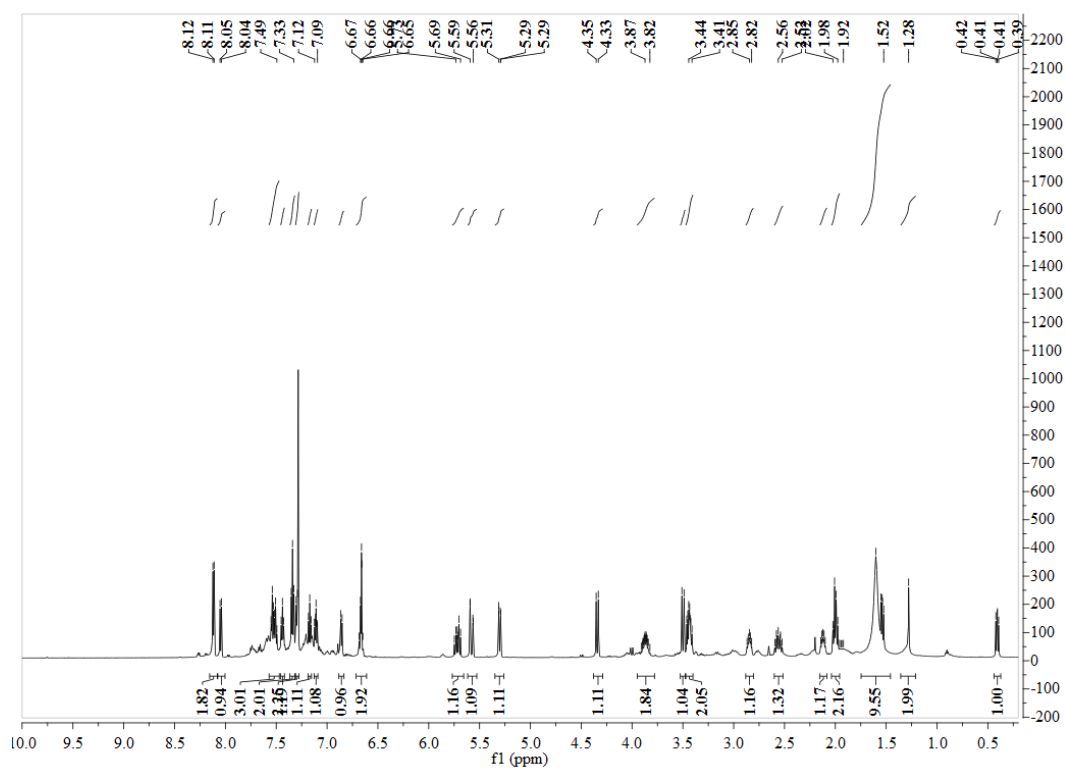## ¹³C NMR of (*S*)(2*S*,3*R*)-**11** (75.5 MHz, CDCl₃):

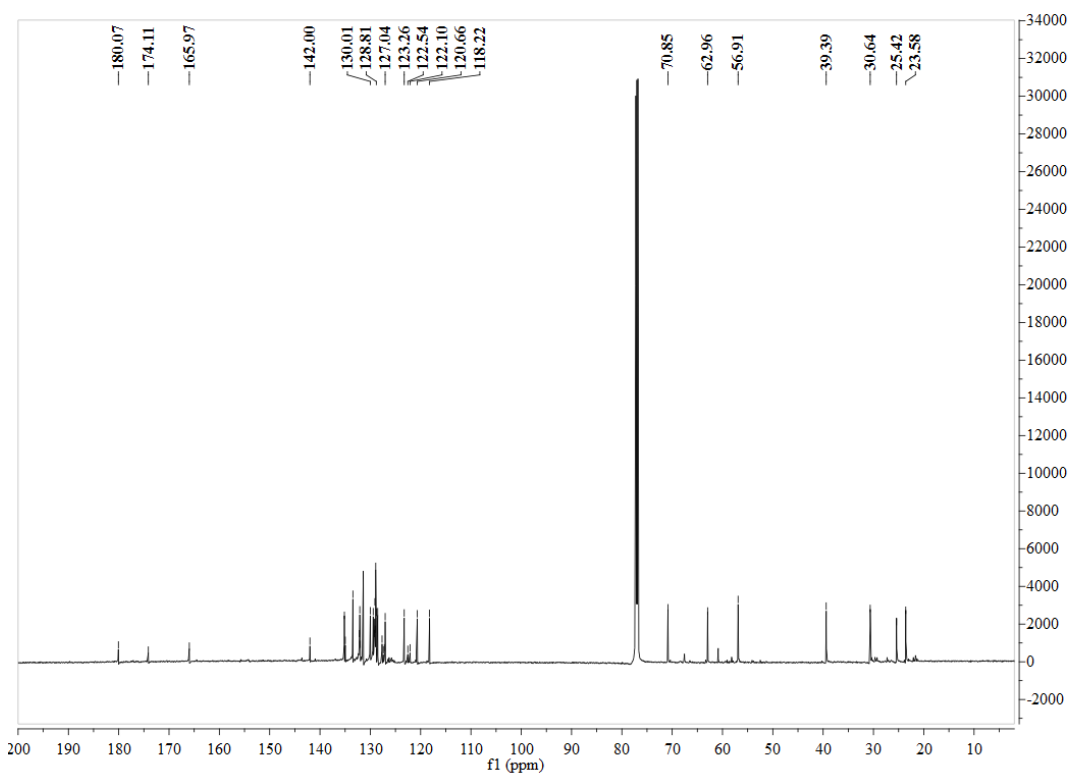# ^{1}H NMR of (*S*)(2*R*,3*S*)-**12** (300 MHz, CDCl$_3$):

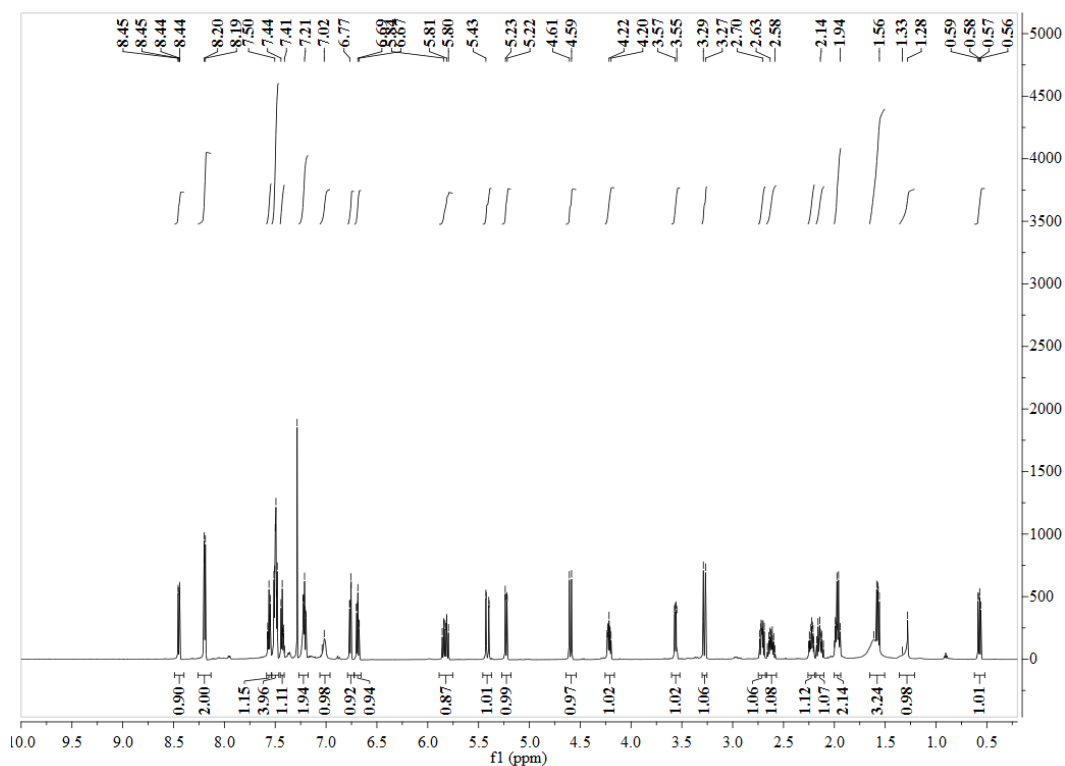# ^{13}C NMR of (*S*)(2*R*,3*S*)-**12** (75.5 MHz, CDCl$_3$):
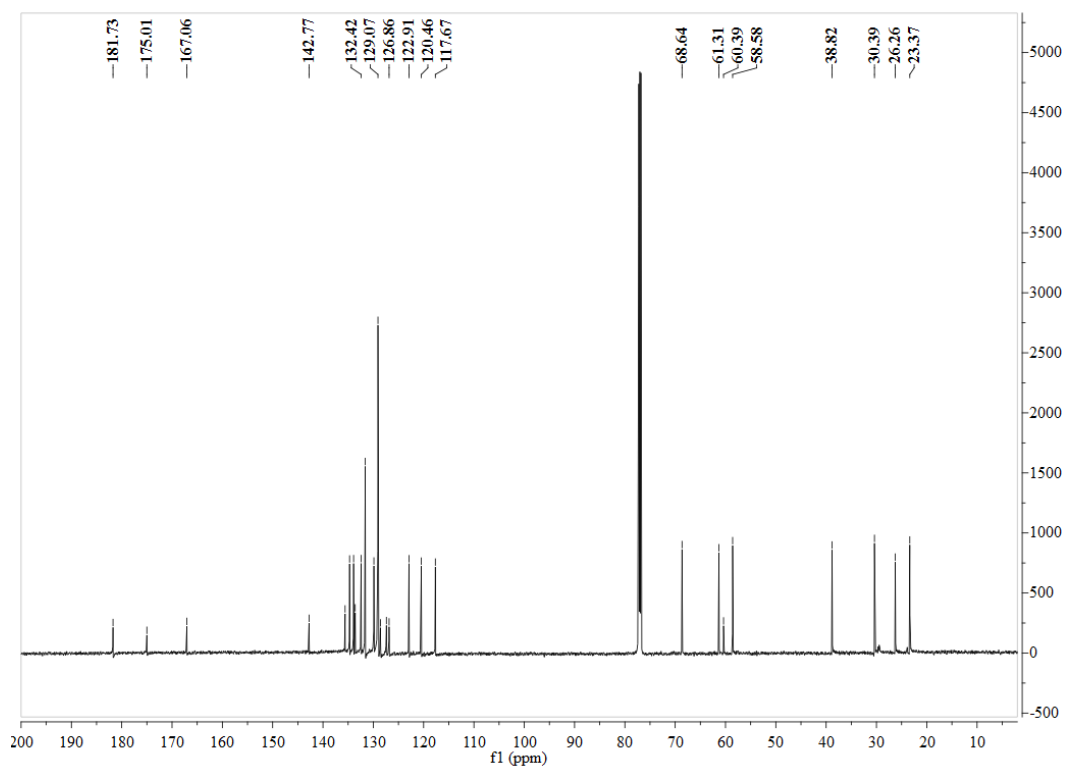
^{1}H NMR of (*R*)(2*R*,3*S*)-**11** (300 MHz, CDCl$_3$):
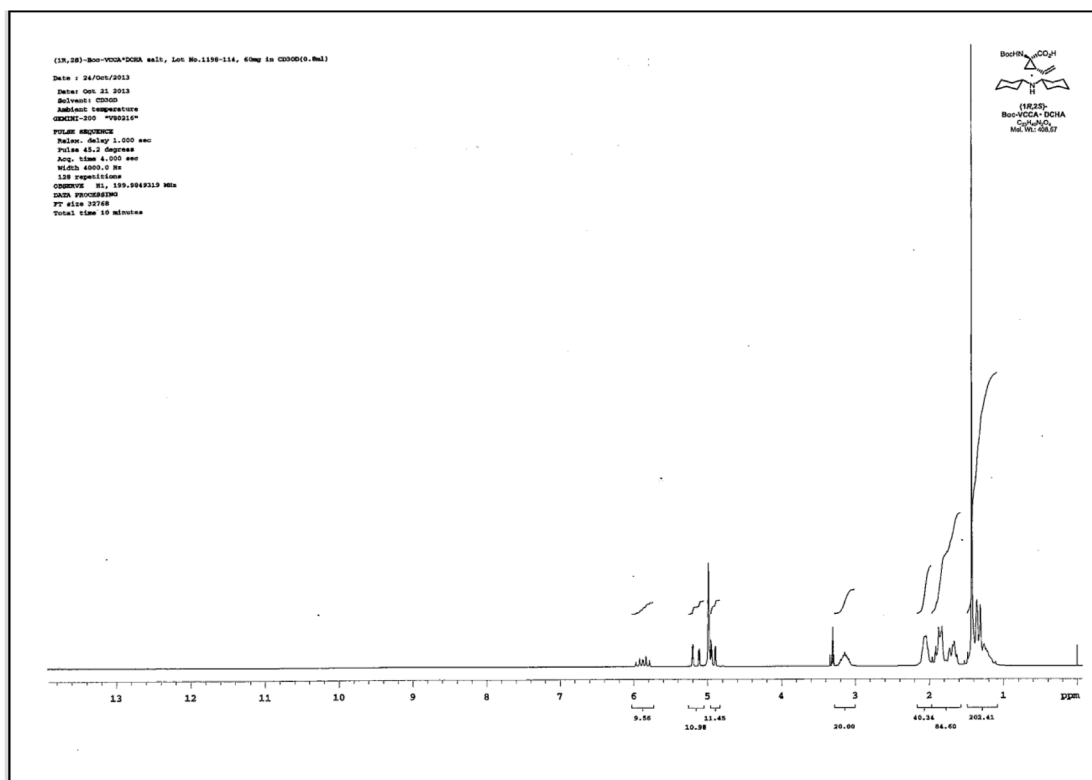

^{13}C NMR of (*R*)(2*R*,3*S*)-**11** (75.5 MHz, CDCl$_3$):
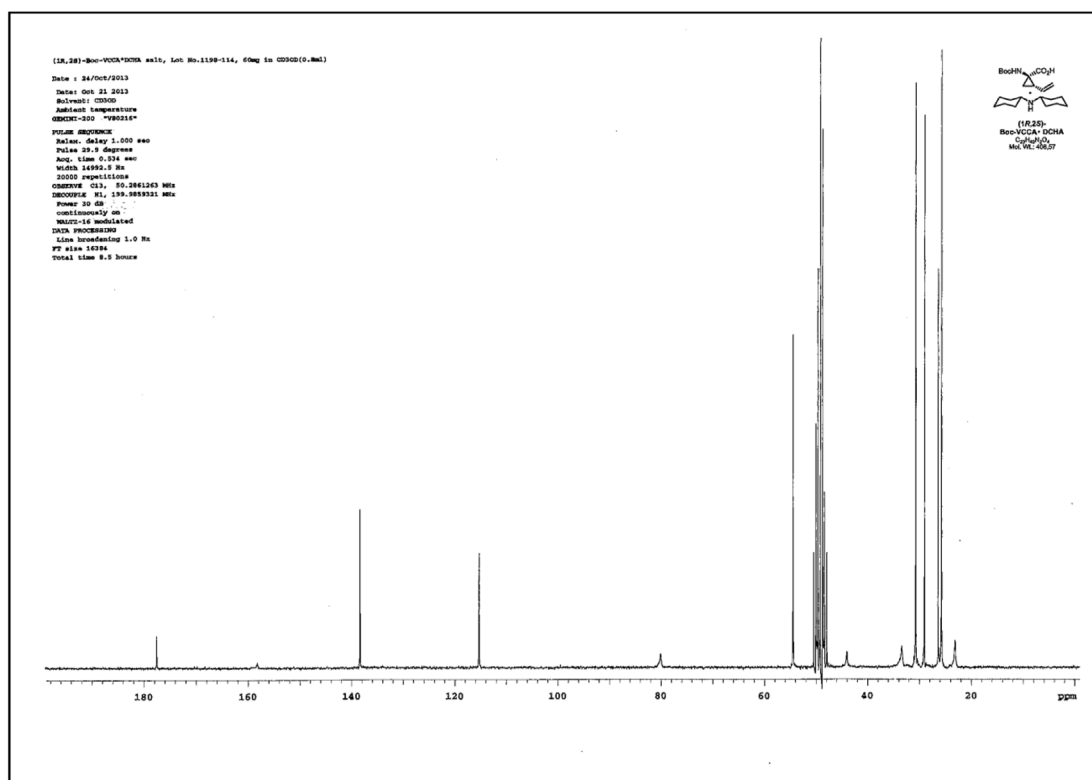
^{1}H NMR of (R)(2S,3R)-**12** (300 MHz, CDCl$_3$):

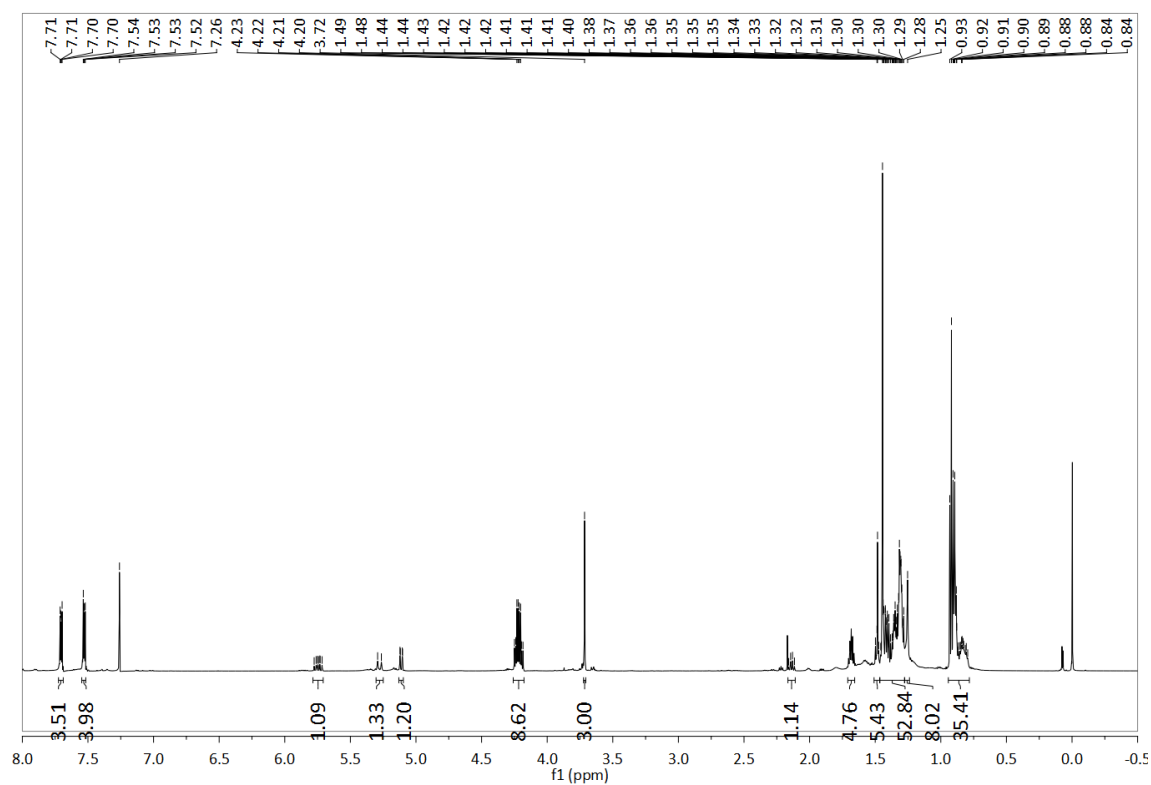## ^{13}C NMR of (R)(2S,3R)-**12** (75.5 MHz, CDCl$_3$):

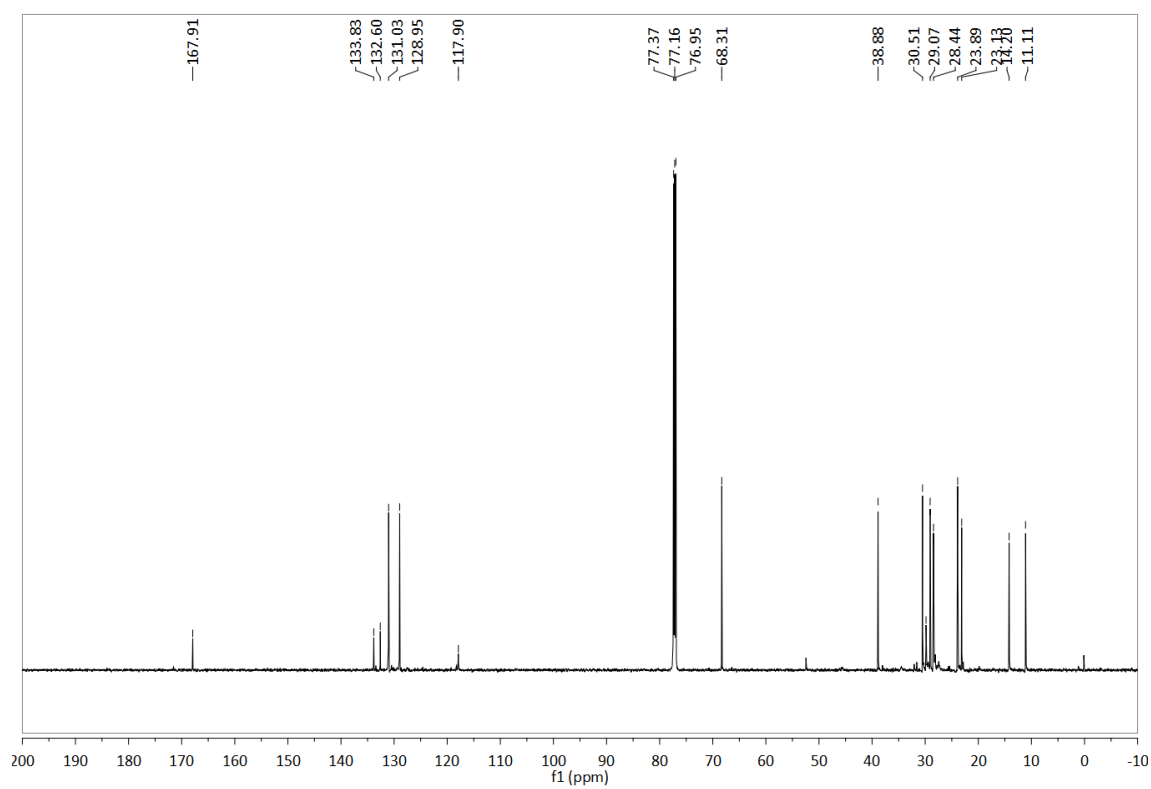## ^{1}H NMR of (1R,2S)-**14** (200 MHz, CD$_3$OD):

^{13}C NMR of (1R,2S)-**14** (50.3 MHz, CD$_3$OD):

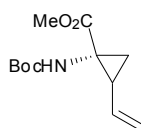¹H NMR of (1*R*,2*S*)-**15** (300 MHz, CD₃Cl₃):
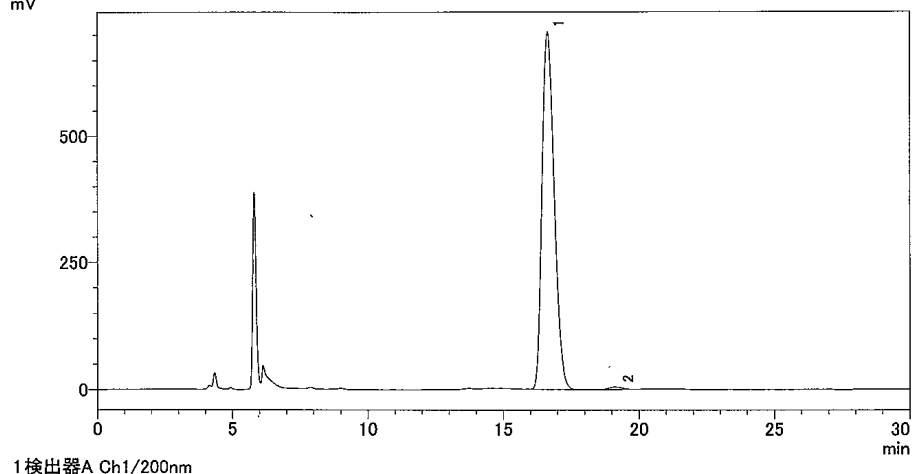

¹³C NMR of (1*R*,2*S*)-**15** (75.5 MHz, CD₃Cl₃):

HPLC analysis of (1*R*,2*S*)-**15**:

MeO₂C / BocHN cyclopropane with vinyl group

==== **Shimazu Labsolution 分析レポート** ====

＜クロマトグラム＞
mV

1 検出器A Ch1/200nm

＜ピークテーブル＞
検出器A Ch1 200nm

ピーク#	保持時間	面積	高さ	面積%	高さ%	マーク	化合物名
1	16.637	22035009	705413	99.201	99.276		1R2S
2	19.174	177425	5145	0.799	0.724		1S2R
合計		22212433	710558	100.000	100.000		