

Electronic Supplementary Information

Indirect synthetic route to α -L-fucosides via highly stereoselective construction of α -L-galactosides followed by C6-deoxygenation

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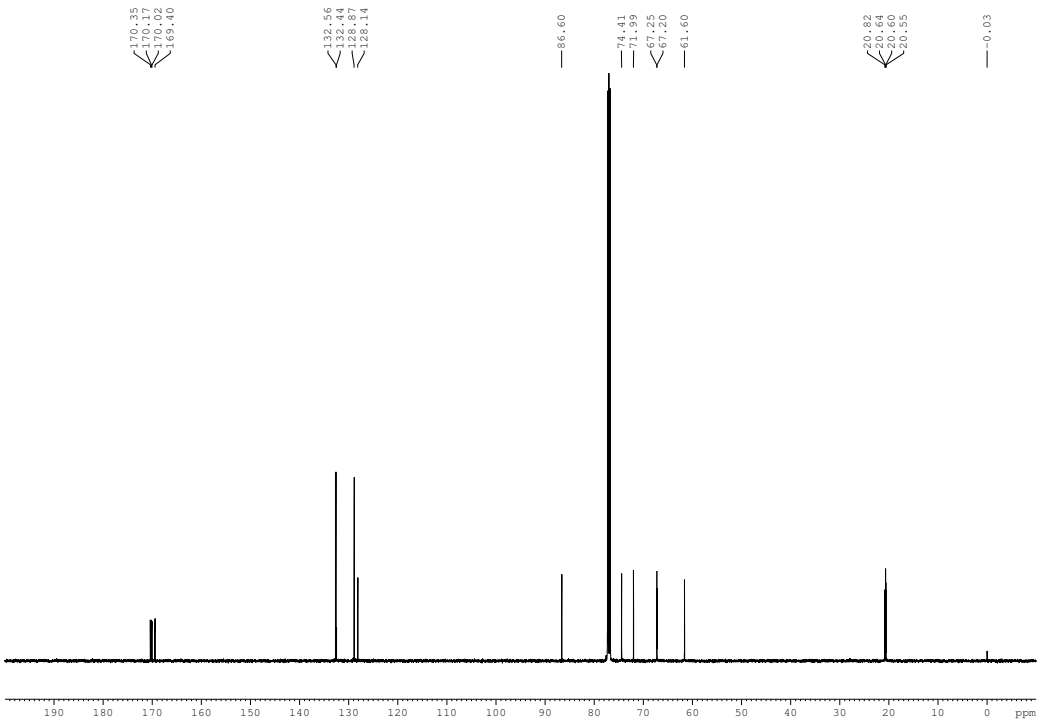
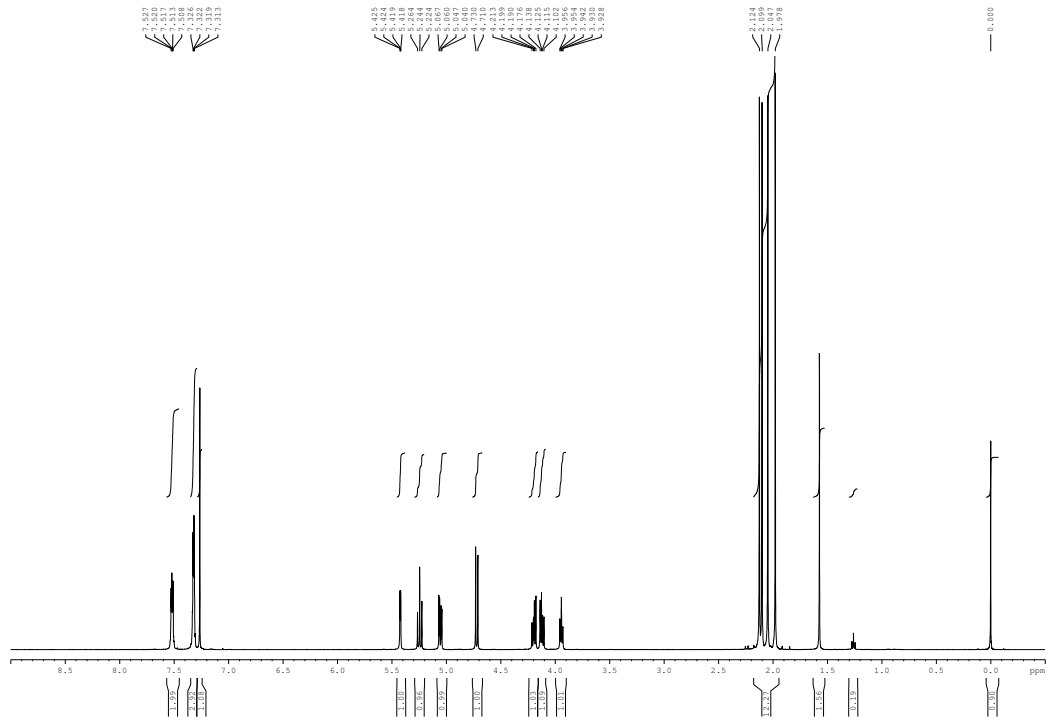
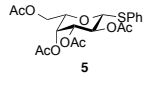
^c Center for Highly Advanced Integration of Nano and Life Sciences (G-CHAIN), Gifu University, 1-1 Yanagido, Gifu 501-1193, Japan

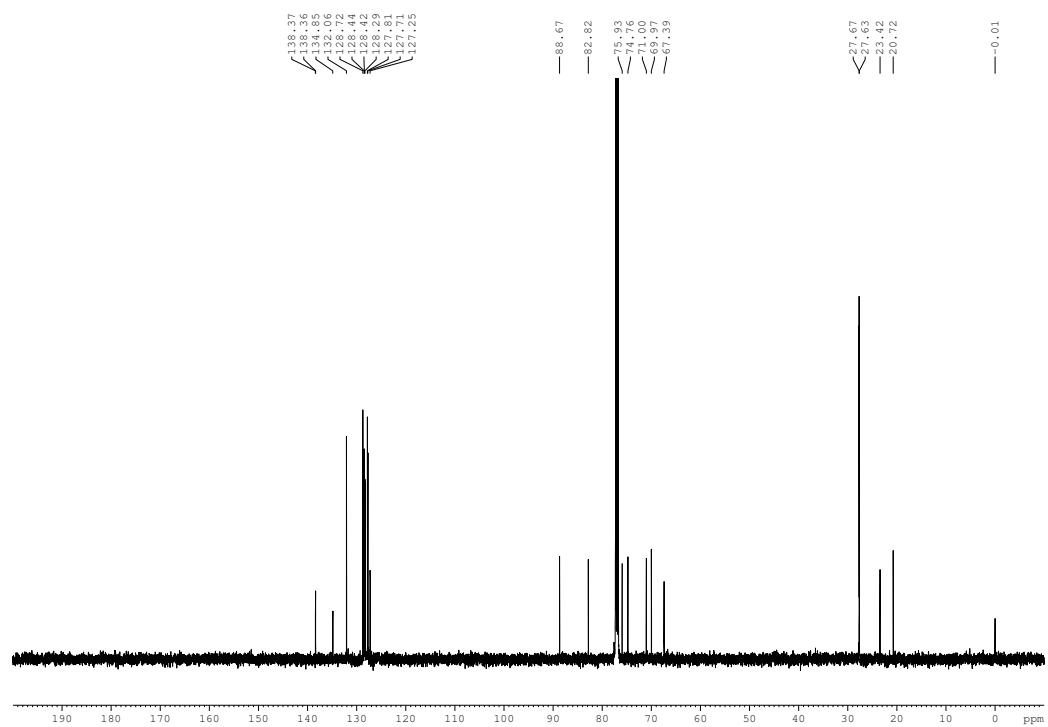
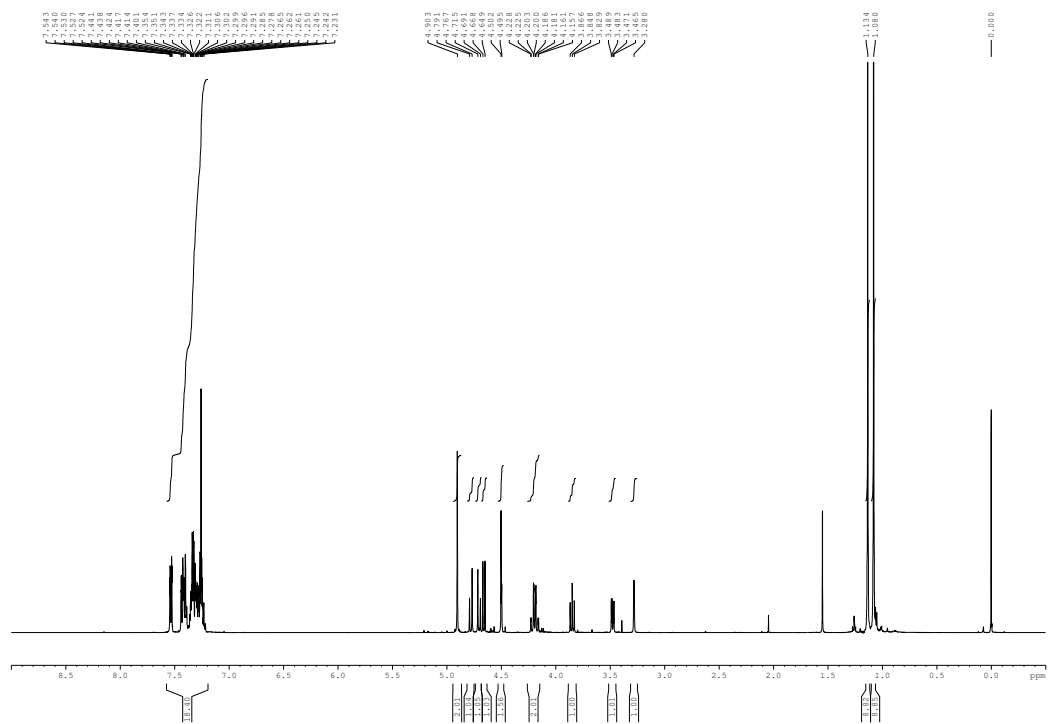
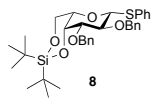
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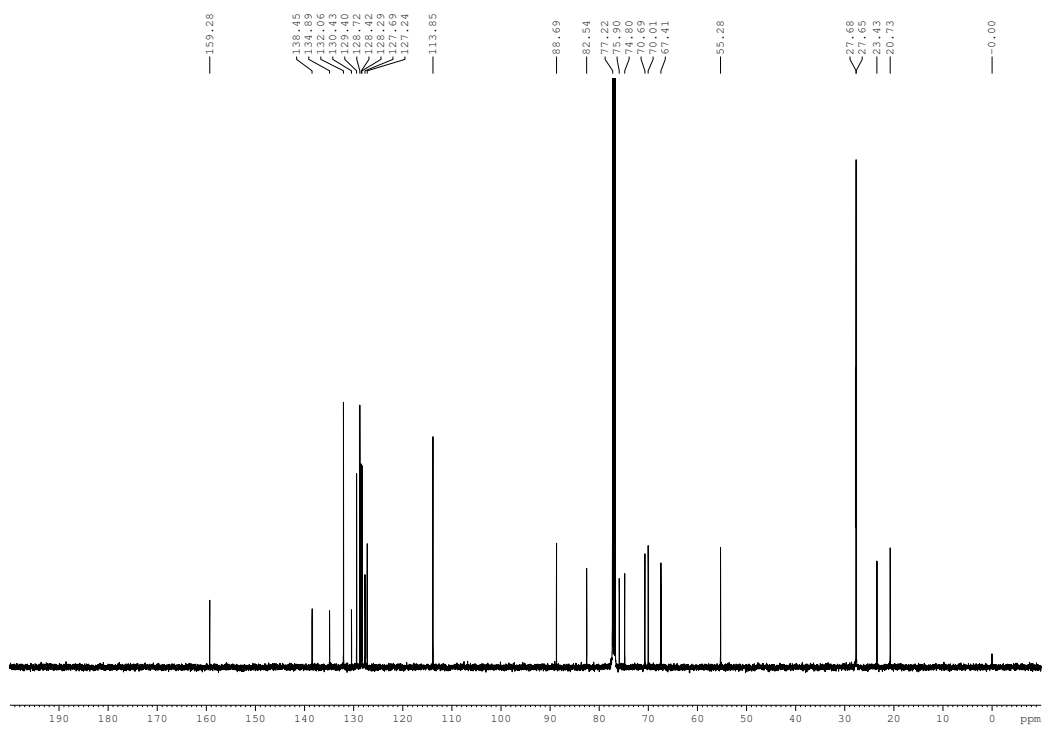
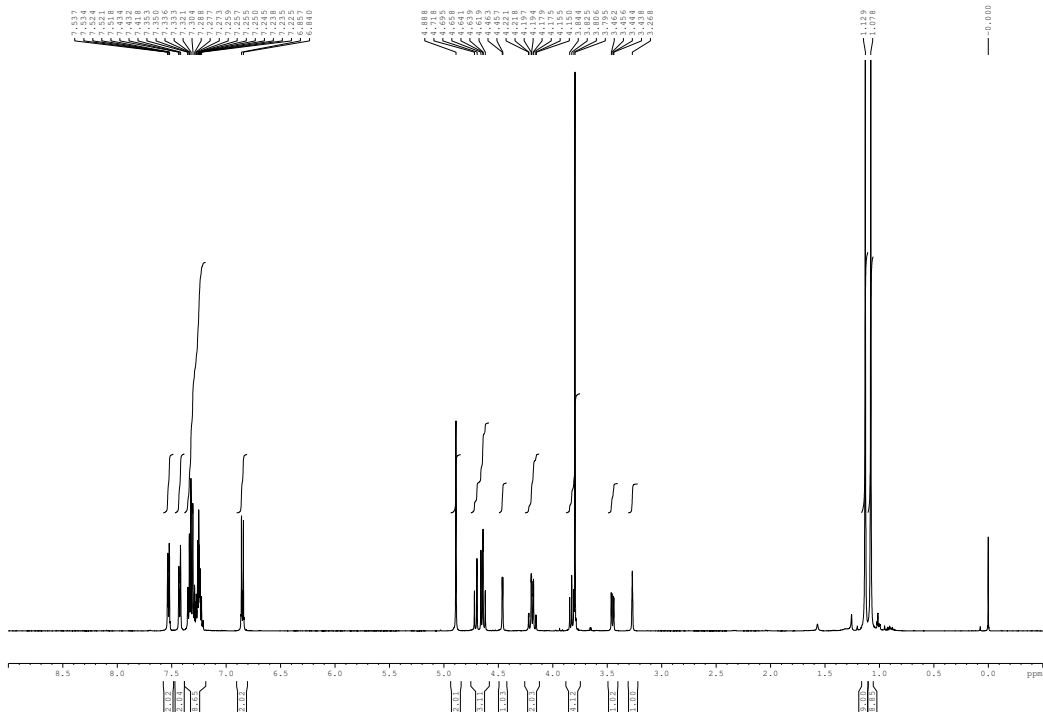
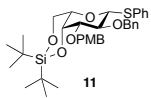
Compound	Spectra
Phenyl 2,3,4,6-tetra- <i>O</i> -acety-1-thio-L-galactopyranoside (5)	S-4
Phenyl 1-thio-L-galactopyranoside (6)	S-5
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Phenyl 2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene-3- <i>O</i> - <i>p</i> -methoxybenzyl-1-thio- β -L-galactopyranoside (11)	S-9
2- <i>O</i> -Benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene-3- <i>O</i> - <i>p</i> -methoxybenzyl- α -L-galactopyranosyl fluoride (12)	S-10
2- <i>O</i> -Benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl fluoride (13)	S-11

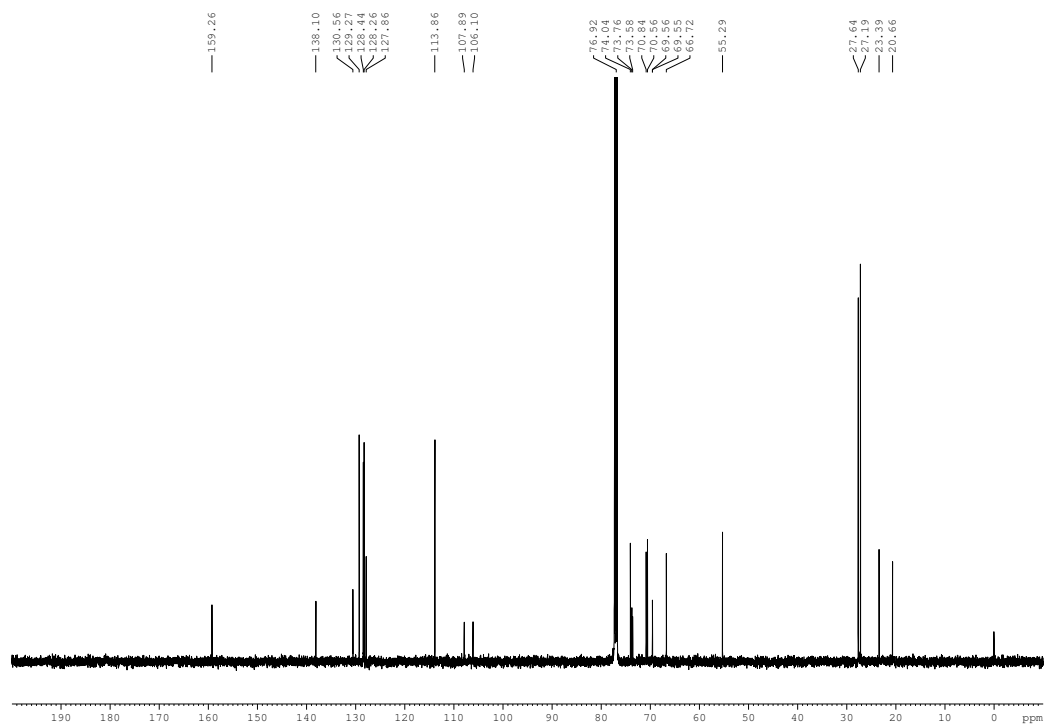
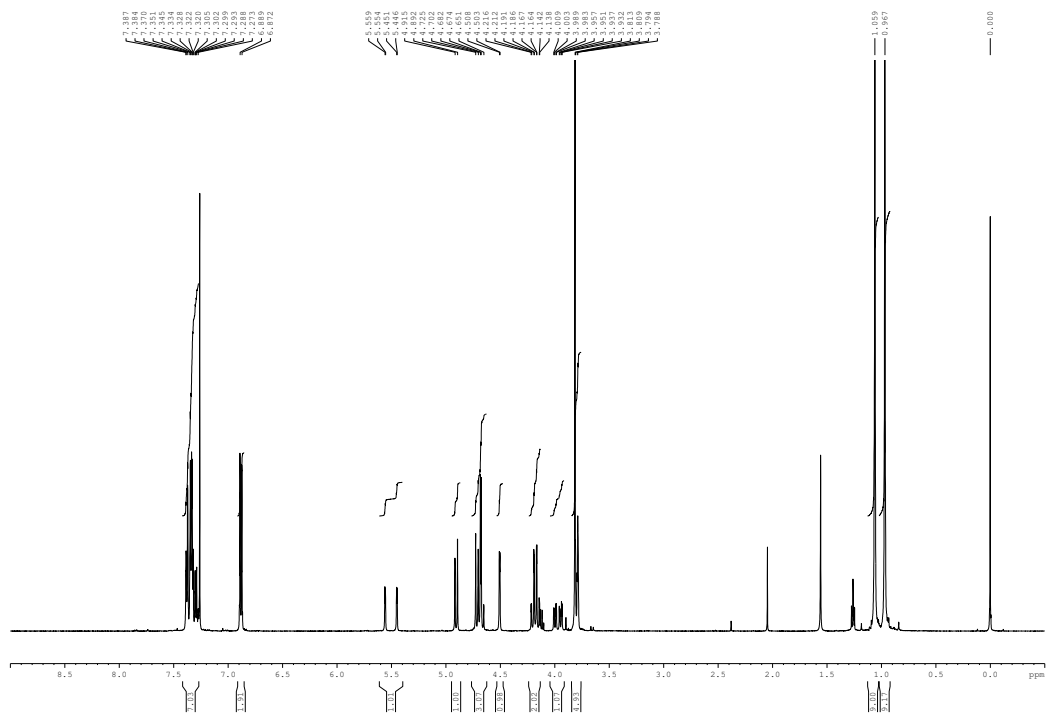
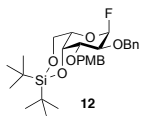
3- <i>O</i> -Acetyl-2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl fluoride (14)	S-12
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 2)-6- <i>O</i> -benzoyl-3,4- <i>O</i> -isopropylidene- β -D-galactopyranoside (23)	S-13
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-4,6- <i>O</i> -benzylidene-2-deoxy-2-(2,2,2-trichloroethoxycarbamoyl)- β -D-glucopyranoside (24)	S-14
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Benzyl (2,3-di- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-2,4-di- <i>O</i> -benzyl- β -L-fucopyranoside (26)	S-16
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 6)-3- <i>O</i> -acetyl-4- <i>O</i> -benzyl-2-deoxy-2-(2,2,2-trichloroethoxycarbamoyl)- β -D-glucopyranoside (27)	S-17
Phenyl (3- <i>O</i> -acetyl-2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene-1-thio- β -L-galactopyranoside (28)	S-18
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2-(<i>p</i> -Methoxyphenoxy)ethyl (2,3-di- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-(2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-(2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-(2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranoside (30)	S-20
<i>p</i> -Methoxyphenyl 2,3-di- <i>O</i> -benzyl-6-deoxy-6-iodo- β -D-galactopyranoside	S-21

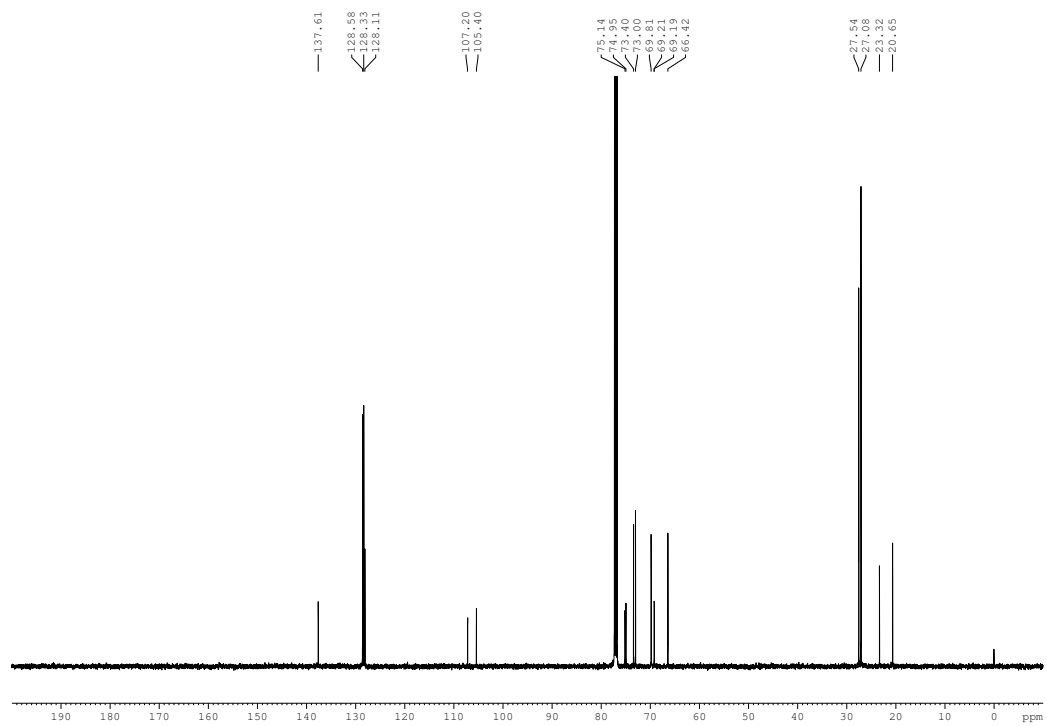
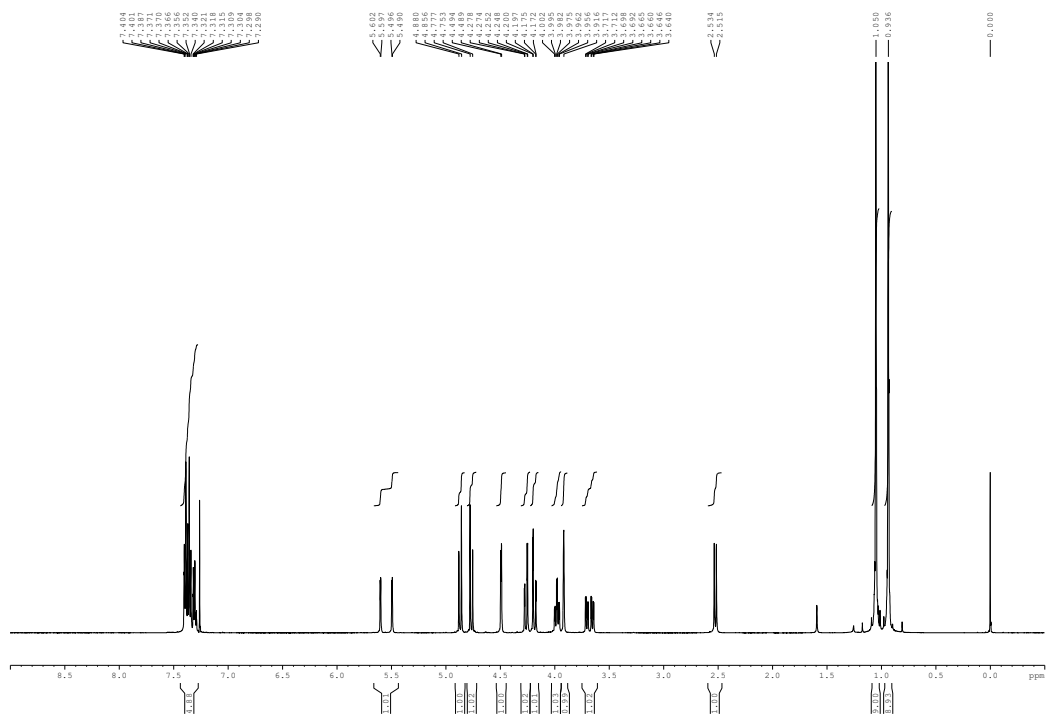
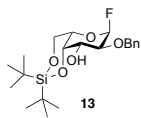
(33)	
<i>p</i> -Methoxyphenyl 2,3-di- <i>O</i> -benzoyl-6-deoxy-6-iodo- β -D-galactopyranoside (34)	S-22
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2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl- α -L-galactopyranosyl)-(1 \rightarrow 2)-6- <i>O</i> -benzoyl-3,4- <i>O</i> -isopropylidene- β -D-galactopyranoside (42)	S-28
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl- α -L-fucopyranosyl)-(1 \rightarrow 2)-6- <i>O</i> -benzoyl-3,4- <i>O</i> -isopropylidene- β -D-galactopyranoside (43)	S-29
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl- α -L-galactopyranosyl)-(1 \rightarrow 6)-2-acetamido-3- <i>O</i> -acetyl-4- <i>O</i> -benzyl-2-deoxy- β -D-glucopyranoside (44)	S-30
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl-6- <i>O</i> -phenoxythiocarbonyl- α -L-galactopyranosyl)-(1 \rightarrow 6)-2-acetamido-3- <i>O</i> -acetyl-4- <i>O</i> -benzyl-2-deoxy- β -D-glucopyranoside (45)	S-31
2-(Trimethylsilyl)ethyl (2,3-di- <i>O</i> -benzyl- α -L-fucopyranosyl)-(1 \rightarrow 6)-2-acetamido-3- <i>O</i> -acetyl-4- <i>O</i> -benzyl-2-deoxy- β -D-glucopyranoside (46)	S-32
1-Octyl (2,3-di- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranosyl)-(1 \rightarrow 3)-2- <i>O</i> -benzyl-4,6- <i>O</i> -di- <i>tert</i> -butylsilylene- α -L-galactopyranoside (47)	S-33
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1-Octyl (2,3-di- <i>O</i> -benzyl-6- <i>O</i> - <i>p</i> -toluenesulfonyl- α -L-galactopyranosyl)-(1 \rightarrow 3)-2- <i>O</i> -benzyl-6- <i>O</i> - <i>p</i> -toluenesulfonyl- α -L-galactopyranoside (49)	S-35
1-Octyl (2,3-di- <i>O</i> -benzyl- α -L-fucopyranosyl)-(1 \rightarrow 3)-2- <i>O</i> -benzyl- α -L-fucopyranoside (50)	S-36

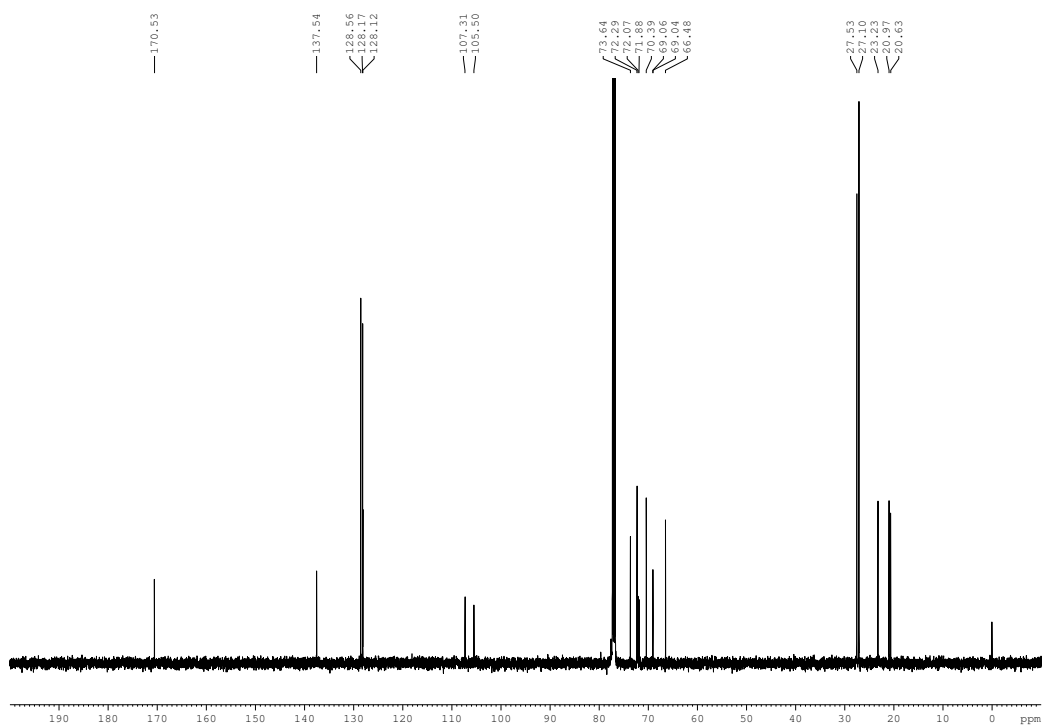
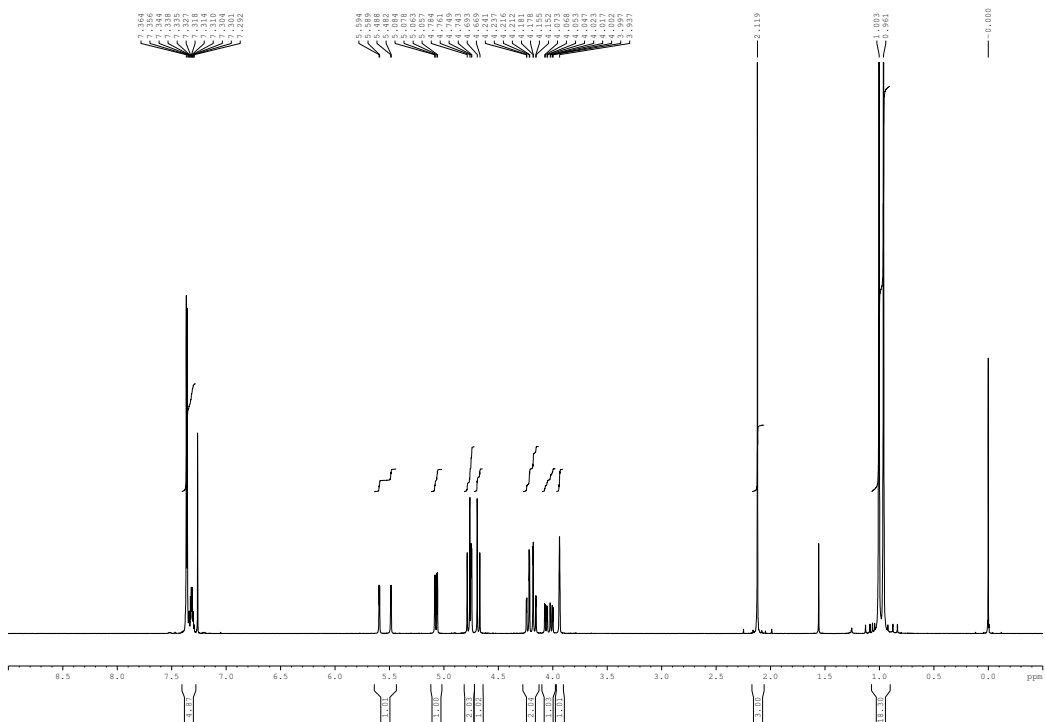
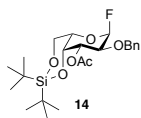


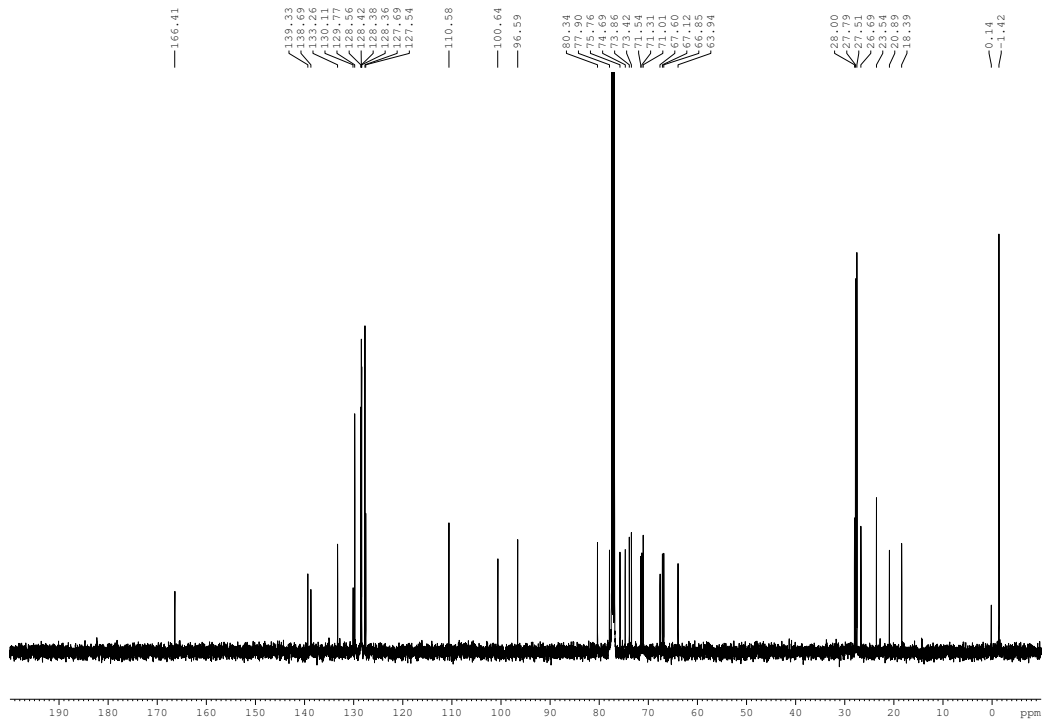
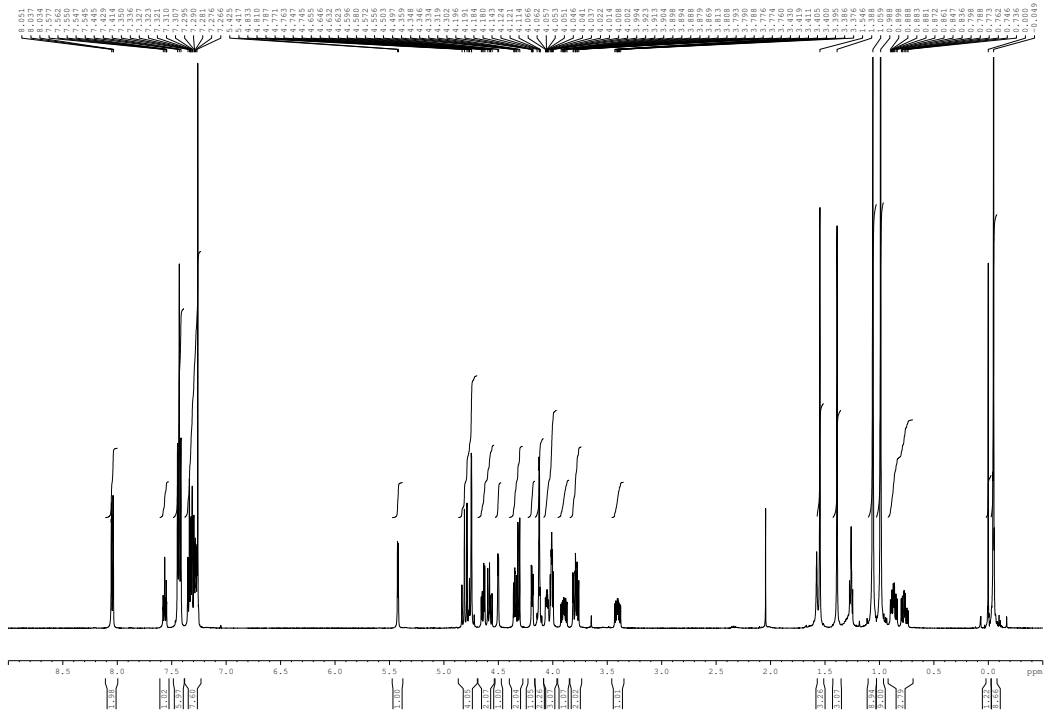
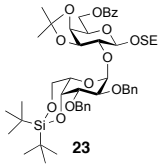


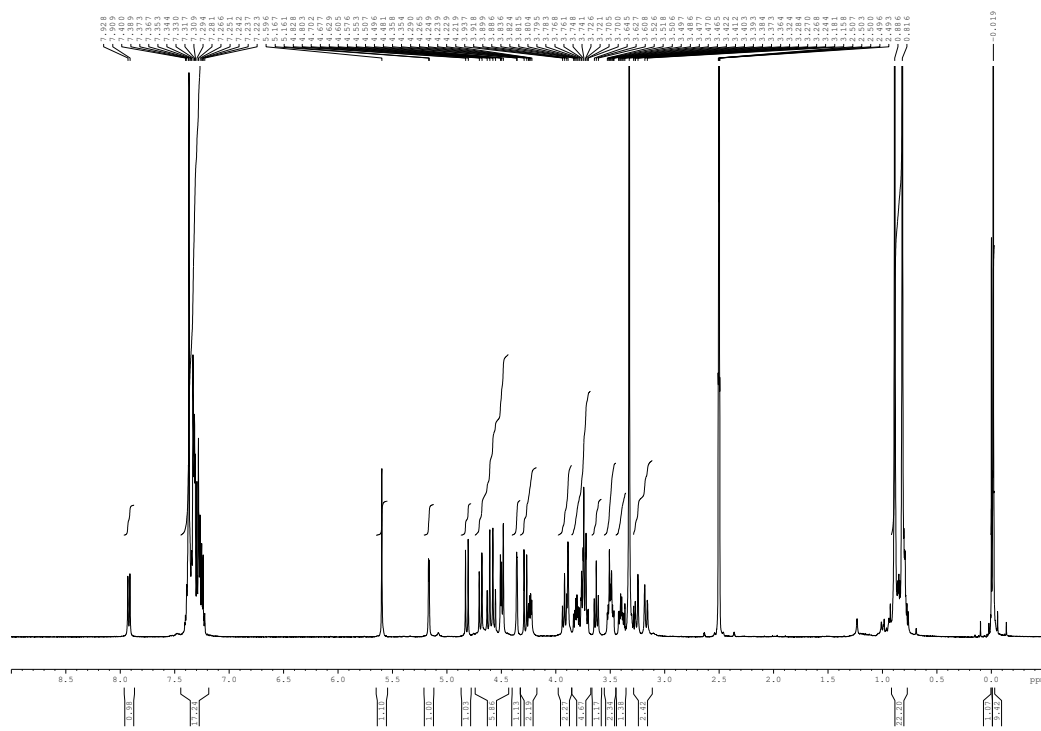
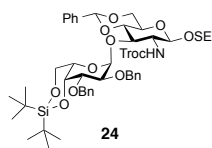




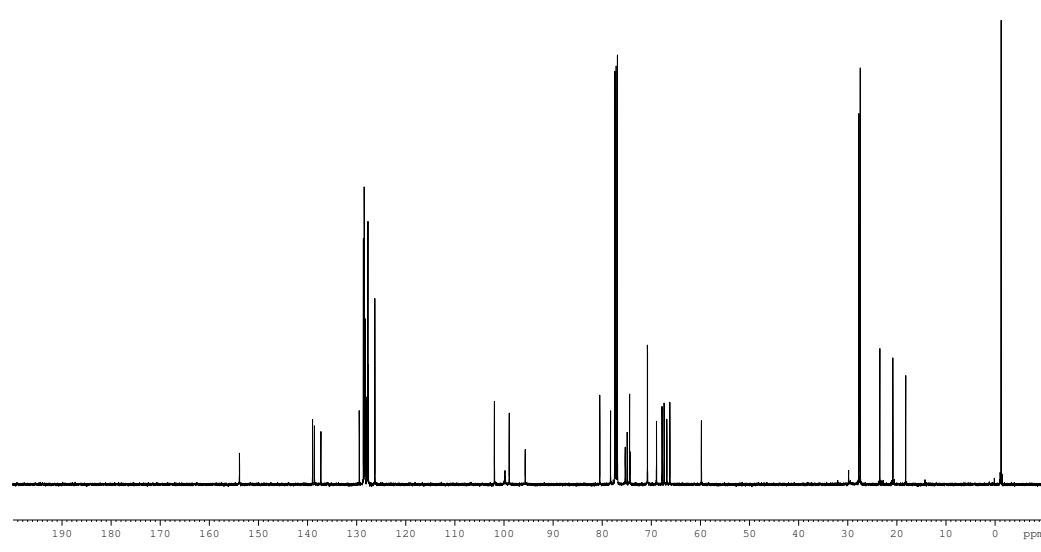


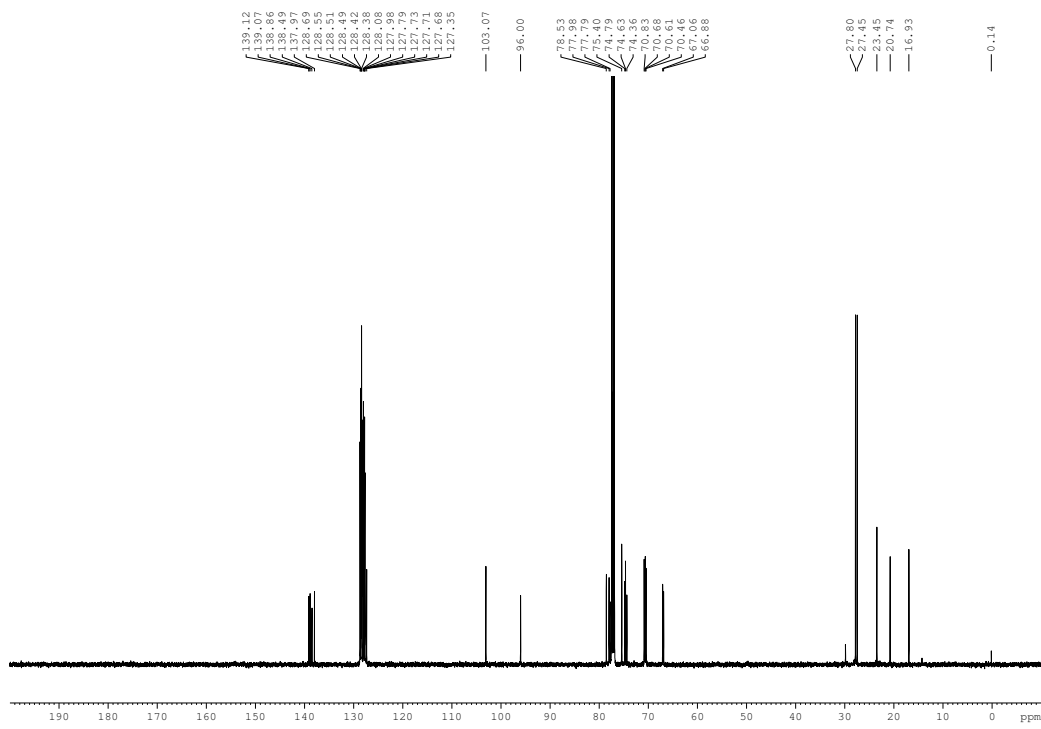
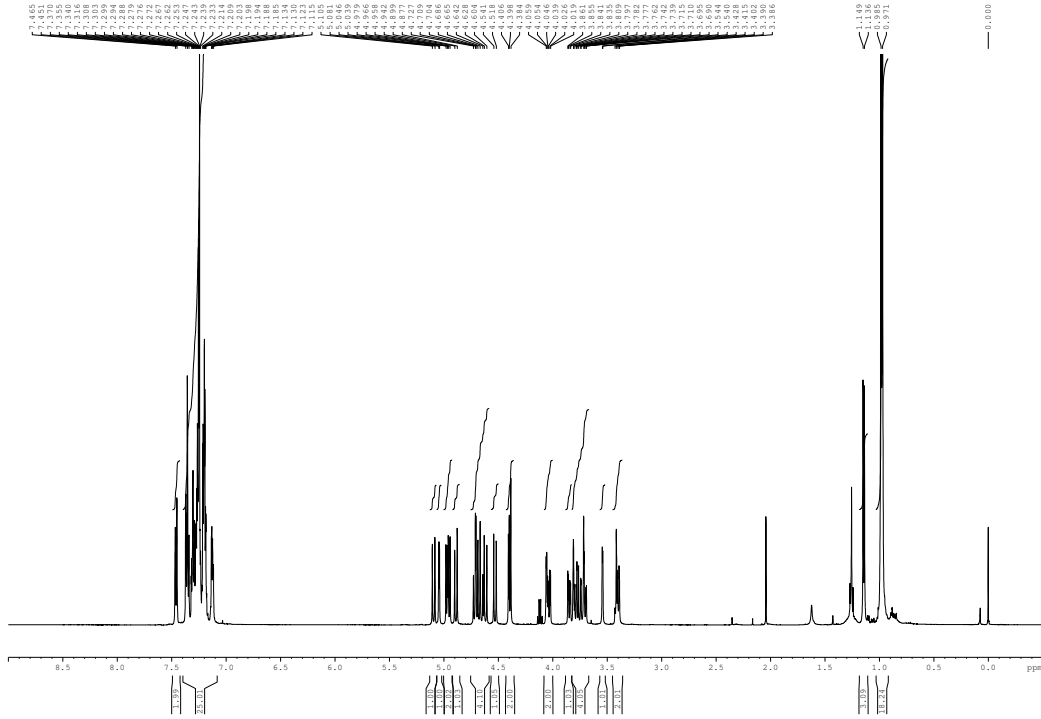
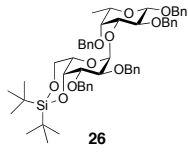


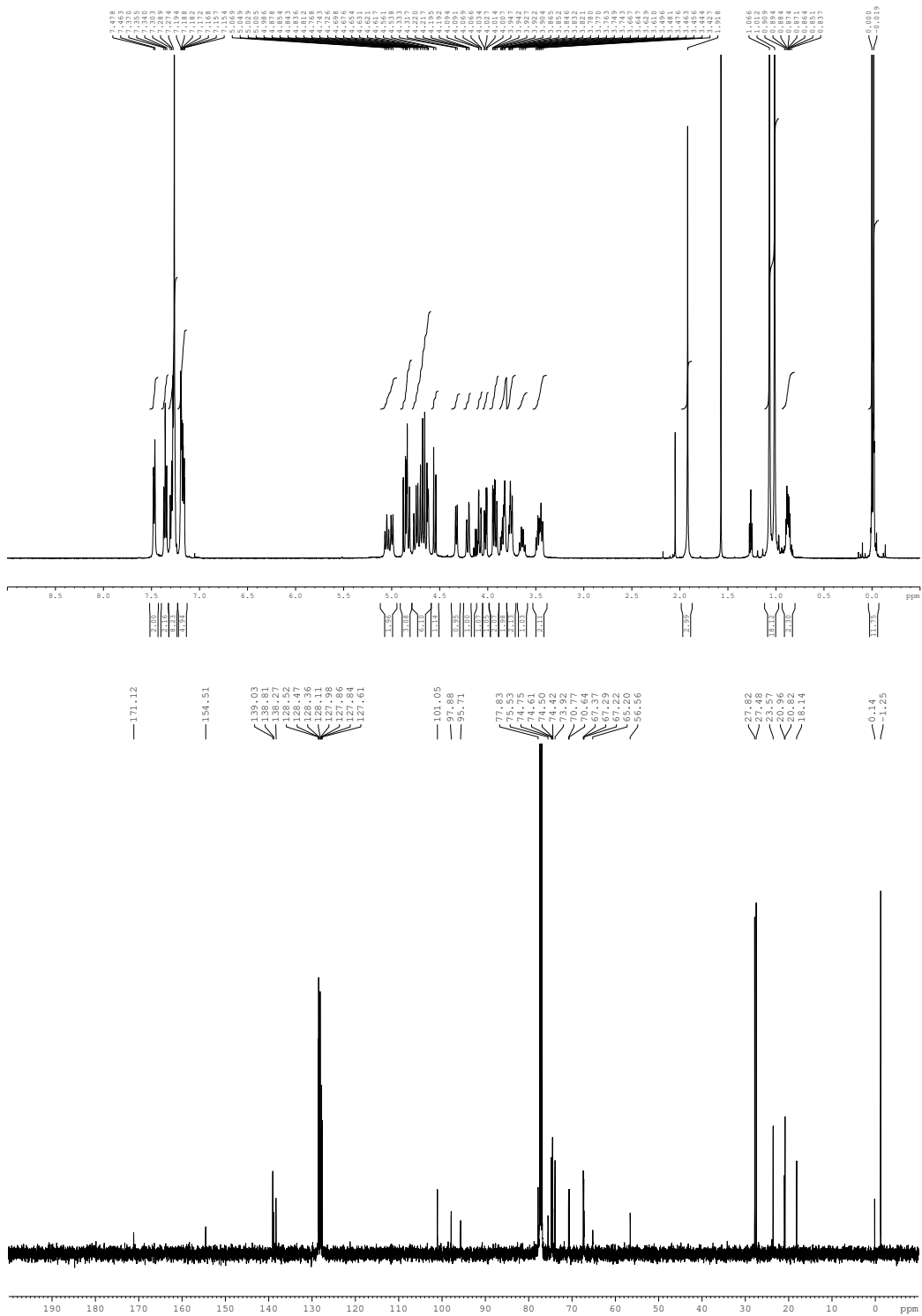
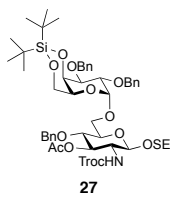


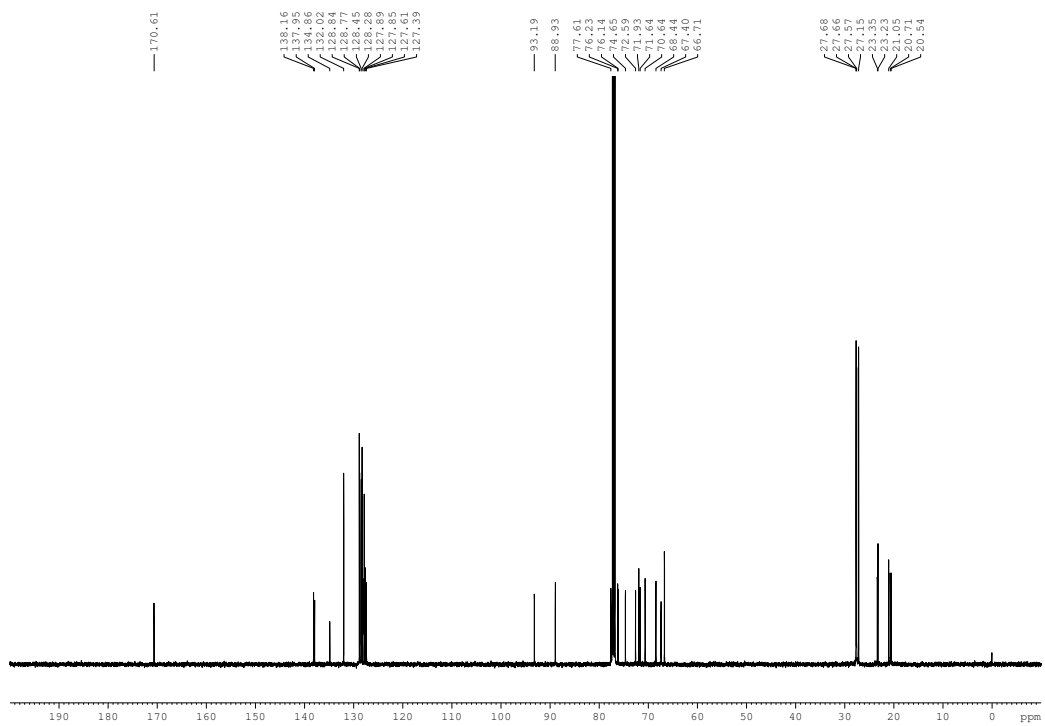
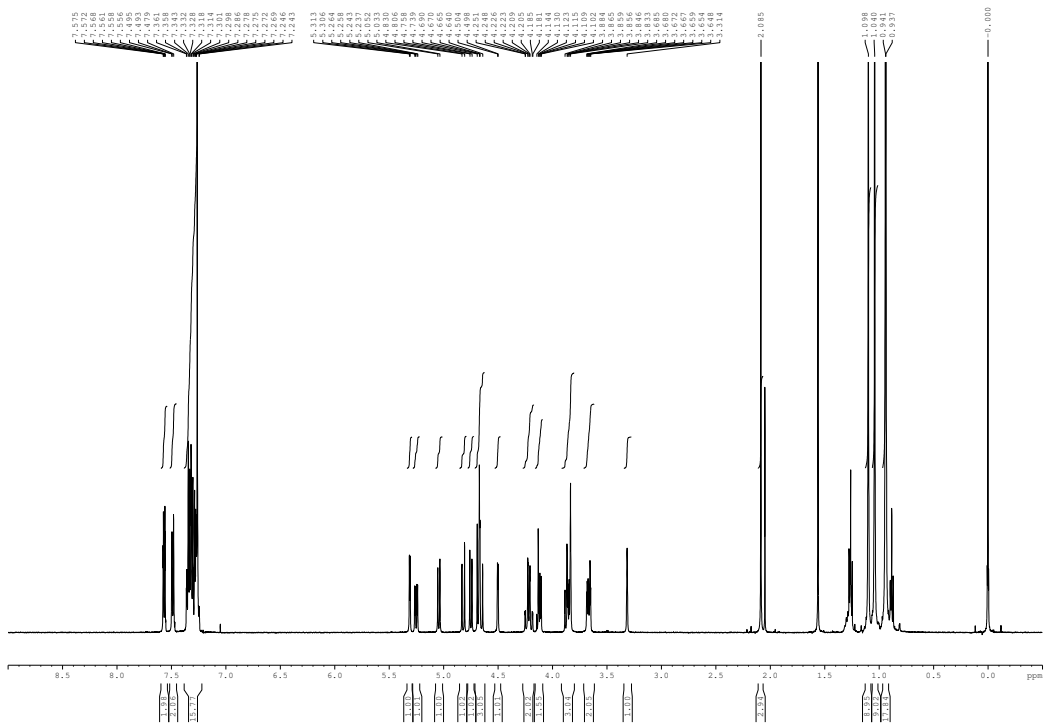
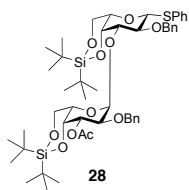


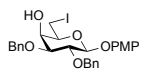
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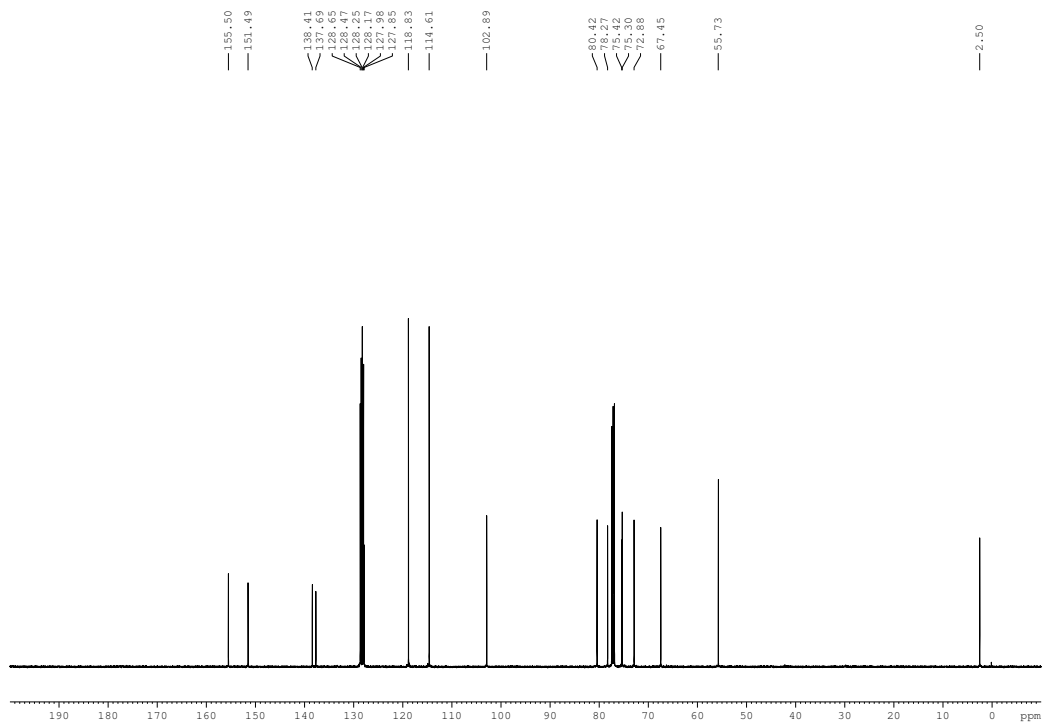
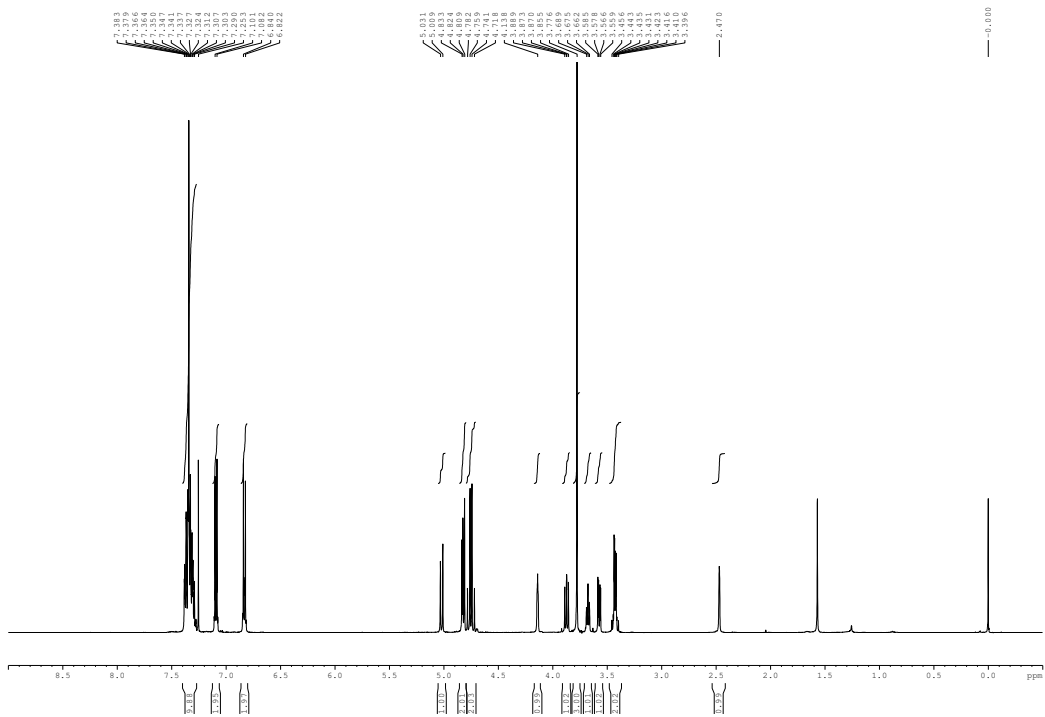


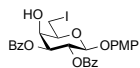




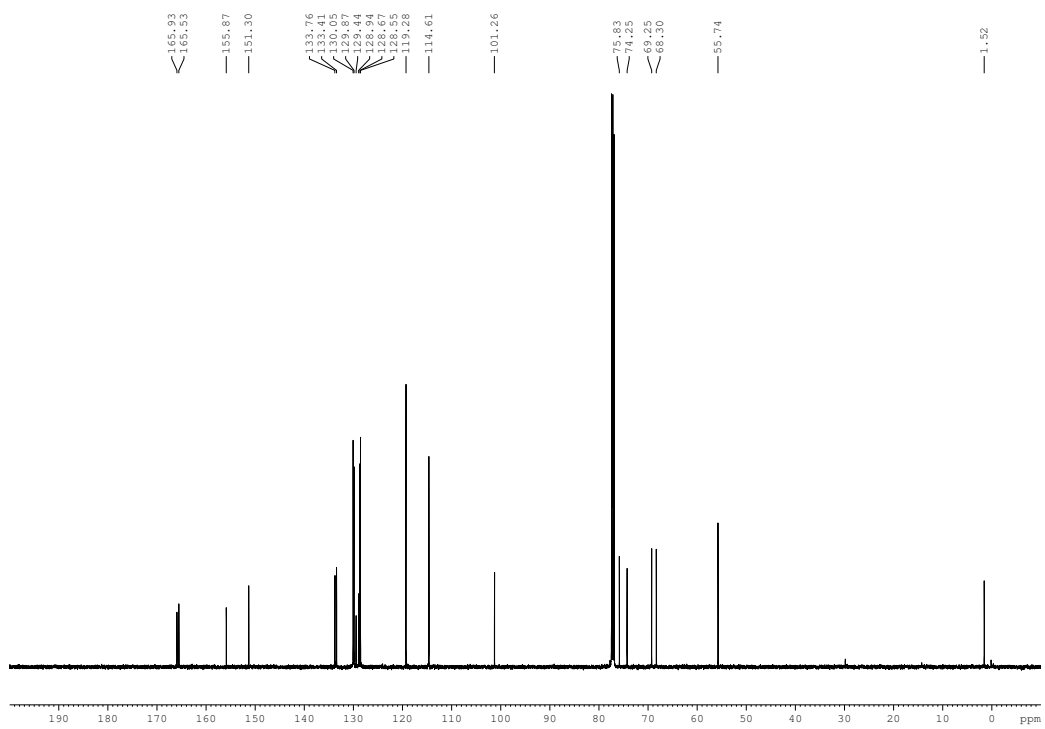
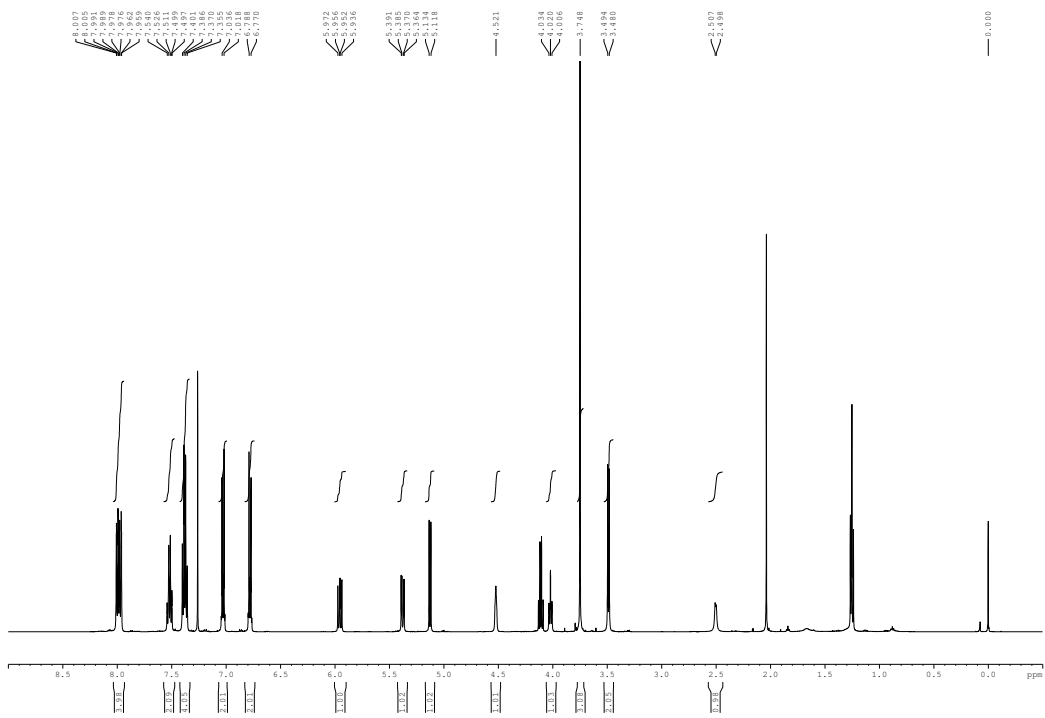


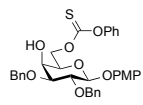
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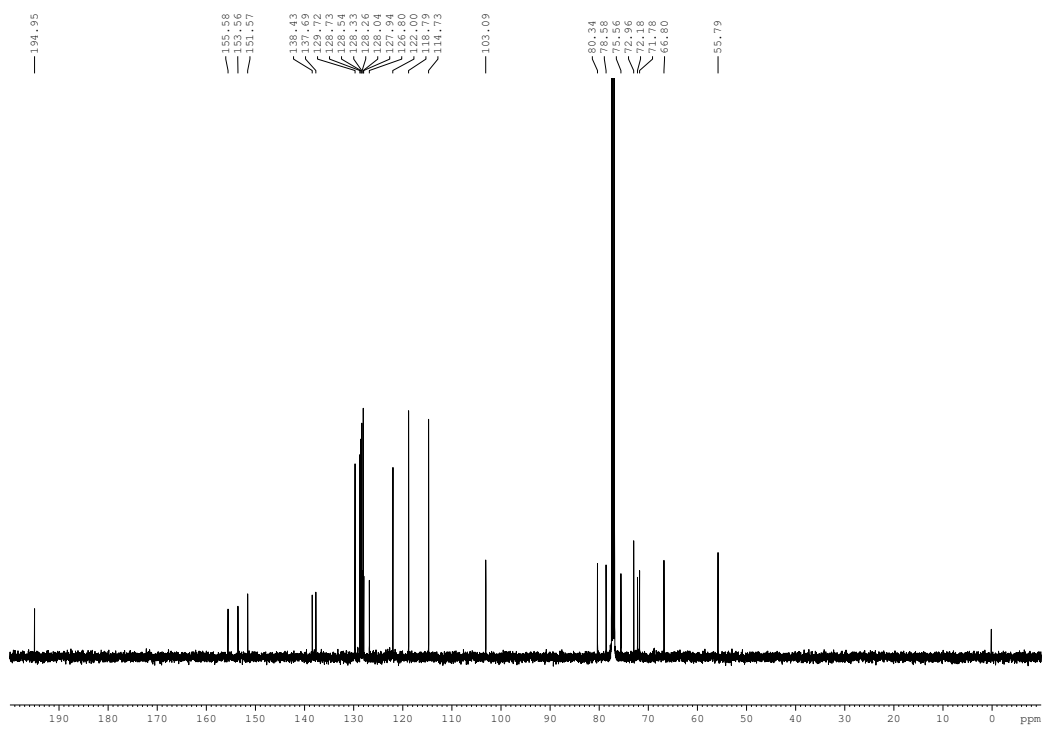
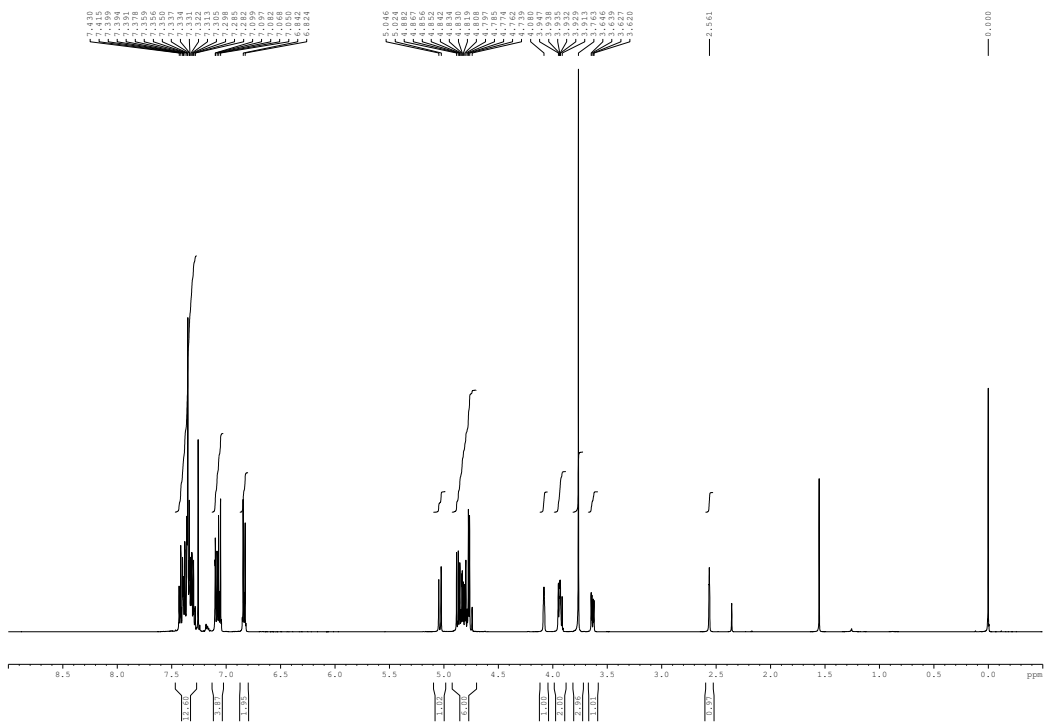


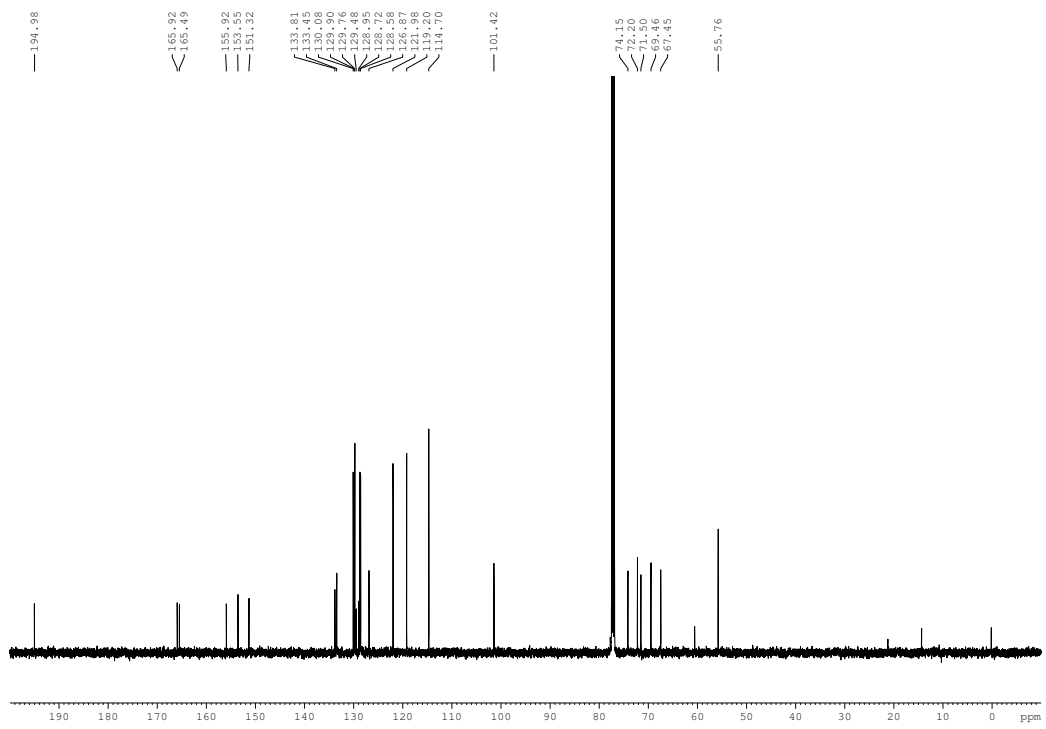
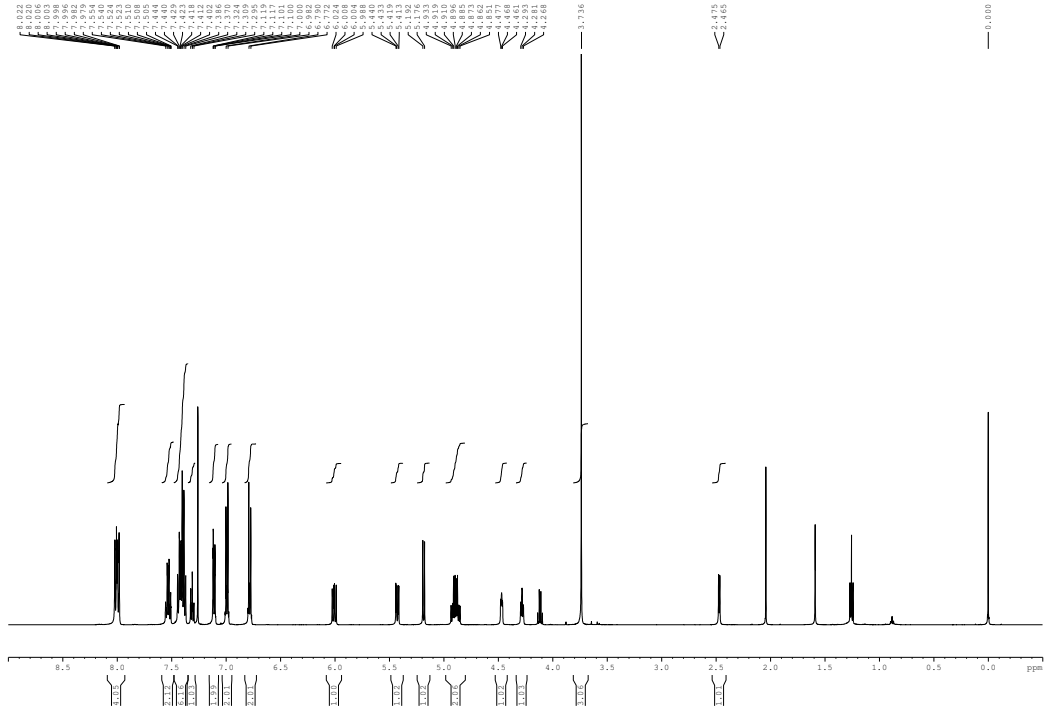
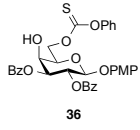
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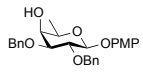




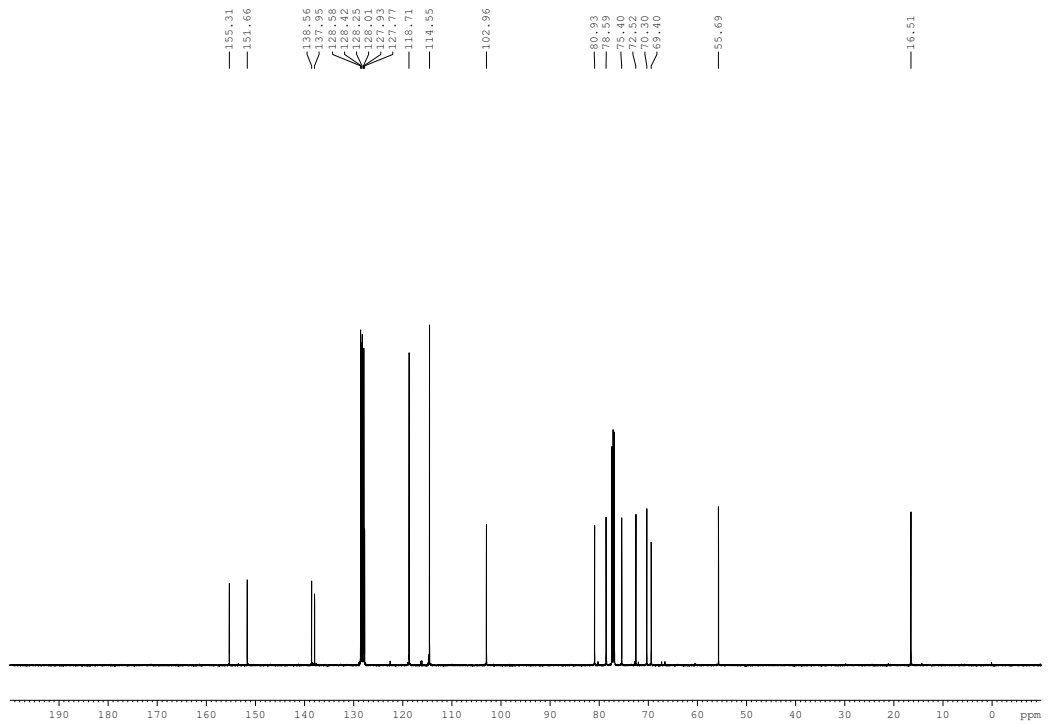
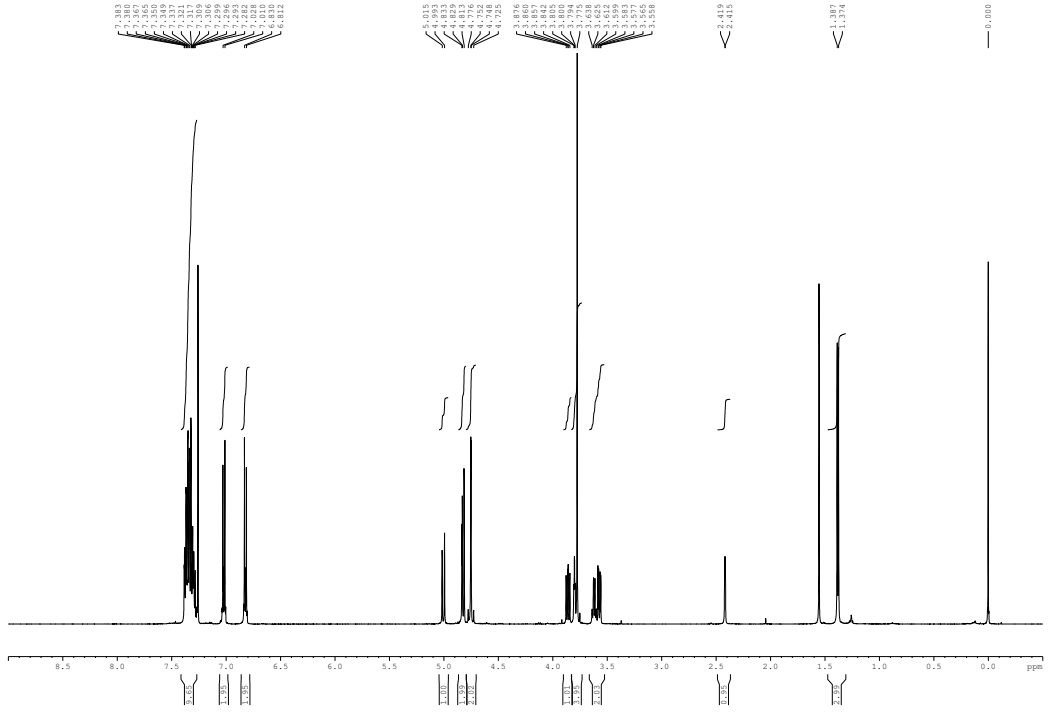
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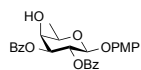




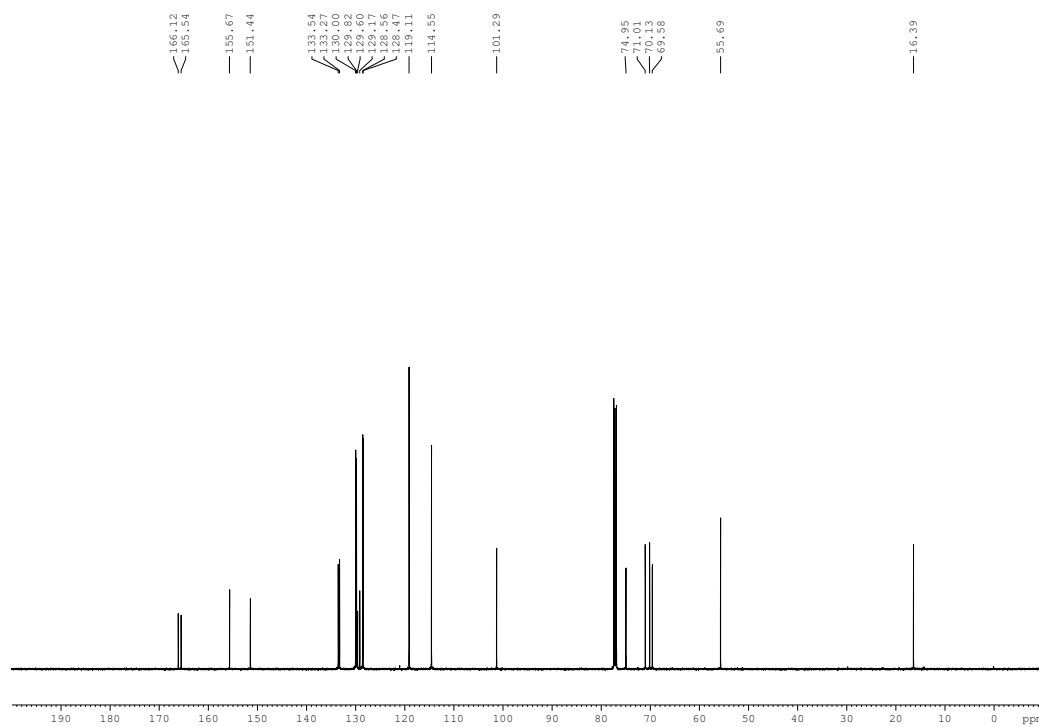
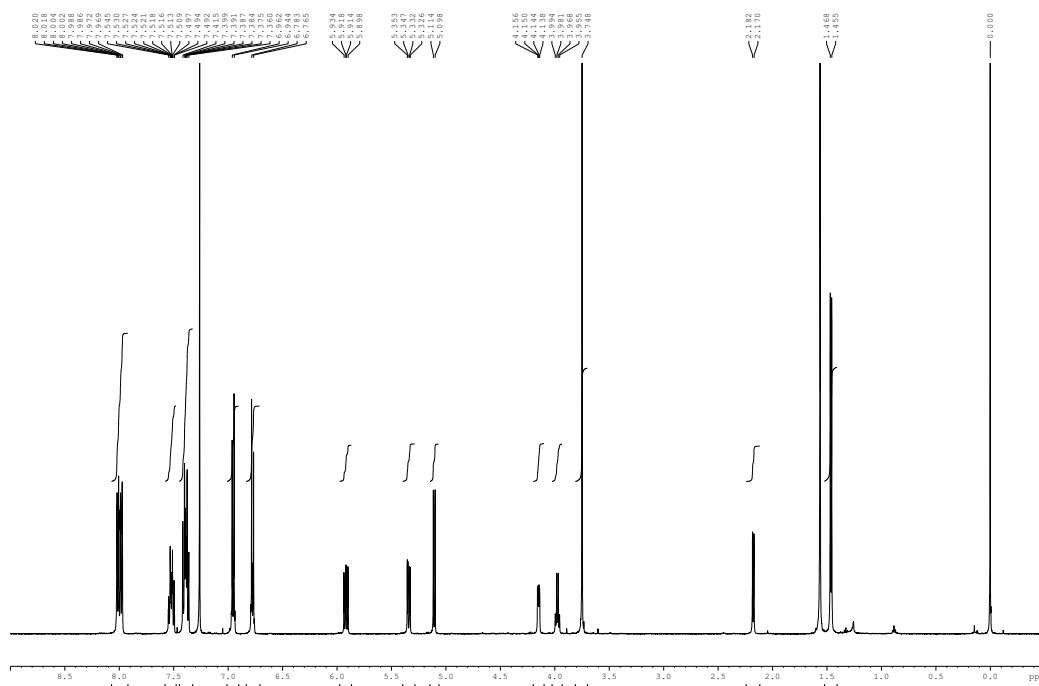


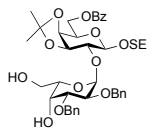
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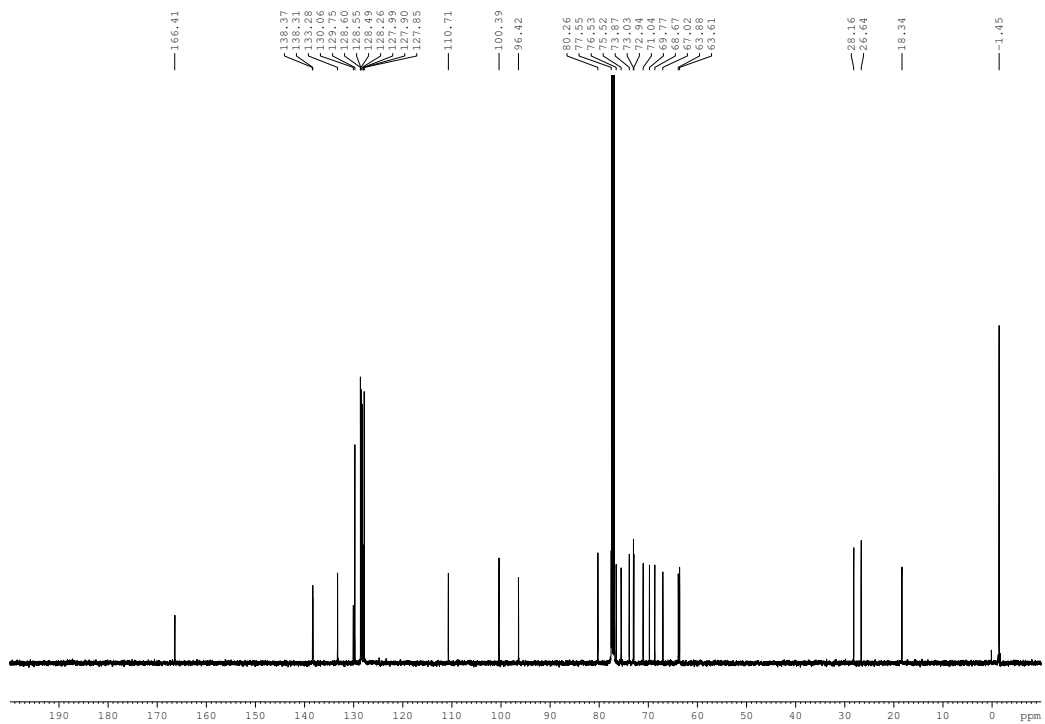
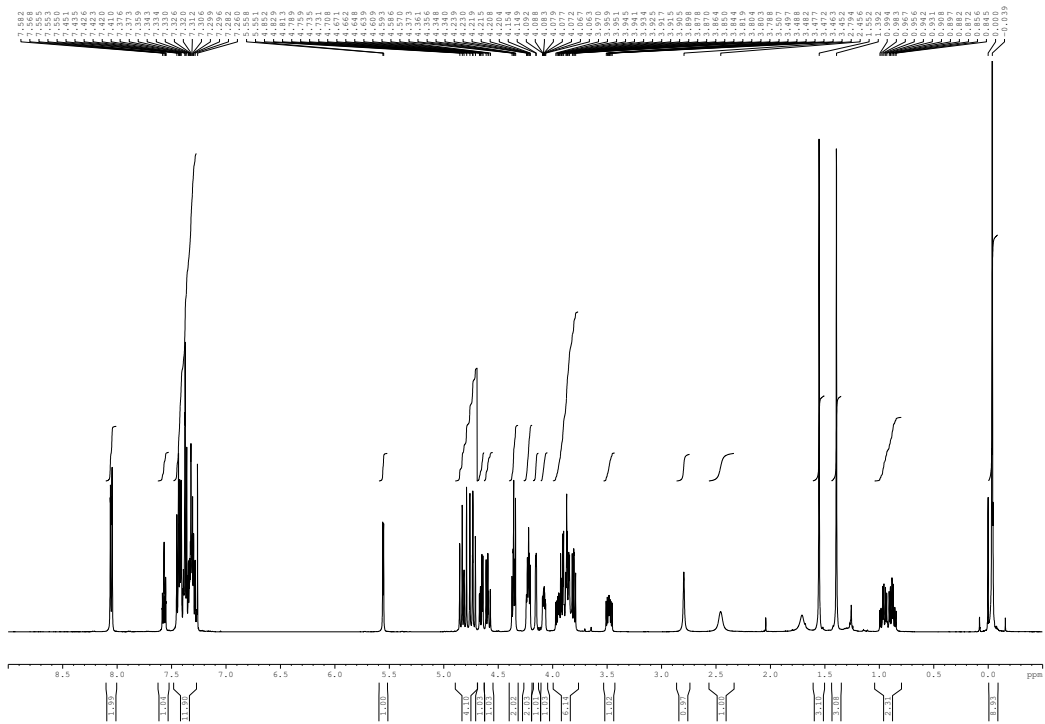


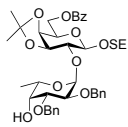
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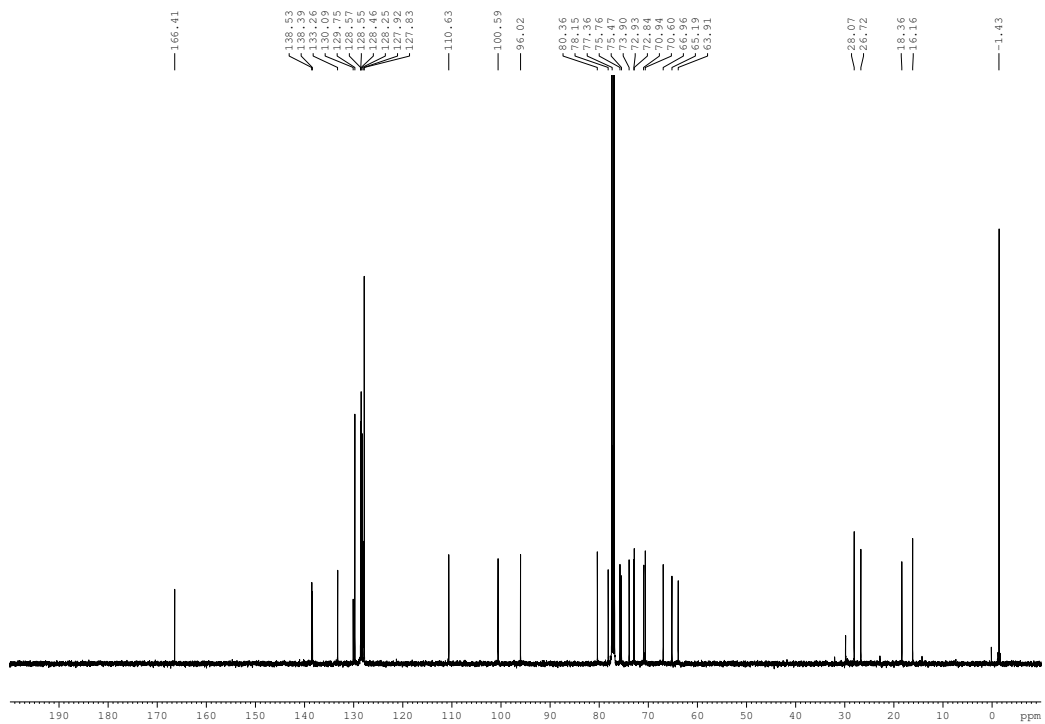
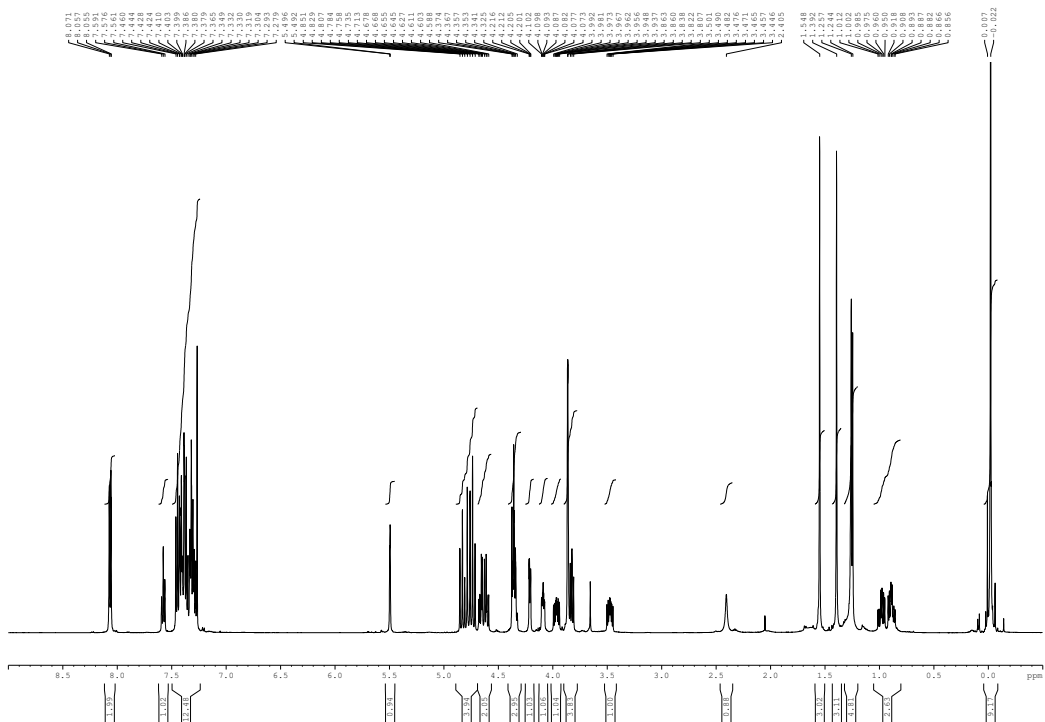


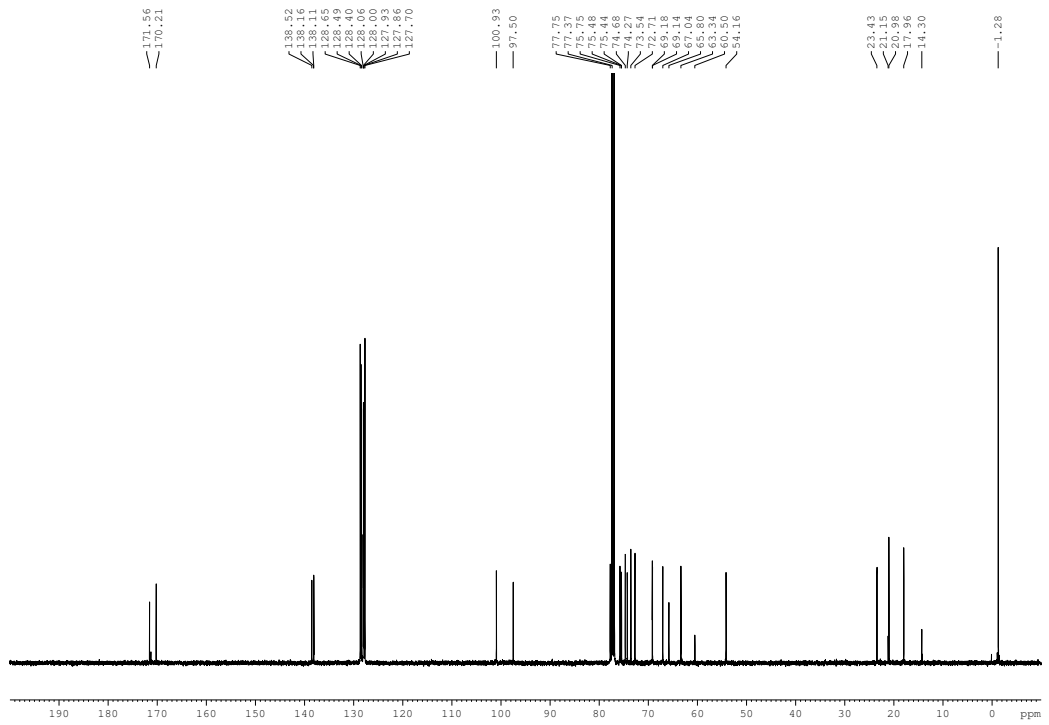
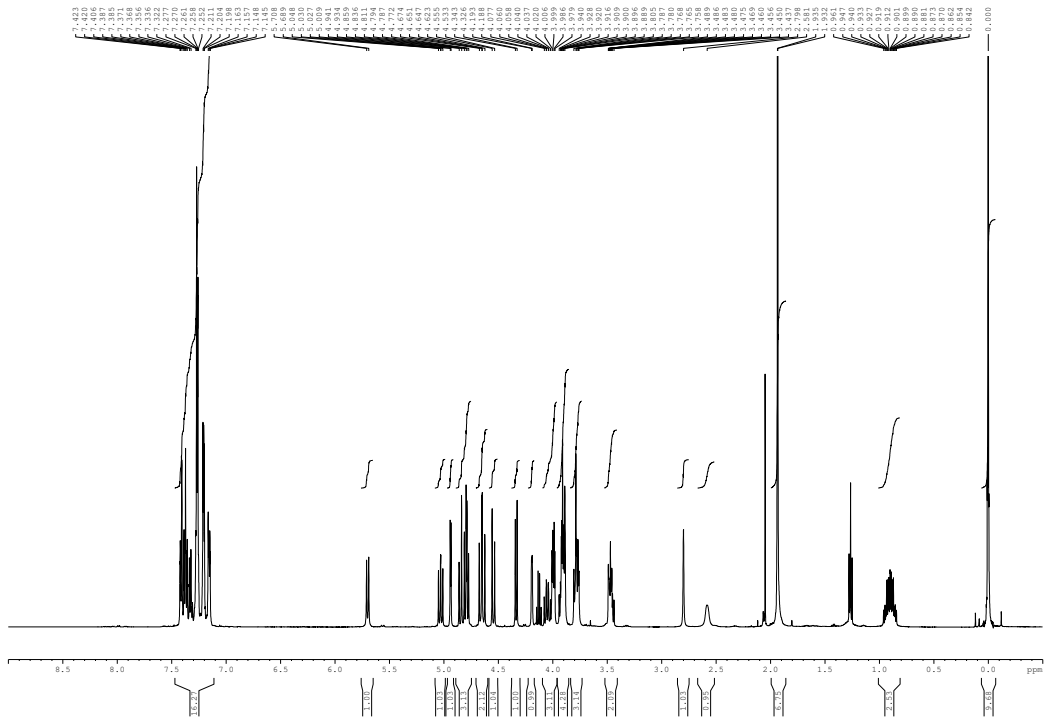
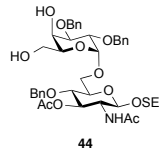
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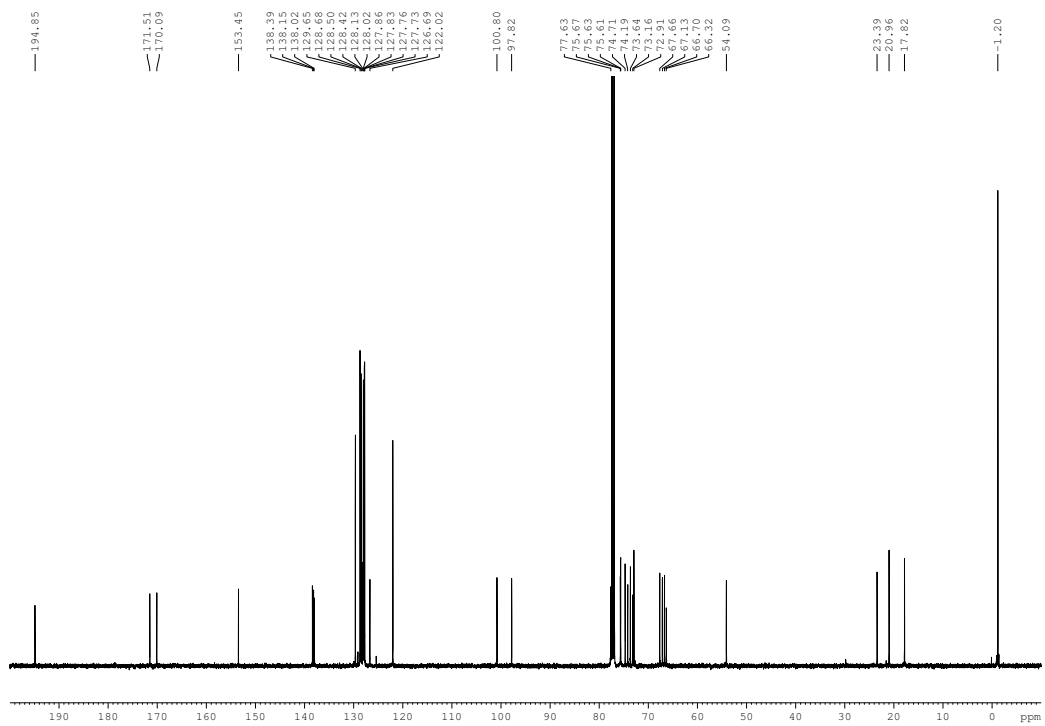
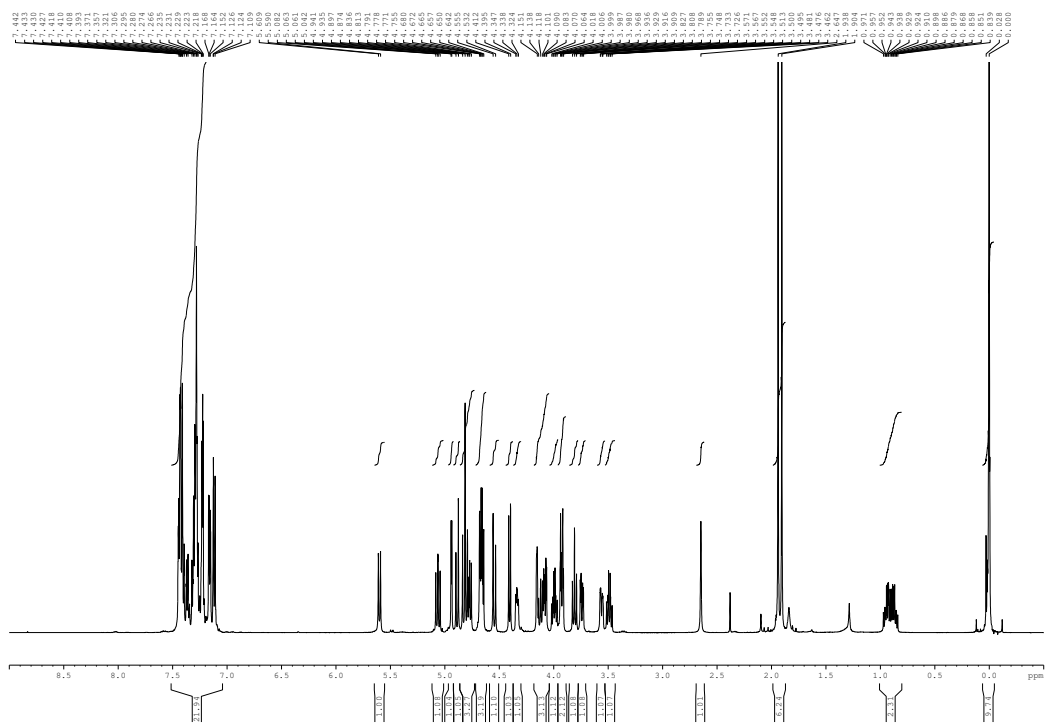
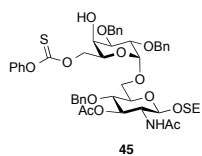


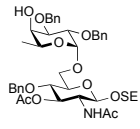


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