

Supplementary Table 2 Biotinylated HPA at 1.0, 0.1, and 0.05 µg/ml binding to v4.0 of the CFG glycan array detected with Alexa488-labeled Streptavidin and sorted according to Rank based on percent of maximum RFU.

anomeric configuration of monosaccharides indicated as a=α and b=β, highlighted structures defined as binding glycans by z-score with p-values <0.15

Chart Number	Structure	Maximum RFU		HPA 1.0 µg/ml		HPA 0.1 µg/ml		HPA 0.05 µg/ml		p-values
		AVG. RFU	Rank	AVG. RFU	Rank	AVG. RFU	Rank	AVG. Rank		
90	GalNAca1-4(Fuca1-2)Galb1-4GlcNAcb-Sp8	50800	100	9556	59	4463	98	85	85	4.84E-10
330	GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	36634	72	13322	82	4572	100	85	85	1.68E-07
164	GlcNAca1-3Galb1-4GlcNAcb-Sp8	37107	73	10244	63	4209	92	76	76	7.54E-07
398	GalNAca1-3GalNAcb1-3Gala1-4Galb1-4GlcNAcb-Sp0	37567	74	16240	100	2188	48	74	74	7.75E-08
88	GalNAca1-3GalNAcb-Sp8	42082	83	8935	55	3825	84	74	74	1.43E-07
338	GlcNAca1-4 Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	36301	71	10835	67	3719	81	73	73	1.06E-06
89	GalNAca1-3Galb-Sp8	30550	60	13600	84	1968	43	62	62	9.57E-06
331	GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	34934	69	12525	77	1666	36	61	61	2.43E-06
389	GalNAca1-3(Fuca1-2)Galb1-3GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb-Sp0	39470	78	9573	59	2067	45	61	61	9.40E-07
336	GlcNAca1-4 Galb1-4GlcNAcb1-3Galb1-4Glc-Sp0	30442	60	10706	66	2496	55	60	60	2.77E-05
333	GlcNAca1-4 Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	26234	52	15331	94	1540	34	60	60	3.47E-05
87	GalNAca1-3(Fuca1-2)Galb-Sp18	33984	67	9386	58	2236	49	58	58	1.20E-05
79	GalNAca1-3(Fuca1-2)Galb1-3GlcNAcb-Sp0	32424	64	10844	67	1725	38	56	56	1.56E-05
369	GalNAca1-3(Fuca1-2)Galb1-3GlcNAcb1-2Mana1-3(GalNAca1-3(Fuca1-2)Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	29066	57	10228	63	2005	44	55	55	7.22E-05
84	GalNAca1-3(Fuca1-2)Galb1-4Glc-Sp0	33162	65	9847	61	1147	25	50	50	2.24E-05
83	GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb-Sp8	34678	68	6200	38	1581	35	47	47	4.52E-05
86	GalNAca1-3(Fuca1-2)Galb-Sp8	26865	53	9712	60	1047	23	45	45	0.0002918
366	GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb1-2Mana1-3(GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	34486	68	5213	32	857	19	40	40	9.67E-05
4	GalNAca-Sp8	28606	56	5131	32	725	16	35	35	0.00088
82	GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb-Sp0	30662	60	4830	30	606	13	34	34	0.0005028
297	GalNAca-Sp15	14740	29	7975	49	1101	24	34	34	0.0187325
334	GlcNAca1-4 Galb1-4GlcNAcb-Sp0	14776	29	7246	45	1111	24	33	33	0.0220327
412	GalNAca1-3GalNAcb1-3Gala1-4Galb1-4Glc-Sp0	31037	61	4025	25	443	10	32	32	0.0006176
411	GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb1-3GalNAca-Sp14	9571	19	7053	43	1117	24	29	29	0.0690369
335	GlcNAca1-4 Galb1-3GlcNAcb-Sp0	10718	21	7058	43	691	15	27	27	0.0600414
80	GalNAca1-3(Fuca1-2)Galb1-4(Fuca1-3)GlcNAcb-Sp0	21782	43	4586	28	348	8	26	26	0.0089916
337	GlcNAca1-4 Galb1-4GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	6068	12	6095	38	681	15	21	21	0.1583565
421	GalNAca1-3(Fuca1-2)Galb1-3GlcNAcb1-3GalNAc-Sp14	8535	17	5654	35	559	12	21	21	0.1173082
339	GlcNAca1-4 Galb1-3GalNAc-Sp14	5136	10	3777	23	114	2	12	12	0.2657497
165	GlcNAca1-6Galb1-4GlcNAcb-Sp8	2363	5	612	4	36	1	3	3	0.4864925
299	GlcAb1-3GlcNAcb-Sp8	187	0	206	1	191	4	2	2	0.5811762
206	Mana1-6(Mana1-3)Mana1-6[Mana1-2Mana1-3]Manb1-4GlcNAcb1-4GlcNAcb-Sp12	325	1	377	2	121	3	2	2	0.5719695
386	Fuca1-2Galb1-3GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb-Sp0	1065	2	270	2	59	1	2	2	0.5498236
178	GlcNAcb1-4Galb1-4GlcNAcb-Sp8	900	2	157	1	24	1	1	1	0.5619869
203	Mana1-2Mana1-2Mana1-3(Mana1-2Mana1-3(Mana1-2Mana1-6)Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	162	0	167	1	79	2	1	1	0.5879281
358	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-3(Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	137	0	182	1	71	2	1	1	0.5886172
193	GlcAb-Sp8	137	0	156	1	56	1	1	1	0.5901858
290	Galb1-3(Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb1-6)GalNAca-Sp14	137	0	160	1	55	1	1	1	0.590071
374	Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb1-3GalNAca-Sp14	116	0	188	1	47	1	1	1	0.5901093
216	Neu5Aca2-8Neu5Aca2-8Neu5Aca2-3(GalNAcb1-4)Galb1-4Glc-Sp0	109	0	192	1	44	1	1	1	0.5903387
51	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-N(LT)AVL	120	0	262	2	18	0	1	1	0.5882344
9	Neu5Aca-Sp11	86	0	179	1	39	1	1	1	0.5919057
92	GalNAcb1-3(Fuca1-2)Galb-Sp8	604	1	93	1	12	0	1	1	0.5763662
388	Neu5Aca2-3(GalNAcb1-4)Galb1-4GlcNAcb1-3GalNAca-Sp14	115	0	113	1	50	1	1	1	0.5928987
332	(Neu5Aca2-3-Galb1-3)((Neu5Aca2-3-Galb1-4(Fuca1-3)GlcNAcb1-6)GalNAc-Sp14	101	0	162	1	36	1	1	1	0.5920967
236	Neu5Aca2-3Galb1-3GlcNAcb1-3Galb1-4GlcNAcb-Sp0	89	0	102	1	53	1	1	1	0.5941962
433	Galb1-4GlcNAcb1-4(Galb1-4GlcNAcb1-2)Mana1-3(GlcNAcb1-4)(Galb1-4GlcNAcb1-2)Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp21	83	0	140	1	42	1	1	1	0.5933949

253	Neu5Aca2-3Galb1-4GlcB-Sp8	20	0	32	0	78	2	1	0.5985393
380	Fuca1-2Galb1-3(Fuca1-4)GlcNAcb1-3(Galb1-4GlcNAcb1-6)Galb1-4Glc-Sp21	62	0	134	1	44	1	1	0.5943488
281	Galb1-4(Fuca1-3)[6OSO3]Glc-Sp0	38	0	181	1	32	1	1	0.5939292
235	Neu5Aca2-3Galb1-3GalNAcb1-3Gala1-4Galb1-4GlcB-Sp0	59	0	128	1	45	1	1	0.594654
382	Galb1-3GlcNAcb1-3(Galb1-3GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-6)Galb1-4Glc-Sp21	78	0	111	1	49	1	1	0.5944251
323	Neu5Ac(9Ac)a2-3Galb1-4GlcNAcb-Sp0	77	0	127	1	42	1	1	0.5941199
210	[3OSO3]Galb1-4(Fuca1-3)[6OSO3]GlcNAcb-Sp8	112	0	143	1	34	1	1	0.5924786
218	Neu5Aca2-8Neu5Aca2-3(GalNAcb1-4)Galb1-4GlcB-Sp0	132	0	113	1	40	1	1	0.5926314
377	Galb1-3GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb-Sp0	331	1	90	1	27	1	1	0.5863958
400	Gala1-4Galb1-4GlcNAcb1-2Mana1-3(Gala1-4Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-LVaNKT	111	0	166	1	25	1	1	0.5919821
287	[6OSO3]Galb1-4[6OSO3]GlcNAcb-Sp0	129	0	121	1	36	1	1	0.5925932
399	Gala1-4Galb1-3GlcNAcb1-2Mana1-3(Gala1-4Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	72	0	162	1	29	1	1	0.5934712
282	Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-3(Fuca1-4)GlcNAcb-Sp0	76	0	114	1	41	1	1	0.5946921
232	Neu5Aca2-3Galb1-3[6OSO3]GalNAca-Sp8	76	0	239	1	6	0	1	0.5912562
422	Gala1-3Galb1-3GlcNAcb1-3GalNAcb-Sp14	58	0	82	1	51	1	1	0.5962169
415	GalNAca1-3(Fuca1-2)Galb1-4(Fuca1-3)GlcNAcb1-3GalNAcb-Sp14	221	0	80	0	36	1	1	0.5906446
312	Neu5Aca2-3Galb1-3GalNAca-Sp14	63	0	101	1	45	1	1	0.5955309
240	Neu5Aca2-3Galb1-4[6OSO3]GlcNAcb-Sp8	63	0	187	1	20	0	1	0.5932041
375	(GalNAcb1-4GlcNAcb1-2Mana1-6)GalNAcb1-4GlcNAcb1-2Mana1-3Manb1-4GlcNAcb1-4GlcNAcb-Sp12	104	0	72	0	48	1	1	0.594959
150	Galb1-4GlcNAcb1-3GalNAca-Sp8	63	0	94	1	46	1	1	0.5957596
314	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	90	0	159	1	24	1	1	0.5930895
350	Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-3(Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	91	0	103	1	40	1	1	0.5945777
356	Fuca1-2Galb1-3GlcNAcb1-2Mana1-3(Fuca1-2Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	67	0	158	1	27	1	1	0.593891
238	Neu5Aca2-3Galb1-3GlcNAcb-Sp0	52	0	104	1	40	1	1	0.5960263
442	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-2(Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-4)Mana1-3(Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-N	52	0	122	1	34	1	1	0.595569
30	[3OSO3]Galb1-4(Fuca1-3)GlcNAcb-Sp8	63	0	159	1	22	0	1	0.5941962
53	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	53	0	127	1	31	1	1	0.5954547
304	GlcNAcb1-4GlcNAcb-Sp12	46	0	144	1	27	1	1	0.5952259
361	Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-3(Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	89	0	69	0	44	1	1	0.5957977
320	Neu5Aca2-3Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-3Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	78	0	92	1	39	1	1	0.5955309
140	Galb1-3GlcNAcb-Sp0	29	0	89	1	43	1	1	0.5973595
284	Neu5Aca2-3Galb1-3GlcNAcb1-3Galb1-3GlcNAcb-Sp0	63	0	155	1	21	0	1	0.594387
427	Galb1-4GlcNAcb1-3Galb1-4(Fuca1-3GlcNAcb1-6)Galb1-4Glc-Sp21	75	0	109	1	33	1	1	0.5952259
144	Galb1-4(Fuca1-3)GlcNAcb1-4Galb1-4(Fuca1-3)GlcNAcb-Sp0	51	0	147	1	24	1	1	0.5950353
32	[3OSO3]Galb1-4[6OSO3]GlcNAcb-Sp8	93	0	153	1	19	0	1	0.5933949
351	[6OSO3]GlcNAcb1-3Gal b1-4GlcNAcb-Sp0	59	0	57	0	49	1	1	0.5972072
209	Neu5Aca2-3Galb1-4GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	51	0	74	0	44	1	1	0.5970549
8	Neu5Aca-Sp8	61	0	83	1	40	1	1	0.5964835
394	GlcNAcb1-2Mana1-3(Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	86	0	61	0	44	1	1	0.5962169
402	Galb1-3GlcNAcb1-6Galb1-4GlcNAcb-Sp0	48	0	142	1	24	1	0	0.5953403
264	Neu5Aca2-8Neu5Aca-Sp8	129	0	127	1	20	0	0	0.592975
371	Fuca1-2Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-3(Fuca1-2Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	34	0	65	0	46	1	0	0.5979685
256	Neu5Aca2-6Galb1-4[6OSO3]GlcNAcb-Sp8	58	0	158	1	17	0	0	0.5946158
34	[3OSO3]Galb1-4GlcNAcb-Sp8	72	0	143	1	20	0	0	0.5945395
352	KDNA2-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	77	0	115	1	28	1	0	0.5951115
260	Neu5Aca2-6Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	48	0	95	1	35	1	0	0.5967121
383	Galb1-4GlcNAcb1-2(Galb1-4GlcNAcb1-4)Mana1-3(Galb1-4GlcNAcb1-2(Galb1-4GlcNAcb1-6)Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp21	20	0	80	0	42	1	0	0.5980827
169	GlcNAcb1-3GalNAca-Sp8	60	0	115	1	28	1	0	0.5957596
310	Neu5Aca2-3Galb1-3(Neu5Aca2-3Galb1-4GlcNAcb1-6)GalNAca-Sp14	59	0	102	1	31	1	0	0.5961788
405	GlcNAcb1-6(GlcNAcb1-3)GalNAca-Sp14	28	0	66	0	44	1	0	0.5982349
212	Fuca1-2Galb1-4[6OSO3]GlcNAcb-Sp8	80	0	77	0	36	1	0	0.5961407

357	Fuca1-2Galb1-4GlcNAcb1-2Mana1-3(Fuca1-2Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	87	0	87	1	32	1	0	0.5956452
28	[3OSO3]Galb1-3GlcNAcb-Sp8	98	0	182	1	4	0	0	0.5926696
98	Gala1-3(Fuca1-2)Galb1-3GlcNAcb-Sp0	54	0	114	1	27	1	0	0.5960644
368	Gala1-3Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-3(Gala1-3Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	25	0	82	1	39	1	0	0.5979305
395	Neu5Aca2-3Galb1-3GlcNAcb1-3GalNAca-Sp14	44	0	57	0	44	1	0	0.5979685
246	Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4GlcNAcb-Sp8	75	0	88	1	32	1	0	0.5960644
48	Mana1-3(Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp13	50	0	102	1	30	1	0	0.5965597
52	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp8	53	0	80	0	36	1	0	0.5970549
347	GlcNAcb1-2Mana1-3(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	56	0	75	0	37	1	0	0.5970929
329	GalNAcb1-3Gala1-4Galb1-4GlcNAcb1-3Galb1-4Glc-Sp0	25	0	105	1	31	1	0	0.5973595
428	GlcNAcb1-2Mana1-3(GlcNAcb1-4)(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp21	58	0	130	1	21	0	0	0.5955309
242	Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	56	0	106	1	28	1	0	0.596255
326	Neu5Aca2-3Galb1-3(Fuca1-4)GlcNAcb1-3Galb1-3(Fuca1-4)GlcNAcb-Sp0	52	0	80	0	36	1	0	0.5970929
215	Neu5Aca2-8Neu5Aca2-8Neu5Aca2-8Neu5Aca2-3(GalNAcb1-4)Galb1-4Glc-Sp0	85	0	121	1	21	0	0	0.5948446
416	Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-3(Galb1-4(Fuca1-3)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	27	0	94	1	33	1	0	0.597626
360	Mana1-3(Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	66	0	114	1	24	1	0	0.597215
409	Neu5Aca2-3Galb1-3GalNAcb1-4(Neu5Aca2-8Neu5Aca2-3)Galb1-4Glc-Sp0	67	0	79	0	33	1	0	0.596674
224	Neu5Aca2-3(Neu5Aca2-3Galb1-3GalNAcb1-4)Galb1-4Glc-Sp0	59	0	96	1	29	1	0	0.5964835
348	Galb1-4GlcNAcb1-2Mana1-3(Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	44	0	49	0	43	1	0	0.598311
390	Gala1-3Galb1-3GlcNAcb1-2Mana1-3(Gala1-3Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	48	0	82	1	33	1	0	0.5972833
373	Neu5Aca2-6Galb1-4GlcNAcb1-3GalNAca-Sp14	124	0	86	1	25	1	0	0.5945395
25	[3OSO3]Galb1-4[6OSO3]Glc-Sp8	79	0	150	1	11	0	0	0.5943488
213	Fuca1-2[6OSO3]Galb1-4[6OSO3]Glc-Sp0	79	0	114	1	21	0	0	0.5953403
378	Galb1-3GlcNAcb1-3(Galb1-3GlcNAcb1-3Galb1-4GlcNAcb1-6)Galb1-4Glc-Sp0	57	0	127	1	19	0	0	0.5957596
122	Galb1-3(Fuca1-4)GlcNAcb-Sp8	99	0	138	1	12	0	0	0.5940055
115	Gala1-4Galb1-4Glc-Sp0	56	0	53	0	40	1	0	0.5978163
315	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	80	0	69	0	33	1	0	0.5965597
166	GlcNAcb1-2Galb1-3GalNAca-Sp8	46	0	104	1	26	1	0	0.5967883
259	Neu5Aca2-6Galb1-4GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	50	0	125	1	19	0	0	0.5961025
288	6-H2PO3Glc-Sp10	31	0	96	1	29	1	0	0.5975498
137	Galb1-3Galb-Sp8	56	0	53	0	38	1	0	0.5978924
263	Neu5Aca2-6Galb-Sp8	72	0	102	1	23	1	0	0.5959882
237	Fuca1-2[6OSO3]Galb1-4Glc-Sp0	80	0	90	1	25	1	0	0.5960644
27	[3OSO3]Galb1-3GalNAca-Sp8	61	0	112	1	21	0	0	0.5961025
432	Galb1-4GlcNAcb1-2Mana1-3(GlcNAcb1-4)(Galb1-4GlcNAcb1-2)Manb1-4GlcNAcb1-4GlcNAcb-Sp21	106	0	118	1	15	0	0	0.594387
280	Galb1-4(Fuca1-3)[6OSO3]GlcNAcb-Sp0	82	0	127	1	14	0	0	0.5949972
258	Neu5Aca2-6Galb1-4GlcNAcb-Sp8	51	0	110	1	22	0	0	0.5965216
241	Neu5Aca2-3Galb1-4(Fuca1-3)[6OSO3]GlcNAcb-Sp8	67	0	100	1	23	0	0	0.596255
118	Galb1-2Galb-Sp8	40	0	95	1	26	1	0	0.5973595
262	Neu5Aca2-6Galb1-4Glc-Sp8	67	0	110	1	19	0	0	0.5960263
160	Galb1-4GlcNAcb-Sp0	43	0	113	1	20	0	0	0.5967883
22	[3OSO3]Galb1-4(Fuca1-3)[6OSO3]Glc-Sp0	49	0	57	0	35	1	0	0.5981207
300	GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	52	0	47	0	37	1	0	0.598311
265	Neu5Aca2-8Neu5Aca2-3Galb1-4Glc-Sp0	78	0	85	1	24	1	0	0.5963693
349	Galb1-3GlcNAcb1-2Mana1-3(Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	76	0	84	1	24	1	0	0.5964835
217	Neu5Aca2-8Neu5Aca2-8Neu5Aca2-3Galb1-4Glc-Sp0	46	0	105	1	20	0	0	0.5969787
406	Gala1-3(Fuca1-2)Galb1-4(Fuca1-3)Glc-Sp21	41	0	77	0	28	1	0	0.5979305
291	Galb1-3Galb1-4GlcNAcb-Sp8	61	0	76	0	27	1	0	0.5972452
20	[3OSO3][6OSO3]Galb1-4[6OSO3]GlcNAcb-Sp0	42	0	61	0	33	1	0	0.598311
234	Neu5Aca2-3Galb-Sp8	84	0	101	1	17	0	0	0.5957977
188	Glc1-6Glc1-6Glc-Sp8	26	0	108	1	20	0	0	0.597626

136	Galb1-3GalNAcb1-4Galb1-4Glc-Sp8	61	0	83	1	24	1	0	0.5970929
134	Galb1-3GalNAcb1-3Gala1-4Galb1-4Glc-Sp0	36	0	24	0	43	1	0	0.5995662
202	Mana1-2Mana1-6(Mana1-3)Mana1-6[Mana1-2Mana1-3]Manb1-4GlcNAcb1-4GlcNAcb-Sp12	44	0	56	0	33	1	0	0.5984252
228	Neu5Aca2-3Galb1-3[6OSO3]GlcNAc-Sp8	45	0	71	0	29	1	0	0.5979685
211	Fuca1-2[6OSO3]Galb1-4GlcNAc-Sp0	40	0	84	1	25	1	0	0.5978163
397	Galb1-4(Fuca1-3)GlcNAcb1-3GalNaca-Sp14	37	0	32	0	40	1	0	0.599338
74	Fuca1-2Galb1-4Glc-Sp0	56	0	96	1	20	0	0	0.5969406
319	Galb1-3GlcNAcb1-2Mana1-3(Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	49	0	94	1	21	0	0	0.5972452
58	Fuca1-2Galb1-3GalNaca-Sp8	73	0	69	0	26	1	0	0.5970929
435	Galb1-4Galb-Sp10	53	0	67	0	28	1	0	0.5978543
404	GalNAcb1-3Gala1-6Galb1-4Glc-Sp8	73	0	115	1	13	0	0	0.5958358
354	KDNa2-3Galb1-4Glc-Sp0	56	0	87	1	22	0	0	0.5972072
12	Glc-Sp8	47	0	81	0	25	1	0	0.597664
376	Galb1-3GalNaca1-3(Fuca1-2)Galb1-4Glc-Sp0	55	0	131	1	10	0	0	0.5960263
64	Fuca1-2Galb1-3GlcNAcb-Sp0	26	0	51	0	34	1	0	0.599262
31	[3OSO3]Galb1-4[6OSO3]GlcNAcb-Sp0	35	0	92	1	22	0	0	0.5978163
257	Neu5Aca2-6Galb1-4GlcNAcb-Sp0	19	0	70	0	29	1	0	0.5989958
190	Glc-Sp8	76	0	93	1	17	0	0	0.5964073
413	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-3GalNaca-Sp14	67	0	43	0	32	1	0	0.5980827
110	Gala1-3Galb1-4Glc-Sp0	36	0	75	0	26	1	0	0.598273
220	Neu5Aca2-3(6-O-Su)Galb1-4(Fuca1-3)GlcNAcb-Sp8	48	0	66	0	27	1	0	0.5981207
410	Gala1-3(Fuca1-2)Galb1-4GlcNAcb1-3GalNaca-Sp14	48	0	84	1	22	0	0	0.597626
184	GlcNAcb1-6GalNaca-Sp14	55	0	84	1	21	0	0	0.5973975
305	HOOC(CH3)CH-3-O-GlcNAcb1-4GlcNAcb-Sp10	33	0	65	0	28	1	0	0.5986915
101	Gala1-3(Fuca1-2)Galb1-4Glc-Sp0	31	0	88	1	22	0	0	0.5981207
434	Galb1-4GlcNAcb1-2Mana1-3(GlcNAcb1-4)(Galb1-4GlcNAcb1-6)(Galb1-4GlcNAcb1-2)Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp21	73	0	97	1	16	0	0	0.5964073
362	Neu5Aca2-6GlcNAcb1-4GlcNAc-Sp21	70	0	85	1	19	0	0	0.598644
429	GlcNAcb1-4(GlcNAcb1-2)Mana1-3(GlcNAcb1-4)(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp21	45	0	77	0	23	1	0	0.5979685
141	Galb1-3GlcNAcb-Sp8	50	0	52	0	30	1	0	0.5984632
3	Mana-Sp8	38	0	86	1	21	0	0	0.5979685
214	Neu5Aca2-3Galb1-3GalNaca-Sp8	55	0	78	0	22	0	0	0.5975879
187	Gla1-4Gla-Sp8	42	0	76	0	23	0	0	0.5981207
78	Fucb1-3GlcNAcb-Sp8	39	0	91	1	19	0	0	0.5978163
408	Galb1-3GalNAcb1-4(Neu5Aca2-8Neu5Aca2-3)Galb1-4Glc-Sp0	57	0	83	1	19	0	0	0.5974356
327	Neu5Aca2-6Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	19	0	45	0	33	1	0	0.5997943
200	Mana1-2Mana1-3Mana-Sp9	52	0	26	0	35	1	0	0.5991859
403	Galb1-3GlcNaca1-6Galb1-4GlcNAcb-Sp0	16	0	81	0	23	1	0	0.5989197
185	GlcNAcb1-6Galb1-4GlcNAcb-Sp8	48	0	46	0	30	1	0	0.5987675
167	GlcNAcb1-3(GlcNAcb1-6)GalNaca-Sp8	47	0	50	0	29	1	0	0.5986915
57	Fuca1-2Galb1-3(Fuca1-4)GlcNAcb-Sp8	53	0	43	0	30	1	0	0.5986915
426	Fuca1-2Galb1-3GlcNAcb1-3(Galb1-4GlcNAcb1-6)Galb1-4Glc-Sp21	63	0	78	0	20	0	0	0.5973595
162	Galb1-4Glc-Sp0	42	0	94	1	17	0	0	0.597664
440	[6OSO3]Galb1-3[6OSO3]GlcNAc-Sp0	41	0	112	1	11	0	0	0.5972452
186	Gla1-4Glc-Sp8	72	0	70	0	20	0	0	0.5973214
370	Gala1-3(Fuca1-2)Galb1-3GlcNAcb1-2Mana1-3(Gala1-3(Fuca1-2)Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	43	0	42	0	31	1	0	0.5990718
15	GlcNAcb-Sp0	54	0	70	0	22	0	0	0.5979305
385	Fuca1-2Galb1-3GalNaca1-3(Fuca1-2)Galb1-4Glc-Sp0	84	0	66	0	20	0	0	0.5970168
72	Fuca1-2Galb1-4GlcNAcb-Sp0	56	0	86	1	16	0	0	0.5974737
363	Neu5Aca2-6GlcNAcb1-4GlcNAcb1-4GlcNAc-Sp21	23	0	51	0	29	1	0	0.5995662
103	Gala1-3(Gala1-4)Galb1-4GlcNAcb-Sp8	63	0	63	0	22	0	0	0.5978543
425	Galb1-3GlcNAcb1-2Mana1-3(Galb1-3GlcNAcb1-2)(Galb1-3GlcNAcb1-6)Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	41	0	100	1	14	0	0	0.5975879

68	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb-Sp0	44	0	52	0	27	1	0	0.5988056
286	[3OSO3][4OSO3]Galb1-4GlcNAcb-Sp0	70	0	132	1	2	0	0	0.5957215
133	Galb1-3GalNAcb-Sp8	8	0	35	0	35	1	0	0.6005163
112	Gala1-4(Fuca1-2)Galb1-4GlcNAcb-Sp8	43	0	53	0	26	1	0	0.5988436
392	Neu5Aca2-3Galb1-3GlcNAcb1-2Mana1-3(Neu5Aca2-3Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp19	26	0	73	0	22	0	0	0.5988817
233	Neu5Aca2-3Galb1-3(Neu5Aca2-6)GalNAca-Sp8	46	0	59	0	24	1	0	0.5985773
396	Fuca1-2Galb1-4GlcNAcb1-3GalNAca-Sp14	32	0	48	0	28	1	0	0.599376
384	GlcNAcb1-2(GlcNAcb1-4)Mana1-3(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp21	57	0	100	1	11	0	0	0.5970929
146	Galb1-4[6OSO3]Glc-Sp0	84	0	129	1	1	0	0	0.5953403
261	Neu5Aca2-6Galb1-4Glc-Sp0	72	0	72	0	17	0	0	0.5973595
99	Gala1-3(Fuca1-2)Galb1-4(Fuca1-3)GlcNAcb-Sp0	57	0	98	1	11	0	0	0.5971691
308	Mana1-2Mana1-2Mana1-3(Mana1-2Mana1-6(Mana1-3)Mana1-6)Mana-Sp9	53	0	104	1	10	0	0	0.5971131
108	Gala1-3Galb1-3GlcNAcb-Sp0	42	0	33	0	31	1	0	0.5994521
441	Fuca1-2Galb1-4GlcNAcb1-2(Fuca1-2Galb1-4GlcNAcb1-4)Mana1-3(Fuca1-2Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-N	44	0	47	0	27	1	0	0.5989958
132	Galb1-3GalNAca-Sp16	48	0	71	0	19	0	0	0.5982349
33	[3OSO3]Galb1-4GlcNAcb-Sp0	59	0	66	0	20	0	0	0.5979685
145	Galb1-4(Fuca1-3)GlcNAcb1-4Galb1-4(Fuca1-3)GlcNAcb1-4Galb1-4(Fuca1-3)GlcNAcb-Sp0	66	0	98	1	10	0	0	0.5968644
311	Neu5Aca2-3Galb1-3(Neu5Aca2-6)GalNAca-Sp14	90	0	107	1	5	0	0	0.5957977
292	Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	33	0	59	0	24	1	0	0.5990718
231	Neu5Aca2-3Galb1-3(Neu5Aca2-3Galb1-4)GlcNAcb-Sp8	20	0	41	0	30	1	0	0.6000223
139	Galb1-3GlcNAcb1-3Galb1-4Glc-Sp10	32	0	86	1	16	0	0	0.5983871
387	Galb1-3GlcNAcb1-3GalNAca-Sp14	49	0	64	0	20	0	0	0.5984252
317	Neu5Aca2-8Neu5Aca2-8Neu5Acb-Sp8	31	0	26	0	33	1	0	0.6000603
60	Fuca1-2Galb1-3GalNAcb1-4(Neu5Aca2-3)Galb1-4Glc-Sp0	16	0	21	0	35	1	0	0.6007443
143	Galb1-4(Fuca1-3)GlcNAcb-Sp8	39	0	60	0	22	0	0	0.5988817
109	Gala1-3Galb1-4GlcNAcb-Sp8	27	0	32	0	31	1	0	0.6000603
430	GlcNAcb1-2Mana1-3(GlcNAcb1-4)(GlcNAcb1-6)(GlcNAcb1-2)Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp21	30	0	85	1	15	0	0	0.5985393
6	Fuca-Sp9	32	0	31	0	31	1	0	0.5999083
168	GlcNAcb1-3(GlcNAcb1-6)Galb1-4GlcNAcb-Sp8	48	0	93	1	11	0	0	0.5977021
11	Galb-Sp8	52	0	81	0	14	0	0	0.5978924
126	Galb1-3(GlcNAcb1-6)GalNAc-Sp14	42	0	49	0	24	1	0	0.5991099
254	Neu5Aca2-6GalNAca-Sp8	20	0	57	0	24	1	0	0.5996422
121	Galb1-3(Fuca1-4)GlcNAcb-Sp0	43	0	36	0	27	1	0	0.5994521
7	Rha-Sp8	42	0	74	0	17	0	0	0.5984252
119	Galb1-3(Fuca1-4)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	32	0	53	0	23	1	0	0.599376
267	Neu5Acb2-6GalNAca-Sp8	41	0	51	0	23	1	0	0.5991099
322	Fuca1-3(Galb1-4)GlcNAcb1-2Mana1-3(Fuca1-3(Galb1-4)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	42	0	57	0	21	0	0	0.5989197
285	Neu5Aca2-3Galb1-4GlcNAcb1-3Galb1-3GlcNAcb-Sp0	34	0	70	0	18	0	0	0.5988436
50	Galb1-4GlcNAcb1-2Mana1-3(Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	87	0	112	1	1	0	0	0.5958739
222	Neu5Aca2-3(GalNAcb1-4)Galb1-4GlcNAcb-Sp8	37	0	62	0	20	0	0	0.5989577
328	Gala1-4Galb1-4GlcNAcb1-3Galb1-4Glc-Sp0	45	0	93	1	10	0	0	0.5978543
196	KDNa2-3Galb1-3GlcNAcb-Sp0	47	0	40	0	25	1	0	0.5992339
275	Neu5Gca2-6Galb1-4GlcNAcb-Sp0	46	0	52	0	22	0	0	0.5989197
439	[6OSO3]Galb1-3GlcNAcb-Sp0	32	0	15	0	33	1	0	0.6004403
96	GalNAcb1-4GlcNAcb-Sp8	40	0	77	0	15	0	0	0.5984632
401	Gala1-3Galb1-4GlcNAcb1-3GalNAca-Sp14	31	0	104	1	8	0	0	0.5980446
208	Manb1-4GlcNAcb-Sp0	50	0	87	1	11	0	0	0.5978543
97	Gala1-2Galb-Sp8	38	0	67	0	18	0	0	0.5988056
407	Neu5Aca2-6Galb1-3GlcNAcb1-3(Galb1-4GlcNAcb1-6)Galb1-4Glc-Sp21	53	0	81	0	12	0	0	0.5979305
303	GlcNAcb1-4GlcNAcb-Sp10	47	0	26	0	28	1	0	0.5996422
163	Galb1-4Glc-Sp8	74	0	58	0	17	0	0	0.5978163

306	Mana1-6Manb-Sp10	23	0	91	1	12	0	0	0.5986915
205	Mana1-3(Mana1-2Mana1-2Mana1-6)Mana-Sp9	6	0	1	0	38	1	0	0.6017697
191	G-ol-Sp8	89	0	43	0	19	0	0	0.5977402
243	Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	49	0	69	0	15	0	0	0.5984252
95	GalNAcb1-4GlcNAcb-Sp0	22	0	66	0	19	0	0	0.5994141
424	Gala1-3(Fuca1-2)Galb1-4GlcNAcb1-2Mana1-3(Gala1-3(Fuca1-2)Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	65	0	90	1	8	0	0	0.5972833
172	GlcNAcb1-3Galb1-4GlcNAcb-Sp0	29	0	33	0	27	1	0	0.6000983
367	Gala1-3(Fuca1-2)Galb1-4GlcNAcb1-2Mana1-3(Gala1-3(Fuca1-2)Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	14	0	51	0	23	1	0	0.6001363
138	Galb1-3GlcNAcb1-3Galb1-4GlcNAcb-Sp0	28	0	65	0	18	0	0	0.599262
340	Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	29	0	60	0	19	0	0	0.599376
35	[3OSO3]Galb-Sp8	66	0	79	0	11	0	0	0.5975498
36	[4OSO3][6OSO3]Galb1-4GlcNAcb-Sp0	28	0	68	0	17	0	0	0.5991859
154	Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	31	0	42	0	24	1	0	0.5997943
29	[3OSO3]Galb1-4(Fuca1-3)GlcNAcb-Sp0	39	0	49	0	21	0	0	0.599338
277	Galb1-3(Neu5Aca2-3Galb1-4GlcNAcb1-6)GalNAca-Sp14	53	0	50	0	19	0	0	0.5988436
116	Gala1-4GlcNAcb-Sp8	64	0	66	0	13	0	0	0.5980446
149	Galb1-4GalNAcb1-3(Fuca1-2)Galb1-4GlcNAcb-Sp8	29	0	49	0	21	0	0	0.5997182
359	Gala1-3Galb1-4GlcNAcb1-2Mana1-3(Gala1-3Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp20	32	0	73	0	14	0	0	0.5989577
414	Gala1-3(Fuca1-2)Galb1-4(Fuca1-3)GlcNAcb1-3GalNAcb-Sp14	62	0	70	0	12	0	0	0.5980066
47	Mana1-3(Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	62	0	54	0	17	0	0	0.5984252
10	Neu5Acb-Sp8	42	0	38	0	23	1	0	0.5995662
345	Galb1-4GlcNAcb1-2Mana1-6Manb1-4GlcNAcb1-4GlcNAcb-Sp12	27	0	47	0	21	0	0	0.5998703
325	Neu5Aca2-6Galb1-4GlcNAcb1-3Galb1-3GlcNAcb-Sp0	35	0	36	0	24	1	0	0.5998703
128	Galb1-3(Neu5Aca2-6)GalNAca-Sp14	23	0	32	0	26	1	0	0.6004023
423	Fuca1-2Galb1-3GlcNAcb1-2Mana1-3(Fuca1-2Galb1-3GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	43	0	42	0	21	0	0	0.5994521
289	Gala1-3(Fuca1-2)Galb-Sp18	52	0	64	0	14	0	0	0.5985393
192	GlcAa-Sp8	39	0	109	1	2	0	0	0.5977782
69	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb-Sp8	22	0	17	0	29	1	0	0.6008962
120	Galb1-3(Fuca1-4)GlcNAcb1-3Galb1-4GlcNAcb-Sp0	58	0	110	1	0	0	0	0.5970929
94	GalNAcb1-4(Fuca1-3)GlcNAcb-Sp0	60	0	93	1	5	0	0	0.5974737
100	Gala1-3(Fuca1-2)Galb1-4GlcNAcb-Sp0	57	0	63	0	13	0	0	0.5984252
341	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	44	0	45	0	19	0	0	0.599376
244	Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb-Sp8	36	0	52	0	18	0	0	0.5994521
247	Neu5Aca2-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	49	0	31	0	23	0	0	0.5995662
23	[3OSO3]Galb1-4Glc-Sp8	52	0	44	0	19	0	0	0.5991099
124	Galb1-4GlcNAcb1-6GalNAca-Sp8	27	0	27	0	26	1	0	0.6004403
309	Mana1-2Mana1-2Mana1-3(Mana1-2Mana1-6(Mana1-2Mana1-3)Mana1-6)Mana-Sp9	48	0	71	0	11	0	0	0.5985393
26	[3OSO3]Galb1-3(Fuca1-4)GlcNAcb-Sp8	35	0	75	0	11	0	0	0.5988817
142	Galb1-4(Fuca1-3)GlcNAcb-Sp0	61	0	80	0	7	0	0	0.5978543
67	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	37	0	39	0	21	0	0	0.5997943
225	Neu5Aca2-3(Neu5Aca2-6)GalNAca-Sp8	24	0	29	0	25	1	0	0.6005163
176	GlcNAcb1-4-MDPLys	41	0	48	0	18	0	0	0.5994141
127	Galb1-3(Neu5Aca2-6)GalNAca-Sp8	49	0	44	0	18	0	0	0.599262
5	Fuca-Sp8	46	0	99	1	3	0	0	0.5978543
250	Neu5Aca2-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	31	0	33	0	23	1	0	0.6001743
201	Mana1-6[Mana1-2Mana1-3]Mana1-6[Mana1-2Mana1-3]Manb1-4GlcNAcb1-4GlcNAcb-Sp12	25	0	34	0	23	1	0	0.6003643
76	Fuca1-3GlcNAcb-Sp8	30	0	86	1	8	0	0	0.5987675
189	Glc1-4Glc-Sp8	48	0	51	0	16	0	0	0.5991099
391	Gala1-3Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-3(Gala1-3Galb1-3(Fuca1-4)GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	33	0	18	0	27	1	0	0.6005163
41	[6OSO3]Galb1-4GlcNAcb-Sp8	34	0	42	0	19	0	0	0.5998703
24	[3OSO3]Galb1-4[6OSO3]Glc-Sp0	37	0	59	0	14	0	0	0.5993

226	Neu5Aca2-3GalNAca-Sp8	45	0	50	0	16	0	0	0.599262
129	Galb1-3(Neu5Acb2-6)GalNAca-Sp8	11	0	9	0	30	1	0	0.6015798
194	GlcAb1-3Galb-Sp8	50	0	98	1	1	0	0	0.5978163
324	Neu5Ac(9Ac)a2-3Galb1-3GlcNAcb-Sp0	41	0	37	0	19	0	0	0.5997943
342	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6Manb1-4GlcNAcb1-4GlcNAc-Sp12	7	0	31	0	24	1	0	0.6011241
114	Gala1-4Galb1-4GlcNAcb-Sp8	28	0	63	0	13	0	0	0.5995281
276	Neu5Gca-Sp8	78	0	33	0	16	0	0	0.5986534
85	GlcNAcb1-3Galb1-3GalNAca-Sp8	28	0	31	0	21	0	0	0.6004403
283	Galb1-4GlcNAcb1-3Galb1-3GlcNAcb-Sp0	65	0	35	0	17	0	0	0.5990338
113	Gala1-4Galb1-4GlcNAcb-Sp0	40	0	66	0	10	0	0	0.5990718
2	Glca-Sp8	55	0	63	0	10	0	0	0.5986154
62	Fuca1-2Galb1-3GlcNAcb1-3Galb1-4Glc-Sp8	41	0	44	0	16	0	0	0.5996422
307	Mana1-6(Mana1-3)Mana1-6(Mana1-3)Manb-Sp10	52	0	62	0	10	0	0	0.5987675
313	Neu5Aca2-3Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	74	0	93	1	-1	0	0	0.5971691
343	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3Manb1-4GlcNAcb1-4GlcNAc-Sp12	19	0	43	0	18	0	0	0.6004403
43	Neu5Aca2-3[6OSO3]Galb1-4GlcNAcb-Sp8	26	0	58	0	13	0	0	0.5997943
298	GalNAcb1-3Galb-Sp8	26	0	40	0	18	0	0	0.6002883
221	Neu5Aca2-3(GalNAcb1-4)Galb1-4GlcNAcb-Sp0	45	0	38	0	17	0	0	0.5996802
273	Neu5Gca2-3Galb1-4Glc-Sp0	32	0	29	0	20	0	0	0.6004023
301	GlcNAcb1-2Mana1-3(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	32	0	34	0	19	0	0	0.6002503
207	Mana1-6(Mana1-3)Mana1-6(Mana1-3)Manb1-4GlcNAcb1-4 GlcNAcb-Sp12	7	0	22	0	24	1	0	0.6014659
75	Fuca1-2Galb-Sp8	14	0	83	1	7	0	0	0.5995281
63	Fuca1-2Galb1-3GlcNAcb1-3Galb1-4Glc-Sp10	19	0	9	0	27	1	0	0.60139
1	Gala-Sp8	47	0	66	0	8	0	0	0.5988817
159	Galb1-3(Galb1-4GlcNAcb1-6)GalNAc-Sp14	30	0	24	0	21	0	0	0.6006303
229	Neu5Aca2-3Galb1-3(Fuca1-4)GlcNAcb-Sp8	15	0	13	0	26	1	0	0.601428
436	Galb1-6Galb-Sp10	38	0	26	0	20	0	0	0.6002883
239	Neu5Aca2-3Galb1-3GlcNAcb-Sp8	44	0	31	0	18	0	0	0.5999463
418	GlcNAcb1-2Mana1-3(GlcNAcb1-2(GlcNAcb1-6)Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp19	42	0	43	0	15	0	0	0.5996802
245	Neu5Aca2-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb-Sp8	15	0	12	0	26	1	0	0.6014659
270	Neu5Gca2-3Galb1-3GlcNAcb-Sp0	30	0	59	0	11	0	0	0.5996802
219	Neu5Aca2-8Neu5Aca2-8Neu5Aca-Sp8	61	0	68	0	6	0	0	0.5983491
318	Neu5Gcb2-6Galb1-4GlcNAc-Sp8	52	0	78	0	4	0	0	0.5983871
197	KDNa2-3Galb1-4GlcNAcb-Sp0	33	0	42	0	15	0	0	0.6000603
355	KDNa2-3Galb1-3GalNAca-Sp14	45	0	37	0	16	0	0	0.5997562
268	Neu5Acb2-6Galb1-4GlcNAcb-Sp8	35	0	26	0	19	0	0	0.6004403
431	GlcNAcb1-4(GlcNAcb1-2)Mana1-3(GlcNAcb1-4)(GlcNAcb1-6(GlcNAcb1-2)Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp21	48	0	49	0	12	0	0	0.599338
161	Galb1-4GlcNAcb-Sp8	51	0	55	0	9	0	0	0.5991099
73	Fuca1-2Galb1-4GlcNAcb-Sp8	27	0	51	0	12	0	0	0.6000603
274	Neu5Gca2-6GalNAca-Sp0	30	0	48	0	13	0	0	0.6000223
279	Galb1-3GlcNAcb1-3Galb1-3GlcNAcb-Sp0	20	0	31	0	19	0	0	0.6008203
302	GlcNAcb1-3Man-Sp10	26	0	40	0	15	0	0	0.6004023
294	Galb1-4GlcNAcb1-3(GlcNAcb1-6)Galb1-4GlcNAc-Sp0	40	0	54	0	10	0	0	0.5995281
135	Galb1-3GalNAcb1-4(Neu5Aca2-3)Galb1-4Glc-Sp0	33	0	32	0	17	0	0	0.6003643
227	Neu5Aca2-3GalNAcb1-4GlcNAcb-Sp0	21	0	16	0	22	0	0	0.6012381
353	KDNa2-6Galb1-4GlcNAc-Sp0	33	0	70	0	6	0	0	0.599338
316	Neu5Aca2-8Neu5Acb-Sp17	32	0	40	0	14	0	0	0.6002123
93	GalNAcb1-3Gala1-4Galb1-4GlcNAcb-Sp0	40	0	81	0	2	0	0	0.5988056
179	(GlcNAcb1-4)6b-Sp8	38	0	39	0	14	0	0	0.6000223
266	Galb1-3(Fuca1-4)GlcNAcb1-3Galb1-3(Fuca1-4)GlcNAcb-Sp0	56	0	47	0	10	0	0	0.5991859
156	Galb1-4GlcNAcb1-3Galb1-4Glc-Sp8	32	0	31	0	16	0	0	0.6004783

91	GalNAcb1-3GalNAca-Sp8	41	0	35	0	14	0	0	0.6000603
125	Galb1-3(GlcNAcb1-6)GalNAca-Sp8	11	0	29	0	19	0	0	0.6012381
151	Galb1-4GlcNAcb1-3GalNAc-Sp14	45	0	8	0	21	0	0	0.6006683
49	GlcNAcb1-2Mana1-3(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp13	26	0	44	0	13	0	0	0.6003263
183	GlcNAcb1-6GalNAca-Sp8	19	0	4	0	25	1	0	0.6016558
195	GlcAb1-6Galb-Sp8	29	0	54	0	9	0	0	0.5999843
158	Galb1-3(Galb1-4GlcNAcb1-6)GalNAca-Sp8	31	0	47	0	11	0	0	0.6000983
56	Fuca1-2Galb1-3GalNAcb1-3Gala1-4Galb1-4Glc-Sp9	35	0	56	0	8	0	0	0.5997182
102	Gala1-3(Fuca1-2)Galb-Sp8	38	0	43	0	12	0	0	0.5999463
148	Galb1-4GalNAca1-3(Fuca1-2)Galb1-4GlcNAcb-Sp8	18	0	45	0	13	0	0	0.6005923
181	GlcNAcb1-4GlcNAcb1-4GlcNAcb-Sp8	28	0	41	0	13	0	0	0.6003643
295	Galb1-4GlcNAca1-6Galb1-4GlcNAcb-Sp0	19	0	52	0	11	0	0	0.6003643
372	Neu5Aca2-3Galb1-4GlcNAcb1-3GalNAc-Sp14	37	0	42	0	12	0	0	0.6000223
278	Galb1-3GalNAca-Sp14	30	0	29	0	16	0	0	0.6006303
346	Galb1-4GlcNAcb1-2Mana1-3(Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	39	0	47	0	10	0	0	0.5998323
381	Fuca1-2Galb1-3(Fuca1-4)GlcNAcb1-3(Galb1-4(Fuca1-3)GlcNAcb1-6)Galb1-4Glc-Sp21	42	0	73	0	2	0	0	0.5990338
131	Galb1-3GalNAca-Sp8	103	0	16	0	12	0	0	0.5985013
153	Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	17	0	14	0	21	0	0	0.6015039
251	Fuca1-2Galb1-4[6OSO3]Glc-Sp0	9	0	19	0	20	0	0	0.6016558
272	Neu5Gca2-3Galb1-4GlcNAcb-Sp0	37	0	30	0	14	0	0	0.6004023
21	[3OSO3][6OSO3]Galb1-4GlcNAcb-Sp0	48	0	49	0	8	0	0	0.5994901
123	Galb1-3(Fuca1-4)GlcNAcb-Sp8	51	0	56	0	5	0	0	0.5992239
77	Fuca1-4GlcNAcb-Sp8	24	0	85	1	-1	0	0	0.599376
104	Gala1-3GalNAca-Sp8	17	0	33	0	15	0	0	0.6010102
44	[6OSO3]GlcNAcb-Sp8	37	0	48	0	9	0	0	0.5999083
54	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp13	61	0	78	0	-2	0	0	0.598273
438	GalNAcb1-6GalNAcb-Sp8	16	0	45	0	11	0	0	0.6007443
417	Fuca1-2Galb1-4GlcNAcb1-2Mana1-3(Fuca1-2Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4(Fuca1-6)GlcNAcb-Sp22	23	0	62	0	6	0	0	0.6000223
248	Neu5Aca2-3Galb1-4GlcNAcb-Sp0	40	0	40	0	10	0	0	0.6000603
364	Fuca1-2Galb1-3GlcNAcb1-3(Galb1-4(Fuca1-3)GlcNAcb1-6)Galb1-4Glc-Sp21	6	0	22	0	18	0	0	0.6017317
204	Mana1-3(Mana1-6)Mana-Sp9	24	0	23	0	16	0	0	0.6010862
19	GlcNAcb1-3(GlcNAcb1-4)(GlcNAcb1-6)GlcNAc-Sp8	28	0	43	0	10	0	0	0.6004023
173	GlcNAcb1-3Galb1-4GlcNAcb-Sp8	16	0	17	0	17	0	0	0.6015798
230	Neu5Aca2-3Galb1-3(Fuca1-4)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	47	0	34	0	10	0	0	0.6000223
180	(GlcNAcb1-4)5b-Sp8	9	0	49	0	9	0	0	0.6009342
420	Gala1-3(Fuca1-2)Galb1-3GlcNAcb1-3GalNAc-Sp14	27	0	37	0	11	0	0	0.6006303
111	Gala1-3Galb-Sp8	25	0	36	0	11	0	0	0.6007443
59	Fuca1-2Galb1-3GalNAca-Sp14	43	0	45	0	7	0	0	0.5998703
105	Gala1-3GalNAca-Sp16	28	0	25	0	13	0	0	0.6009722
198	Mana1-2Mana1-2Mana1-3Mana-Sp9	14	0	36	0	11	0	0	0.6011621
17	GlcN(Gc)b-Sp8	28	0	46	0	7	0	0	0.6004023
199	Mana1-2Mana1-3(Mana1-2Mana1-6)Mana-Sp9	40	0	18	0	14	0	0	0.6007443
147	Galb1-4[6OSO3]Glc-Sp8	26	0	70	0	1	0	0	0.5997943
16	GlcNAcb-Sp8	75	0	30	0	8	0	0	0.5991859
182	GlcNAcb1-6(Galb1-3)GalNAca-Sp8	33	0	12	0	16	0	0	0.6011621
271	Neu5Gca2-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	30	0	41	0	8	0	0	0.6004783
252	Neu5Aca2-3Galb1-4Glc-Sp0	25	0	20	0	14	0	0	0.6012381
45	Neu5Ac(9Ac)a-Sp8	37	0	47	0	5	0	0	0.6000983
321	Neu5Aca2-6Galb1-4GlcNAcb1-2Mana1-3(Neu5Aca2-3Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAcb-Sp12	42	0	30	0	9	0	0	0.6004023
70	Fuca1-2Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	32	0	26	0	11	0	0	0.6008583
42	[6OSO3]Galb1-4[6OSO3]Glc-Sp8	20	0	50	0	5	0	0	0.6006303

152	Galb1-4GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	13	0	13	0	16	0	0	0.6018836
66	Fuca1-2Galb1-4(Fuca1-3)GlcNAcb1-3Galb1-4(Fuca1-3)GlcNAcb-Sp0	55	0	38	0	5	0	0	0.5997562
419	Fuca1-2Galb1-3GlcNAcb1-3GalNAc-Sp14	13	0	26	0	13	0	0	0.6015039
61	Fuca1-2Galb1-3GalNAcb1-4(Neu5Aca2-3)Galb1-4Glc-Sp9	15	0	18	0	14	0	0	0.6016937
344	Galb1-4GlcNAcb1-2Mana1-3Manb1-4GlcNAcb1-4GlcNAc-Sp12	25	0	33	0	9	0	0	0.6009342
130	Galb1-3(Neu5Aca2-6)GlcNAcb1-4Galb1-4Glc-Sp10	33	0	48	0	4	0	0	0.6002503
37	[4OSO3]Galb1-4GlcNAcb-Sp8	12	0	7	0	17	0	0	0.6021113
40	[6OSO3]Galb1-4Glc-Sp8	26	0	34	0	8	0	0	0.6008962
393	Galb1-4GlcNAcb1-2Mana1-3(GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp12	40	0	25	0	9	0	0	0.6006683
269	Neu5Gca2-3Galb1-3(Fuca1-4)GlcNAcb-Sp0	33	0	46	0	4	0	0	0.6003263
18	Galb1-4GlcNAcb1-3(Galb1-4GlcNAcb1-6)GalNAca-Sp8	36	0	22	0	10	0	0	0.6008962
65	Fuca1-2Galb1-3GlcNAcb-Sp8	24	0	16	0	13	0	0	0.6014659
13	Manb-Sp8	22	0	27	0	9	0	0	0.6012761
255	Neu5Aca2-6GalNAcb1-4GlcNAcb-Sp0	14	0	8	0	15	0	0	0.6020733
81	[3OSO3]Galb1-4(Fuca1-3)Glc-Sp0	12	0	18	0	12	0	0	0.6018836
365	Galb1-4GlcNAcb1-2(Galb1-4GlcNAcb1-4)Mana1-3(Galb1-4GlcNAcb1-2Mana1-6)Manb1-4GlcNAcb1-4GlcNAc-Sp21	21	0	28	0	8	0	0	0.601314
175	GlcNAcb1-3Galb1-4Glc-Sp0	22	0	22	0	10	0	0	0.601428
117	Gala1-6Glc-Sp8	41	0	61	0	-3	0	0	0.5997182
107	Gala1-3Galb1-4(Fuca1-3)GlcNAcb-Sp8	22	0	16	0	11	0	0	0.6016178
71	Fuca1-2Galb1-4GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	25	0	25	0	7	0	0	0.601314
223	Neu5Aca2-3(GalNAcb1-4)Galb1-4Glc-Sp0	51	0	19	0	7	0	0	0.6005543
171	GlcNAcb1-3Galb-Sp8	34	0	38	0	2	0	0	0.6006683
170	GlcNAcb1-3GalNAca-Sp14	25	0	18	0	8	0	0	0.6015419
379	Galb1-3GlcNAcb1-3(Galb1-4(Fuca1-3)GlcNAcb1-6)Galb1-4Glc-Sp21	28	0	29	0	5	0	0	0.6011241
293	Galb1-4GlcNAcb1-3(Galb1-4GlcNAcb1-6)Galb1-4GlcNAc-Sp0	23	0	31	0	4	0	0	0.6012761
177	GlcNAcb1-4(GlcNAcb1-6)GalNAca-Sp8	13	0	36	0	4	0	0	0.6014659
38	6-H2PO3Mana-Sp8	18	0	20	0	7	0	0	0.6017697
46	Neu5Ac(9Ac)a2-6Galb1-4GlcNAcb-Sp8	24	0	35	0	2	0	0	0.6011621
14	GalNAcb-Sp8	16	0	20	0	7	0	0	0.6018456
39	[6OSO3]Galb1-4Glc-Sp0	30	0	16	0	7	0	0	0.6014659
174	GlcNAcb1-3Galb1-4GlcNAcb1-3Galb1-4GlcNAcb-Sp0	29	0	34	0	2	0	0	0.6010102
249	Neu5Aca2-3Galb1-4GlcNAcb-Sp8	32	0	15	0	6	0	0	0.6014659
437	Neu5Aca2-3Galb1-4GlcNAcb1-3Galb-Sp8	10	0	12	0	9	0	0	0.6023011
106	Gala1-3GalNAcb-Sp8	20	0	41	0	-1	0	0	0.6012001
296	Galb1-4GlcNAcb1-6Galb1-4GlcNAcb-Sp0	41	0	26	0	1	0	0	0.6008962
155	Galb1-4GlcNAcb1-3Galb1-4Glc-Sp0	18	0	13	0	7	0	0	0.6020354
55	Fuca1-2Galb1-3GalNAcb1-3Gala-Sp9	16	0	40	0	-1	0	0	0.60139
157	Galb1-4GlcNAcb1-6(Galb1-3)GalNAca-Sp8	11	0	1	0	10	0	0	0.6026426

Spacer Abbreviation	Chemical Structure
Sp0	CH ₂ CH ₂ NH ₂
Sp8	CH ₂ CH ₂ CH ₂ NH ₂
Sp9	CH ₂ CH ₂ CH ₂ CH ₂ CH ₂ NH ₂
Sp10	NHCOCH ₂ NH
Sp11	OCH ₂ C ₆ H ₄ -p-NHCOCH ₂ NH
Sp12	Asparagine
Sp13	Glycine
Sp14	Threonine
Sp15	Serine
Sp16	PNP (OC ₆ H ₄ NH ₂)
Sp17	OCH ₂ C ₆ H ₄ NH ₂
Sp18	O(CH ₂) ₃ NHCO(CH ₂) ₃ NH ₂
Sp19	EN or NK
Sp20	GENR
Sp21	N(CH ₃)-O-(CH ₂) ₂ -NH ₂
Sp22	NST

MDPLys

Mur-L-Ala-D-iGlnb-(CH₂)₄NH₂