

Supporting information for

Efficient synthesis of oligosaccharyl 1,2-*O*-orthoesters from *n*-pentenyl glycosides and application to the pentaarabinofuranoside of mycobacterial cell surface

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Department of Chemistry, Indian Institute of Science Education and Research

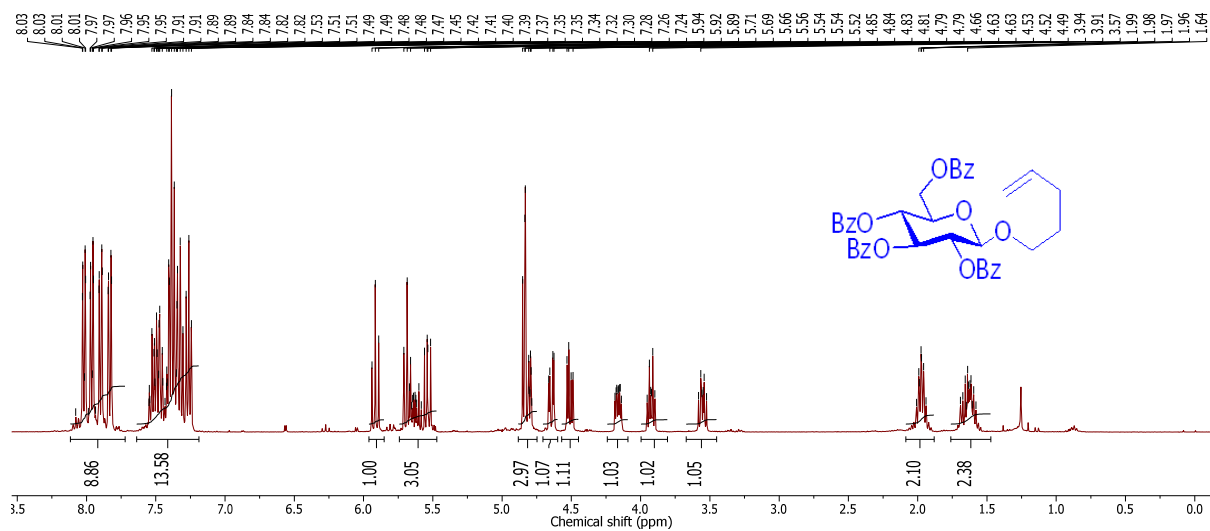
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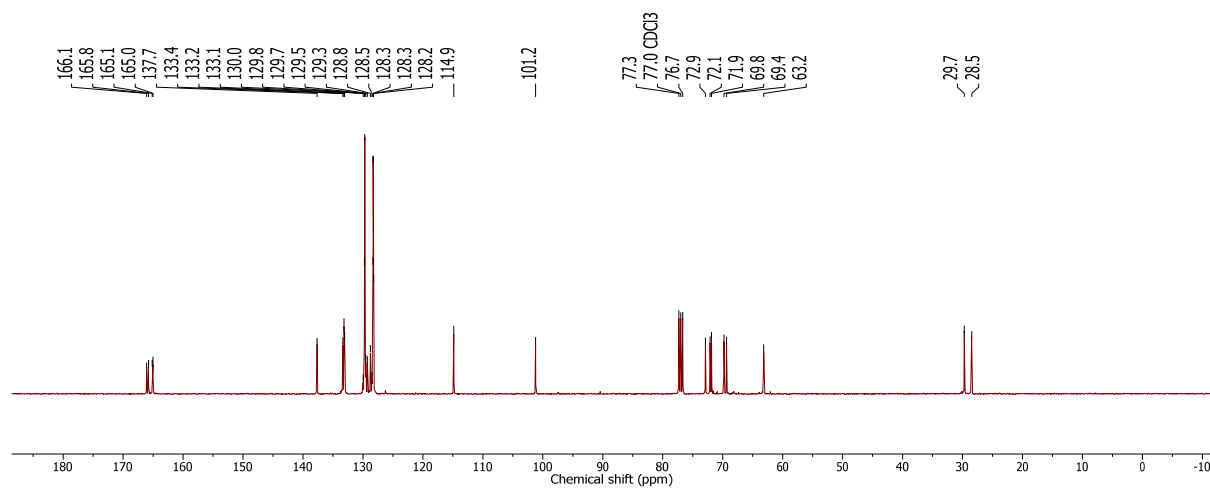
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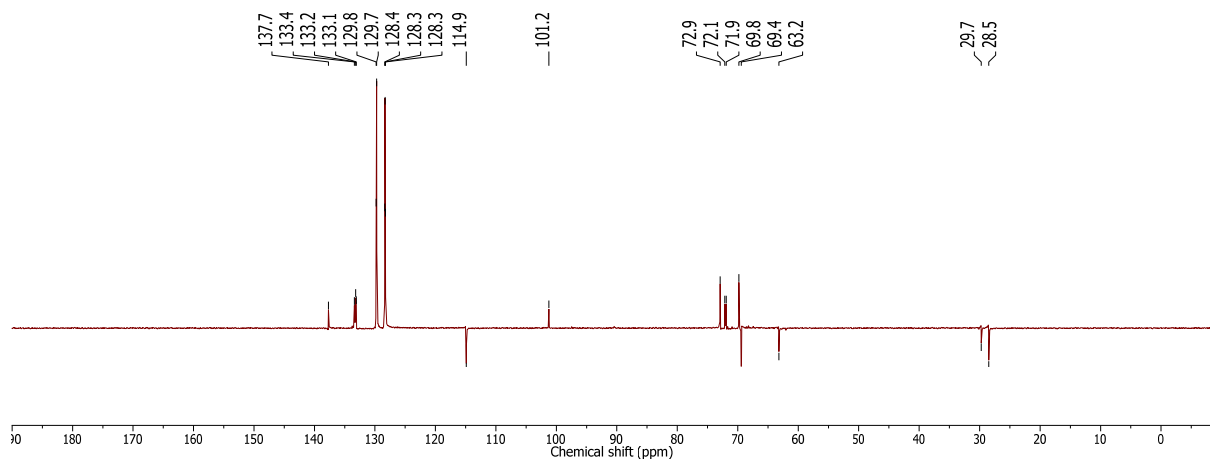
^1H NMR Spectrum (399.78 MHz, CDCl_3) of Compound **1a**¹



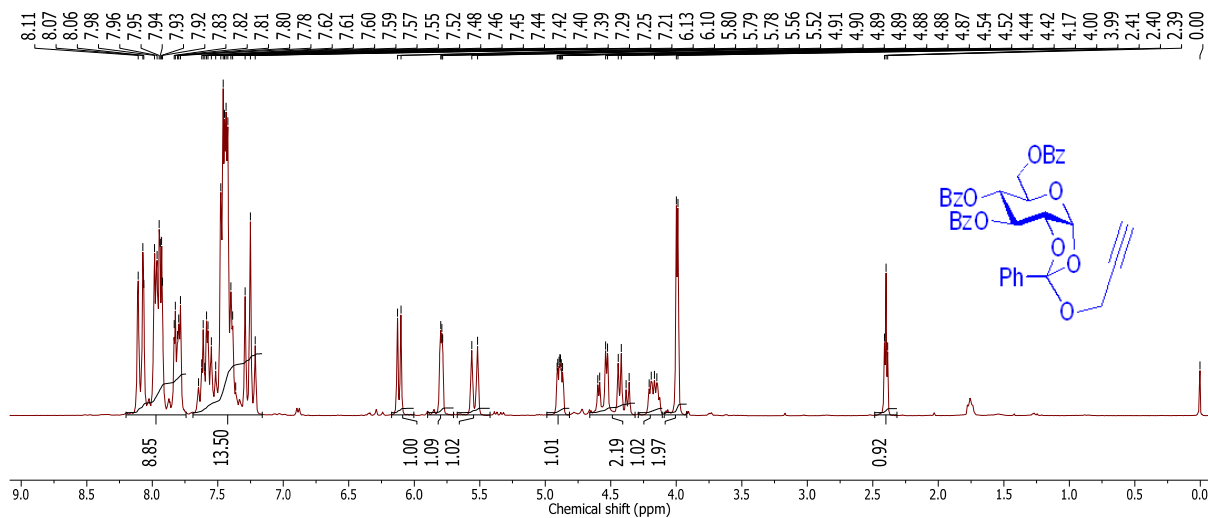
^{13}C NMR Spectrum (100.53 MHz, CDCl_3) of Compound **1a**¹



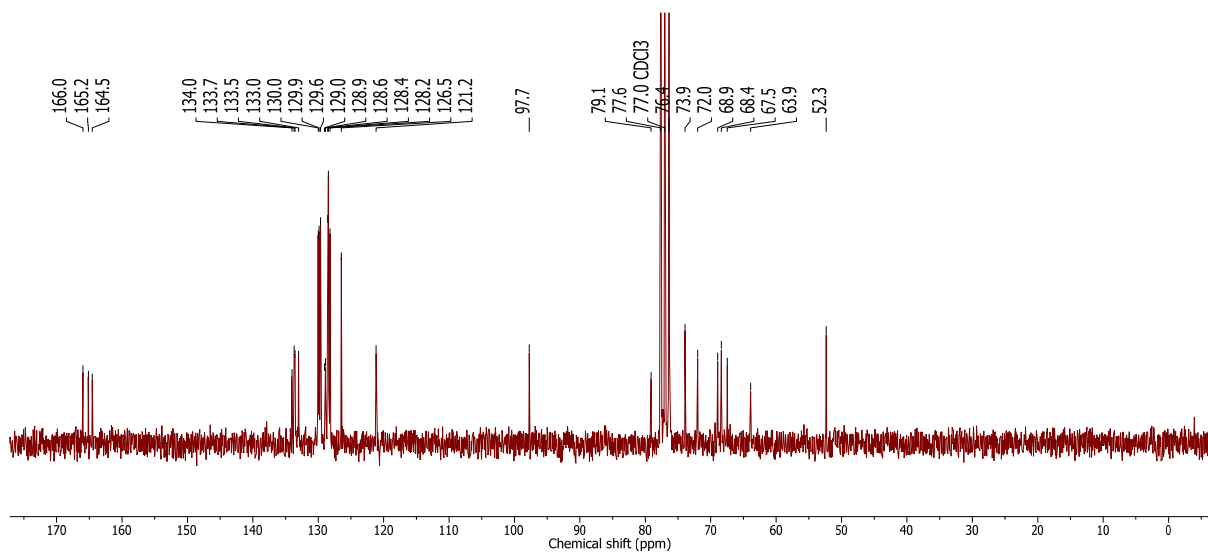
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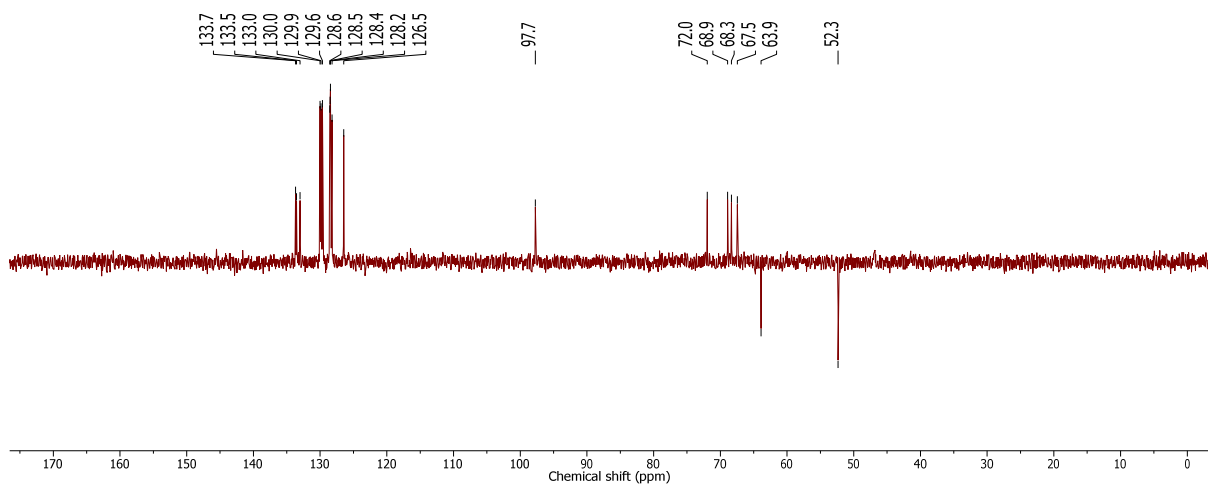
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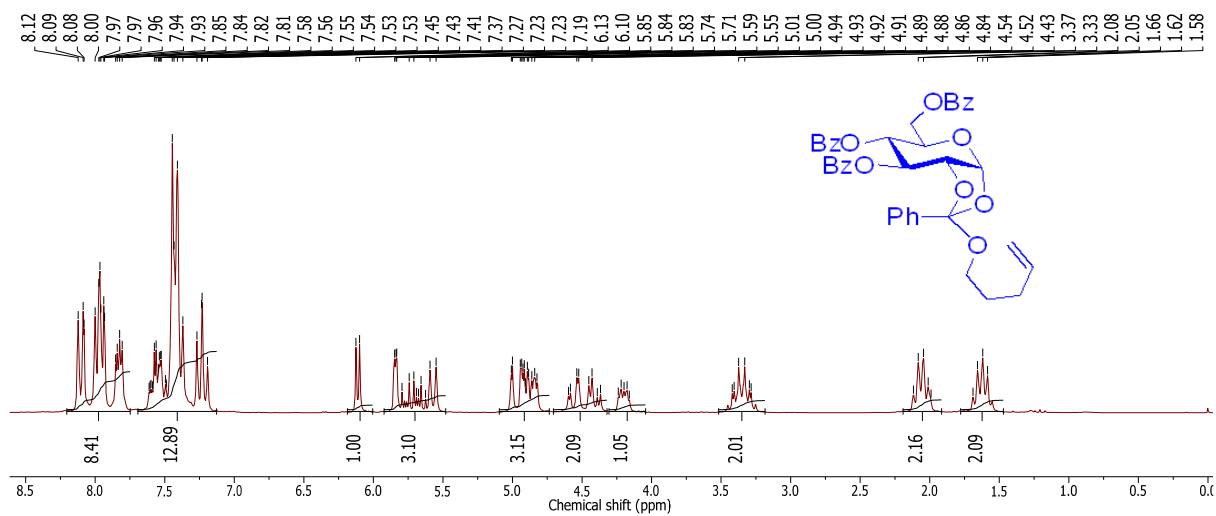
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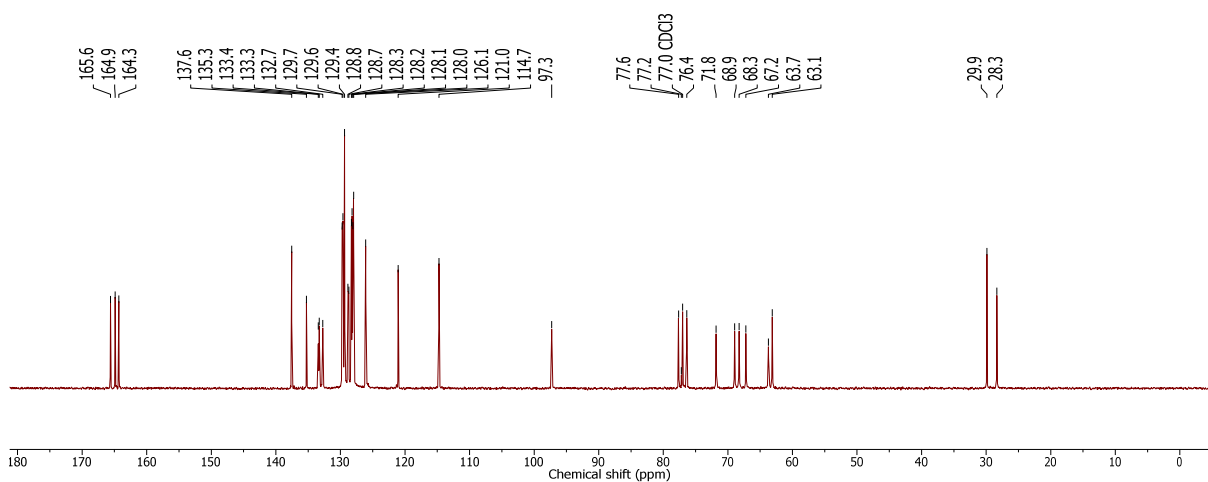
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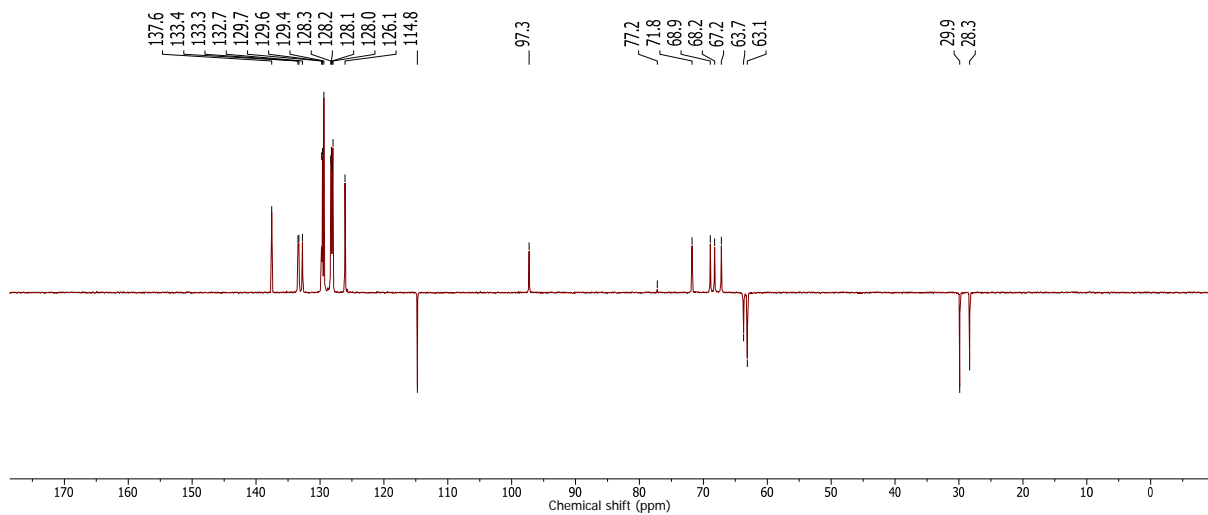
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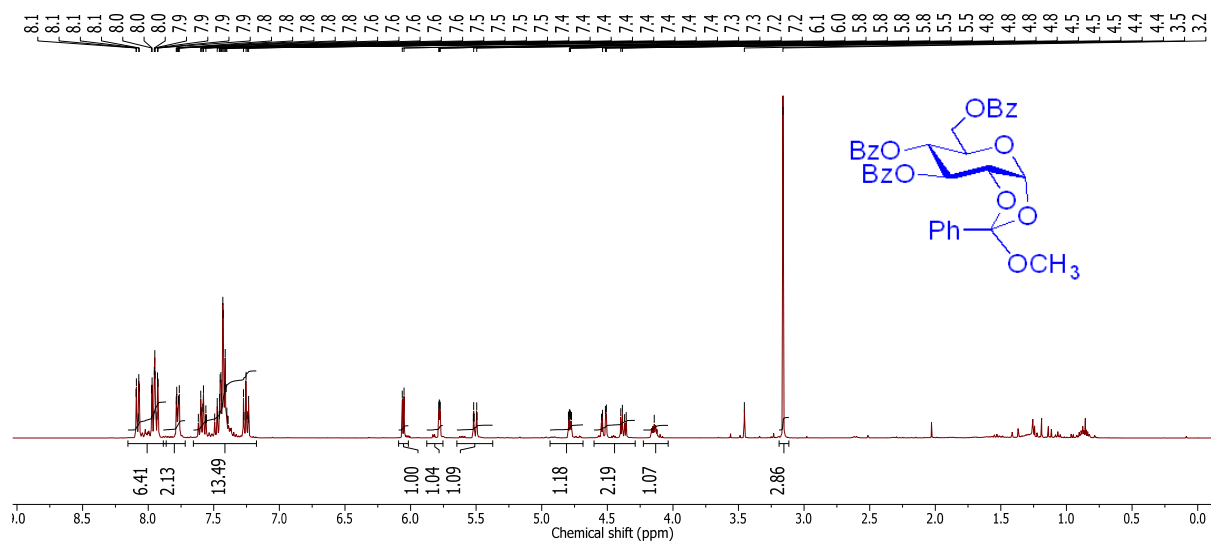
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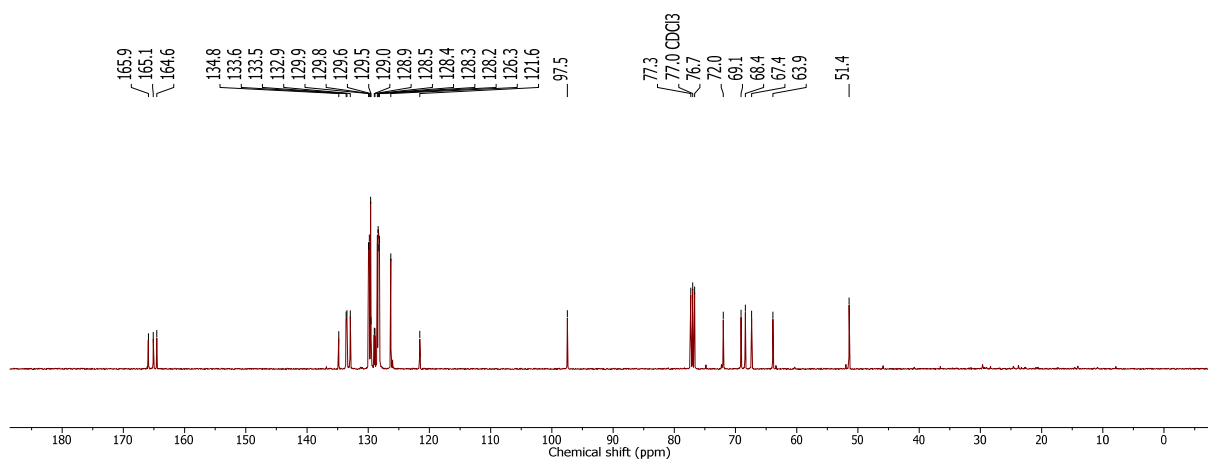
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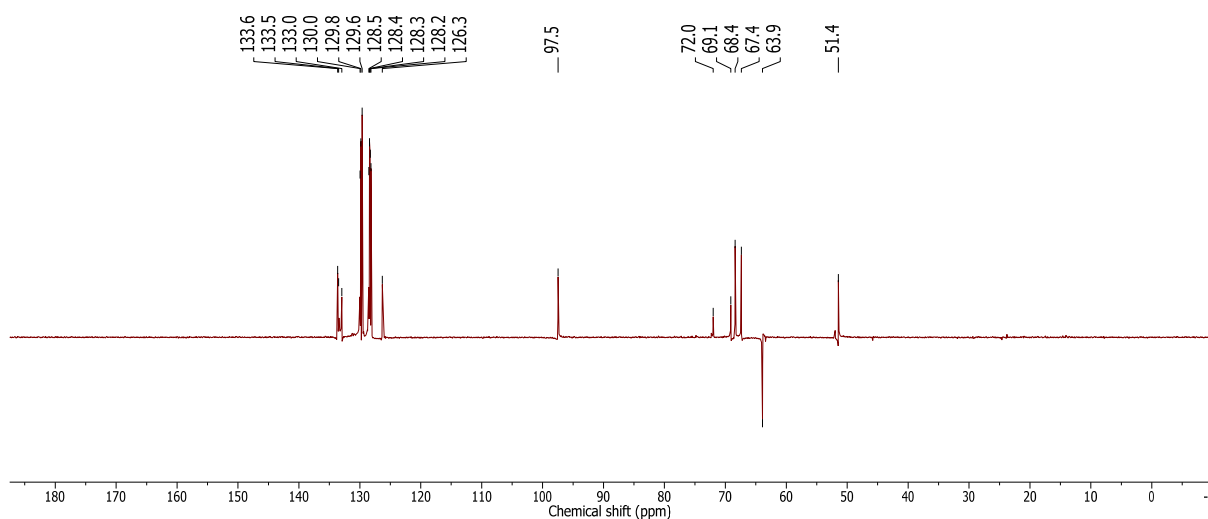
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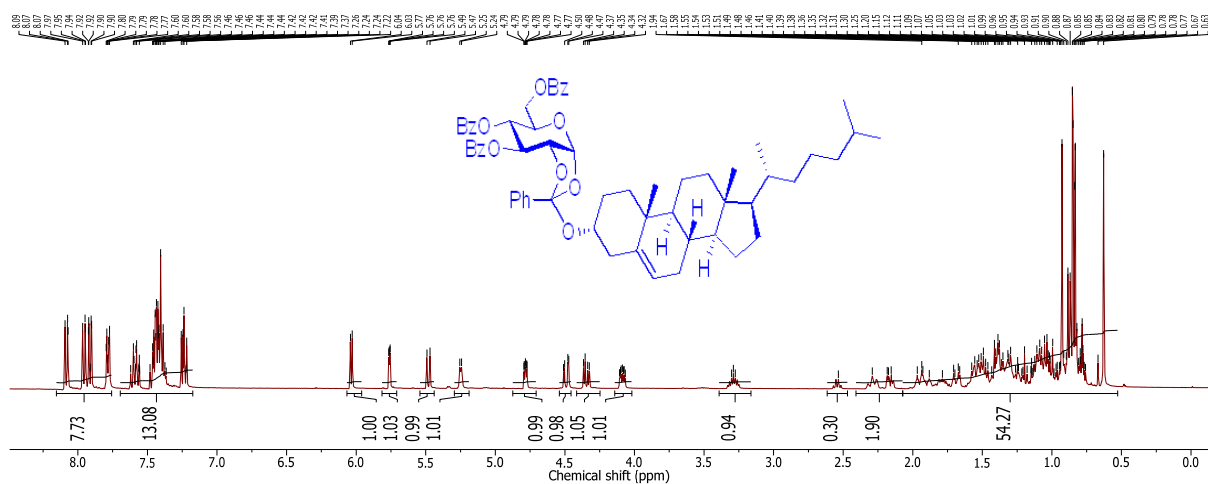
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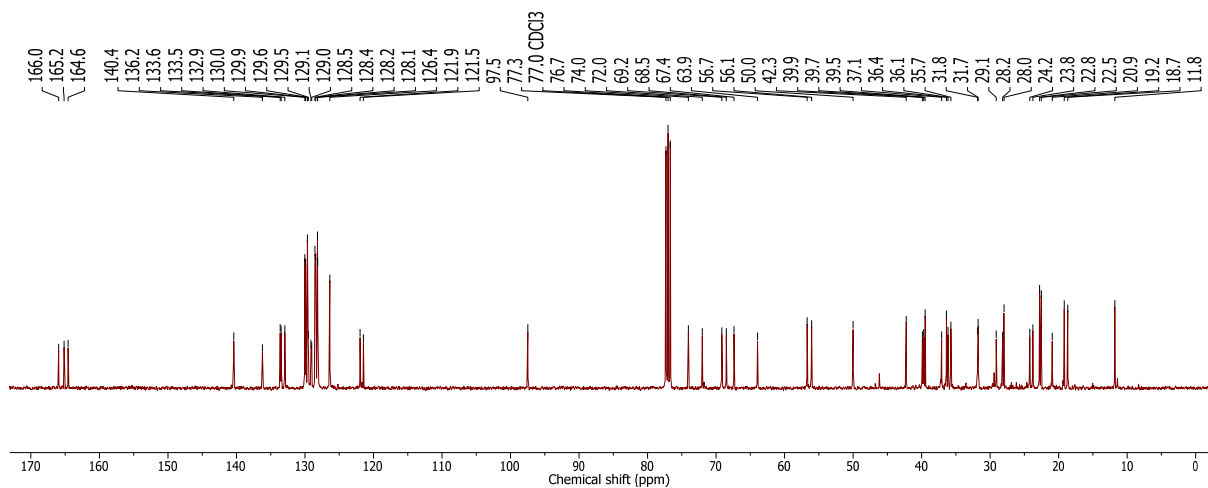
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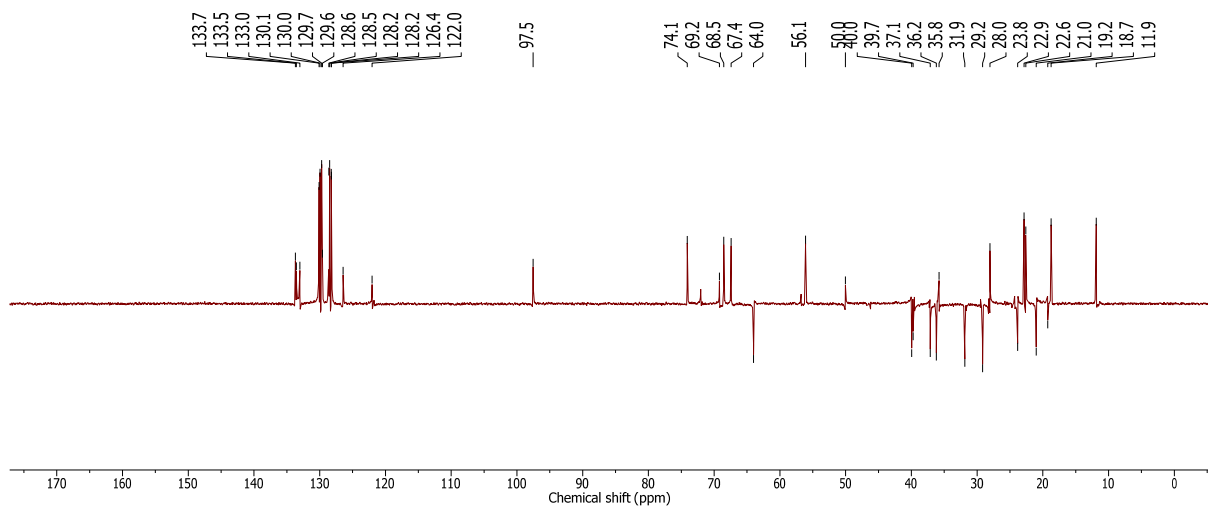
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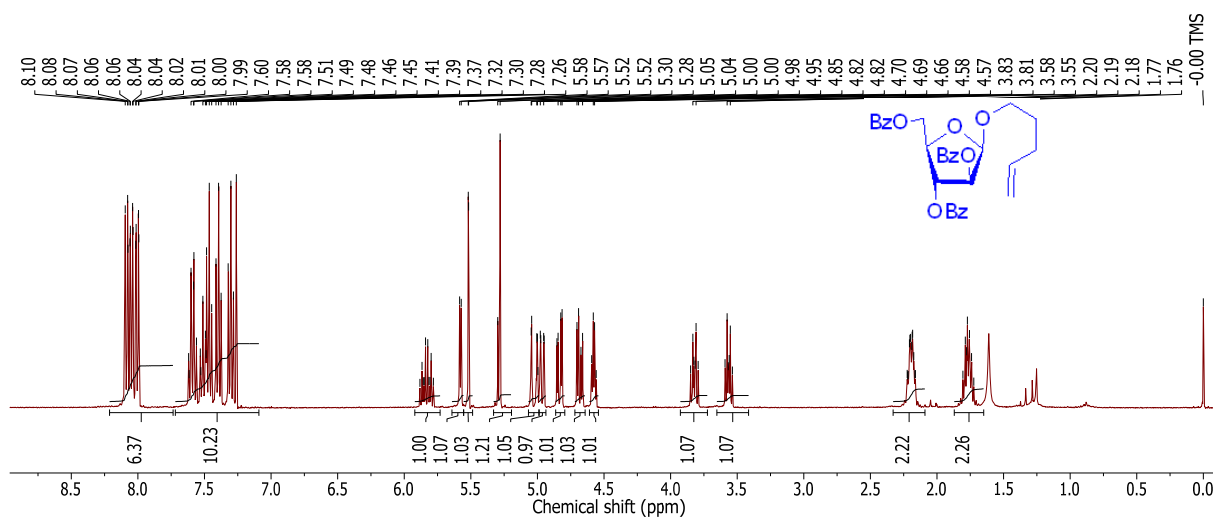
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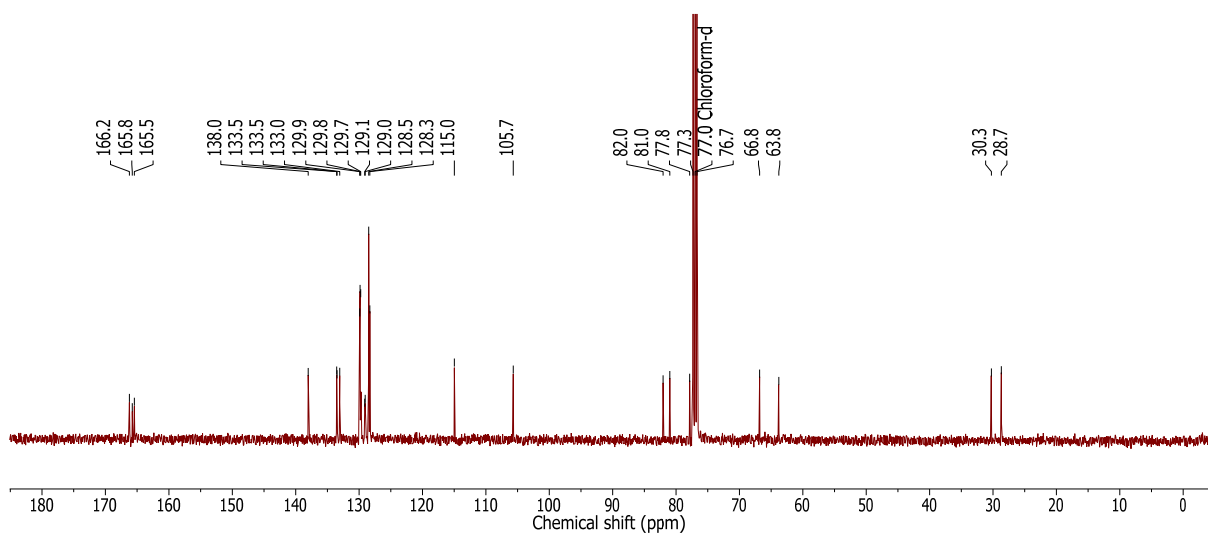
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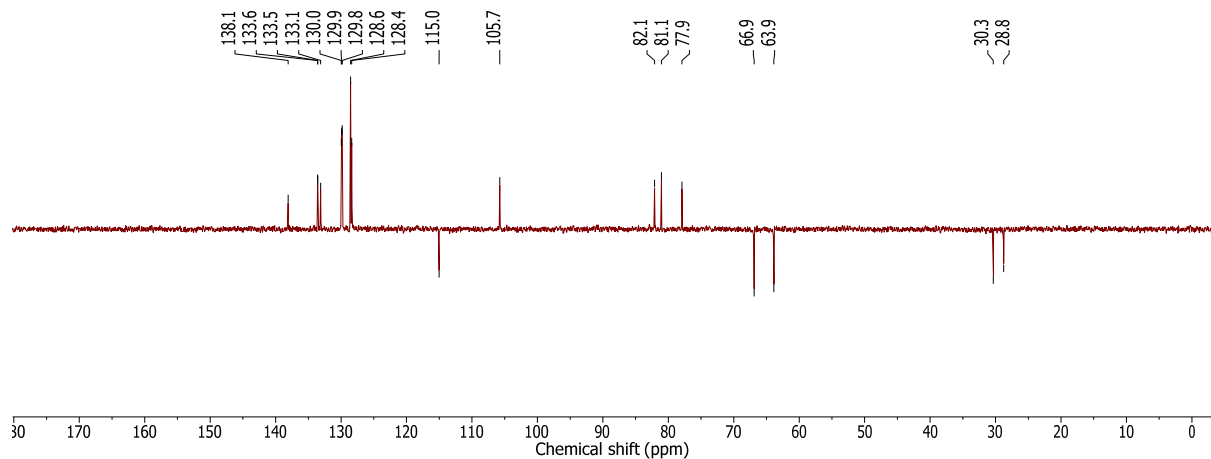
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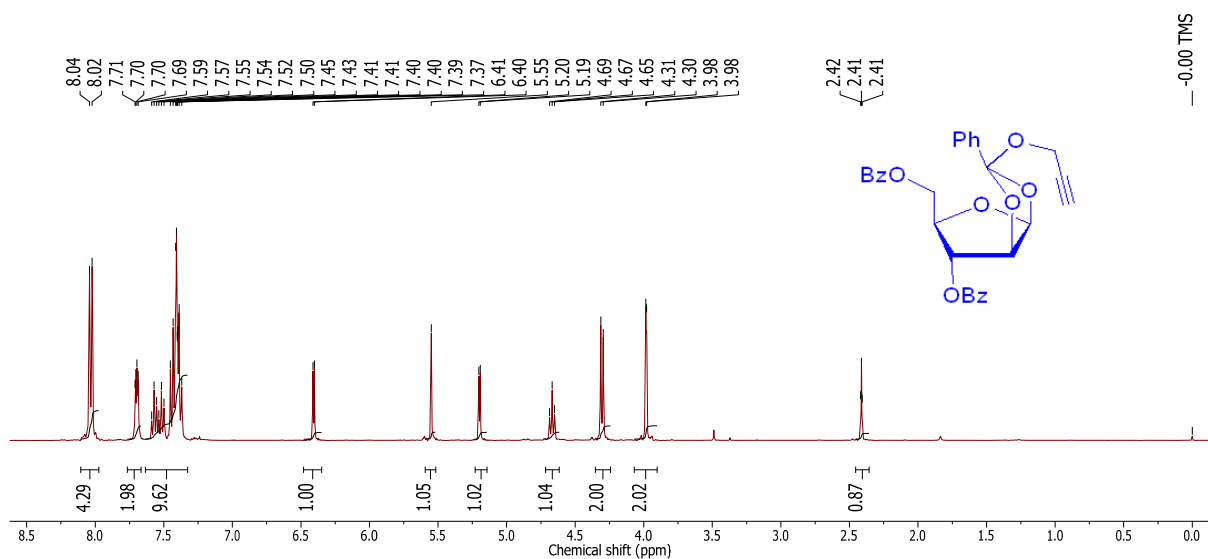
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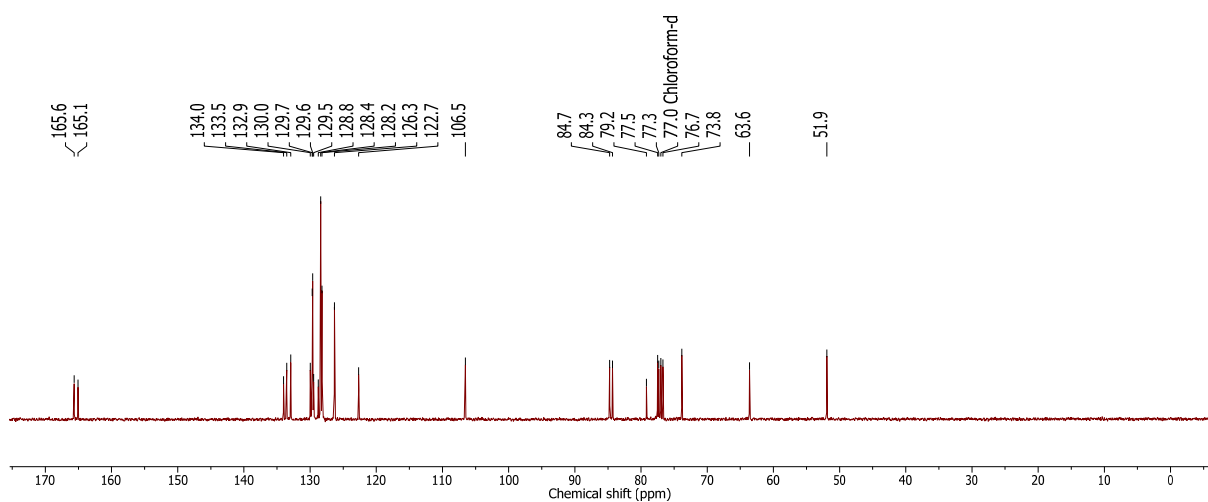
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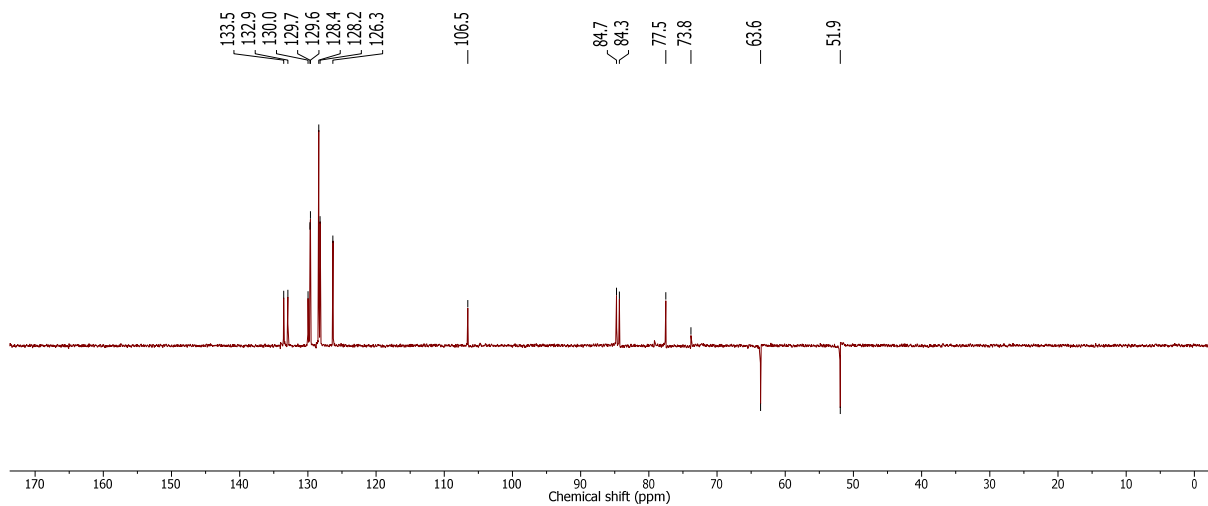
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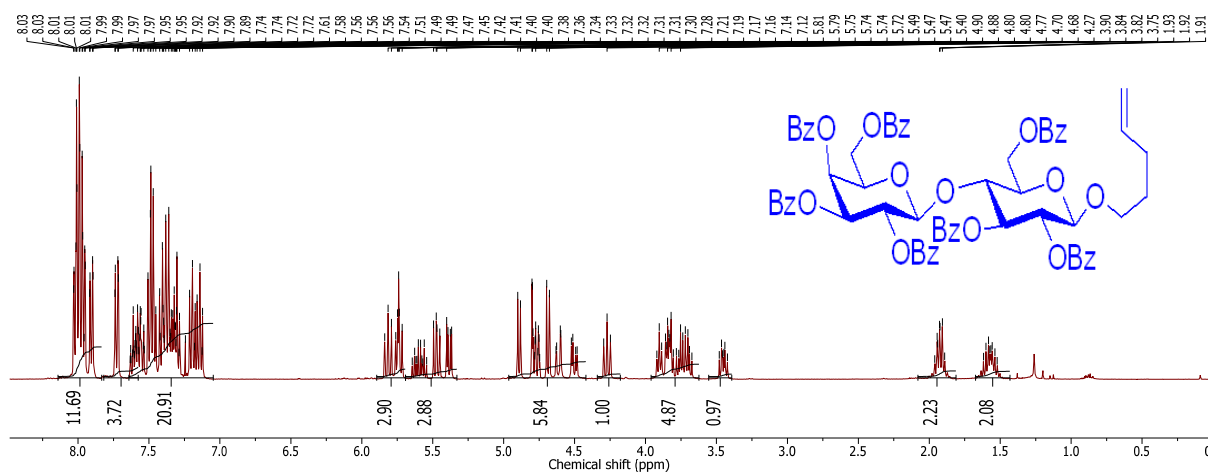
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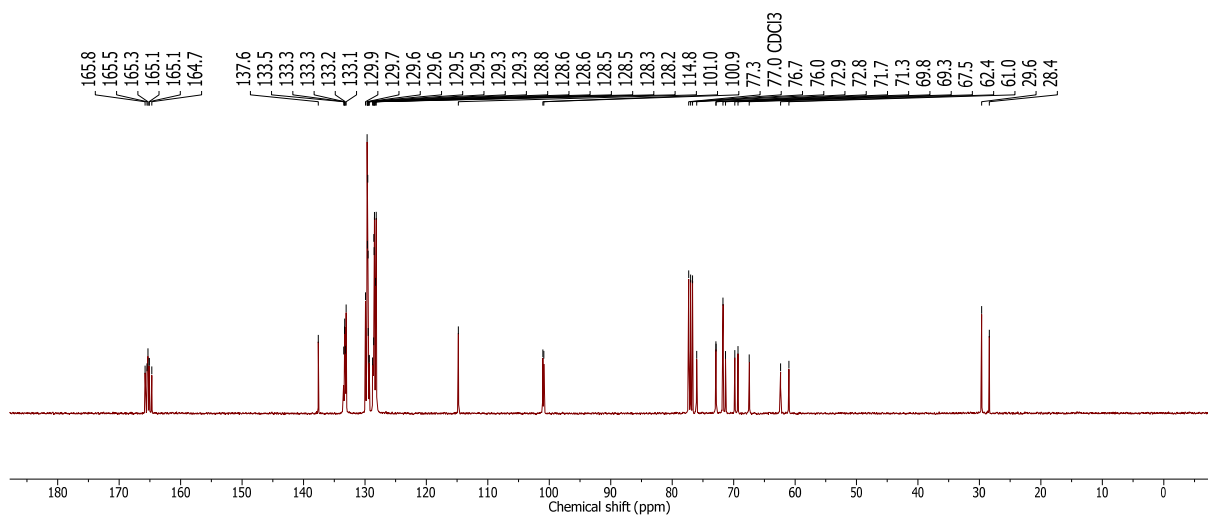
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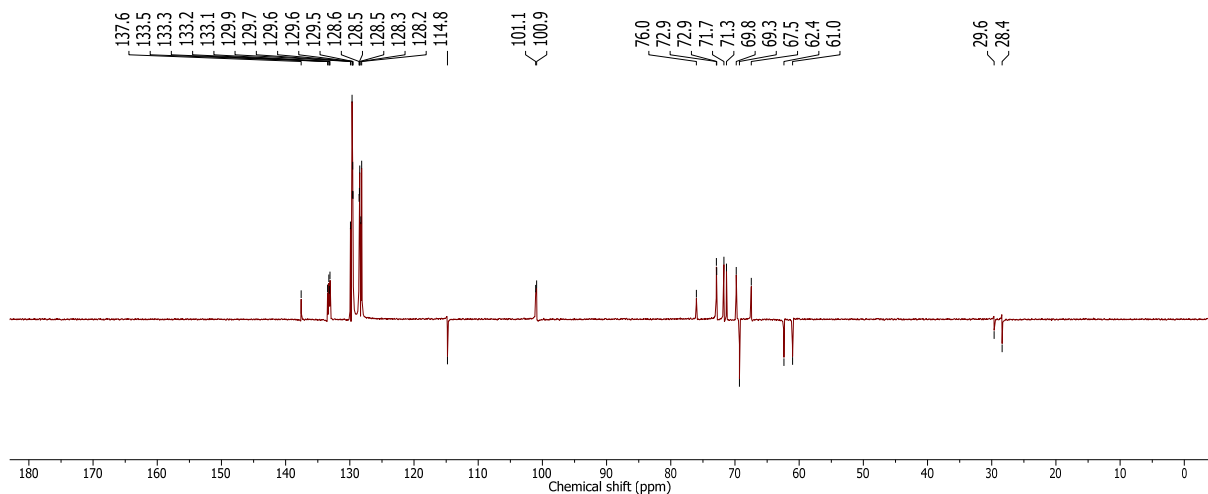
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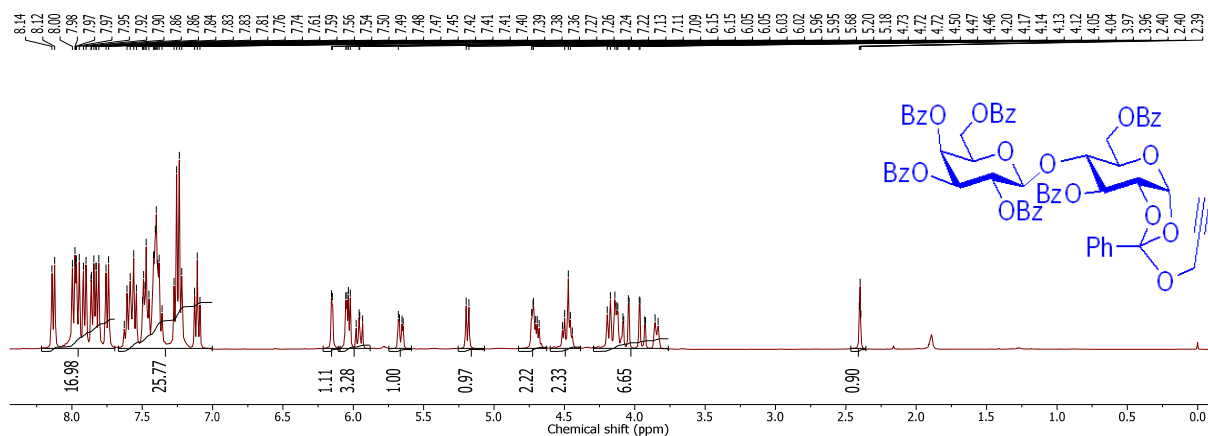
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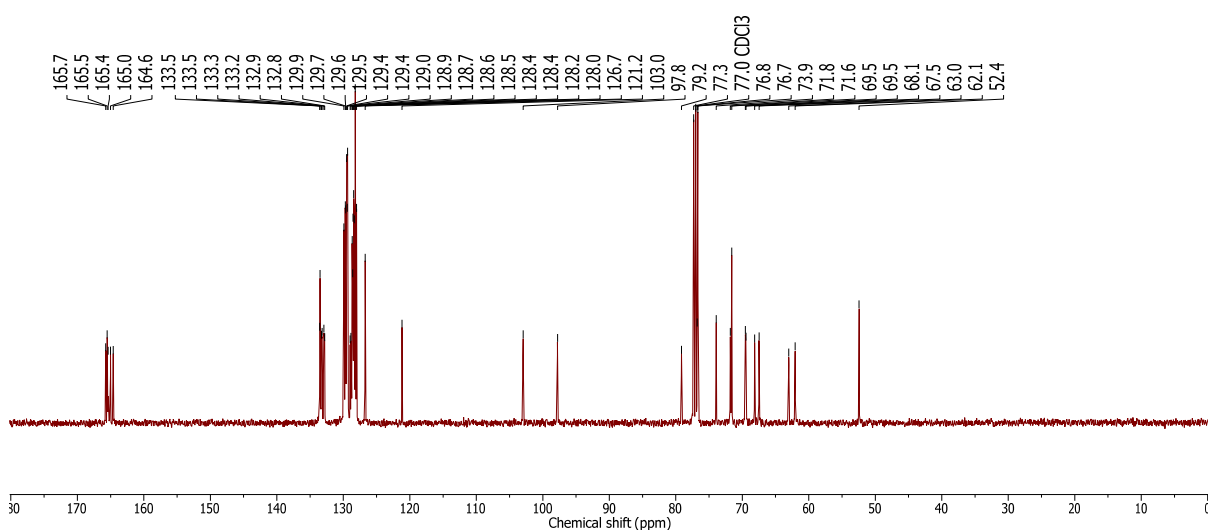
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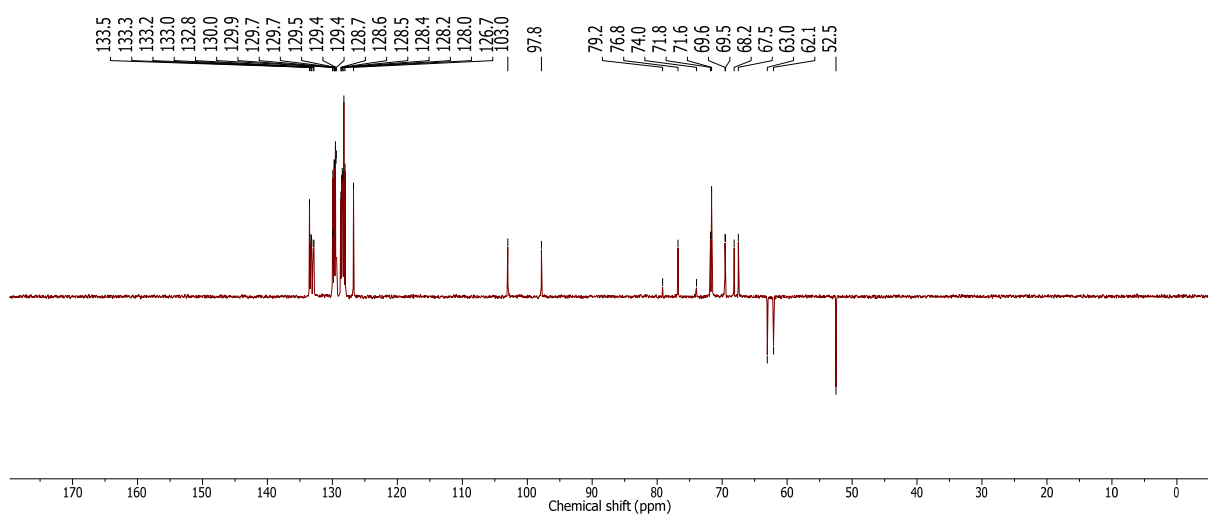
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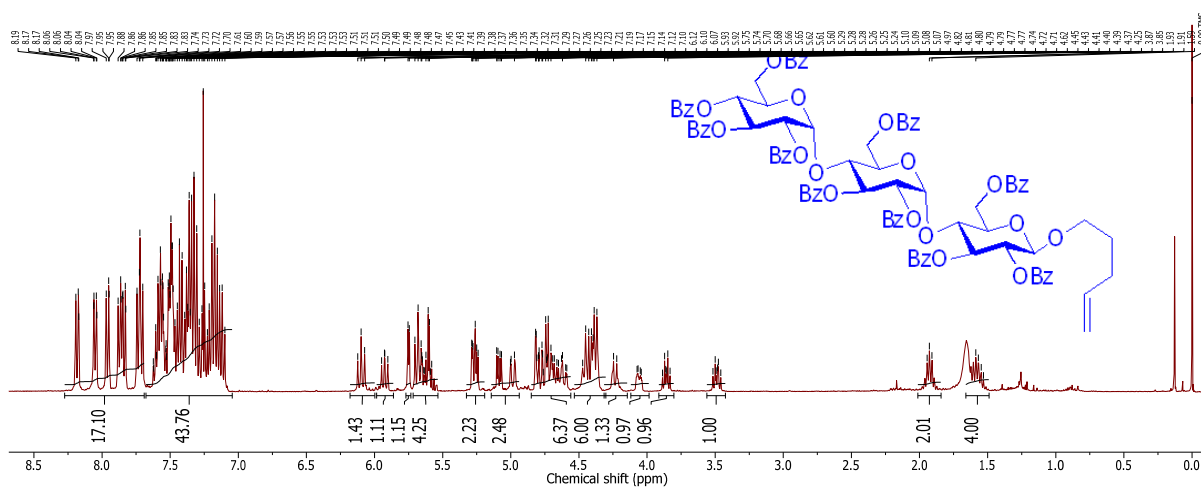
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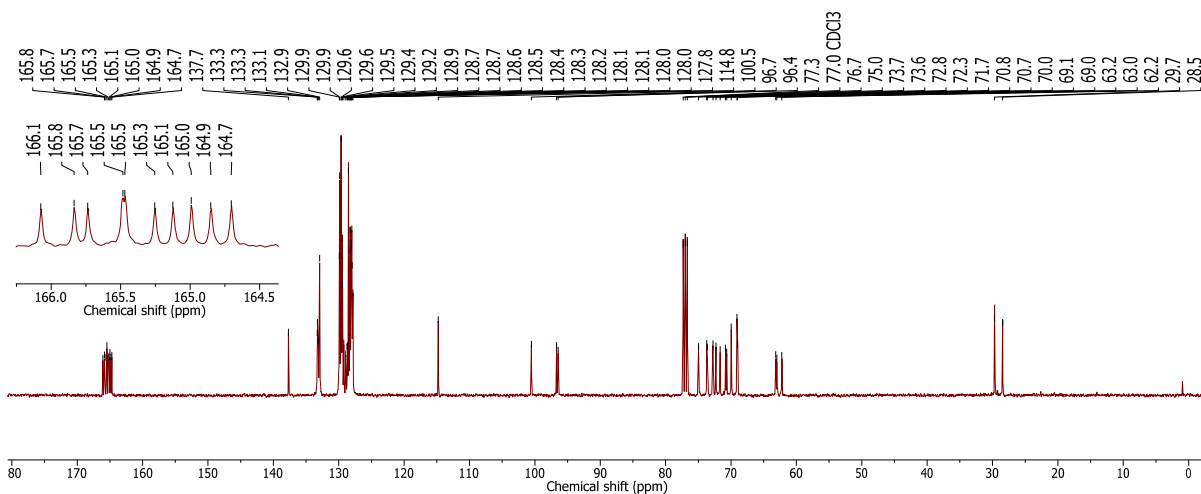
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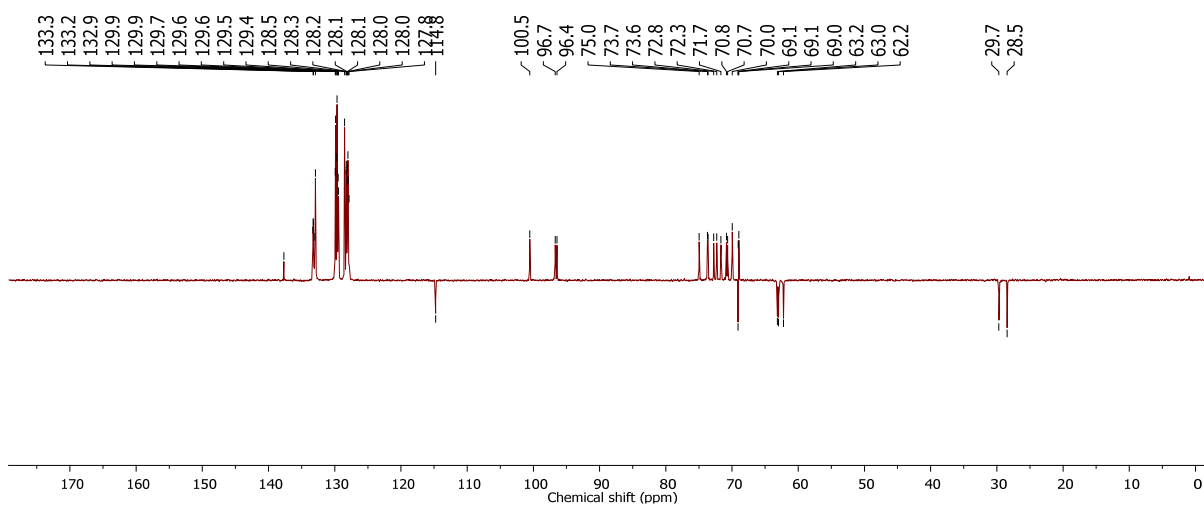
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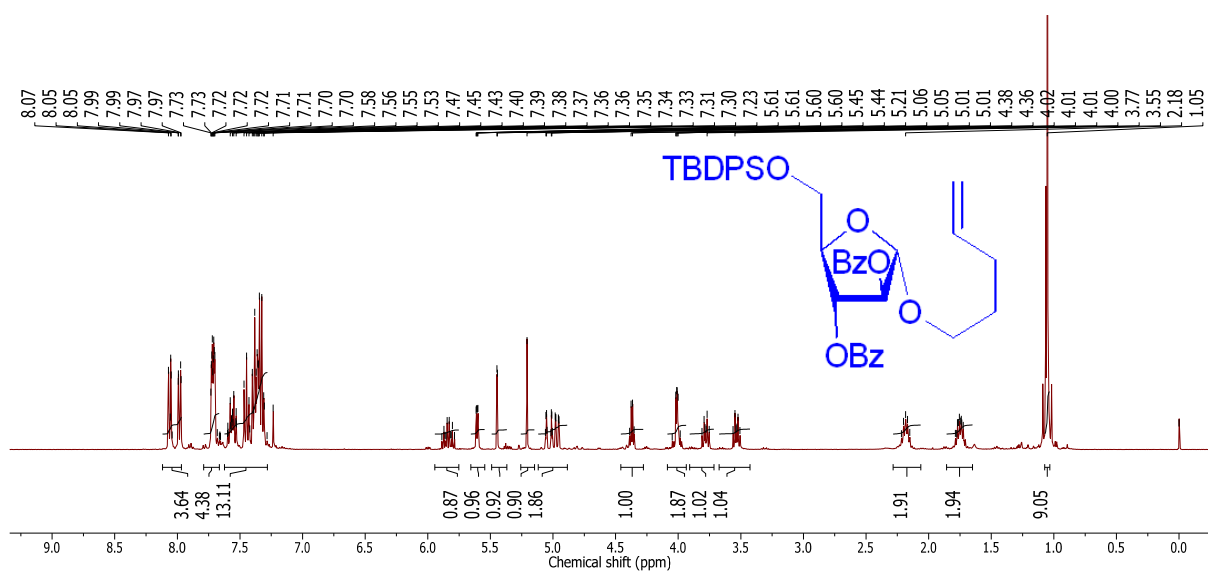
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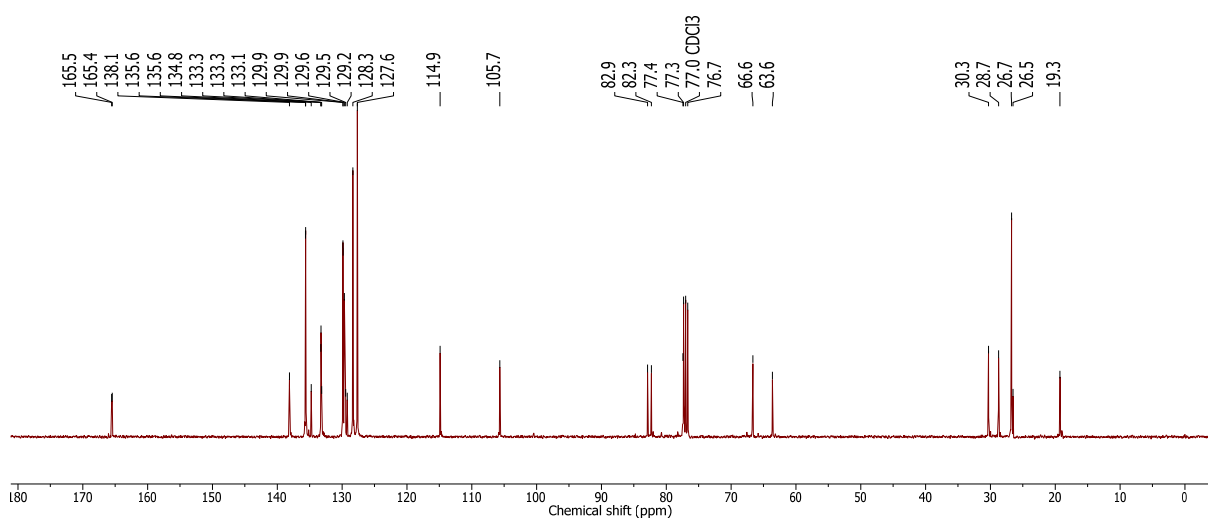
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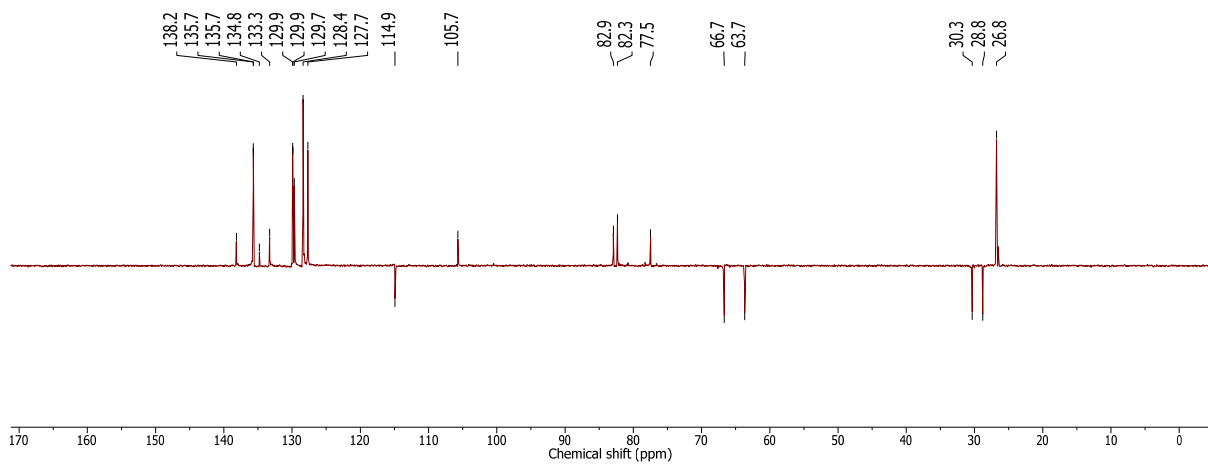
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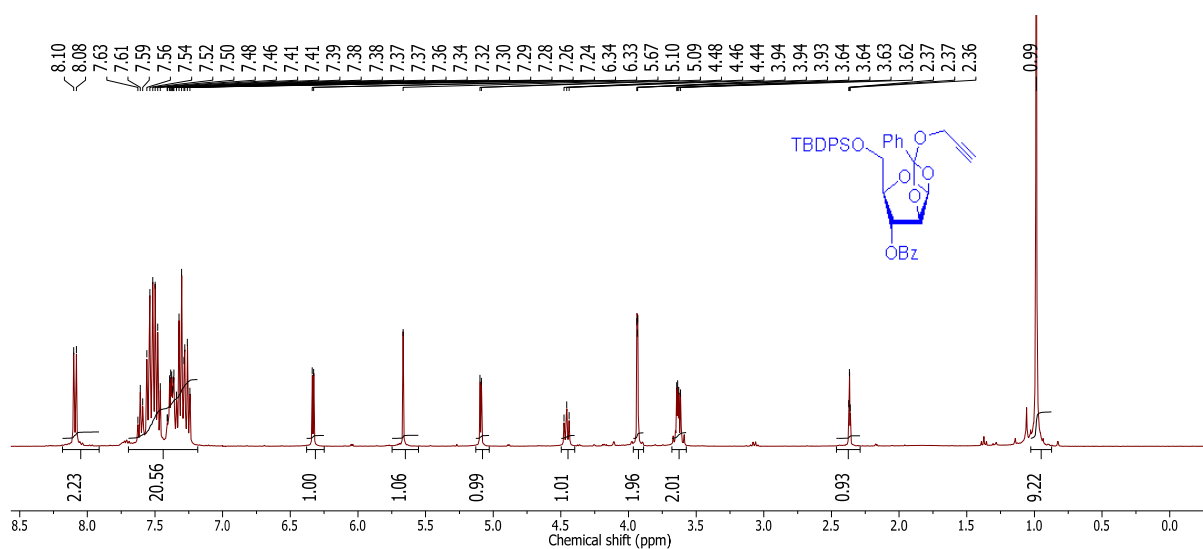
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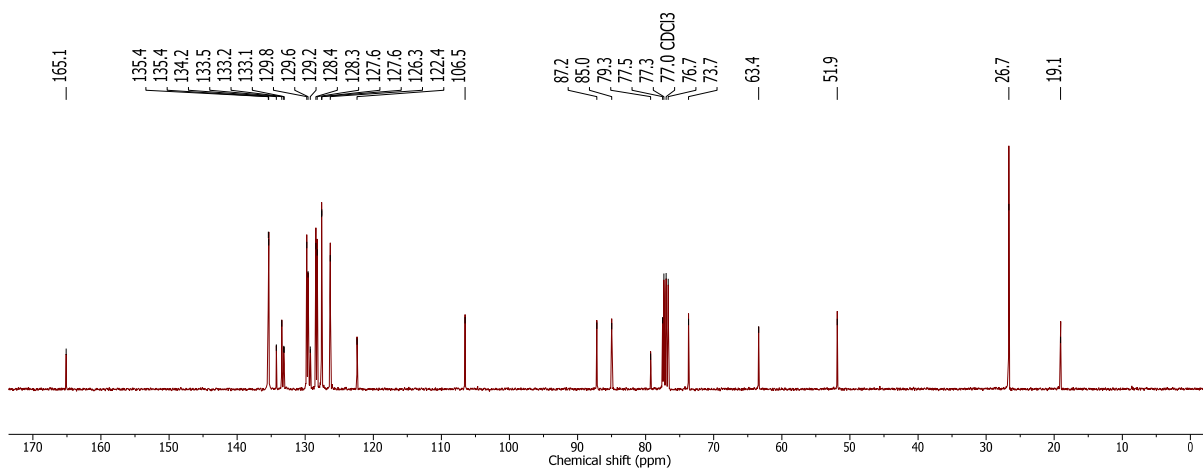
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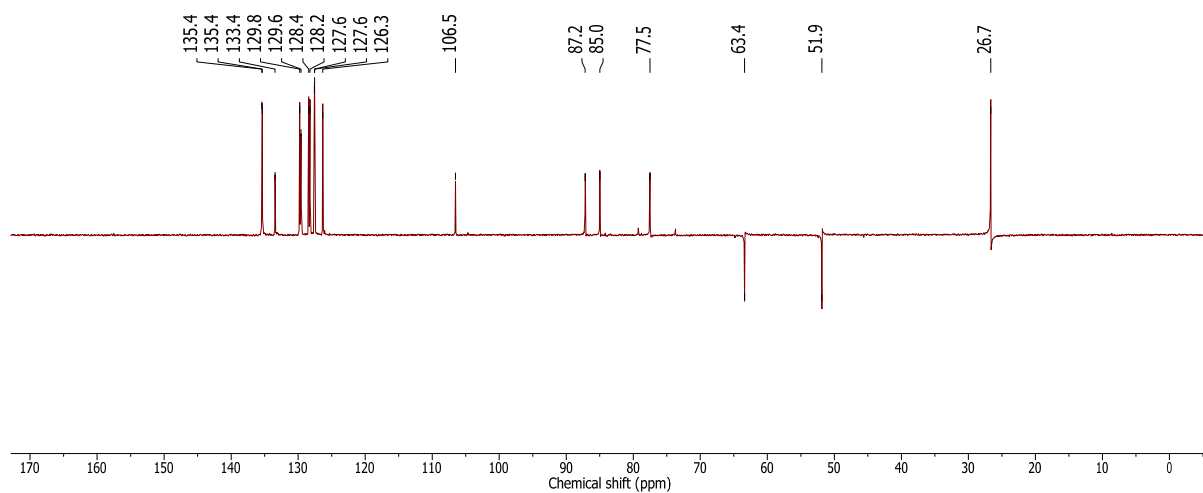
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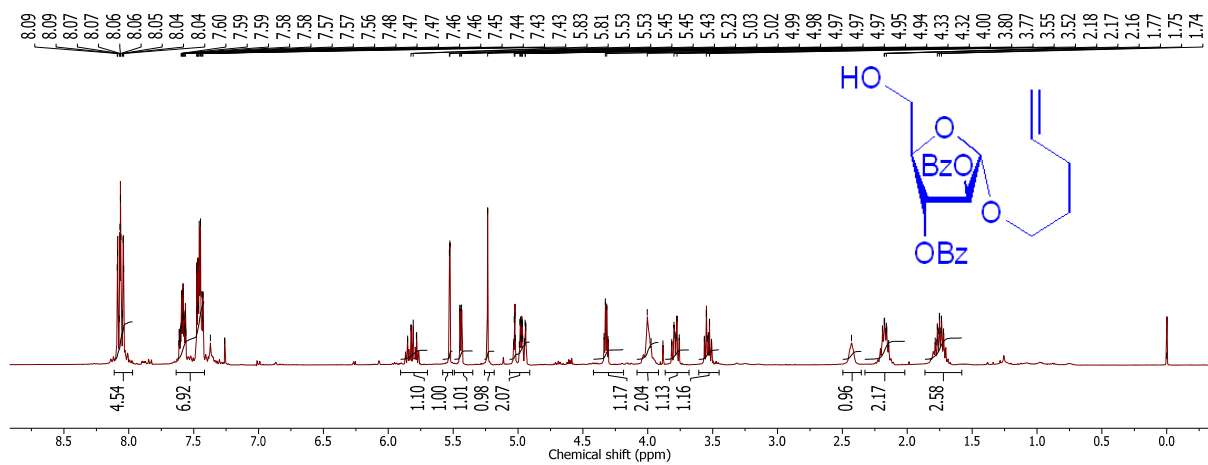
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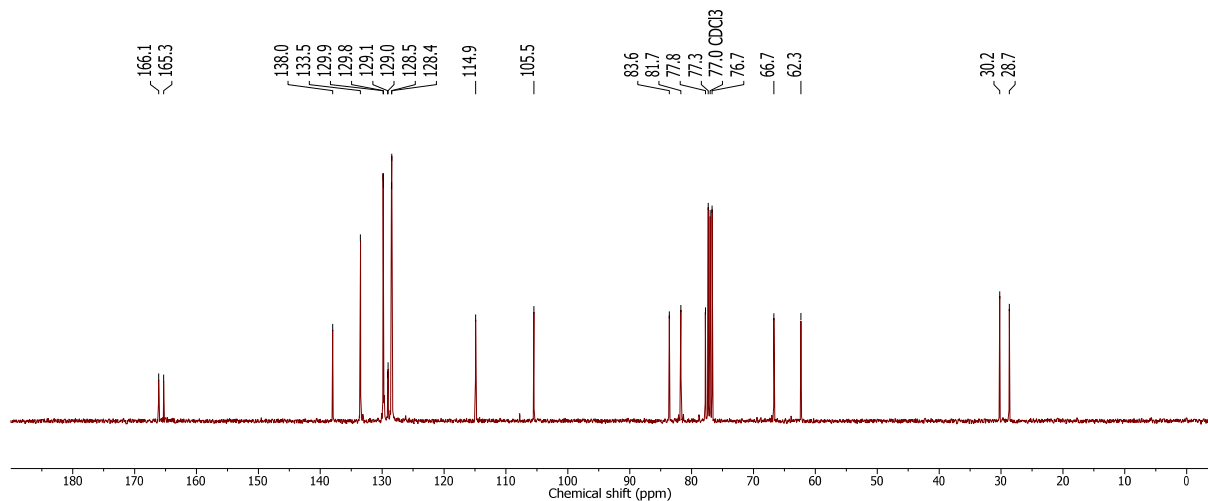
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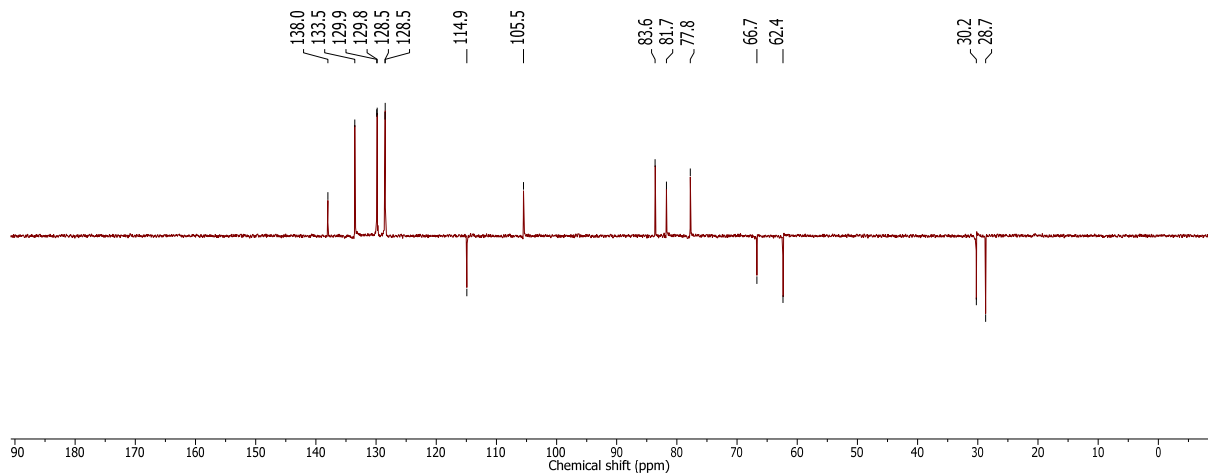
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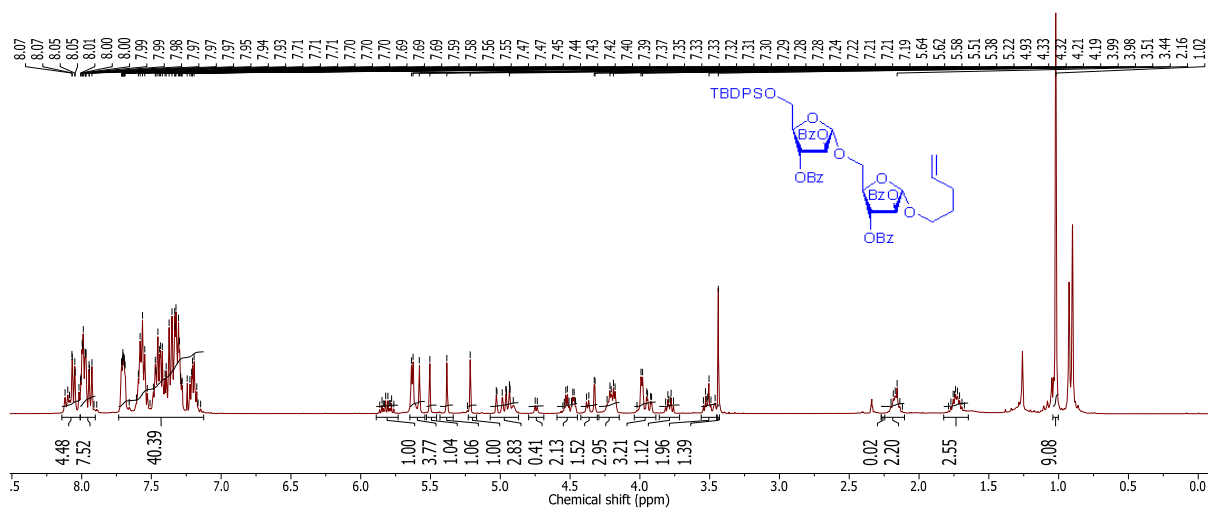
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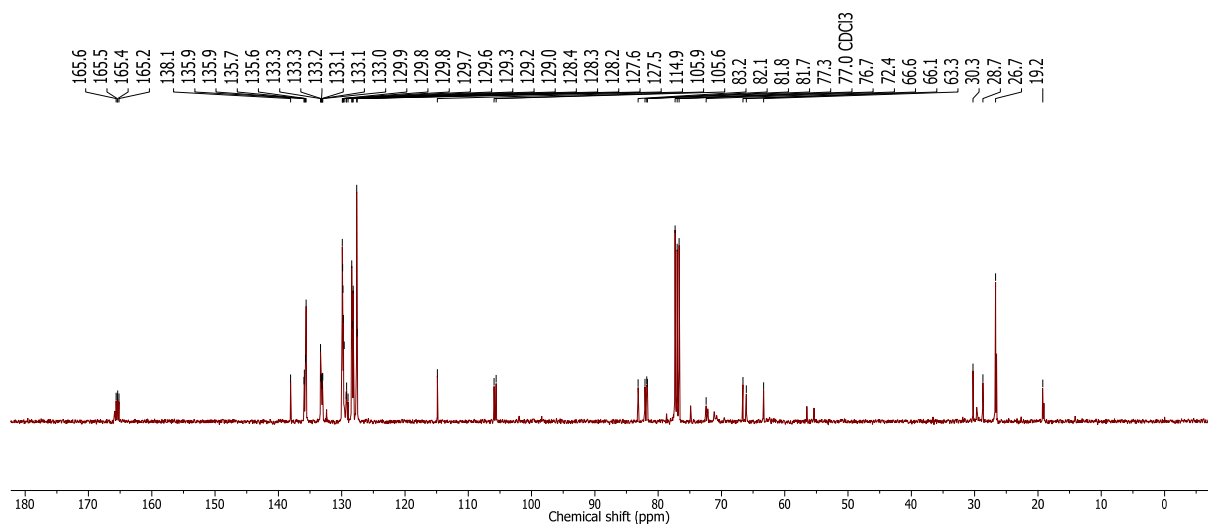
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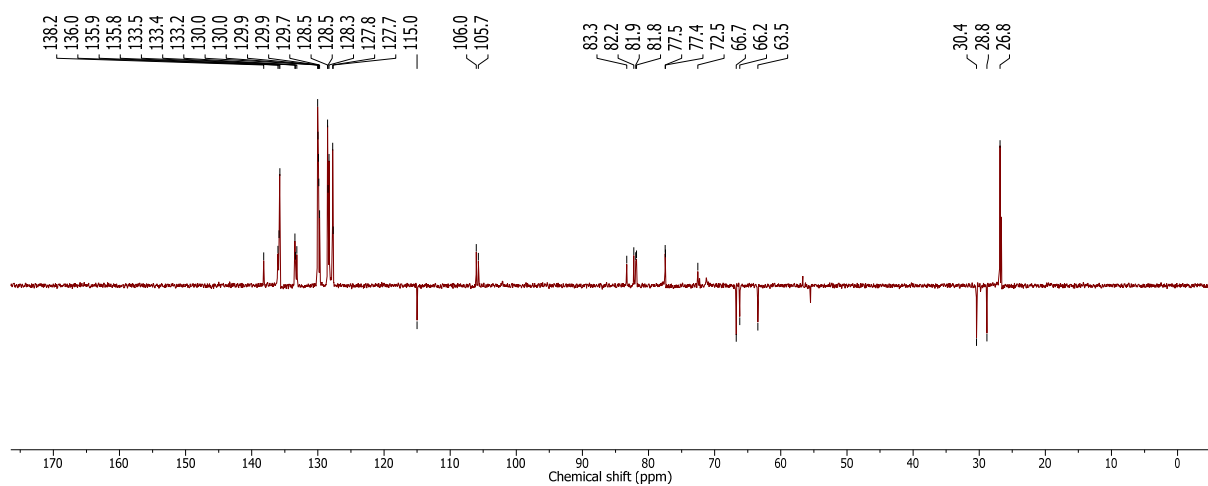
^1H NMR Spectrum (399.78 MHz, CDCl_3) of Compound 7



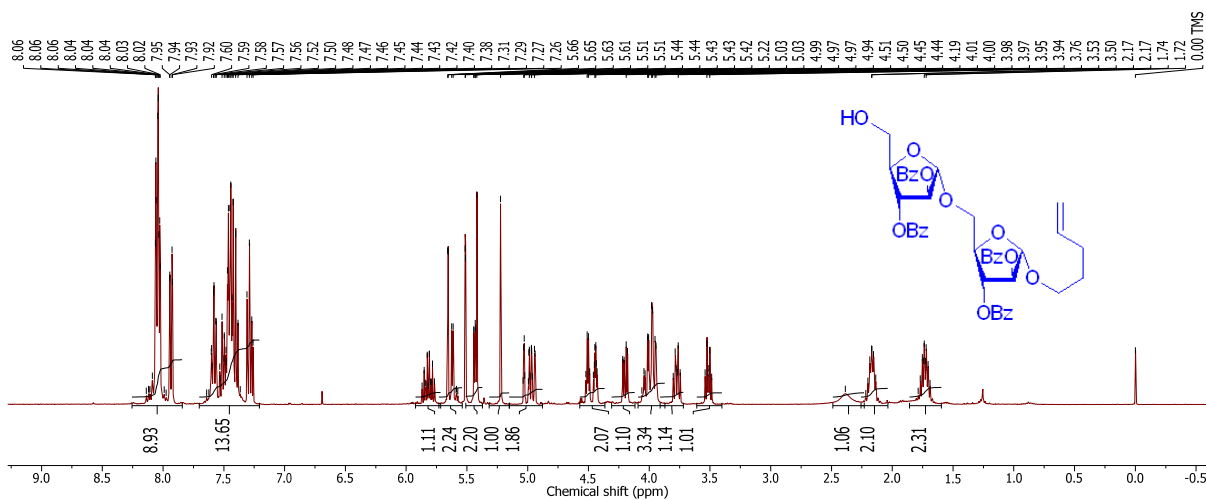
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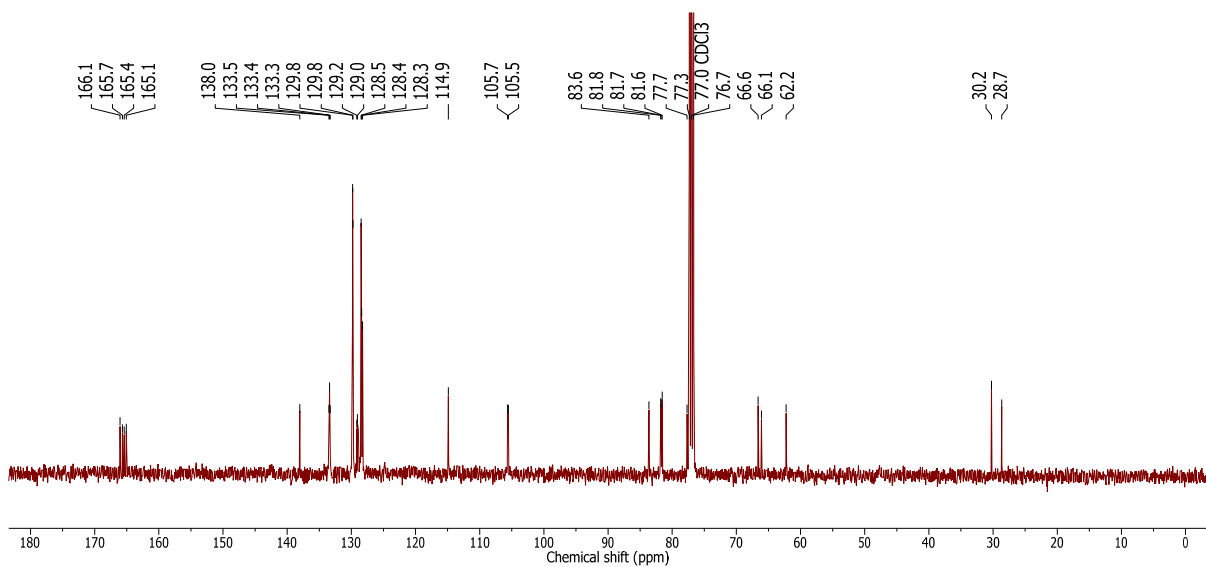
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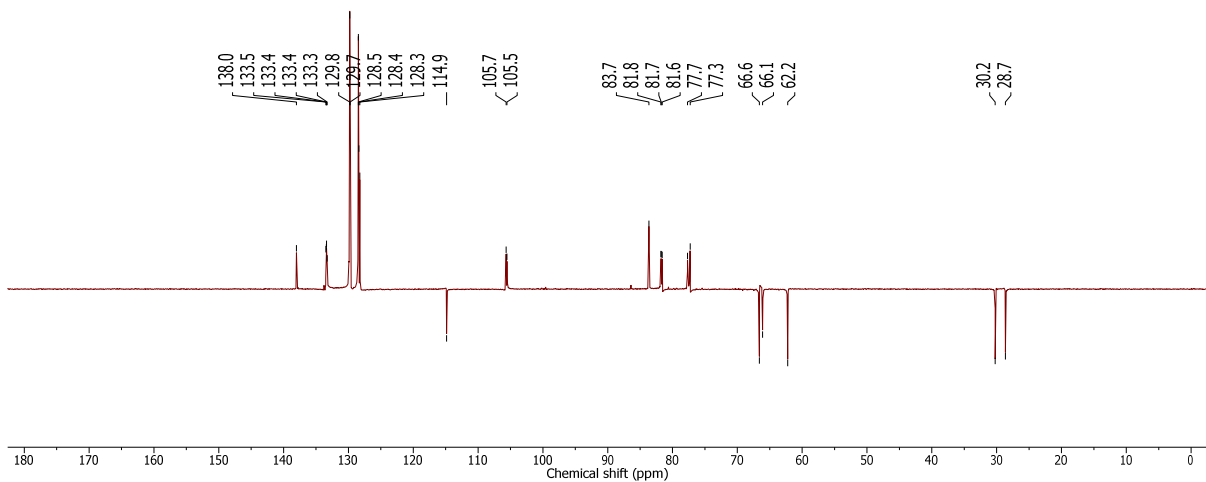
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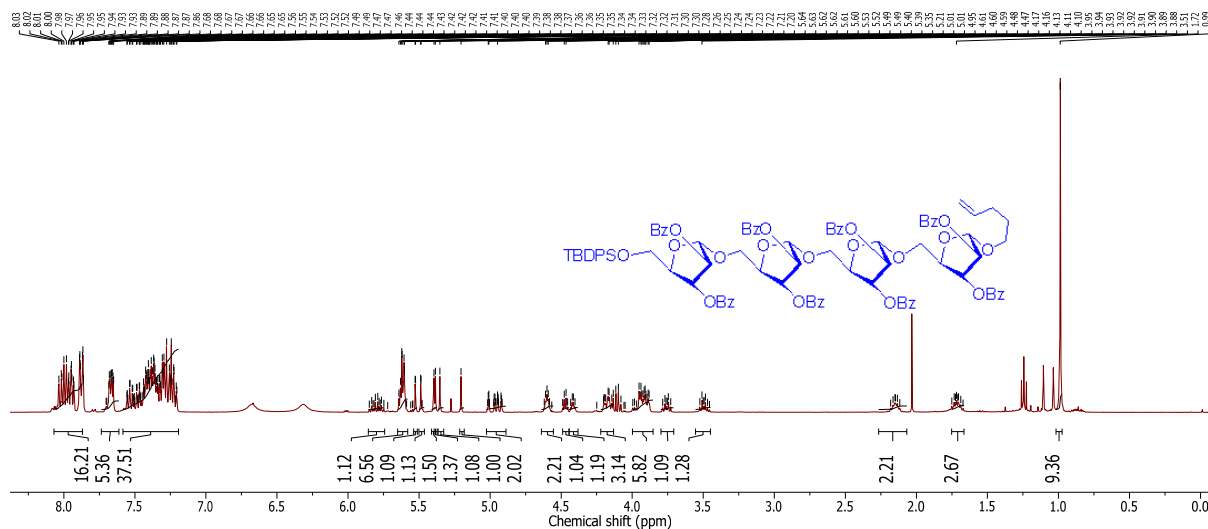
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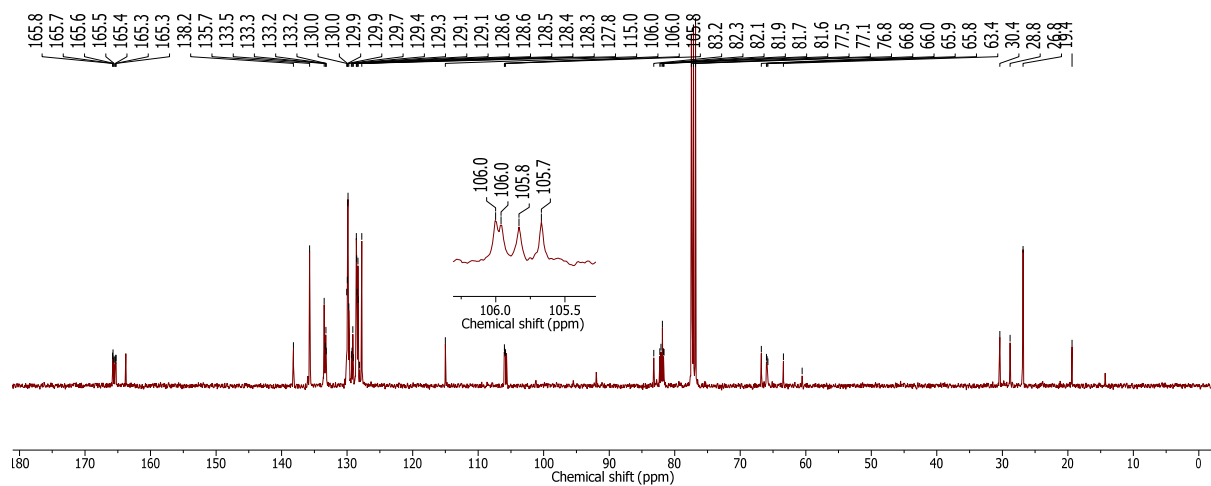
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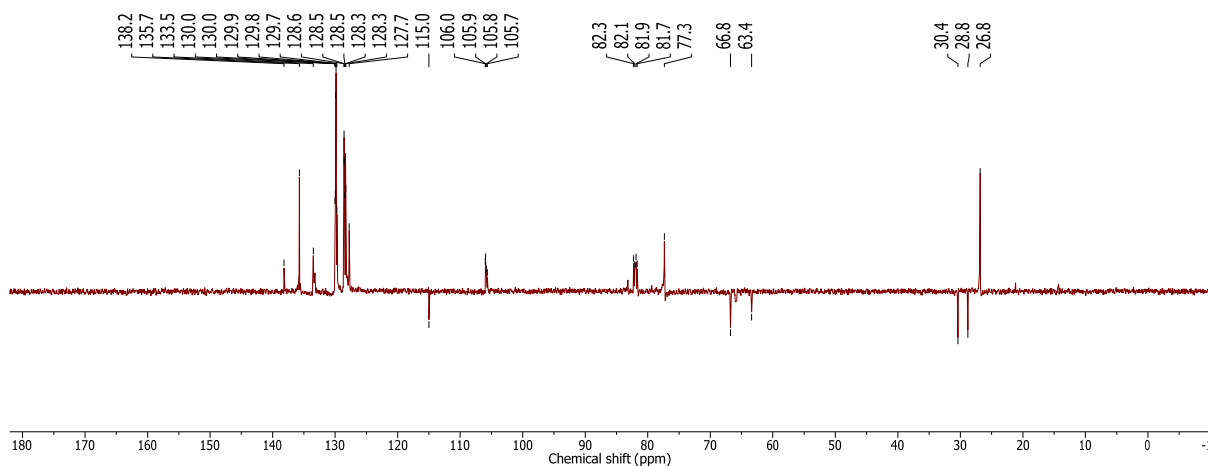
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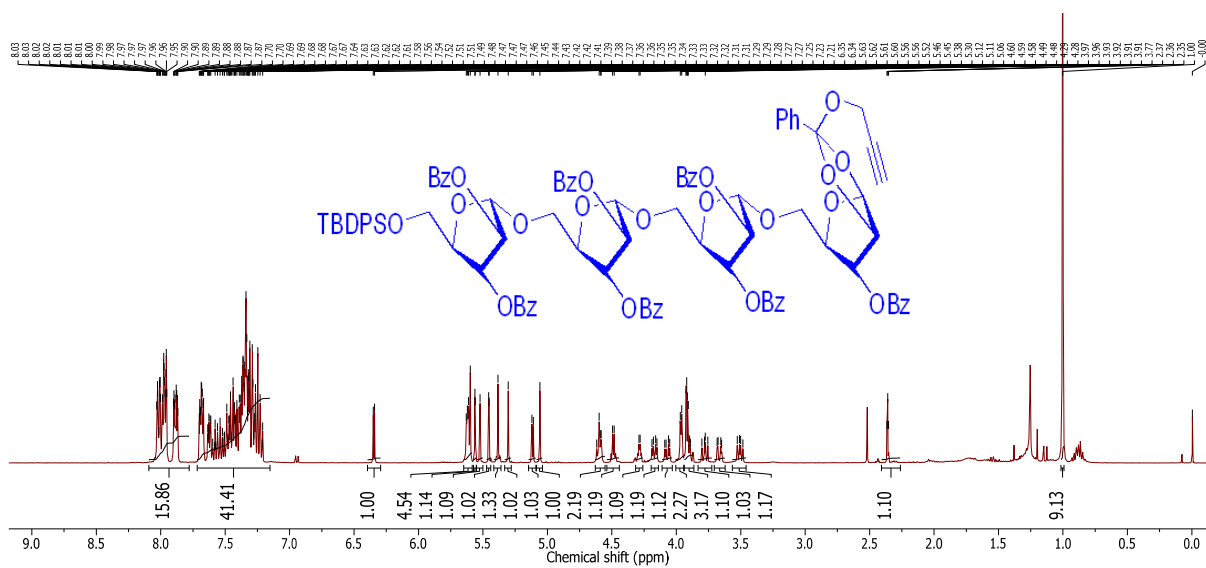
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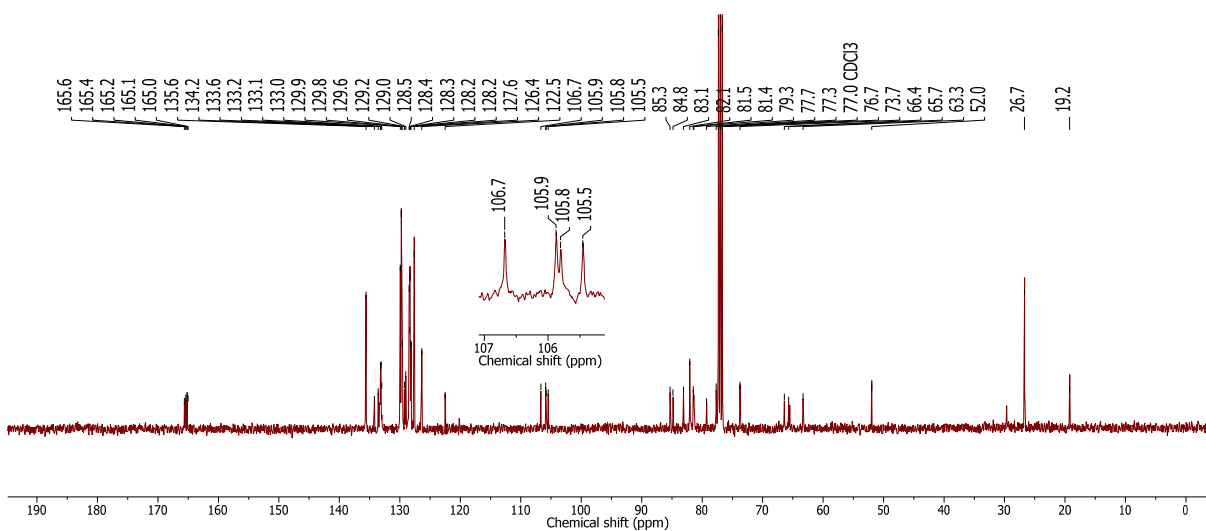
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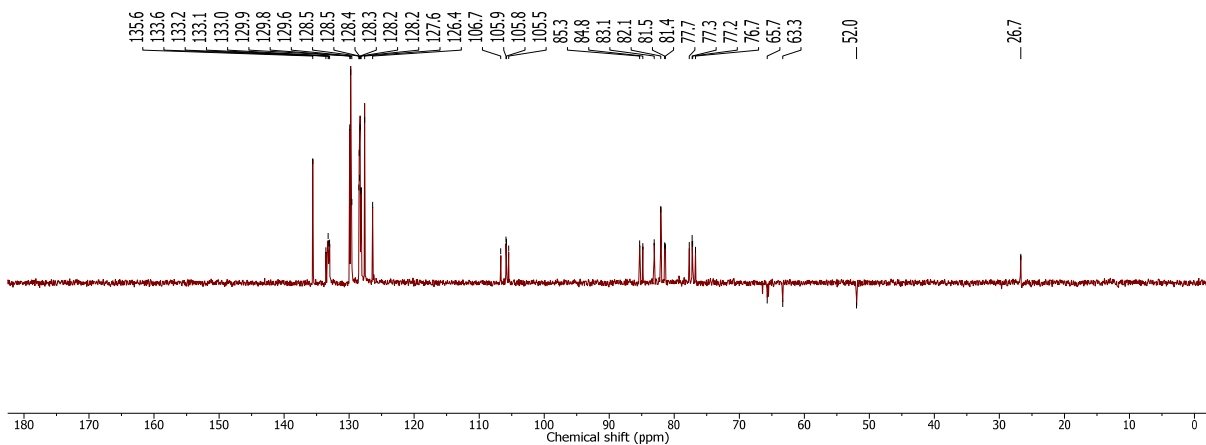
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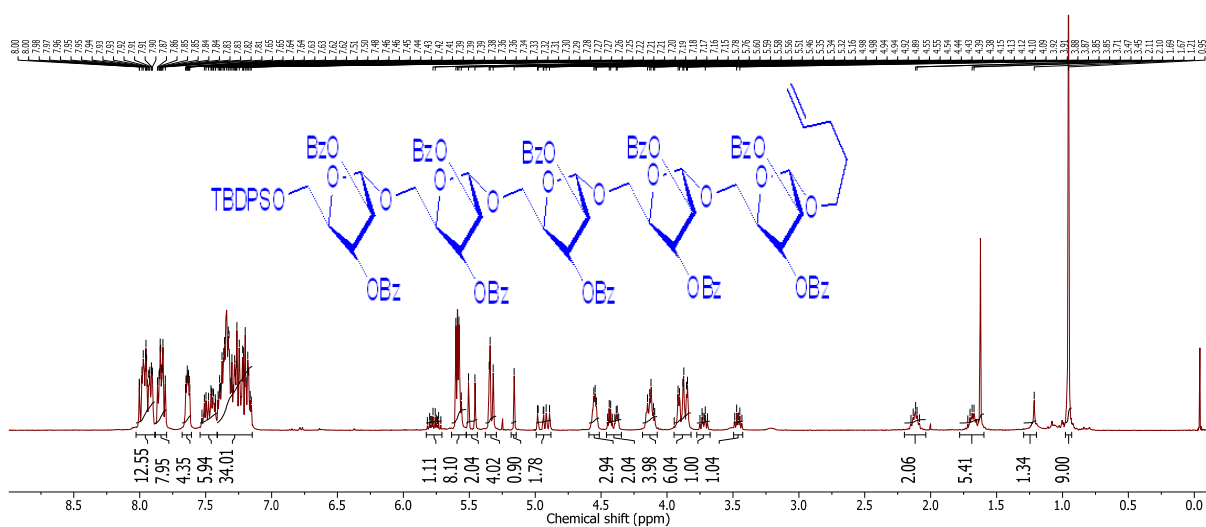
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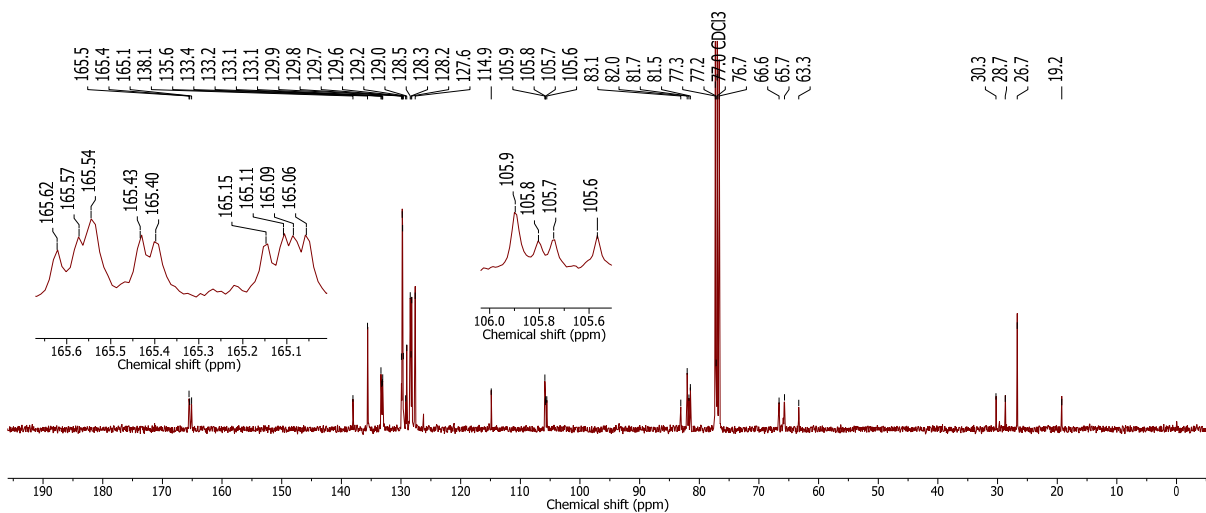
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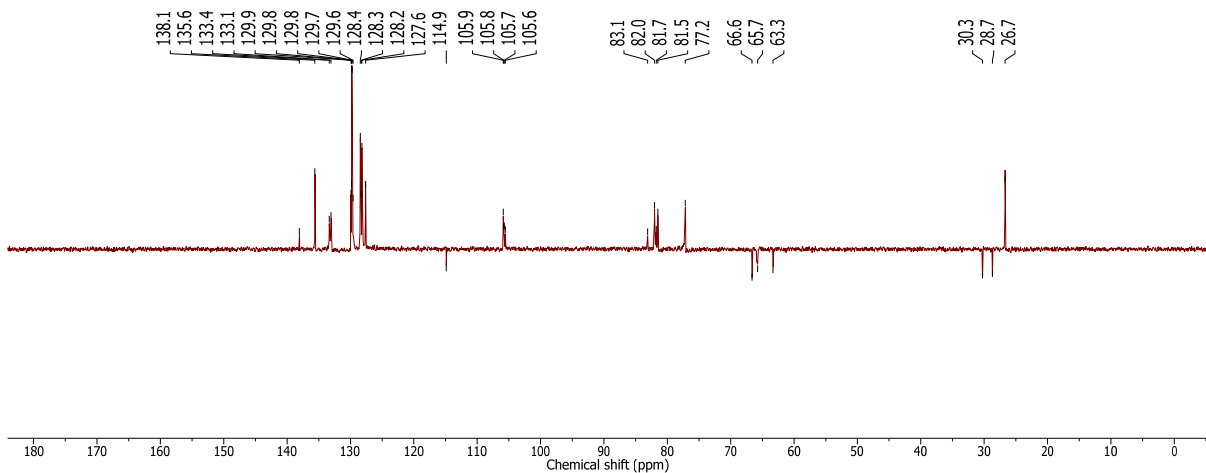
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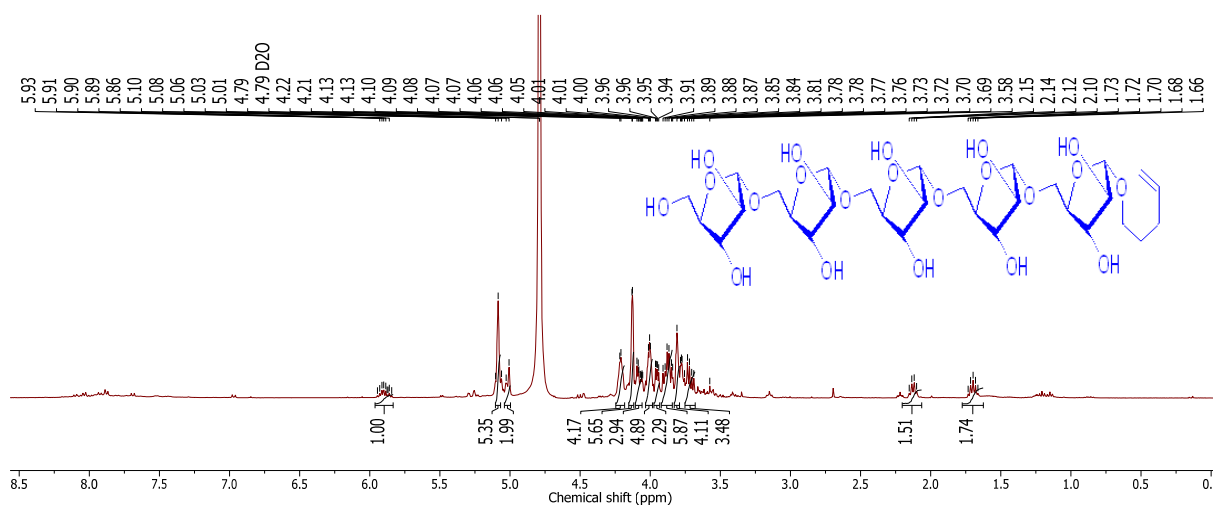
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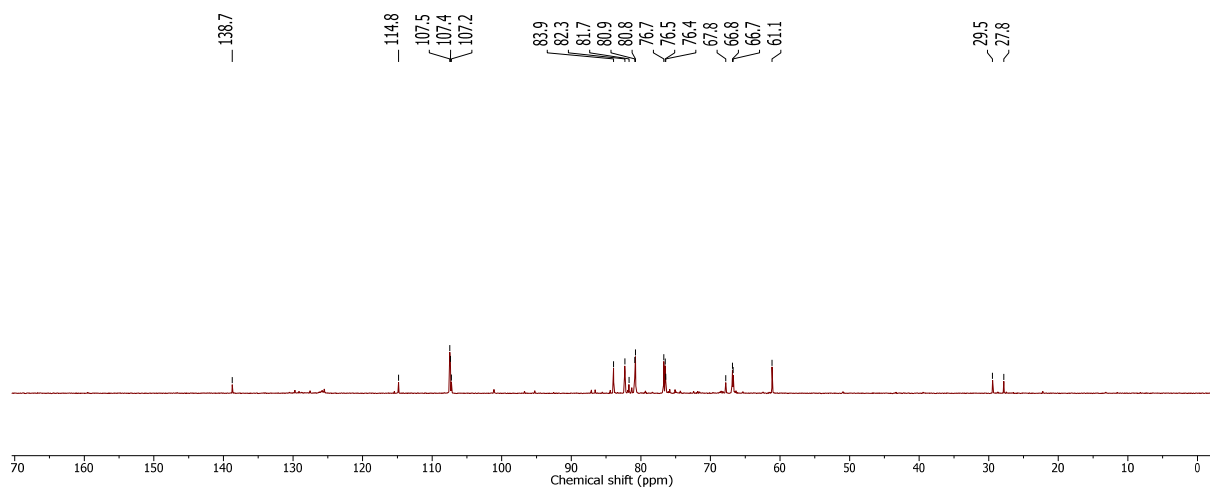
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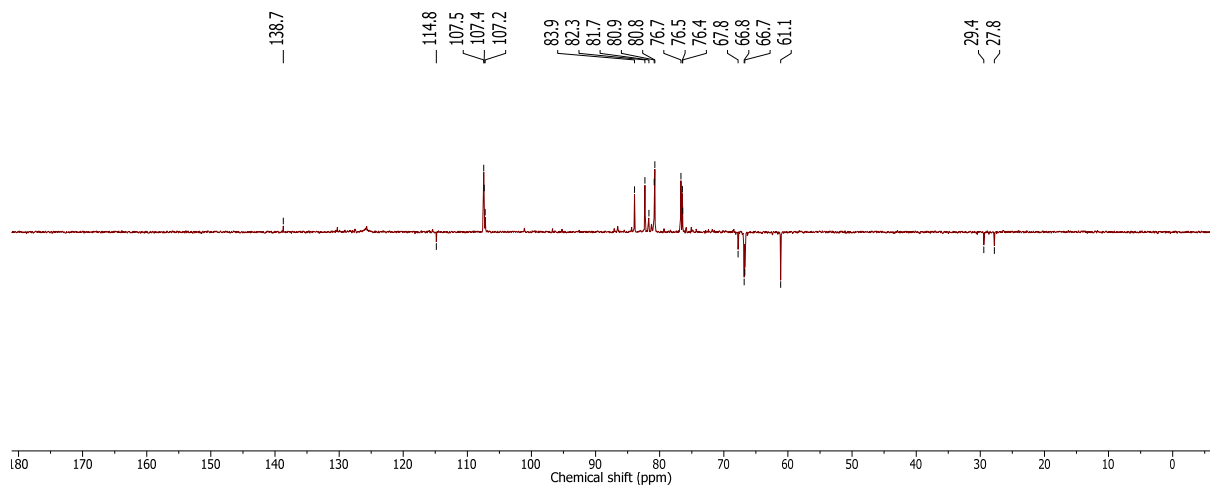
^1H NMR Spectrum (399.78 MHz, D_2O) of Compound **13**



^{13}C NMR Spectrum (100.53 MHz, D_2O) of Compound **13**



DEPT NMR Spectrum (100.53 MHz, D_2O) of Compound **13**



References

1. B. Fraser-Reid, U. E. Udodong, Z. Wu, H. Ottoson, J. R. Merrit, C. S. Rao, C. Roberts, and R. Madsen, *Synlett*, 1992, 927.
2. (a) S. R. Vidadala, S. A. Thadke, and S. Hotha, *J. Org. Chem.*, 2009, **74**, 9233; (b) G. Sureshkumar and S. Hotha, *Chem Commun.*, 2008, **36**, 4282; (c) G. Sureshkumar and S. Hotha, *Tetrahedron Lett.*, 2007, **48**, 6564.
3. (a) C. Uriel, J. Ventura, A. M. Gómez, J. C. López, and B. Fraser-Reid; *Eur. J. Org. Chem.* 2012, 3122; (b) A. Ravidá, X. Liu, L. Kovacs, and P. H. Seeberger, *Org. Lett.*, 2006, **8**, 1815.
4. N. I. Uvarova, G. I. Oshitok, N. F. Samoshina, G. B. Elyakov, *Chemistry of Natural Compounds* 1973, **10**, 466.
5. (a) S. A. Thadke, B. Mishra, and S. Hotha, *Org. Lett.*, 2013, **15**, 2466; (b) S. A. Thadke, B. Mishra, and S. Hotha, *J. Org. Chem.*, 2014, **79**, 7358.