

SUPPORTING INFORMATION

Synthesis and Characterization of Thiourea and Urea Linked Glycolipids as Low Molecular-Weight Hydrogelators

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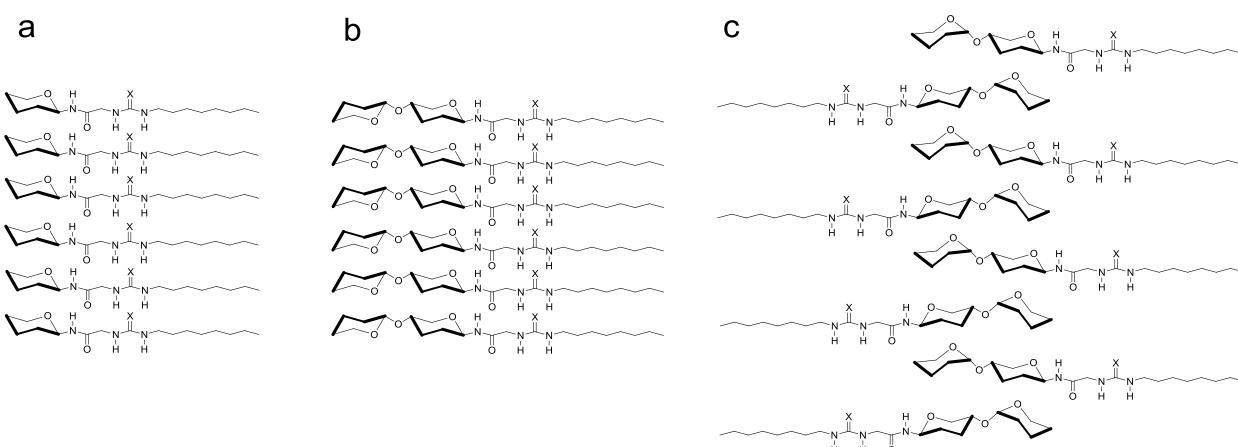


Figure S1 Mode of molecular packing a) monosaccharide b) Lactose (β (1-4) linkage) b) Maltose (α (1-4) linkage).

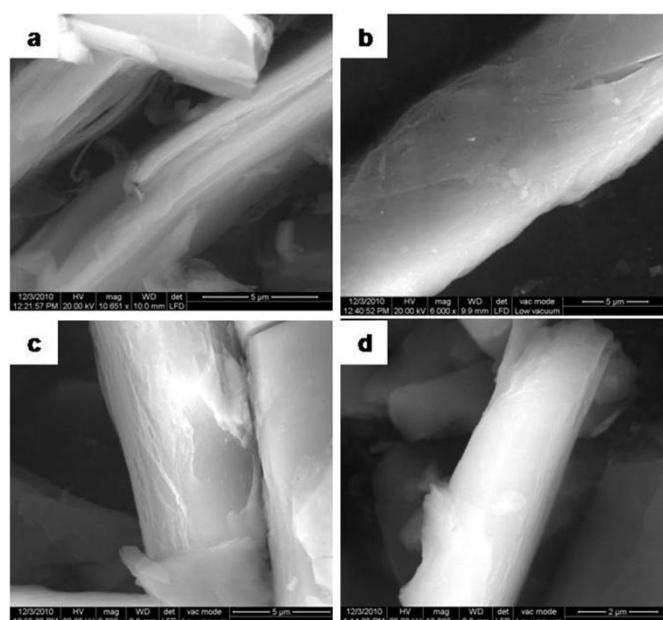


Figure S2 SEM images of the air dried thiourea-linked glycolipids (0.5 wt % water) a) **44** (GlcTUC8) b) **45** (GlcTUC12) c) **52** (LacTUC8) d) **53** (LacTUC12)

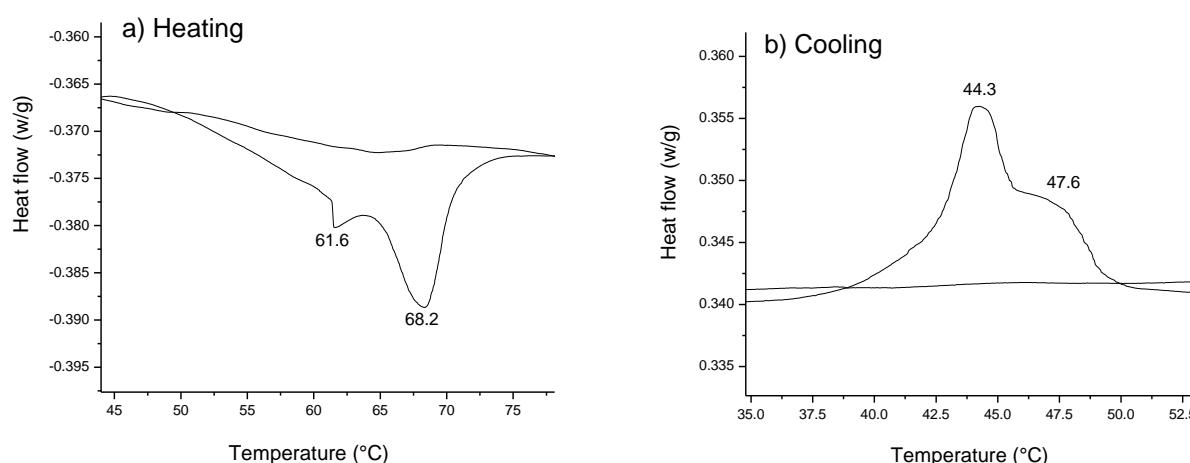


Figure S3 Differential scanning calorimetry cycles of **57** (GalUC8) in nitrogen atmosphere (2 cycles, 5°C m^{-1}) a) heating, b) cooling

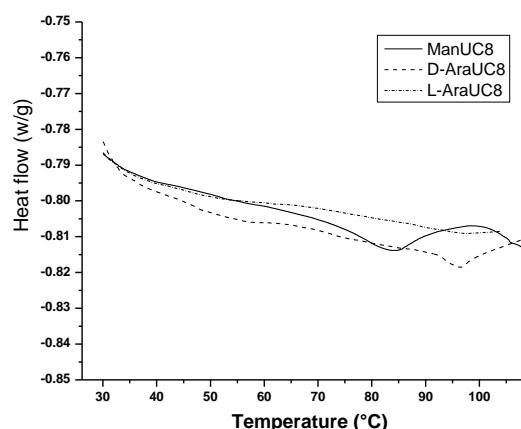


Figure S4 Differential scanning calorimetry of **58** (ManUC8), **62** (D-AraUC8) and **63** (L-AraUC8) in nitrogen atmosphere ($10\text{ }^{\circ}\text{C m}^{-1}$)

Table S1 Data collection and refinement statistics for **56** (GlcUC8)

Parameter	GlcUC8 (56)
Empirical Formula	$\text{C}_{34}\text{H}_{73}\text{N}_6\text{O}_{18.5}$
Formula weight	861.98
Wavelength	0.71073 Å
Crystal system	Monoclinic
Space group	<i>C</i> 2
Cell Dimensions	$a = 30.174(10)\text{ \AA}$, $b = 4.6629(19)\text{ \AA}$, $c = 32.708(12)\text{ \AA}$, $\alpha = 90^\circ$, $\beta = 90^\circ$, $\gamma = 90^\circ$
Volume (Å ³)	4543(3)
Z, calculated density (Mg/m ³)	4, 1.260
Absorption coefficient (mm ⁻¹)	0.102
F(000)	1868
Crystal size (mm)	0.3 x 0.2 x 0.2
Theta range (°)	1.71 to 19.90
Index ranges	-28<=h<=28, -3<=k<=4, -26<=l<=31
Reflections collected /unique	6429 / 3183 [R(int) = 0.0556]
Data / restraints / parameters	3183 / 14 / 547
Goodness-of-fit on F ²	1.048
Final R indices [I > 2sigma (I)]	R1 = 0.0689, wR2 = 0.1749
R indices (all data)	R1 = 0.1059, wR2 = 0.2031

¹H and ¹³C-NMR Spectra of Products

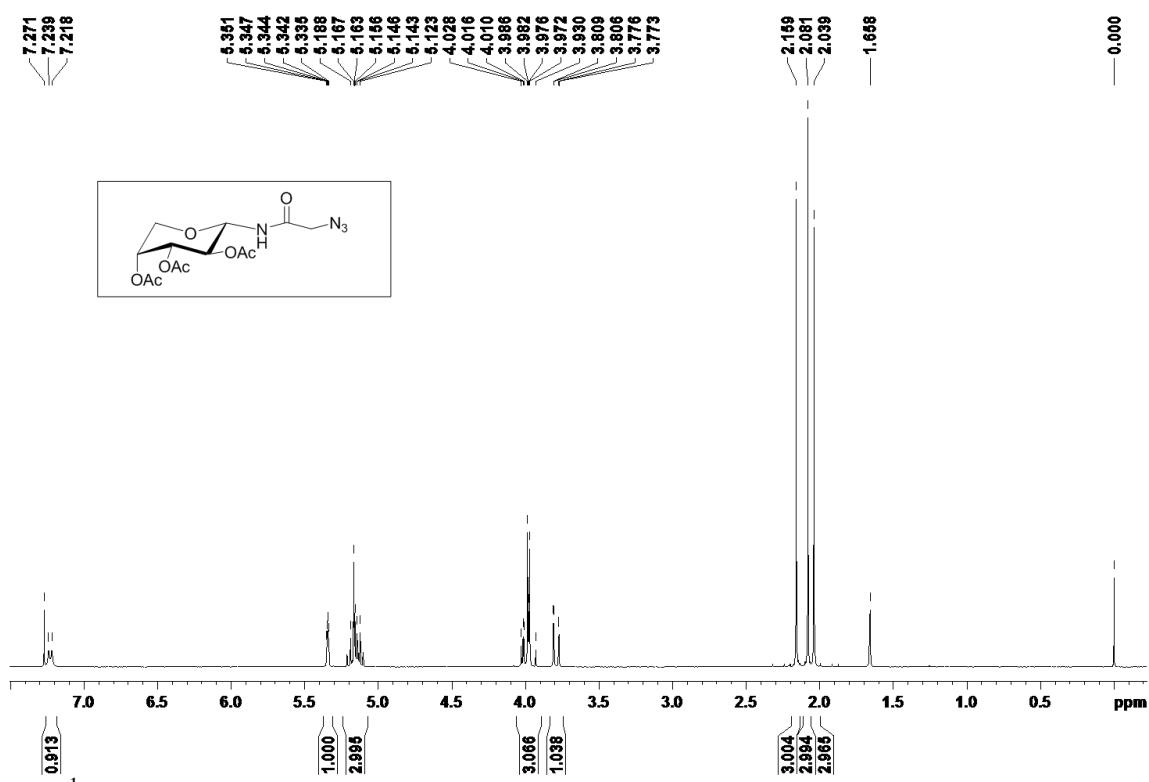


Figure S5 ¹H-NMR (400 MHz, CDCl₃) of *N*-(2,3,4-tri-*O*-acetyl- α -D-arabinopyranosyl)azidoacetamide (17)

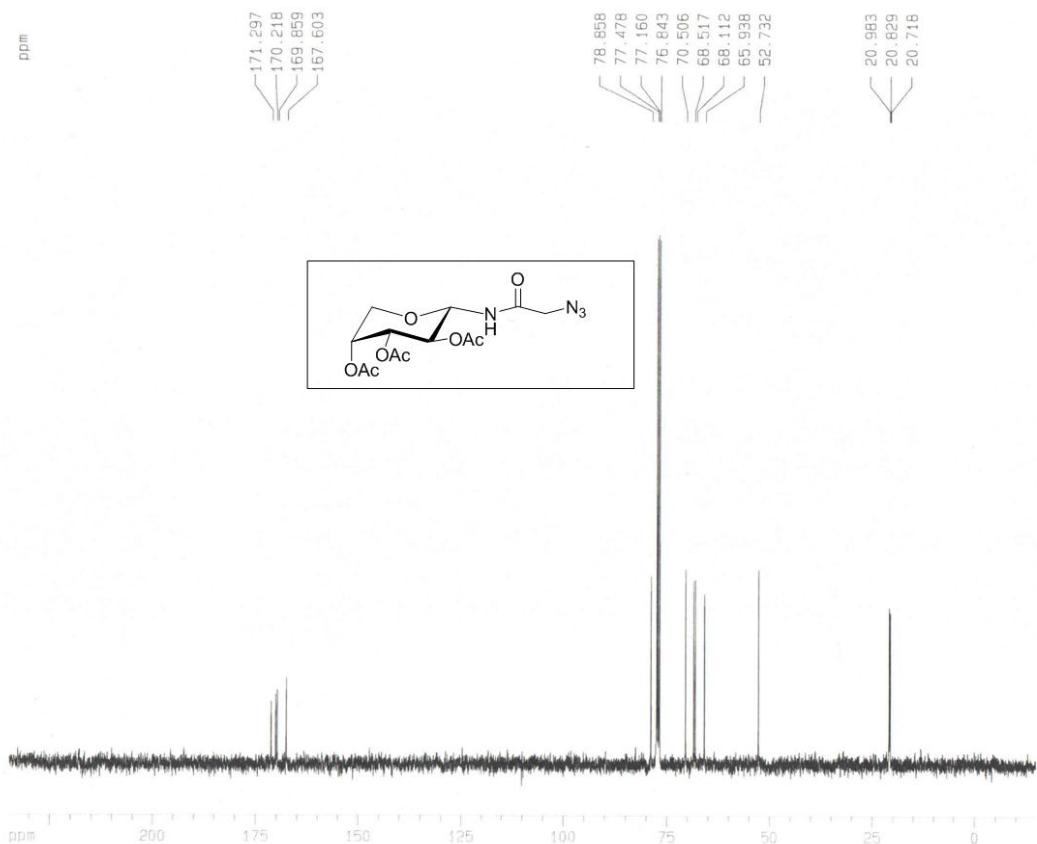


Figure S6 ¹³C-NMR (100 MHz, CDCl₃) of *N*-(2,3,4-tri-*O*-acetyl- α -D-arabinopyranosyl)azidoacetamide (17)

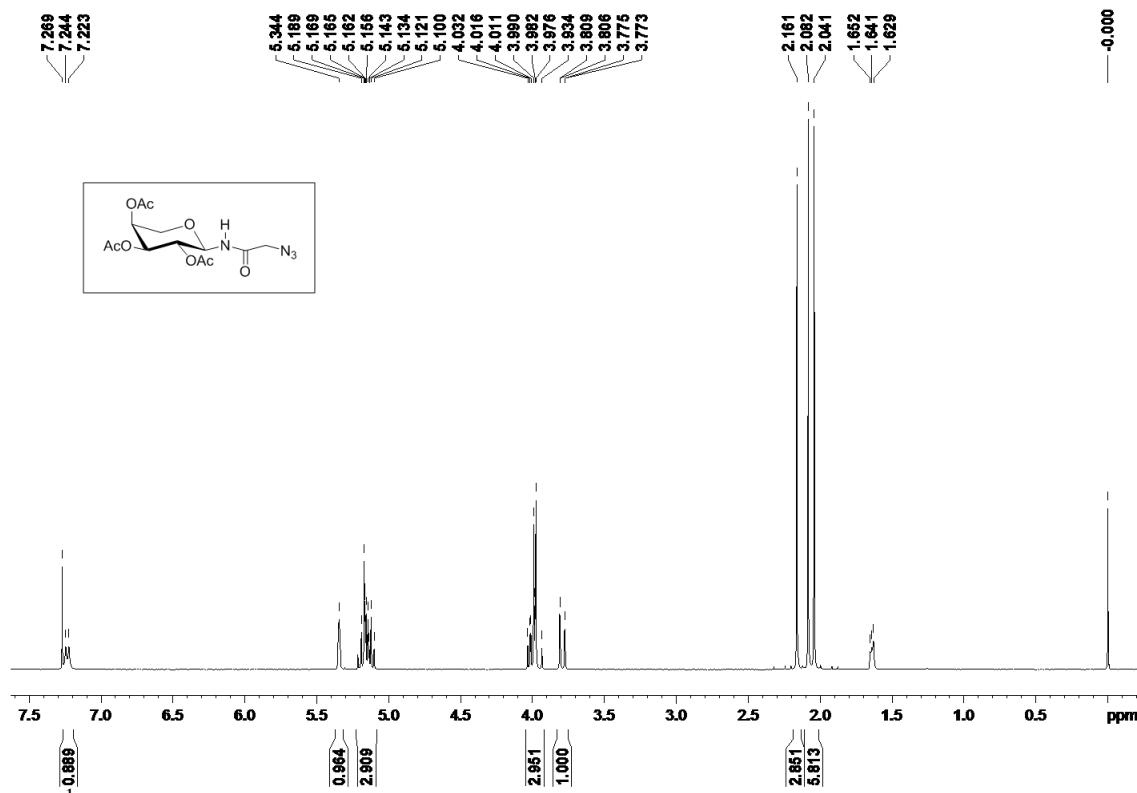


Figure S7 ¹H-NMR (400 MHz, CDCl₃) of *N*-(2,3,4-tri-*O*-acetyl- α -L-arabinopyranosyl)azidoacetamide (18)

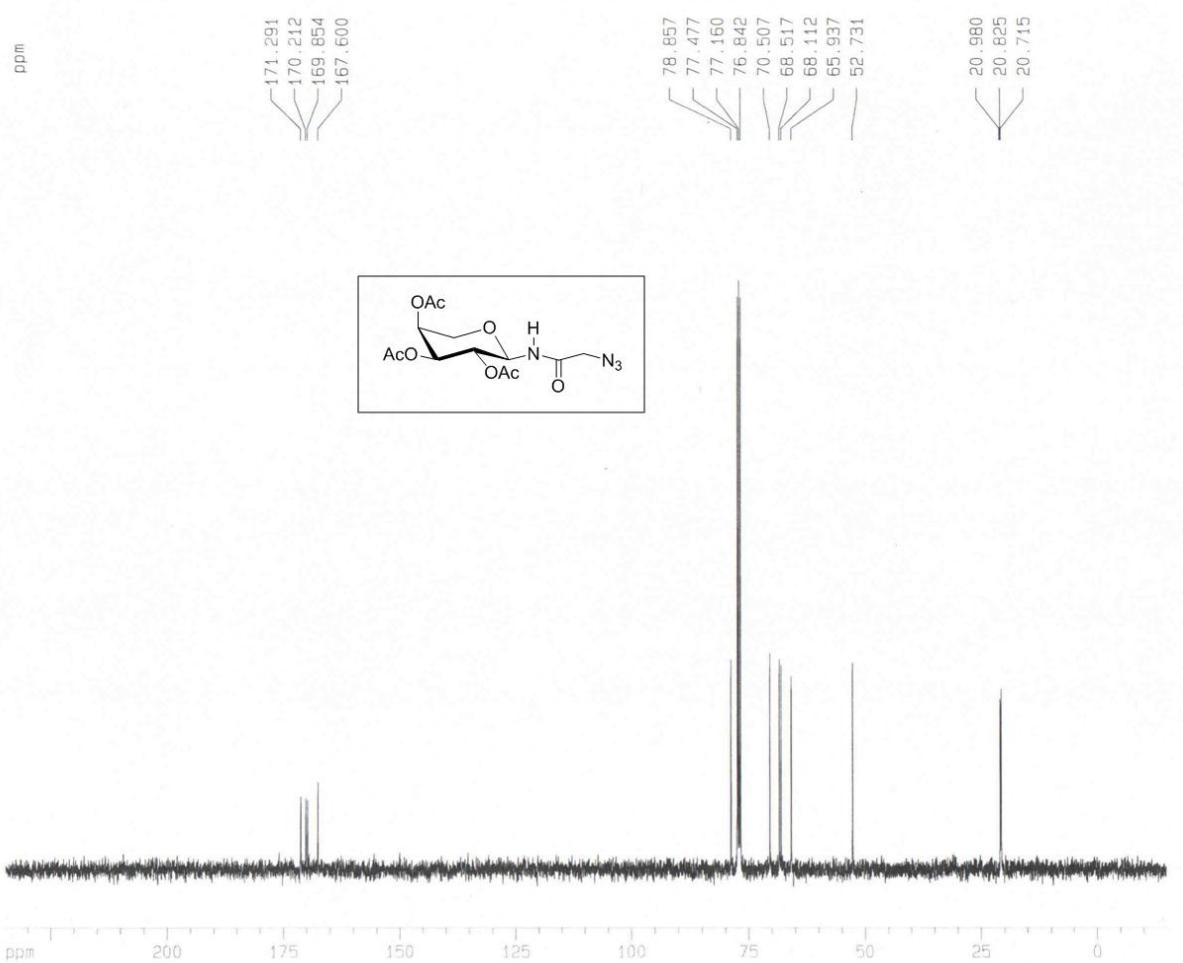


Figure S8 ¹³C-NMR (100 MHz, CDCl₃) of *N*-(2,3,4-tri-*O*-acetyl- α -L-arabinopyranosyl)azidoacetamide (18)

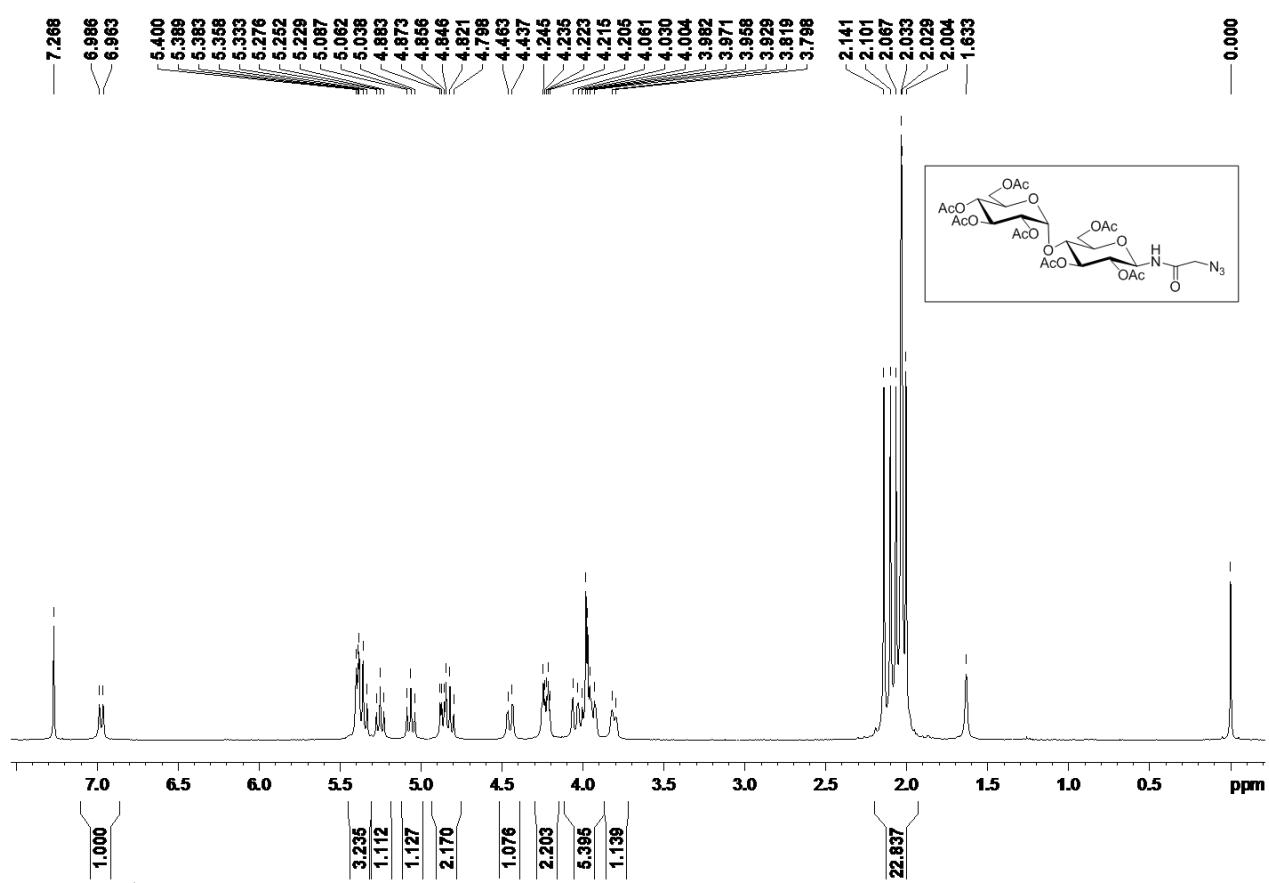


Figure S9 ¹H-NMR (400 MHz, CDCl₃) of *N*-[4-*O*-(2',3',4',6'-tetra-*O*-acetyl- α -D-glucopyranosyl)-2,3,6-tri-*O*-acetyl- β -D-glucopyranosyl]azidoacetamide (**20**)

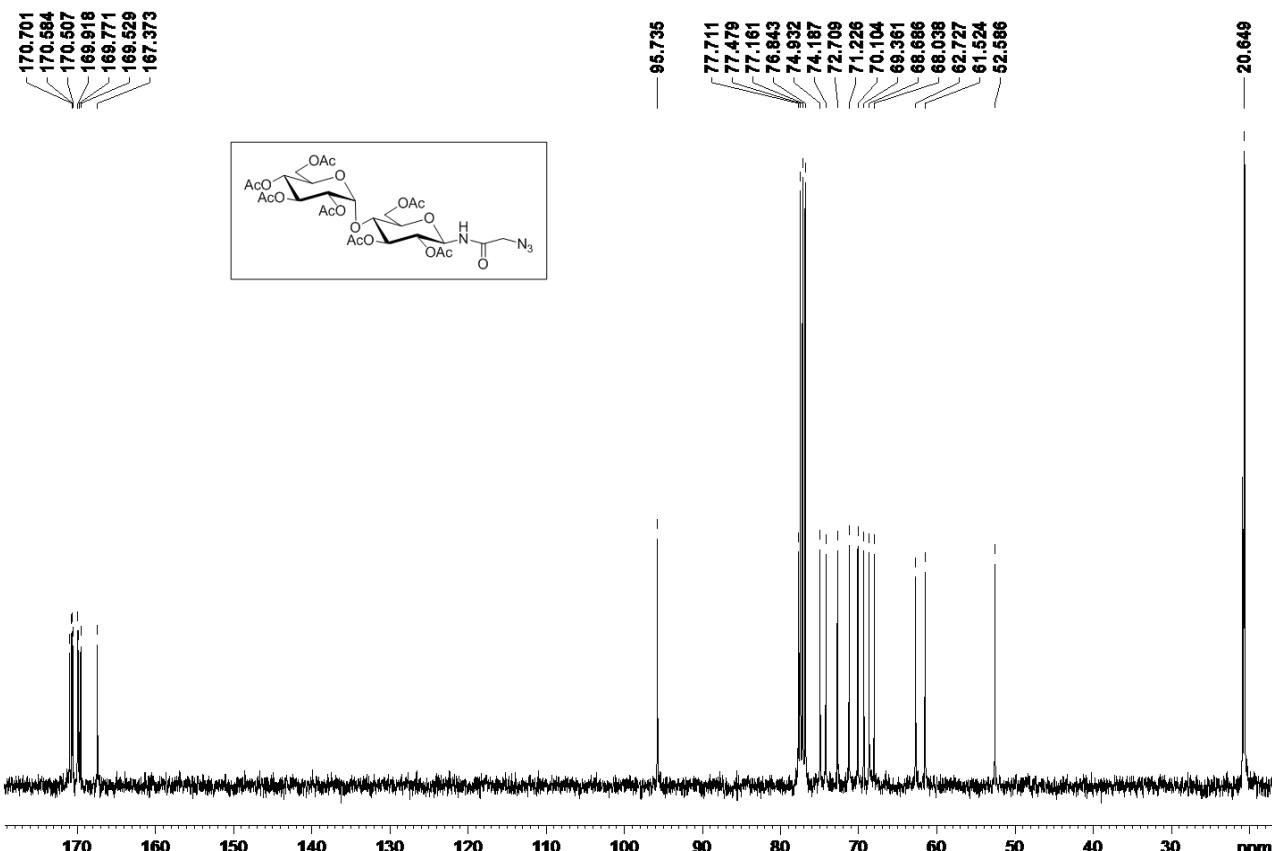


Figure S10 ¹³C-NMR (100 MHz, CDCl₃) of *N*-[4-*O*-(2',3',4',6'-tetra-*O*-acetyl- α -D-glucopyranosyl)-2,3,6-tri-*O*-acetyl- β -D-glucopyranosyl]azidoacetamide (**20**)

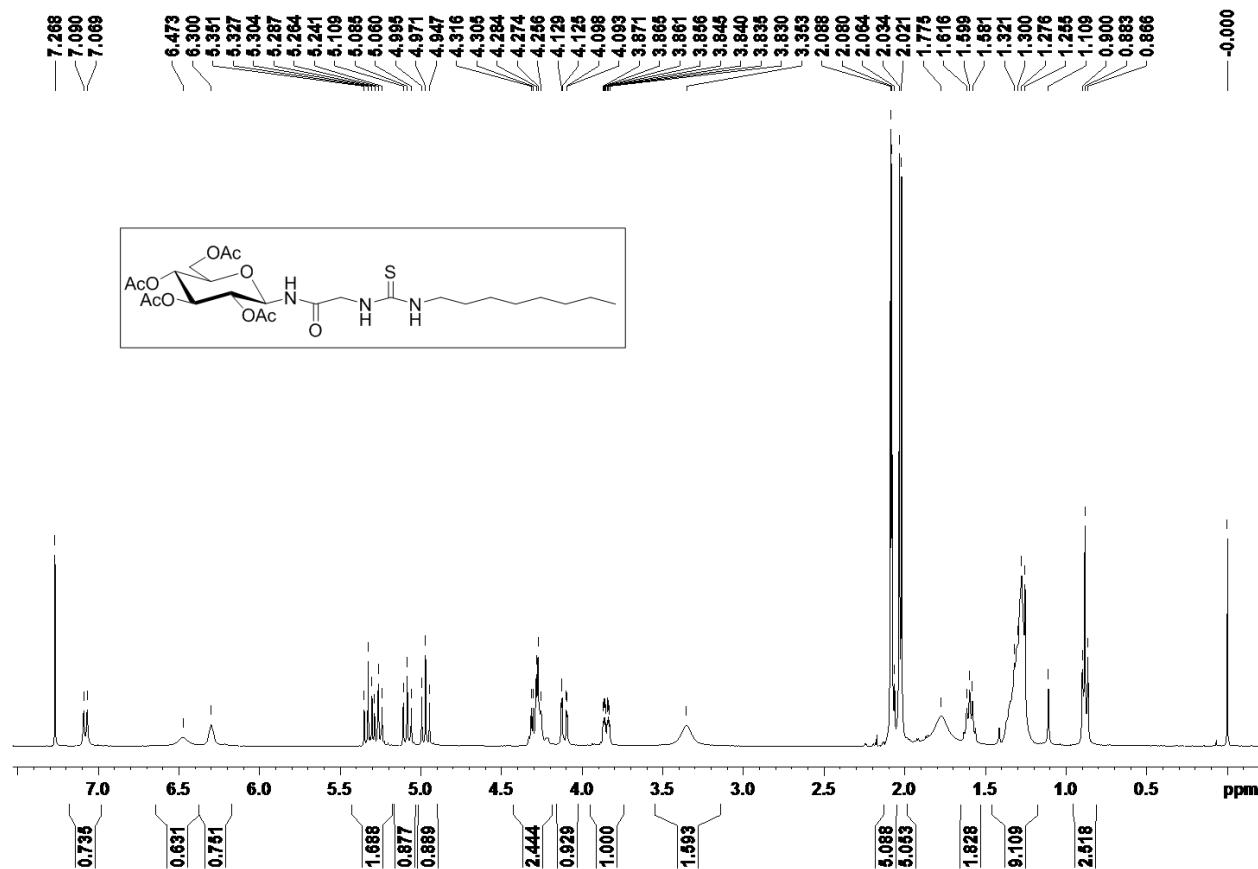


Figure S11 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-glucopyranosyl)-*N*^{''}-(*n*-octyl)-thioureidoacetamide (**21**)

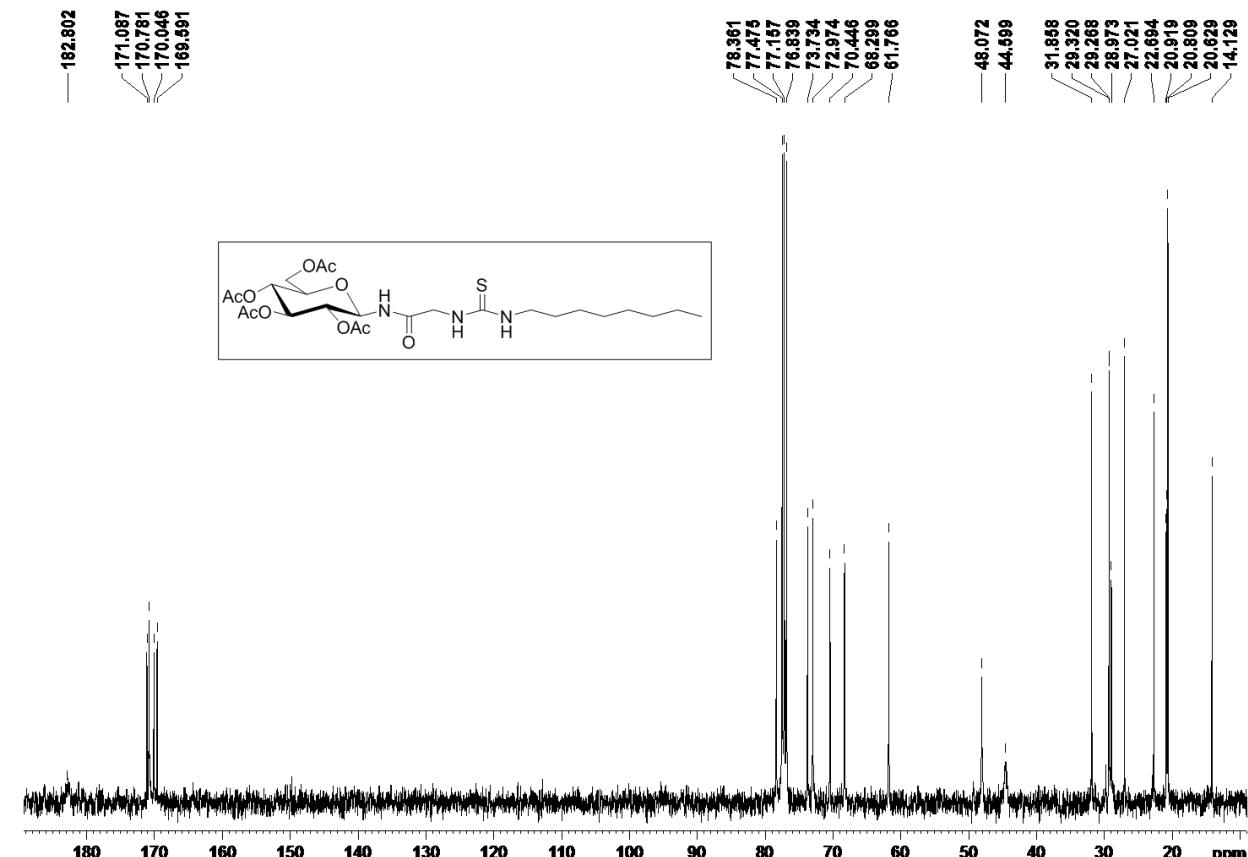


Figure S12 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-glucopyranosyl)-*N*^{''}-(*n*-octyl)-thioureidoacetamide (**21**)

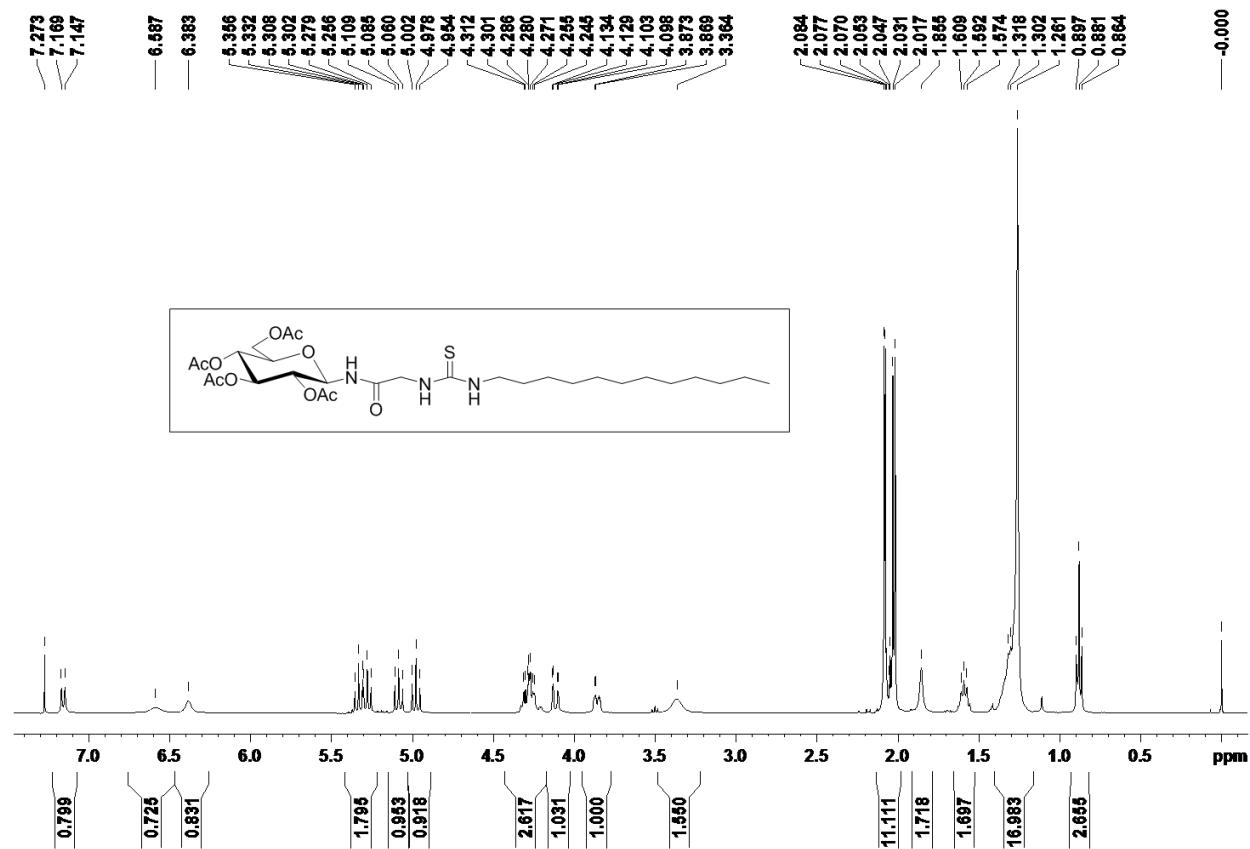


Figure S13 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-glucopyranosyl)-*N'*-(*n*-dodecyl)-thioureidoacetamide (**22**)

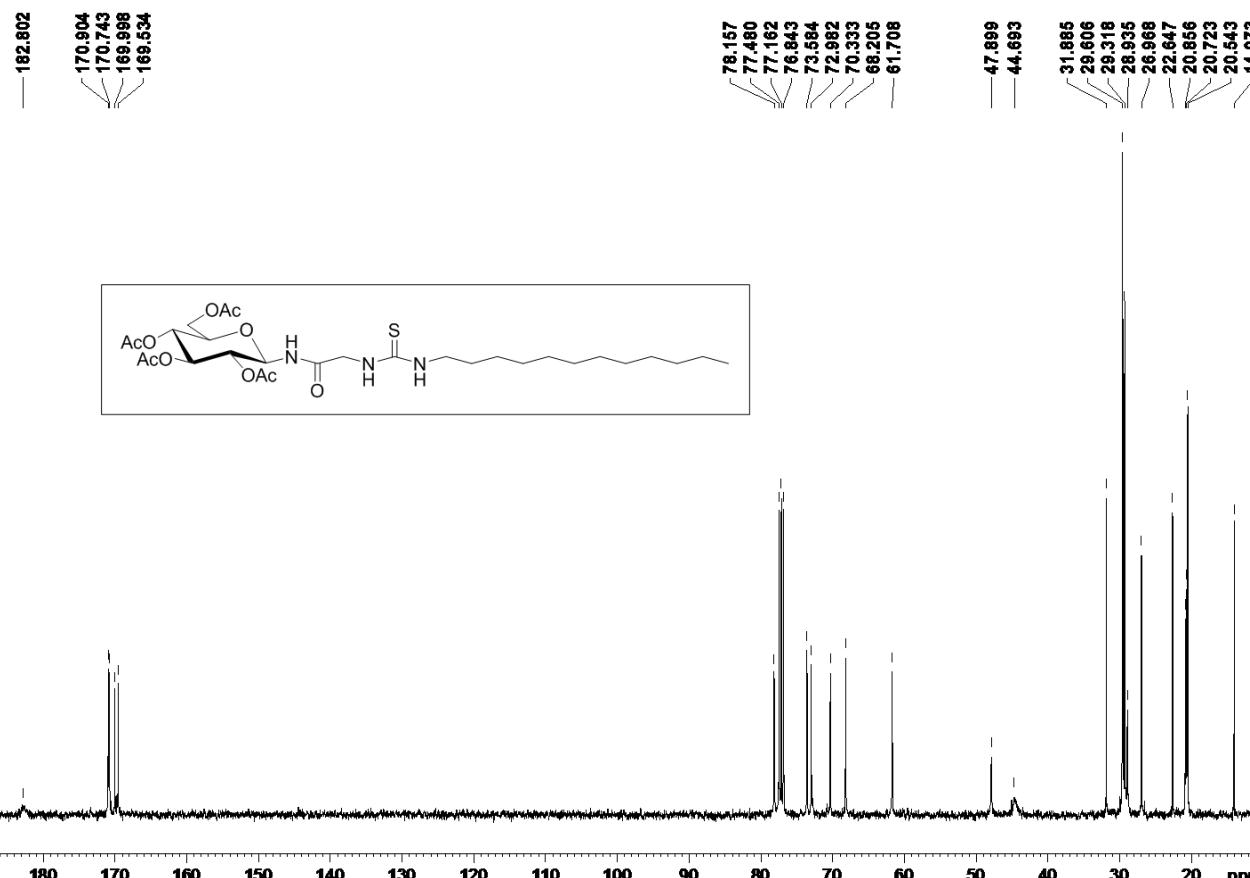


Figure S14 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-glucopyranosyl)-*N'*-(*n*-dodecyl)-thioureidoacetamide (**22**)

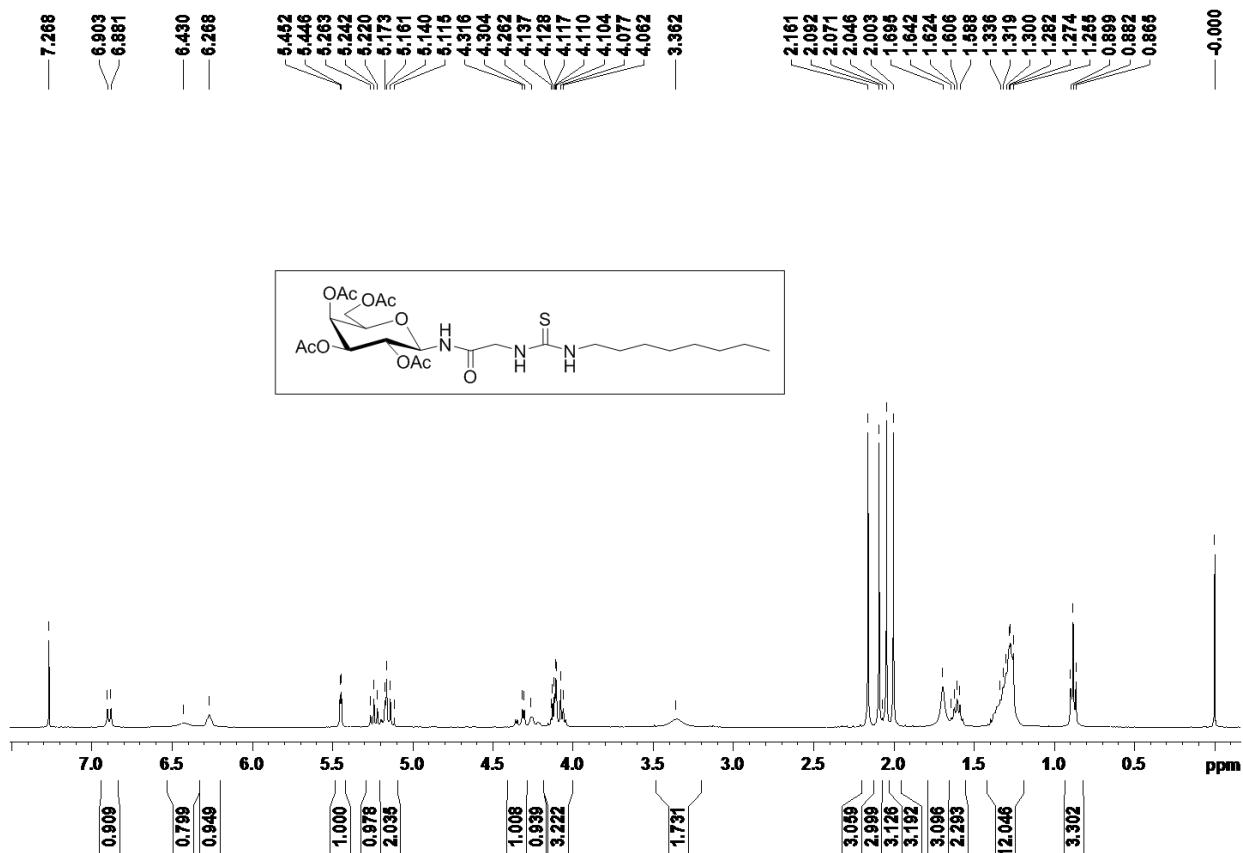


Figure S15 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**23**)

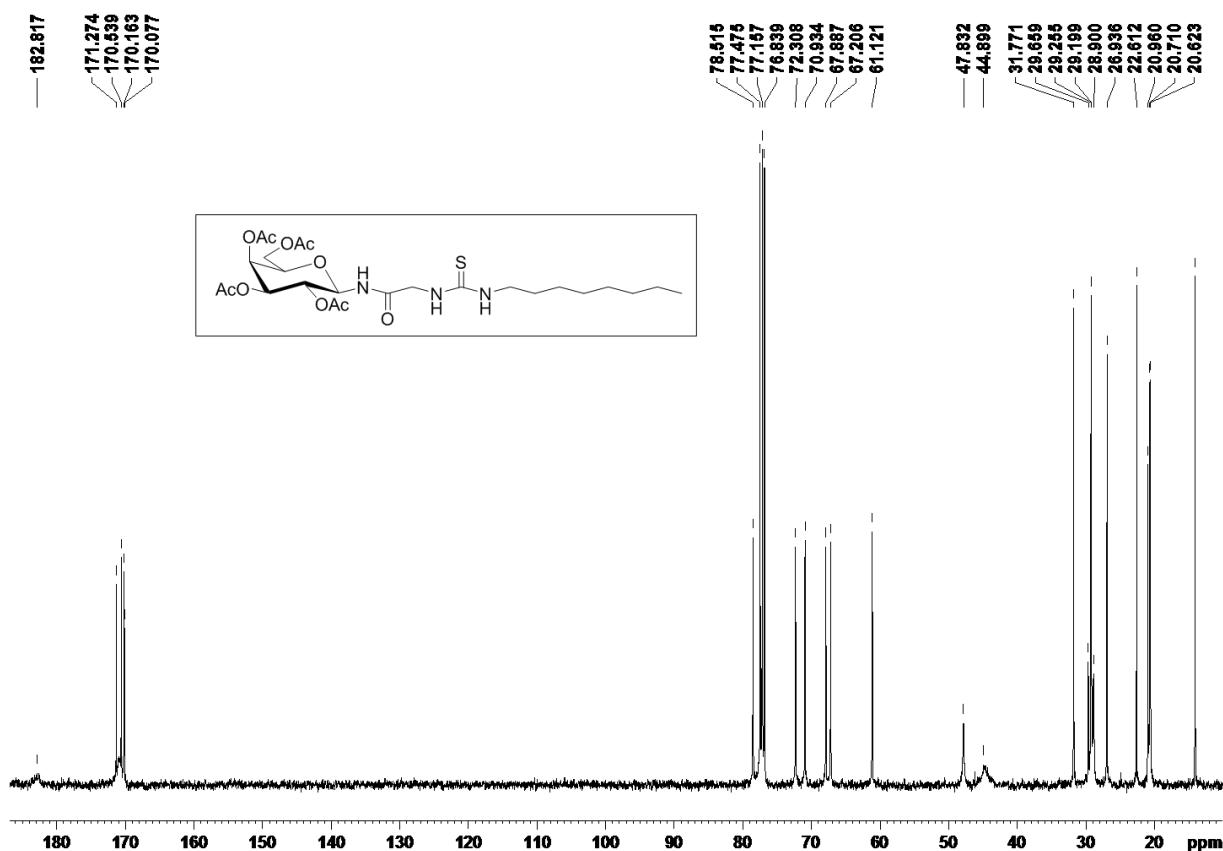


Figure S16 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**23**)

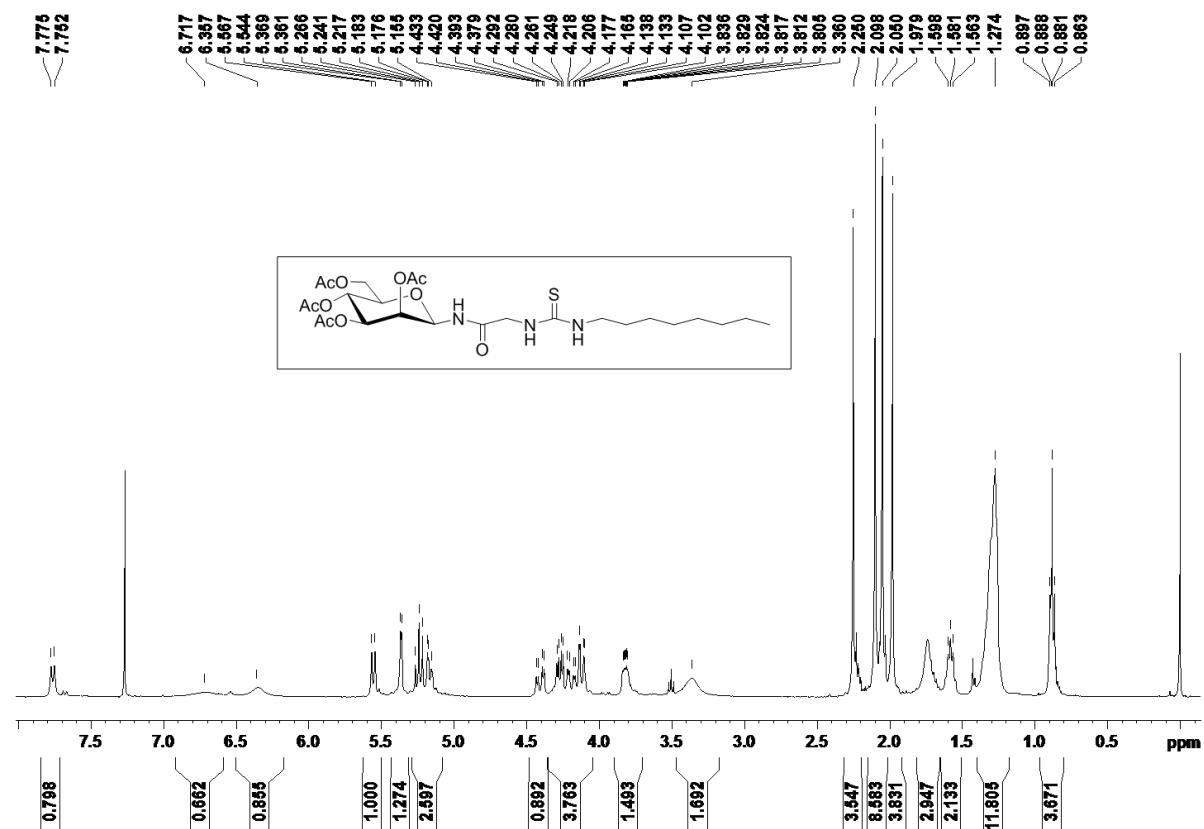


Figure S17 ^1H -NMR (400 MHz, CDCl_3) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-mannopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**24**)

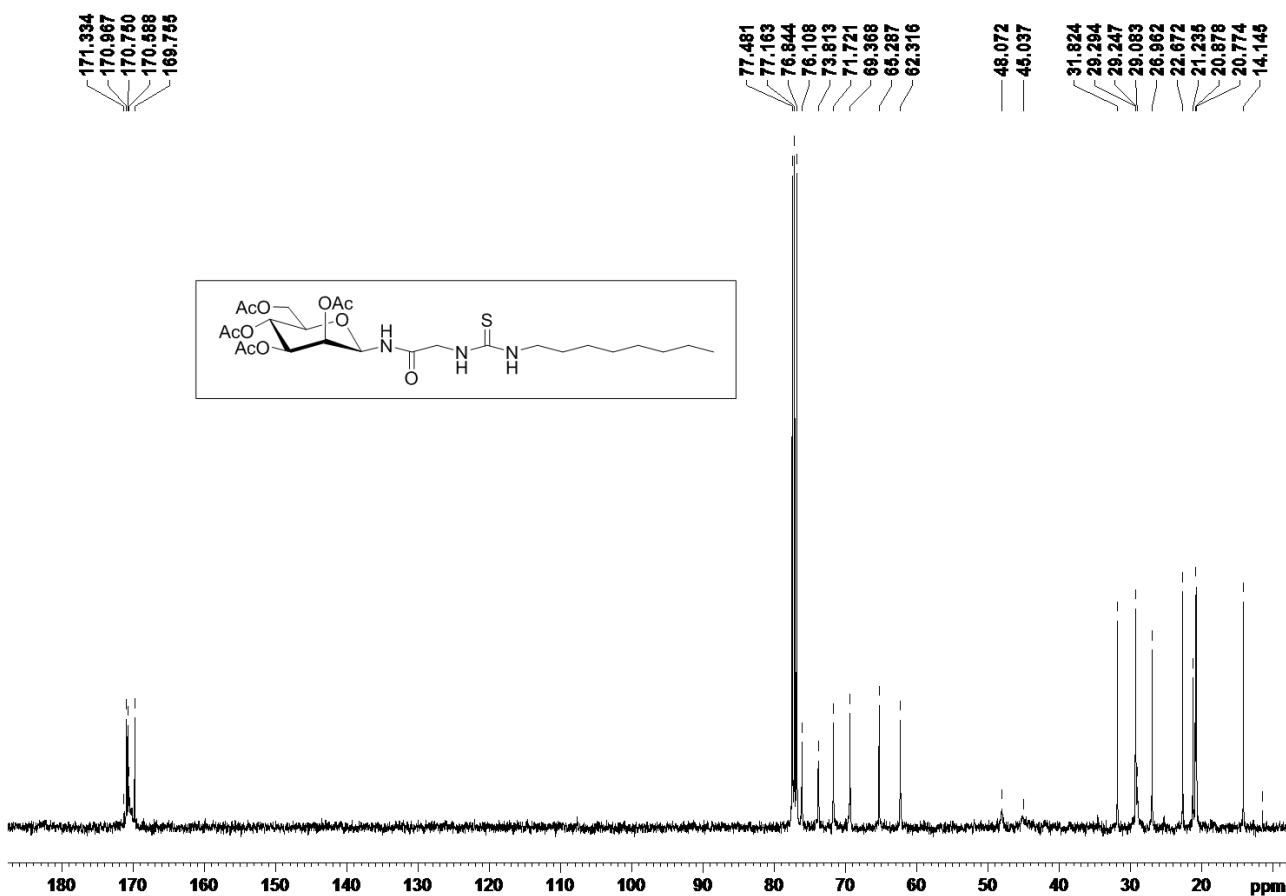


Figure S18 ^{13}C -NMR (100 MHz, CDCl_3) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-mannopyranosyl)-*N*^{''}-(*n*-octyl)-thioureidoacetamide (**24**)

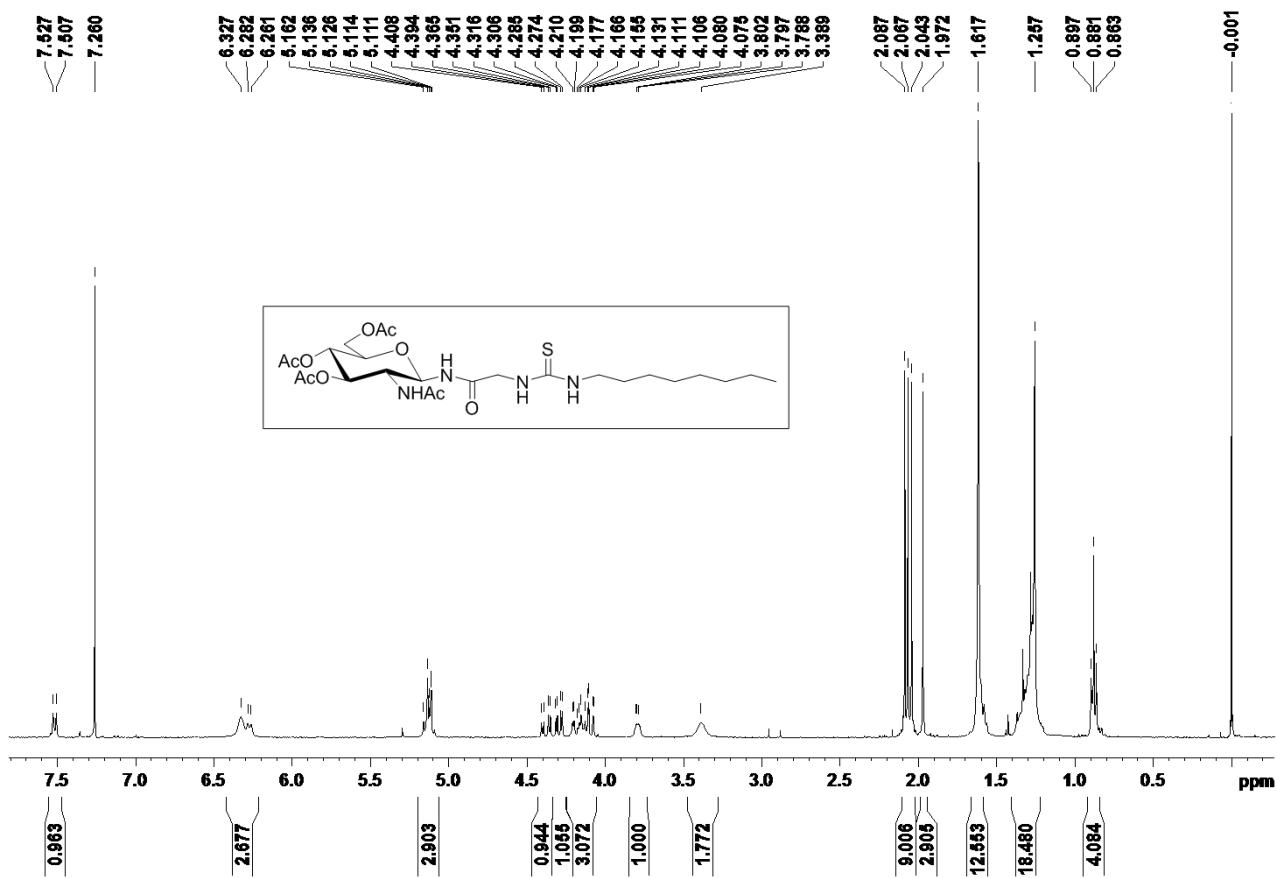


Figure S19 ¹H-NMR (400 MHz, CDCl₃) of 1-N-(2-deoxy-2-acetamido-3,4,6-tri-O-acetyl-β-D-glucopyranosyl)-N''-(n-dodecyl)-thioureidoacetamide (**25**)

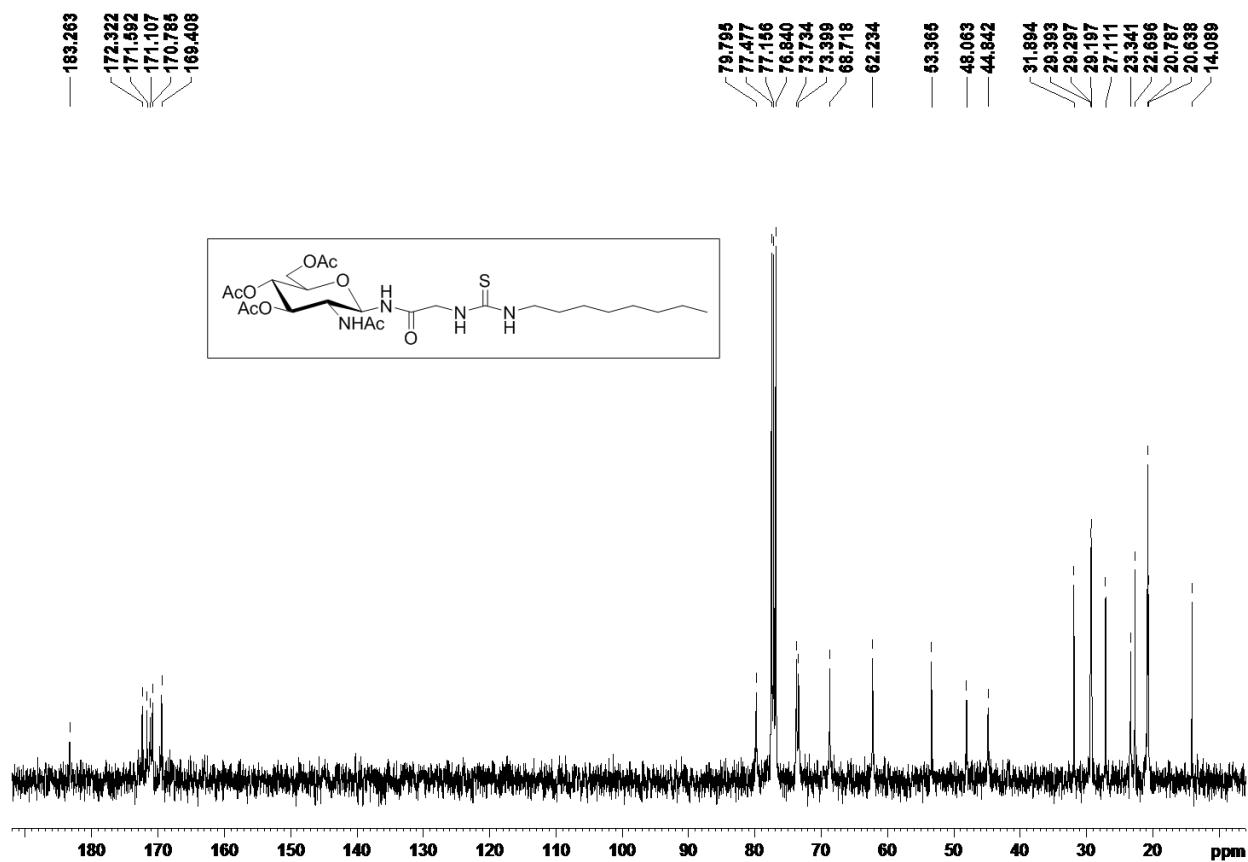


Figure S20 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-(2-deoxy-2-acetamido-3,4,6-tri-O-acetyl-β-D-glucopyranosyl)-N''-(n-dodecyl)-thioureidoacetamide (**25**)

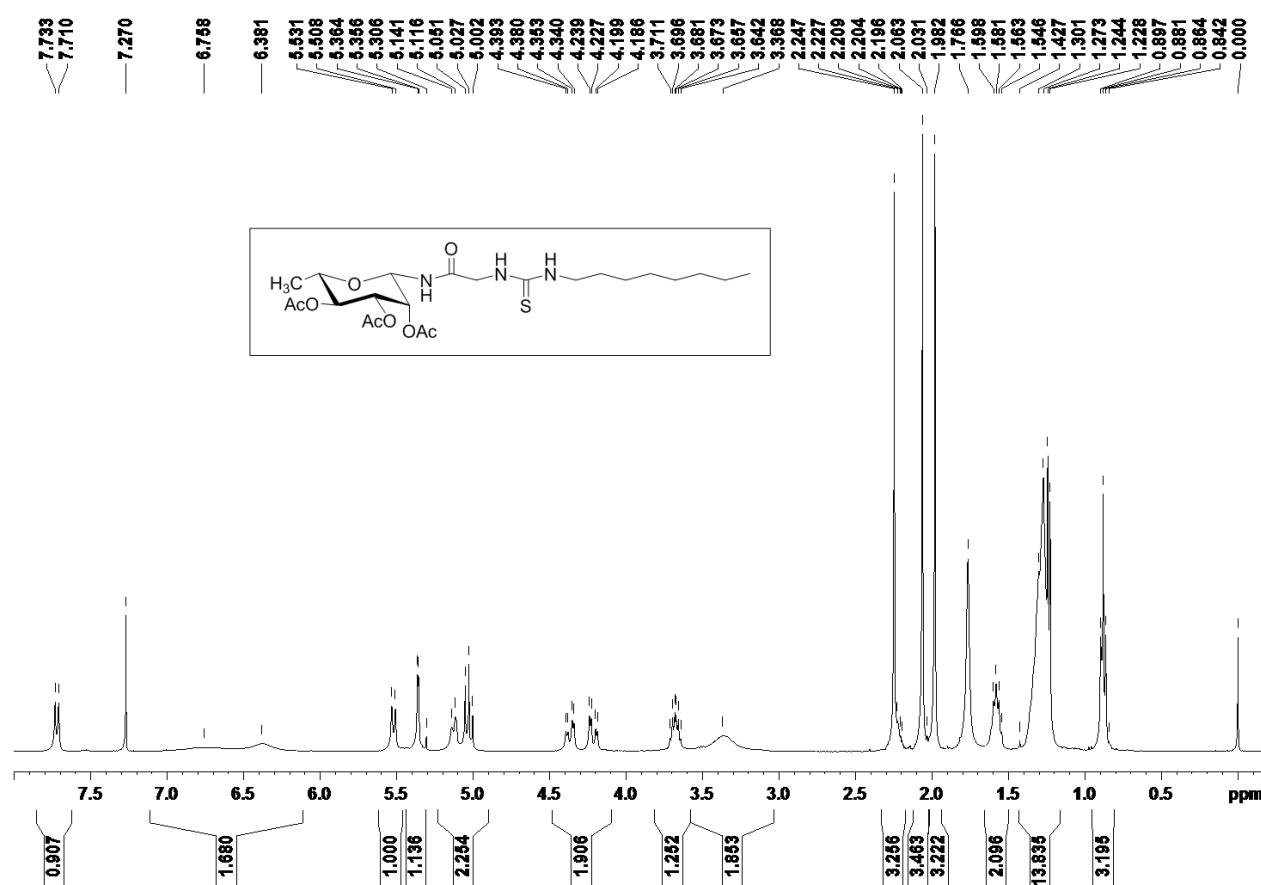


Figure S21 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -L-rhamanopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**26**)

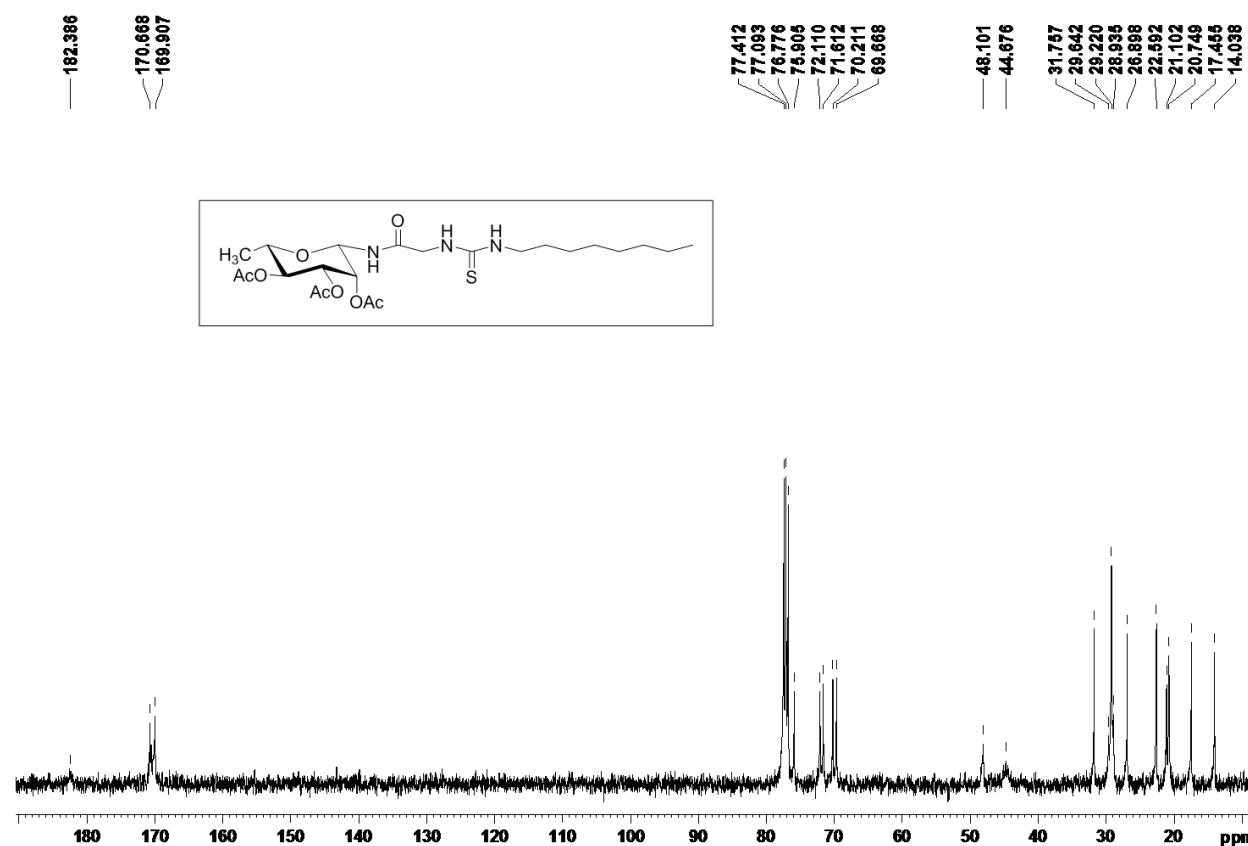


Figure S22 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -L-rhamanopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**26**)

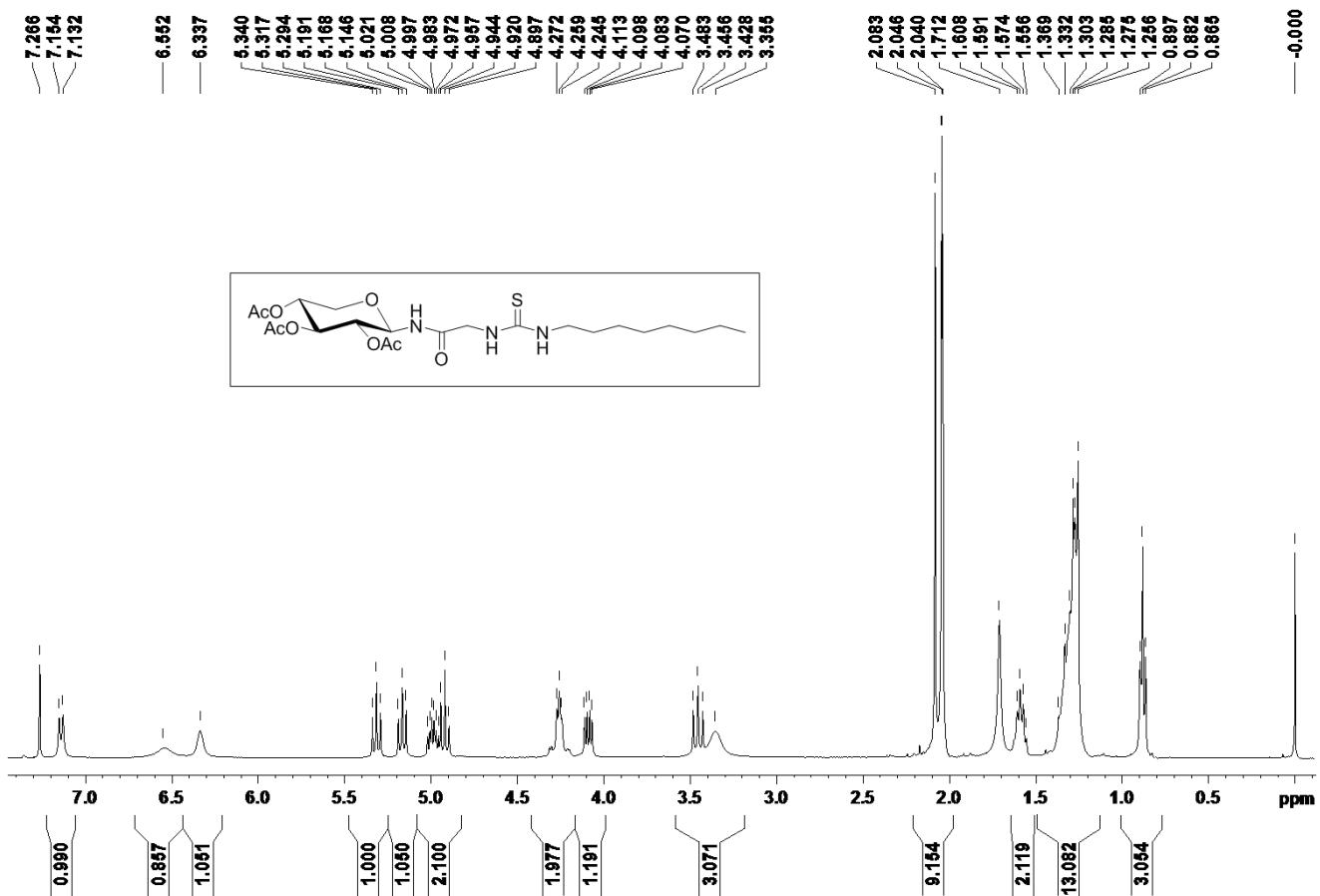


Figure S23 ^1H -NMR (400 MHz, CDCl_3) of 1-*N*-(2,3,4-tri-*O*-acetyl- β -D-xylopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**27**)

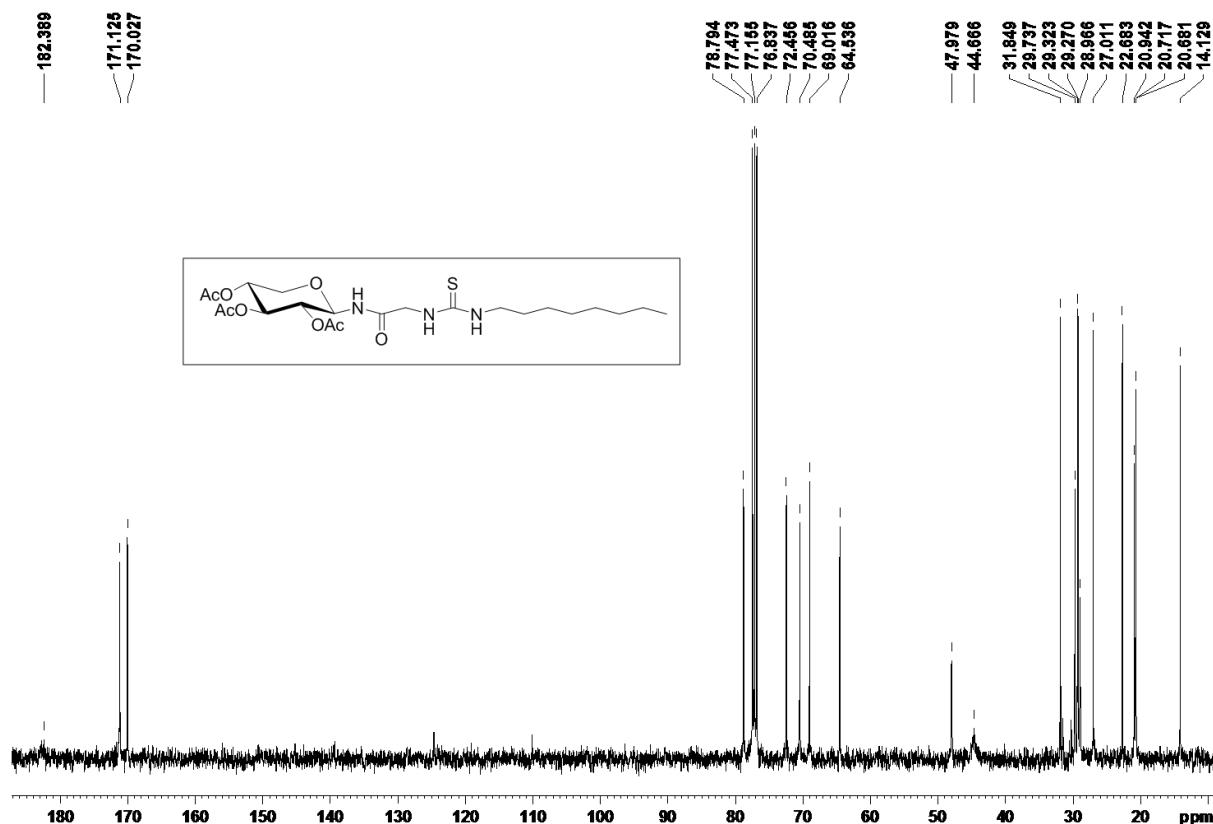


Figure S24 ^{13}C -NMR (100 MHz, CDCl_3) of 1-*N*-(2,3,4-tri-*O*-acetyl- β -D-xylopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**27**)

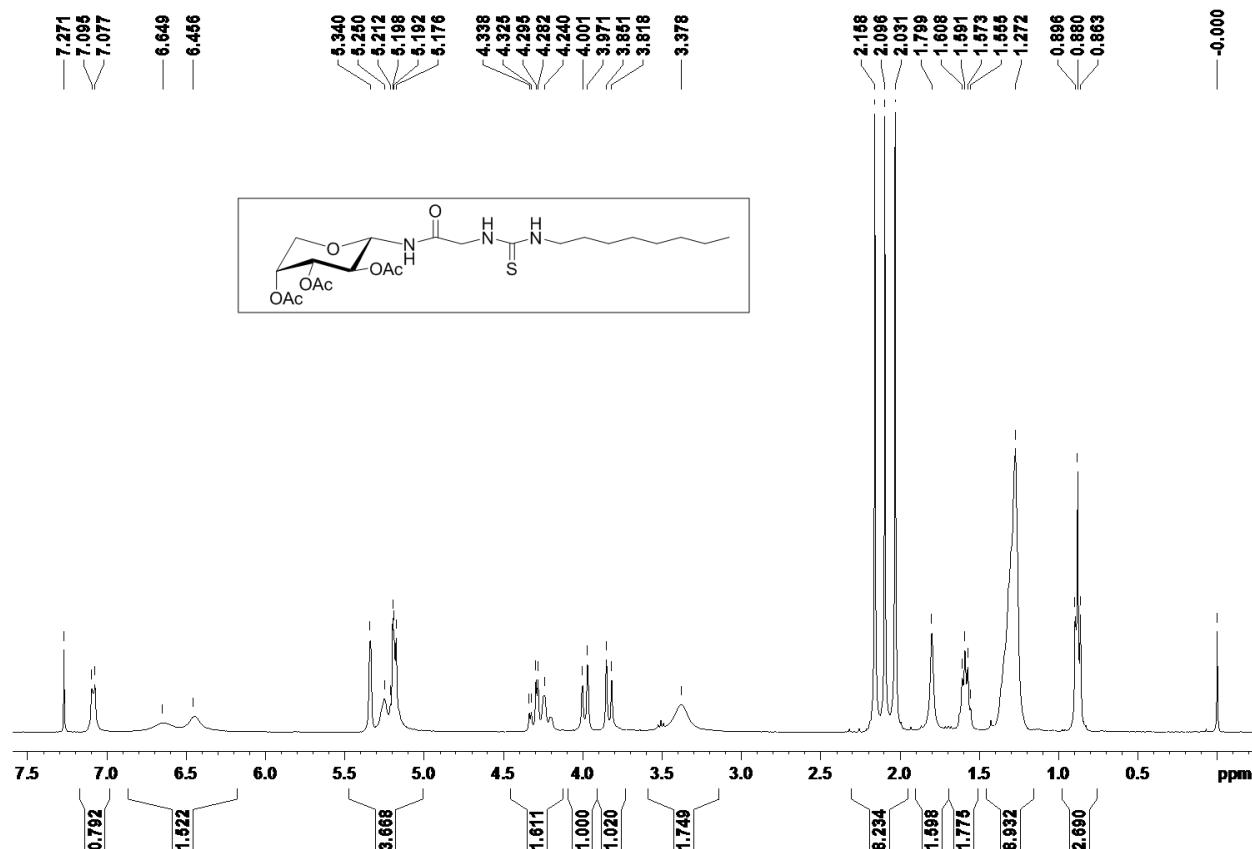


Figure S25 ¹H-NMR (400 MHz, CDCl₃) of 1-N-(2,3,4-tri-O-acetyl- α -D-arabinopyranosyl)-N''-(n-octyl)-thioureidoacetamide (**28**)

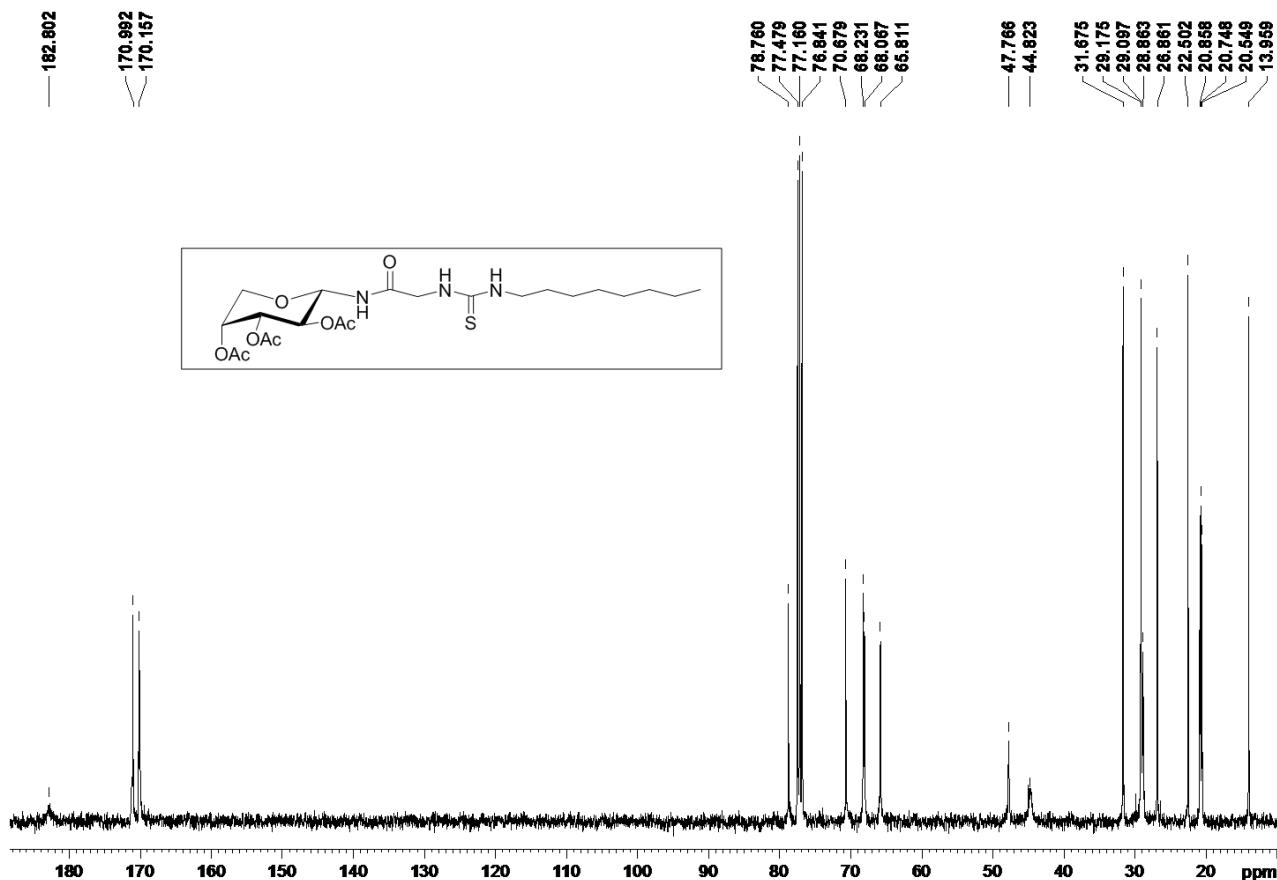


Figure S26 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-(2,3,4-tri-O-acetyl- α -D-arabinopyranosyl)-N''-(n-octyl)-thioureidoacetamide (**28**)

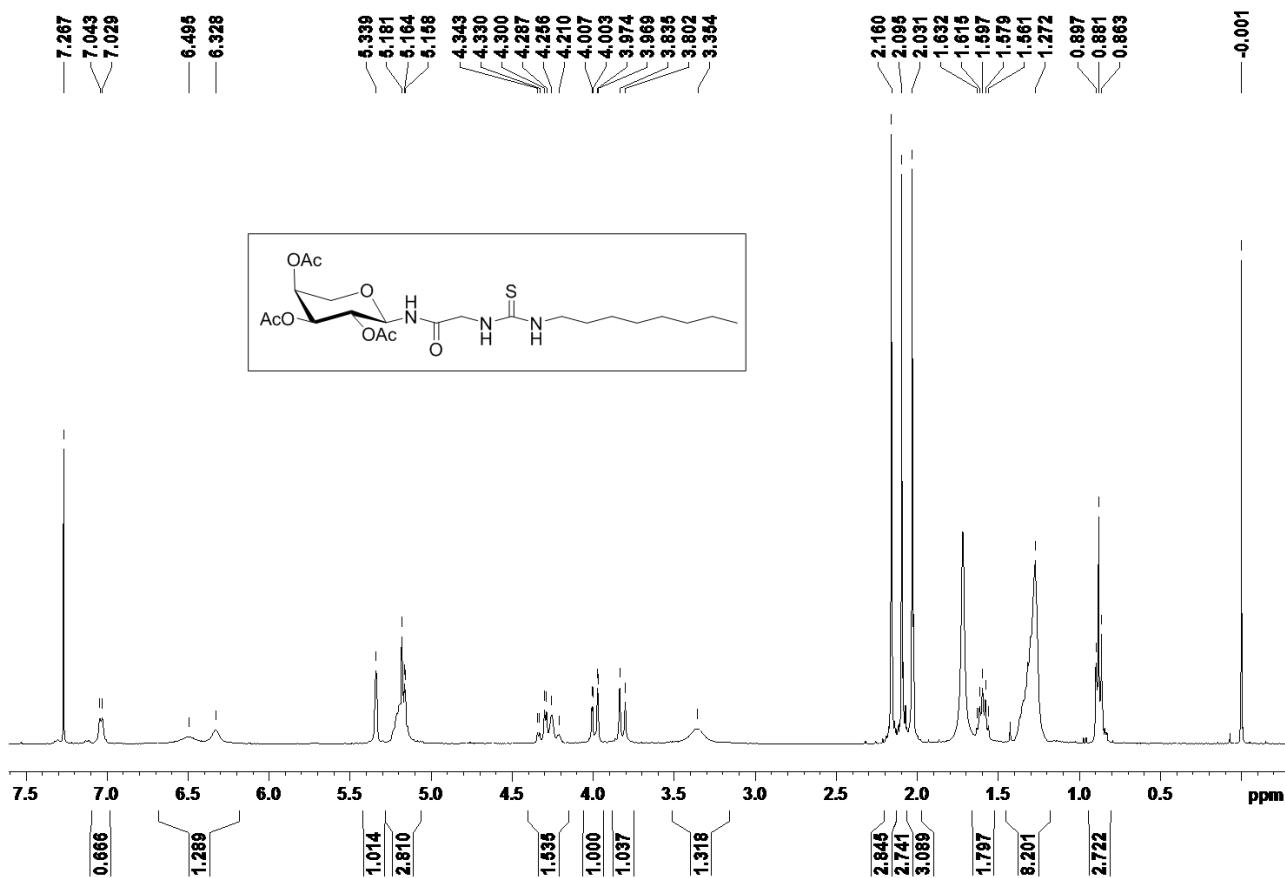


Figure S27 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -L-arabinopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**29**)

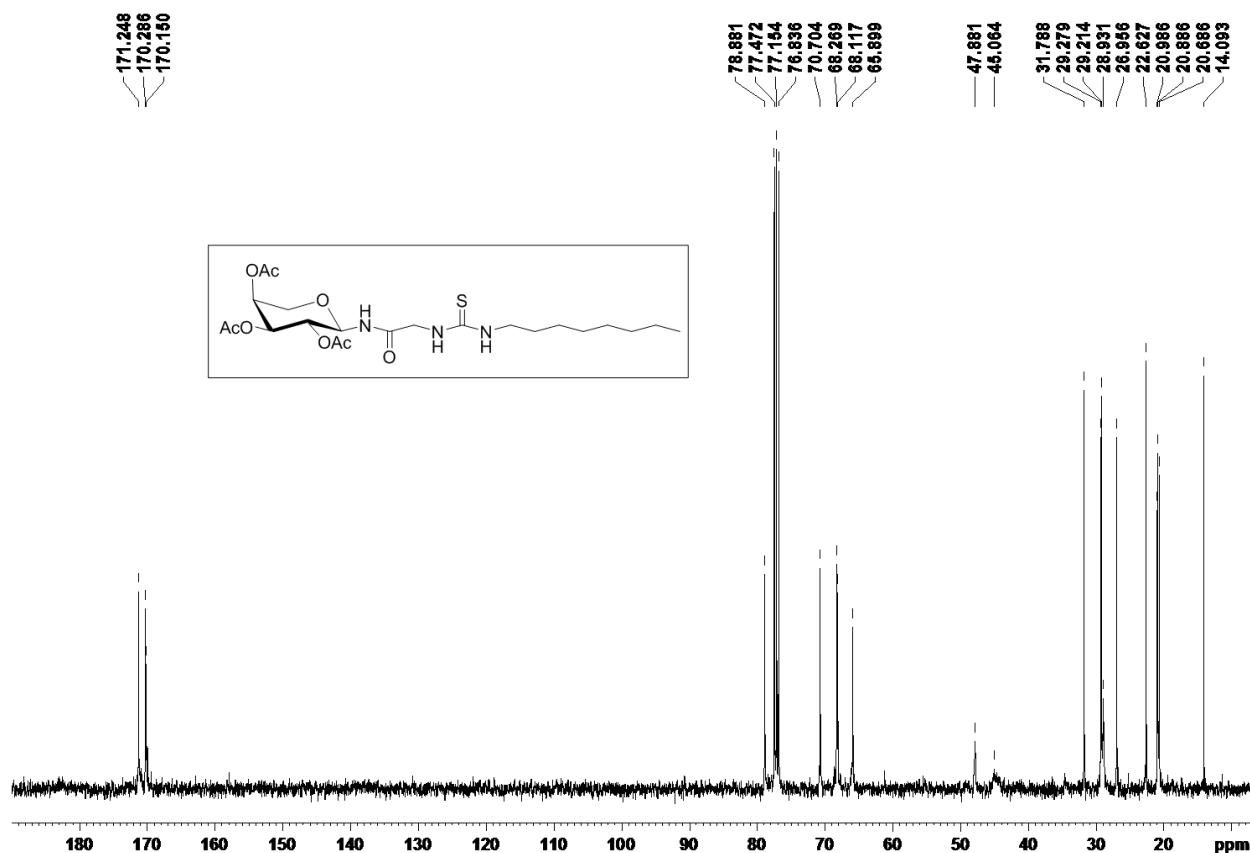


Figure S28 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -L-arabinopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**29**)

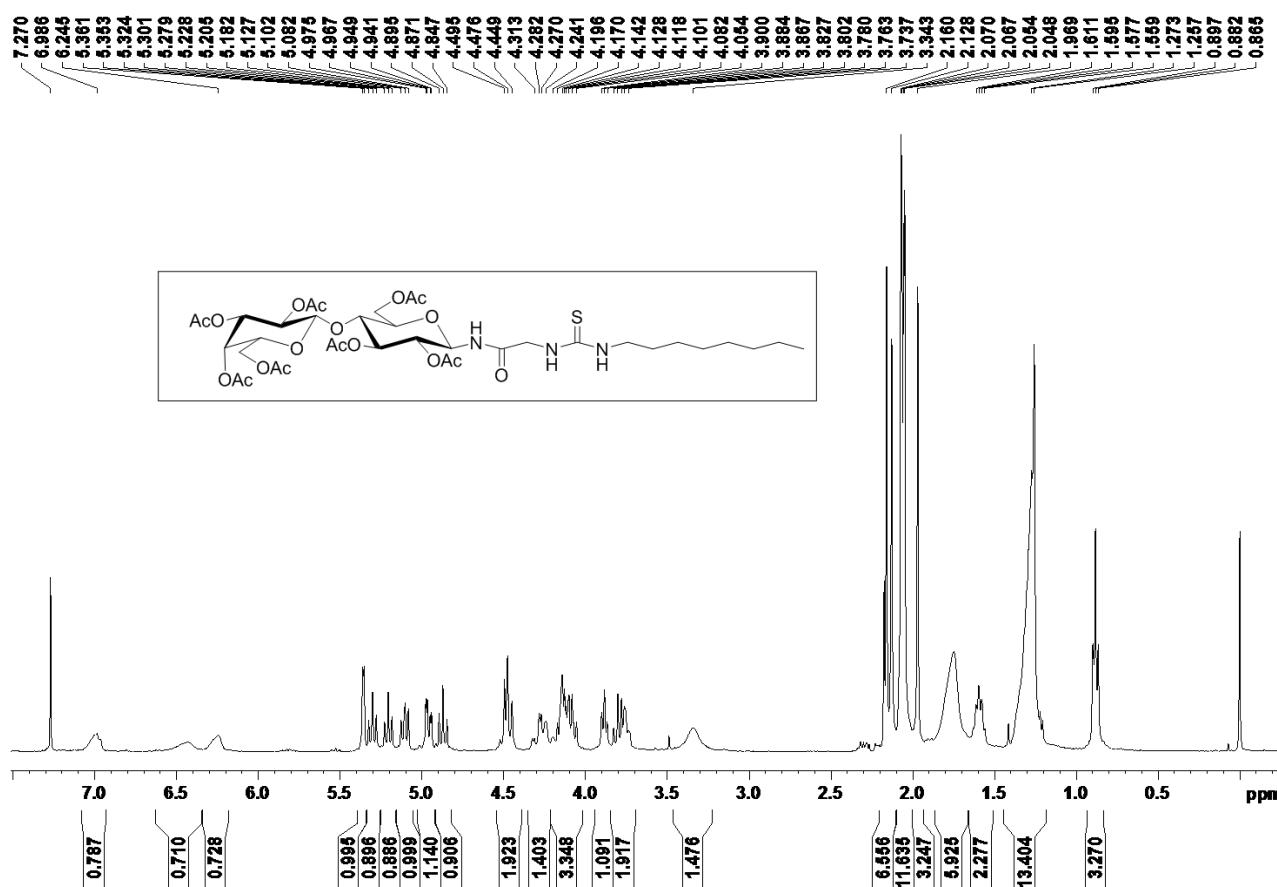


Figure S29 ¹H-NMR (400 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- β -D-galactopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N'-(n-octyl)-thioureidoacetamide (**30**)

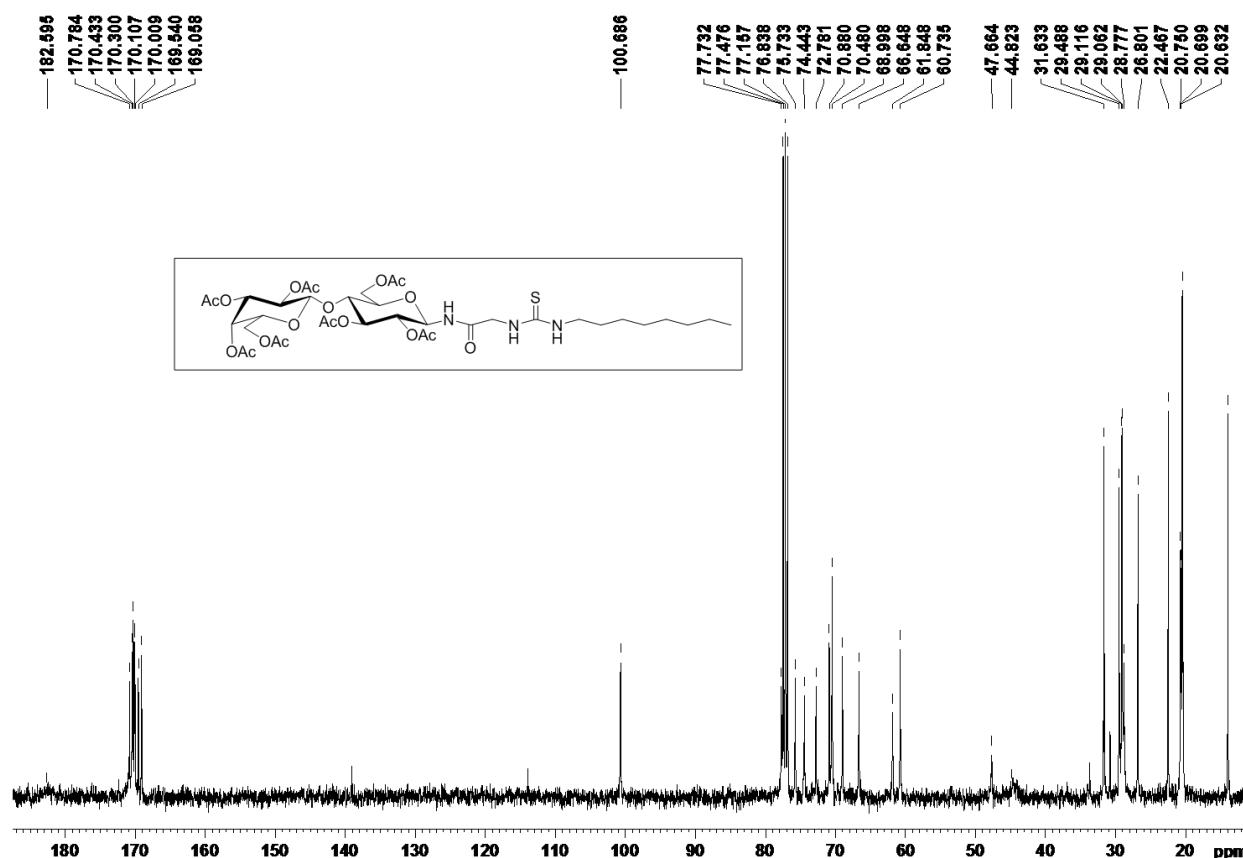


Figure S30 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- β -D-galactopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N'-(n-octyl)-thioureidoacetamide (**30**)

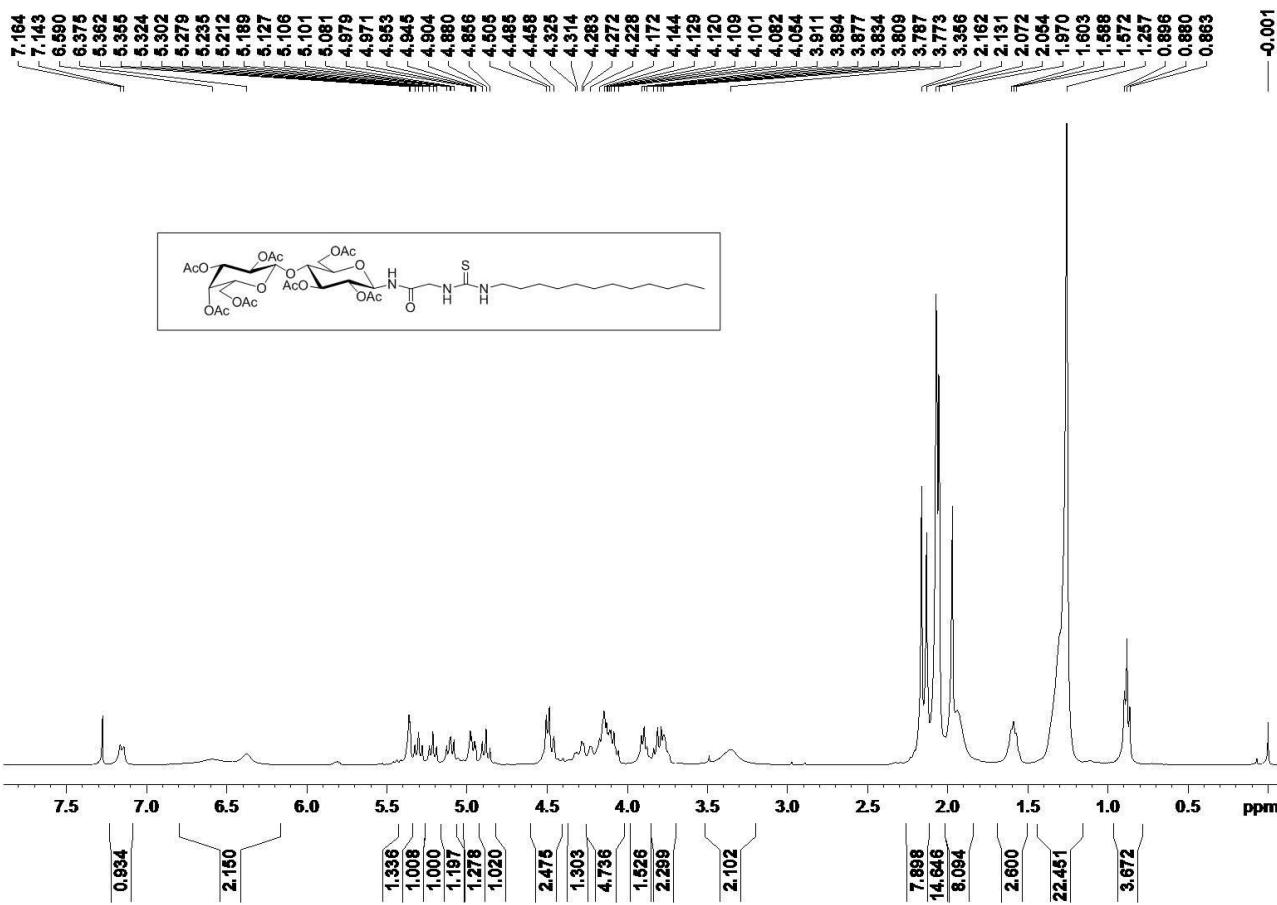


Figure S31 ¹H-NMR (400 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl-β-D-galactopyranosyl)-2,3,6-tri-O-acetyl-β-D-glucopyranosyl]-N²-(n-dodecyl)-thioureidoacetamide (**31**)

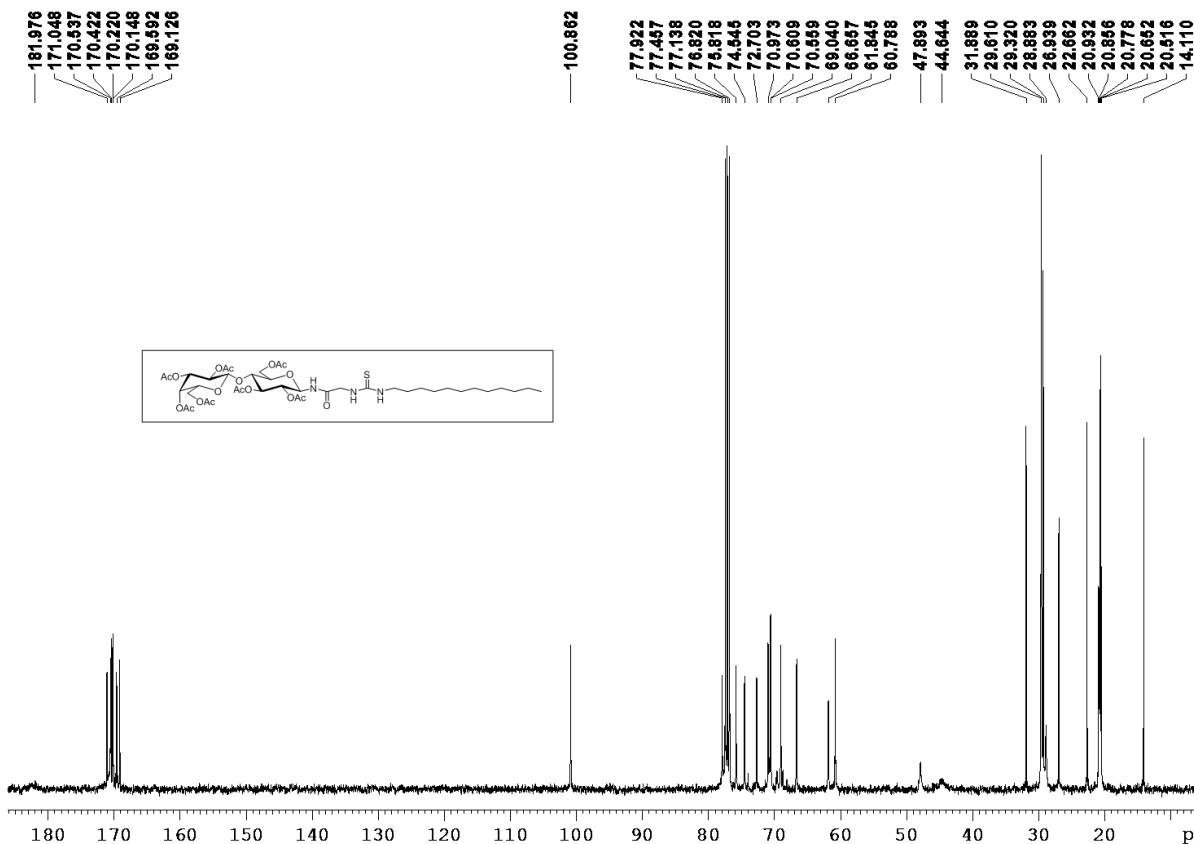


Figure S32 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl-β-D-galactopyranosyl)-2,3,6-tri-O-acetyl-β-D-glucopyranosyl]-N²-(n-dodecyl)-thioureidoacetamide (**31**)

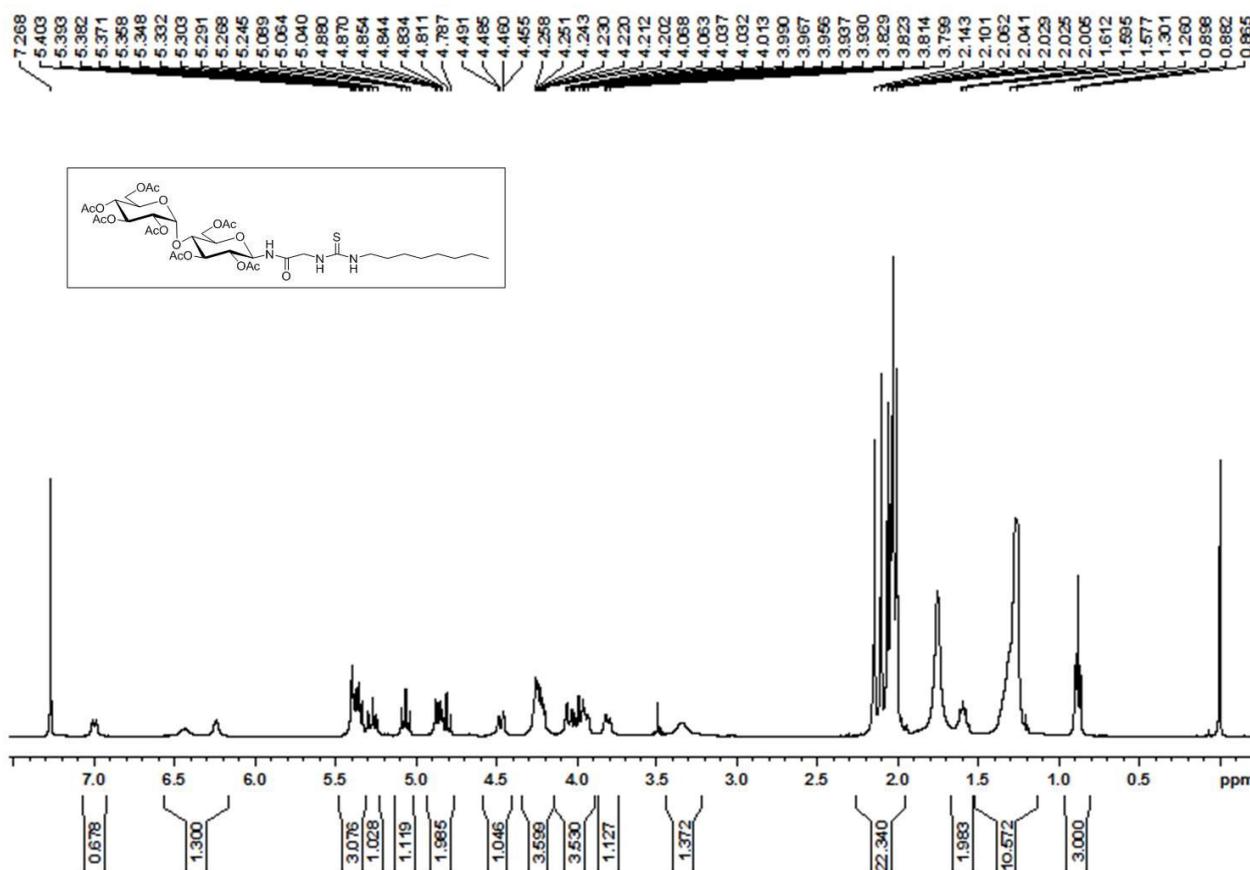


Figure S33 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-[4-*O*-(2',3',4',6'-tetra-*O*-acetyl- α -D-glucopyranosyl)-2,3,6-tri-*O*-acetyl- β -D-glucopyranosyl]-*N*''-(*n*-octyl)-thioureidoacetamide (**32**)

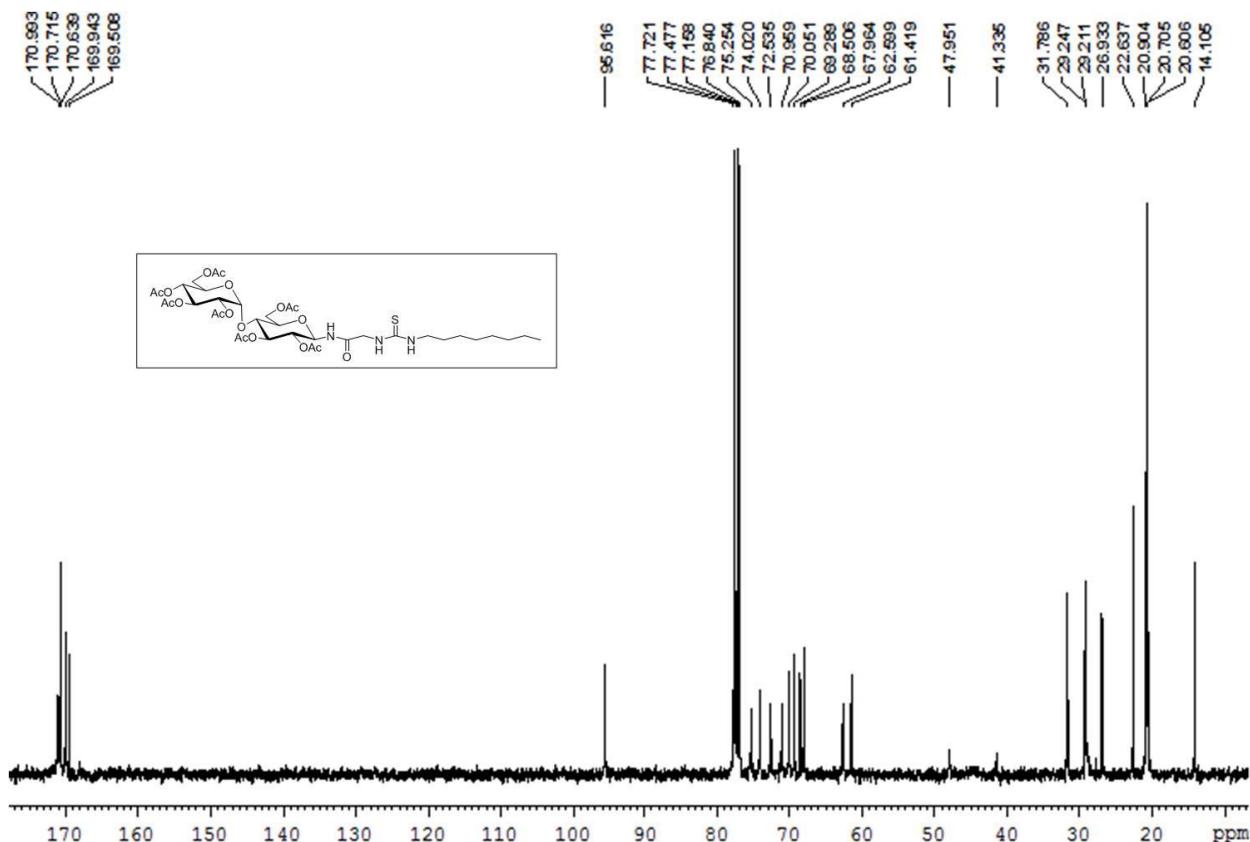


Figure S34 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-[4-*O*-(2',3',4',6'-tetra-*O*-acetyl- α -D-glucopyranosyl)-2,3,6-tri-*O*-acetyl- β -D-glucopyranosyl]-*N*''-(*n*-octyl)-thioureidoacetamide (**32**)

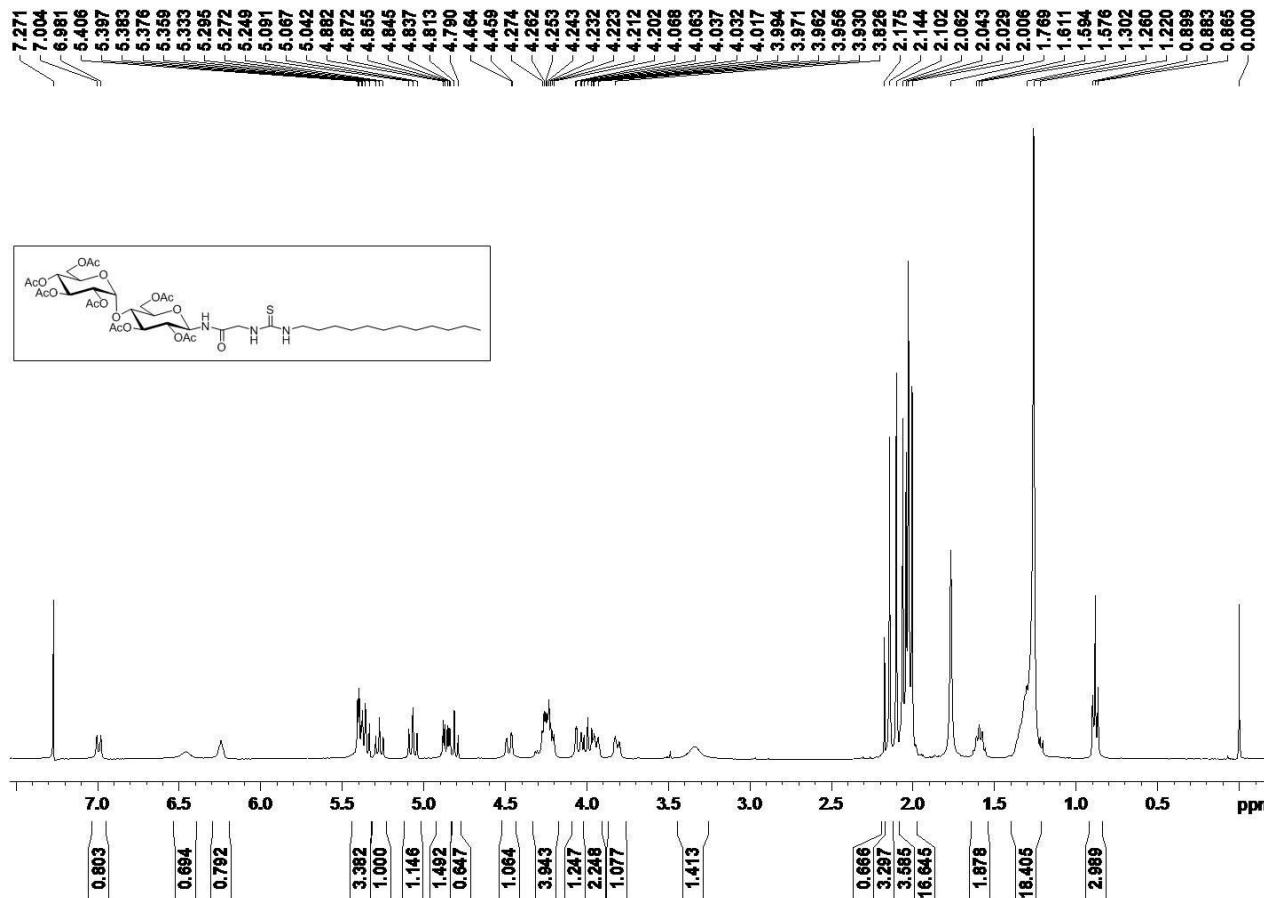


Figure S35 ¹H-NMR (400 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- α -D-glucopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N''-(n-dodecyl)-thioureodoacetamide (**33**)

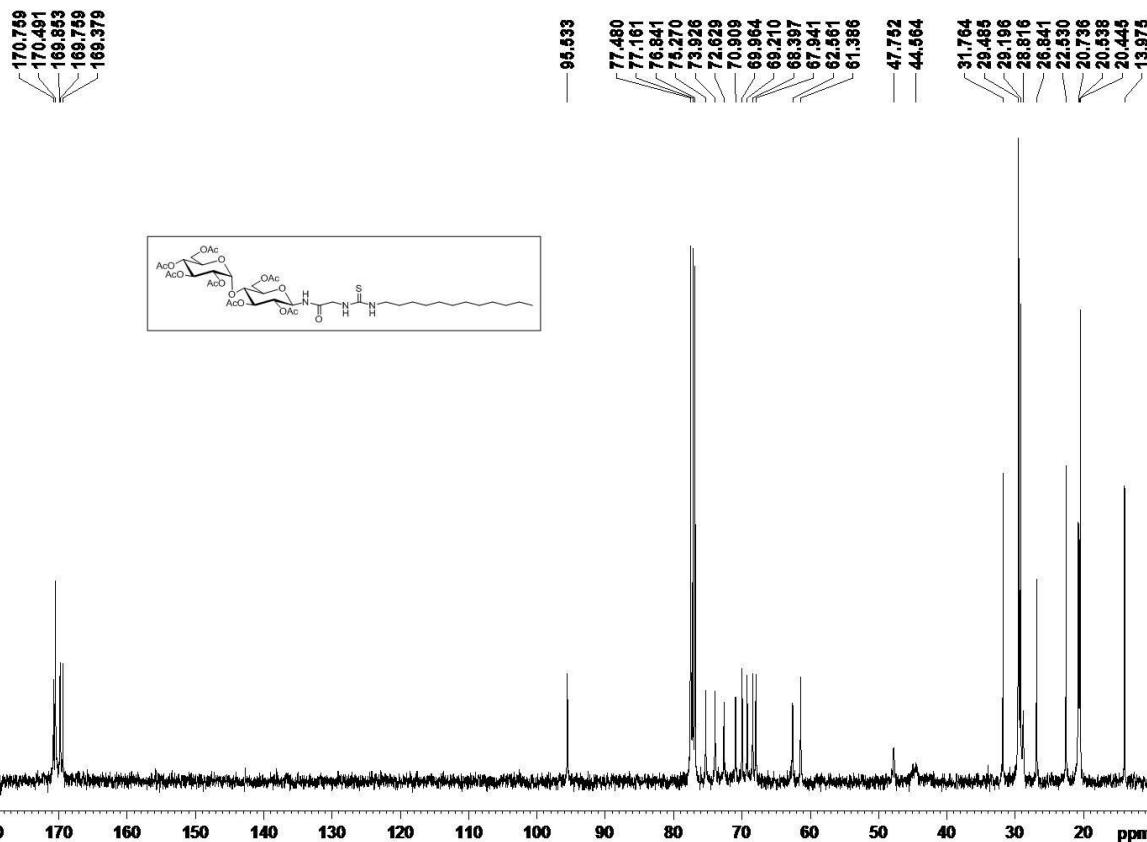


Figure S36 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- α -D-glucopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N''-(n-dodecyl)-thioureodoacetamide (**33**)

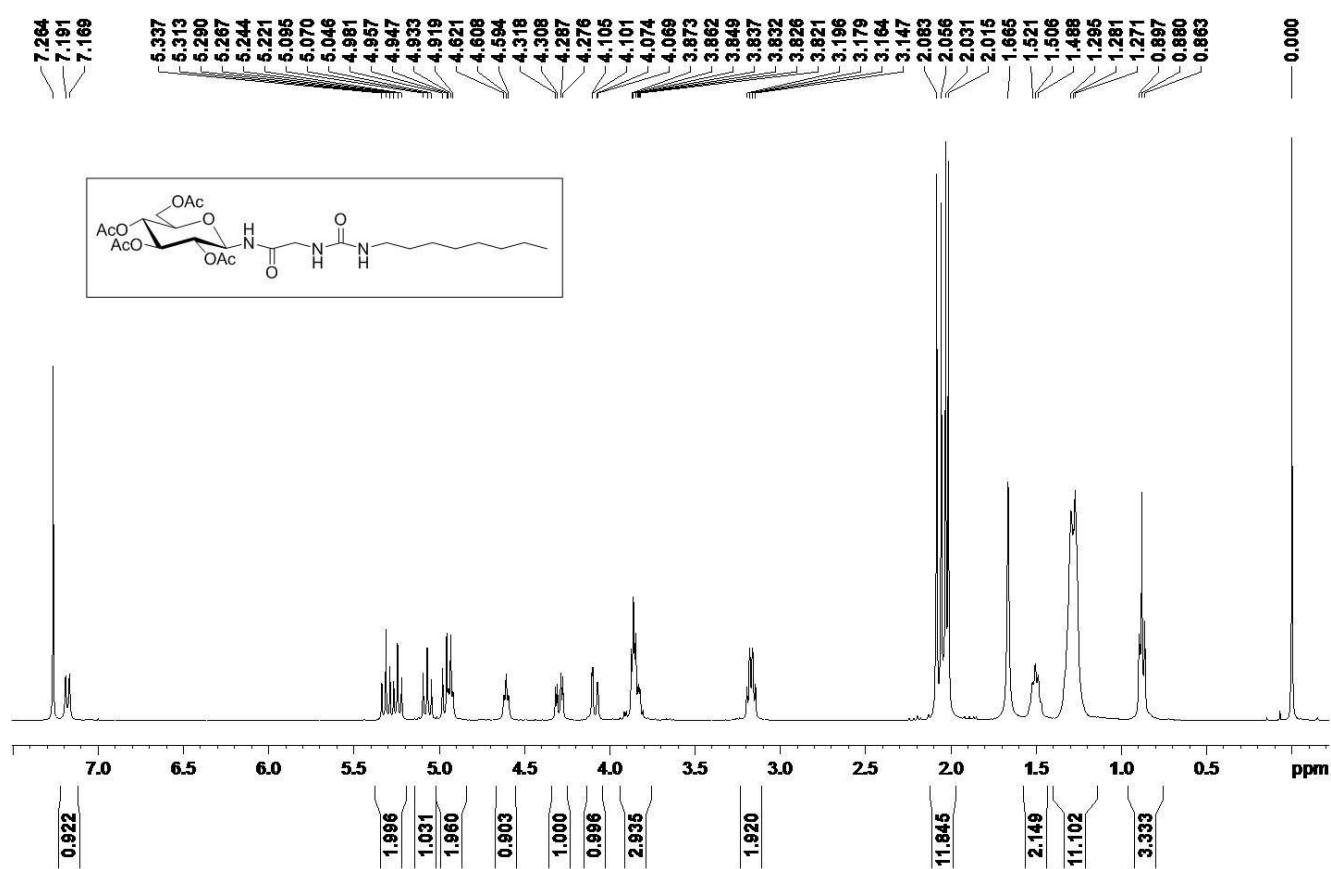


Figure S37 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4,6-Tetra-*O*-acetyl- β -D-glucopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**34**)

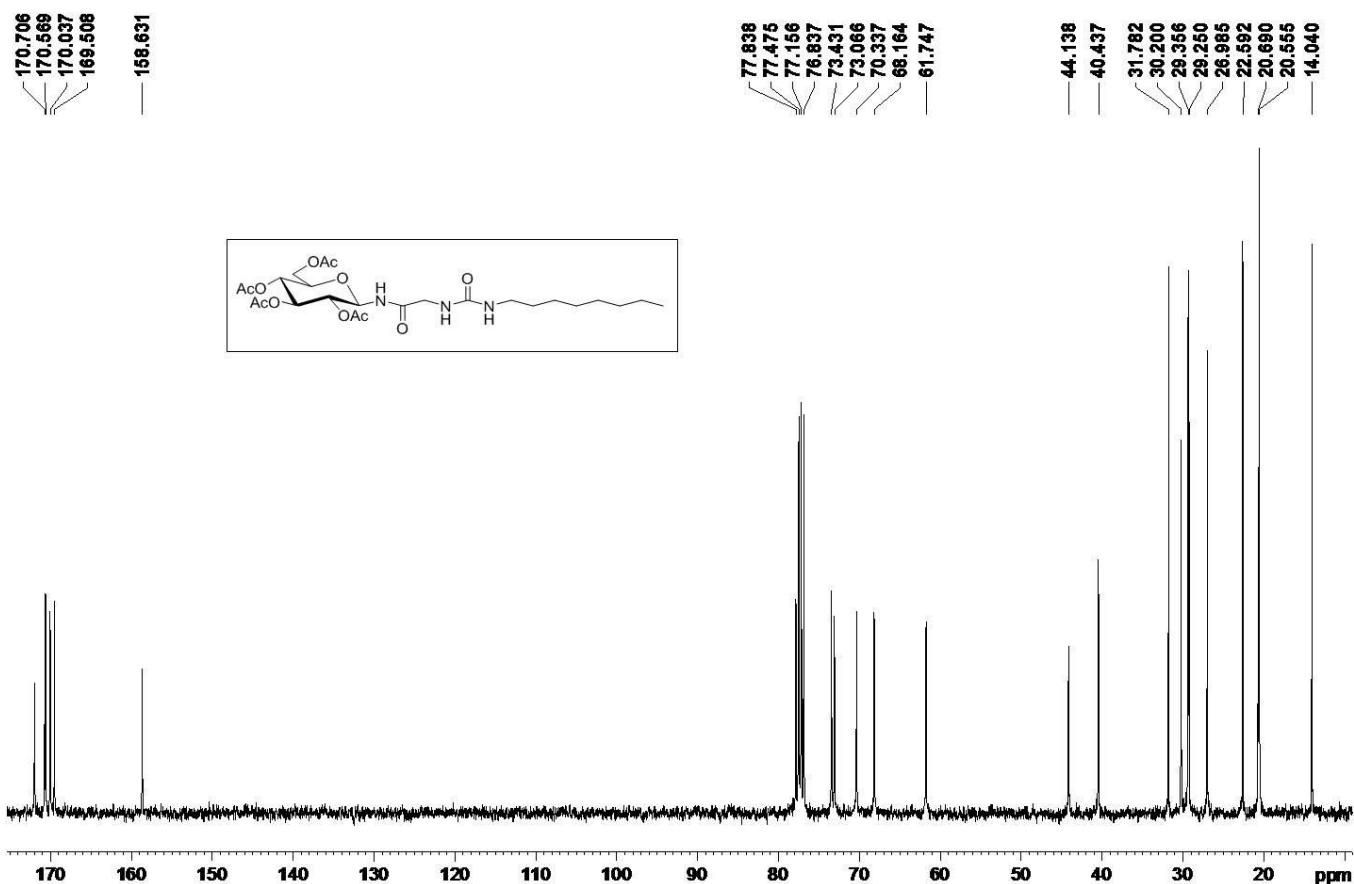


Figure S38 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-glucopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**34**)

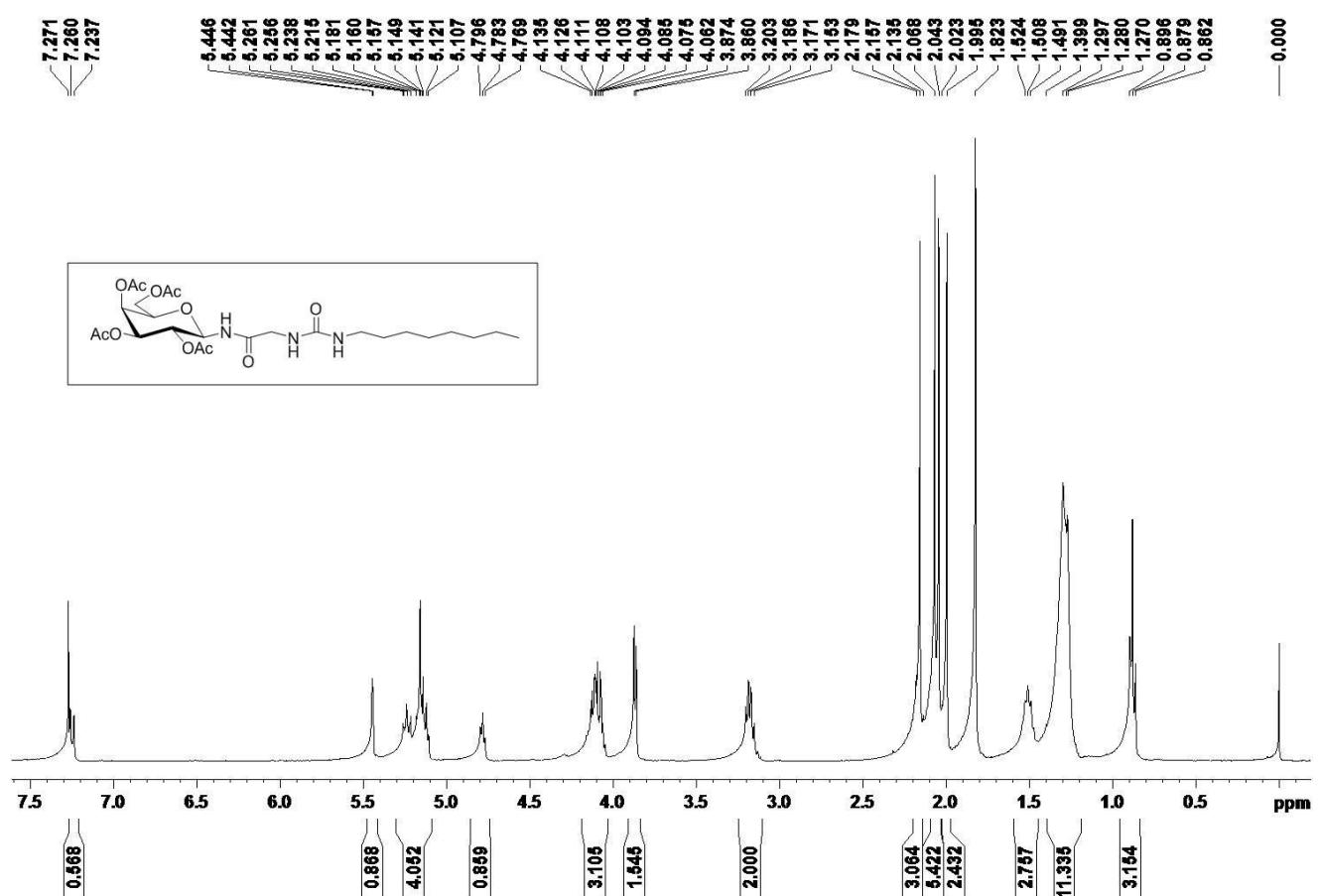


Figure S39 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**35**)

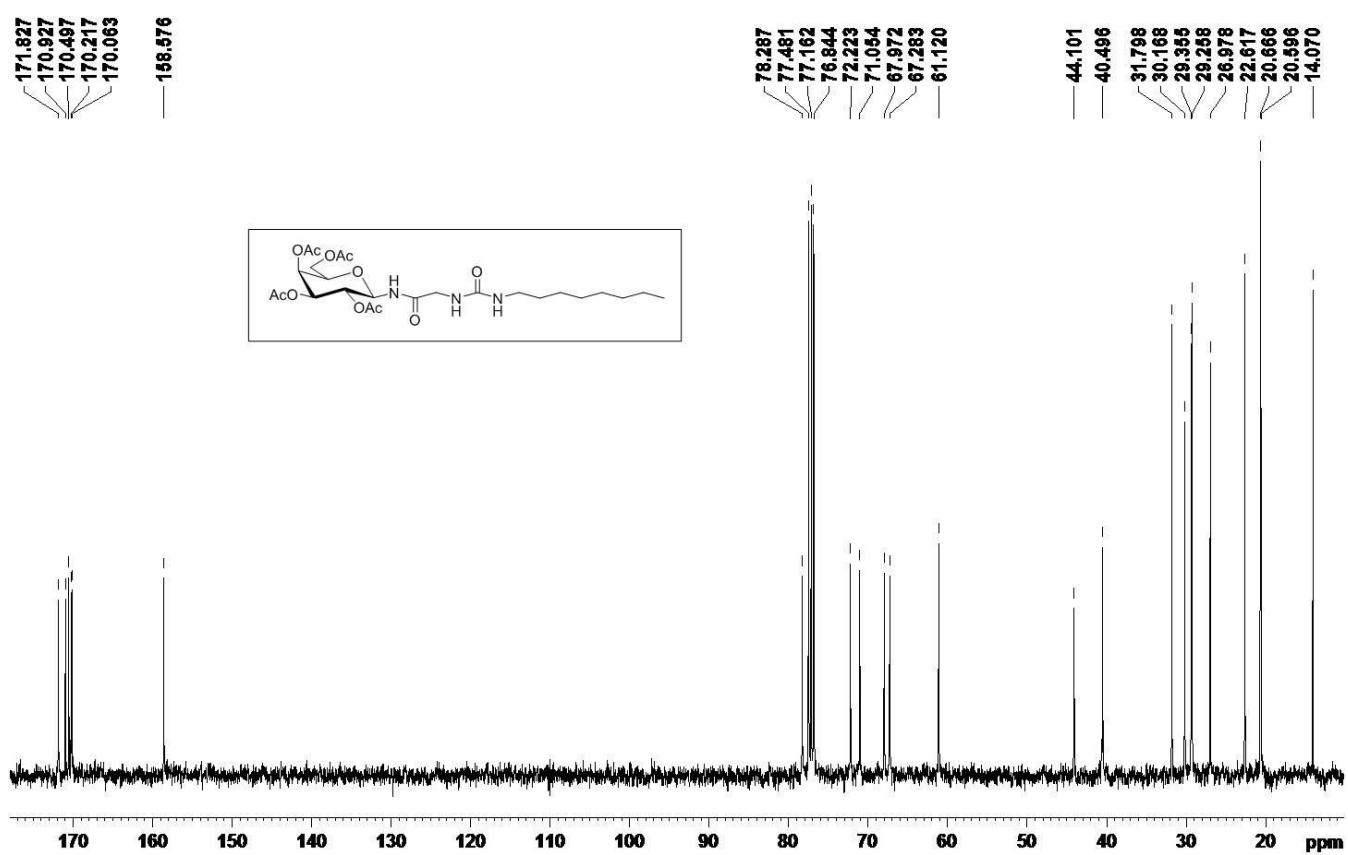


Figure S40 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-galactopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**35**)

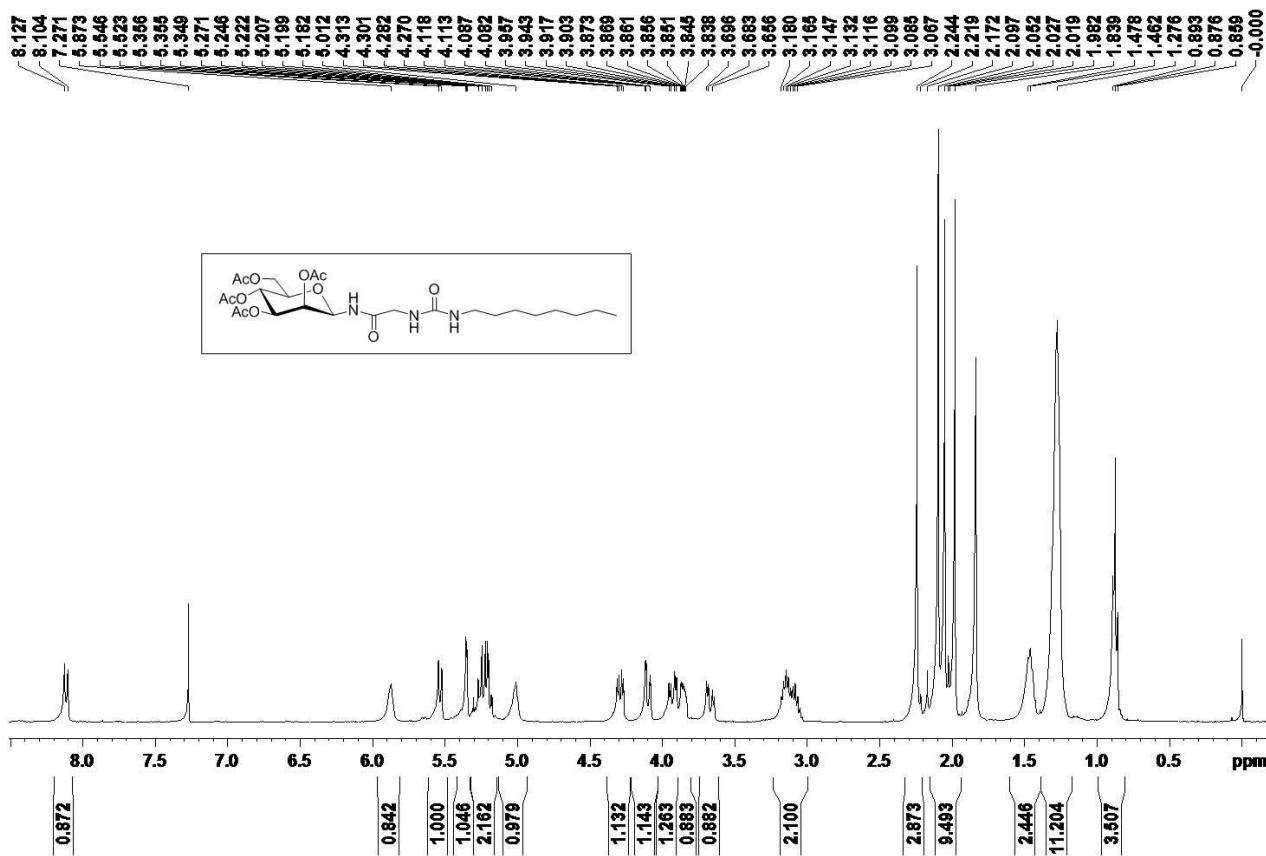


Figure S41 $^1\text{H-NMR}$ (400 MHz, CDCl_3) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-mannopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**36**)

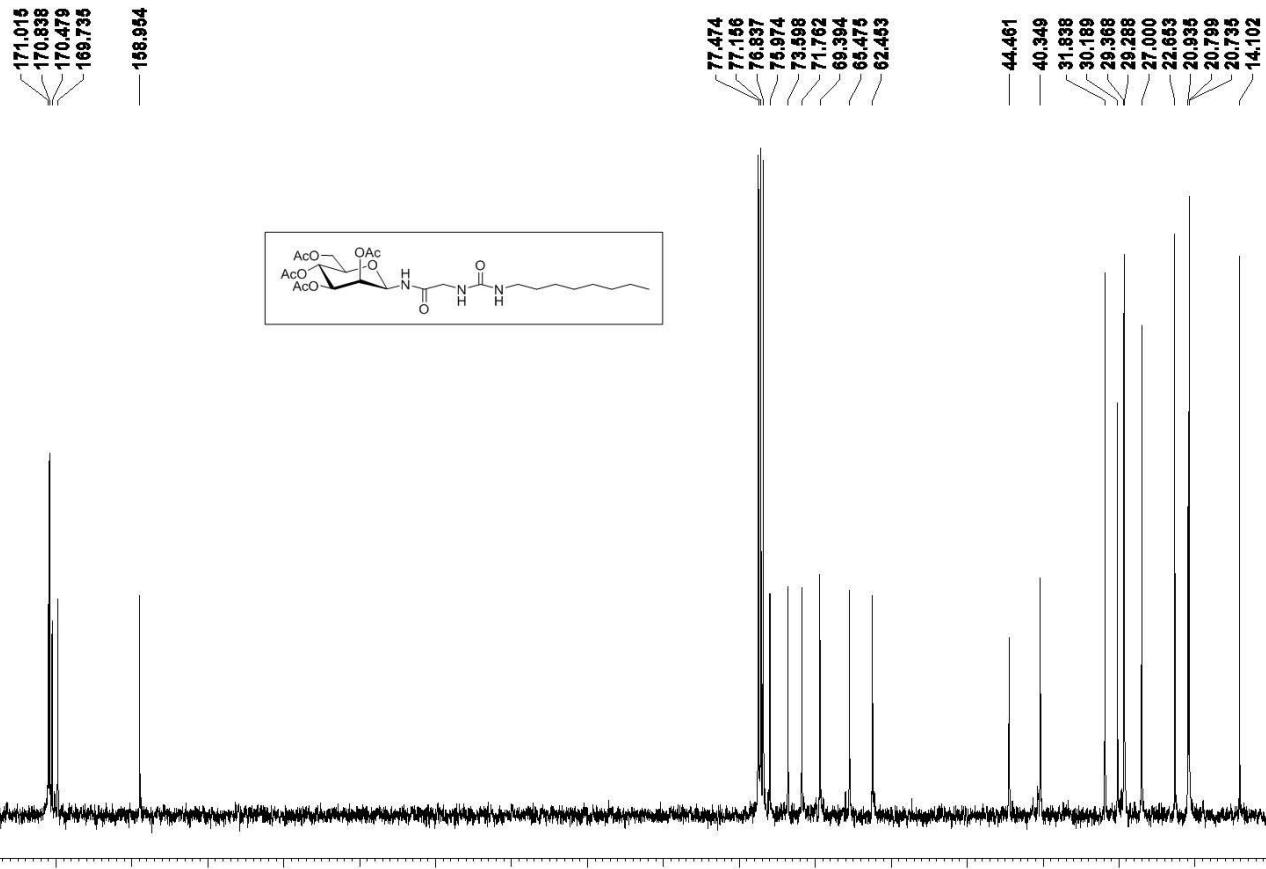


Figure S42 ^{13}C -NMR (100 MHz, CDCl_3) of 1-*N*-(2,3,4,6-tetra-*O*-acetyl- β -D-mannopyranosyl)- N' -(*n*-octyl)-ureidoacetamide (**36**)

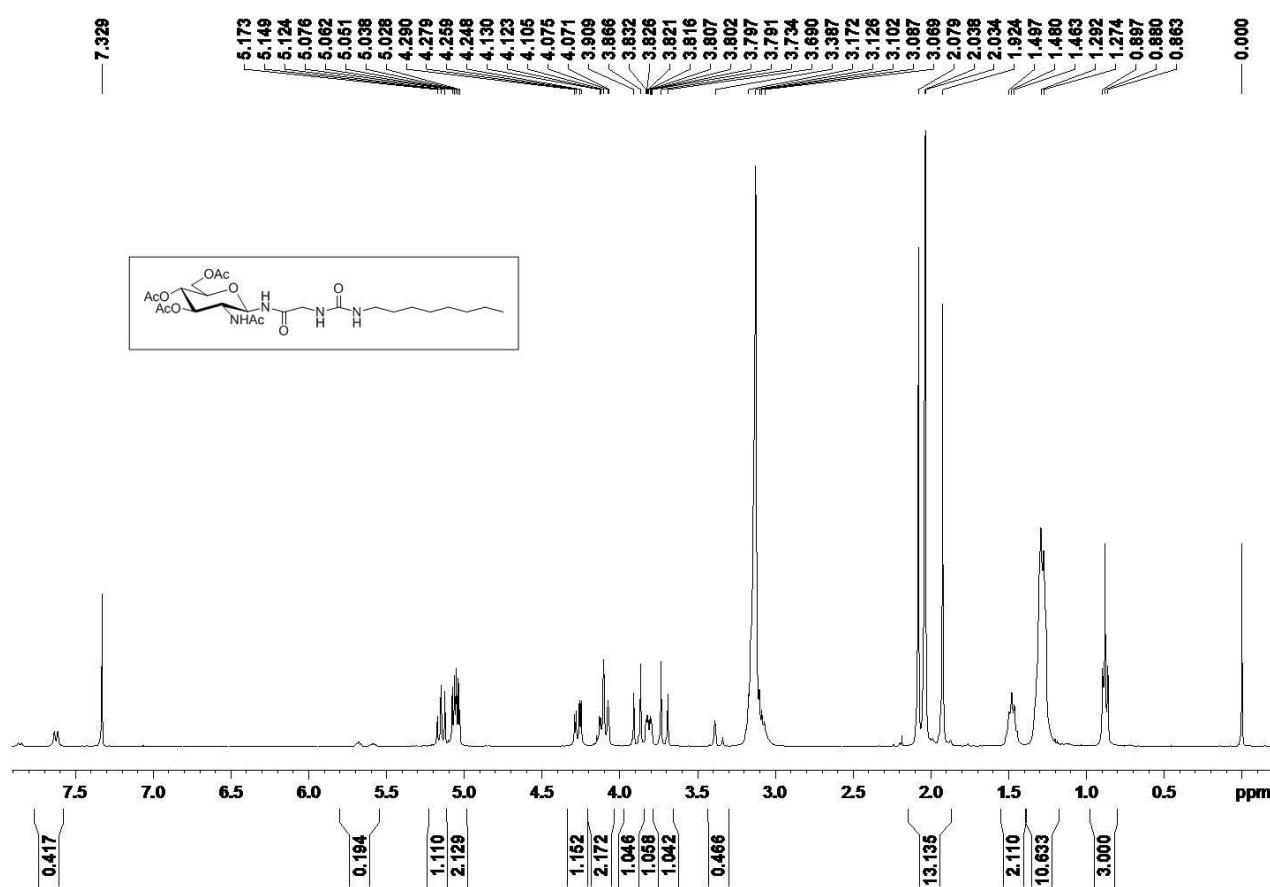


Figure S43 ¹H-NMR (400 MHz, CD₃OD + CDCl₃) of 1-N-(2-deoxy-2-acetamido-3,4,6-tri-O-acetyl-β-D-glucopyranosyl)-N''-(n-octyl)-ureidoacetamide (**37**)

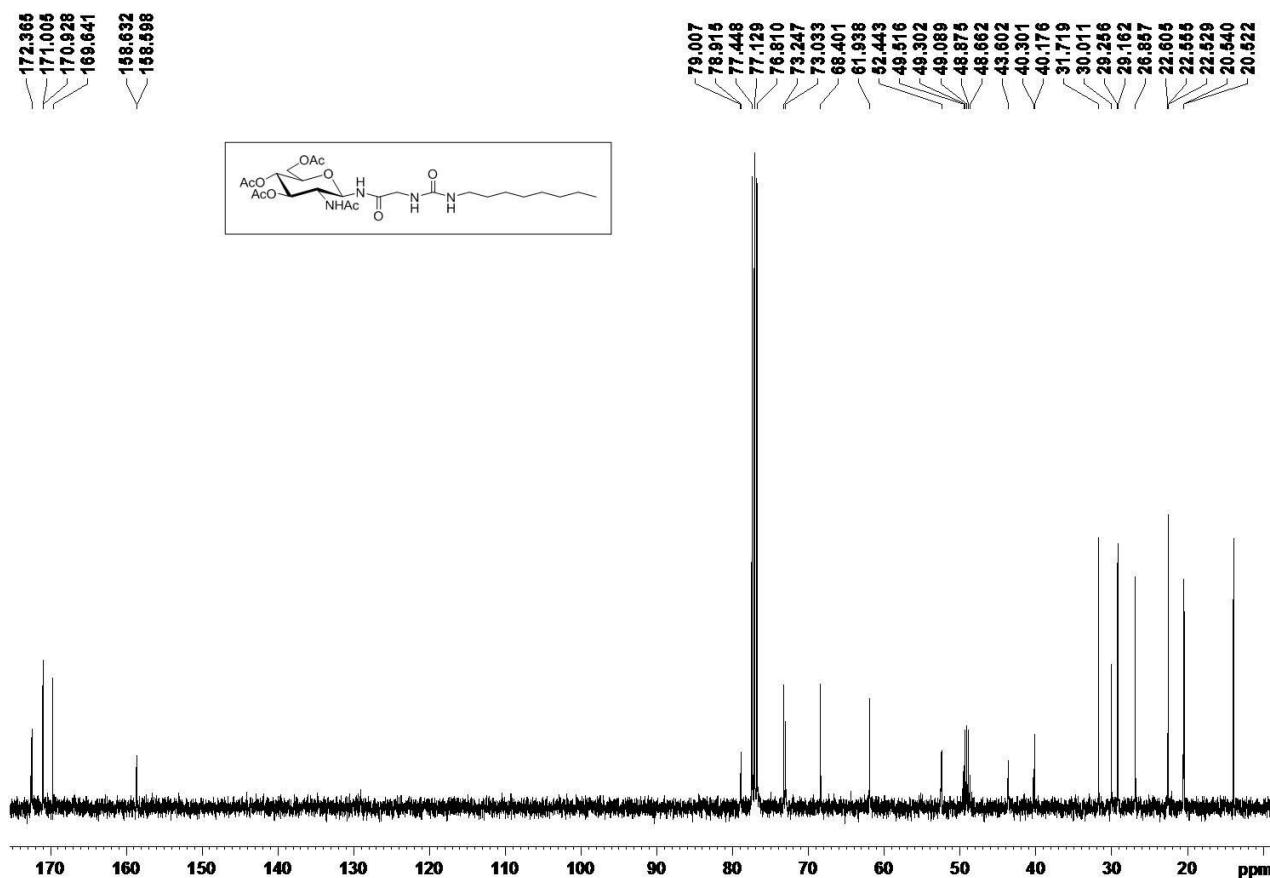


Figure S44 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(2-deoxy-2-acetamido-3,4,6-tri-O-acetyl-β-D-glucopyranosyl)-N''-(n-octyl)-ureidoacetamide (**37**)

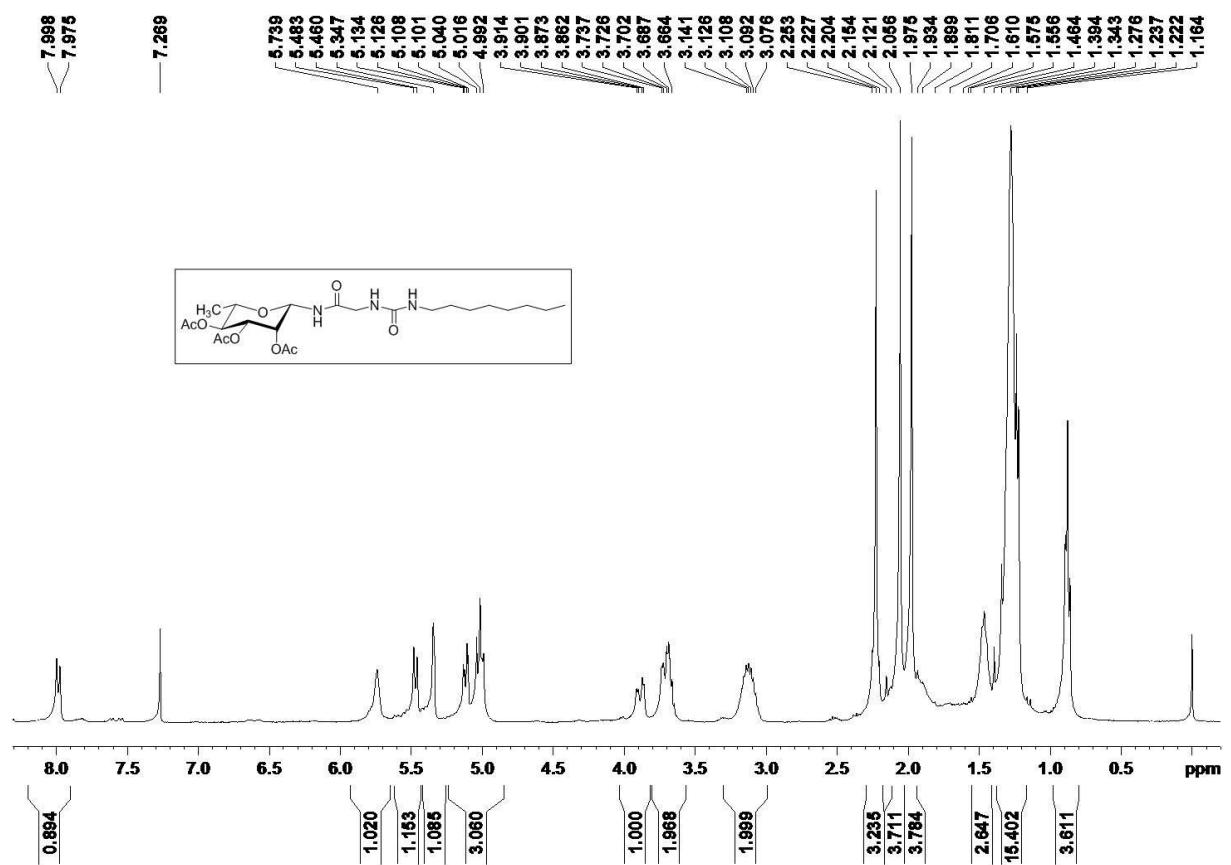


Figure S45 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- β -L-rhamnopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**38**)

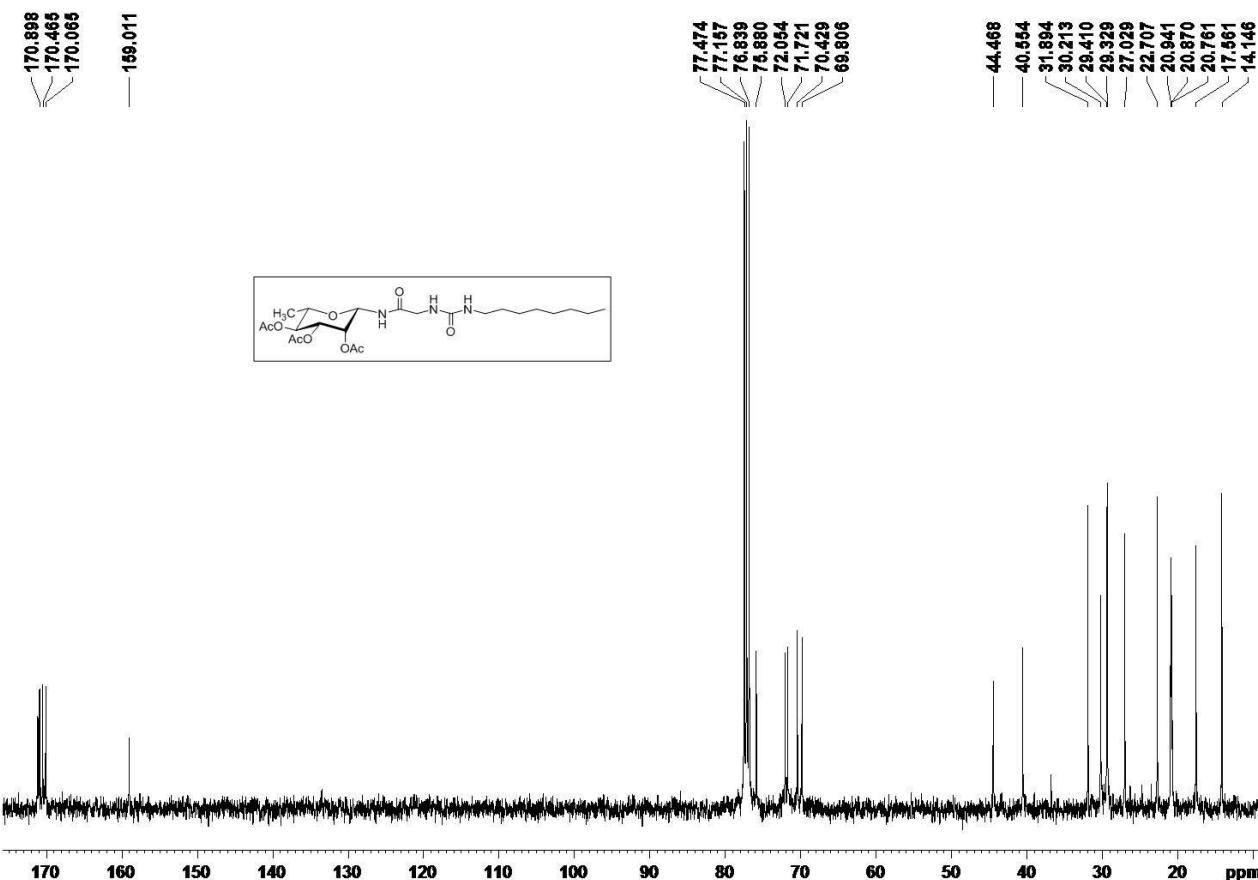


Figure S46 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- β -L-rhamnopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**38**)

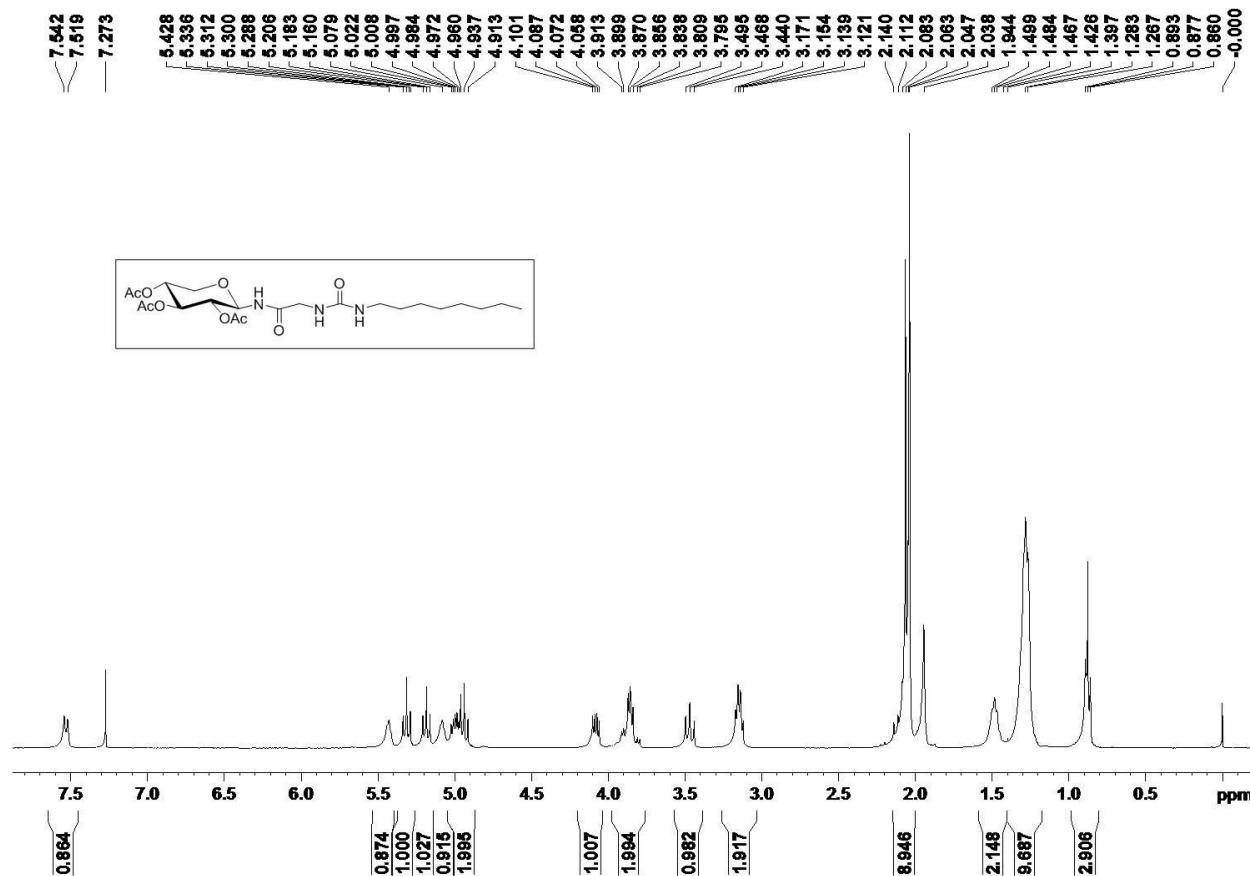


Figure S47 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- β -D-xylopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**39**)

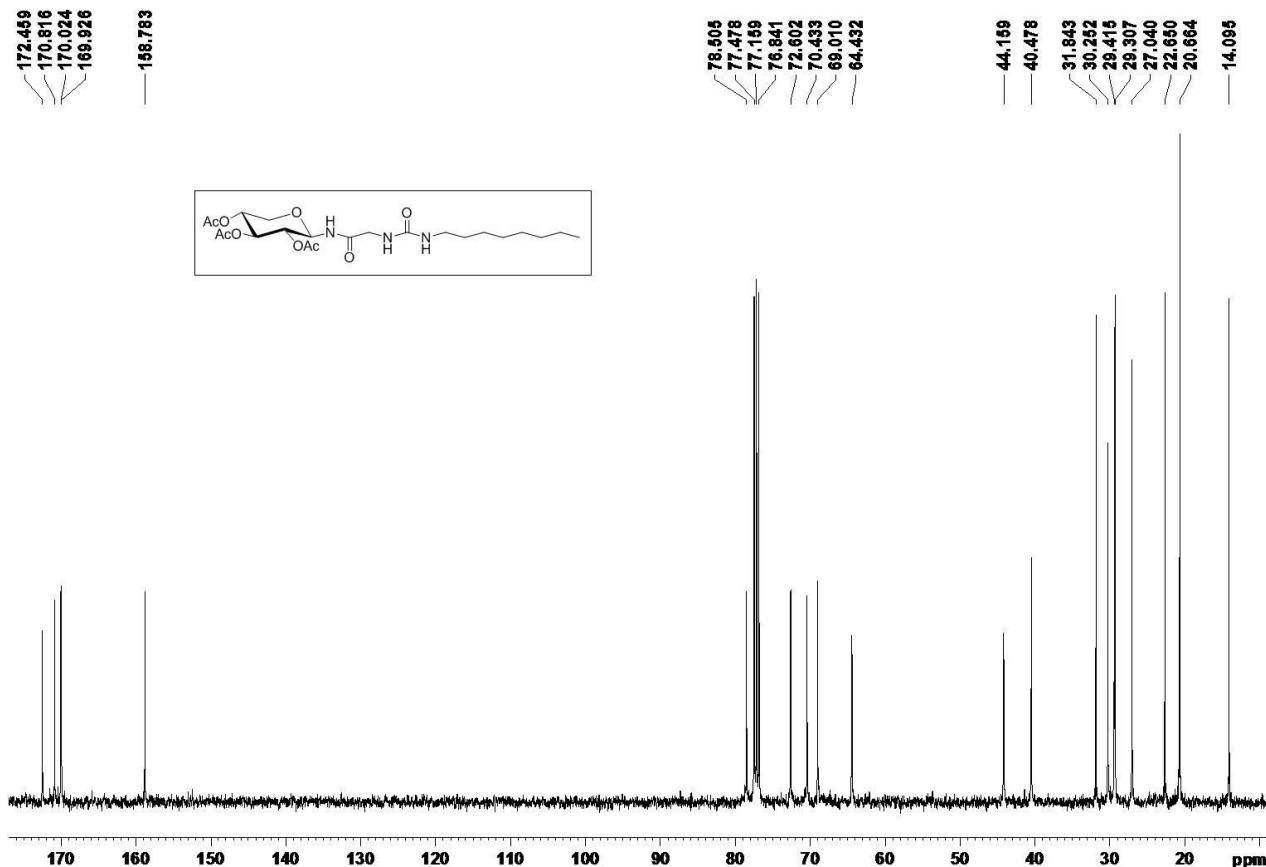


Figure S48 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- β -D-xylopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**39**)

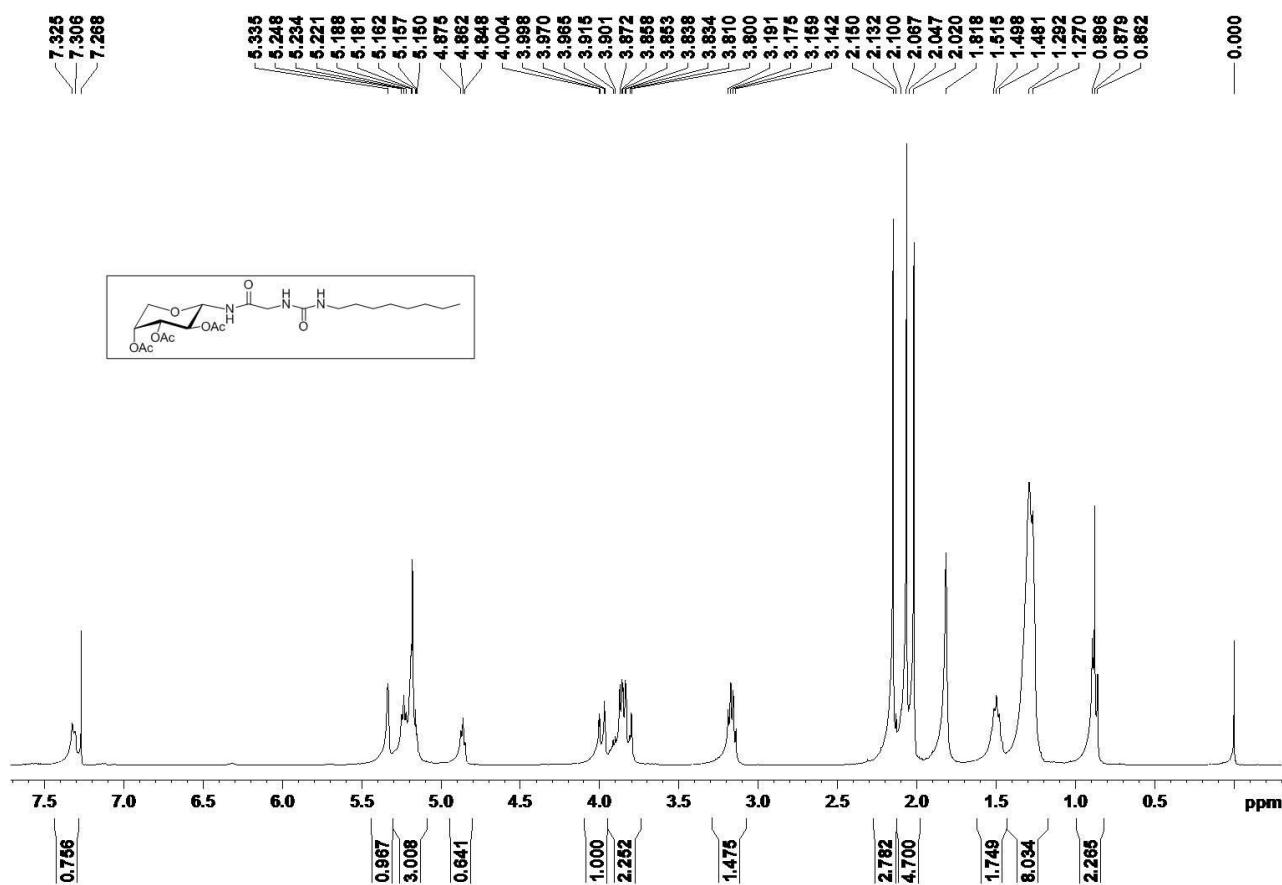


Figure S49 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -D-arabinopyranosyl)-*N*^{''}-(*n*-octyl)-ureidoacetamide (**40**)

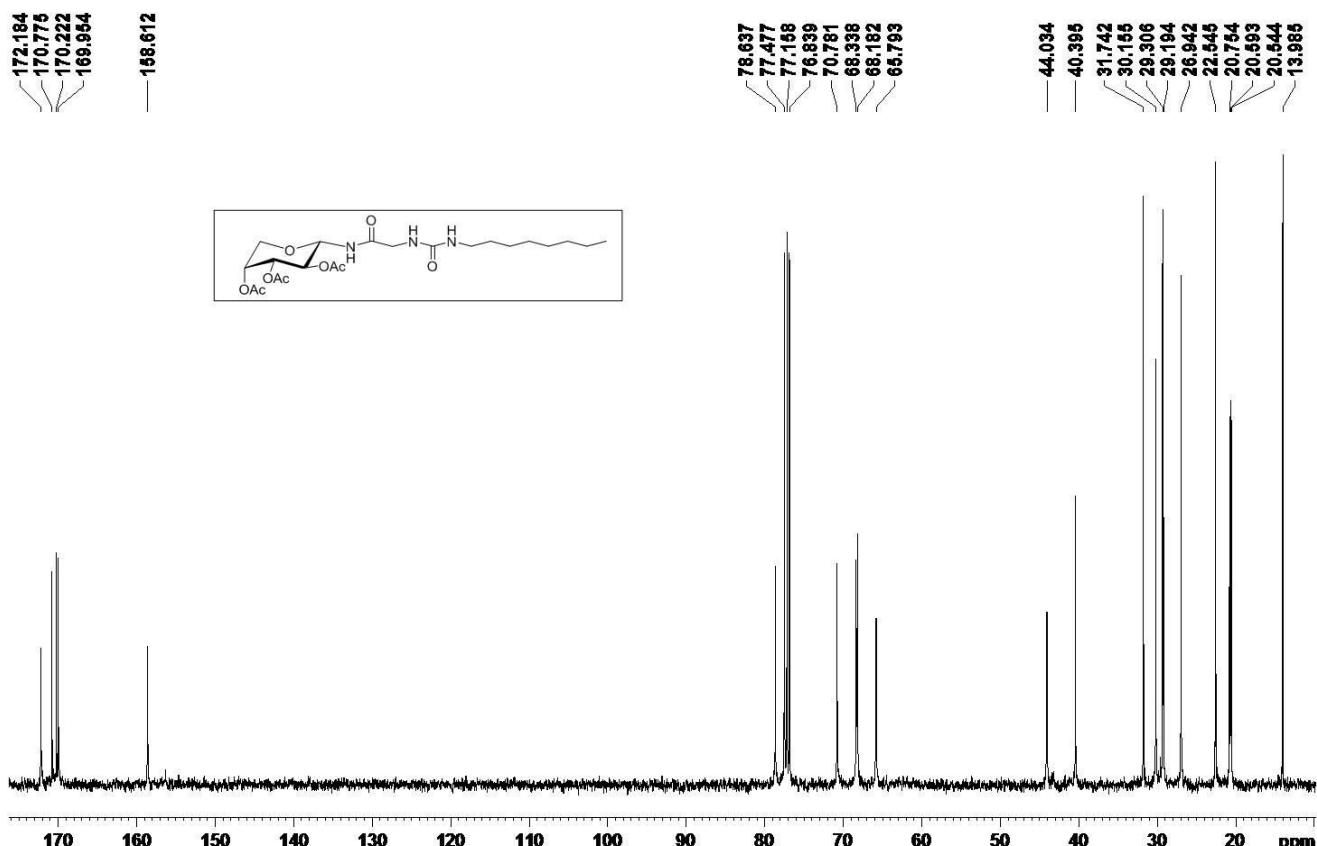


Figure S50 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -D-arabinopyranosyl)-*N*^{''}-(*n*-octyl)-ureidoacetamide (**40**)

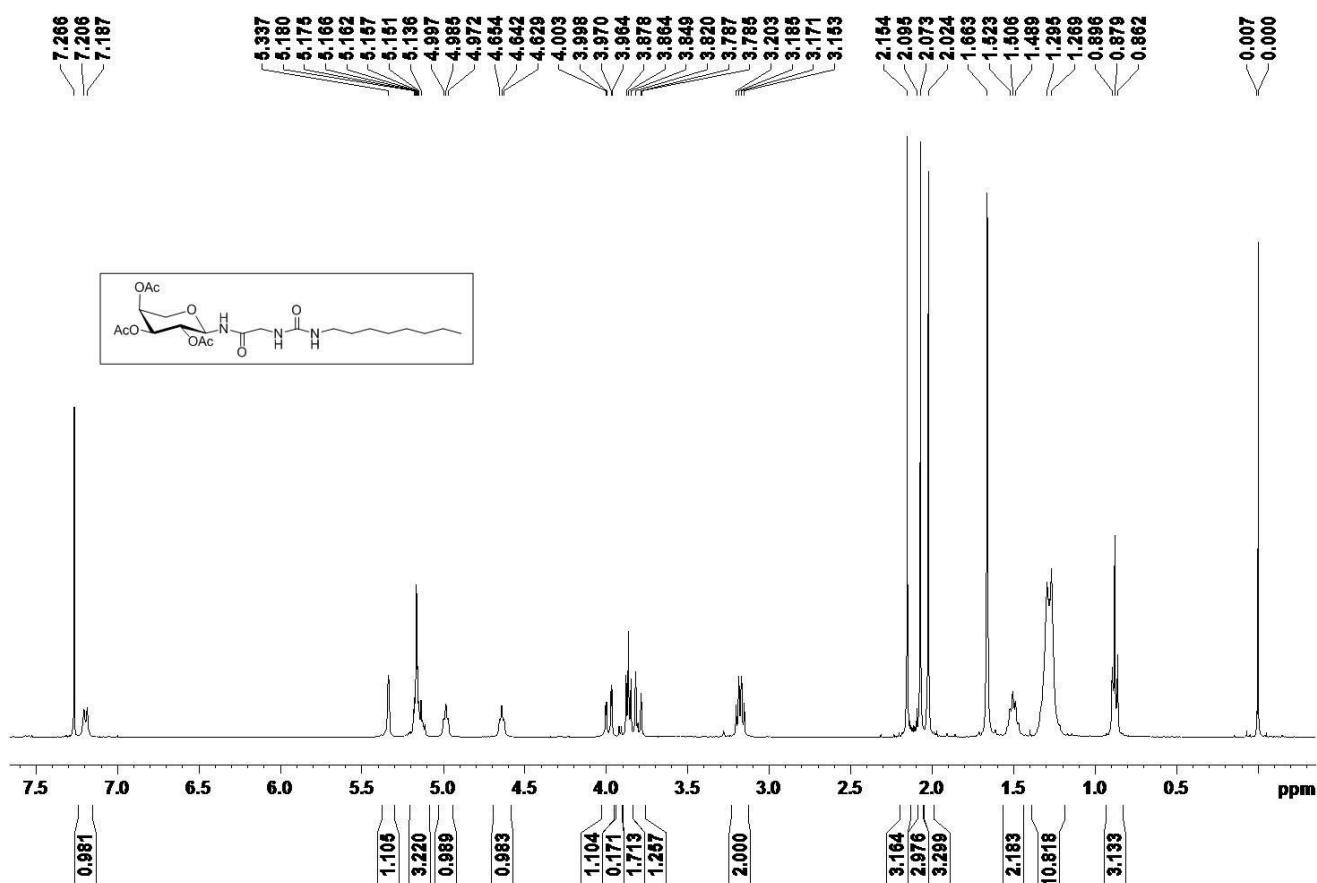


Figure S51 ¹H-NMR (400 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -L-arabinopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**41**)

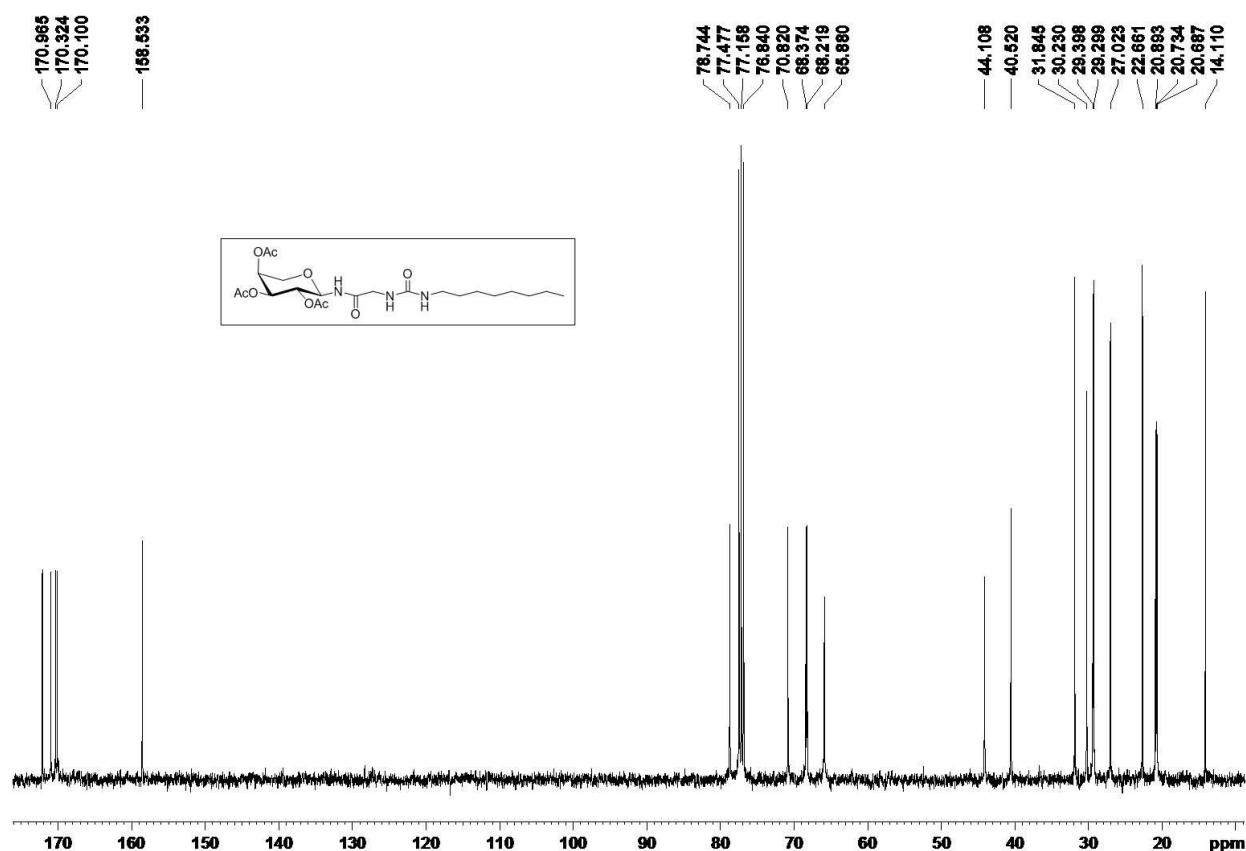


Figure S52 ¹³C-NMR (100 MHz, CDCl₃) of 1-*N*-(2,3,4-tri-*O*-acetyl- α -L-arabinopyranosyl)-*N'*-(*n*-octyl)-ureidoacetamide (**41**)

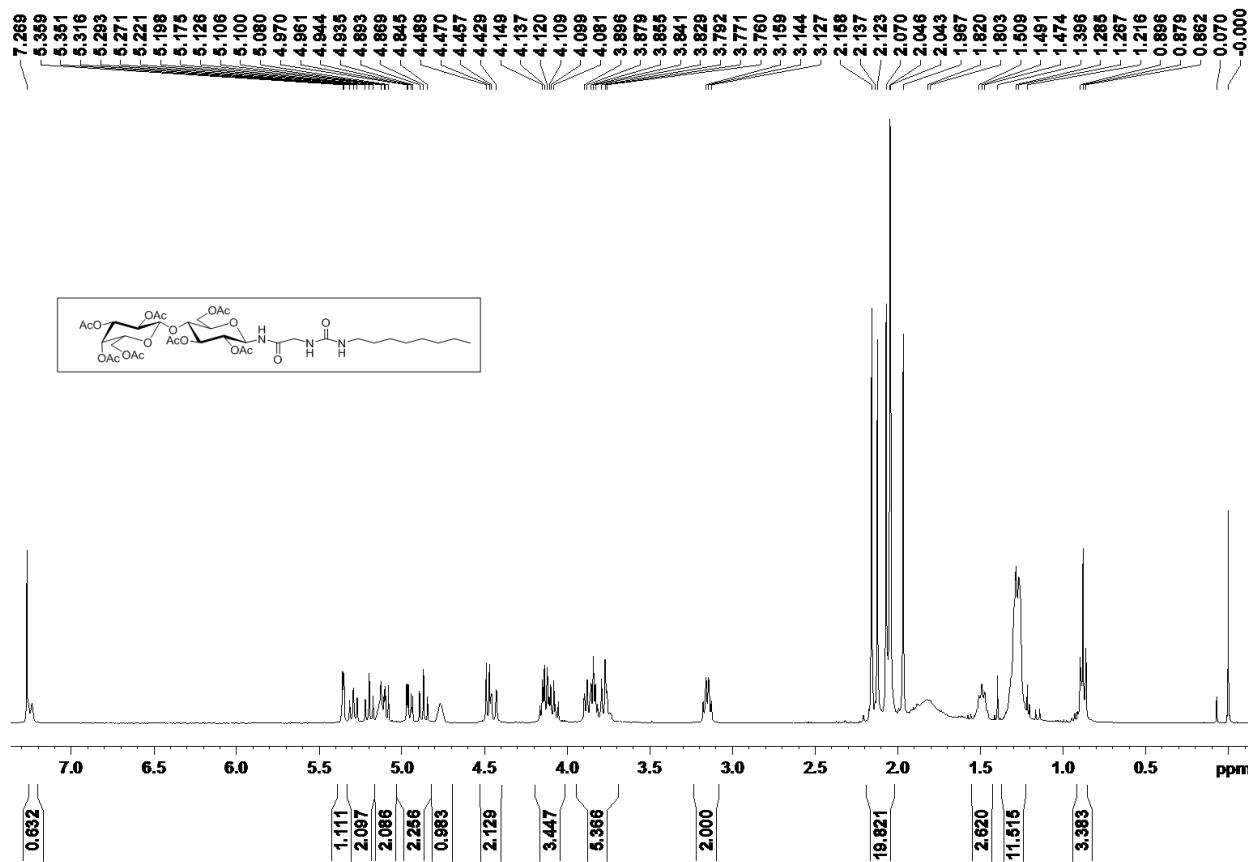


Figure S53 ¹H-NMR (400 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- β -D-galactopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N''-(n-octyl)-ureidoacetamide (**42**)

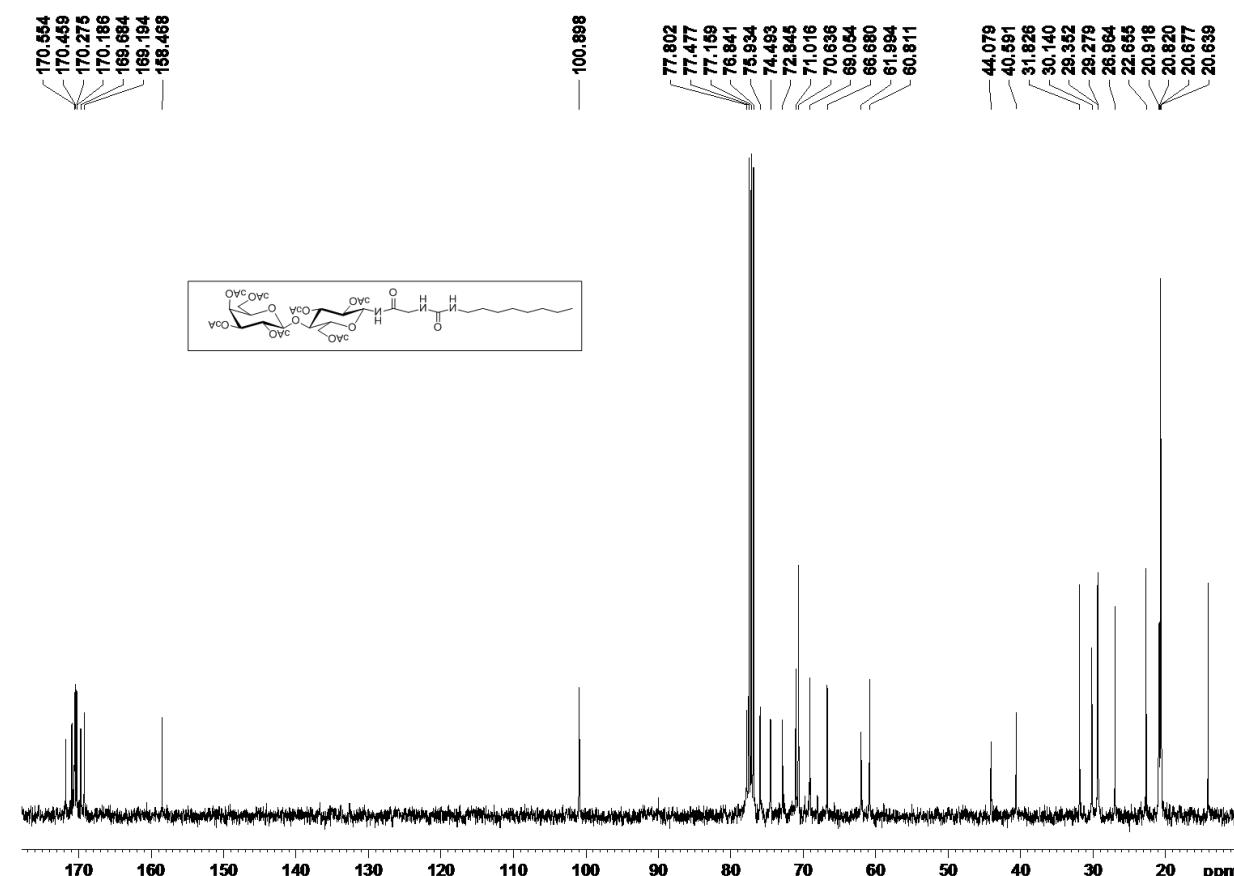


Figure S54 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- β -D-galactopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N''-(n-octyl)-ureidoacetamide (**42**)

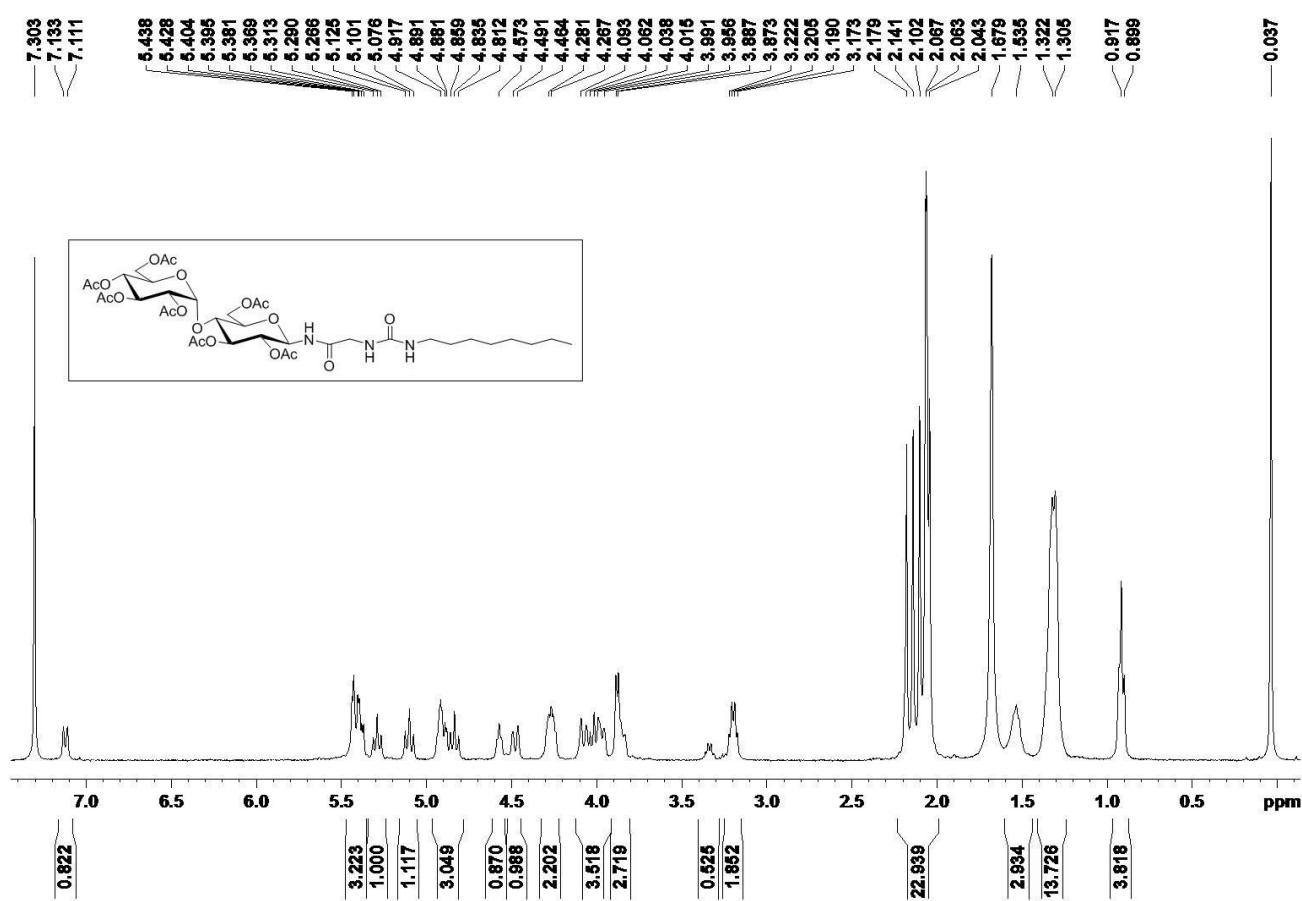


Figure S55 ¹H-NMR (400 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- α -D-glucopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N''-(n-octyl)-ureidoacetamide (**43**)

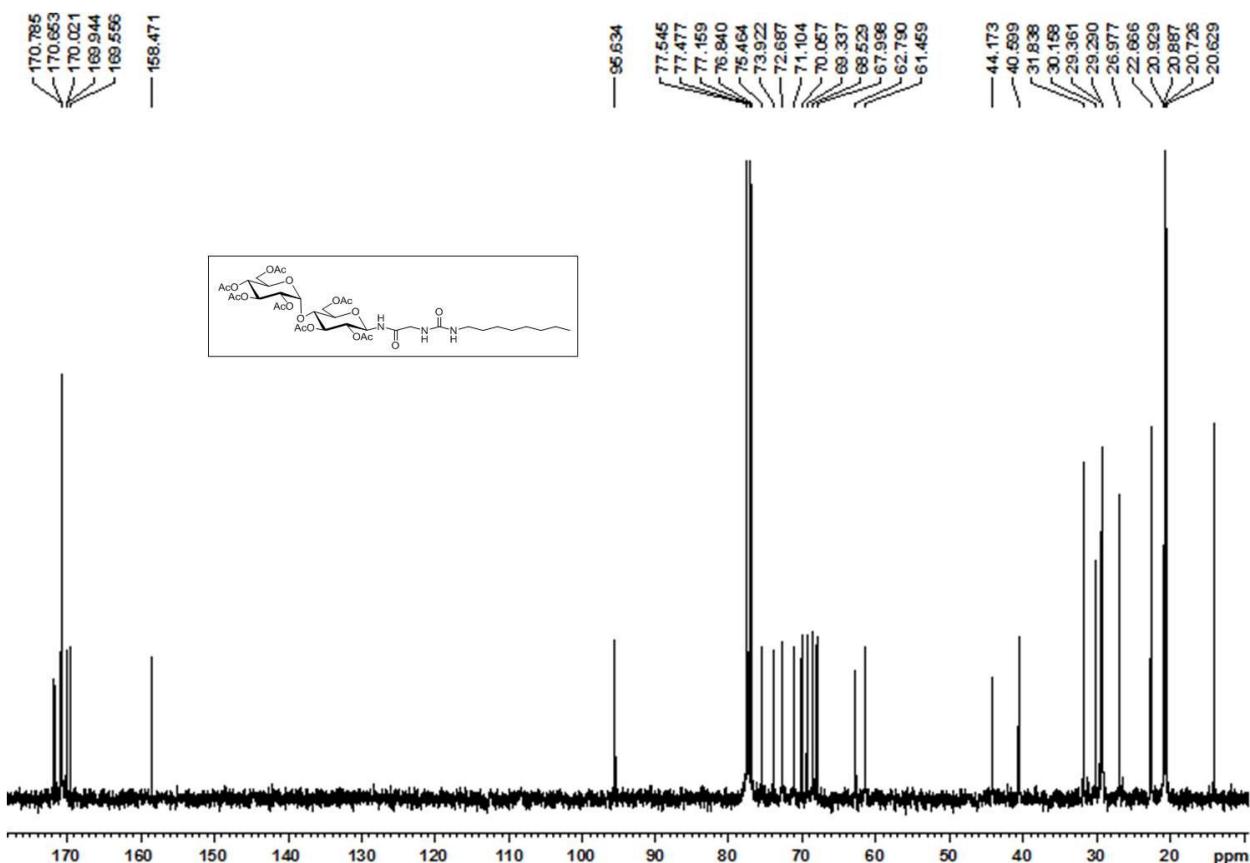


Figure S56 ¹³C-NMR (100 MHz, CDCl₃) of 1-N-[4-O-(2',3',4',6'-tetra-O-acetyl- α -D-glucopyranosyl)-2,3,6-tri-O-acetyl- β -D-glucopyranosyl]-N''-(n-octyl)-ureidoacetamide (**43**)

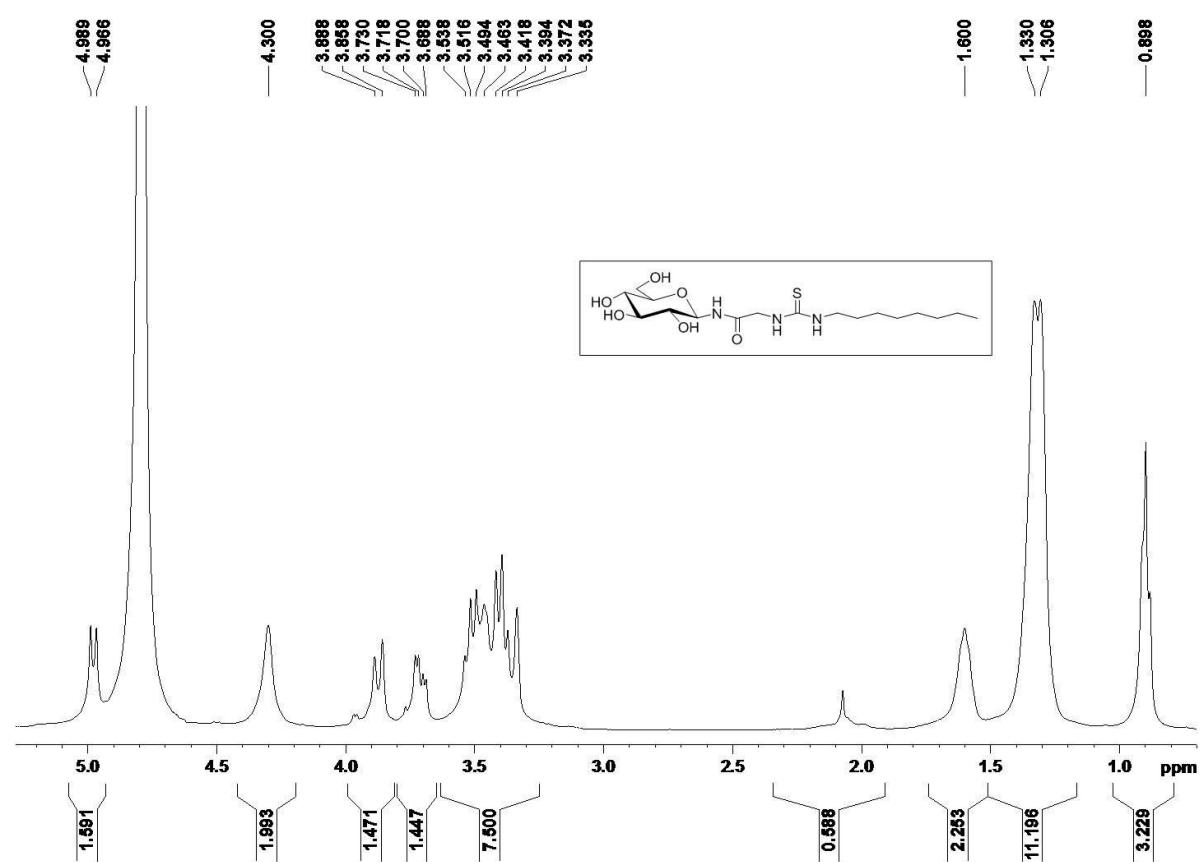


Figure S57 ¹H-NMR (400 MHz, D₂O) of 1-N-(β-D-glucopyranosyl)-N''-(n-octyl)-thioureidoacetamide (44)

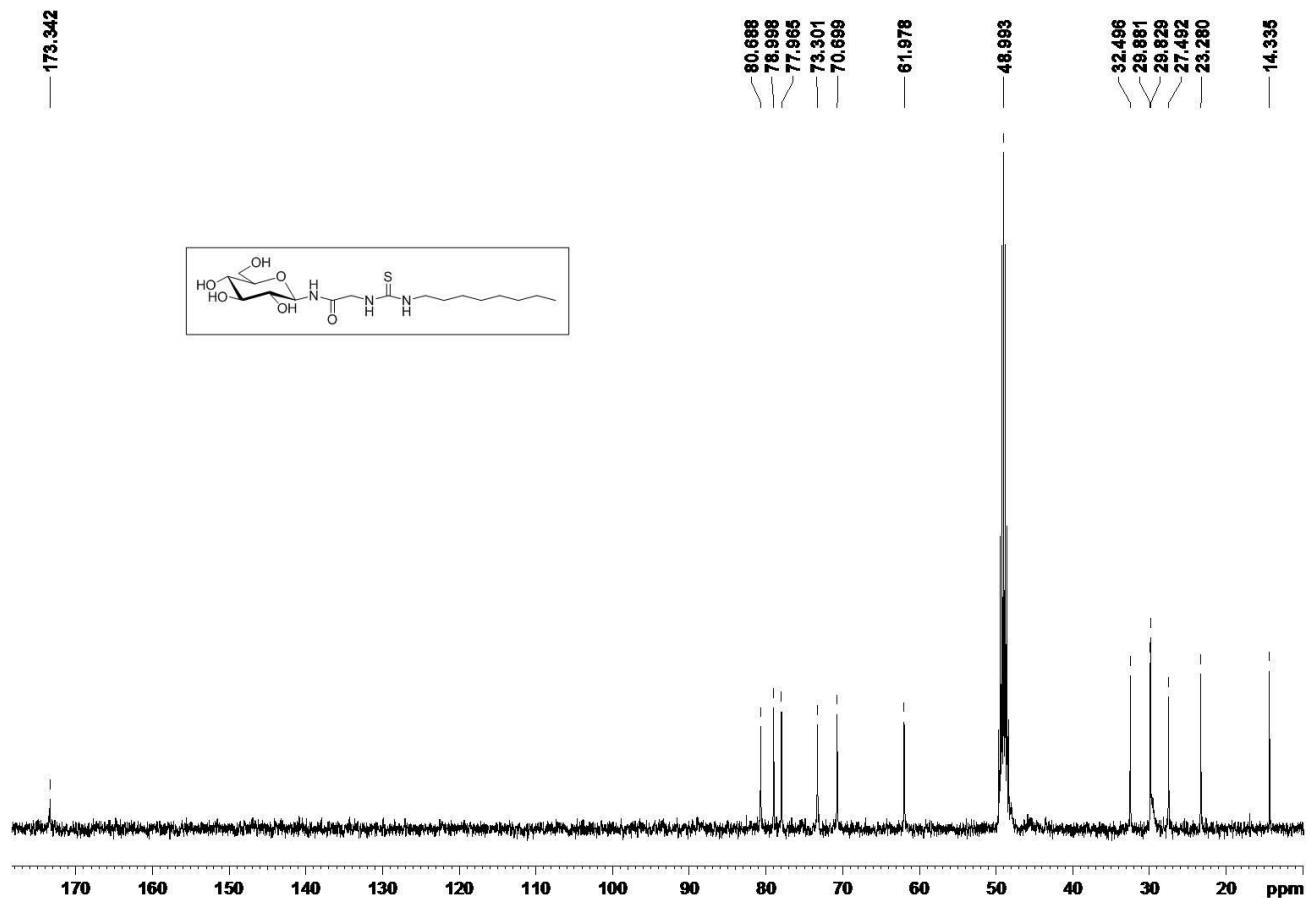


Figure S58 ¹³C-NMR (100 MHz, D₂O + CD₃OD) of 1-N-(β-D-glucopyranosyl)-N''-(n-octyl)-thioureidoacetamide (44)

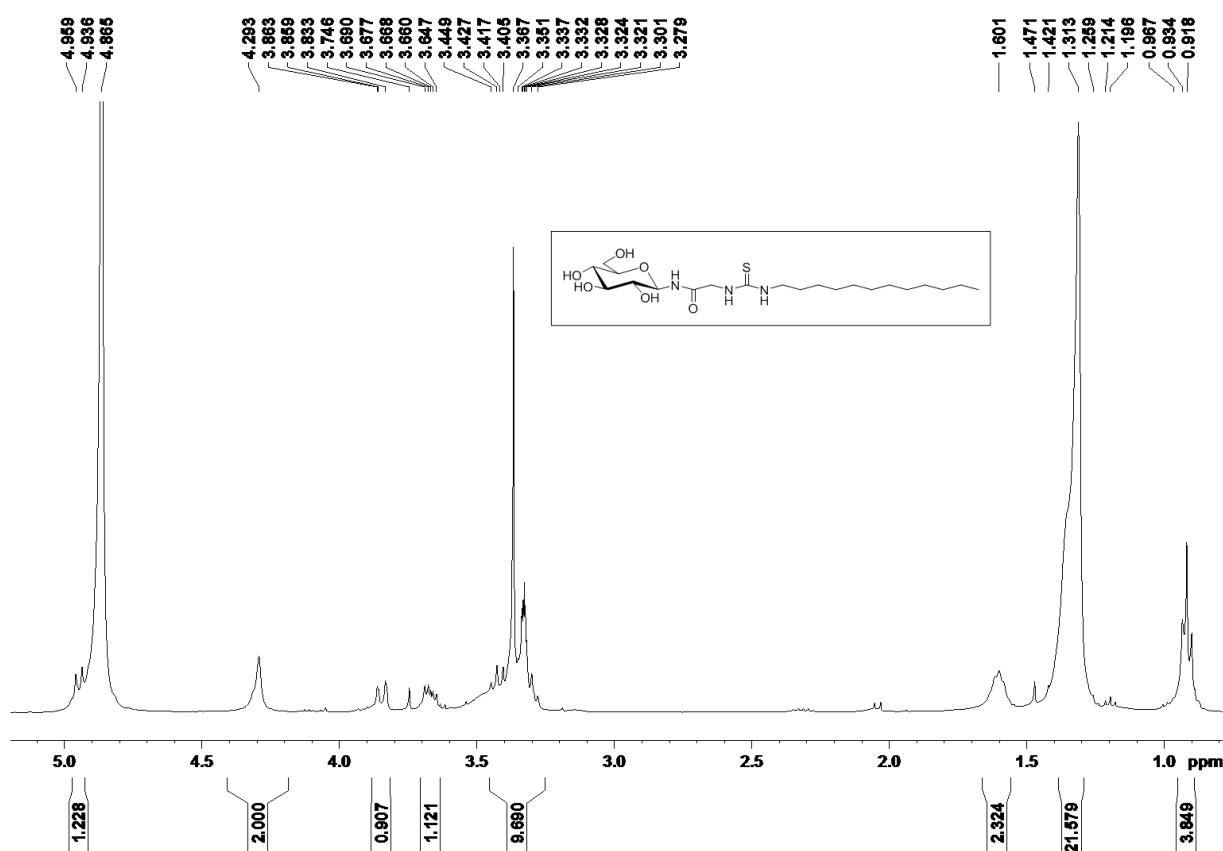


Figure S59 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β-D-glucopyranosyl)-N²-(n-dodecyl)-thioureidoacetamide (**45**)

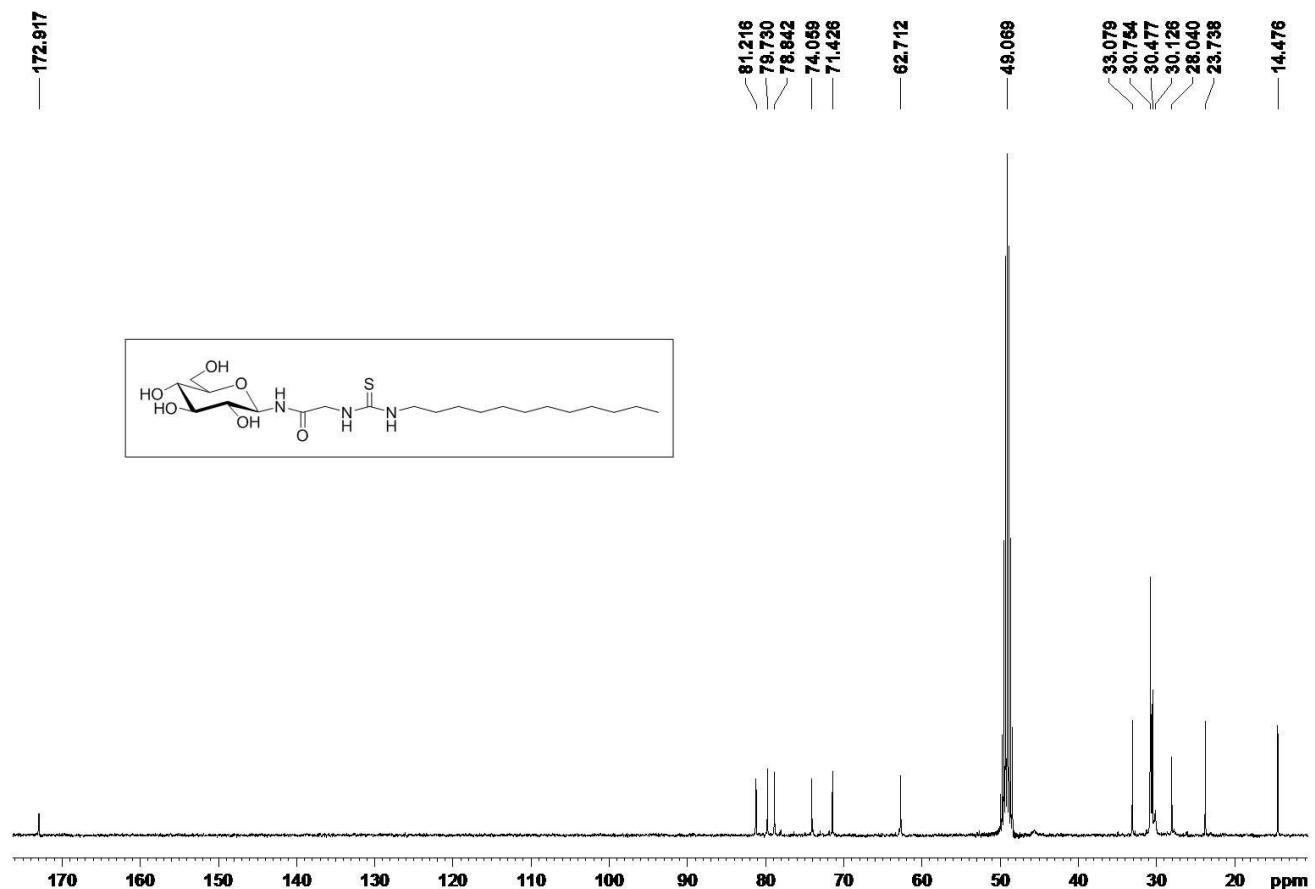


Figure S60 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(β-D-glucopyranosyl)-N²-(n-dodecyl)-thioureidoacetamide (**45**)

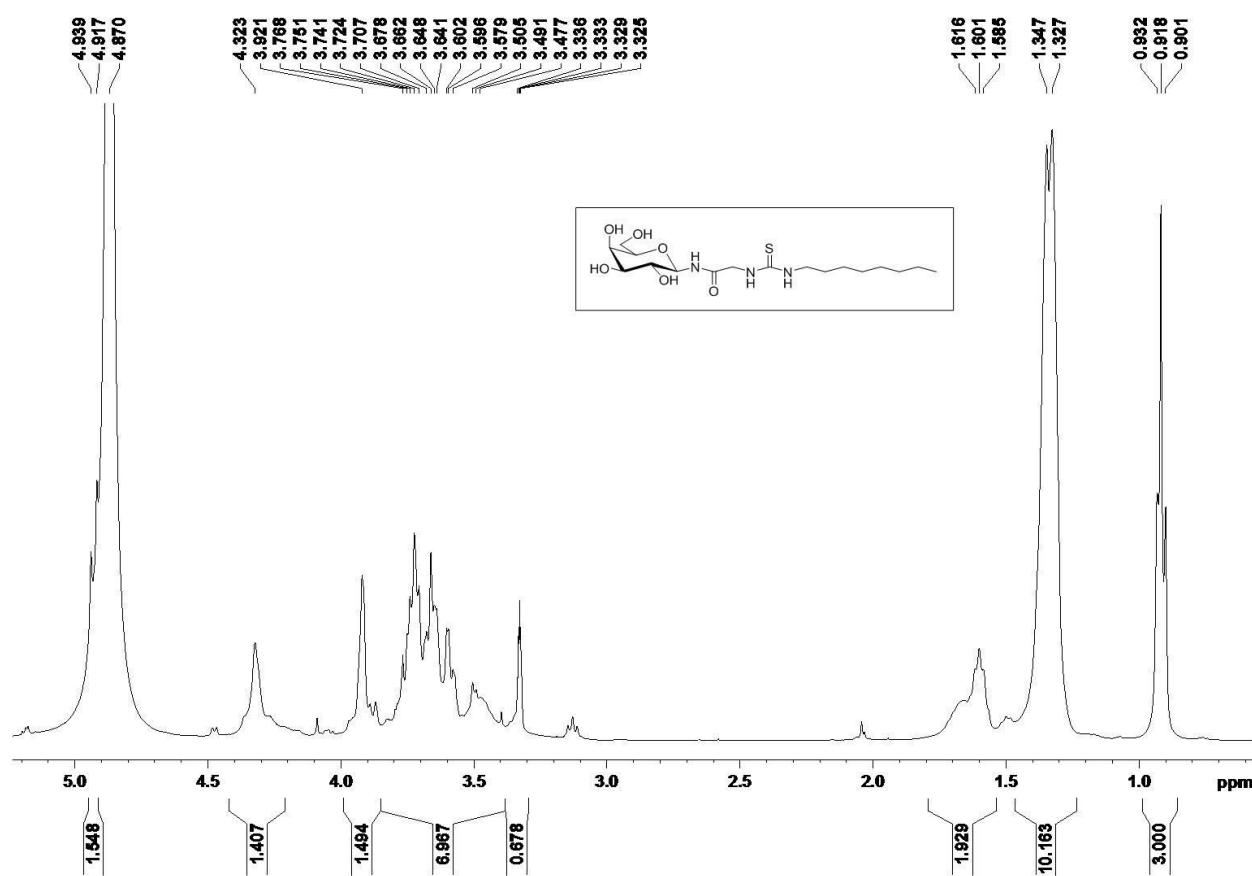


Figure S61 ¹H-NMR (400 MHz, CD₃OD) of 1-*N*-(β-D-galactopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**46**)

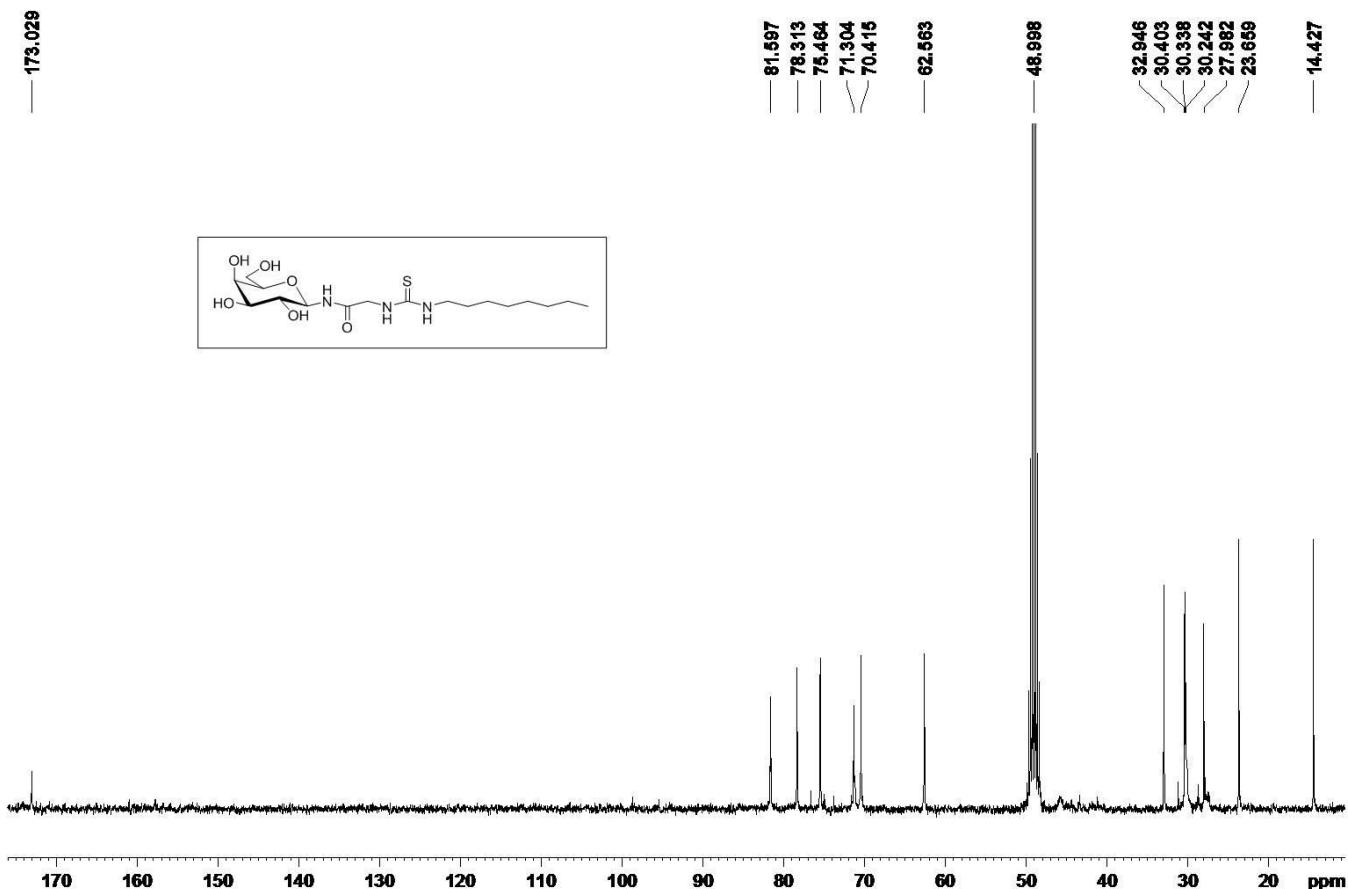


Figure S62 ¹³C-NMR (100 MHz, CD₃OD) of 1-*N*-(β-D-galactopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**46**)

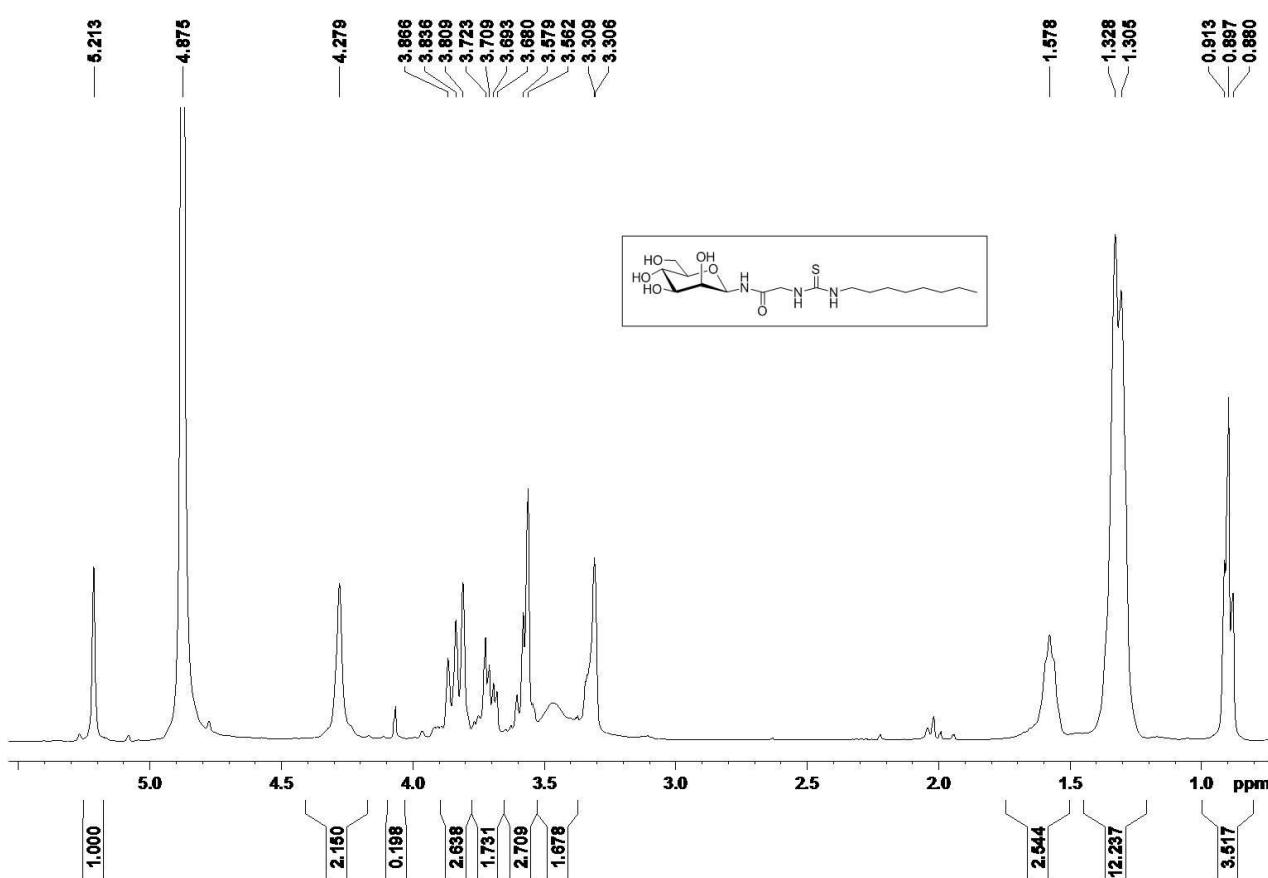


Figure S63 ¹H-NMR (400 MHz, CD₃OD) of 1-*N*-(β-D-mannopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**47**)

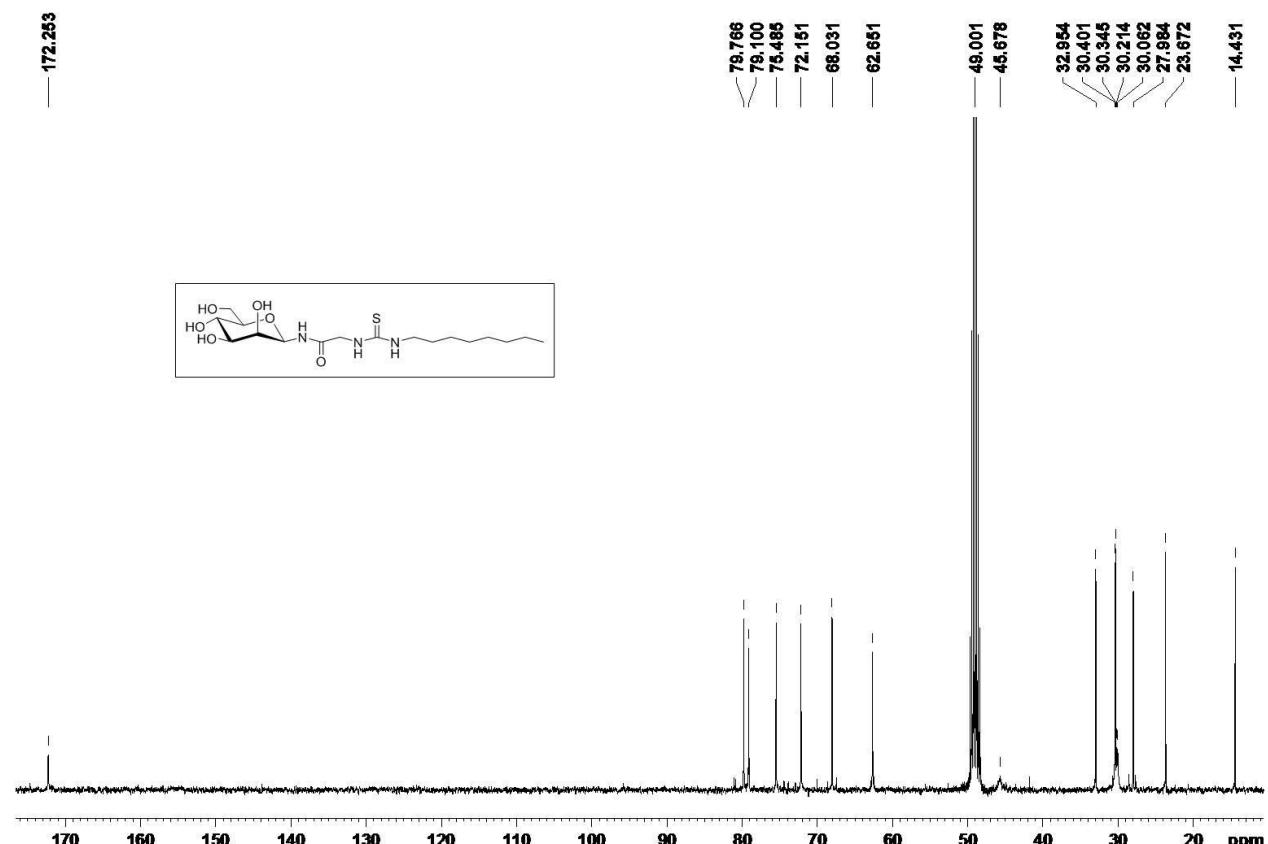


Figure S64 ¹³C-NMR (100 MHz, CD₃OD) of 1-*N*-(β-D-mannopyranosyl)-*N'*-(*n*-octyl)-thioureidoacetamide (**47**)

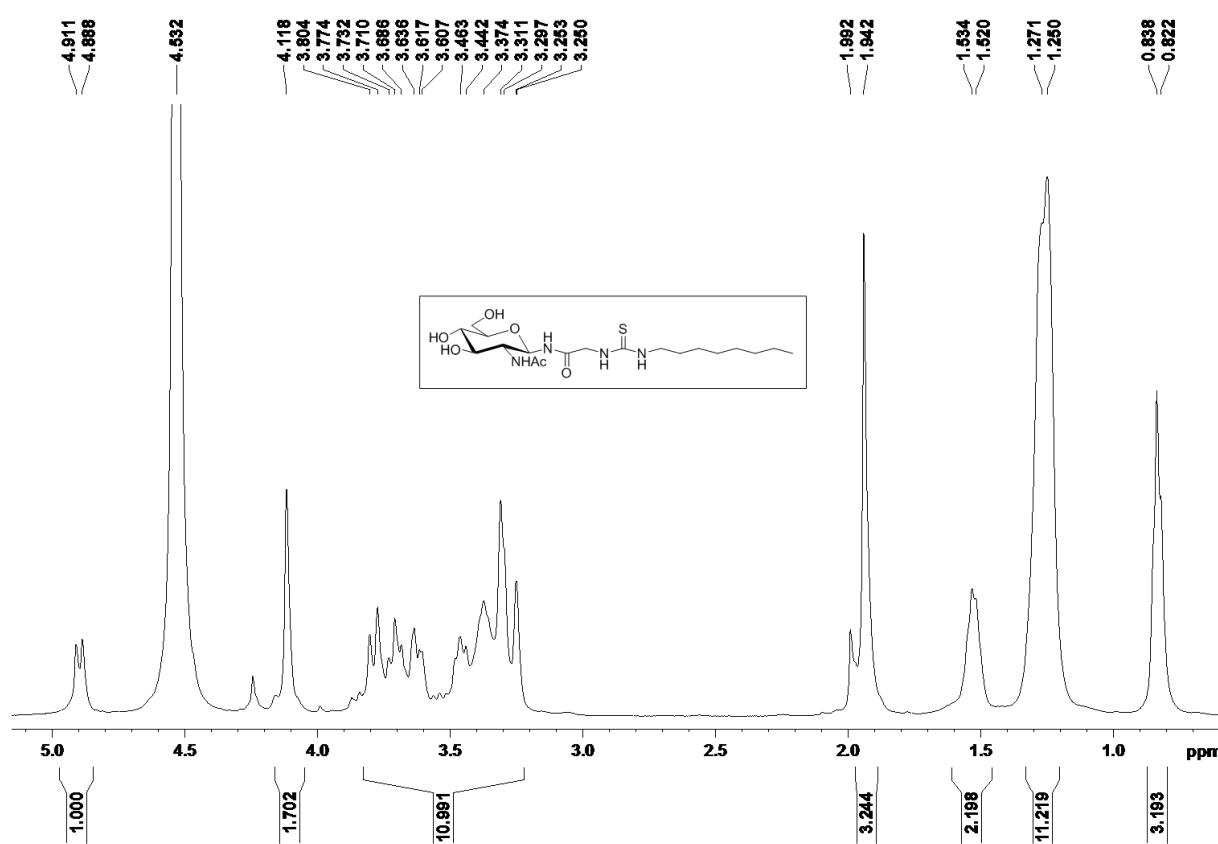


Figure S65 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(2-deoxy-2-acetamido- β -D-glucopyranosyl)-N²-(n-dodecyl)-thioureidoacetamide (**48**)

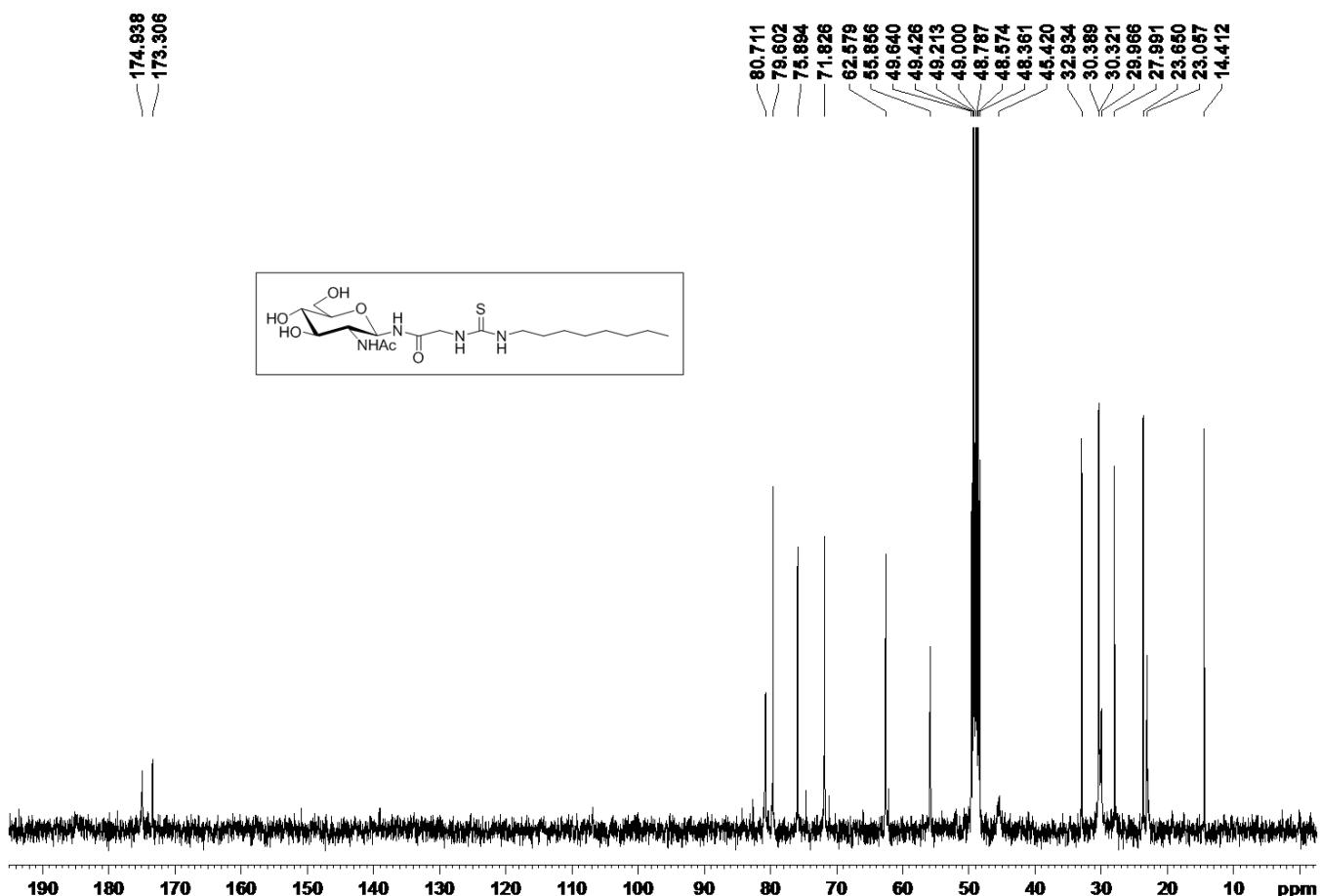


Figure S66 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(2-deoxy-2-acetamido- β -D-glucopyranosyl)-N²-(n-dodecyl)-thioureidoacetamide (**48**)

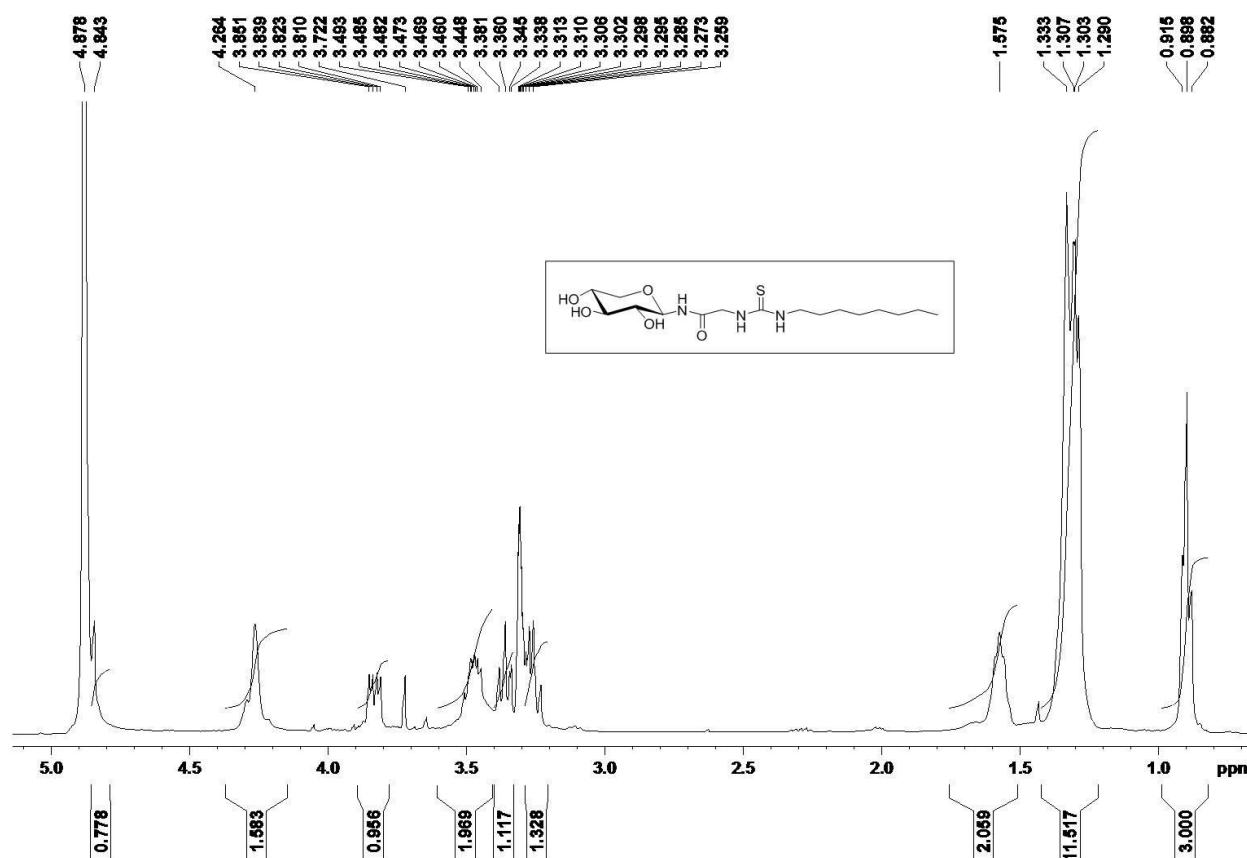


Figure S67 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β -D-xylopyranosyl)-N'-(n-octyl)-thioureidoacetamide (49)

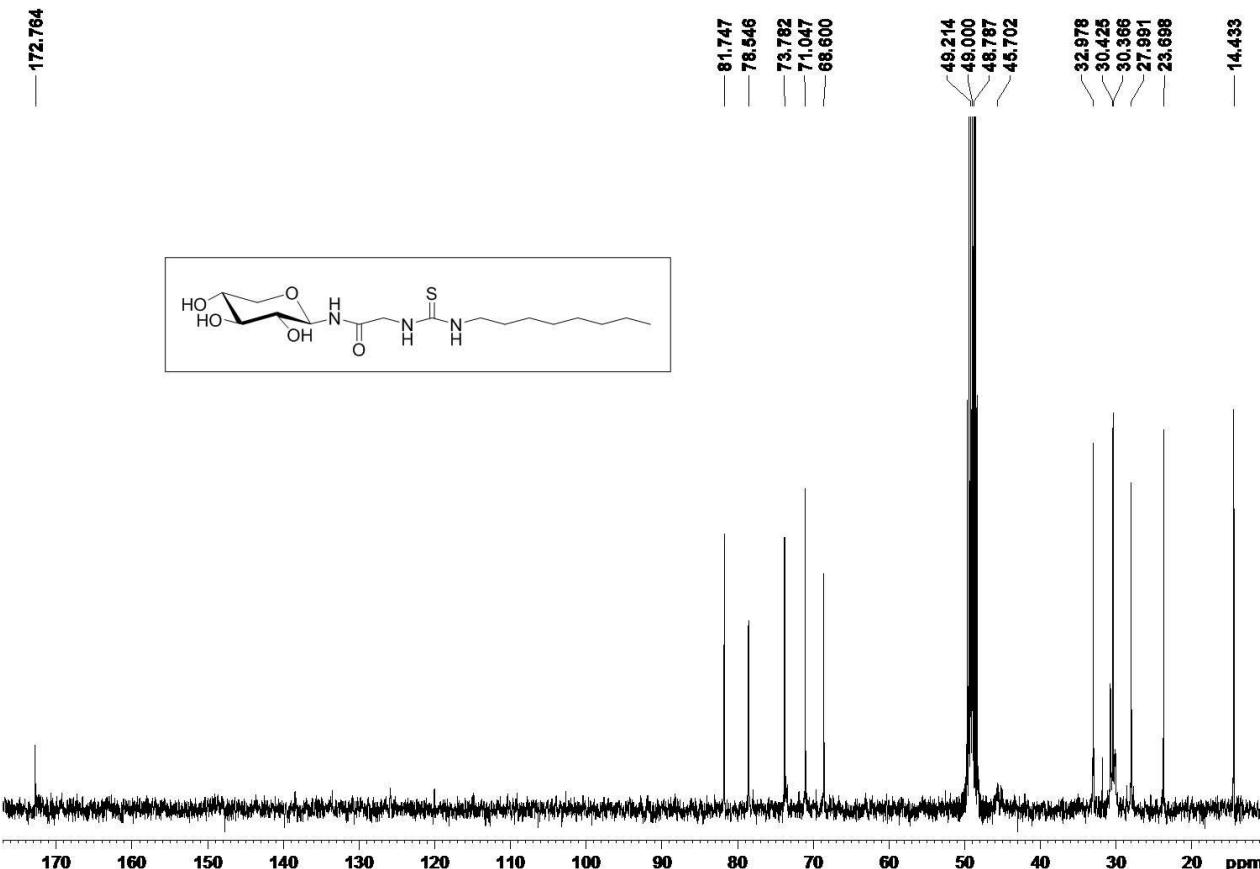


Figure S68 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(β -D-xylopyranosyl)-N'-(n-octyl)-thioureidoacetamide (49)

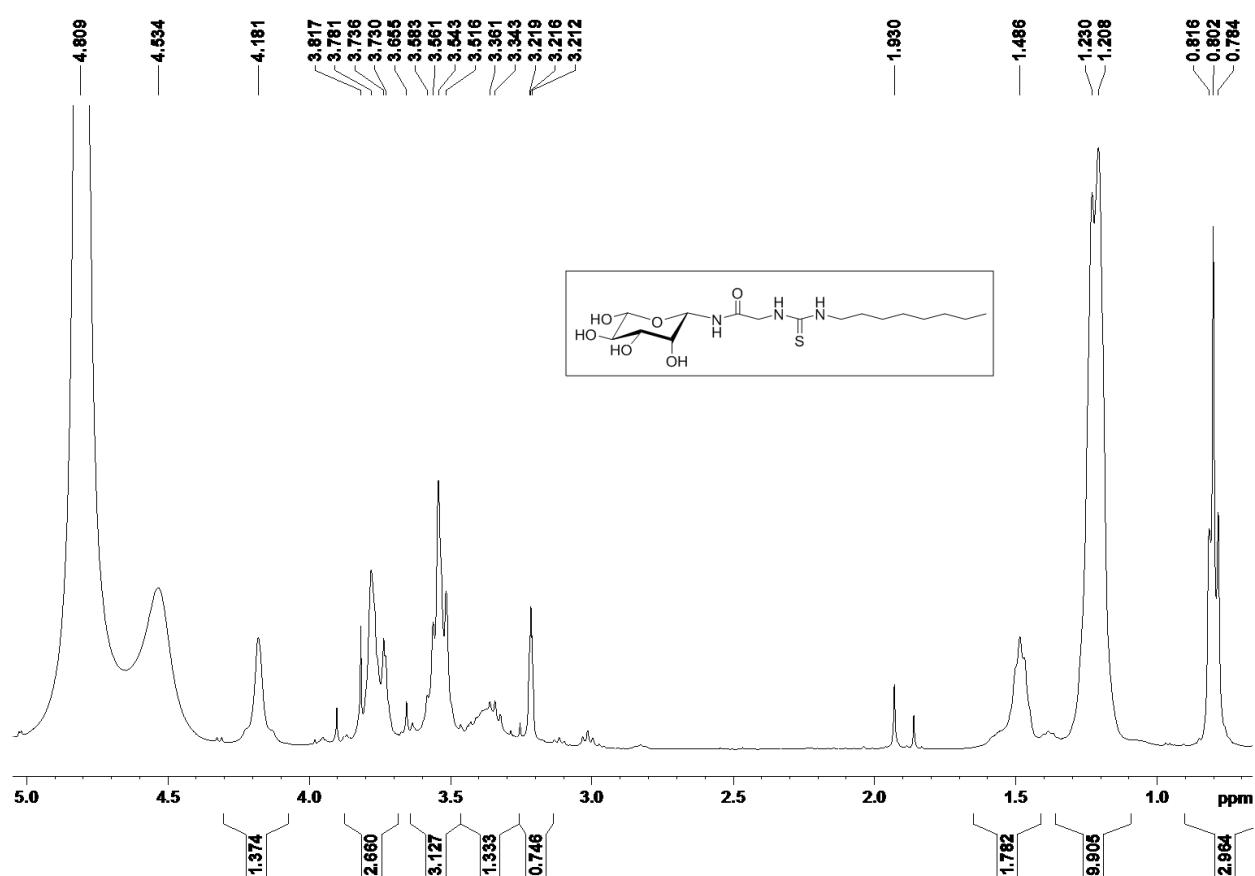


Figure S69 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β-D-arabinopyranosyl)-N''-(n-octyl)-thioureidoacetamide (**50**)

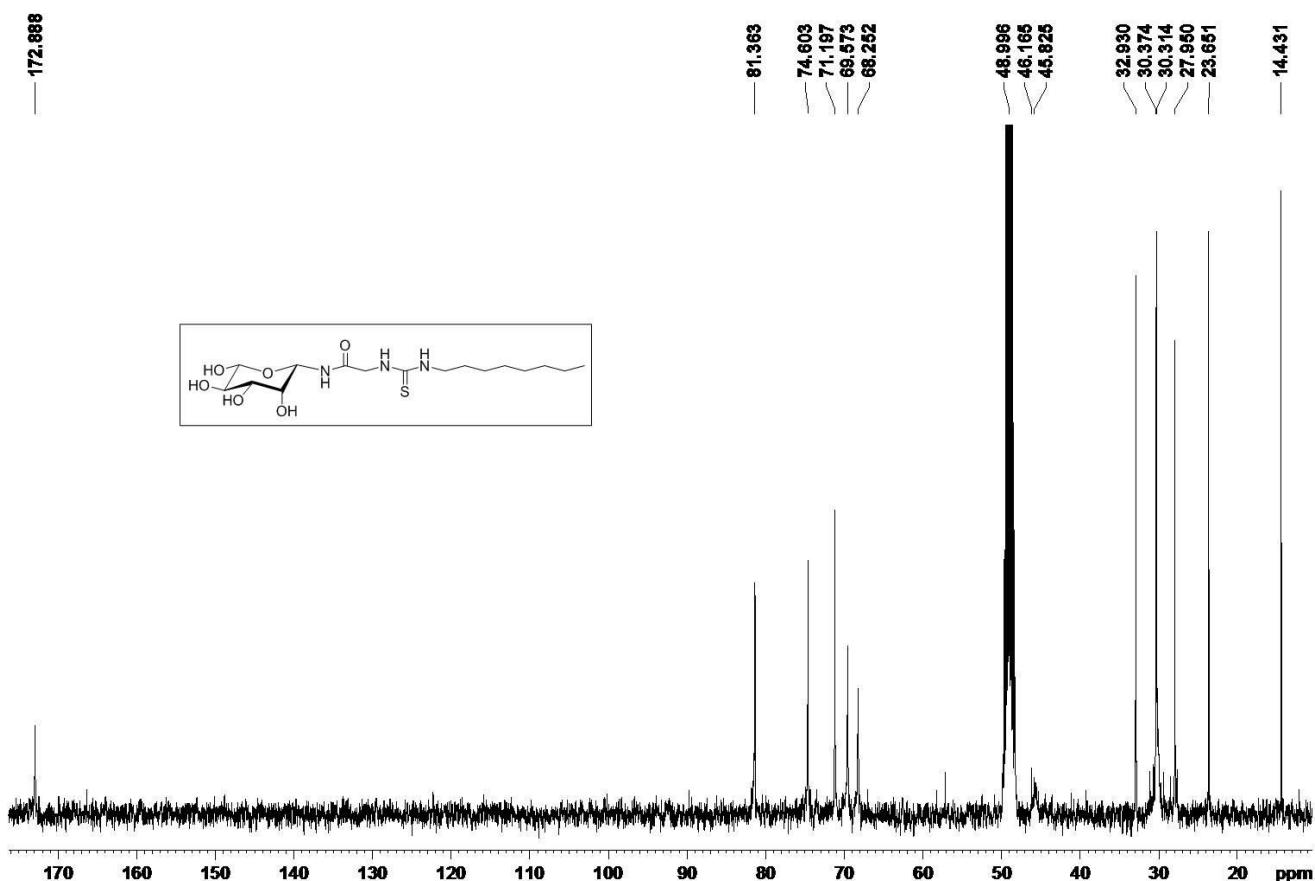


Figure S70 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(β-D-arabinopyranosyl)-N''-(n-octyl)-thioureidoacetamide (**50**)

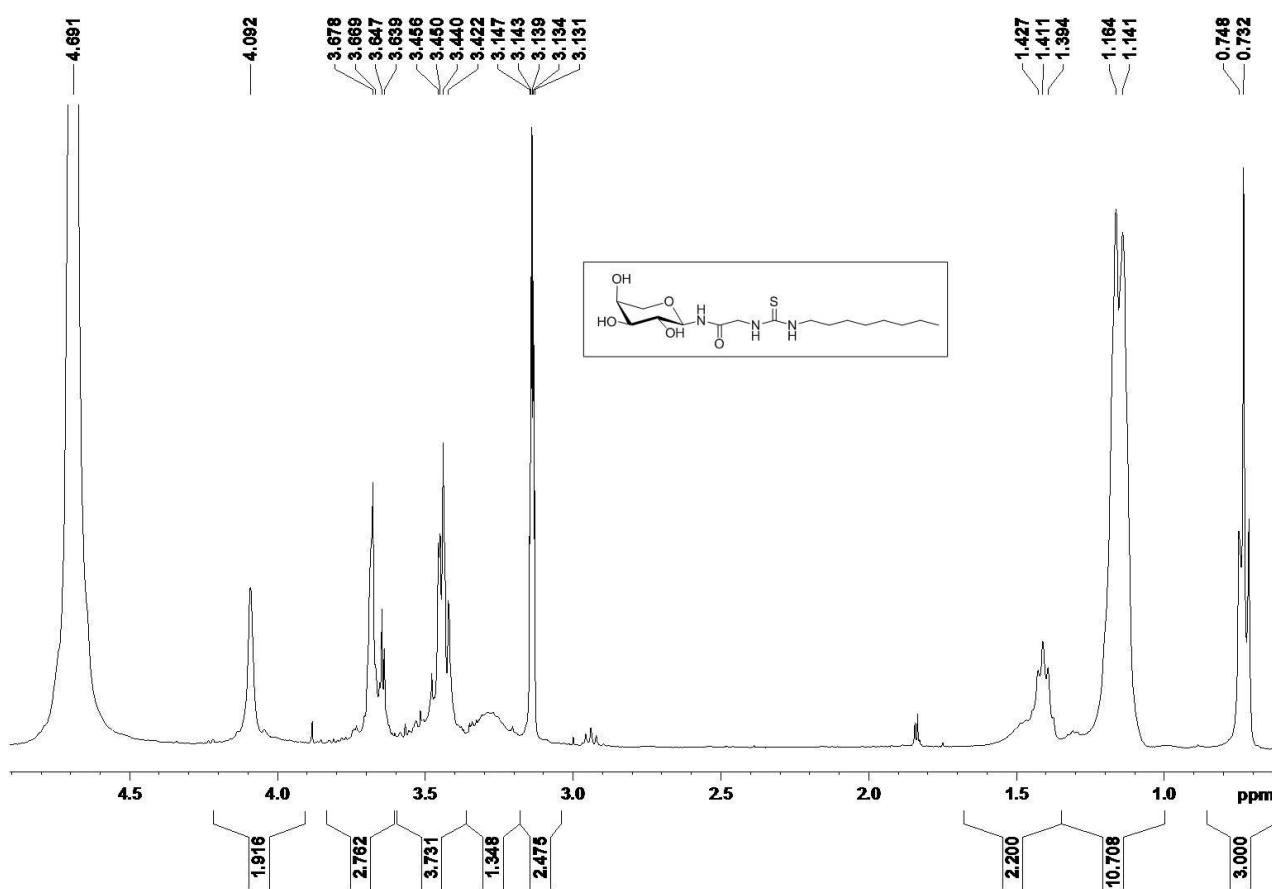


Figure S71 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β-L-arabinopyranosyl)-N''-(n-octyl)-thioureidoacetamide (**51**)

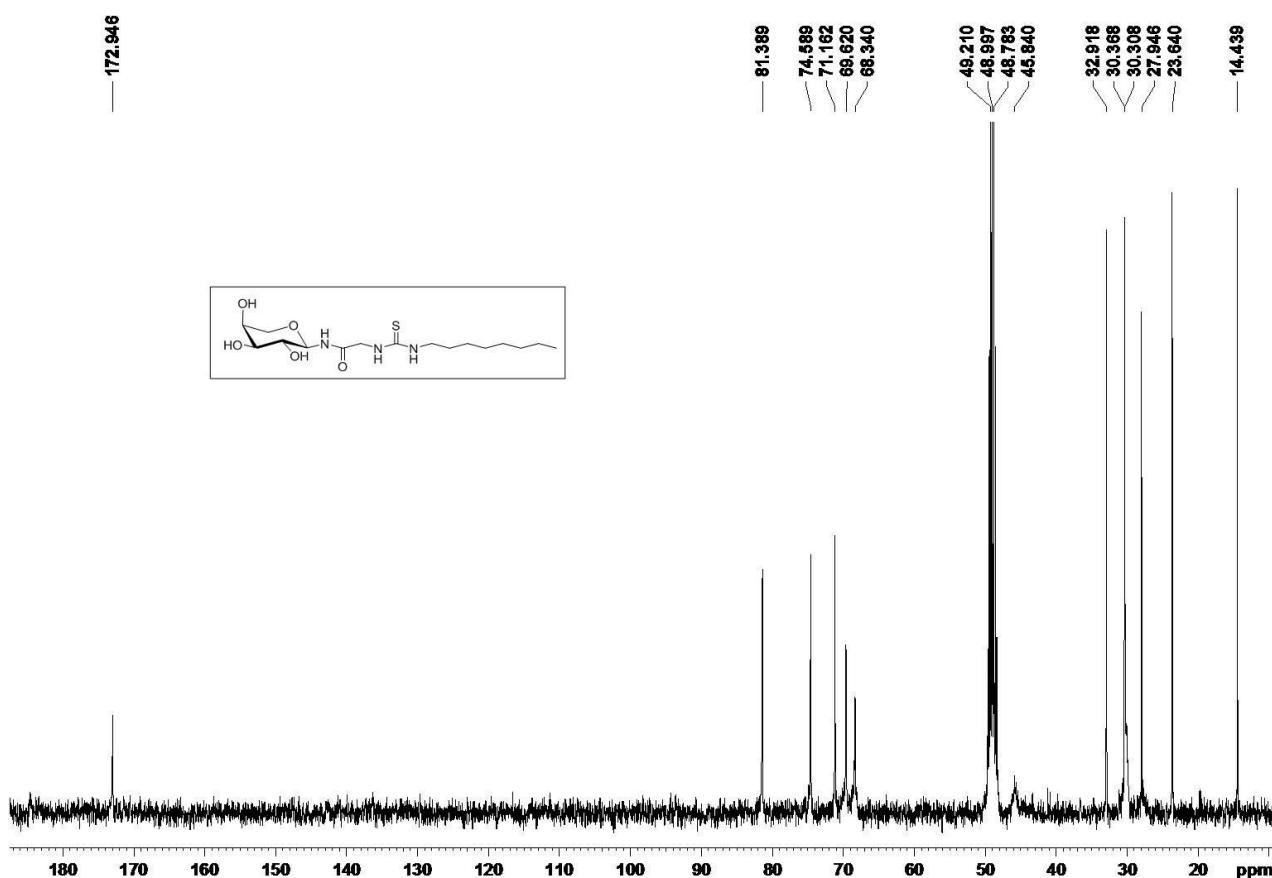


Figure S72 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(β-L-arabinopyranosyl)-N''-(n-octyl)-thioureidoacetamide (**51**)

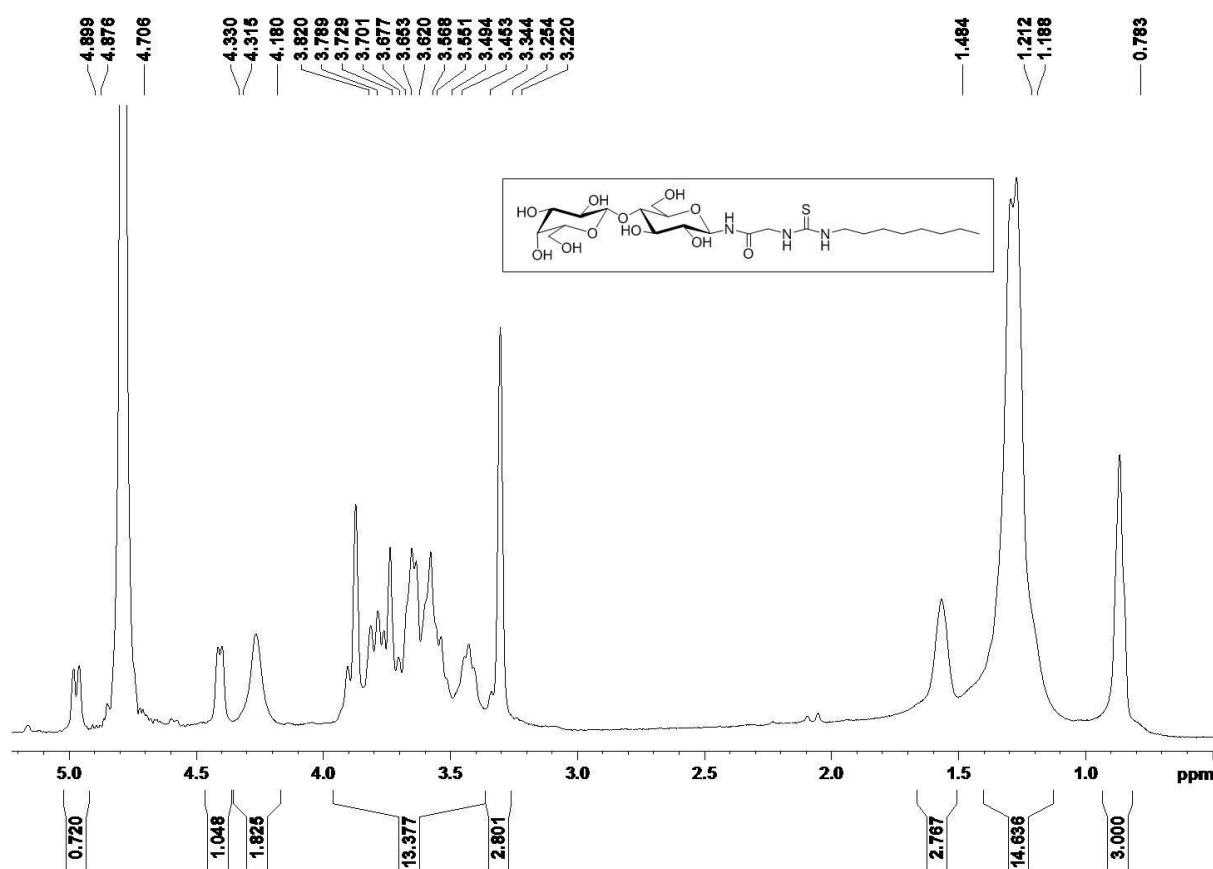


Figure S73 ¹H-NMR (400 MHz, D₂O) of 1-N-[4-O-(β -D-galactopyranosyl)- β -D-glucopyranosyl]-N''-(n-octyl)-thioureidoacetamide (**52**)

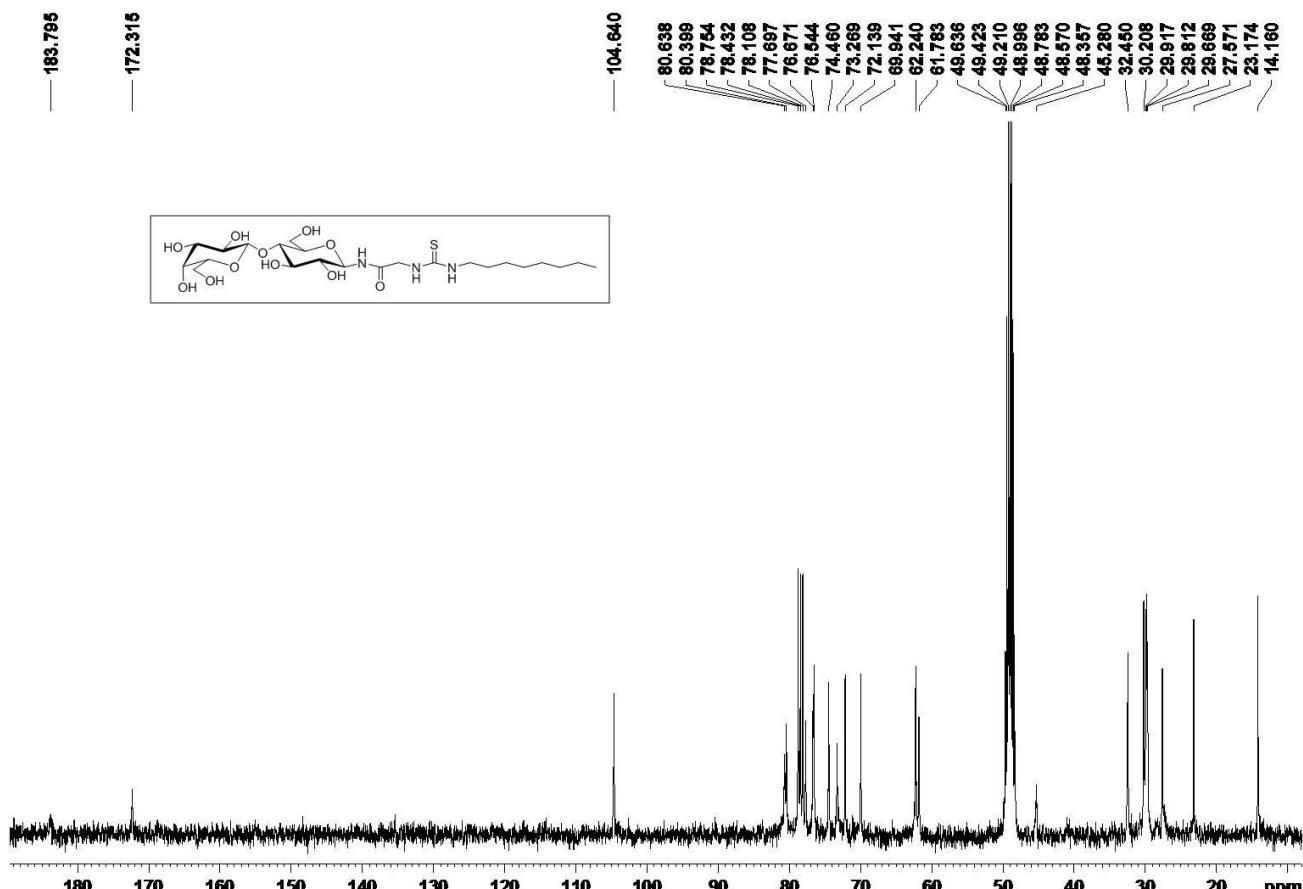


Figure S74 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-[4-O-(β -D-galactopyranosyl)- β -D-glucopyranosyl]-N''-(n-octyl)-thioureidoacetamide (**52**)

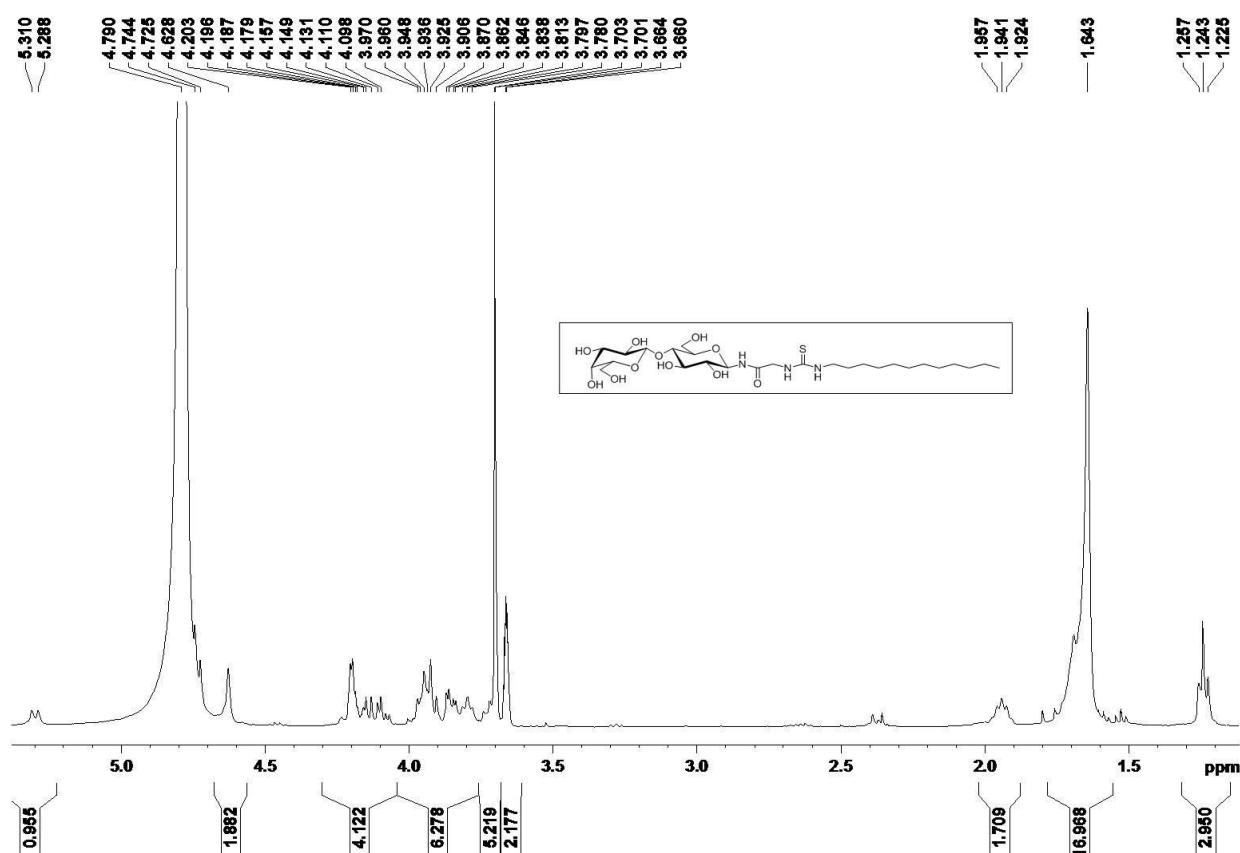


Figure S75 ¹H-NMR (400 MHz, CD₃OD) of 1-*N*-[4-*O*-(β -D-galactopyranosyl)- β -D-glucopyranosyl]-*N'*-(*n*-dodecyl)-thioureidoacetamide (**53**)

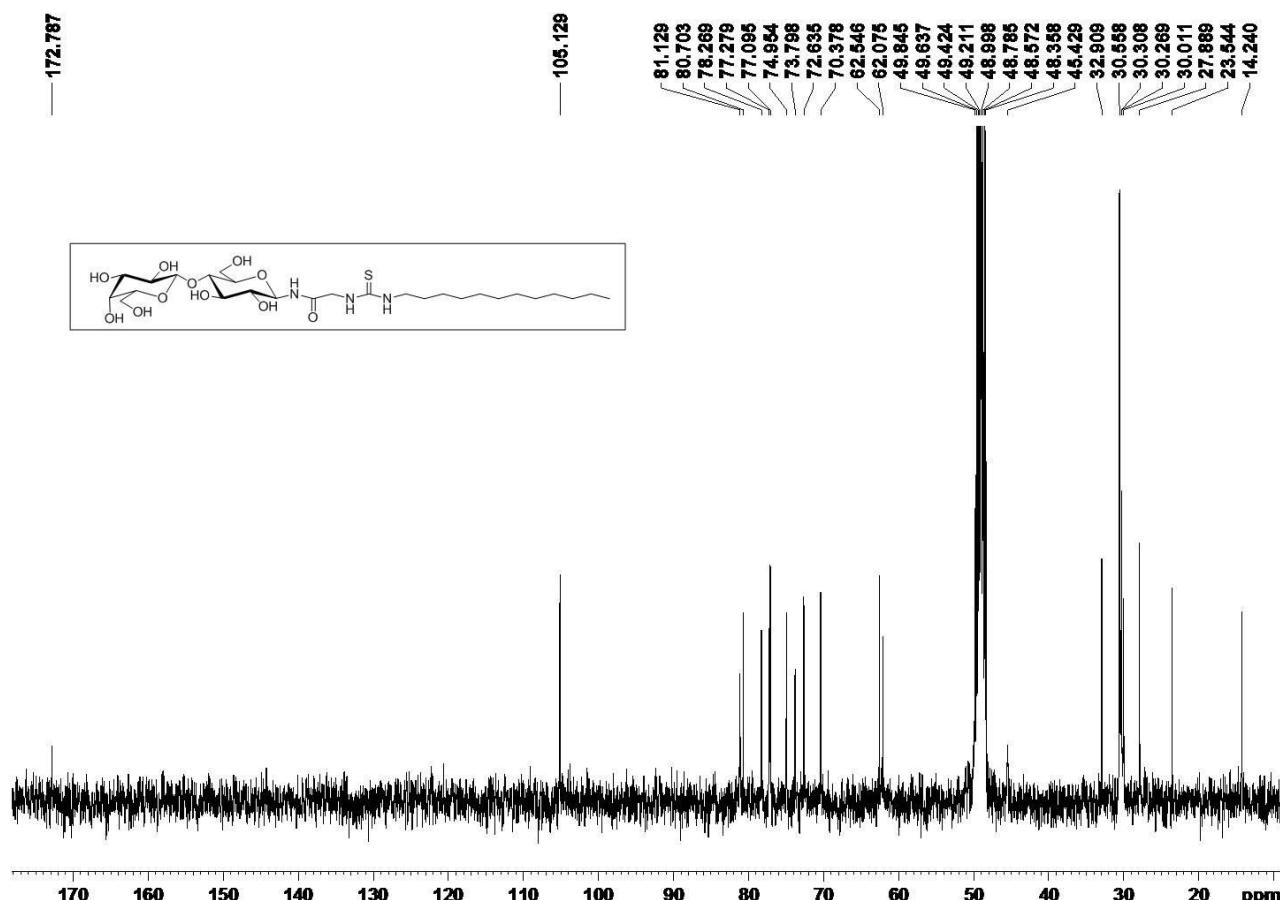


Figure S76 ¹³C-NMR (100 MHz, CD₃OD) of 1-*N*-[4-*O*-(β -D-galactopyranosyl)- β -D-glucopyranosyl]-*N'*-(*n*-dodecyl)-thioureidoacetamide (**53**)

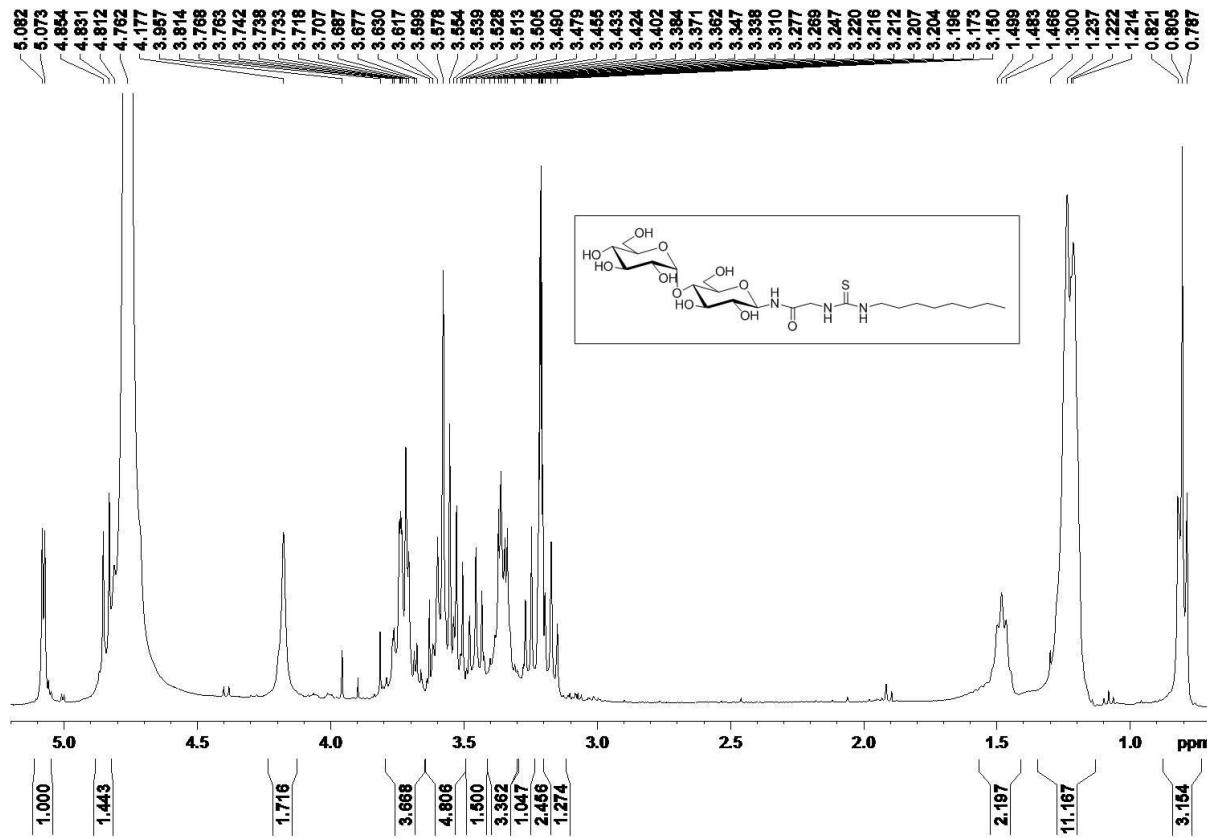


Figure S77 ^1H -NMR (400 MHz, CD₃OD) of 1-*N*-[4-*O*-(α -D-glucopyranosyl)- β -D-glucopyranosyl]-*N'*-(*n*-octyl)-thioureidoacetamide (**54**)

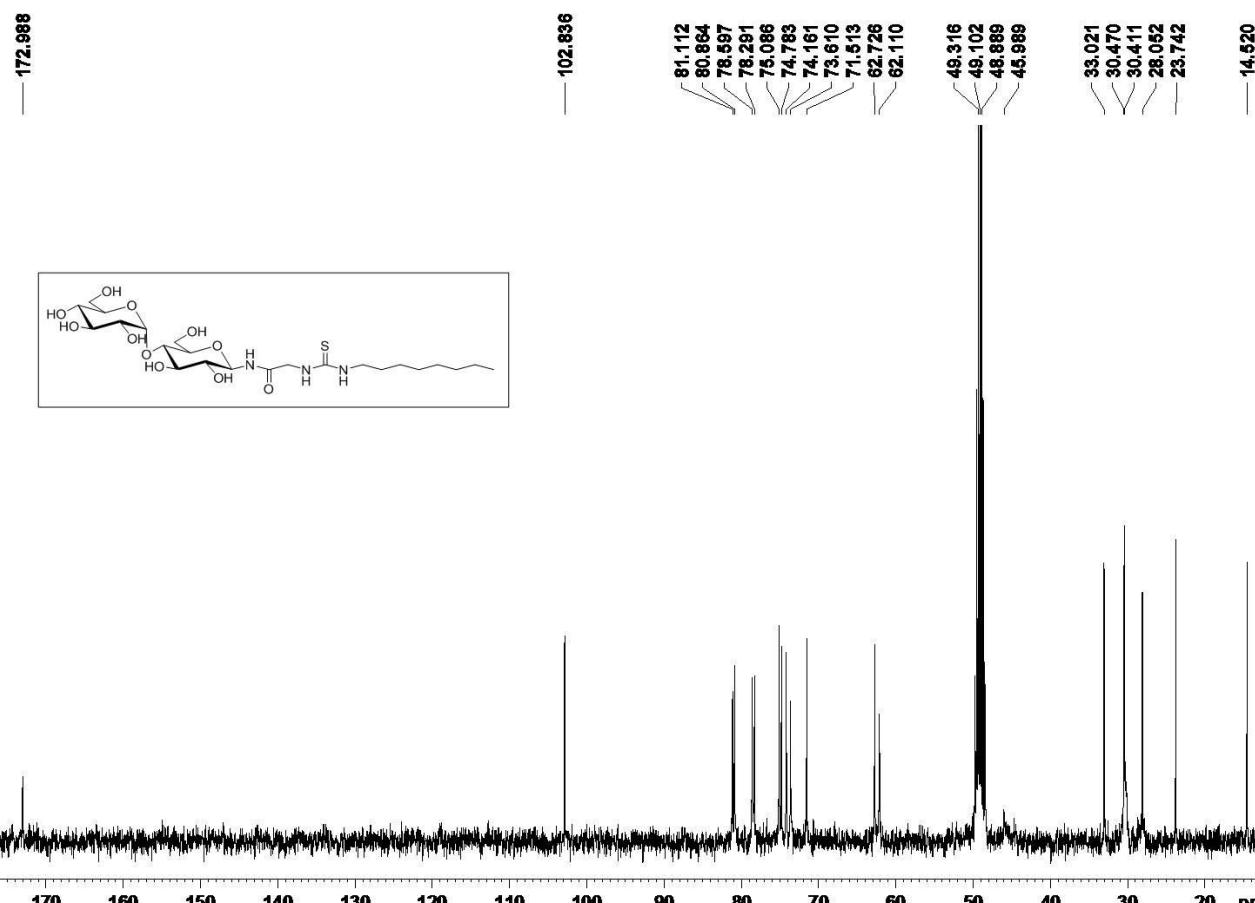


Figure S78 ^{13}C -NMR (100 MHz, CD_3OD) of 1-*N*-[4-*O*-(α -D-glucopyranosyl)- β -D-glucopyranosyl]-*N'*-(*n*-octyl)-thioureidoacetamide (**54**)

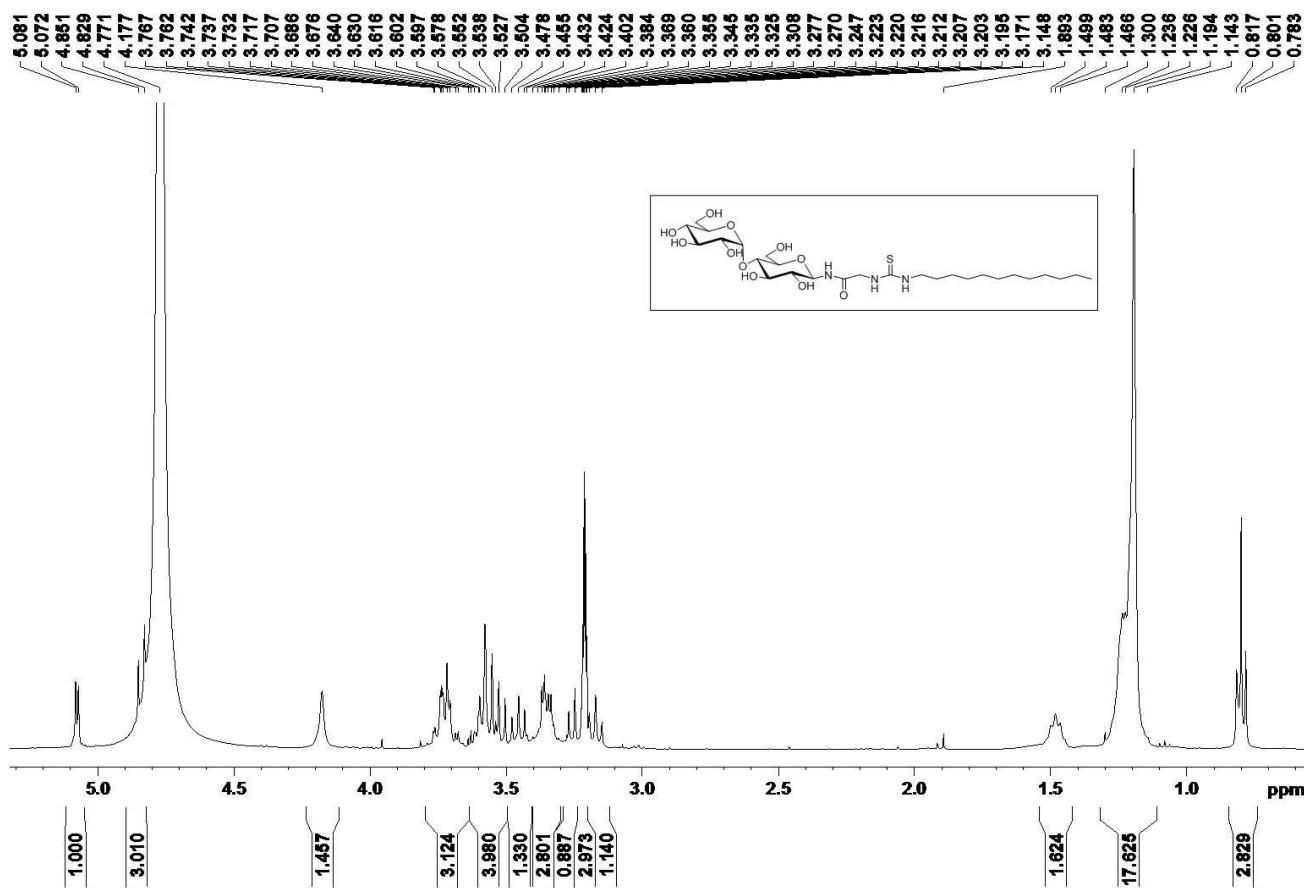


Figure S79 ^1H -NMR (400 MHz, CD_3OD) of 1-*N*-[4-*O*-(α -D-glucopyranosyl)- β -D-glucopyranosyl]-*N'*-(*n*-dodecyl)-thioureidoacetamide (**55**)

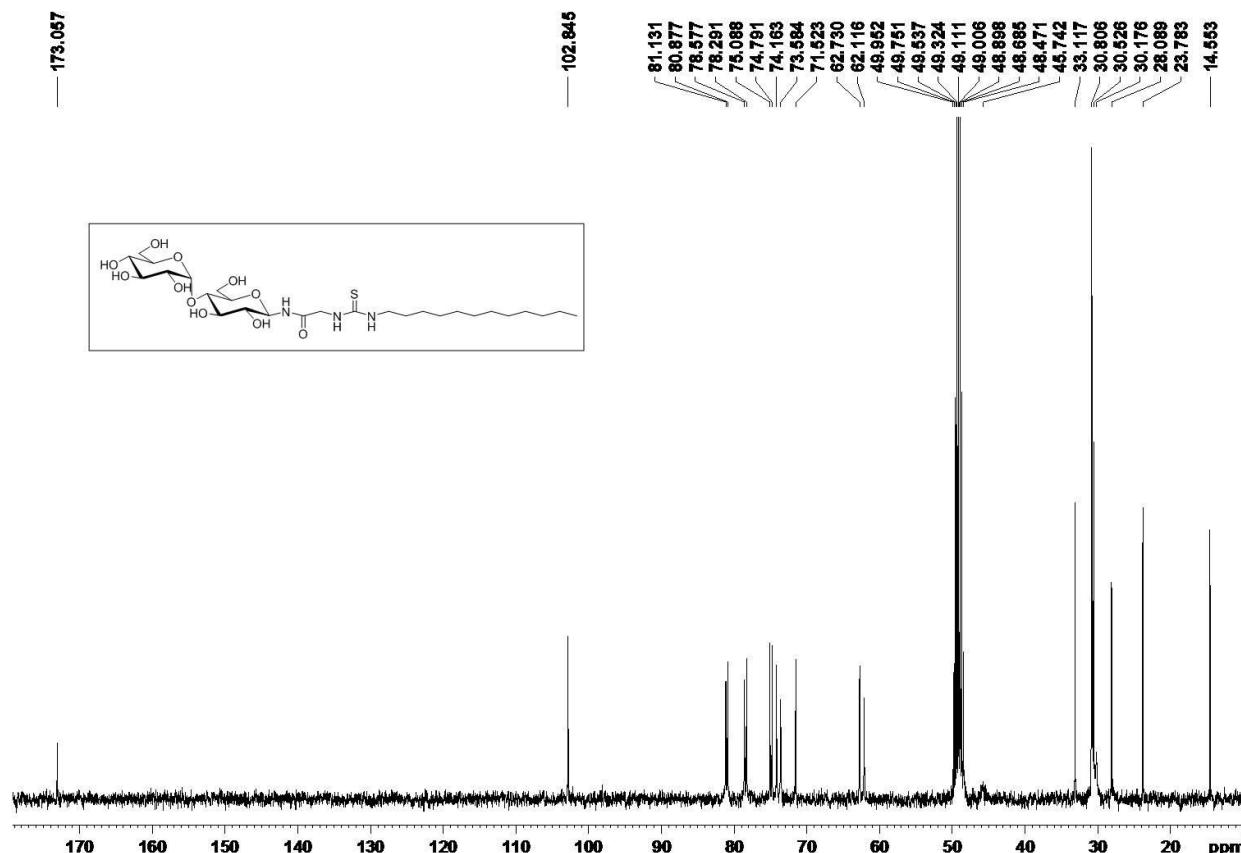


Figure S80 ^{13}C -NMR (100 MHz, CD_3OD) of 1-*N*-[4-*O*-(α -D-glucopyranosyl)- β -D-glucopyranosyl]-*N'*-(*n*-dodecyl)-thioureidoacetamide (**55**)

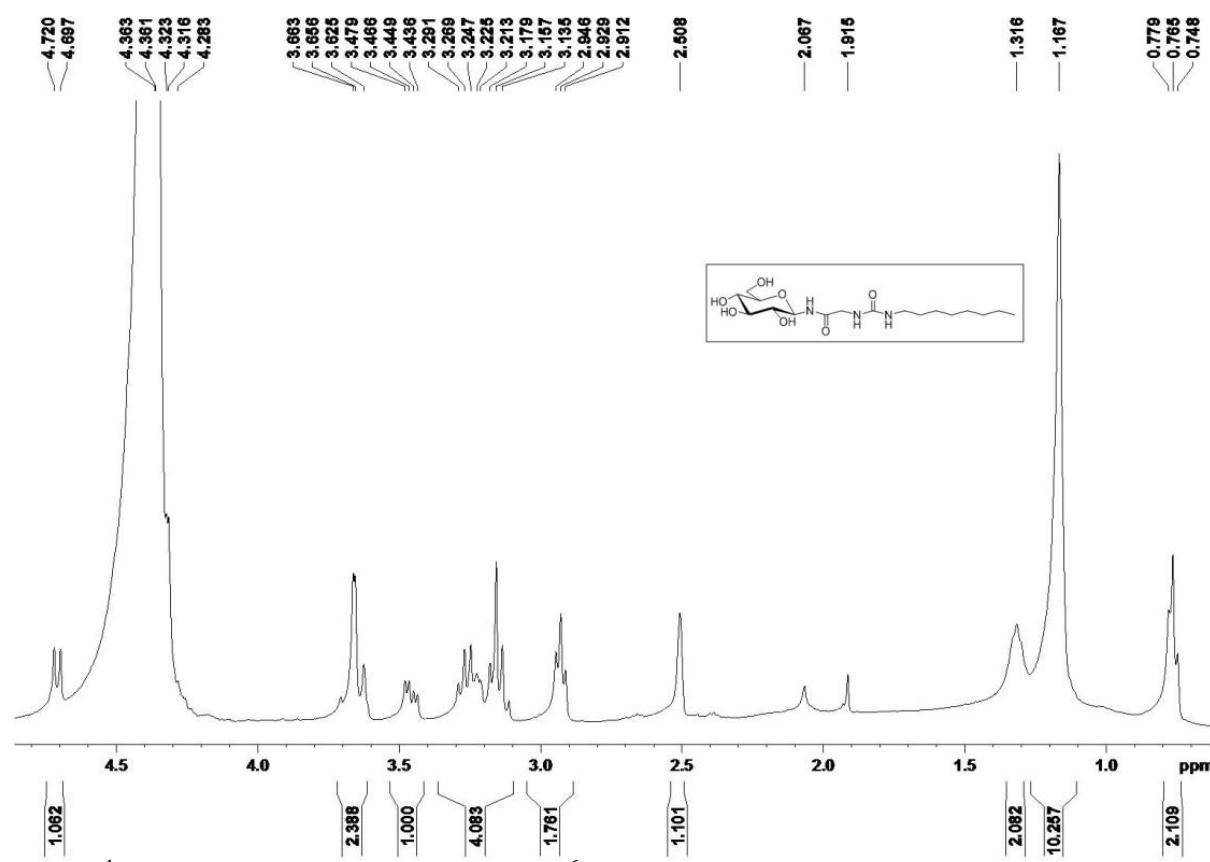


Figure S81 ¹H-NMR (400 MHz, D₂O+DMSO-D⁶) of 1-N-(β -D-glucopyranosyl)- N' -(n-octyl)-ureidoacetamide (**56**)

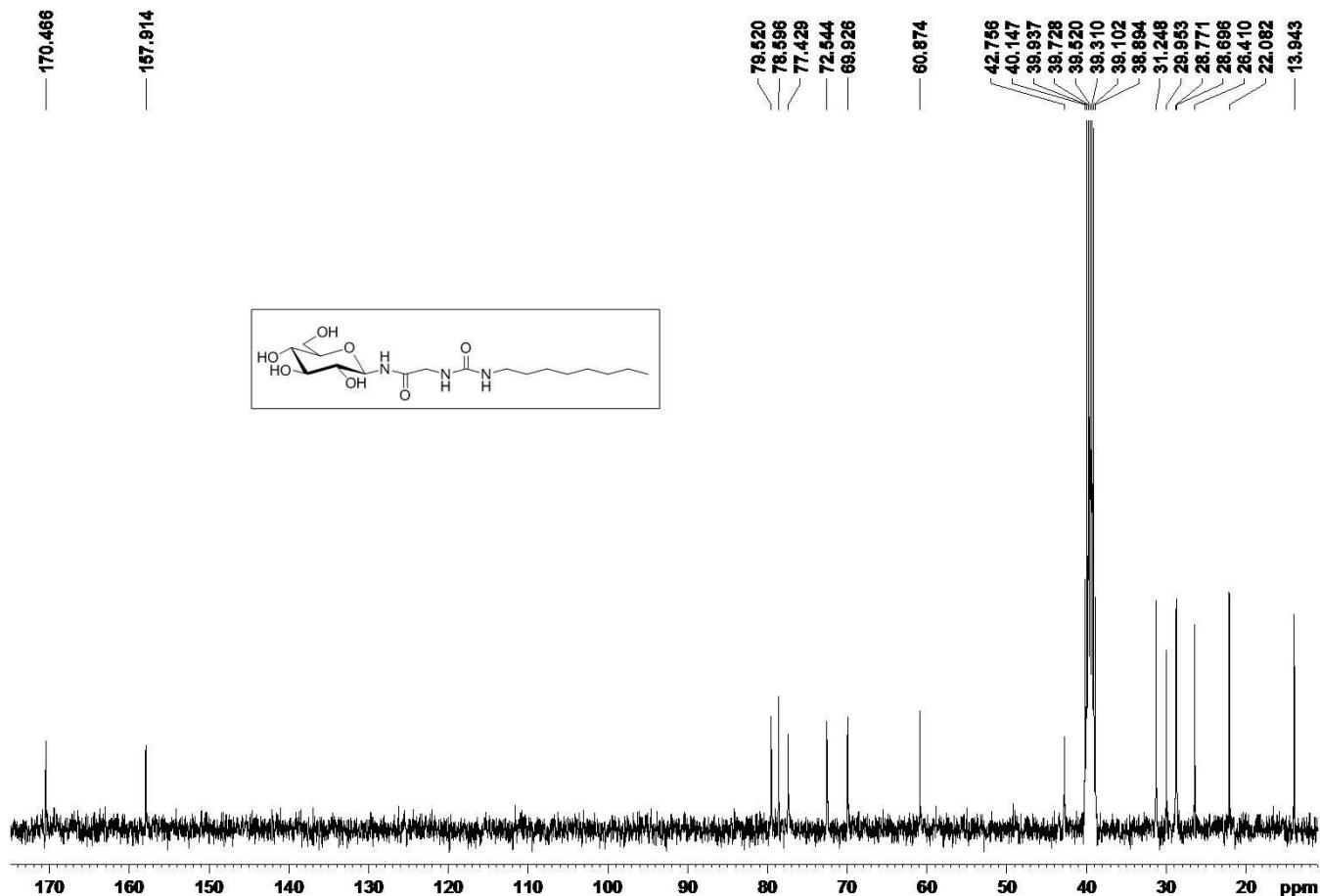


Figure S82 ¹³C-NMR (100 MHz, DMSO-D⁶) of 1-N-(β -D-glucopyranosyl)- N' -(n-octyl)-ureidoacetamide (**56**)

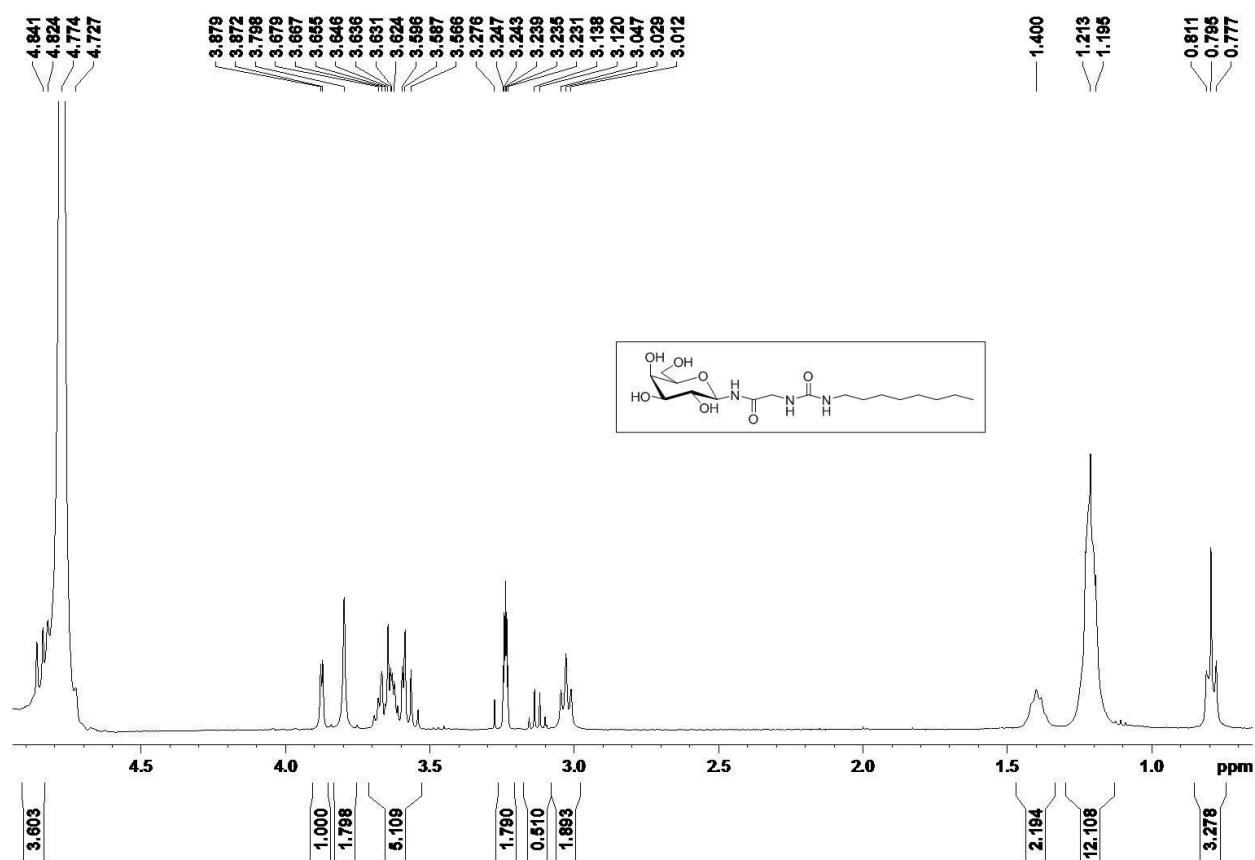


Figure S83 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β -Galactopyronosyl)-N'-(*n*-octyl)-ureidoacetamide (57)

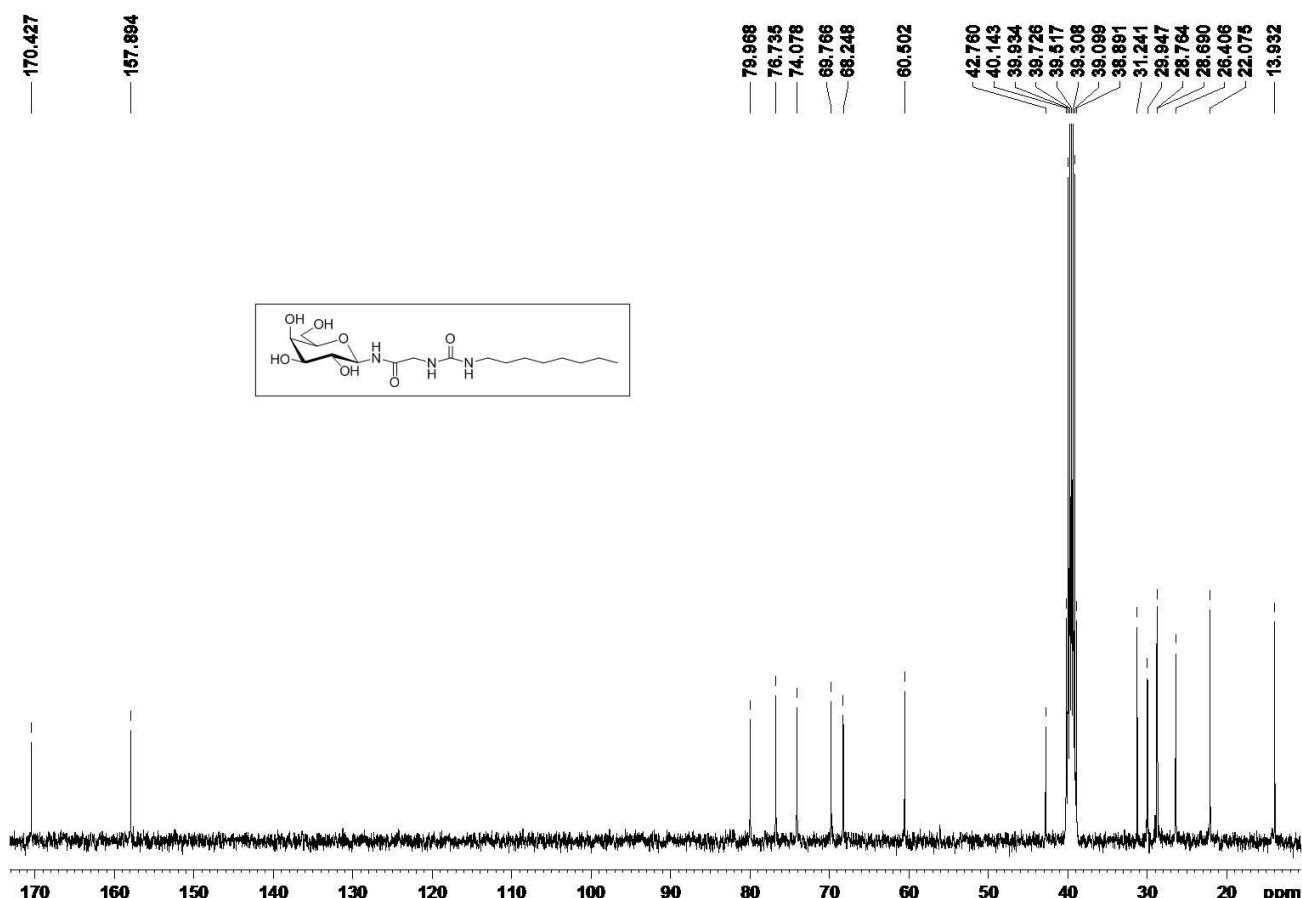


Figure S84 ¹³C-NMR (100 MHz, DMSO-D⁶) of 1-N-(β -galactopyronosyl)-N'-(*n*-octyl)-ureidoacetamide (57)

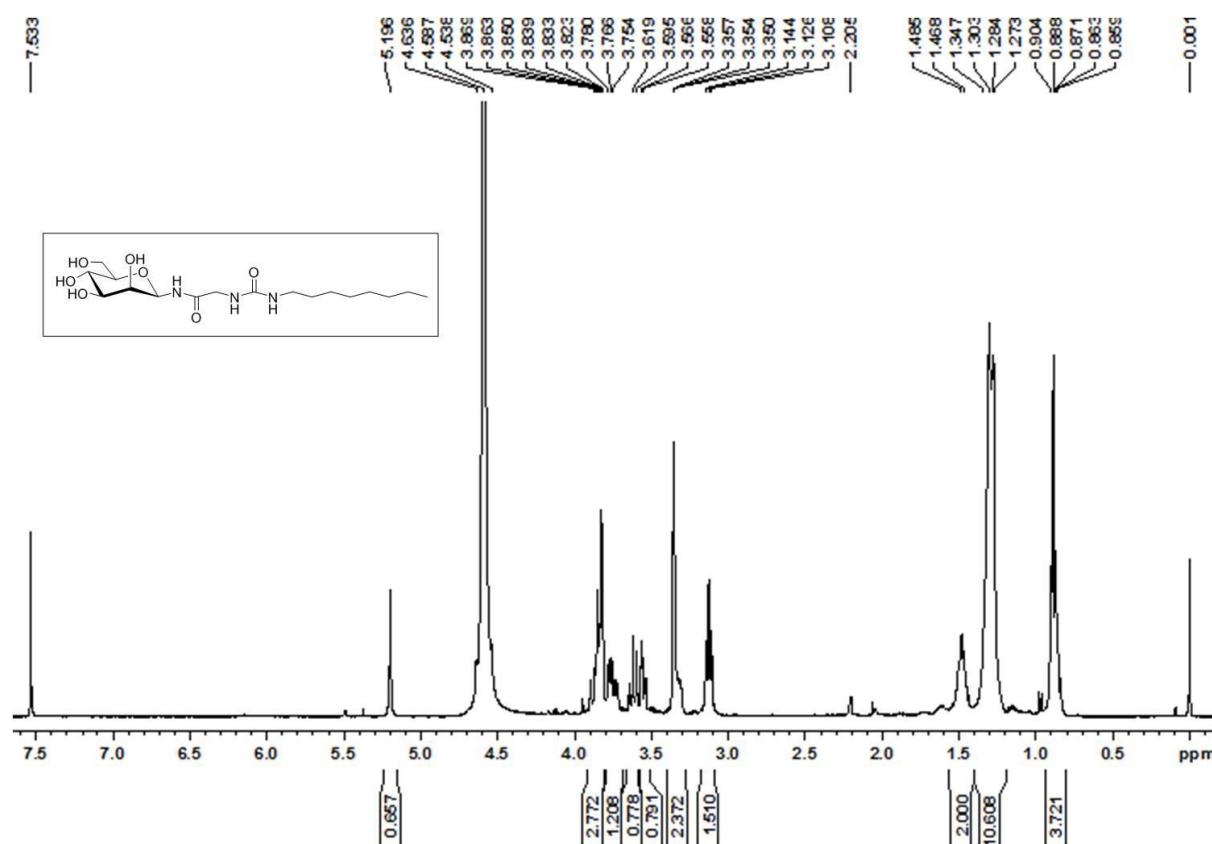


Figure S85 ¹H-NMR (400 MHz, CDCl₃ + CD₃OD) of 1-N-(β-D-mannopyranosyl)-N'--(n-octyl)-ureidoacetamide (**58**)

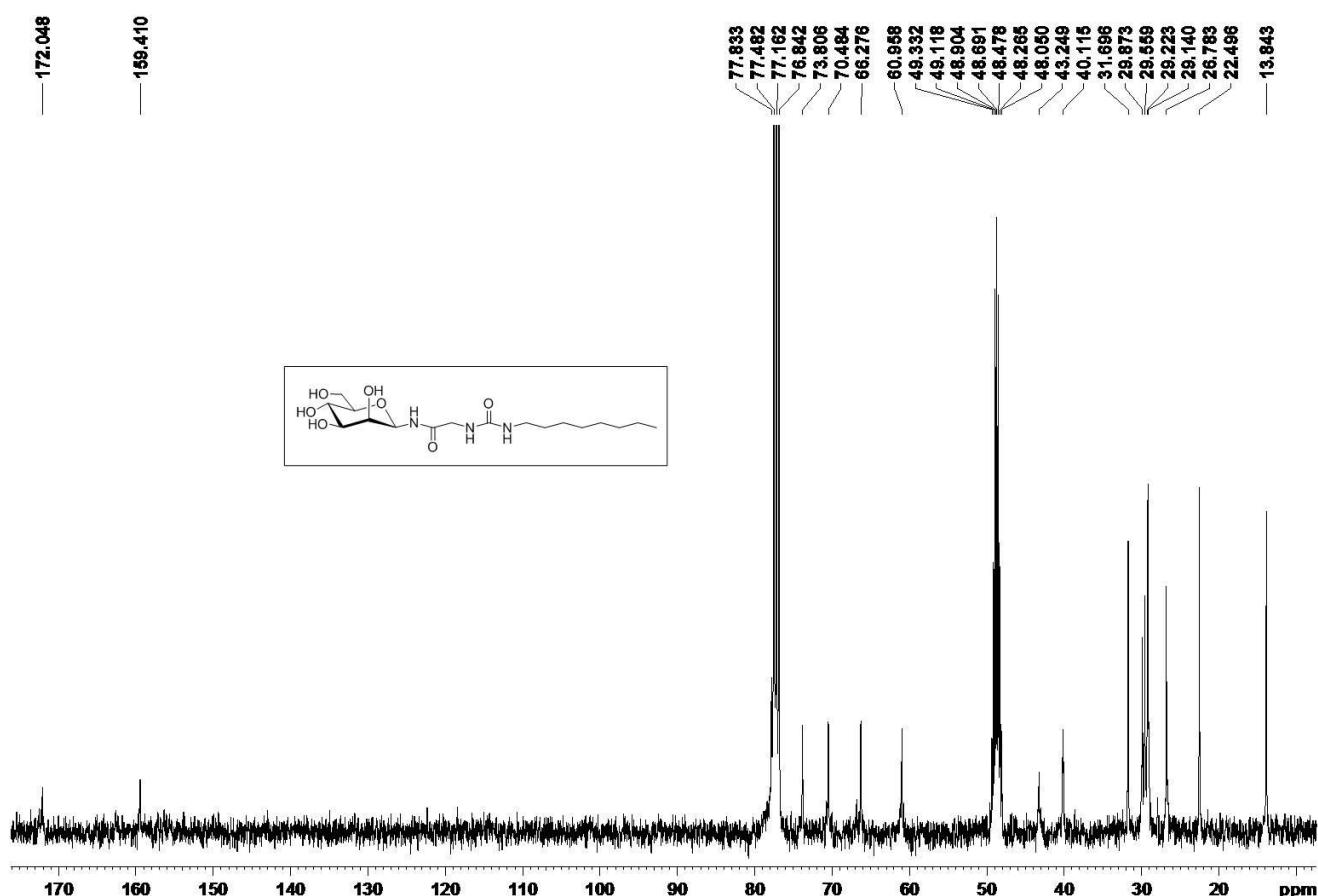


Figure S86 ¹³C-NMR (100 MHz, CDCl₃ + CD₃OD) of 1-N-(β-D-mannopyranosyl)-N'--(n-octyl)-ureidoacetamide (**58**)

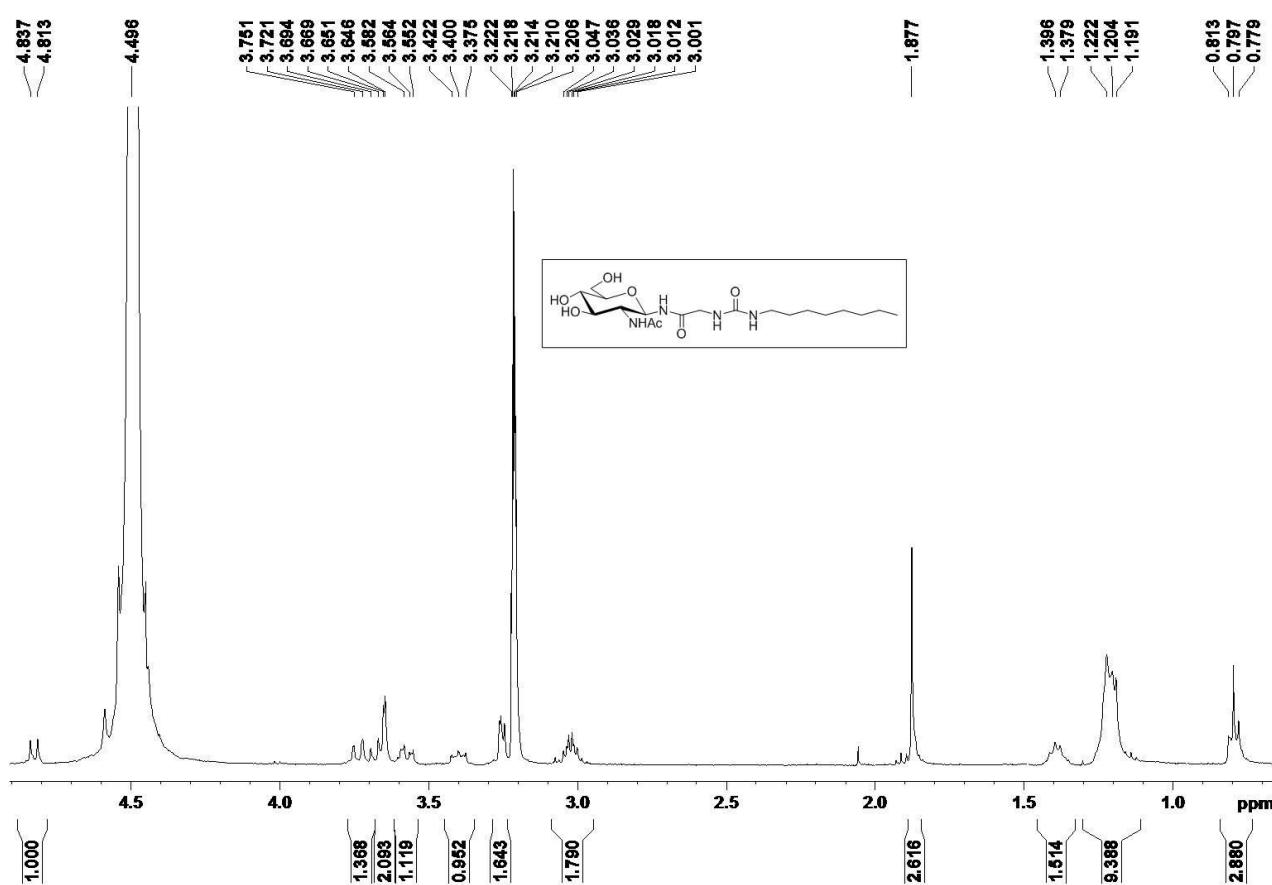


Figure S87 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(2-deoxy-2-acetamido- β -D-glucopyranosyl)-N'-(n-octyl)-ureidoacetamide (**59**)

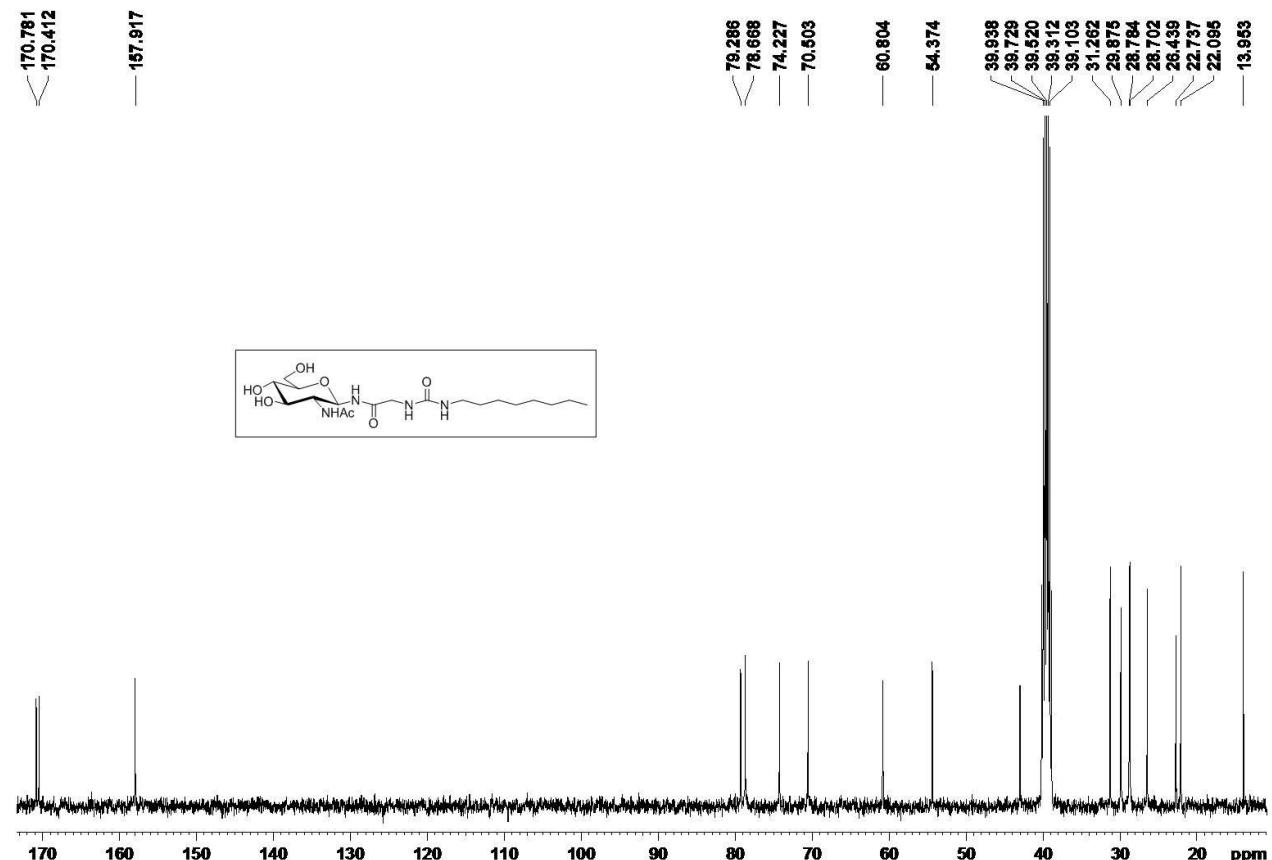


Figure S88 ¹³C-NMR (100 MHz, DMSO-D₆) of 1-N-(2-deoxy-2-acetamido- β -D-glucopyranosyl)-N'-(n-octyl)-ureidoacetamide (**59**)

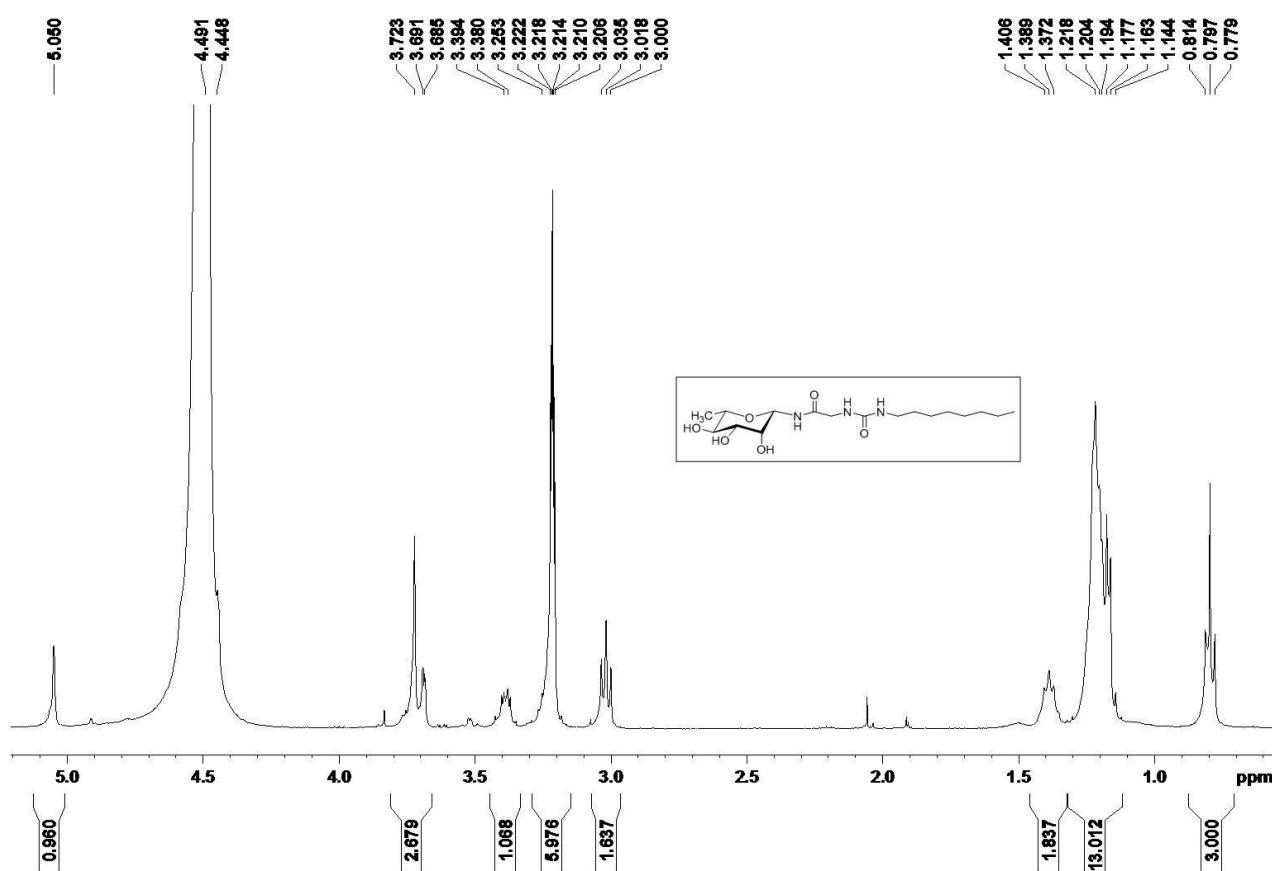


Figure S89 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β-D-rhamnopyranosyl)-N''-(n-octyl)-ureidoacetamide (60)

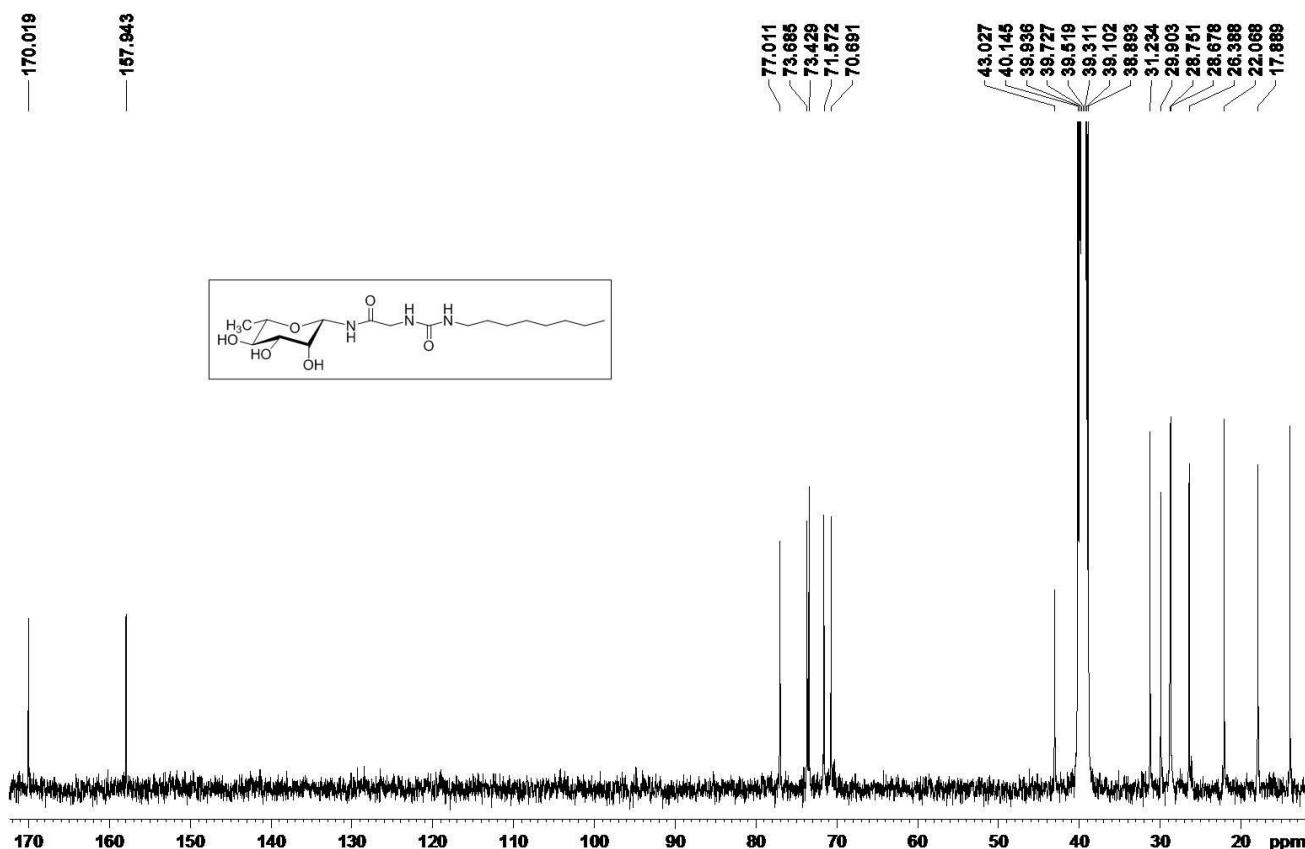


Figure S90 ¹³C-NMR (100 MHz, DMSO-D⁶) of 1-N-(β-D-rhamnopyranosyl)-N''-(n-octyl)-ureidoacetamide (60)

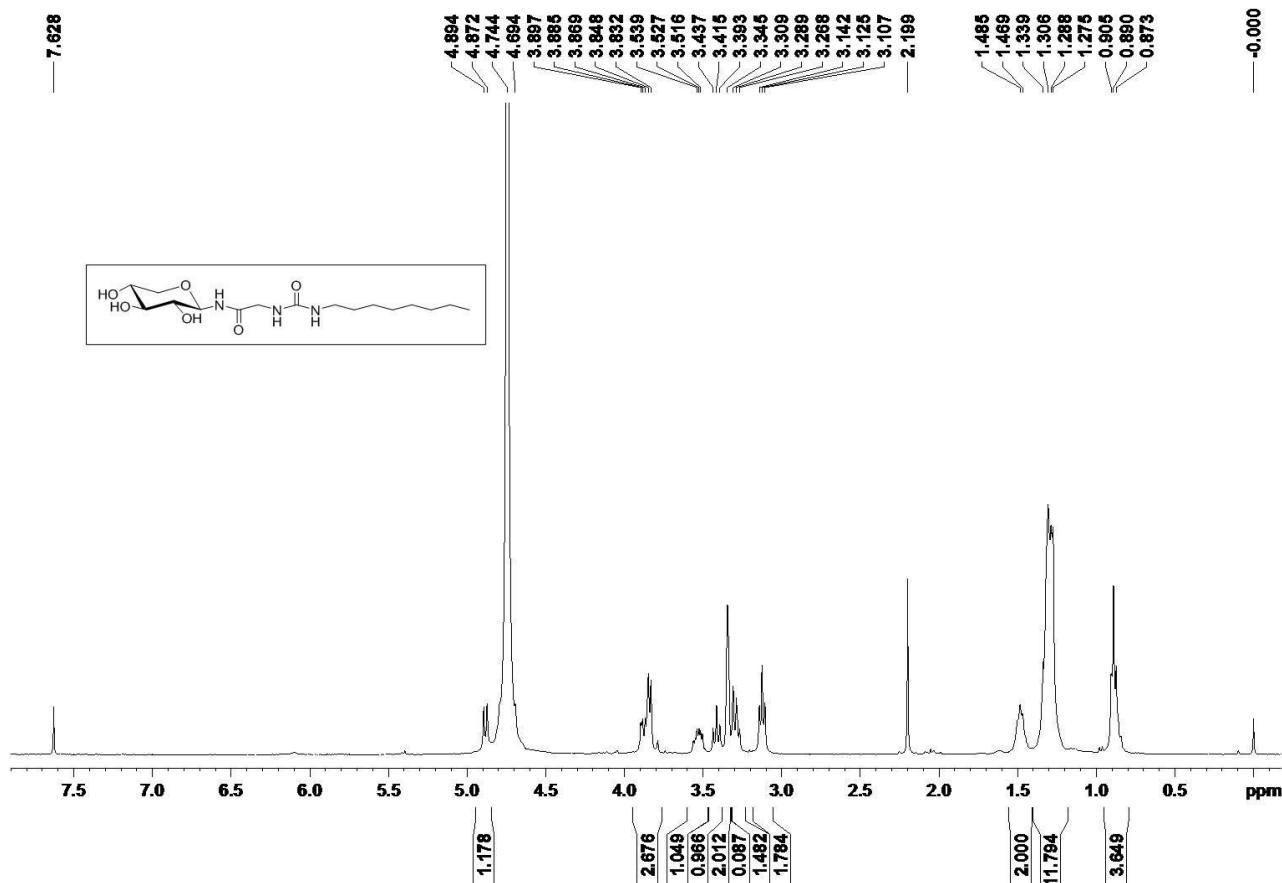


Figure S91 ¹H-NMR (400 MHz, CDCl₃+ CD₃OD) of 1-N-(β-D-xylopyranosyl)-N''-(n-octyl)-ureidoacetamide (**61**)

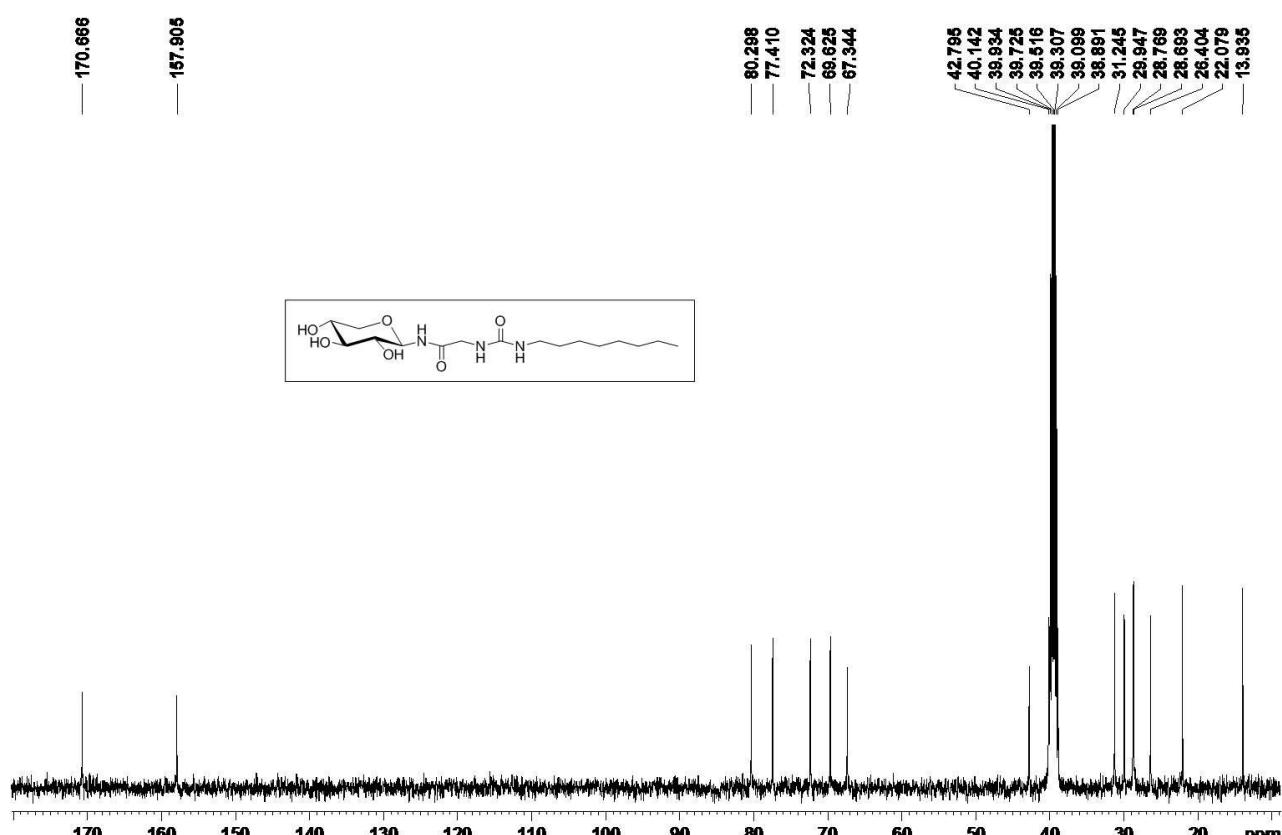


Figure S92 ¹³C-NMR (100 MHz, DMSO-D₆) of 1-N-(β-D-xylopyranosyl)-N''-(n-octyl)-ureidoacetamide (**61**)

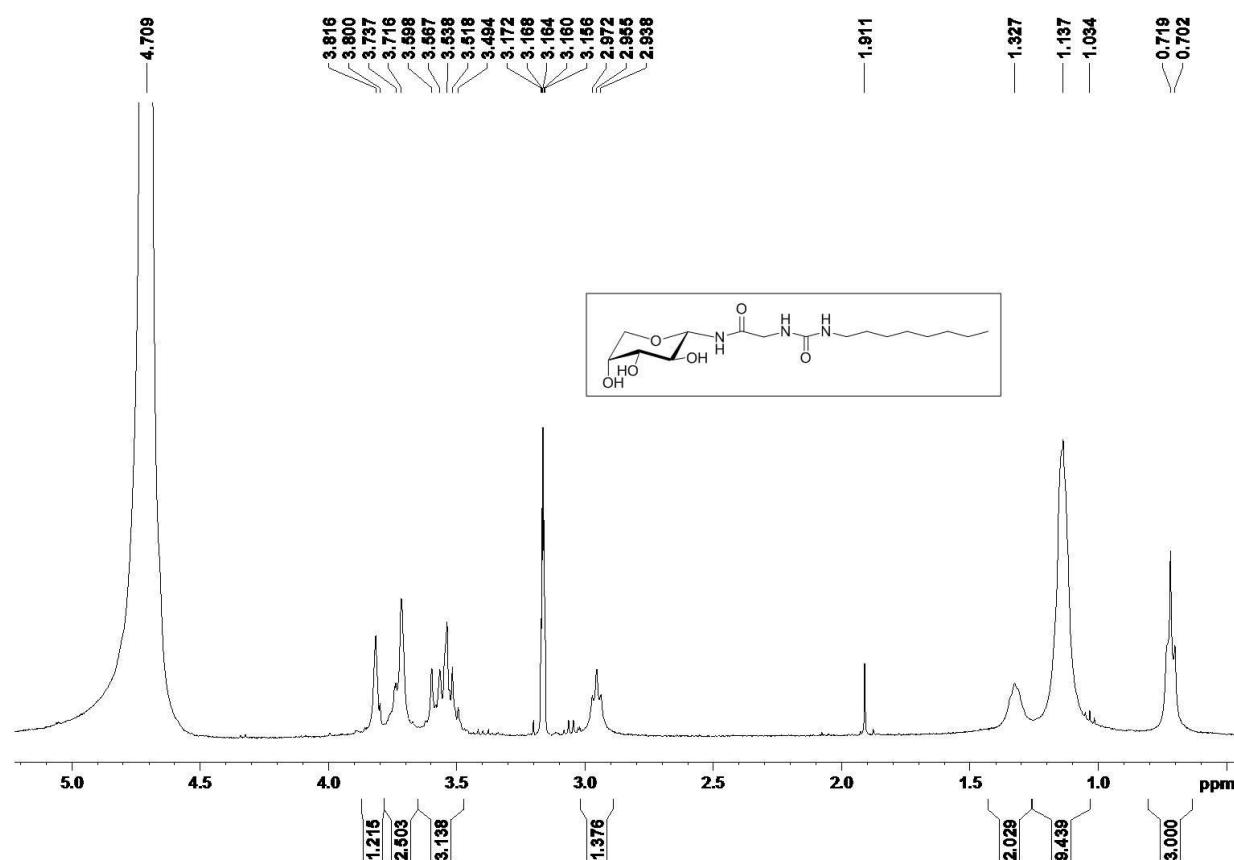


Figure S93 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β-D-arabinopyranosyl)-N''-(n-octyl)-ureidoacetamide (62)

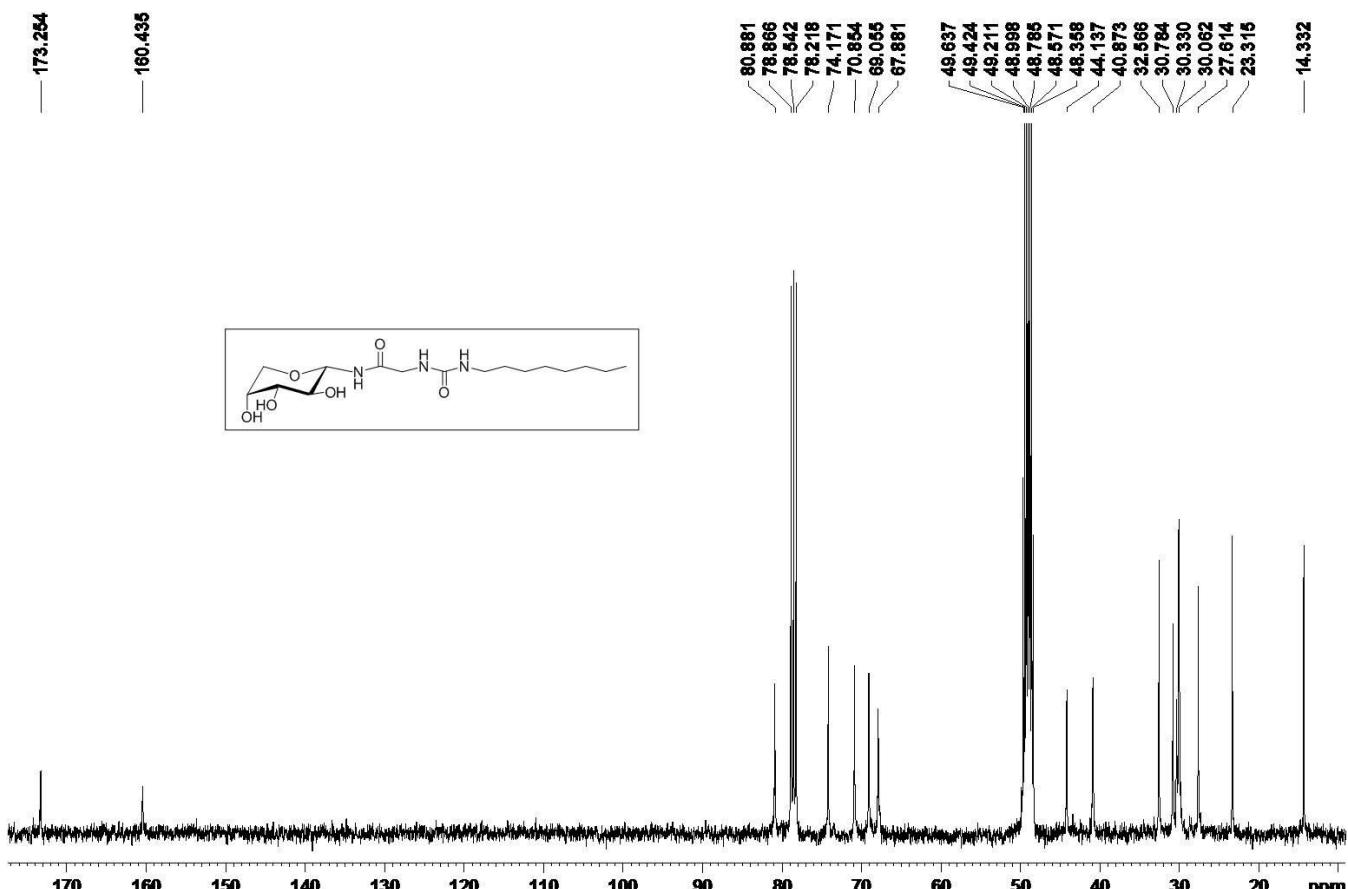


Figure S94 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(β-D-arabinopyranosyl)-N''-(n-octyl)-ureidoacetamide (62)

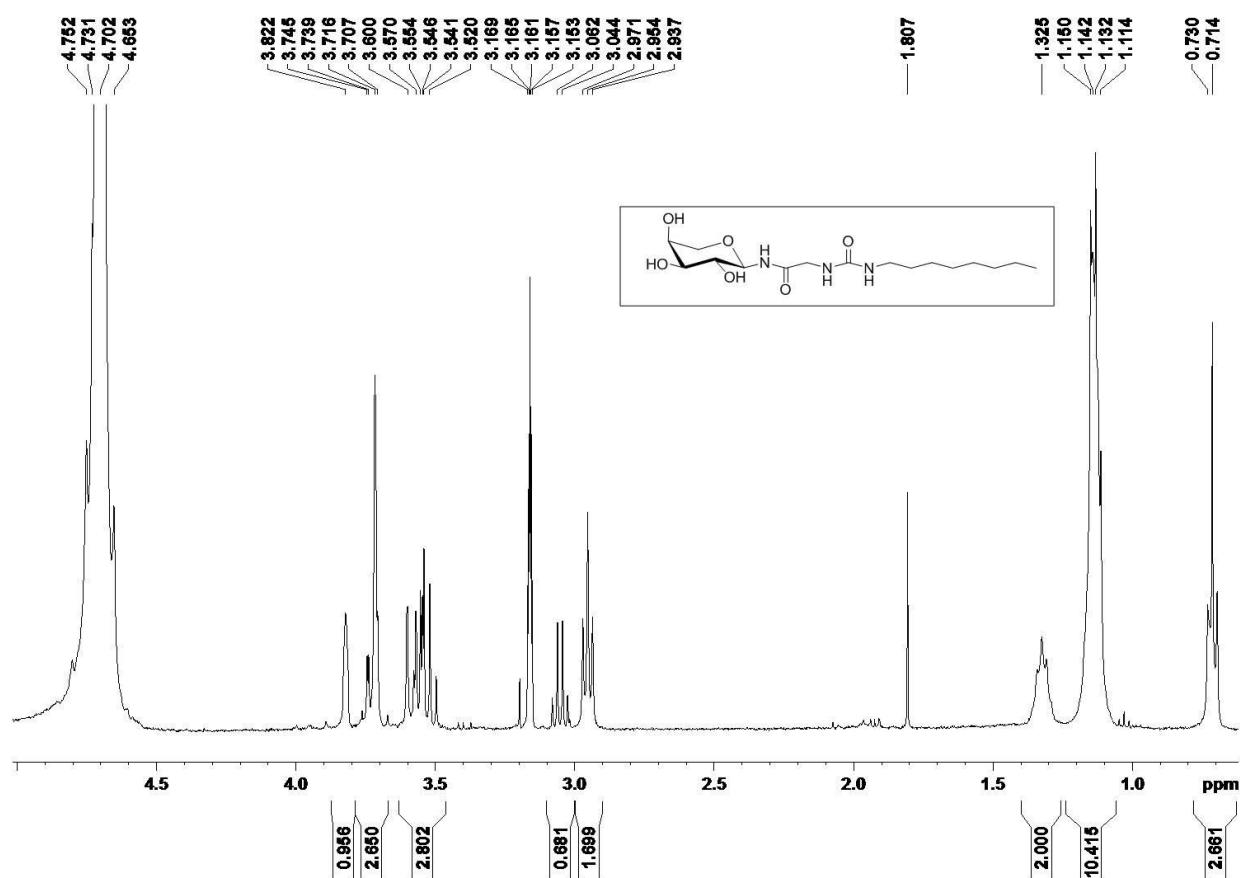


Figure S95 ¹H-NMR (400 MHz, CD₃OD) of 1-N-(β -L-arabinopyranosyl)-N^{''}-(n-octyl)-ureidoacetamide (**63**)

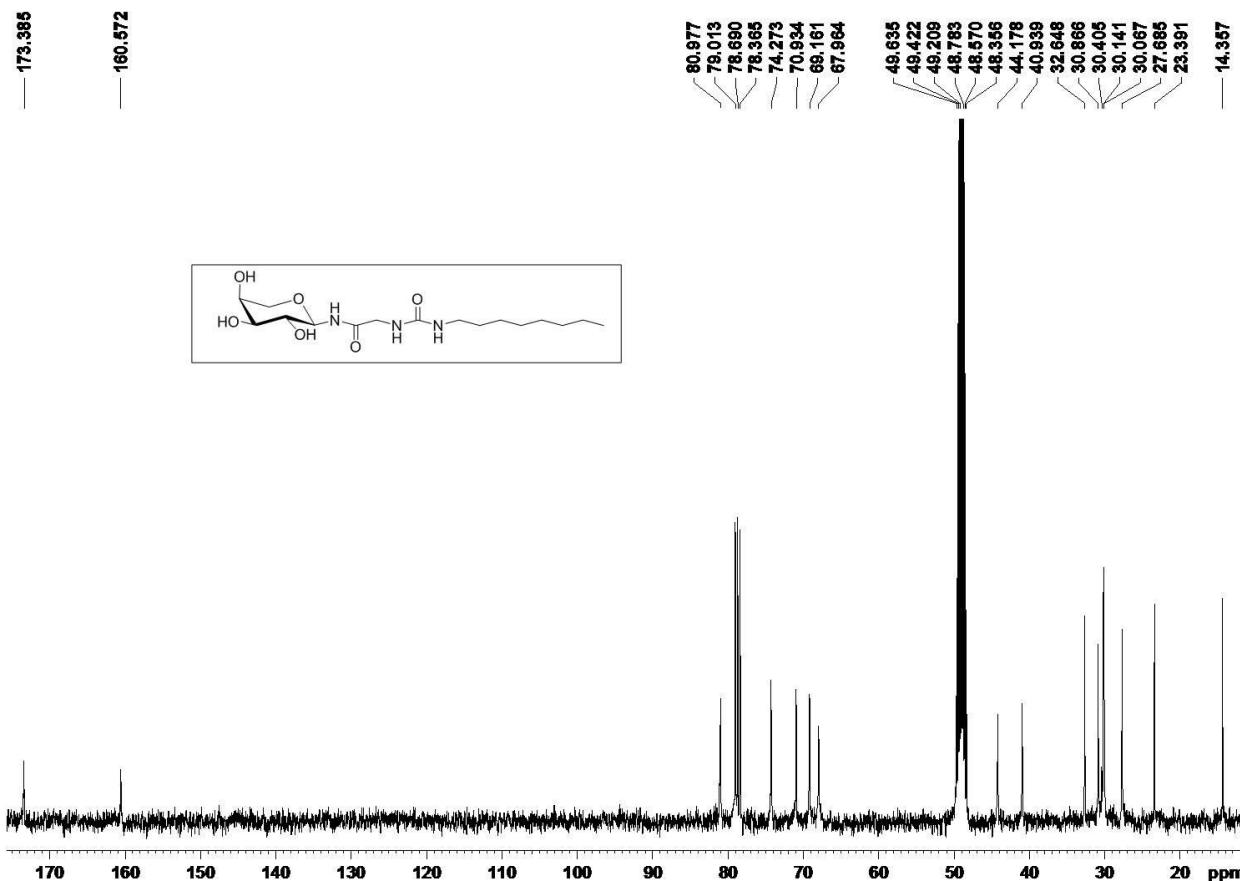


Figure S96 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-(β -L-arabinopyranosyl)-N^{''}-(n-octyl)-ureidoacetamide (**63**)

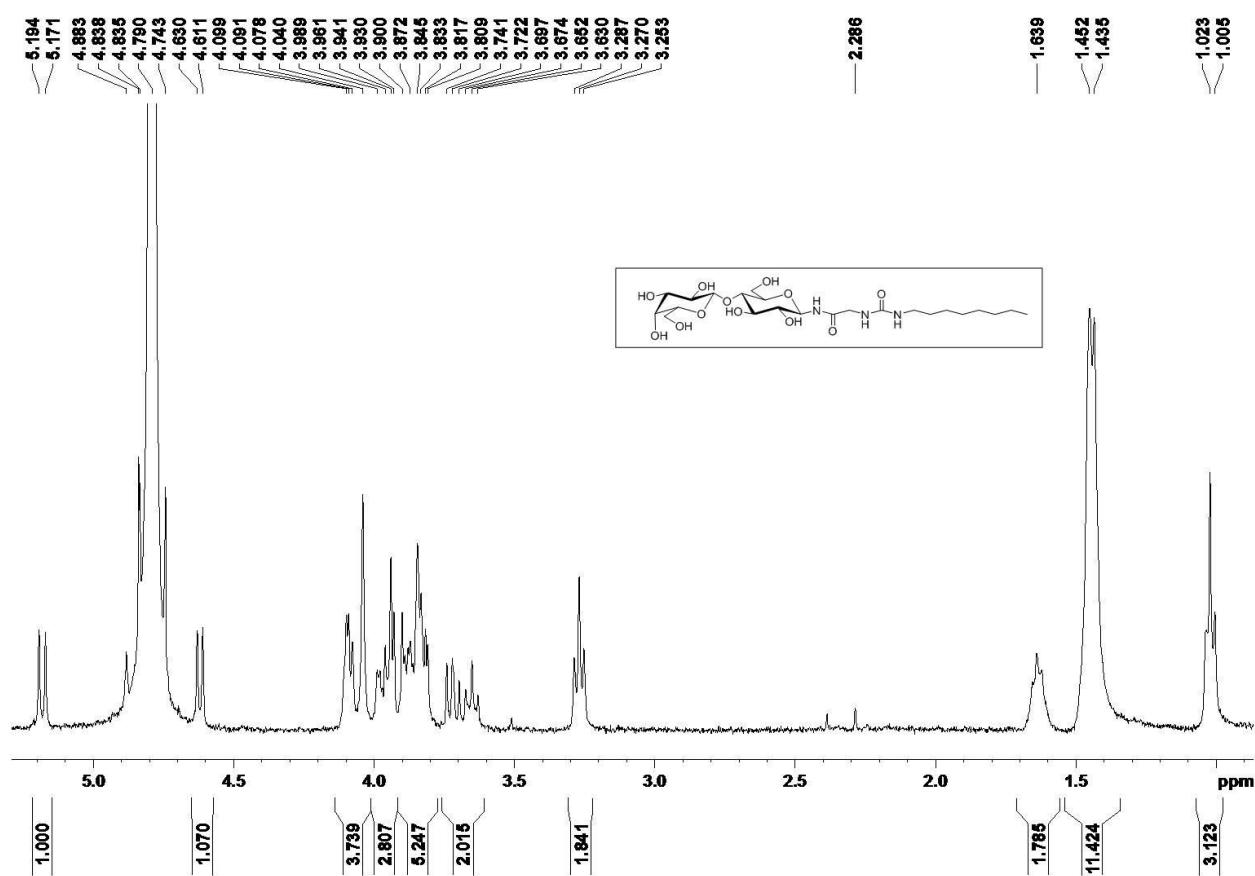


Figure S97 ¹H-NMR (400 MHz, D₂O) of 1-N-[4-O-(β-D-galactopyranosyl)-β-D-glucopyranosyl]-N^{''}-(n-octyl)- ureidoacetamide (**64**)

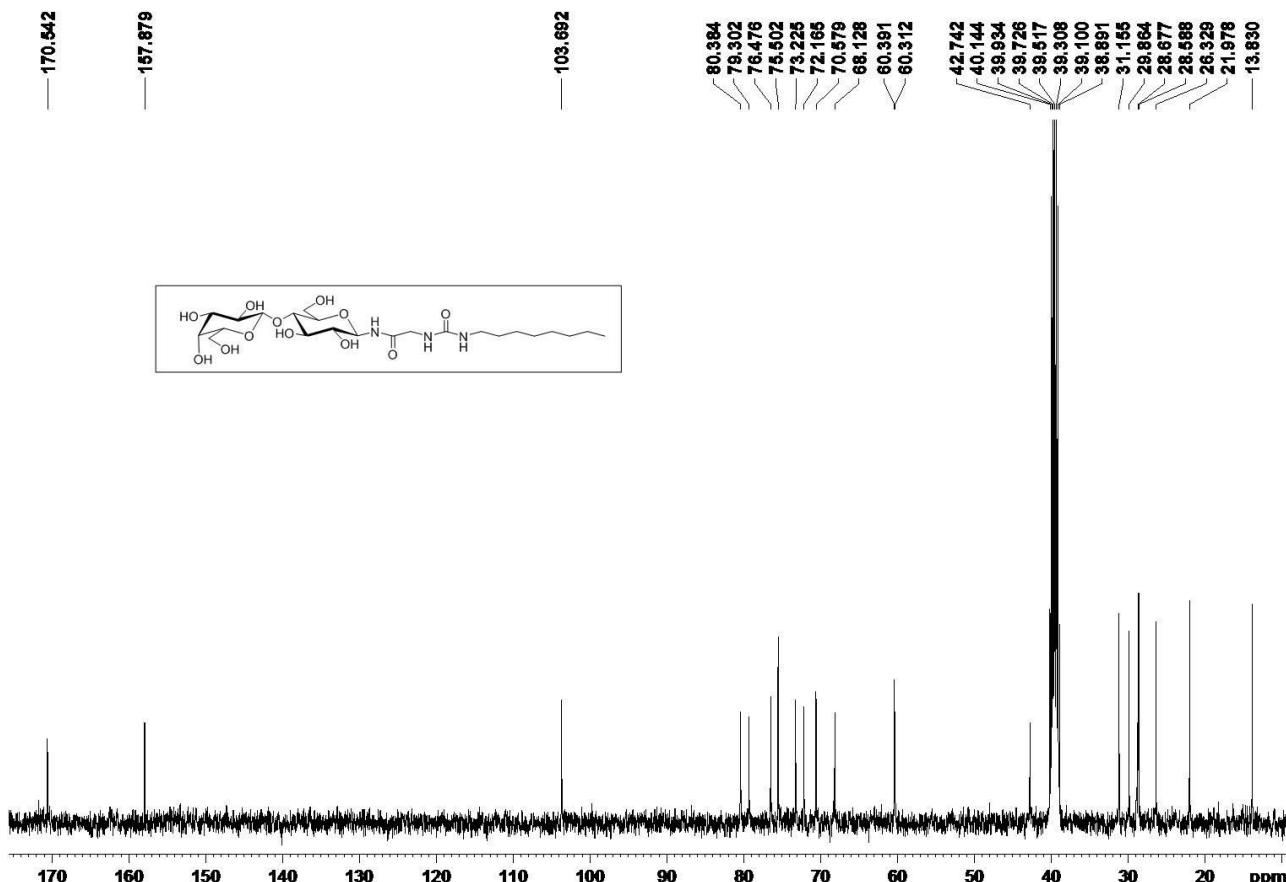


Figure S98 ¹³C-NMR (100 MHz, CD₃OD) of 1-N-[4-O-(β-D-galactopyranosyl)-β-D-glucopyranosyl]-N^{''}-(n-octyl)- ureidoacetamide (**64**)

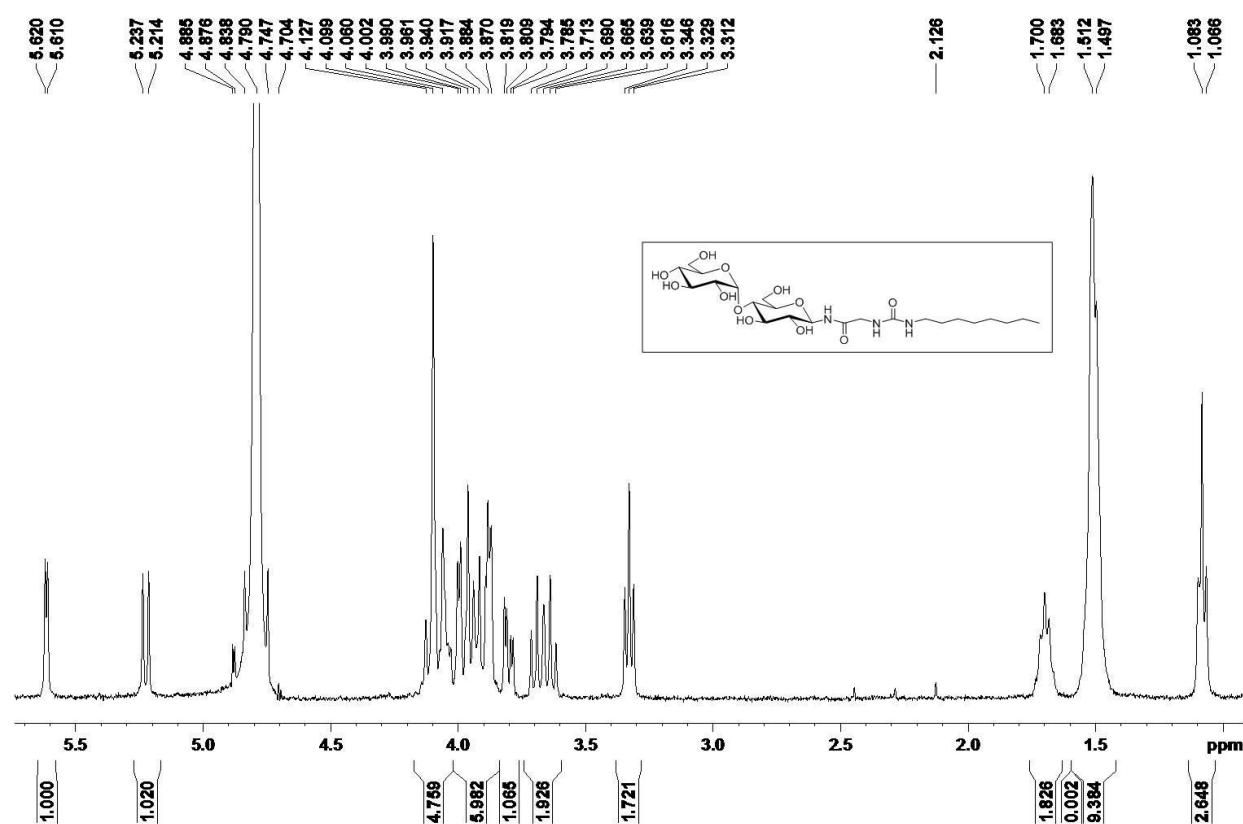


Figure S99 ¹H-NMR (400 MHz, D₂O) of 1-*N*-[4-*O*-(α -D-glucopyranosyl)- β -D-glucopyranosyl]-*N*'-(*n*-octyl)-ureidoacetamide (**65**)

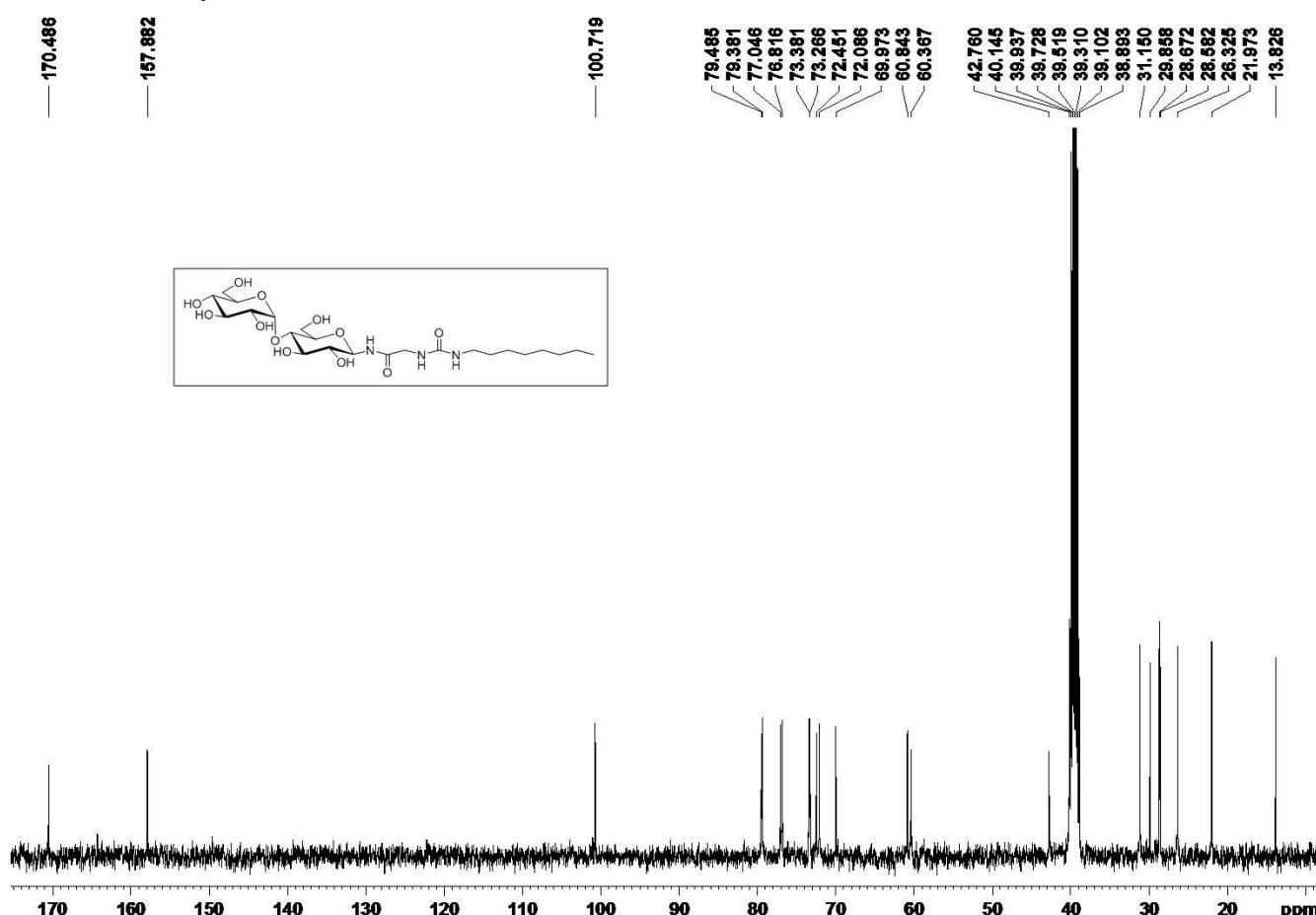


Figure S100 ¹³C-NMR (100 MHz, CD₃OD) of 1-*N*-[4-*O*-(α -D-glucopyranosyl)- β -D-glucopyranosyl]-*N*'-(*n*-octyl)-ureidoacetamide (**65**)