

Supplementary Material

Efficient monoacylation of symmetrical secondary alkanediamines and synthesis of unsymmetrical diacylated alkanediamines. A new L-proline-based organocatalyst

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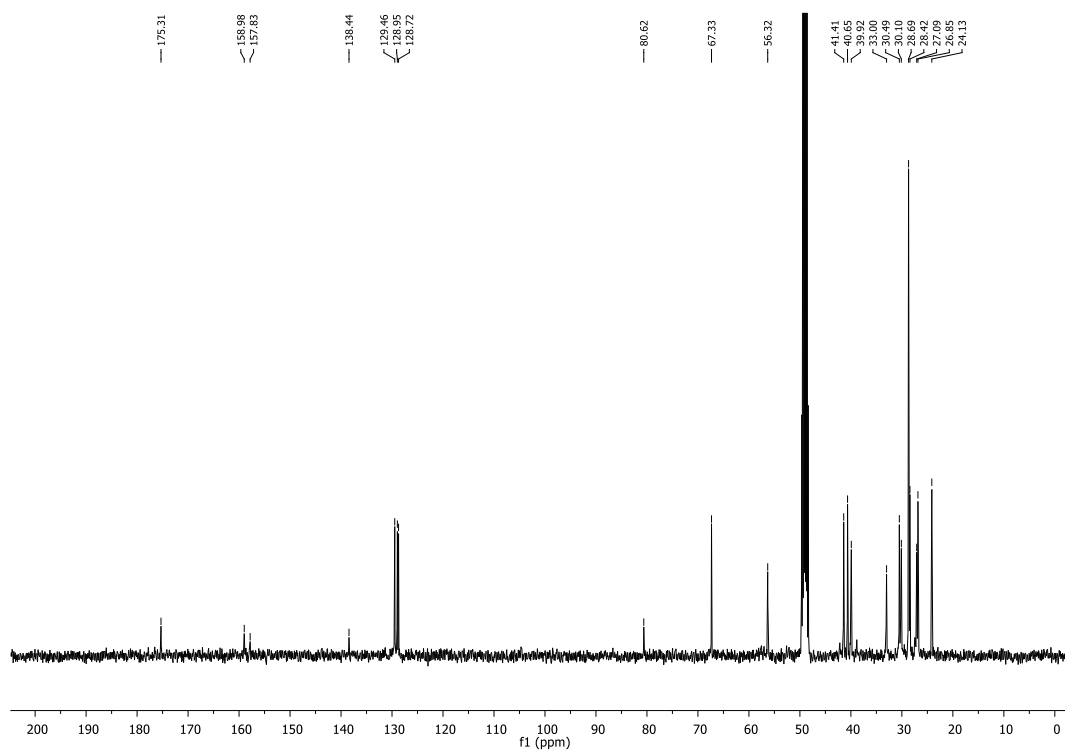
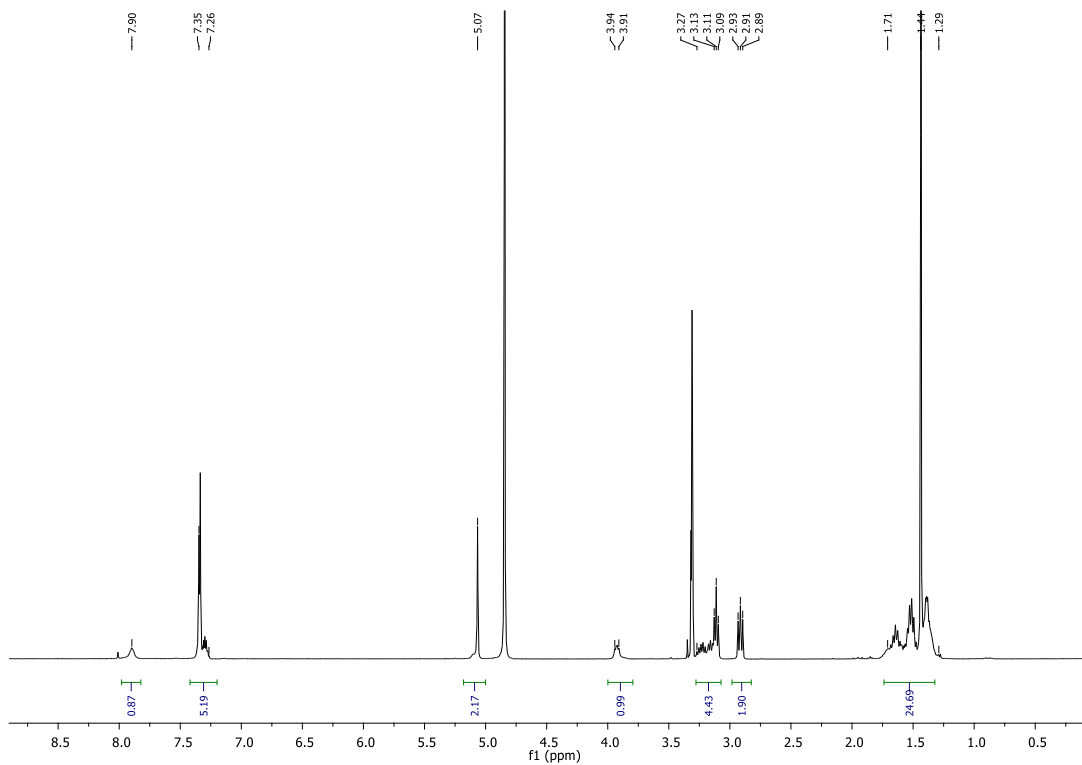
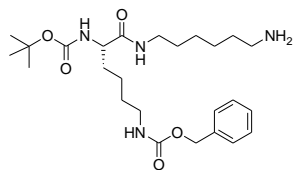
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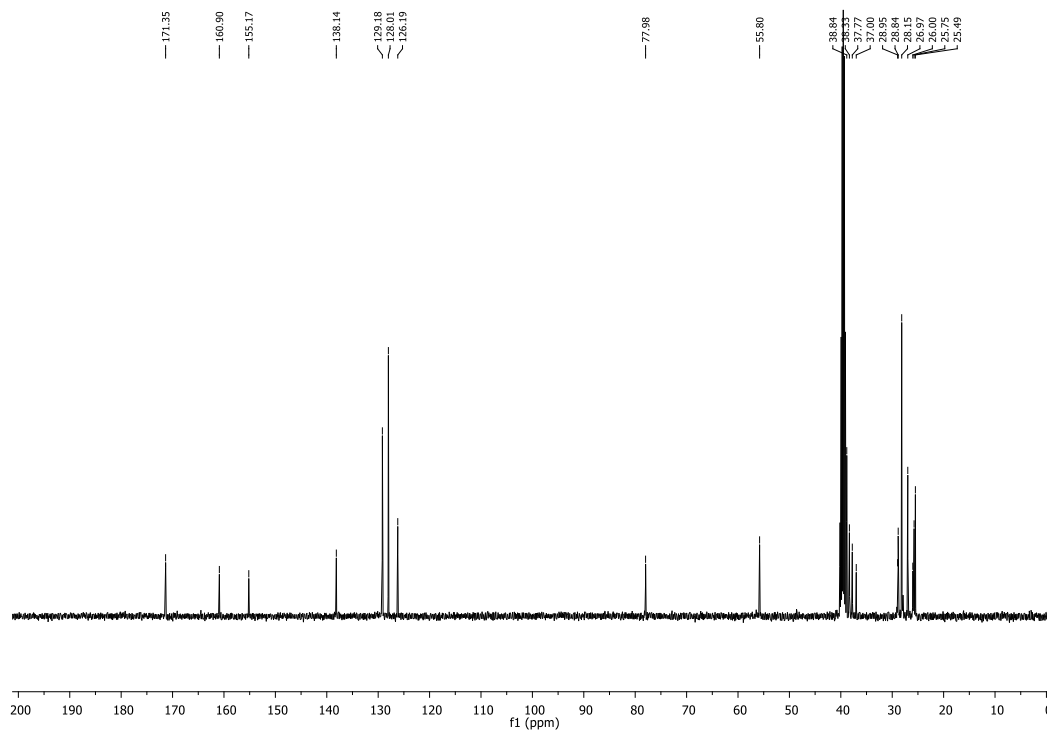
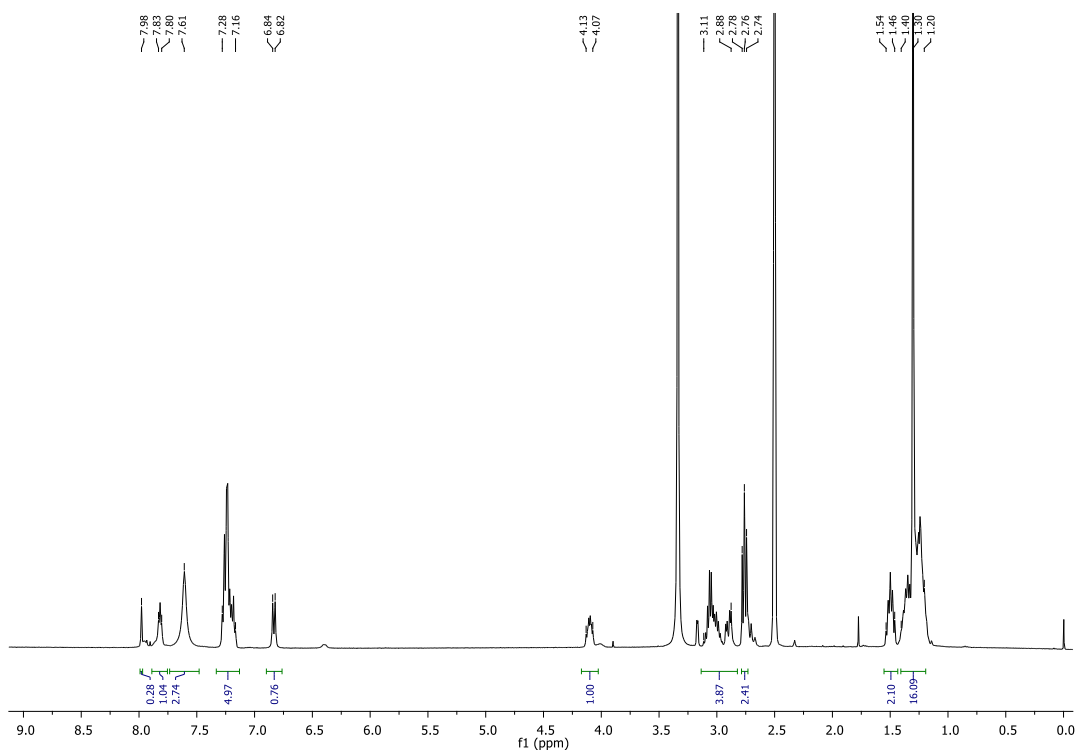
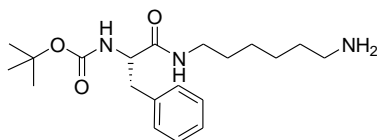
1. General	S2
2. ^1H and ^{13}C NMR spectra of the new compounds 9 , 11-13 , 19-29 , and 34-35	S3

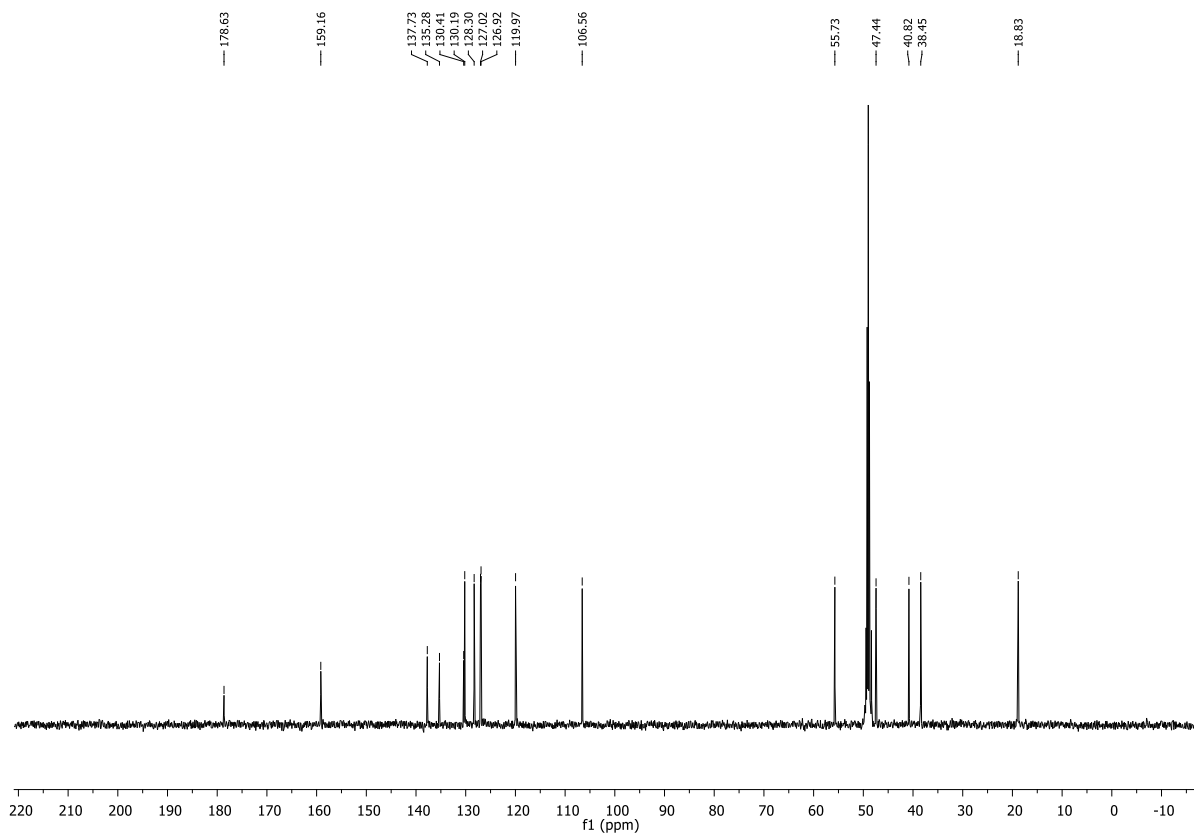
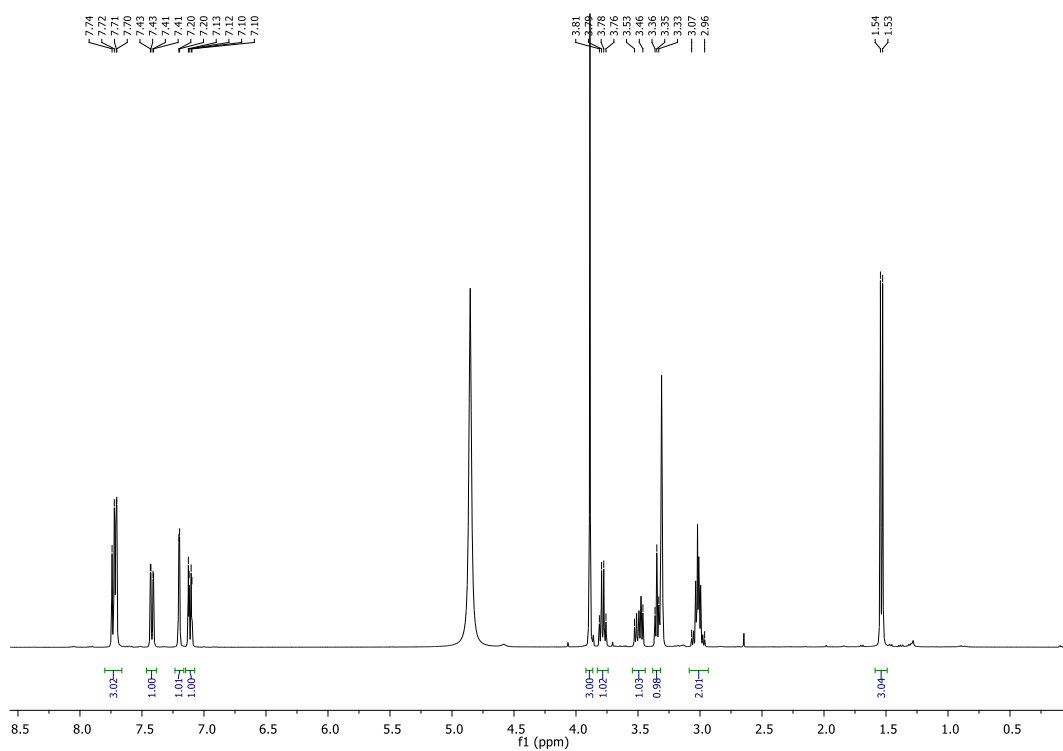
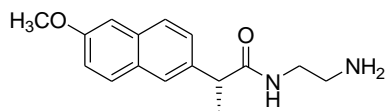
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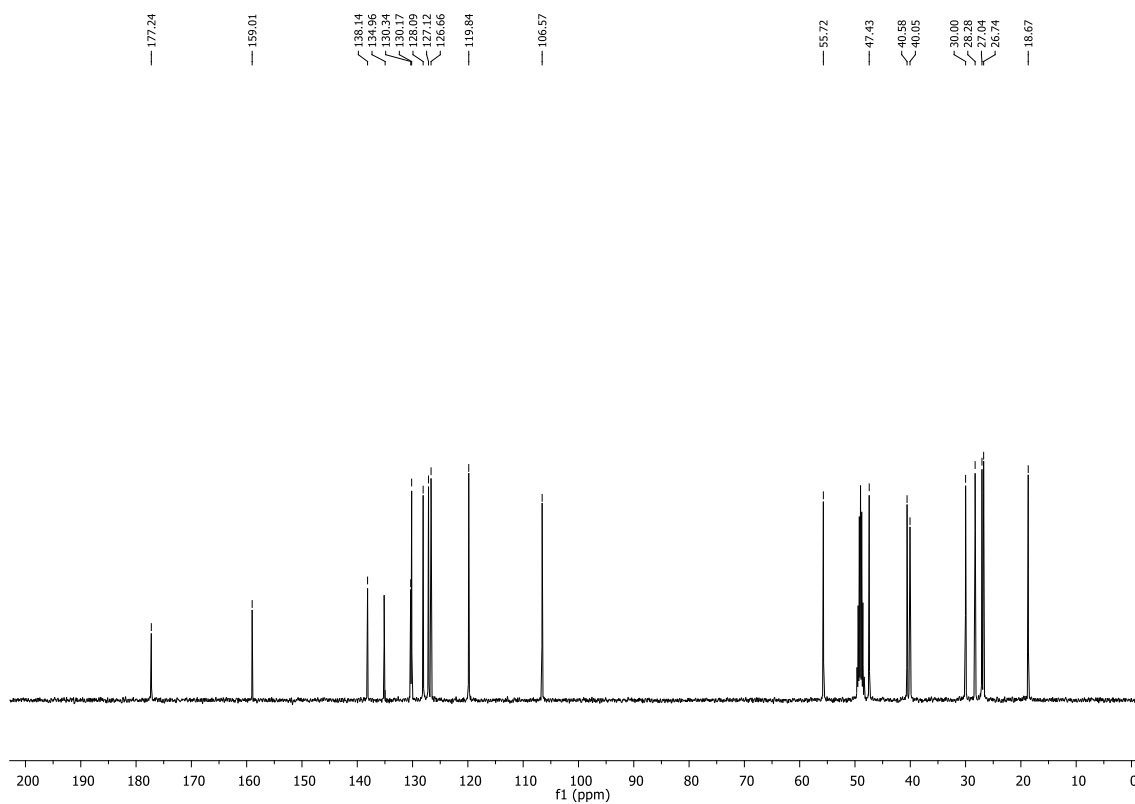
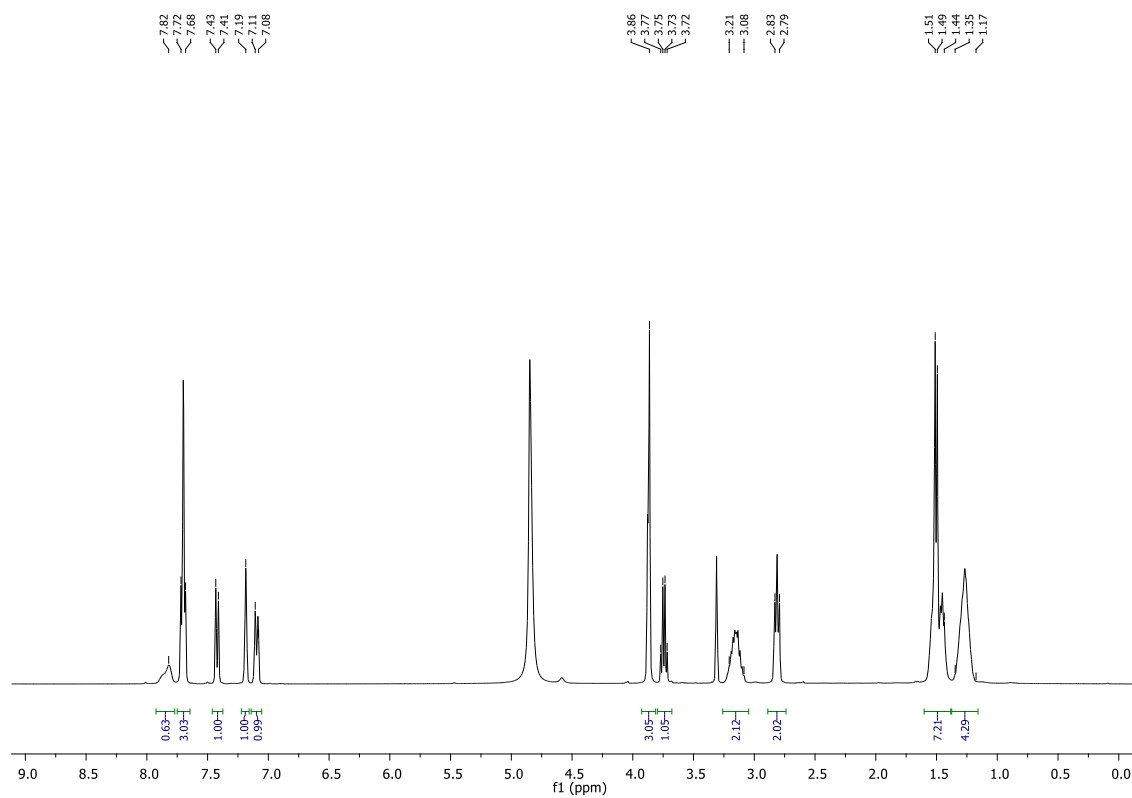
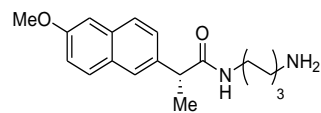
All reagents and solvents were purchased from commercial sources. Reactions were conducted in flame-dried glassware under an argon atmosphere. ^1H NMR and ^{13}C NMR spectra were recorded at 300 or 400 MHz and at 75 or 101 MHz in CD_3OD or $\text{DMSO-}d_6$. Chemical shifts are given in ppm and reported to the residual solvent peak (CD_3OD 3.31 ppm and 49.00 ppm; $\text{DMSO-}d_6$ 2.50 ppm and 39.52 ppm). Data are reported as follows: chemical shift (δ), multiplicity (s = singlet, d = doublet, t = triplet, q = quartet, m = multiplet), coupling constants, and integration. Analytical TLC were performed on silica gel 60 F₂₅₄ plates. Column chromatographies were carried out on silica gel 60 (63-200 μm). High-resolution mass spectra (HRMS) were measured using electrospray ionization (ESI) and Q-Tof detection. Melting points were measured with a Büchi apparatus and are reported uncorrected.

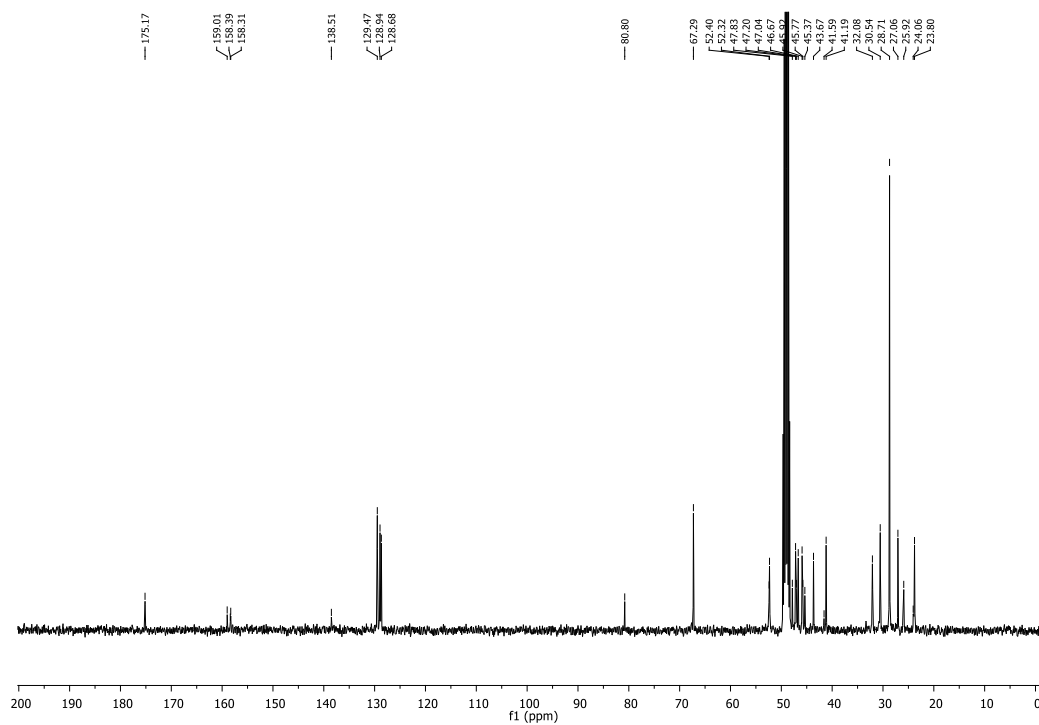
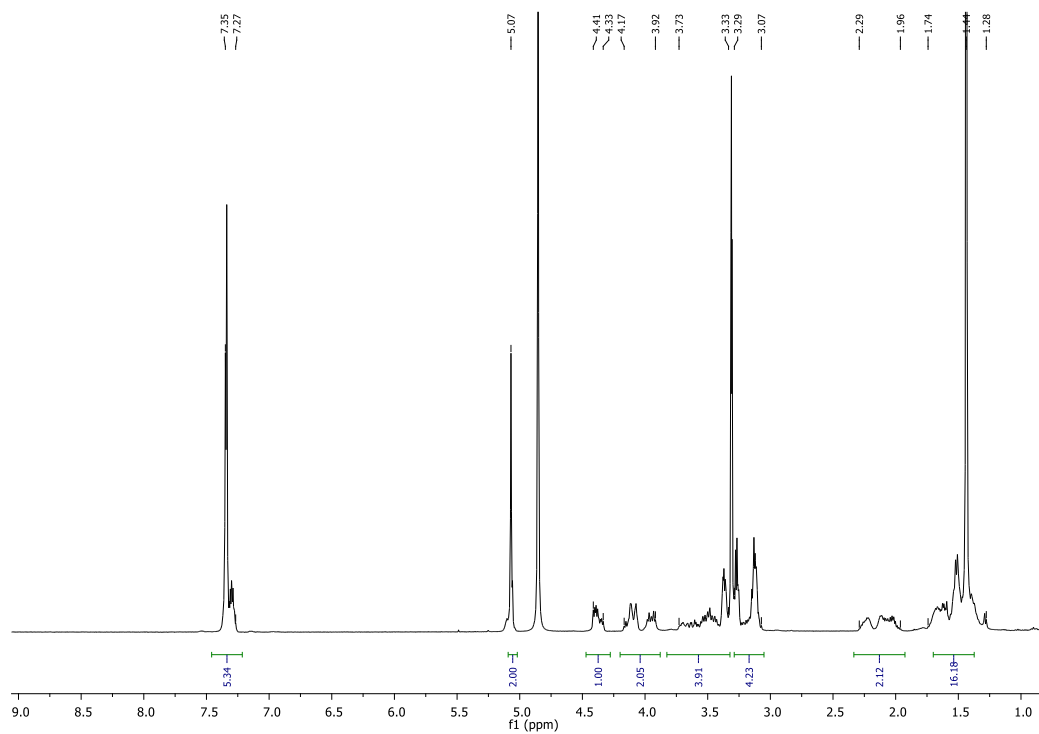
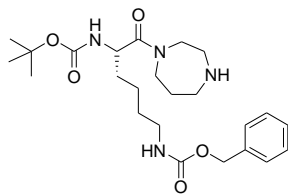
For the description of compounds **8**, **10**, **30**, **31**, **32**, **33**, see reference 18 in the manuscript.

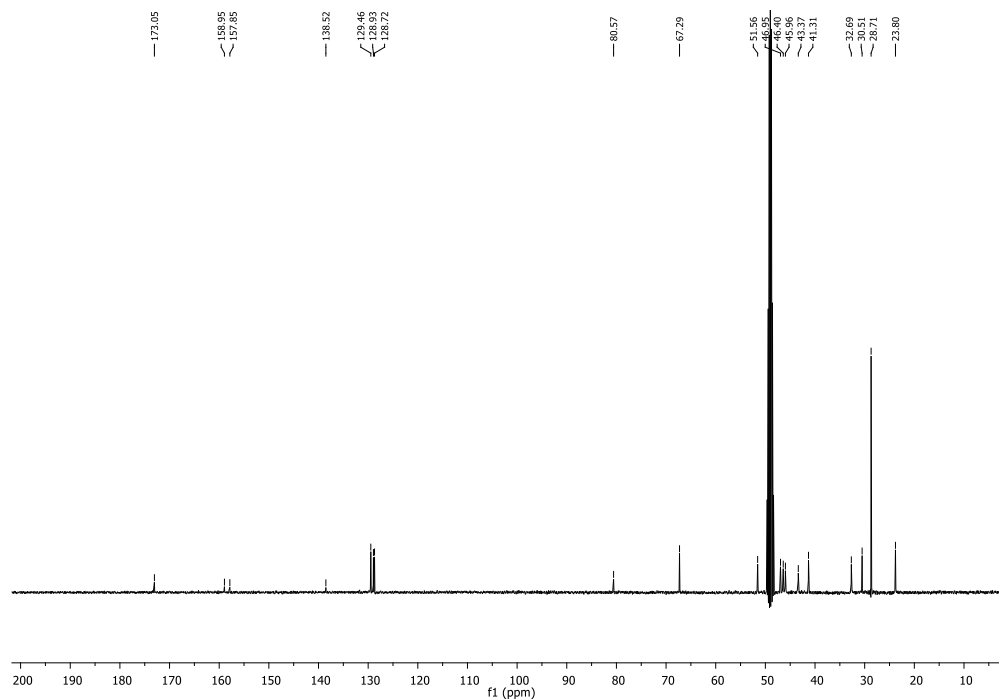
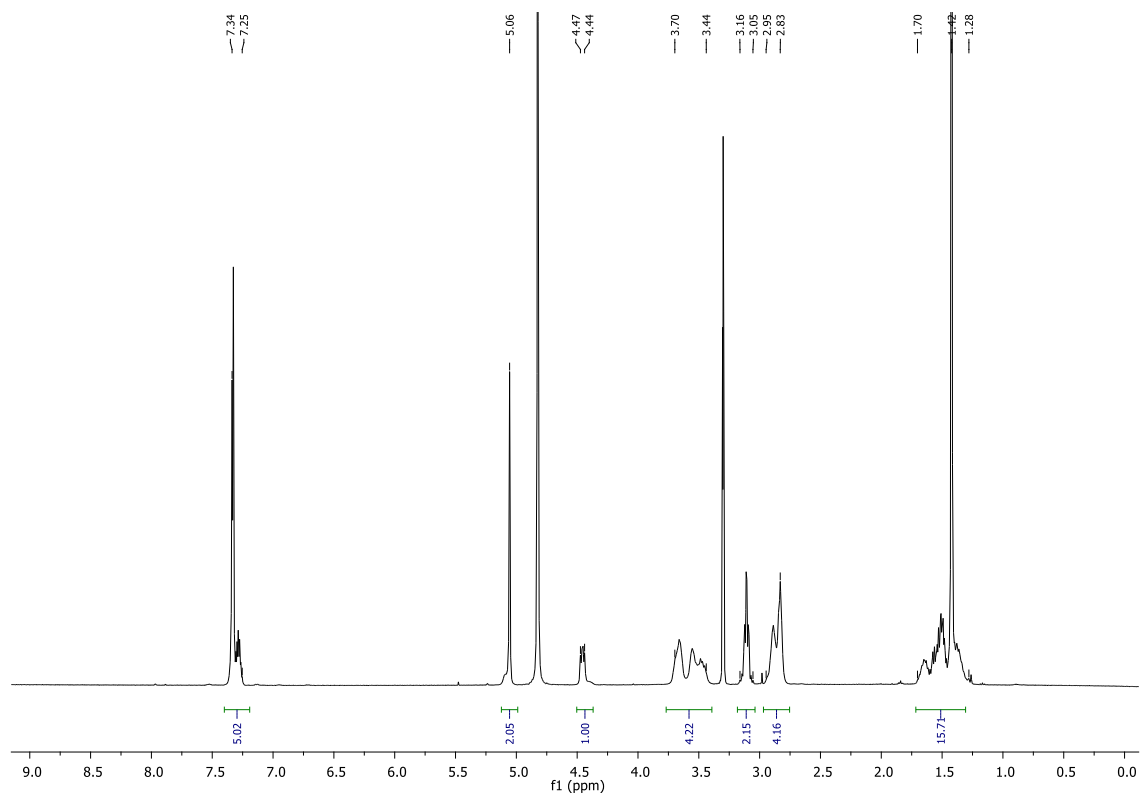
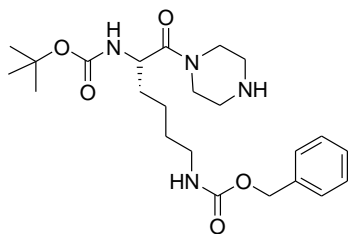
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tert-Butyl (*S*)-1-(6-aminohexylcarbamoyl)-2-phenylethylcarbamate (11)

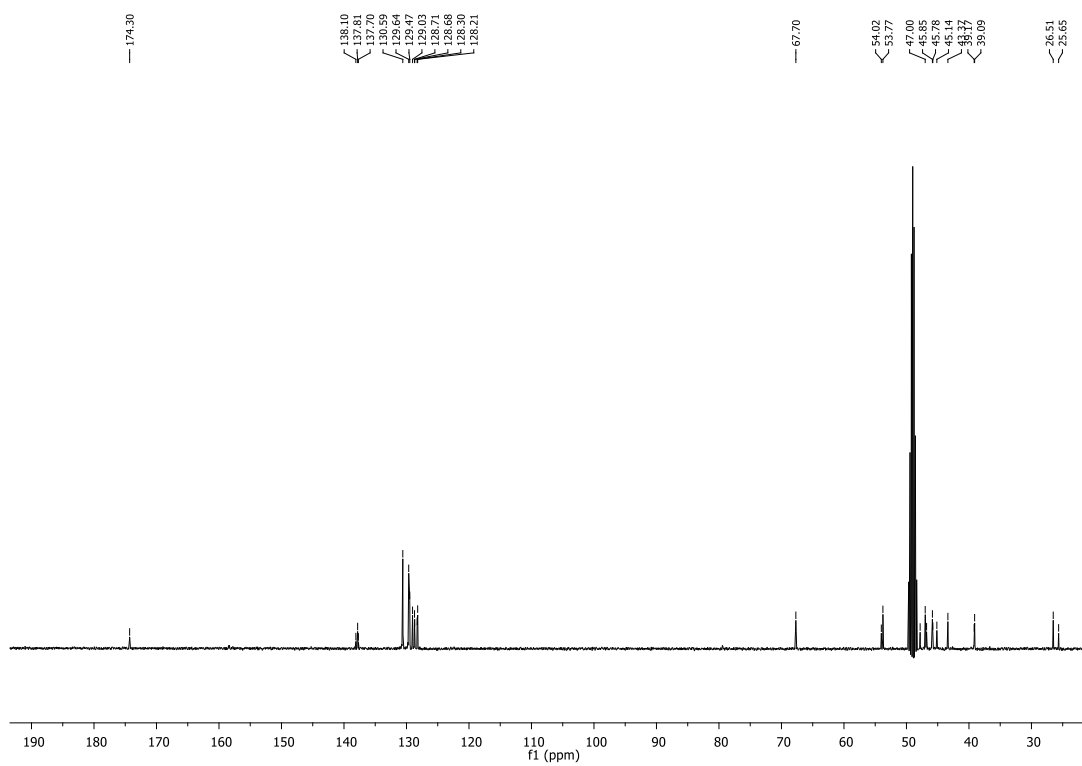
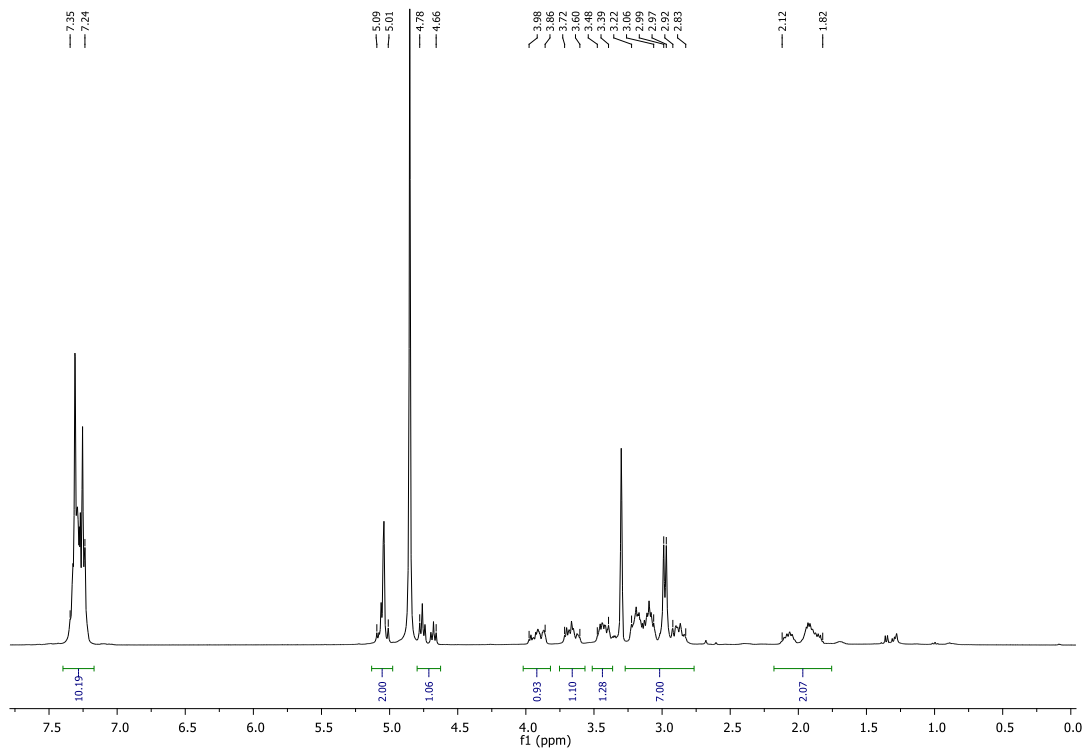
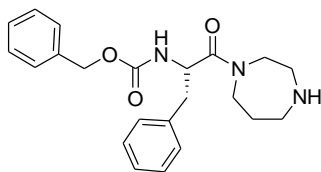
(R)-N-(2-Aminoethyl)-2-(2-methoxynaphthalen-6-yl)propanamide (12)

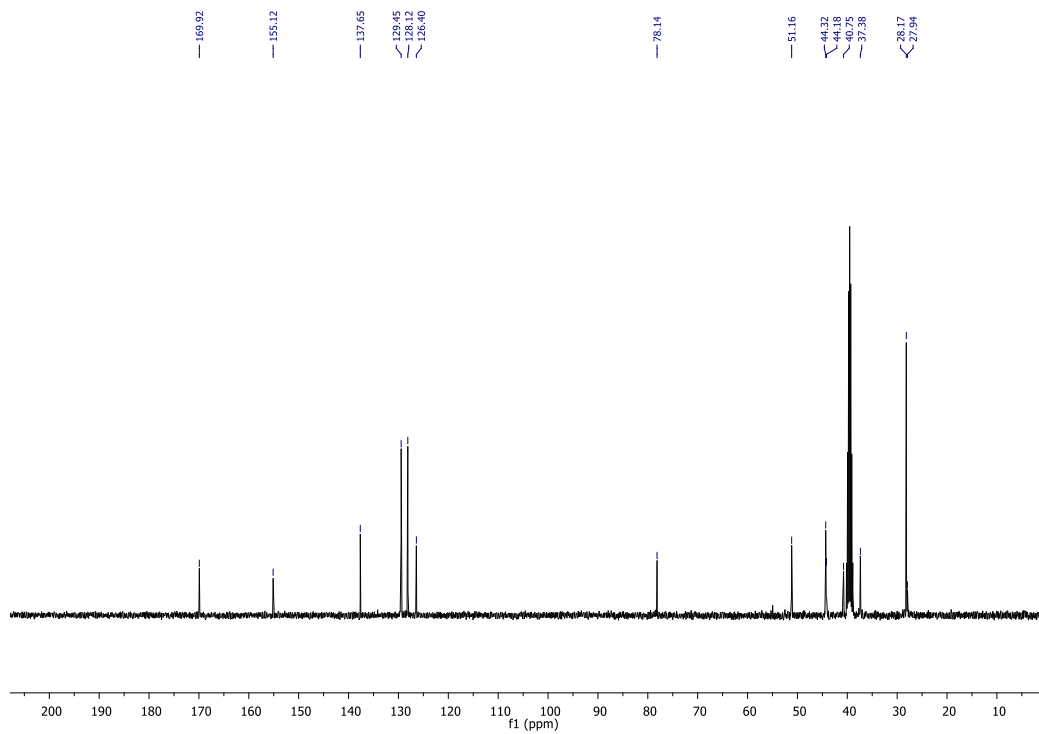
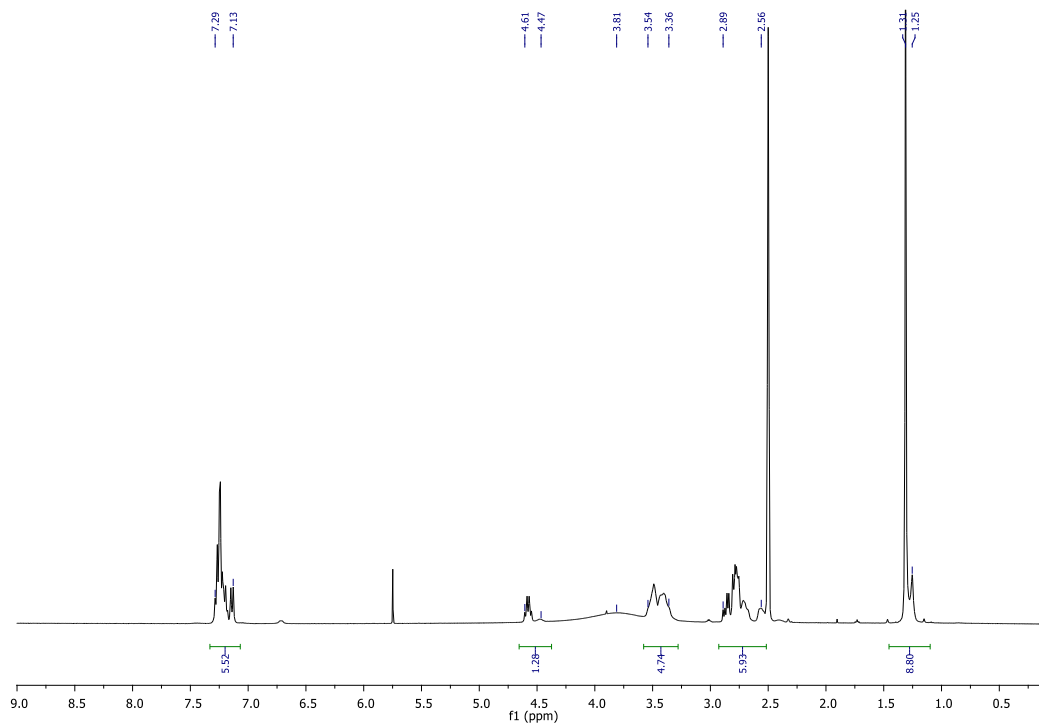
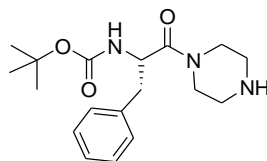
(R)-N-(6-Aminohexyl)-2-(2-methoxynaphthalen-6-yl)propanamide (13)

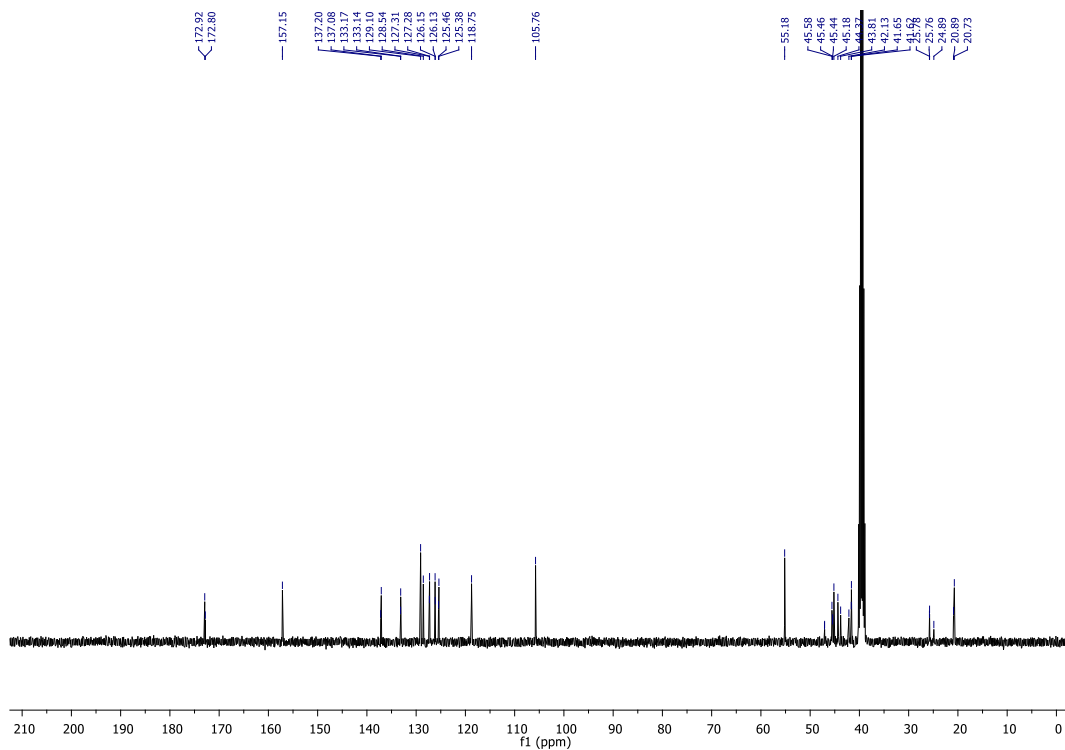
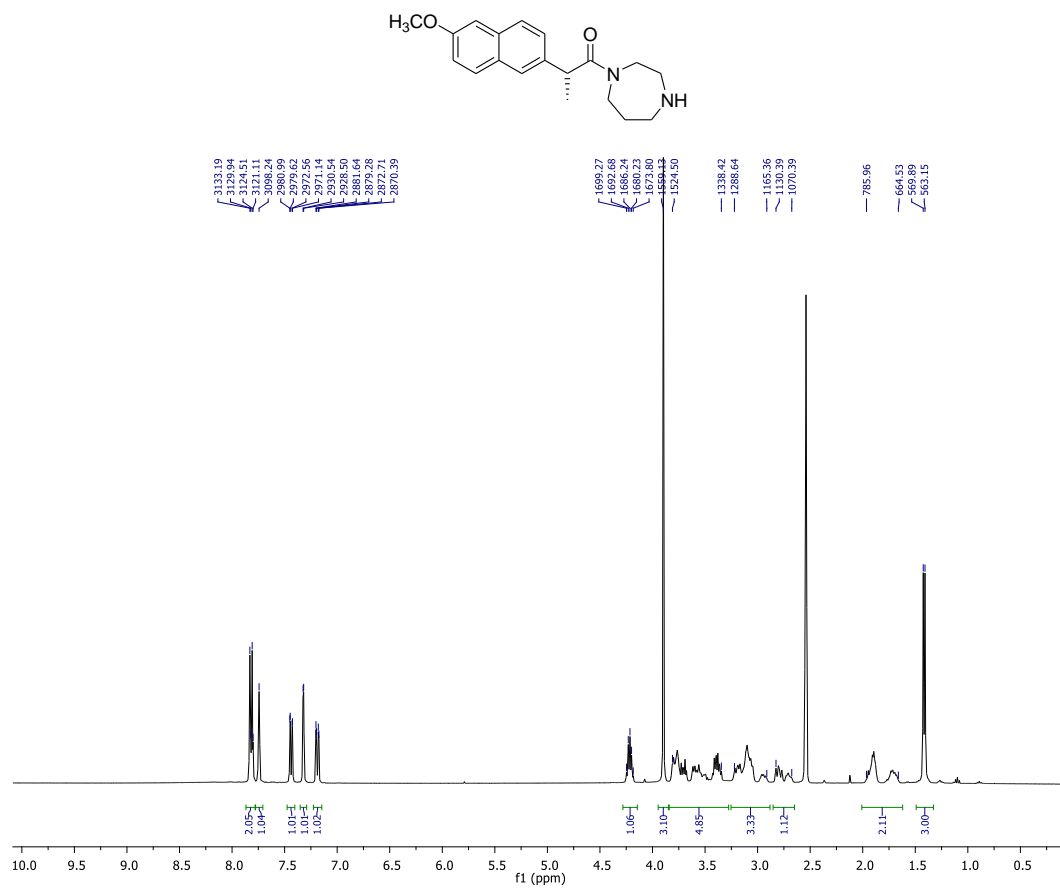
tert-Butyl (*S*)-6-aminobenzylcarbamoyl-1-(1,4-diazepan-1-yl)-1-oxohexan-2-ylcarbamate (19)

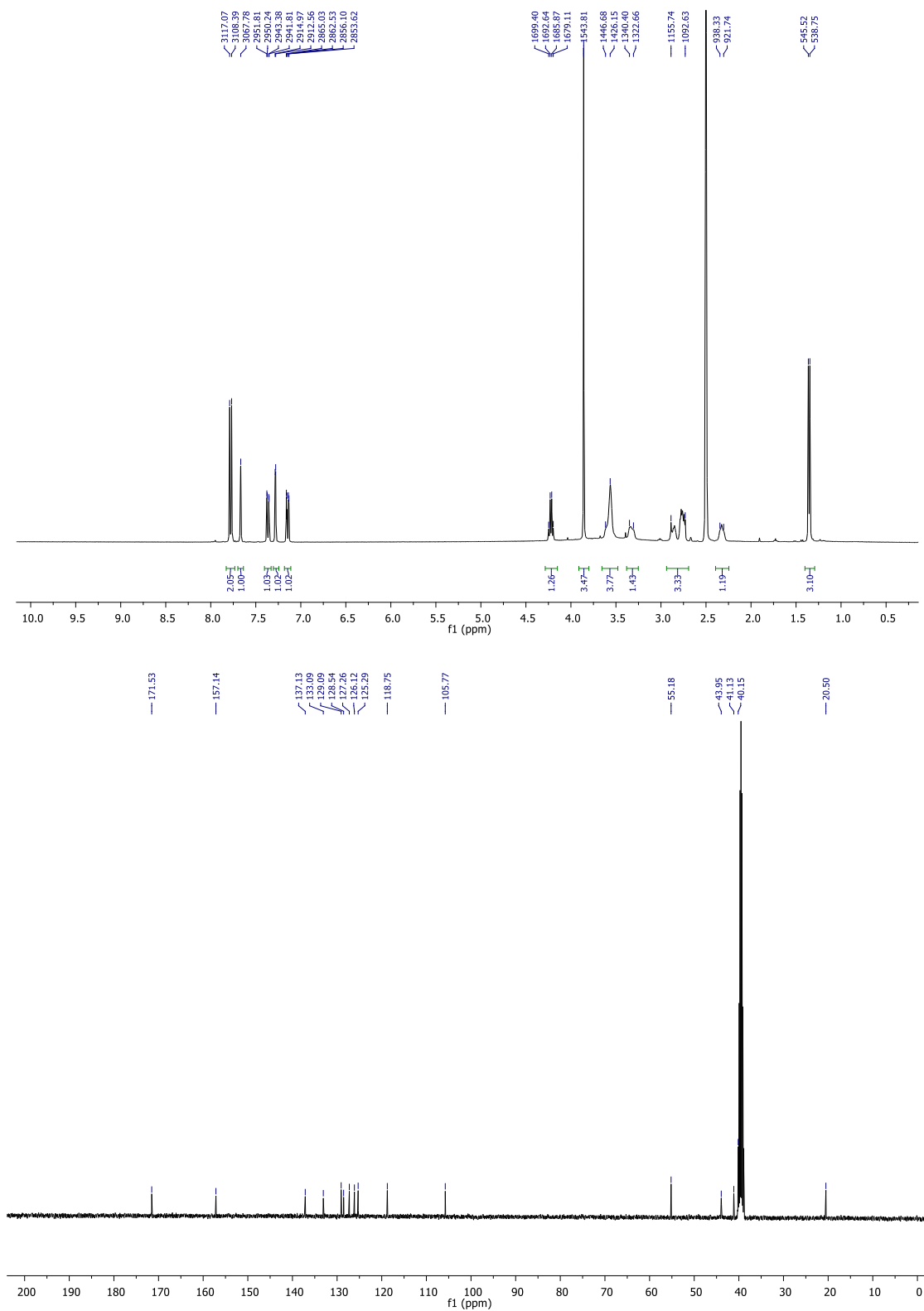
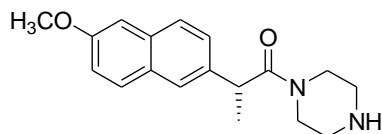
tert-Butyl (S)-6-aminobenzylcarbamoyl-1-(piperazin-1-yl)-1-oxohexan-2-ylcarbamate (20)

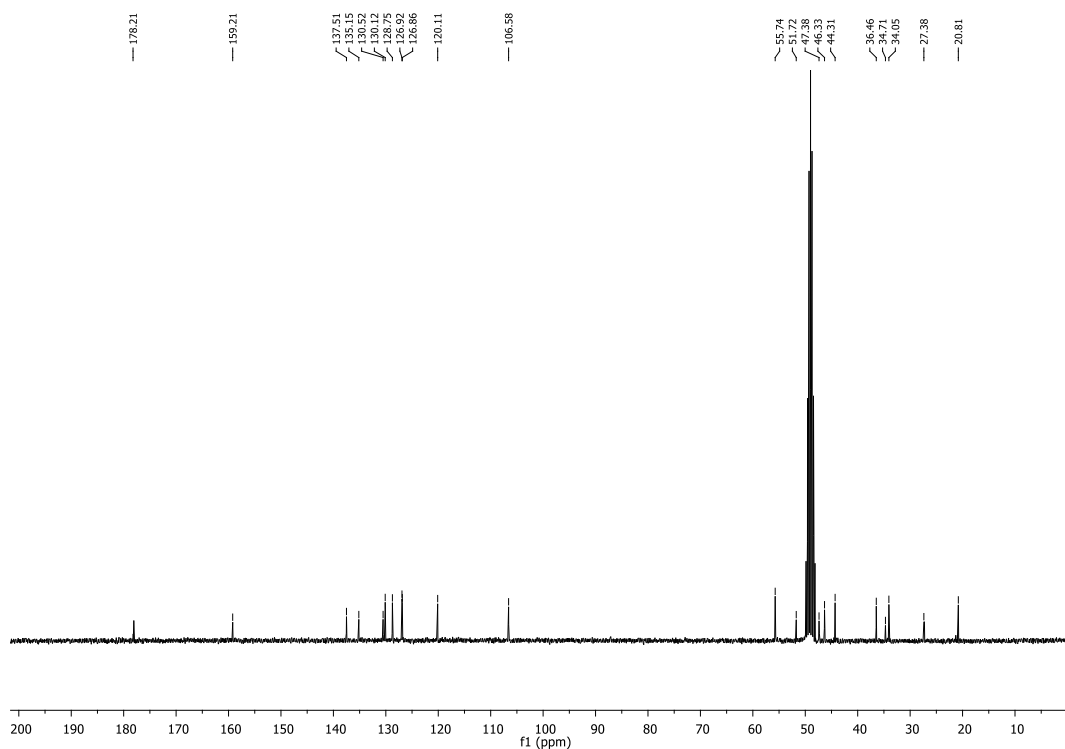
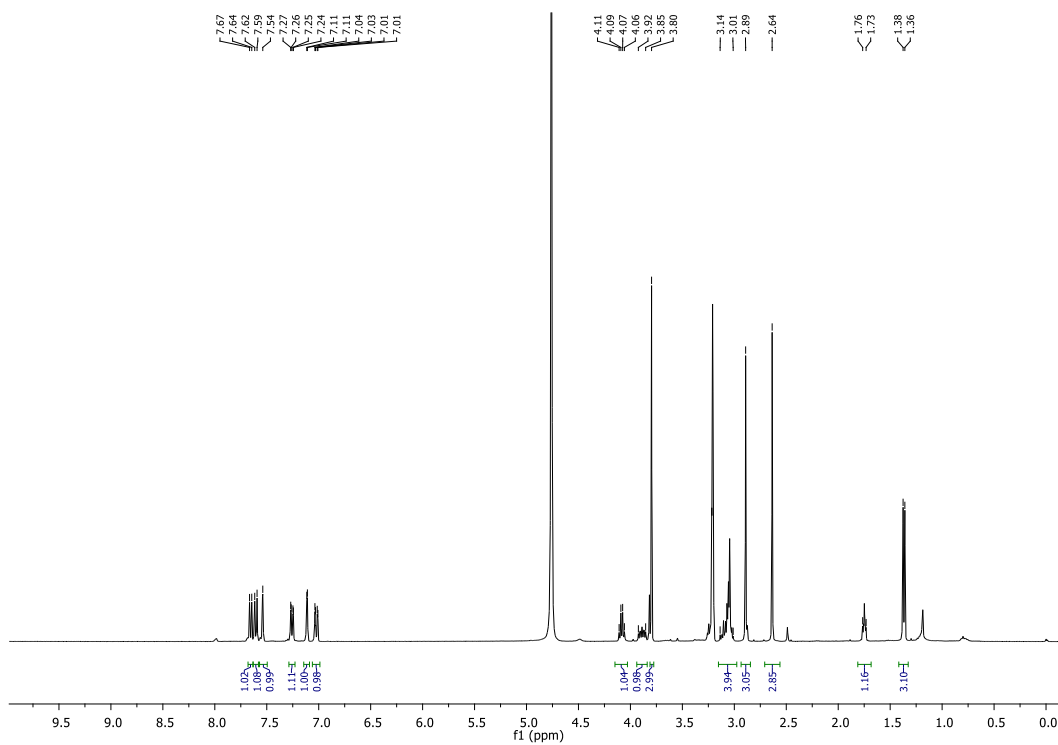
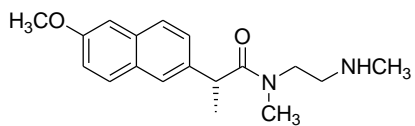
Benzyl (S)-1-(1,4-diazepan-1-yl)-1-oxo-3-phenylpropan-2-ylcarbamate (21)

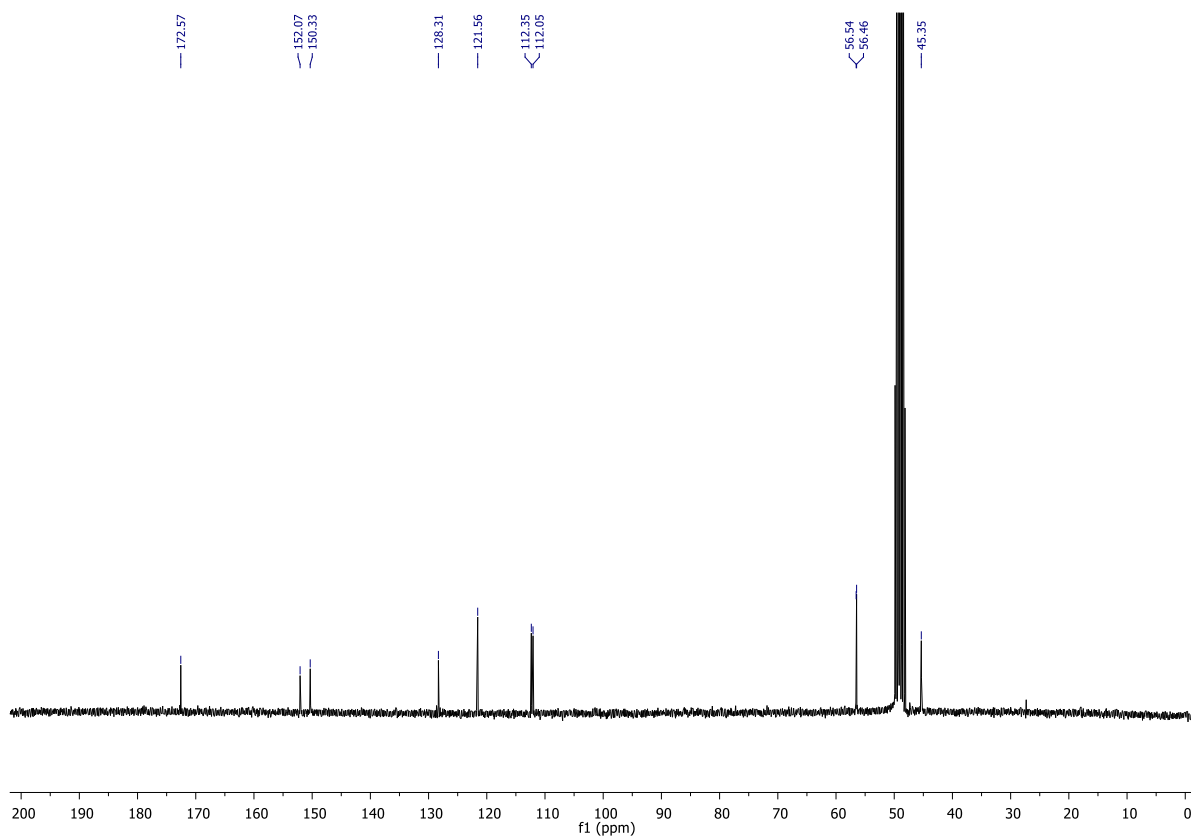
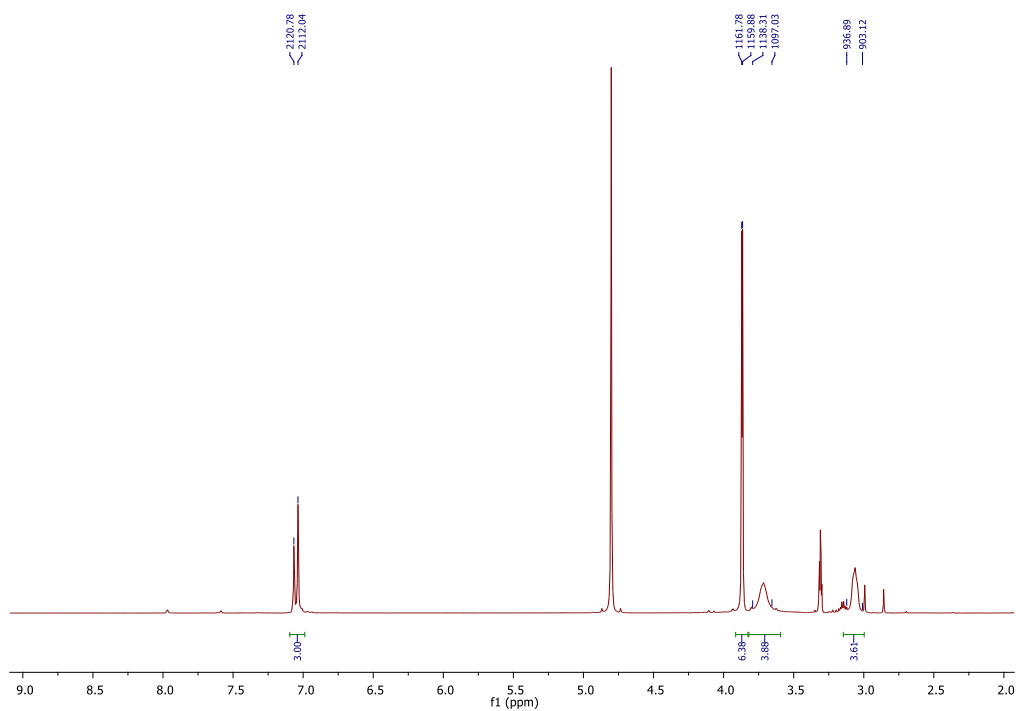
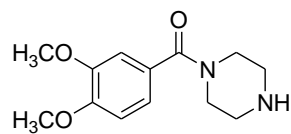


tert-Butyl (S)-1-oxo-3-phenyl-1-(piperazin-1-yl)propan-2-ylcarbamate (22)

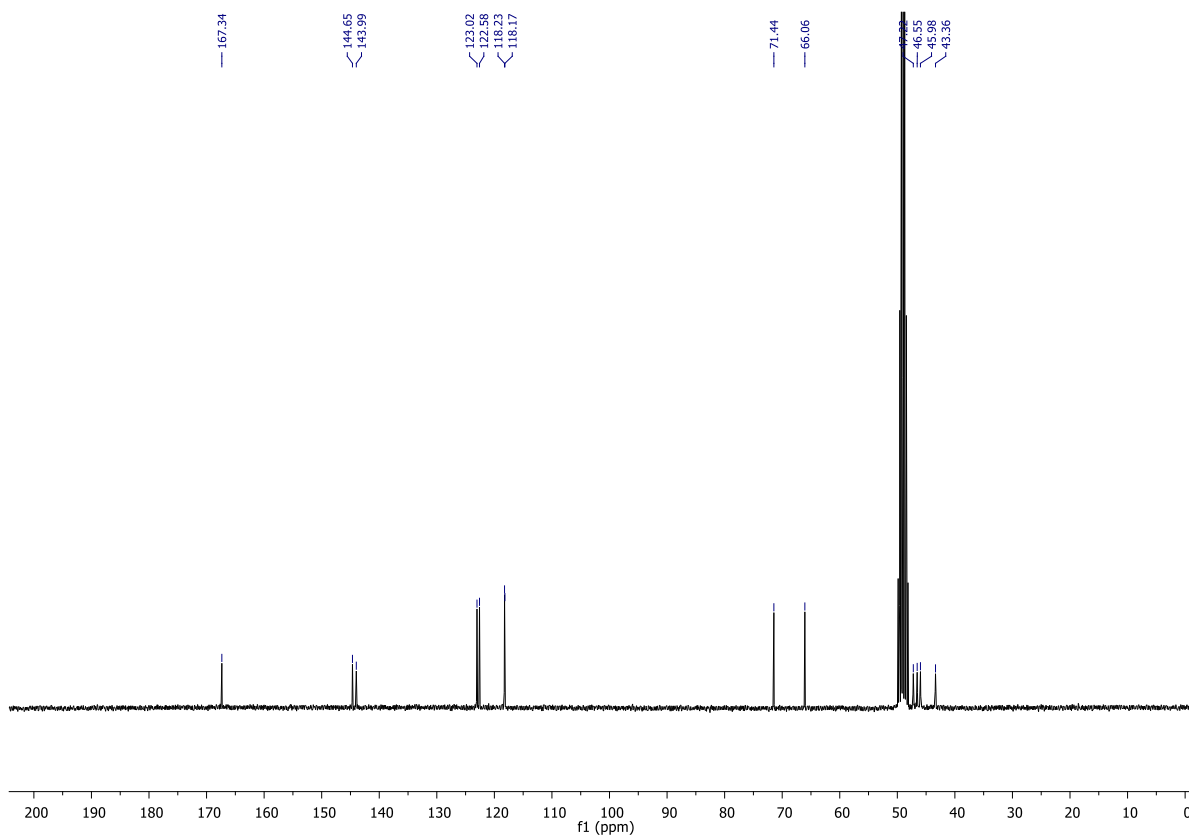
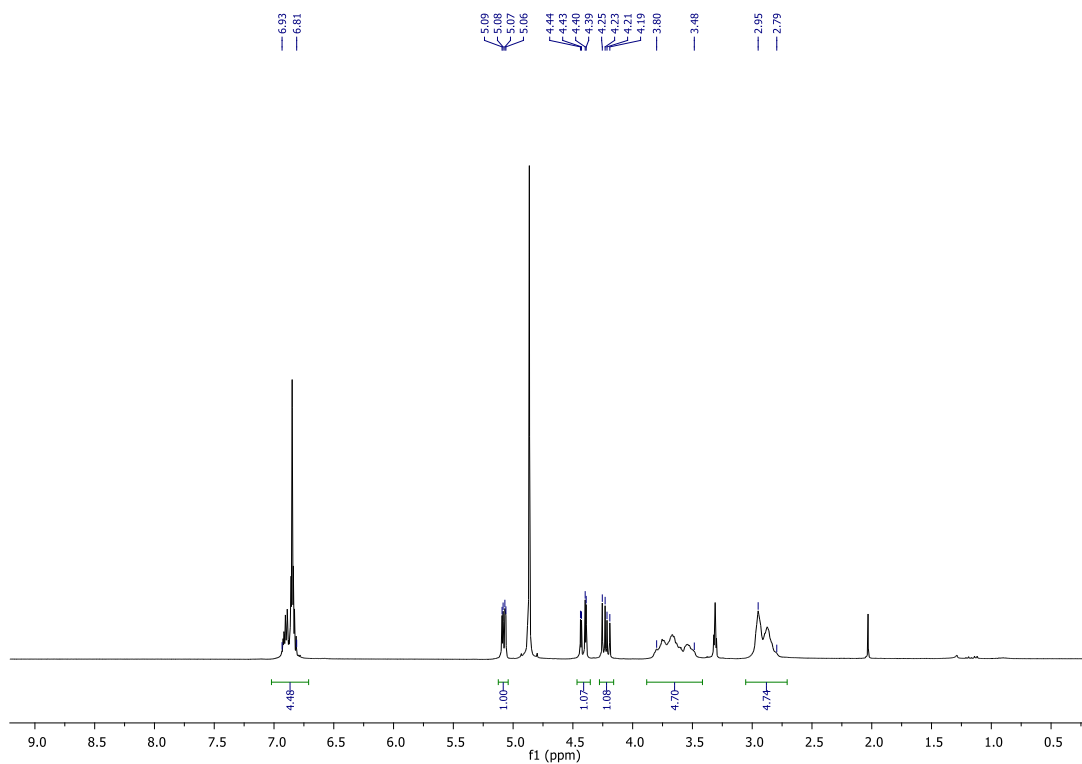
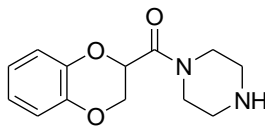
(R)-1-(1,4-Diazepan-1-yl)-2-(2-methoxynaphthalen-6-yl)propan-1-one (23)

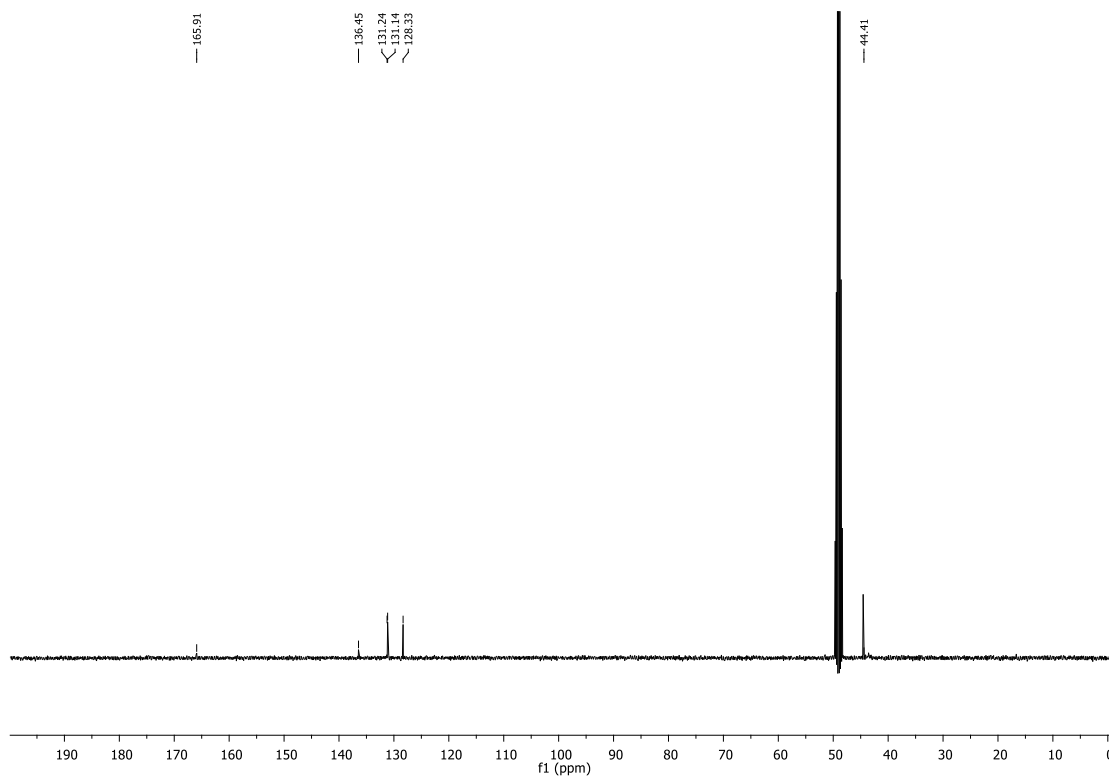
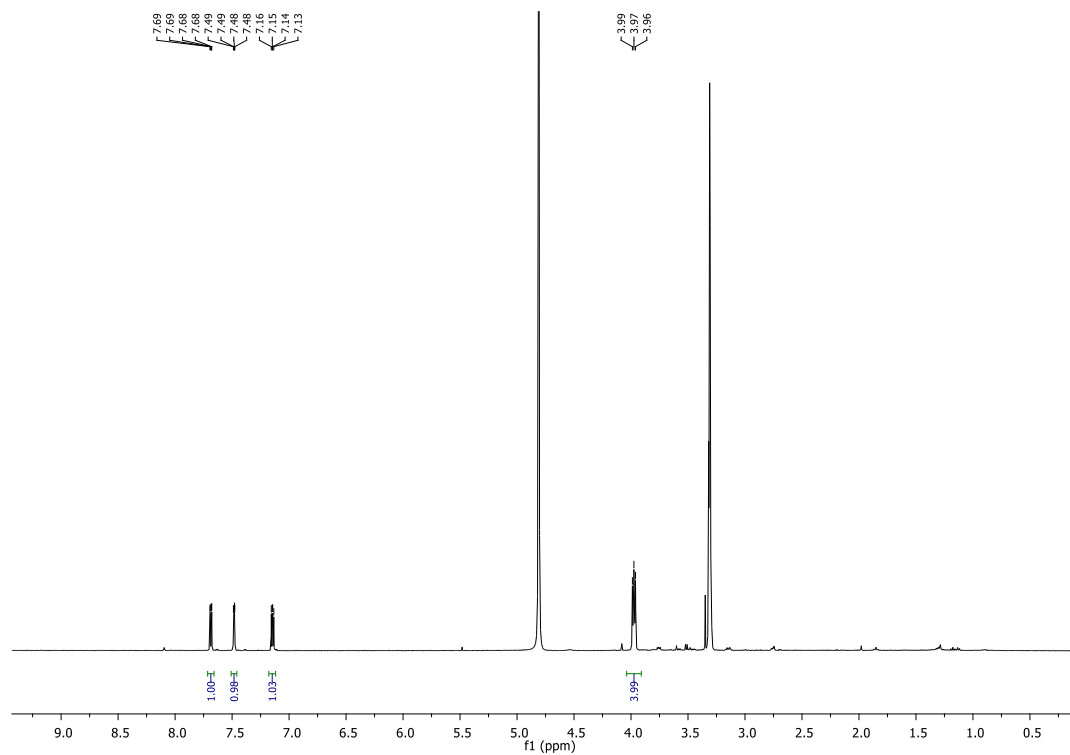
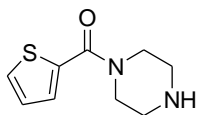
(R)-2-(2-Methoxynaphthalen-6-yl)-1-(piperazin-1-yl)propan-1-one (24)

(R)-2-(2-Methoxynaphthalen-6-yl)-N-methyl-N-(2-(methylamino)ethyl)propanamide (25)

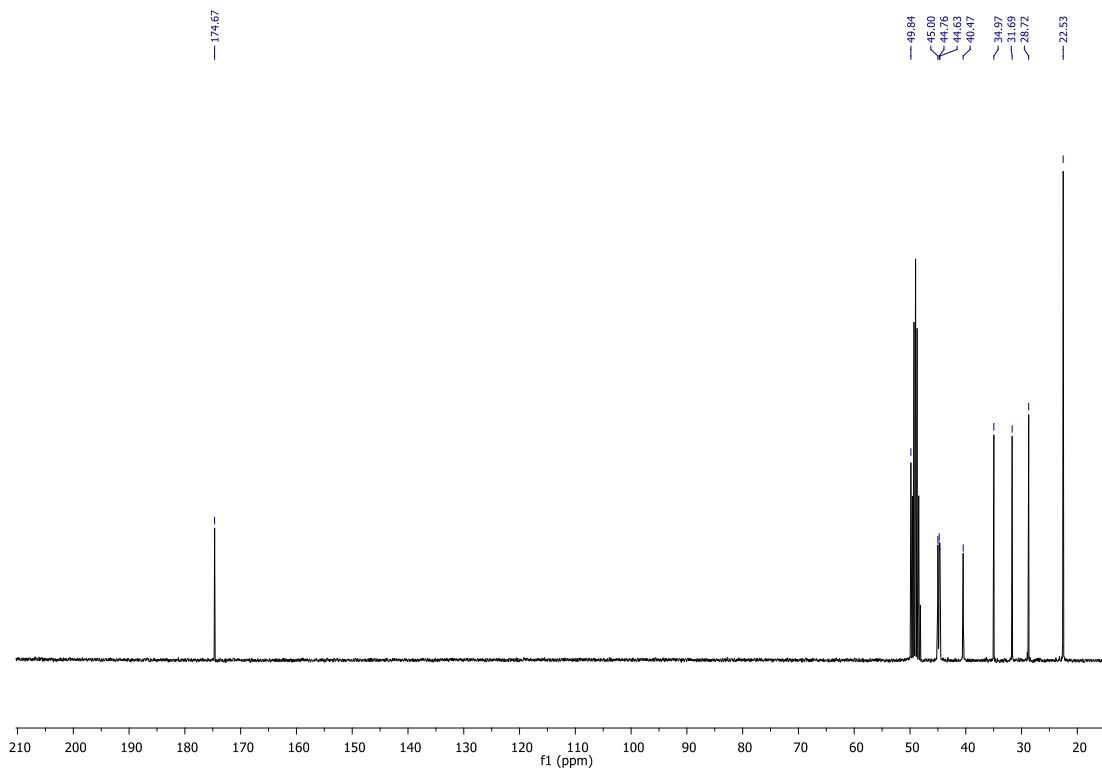
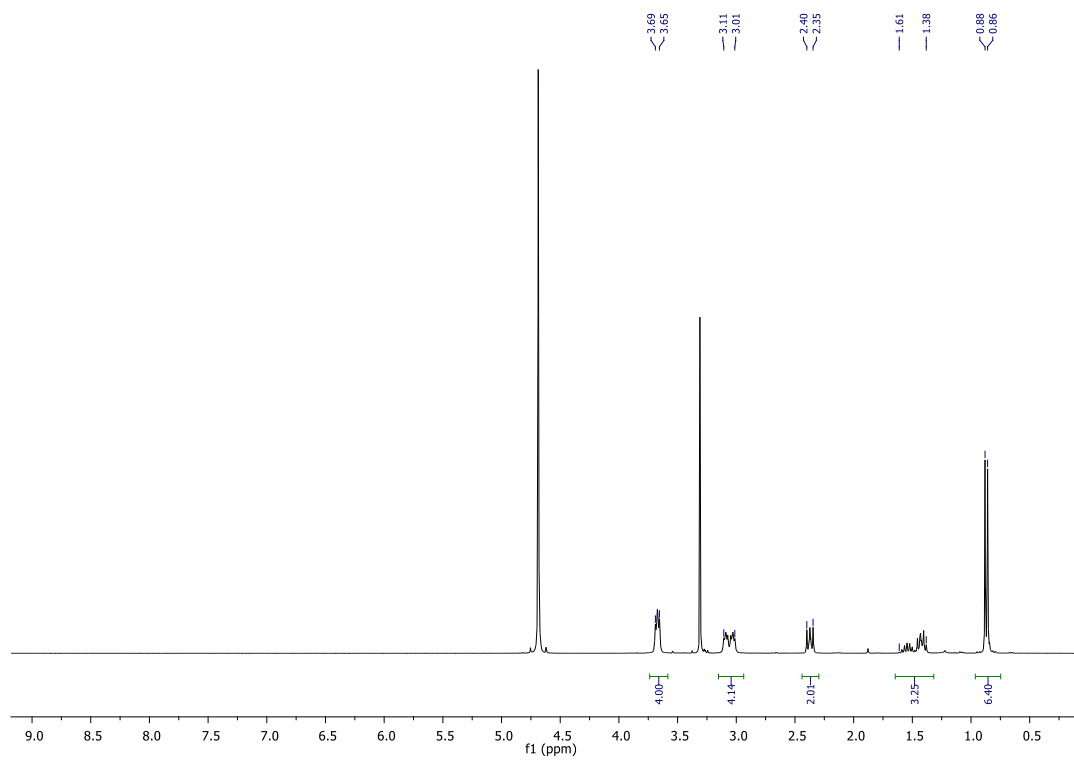
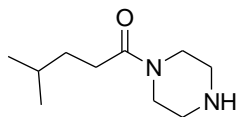
(3,4-Dimethoxyphenyl)(piperazin-1-yl)methanone (26)

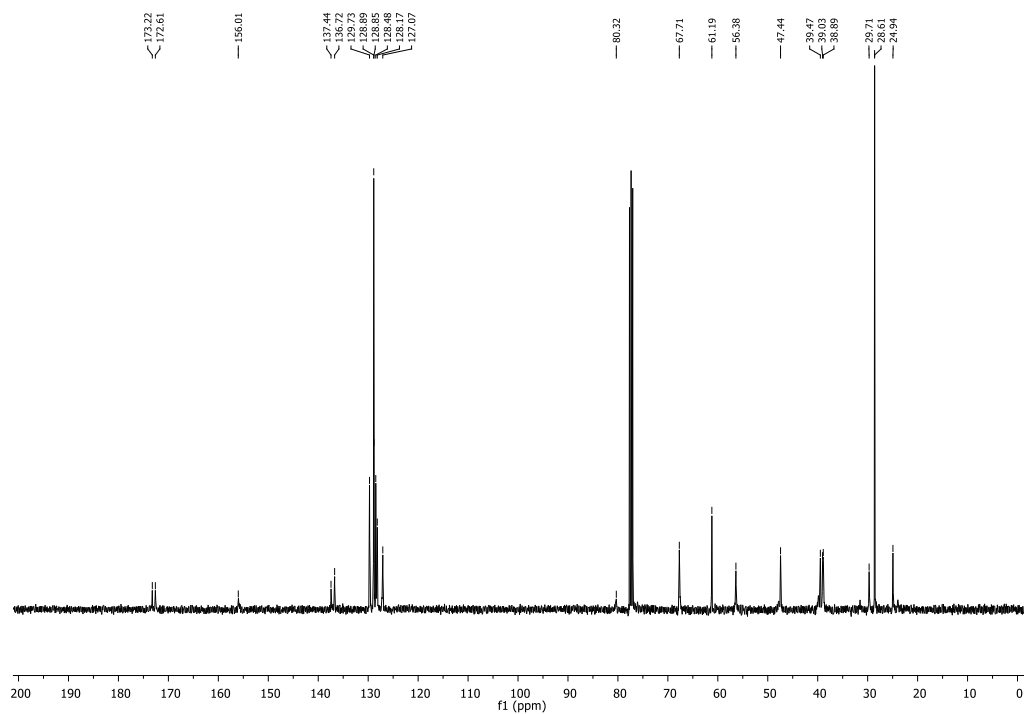
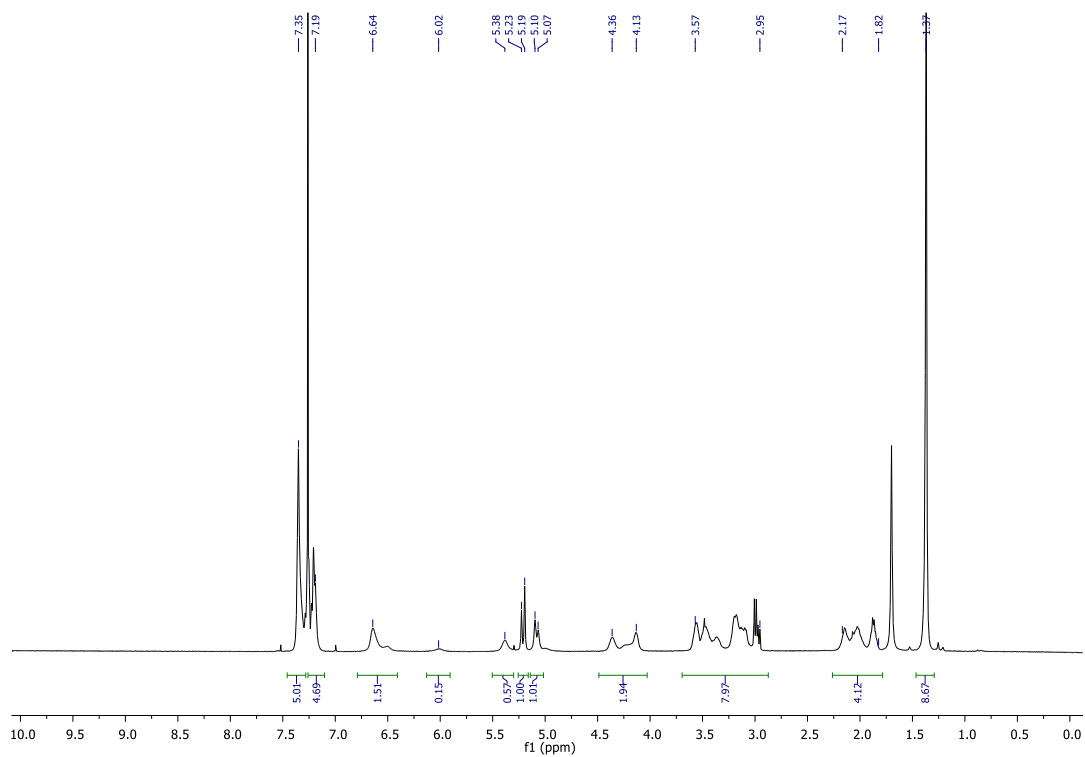
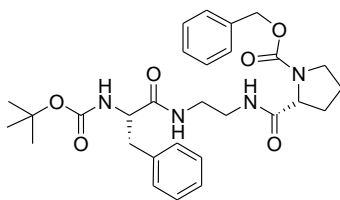
(2,3-Dihydrobenzo[b][1,4]dioxin-2-yl)(piperazin-1-yl)methanone (27)



(Piperazin-1-yl)(thiophen-2-yl)methanone (28)

4-methyl-1-(piperazin-1-yl)pentan-1-one (29)



tert-butyl (*S*)-1-(2-aminoethyl-(2-pyrrolidine carbamoyl)-carbamoyl)-2-phenylethylcarbamate (34)

tert-butyl (*S*)-1-(2-aminoethyl-[1-benyl-(2-pyrrolidine carbamoyl)carbamoyl]-2-phenylethylcarbamate

(35).

