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*Synthesis of methyl 2-acetamido-2-deoxy-1-seleno-β-D-gluco- and galactopyranosides:
Selenium metabolites in human urine*

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NMR assignments for compounds 2, 3, 3a, 7 and 8.

Tetra-O-acetyl-2-acetamido-2-deoxy-β-D-hexosamines (2, 7)

Compound 2: ¹H-NMR (600 MHz, DMSO) δ 7.81 (1H, d, NH, J 9.2 Hz), 5.67 (1H, d, H-1, J 8.8 Hz), 5.28 (1H, s, H-4), 5.09 (1H, d, H-3, J 12 Hz), 4.20 (1H, t, H-5, J 6.5 Hz), 4.09 (1H, q, H-2, J 9.2 Hz), 4.05-4.00 (2H, m, H-6), 2.12, 2.03, 1.99, 1.91 (12H, s, Me of OAc), 1.78 (3H, s, Me of NHAc). ¹³C-NMR(150 MHz, DMSO) δ 169.8-168.8 (CO), 92.5 (C₁), 70.9 (C₅), 70.0 (C₃), 66.5 (C₄), 61.3 (C₆), 48.3 (C₂), 22.6 (Me of NHAc), 20.4-20.3 (Me of OAc). *Compound 7:* ¹H-NMR(500 MHz, DMSO) δ 7.97 (1H, d, NH, J 9.5 Hz), 5.71 (1H, d, H-1, J 8.8 Hz), 5.17 (1H, t, H-3, J 9.8 Hz), 4.88 (1H, t, H-4, J 9.6 Hz), 4.18 (1H, AB part of an ABX dd, H-6, J 12.9, 4.9 Hz), 3.99-3.90 (3H, m, H-2, H-5, H-6), 2.04, 2.00, 1.97, 1.92 (12H, s, Me of OAc), 1.76 (3H, s, Me of NHAc). ¹³C-NMR (125 MHz, DMSO) δ 170.3-169.1 (CO), 91.9 (C₁), 72.4 (C₃), 71.7 (C₅), 68.3 (C₄), 61.7 (C₆), 52.2 (C₂), 22.8 (Me of NHAc), 20.7-20.5 (Me of OAc).

Tri-O-acetyl-2-acetamido-2-deoxy-1-chloro- α -D-hexosamines (3, 8)

Compound 3 : $^1\text{H-NMR}$ (400 MHz, CDCl_3) δ 6.29 (1H, d, H-1, J 4.1 Hz), 5.86 (1H, d, NH, J 8.8 Hz), 5.47 (1H, d, H-4, J 2.8 Hz), 5.29 (1H, dd, H-3, J 11.1, 2.8 Hz), 4.82-4.77 (1H, m, H-2), 4.52 (1H, t, H-5, J 6.5 Hz), 4.22 (1H, AB part of an ABX dd, H-6, J 11.1, 6.5 Hz), 4.10 (1H, AB part of an ABX dd, H-6, J 11.1, 6.5 Hz), 2.17, 2.06, 2.03, 2.01 (12H, s, Me). $^{13}\text{C-NMR}$ (100 MHz, CDCl_3) δ 170.8-170 (CO), 94.9 (C_1), 69.9 (C_5), 67.3 (C_3), 66.5 (C_4), 61.1 (C_6), 49.2 (C_2), 23.1 (Me of NHAc), 20.7-20.6 (Me of OAc). *Compound 8*: $^1\text{H-NMR}$ (500 MHz, CDCl_3) δ 6.17 (1H, d, H-1, J 3.6 Hz), 5.82 (1H, d, NH, J 9 Hz), 5.30 (1H, t, H-3, J 9.7 Hz), 5.19 (1H, t, H-4, J 9.8 Hz), 4.53-4.49 (1H, m, H-2), 4.29-4.27 (2H, m, H-5, H-6), 4.11 (1H, AB part of an ABX d, H-6, J 10.6 Hz), 2.09, 2.03 (9H, s, Me of OAc), 1.96 (3H, s, Me of NHAc). $^{13}\text{C-NMR}$ (125 MHz, DMSO) δ 171.5-169.1 (CO), 93.6 (C_1), 70.9 (C_5), 70.1 (C_3), 66.9 (C_4), 61.1 (C_6), 53.5 (C_2), 23.1 (Me of NHAc), 20.7-20.5 (Me of OAc).

Tetra-O-acetyl-2-amino-2-deoxy- α -D-galactopyranose hydrochloride (3a)

Compound 3a : $^1\text{H-NMR}$ (400 MHz, DMSO) δ 8.71 (3H, broad s, NH_3^+), 6.27 (1H, d, H-1, J 3.6 Hz), 5.37 (1H, d, H-4, J 3.2 Hz), 5.22 (1H, dd, H-3, J 11.2, 3.2 Hz), 4.38 (1H, t, H-5, J 6 Hz), 4.02 (2H, d, H-6, J 6.8 Hz), 3.75 (1H, broad d, H-2, J 11.2 Hz), 2.16, 2.11, 2.00, 1.96 (12H, s, Me).