

Total synthesis of levetiracetam

*Aleksandra Narczyk, Michał Mrozowicz, and Sebastian Stecko**

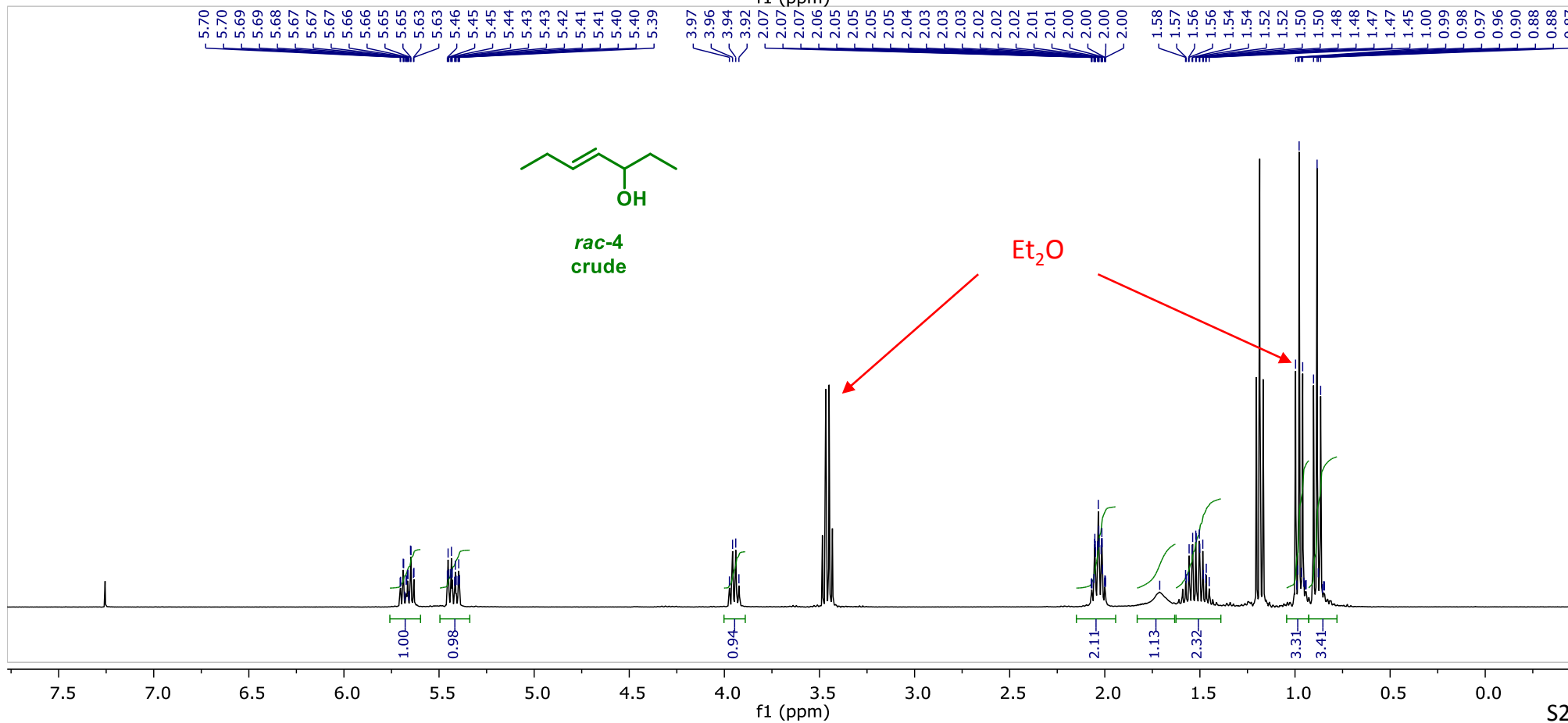
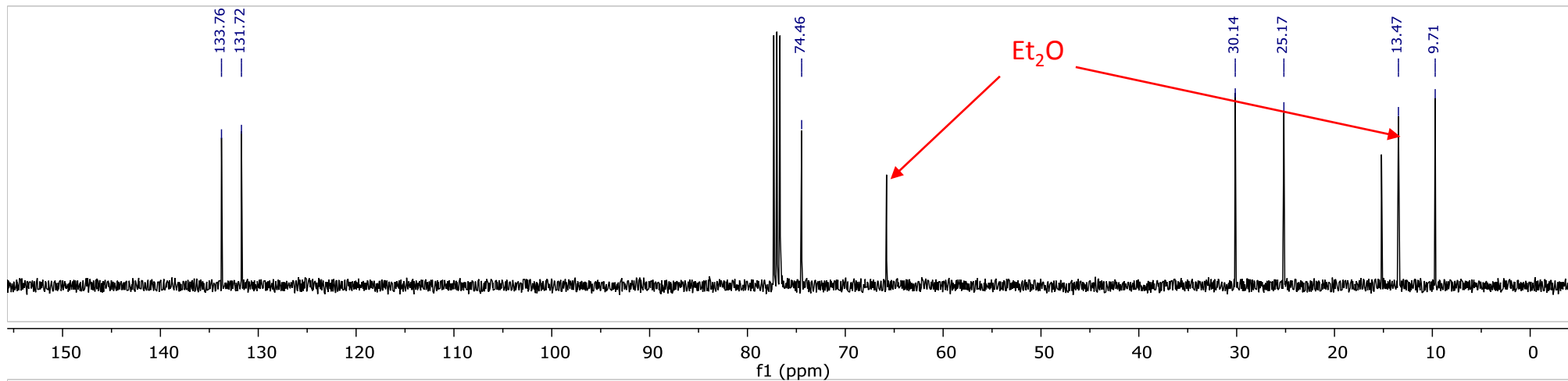
Institute of Organic Chemistry, Polish Academy of Sciences

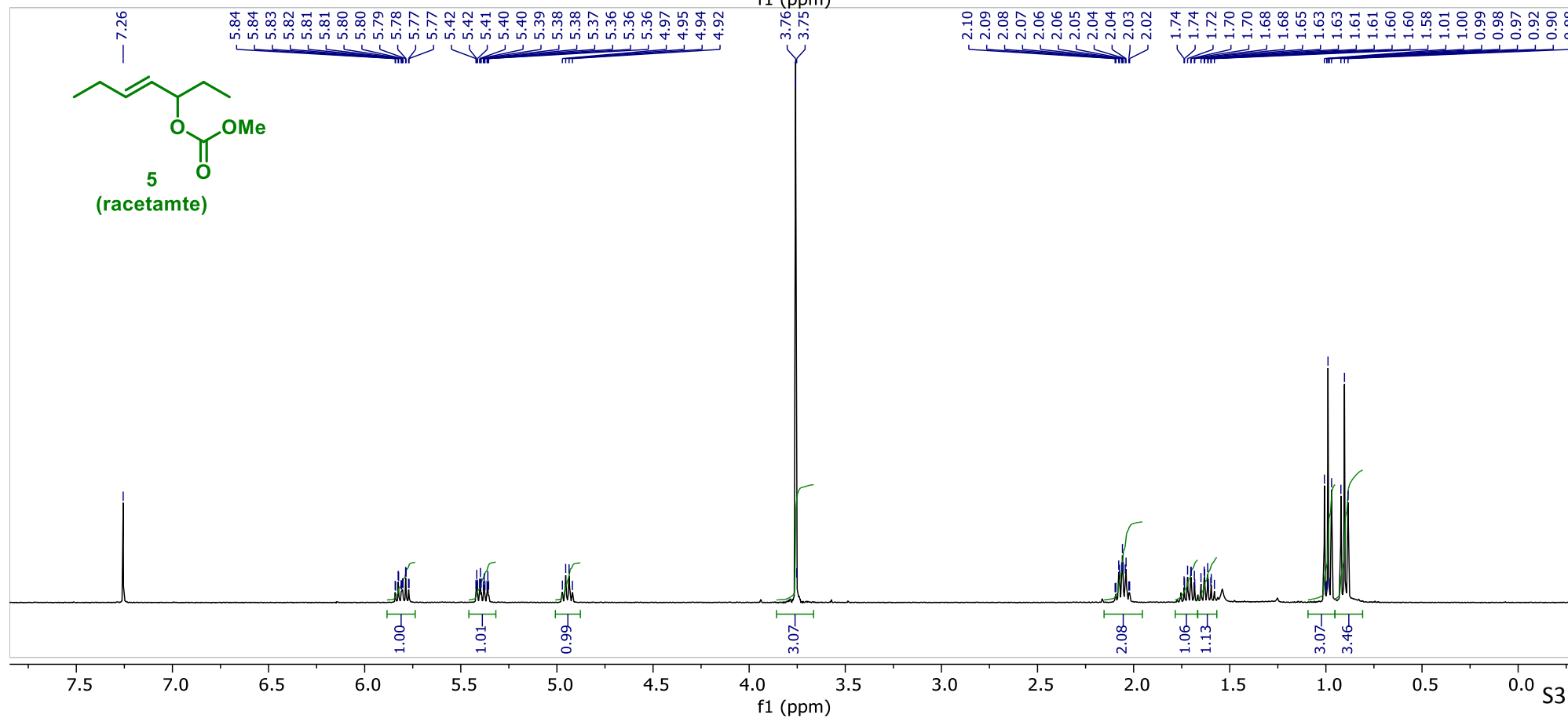
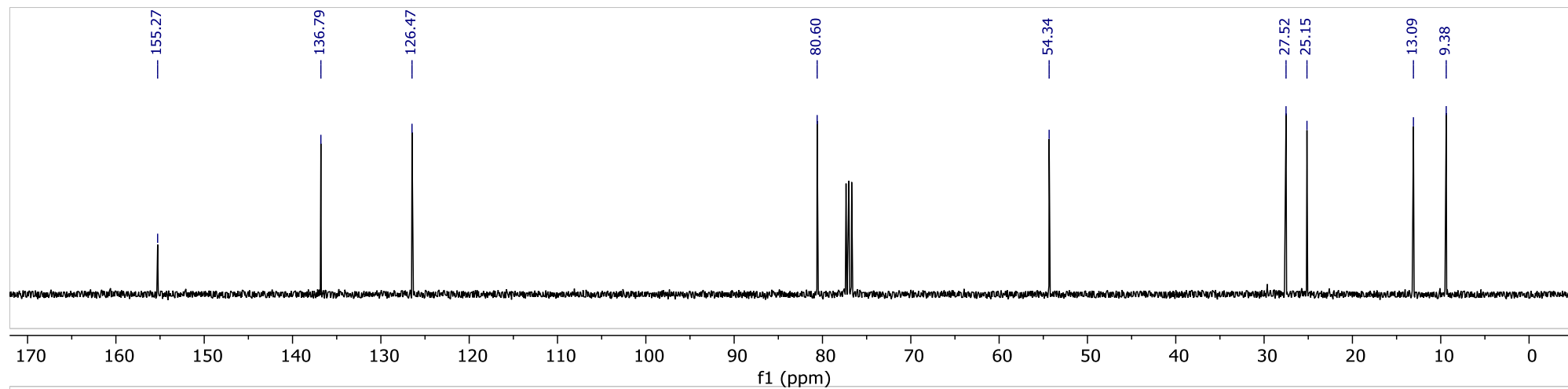
Kasprzaka 44/52, 01-224 Warsaw, Poland

e-mail: sebastian.stecko@icho.edu.pl

Supporting information

1. ^1H and ^{13}C NMR spectra and HPLC chromatography.....S2

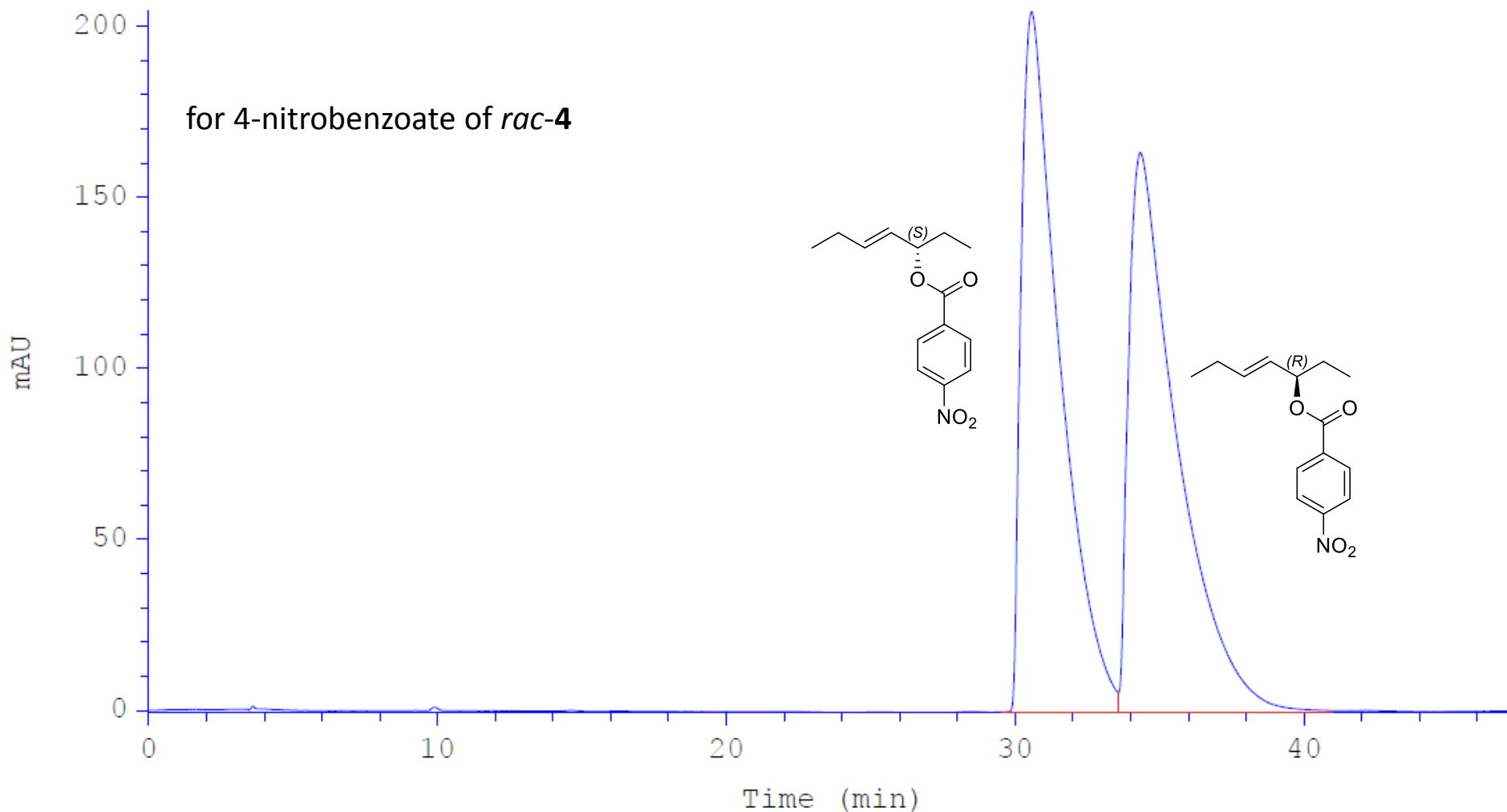




Column: Chiralcel OD-H
Eluent: hexanes
Flow: 1mL/min
Detection: UV, 254 nm

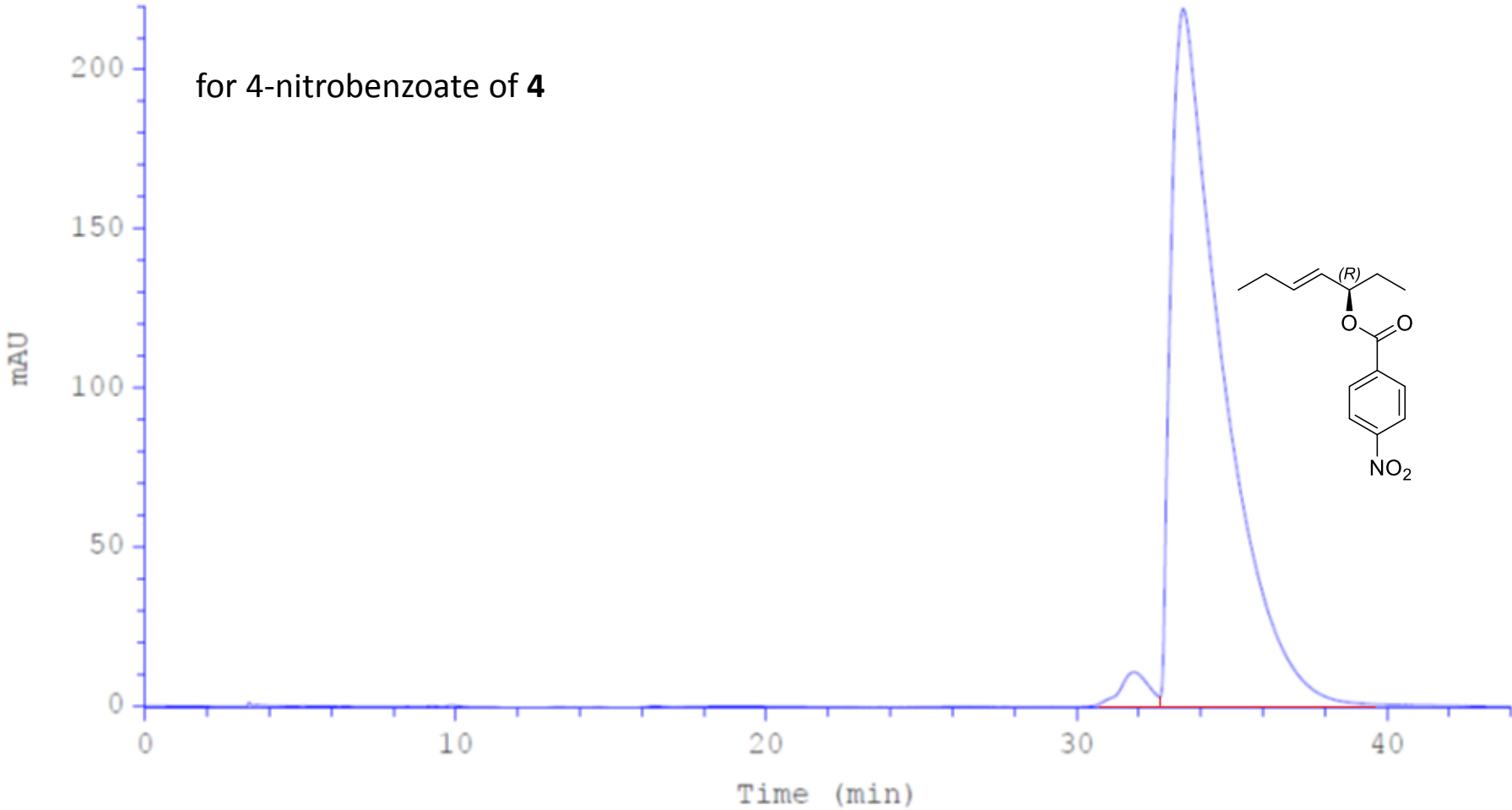
	Ret.time [min]	Start [min]	End [min]	Area [mAU*min]	Height [mAU]	% Area	Width [min]
1	30.569	29.60	33.57	316.287	204.703	49.9560	1.383
2	34.336	33.57	40.69	316.844	163.422	50.0440	1.695

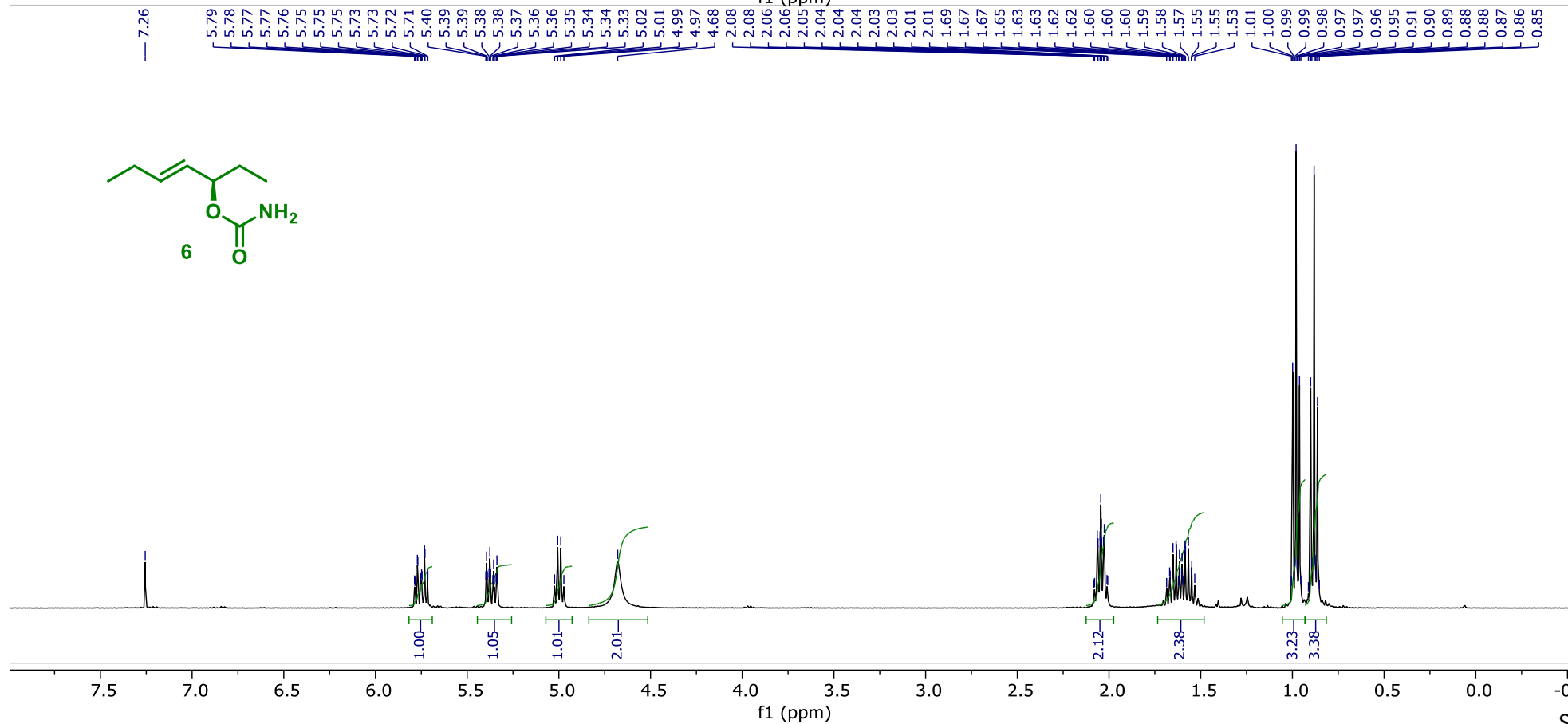
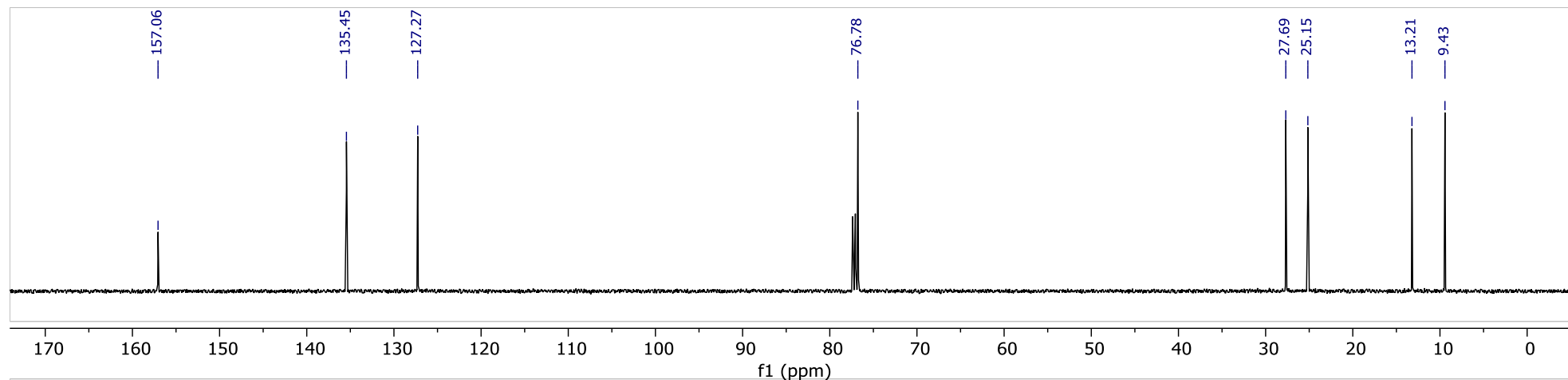
for 4-nitrobenzoate of *rac*-4

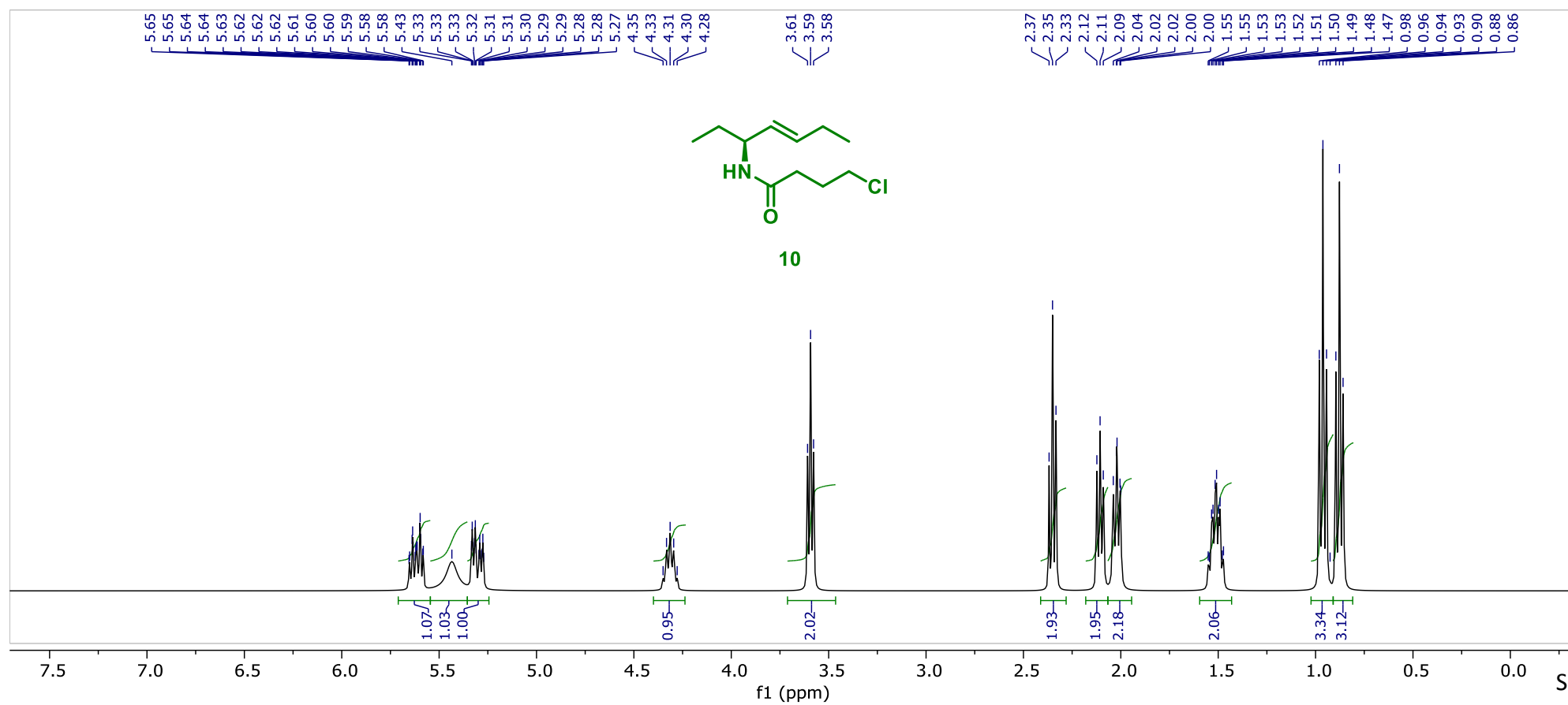
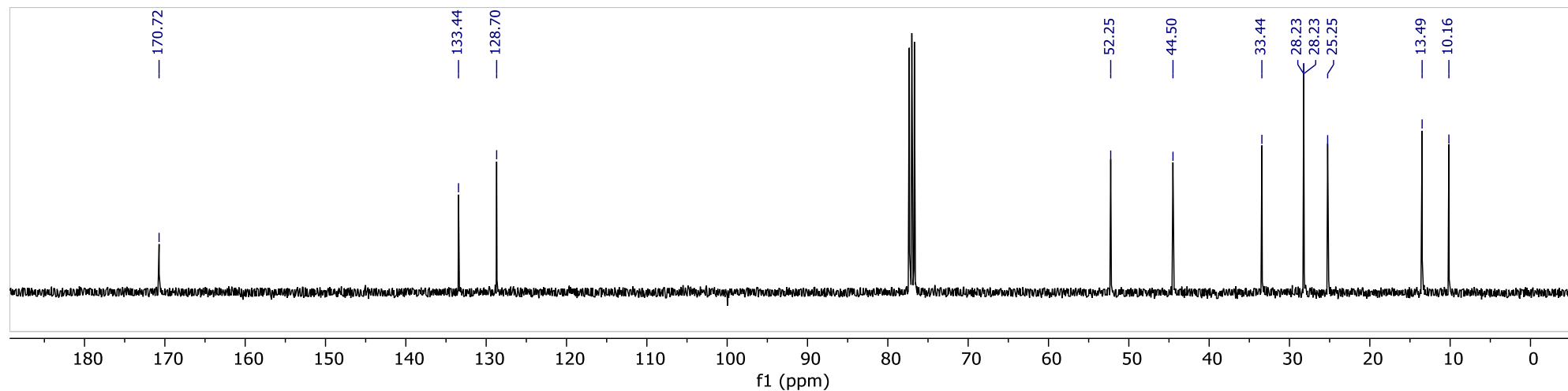


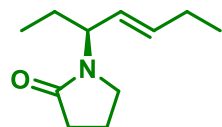
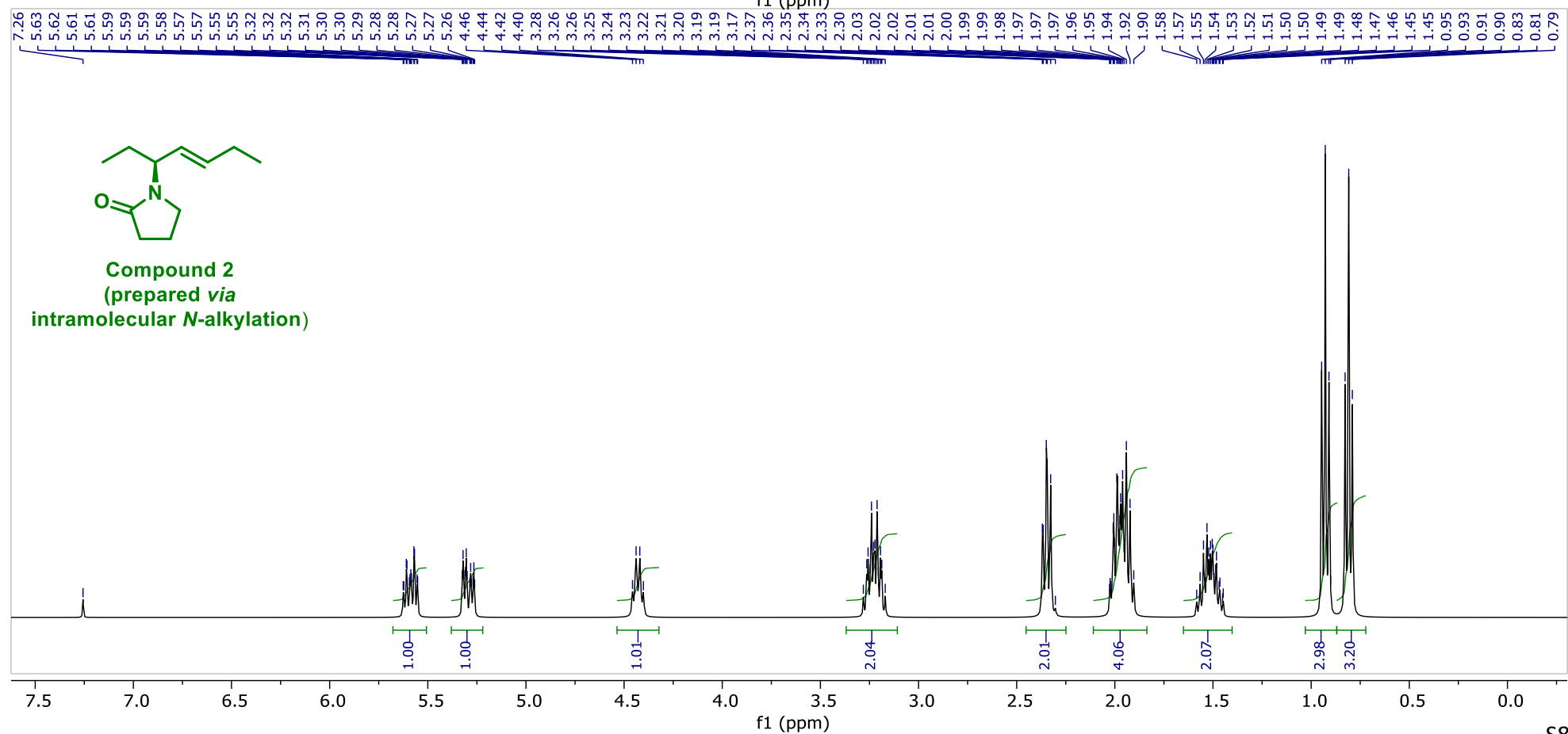
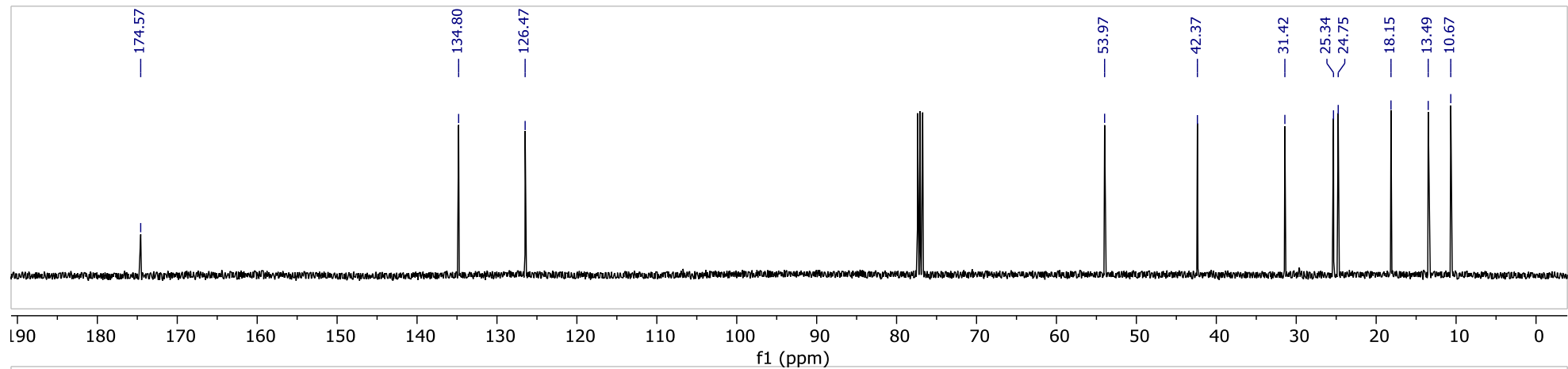
Column: Chiralcel OD-H
Eluent: hexanes
Flow: 1mL/min
Detection: UV, 254 nm

	Ret.time [min]	Start [min]	End [min]	Area [mAU*min]	Height [mAU]	% Area	Width [min]
1	31.837	30.66	32.67	8.26351	8.96398	1.9683	0.869
2	33.437	32.69	39.70	411.562	216.666	98.0317	1.692

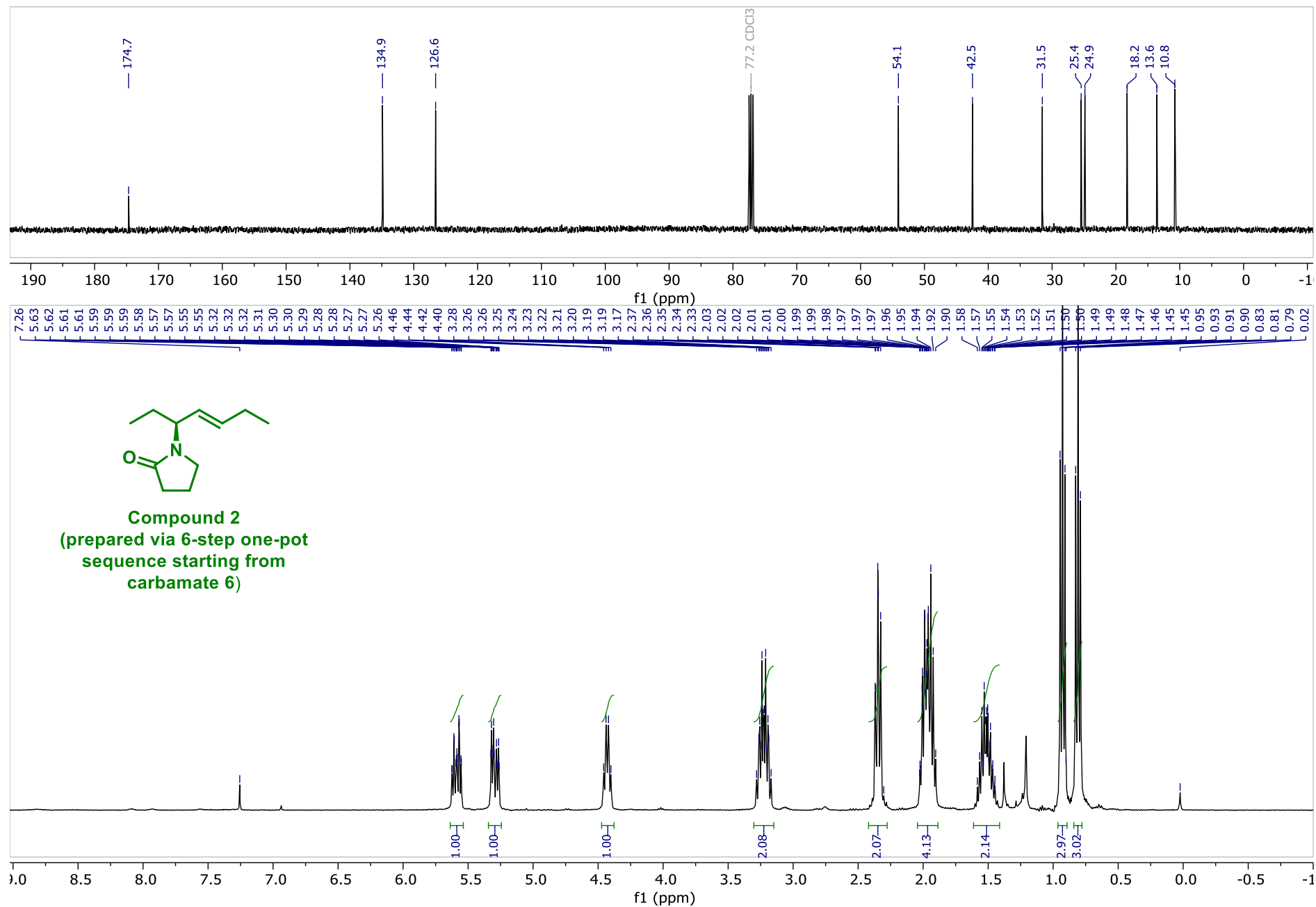


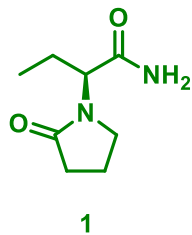
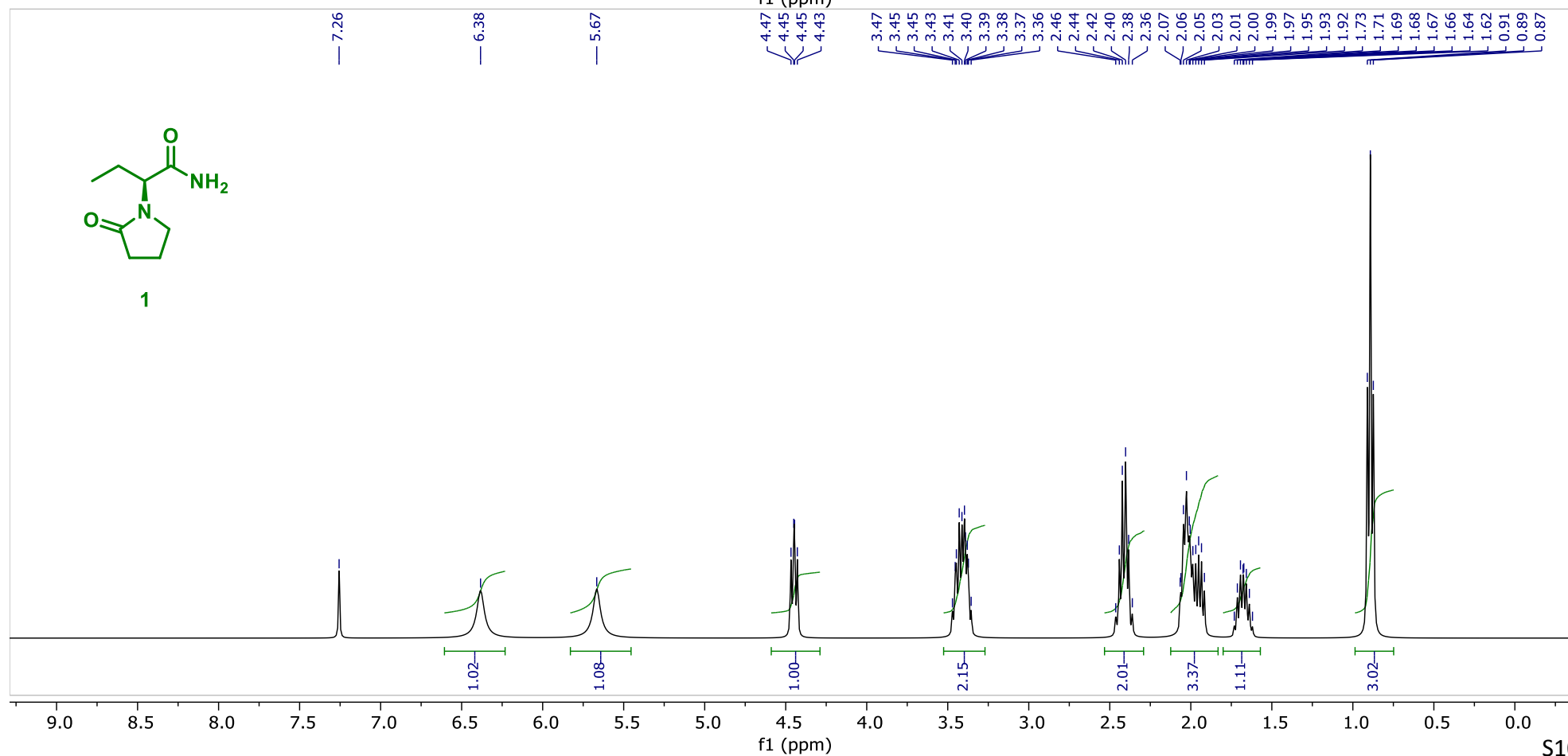
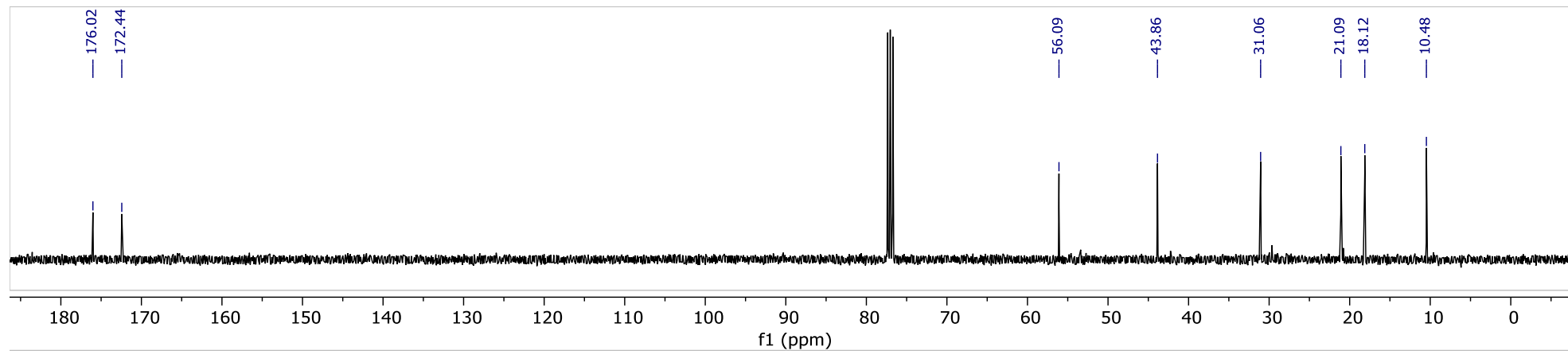






Compound 2
(prepared *via*
intramolecular *N*-alkylation)





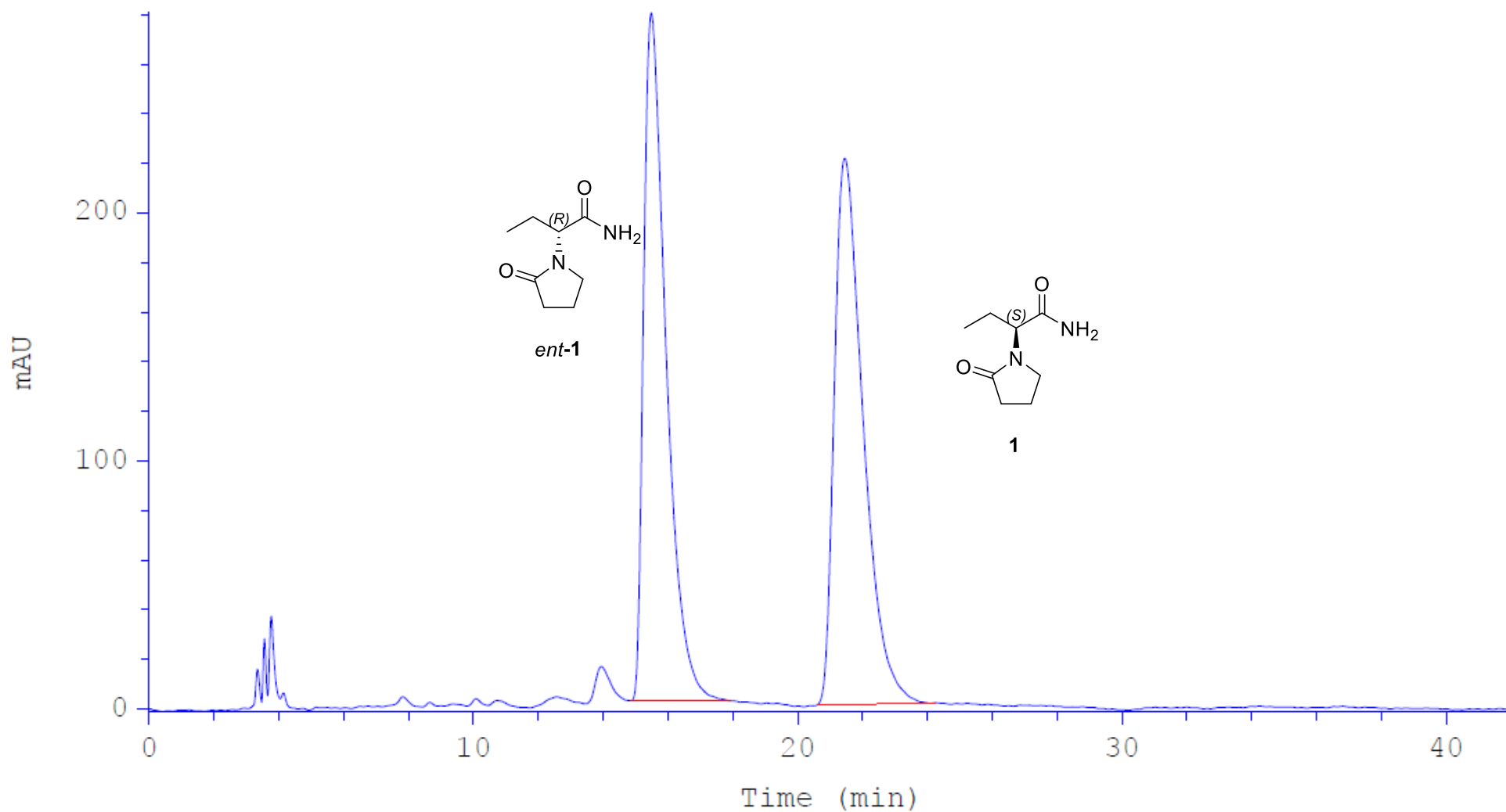
Column: Chiralcel OD-H

Eluent: 10% *i*-PrOH in hexanes

Flow: 1mL/min

Detection: UV, 210 nm

	Ret.time [min]	Start [min]	End [min]	Area [mAU*min]	Height [mAU]	% Area	Width [min]
1	15.487	14.85	17.99	223.026	277.327	49.4428	0.728
2	21.455	20.50	24.09	228.052	220.58	50.5572	0.943



Column: Chiralcel OD-H
Eluent: 10% *i*-PrOH in hexanes
Flow: 1mL/min
Detection: UV, 210 nm

	Ret.time [min]	Start [min]	End [min]	Area [mAU*min]	Height [mAU]	% Area	Width [min]
1	15.954	15.29	16.64	4.76758	7.02095	1.3768	0.673
2	21.439	20.32	25.63	341.521	313.824	98.6232	0.977

