

Supporting Information

Synthesis of stereodefined piperidines from aziridines and their transformation into conformationally constrained amino acids, amino alcohols and 2,7-diazabicyclo[3.3.1]nonanes

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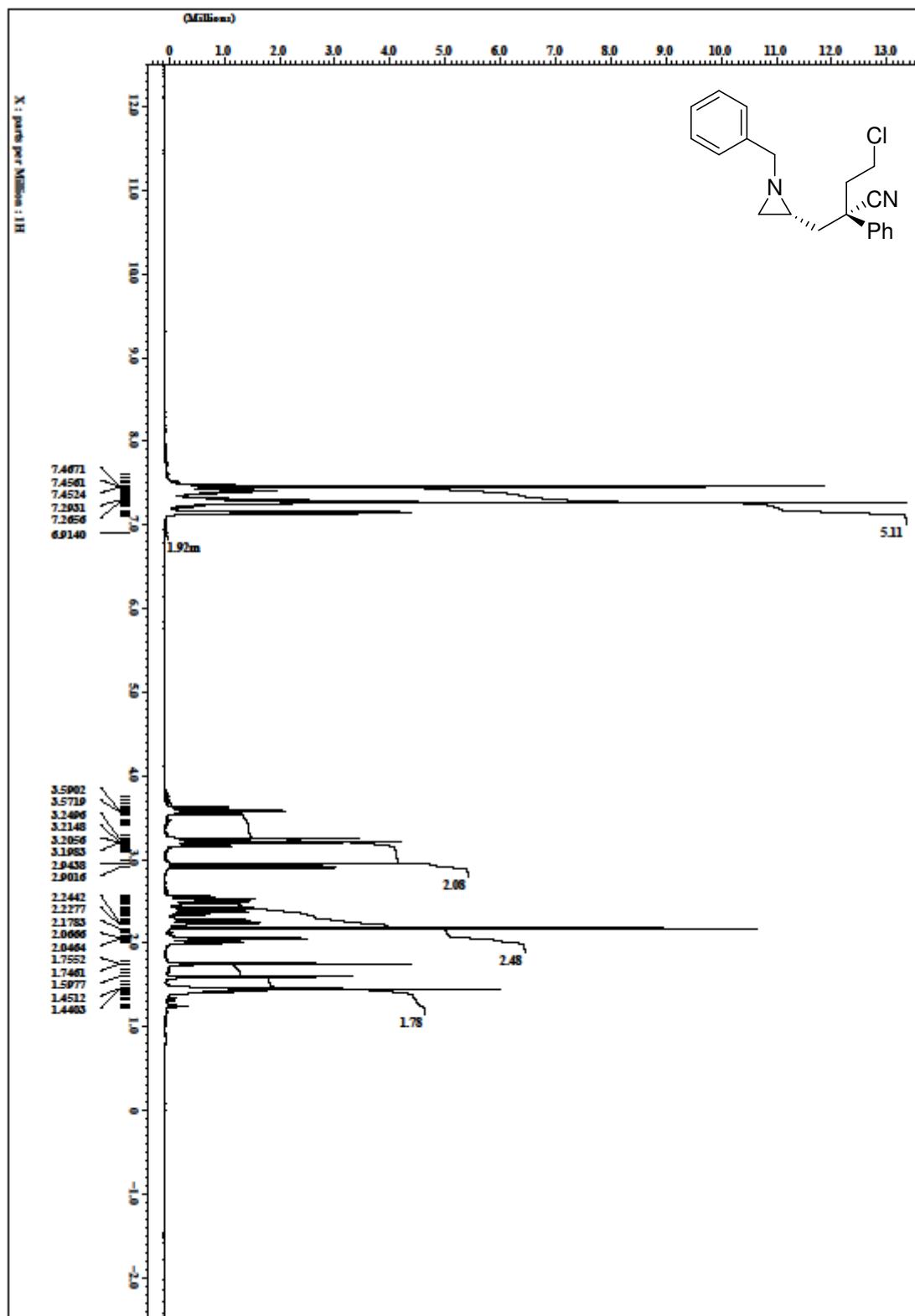
^b*Department of Chemistry, University of Bergen, Allégt, 41, 5007 Bergen, Norway*

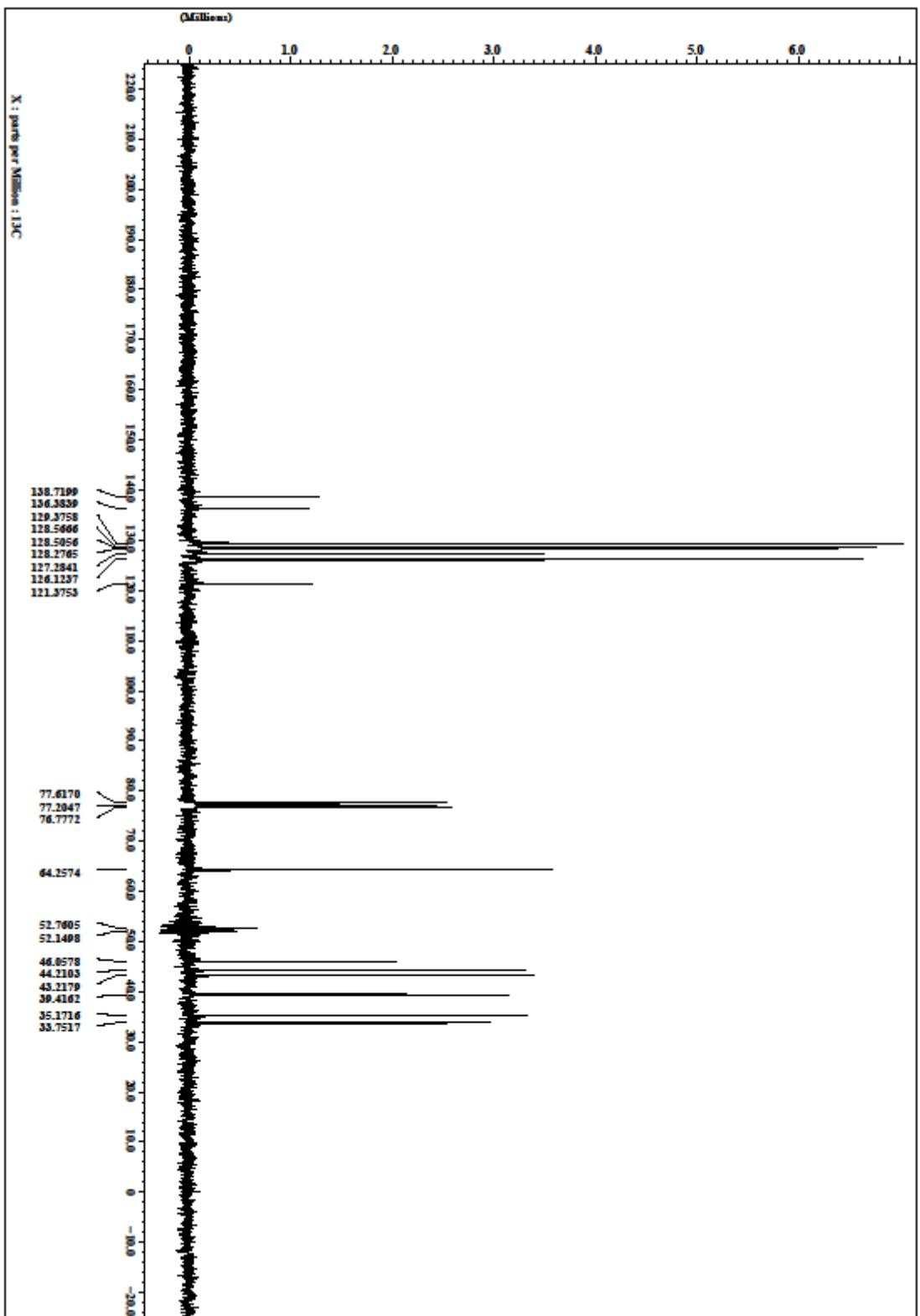
Contents

¹H and ¹³C NMR spectra for compounds 6a-c, 7a-c, 9a-c, 11a-c, 14, 15, 16, 17, 18, 19, 20, 21a-b, 22a-b, 24, 27, 28, 29a-c, 30 and 31a-b

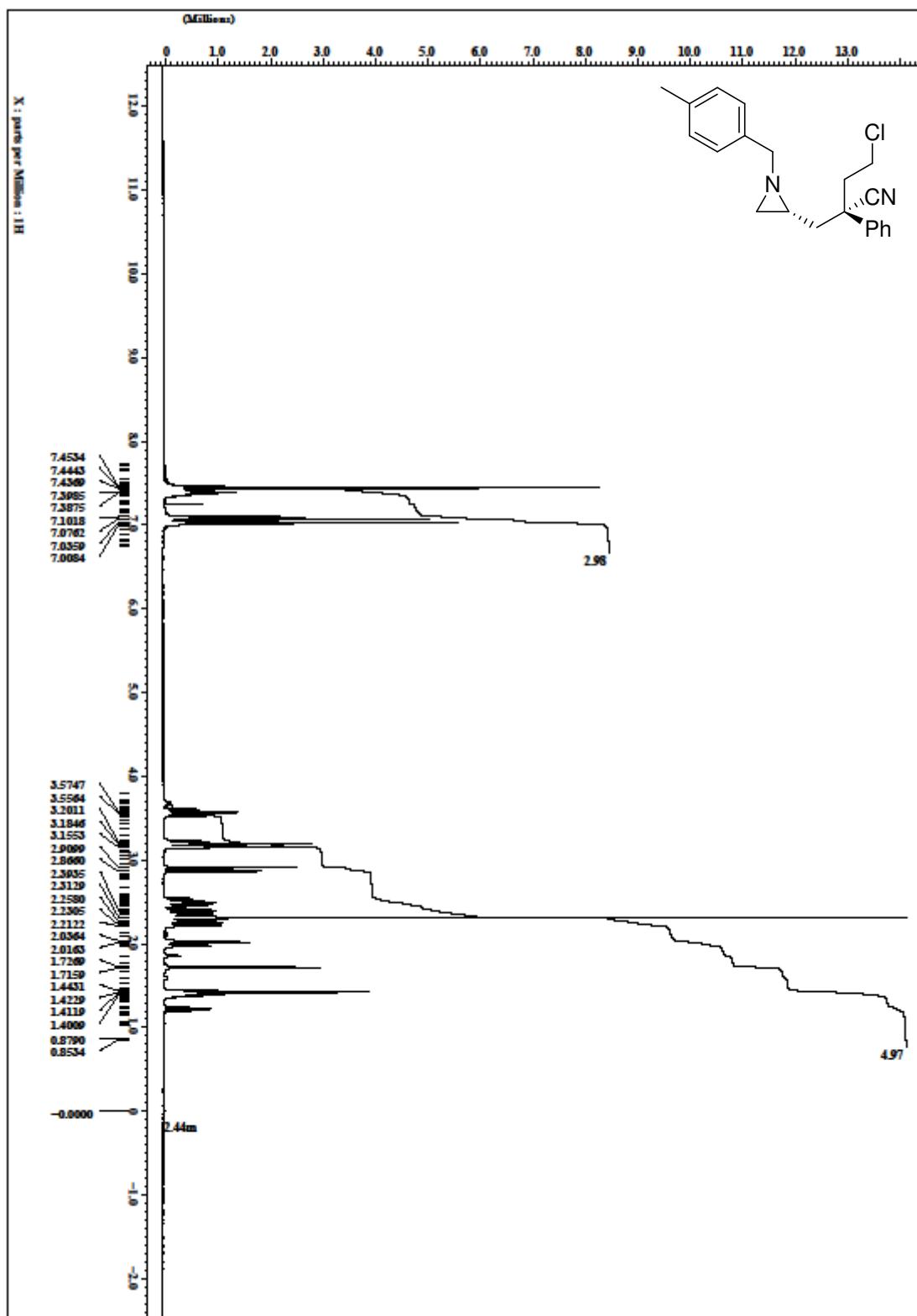
S2-S61

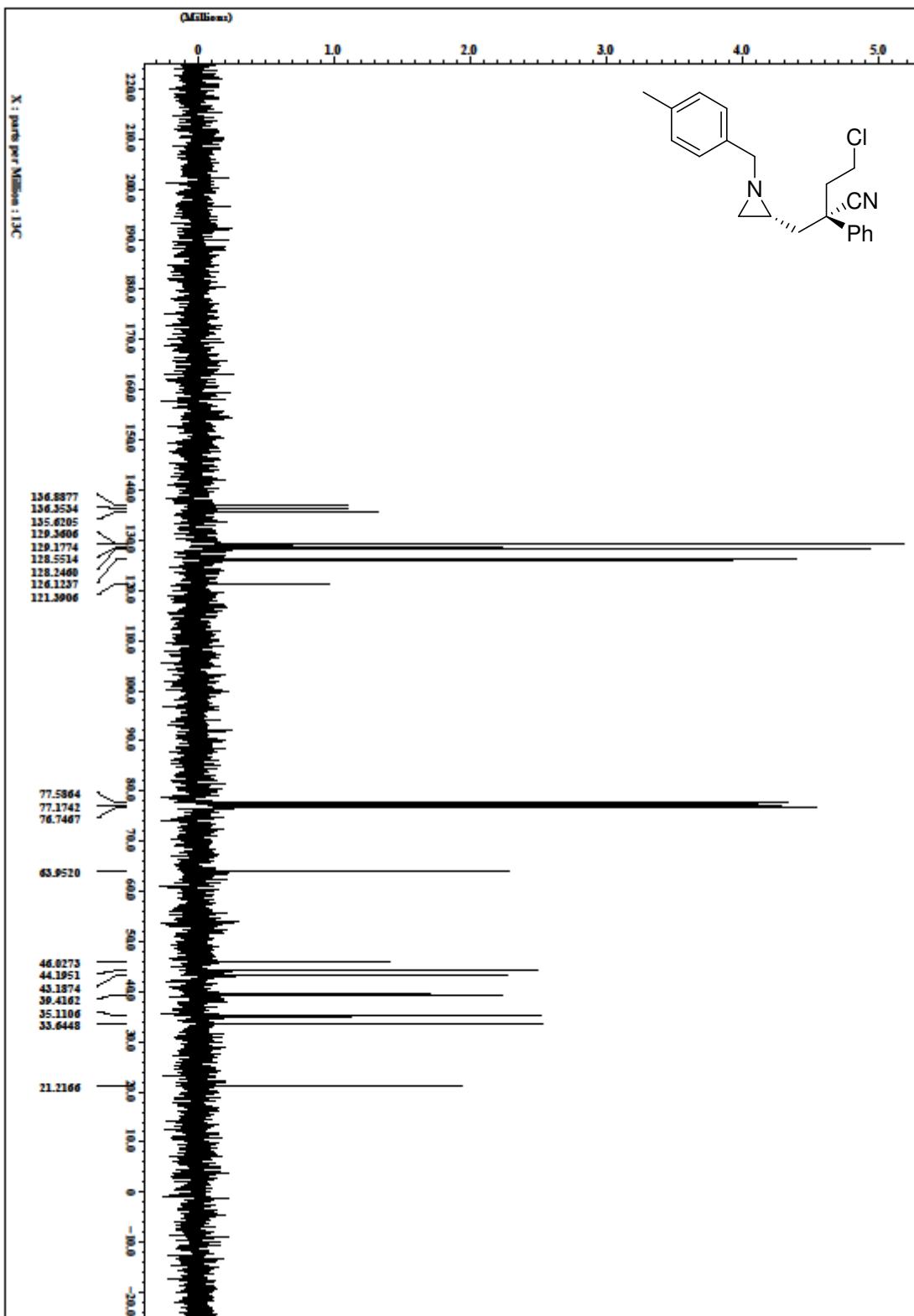
(2*R*, 2*'R*)- and (2*S*, 2*'S*)-2-[1-Benzylaziridin-2-ylmethyl]-4-chloro-2-phenylbutyronitrile
6a



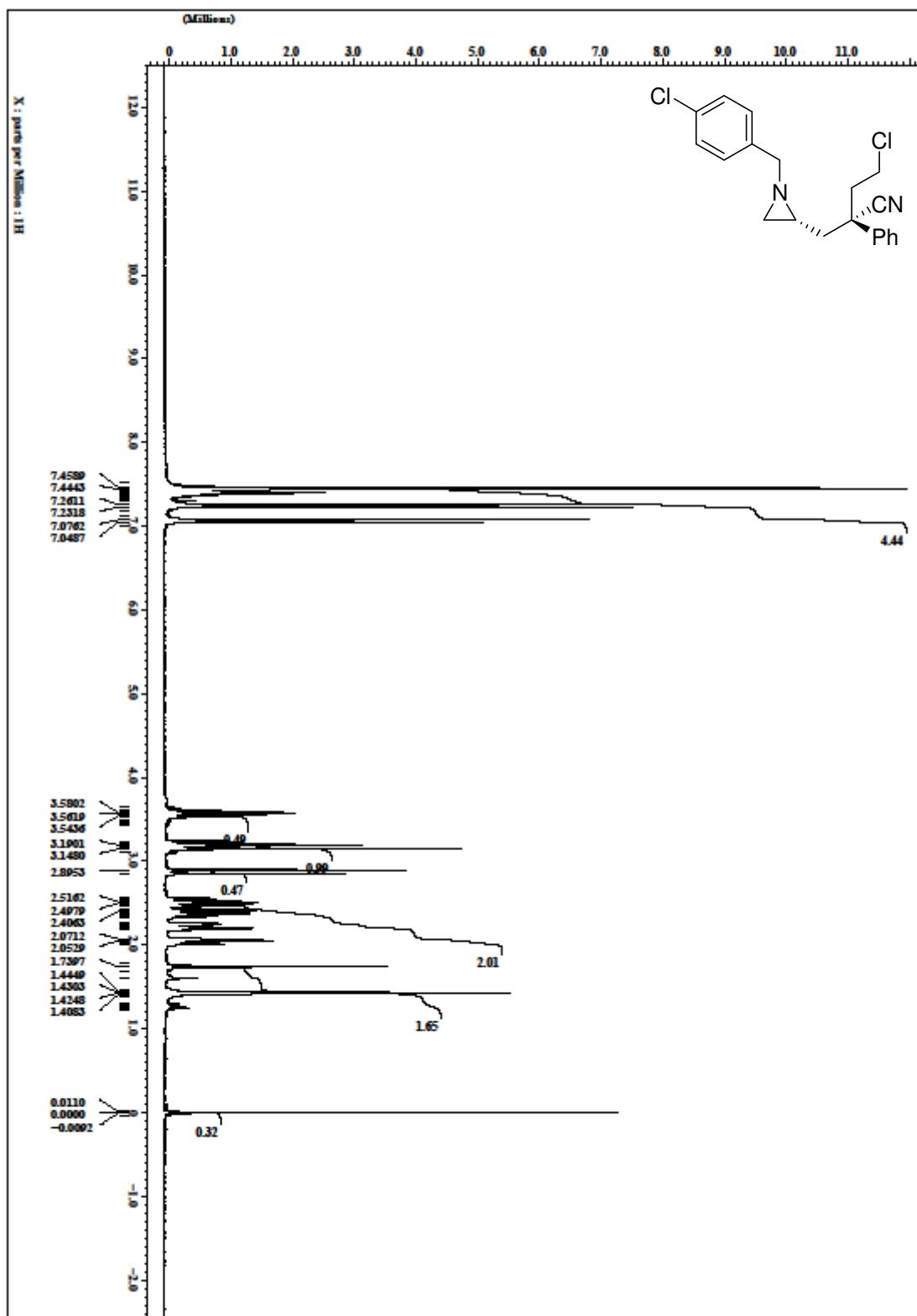


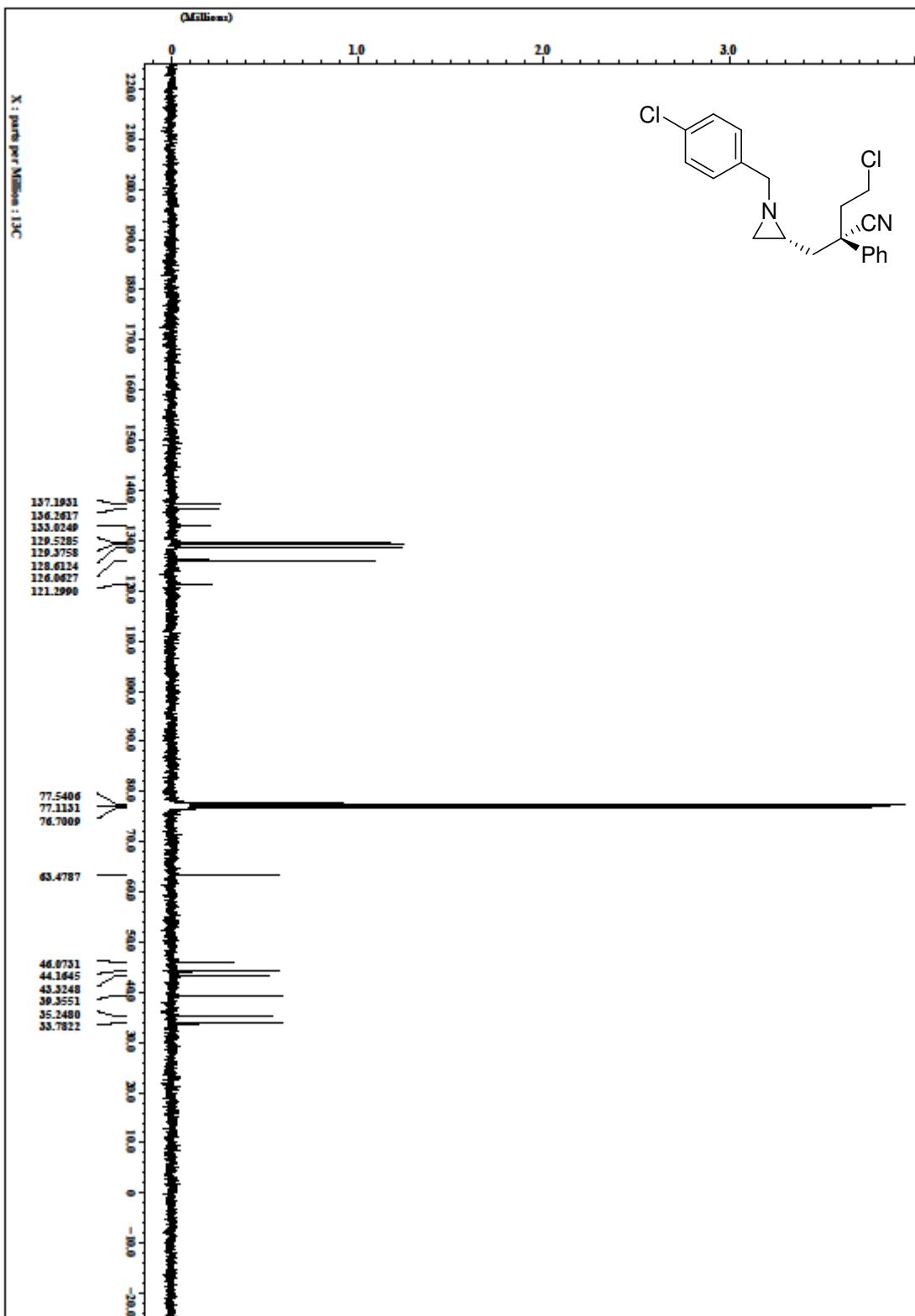
(2*R*, 2*R'*) and (2*S*, 2*S'*)-4-Chloro-2-[1-(4-methylbenzyl)-aziridin-2-ylmethyl]-2-phenylbutyronitrile 6b





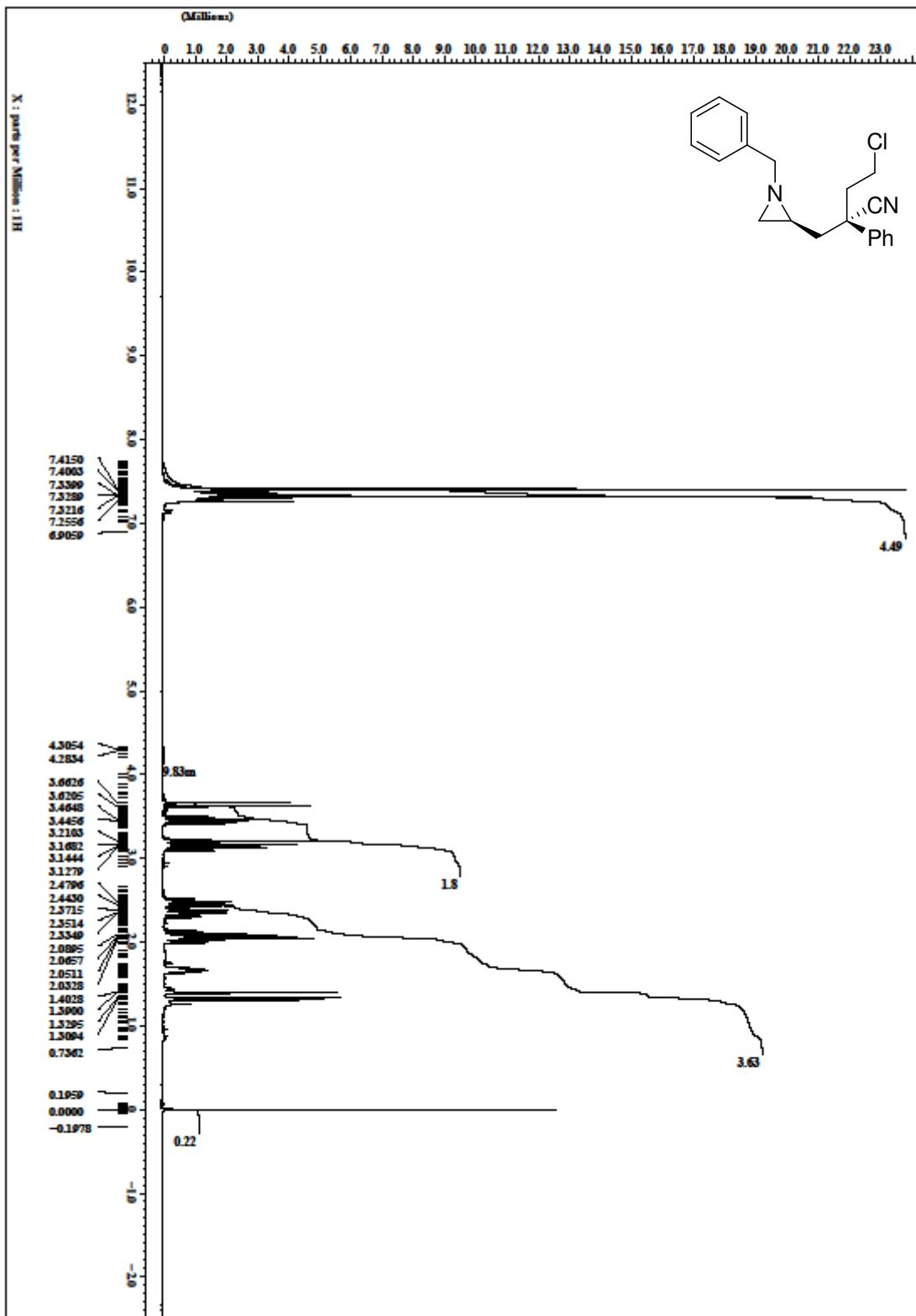
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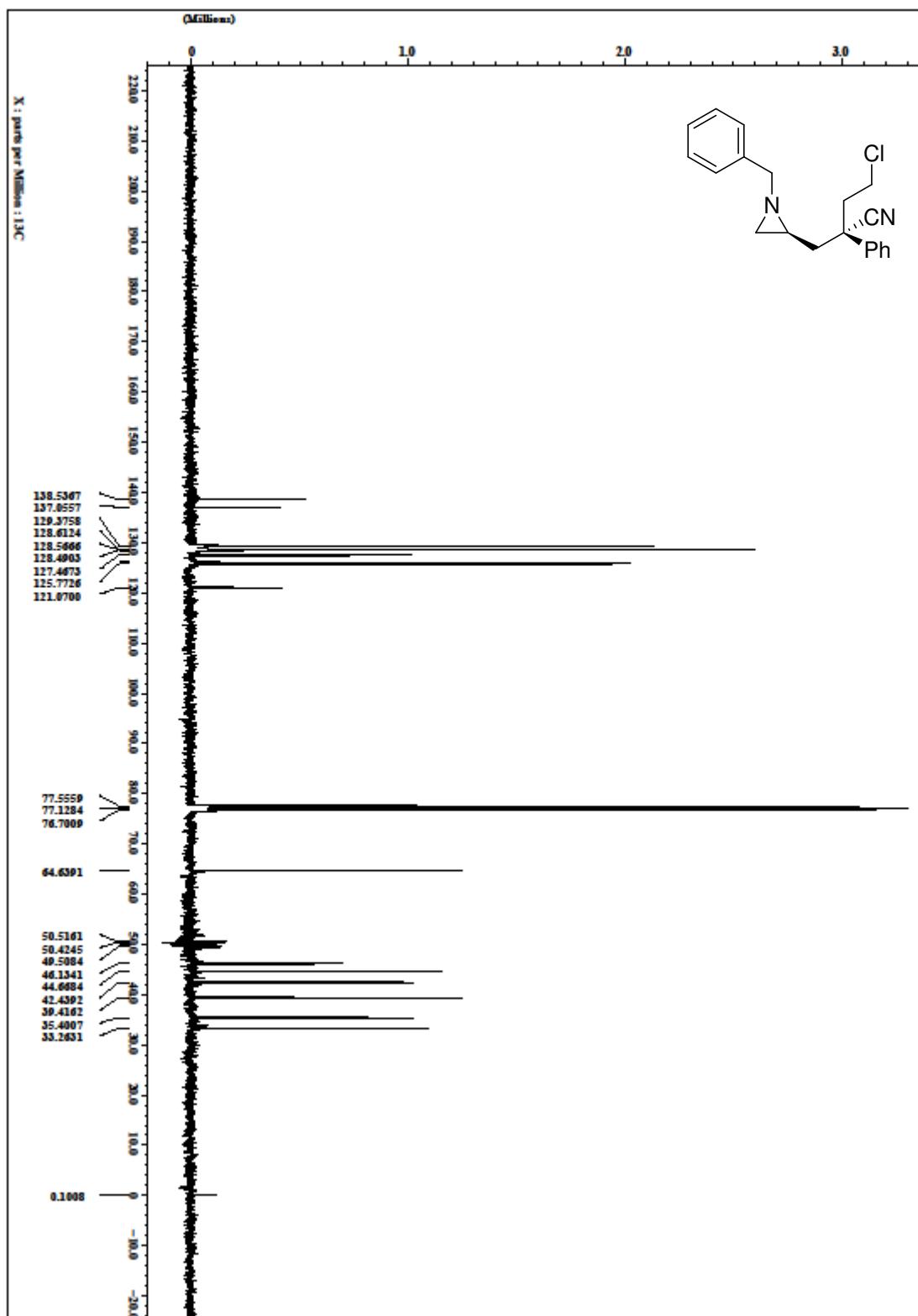




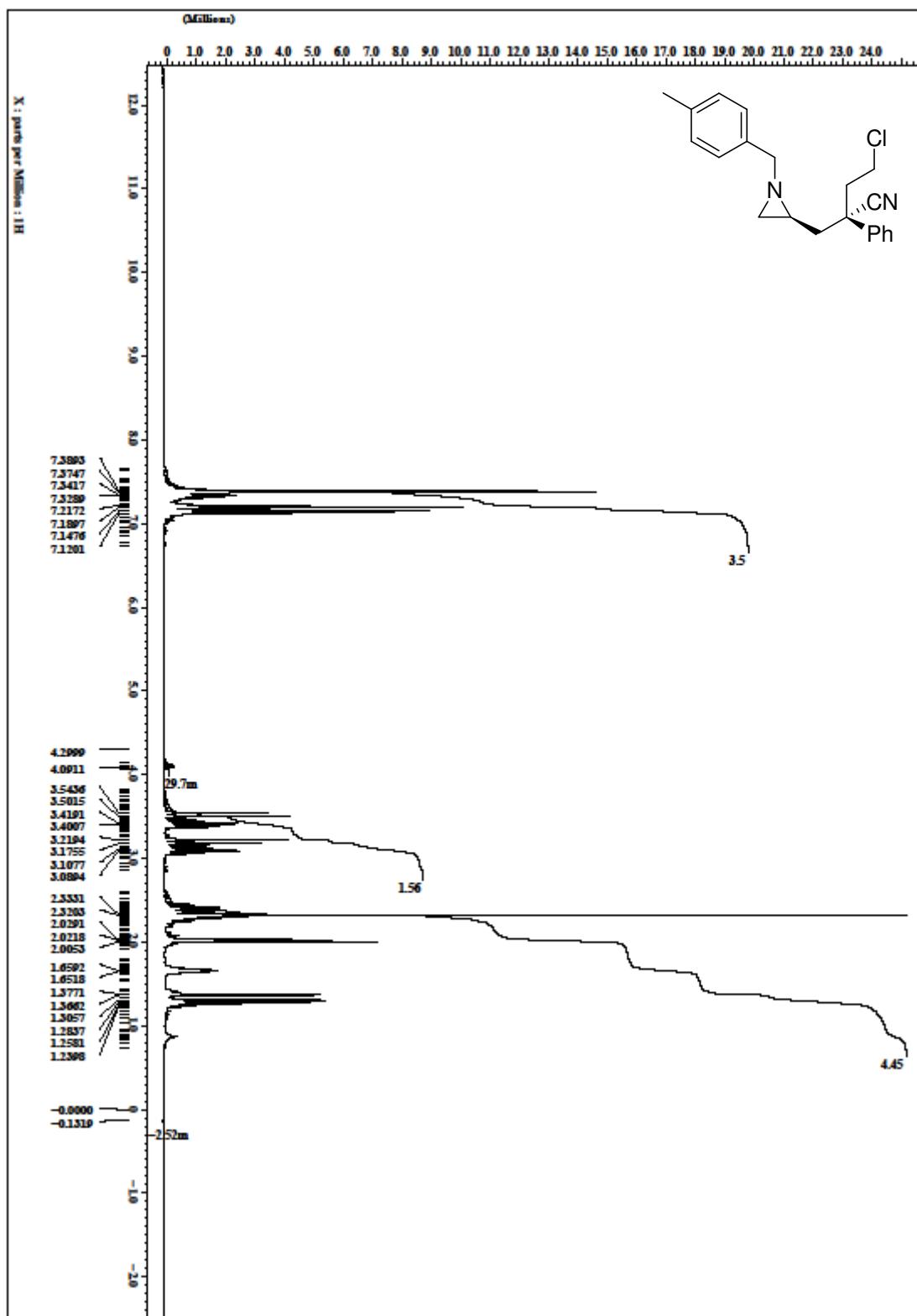
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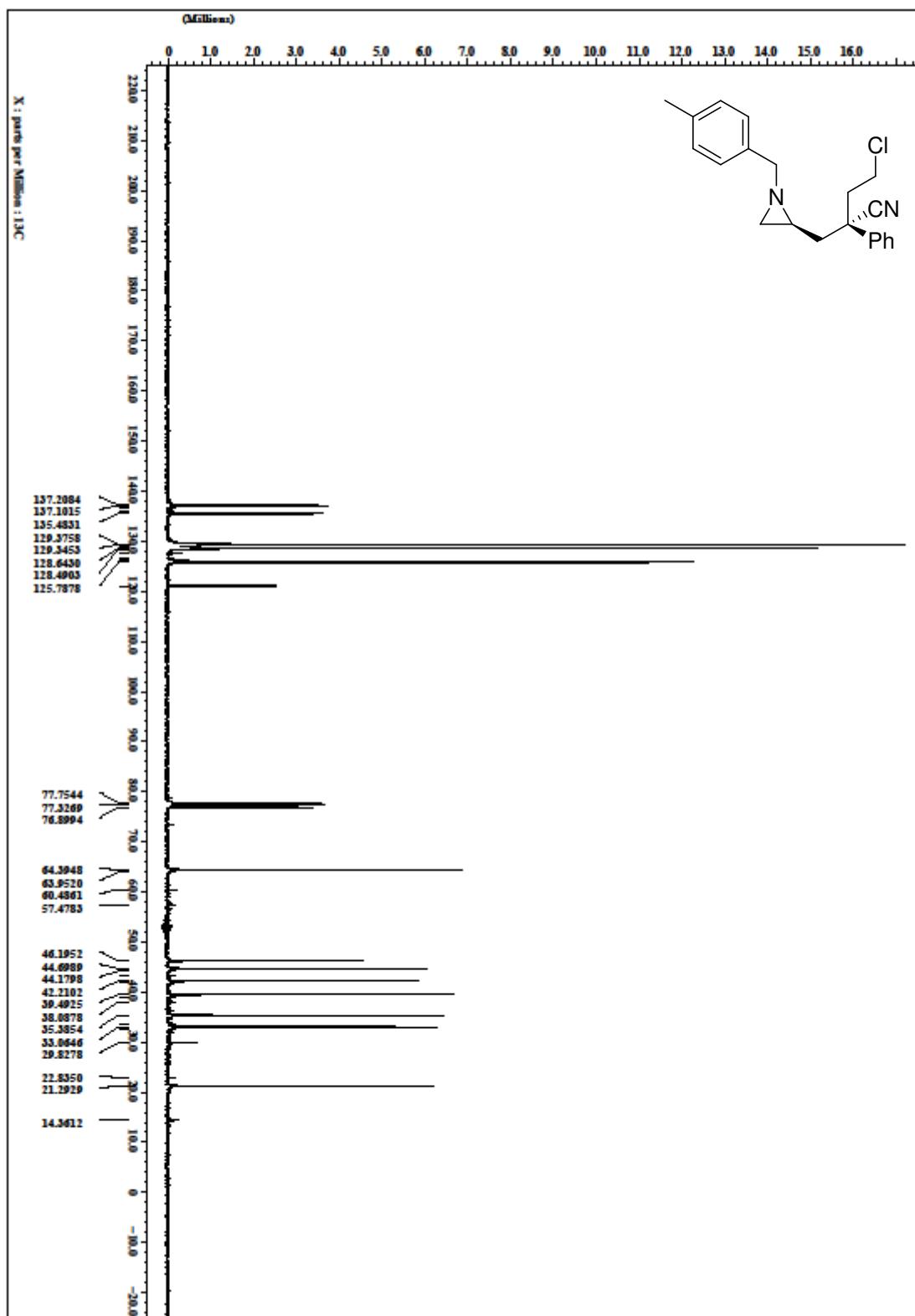
7a



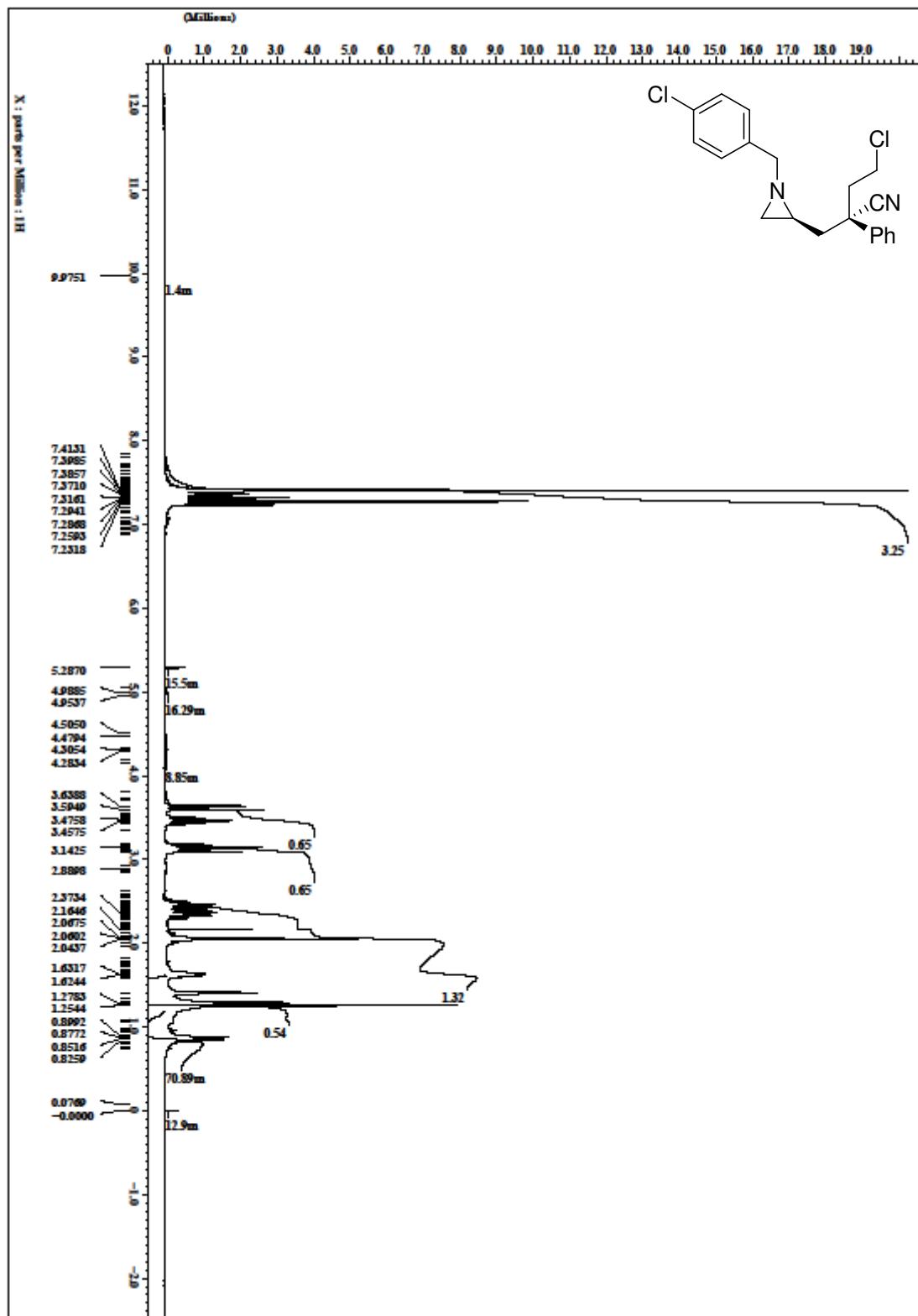


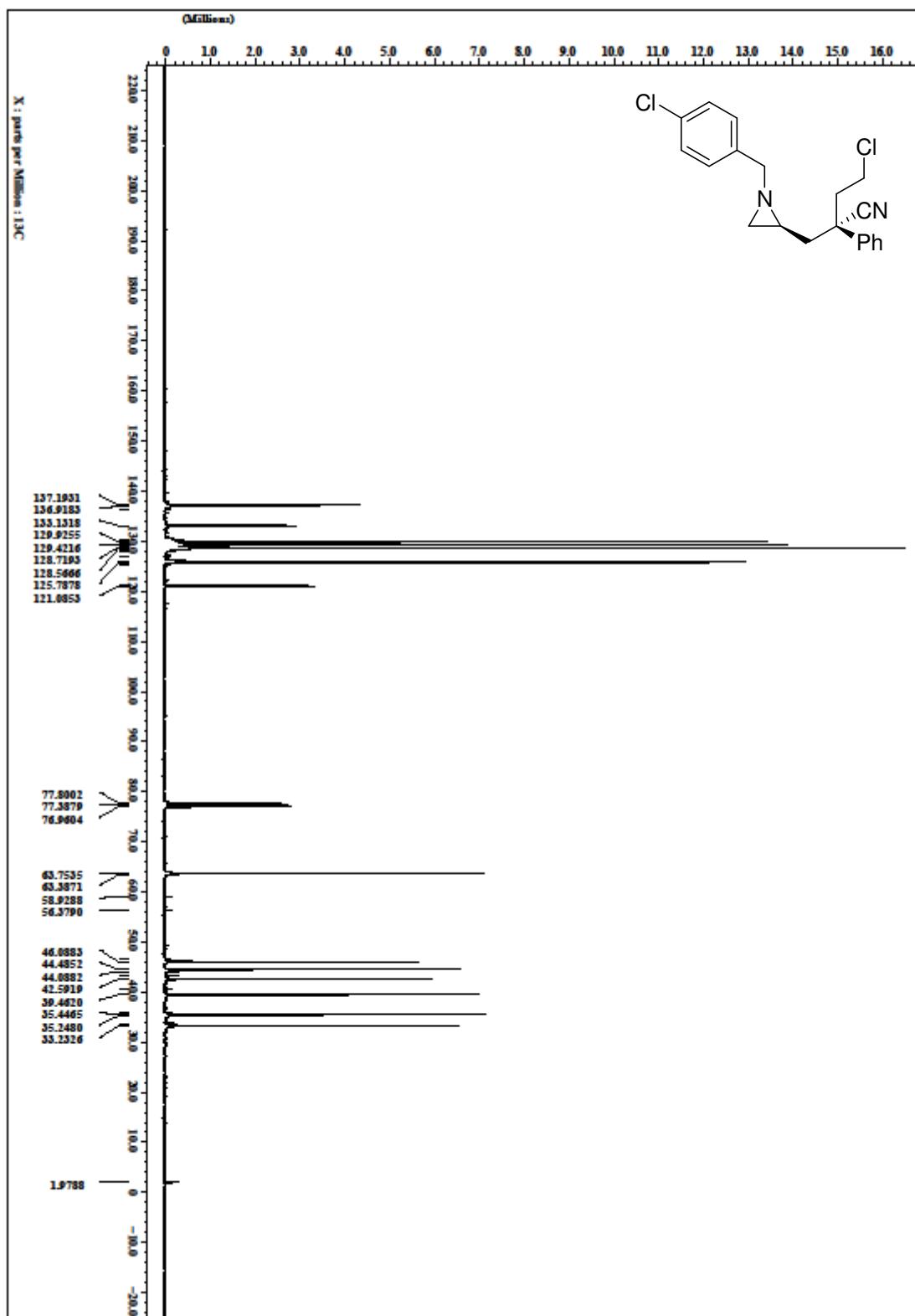
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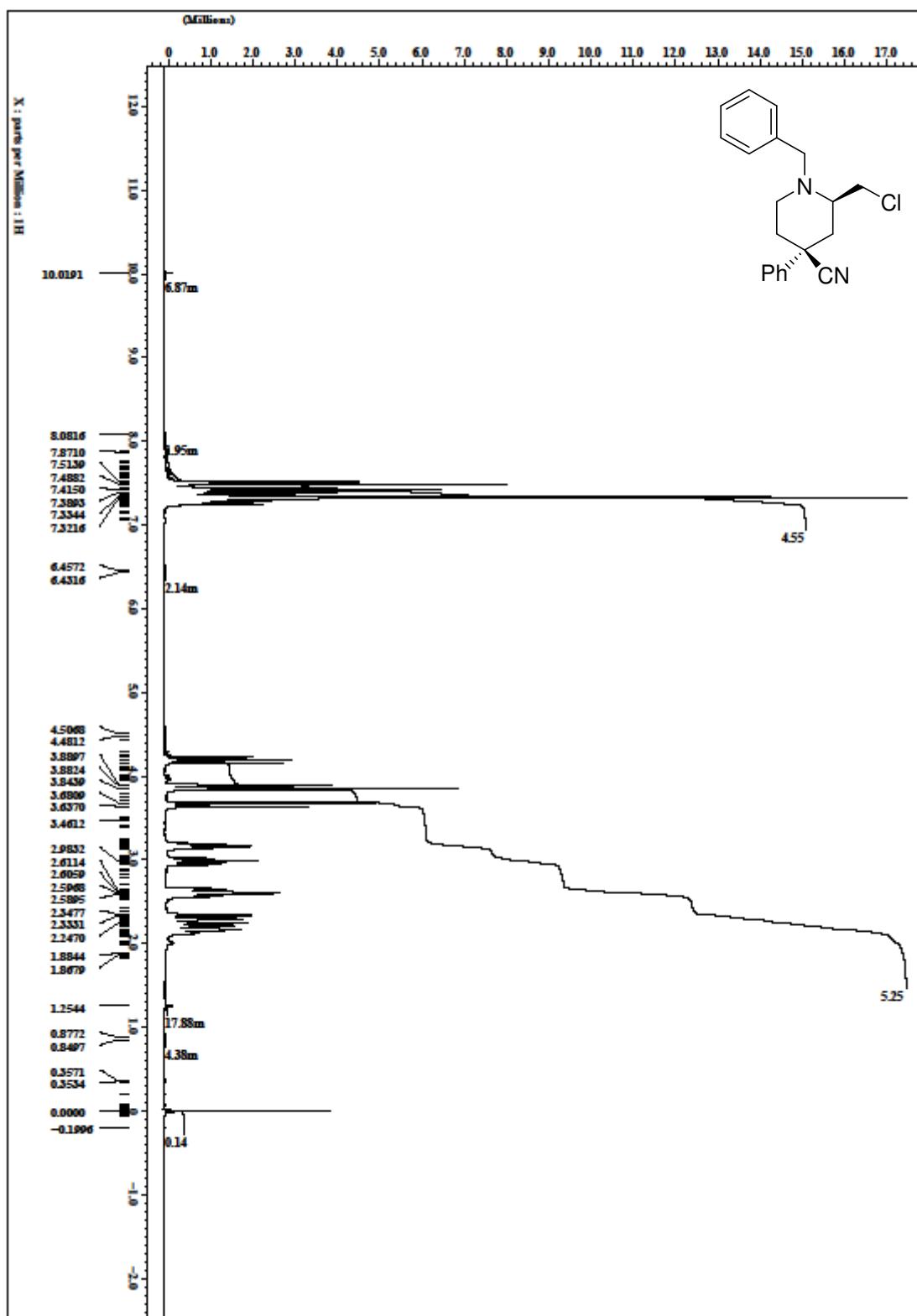


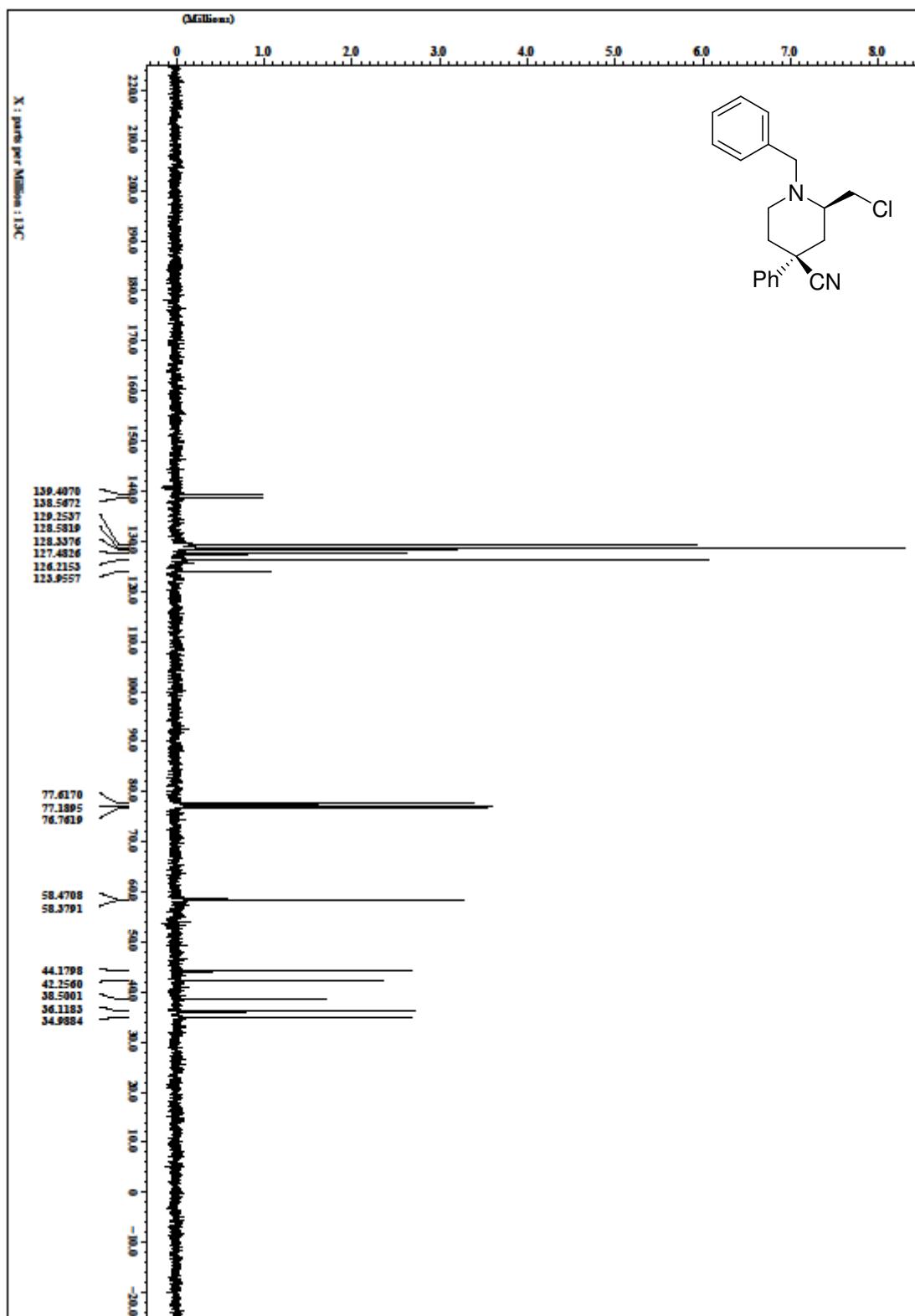
(2*S*, 2*R*) and (2*R*, 2*S*')-4-Chloro-2-[1-(4-chlorobenzyl)-aziridin-2-ylmethyl]-2-phenylbutyronitrile **7c**



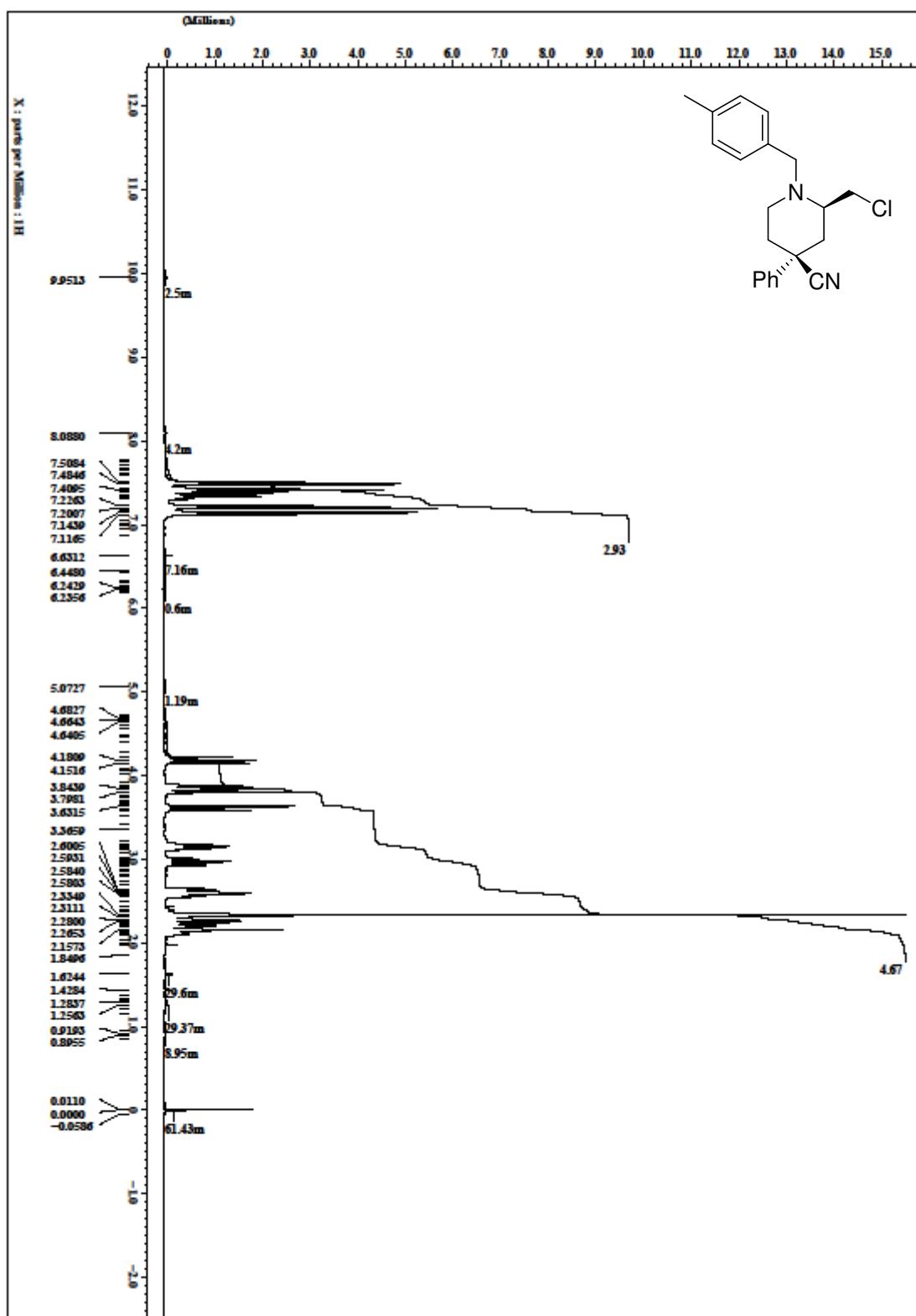


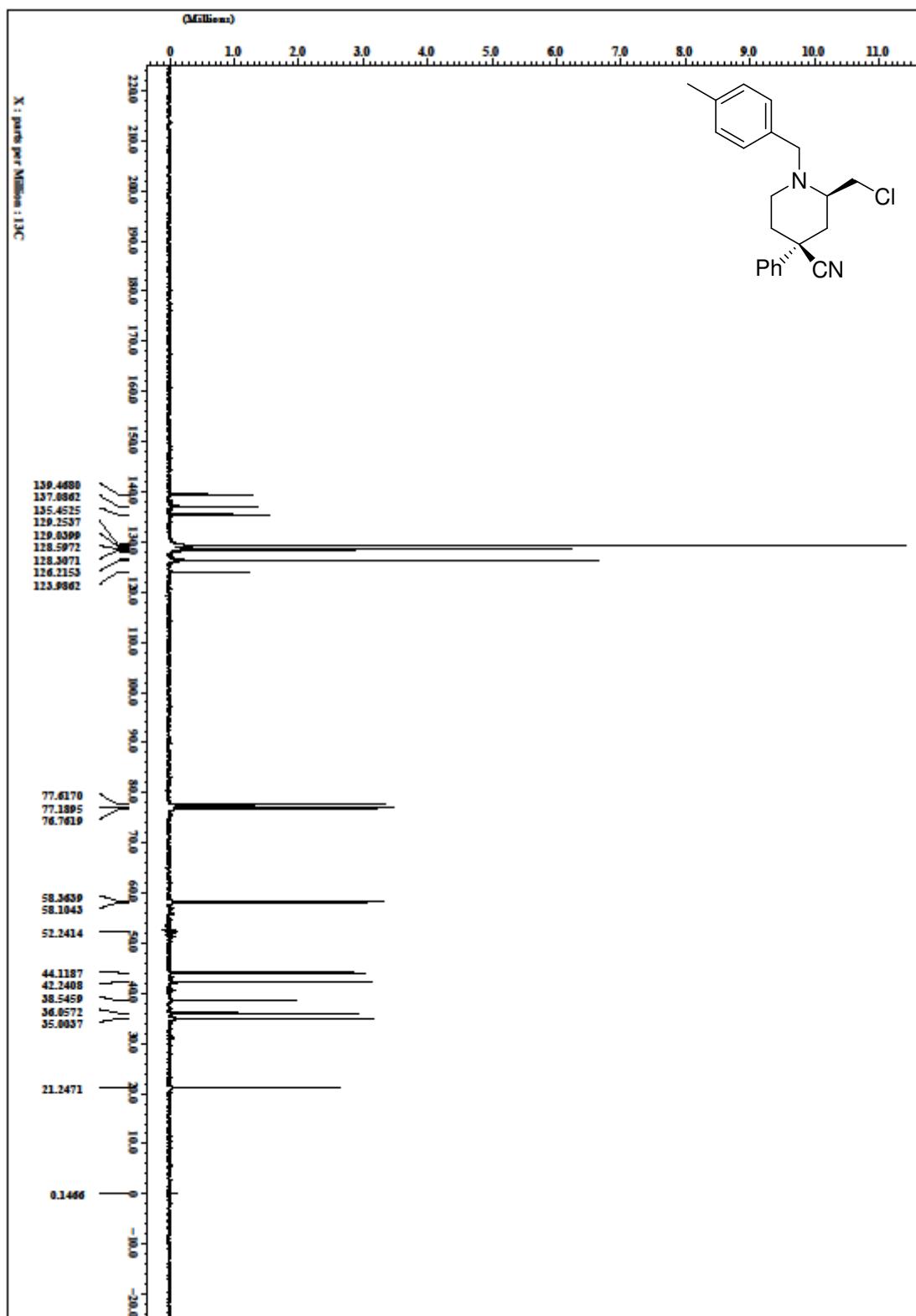
cis-1-Benzyl-2-chloromethyl-4-phenylpiperidine-4-carbonitrile 9a



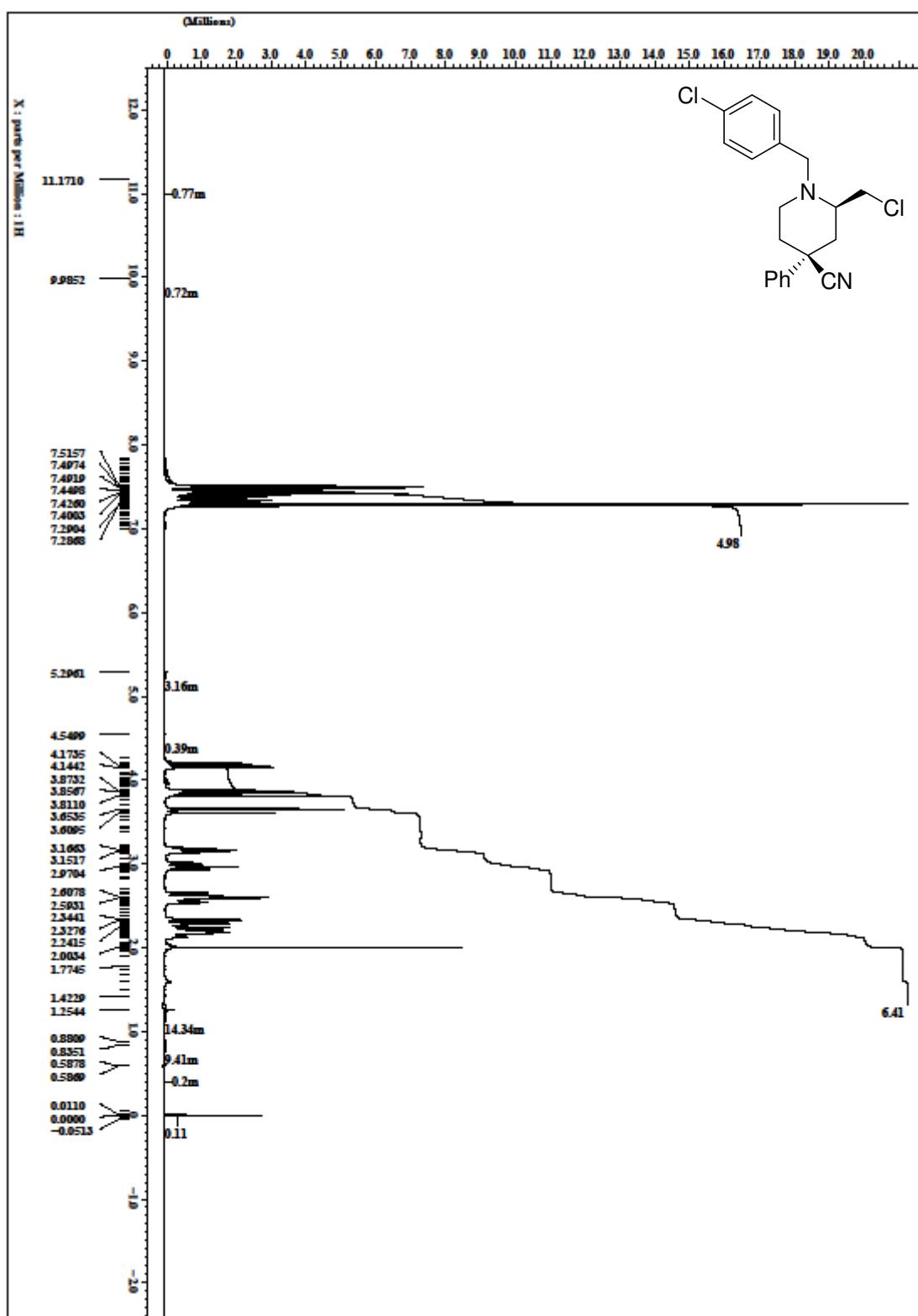


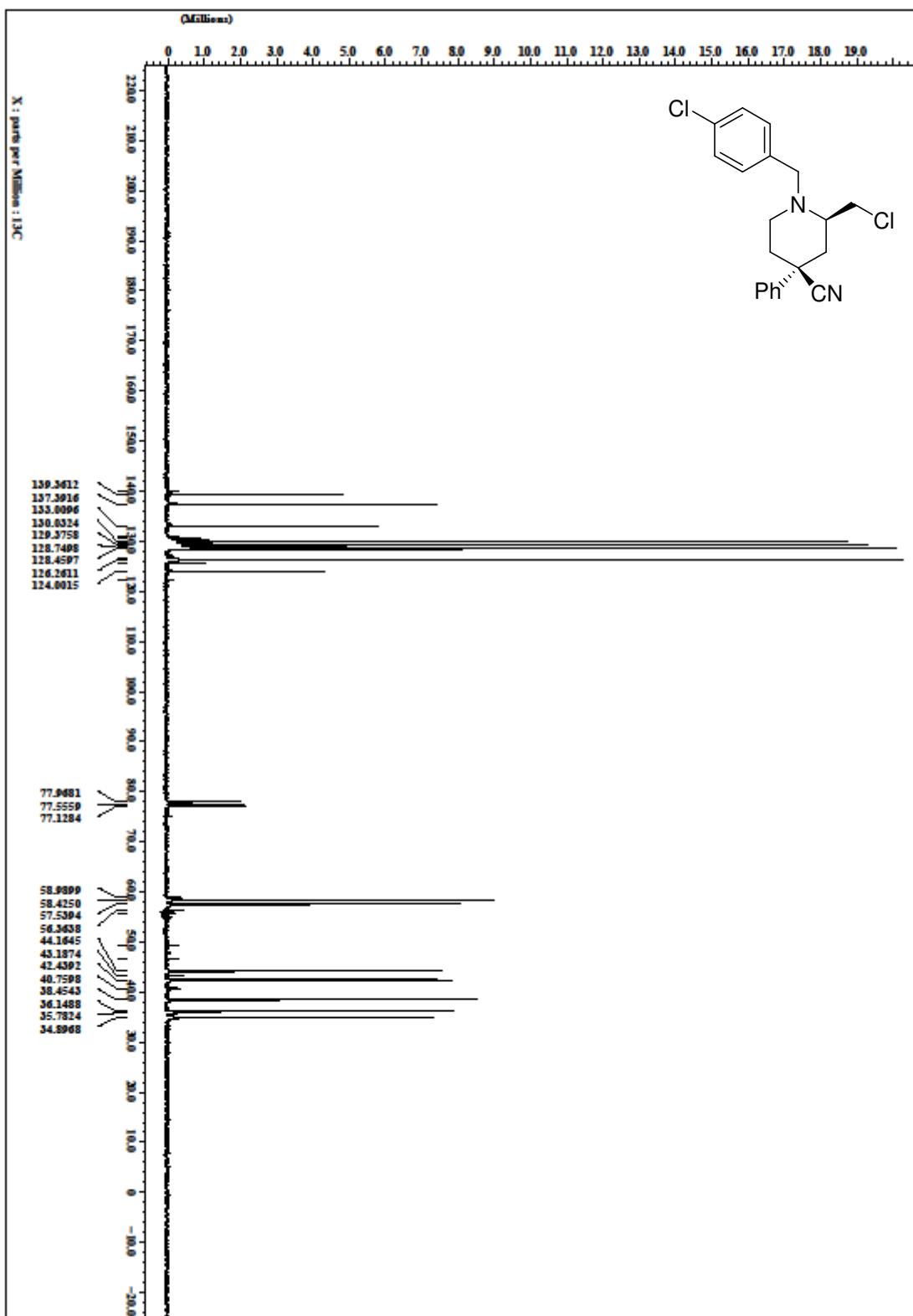
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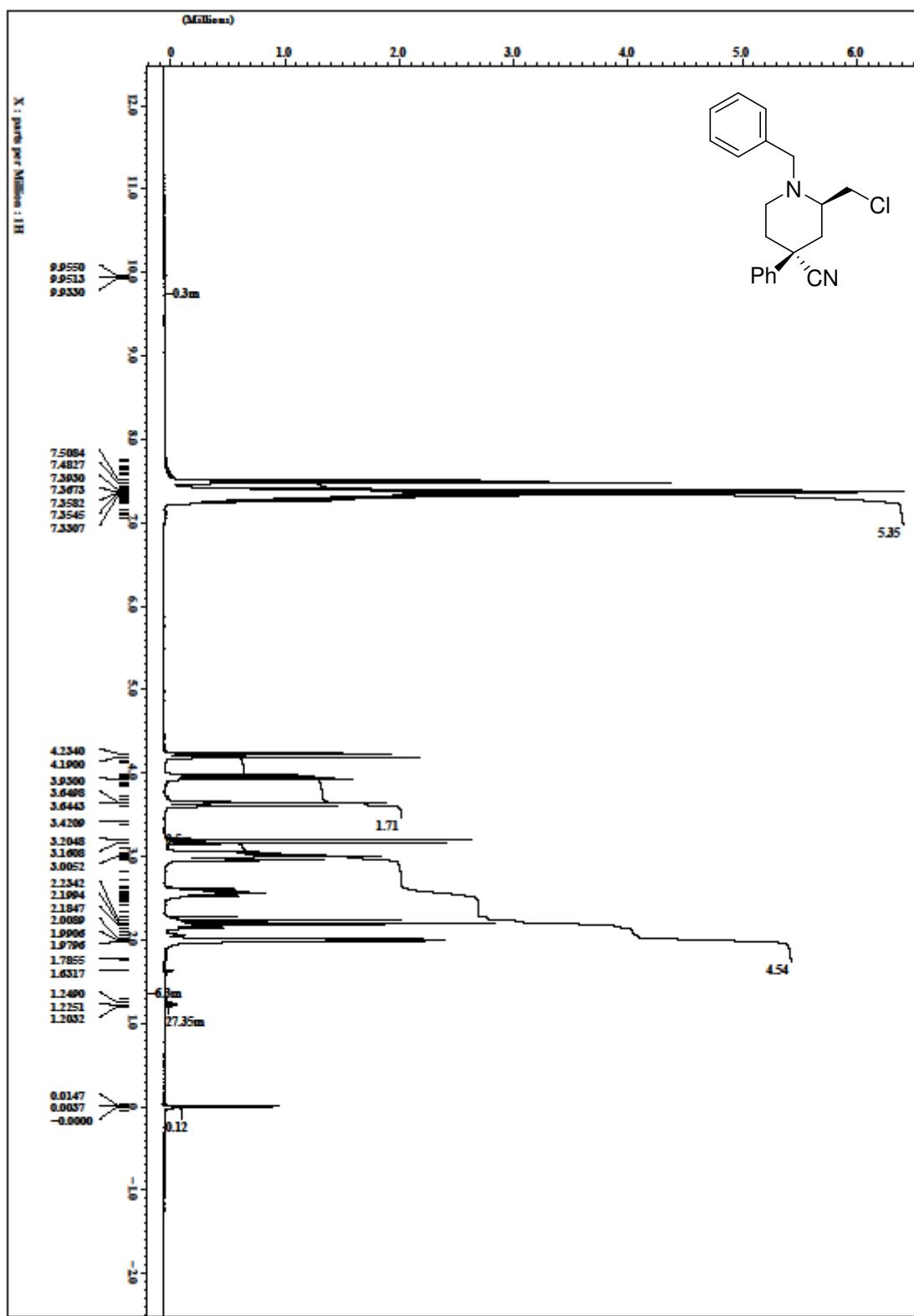


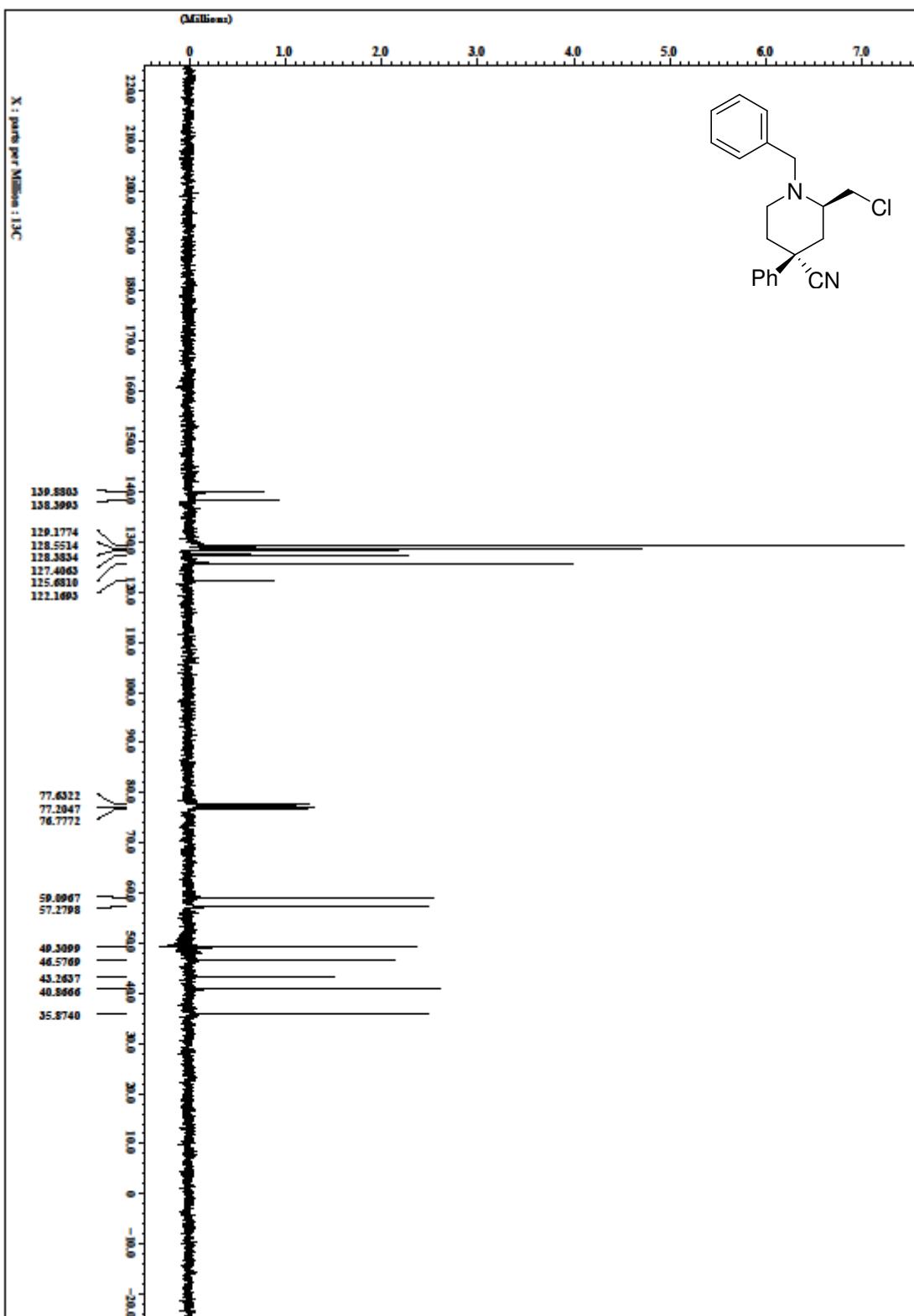
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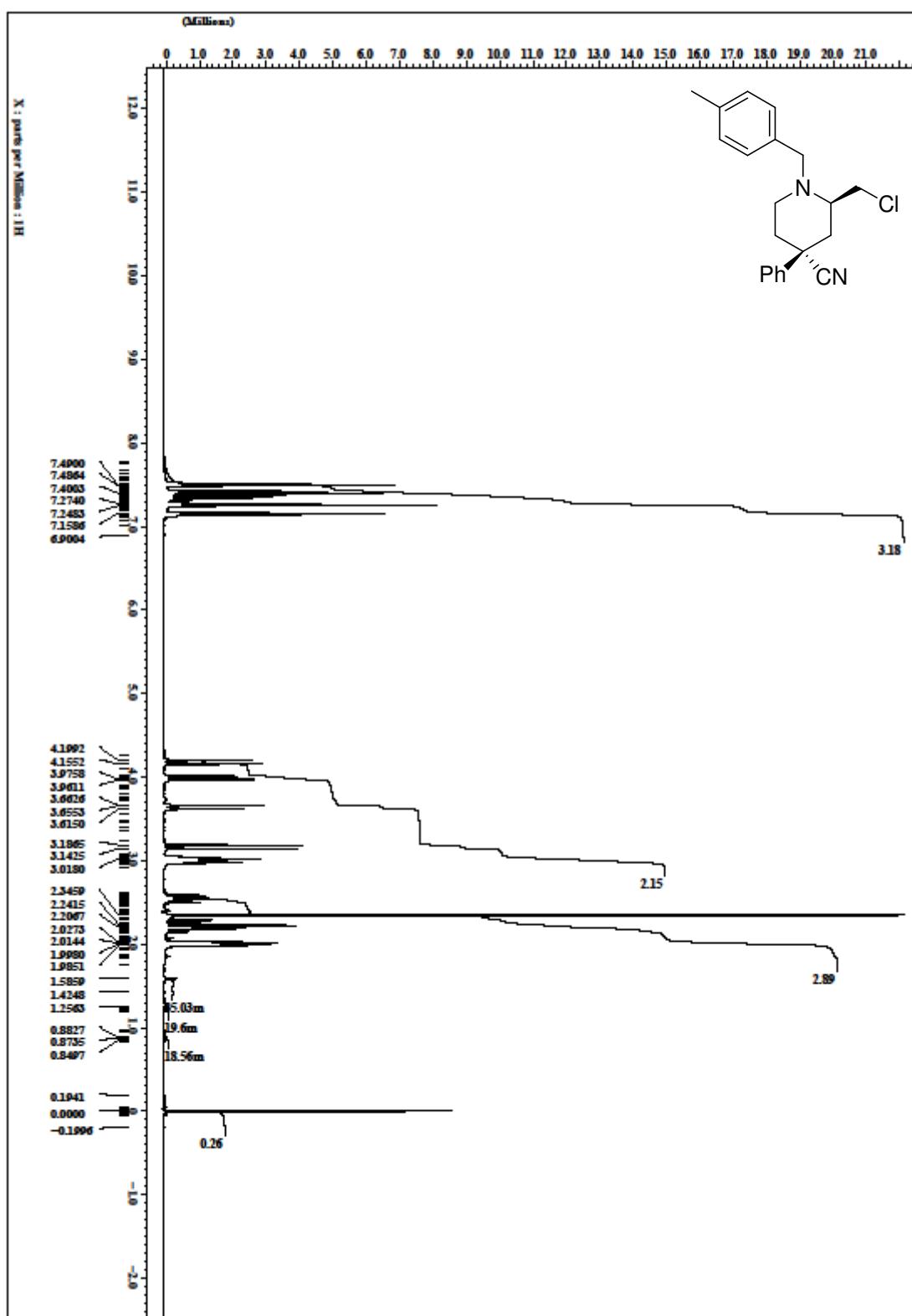


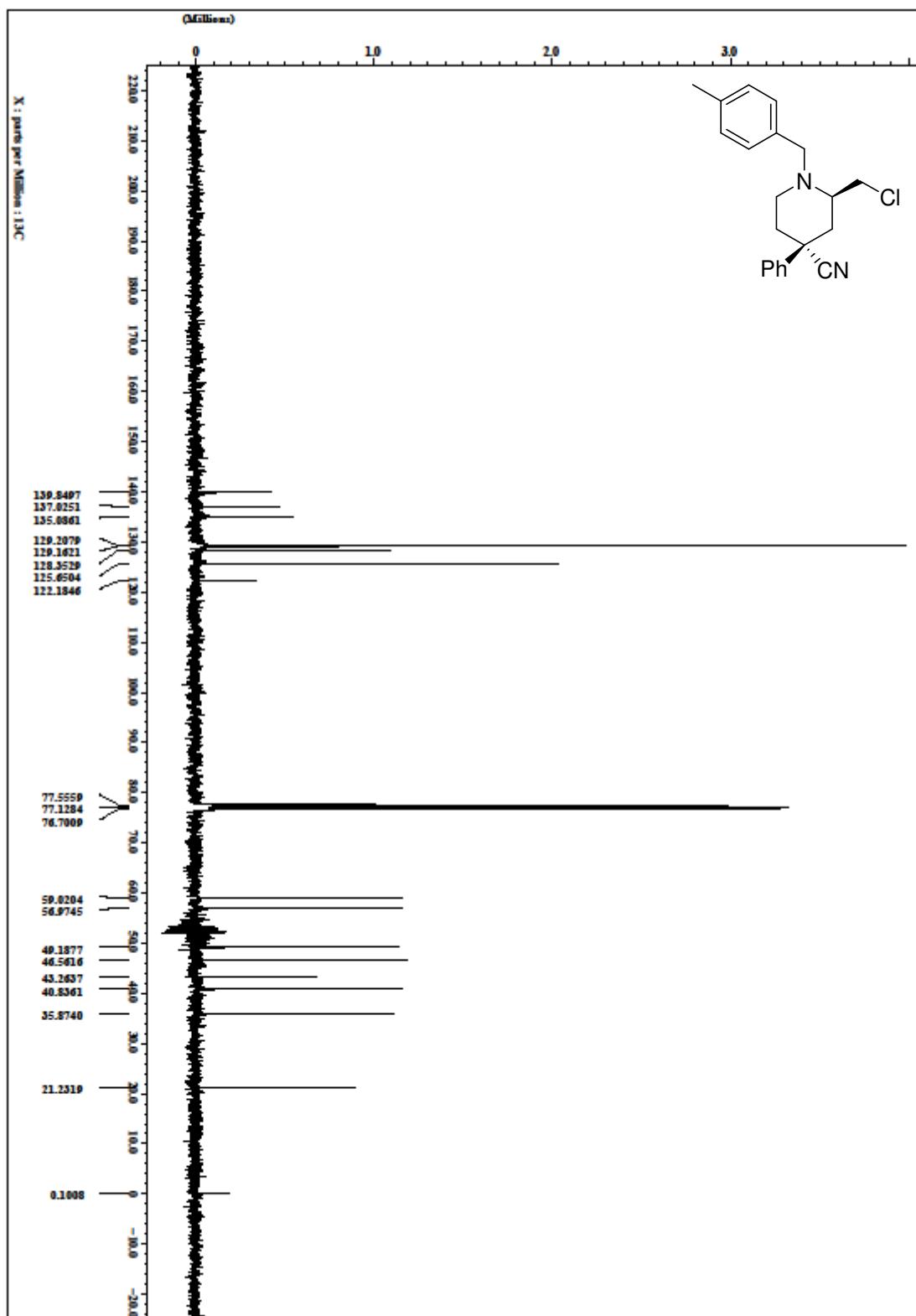
trans-1-Benzyl-2-chloromethyl-4-phenylpiperidine-4-carbonitriles 11a



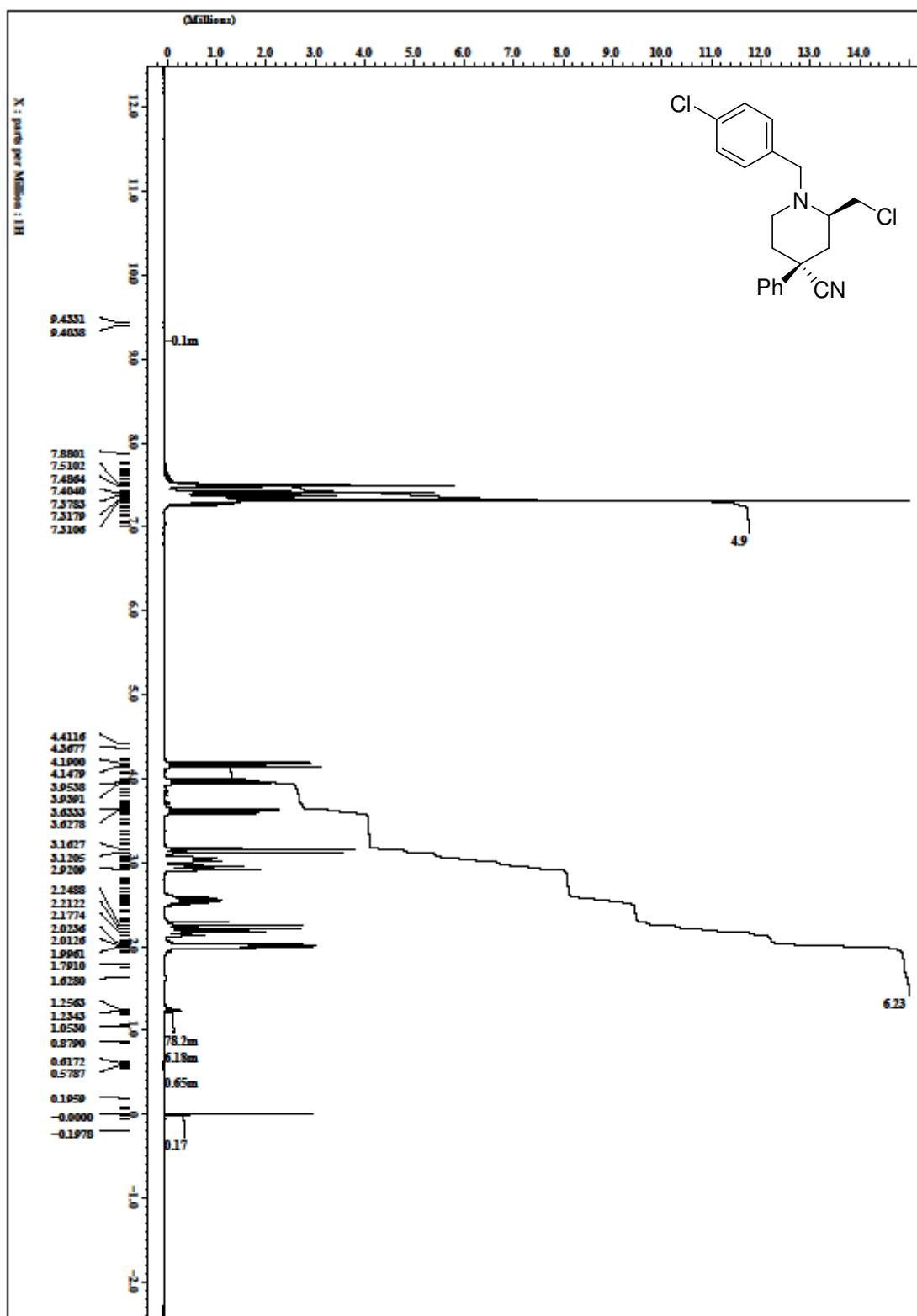


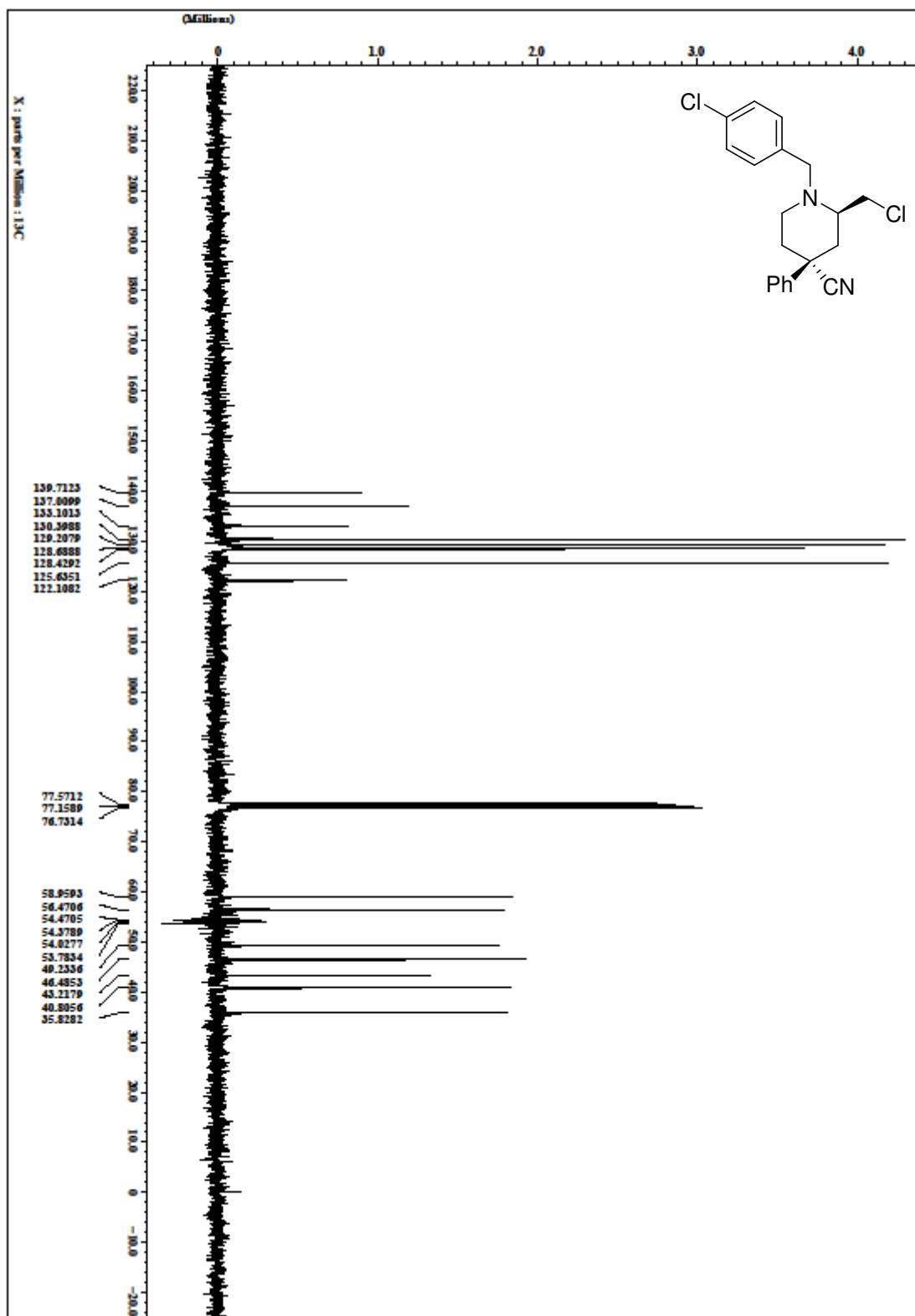
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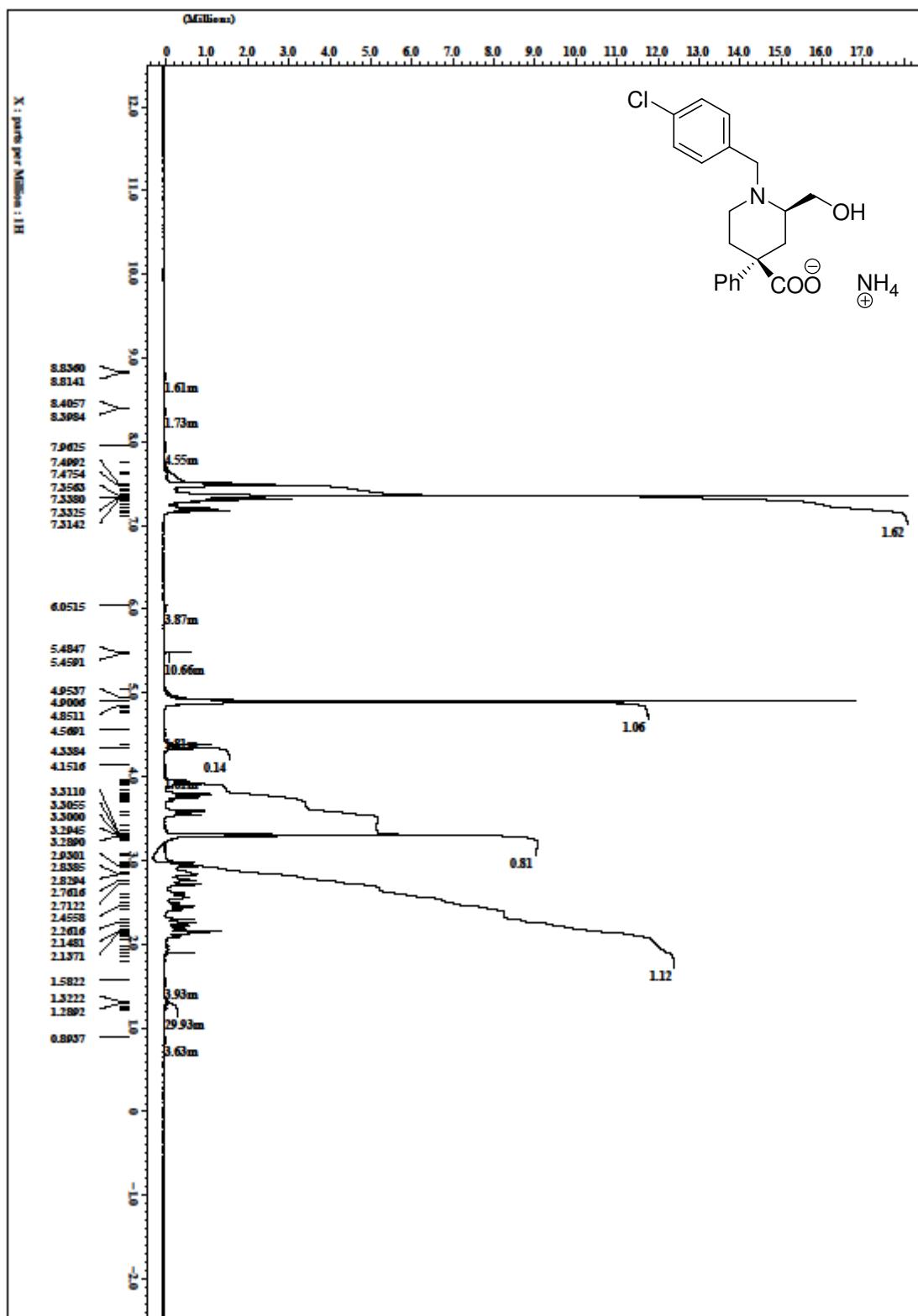


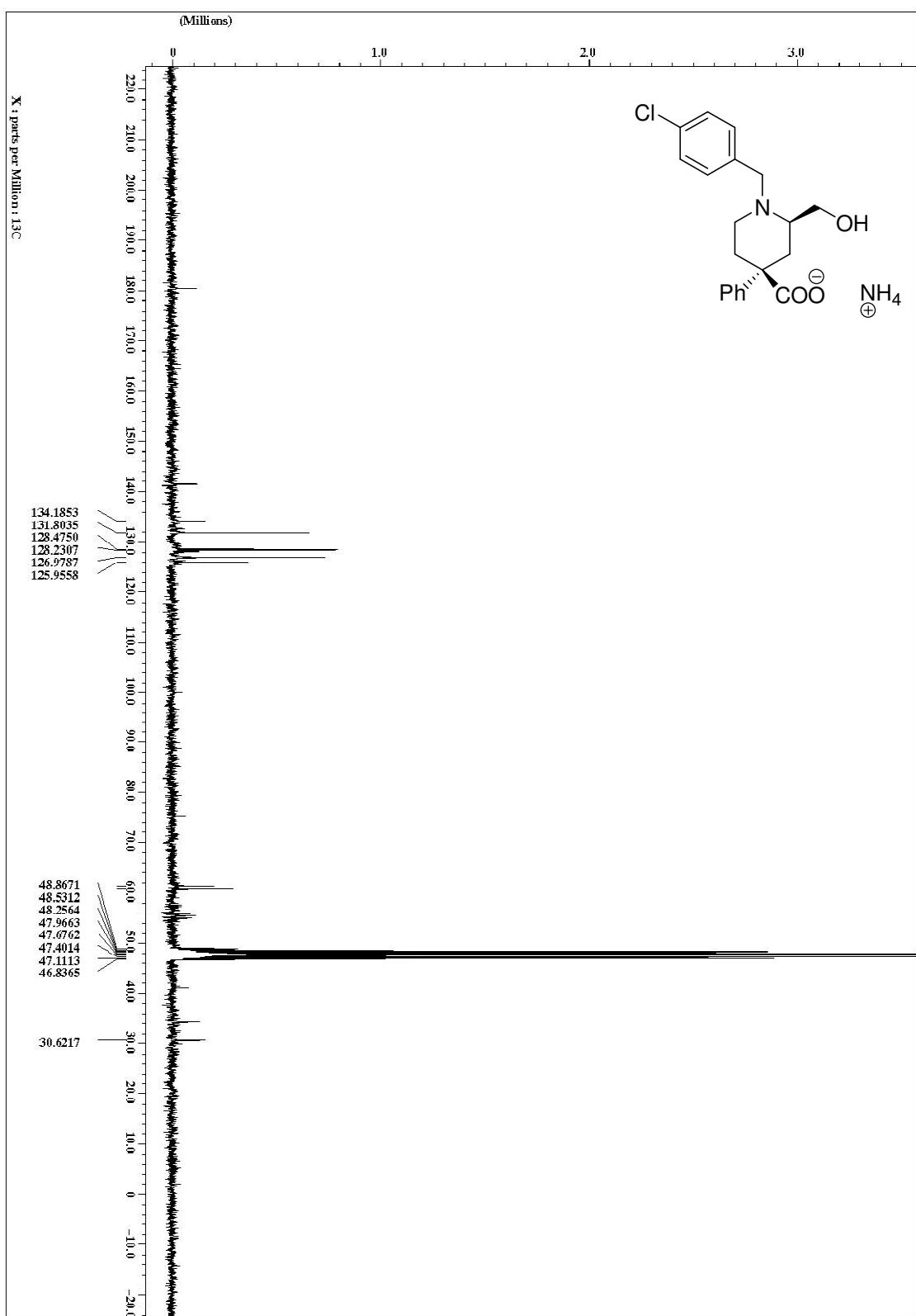
trans-1-(4-Chlorobenzyl)-2-chloromethyl-4-phenylpiperidine-4-carbonitrile **11c**



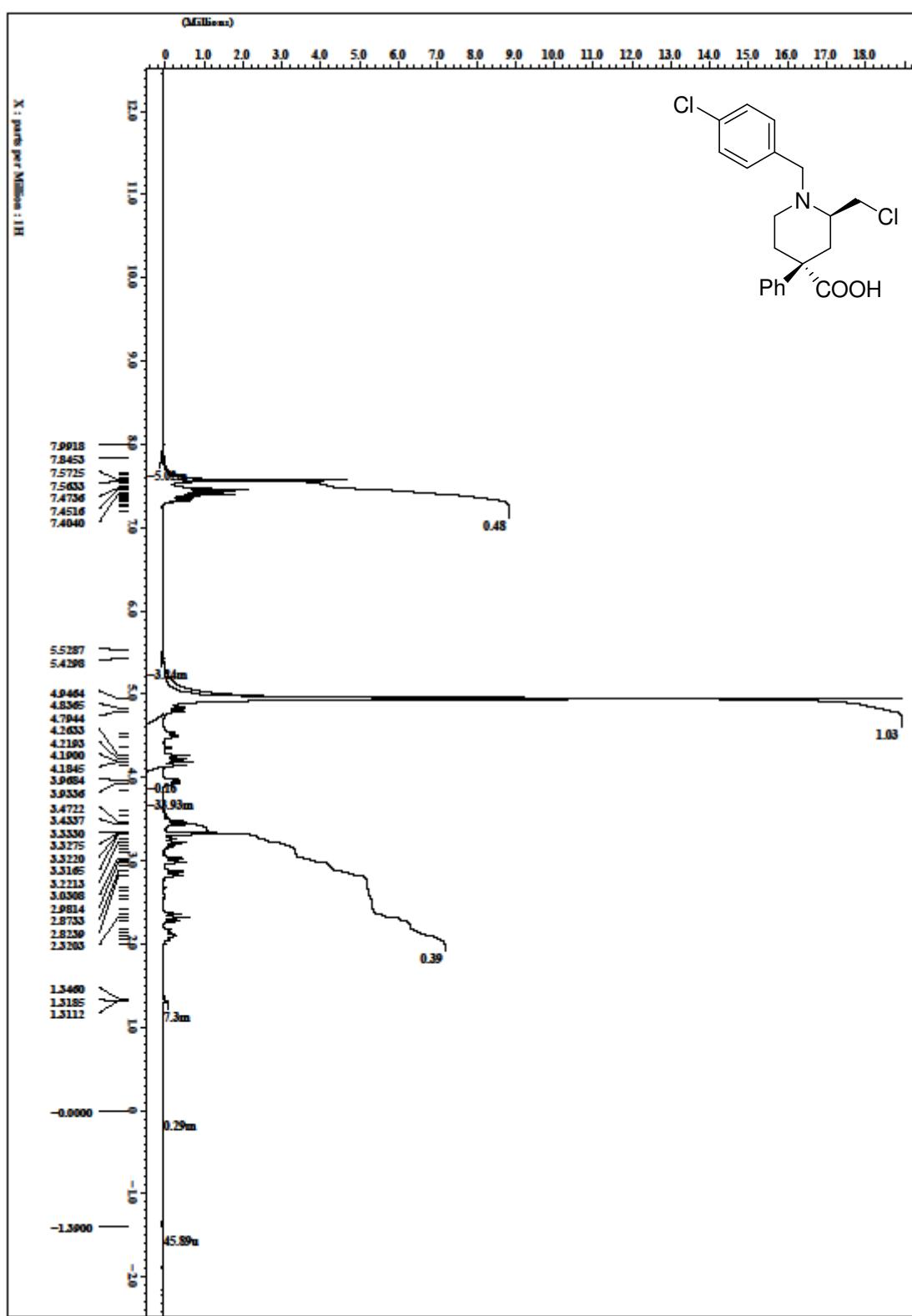


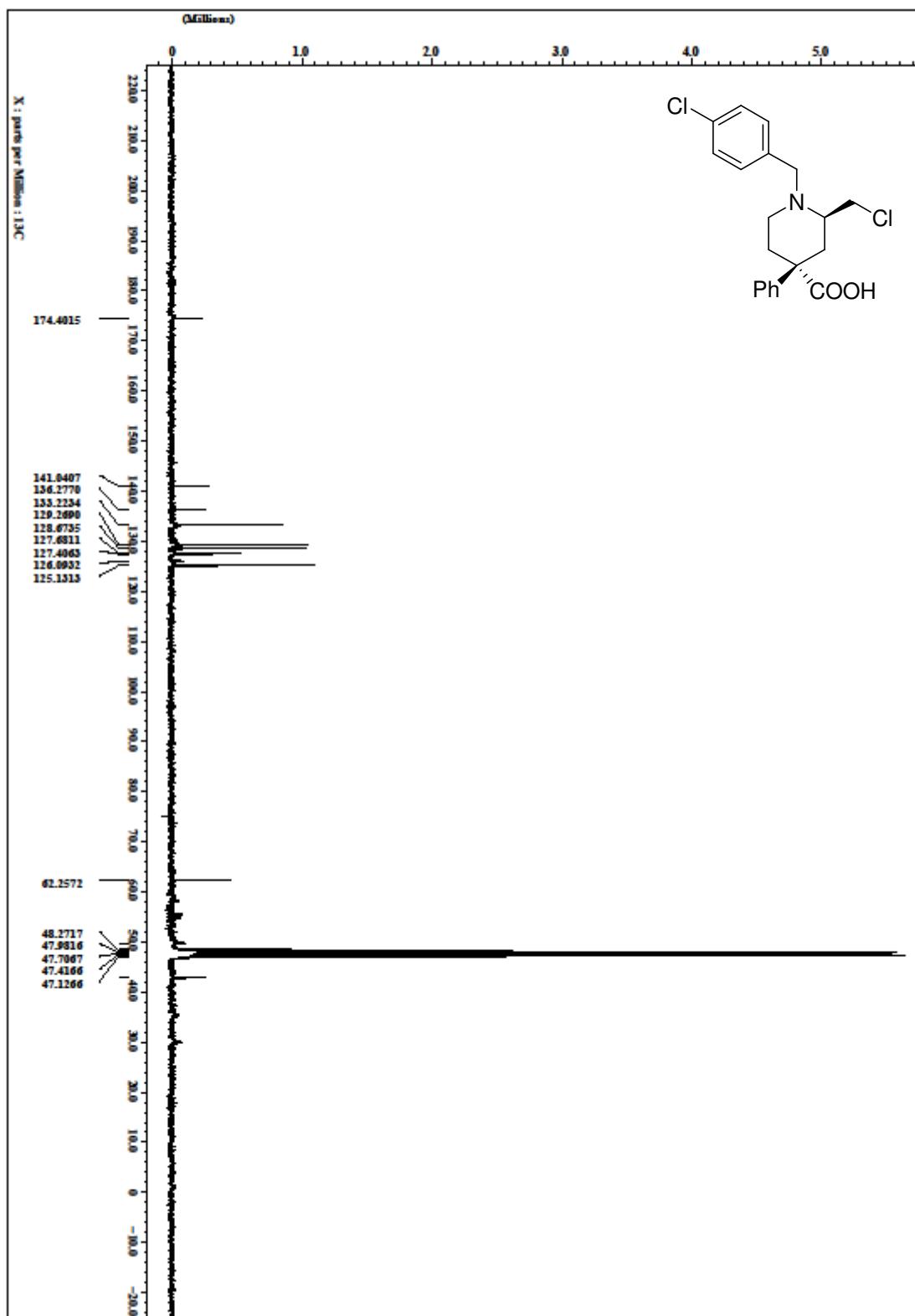
Ammonium *cis*-1-(4-chlorobenzyl)-2-hydroxymethyl-4-phenylpiperidine-4-carboxylate
14



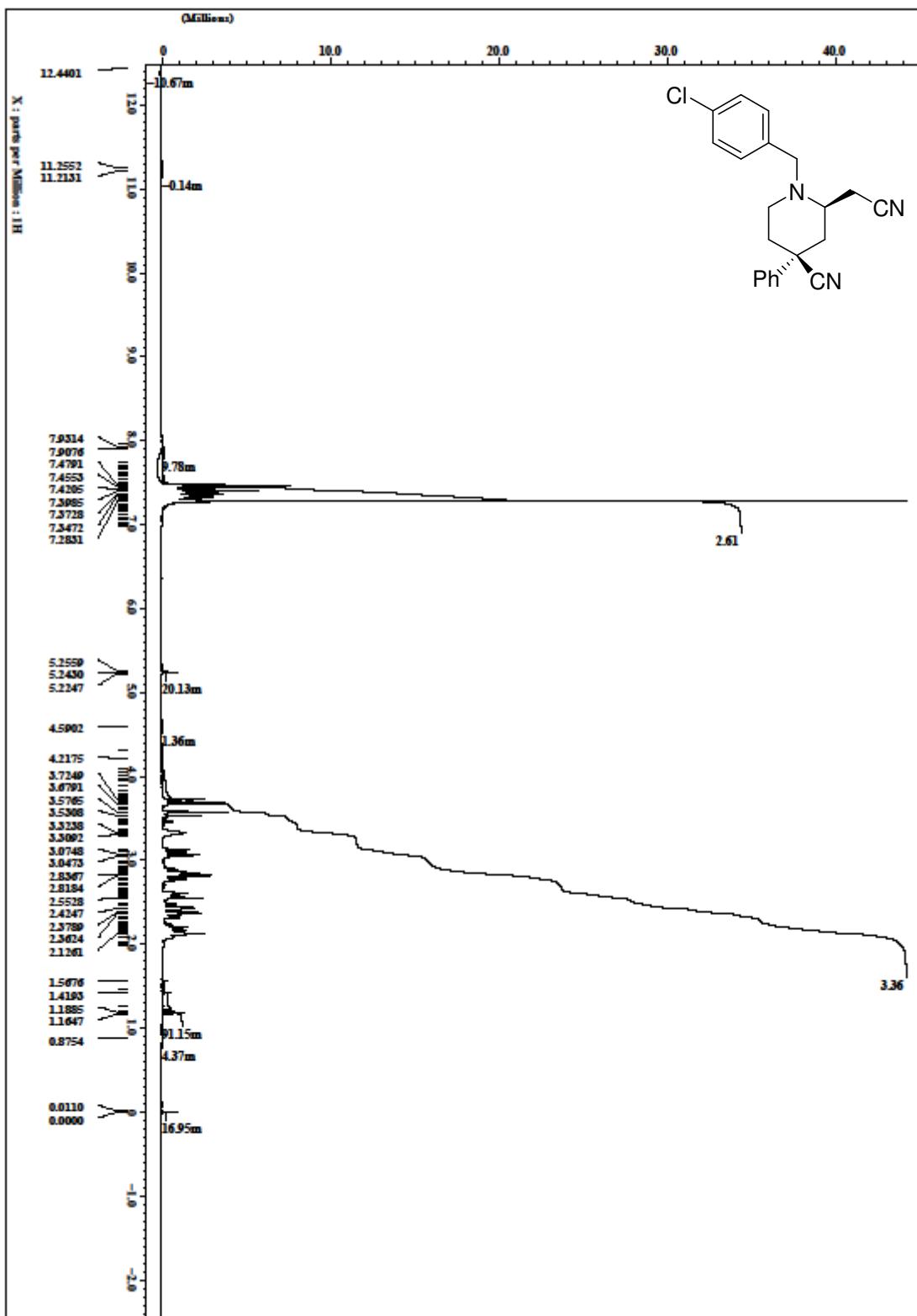


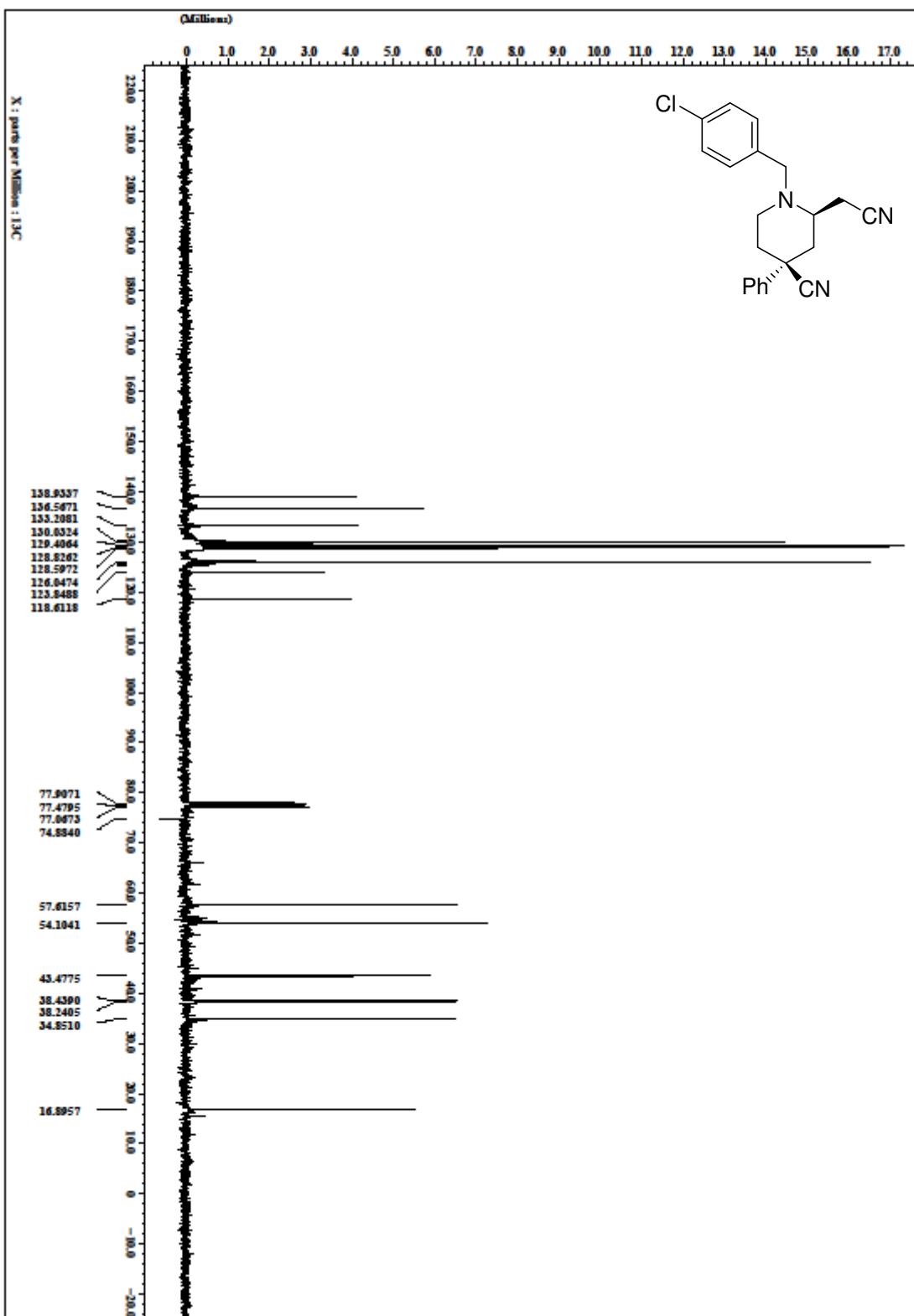
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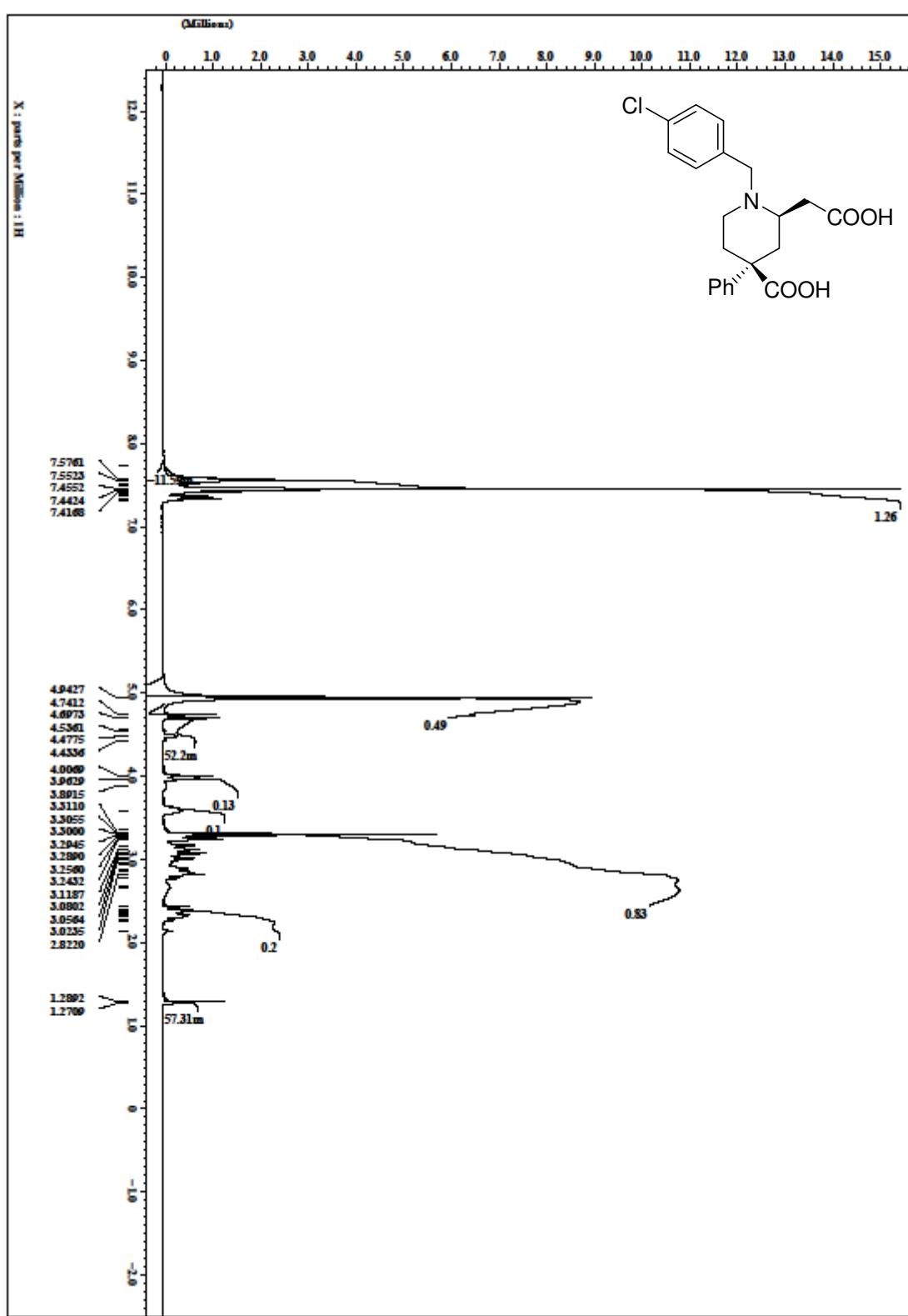


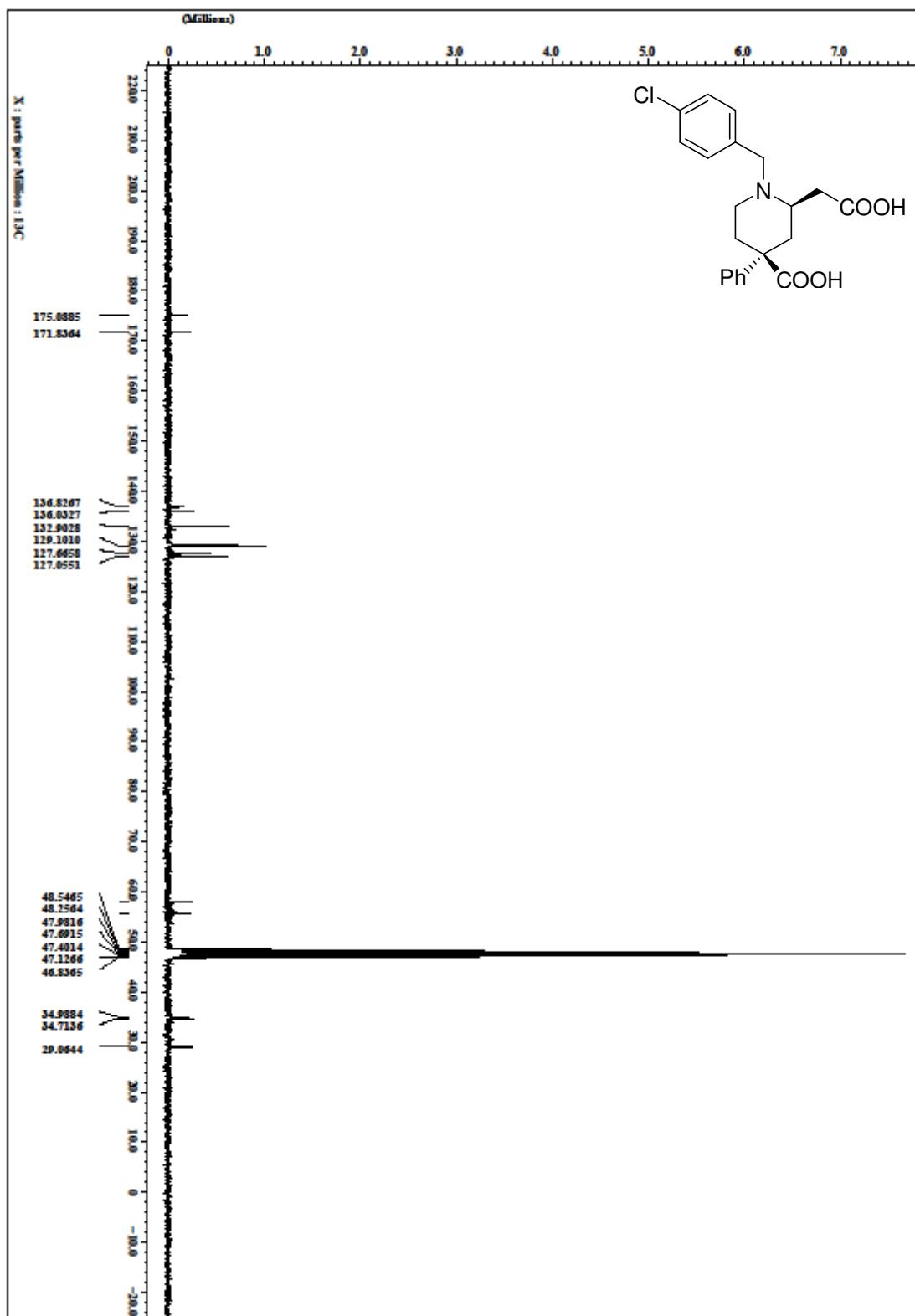
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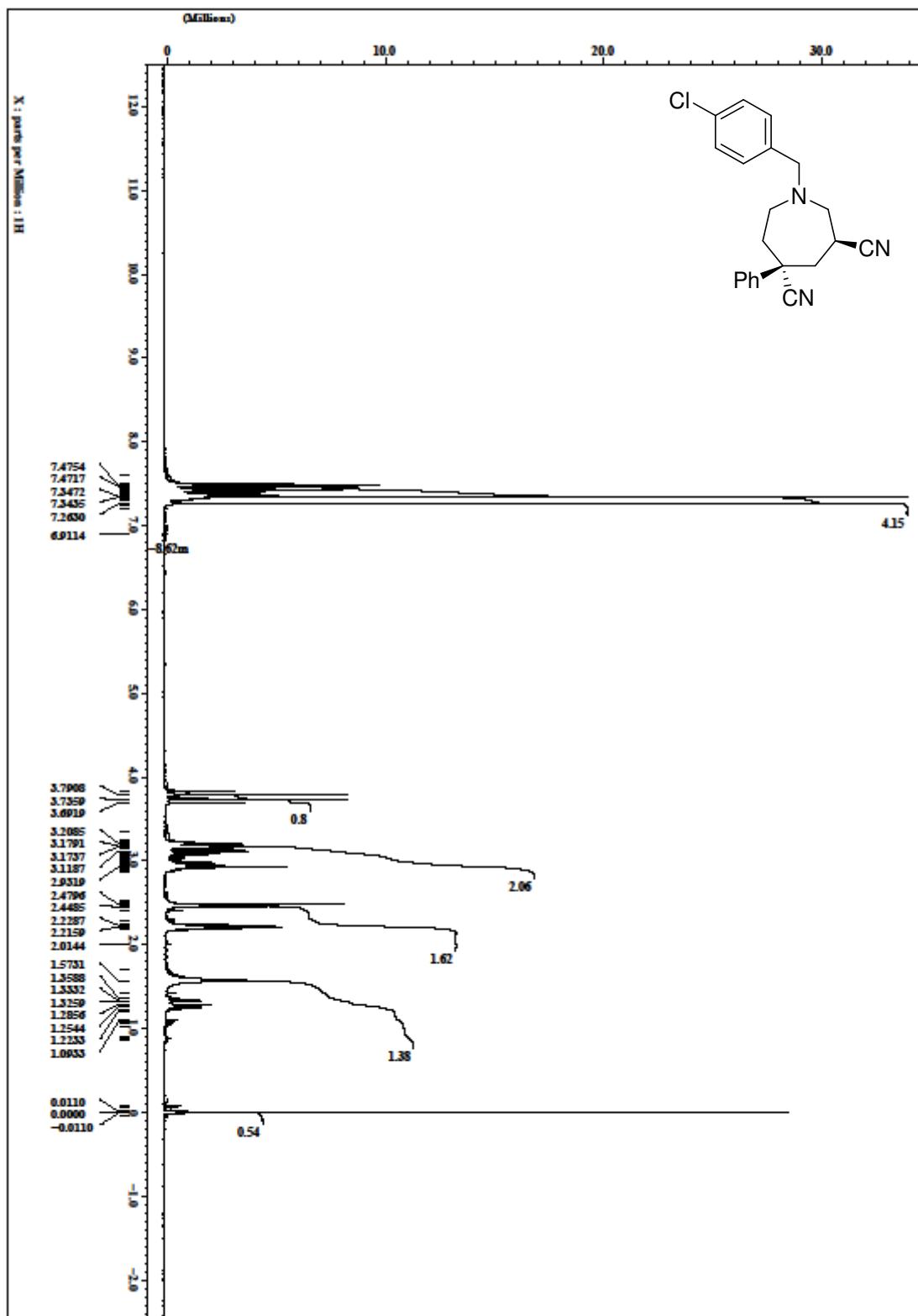


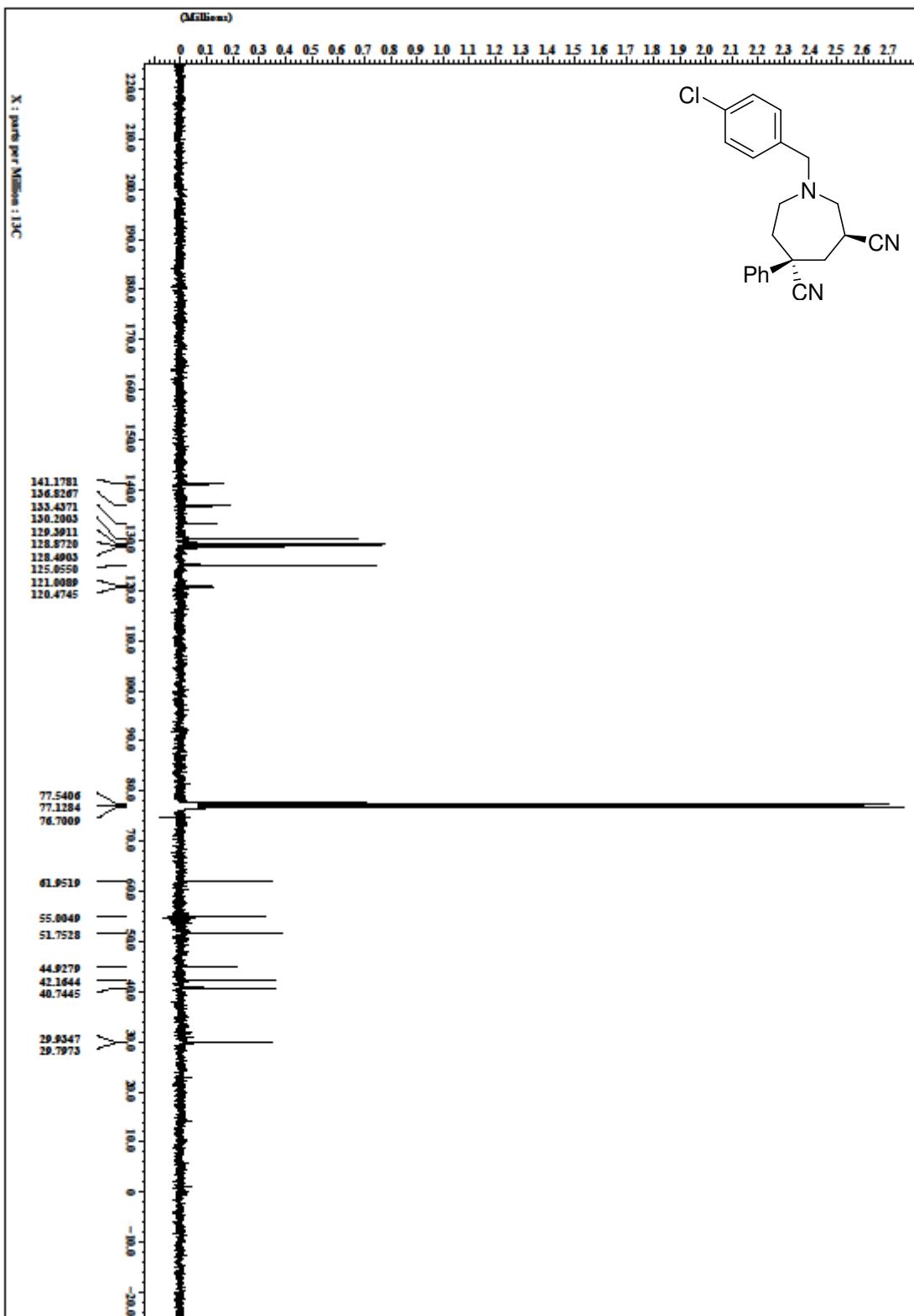
cis-2-Carboxymethyl-1-(4-chlorobenzyl)-4-phenylpiperidine-4-carboxylic acid 17



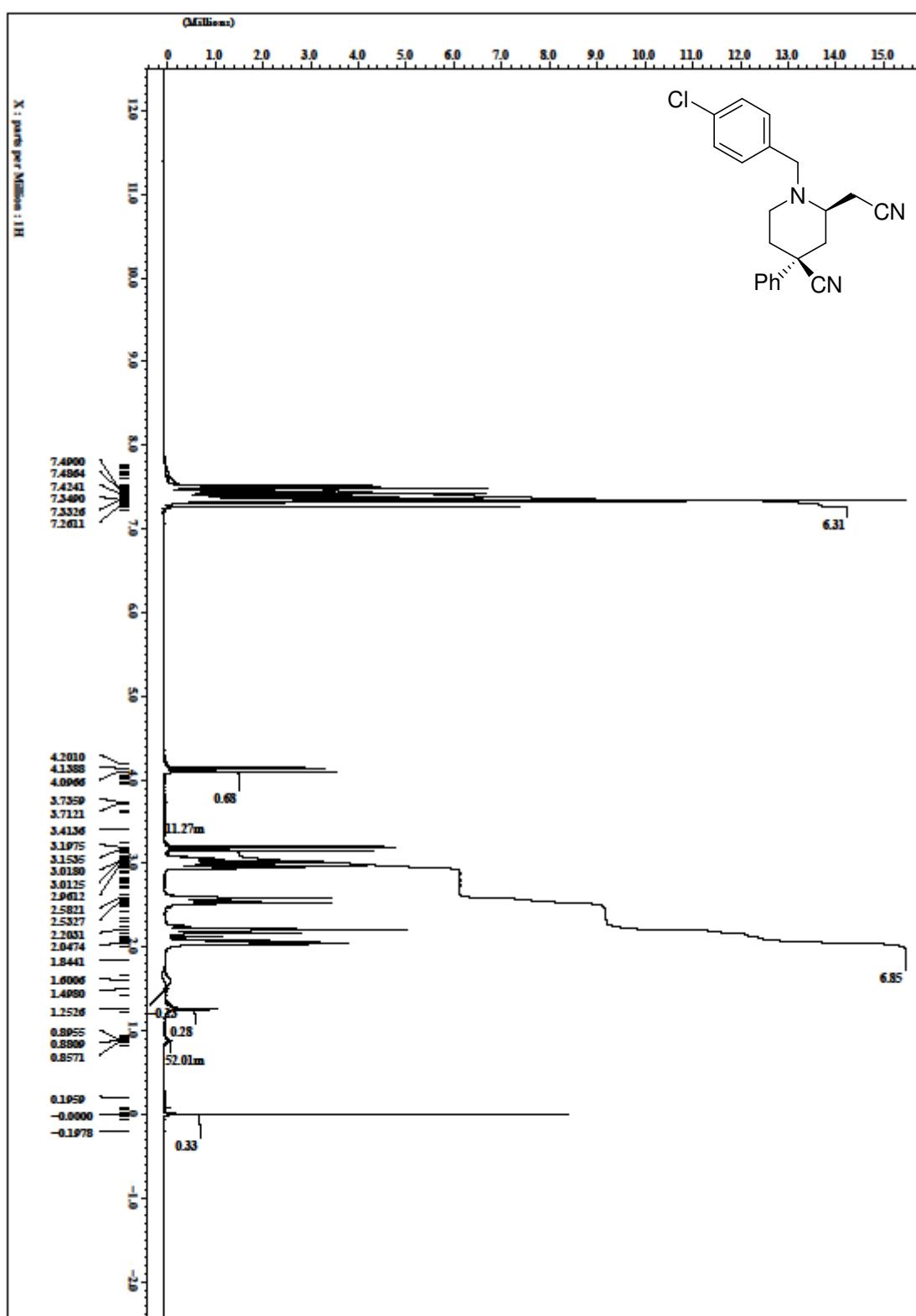


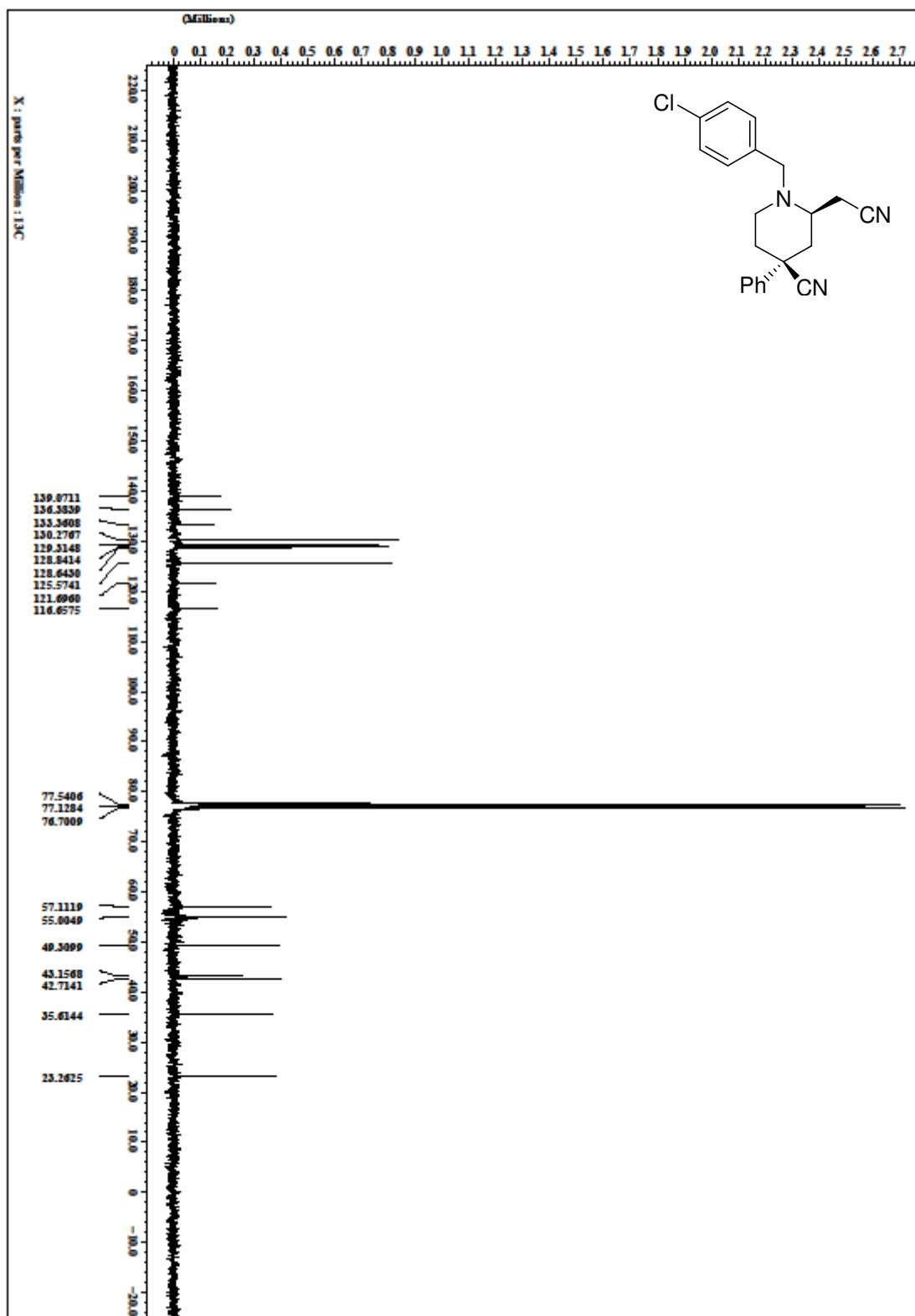
trans-1-(4-Chlorobenzyl)-5-phenylazepane-3,5-dicarbonitrile 18



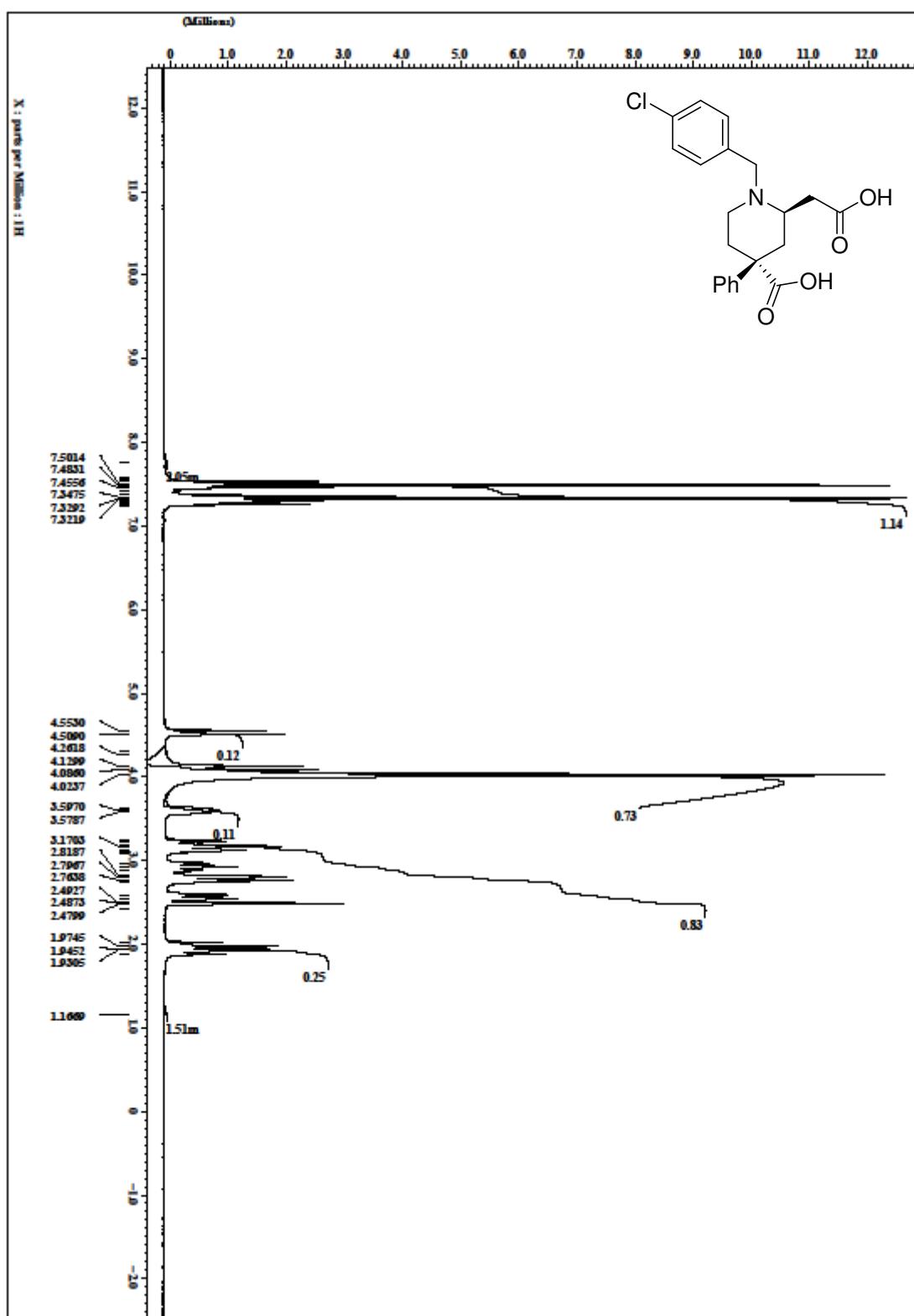


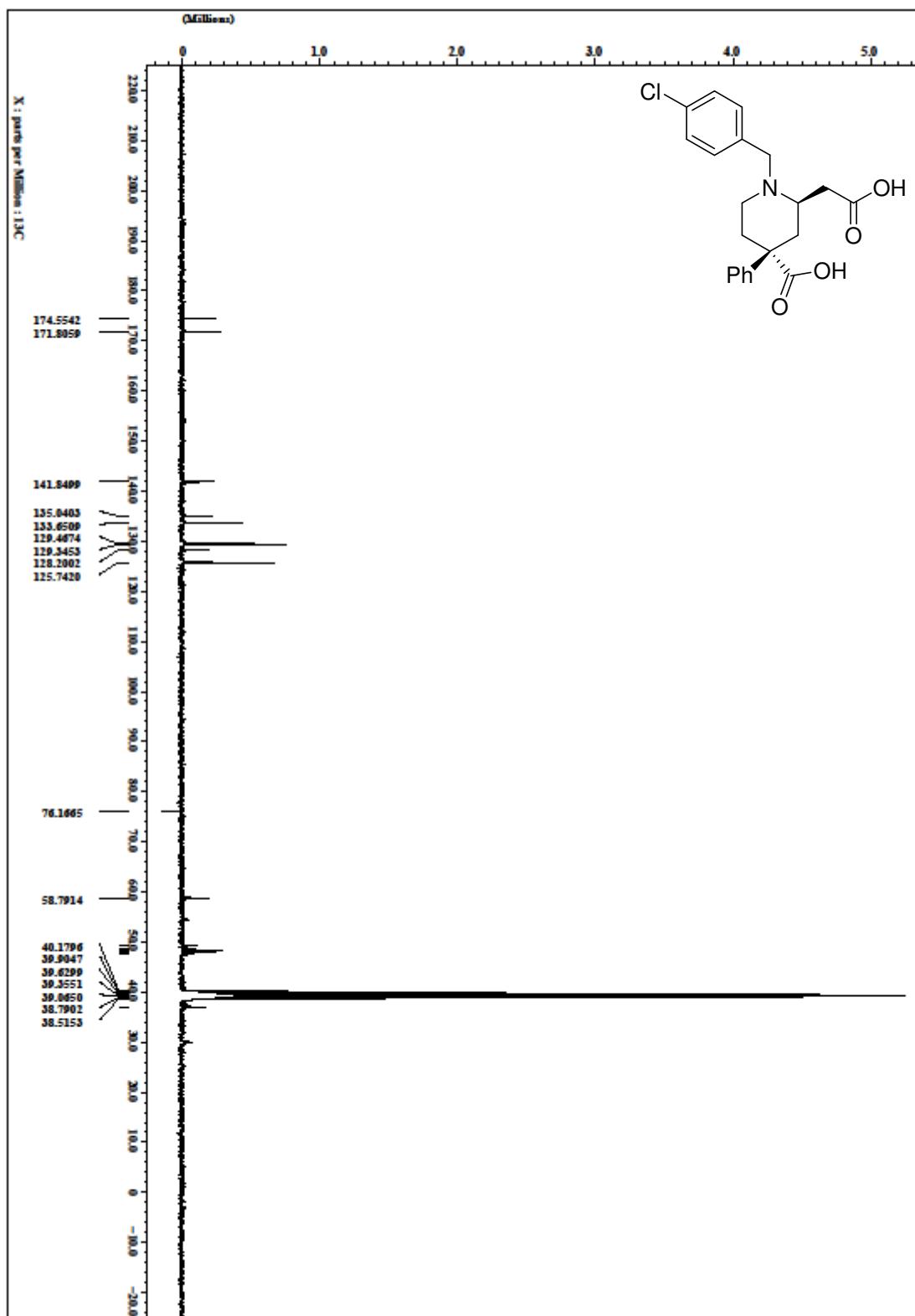
trans-1-(4-Chlorobenzyl)-2-cyanomethyl-4-phenylpiperidine-4-carbonitrile **19**



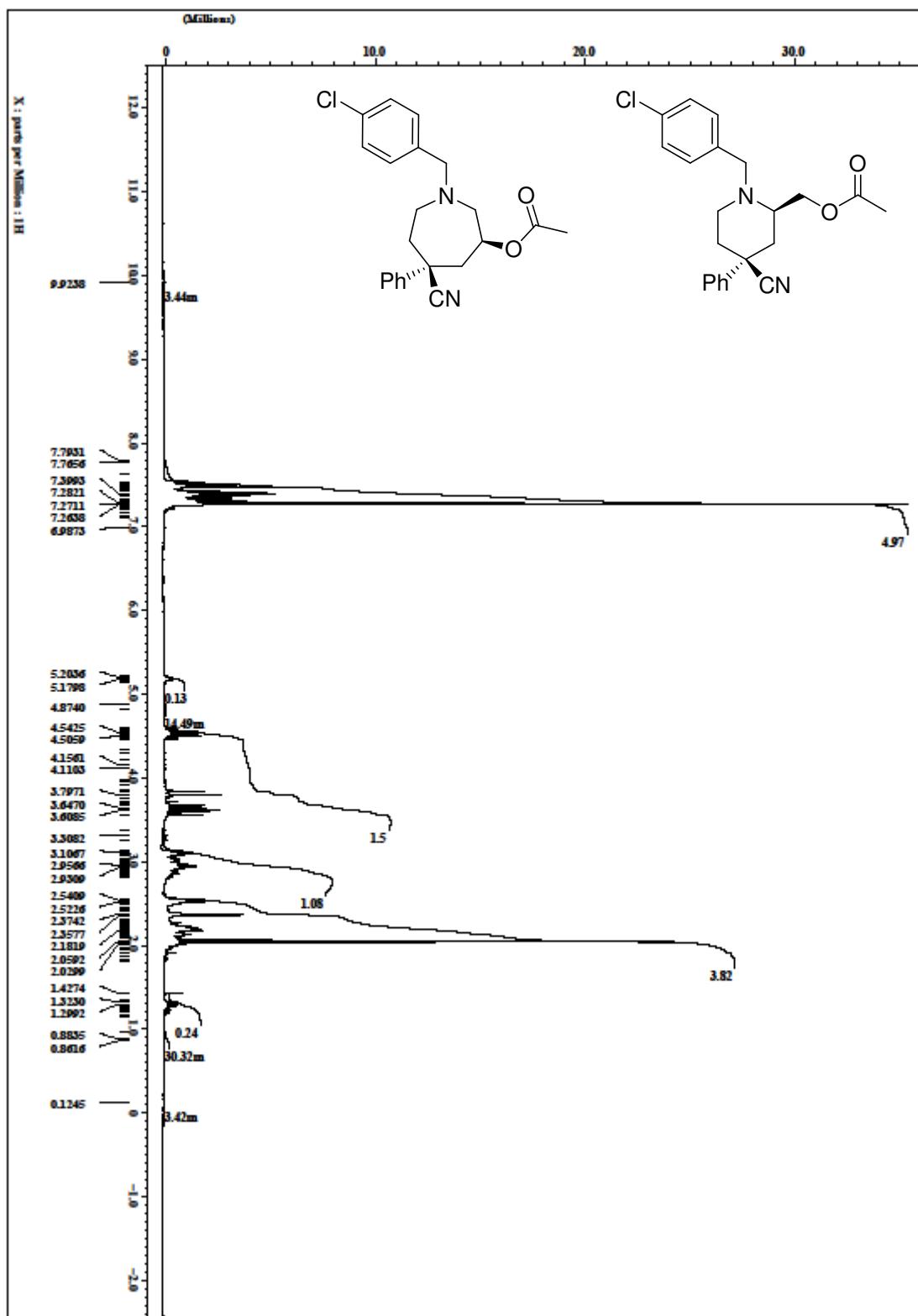


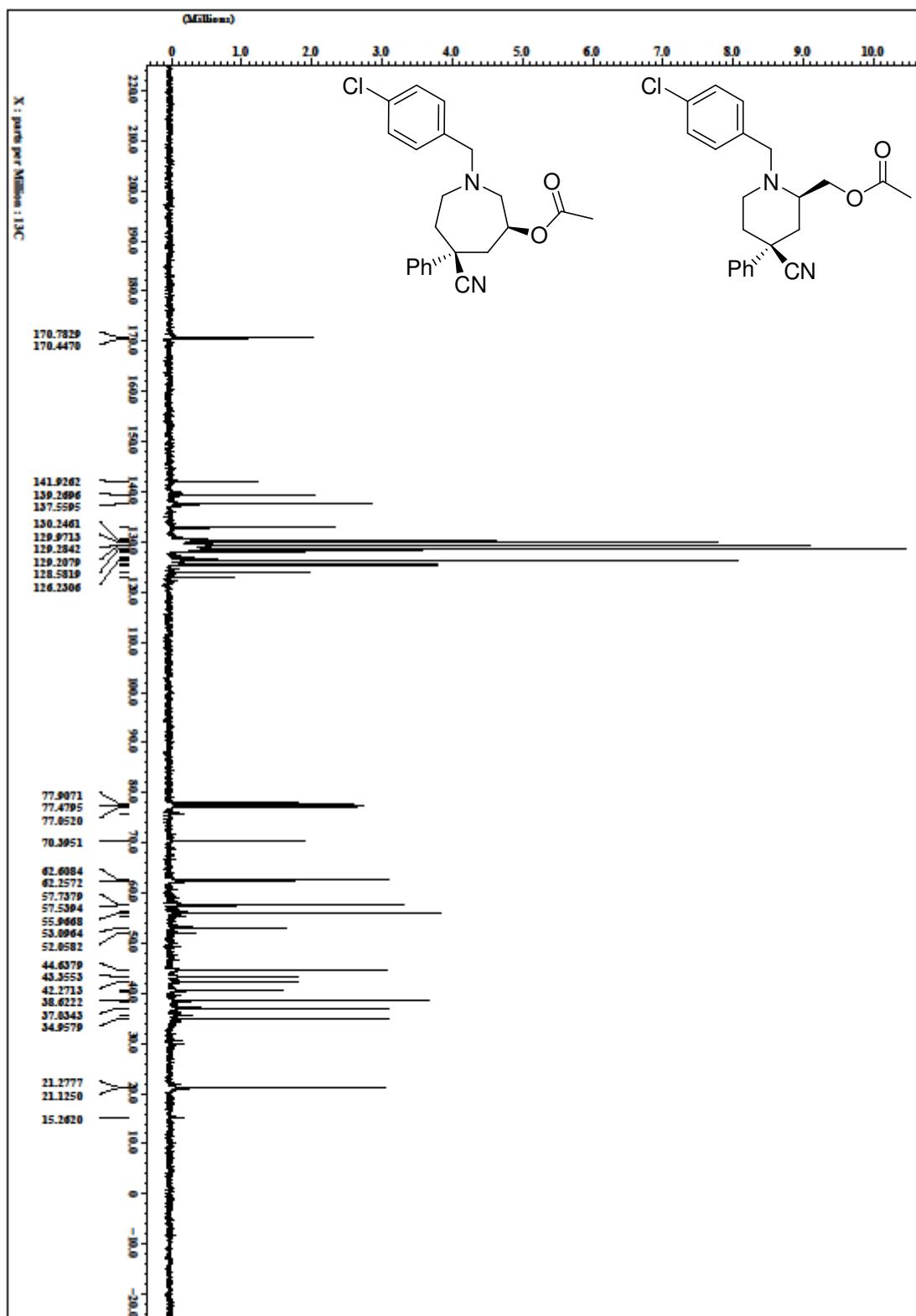
trans-2-Carboxymethyl-1-(4-chlorobenzyl)-4-phenylpiperidine-4-carboxylic acid 20



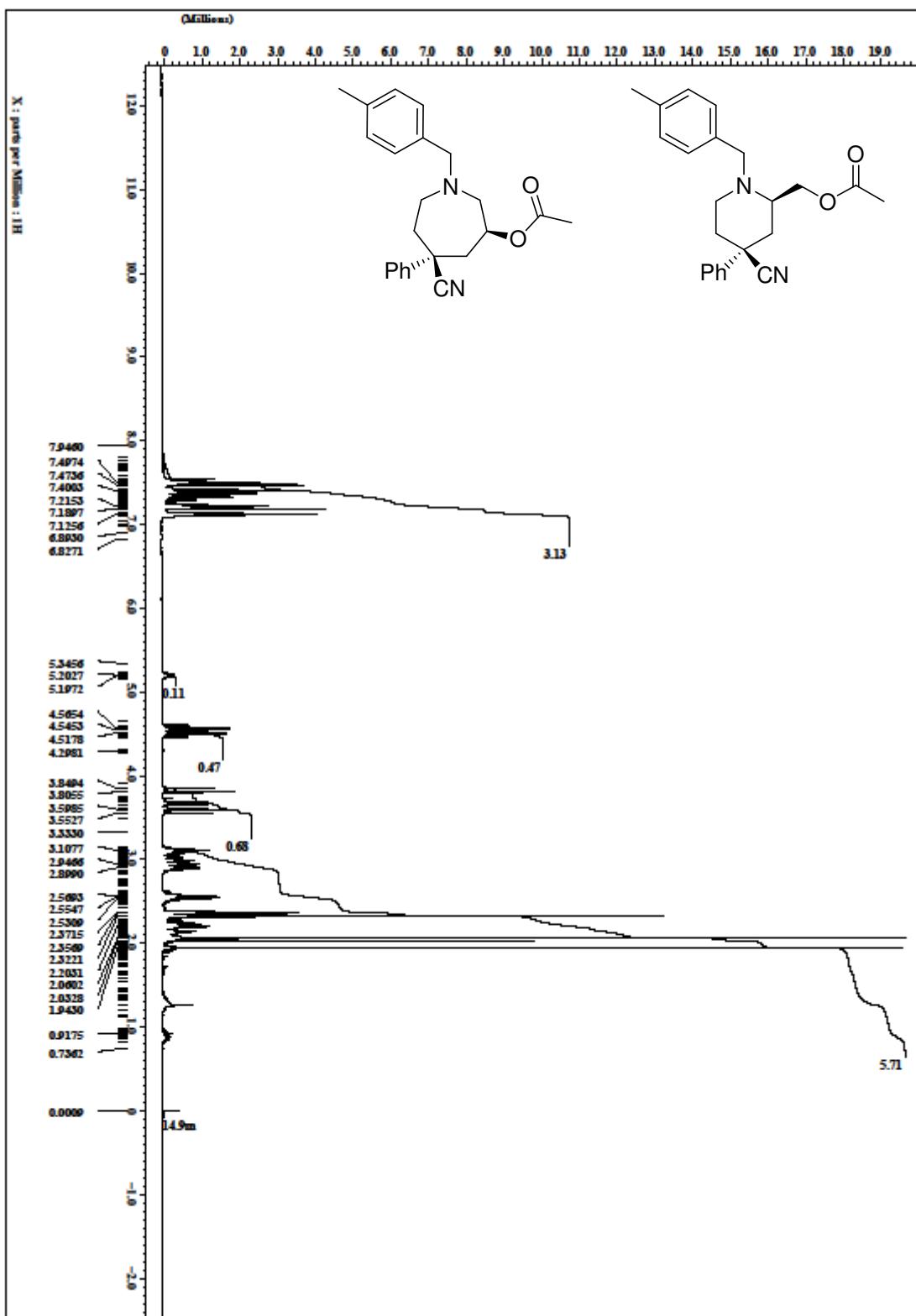


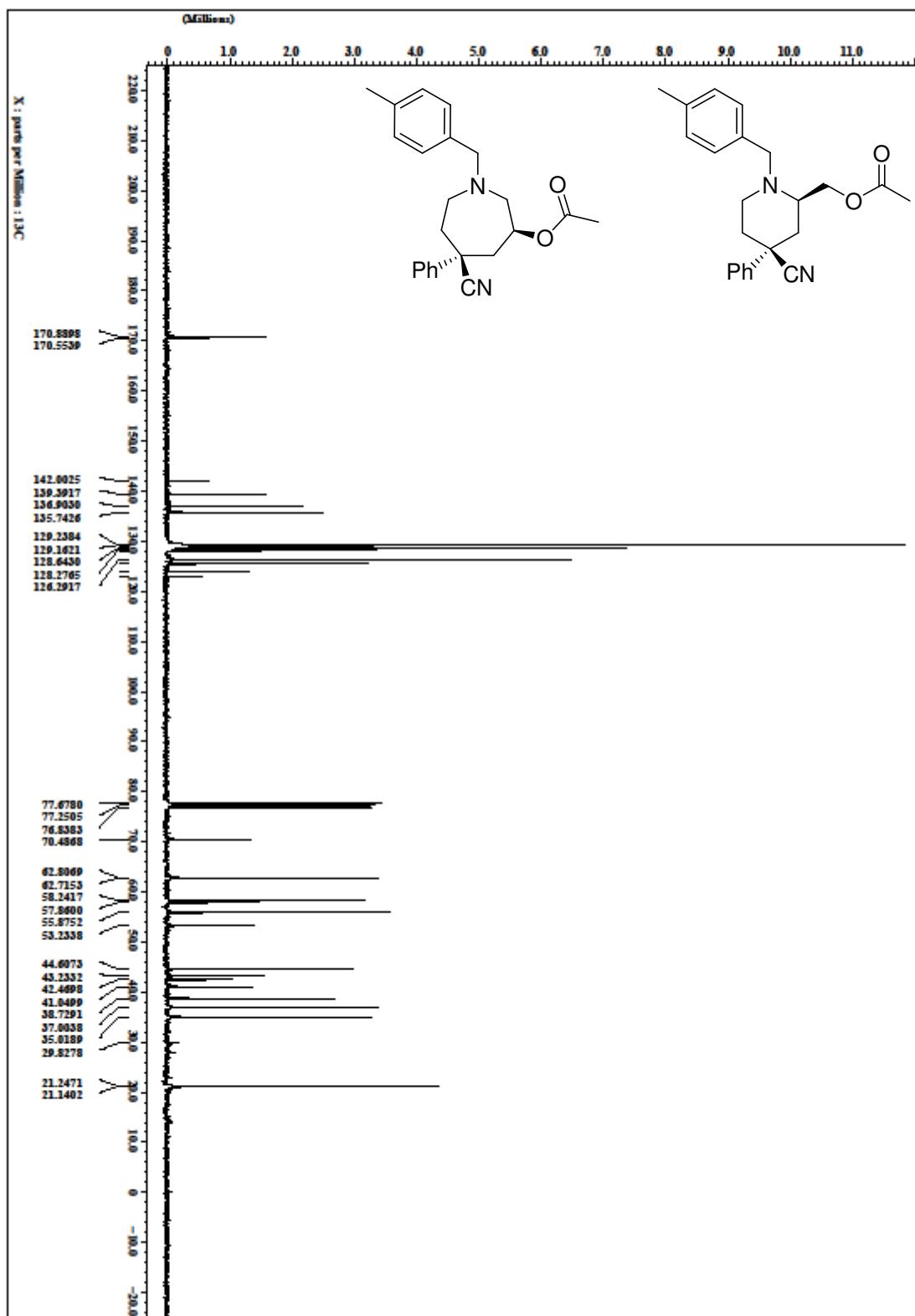
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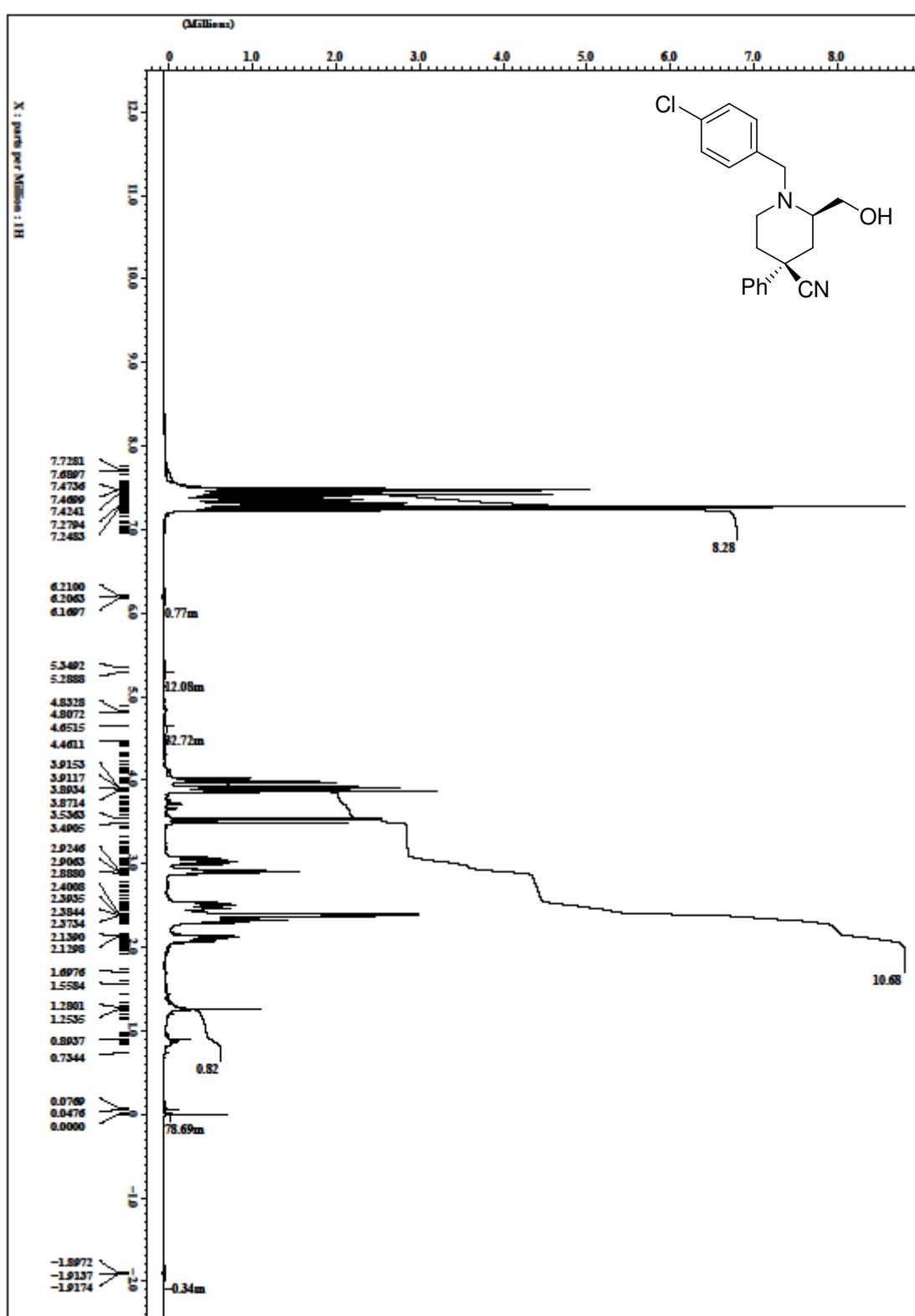


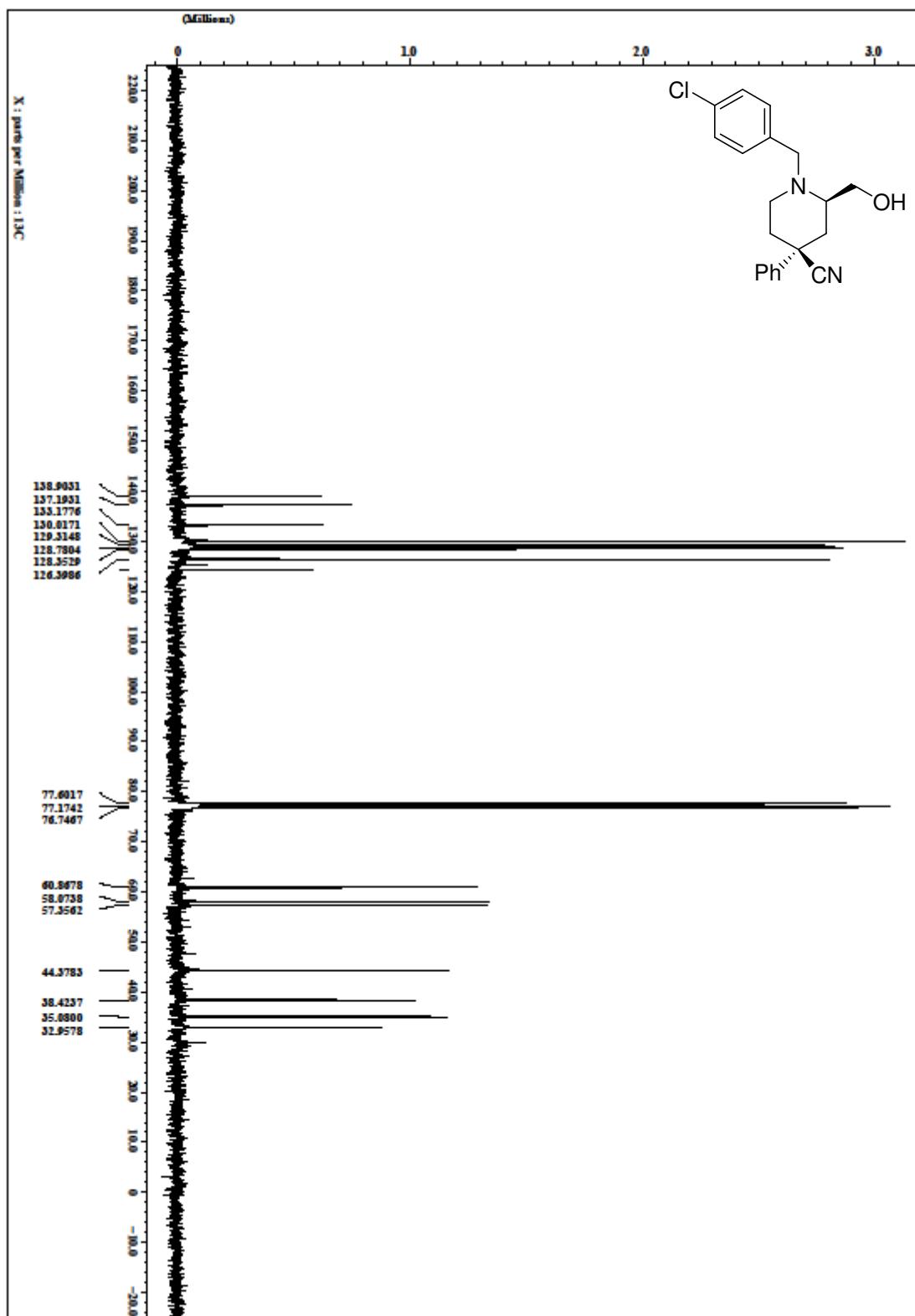
cis-6-Acetoxy-1-(4-methylbenzyl)-4-phenylazepane-4-carbonitrile 21a and *cis*-2-acetoxymethyl-1-(4-methylbenzyl)-4-phenylpiperidine-4-carbonitrile 22a



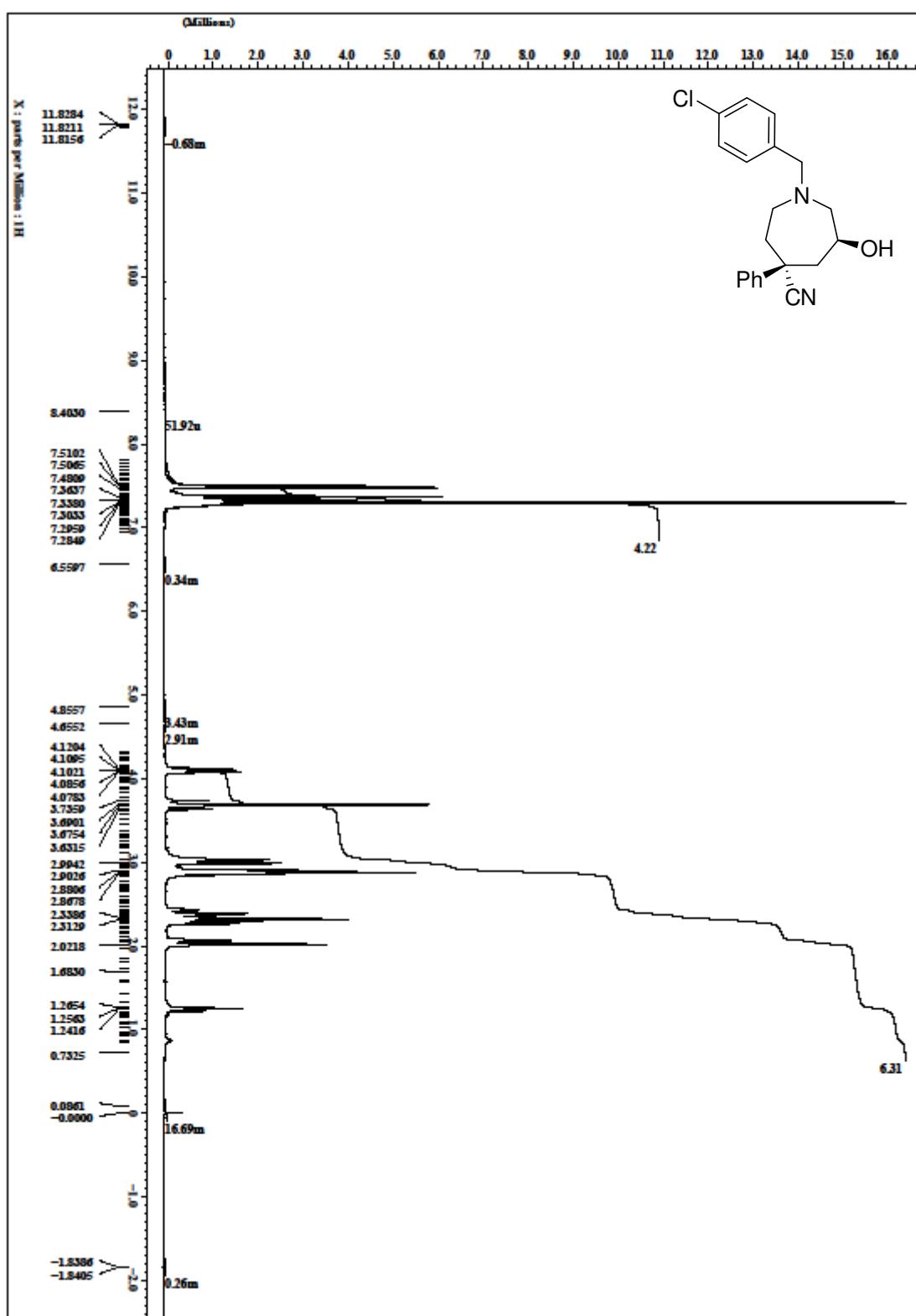


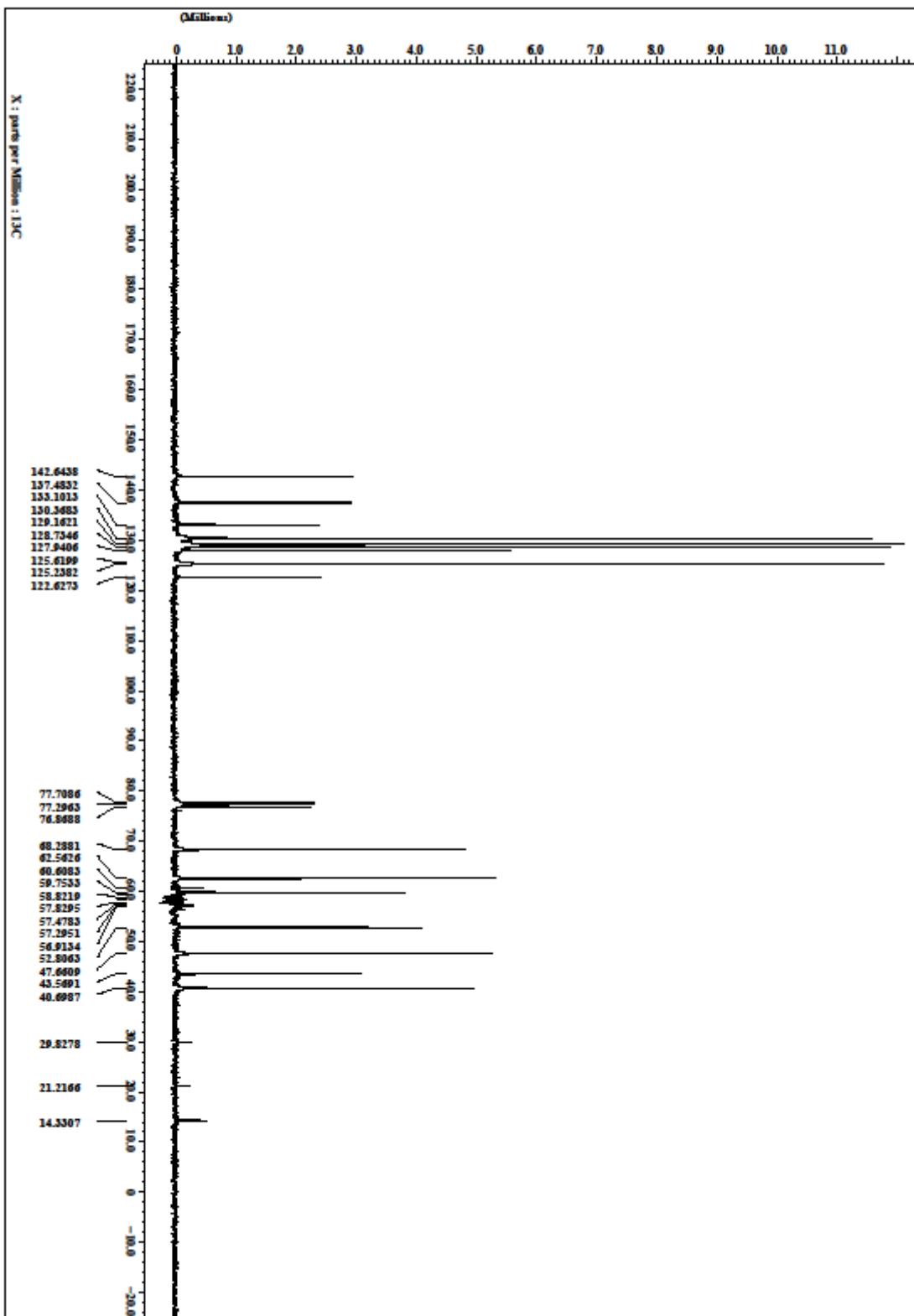
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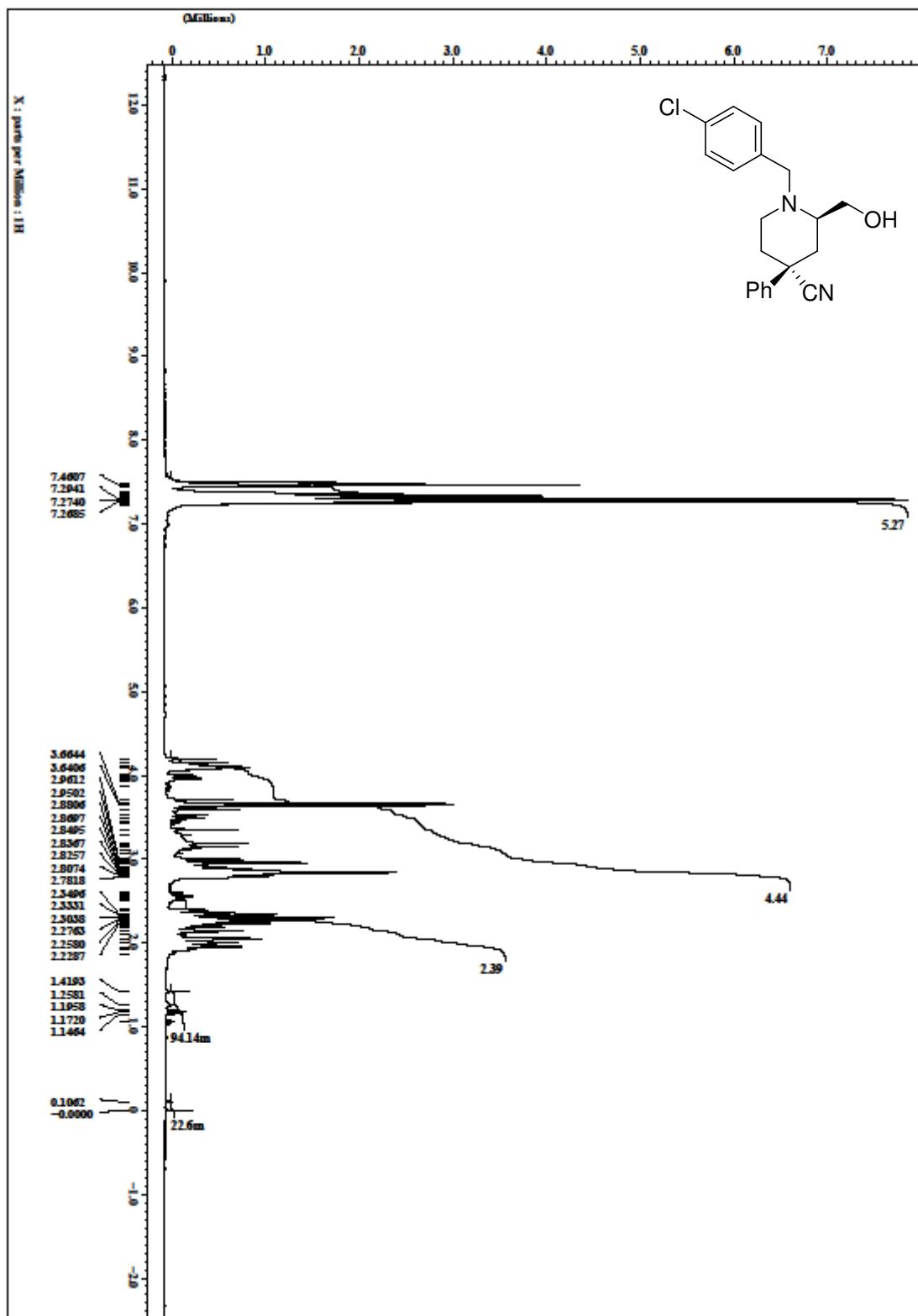


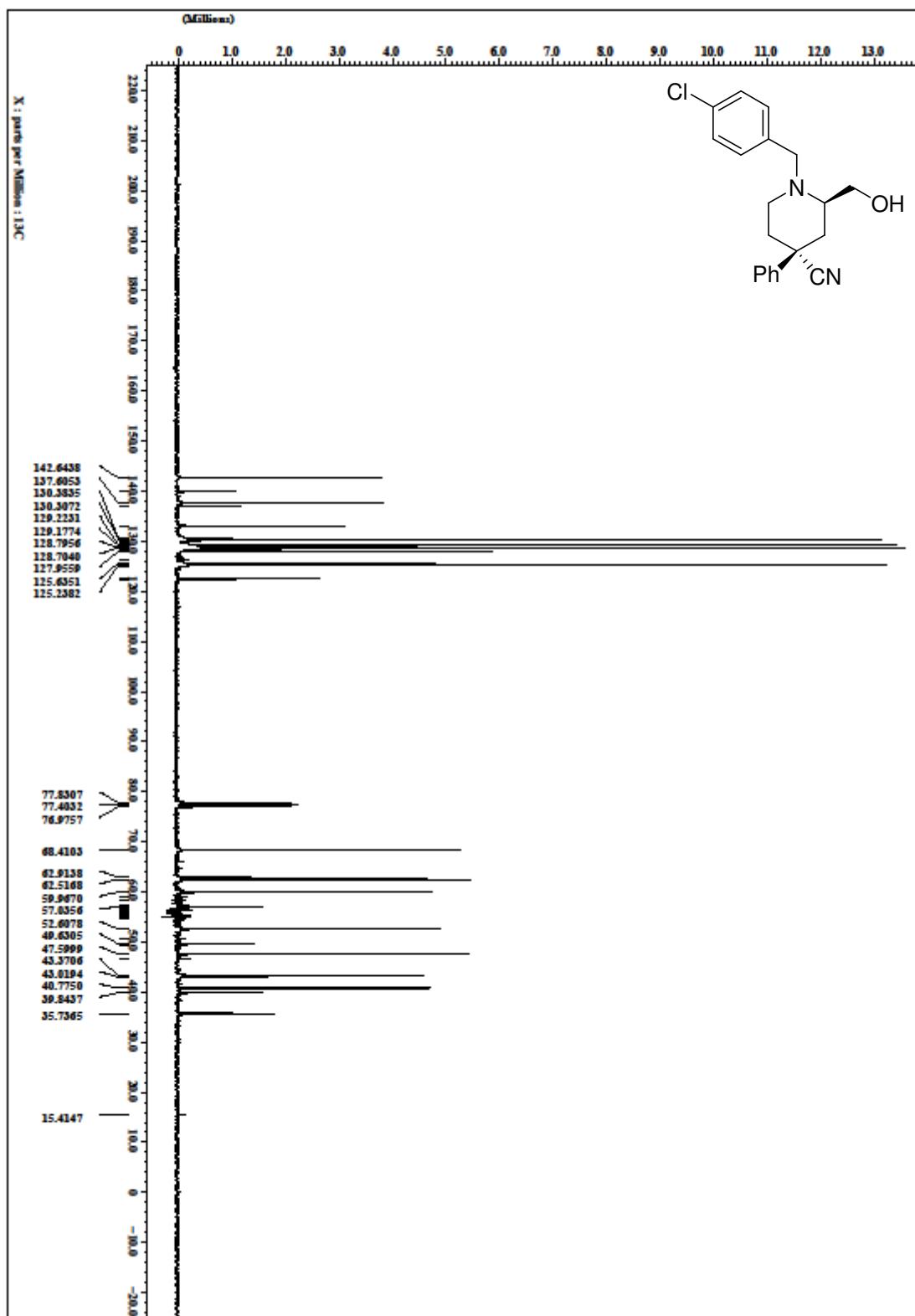
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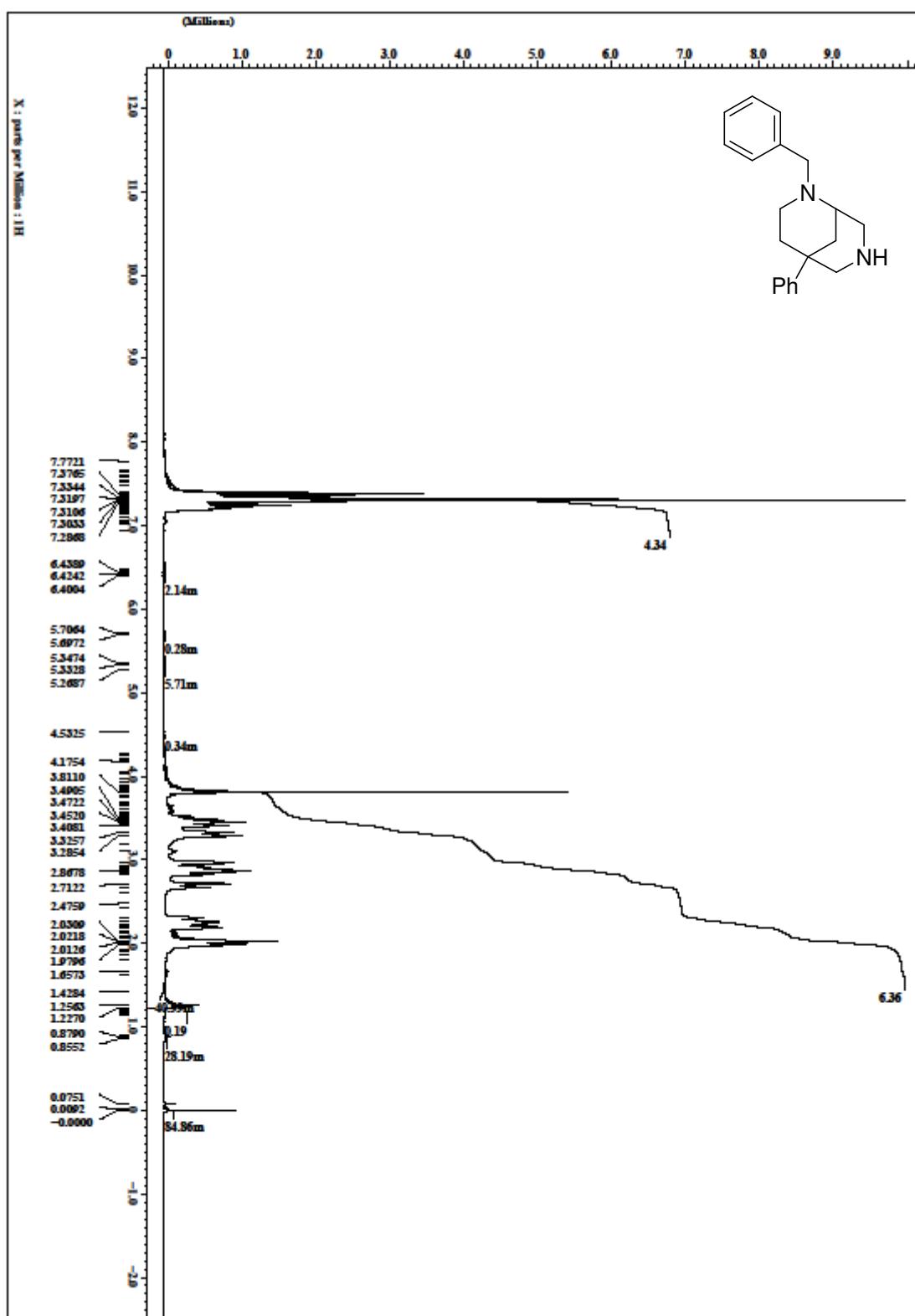


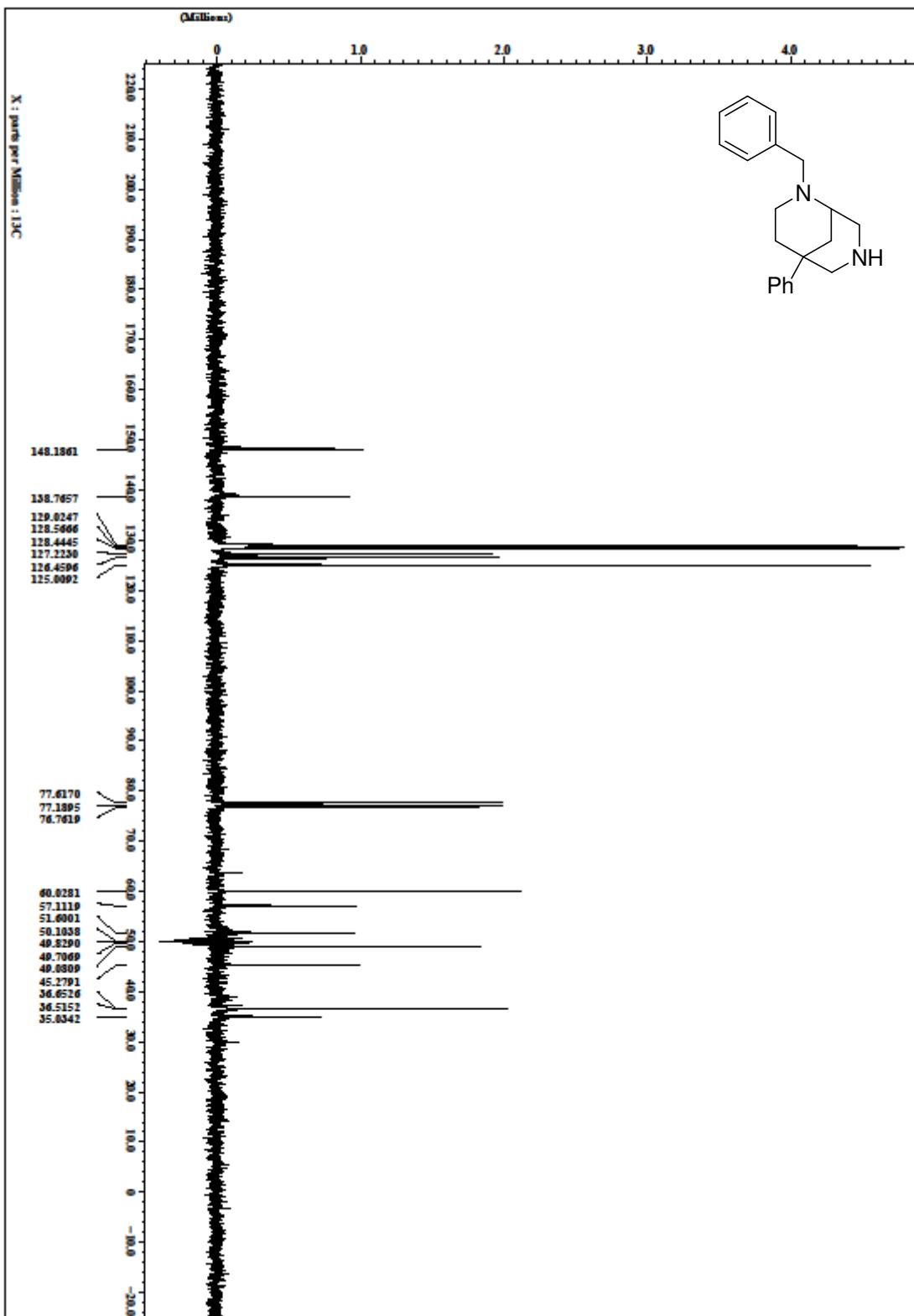
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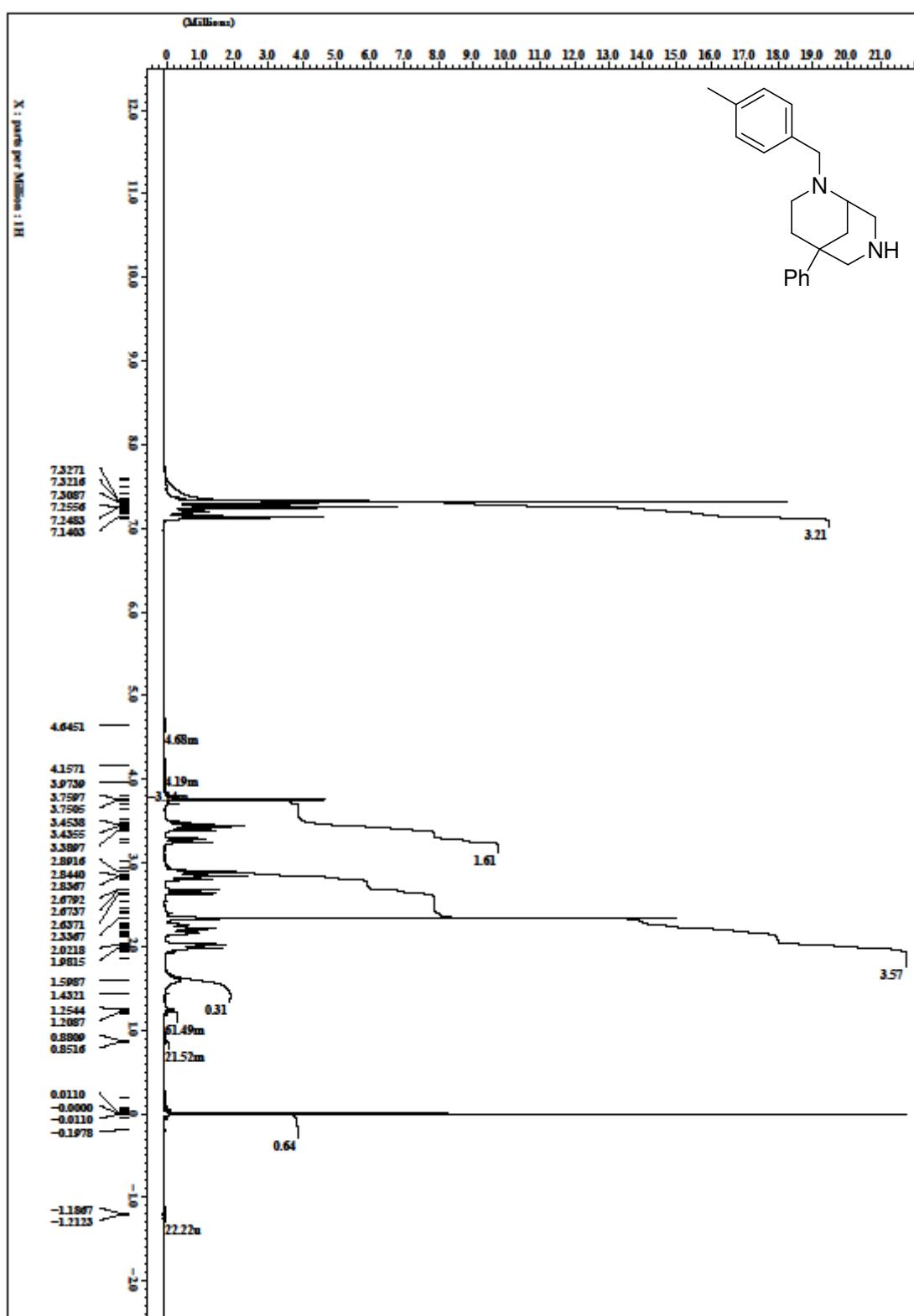


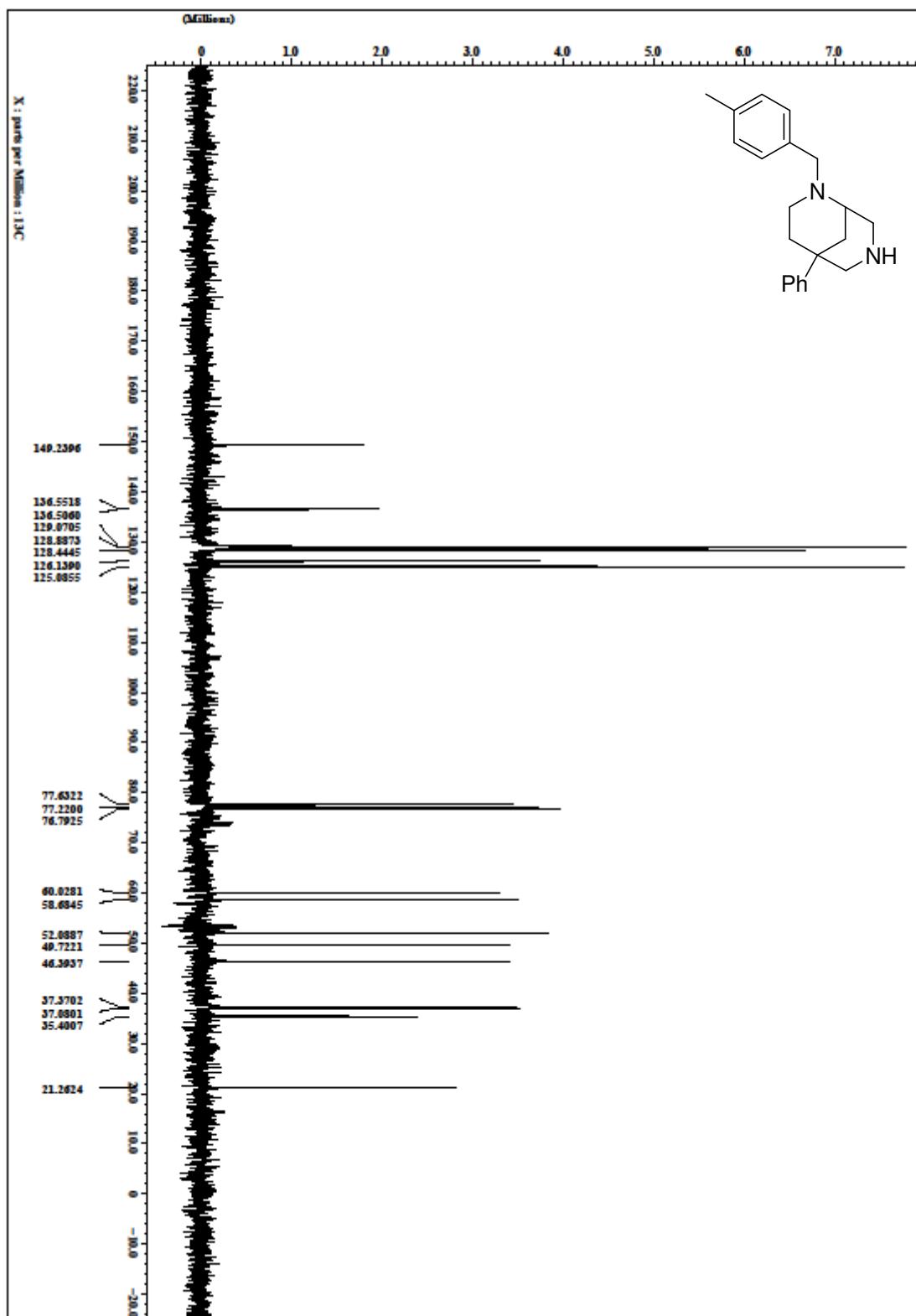
2-Benzyl-5-phenyl-2,7-diazabicyclo[3.3.1]nonane 29a



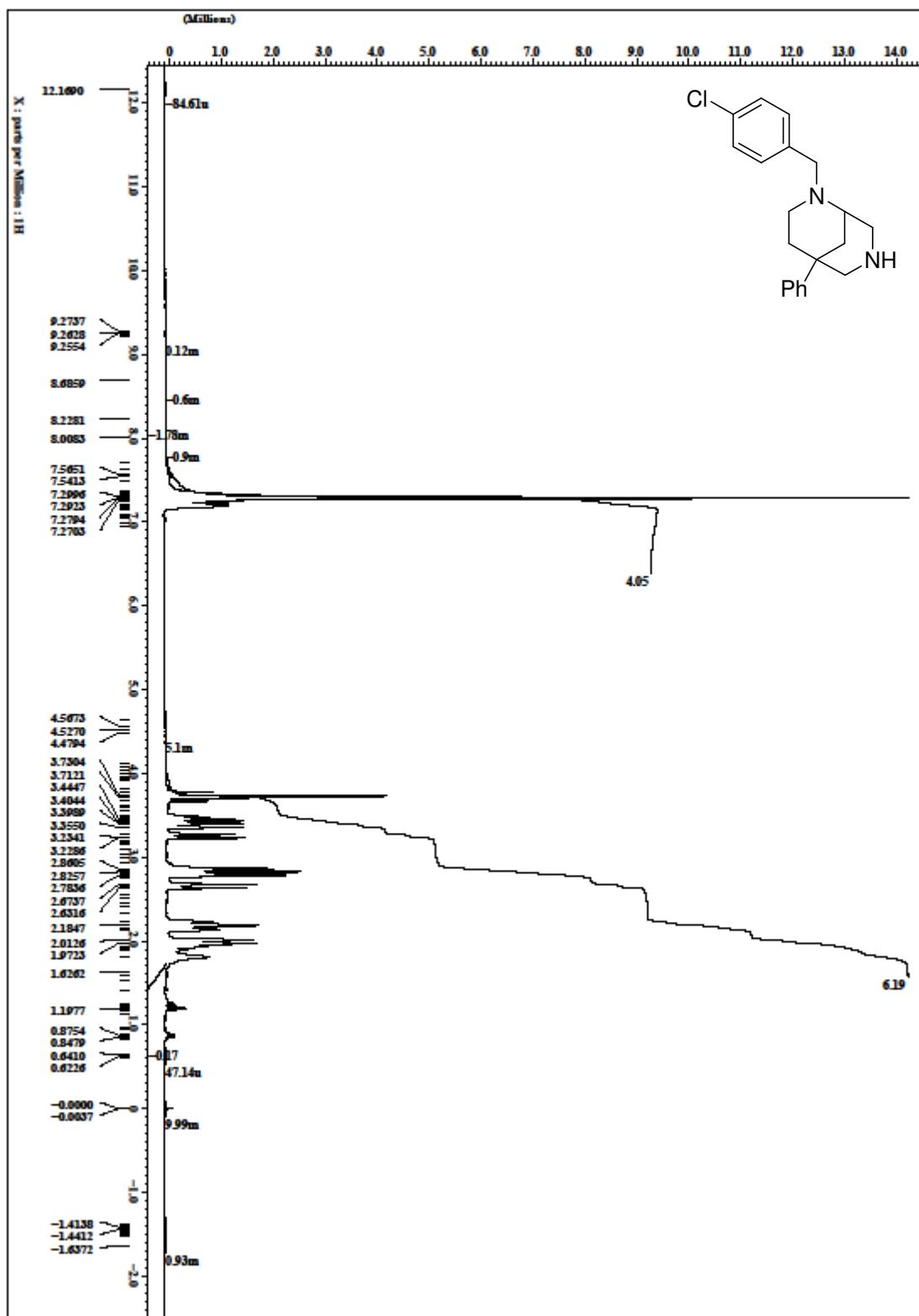


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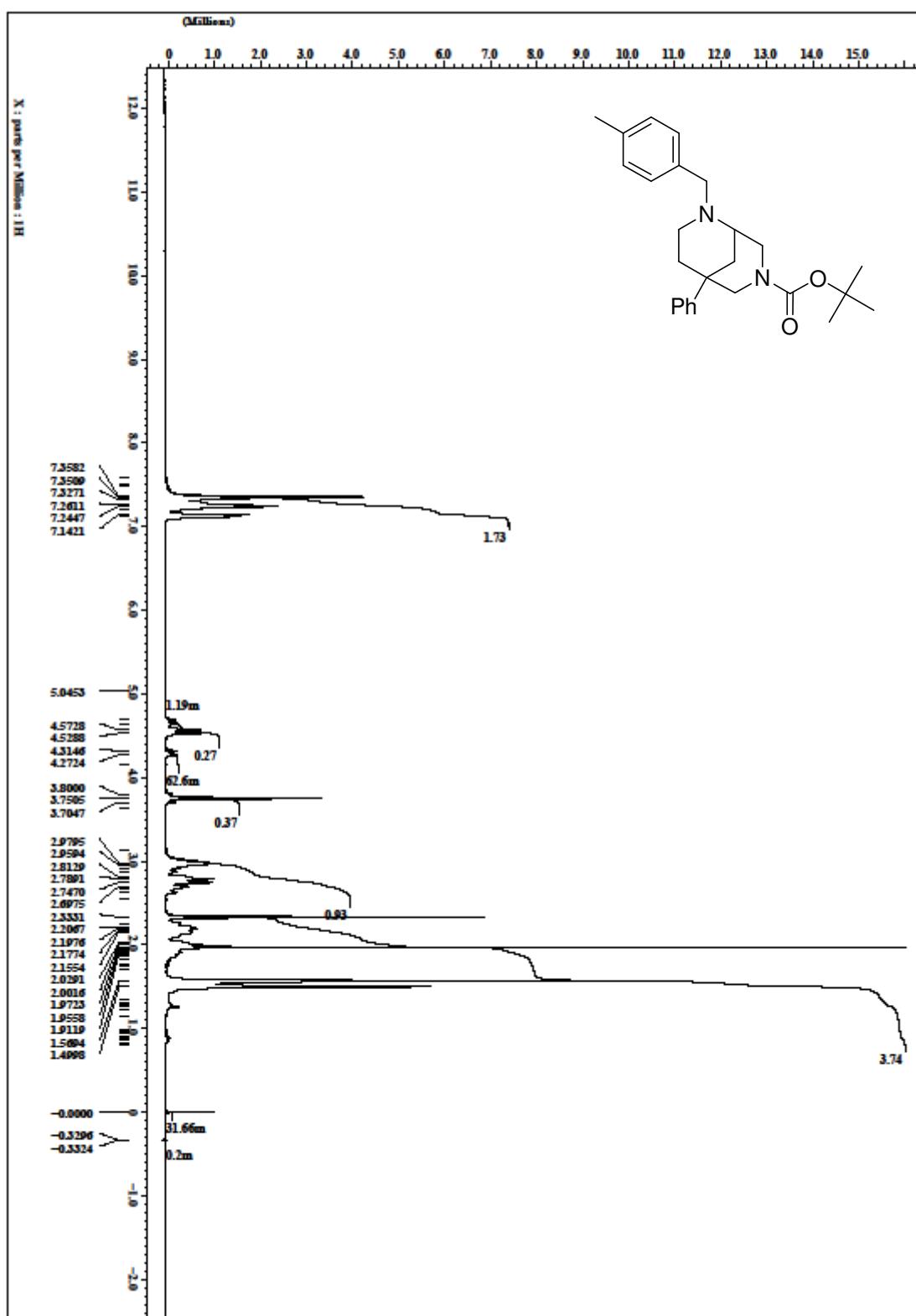


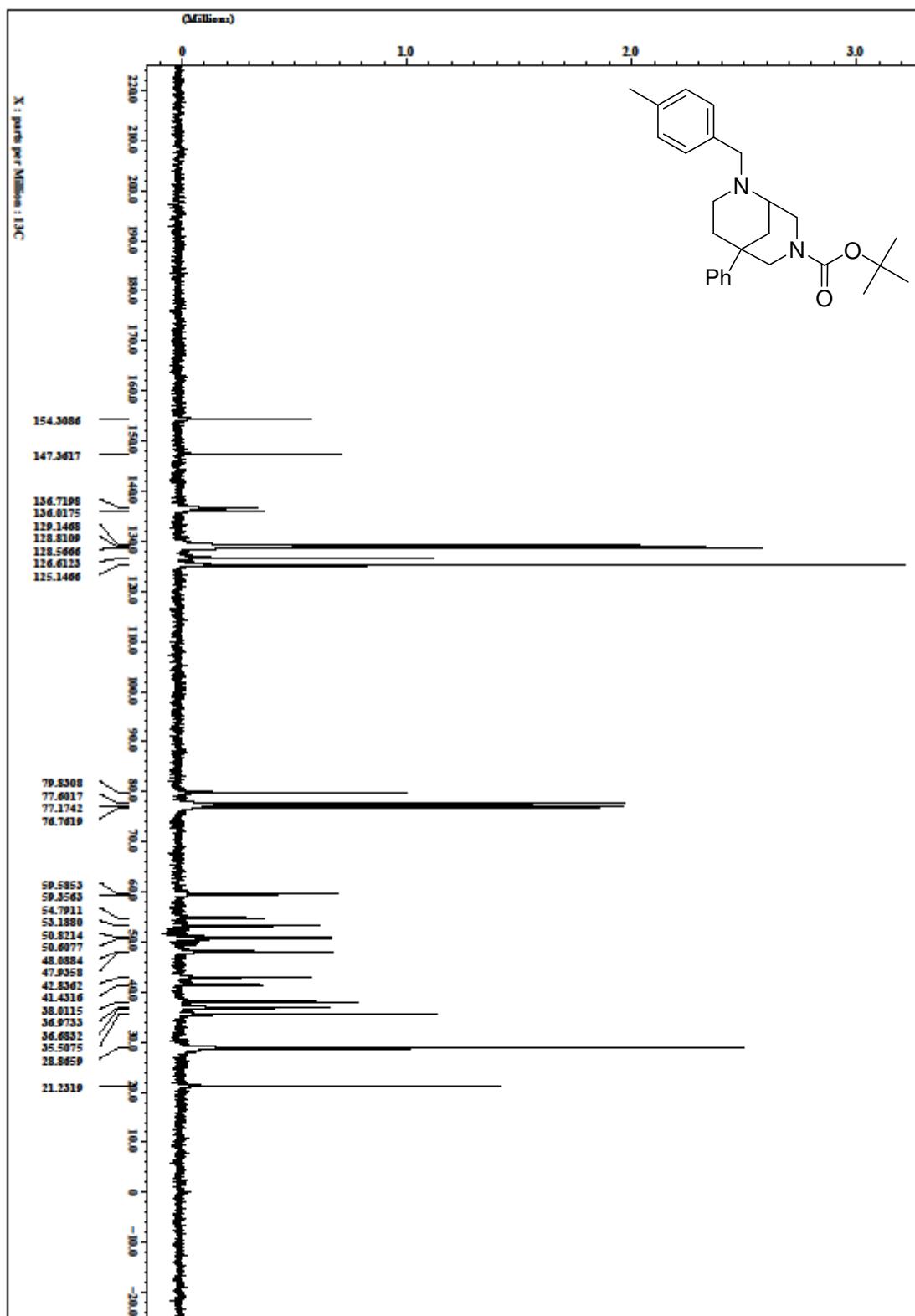
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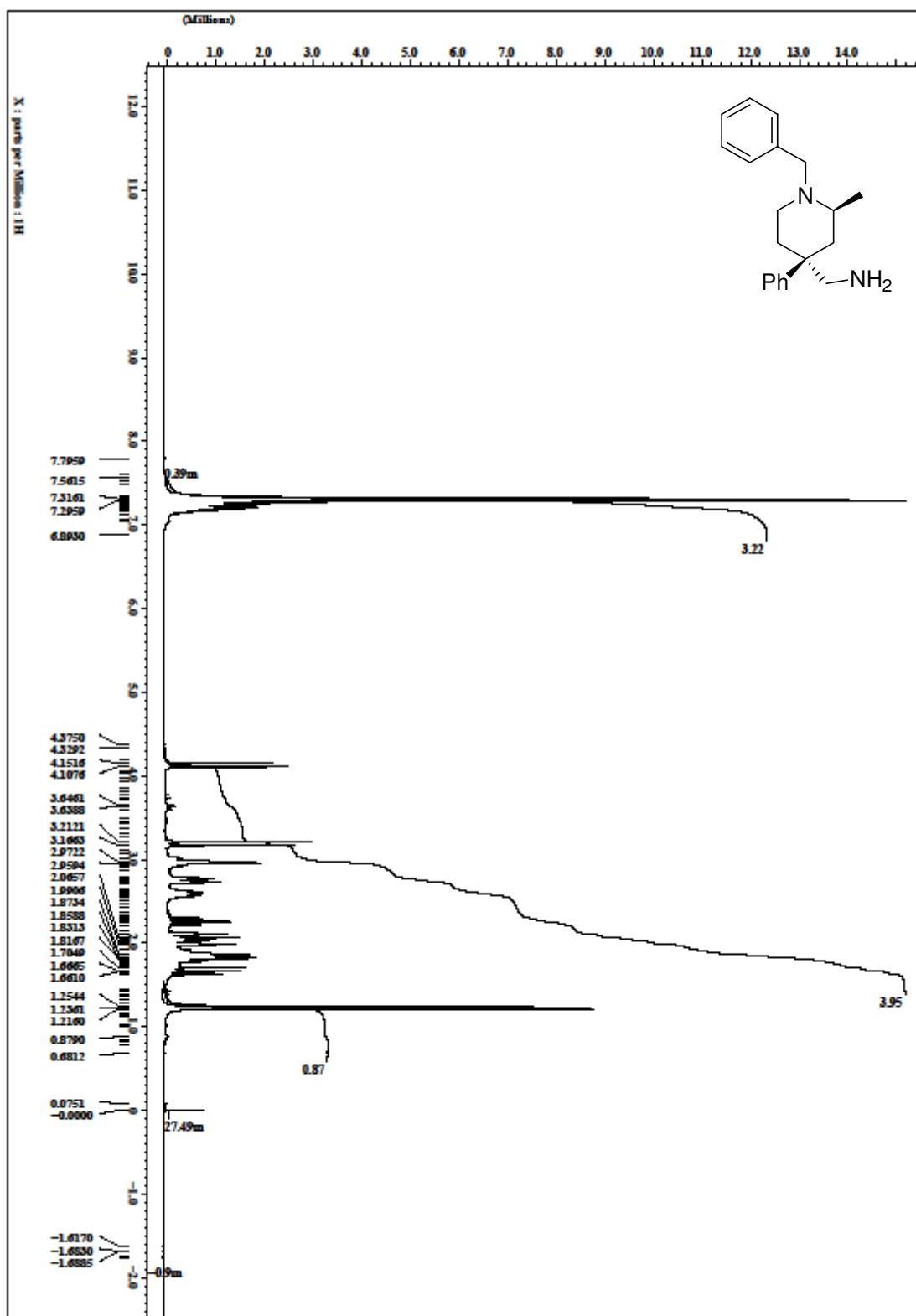


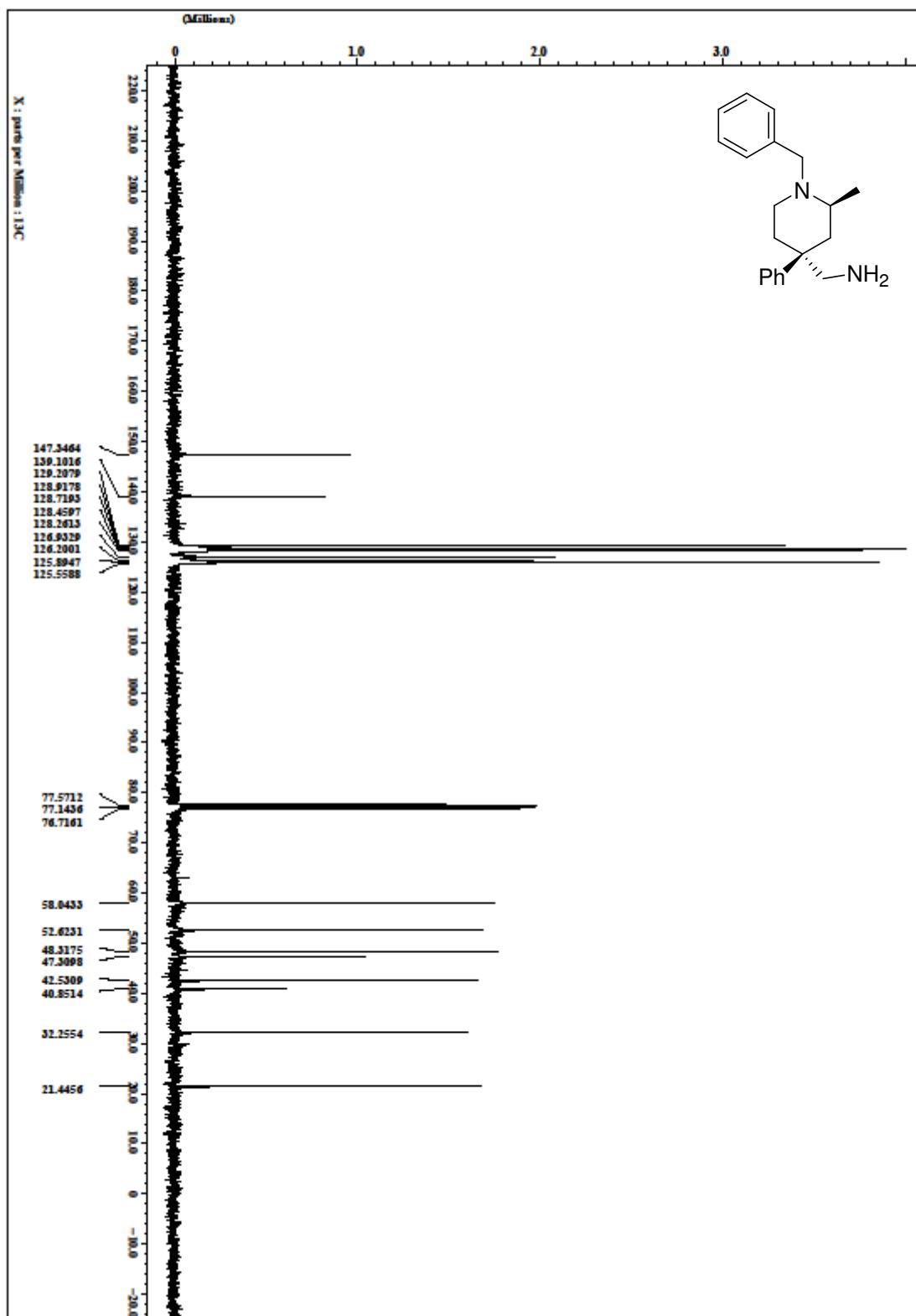
tert-Butyl 2-(4-methylbenzyl)-5-phenyl-2,7-diazabicyclo[3.3.1]nonane-7-carboxylate 30





cis-[1-Benzyl-2-Methyl-4-phenylpiperidin-4-yl]methylamine 31a





trans-4-Aminomethyl-2-methyl-1-(4-methylbenzyl)-4-phenylpiperidine 31b

