

Supporting Information

An improved synthesis of a key intermediate for glycosylation of biopterin and its application for the first synthesis of microcystbiopterin B

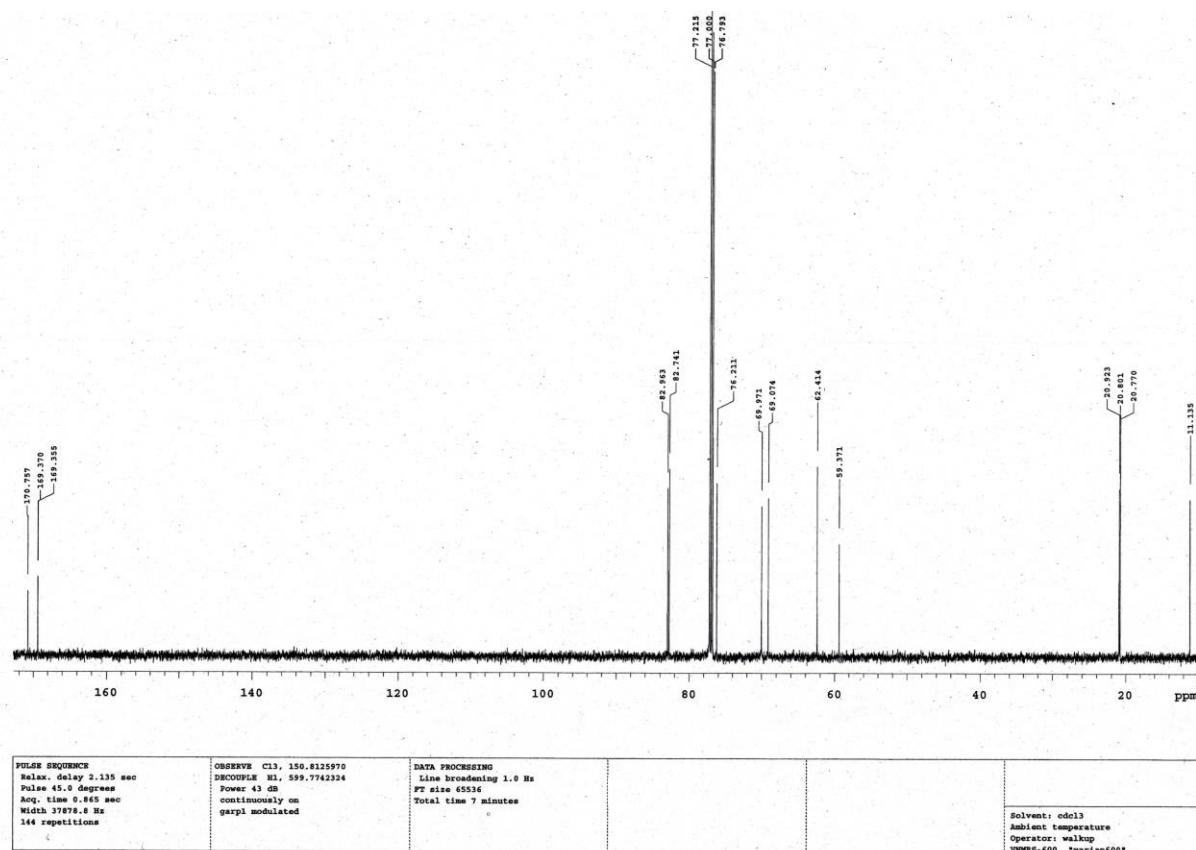
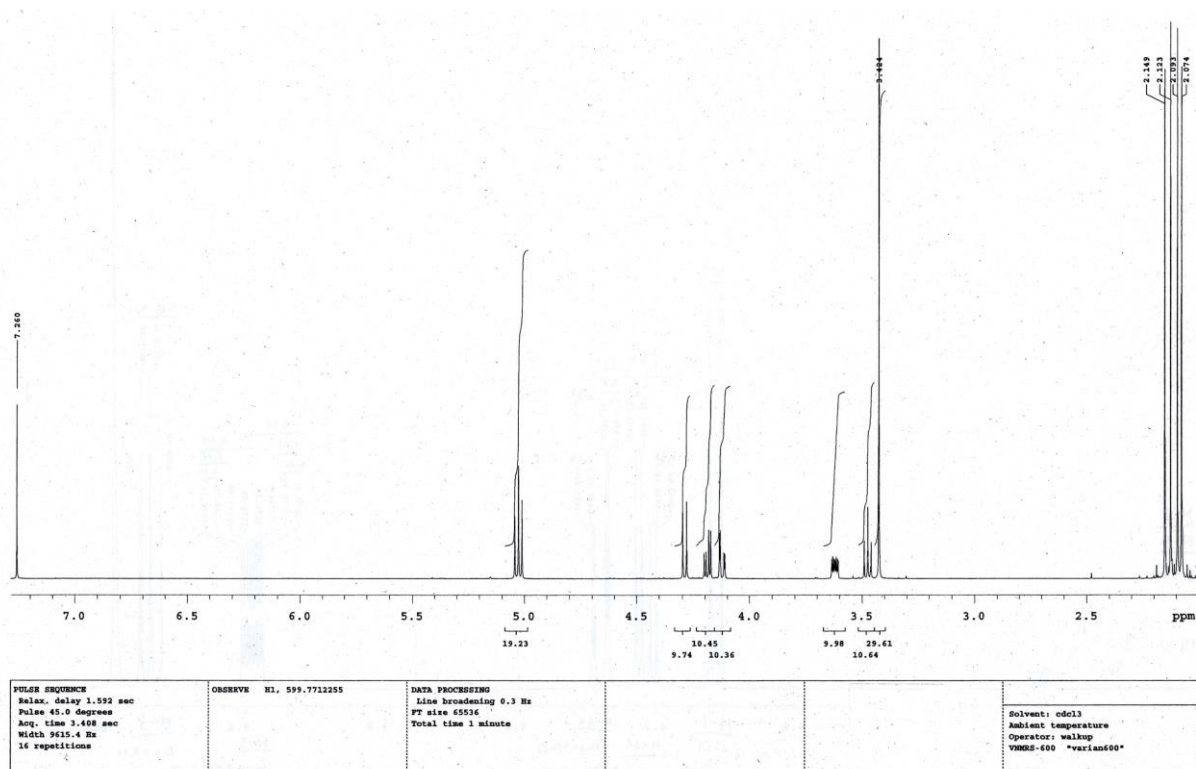
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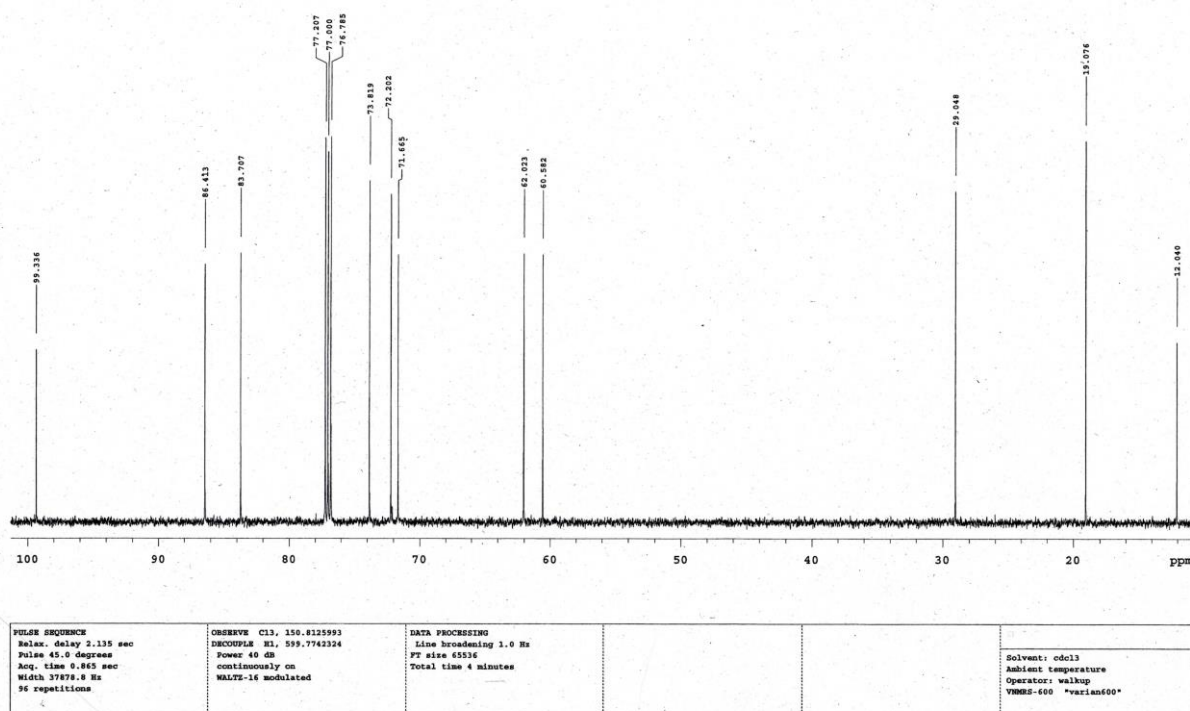
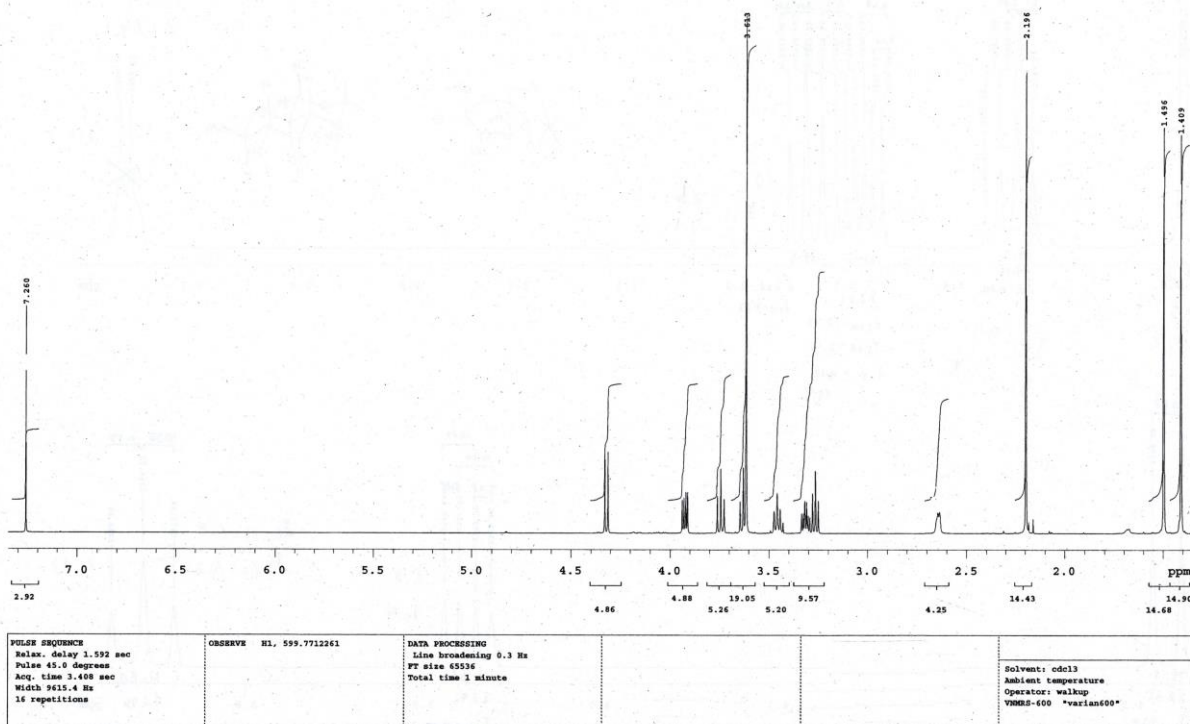
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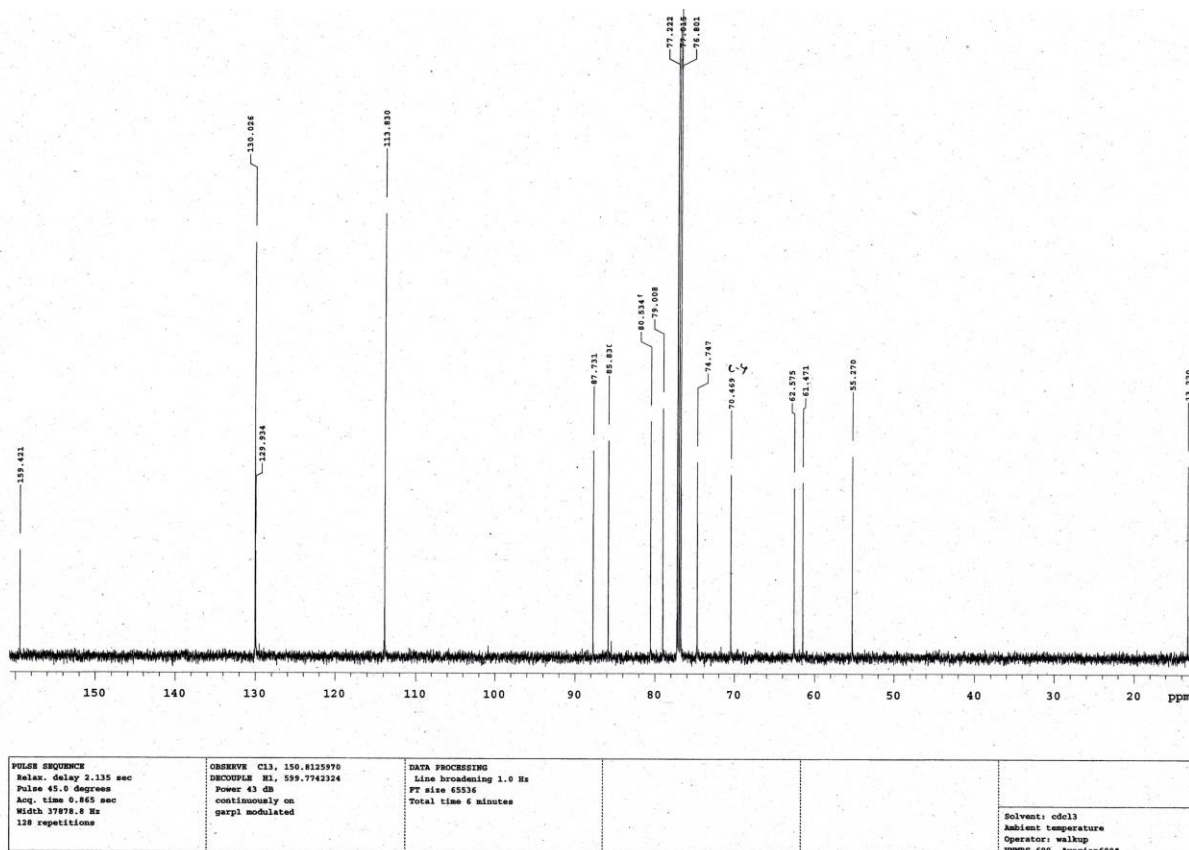
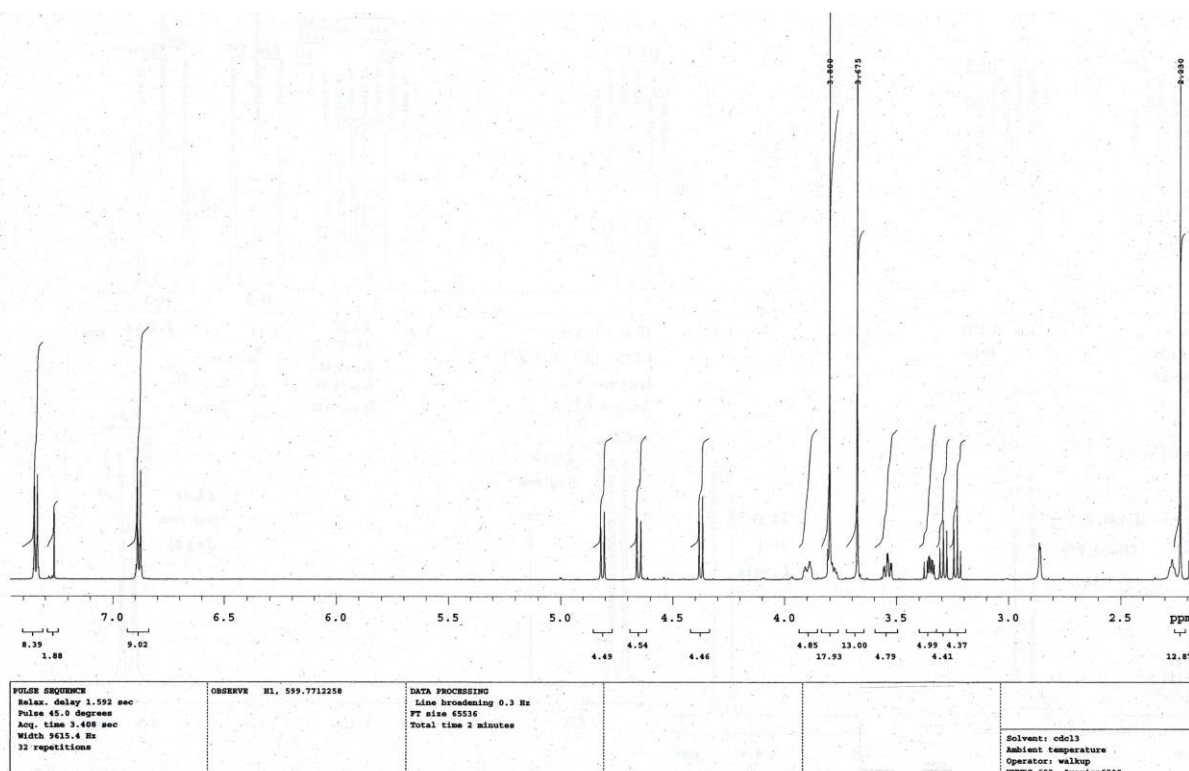
1. Methyl 2,4,6-tri-O-acetyl-3-O-methyl-1-thio-β-D-glucopyranoside (15)



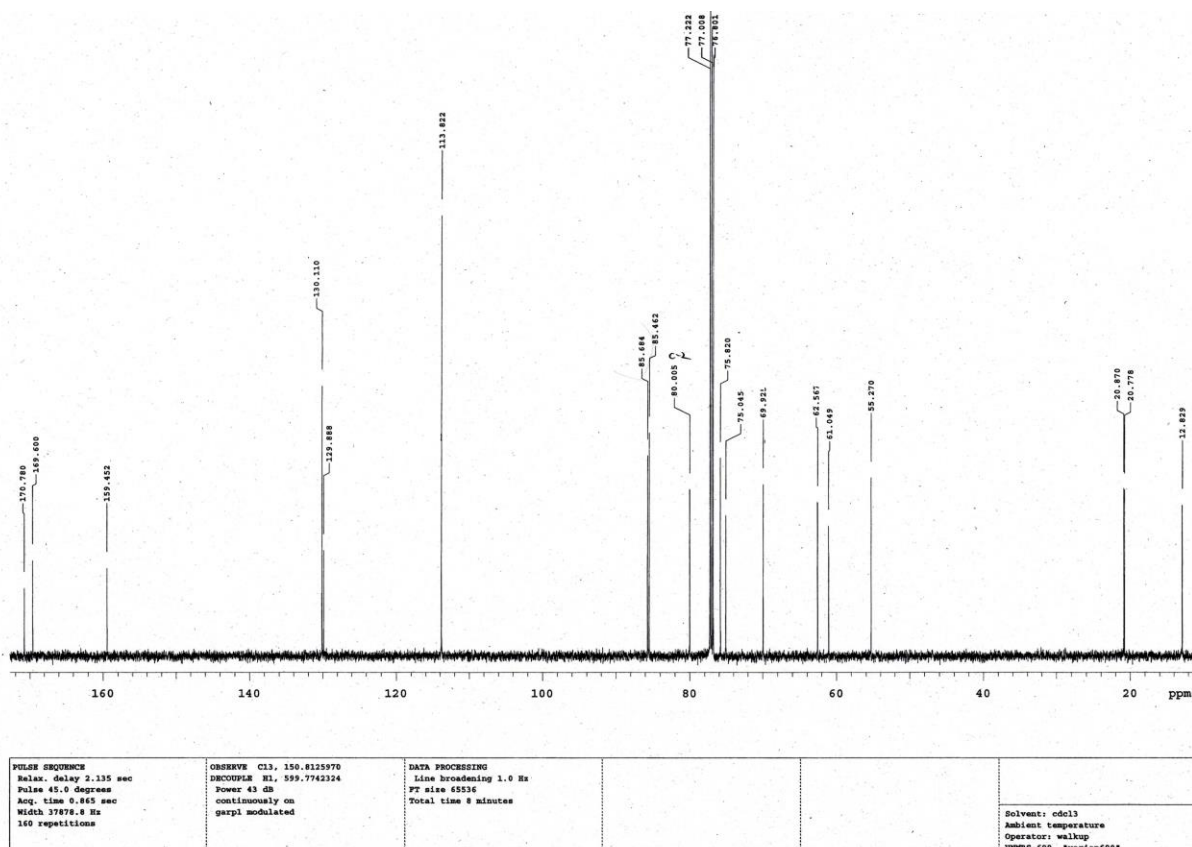
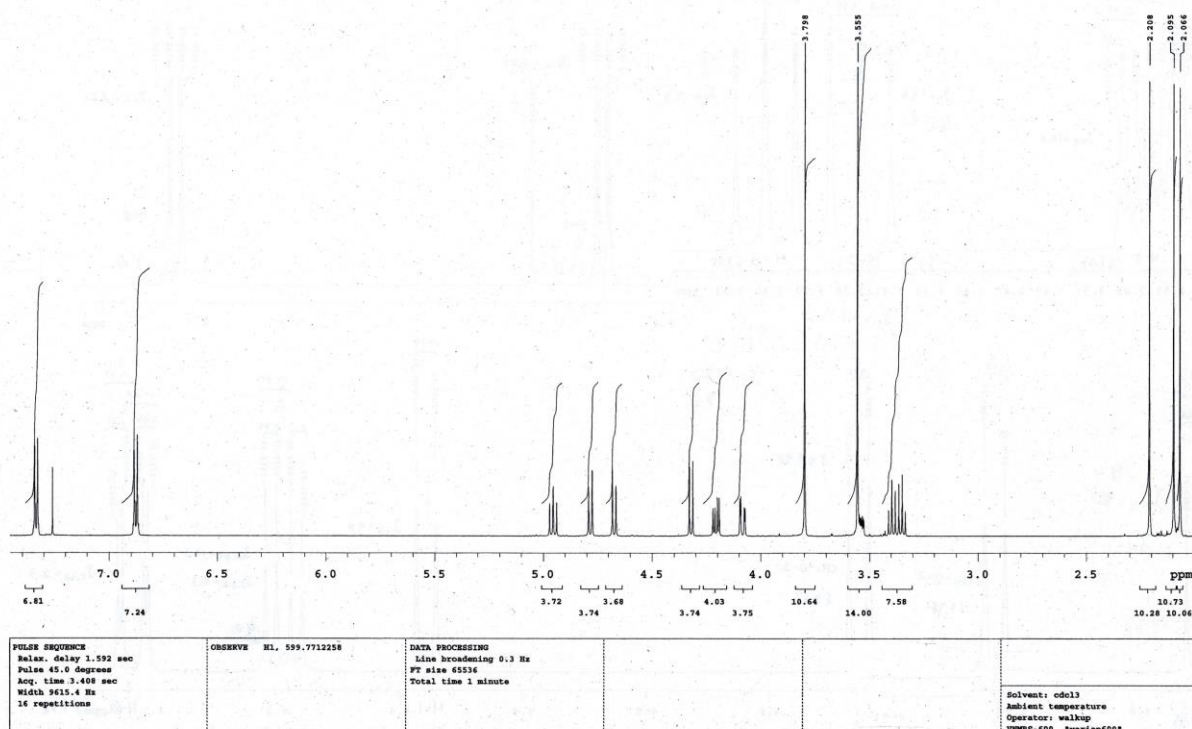
2. Methyl 4,6-O-isopropylidene-3-O-methyl-1-thio-β-D-glucopyranoside (16)



3. Methyl 2-O-(4-methoxybenzyl)-3-O-methyl-1-thio- β -D-glucopyranoside (17)



4. Methyl 4,6-di-O-acetyl-2-O-(4-methoxybenzyl)-3-O-methyl-1-thio- β -D-glucopyranoside (18)



7.352
7.287
7.260
6.897
6.882
3.97
4.37
4.10
4.11
4.15
4.12
3.51
3.50
3.26
3.25

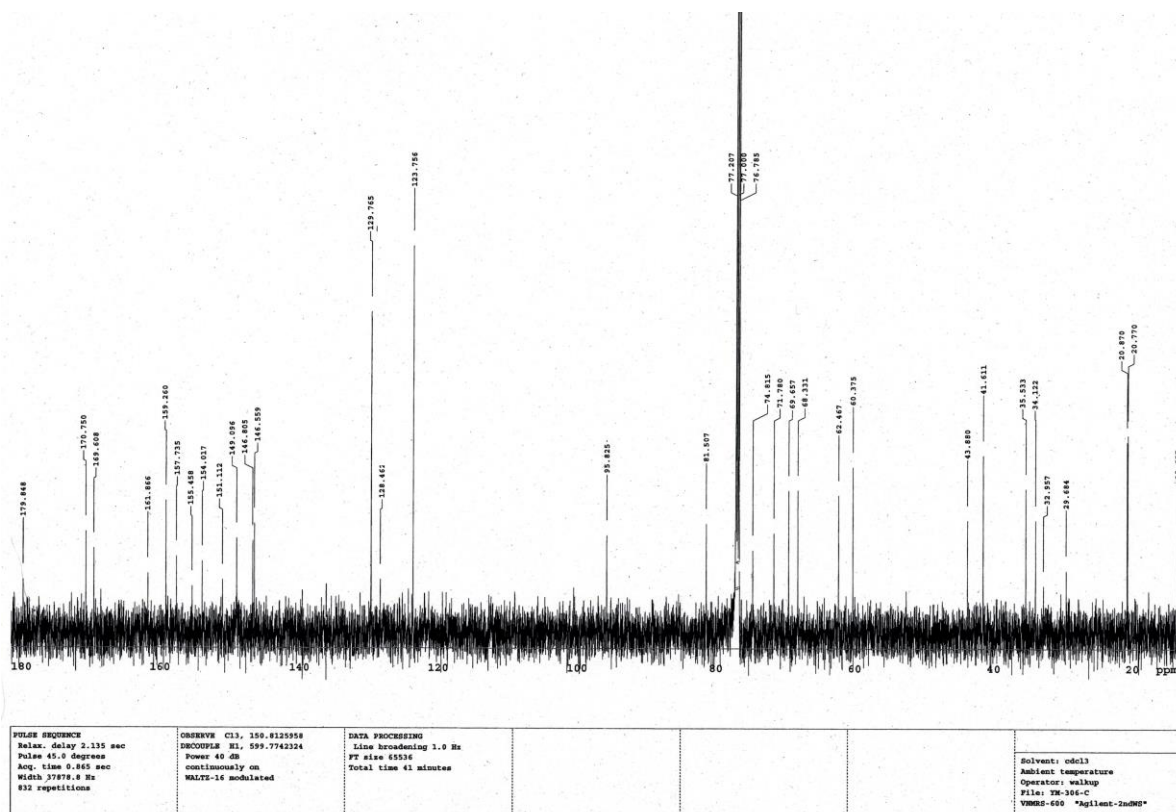
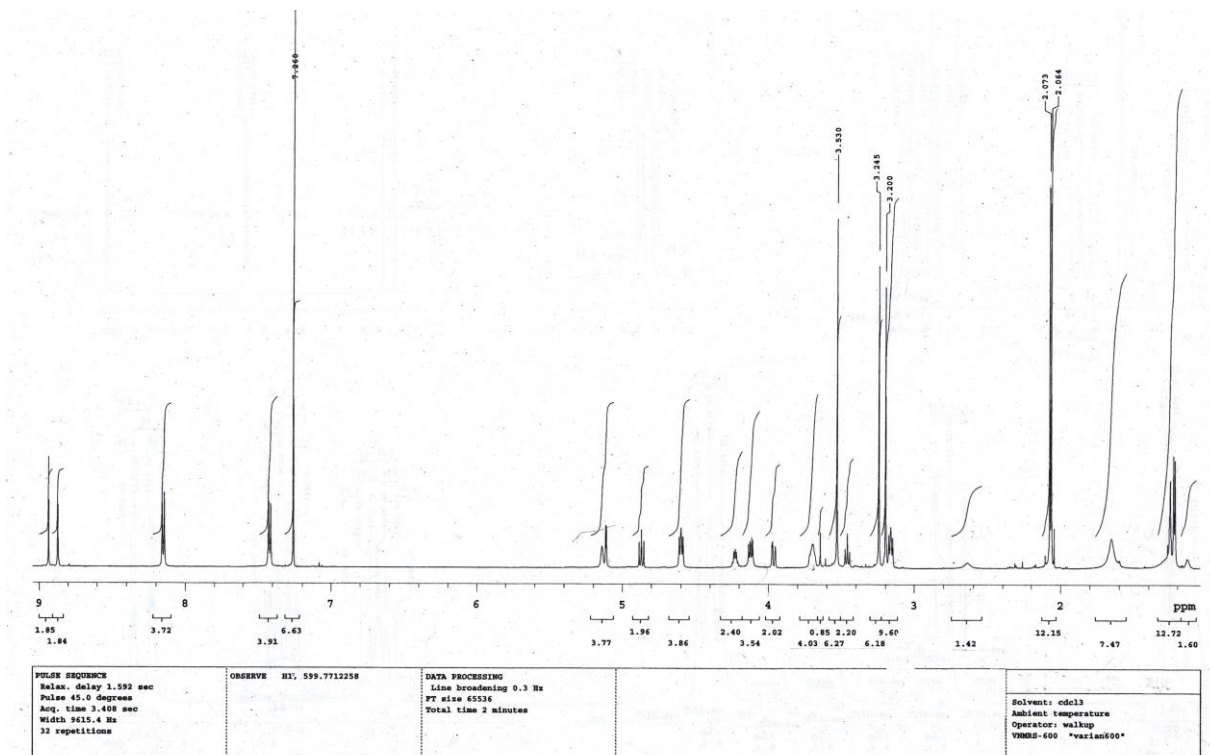
3.64 7.68 3.67 3.97 4.37 4.10 4.11 4.15 4.12 11.51 12.17 12.09 12.28

ppm

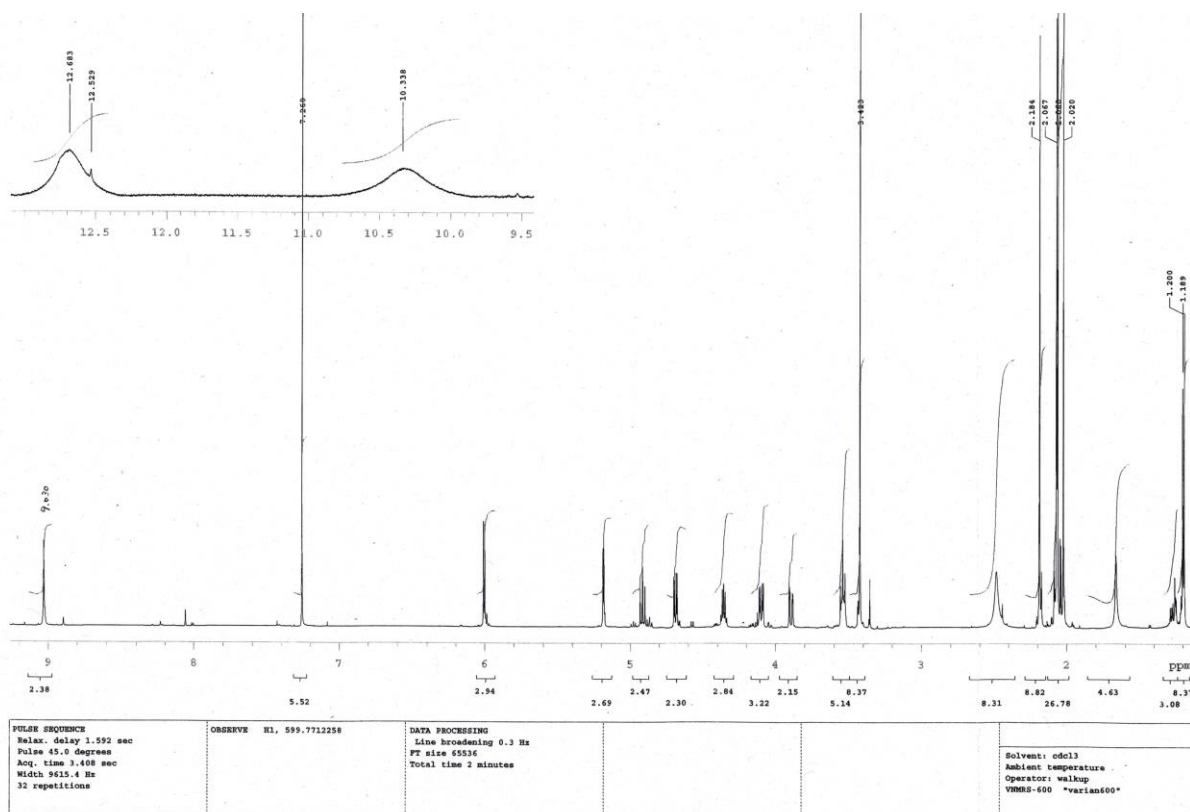
PULSE SEQUENCE Relax. delay 1.592 sec Pulse 45.0 degrees Acq. time 3.498 sec Width 9515.4 Hz 16 repetitions	OBSERVE H1, 599.7712255	DATA PROCESSING Line broadening 0.3 Hz FT size 65536 Total time 1 minute	Solvent: cdcl3 Ambient temperature Operator: waihp VMMS-600 *varian600*
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6. N^2 -(*N,N*-Dimethylaminomethylene)-3-[2-(4-nitrophenyl)ethyl]-2'-*O*-(4,6-di-*O*-acetyl-3-*O*-methyl- α -D-glucopyranosyl)biopterin (21a)



7. Di- N^2 :1'-O-acetyl-2'-O-(2,4,6-tri-O-acetyl-3-O-methyl- α -D-glucopyranosyl)biopterin (22)



8. 2'-O-(3-O-Methyl- α -D-glucopyranosyl)biopterin (4)

