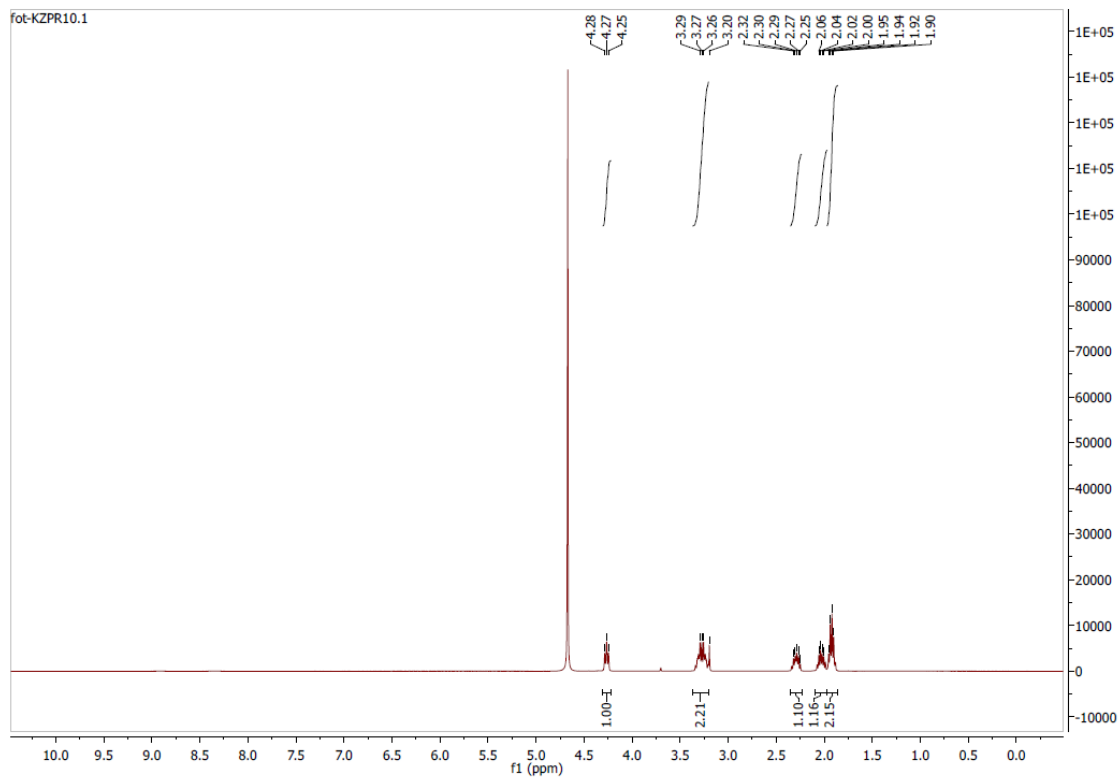
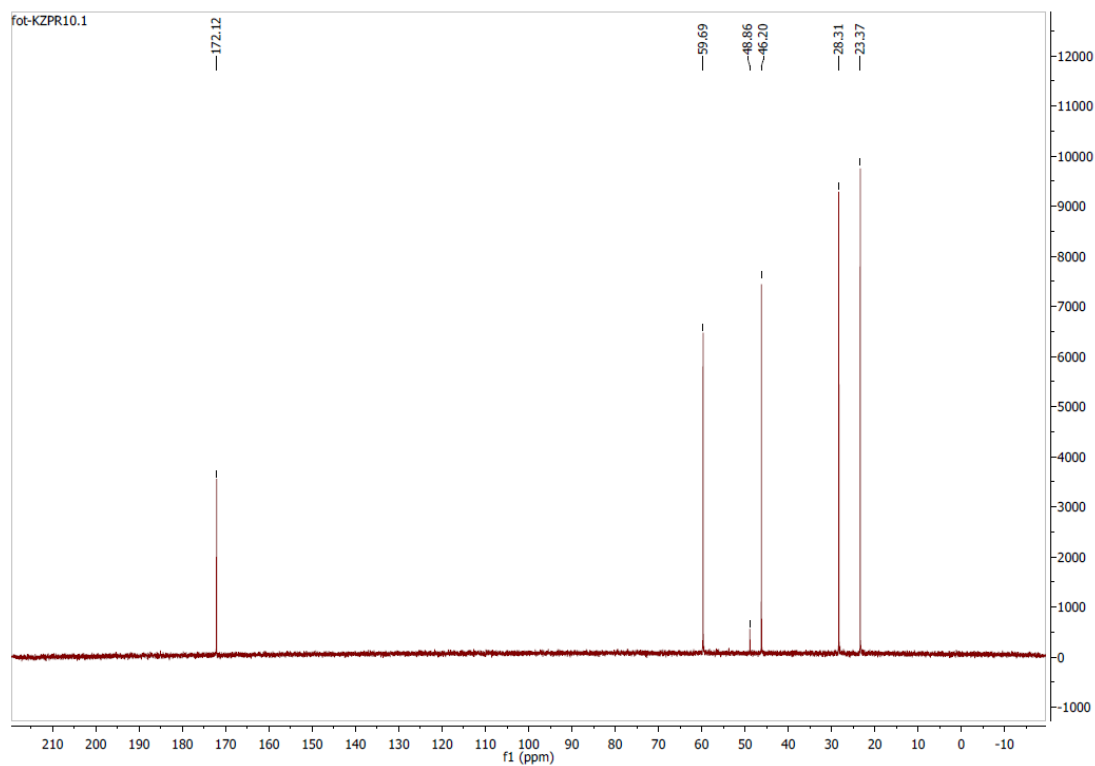


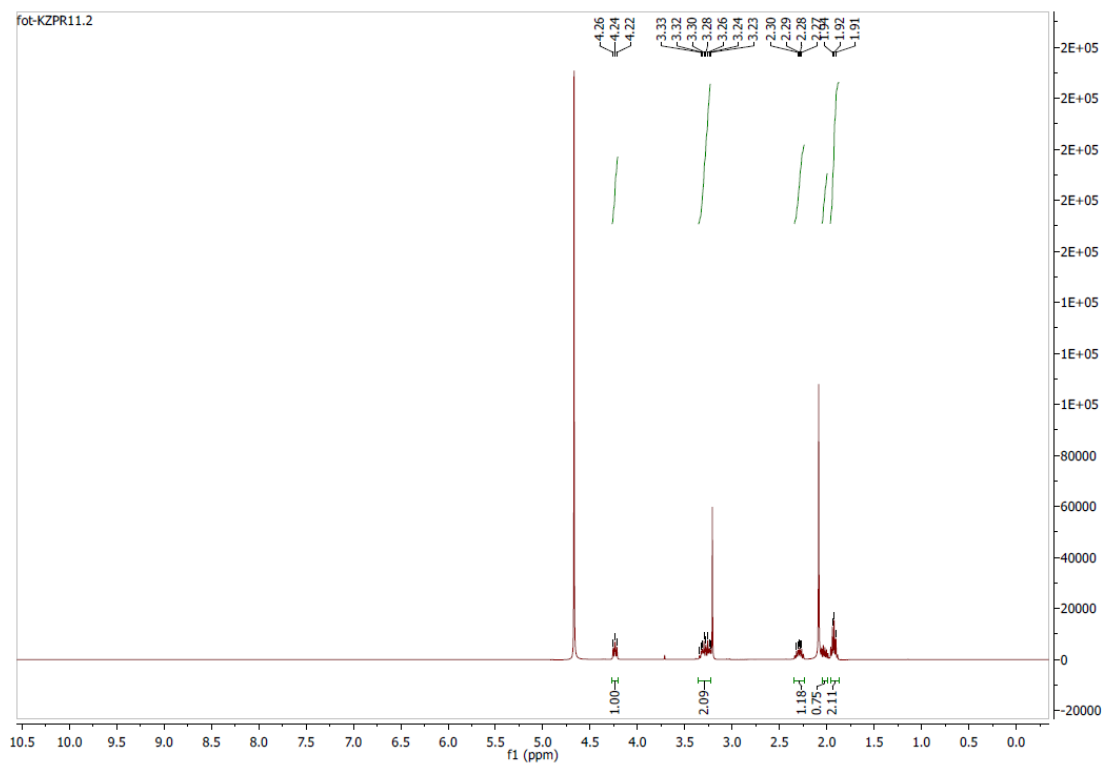
Supporting Information

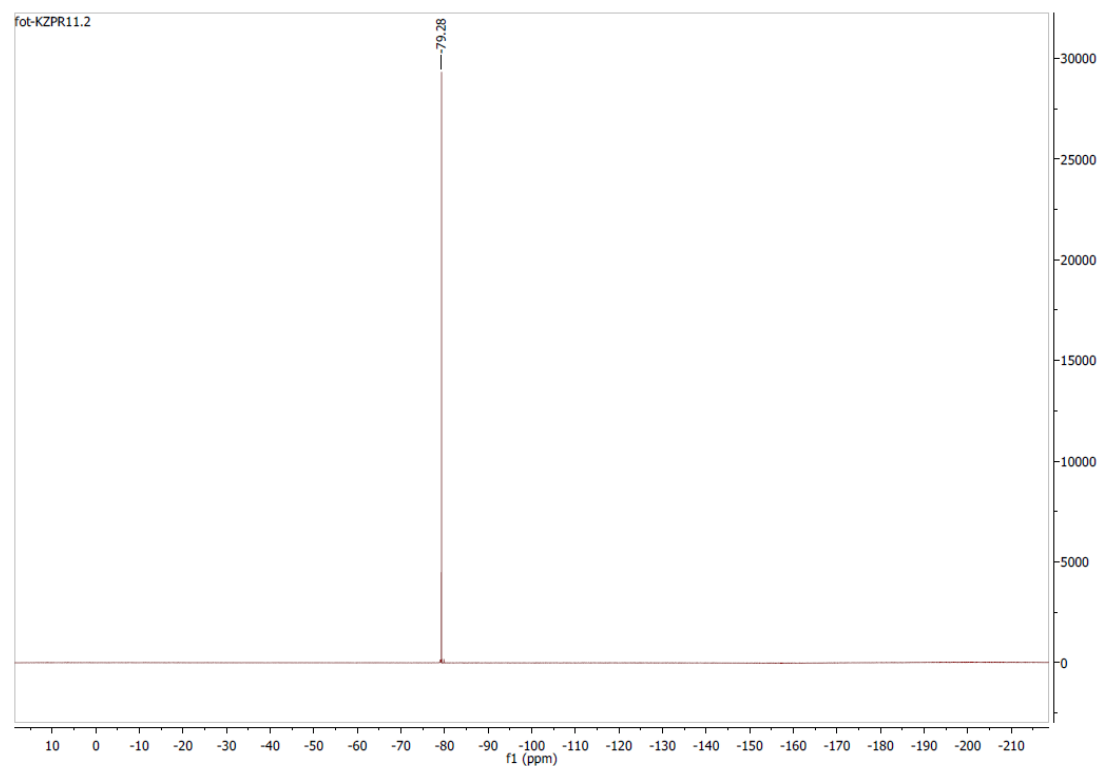
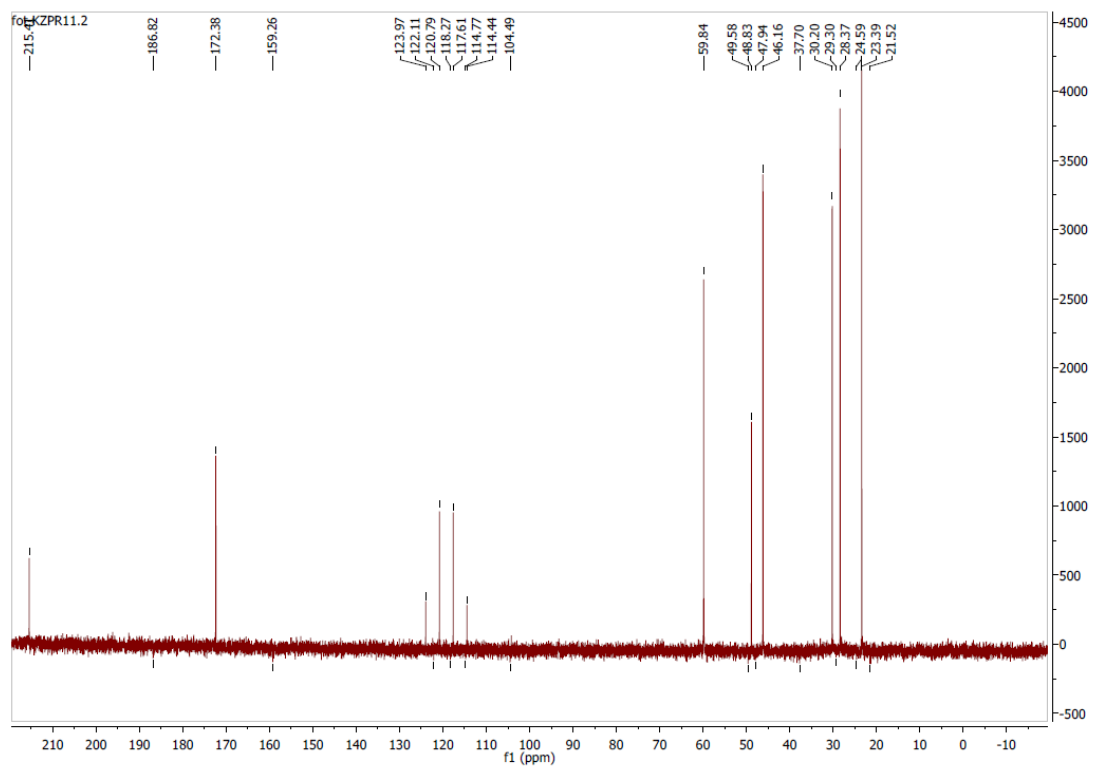
(L)-proline hydrochloride (cationic approach) (1): [ProNH₂][Cl]



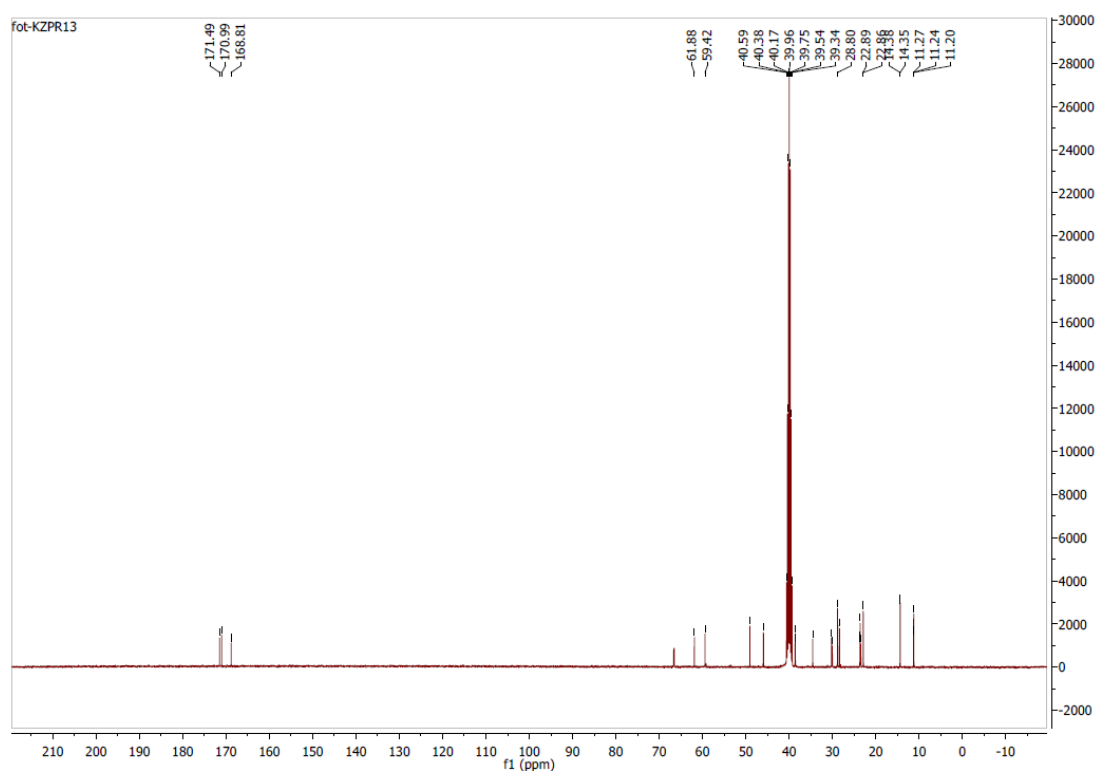
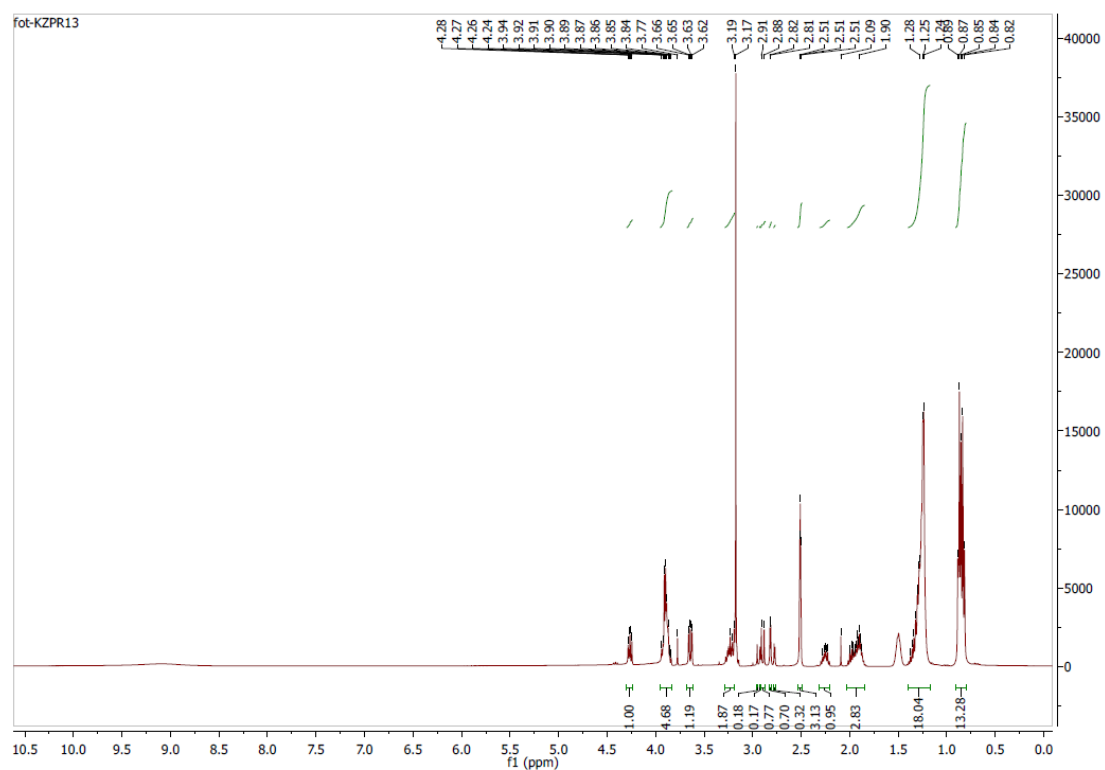


(L)-2-carboxypyrrolidin-1-ium bis((trifluoromethyl)sulfonyl)amide (1a)
[ProNH₂][NTf₂]

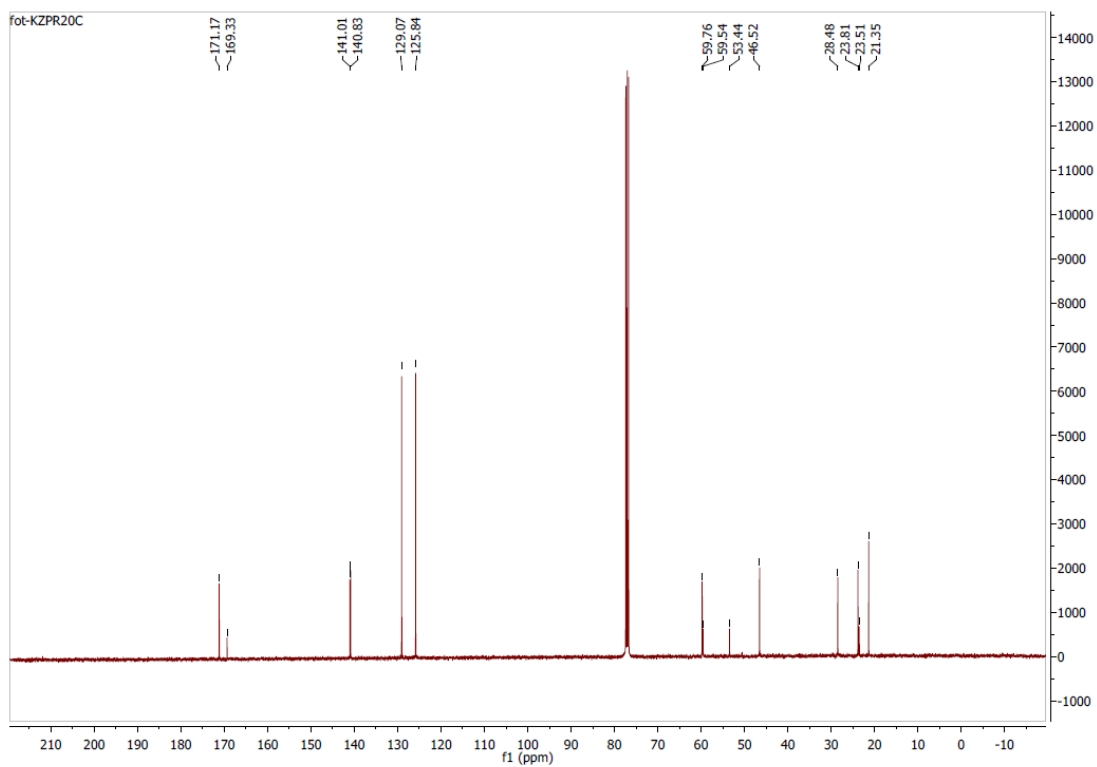
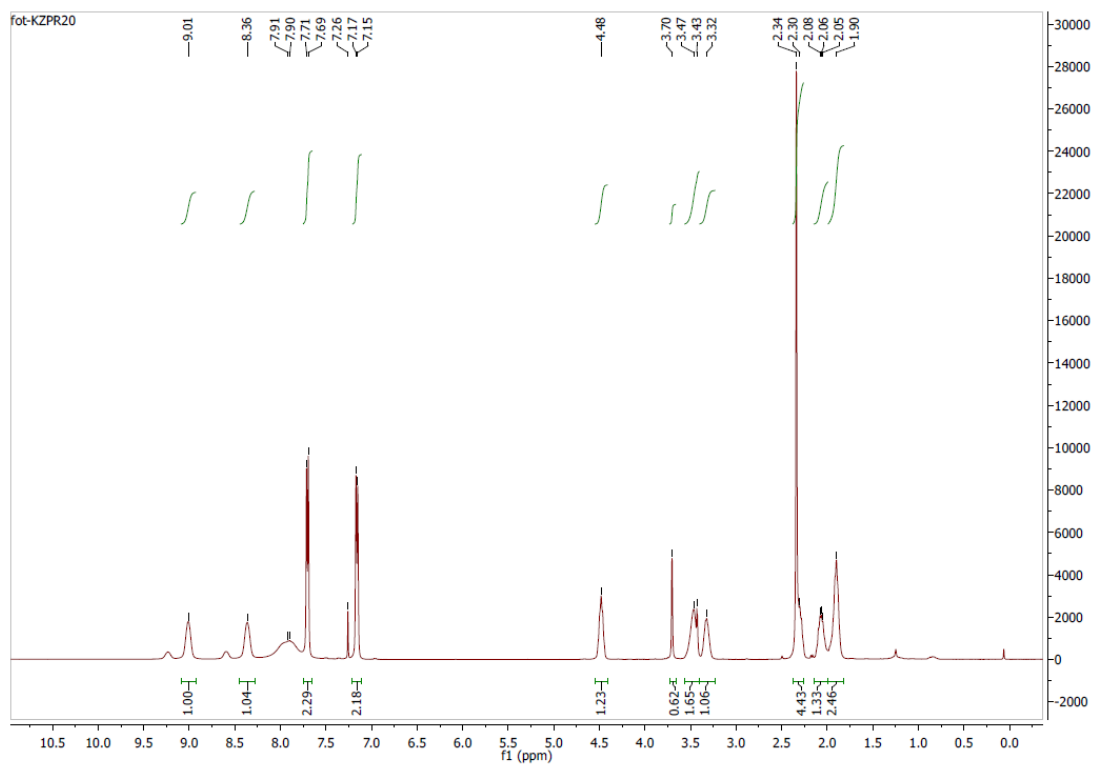




2-carboxypyrrolidin-1-ium 1,4-bis((2-ethylhexyl)oxy)-1,4-dioxobutane-2-sulfonate (1b) [ProNH₂][AOT]

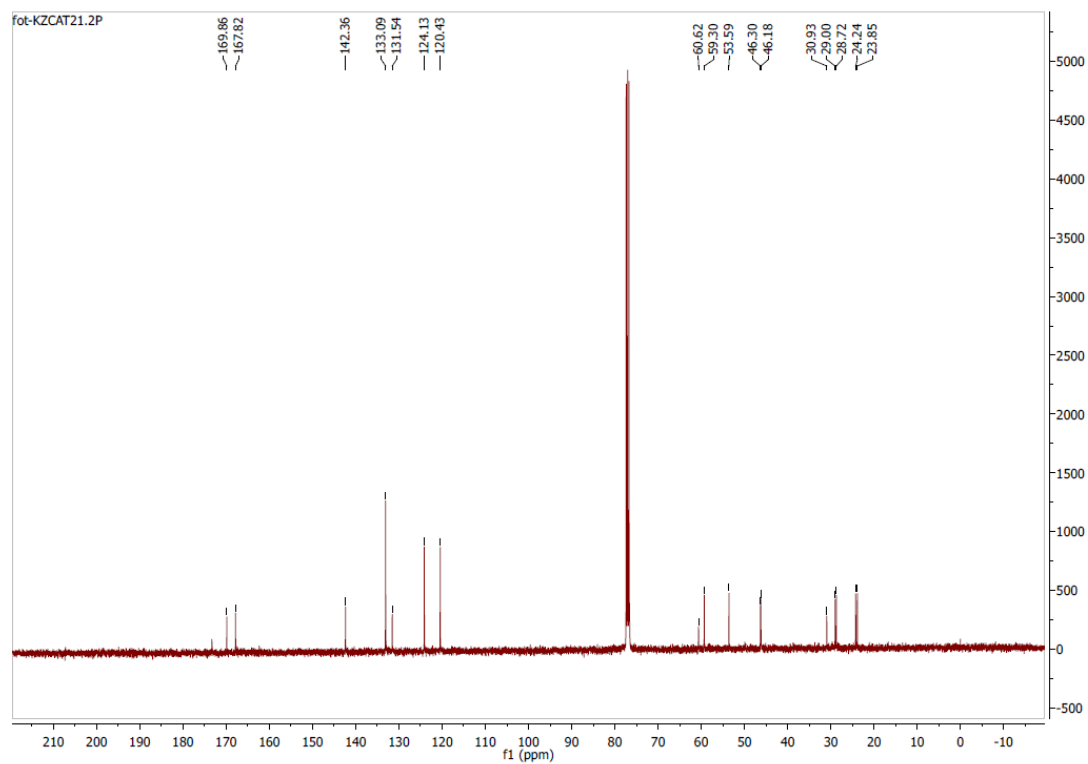
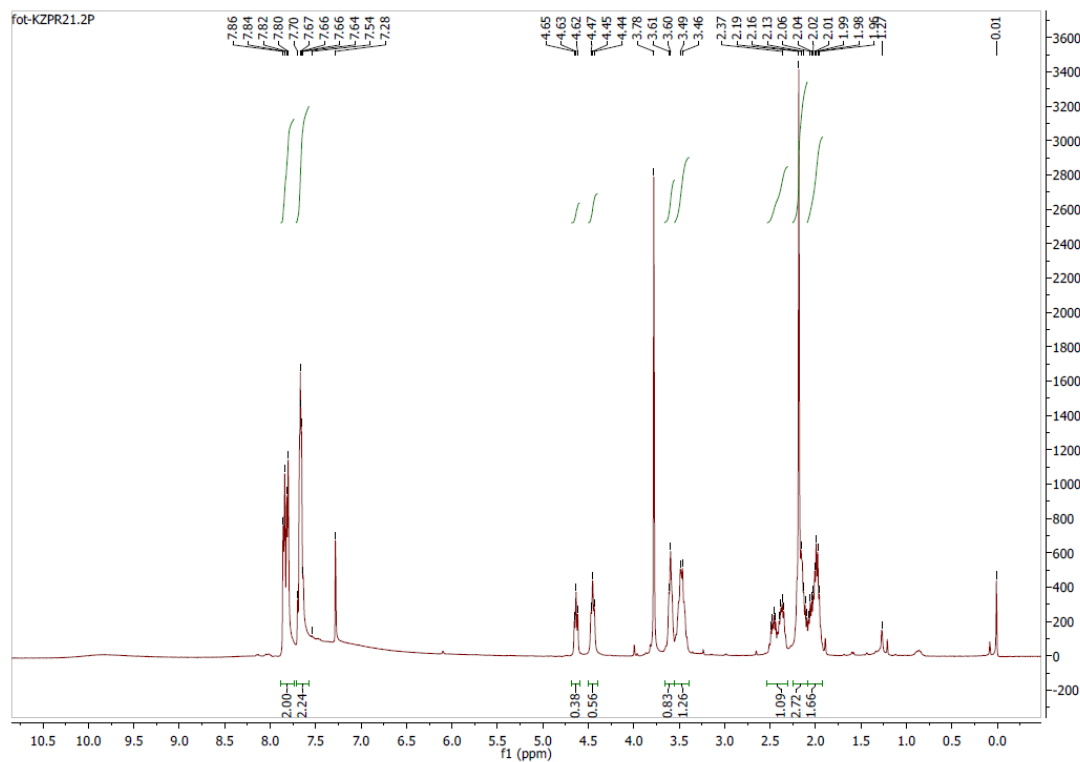


(S)-2-carboxypyrrolidin-1-ium 4-methylbenzenesulfonate (1c) [ProNH₂][PTSA]

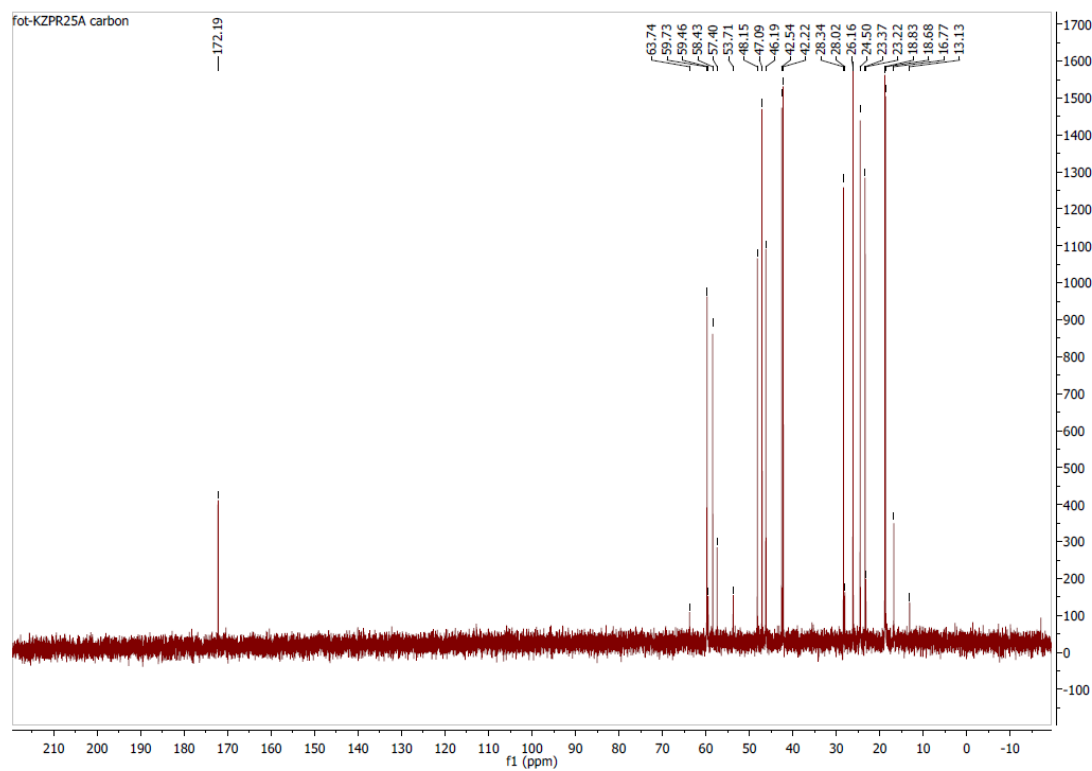
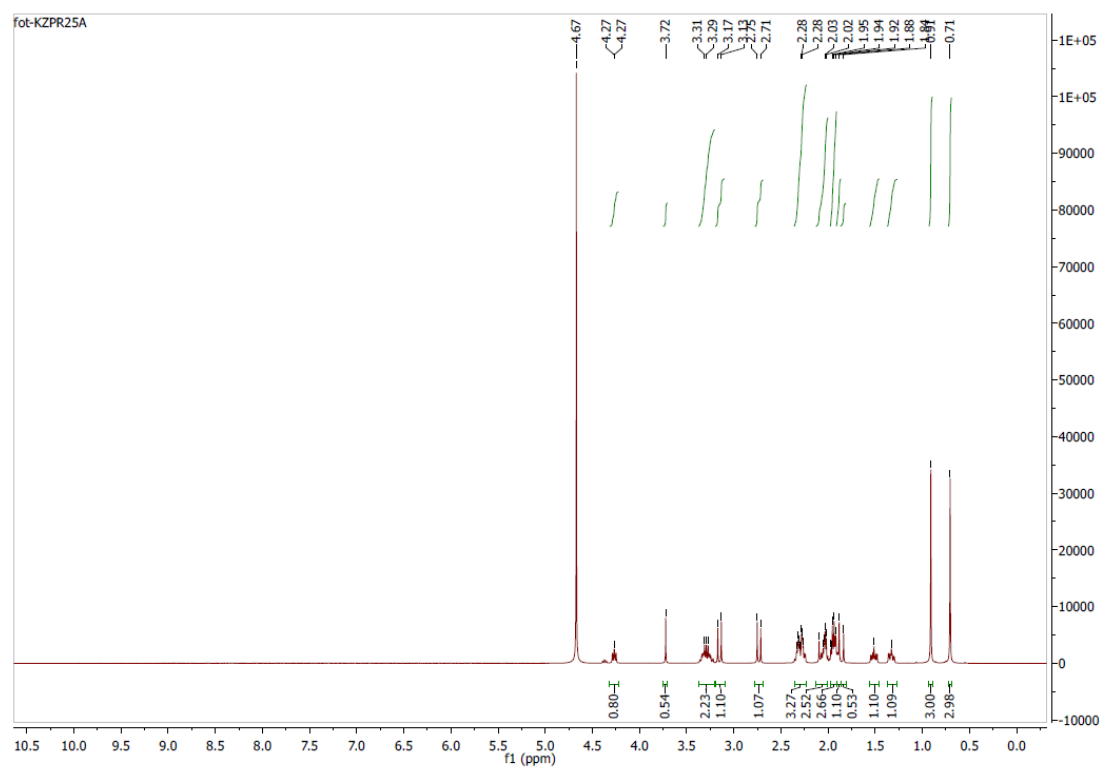


(R)-2-carboxypyrrolidin-1-ium 3-oxo-3H-benzo[d]isothiazol-2-ide 1,1-dioxide (1d)

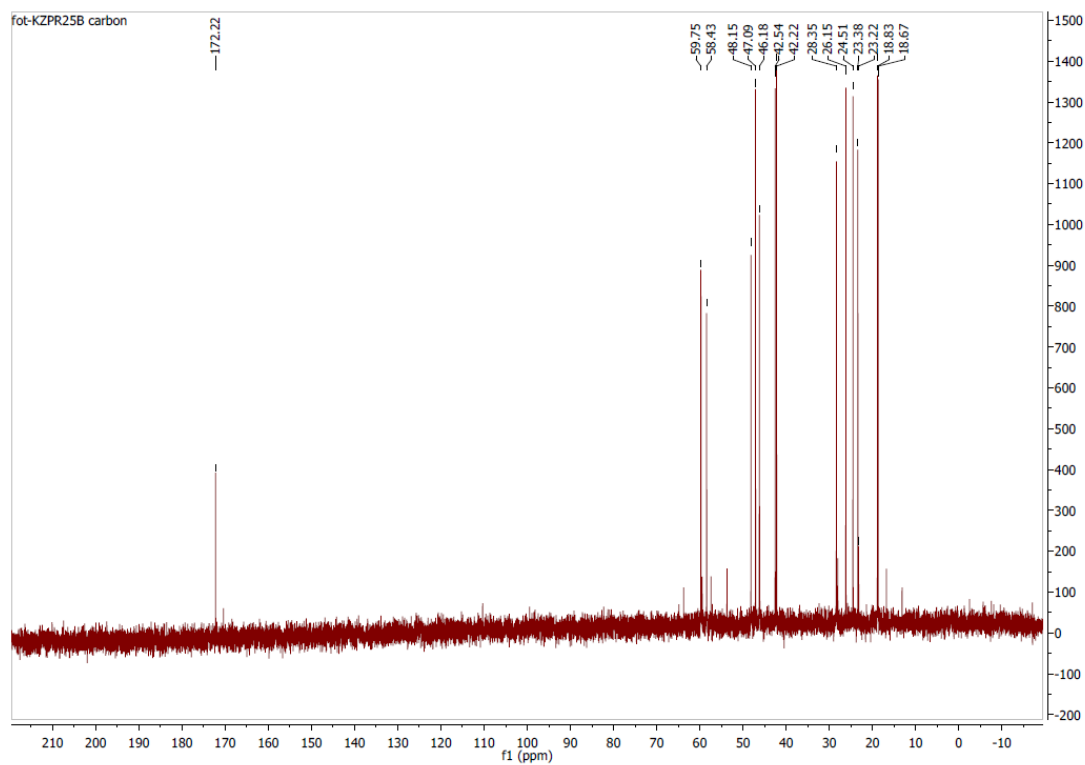
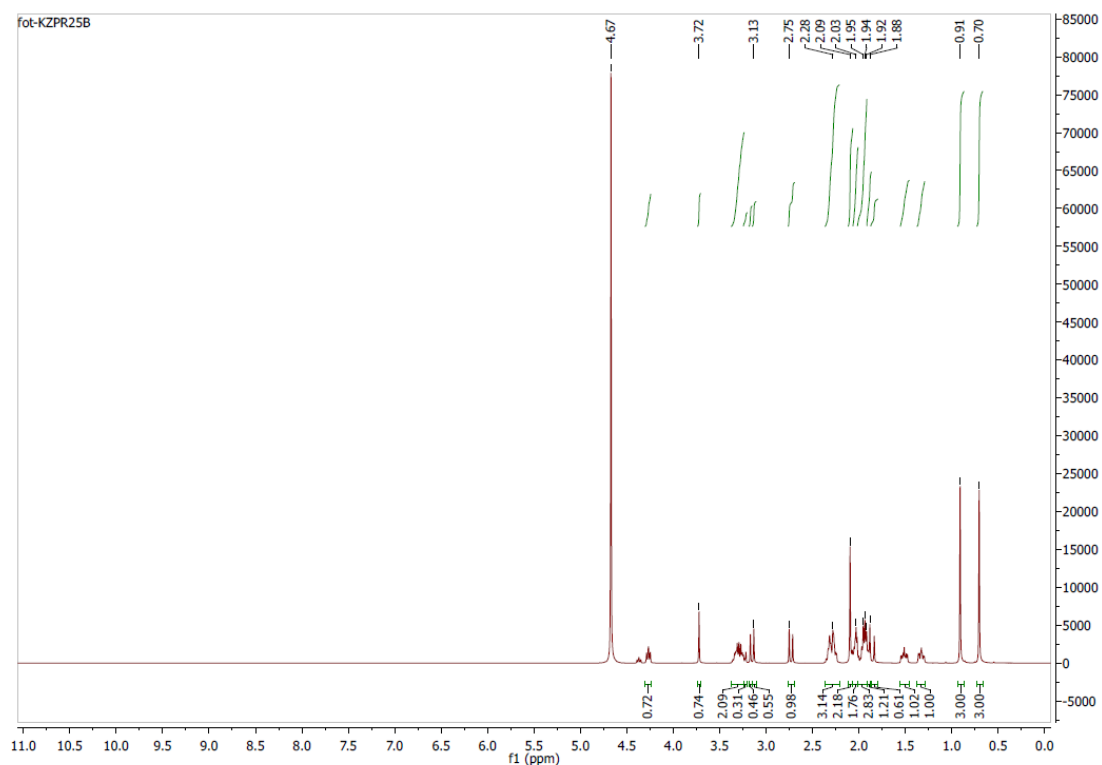
[ProNH₂][SAC]



(L)-2-carboxypyrrolidin-1-ium ((1D, 4D)-7,7-dimethyl-2-oxobicyclo[2.2.1]heptan-1-yl)methanesulfonate (1e)

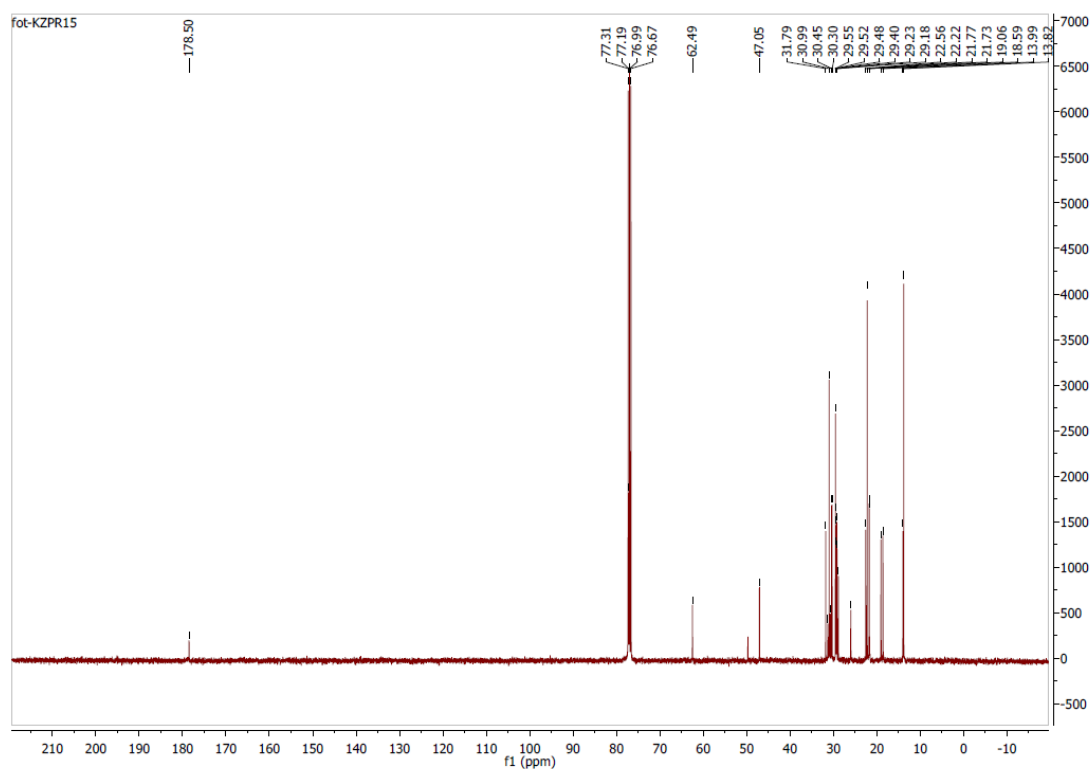
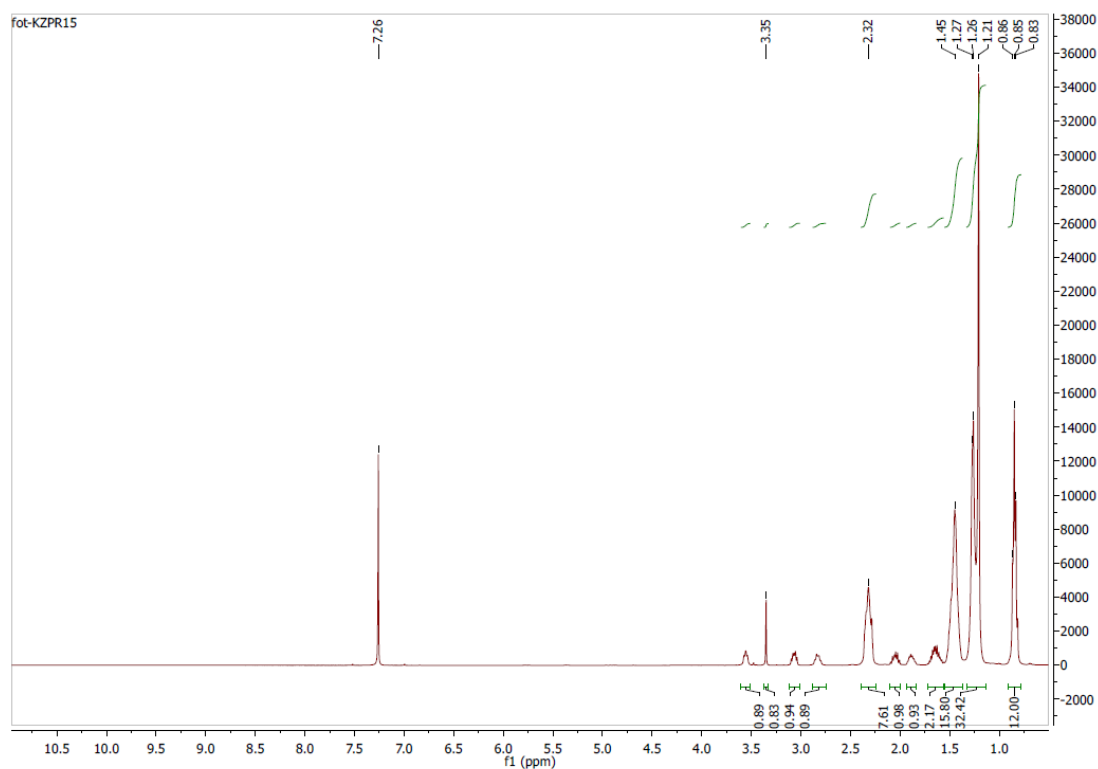


(L)-2-carboxypyrrolidin-1-ium ((1L, 4D)-7,7-dimethyl-2-oxobicyclo[2.2.1]heptan-1-yl)methanesulfonate (1f)



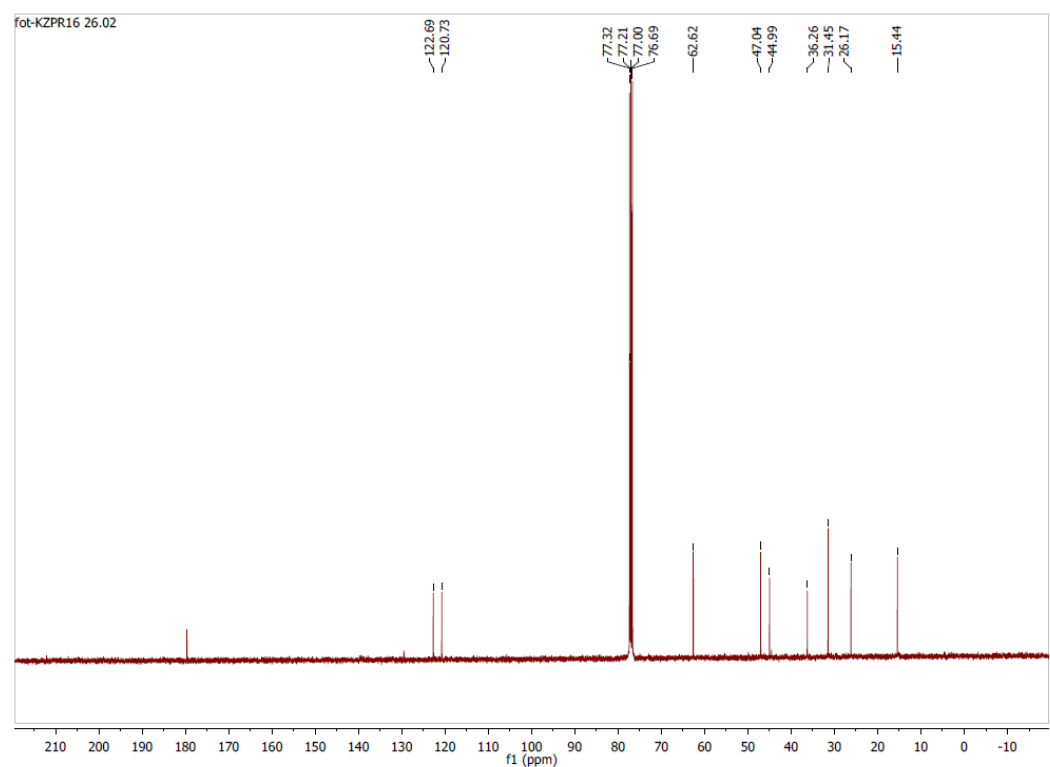
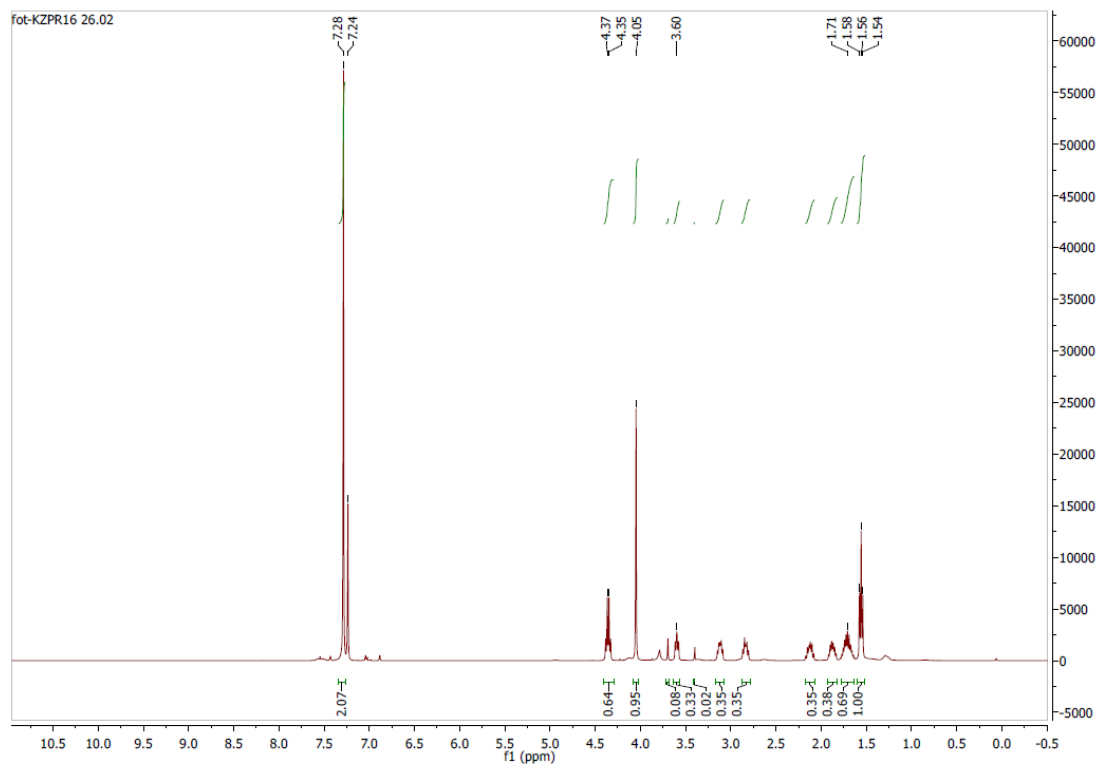
trihexyl(tetradecyl)phosphonium (L)-pyrrolidine-2-carboxylate (2a)

[P_{6,6,6,14}][ProCO₂]

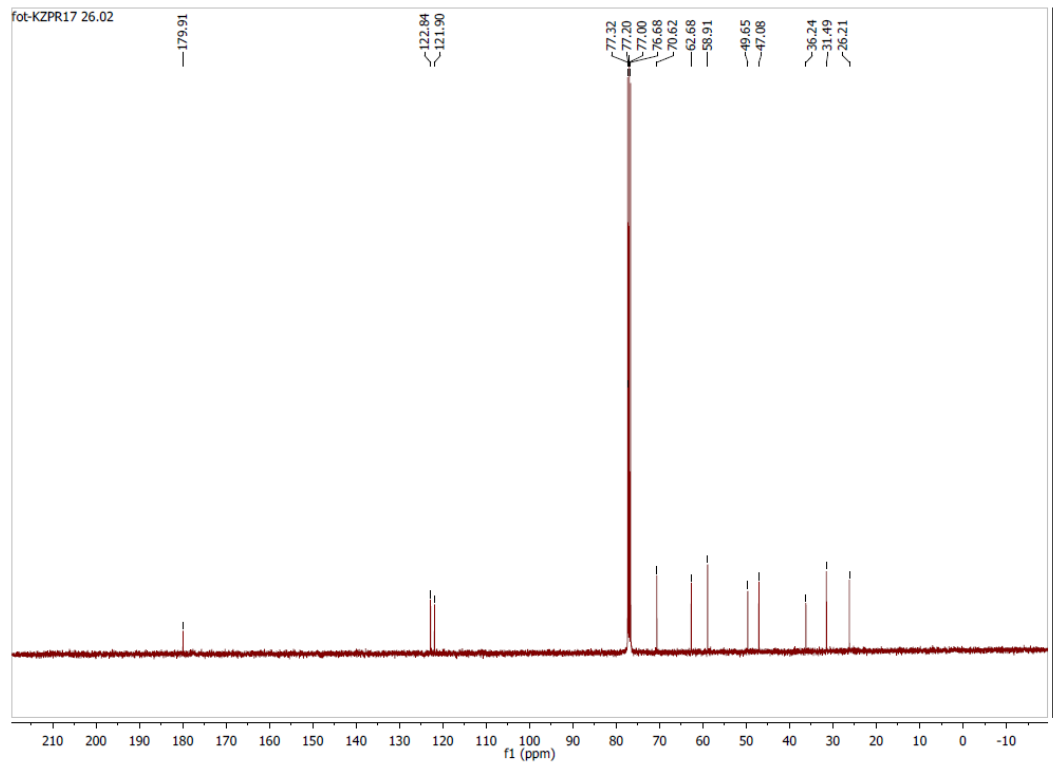
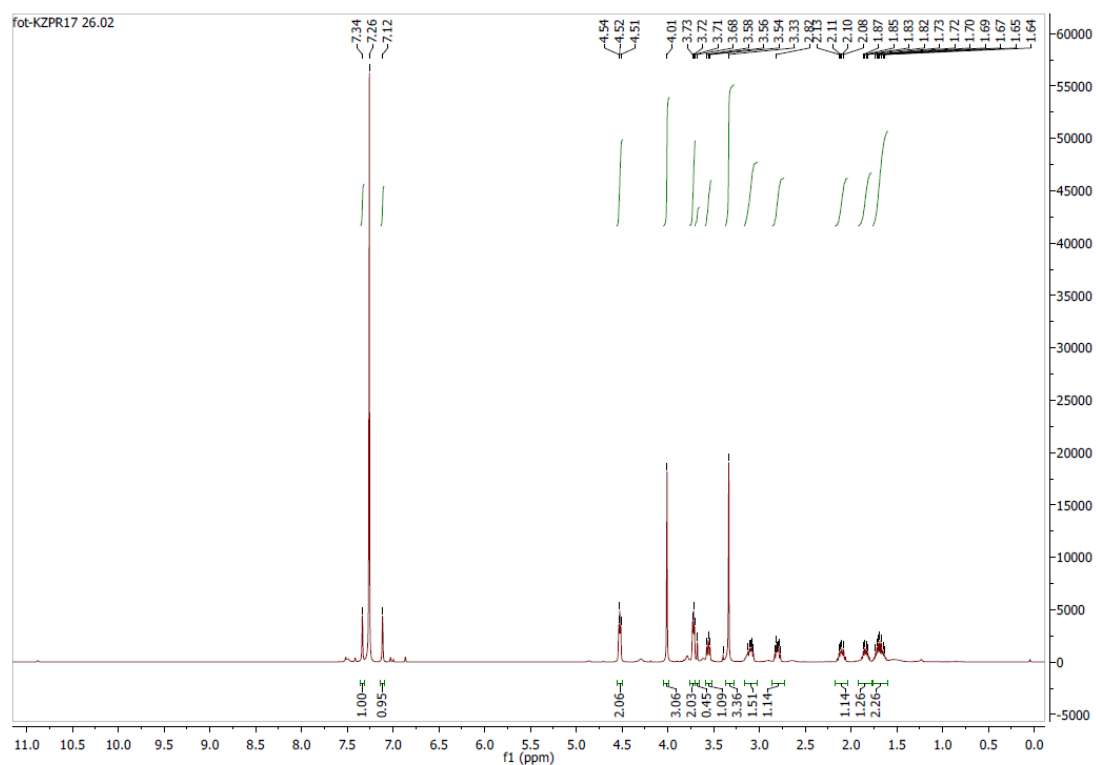


1-ethyl-3-methyl-1H-imidazol-3-ium pyrrolidine-2-carboxylate (2b)

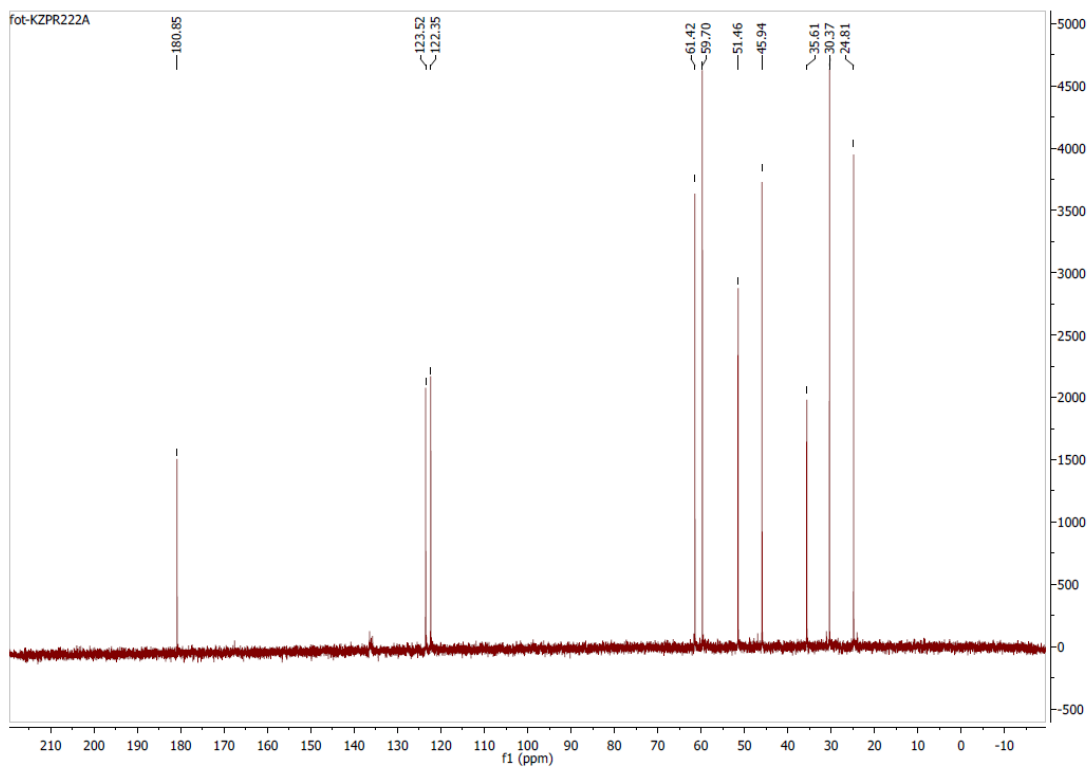
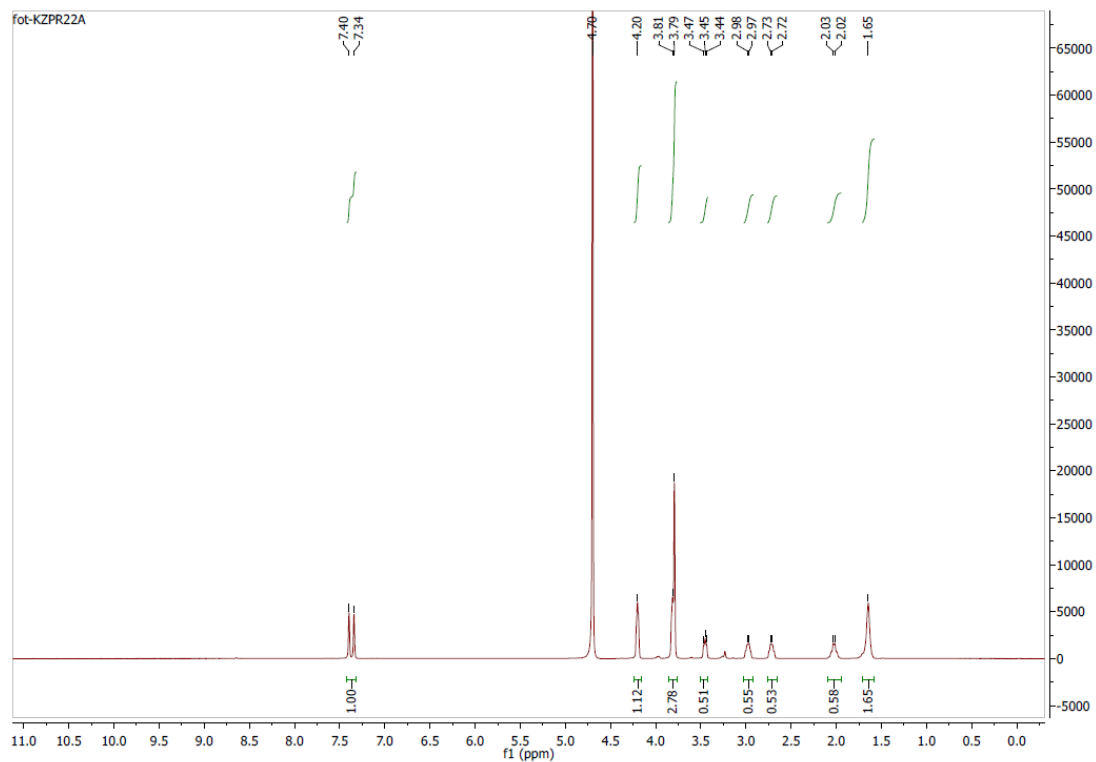
[EMIM][ProCO₂]



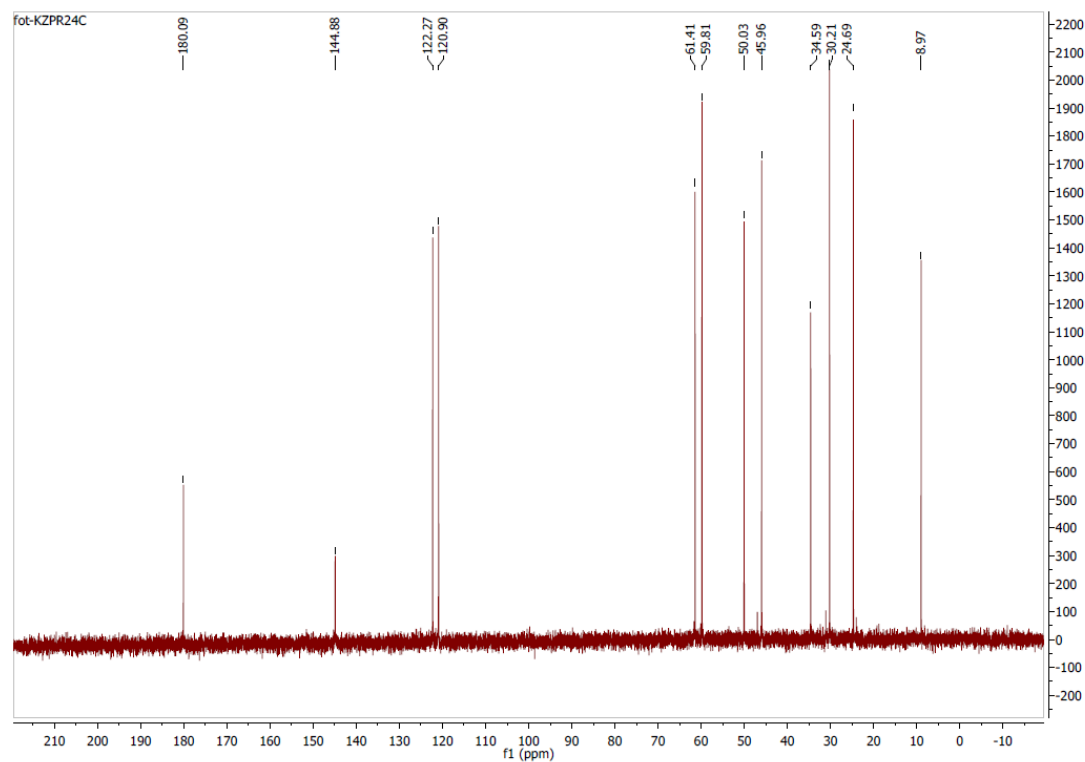
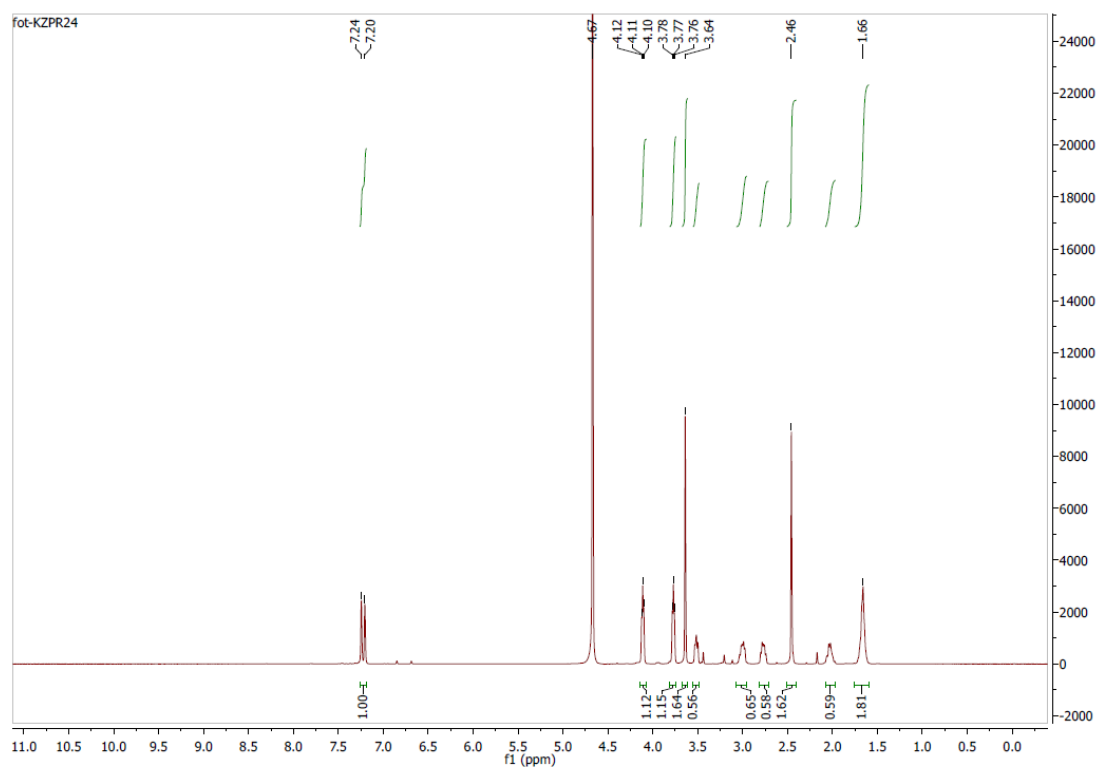
**1-(2-methoxyethyl)-3-methyl-1H-imidazol-3-ium (L)- pyrrolidine-2-carboxylate
(2c)[C₃OMIM][ProCO₂]**



**1-(2-hydroxyethyl)-3-methyl-1H-imidazol-3-ium (L)-pyrrolidine-2-carboxylate
(2d) [C₂OHMIM][ProCO₂]**

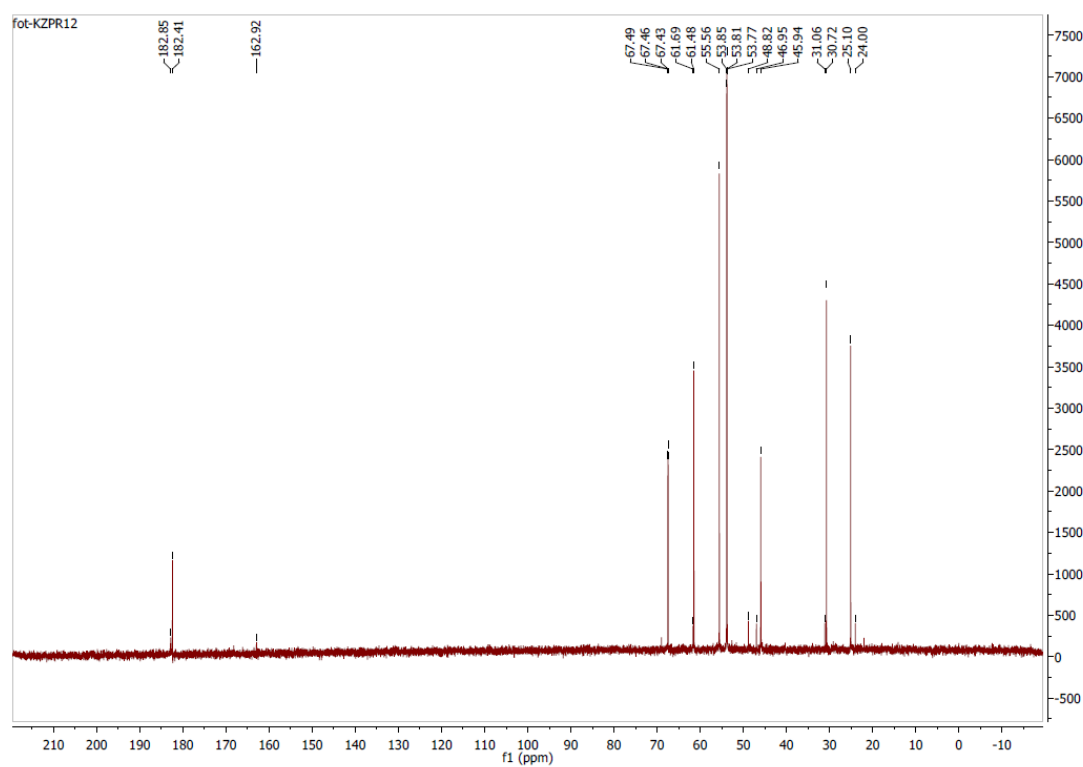
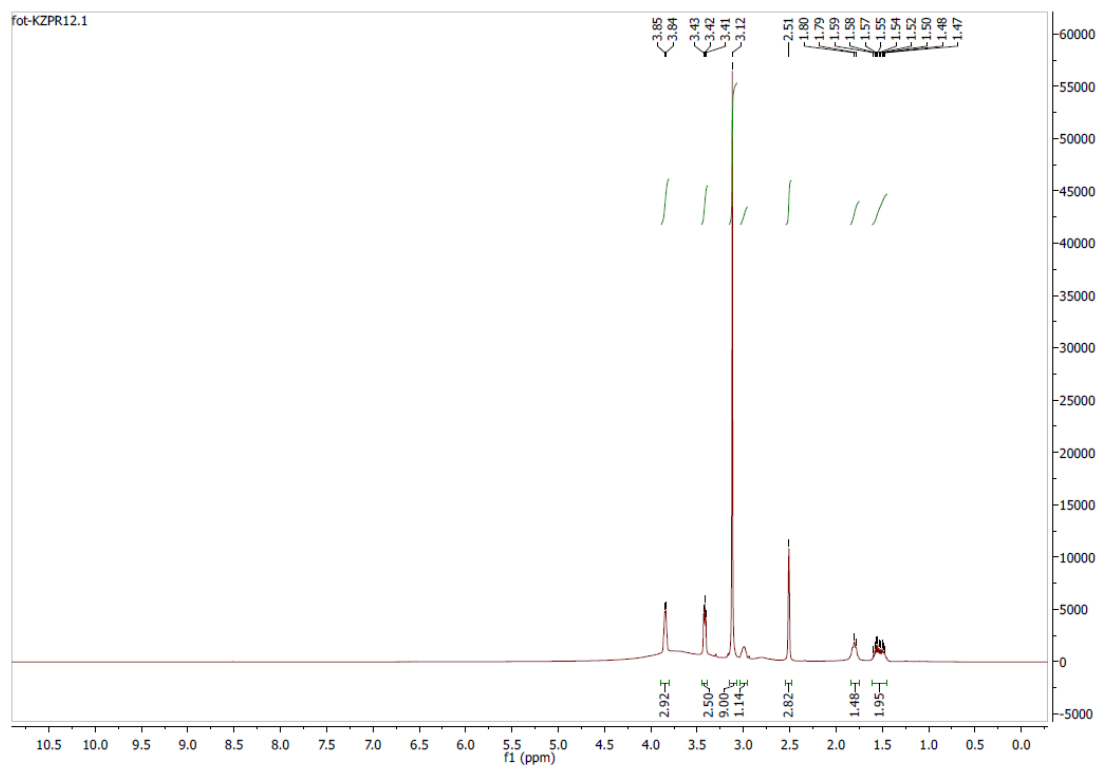


1-(2-hydroxyethyl)-2,3-dimethyl-1H-imidazol-3-ium (L)-pyrrolidine-2-carboxylate (2e) [C₂OHDMIM][ProCO₂]

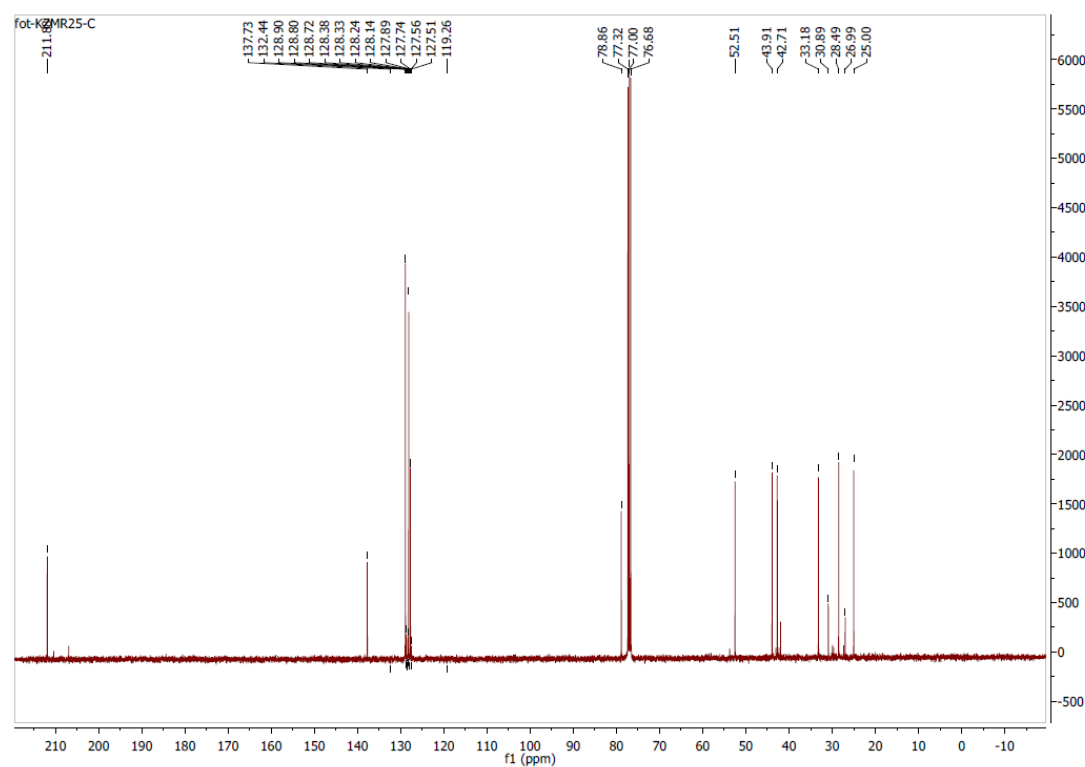
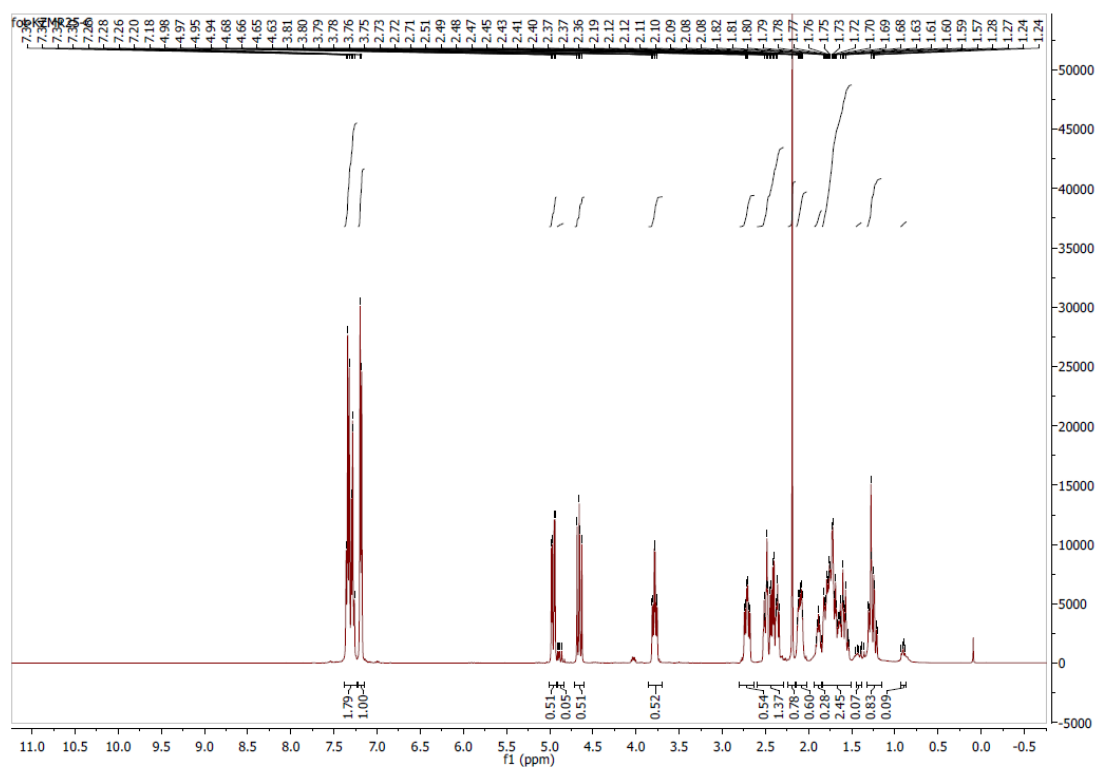


2-hydroxy-N,N,N-trimethylethanaminium (L)-pyrrolidine-2-carboxylate (2f)

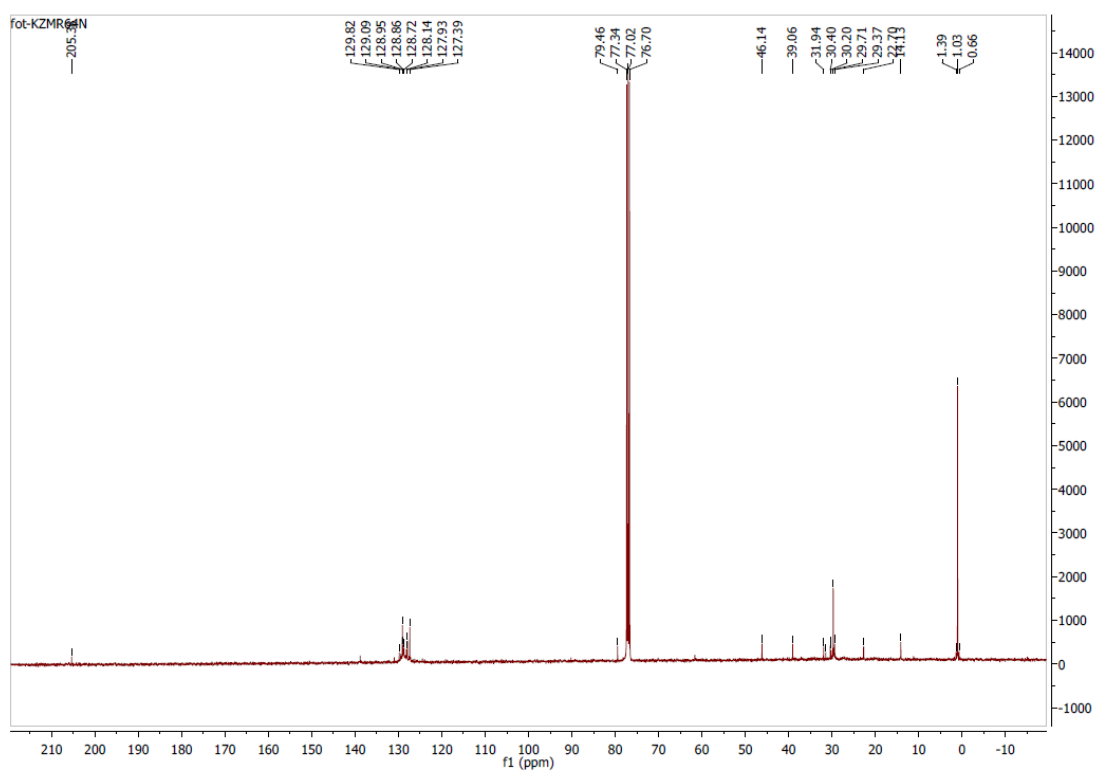
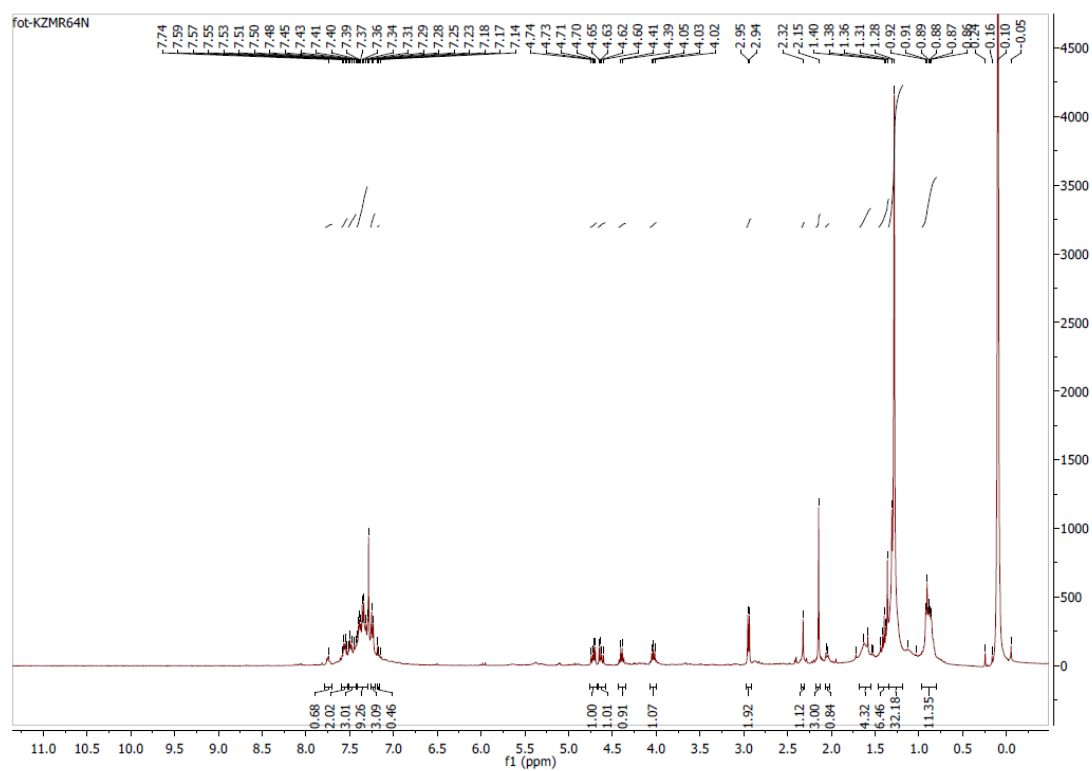
[Choline][ProCO₂]



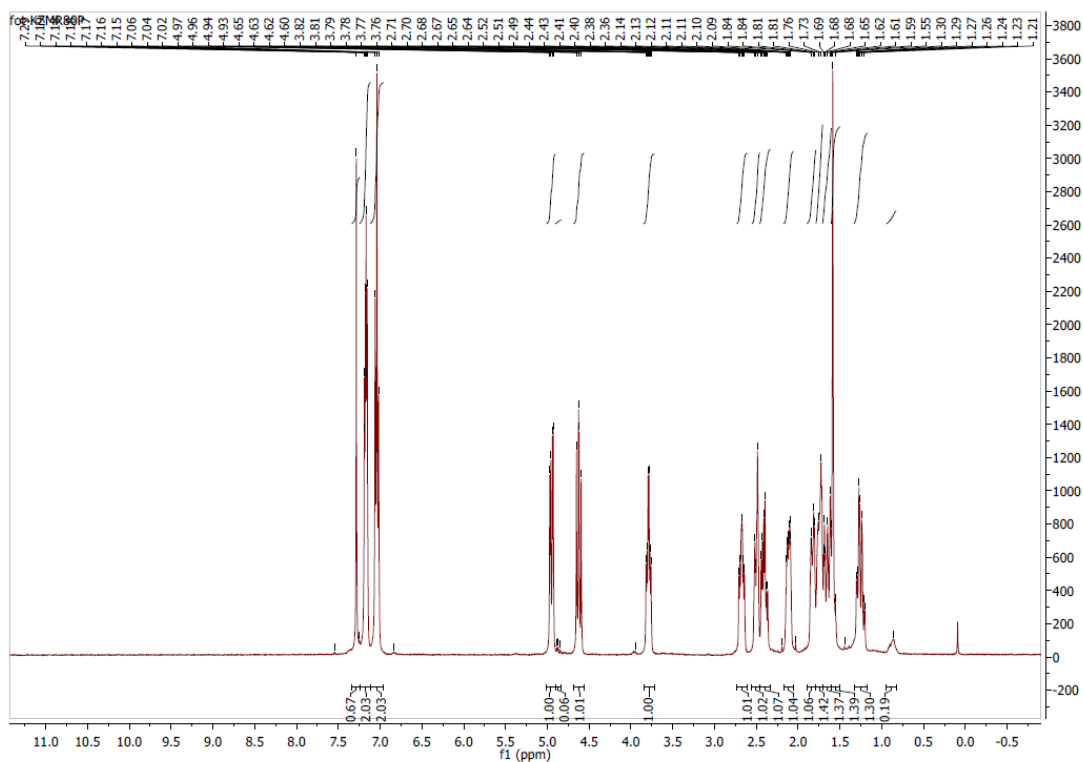
(L)-2-(D)-2-nitro-1-phenylethyl)cyclohexanone:



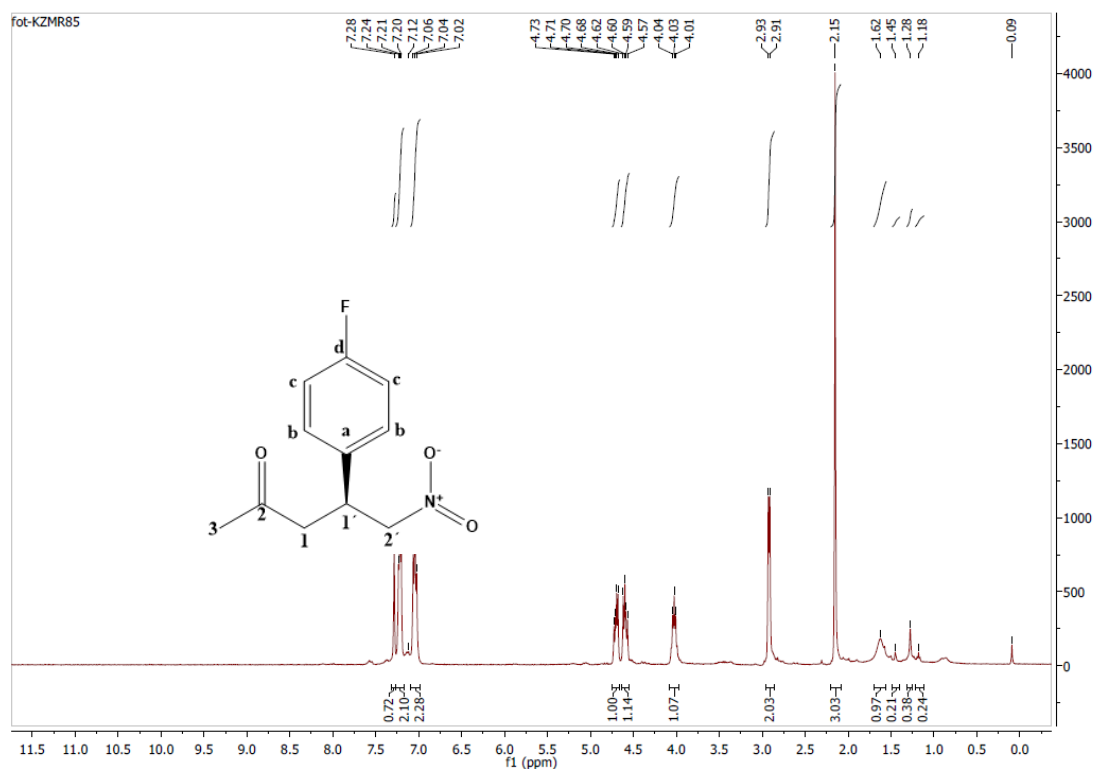
(R)-5-nitro-4-phenylpentan-2-one:



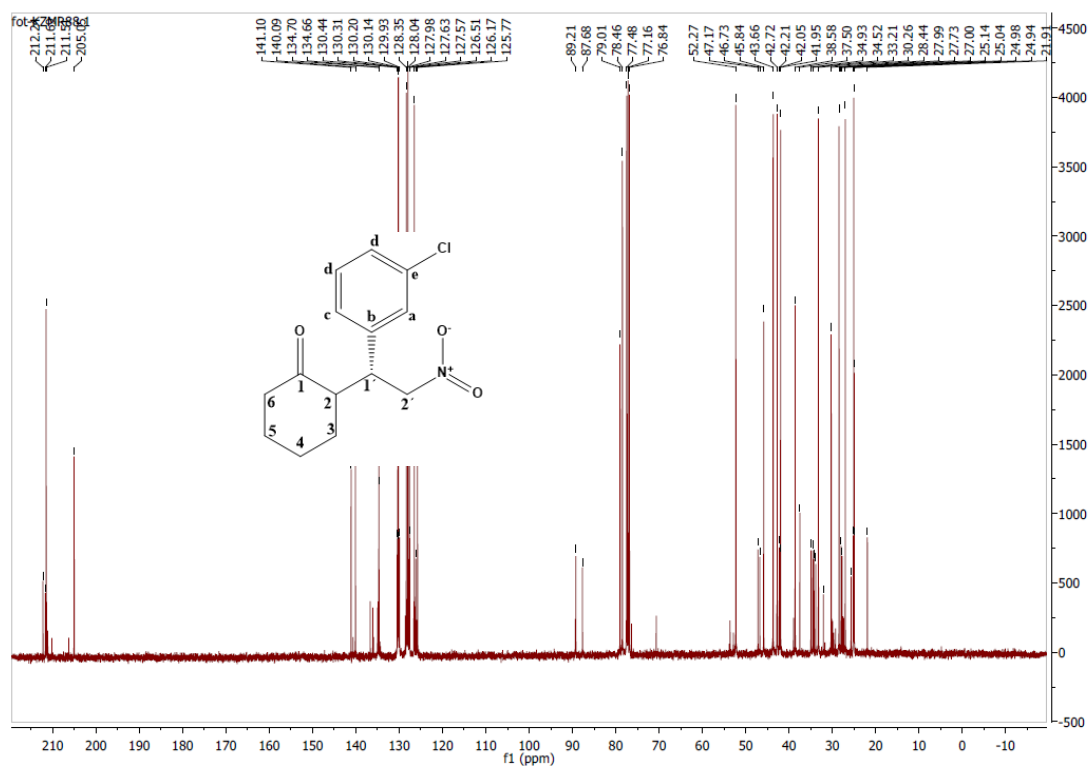
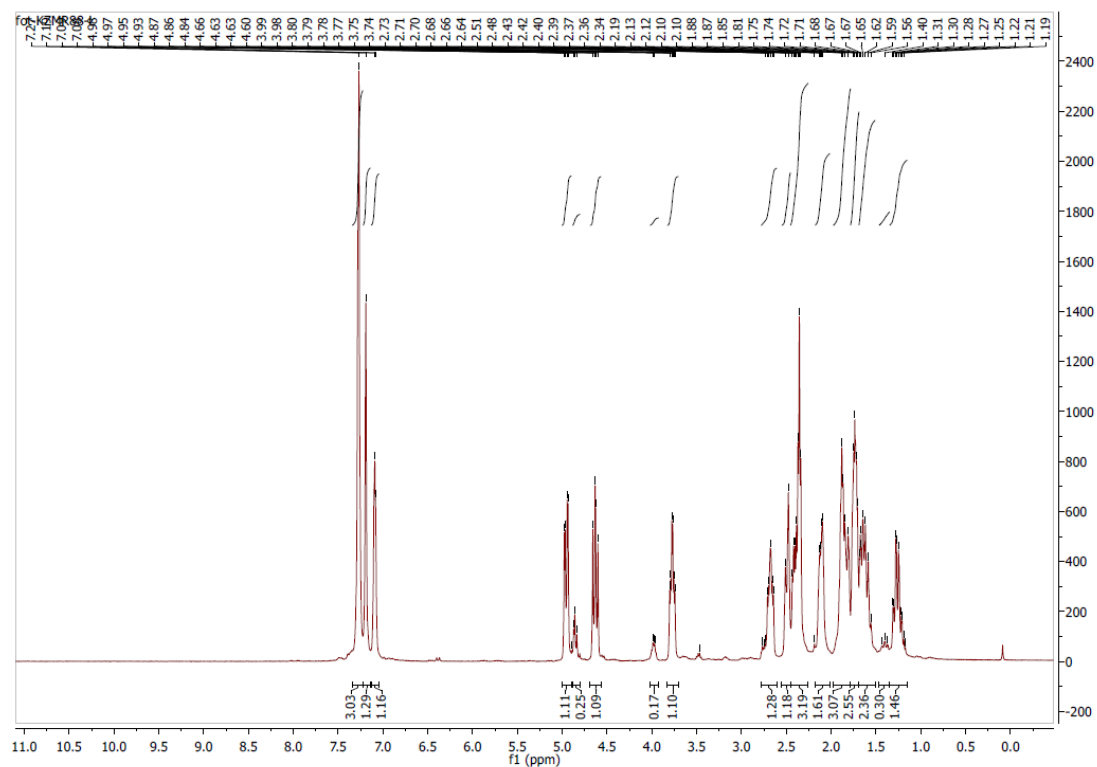
(R)-2-((S)-1-(4-fluorophenyl)-2-nitroethyl)cyclohexanone:



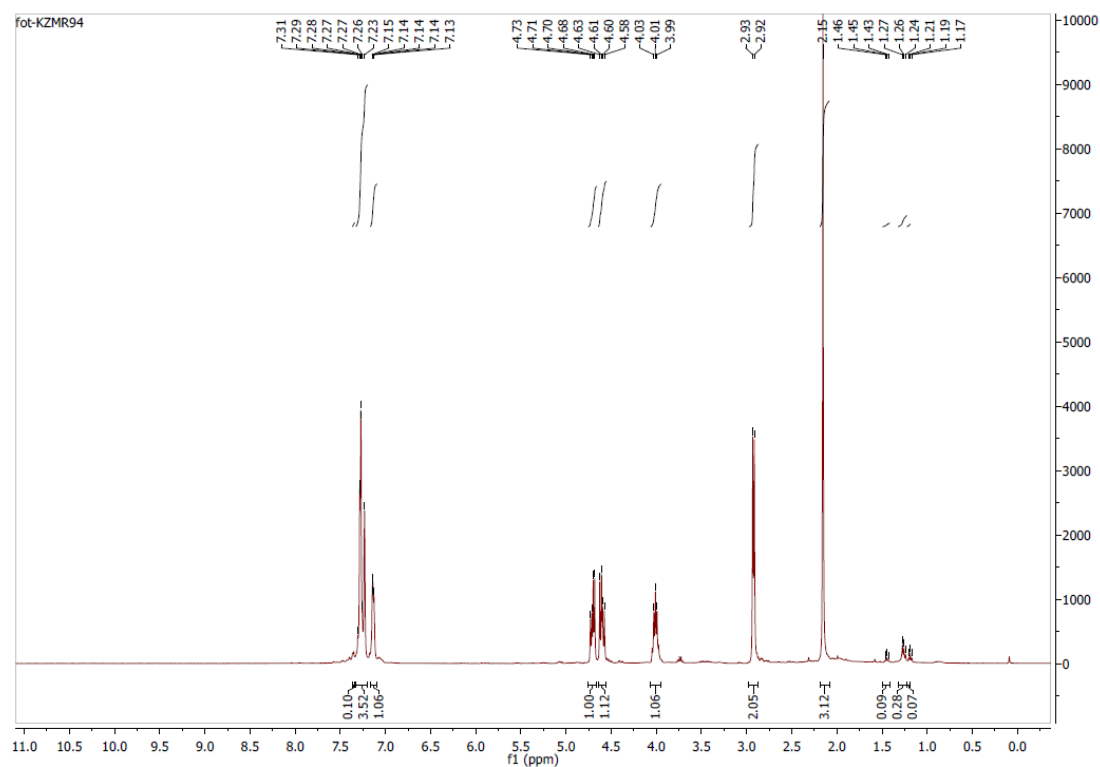
(S)-4-(4-fluorophenyl)-5-nitropentan-2-one:



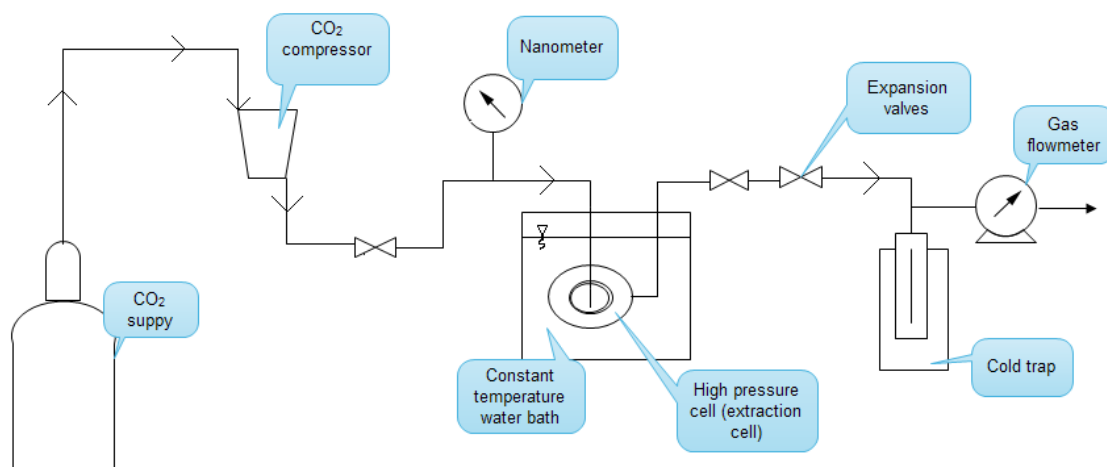
2-((R)-1-(3-chlorophenyl)-2-nitroethyl)cyclohexanone:



(R)-4-(3-chlorophenyl)-5-nitropentan-2-one:

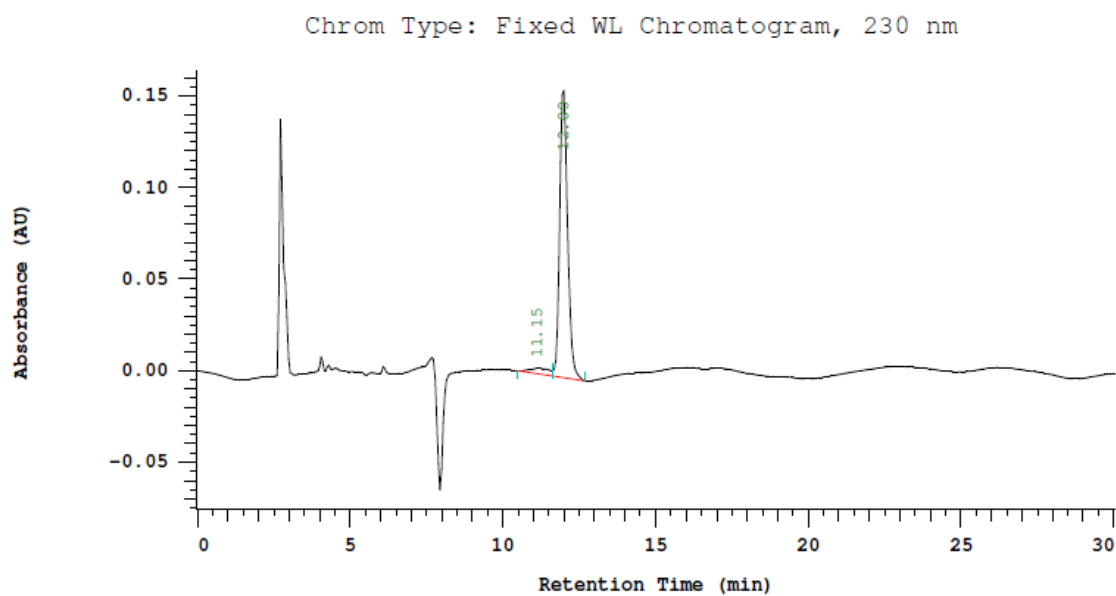


General scheme of the extraction of chiral Michael product using scCO₂.



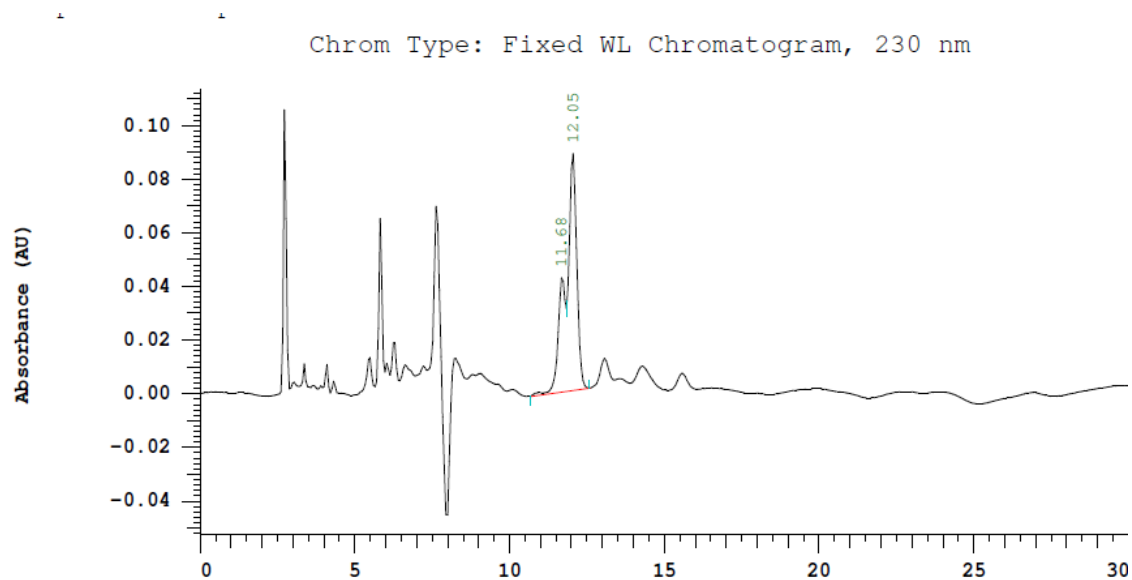
Chromatograms.

Product A, catalyst: L-proline in [Emim][EtSO₄], ee=87%



Peak	Retention Time (min)	Area (230 nm)
1	11.15	71485
2	12.00	1423794

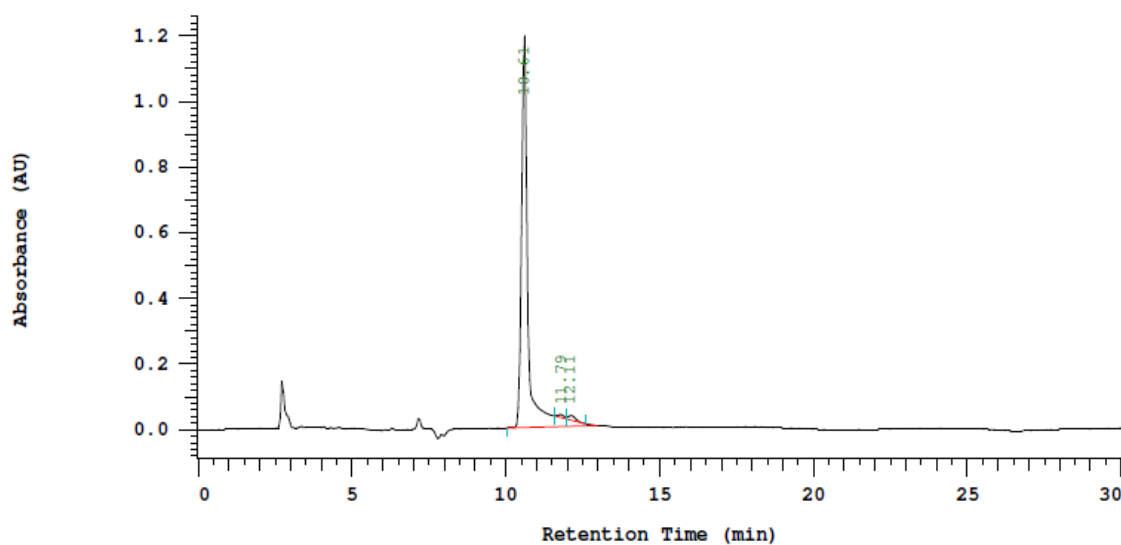
Product A, catalyst: [Na][ProCO₂] in EtOH, ee=40%



Peak	Retention Time (min)	Area (230 nm)
1	11.68	335057
2	12.05	785582

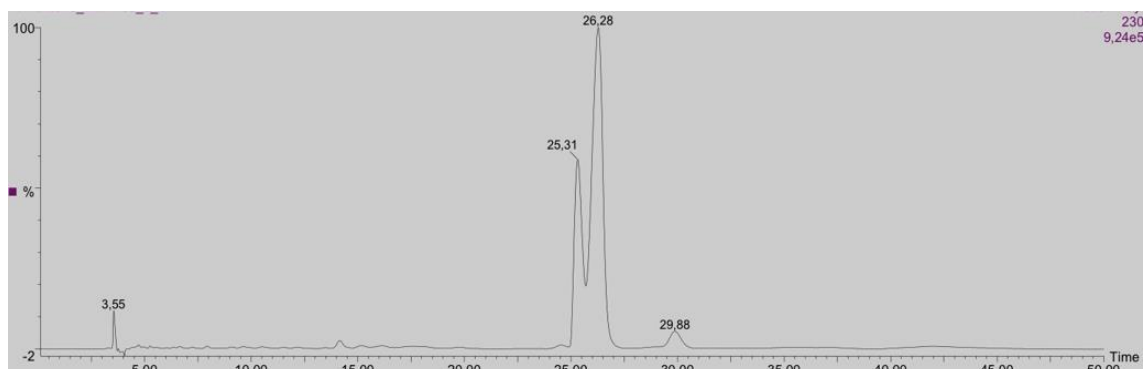
Product A, catalyst: [Choline][ProCO₂] in [Bmim][DCA], ee=97%

Chrom Type: Fixed WL Chromatogram, 230 nm



Peak	Retention Time (min)	Area (230 nm)
1	10.61	8867800
2	12.11	193519

Product B, catalyst: L-proline in EtOH, ee=47%

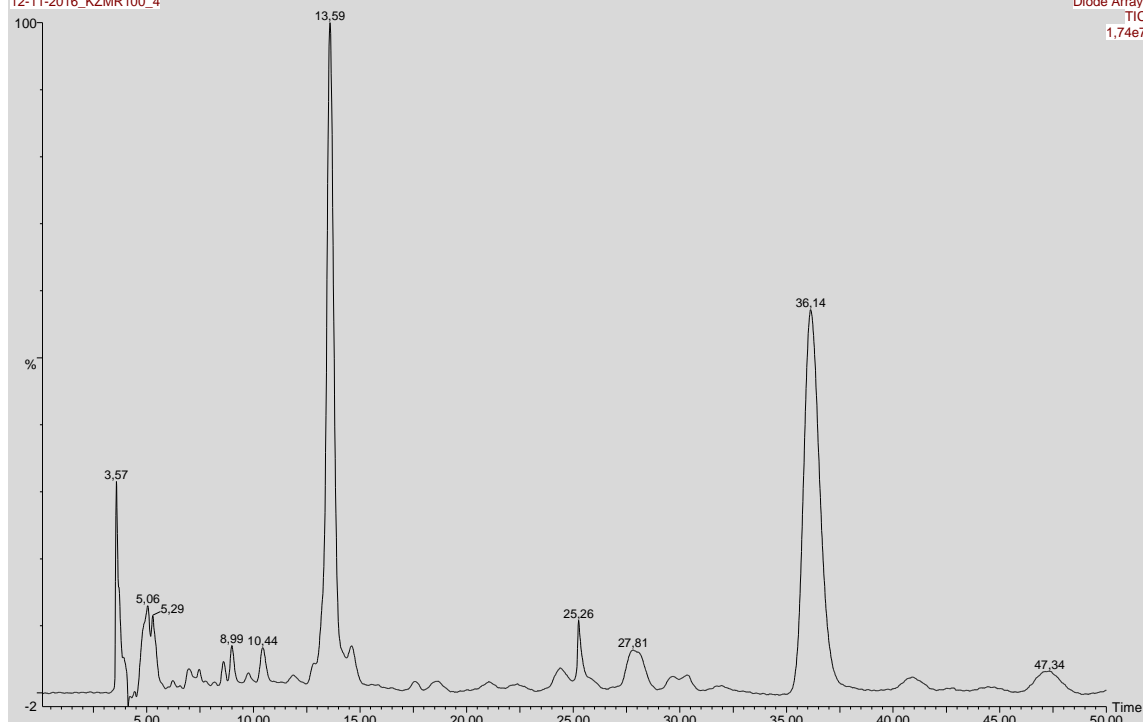


Peak	Retention Time (min)	Area (230 nm)
1	28.16	51720
2	29.16	144723

Product C, catalyst: [Choline][ProCO₂] in EtOH, ee=86%

Lux 5u Cellulose 250-4.6 Chiral Column
12-11-2016_KZMR100_4

Diode Array
TIC
1,74e7

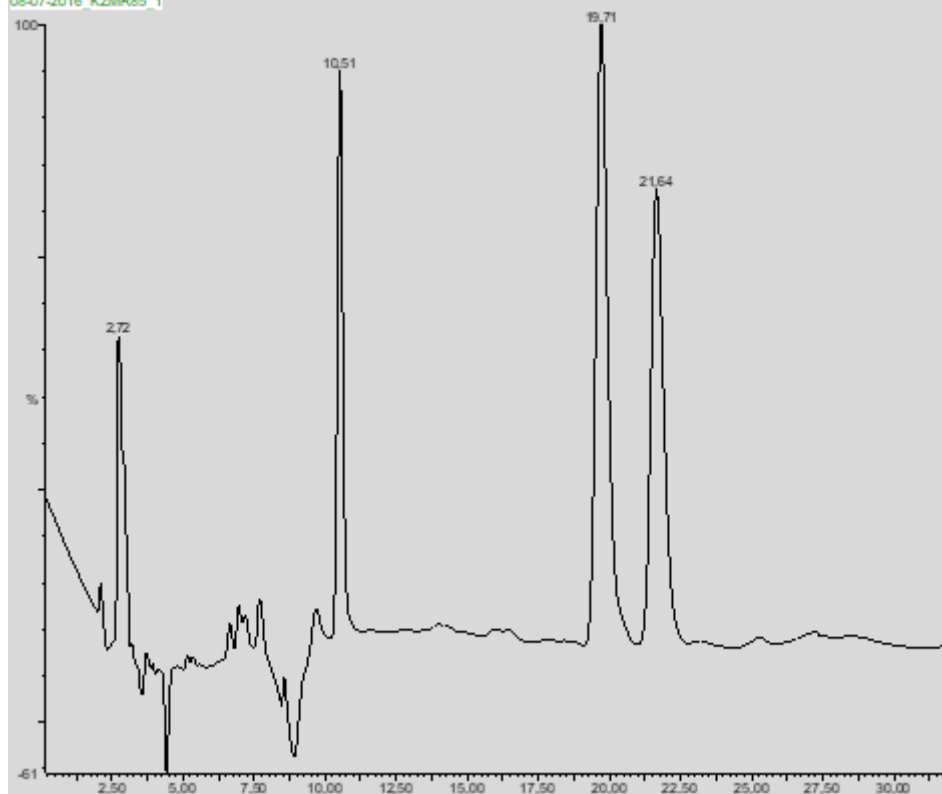


Peak	Retention Time (min)	Area (230 nm)
1	13.61	116289
2	14.56	8486

Product D, catalyst: L-proline in EtOH, ee=10%

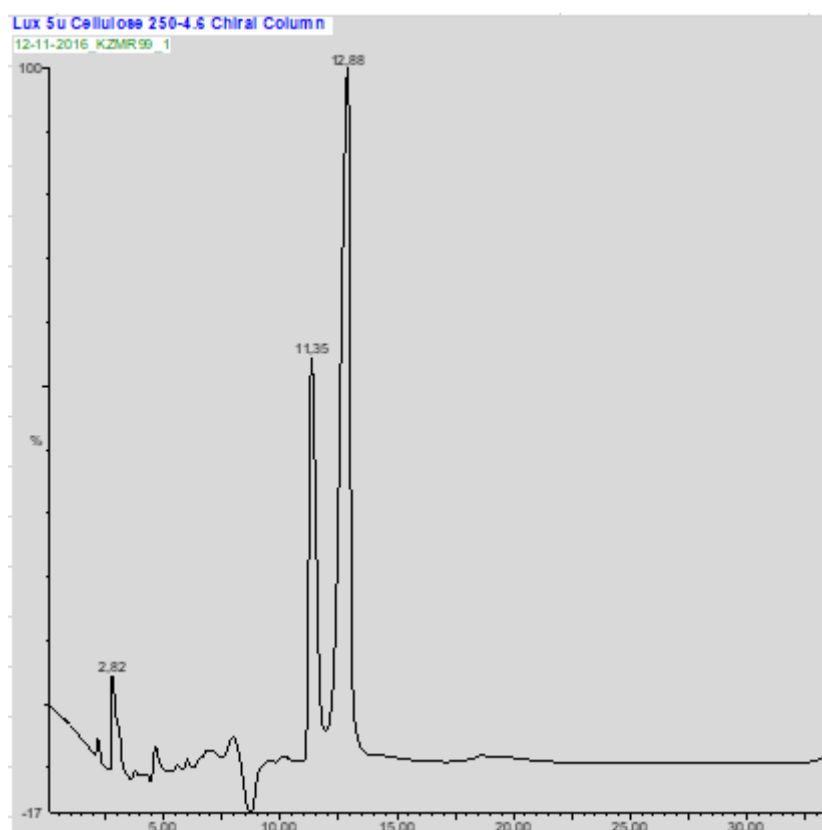
Lux 5u Cellulose 250-4.6 Chiral Column

08-07-2016_KZMR85_1



Peak	Retention Time (min)	Area (230 nm)
1	19.71	101933
2	21.64	83802

Product E, catalyst: L-proline in EtOH, ee=40%

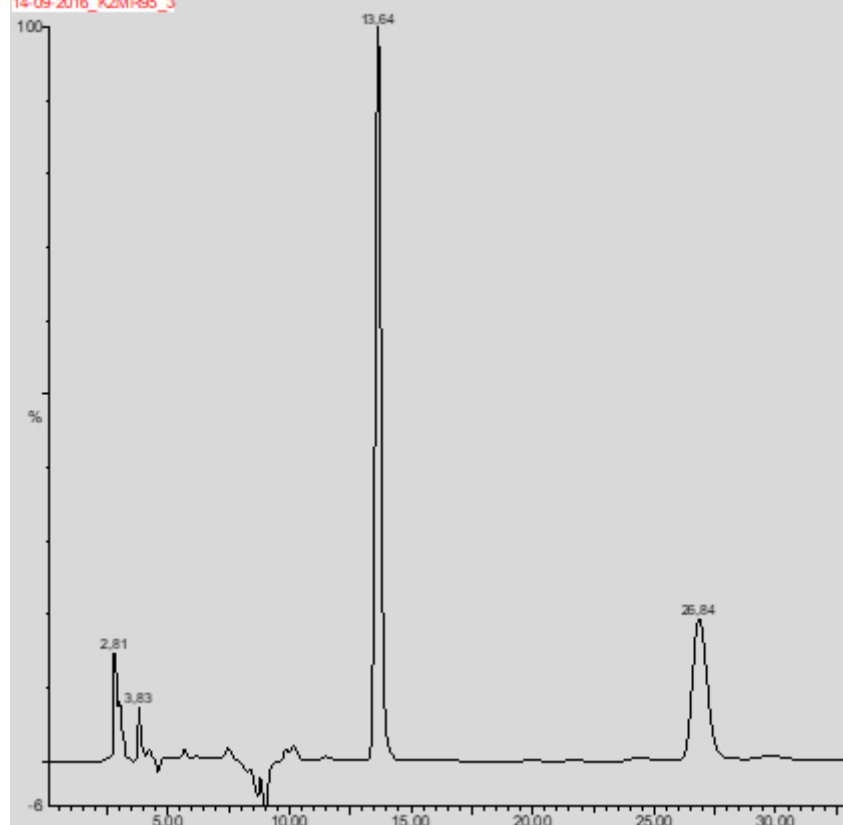


Peak	Retention Time (min)	Area (230 nm)
1	11.35	330117
2	12.87	776588

Product F, catalyst: L-proline in EtOH, ee=100%

Lux 5u Cellulose 250-4.6 Chiral Column

14-09-2016_KZMR95_3



Peak	Retention Time (min)	Area (230 nm)
1	13.64	315132
2	--	--