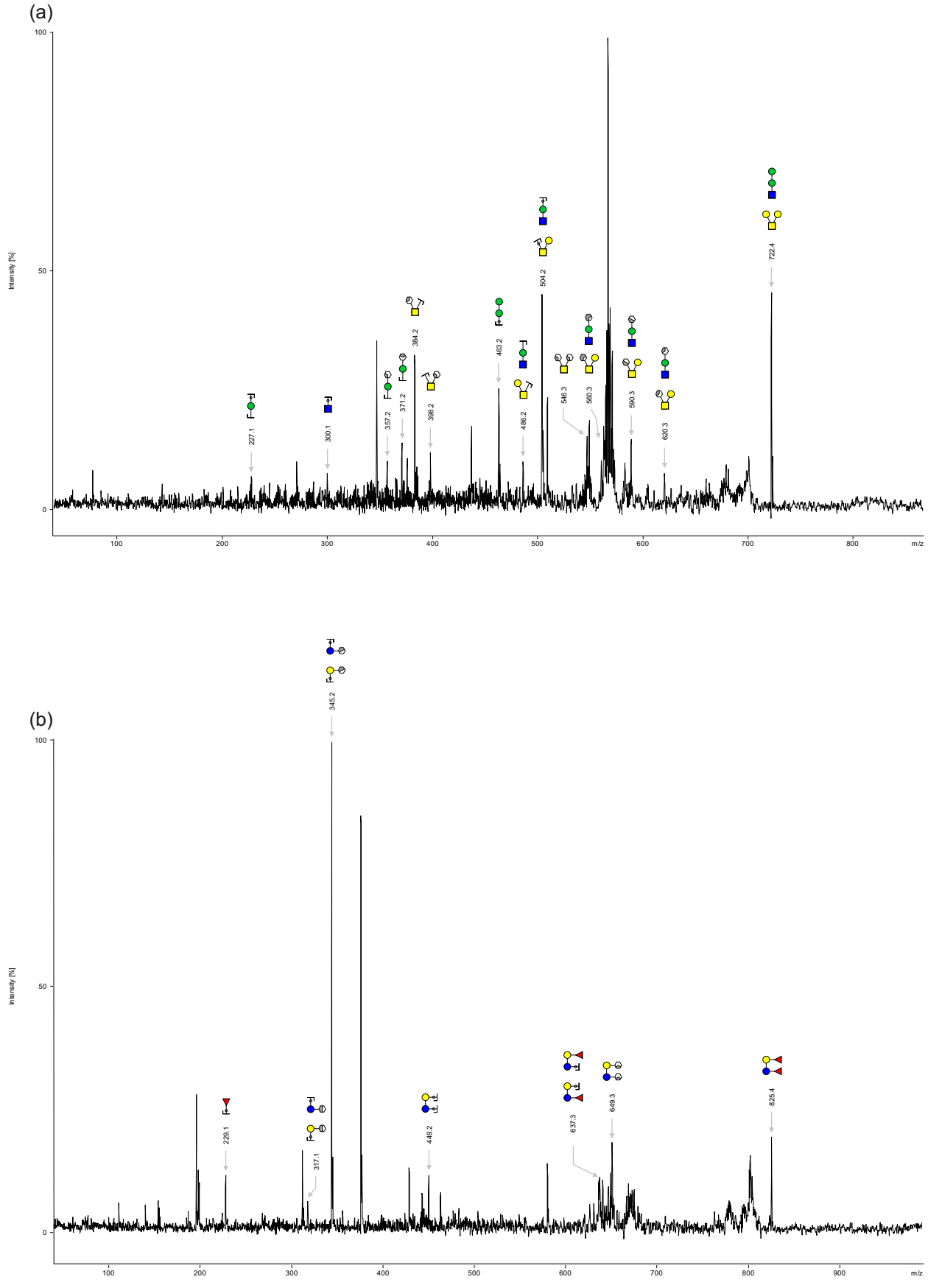
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300.1
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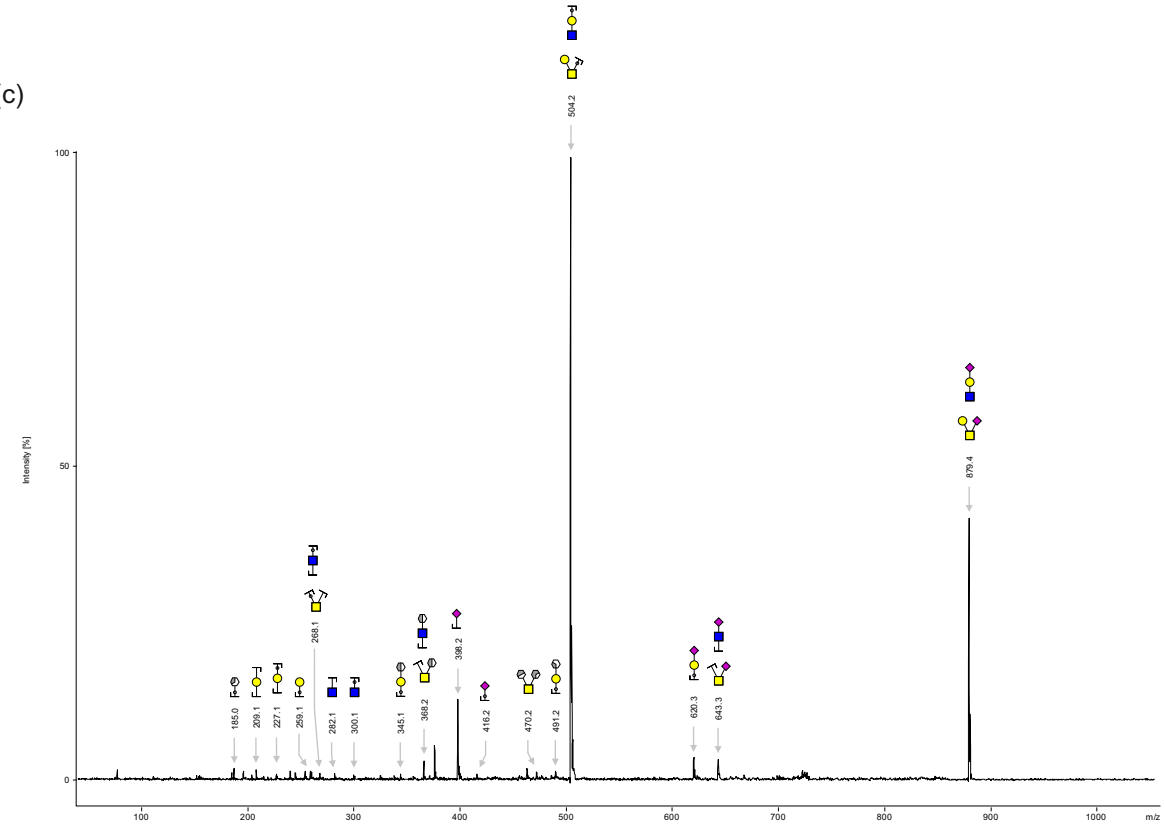
371.2
384.2
398.2
463.2
486.2
504.2
546.3
560.3
590.3
620.3
722.4
100
200
300
400
500
600
700
800
m/z
(b)
Intensity [%]
100
50
0
229.1
317.1
345.2
448.2
637.3
649.3
825.4
100
200
300
400
500
600
700
800
900
m/z

(c)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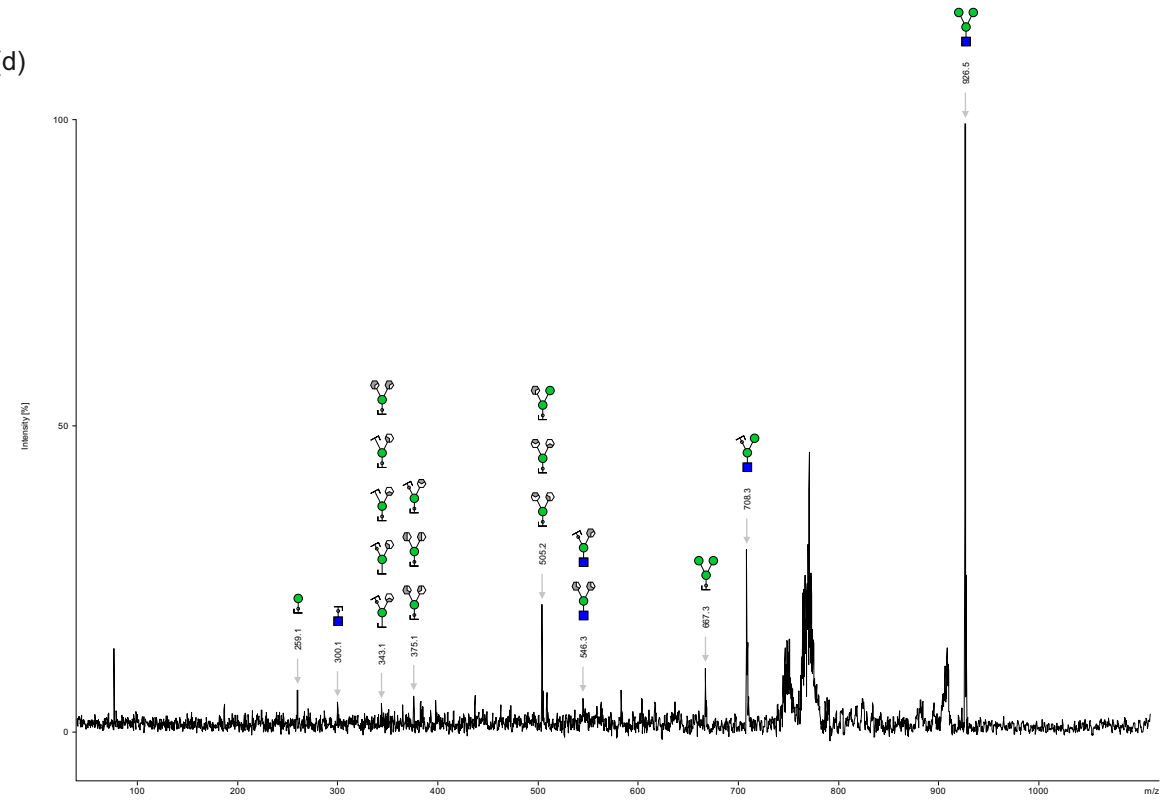
416.2
470.2
491.2
504.2
620.3
643.3
879.4
100
200
300
400
500
600
700
800
900
1000
m/z

(d)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708.3
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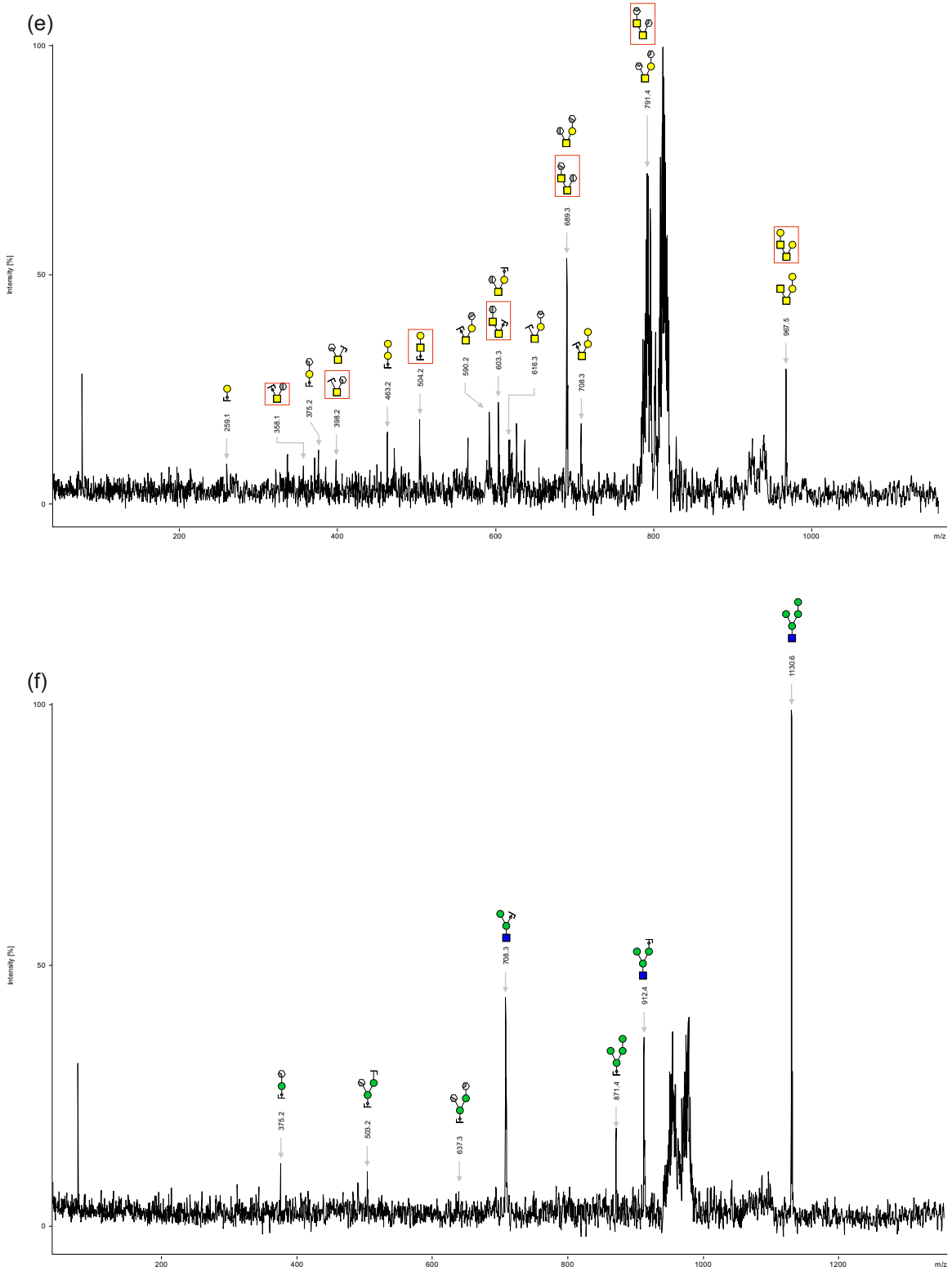
300
400
500
600
700
800
900
1000
m/z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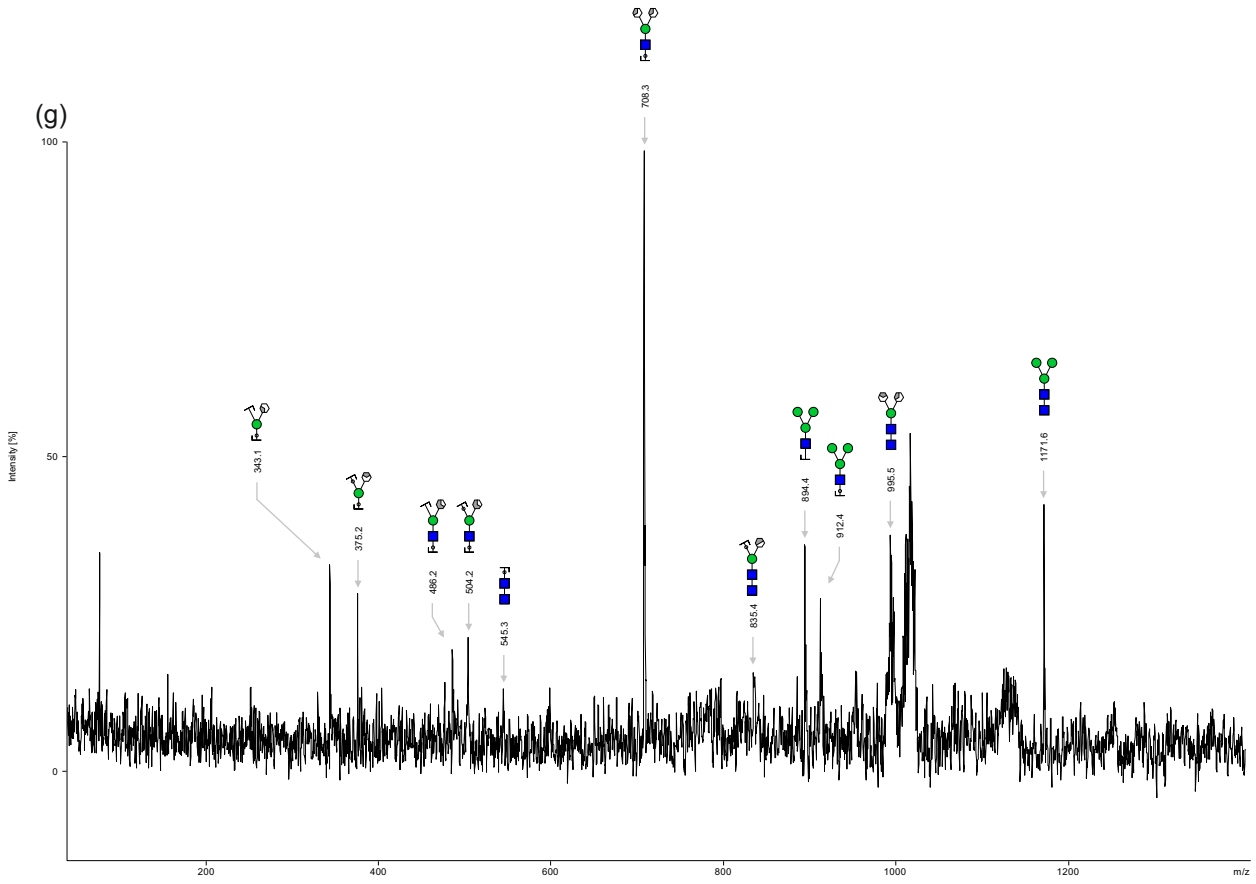
398.2
463.2
504.2
590.2
603.3
616.3
689.3
708.3
791.4
967.5
200
400
600
800
1000
m/z
(f)
Intensity [%]
100
50
0
375.2
503.2
637.3
708.3
871.4
912.4
1130.6
200
400
600
800
1000
1200
m/z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Intensity [%]
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486.2
504.2
545.3
708.3
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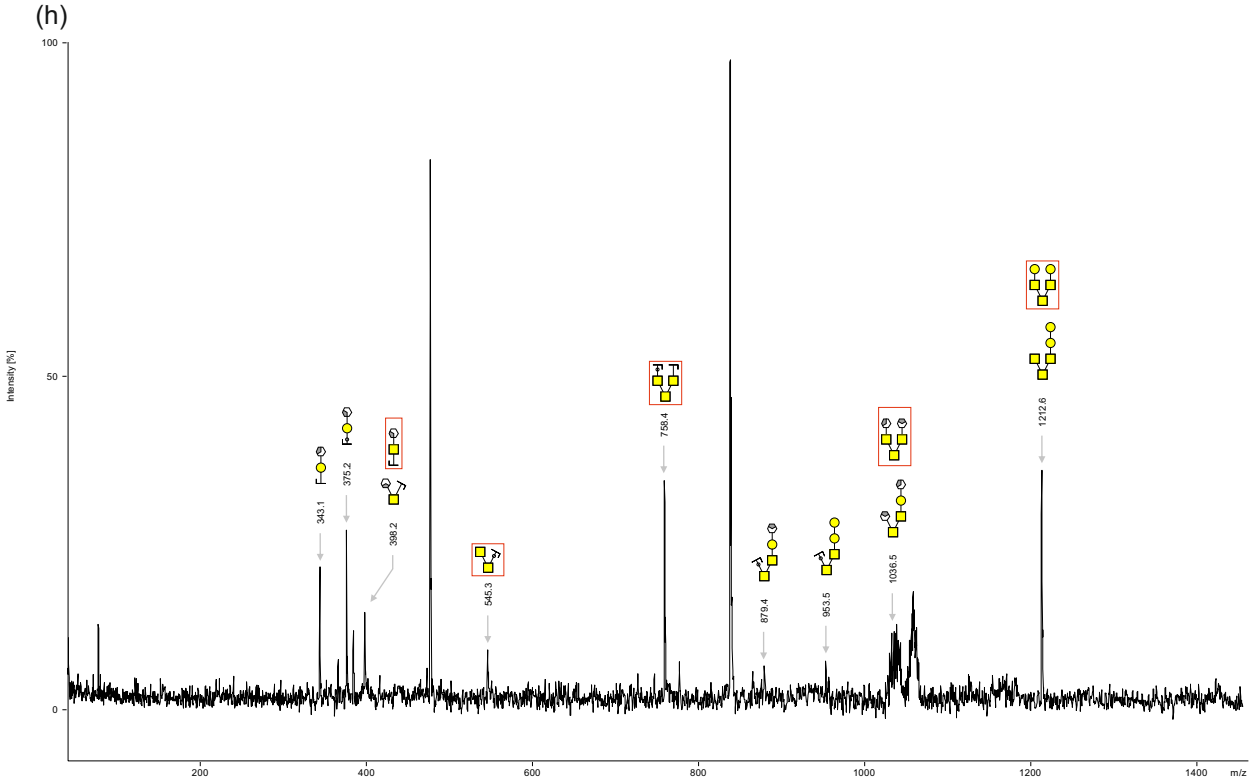
1171.6
200
400
600
800
1000
1200
m/z


(h)
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400
600
800
1000
1200
1400
m/z

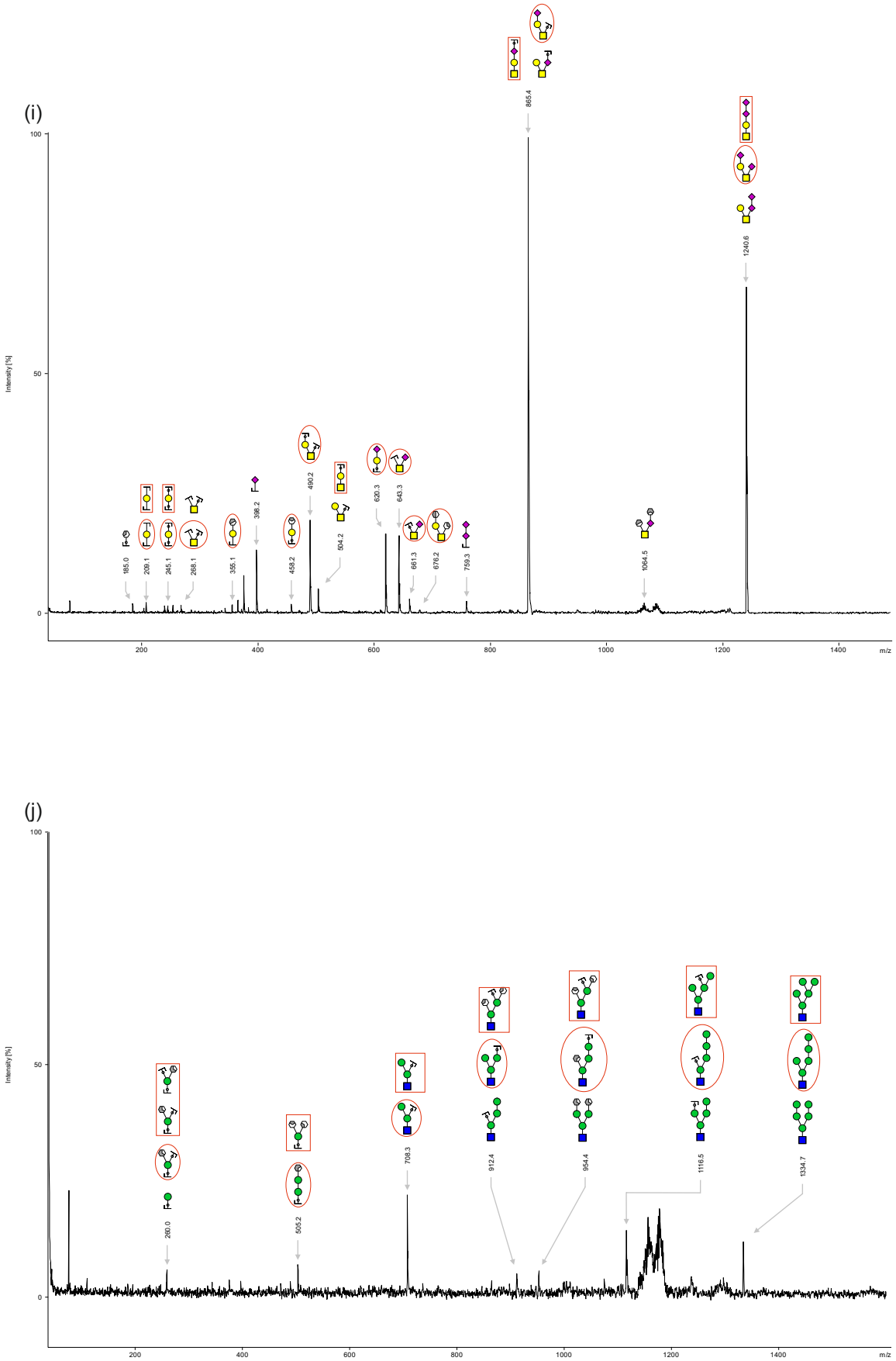
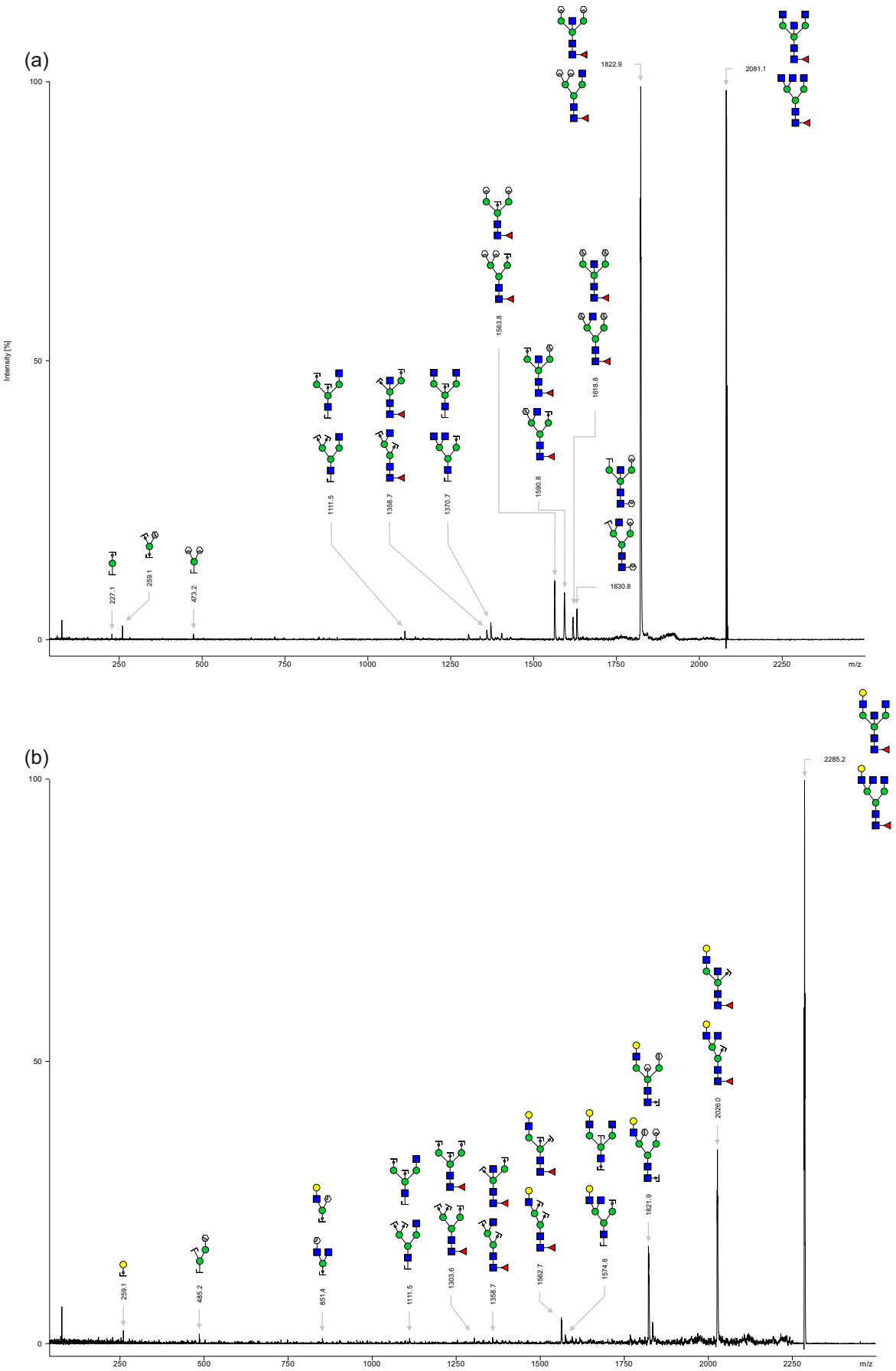


Figure S1. MALDI-TOF/TOF mass spectra of the $[M + Na]^+$ molecular ions at *m/z* (a) 722.4, (b) 825.4, (c) 879.4, (d) 926.5, (e) 967.5, (f) 1130.6, (g) 1171.6, (h) 1212.6, (i) 1240.6, (j) 1334.7 derived from free glycans isolated from CSF. Registered fragments may be formed by different fragmentation pathways, only one of which is depicted in the figure. Green circle, Man; yellow circle, Gal; yellow square, GalNAc; blue square, GlcNAc; red triangle, Fuc; Neu5Ac: pink diamond.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1111.5
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1822.9
2081.1
250
500
750
1000
1250
1500
1750
2000
2250
m/z
(b)
100
50
0
259.1
485.2
851.4
1111.5
1303.6
1358.7
1562.7
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2026.0
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1000
1250
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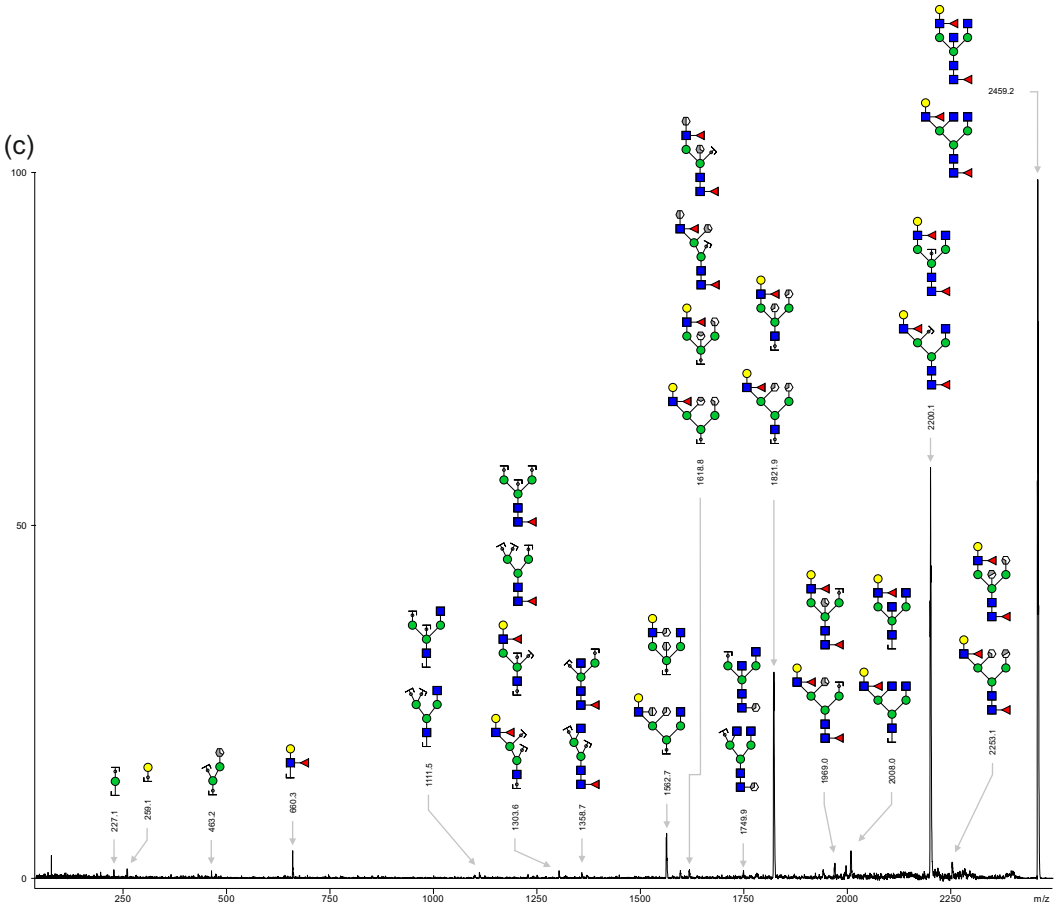
1750
2000
2250
m/z


(c)
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0
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463.2
660.3
1111.5
1303.6
1358.7
1562.7
1618.8
1749.9
1821.9
1969.0
2008.0
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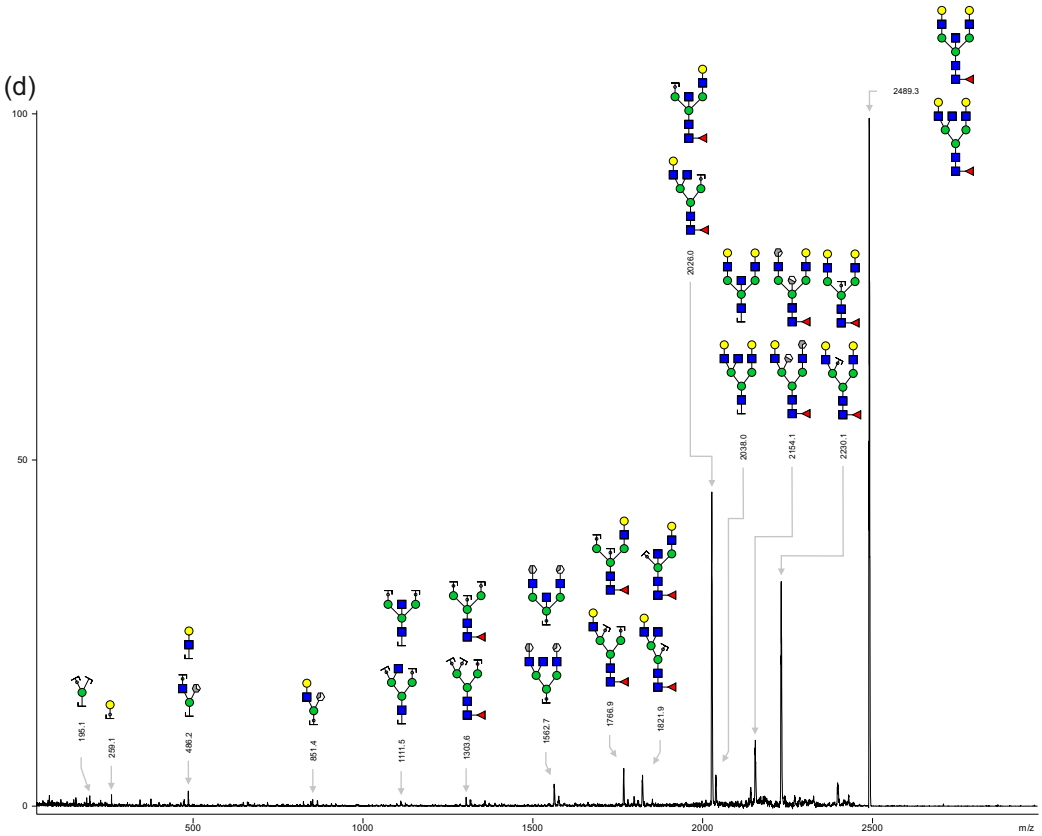
1000
1250
1500
1750
2000
2250
m/z


(d)
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0
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259.1
486.2
851.4
1111.5
1303.6
1562.7
1766.9
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2026.0
2038.0
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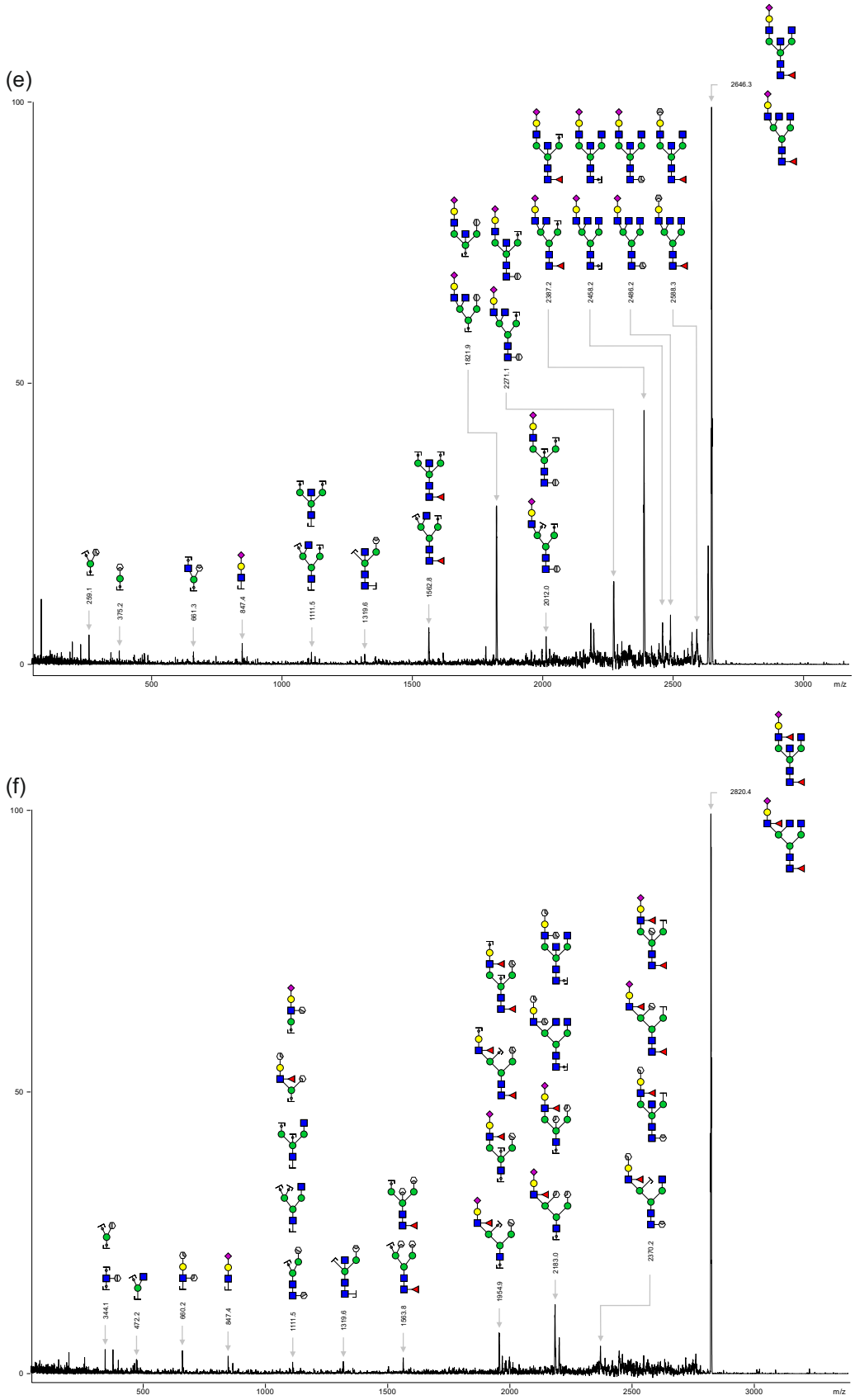
2230.1
2489.3
500
1000
1500
2000
2500
m/z


(e)
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0
259.1
375.2
661.3
847.4
1111.5
1319.6
1562.8
1821.9
2012.0
2271.1
2387.2
2458.2
2496.2
2588.3
2646.3
500
1000
1500
2000
2500
3000
m/z
(f)
100
50
0
344.1
472.2
660.2
847.4
1111.5
1319.6
1563.8
1954.9
2183.0
2370.2
2820.4
500
1000
1500
2000
2500
3000
m/z

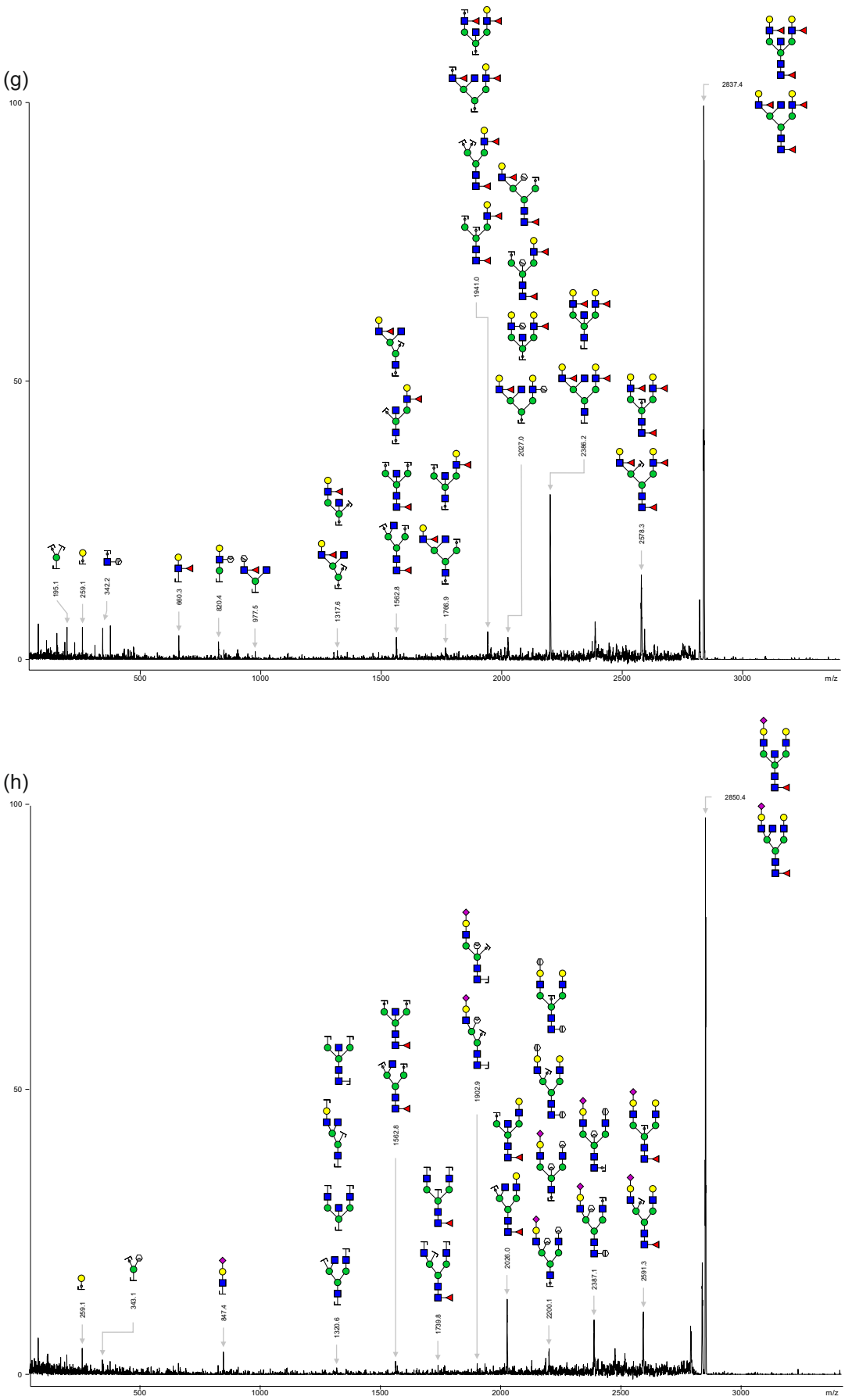

Figure S2. MALDI-TOF/TOF mass spectra of the [M + Na]+ molecular ions at m/z (a) 2081.1, (b) 2285.2 (c) 2459.2 (d) 2489.3 (e) 2646.3, (f) 2820.4 (g) 2837.4, (h) 2850.4, derived from N-glycans isolated from CSF. Registered fragments may be formed by different fragmentation pathway which is depicted in the figure. Green circle, Man; yellow circle, Gal; blue square, GlcNAc; red triangle, Fuc; Neu5Ac: pink diamond.

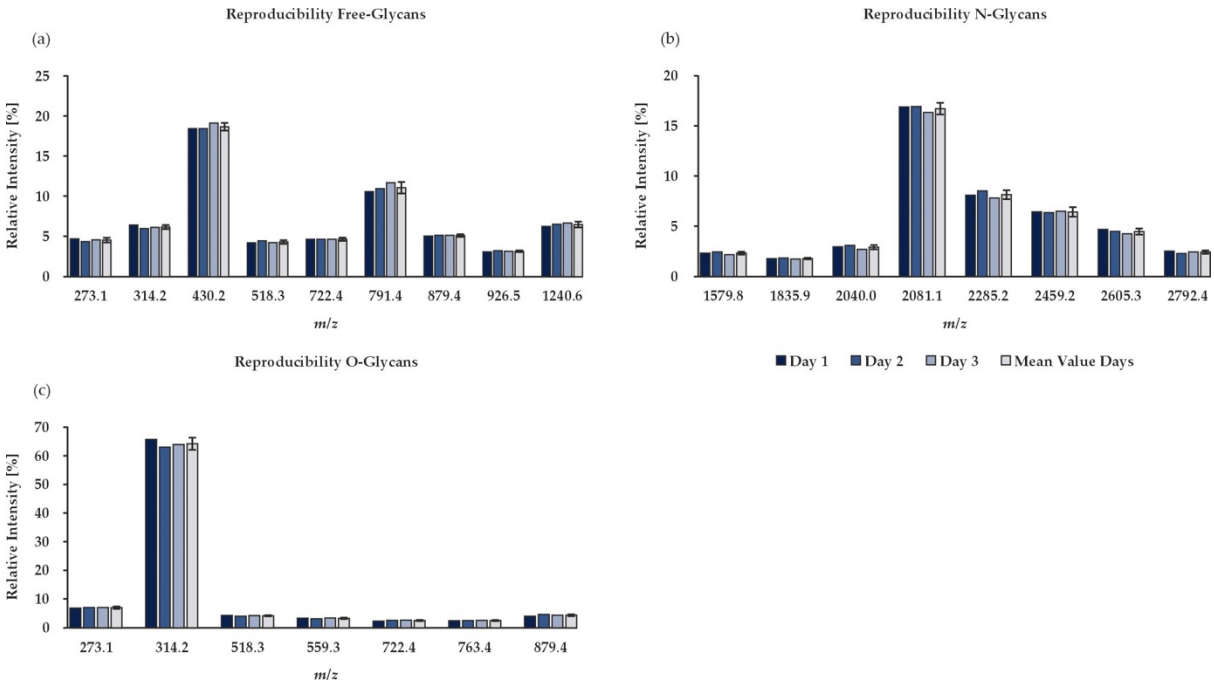

Figure S3: Inter-day reproducibility of the analytical workflow used to prepare (a) free glycans, (b) N-glycans and (c) O-glycans from CSF. Average is shown as mean ± SD.

Supplementary Material: Tables

Table S1: Two-way analysis of variance (ANOVA) to assess any statistical significance of gender in the dataset of free-glycans. P-values ≤ 0.05 were considered as statistically significant and p-values ≤ 0.01 as highly significant.

m/z	Composition	Significance Levene-Test	Significance - Group	Significance – Sex	Significance – Group * Sex
273.1	Hex_1	0.002	0.000	0.799	0.658
314.2	$HexNAc_1$	0.098	0.003	0.217	0.457
430.2	$Neu5Ac_1$	0.034	0.682	0.462	0.708
518.3	$Hex_1HexNAc_1$	0.000	0.000	0.546	0.262
559.3	$HexNAc_2$	0.001	0.000	0.165	0.276
675.3	$Neu5Ac_1HexNAc_1$	0.003	0.000	0.083	0.214
722.4	$Hex_2HexNAc_1$	0.004	0.000	0.500	0.770
733.4	$Fuc_1HexNAc_2$	0.009	0.000	0.482	0.289
791.4	$Neu5Ac_2$	0.001	0.025	0.584	0.584
825.4	Fuc_2Hex_2	0.031	0.033	0.901	0.974
879.4	$NeuAc_1Hex_1HexNAc_1$	0.209	0.000	0.733	0.364
926.5	$Hex_3HexNAc_1$	0.003	0.000	0.592	0.802
967.5	$Hex_2HexNAc_2$	0.000	0.000	0.215	0.675
1130.6	$Hex_4HexNAc_1$	0.000	0.000	0.919	0.954
1171.6	$Hex_3HexNAc_2$	0.000	0.002	0.200	0.818
1212.6	$Hex_2HexNAc_3$	0.006	0.143	0.238	0.857
1240.6	$Neu5Ac_2Hex_1HexNAc_1$	0.927	0.032	0.789	0.494
1334.7	$Hex_5HexNAc_1$	0.002	0.000	0.974	0.971
1601.8	$Neu5Ac_3Hex_1HexNAc_1$	0.930	0.000	0.451	0.516

Table S2: Two-way analysis of variance (ANOVA) to evaluate the statistical significance of gender in the dataset of N-glycans. P-values ≤ 0.05 were considered as statistically significant and p-values ≤ 0.01 as highly significant.

m/z	Composition	Significance Levene-Test	Significance Patient Groups	Significance – Sex	Significance – Group * Sex
1579.8	$Hex_5HexNAc_2$	0.001	0.002	0.001	0.282
1661.8	$Hex_3HexNAc_4$	0.007	0.000	0.357	0.030
1783.9	$Hex_6HexNAc_2$	0.001	0.025	0.438	0.566
1835.9	$Fuc_1Hex_3HexNAc_4$	0.000	0.012	0.422	0.013
2040.0	$Fuc_1Hex_4HexNAc_4$	0.005	0.188	0.041	0.129
2070.0	$Hex_5HexNAc_4$	0.002	0.506	0.780	0.937
2081.1	$Fuc_1Hex_3HexNAc_5$	0.000	0.006	0.023	0.109
2111.1	$Hex_4HexNAc_5$	0.118	0.004	0.770	0.540
2214.1	$Fuc_2Hex_4HexNAc_4$	0.354	0.006	0.214	0.010
2244.1	$Fuc_1Hex_5HexNAc_4$	0.008	0.003	0.006	0.736
2285.2	$Fuc_1Hex_4HexNAc_5$	0.000	0.137	0.574	0.359
2431.2	$Neu5Ac_1Hex_5HexNAc_4$	0.025	0.254	0.723	0.312
2459.2	$Fuc_2Hex_4HexNAc_5$	0.016	0.000	0.000	0.972
2489.3	$Fuc_1Hex_5HexNAc_5$	0.009	0.009	0.045	0.766
2592.3	$Fuc_3Hex_5HexNAc_4$	0.051	0.023	0.939	0.731
2605.3	$Neu5Ac_1Fuc_1Hex_5HexNAc_4$	0.002	0.000	0.014	0.971
2646.3	$Neu5Ac_1Fuc_1Hex_4HexNAc_5$	0.008	0.000	0.189	0.966
2792.4	$Neu5Ac_2Hex_5HexNAc_4$	0.105	0.076	0.576	0.724
2820.4	$Neu5Ac_1Fuc_2Hex_4HexNAc_5$	0.273	0.048	0.835	0.950
2837.4	$Fuc_3Hex_5HexNAc_5$	0.026	0.001	0.188	0.448
2850.4	$Neu5Ac_1Fuc_1Hex_5HexNAc_5$	0.003	0.000	0.977	0.657
2966.5	$Neu5Ac_2Fuc_1Hex_5HexNAc_4$	0.000	0.000	0.060	0.866

Table S3: Two-way analysis of variance (ANOVA) to evaluate the statistical significance of gender in the dataset of O-glycans. P-values ≤ 0.05 were considered as statistically significant and p-values ≤ 0.01 as highly significant.

m/z	Composition	Significance Levene-Test	Significance – Patient Groups	Significance – Sex	Significance – Group * Sex
273.1	Hex_1	0.000	0.000	0.036	0.006
314.2	$HexNAc_1$	0.145	0.002	0.104	0.197
518.3	$Hex_1HexNAc_1$	0.002	0.000	0.416	0.633
559.3	$HexNAc_2$	0.309	0.000	0.856	0.823
675.3	$NeuAc_1HexNAc_1$	0.871	0.001	0.941	0.563
722.4	$Hex_2HexNAc_1$	0.962	0.000	0.747	0.720
763.4	$Hex_1HexNAc_2$	0.383	0.000	0.987	0.777
804.4	$HexNAc_3$	0.132	0.000	0.668	0.436
825.4	Fuc_2Hex_2	0.102	0.000	0.923	0.270
879.4	$NeuAc_1Hex_1HexNAc_1$	0.000	0.000	0.551	0.423
967.5	$Hex_2HexNAc_2$	0.057	0.001	0.907	0.540
1124.6	$Neu5Ac_1Hex_1HexNAc_2$	0.066	0.003	0.029	0.918
1240.6	$NeuAc_2Hex_1HexNAc_1$	0.000	0.000	0.091	0.575

Table S4: N-Glycans detected in this study by MALDI-TOF-MS.

m/z	Composition	
1171.6	$Hex_3HexNAc_2$	
1345.7	$Fuc_1Hex_3HexNAc_2$	
1375.7	$Hex_4HexNAc_2$	
1579.8	$Hex_5HexNAc_2$	
1590.8	$Fuc_1Hex_3HexNAc_3$	
1620.8	$Hex_4HexNAc_3$	
1661.8	$Hex_3HexNAc_4$	
1753.9	$Fuc_1Hex_5HexNAc_2$	
1783.9	$Hex_6HexNAc_2$	
1794.9	$Fuc_1Hex_4HexNAc_3$	
1835.9	$Fuc_1Hex_3HexNAc_4$	
1865.9	$Hex_4HexNAc_4$	
1907.0	$Hex_3HexNAc_5$	
1982.0	$Neu5Ac_1Hex_4HexNAc_3$	
1988.0	$Hex_7HexNAc_2$	
1999.0	$Fuc_1Hex_5HexNAc_3$	
2010.0	$Fuc_2Hex_3HexNAc_5$	
2029.0	$Hex_6HexNAc_3$	
2040.0	$Fuc_1Hex_4HexNAc_4$	
2070.0	$Hex_5HexNAc_4$	
2081.1	$Fuc_1Hex_3HexNAc_5$	
2111.1	$Hex_4HexNAc_5$	
2152.1	$Hex_3HexNAc_6$	
2156.1	$Neu5Ac_1Fuc_1Hex_4HexNAc_3$	
2192.1	$Hex_8HexNAc_2$	
2214.1	$Fuc_2Hex_4HexNAc_4$	
2227.1	$Neu5Ac_1Hex_4HexNAc_4$	
2244.1	$Fuc_1Hex_5HexNAc_4$	
2285.2	$Fuc_1Hex_4HexNAc_5$	
2315.2	$Hex_5HexNAc_5$	
2326.2	$Fuc_1Hex_3HexNAc_6$	
2360.2	$Neu5Ac_1Fuc_1Hex_5HexNAc_3$	
2390.2	$Neu5Ac_1Hex_6HexNAc_3$	
2396.2	$Hex_9HexNAc_2$	
2401.2	$Neu5Ac_1Fuc_1Hex_4HexNAc_4$	
2418.2	$Fuc_2Hex_5HexNAc_4$	
2431.2	$Neu5Ac_1Hex_5HexNAc_4$	
2459.2	$Fuc_2Hex_4HexNAc_5$	

2472.2	$Neu5Ac_1Hex_4HexNAc_5$	
2489.3	$Fuc_1Hex_5HexNAc_5$	
2519.3	$Hex_6HexNAc_5$	
2530.3	$Fuc_1Hex_4HexNAc_6$	
2560.3	$Hex_5HexNAc_6$	
2564.3	$Neu5Ac_1Fuc_1Hex_6HexNAc_3$	
2592.3	$Fuc_3Hex_5HexNAc_4$	
2605.3	$Neu5Ac_1Fuc_1Hex_5HexNAc_4$	
2646.3	$Neu5Ac_1Fuc_1Hex_4HexNAc_5$	
2663.3	$Fuc_2Hex_5HexNAc_5$	
2676.3	$Neu5Ac_1Hex_5HexNAc_5$	
2693.4	$Fuc_1Hex_6HexNAc_5$	
2704.4	$Fuc_2Hex_4HexNAc_6$	
2717.4	$Neu5Ac_1Hex_4HexNAc_6$	
2734.4	$Fuc_1Hex_5HexNAc_6$	
2749.5	$Neu5Ac_1Fuc_3Hex_4HexNAc_4$	
2764.4	$Hex_6HexNAc_6$	
2792.4	$Neu5Ac_2Hex_5HexNAc_4$	
2820.4	$Neu5Ac_1Fuc_2Hex_4HexNAc_5$	
2837.4	$Fuc_3Hex_5HexNAc_5$	
2850.4	$Neu5Ac_1Fuc_1Hex_5HexNAc_5$	
2880.4	$Neu5Ac_1Hex_6HexNAc_5$	
2891.5	$Neu5Ac_1Fuc_1Hex_4HexNAc_6$	
2908.5	$Fuc_2Hex_5HexNAc_6$	
2921.5	$Neu5Ac_1Hex_5HexNAc_6$	
2966.5	$Neu5Ac_2Fuc_1Hex_5HexNAc_4$	

Table S5: ROC curves were generated for free glycans using 89 patients with AD. 86 disease control patients and 87 healthy control patients.

m/z	Composition	AD – Disease Control	AD – Healthy Control	Disease Control – Healthy Control
273.1	Hex_1	0.85	0.76	0.45
314.2	$HexNAc_1$	0.55	0.39	0.37
430.2	$Neu5Ac_1$	0.51	0.55	0.53
518.3	$Hex_1HexNAc_1$	0.24	0.15	0.44
559.3	$HexNAc_2$	0.41	0.25	0.34
675.3	$NeuAc_1HexNAc_1$	0.29	0.13	0.30
722.4	$Hex_2HexNAc_1$	0.38	0.17	0.33
733.4	$Fuc_1HexNAc_2$	0.27	0.26	0.50
791.4	$Neu5Ac_2$	0.46	0.53	0.57
825.4	Fuc_2Hex_2	0.39	0.39	0.49
879.4	$NeuAc_1Hex_1HexNAc_1$	0.21	0.30	0.59
926.5	$Hex_3HexNAc_1$	0.32	0.25	0.46
967.5	$Hex_2HexNAc_2$	0.34	0.28	0.50
1130.6	$Hex_4HexNAc_1$	0.33	0.33	0.53
1171.6	$Hex_3HexNAc_2$	0.39	0.44	0.57
1212.6	$Hex_2HexNAc_3$	0.50	0.44	0.44
1240.6	$NeuAc_2Hex_1HexNAc_1$	0.39	0.48	0.58
1334.7	$Hex_5HexNAc_1$	0.35	0.42	0.58
1601.8	$NeuAc_3Hex_1HexNAc_1$	0.46	0.71	0.72

Table S6: Correlations were calculated between the free glycans Hex_1 (m/z 273.1), $HexNAc_1Hex_1Neu5Ac_1$ (m/z 879.4) and CSF parameters using the using the Spearman´s rank correlation coefficient, $p< 0.05$ was considered as statistically significant.

Hex_1							
	MMSE	Age of patients	Aβ40	Aβ42	Aβ-Ratio	pTau	tTau
AD	0,232	0,550	0,001	0,147	0,238	0,031	0,024
HC	0,792	0,943	0,002	0,031	0,598	0,000	0,015
DC	0,001	0,645	0,000	0,000	0,239	0,264	0,888
$HexNAc_1Hex_1Neu5Ac_1$							
AD	0,178	0,430	0,822	0,742	0,959	0,577	0,749
HC	0,508	0,321	0,000	0,068	0,585	0,004	0,060
DC	0,051	0,400	0,009	0,029	0,559	0,961	0,227

Table S7: Mean relative areas and standard deviations of N-glycans isolated from the three patient cohorts as judged by MALDI-TOF-MS. AD: Alzheimer´s disease, DC: disease control and HC: healthy control.

m/z	Composition	AD patients [%]		Disease control patients [%]		Healthy control patients [%]	
		Males	**Females**	**Males**	**Females**	**Males**	**Females**
1579.8	$Hex_5HexNAc_2$	6.13 ± 1.74	6.74 ± 1.69	5.84 ± 1.94	7.36 ± 2.66	7.23 ± 2.23	7.80 ± 2.79
1661.8	$Hex_3HexNAc_4$	1.12 ± 0.36	1.00 ± 0.36	1.21 ± 0.43	1.40 ± 0.54	1.10 ± 0.34	1.17 ± 0.32
1783.9	$Hex_6HexNAc_2$	0.99 ± 0.19	1.05 ± 0.19	1.12 ± 0.36	1.10 ± 0.29	1.11 ± 0.23	1.13 ± 0.24
1835.9	$Fuc_1Hex_3HexNAc_4$	4.65 ± 1.13	4.10 ± 1.16	4.74 ± 2.21	5.46 ± 2.29	4.82 ± 1.69	4.13 ± 1.11
2040.0	$Fuc_1Hex_4HexNAc_4$	3.98 ± 0.79	3.38 ± 0.93	3.89 ± 1.65	4.02 ± 1.19	4.22 ± 1.30	3.75 ± 1.07
2070.0	$Hex_5HexNAc_4$	0.99 ± 0.21	0.98 ± 0.19	0.97 ± 0.29	0.99 ± 0.29	1.01 ± 0.23	1.02 ± 0.17
2081.1	$Fuc_1Hex_3HexNAc_5$	17.38 ± 3.73	17.68 ± 2.52	15.20 ± 5.71	17.96 ± 3.55	18.41 ± 3.74	18.91 ± 4.20
2111.1	$Hex_4HexNAc_5$	1.09 ± 0.33	1.05 ± 0.36	1.22 ± 0.43	1.30 ± 0.35	1.14 ± 0.38	1.13 ± 0.26
2214.1	$Fuc_2Hex_4HexNAc_4$	1.40 ± 0.30	1.37 ± 0.31	1.14 ± 0.32	1.35 ± 0.32	1.30 ± 0.26	1.26 ± 0.24
2244.1	$Fuc_1Hex_5HexNAc_4$	1.73 ± 0.31	1.54 ± 0.29	1.64 ± 0.56	1.54 ± 0.33	1.87 ± 0.45	1.72 ± 0.37
2285.2	$Fuc_1Hex_4HexNAc_5$	6.64 ± 1.28	6.54 ± 0.96	5.93 ± 2.17	6.41 ± 1.44	6.31 ± 1.17	6.24 ± 1.04
2431.2	$Neu5Ac_1Hex_5HexNAc_4$	2.97 ± 0.85	3.24 ± 1.24	2.90 ± 1.64	2.73 ± 0.94	3.00 ± 1.12	2.74 ± 1.13
2459.2	$Fuc_2Hex_4HexNAc_5$	6.34 ± 1.37	7.11 ± 1.46	5.34 ± 2.22	6.19 ± 1.65	7.11 ± 1.44	8.00 ± 1.91
2489.3	$Fuc_1Hex_5HexNAc_5$	1.94 ± 0.40	2.11 ± 0.38	1.78 ± 0.60	1.85 ± 0.39	1.87 ± 0.34	1.97 ± 0.42
2592.3	$Fuc_3Hex_5HexNAc_4$	1.09 ± 0.29	1.10 ± 0.27	0.95 ± 0.35	0.98 ± 0.36	1.07 ± 0.26	1.03 ± 0.24
2605.3	$Neu5Ac_1Fuc_1Hex_5HexNAc_4$	3.23 ± 0.60	3.04 ± 0.44	2.73 ± 0.91	2.55 ± 0.63	2.91 ± 0.57	2.68 ± 0.55
2646.3	$Neu5Ac_1Fuc_1Hex_4HexNAc_5$	2.17 ± 0.51	2.08 ± 0.49	1.82 ± 0.70	1.75 ± 0.60	1.75 ± 0.48	1.63 ± 0.42
2792.4	$Neu5Ac_2Hex_5HexNAc_4$	8.58 ± 3.30	8.87 ± 3.47	8.16 ± 4.82	7.62 ± 4.13	7.66 ± 3.60	7.07 ± 4.21
2820.4	$Neu5Ac_1Fuc_2Hex_4HexNAc_5$	1.03 ± 0.37	1.02 ± 0.28	0.91 ± 0.37	0.89 ± 0.38	0.92 ± 0.32	0.93 ± 0.35
2837.4	$Fuc_3Hex_5HexNAc_5$	1.10 ± 0.35	1.23 ± 0.34	1.03 ± 0.46	1.01 ± 0.42	1.19 ± 0.40	1.28 ± 0.34
2850.4	$Neu5Ac_1Fuc_1Hex_5HexNAc_5$	2.12 ± 0.57	2.23 ± 0.59	1.90 ± 0.88	1.85 ± 0.71	1.80 ± 0.55	1.75 ± 0.60
2966.5	$Neu5Ac_2Fuc_1Hex_5HexNAc_4$	2.64 ± 0.85	2.35 ± 0.53	2.25 ± 1.11	2.07 ± 1.09	2.03 ± 0.71	1.87 ± 0.92
other		20.24	19.70	25.56	21.05	19.70	20.23

Table S8: Mean relative areas and standard deviations of O-glycans isolated from the three patient cohorts as judged by MALDI-TOF-MS. AD: Alzheimer´s disease, DC: disease control and HC: healthy control. As m/z 273.1 and 1124.6 were gender-dependent (Supplementary Material Table S3), mean relative areas and standard deviations were calculated separately.

m/z	Composition	AD patients [%]		Disease control patients [%]		Healthy control patients [%]	
		Males	**Females**	**Males**	**Females**	**Males**	**Females**
273.1	Hex_1	22.9 ± 11.1	16.3 ± 10.5	15.3 ± 5.8	15.0 ± 8.2	12.7 ± 4.9	13.2 ± 4.4
1124.6	$Neu5Ac_1Hex_1HexNAc_2$	0.8 ± 0.6	0.7 ± 0.4	0.8 ± 0.5	0.6 ± 0.3	1.0 ± 0.7	0.9 ± 0.4
314.2	$HexNAc_1$	44.2 ± 11.2		50.0 ± 10.6		45.0 ± 12.1	
518.3	$Hex_1HexNAc_1$	8.2 ± 2.0		10.1 ± 4.3		8.5 ± 2.5	
559.3	$HexNAc_2$	5.4 ± 1.4		4.3 ± 1.3		4.9 ± 1.1	
675.3	$Neu5Ac_1HexNAc_1$	3.0 ± 1.3		2.8 ± 1.6		3.6 ± 1.3	
722.4	$Hex_2HexNAc_1$	3.6 ± 1.1		3.1 ± 1.1		4.2 ± 1.2	
763.8	$Hex_1HexNAc_2$	3.0 ± 1.1		2.6 ± 1.1		3.5 ± 1.2	
804.4	$HexNAc_3$	2.3 ± 1.5		2.4 ± 1.5		3.3 ± 1.8	
825.4	Fuc_2Hex_2	2.3 ± 1.0		2.1 ± 1.0		2.9 ± 1.2	
879.4	$Neu5Ac_1Hex_1HexNAc_1$	3.0 ± 1.2		2.7 ± 1.5		4.3 ± 2.1	
967.5	$Hex_2HexNAc_2$	2.0 ± 1.0		1.9 ± 1.1		2.5 ± 1.3	
1240.6	$Neu5Ac_2Hex_1HexNAc_1$	0.6 ± 0.5		0.6 ± 0.6		1.2 ± 1.0	

Table S9: Glycan types and Glycosylation features used to generate the mean relative intensities presented in Figure 3. Bold: sialylated glycans.

Glycan type	Subcategory	*Relative intensities of MS signals at m/z*
Free	N: N-glycans	733.4, 926.5, 1130.6, 1171.6, 1334.7
	O: O-glycans	825.4, 967.5, 1212.6, **1240.6**, **1601.8**
	Fragments (N-, O-glycans)	273.1, 314.2, 518.3, 559.3, **675.3**, 722.4, **879.4**
	Free Sialic Acids	**430.2**, **791.4**
N-glycans	high-mannose	1579.8, 1783.9
	biantennary	1661.8, 1835.9, 2040.0, 2070.0, 2214.1, 2244.1, **2431.2**, 2592.3, **2605.3**, **2792.4**, **2966.5**
	bisected biantennary	2081.1, 2111.1, 2285.2, 2459.2, 2489.3, **2646.3, 2820.4,** 2837.4, 2850.4
O-glycans		273.1, 314.2, 518.3, 559.3, **675.3,** 722.4, 763.4, 804.4, 825.4, **879.4**, 967.5, **1124.6, 1240.6**

Table S10. Correlations were calculated between N-glycans groups by features and t-Tau using the Spearman´s rank correlation coefficient, p<0.05 and p<0.01 were considered as statistically significant and very significant.

Group	Spearman	Spearman
	Males	**Females**
high-mannose	0.018	0.616
asialylated biantennary	0.183	0.106
sialylated biantennary	0.889	0.163
asialylated bisected	0.041	0.018
sialylated bisected	0.000	0.000