

SUPPORTING INFORMATION

Synthesis of a heparin-related GlcN-IdoA sulfation-site variable disaccharide library and analysis by Raman and ROA spectroscopy

Gavin J. Miller,^a Steen U. Hansen,^a Marek Baráth,^{a§} Christian Johannessen,^{b^} Ewan Blanch,^b Gordon C. Jayson^c and John M. Gardiner^{a*}

^a*Manchester Institute of Biotechnology and School of Chemistry, 131 Princess Street, University of Manchester M1 7DN, UK.*

^b*Manchester Institute of Biotechnology, 131 Princess Street, University of Manchester M1 7DN, UK.*

^c*School of Cancer and Enabling Sciences, Wilmslow Road, University of Manchester UK, M20 4BX.*

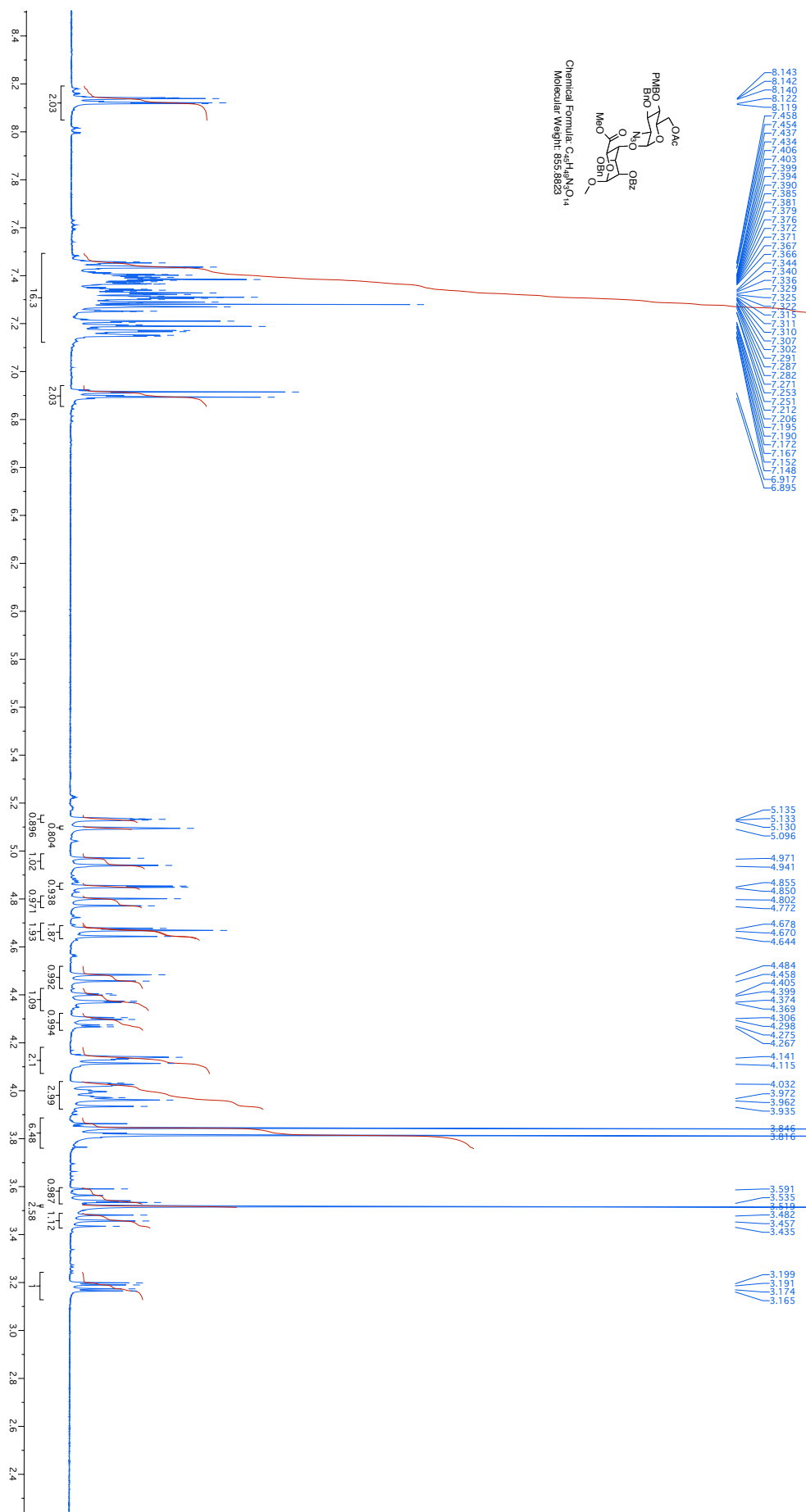
**Corresponding author. Email: gardiner@manchester.ac.uk*

1. General Experimental

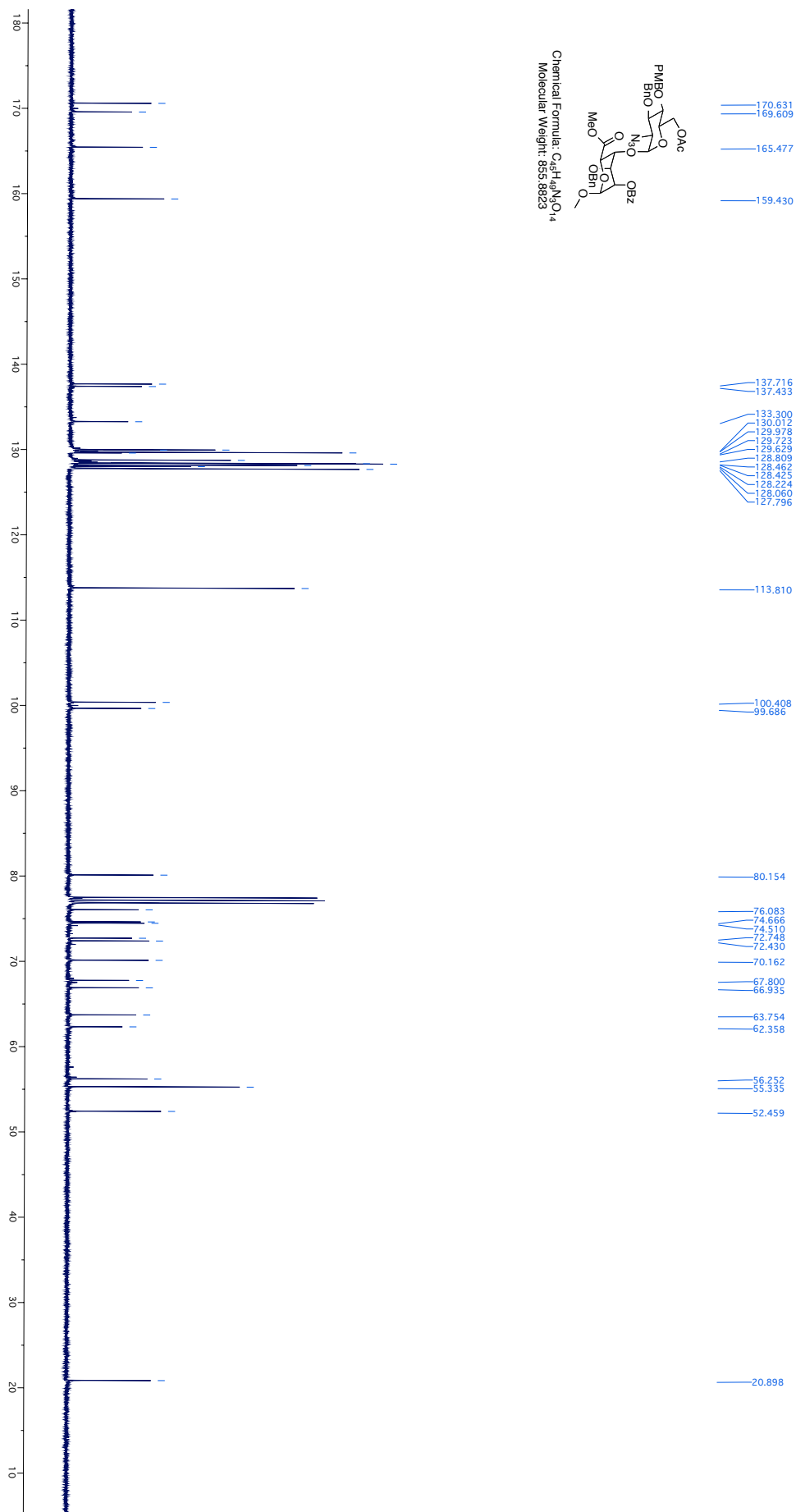
All the chemicals used were purchased from commercial sources without further purification. Heparin was purchased from Sigma-Aldrich and used without further purification. All reactions were monitored by TLC on Merck silica gel plates ⁶⁰F₂₅₄. Silica gel 60 (particle size 0.035-0.070 mm) was used for column chromatography. ¹H NMR spectra were recorded at 400 MHz and ¹³C spectra at 100 MHz on Bruker DPX spectrometers. Mass spectra (MS) were recorded using a Micromass Platform II spectrometer using an electrospray ionization source or via the EPSRC National Mass Spectrometry Service (Swansea). Optical rotations were obtained using an AA-1000 polarimeter. Elemental analyses were performed by Micro Analytical Laboratory, School of Chemistry, The University of Manchester. NMR Data were reprocessed using iNMR 4 from Nucleomatica and Topspin.

2. ¹H, ¹³C NMR and COSY Spectral Data for compounds 4-18

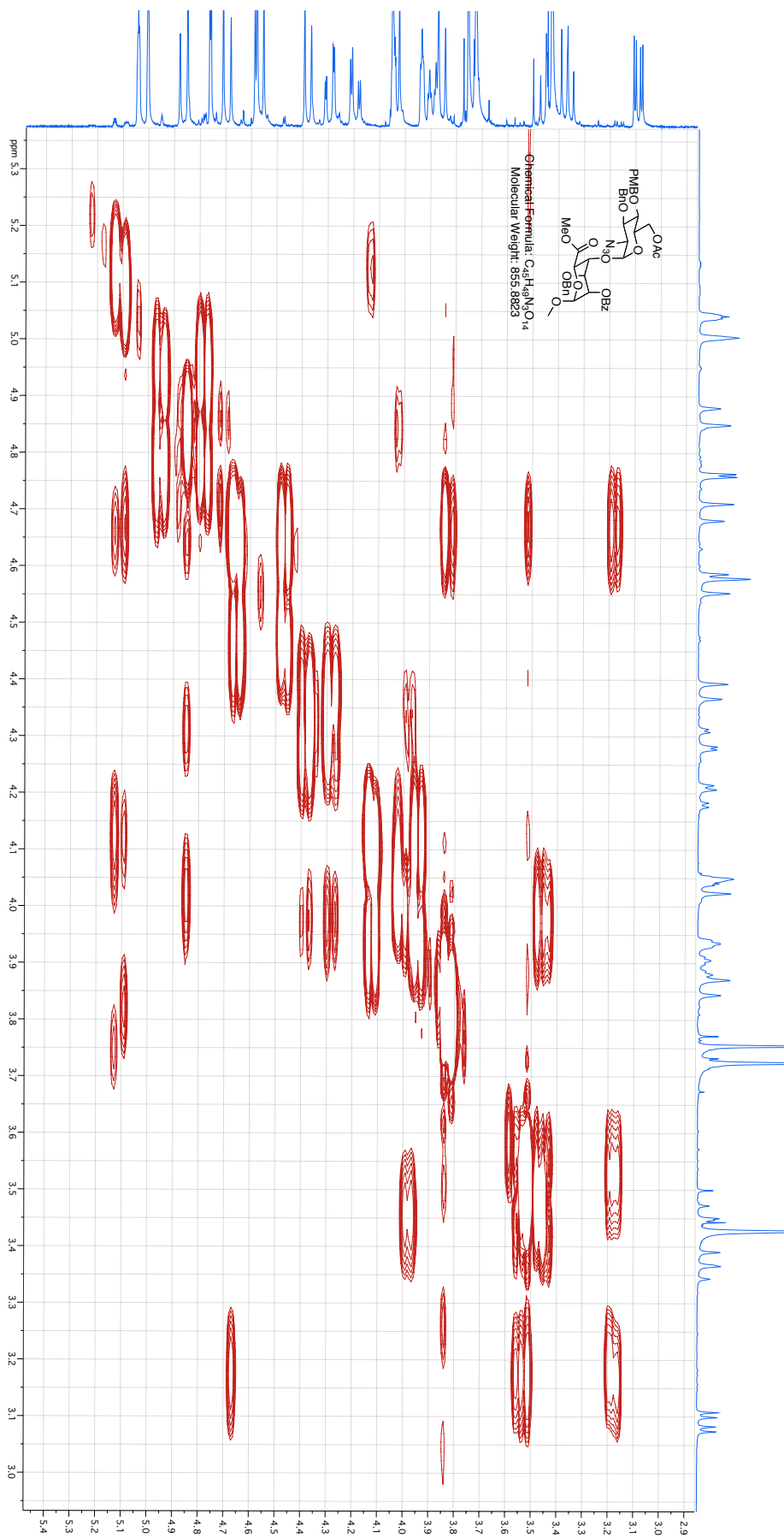
Methyl 6-*O*-acetyl-2-azido-3-*O*-benzyl-2-deoxy-4-*O*-*p*-methoxybenzyl- α -D-glucopyranosyl-(1 \rightarrow 4)-(methyl 2-*O*-benzoyl-3-*O*-benzyl- α -L-idopyranoside) uronate 4



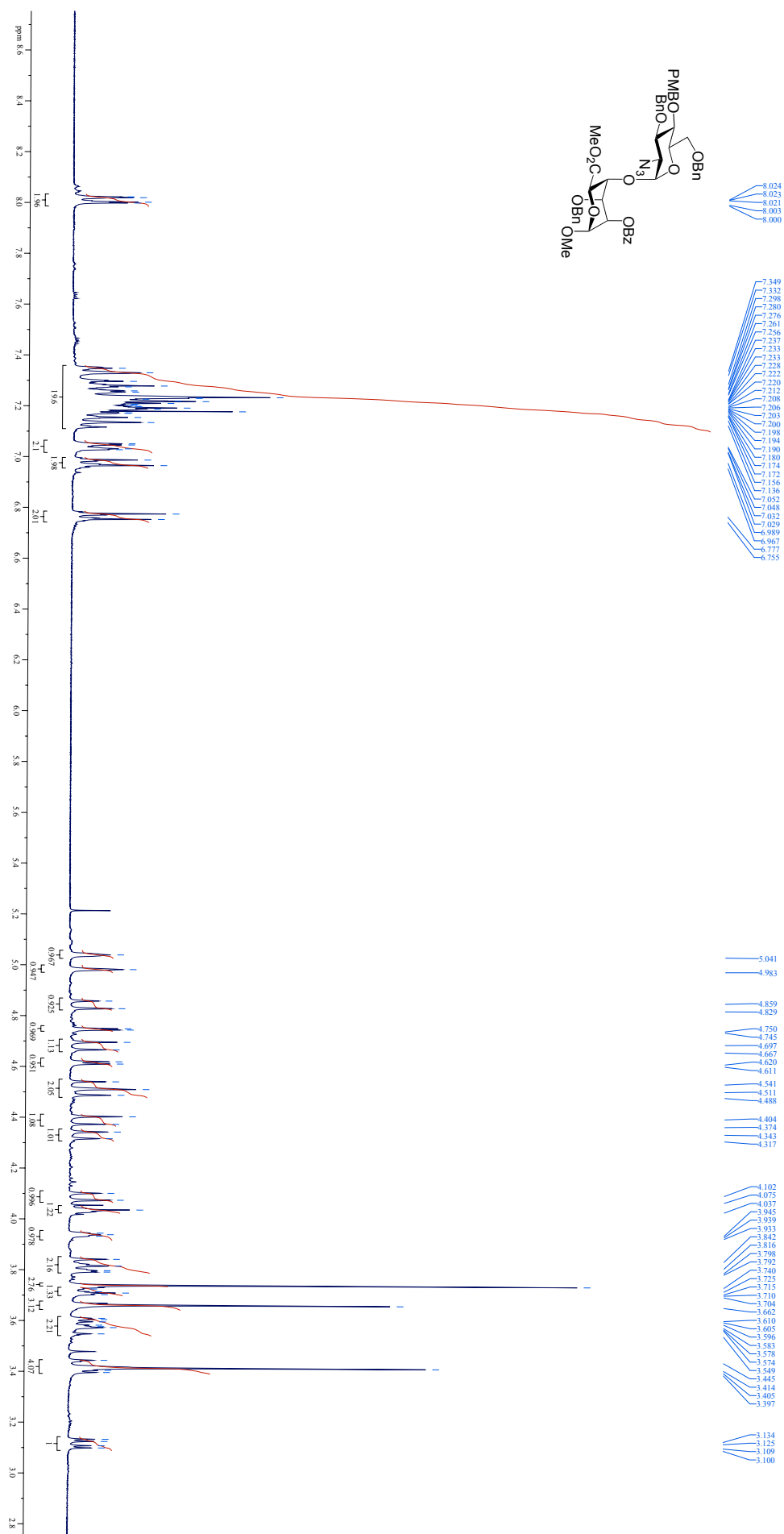
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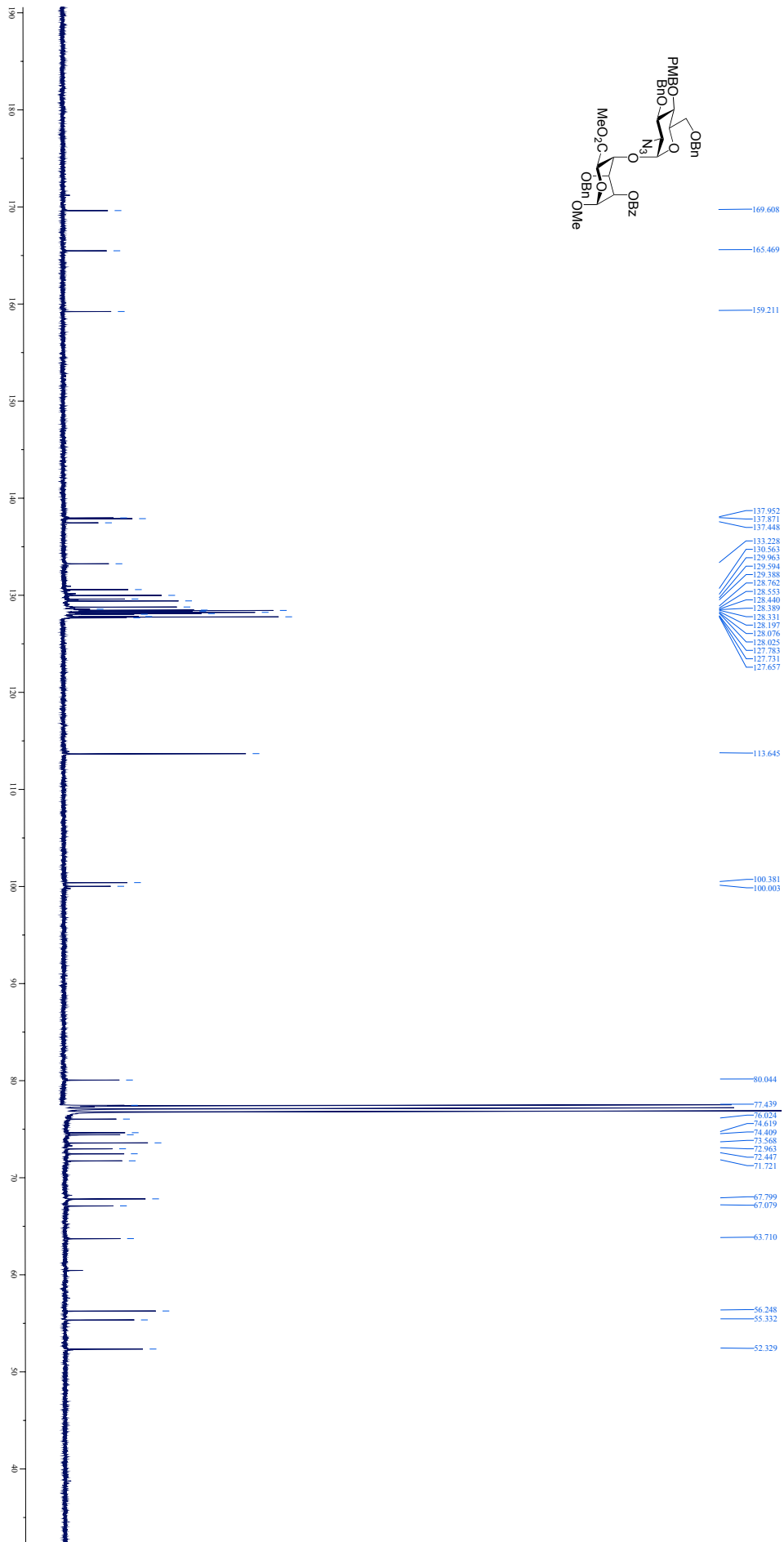
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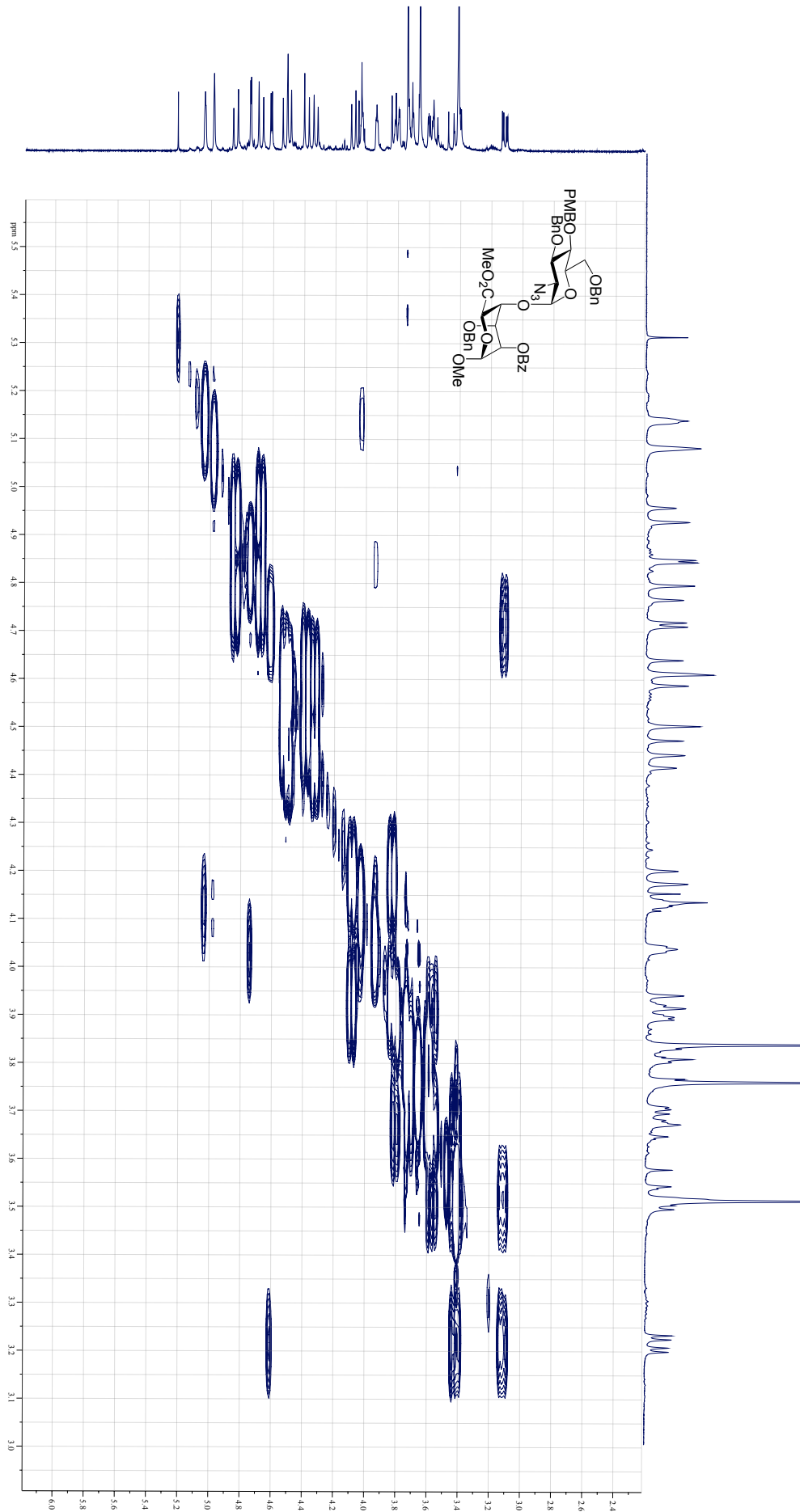
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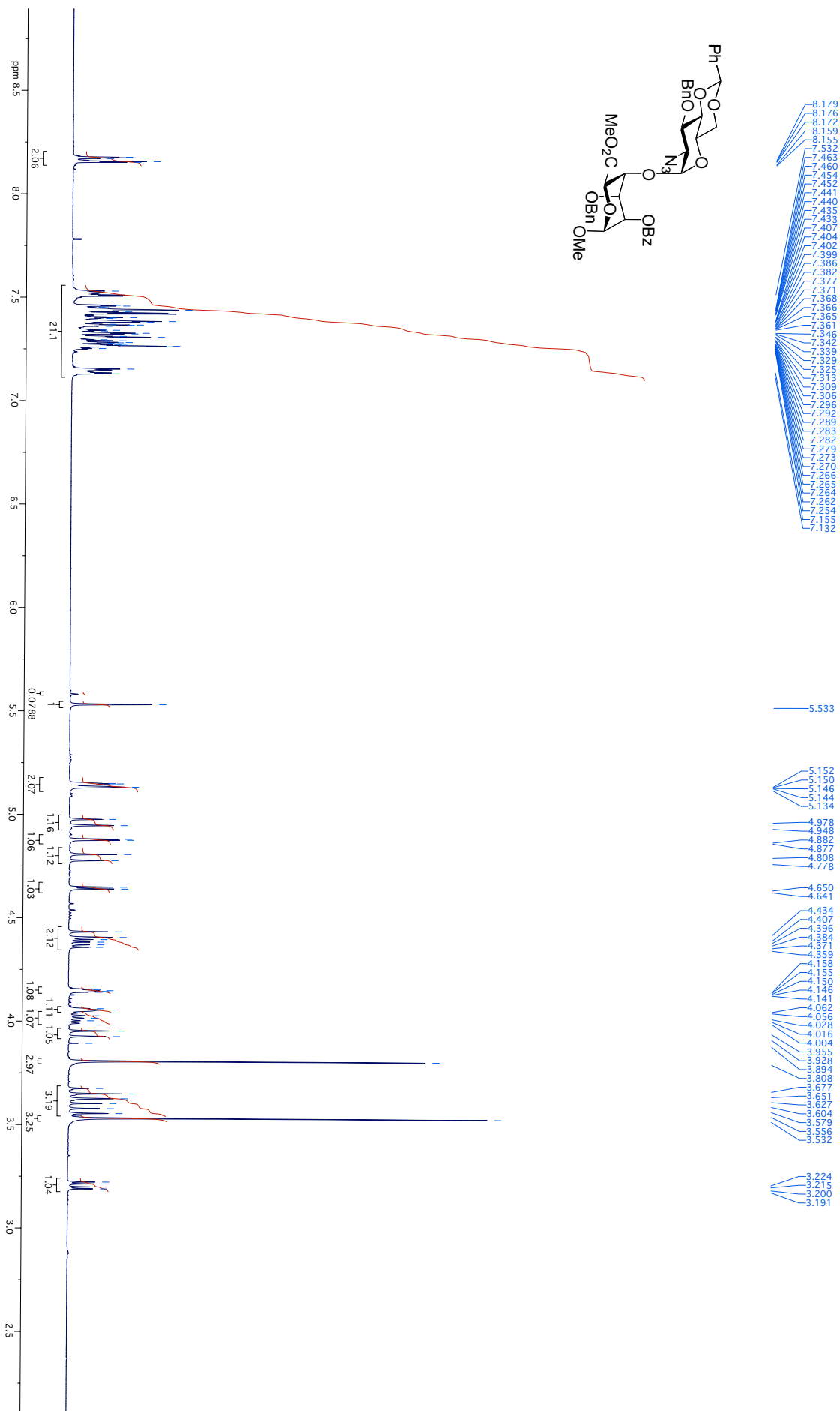
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(methyl 2-O-benzoyl-3-O-benzyl- α -L-idopyranoside) uronate 6**



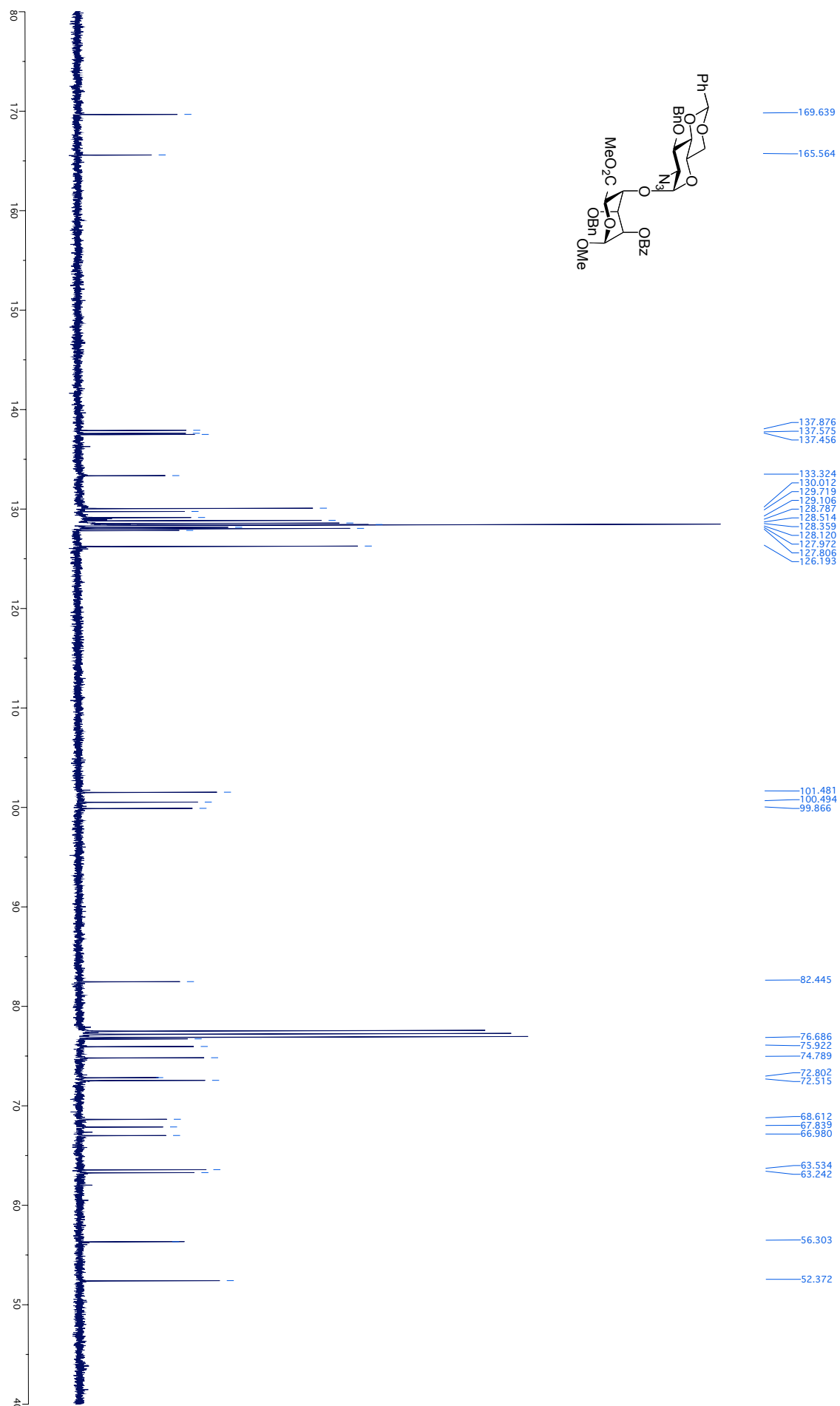
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(methyl 2-O-benzoyl-3-O-benzyl- α -L-idopyranoside) uronate 6**



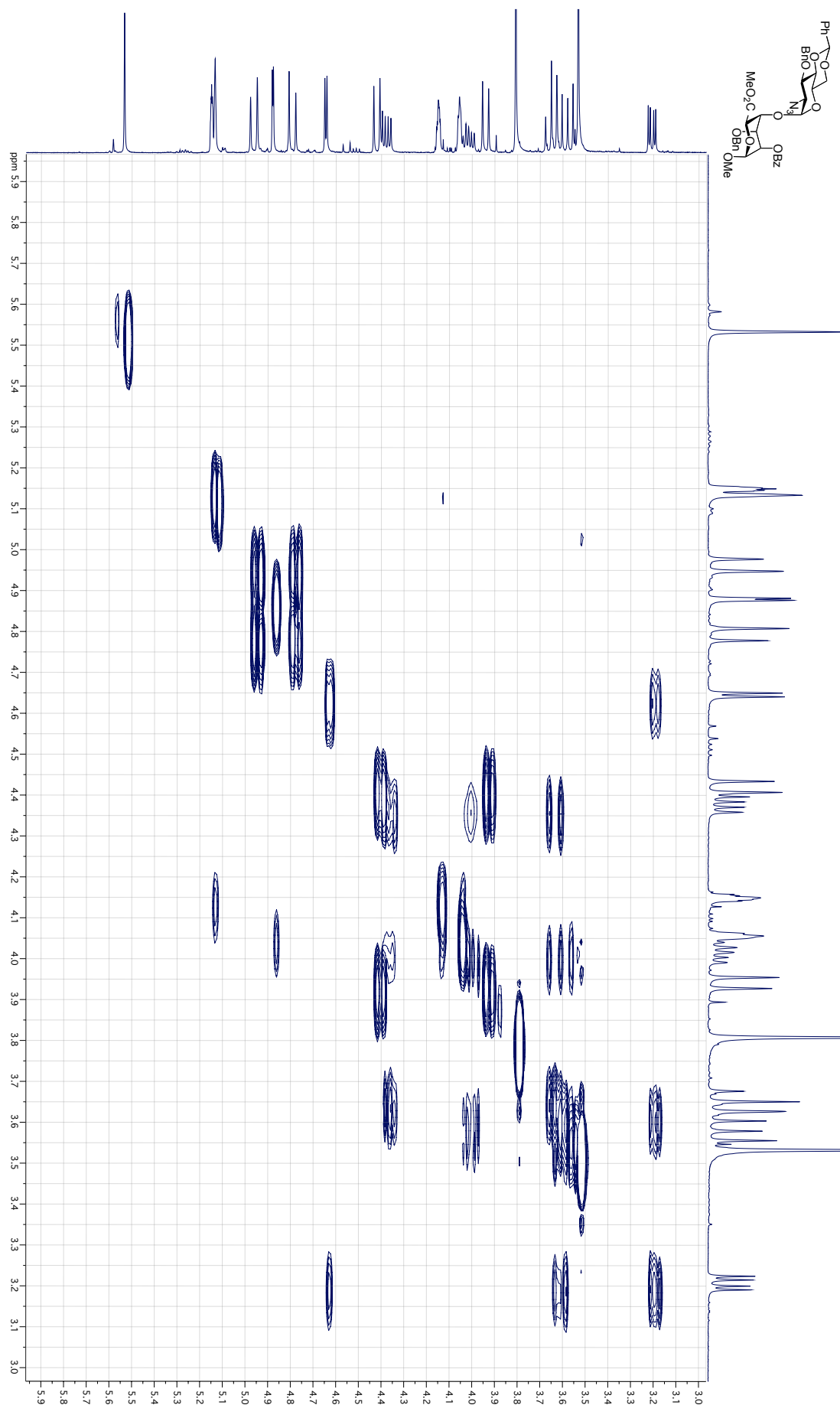
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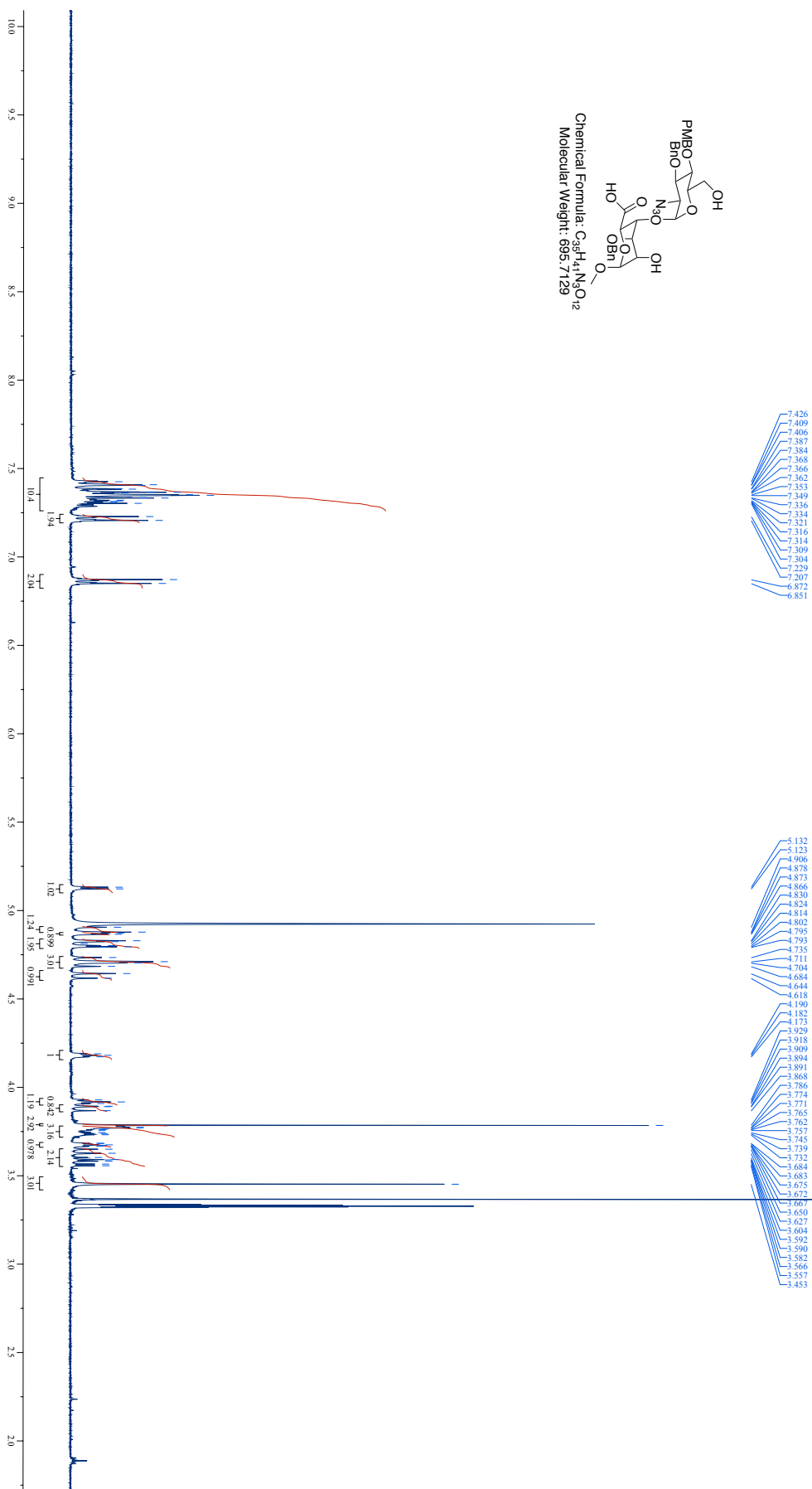
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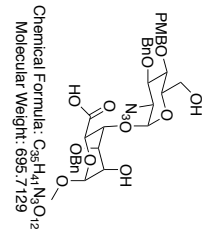
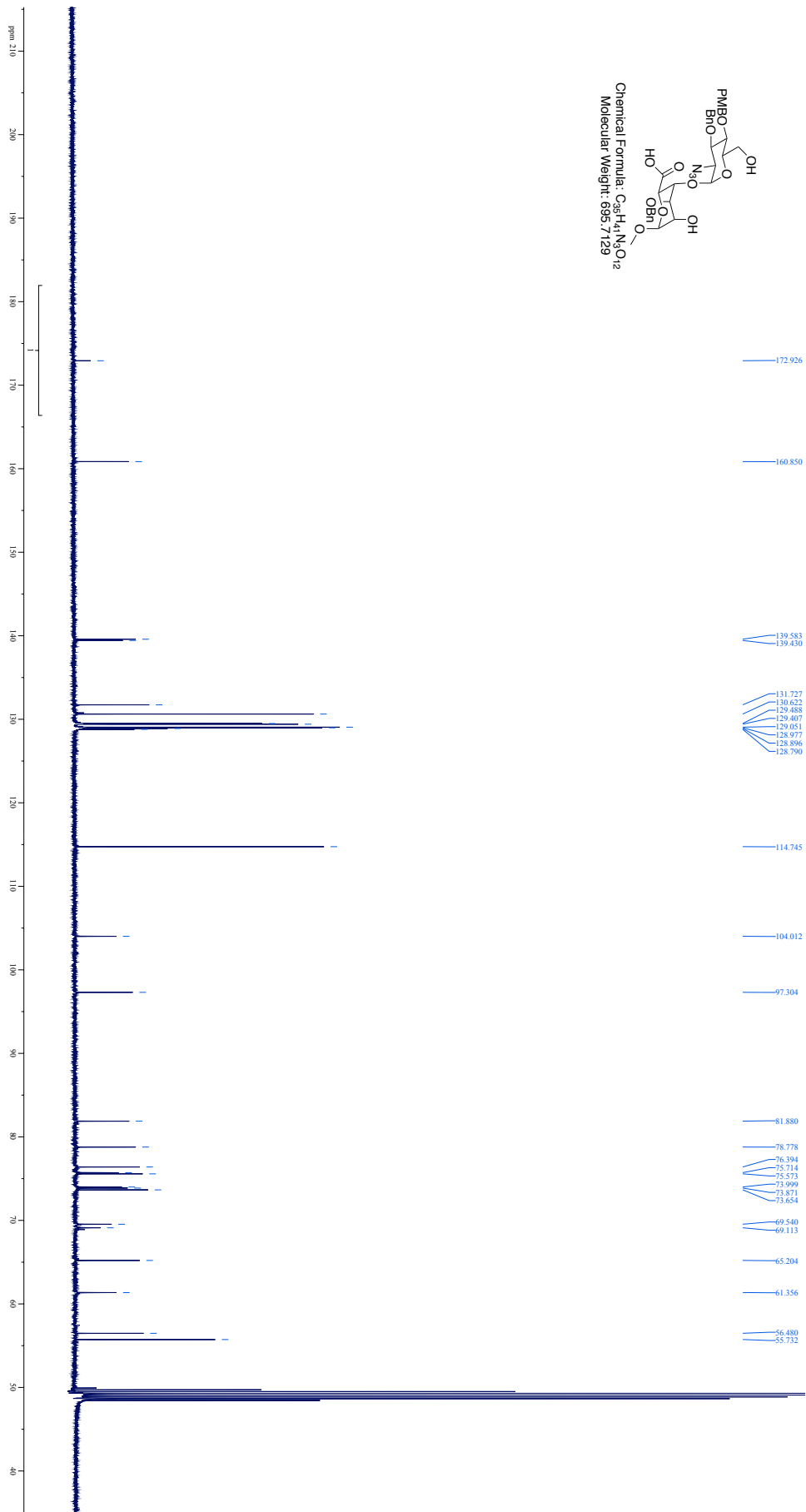
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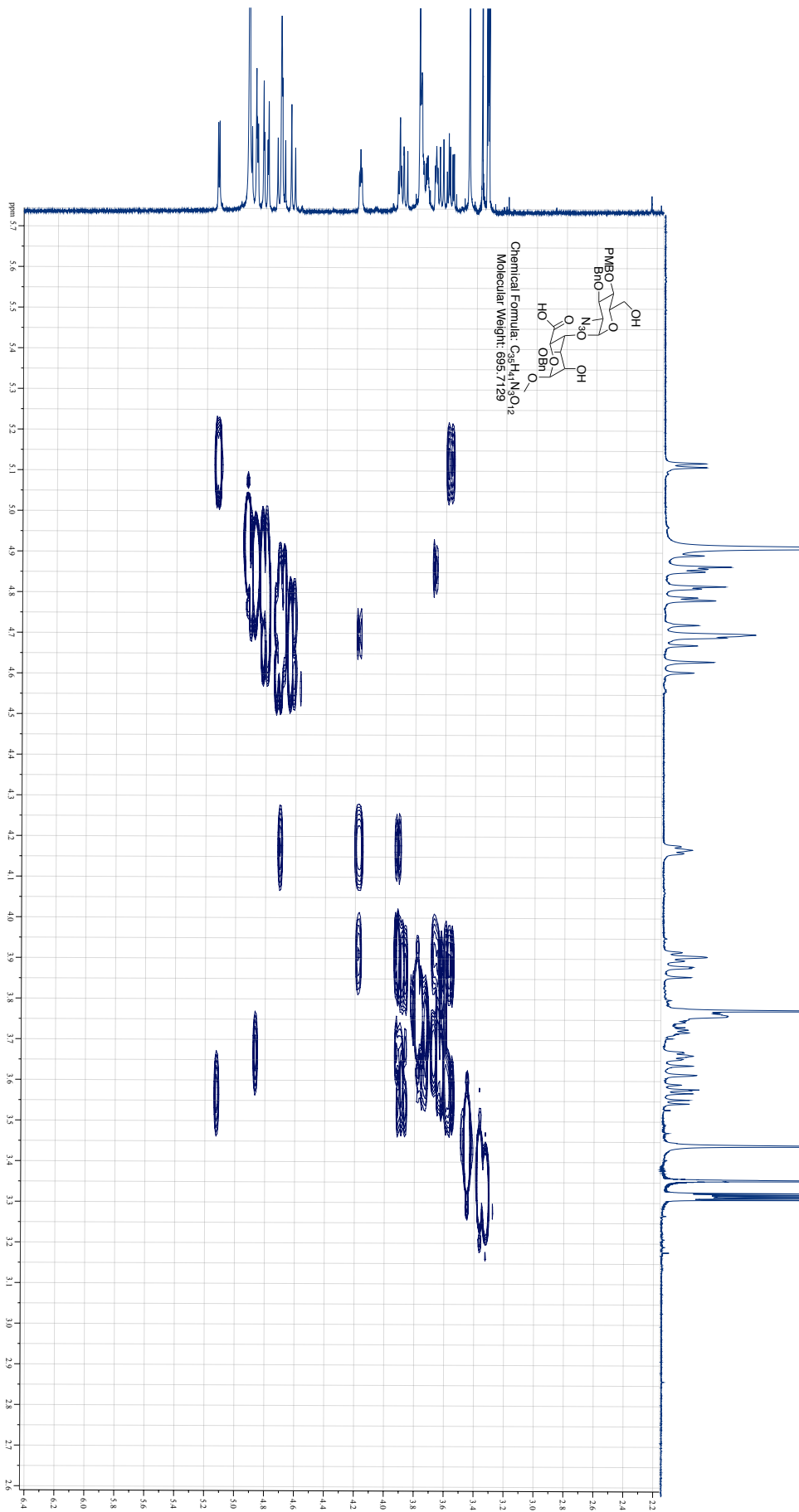
2-Azido-3-*O*-benzyl-2-deoxy-4-*O*-*p*-methoxybenzyl- α -D-glucofuranosyl-(1 \rightarrow 4)-(methyl 3-*O*-benzyl- α -L-idopyranoside) uronic acid 9



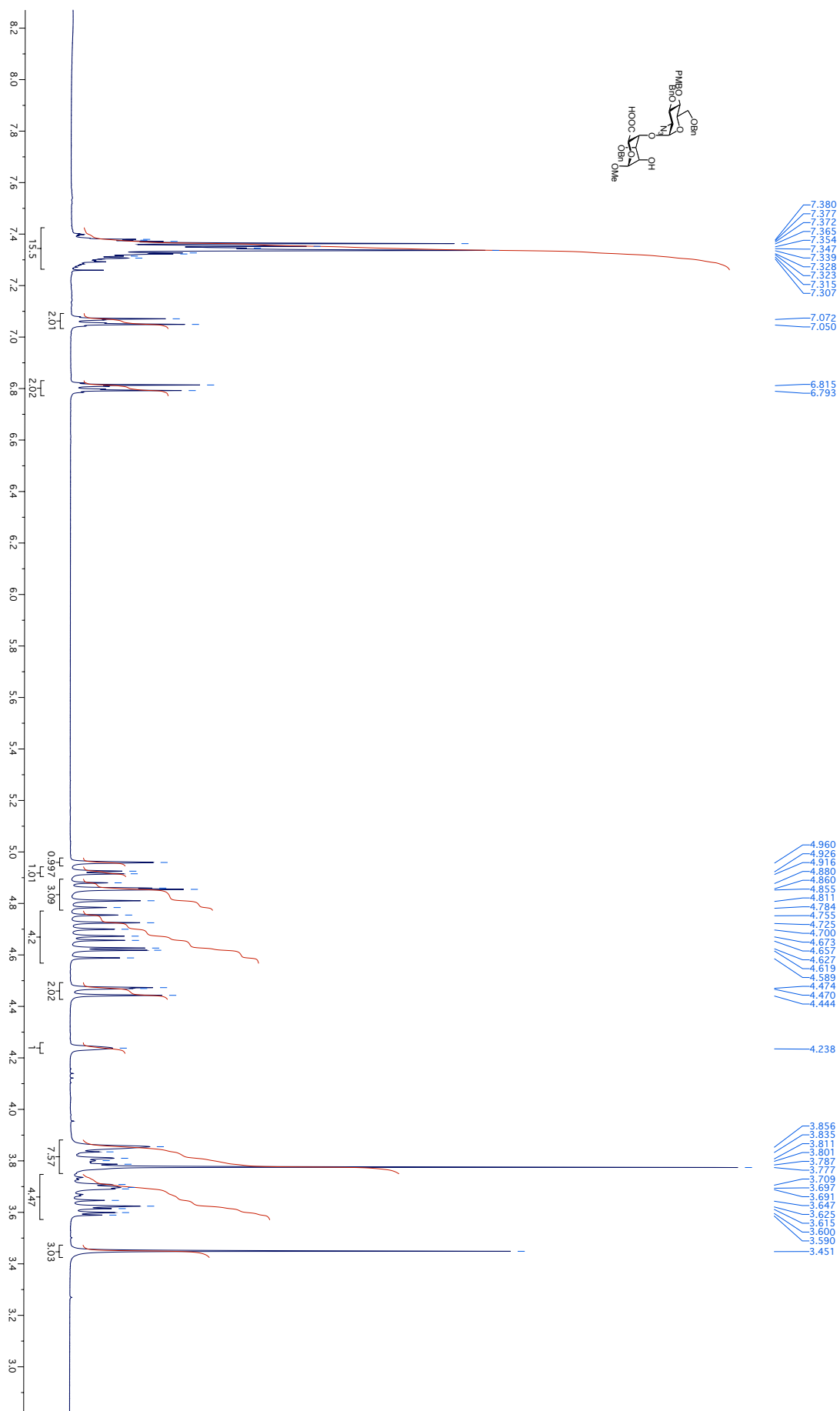
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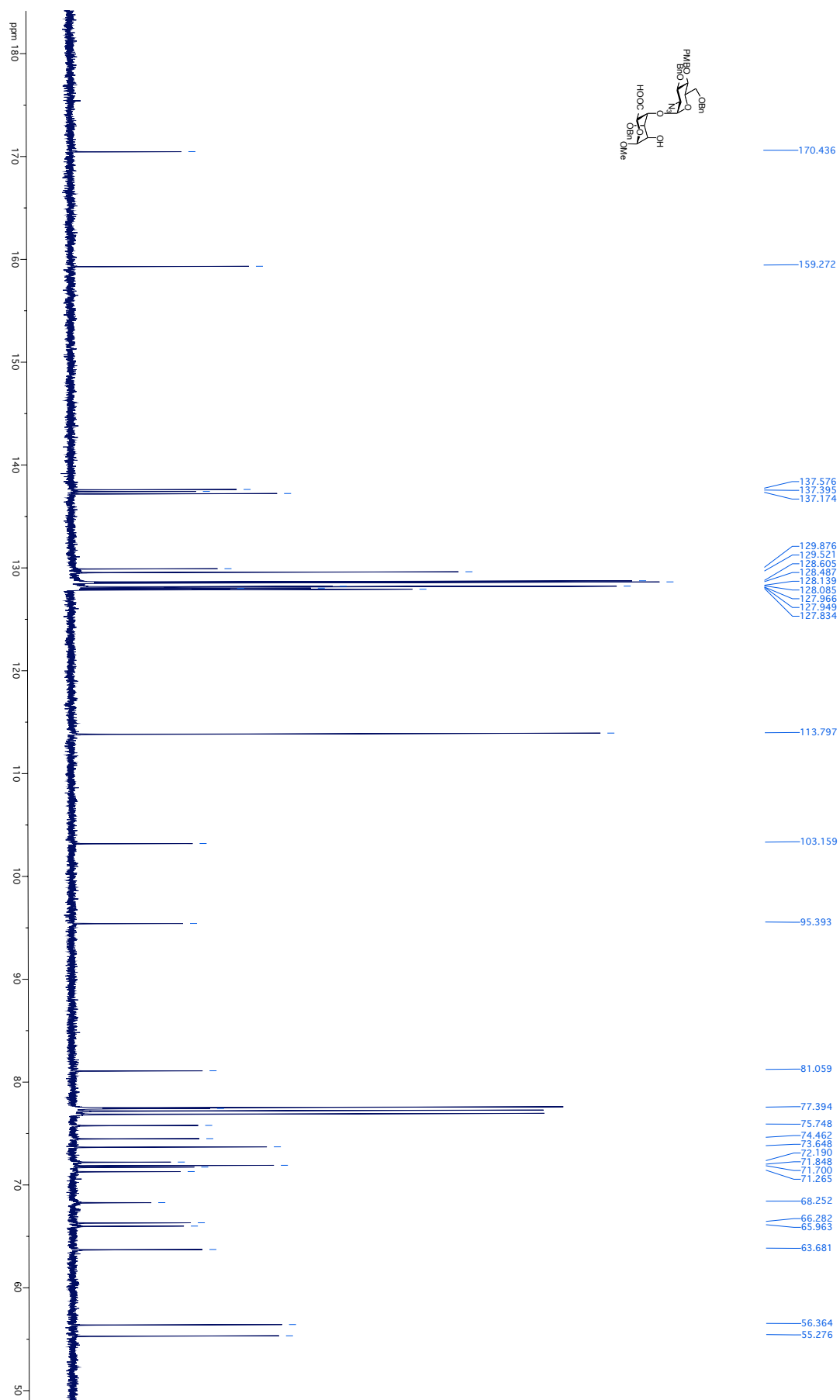
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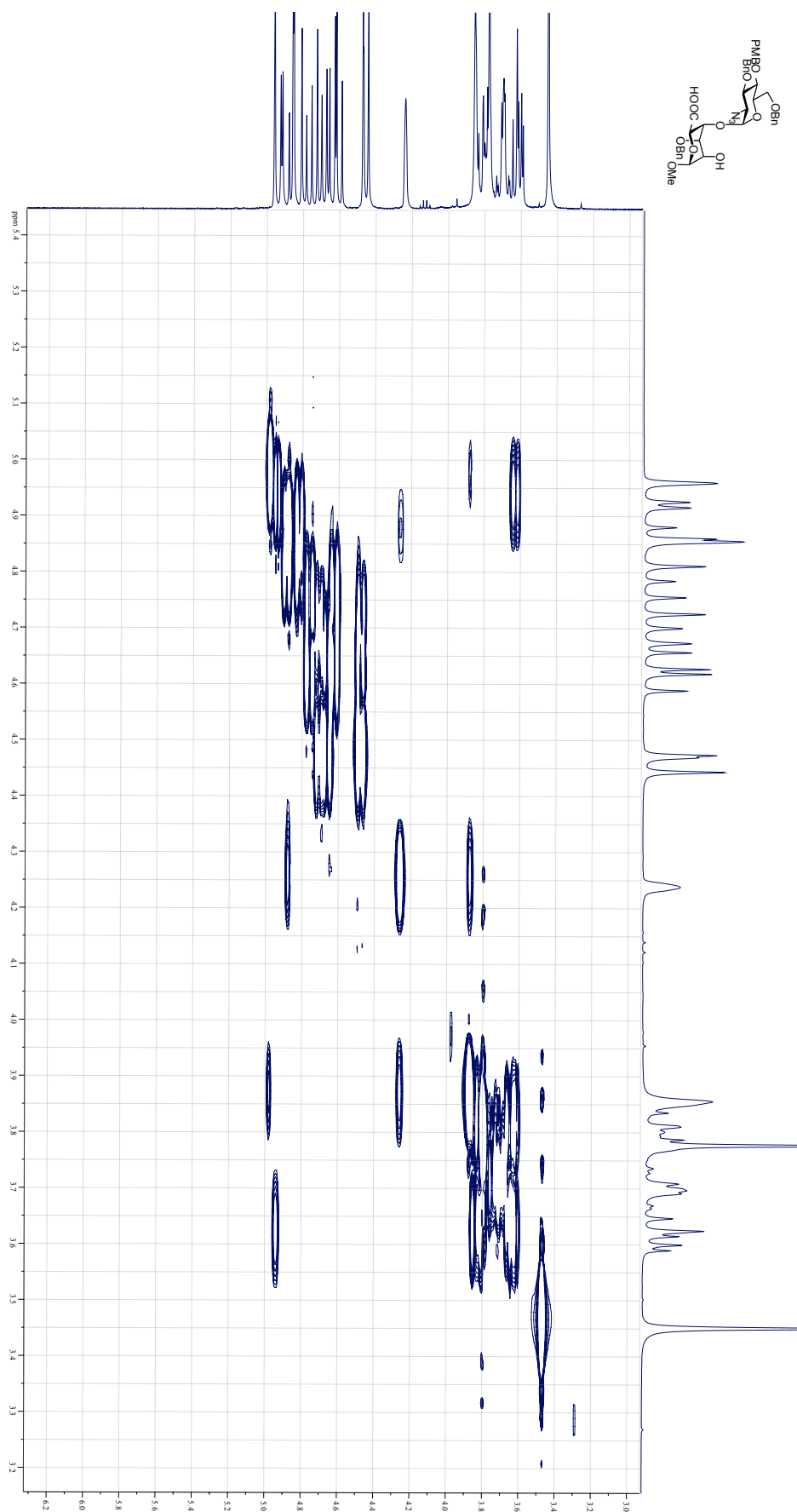
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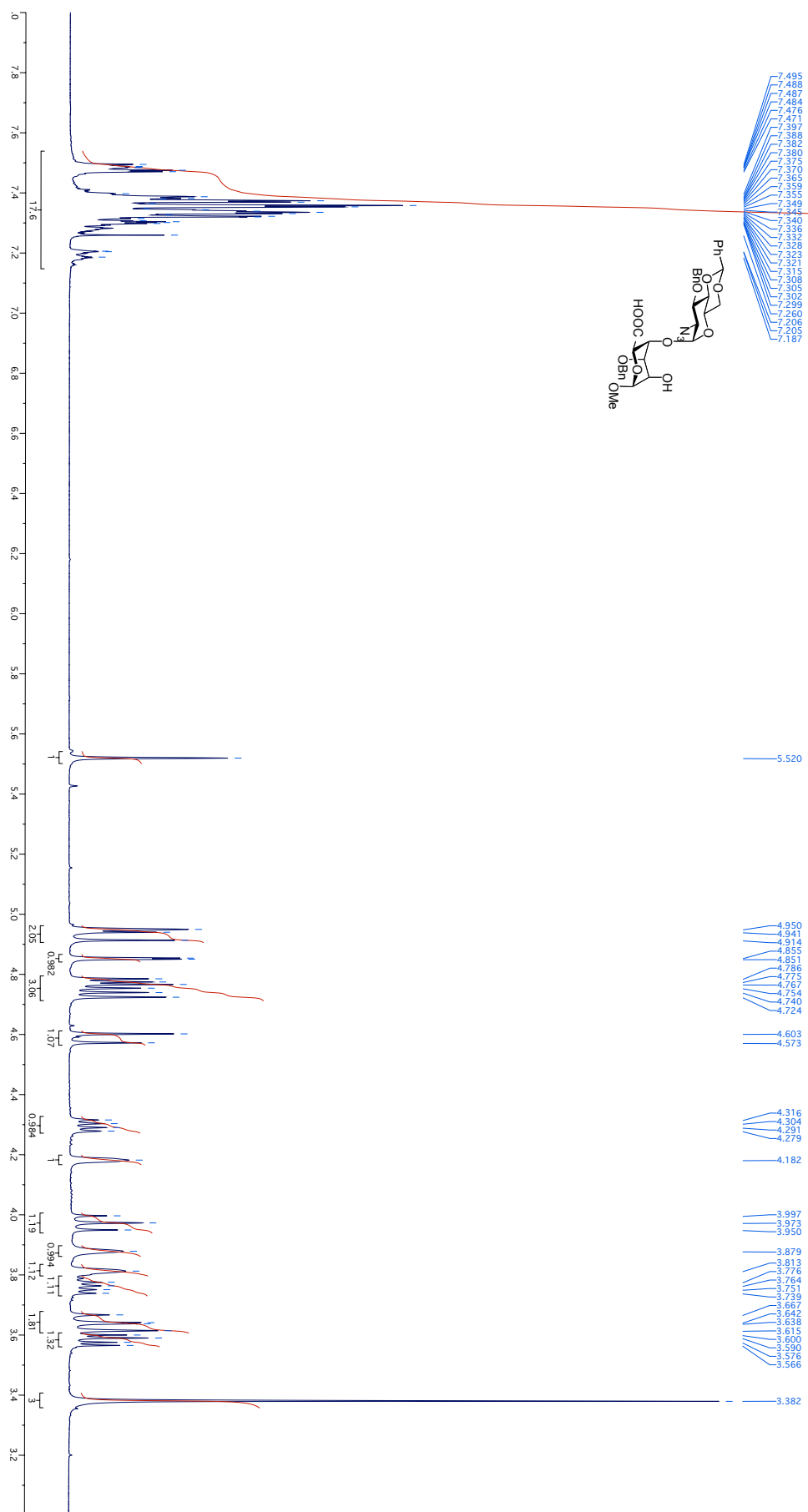
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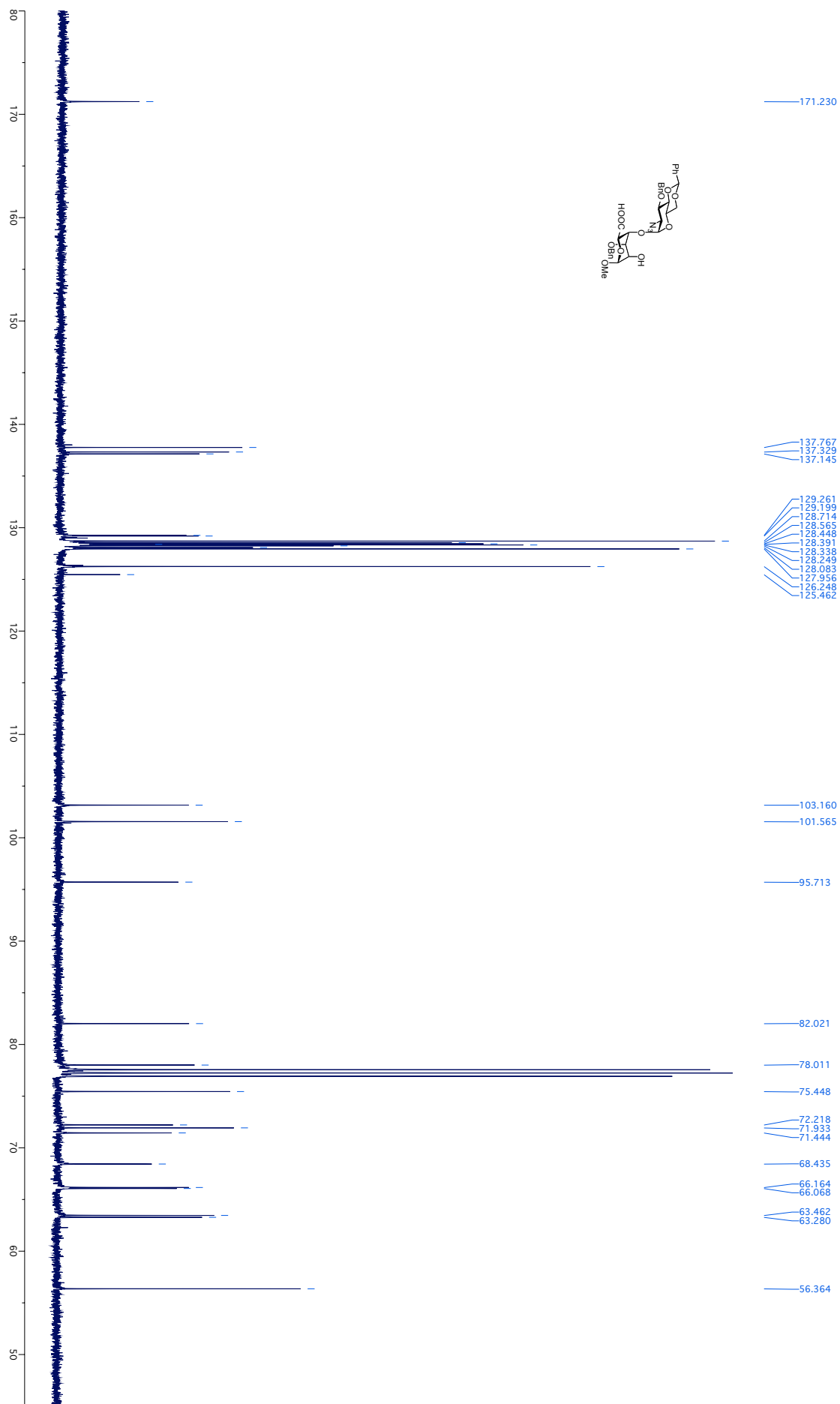
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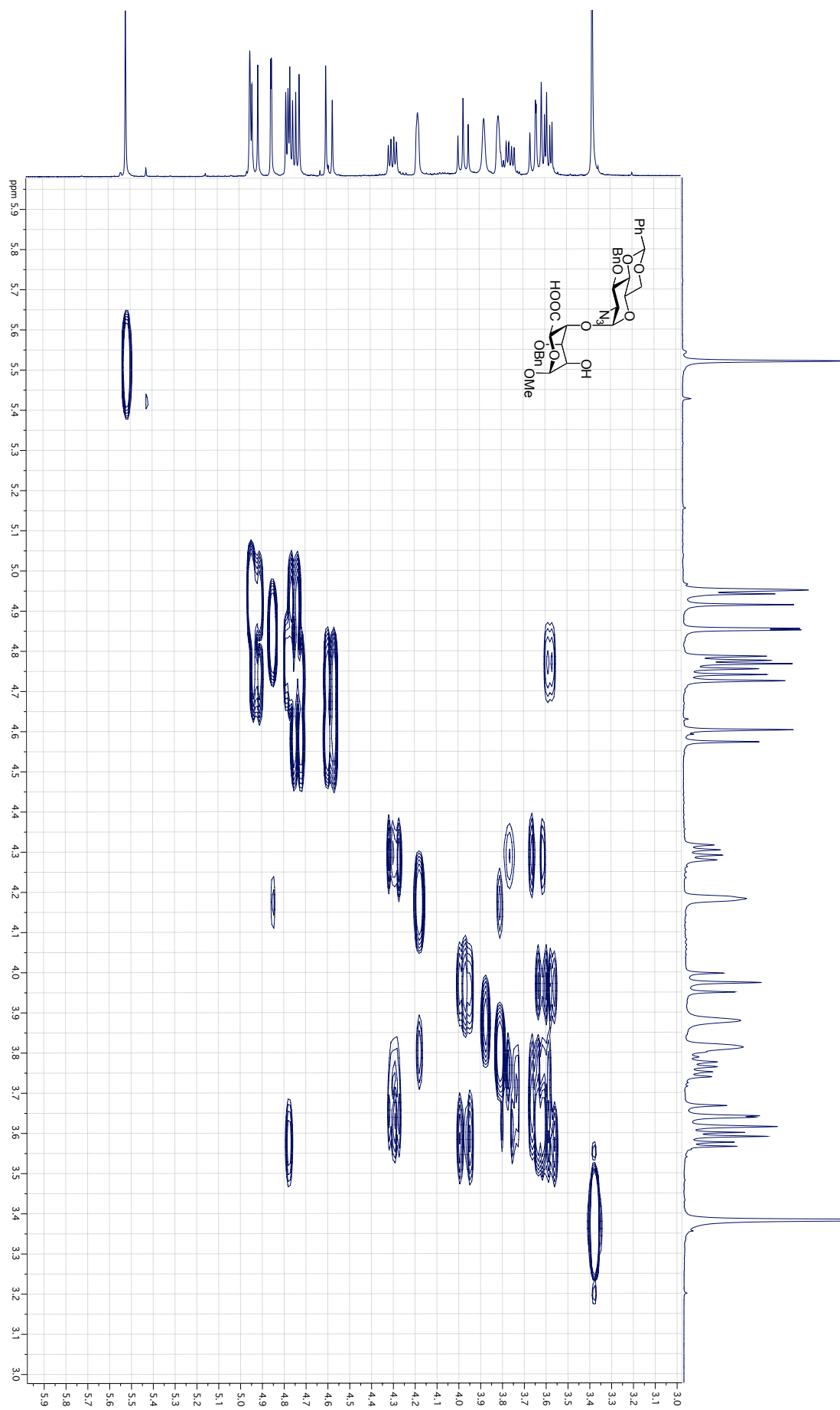
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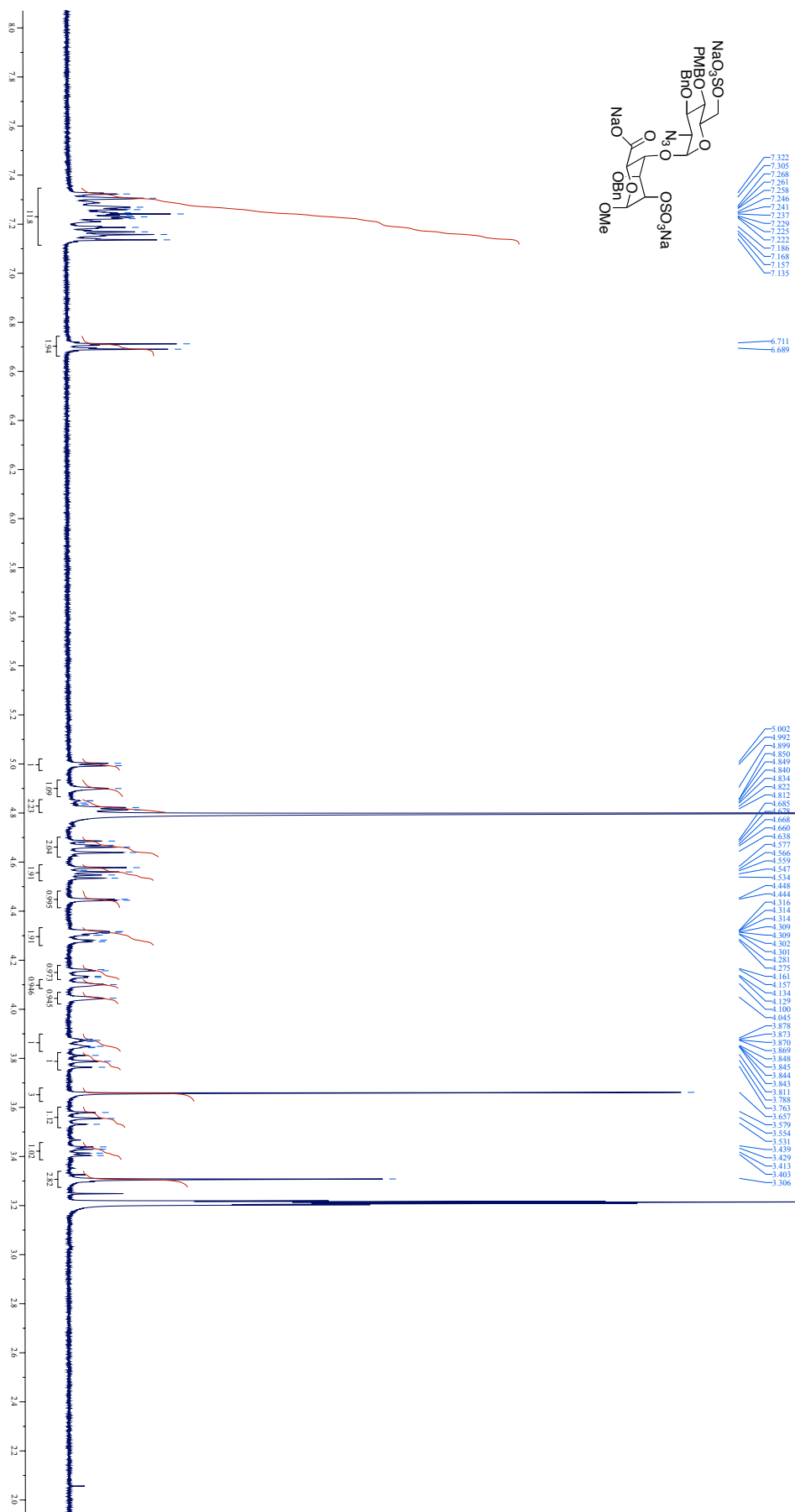
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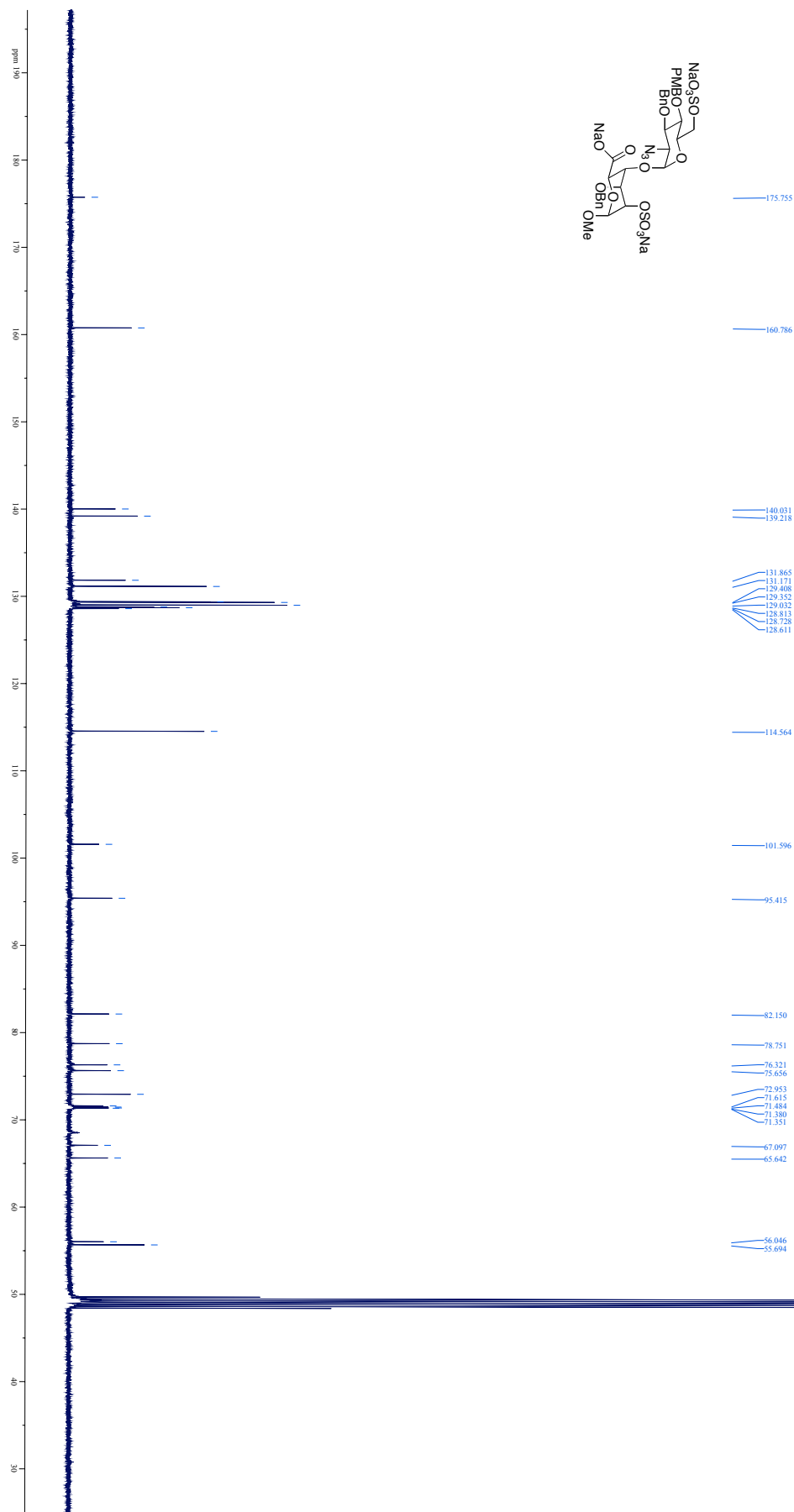
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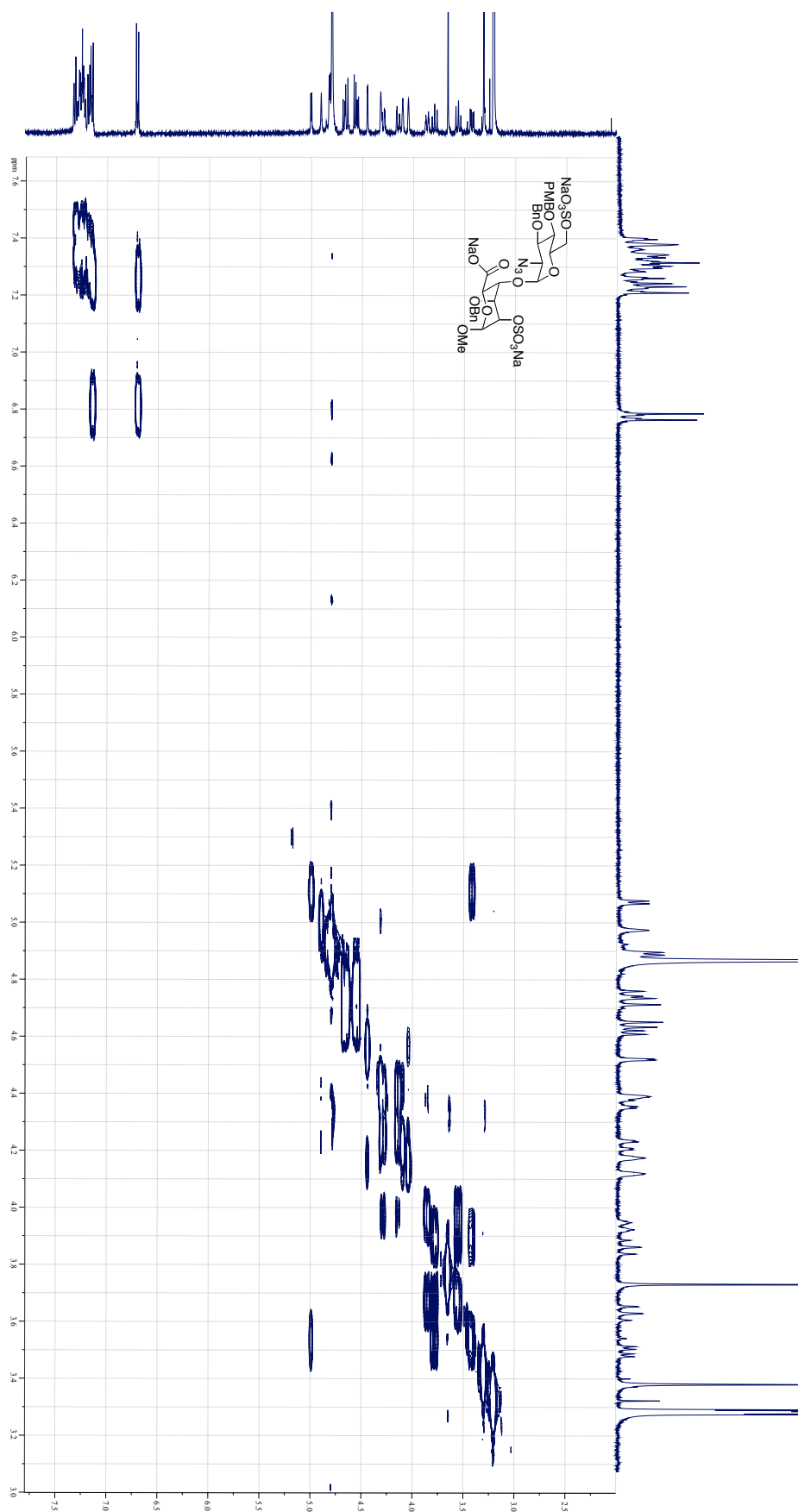
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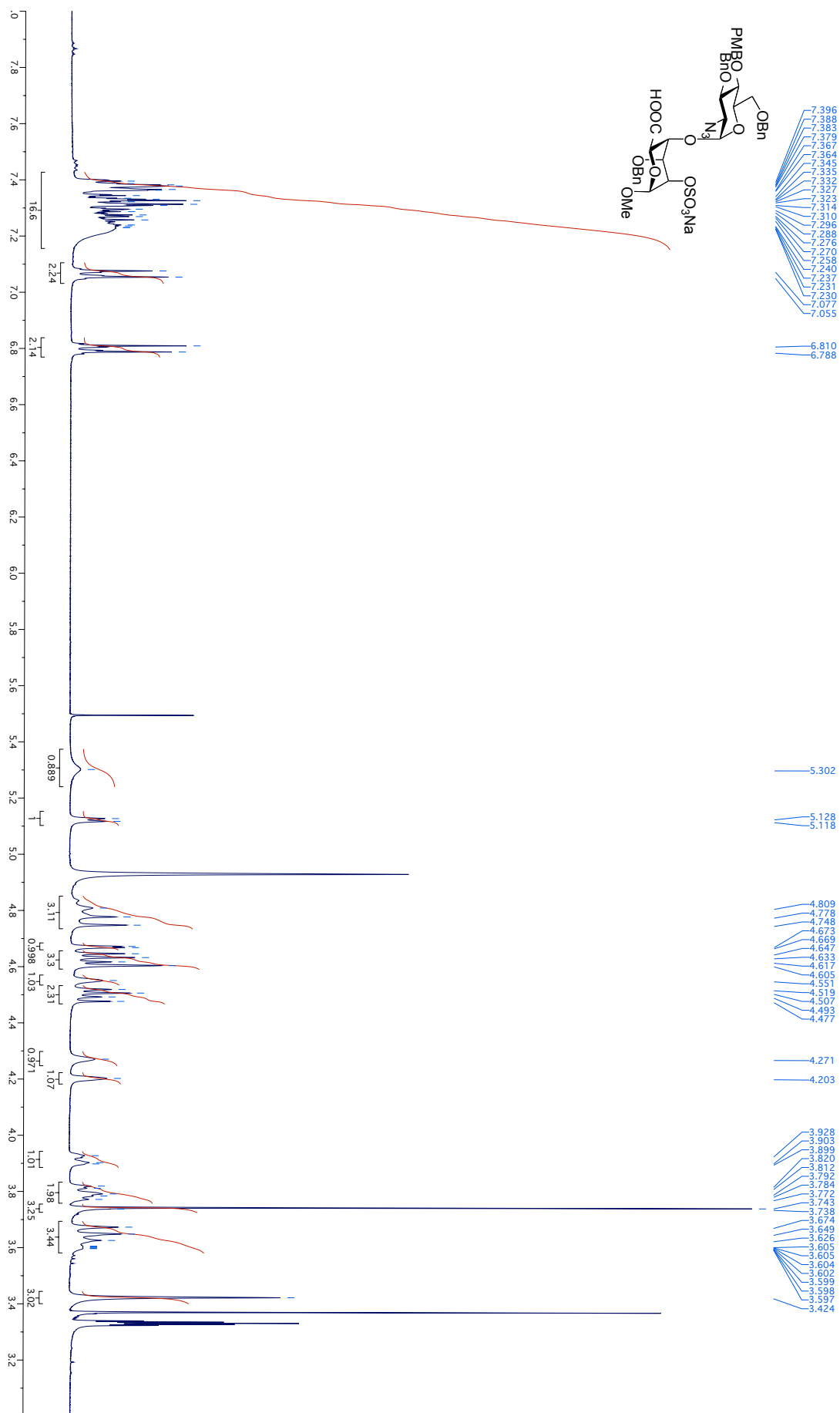
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(methyl 3-O-benzyl-2-O-sulfonato- α -L-idopyranoside) uronic acid di sodium salt 12**



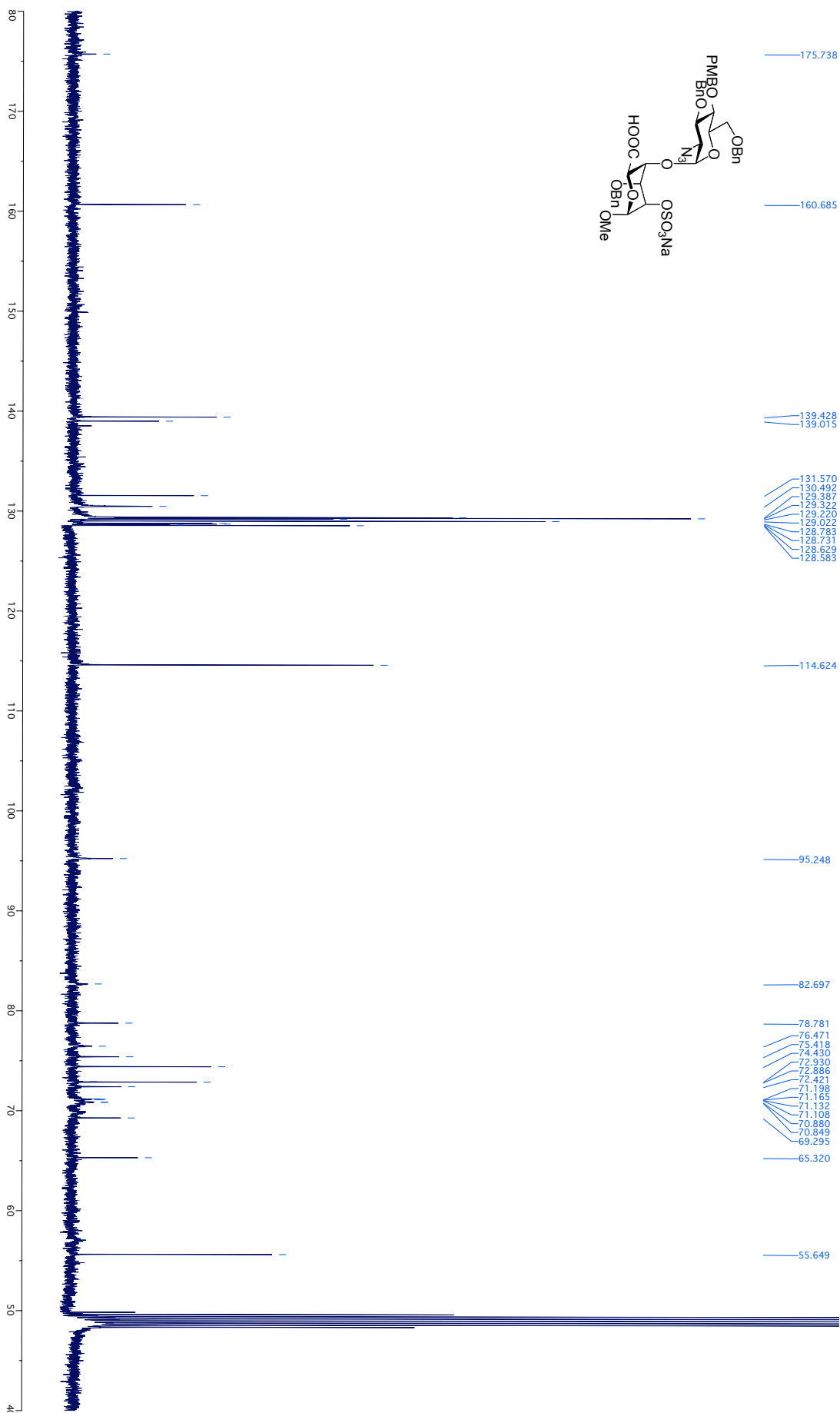
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(methyl 3-O-benzyl-2-O-sulfonato- α -L-idopyranoside) uronic acid di sodium salt 12**



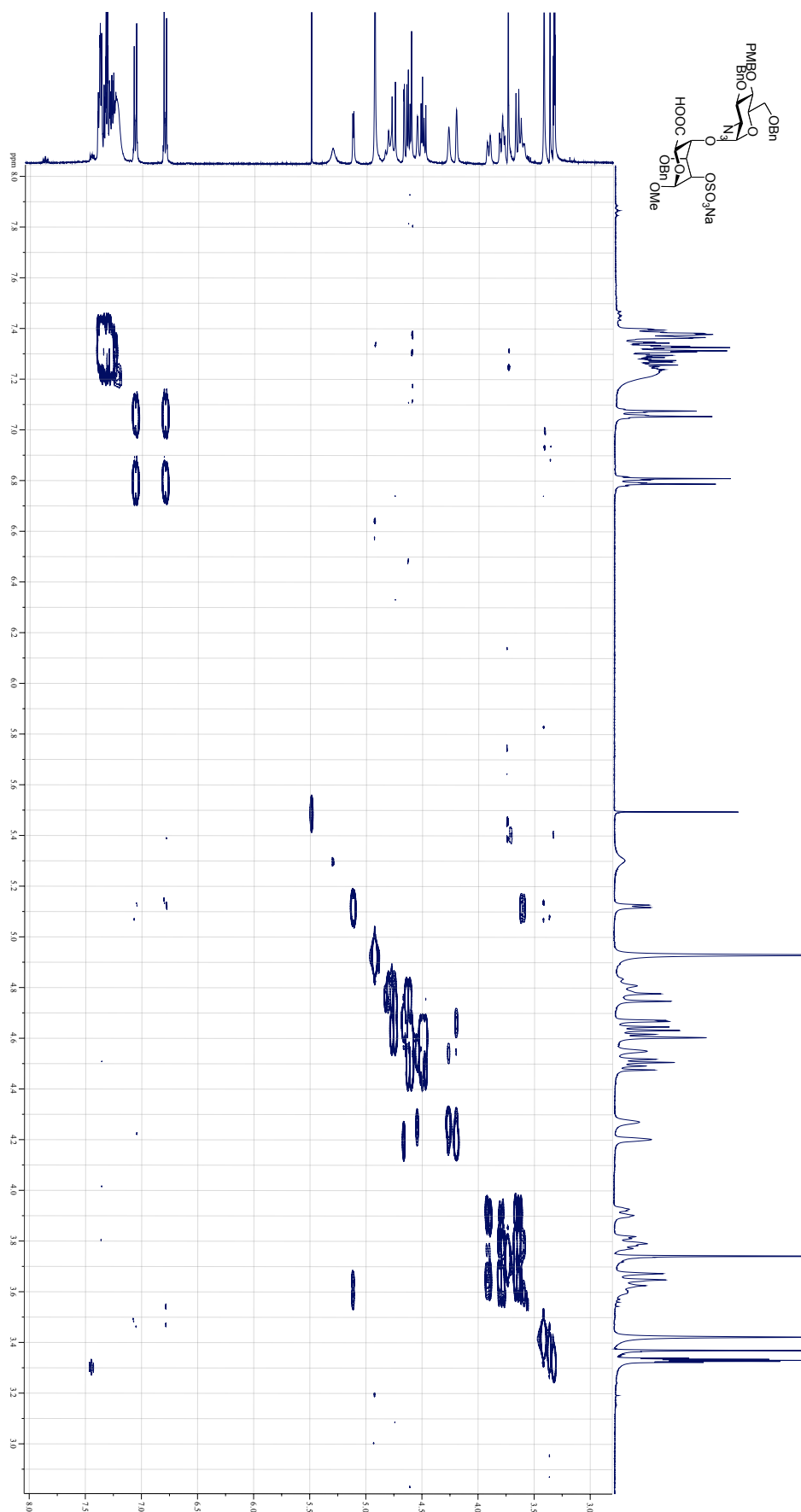
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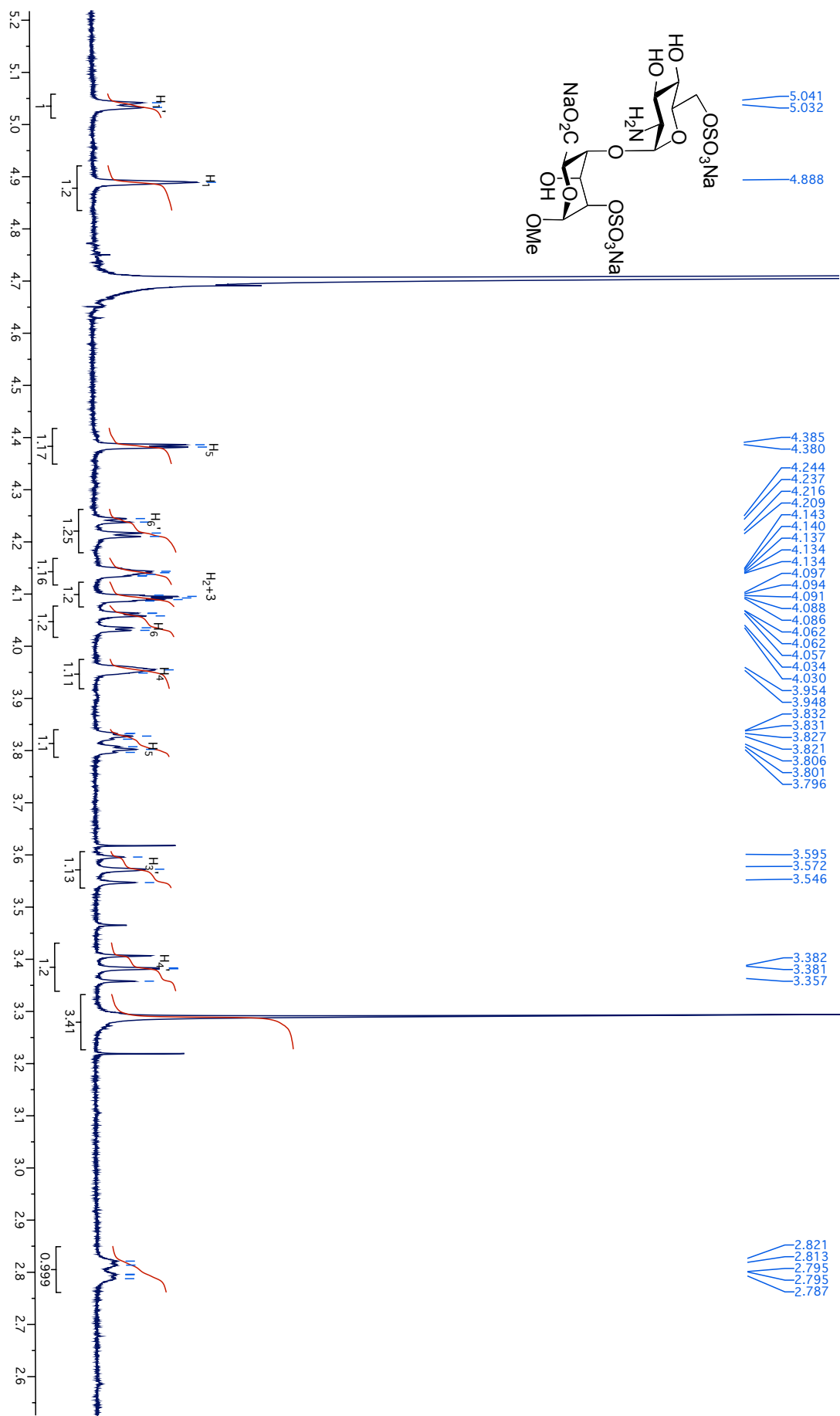
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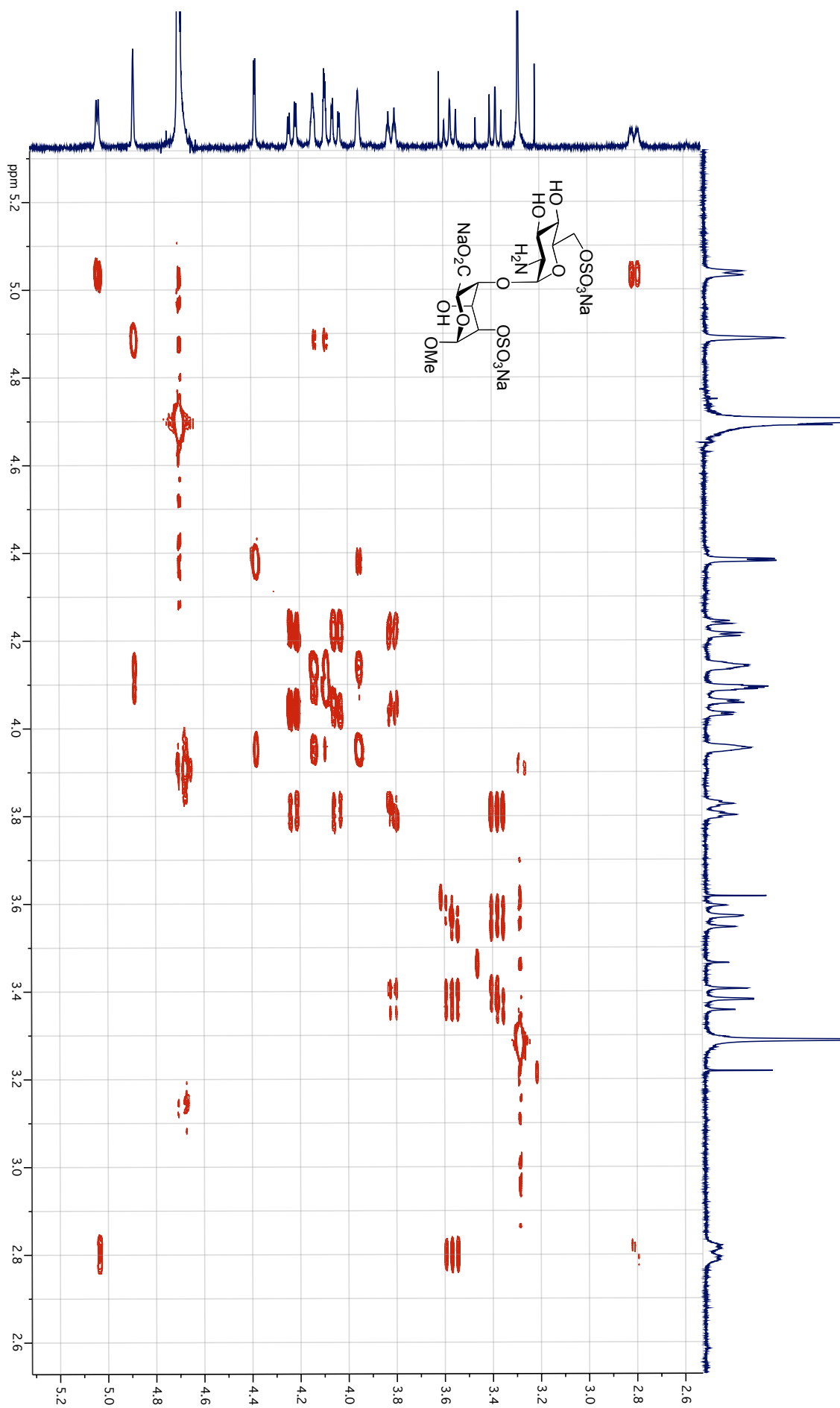
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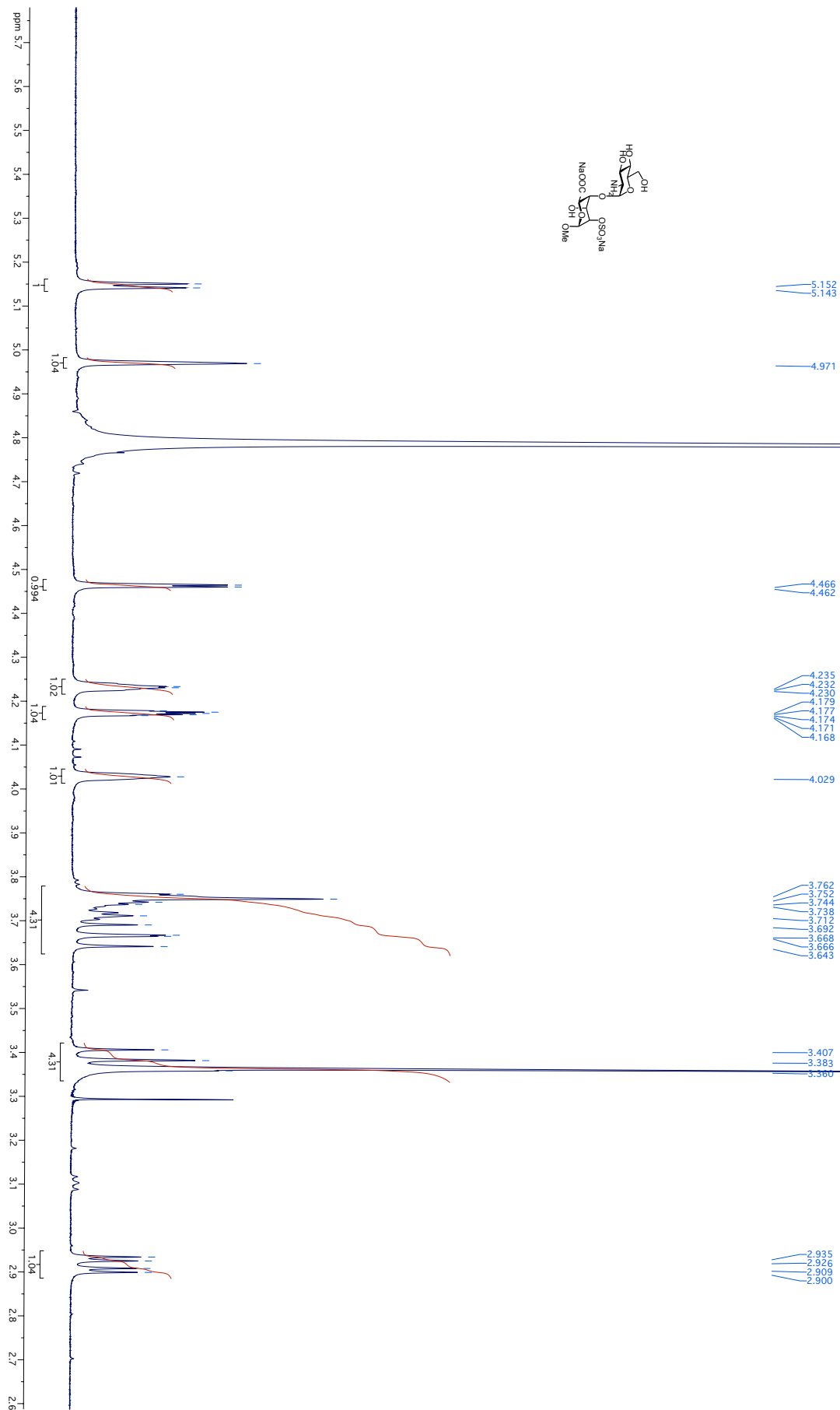
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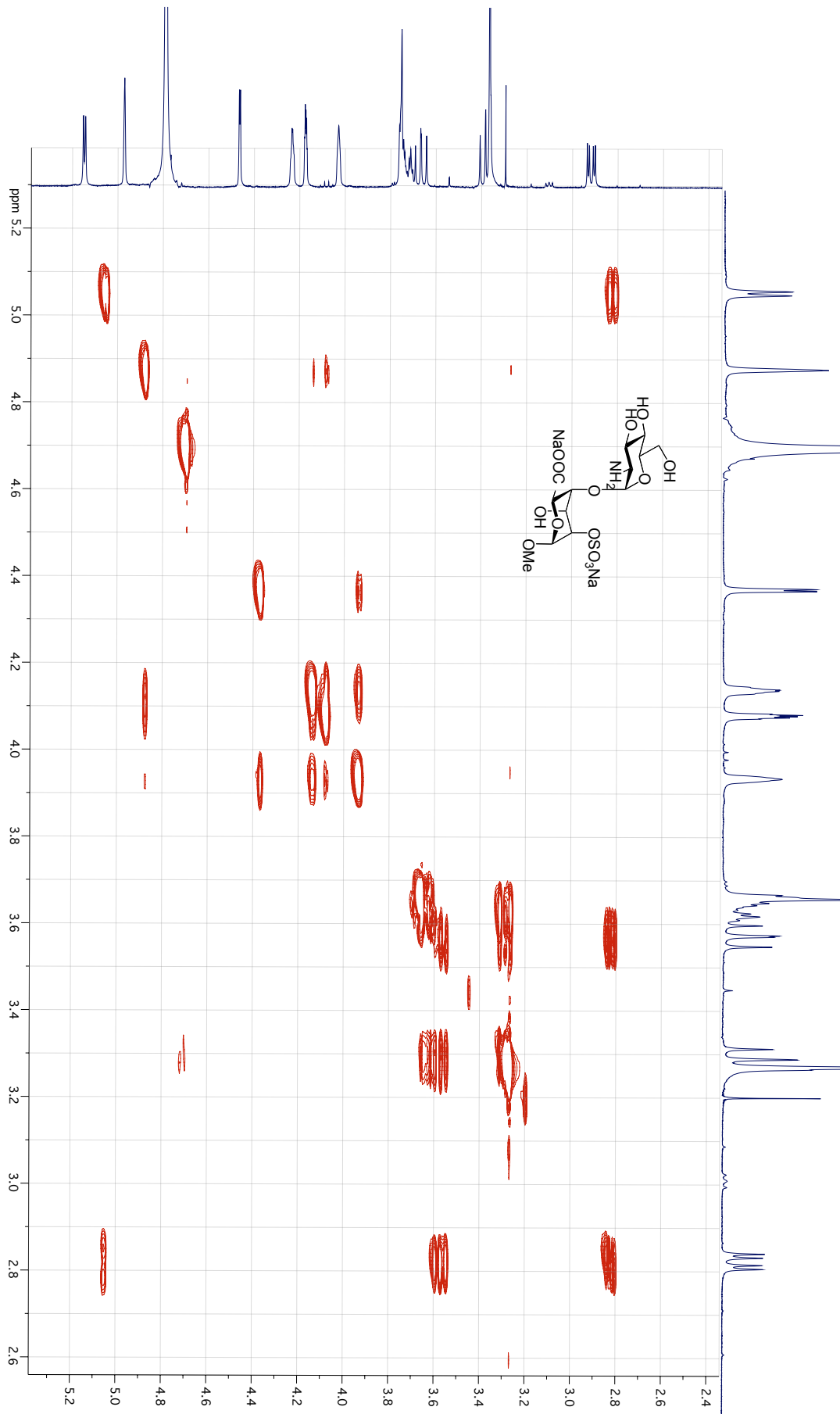
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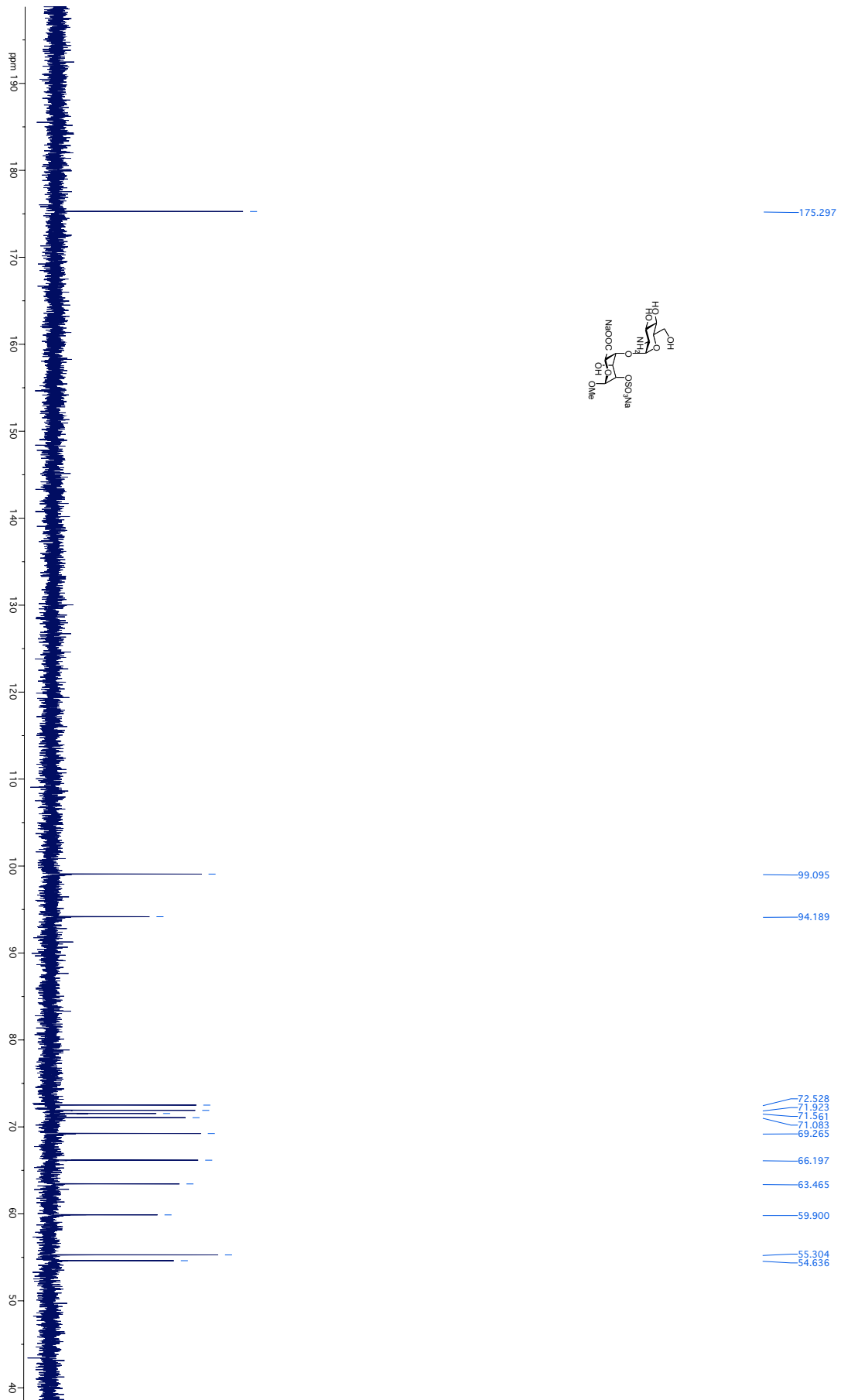
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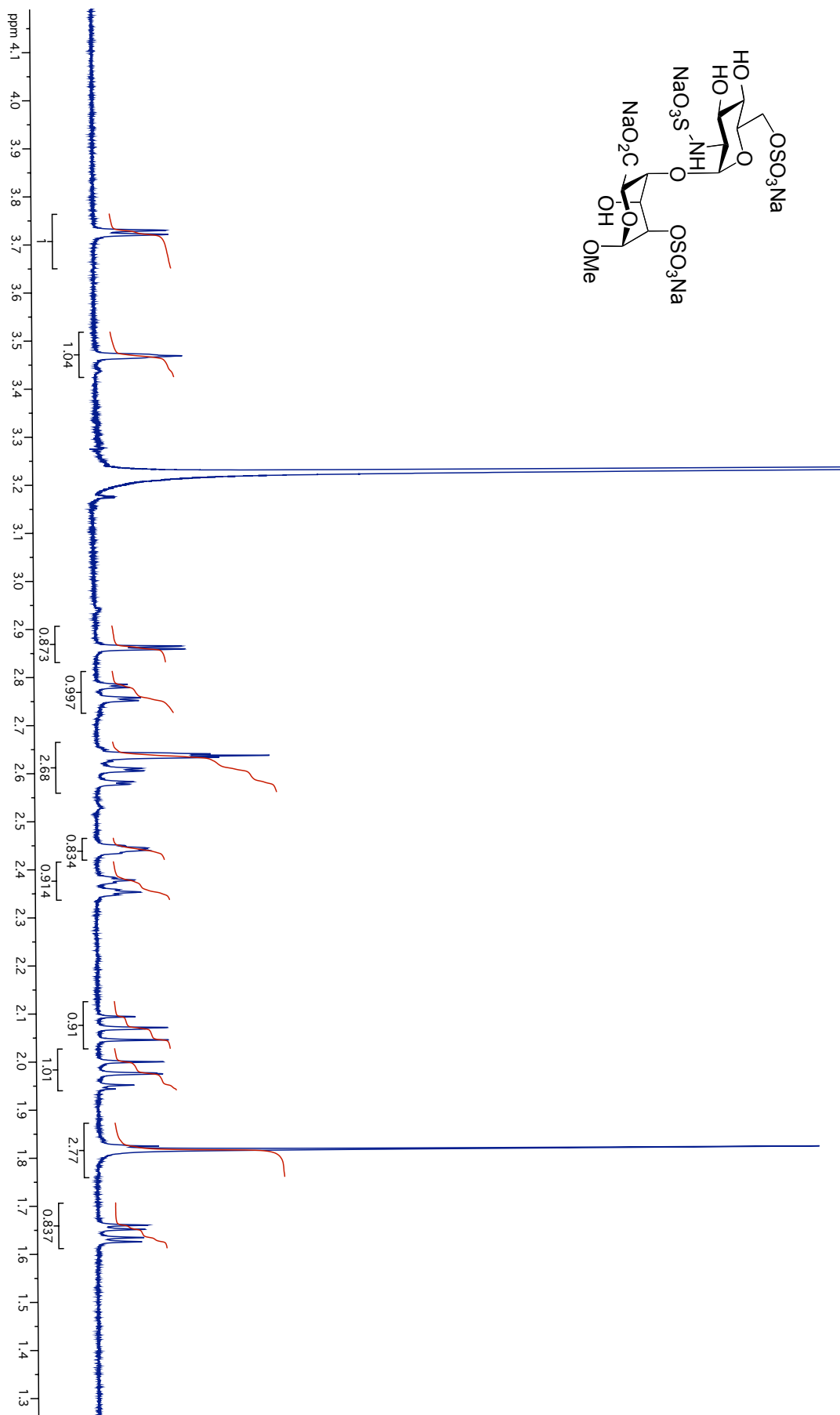
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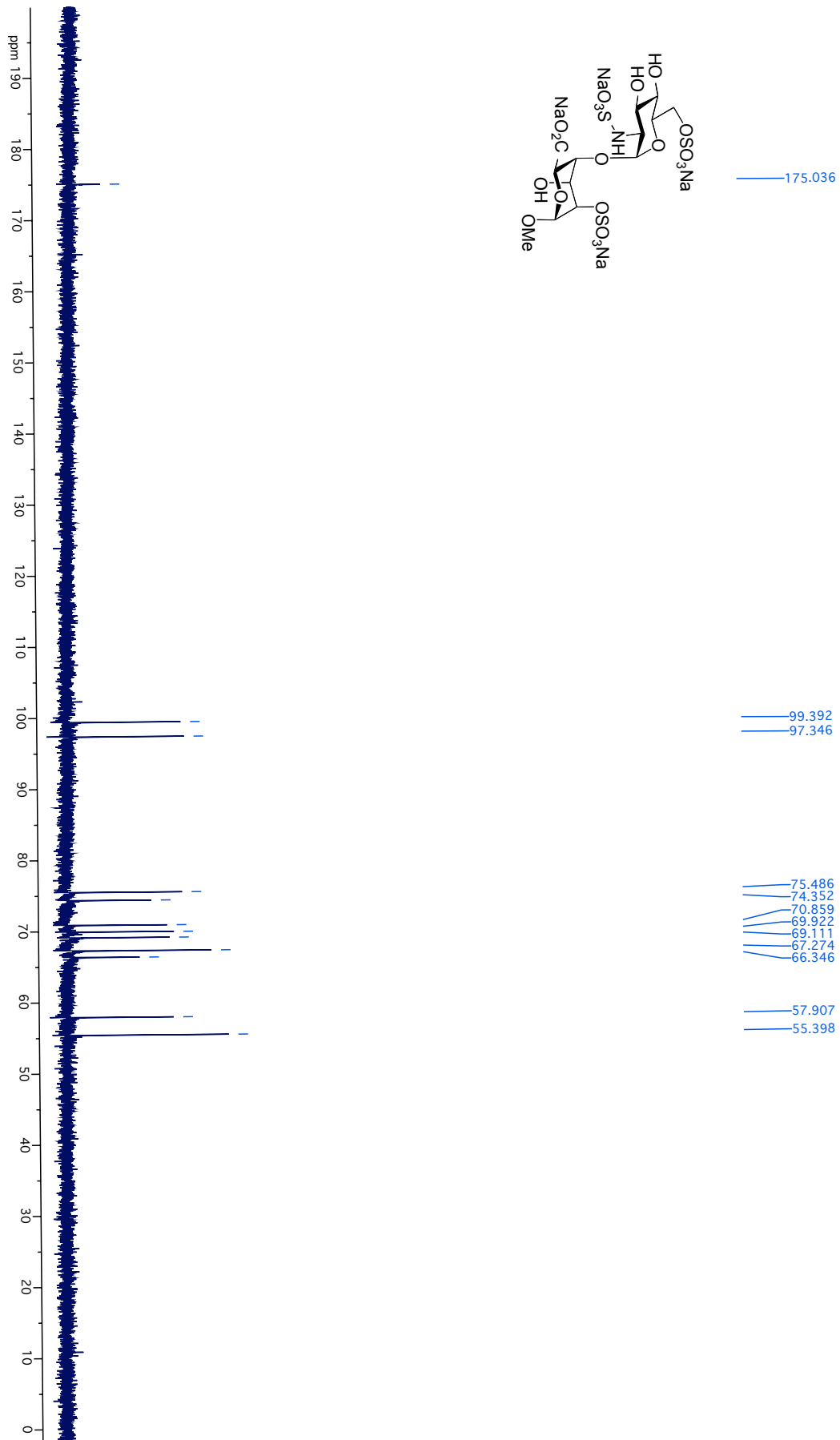
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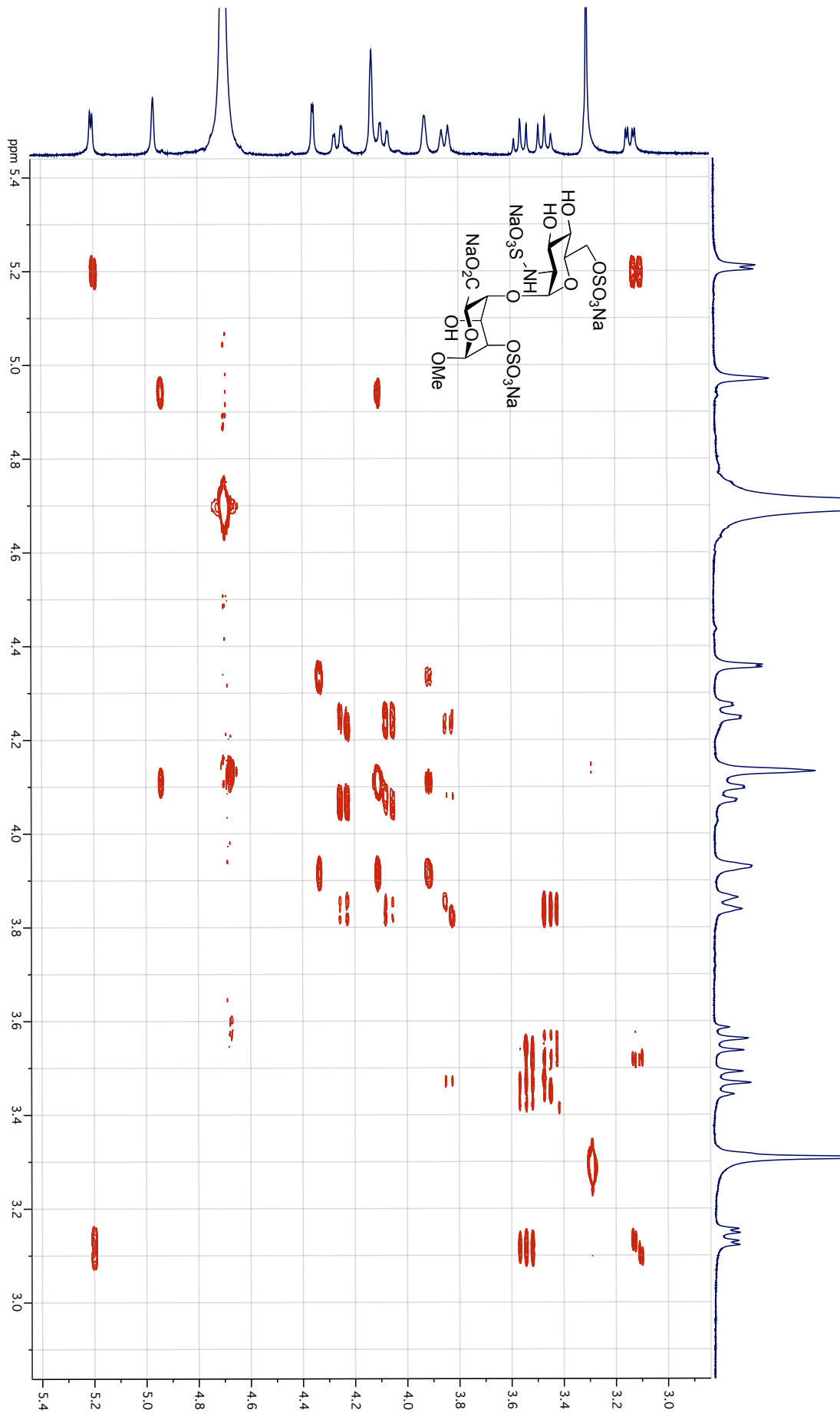
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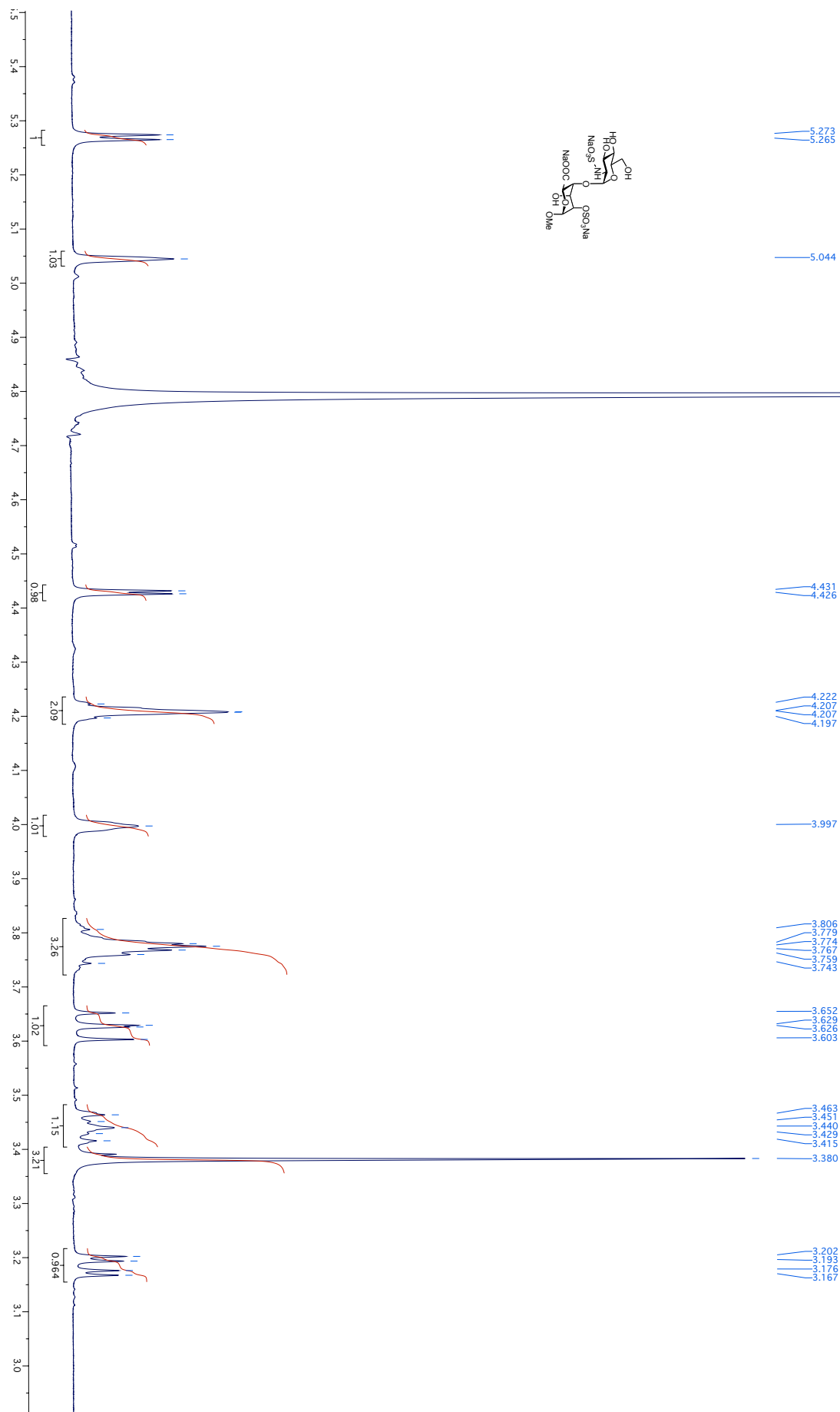
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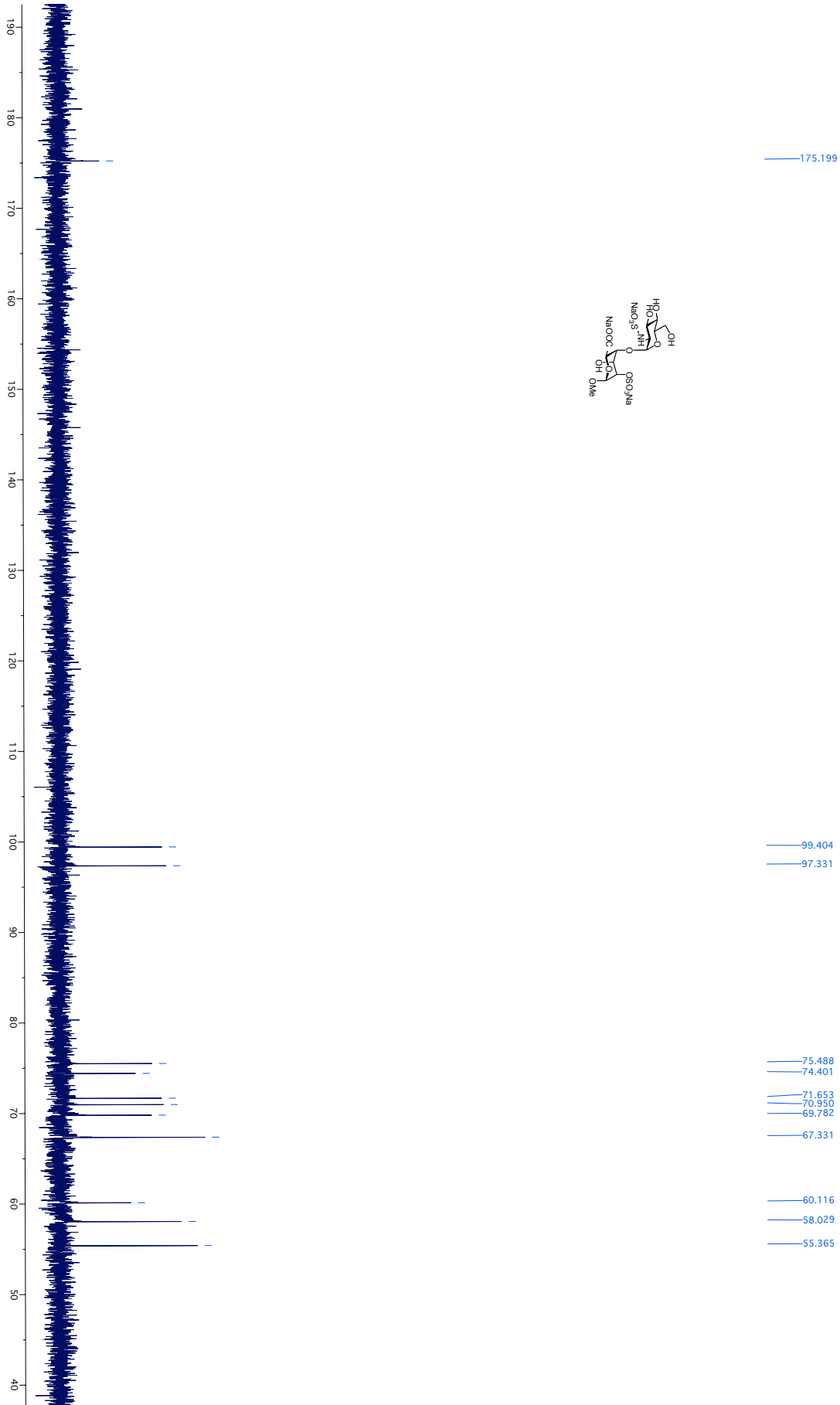
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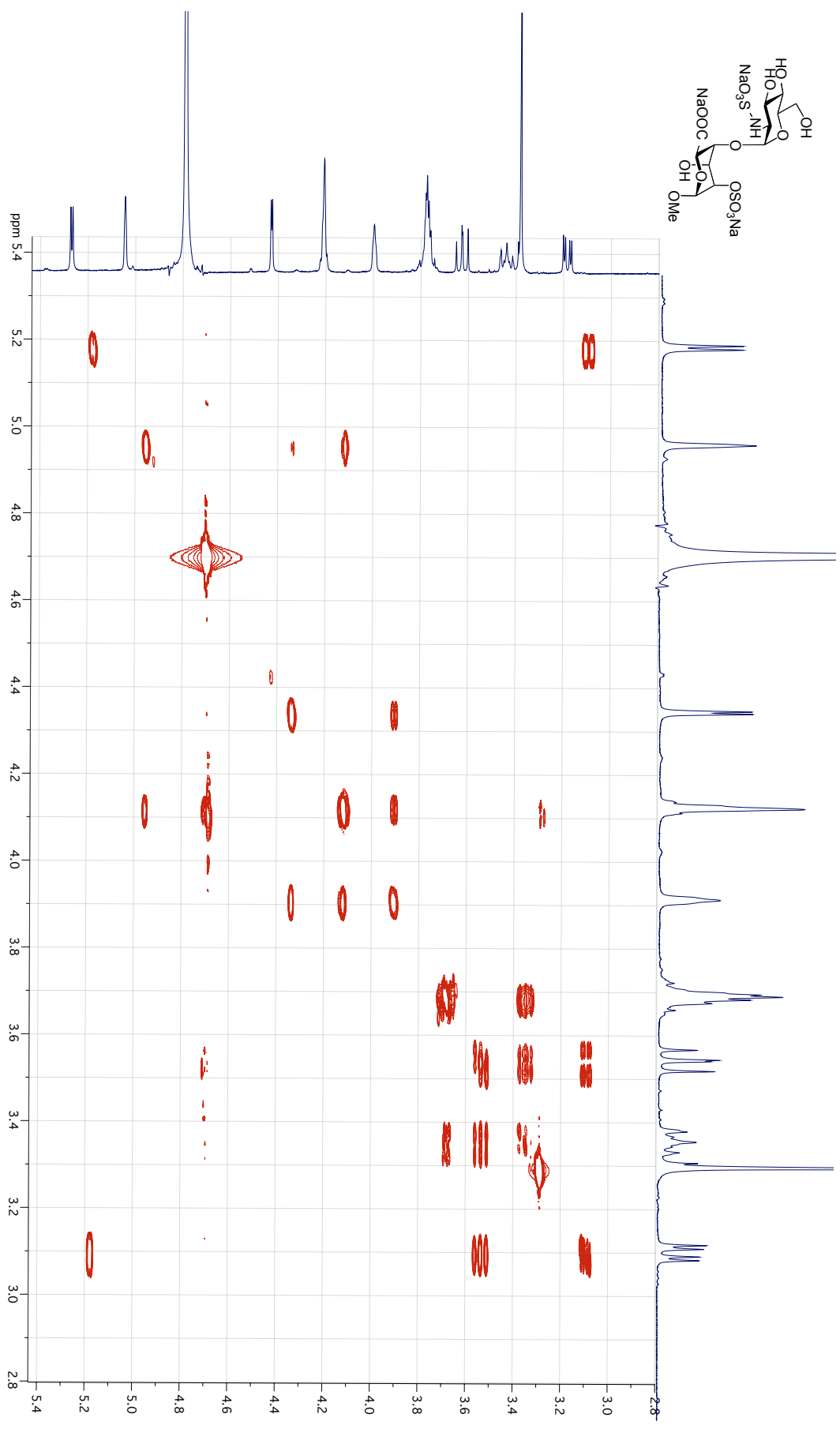
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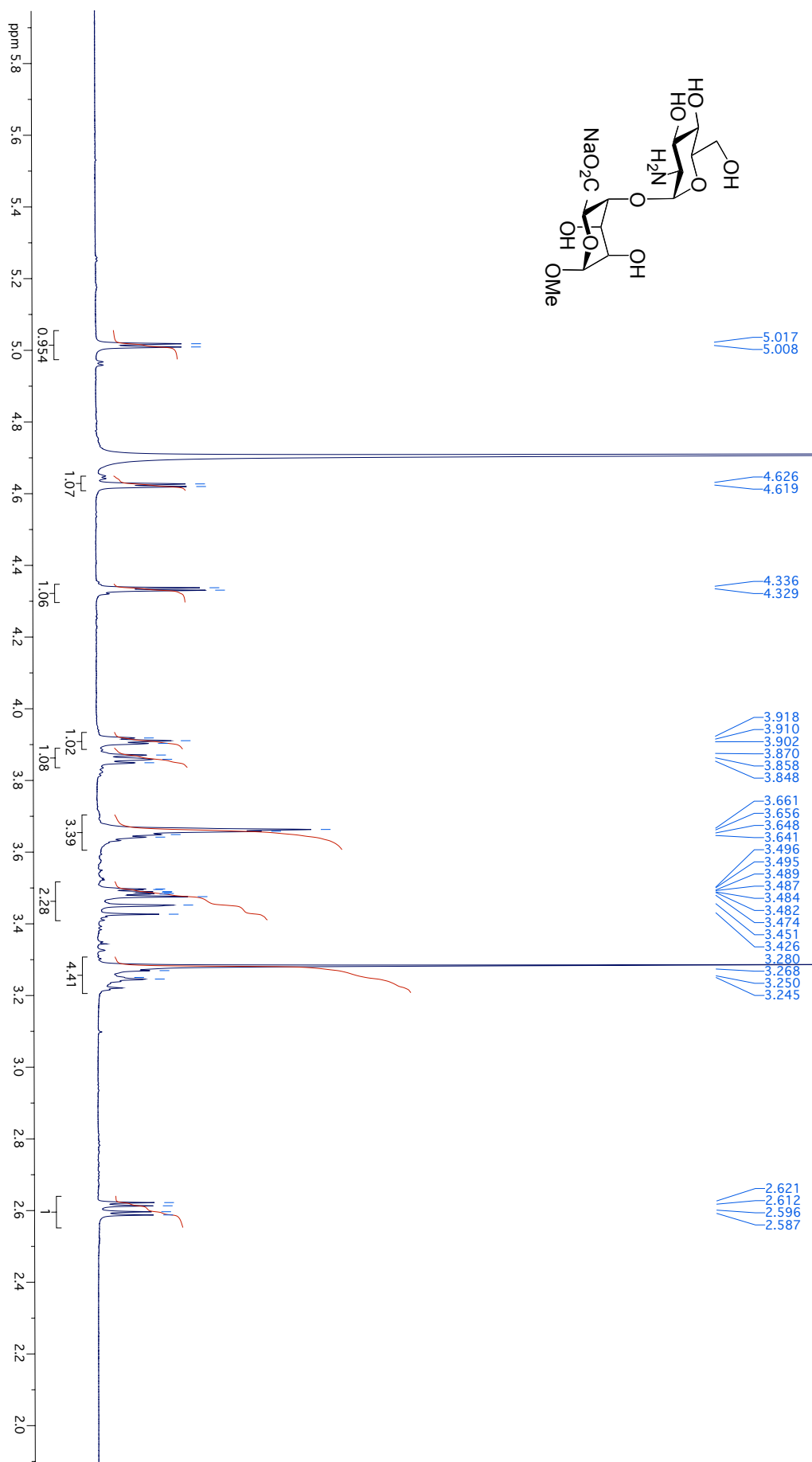
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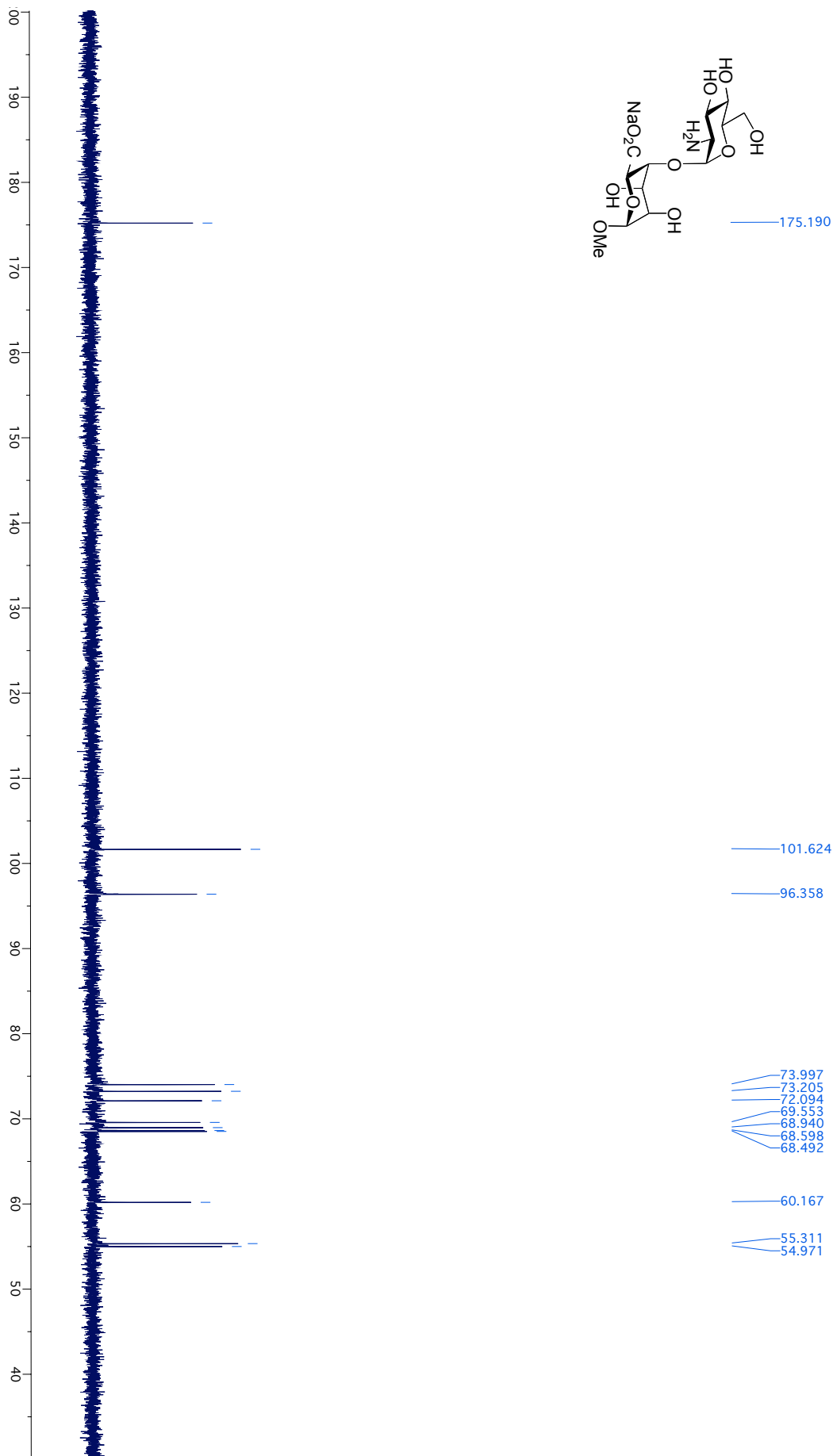
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Methyl- α -D-glucosaminopyranosyl-(1 \rightarrow 4)- α -L-idopyranoside uronate mono sodium salt 18



Methyl- α -D-glucosaminopyranosyl-(1 \rightarrow 4)- α -L-idopyranoside uronate mono sodium salt 18



Methyl- α -D-glucosaminopyranosyl-(1 \rightarrow 4)- α -L-idopyranoside uronate mono sodium salt 18

