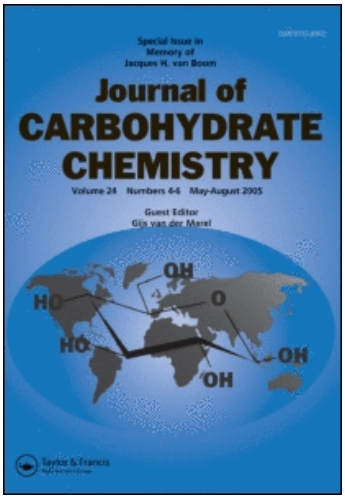

Journal of Carbohydrate Chemistry
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713617200

Erratum

To cite this Article (1994) 'Erratum', Journal of Carbohydrate Chemistry, 13: 2, 343 — 346
To link to this Article: DOI: 10.1080/07328309408009197
URL: http://dx.doi.org/10.1080/07328309408009197

J. CARBOHYDRATE CHEMISTRY, 13(2), 343-346 (1994)

ERRATUM

The following Tables are printed as a correction to the *Journal of Carbohydrate Chemistry*, Volume 12, Numbers 4 + 5, 1993, pages 651-667. The manuscript is "Synthesis of ß-Mannopyranosides by Enzymatic Approaches" by N. Taubken, B. Sauerbrei, and J. Thiem.

TABLE 1. Yields of Alkyl β-Mannopyranosides **3a-i.**

Product	Aglycon	Yield (%) with β-Mannosidase [E.C. 3.2.1.25]	Yield (%) with β-Galactosidase [E.C. 3.2.1.23]
3a	Methanol **(2a)**	67	37
3b	Ethanol **(2b)**	75	49
3c	1-Propanol **(2c)**	48	20 [a]
3d	1-Butanol **(2d)**	19	18
3e	1-Hexanol **(2e)**	6	9 [b]
3f	1-Octanol **(2f)**	2	2 [b]
3g	2-Propanol **(2g)**	16	25
3h	2-Butanol **(2h)**	2	15
3i	c-Hexanol **(2i)**	3	7 [b]

a. In addition, 6 % of the anomeric glucosides were obtained (see text).

b. In addition, about 1 % (**3f**)/ 2 % (**3e**)/ 3 % (**3i**) of the β-glucosides were formed (see text).

TABLE 2. ^{1}H NMR Data of Alkyl β-D-Mannopyranosides **3a-i**.

	Chemical Shift δ/ppm[a]							
Compound	H1	H2	H3	H4	H5	H6A	H6B	H(aglycon)[b]
3a	4.63	4.04	3.70	3.62	3.43	3.98	3.79	3.56(3H)
3b	4.70	4.03	3.70	3.62	3.43	3.98	3.79	3.99(1H); 3.77(1H); 1.27(3H)
3c	4.72	4.03	3.69	3.62	3.41	3.98	3.78	3.89(1H); 3.66(1H); 1.65(2H); 0.94(3H)
3d	4.71	4.03	3.68	3.62	3.41	3.97	3.78	3.94(1H); 3.72(1H); 1.64(2H); 1.41(2H); 0.95(3H)
3e	4.71	4.03	3.69	3.62	3.41	3.97	3.78	3.93(1H); 3.71(1H); 1.66(2H); 1.36(6H); 0.92(3H)
3f	4.77	4.03	3.69	3.62	3.42	3.97	3.78	3.93(1H); 3.71(1H); 1.66(1H), 1.39-1.32(8H); 0.91(3H)
3g	4.83	3.99	3.69	3.63	3.44	3.98	3.78	4.18(1H); 1.28(3H); 1.24(3H)
3h[c]	4.82/ 4.78	3.98/ 4.02	3.70/ 3.68	3.62	3.41	3.97	3.78	1.21/1.26(3H); 3.94/3.93(1H); 1.66/1.55(2H); 0.95/0.93(3H)
3i	4.86	3.98	3.96	3.63	3.41	3.96	3.78	3.82(1H); 2.00(2H); 1.78(2H); 1.45-1.25(5H);1.59(1H of C4')

a. ^{1}H NMR spectra were recorded in D_2O with acetone as internal standard at 2.28 ppm. The coupling constants are very similar for all mannosyl residues of **3a-i**: $J_{1,2} < 1.0$ Hz; $J_{2,3} = 3.0 - 3.2$ Hz; $J_{3,4} = 9.4 - 10.0$ Hz; $J_{4,5} = 9.4 - 9.6$ Hz; $J_{5,6A} = 2.0 - 2.2$ Hz; $J_{5,6B} = 6.4 - 6.6$ Hz; $J_{6A,6B} = 12.0 - 12.2$ Hz.

b. The signals of the aglycon are given in increasing distance from the anomeric centre.

c. For aglyconic protons and H1 - H3 two signals were obtained, respectively, which belong to the compound with either (R)- or (S)-configuration at C2'.

TABLE 3. ^{1}H NMR Data of 4-Nitrophenyl Disaccharides **6 - 11.**

	Chemical Shift δ/ppm[a]								
Com-pound	Sugar Unit[b]	H1 ($J_{1,2}$)	H2 ($J_{2,3}$)	H3 ($J_{3,4}$)	H4 ($J_{4,5}$)	H5 ($J_{5,6A}$)	H6A ($J_{5,6B}$)	H6B ($J_{6A,6B}$)	Ac	Nitro-phenyl
6	Glc	5.40	3.81	3.74	3.49	3.63	3.86	3.68		7.17,
		(7.5)	(9.0)	(9.2)	(9.3)	(2.0)	(5.6)	(12.1)		8.19
	Glc'	4.75	3.22	3.44	3.32	3.27	3.27	3.26		
		(8.0)	(9.4)	(9.0)	(9.4)	(2.6)	(6.0)	(12.0)		
7	Glc	5.21	3.59	3.84	3.70	c	3.88	c		7.17,
		(8.0)	(9.6)	(9.2)	(9.6)	n.d.	n.d.	(12.0)		8.19
	Glc'	5.37	3.52	3.63	3.35	3.65	3.78	c		
		(3.8)	(9.8)	(9.2)	(9.1)	(2.0)	(6.0)	(12.0)		
8	*N*AcGlc	5.19	3.88	3.56	3.39	3.72	4.12	3.65	1.92	7.07
		(8.1)	(10.3)	(9.2)	(10.1)	(1.7)	(6.4)	(11.2)		8.15
	*N*AcGlc'	4.41	3.60	n.d.	3.32	3.39	3.79	3.60	1.88	
		(8.6)	(10.2)	(9.2)	(9.6)	(1.3)	(5.6)	(12.0)		
9	Man	5.68	4.18	4.13	3.91	d	3.87	d		7.20
		(1.6)	(3.2)	(9.5)	(9.0)	(2.0)	n.d.	(12.2)		8.18
	Man'	4.68	3.96	3.57	3.48	3.36	d	d		
		(<1)	(2.9)	(9.7)	(9.4)	(2.0)	(7.2)	(12.2)		
10	Man	5.40	4.18	e	e	e	e	e		7.09
		(<1)	(2.1)	n.d.	n.d.	n.d.	n.d.	n.d.		8.13
	Man'	4.65	3.96	3.54	3.45	3.33	e	e		
		(<1)	(2.9)	(9.7)	(9.5)	(2.1)	(6.6)	n.d.		
11	Man	5.25	5.58	5.20	3.98	3.80	4.34	4.23	1.93 -	6.98
		(1.0)	(3.5)	(9.2)	(9.2)	(3.0)	(6.1)	(12.2)	2.28	8.12
	Man'	4.69	5.37	4.98	5.16	3.59	4.09	4.24	(7s, 3H	
		(<1)	(3.2)	(9.8)	(9.6)	(3.1)	(5.6)	(12.2)	each)	

a. ^{1}H NMR spectra of **6 - 10** were recorded in D_2O with acetonitrile as internal standard at 1.98 ppm; **11** was measured in $CDCl_3$.

b. reducing terminus: Hex; nonreducing terminus: Hex'.

c. 3.67 - 3.76 (mc, 3H) d. 3.62 - 3.70 (mc, 4H)

e. 3.58 - 3.86 (mc, 7H) n.d.: not determined

TABLE 4. ^{13}C NMR Data of 3a-e, g-i, 6, 7 and 11.

Compound		Chemical Shift δ/ppm[a] C1	C2	C3	C4	C5	C6	C(aglycon)[b]
3a		97.82	67.08	69.73	63.66	73.02	57.83	53.68
3b		96.42	67.52	69.91	63.74	73.14	57.94	62.45; 11.12
3c		96.72	67.52	69.99	63.82	73.18	58.01	68.54; 19.06; 6.56
3d		96.70	67.51	69.98	63.80	73.16	57.98	66.69; 27.73; 15.43; 9.99
3e		96.68	67.52	69.98	63.79	73.16	57.98	67.00; 27.74; 25.47; 21.70; 18.83; 10.22
3g		94.65	68.06	70.07	63.79	73.14	57.99	19.17; 68.92(CH); 17.73
3h[c]		95.86	67.87	70.10	63.81	73.14	58.00	16.73/ 15.07; 74.86/73.56(CH);
		94.35	68.17					26.10/25.13(CH_2); 6.11/ 6.64
3i		94.47	68.12	70.06	63.74	73.12	57.96	74.78(CH); 29.73; 21.94; 20.64; 20.81; 28.30
6	Glc	95.97	79.23	73.23	66.96	73.96	58.49	159.45, 114.20 (2C), 124.17 (2C), 140.65
	Glc'	100.81	71.66	73.41	67.15	73.82	58.07	
7	Glc	97.29	70.64	73.87	74.39	72.93	58.48	159.87, 114.51 (2C), 124.12(2C), 140.64
	Glc'	97.66	69.68	70.85	67.35	70.76	58.46	
10	Man	94.68	68.14	70.41	72.75	74.07	58.64	113.95 (2C), 123.71 (2C), 145.95
	Man'	97.84	67.32	68.93	64.32	73.99	58.00	

a. ^{13}C NMR spectra were recorded in D_2O with acetone as internal standard at 27.14 ppm.

b,c. see Table 2.

TABLE 5. Incubation Times and Optical Rotations.

Incubation Times	Compounds 3a	3b	3c	3d	3e	3f	3g	3h	3i
with β-mannosidase	1 d	1 d	2 d	2 d	3 d	5 d	5d	5 d	3 d
with β-galactosidase	2 d	3 d	2 d	2 d	6 d	5 d	2d	3 d	10 d
Opt. Rotation $[\alpha]_D^{20}$	-54.3°	-22.9°	-25.6°	-26.2°	n. d.	n. d.	-40.0°	-35.1°	n. d.
Concentration									
(g/ 100 mL) in H_2O	0.48	0.69	0.16	0.23			0.23	0.25	

n. d.: not determined, due to impurities and small amounts of product