

**Table S2.** Exoglycosidase treatments of glycan fractions and their elucidated structures.

Fraction #	Theoretical $m/z$	Experimental $m/z$	Mass Error (ppm)	Glycan Composition	Exoglycosidase	Relative Retention Time (min)	Structure
33	967.86	967.86	0.2	Hex <sub>3</sub> HexNAc <sub>4</sub> Neu5Ac <sub>1</sub> + ol	--	0	
33a	822.31	822.31	-2.2	Hex <sub>3</sub> HexNAc <sub>4</sub> + ol	$\alpha$ -2,3-sialidase	-4.81	
33b	785.29	785.29	-4.9	Hex <sub>3</sub> HexNAc <sub>3</sub> Neu5Ac <sub>1</sub> + ol	$\beta$ -1,4-galactosidase; $\beta$ -GlcNAcase; $\alpha$ -1,3-mannosidase	-1.79	
38	858.32	858.32	-3.3	Hex <sub>4</sub> HexNAc <sub>3</sub> Fuc <sub>1</sub> Neu5Ac <sub>1</sub> + ol	--	0	
38a	712.77	712.78	7.3	Hex <sub>4</sub> HexNAc <sub>3</sub> Fuc <sub>1</sub> + ol	$\alpha$ -2,3-sialidase	-5.12	
38b	858.32	858.32	-3.3	Hex <sub>4</sub> HexNAc <sub>3</sub> Fuc <sub>1</sub> Neu5Ac <sub>1</sub> + ol	$\alpha$ -1,3-mannosidase	-0.45	
22	1142.43	1142.43	1.9	Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> Neu5Ac <sub>1</sub> + ol	--	0	
22a	996.88	996.88	-0.8	Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> + ol	$\alpha$ -2,3-sialidase	-4.72	

22b	1142.43	1142.43	1.9	Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> Neu5Ac <sub>1</sub> + ol	β-GlcNAcase	0.09	
29	947.35	947.34	-6.1	Hex <sub>5</sub> HexNAc <sub>3</sub> Neu5Ac <sub>1</sub> + ol	--	0	
29a	801.80	801.80	1.5	Hex <sub>6</sub> HexNAc <sub>3</sub> + ol	α-2,3-sialidase	-5.10	
29c	947.35	947.34	-6.1	Hex <sub>5</sub> HexNAc <sub>3</sub> Neu5Ac <sub>1</sub> + ol	α-1,3-mannosidase	-0.05	
19	1215.46	1215.46	2.6	Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>2</sub> Neu5Ac <sub>1</sub> + ol	--	0	
19a	1069.91	1069.91	0.6	Hex <sub>5</sub> HexNAc <sub>5</sub> Fuc <sub>2</sub> + ol	α-2,3-sialidase	-5.12	
19b	1215.46	1215.45	-5.6	Hex <sub>3</sub> HexNAc <sub>5</sub> Fuc <sub>2</sub> Neu5Ac <sub>1</sub> + ol	β-GlcNAcase	-0.06	
18	1061.40	1061.40	-1.6	Hex <sub>4</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> Neu5Ac <sub>1</sub> + ol	--	0	
18a	915.85	915.85	-4.3	Hex <sub>4</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> + ol	α-2,3-sialidase	-4.61	

18b	1061.40	1061.40	-1.6	Hex <sub>2</sub> HexNAc <sub>5</sub> Fuc <sub>1</sub> Neu5Ac <sub>1</sub> + ol	β-GlcNAcase	0.02	
11	1069.40	1069.40	0.8	Hex <sub>5</sub> HexNAc <sub>3</sub> Neu5Ac <sub>1</sub> + ol	--	0	
11a	923.85	923.85	-1.5	Hex <sub>5</sub> HexNAc <sub>3</sub> + ol	α-2,3-sialidase	-4.80	
11b	1069.40	1069.40	0.8	Hex <sub>5</sub> HexNAc <sub>3</sub> Neu5Ac <sub>1</sub> + ol	β-GlcNAcase	0.02	