

# **Supporting Information**

## **Lead-Catalyzed Aqueous Benzoylation of Carbohydrates with an Acyl Phosphate Ester**

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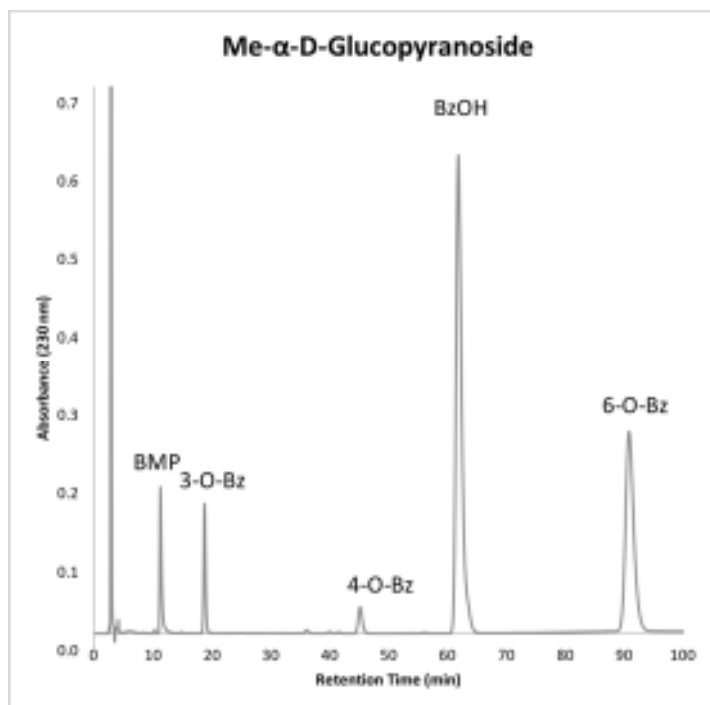
\*E-mail: r.kluger@utoronto.ca

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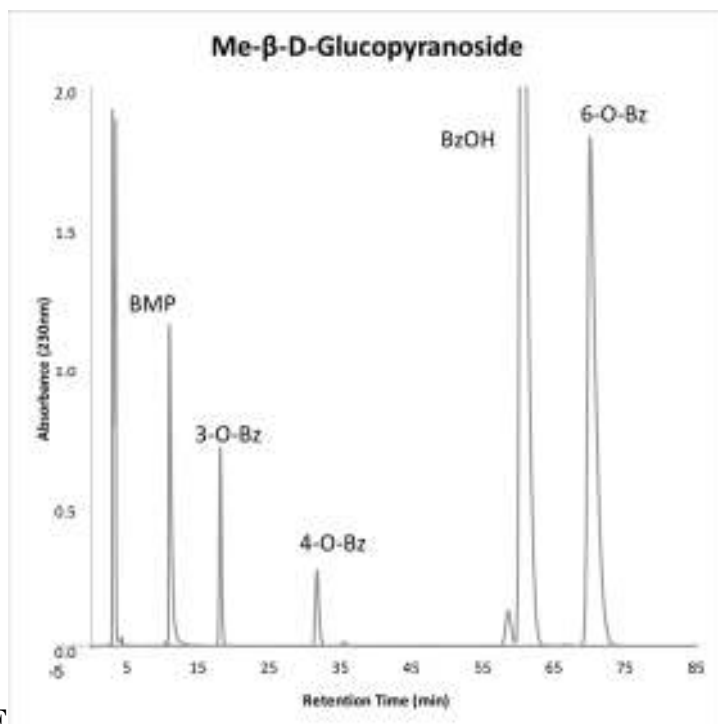
<b>I.</b>	<b>HPLC chromatograms</b>	<b>S2-S4</b>
<b>II.</b>	<b><sup>1</sup>H NMR Spectra</b>	<b>S5-S17</b>

## HPLC chromatograms

### Monobenzoylated methyl- $\alpha$ -D-glucopyranoside

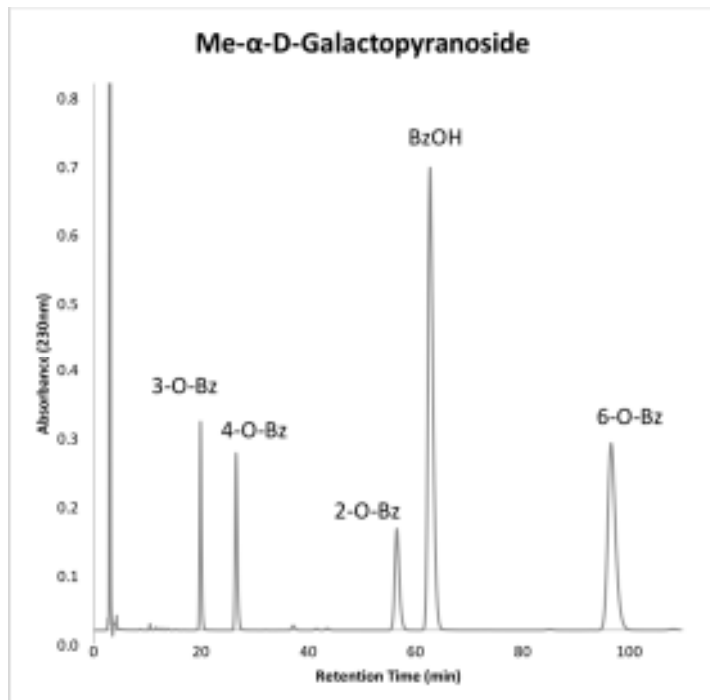


### Monobenzoylated methyl $\beta$ -D-glucopyranoside

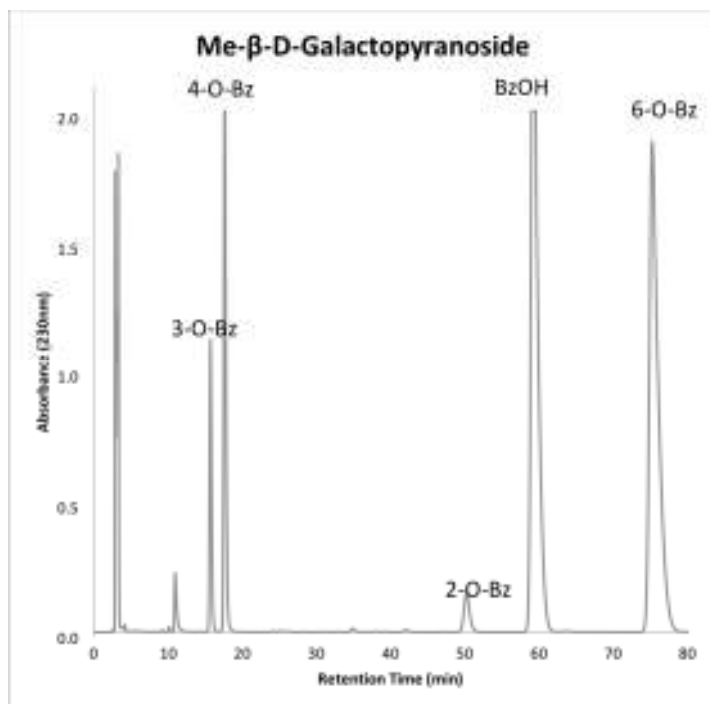


E

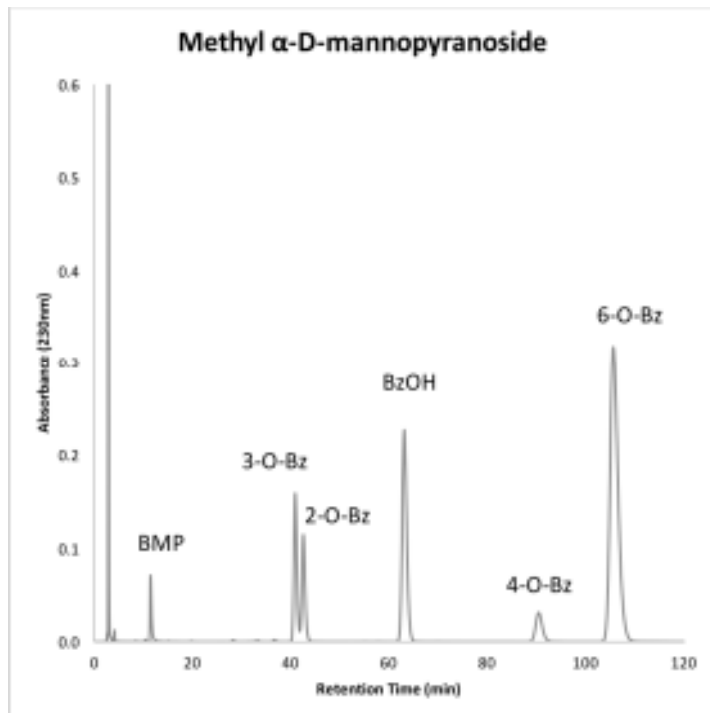
## Monobenzoylated methyl $\alpha$ -D-galactopyranoside



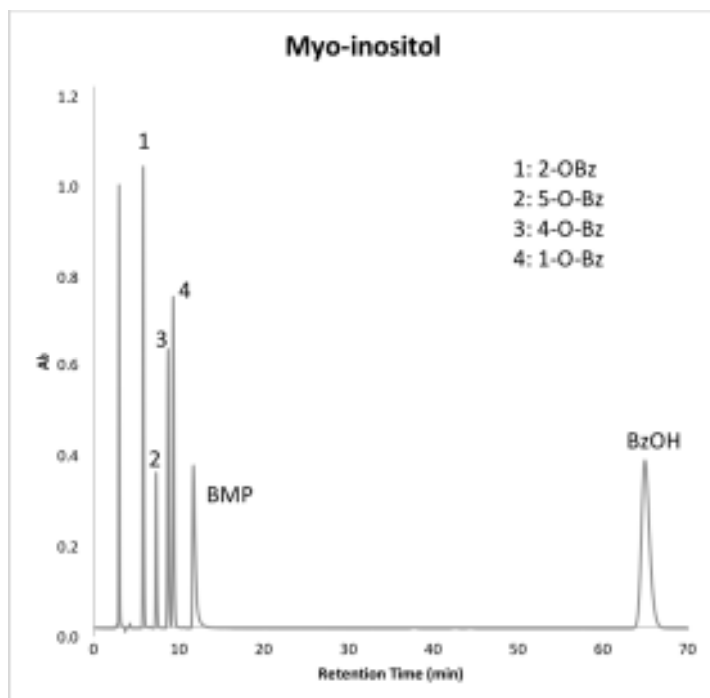
## Monobenzoylated methyl $\beta$ -D-galactopyranoside



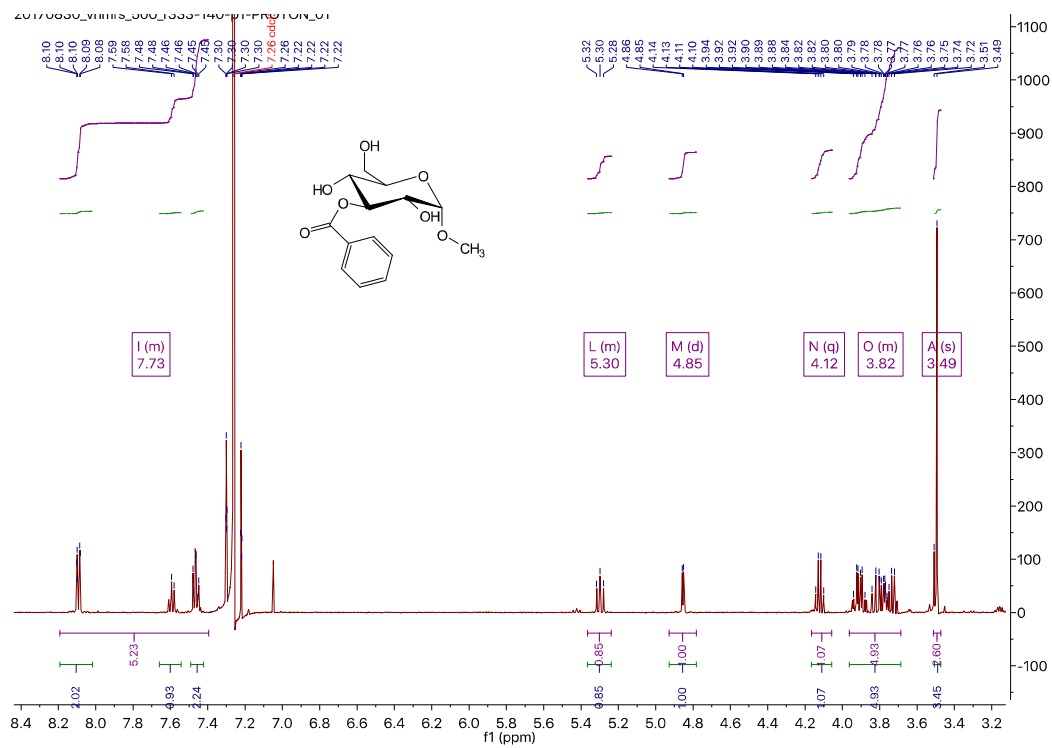
## Monobenzoylated methyl $\alpha$ -D-mannopyranoside



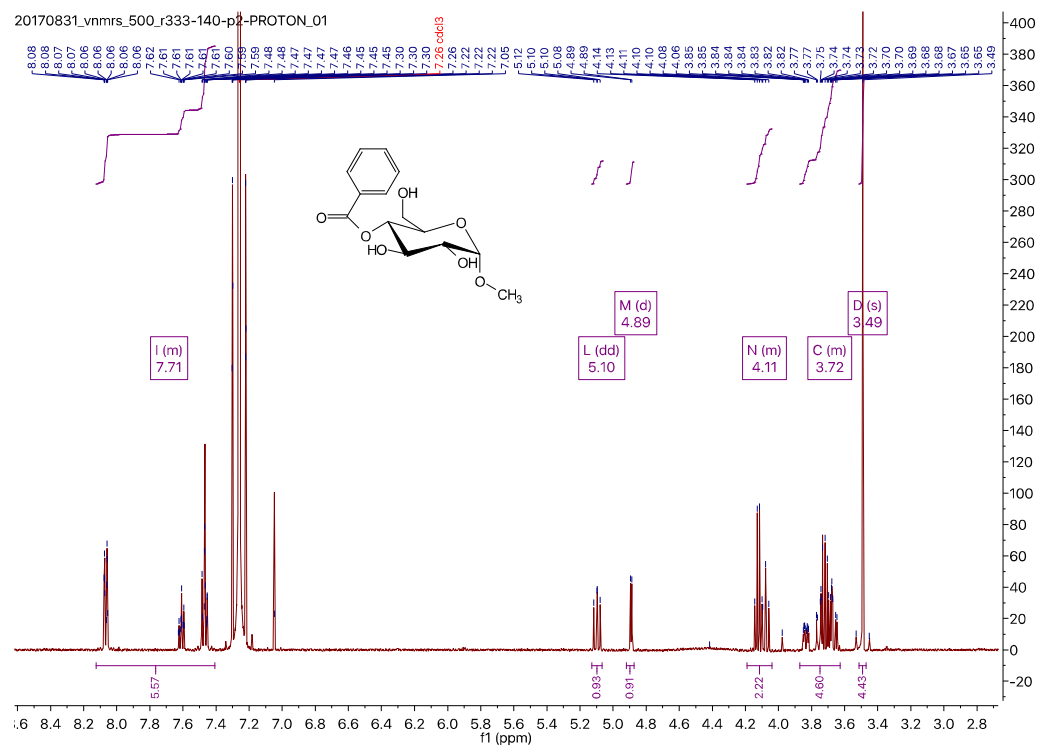
## Monobenzoylated *myo*-Inositol



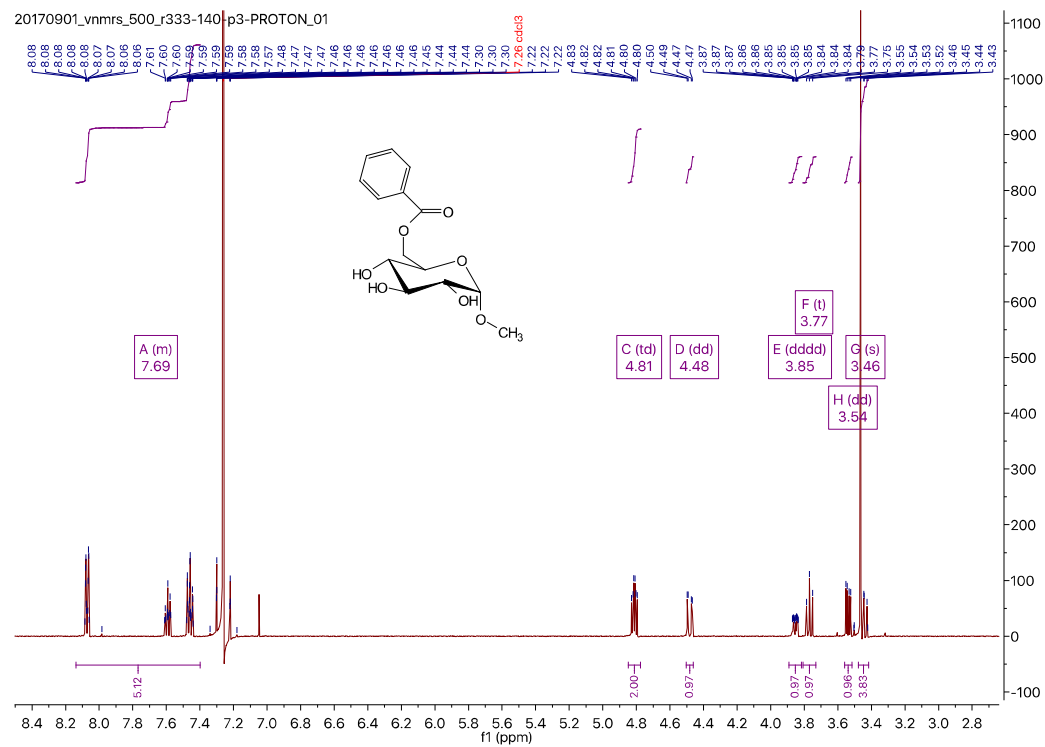
### Methyl 3-O-benzoyl- $\alpha$ -D-glucopyranoside



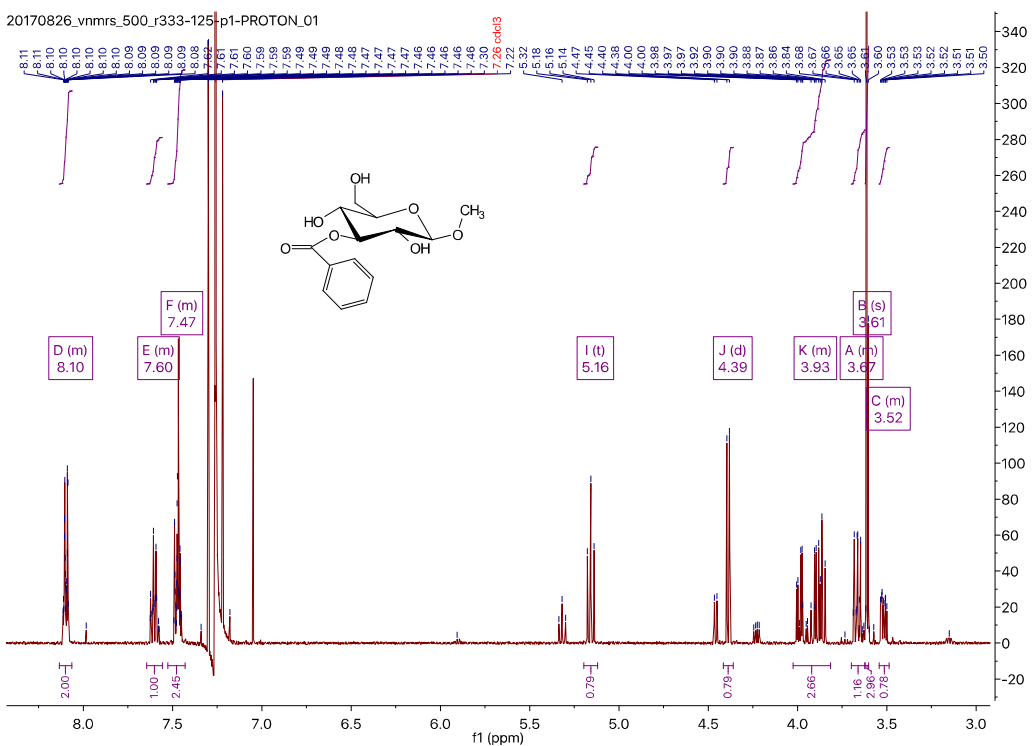
## Methyl 4-O-benzoyl- $\alpha$ -D-glucopyranoside



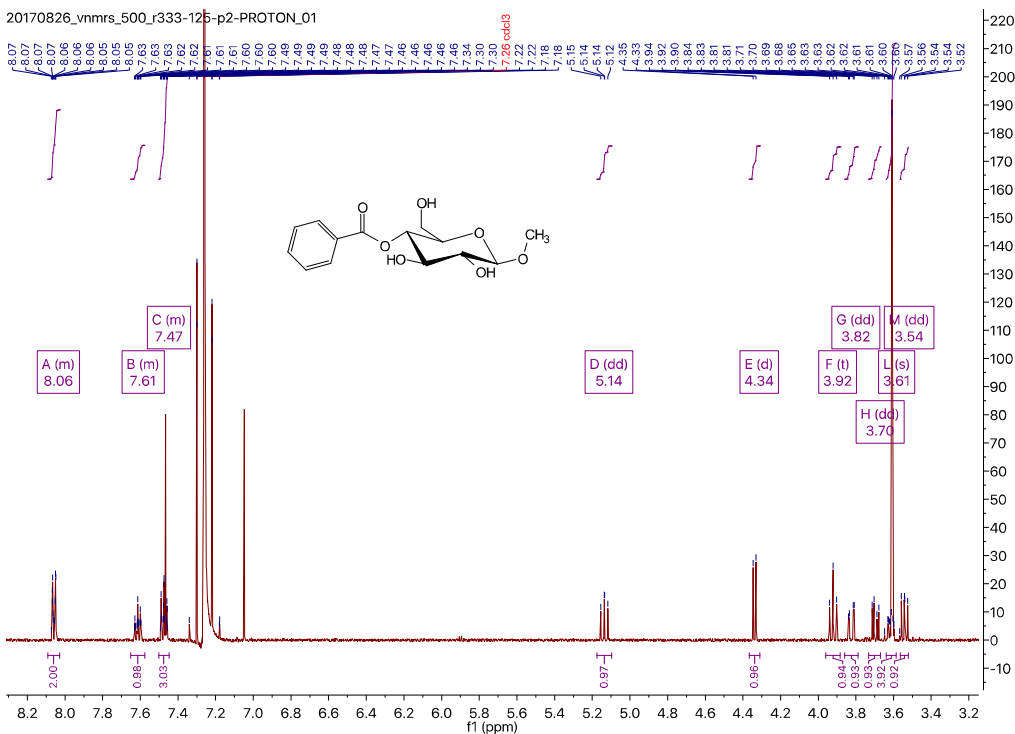
## Methyl 6-O-benzoyl- $\alpha$ -D-glucopyranoside



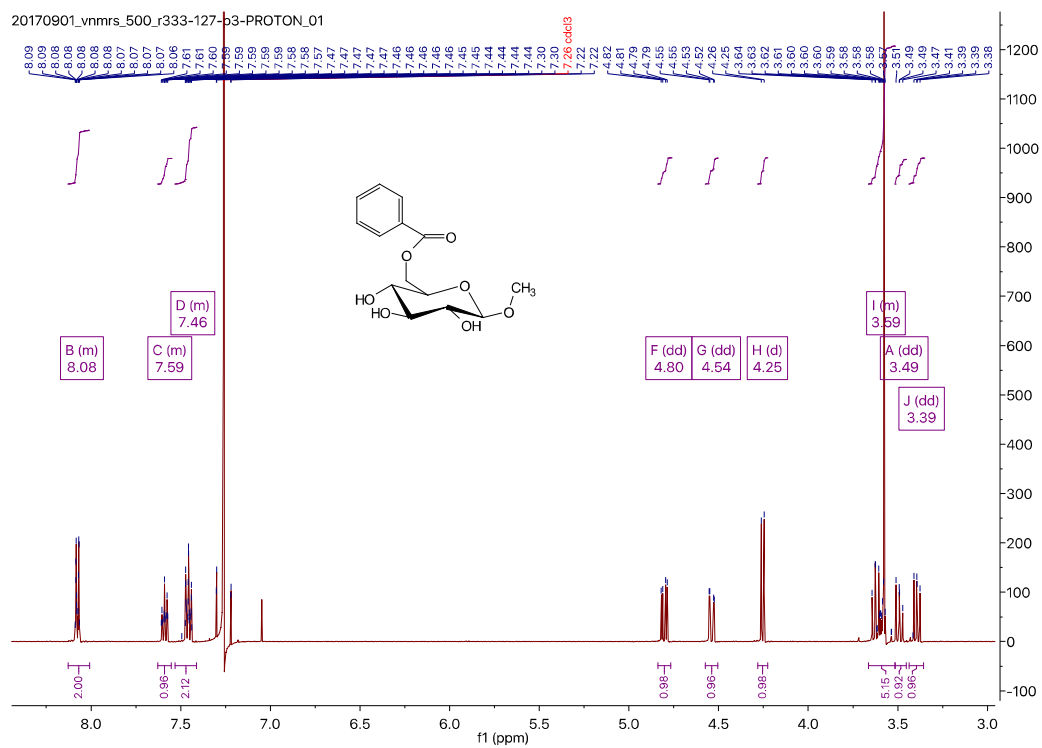
## Methyl 3-O-benzoyl- $\beta$ -D-glucopyranoside



## Methyl 4-O-benzoyl- $\beta$ -D-glucopyranoside

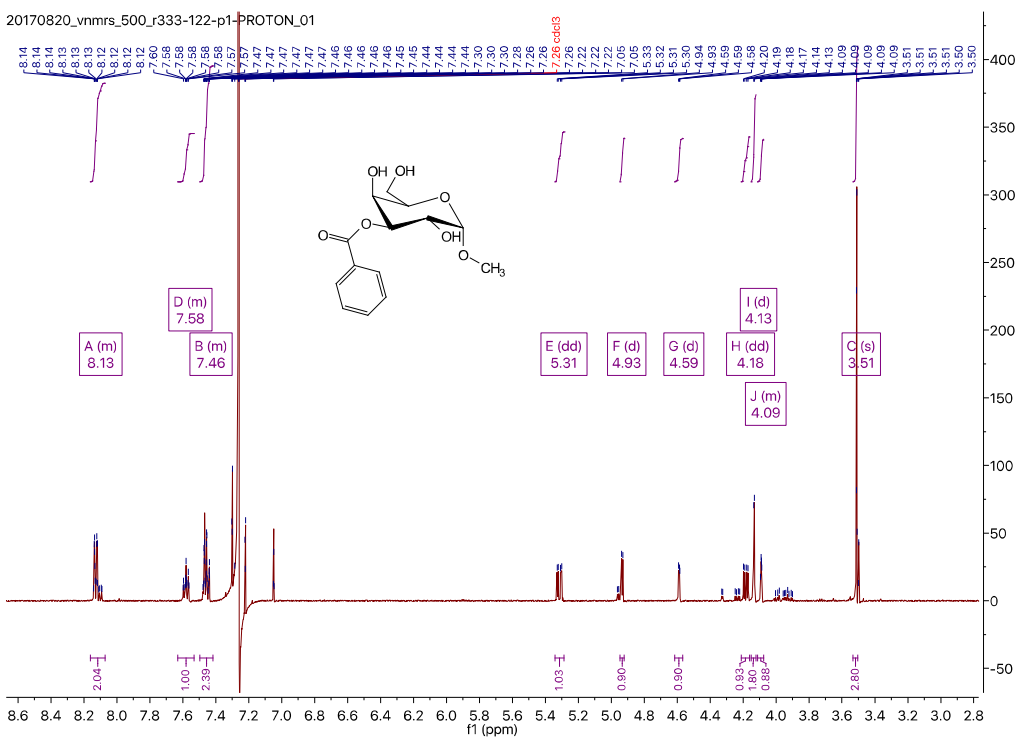


**Methyl 6-O-benzoyl-β-D-glucopyranoside**

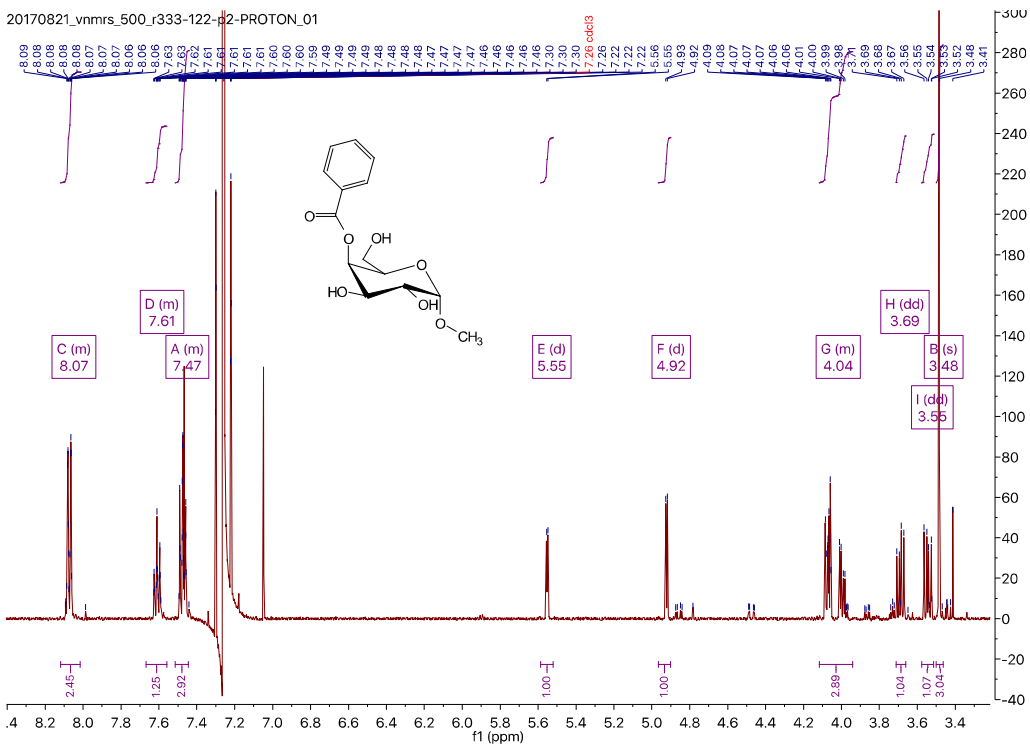




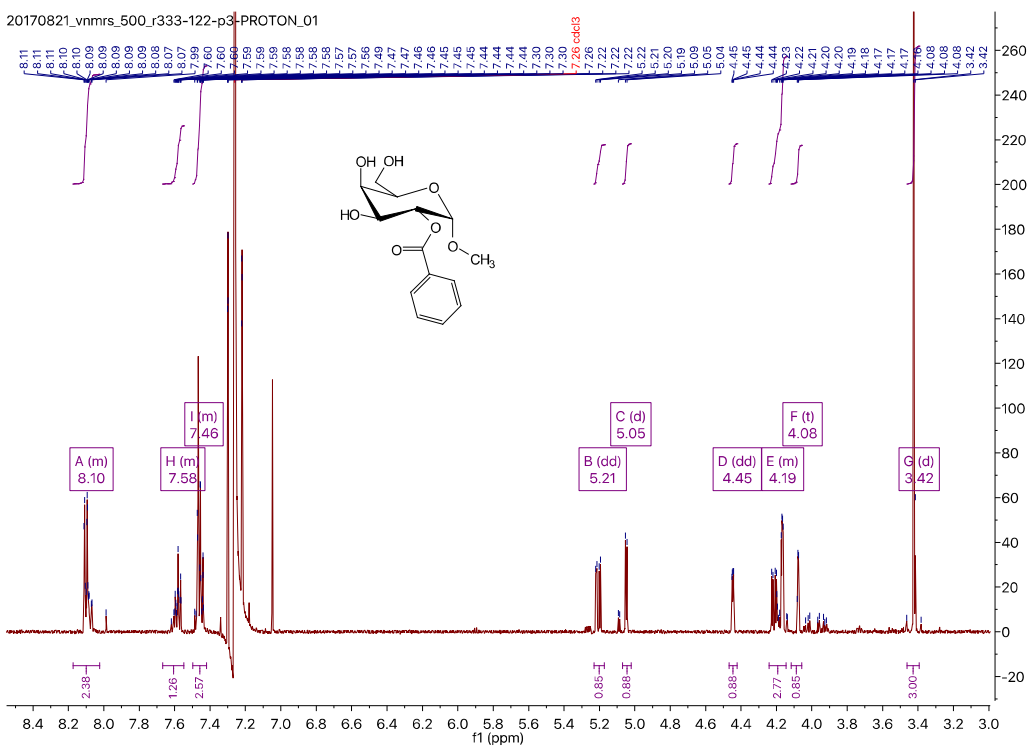
## Methyl 3-O-benzoyl- $\alpha$ -D-galactopyranoside



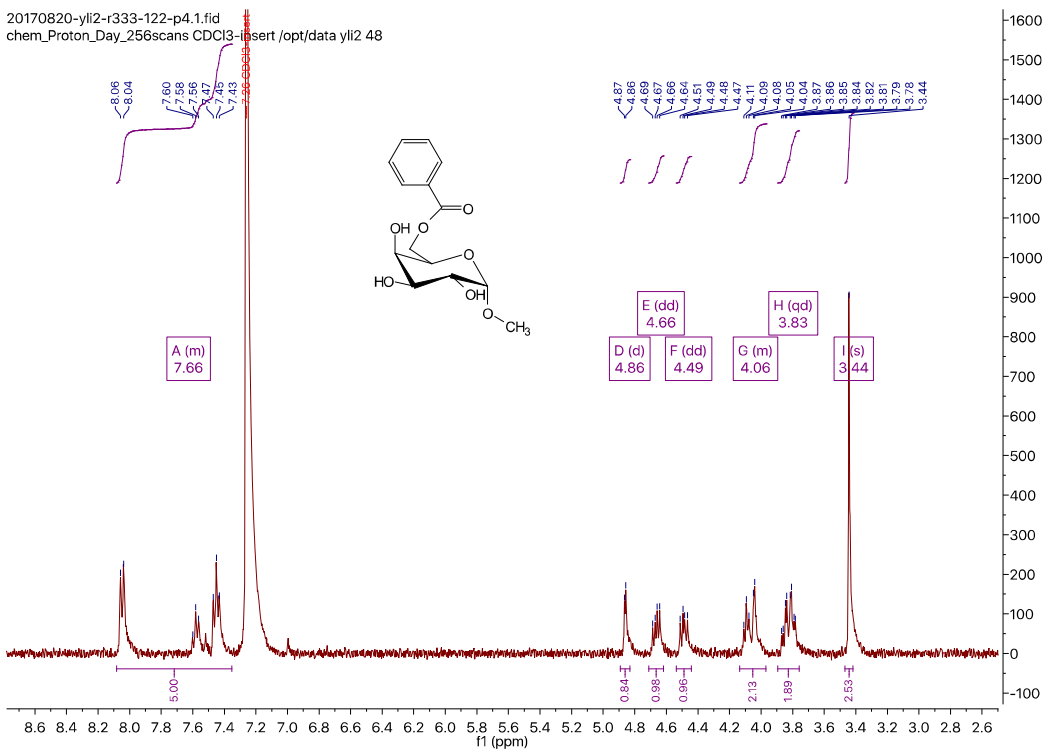
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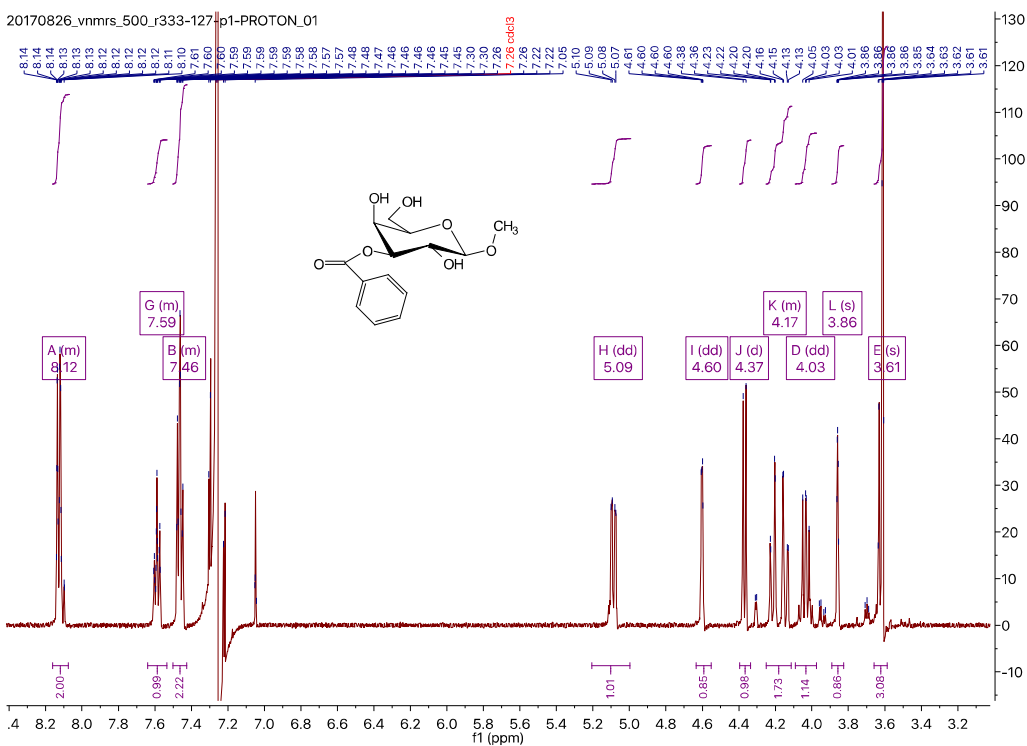
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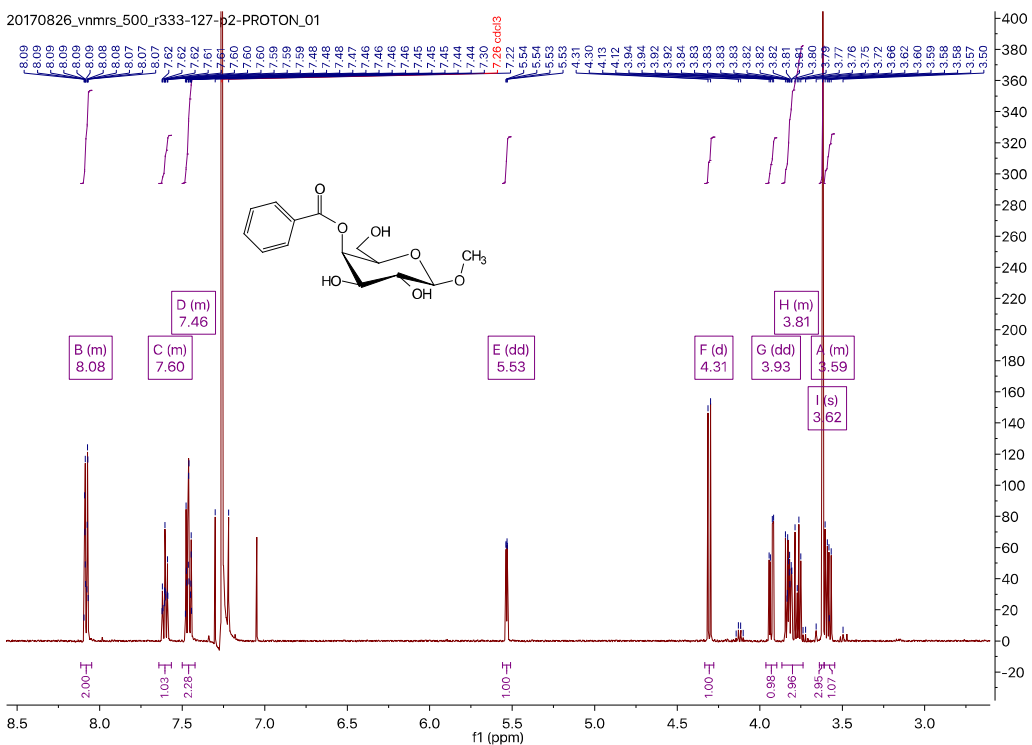
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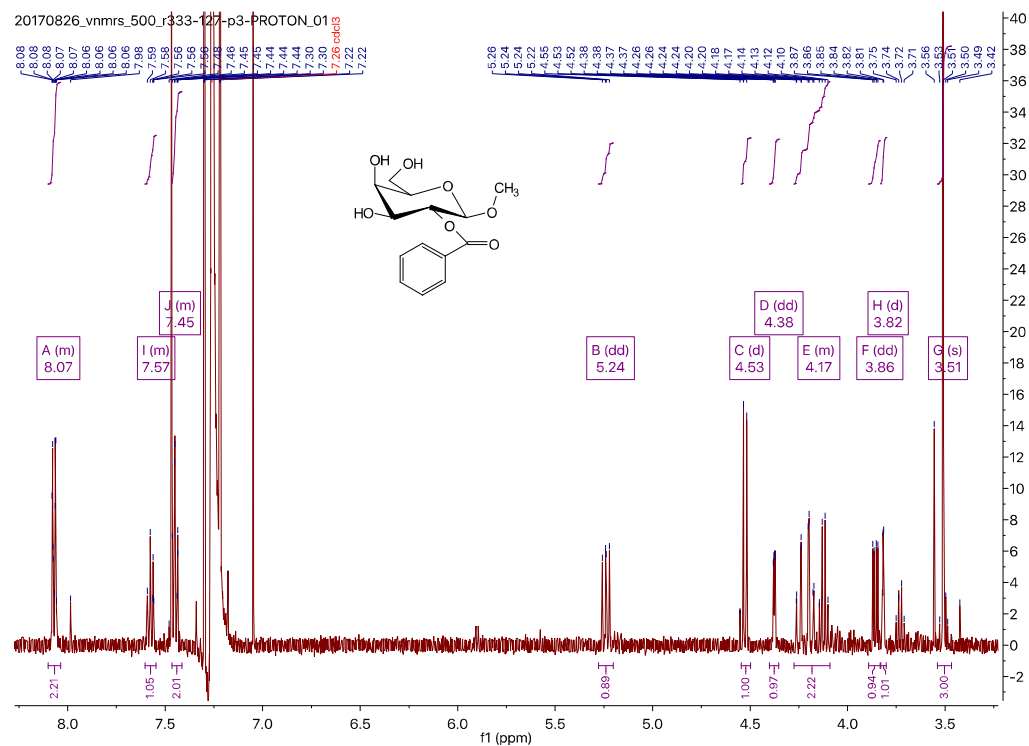
## Methyl 3-O-benzoyl-β-D-galactopyranoside



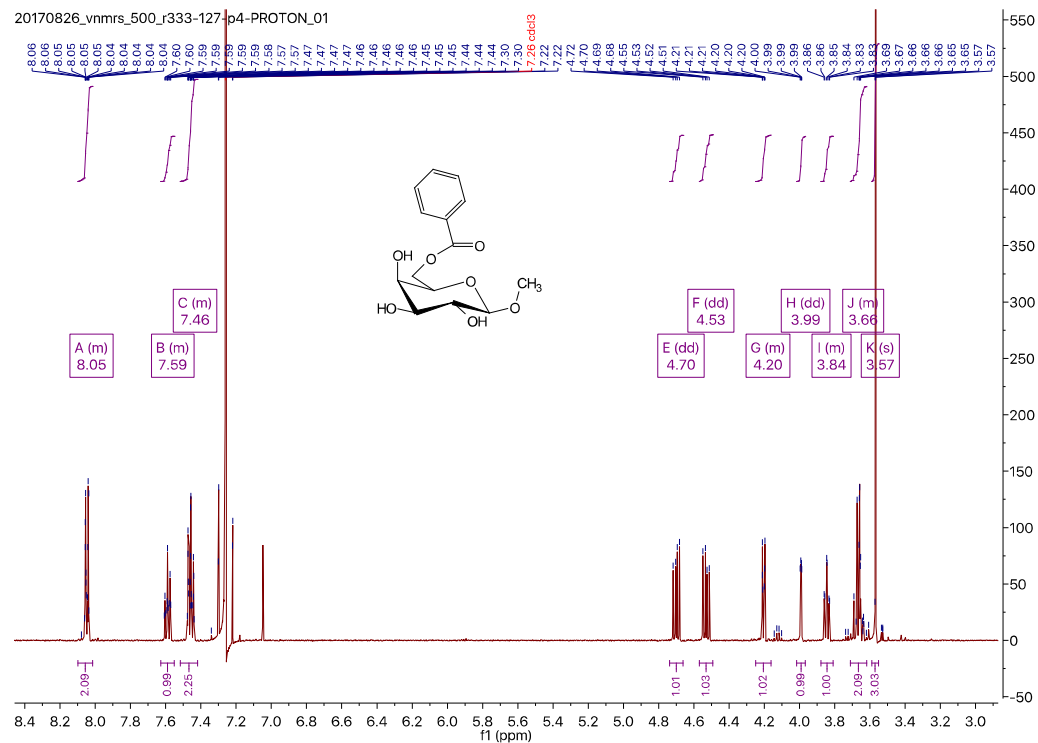
## Methyl 4-O-benzoyl-β-D-galactopyranoside



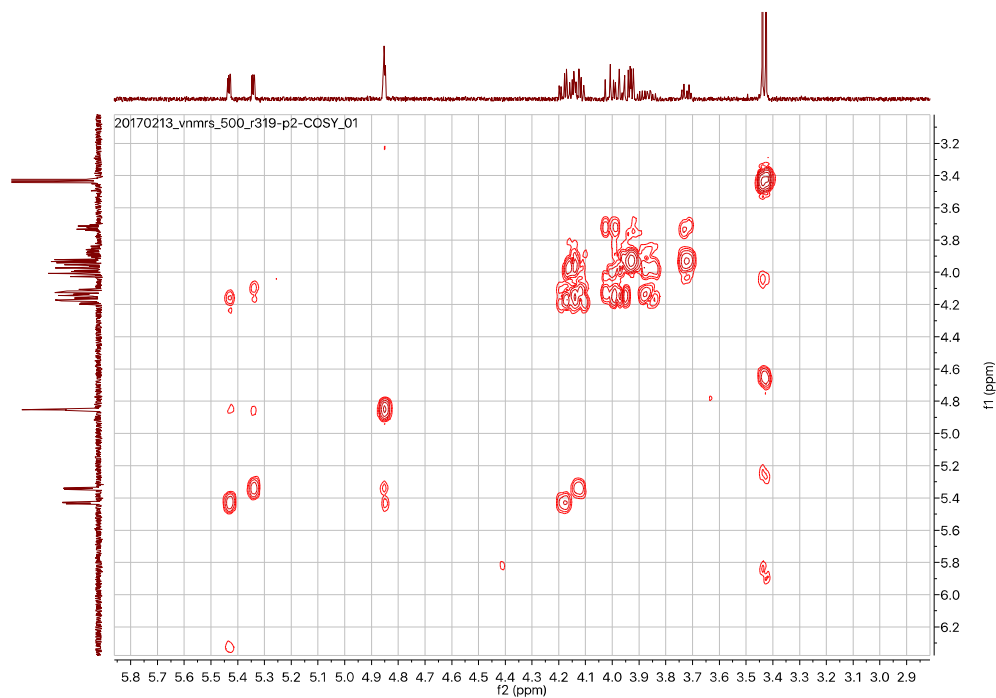
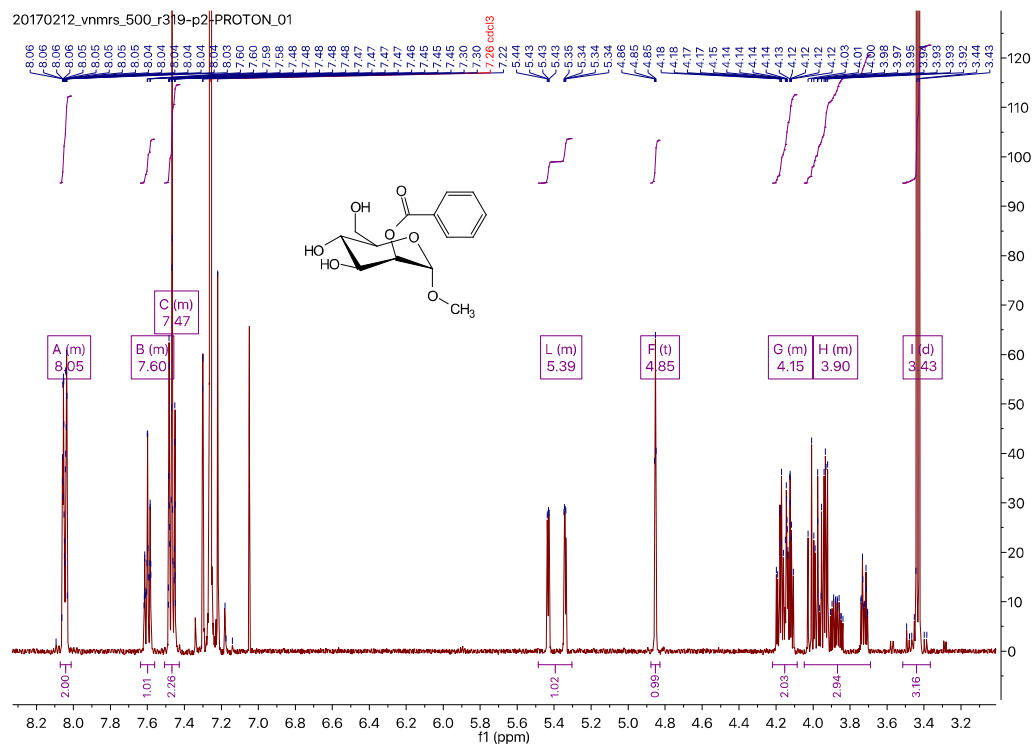
## Methyl 2-O-benzoyl-β-D-galactopyranoside



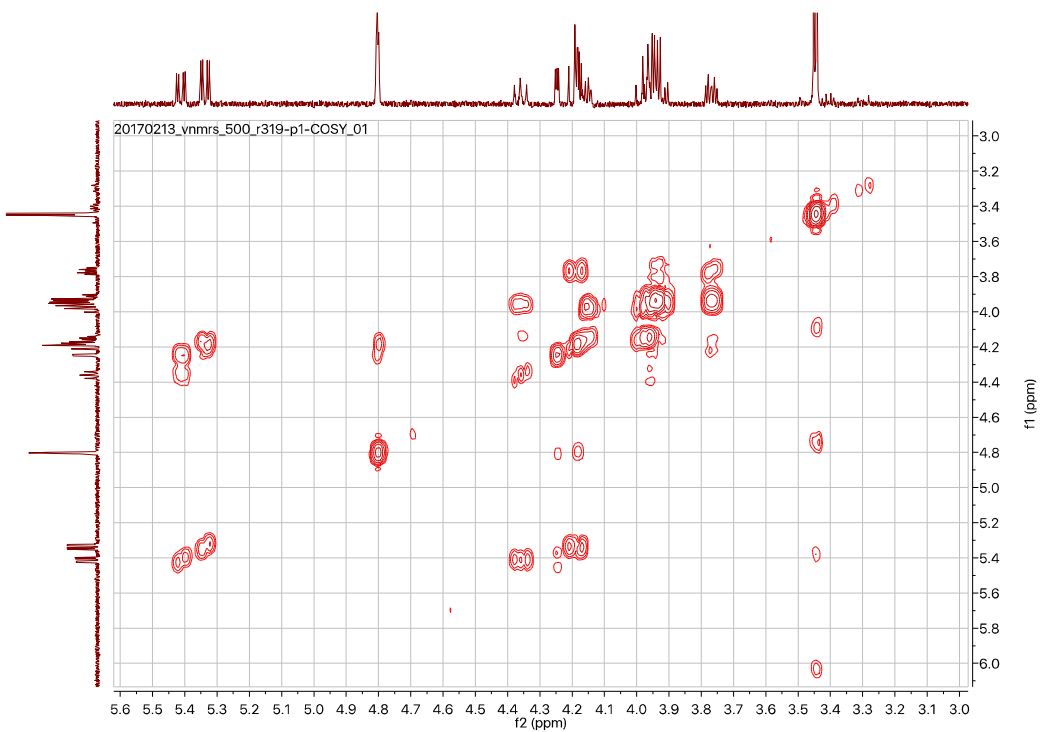
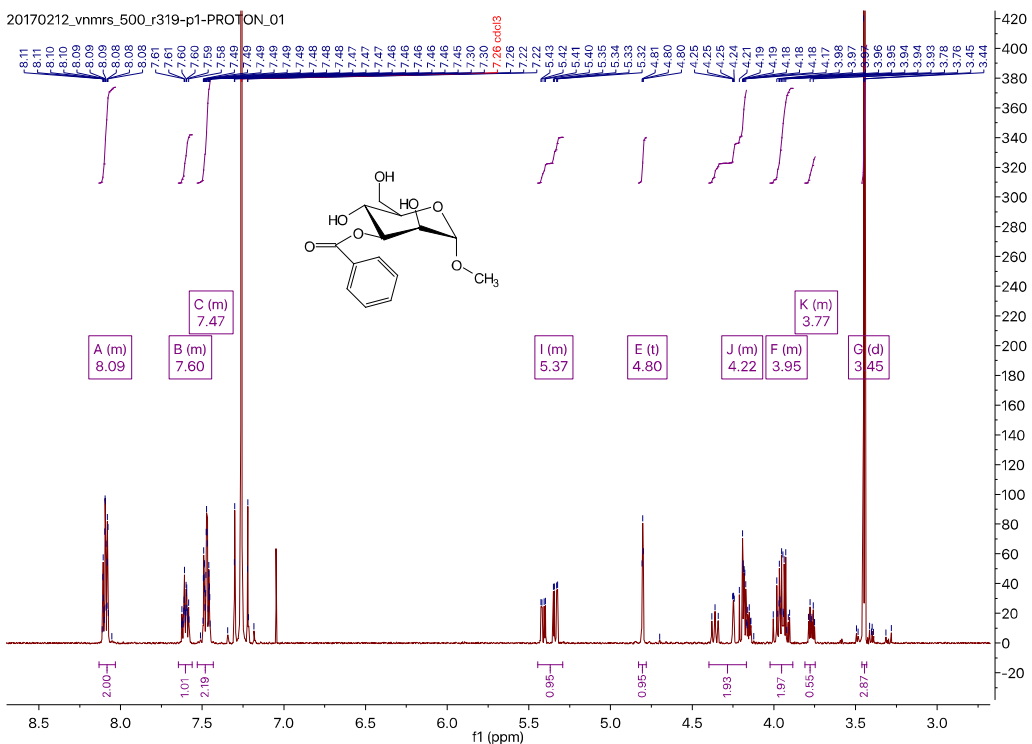
## Methyl 6-O-benzoyl-β-D-galactopyranoside



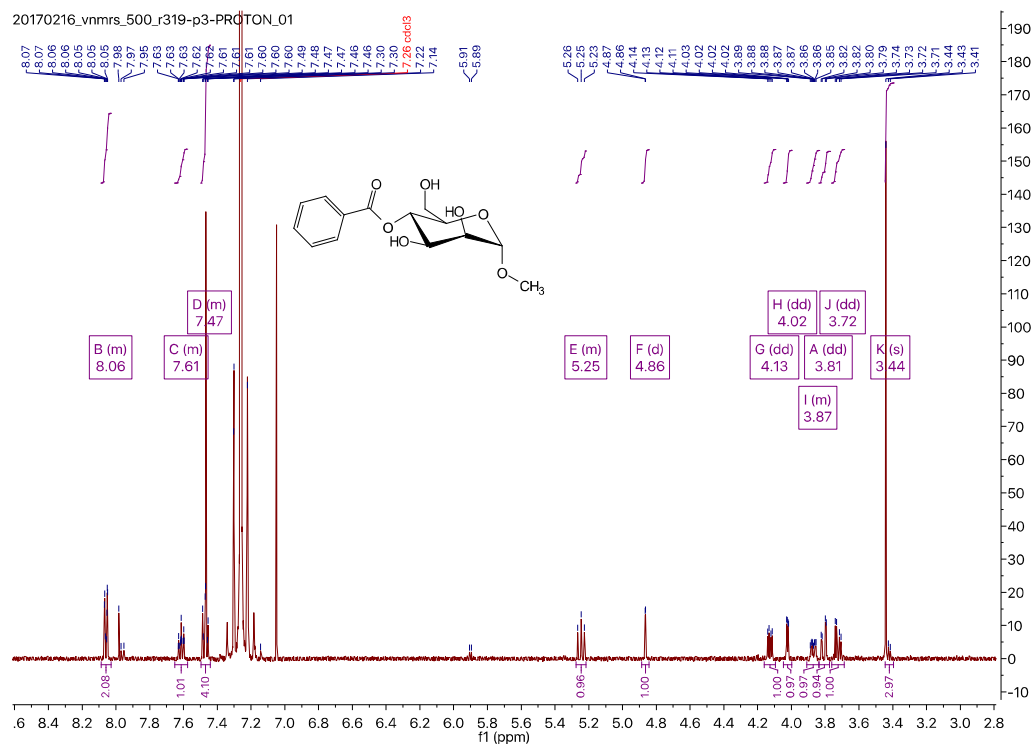
# Methyl 2-O-benzoyl- $\alpha$ -D-mannopyranoside



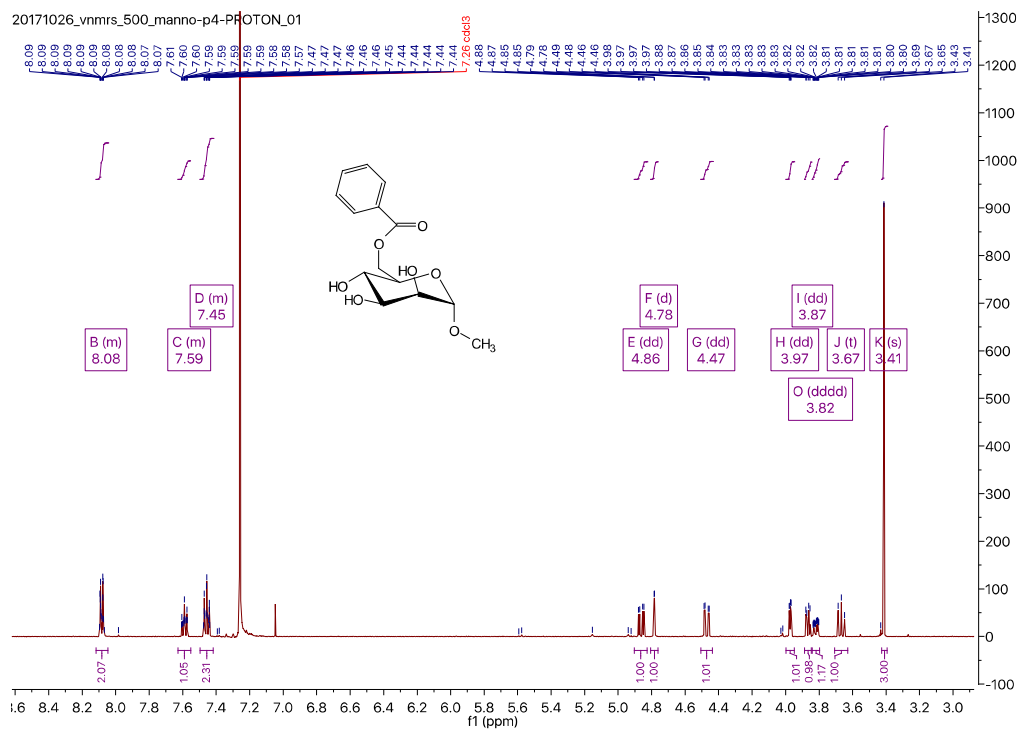
# Methyl 3-O-benzoyl- $\alpha$ -D-mannopyranoside



## Methyl 4-O-benzoyl- $\alpha$ -D-mannopyranoside



## Methyl 6-O-benzoyl- $\alpha$ -D-mannopyranoside



20170328-yli2-r325-p4.1.fid  
chem\_Proton\_Day\_256scans D2O-3mm/opt/data yli2 25

Chemical structure of the compound (a sugar derivative) is shown above the spectrum.

Peak list (ppm):

- 8.16, 8.16, 8.14, 8.13
- 7.76, 7.75, 7.75, 7.62, 7.60, 7.58
- 5.07, 5.06, 5.05, 5.04
- 4.33, 4.32, 4.31
- 4.07, 4.04, 4.02, 3.79, 3.78, 3.75, 3.72, 3.71, 3.70, 3.60, 3.47, 3.45

Integration values:

- A (m) 8.15
- B (t) 7.75
- C (t) 7.60
- D (dd) 5.05
- E (t) 4.32
- F (t) 4.04
- G (m) 3.73
- H (t) 3.47

Integration values (bottom):

- 1.98
- 0.96
- 1.99
- 1.18
- 1.00
- 0.96
- 2.03
- 0.99

20170328\_vnmrs\_500\_r325-p1-PROTON\_01

Chemical structure: O=C(O[C@@H](O)[C@H](O)[C@@H](O)CO)c1ccccc1

Integration values:

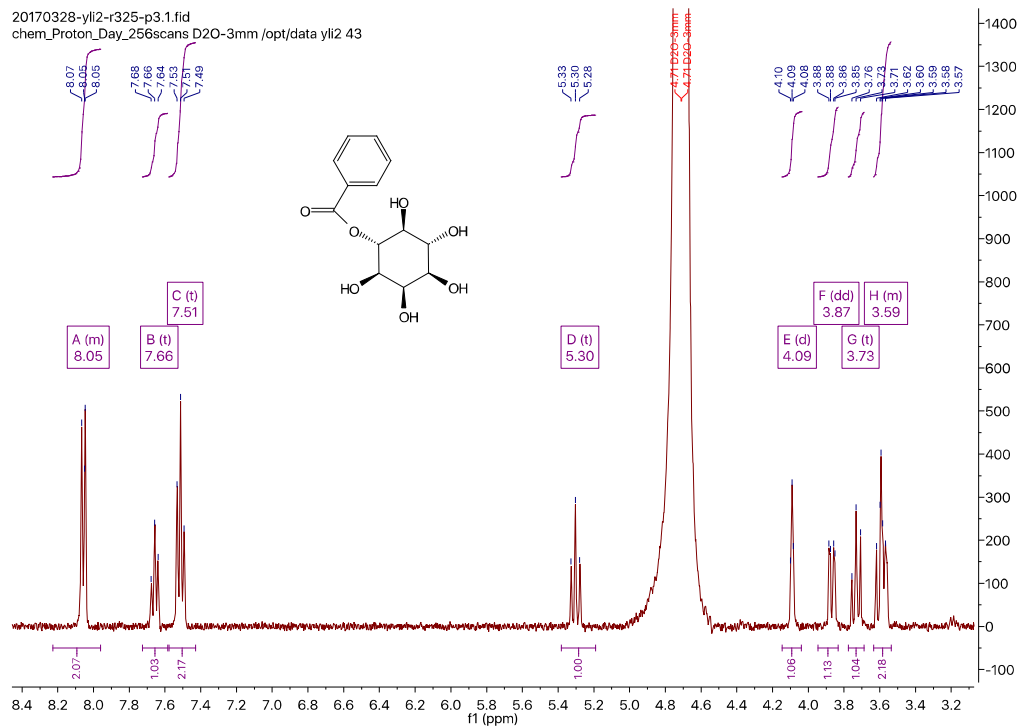
- A (m) 8.09
- D (m) 7.73
- B (m) 7.58
- E (t) 5.72
- C (m) 3.83
- F (t) 3.43

Peak list (ppm):

- 8.10, 8.09, 8.09, 8.09, 8.09, 8.08, 8.08, 8.08, 8.08, 8.08, 8.09, 7.76, 7.75, 7.74, 7.74, 7.73, 7.73, 7.73, 7.73, 7.72, 7.72, 7.71, 7.71, 7.69, 7.69, 7.68, 7.68, 7.68, 7.67, 7.57
- 5.73, 5.72, 5.72, 5.72, 4.83, 4.79, 4.79, 4.75, 4.75, 3.92, 3.92, 3.91, 3.88, 3.88, 3.88, 3.88, 3.84, 3.84, 3.84, 3.84, 3.83, 3.83, 3.82, 3.81, 3.81, 3.80, 3.76, 3.76, 3.73, 3.73, 3.69, 3.69, 3.64, 3.64, 3.63, 3.63, 3.62, 3.61, 3.61, 3.57, 3.57, 3.55, 3.54, 3.54, 3.53, 3.53, 3.45, 3.45, 3.41, 3.41, 3.28, 3.28, 3.02, 3.02, 3.01, 3.01



## 4-O-Benzoyl-*myo*-Inositol



## 5-O-Benzoyl-*myo*-Inositol

