IgG Glycan Traits

Group	GWAS Code	Trait	Description	*Formula*
Initial IgG1 Glycan Traits				
Initial IgG1 glycans (total)	**LC_IGP1**	IgG1_G0F	*The percentage of G0F glycan in total IgG1 glycans*	
	LC_IGP2	IgG1_G1F	*The percentage of G1F glycan in total IgG1 glycans*	
	LC_IGP3	IgG1_G2F	*The percentage of G2F glycan in total IgG1 glycans*	
	LC_IGP4	IgG1_G0FN	*The percentage of G0FN glycan in total IgG1 glycans*	
	LC_IGP5	IgG1_G1FN	*The percentage of G1FN glycan in total IgG1 glycans*	
	LC_IGP6	IgG1_G2FN	*The percentage of G2FN glycan in total IgG1 glycans*	
	LC_IGP7	IgG1_G1FS1	*The percentage of G1FS1 glycan in total IgG1 glycans*	
	LC_IGP8	IgG1_G2FS1	*The percentage of G2FS1 glycan in total IgG1 glycans*	
	LC_IGP9	IgG1_G1FNS1	*The percentage of G1FNS1 glycan in total IgG1 glycans*	
	LC_IGP10	IgG1_G2FNS1	*The percentage of G2FNS1 glycan in total IgG1 glycans*	
	LC_IGP11	IgG1_G0	*The percentage of G0 glycan in total IgG1 glycans*	
	LC_IGP12	IgG1_G1	*The percentage of G1 glycan in total IgG1 glycans*	
	LC_IGP13	IgG1_G2	*The percentage of G2 glycan in total IgG1 glycans*	
	LC_IGP14	IgG1_G0N	*The percentage of G0N glycan in total IgG1 glycans*	
	LC_IGP15	IgG1_G1N	*The percentage of G1N glycan in total IgG1 glycans*	
	LC_IGP16	IgG1_G2N	*The percentage of G2N glycan in total IgG1 glycans*	
	LC_IGP17	IgG1_G1S1	*The percentage of G1S1 glycan in total IgG1 glycans*	
	LC_IGP18	IgG1_G2S1	*The percentage of G2S1 glycan in total IgG1 glycans*	
	LC_IGP19	IgG1_G1NS1	*The percentage of G1NS1 glycan in total IgG1 glycans*	
	LC_IGP20	IgG1_G2NS1	*The percentage of G2NS1 glycan in total IgG1 glycans*	
Summarizing IgG1 Traits				
Summarizing IgG1 glycans (total)	**LC_IGP21**	IgG1 Fucosylation	*The percentage of IgG1 core fucosylation*	*SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGP22	IgG1 Bisecting_GlcNAc	*The incidence of bisecting GlcNAc of IgG1*	*SUM(G0FN+G1FN+G2FN+G1FNS1+G2FNS1+G0N+G1N+G2N+G1NS1+G2NS1)*
	LC_IGP23	IgG1 Galactosylation	*The percentage of IgG1 galactosylation*	*SUM(G1F+G1FN+G1FS1+G1FNS1+G1+G1N+G1S1+G1NS1)*0.5+SUM(G2F+G2FN+G2FS1+G2FNS1+G2+G2N+G2S1+G2NS1)*
	LC_IGP24	IgG1 Sialylation	*The percentage of IgG1 sialylation*	*SUM(G1FS1+G2FS1+G1FNS1+G2FNS1+G1S1+G2S1+G1NS1+G2NS1)*
	LC_IGP25	IgG1 SA per Gal	*The number of sialic acid moieties on galactose moieties in total IgG1 glycans*	*IgG1 Sialylation/IgG1 Galactosylation*
	LC_IGP26	IgG1 GS1/(G+GS1)	*The percentage of monosialylation of afucosylated galactosylated structures without bisecting GlcNAc in total IgG1 glycans*	*SUM(G1S1+G2S1)/SUM(G1+G1S1+G2+G2S1)*100*
	LC_IGP27	IgG1 GS1/(G0+G+GS1)	*The percentage of monosialylation of all afucosylated structures without bisecting GlcNAc in total IgG1 glycans*	*SUM(G1S1+G2S1)/SUM(G0+G1+G1S1+G2+G2S1)*100*
	LC_IGP28	IgG1 G1S1/(G1+G1S1)	*The percentage of monosialylation of afucosylated monogalactosylated (without bisecting GlcNAc) structures in total IgG1 glycans*	*G1S1/SUM(G1+G1S1)*100*
	LC_IGP29	IgG1 G2S1/(G2+G2S1)	*The percentage of monosialylation of afucosylated digalactosylated (without bisecting GlcNAc) structures in total IgG1 glycans*	*G2S1/SUM(G2+G2S1)*100*
	LC_IGP30	IgG1 BGS1/(BG+BGS1)	*The percentage of monosialylation of afucosylated galactosylated structures with bisecting GlcNAc in total IgG1 glycans*	*SUM(G1NS1+G2NS1)/SUM(G1N+G1NS1+G2N+G2NS1)*100*
	LC_IGP31	IgG1 BGS1/(BG0+BG+BGS1)	*The percentage of monosialylation of all afucosylated structures with bisecting GlcNAc in total IgG1 glycans*	*SUM(G1NS1+G2NS1)/SUM(G0N+G1N+G1NS1+G2N+G2NS1)*100*
	LC_IGP32	IgG1 BG1S1/(BG1+BG1S1)	*The percentage of monosialylation of afucosylated monogalactosylated (with bisecting GlcNAc) structures in total IgG1 glycans*	*G1NS1/SUM(G1N+G1NS1)*100*
	LC_IGP33	IgG1 BG2S1/(BG2+BG2S1)	*The percentage of monosialylation of afucosylated digalactosylated (with bisecting GlcNAc) structures in total IgG1 glycans*	*G2NS1/SUM(G2N+G2NS1)*100*
	LC_IGP34	IgG1 FGS1/(FG+FGS1)	*The percentage of monosialylation of fucosylated galactosylated structures without bisecting GlcNAc in total IgG1 glycans*	*SUM(G1FS1+G2FS1)/SUM(G1F+G1FS1+G2F+G2FS1)*100*
	LC_IGP35	IgG1 FGS1/(F+FG+FGS1)	*The percentage of monosialylation of all fucosylated structures without bisecting GlcNAc in total IgG1 glycans*	*SUM(G1FS1+G2FS1)/SUM(G0F+G1F+G1FS1+G2F+G2FS1)*100*
	LC_IGP36	IgG1 FG1S1/(FG1+FG1S1)	*The percentage of monosialylation of fucosylated monogalactosylated (without bisecting GlcNAc) structures in total IgG1 glycans*	*G1FS1/SUM(G1F+G1FS1)*100*
	LC_IGP37	IgG1 FG2S1/(FG2+FG2S1)	*The percentage of monosialylation of fucosylated digalactosylated (without bisecting GlcNAc) structures in total IgG1 glycans*	*G2FS1/SUM(G2F+G2FS1)*100*
	LC_IGP38	IgG1 FBGS1/(FBG+FBGS1)	*The percentage of monosialylation of fucosylated galactosylated structures with bisecting GlcNAc in total IgG1 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FN+G1FNS1+G2FN+G2FNS1)*100*
	LC_IGP39	IgG1 FBGS1/(FB+FBG+FBGS1)	*The percentage of monosialylation of all fucosylated structures with bisecting GlcNAc in total IgG1 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G0FN+G1FN+G1FNS1+G2FN+G2FNS1)*100*
	LC_IGP40	IgG1 FBG1S1/(FBG1+FBG1S1)	*The percentage of monosialylation of fucosylated monogalactosylated (with bisecting GlcNAc) structures in total IgG1 glycans*	*G1FNS1/SUM(G1FN+G1FNS1)*100*
	LC_IGP41	IgG1 FBG2S1/(FBG2+FBG2S1)	*The percentage of monosialylation of fucosylated digalactosylated (with bisecting GlcNAc) structures in total IgG1 glycans*	*G2FNS1/SUM(G2FN+G2FNS1)*100*
	LC_IGP42	IgG1 BS1/S1	*Ratio of afucosylated monosialylated structures with and without bisecting GlcNAc in total IgG1 glycans*	*SUM(G1NS1+G2NS1)/SUM(G1S1+G2S1)*
	LC_IGP43	IgG1 FBS1/FS1	*Ratio of fucosylated monosialylated structures with and without bisecting GlcNAc in total IgG1 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FS1+G2FS1)*
	LC_IGP44	IgG1 BS1/(S1+BS1)	*The incidence of bisecting GlcNAc in all afucosylated monosialylated structures in total IgG1 glycans*	*SUM(G1NS1+G2NS1)/SUM(G1S1+G1NS1+G2S1+G2NS1)*
	LC_IGP45	IgG1 FBS1/(FS1+FBS1)	*The incidence of bisecting GlcNAc in all fucosylated monosialylated structures in total IgG1 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FS1+G1FNS1+G2FS1+G2FNS1)*
IgG1 glycans (neutral)	**LC_IGP46**	IgG1_G0Fn	*The percentage of G0F glycan in neutral IgG1 glycans*	
	LC_IGP47	IgG1_G1Fn	*The percentage of G1F glycan in neutral IgG1 glycans*	
	LC_IGP48	IgG1_G2Fn	*The percentage of G2F glycan in neutral IgG1 glycans*	
	LC_IGP49	IgG1_G0FNn	*The percentage of G0FN glycan in neutral IgG1 glycans*	
	LC_IGP50	IgG1_G1FNn	*The percentage of G1FN glycan in neutral IgG1 glycans*	
	LC_IGP51	IgG1_G2FNn	*The percentage of G2FN glycan in neutral IgG1 glycans*	
	LC_IGP52	IgG1_G0n	*The percentage of G0 glycan in neutral IgG1 glycans*	
	LC_IGP53	IgG1_G1n	*The percentage of G1 glycan in neutral IgG1 glycans*	
	LC_IGP54	IgG1_G2n	*The percentage of G2 glycan in neutral IgG1 glycans*	
	LC_IGP55	IgG1_G0Nn	*The percentage of G0N glycan in neutral IgG1 glycans*	
	LC_IGP56	IgG1_G1Nn	*The percentage of G1N glycan in neutral IgG1 glycans*	
	LC_IGP57	IgG1_G2Nn	*The percentage of G2N glycan in neutral IgG1 glycans*	
Summarizing IgG1 glycans (neutral)	**LC_IGP58**	IgG1 G0n	*The percentage of agalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G0n+G0Fn+G0FNn+G0Nn)*
	LC_IGP59	IgG1 G1n	*The percentage of monogalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G1n+G1Fn+G1FNn+G1Nn)*
	LC_IGP60	IgG1 G2n	*The percentage of digalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G2n+G2Fn+G2FNn+G2Nn)*
	LC_IGP61	IgG1 Fn total	*The percentage of all fucosylated (+/- bisecting GlcNAc) structures in neutral IgG1 glycan fraction*	*SUM(G0Fn+G0FNn+G1Fn+G1FNn+G2Fn+G2FNn)*
	LC_IGP62	IgG1 FG0n total/G0n	*The percentage of fucosylation of agalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G0Fn+G0FNn)/G0n*100*
	LC_IGP63	IgG1 FG1n total/G1n	*The percentage of fucosylation of monogalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G1Fn+G1FNn)/G1n*100*
	LC_IGP64	IgG1 FG2n total/G2n	*The percentage of fucosylation of digalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G2Fn+G2FNn)/G2n*100*
	LC_IGP65	IgG1 Fn	*The percentage of fucosylated (without bisecting GlcNAc) structures i in neutral IgG1 glycan fraction*	*SUM(G0Fn+G1Fn+G2Fn)*
	LC_IGP66	IgG1 FG0n/G0n	*The percentage of fucosylation (without bisecting GlcNAc) of agalactosylated structures in neutral IgG1 glycan fraction*	*G0Fn/G0n*100*
	LC_IGP67	IgG1 FG1n/G1n	*The percentage of fucosylation (without bisecting GlcNAc) of monogalactosylated structures in neutral IgG1 glycan fraction*	*G1Fn/G1n*100*
	LC_IGP68	IgG1 FG2n/G2n	*The percentage of fucosylation (without bisecting GlcNAc) of digalactosylated structures in neutral IgG1 glycan fraction*	*G2Fn/G2n*100*
	LC_IGP69	IgG1 FBn	*The percentage of fucosylated (with bisecting GlcNAc) structures in neutral IgG1 glycan fraction*	*SUM(G0FNn+G1FNn+G2FNn)*
	LC_IGP70	IgG1 FBG0n/G0n	*The percentage of fucosylation (with bisecting GlcNAc) of agalactosylated structures in neutral IgG1 glycan fraction*	*G0FNn/G0n*100*
	LC_IGP71	IgG1 FBG1n/G1n	*The percentage of fucosylation (with bisecting GlcNAc) of monogalactosylated structures in neutral IgG1 glycan fraction*	*G1FNn/G1n*100*
	LC_IGP72	IgG1 FBG2n/G2n	*The percentage of fucosylation (with bisecting GlcNAc) of digalactosylated structures in neutral IgG1 glycan fraction*	*G2FNn/G2n*100*
	LC_IGP73	IgG1 Bn total	*The incidence of bisecting GlcNAc (+/- core Fuc) in neutral IgG1 glycan fraction*	*SUM(G0Nn+G1Nn+G2Nn+G0FNn+G1FNn+G2FNn)*
	LC_IGP74	IgG1 BG0n total/G0n	*The incidence of bisecting GlcNAc (+/- core Fuc) in agalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G0Nn+G0FNn)/G0n*100*
	LC_IGP75	IgG1 BG1n total/G1n	*The incidence of bisecting GlcNAc (+/- core Fuc) in monogalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G1Nn+G1FNn)/G1n*100*
	LC_IGP76	IgG1 BG2n total/G2n	*The incidence of bisecting GlcNAc (+/- core Fuc) in digalactosylated structures in neutral IgG1 glycan fraction*	*SUM(G2Nn+G2FNn)/G2n*100*
	LC_IGP77	IgG1 Bn	*The incidence of bisecting GlcNAc (without core Fuc) in neutral IgG1 glycan fraction*	*SUM(G0Nn+G1Nn+G2Nn)*
	LC_IGP78	IgG1 BG0n/G0n	*The incidence of bisecting GlcNAc (without core Fuc) in agalactosylated structures in neutral IgG1 glycan fraction*	*G0Nn/G0n*100*
	LC_IGP79	IgG1 BG1n/G1n	*The incidence of bisecting GlcNAc (without core Fuc) in monogalactosylated structures in neutral IgG1 glycan fraction*	*G1Nn/G1n*100*
	LC_IGP80	IgG1 BG2n/G2n	*The incidence of bisecting GlcNAc (without core Fuc) in digalactosylated structures in neutral IgG1 glycan fraction*	*G2Nn/G2n*100*
	LC_IGP81	IgG1 Fn/Bn	*Ratio of fucosylated structures without bisecting GlcNAc and afucosylated structures with bisecting GlcNAc in neutral IgG1 glycan fraction*	*Fn/Bn*
	LC_IGP82	IgG1 FBn/Fn	*Ratio of fucosylated structures with and without bisecting GlcNAc in neutral IgG1 glycan fraction*	*FBn/Fn*
	LC_IGP83	IgG1 FBn/Fn total	*The incidence of bisecting GlcNAc in all fucosylated structures in neutral IgG1 glycan fraction*	*FBn/Fn total*100*
	LC_IGP84	IgG1 FBn/Bn total	*The percentage of fucosylation in all structures with bisecting GlcNAc in neutral IgG1 glycan fraction*	*FBn/Bn total*100*

	LC_IGP85	IgG1 Fn/Bn total	*Ratio of fucosylated non-bisecting GlcNAc structures and all structures with bisecting GlcNAc in neutral IgG1 glycans fraction*	*Fn/Bn total*
	LC_IGP86	IgG1 Bn/Fn total ‰	*Ratio of structures with bisecting GlcNAc and all fucosylated structures (+/- bisecting GlcNAc) in neutral IgG1 glycan fraction*	*Bn/Fn total*1000*
Initial IgG2 Traits				
Initial IgG2 glycans (total)	**LC_IGP87**	IgG2_G0F	*The percentage of G0F glycan in total IgG2 glycans*	
	LC_IGP88	IgG2_G1F	*The percentage of G1F glycan in total IgG2 glycans*	
	LC_IGP89	IgG2_G2F	*The percentage of G2F glycan in total IgG2 glycans*	
	LC_IGP90	IgG2_G0FN	*The percentage of G0FN glycan in total IgG2 glycans*	
	LC_IGP91	IgG2_G1FN	*The percentage of G1FN glycan in total IgG2 glycans*	
	LC_IGP92	IgG2_G2FN	*The percentage of G2FN glycan in total IgG2 glycans*	
	LC_IGP93	IgG2_G1FS1	*The percentage of G1FS1 glycan in total IgG2 glycans*	
	LC_IGP94	IgG2_G2FS1	*The percentage of G2FS1 glycan in total IgG2 glycans*	
	LC_IGP95	IgG2_G1FNS1	*The percentage of G1FNS1 glycan in total IgG2 glycans*	
	LC_IGP96	IgG2_G2FNS1	*The percentage of G2FNS1 glycan in total IgG2 glycans*	
	LC_IGP97	IgG2_G0	*The percentage of G0 glycan in total IgG2 glycans*	
	LC_IGP98	IgG2_G1	*The percentage of G1 glycan in total IgG2 glycans*	
	LC_IGP99	IgG2_G2	*The percentage of G2 glycan in total IgG2 glycans*	
	LC_IGP100	IgG2_G0N	*The percentage of G0N glycan in total IgG2 glycans*	
	LC_IGP101	IgG2_G1N	*The percentage of G1N glycan in total IgG2 glycans*	
	LC_IGP102	IgG2_G2N	*The percentage of G2N glycan in total IgG2 glycans*	
	LC_IGP103	IgG2_G1S1	*The percentage of G1S1 glycan in total IgG2 glycans*	
	LC_IGP104	IgG2_G2S1	*The percentage of G2S1 glycan in total IgG2 glycans*	
	LC_IGP105	IgG2_G1NS1	*The percentage of G1NS1 glycan in total IgG2 glycans*	
	LC_IGP106	IgG2_G2NS1	*The percentage of G2NS1 glycan in total IgG2 glycans*	
Summarizing IgG2 Traits				
Summarizing IgG2 glycans (total)	**LC_IGP107**	IgG2 Fucosylation	*The percentage of IgG2 core fucosylation*	*SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGP108	IgG2 Bisecting GlcNAc	*The incidence of bisecting GlcNAc of IgG2*	*SUM(G0FN+G1FN+G2FN+G1FNS1+G2FNS1+G0N+G1N+G2N+G1NS1+G2NS1)*
	LC_IGP109	IgG2 Galactosylation	*The percentage of IgG2 galactosylation*	*SUM(G1F+G1FN+G1FS1+G1FNS1+G1+G1N+G1S1+G1NS1)*0.5+SUM(G2F+G2FN+G2FS1+G2FNS1+G2+G2N+G2S1+G2NS1)*
	LC_IGP110	IgG2 Sialylation	*The percentage of IgG2 sialylation*	*SUM(G1FS1+G2FS1+G1FNS1+G2FNS1+G1S1+G2S1+G1NS1+G2NS1)*
	LC_IGP111	IgG2 SA per Gal	*The number of sialic acid moieties on galactose moieties in total IgG2 glycans*	*IgG2 Sialylation/IgG2 Galactosylation*
	LC_IGP112	IgG2 GS1/(G+GS1)	*The percentage of monosialylation of afucosylated galactosylated structures without bisecting GlcNAc in total IgG2 glycans*	*SUM(G1S1+G2S1)/SUM(G1+G1S1+G2+G2S1)*100*
	LC_IGP113	IgG2 GS1/(G0+G+GS1)	*The percentage of monosialylation of all afucosylated structures without bisecting GlcNAc in total IgG2 glycans*	*SUM(G1S1+G2S1)/SUM(G0+G1+G1S1+G2+G2S1)*100*
	LC_IGP114	IgG2 G1S1/(G1+G1S1)	*The percentage of monosialylation of afucosylated monogalactosylated (without bisecting GlcNAc) structures in total IgG2 glycans*	*G1S1/SUM(G1+G1S1)*100*
	LC_IGP115	IgG2 G2S1/(G2+G2S1)	*The percentage of monosialylation of afucosylated digalactosylated (without bisecting GlcNAc) structures in total IgG2 glycans*	*G2S1/SUM(G2+G2S1)*100*
	LC_IGP116	IgG2 BGS1/(BG+BGS1)	*The percentage of monosialylation of afucosylated galactosylated structures with bisecting GlcNAc in total IgG2 glycans*	*SUM(G1NS1+G2NS1)/SUM(G1N+G1NS1+G2N+G2NS1)*100*
	LC_IGP117	IgG2 BGS1/(BG0+BG+BGS1)	*The percentage of monosialylation of all afucosylated structures with bisecting GlcNAc in total IgG2 glycans*	*SUM(G1NS1+G2NS1)/SUM(G0N+G1N+G1NS1+G2N+G2NS1)*100*
	LC_IGP118	IgG2 BG1S1/(BG1+BG1S1)	*The percentage of monosialylation of afucosylated monogalactosylated (with bisecting GlcNAc) structures in total IgG2 glycans*	*G1NS1/SUM(G1N+G1NS1)*100*
	LC_IGP119	IgG2 BG2S1/(BG2+BG2S1)	*The percentage of monosialylation of afucosylated digalactosylated (with bisecting GlcNAc) structures in total IgG2 glycans*	*G2NS1/SUM(G2N+G2NS1)*100*
	LC_IGP120	IgG2 FGS1/(FG+FGS1)	*The percentage of monosialylation of fucosylated galactosylated structures without bisecting GlcNAc in total IgG2 glycans*	*SUM(G1FS1+G2FS1)/SUM(G1F+G1FS1+G2F+G2FS1)*100*
	LC_IGP121	IgG2 FGS1/(F+FG+FGS1)	*The percentage of monosialylation of all fucosylated structures without bisecting GlcNAc in total IgG2 glycans*	*SUM(G1FS1+G2FS1)/SUM(G0F+G1F+G1FS1+G2F+G2FS1)*100*
	LC_IGP122	IgG2 FG1S1/(FG1+FG1S1)	*The percentage of monosialylation of fucosylated monogalactosylated (without bisecting GlcNAc) structures in total IgG2 glycans*	*G1FS1/SUM(G1F+G1FS1)*100*
	LC_IGP123	IgG2 FG2S1/(FG2+FG2S1)	*The percentage of monosialylation of fucosylated digalactosylated (without bisecting GlcNAc) structures in total IgG2 glycans*	*G2FS1/SUM(G2F+G2FS1)*100*
	LC_IGP124	IgG2 FBGS1/(FBG+FBGS1)	*The percentage of monosialylation of fucosylated galactosylated structures with bisecting GlcNAc in total IgG2 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FN+G1FNS1+G2FN+G2FNS1)*100*
	LC_IGP125	IgG2 FBGS1/(FB+FBG+FBGS1)	*The percentage of monosialylation of all fucosylated structures with bisecting GlcNAc in total IgG2 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G0FN+G1FN+G1FNS1+G2FN+G2FNS1)*100*
	LC_IGP126	IgG2 FBG1S1/(FBG1+FBG1S1)	*The percentage of monosialylation of fucosylated monogalactosylated (with bisecting GlcNAc) structures in total IgG2 glycans*	*G1FNS1/SUM(G1FN+G1FNS1)*100*
	LC_IGP127	IgG2 FBG2S1/(FBG2+FBG2S1)	*The percentage of monosialylation of fucosylated digalactosylated (with bisecting GlcNAc) structures in total IgG2 glycans*	*G2FNS1/SUM(G2FN+G2FNS1)*100*
	LC_IGP128	IgG2 BS1/S1	*Ratio of afucosylated monosialylated structures with and without bisecting GlcNAc in total IgG2 glycans*	*SUM(G1NS1+G2NS1)/SUM(G1S1+G2S1)*
	LC_IGP129	IgG2 FBS1/FS1	*Ratio of fucosylated monosialylated structures with and without bisecting GlcNAc in total IgG2 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FS1+G2FS1)*
	LC_IGP130	IgG2 BS1/(S1+BS1)	*The incidence of bisecting GlcNAc in all afucosylated monosialylated structures in total IgG2 glycans*	*SUM(G1NS1+G2NS1)/SUM(G1S1+G1NS1+G2S1+G2NS1)*
	LC_IGP131	IgG2 FBS1/(FS1+FBS1)	*The incidence of bisecting GlcNAc in all fucosylated monosialylated structures in total IgG2 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FS1+G1FNS1+G2FS1+G2FNS1)*
IgG2 glycans (neutral)	**LC_IGP132**	IgG2_G0Fn	*The percentage of G0F glycan in neutral IgG2 glycans*	
	LC_IGP133	IgG2_G1Fn	*The percentage of G1F glycan in neutral IgG2 glycans*	
	LC_IGP134	IgG2_G2Fn	*The percentage of G2F glycan in neutral IgG2 glycans*	
	LC_IGP135	IgG2_G0FNn	*The percentage of G0FN glycan in neutral IgG2 glycans*	
	LC_IGP136	IgG2_G1FNn	*The percentage of G1FN glycan in neutral IgG2 glycans*	
	LC_IGP137	IgG2_G2FNn	*The percentage of G2FN glycan in neutral IgG2 glycans*	
	LC_IGP138	IgG2_G0n	*The percentage of G0 glycan in neutral IgG2 glycans*	
	LC_IGP139	IgG2_G1n	*The percentage of G1 glycan in neutral IgG2 glycans*	
	LC_IGP140	IgG2_G2n	*The percentage of G2 glycan in neutral IgG2 glycans*	
	LC_IGP141	IgG2_G0Nn	*The percentage of G0N glycan in neutral IgG2 glycans*	
	LC_IGP142	IgG2_G1Nn	*The percentage of G1N glycan in neutral IgG2 glycans*	
	LC_IGP143	IgG2_G2Nn	*The percentage of G2N glycan in neutral IgG2 glycans*	
Summarizing IgG2 glycans (neutral)	**LC_IGP144**	IgG2 G0n	*The percentage of agalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G0n+G0Fn+G0FNn+G0Nn)*
	LC_IGP145	IgG2 G1n	*The percentage of monogalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G1n+G1Fn+G1FNn+G1Nn)*
	LC_IGP146	IgG2 G2n	*The percentage of digalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G2n+G2Fn+G2FNn+G2Nn)*
	LC_IGP147	IgG2 Fn total	*The percentage of all fucosylated (+/- bisecting GlcNAc) structures in neutral IgG2 glycan fraction*	*SUM(G0Fn+G0FNn+G1Fn+G1FNn+G2Fn+G2FNn)*
	LC_IGP148	IgG2 FG0n total/G0n	*The percentage of fucosylation of agalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G0Fn+G0FNn)/G0n*100*
	LC_IGP149	IgG2 FG1n total/G1n	*The percentage of fucosylation of monogalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G1Fn+G1FNn)/G1n*100*
	LC_IGP150	IgG2 FG2n total/G2n	*The percentage of fucosylation of digalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G2Fn+G2FNn)/G2n*100*
	LC_IGP151	IgG2 Fn	*The percentage of fucosylated (without bisecting GlcNAc) structures in neutral IgG2 glycan fraction*	*SUM(G0Fn+G1Fn+G2Fn)*
	LC_IGP152	IgG2 FG0n/G0n	*The percentage of fucosylation (without bisecting GlcNAc) of agalactosylated structures in neutral IgG2 glycan fraction*	*G0Fn/G0n*100*
	LC_IGP153	IgG2 FG1n/G1n	*The percentage of fucosylation (without bisecting GlcNAc) of monogalactosylated structures in neutral IgG2 glycan fraction*	*G1Fn/G1n*100*
	LC_IGP154	IgG2 FG2n/G2n	*The percentage of fucosylation (without bisecting GlcNAc) of digalactosylated structures in neutral IgG2 glycan fraction*	*G2Fn/G2n*100*
	LC_IGP155	IgG2 FBn	*The percentage of fucosylated (with bisecting GlcNAc) structures in neutral IgG2 glycan fraction*	*SUM(G0FNn+G1FNn+G2FNn)*
	LC_IGP156	IgG2 FBG0n/G0n	*The percentage of fucosylation (with bisecting GlcNAc) of agalactosylated structures in neutral IgG2 glycan fraction*	*G0FNn/G0n*100*
	LC_IGP157	IgG2 FBG1n/G1n	*The percentage of fucosylation (with bisecting GlcNAc) of monogalactosylated structures in neutral IgG2 glycan fraction*	*G1FNn/G1n*100*
	LC_IGP158	IgG2 FBG2n/G2n	*The percentage of fucosylation (with bisecting GlcNAc) of digalactosylated structures in neutral IgG2 glycan fraction*	*G2FNn/G2n*100*
	LC_IGP159	IgG2 Bn total	*The incidence of bisecting GlcNAc (+/- core Fuc) in neutral IgG2 glycan fraction*	*SUM(G0Nn+G1Nn+G2Nn+G0FNn+G1FNn+G2FNn)*
	LC_IGP160	IgG2 BG0n total/G0n	*The incidence of bisecting GlcNAc (+/- core Fuc) in agalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G0Nn+G0FNn)/G0n*100*
	LC_IGP161	IgG2 BG1n total/G1n	*The incidence of bisecting GlcNAc (+/- core Fuc) in monogalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G1Nn+G1FNn)/G1n*100*
	LC_IGP162	IgG2 BG2n total/G2n	*The incidence of bisecting GlcNAc (+/- core Fuc) in digalactosylated structures in neutral IgG2 glycan fraction*	*SUM(G2Nn+G2FNn)/G2n*100*
	LC_IGP163	IgG2 Bn	*The incidence of bisecting GlcNAc (without core Fuc) in neutral IgG2 glycan fraction*	*SUM(G0Nn+G1Nn+G2Nn)*
	LC_IGP164	IgG2 BG0n/G0n	*The incidence of bisecting GlcNAc (without core Fuc) in agalactosylated structures in neutral IgG2 glycan fraction*	*G0Nn/G0n*100*
	LC_IGP165	IgG2 BG1n/G1n	*The incidence of bisecting GlcNAc (without core Fuc) in monogalactosylated structures in neutral IgG2 glycan fraction*	*G1Nn/G1n*100*
	LC_IGP166	IgG2 BG2n/G2n	*The incidence of bisecting GlcNAc (without core Fuc) in digalactosylated structures in neutral IgG2 glycan fraction*	*G2Nn/G2n*100*
	LC_IGP167	IgG2 Fn/Bn	*Ratio of fucosylated structures without bisecting GlcNAc and afucosylated structures with bisecting GlcNAc in neutral IgG2 glycan fraction*	*Fn/Bn*
	LC_IGP168	IgG2 FBn/Fn	*Ratio of fucosylated structures with and without bisecting GlcNAc in neutral IgG2 glycan fraction*	*FBn/Fn*
	LC_IGP169	IgG2 FBn/Fn total	*The incidence of bisecting GlcNAc in all fucosylated structures in neutral IgG2 glycan fraction*	*FBn/Fn total*100*
	LC_IGP170	IgG2 FBn/Bn total	*The percentage of fucosylation in all structures with bisecting GlcNAc in neutral IgG2 glycan fraction*	*FBn/Bn total*100*

	LC_IGP171	IgG2 Fn/Bn total	*Ratio of fucosylated non-bisecting GlcNAc structures and all structures with bisecting GlcNAc in neutral IgG2 glycans fraction*	*Fn/Bn total*
	LC_IGP172	IgG2 Bn/Fn total ‰	*Ratio of structures with bisecting GlcNAc and all fucosylated structures (+/- bisecting GlcNAc) in neutral IgG2 glycan fraction*	*Bn/Fn total*1000*
Initial IgG4 Traits				
Initial IgG4 glycans (total)	LC_IGP173	IgG4_G0F	*The percentage of G0F glycan in total IgG4 glycans*	
	LC_IGP174	IgG4_G1F	*The percentage of G1F glycan in total IgG4 glycans*	
	LC_IGP175	IgG4_G2F	*The percentage of G2F glycan in total IgG4 glycans*	
	LC_IGP176	IgG4_G0FN	*The percentage of G0FN glycan in total IgG4 glycans*	
	LC_IGP177	IgG4_G1FN	*The percentage of G1FN glycan in total IgG4 glycans*	
	LC_IGP178	IgG4_G2FN	*The percentage of G2FN glycan in total IgG4 glycans*	
	LC_IGP179	IgG4_G1FS1	*The percentage of G1FS1 glycan in total IgG4 glycans*	
	LC_IGP180	IgG4_G2FS1	*The percentage of G2FS1 glycan in total IgG4 glycans*	
	LC_IGP181	IgG4_G1FNS1	*The percentage of G1FNS1 glycan in total IgG4 glycans*	
	LC_IGP182	IgG4_G2FNS1	*The percentage of G2FNS1 glycan in total IgG4 glycans*	
Summarizing IgG4 Traits				
Summarizing IgG4 glycans (total)	LC_IGP183	IgG4 Bisecting GlcNAc	*The incidence of bisecting GlcNAc of IgG4*	*SUM(G0FN+G1FN+G2FN)*
	LC_IGP184	IgG4 Galactosylation	*The percentage of IgG4 galactosylation*	*SUM(G1F+G1FN+G1FS1+G1FNS1)*0.5+SUM(G2F+G2FN+G2FS1+G2FNS1)*
	LC_IGP185	IgG4 Sialylation	*The percentage of IgG4 sialylation*	*SUM(G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGP186	IgG4 SA per Gal	*The number of sialic acid moieties on galactose moieties in total IgG4 glycans*	*IgG4 Sialylation/IgG4 Galactosylation*
	LC_IGP187	IgG4 FGS1/(FG+FGS1)	*The percentage of monosialylation of fucosylated galactosylated structures without bisecting GlcNAc in total IgG4 glycans*	*SUM(G1FS1+G2FS1)/SUM(G1F+G1FS1+G2F+G2FS1)*100*
	LC_IGP188	IgG4 FGS1/(F+FG+FGS1)	*The percentage of monosialylation of all fucosylated structures without bisecting GlcNAc in total IgG4 glycans*	*SUM(G1FS1+G2FS1)/SUM(G0F+G1F+G1FS1+G2F+G2FS1)*100*
	LC_IGP189	IgG4 FG1S1/(FG1+FG1S1)	*The percentage of monosialylation of fucosylated monogalactosylated (without bisecting GlcNAc) structures in total IgG4 glycans*	*G1FS1/SUM(G1F+G1FS1)*100*
	LC_IGP190	IgG4 FG2S1/(FG2+FG2S1)	*The percentage of monosialylation of fucosylated digalactosylated (without bisecting GlcNAc) structures in total IgG4 glycans*	*G2FS1/SUM(G2F+G2FS1)*100*
	LC_IGP191	IgG4 FBGS1/(FBG+FBGS1)	*The percentage of monosialylation of fucosylated galactosylated structures with bisecting GlcNAc in total IgG4 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FN+G1FNS1+G2FN+G2FNS1)*100*
	LC_IGP192	IgG4 FBGS1/(FB+FBG+FBGS1)	*The percentage of monosialylation of all fucosylated structures with bisecting GlcNAc in total IgG4 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G0FN+G1FN+G1FNS1+G2FN+G2FNS1)*100*
	LC_IGP193	IgG4 FBG1S1/(FBG1+FBG1S1)	*The percentage of monosialylation of fucosylated monogalactosylated (with bisecting GlcNAc) structures in total IgG4 glycans*	*G1FNS1/SUM(G1FN+G1FNS1)*100*
	LC_IGP194	IgG4 FBG2S1/(FBG2+FBG2S1)	*The percentage of monosialylation of fucosylated digalactosylated (with bisecting GlcNAc) structures in total IgG4 glycans*	*G2FNS1/SUM(G2FN+G2FNS1)*100*
	LC_IGP195	IgG4 FBS1/FS1	*Ratio of fucosylated monosialylated structures with and without bisecting GlcNAc in total IgG4 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FS1+G2FS1)*
	LC_IGP196	IgG4 FBS1/(FS1+FBS1)	*The incidence of bisecting GlcNAc in all fucosylated monosialylated structures in total IgG4 glycans*	*SUM(G1FNS1+G2FNS1)/SUM(G1FS1+G1FNS1+G2FS1+G2FNS1)*
IgG4 glycans (neutral)	LC_IGP197	IgG4_G0Fn	*The percentage of G0F glycan in neutral IgG4 glycans*	
	LC_IGP198	IgG4_G1Fn	*The percentage of G1F glycan in neutral IgG4 glycans*	
	LC_IGP199	IgG4_G2Fn	*The percentage of G2F glycan in neutral IgG4 glycans*	
	LC_IGP200	IgG4_G0FNn	*The percentage of G0FN glycan in neutral IgG4 glycans*	
	LC_IGP201	IgG4_G1FNn	*The percentage of G1FN glycan in neutral IgG4 glycans*	
	LC_IGP202	IgG4_G2FNn	*The percentage of G2FN glycan in neutral IgG4 glycans*	
Summarizing IgG4 glycans (neutral)	LC_IGP203	IgG4 G0n	*The percentage of agalactosylated structures in neutral IgG4 glycan fraction*	*SUM(G0F+G0FN)*
	LC_IGP204	IgG4 G1n	*The percentage of monogalactosylated structures in neutral IgG4 glycan fraction*	*SUM(G1F+G1FN)*
	LC_IGP205	IgG4 G2n	*The percentage of digalactosylated structures in neutral IgG4 glycan fraction*	*SUM(G2F+G2FN)*

Within Subclass Ratios				
Pathway ratios for IgG1	LC_IGP_R1	IgG1_G0F/IgG1_G0	*The relation of G0F to G0 in IgG1 describing the pathway step from G0 to G0F in IgG1*	*IgG1_G0F/IgG1_G0*
	LC_IGP_R2	IgG1_G1F/IgG1_G1	*The relation of G1F to G1 in IgG1 describing the pathway step from G1 to G1F in IgG1*	*IgG1_G1F/IgG1_G1*
	LC_IGP_R3	IgG1_G2F/IgG1_G2	*The relation of G2F to G2 in IgG1 describing the pathway step from G2 to G2F in IgG1*	*IgG1_G2F/IgG1_G2*
	LC_IGP_R4	IgG1_G0FN/IgG1_G0N	*The relation of G0FN to G0N in IgG1 describing the pathway step from G0N to G0FN in IgG1*	*IgG1_G0FN/IgG1_G0N*
	LC_IGP_R5	IgG1_G1FN/IgG1_G1N	*The relation of G1FN to G1N in IgG1 describing the pathway step from G1N to G1FN in IgG1*	*IgG1_G1FN/IgG1_G1N*
	LC_IGP_R6	IgG1_G2FN/IgG1_G2N	*The relation of G2FN to G2N in IgG1 describing the pathway step from G2N to G2FN in IgG1*	*IgG1_G2FN/IgG1_G2N*
	LC_IGP_R7	IgG1_G1FS/IgG1_G1S	*The relation of G1FS to G1S in IgG1 describing the pathway step from G1S to G1FS in IgG1.*	*IgG1_G1FS/IgG1_G1S*
	LC_IGP_R8	IgG1_G2FS/IgG1_G2S	*The relation of G2FS to G2S in IgG1 describing the pathway step from G2S to G2FS in IgG1.*	*IgG1_G2FS/IgG1_G2S*
	LC_IGP_R9	IgG1_G1FNS/IgG1_G1NS	*The relation of G1FNS to G1NS in IgG1 describing the pathway step from G1NS to G1FNS in IgG1.*	*IgG1_G1FNS/IgG1_G1NS*
	LC_IGP_R10	IgG1_G2FNS/IgG1_G2NS	*The relation of G2FNS to G2NS in IgG1 describing the pathway step from G2NS to G2FNS in IgG1.*	*IgG1_G2FNS/IgG1_G2NS*
	LC_IGP_R11	IgG1_G0FN/IgG1_G0F	*The relation of G0FN to G0F in IgG1 describing the pathway step from G0F to G0FN in IgG1.*	*IgG1_G0FN/IgG1_G0F*
	LC_IGP_R12	IgG1_G1FN/IgG1_G1F	*The relation of G1FN to G1F in IgG1 describing the pathway step from G1F to G1FN in IgG1.*	*IgG1_G1FN/IgG1_G1F*
	LC_IGP_R13	IgG1_G2FN/IgG1_G2F	*The relation of G2FN to G2F in IgG1 describing the pathway step from G2F to G2FN in IgG1.*	*IgG1_G2FN/IgG1_G2F*
	LC_IGP_R14	IgG1_G1FNS/IgG1_G1FS	*The relation of G1FNS to G1FS in IgG1 describing the pathway step from G1FS to G1FNS in IgG1.*	*IgG1_G1FNS/IgG1_G1FS*
	LC_IGP_R15	IgG1_G2FNS/IgG1_G2FS	*The relation of G2FNS to G2FS in IgG1 describing the pathway step from G2FS to G2FNS in IgG1.*	*IgG1_G2FNS/IgG1_G2FS*
	LC_IGP_R16	IgG1_G1N/IgG1_G1	*The relation of G1N to G1 in IgG1 describing the pathway step from G1 to G1N in IgG1.*	*IgG1_G1N/IgG1_G1*
	LC_IGP_R17	IgG1_G2N/IgG1_G2	*The relation of G2N to G2 in IgG1 describing the pathway step from G2 to G2N in IgG1.*	*IgG1_G2N/IgG1_G2*
	LC_IGP_R18	IgG1_G1NS/IgG1_G1S	*The relation of G1NS to G1S in IgG1 describing the pathway step from G1S to G1NS in IgG1.*	*IgG1_G1NS/IgG1_G1S*
	LC_IGP_R19	IgG1_G2NS/IgG1_G2S	*The relation of G2NS to G2S in IgG1 describing the pathway step from G2S to G2NS in IgG1.*	*IgG1_G2NS/IgG1_G2S*
	LC_IGP_R20	IgG1_G1/IgG1_G0	*The relation of G1 to G0 in IgG1 describing the pathway step from G0 to G1 in IgG1.*	*IgG1_G1/IgG1_G0*
	LC_IGP_R21	IgG1_G1N/IgG1_G0N	*The relation of G1N to G0N in IgG1 describing the pathway step from G0N to G1N in IgG1.*	*IgG1_G1N/IgG1_G0N*
	LC_IGP_R22	IgG1_G1F/IgG1_G0F	*The relation of G1F to G0F in IgG1 describing the pathway step from G0F to G1F in IgG1.*	*IgG1_G1F/IgG1_G0F*
	LC_IGP_R23	IgG1_G1FN/IgG1_G0FN	*The relation of G1FN to G0FN in IgG1 describing the pathway step from G0FN to G1FN in IgG1.*	*IgG1_G1FN/IgG1_G0FN*
	LC_IGP_R24	IgG1_G2/IgG1_G1	*The relation of G2 to G1 in IgG1 describing the pathway step from G1 to G2 in IgG1.*	*IgG1_G2/IgG1_G1*
	LC_IGP_R25	IgG1_G2S/IgG1_G1S	*The relation of G2S to G1S in IgG1 describing the pathway step from G1S to G2S in IgG1.*	*IgG1_G2S/IgG1_G1S*
	LC_IGP_R26	IgG1_G2N/IgG1_G1N	*The relation of G2N to G1N in IgG1 describing the pathway step from G1N to G2N in IgG1.*	*IgG1_G2N/IgG1_G1N*
	LC_IGP_R27	IgG1_G2NS/IgG1_G1NS	*The relation of G2NS to G1NS in IgG1 describing the pathway step from G1NS to G2NS in IgG1.*	*IgG1_G2NS/IgG1_G1NS*
	LC_IGP_R28	IgG1_G2F/IgG1_G1F	*The relation of G2F to G1F in IgG1 describing the pathway step from G1F to G2F in IgG1.*	*IgG1_G2F/IgG1_G1F*
	LC_IGP_R29	IgG1_G2FS/IgG1_G1FS	*The relation of G2FS to G1FS in IgG1 describing the pathway step from G1FS to G2FS in IgG1.*	*IgG1_G2FS/IgG1_G1FS*
	LC_IGP_R30	IgG1_G2FNS/IgG1_G1FNS	*The relation of G2FNS to G1FNS in IgG1 describing the pathway step from G1FNS to G2FNS in IgG1.*	*IgG1_G2FNS/IgG1_G1FNS*
	LC_IGP_R31	IgG1_G2FN/IgG1_G1FN	*The relation of G2FN to G1FN in IgG1 describing the pathway step from G1FN to G2FN in IgG1.*	*IgG1_G2FN/IgG1_G1FN*
	LC_IGP_R32	IgG1_G1S/IgG1_G1	*The relation of G1S to G1 in IgG1 describing the pathway step from G1 to G1S in IgG1.*	*IgG1_G1S/IgG1_G1*
	LC_IGP_R33	IgG1_G2S/IgG1_G2	*The relation of G2S to G2 in IgG1 describing the pathway step from G2 to G2S in IgG1.*	*IgG1_G2S/IgG1_G2*
	LC_IGP_R34	IgG1_G1FS/IgG1_G1F	*The relation of G1FS to G1F in IgG1 describing the pathway step from G1F to G1FS in IgG1.*	*IgG1_G1FS/IgG1_G1F*
	LC_IGP_R35	IgG1_G2FS/IgG1_G2F	*The relation of G2FS to G2F in IgG1 describing the pathway step from G2F to G2FS in IgG1.*	*IgG1_G2FS/IgG1_G2F*
	LC_IGP_R36	IgG1_G1NS/IgG1_G1N	*The relation of G1NS to G1N in IgG1 describing the pathway step from G1N to G1NS in IgG1.*	*IgG1_G1NS/IgG1_G1N*
	LC_IGP_R37	IgG1_G2NS/IgG1_G2N	*The relation of G2NS to G2N in IgG1 describing the pathway step from G2N to G2NS in IgG1.*	*IgG1_G2NS/IgG1_G2N*
	LC_IGP_R38	IgG1_G1FNS/IgG1_G1FN	*The relation of G1FNS to G1FN in IgG1 describing the pathway step from G1FN to G1FNS in IgG1.*	*IgG1_G1FNS/IgG1_G1FN*
	LC_IGP_R39	IgG1_G0N/IgG1_G0	*The relation of G0N to G0 in IgG1 describing the pathway step from G0 to G0N in IgG1.*	*IgG1_G0N/IgG1_G0*
	LC_IGP_R40	IgG1_G2FNS/IgG1_G2FN	*The relation of G2FNS to G2FN in IgG1 describing the pathway step from G2FN to G2FNS in IgG1.*	*IgG1_G2FNS/IgG1_G2FN*
	LC_IGP_R41	IgG2_G0F/IgG2_G0	*The relation of G0F to G0 in IgG2 describing the pathway step from G0 to G0F in IgG2*	*IgG2_G0F/IgG2_G0*
	LC_IGP_R42	IgG2_G1F/IgG2_G1	*The relation of G1F to G1 in IgG2 describing the pathway step from G1 to G1F in IgG2*	*IgG2_G1F/IgG2_G1*
	LC_IGP_R43	IgG2_G2F/IgG2_G2	*The relation of G2F to G2 in IgG2 describing the pathway step from G2 to G2F in IgG2*	*IgG2_G2F/IgG2_G2*

Pathway Ratios for IgG2	**LC_IGP_R44**	IgG2_G0FN/IgG2_G0N	*The relation of G0FN to G0N in IgG2 describing the pathway step from G0N to G0FN in IgG2*	*IgG2_G0FN/IgG2_G0N*	
	LC_IGP_R45	IgG2_G1FN/IgG2_G1N	*The relation of G1FN to G1N in IgG2 describing the pathway step from G1N to G1FN in IgG2*	*IgG2_G1FN/IgG2_G1N*	
	LC_IGP_R46	IgG2_G2FN/IgG2_G2N	*The relation of G2FN to G2N in IgG2 describing the pathway step from G2N to G2FN in IgG2*	*IgG2_G2FN/IgG2_G2N*	
	LC_IGP_R47	IgG2_G1FS/IgG2_G1S	*The relation of G1FS to G1S in IgG2 describing the pathway step from G1S to G1FS in IgG2*	*IgG2_G1FS/IgG2_G1S*	
	LC_IGP_R48	IgG2_G2FS/IgG2_G2S	*The relation of G2FS to G2S in IgG2 describing the pathway step from G2S to G2FS in IgG2*	*IgG2_G2FS/IgG2_G2S*	
	LC_IGP_R49	IgG2_G1FNS/IgG2_G1NS	*The relation of G1FNS to G1NS in IgG2 describing the pathway step from G1NS to G1FNS in IgG2*	*IgG2_G1FNS/IgG2_G1NS*	
	LC_IGP_R50	IgG2_G2FNS/IgG2_G2NS	*The relation of G2FNS to G2NS in IgG2 describing the pathway step from G2NS to G2FNS in IgG2*	*IgG2_G2FNS/IgG2_G2NS*	
	LC_IGP_R51	IgG2_G0FN/IgG2_G0F	*The relation of G0FN to G0F in IgG2 describing the pathway step from G0F to G0FN in IgG2*	*IgG2_G0FN/IgG2_G0F*	
	LC_IGP_R52	IgG2_G1FN/IgG2_G0F	*The relation of G1FN to G1F in IgG2 describing the pathway step from G1F to G1FN in IgG2*	*IgG2_G1FN/IgG2_G0F*	
	LC_IGP_R53	IgG2_G2FN/IgG2_G2F	*The relation of G2FN to G2F in IgG2 describing the pathway step from G2F to G2FN in IgG2*	*IgG2_G2FN/IgG2_G2F*	
	LC_IGP_R54	IgG2_G1FNS/IgG2_G1FS	*The relation of G1FNS to G1FS in IgG2 describing the pathway step from G1FS to G1FNS in IgG2*	*IgG2_G1FNS/IgG2_G1FS*	
	LC_IGP_R55	IgG2_G2FNS/IgG2_G2FS	*The relation of G2FNS to G2FS in IgG2 describing the pathway step from G2FS to G2FNS in IgG2*	*IgG2_G2FNS/IgG2_G2FS*	
	LC_IGP_R56	IgG2_G1N/IgG2_G1	*The relation of G1N to G1 in IgG2 describing the pathway step from G1 to G1N in IgG2*	*IgG2_G1N/IgG2_G1*	
	LC_IGP_R57	IgG2_G2N/IgG2_G2	*The relation of G2N to G2 in IgG2 describing the pathway step from G2 to G2N in IgG2*	*IgG2_G2N/IgG2_G2*	
	LC_IGP_R58	IgG2_G1NS/IgG2_G1S	*The relation of G1NS to G1S in IgG2 describing the pathway step from G1S to G1NS in IgG2*	*IgG2_G1NS/IgG2_G1S*	
	LC_IGP_R59	IgG2_G2NS/IgG2_G2S	*The relation of G2NS to G2S in IgG2 describing the pathway step from G2S to G2NS in IgG2*	*IgG2_G2NS/IgG2_G2S*	
	LC_IGP_R60	IgG2_G1/IgG2_G0	*The relation of G1 to G0 in IgG2 describing the pathway step from G0 to G1 in IgG2*	*IgG2_G1/IgG2_G0*	
	LC_IGP_R61	IgG2_G1N/IgG2_G0N	*The relation of G1N to G0N in IgG2 describing the pathway step from G0N to G1N in IgG2*	*IgG2_G1N/IgG2_G0N*	
	LC_IGP_R62	IgG2_G1F/IgG2_G0F	*The relation of G1F to G0F in IgG2 describing the pathway step from G0F to G1F in IgG2*	*IgG2_G1F/IgG2_G0F*	
	LC_IGP_R63	IgG2_G1FN/IgG2_G0FN	*The relation of G1FN to G0FN in IgG2 describing the pathway step from G0FN to G1FN in IgG2*	*IgG2_G1FN/IgG2_G0FN*	
	LC_IGP_R64	IgG2_G2/IgG2_G1	*The relation of G2 to G1 in IgG2 describing the pathway step from G1 to G2 in IgG2*	*IgG2_G2/IgG2_G1*	
	LC_IGP_R65	IgG2_G2S/IgG2_G1S	*The relation of G2S to G1S in IgG2 describing the pathway step from G1S to G2S in IgG2*	*IgG2_G2S/IgG2_G1S*	
	LC_IGP_R66	IgG2_G2N/IgG2_G1N	*The relation of G2N to G1N in IgG2 describing the pathway step from G1N to G2N in IgG2*	*IgG2_G2N/IgG2_G1N*	
	LC_IGP_R67	IgG2_G2NS/IgG2_G1NS	*The relation of G2NS to G1NS in IgG2 describing the pathway step from G1NS to G2NS in IgG2*	*IgG2_G2NS/IgG2_G1NS*	
	LC_IGP_R68	IgG2_G2F/IgG2_G1F	*The relation of G2F to G1F in IgG2 describing the pathway step from G1F to G2F in IgG2*	*IgG2_G2F/IgG2_G1F*	
	LC_IGP_R69	IgG2_G2FS/IgG2_G1FS	*The relation of G2FS to G1FS in IgG2 describing the pathway step from G1FS to G2FS in IgG2*	*IgG2_G2FS/IgG2_G1FS*	
	LC_IGP_R70	IgG2_G2FNS/IgG2_G1FNS	*The relation of G2FNS to G1FNS in IgG2 describing the pathway step from G1FNS to G2FNS in IgG2*	*IgG2_G2FNS/IgG2_G1FNS*	
	LC_IGP_R71	IgG2_G2FN/IgG2_G1FN	*The relation of G2FN to G1FN in IgG2 describing the pathway step from G1FN to G2FN in IgG2*	*IgG2_G2FN/IgG2_G1FN*	
	LC_IGP_R72	IgG2_G1S/IgG2_G1	*The relation of G1S to G1 in IgG2 describing the pathway step from G1 to G1S in IgG2*	*IgG2_G1S/IgG2_G1*	
	LC_IGP_R73	IgG2_G2S/IgG2_G2	*The relation of G2S to G2 in IgG2 describing the pathway step from G2 to G2S in IgG2*	*IgG2_G2S/IgG2_G2*	
	LC_IGP_R74	IgG2_G1FS/IgG2_G1F	*The relation of G1FS to G1F in IgG2 describing the pathway step from G1F to G1FS in IgG2*	*IgG2_G1FS/IgG2_G1F*	
	LC_IGP_R75	IgG2_G2FS/IgG2_G2F	*The relation of G2FS to G2F in IgG2 describing the pathway step from G2F to G2FS in IgG2*	*IgG2_G2FS/IgG2_G2F*	
	LC_IGP_R76	IgG2_G1NS/IgG2_G1N	*The relation of G1NS to G1N in IgG2 describing the pathway step from G1N to G1NS in IgG2*	*IgG2_G1NS/IgG2_G1N*	
	LC_IGP_R77	IgG2_G2NS/IgG2_G2N	*The relation of G2NS to G2N in IgG2 describing the pathway step from G2N to G2NS in IgG2*	*IgG2_G2NS/IgG2_G2N*	
	LC_IGP_R78	IgG2_G1FNS/IgG2_G1FN	*The relation of G1FNS to G1FN in IgG2 describing the pathway step from G1FN to G1FNS in IgG2*	*IgG2_G1FNS/IgG2_G1FN*	
	LC_IGP_R79	IgG2_G0N/IgG2_G0	*The relation of G0N to G0 in IgG2 describing the pathway step from G0 to G0N in IgG2*	*IgG2_G0N/IgG2_G0*	
	LC_IGP_R80	IgG2_G2FNS/IgG2_G2FN	*The relation of G2FNS to G2FN in IgG2 describing the pathway step from G2FN to G2FNS in IgG2*	*IgG2_G2FNS/IgG2_G2FN*	
Pathway Ratios for IgG4	**LC_IGP_R81**	IgG4_G0FN/IgG4_G0F	*The relation of G0FN to G0F in IgG4 describing the pathway step from G0F to G0FN in IgG4*	*IgG4_G0FN/IgG4_G0F*	
	LC_IGP_R82	IgG4_G1FN/IgG4_G0F	*The relation of G1FN to G1F in IgG4 describing the pathway step from G1F to G1FN in IgG4*	*IgG4_G1FN/IgG4_G0F*	
	LC_IGP_R83	IgG4_G2FN/IgG4_G2F	*The relation of G2FN to G2F in IgG4 describing the pathway step from G2F to G2FN in IgG4*	*IgG4_G2FN/IgG4_G2F*	
	LC_IGP_R84	IgG4_G1FNS/IgG4_G1FS	*The relation of G1FNS to G1FS in IgG4 describing the pathway step from G1FS to G1FNS in IgG4*	*IgG4_G1FNS/IgG4_G1FS*	
	LC_IGP_R85	IgG4_G2FNS/IgG4_G2FS	*The relation of G2FNS to G2FS in IgG4 describing the pathway step from G2FS to G2FNS in IgG4*	*IgG4_G2FNS/IgG4_G2FS*	
	LC_IGP_R86	IgG4_G1F/IgG4_G0F	*The relation of G1F to G0F in IgG4 describing the pathway step from G0F to G1F in IgG4*	*IgG4_G1F/IgG4_G0F*	
	LC_IGP_R87	IgG4_G1FN/IgG4_G0FN	*The relation of G1FN to G0FN in IgG4 describing the pathway step from G0FN to G1FN in IgG4*	*IgG4_G1FN/IgG4_G0FN*	
	LC_IGP_R88	IgG4_G2F/IgG4_G1F	*The relation of G2F to G1F in IgG4 describing the pathway step from G1F to G2F in IgG4*	*IgG4_G2F/IgG4_G1F*	
	LC_IGP_R89	IgG4_G2FS/IgG4_G1FS	*The relation of G2FS to G1FS in IgG4 describing the pathway step from G1FS to G2FS in IgG4*	*IgG4_G2FS/IgG4_G1FS*	
	LC_IGP_R90	IgG4_G2FNS/IgG4_G1FNS	*The relation of G2FNS to G1FNS in IgG4 describing the pathway step from G1FNS to G2FNS in IgG4*	*IgG4_G2FNS/IgG4_G1FNS*	
	LC_IGP_R91	IgG4_G2FN/IgG4_G1FN	*The relation of G2FN to G1FN in IgG4 describing the pathway step from G1FN to G2FN in IgG4*	*IgG4_G2FN/IgG4_G1FN*	
	LC_IGP_R92	IgG4_G1FS/IgG4_G1F	*The relation of G1FS to G1F in IgG4 describing the pathway step from G1F to G1FS in IgG4*	*IgG4_G1FS/IgG4_G1F*	
	LC_IGP_R93	IgG4_G2FS/IgG4_G2F	*The relation of G2FS to G2F in IgG4 describing the pathway step from G2F to G2FS in IgG4*	*IgG4_G2FS/IgG4_G2F*	
	LC_IGP_R94	IgG4_G1FNS/IgG4_G1FN	*The relation of G1FNS to G1FN in IgG4 describing the pathway step from G1FN to G1FNS in IgG4*	*IgG4_G1FNS/IgG4_G1FN*	
	LC_IGP_R95	IgG4_G2FNS/IgG4_G2FN	*The relation of G2FNS to G2FN in IgG4 describing the pathway step from G2FN to G2FNS in IgG4*	*IgG4_G2FNS/IgG4_G2FN*	
Between Subclass Ratios					
Subclass Ratios for IgG1 and IgG2	**LC_IGP_SC1**	IgG1_G0F/IgG2_G0F	*The relation of percentage of IgG1_G0F in total IgG1 glycans and percentage of IgG2_G0F in total IgG2 glycans*	*IgG1_G0F/IgG2_G0F*	
	LC_IGP_SC2	IgG1_G1F/IgG2_G1F	*The relation of percentage of IgG1_G1F in total IgG1 glycans and percentage of IgG2_G1F in total IgG2 glycans*	*IgG1_G1F/IgG2_G1F*	
	LC_IGP_SC3	IgG1_G2F/IgG2_G2F	*The relation of percentage of IgG1_G2F in total IgG1 glycans and percentage of IgG2_G2F in total IgG2 glycans*	*IgG1_G2F/IgG2_G2F*	
	LC_IGP_SC4	IgG1_G0FN/IgG2_G0FN	*The relation of percentage of IgG1_G0FN in total IgG1 glycans and percentage of IgG2_G0FN in total IgG2 glycans*	*IgG1_G0FN/IgG2_G0FN*	
	LC_IGP_SC5	IgG1_G1FN/IgG2_G1FN	*The relation of percentage of IgG1_G1FN in total IgG1 glycans and percentage of IgG2_G1FN in total IgG2 glycans*	*IgG1_G1FN/IgG2_G1FN*	
	LC_IGP_SC6	IgG1_G2FN/IgG2_G2FN	*The relation of percentage of IgG1_G2FN in total IgG1 glycans and percentage of IgG2_G2FN in total IgG2 glycans*	*IgG1_G2FN/IgG2_G2FN*	
	LC_IGP_SC7	IgG1_G1FS1/IgG2_G1FS1	*The relation of percentage of IgG1_G1FS1 in total IgG1 glycans and percentage of IgG2_G1FS1 in total IgG2 glycans*	*IgG1_G1FS1/IgG2_G1FS1*	
	LC_IGP_SC8	IgG1_G2FS1/IgG2_G2FS1	*The relation of percentage of IgG1_G2FS1 in total IgG1 glycans and percentage of IgG2_G2FS1 in total IgG2 glycans*	*IgG1_G2FS1/IgG2_G2FS1*	
	LC_IGP_SC9	IgG1_G1FNS1/IgG2_G1FNS1	*The relation of percentage of IgG1_G1FNS1 in total IgG1 glycans and percentage of IgG2_G1FNS1 in total IgG2 glycans*	*IgG1_G1FNS1/IgG2_G1FNS1*	
	LC_IGP_SC10	IgG1_G2FNS1/IgG2_G2FNS1	*The relation of percentage of IgG1_G2FNS1 in total IgG1 glycans and percentage of IgG2_G2FNS1 in total IgG2 glycans*	*IgG1_G2FNS1/IgG2_G2FNS1*	
	LC_IGP_SC11	IgG1_G0/IgG2_G0	*The relation of percentage of IgG1_G0 in total IgG1 glycans and percentage of IgG2_G0 in total IgG2 glycans*	*IgG1_G0/IgG2_G0*	
	LC_IGP_SC12	IgG1_G1/IgG2_G1	*The relation of percentage of IgG1_G1 in total IgG1 glycans and percentage of IgG2_G1 in total IgG2 glycans*	*IgG1_G1/IgG2_G1*	
	LC_IGP_SC13	IgG1_G2/IgG2_G2	*The relation of percentage of IgG1_G2 in total IgG1 glycans and percentage of IgG2_G2 in total IgG2 glycans*	*IgG1_G2/IgG2_G2*	
	LC_IGP_SC14	IgG1_G0N/IgG2_G0N	*The relation of percentage of IgG1_G0N in total IgG1 glycans and percentage of IgG2_G0N in total IgG2 glycans*	*IgG1_G0N/IgG2_G0N*	
	LC_IGP_SC15	IgG1_G1N/IgG2_G1N	*The relation of percentage of IgG1_G1N in total IgG1 glycans and percentage of IgG2_G1N in total IgG2 glycans*	*IgG1_G1N/IgG2_G1N*	
	LC_IGP_SC16	IgG1_G2N/IgG2_G2N	*The relation of percentage of IgG1_G2N in total IgG1 glycans and percentage of IgG2_G2N in total IgG2 glycans*	*IgG1_G2N/IgG2_G2N*	
	LC_IGP_SC17	IgG1_G1S1/IgG2_G1S1	*The relation of percentage of IgG1_G1S1 in total IgG1 glycans and percentage of IgG2_G1S1 in total IgG2 glycans*	*IgG1_G1S1/IgG2_G1S1*	
	LC_IGP_SC18	IgG1_G2S1/IgG2_G2S1	*The relation of percentage of IgG1_G2S1 in total IgG1 glycans and percentage of IgG2_G2S1 in total IgG2 glycans*	*IgG1_G2S1/IgG2_G2S1*	
	LC_IGP_SC19	IgG1_G1NS1/IgG2_G1NS1	*The relation of percentage of IgG1_G1NS1 in total IgG1 glycans and percentage of IgG2_G1NS1 in total IgG2 glycans*	*IgG1_G1NS1/IgG2_G1NS1*	
	LC_IGP_SC20	IgG1_G2NS1/IgG2_G2NS1	*The relation of percentage of IgG1_G2NS1 in total IgG1 glycans and percentage of IgG2_G2NS1 in total IgG2 glycans*	*IgG1_G2NS1/IgG2_G2NS1*	
Total Area Normalization on Fucosylated Glycan Traits Only (Not Used in Analysis)					
IgG1 normalized on fucosylated IgG1 Glycans	**LC_IGPSC_tmp21**	IgG1_G0F(10)	*The percentage of IgG1_G0F in fucosylated IgG1 glycans*	*IgG1_G0F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*	
	LC_IGPSC_tmp22	IgG1_G1F(10)	*The percentage of IgG1_G1F in fucosylated IgG1 glycans*	*IgG1_G1F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*	
	LC_IGPSC_tmp23	IgG1_G2F(10)	*The percentage of IgG1_G2F in fucosylated IgG1 glycans*	*IgG1_G2F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*	
	LC_IGPSC_tmp24	IgG1_G0FN(10)	*The percentage of IgG1_G0FN in fucosylated IgG1 glycans*	*IgG1_G0FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*	
	LC_IGPSC_tmp25	IgG1_G1FN(10)	*The percentage of IgG1_G1FN in fucosylated IgG1 glycans*	*IgG1_G1FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*	
	LC_IGPSC_tmp26	IgG1_G2FN(10)	*The percentage of IgG1_G2FN in fucosylated IgG1 glycans*	*IgG1_G2FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*	

	LC_IGPSC_tmp27	IgG1_G1FS1(10)	*The percentage of IgG1_G1FS1 in fucosylated IgG1 glycans*	*IgG1_G1FS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp28	IgG1_G2FS1(10)	*The percentage of IgG1_G2FS1 in fucosylated IgG1 glycans*	*IgG1_G2FS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp29	IgG1_G1FNS1(10)	*The percentage of IgG1_G1FNS1 in fucosylated IgG1 glycans*	*IgG1_G1FNS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp30	IgG1_G2FNS1(10)	*The percentage of IgG1_G2FNS1 in fucosylated IgG1 glycans*	*IgG1_G2FNS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
IgG2 normalized on fucosylated IgG2 Glycans	LC_IGPSC_tmp31	IgG2_G0F(10)	*The percentage of IgG2_G0F in fucosylated IgG2 glycans*	*IgG2_G0F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp32	IgG2_G1F(10)	*The percentage of IgG2_G1F in fucosylated IgG2 glycans*	*IgG2_G1F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp33	IgG2_G2F(10)	*The percentage of IgG2_G2F in fucosylated IgG2 glycans*	*IgG2_G2F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp34	IgG2_G0FN(10)	*The percentage of IgG2_G0FN in fucosylated IgG2 glycans*	*IgG2_G0FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp35	IgG2_G1FN(10)	*The percentage of IgG2_G1FN in fucosylated IgG2 glycans*	*IgG2_G1FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp36	IgG2_G2FN(10)	*The percentage of IgG2_G2FN in fucosylated IgG2 glycans*	*IgG2_G2FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp37	IgG2_G1FS1(10)	*The percentage of IgG2_G1FS1 in fucosylated IgG2 glycans*	*IgG2_G1FS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp38	IgG2_G2FS1(10)	*The percentage of IgG2_G2FS1 in fucosylated IgG2 glycans*	*IgG2_G2FS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp39	IgG2_G1FNS1(10)	*The percentage of IgG2_G1FNS1 in fucosylated IgG2 glycans*	*IgG2_G1FNS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp40	IgG2_G2FNS1(10)	*The percentage of IgG2_G2FNS1 in fucosylated IgG2 glycans*	*IgG2_G2FNS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
IgG4 normalized on fucosylated IgG4 Glycans	LC_IGPSC_tmp41	IgG4_G0F(10)	*The percentage of IgG4_G0F in fucosylated IgG4 glycans*	*IgG4_G0F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp42	IgG4_G1F(10)	*The percentage of IgG4_G1F in fucosylated IgG4 glycans*	*IgG4_G1F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp43	IgG4_G2F(10)	*The percentage of IgG4_G2F in fucosylated IgG4 glycans*	*IgG4_G2F/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp44	IgG4_G0FN(10)	*The percentage of IgG4_G0FN in fucosylated IgG4 glycans*	*IgG4_G0FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp45	IgG4_G1FN(10)	*The percentage of IgG4_G1FN in fucosylated IgG4 glycans*	*IgG4_G1FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp46	IgG4_G2FN(10)	*The percentage of IgG4_G2FN in fucosylated IgG4 glycans*	*IgG4_G2FN/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp47	IgG4_G1FS1(10)	*The percentage of IgG4_G1FS1 in fucosylated IgG4 glycans*	*IgG4_G1FS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp48	IgG4_G2FS1(10)	*The percentage of IgG4_G2FS1 in fucosylated IgG4 glycans*	*IgG4_G2FS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp49	IgG4_G1FNS1(10)	*The percentage of IgG4_G1FNS1 in fucosylated IgG4 glycans*	*IgG4_G1FNS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
	LC_IGPSC_tmp50	IgG4_G2FNS1(10)	*The percentage of IgG4_G2FNS1 in fucosylated IgG4 glycans*	*IgG4_G2FNS1/SUM(G0F+G1F+G2F+G0FN+G1FN+G2FN+G1FS1+G2FS1+G1FNS1+G2FNS1)*
Subclass Ratios for IgG1 and IgG4 on Total Area Norm	LC_IGP_SC21	IgG1_G0F(10)/IgG4_G0F	*The relation of percentage of IgG1_G0F in fucosylated IgG1 glycans and percentage of IgG4_G0F in total IgG4 glycans (only fucosylated available)*	*IgG1_G0F(10)/IgG4_G0F(10)*
	LC_IGP_SC22	IgG1_G1F(10)/IgG4_G1F	*The relation of percentage of IgG1_G1F in fucosylated IgG1 glycans and percentage of IgG4_G1F in total IgG4 glycans (only fucosylated available)*	*IgG1_G1F(10)/IgG4_G1F(10)*
	LC_IGP_SC23	IgG1_G2F(10)/IgG4_G2F	*The relation of percentage of IgG1_G2F in fucosylated IgG1 glycans and percentage of IgG4_G2F in total IgG4 glycans (only fucosylated available)*	*IgG1_G2F(10)/IgG4_G2F(10)*
	LC_IGP_SC24	IgG1_G0FN(10)/IgG4_G0FN	*The relation of percentage of IgG1_G0FN in fucosylated IgG1 glycans and percentage of IgG4_G0FN in total IgG4 glycans (only fucosylated available)*	*IgG1_G0FN(10)/IgG4_G0FN(10)*
	LC_IGP_SC25	IgG1_G1FN(10)/IgG4_G1FN	*The relation of percentage of IgG1_G1FN in fucosylated IgG1 glycans and percentage of IgG4_G1FN in total IgG4 glycans (only fucosylated available)*	*IgG1_G1FN(10)/IgG4_G1FN(10)*
	LC_IGP_SC26	IgG1_G2FN(10)/IgG4_G2FN	*The relation of percentage of IgG1_G2FN in fucosylated IgG1 glycans and percentage of IgG4_G2FN in total IgG4 glycans (only fucosylated available)*	*IgG1_G2FN(10)/IgG4_G2FN(10)*
	LC_IGP_SC27	IgG1_G1FS1(10)/IgG4_G1FS1	*The relation of percentage of IgG1_G1FS1 in fucosylated IgG1 glycans and percentage of IgG4_G1FS1 in total IgG4 glycans (only fucosylated available)*	*IgG1_G1FS1(10)/IgG4_G1FS1(10)*
	LC_IGP_SC28	IgG1_G2FS1(10)/IgG4_G2FS1	*The relation of percentage of IgG1_G2FS1 in fucosylated IgG1 glycans and percentage of IgG4_G2FS1 in total IgG4 glycans (only fucosylated available)*	*IgG1_G2FS1(10)/IgG4_G2FS1(10)*
	LC_IGP_SC29	IgG1_G1FNS1(10)/IgG4_G1FNS1	*The relation of percentage of IgG1_G1FNS1 in fucosylated IgG1 glycans and percentage of IgG4_G1FNS1 in total IgG4 glycans (only fucosylated available)*	*IgG1_G1FNS1(10)/IgG4_G1FNS1(10)*
	LC_IGP_SC30	IgG1_G2FNS1(10)/IgG4_G2FNS1	*The relation of percentage of IgG1_G2FNS1 in fucosylated IgG1 glycans and percentage of IgG4_G2FNS1 in total IgG4 glycans (only fucosylated available)*	*IgG1_G2FNS1(10)/IgG4_G2FNS1(10)*
Subclass Ratios for IgG2 and IgG4 on Total Area Norm	LC_IGP_SC31	IgG2_G0F(10)/IgG4_G0F	*The relation of percentage of IgG2_G0F in fucosylated IgG2 glycans and percentage of IgG4_G0F in total IgG4 glycans (only fucosylated available)*	*IgG2_G0F(10)/IgG4_G0F(10)*
	LC_IGP_SC32	IgG2_G1F(10)/IgG4_G1F	*The relation of percentage of IgG2_G1F in fucosylated IgG2 glycans and percentage of IgG4_G1F in total IgG4 glycans (only fucosylated available)*	*IgG2_G1F(10)/IgG4_G1F(10)*
	LC_IGP_SC33	IgG2_G2F(10)/IgG4_G2F	*The relation of percentage of IgG2_G2F in fucosylated IgG2 glycans and percentage of IgG4_G2F in total IgG4 glycans (only fucosylated available)*	*IgG2_G2F(10)/IgG4_G2F(10)*
	LC_IGP_SC34	IgG2_G0FN(10)/IgG4_G0FN	*The relation of percentage of IgG2_G0FN in fucosylated IgG2 glycans and percentage of IgG4_G0FN in total IgG4 glycans (only fucosylated available)*	*IgG2_G0FN(10)/IgG4_G0FN(10)*
	LC_IGP_SC35	IgG2_G1FN(10)/IgG4_G1FN	*The relation of percentage of IgG2_G1FN in fucosylated IgG2 glycans and percentage of IgG4_G1FN in total IgG4 glycans (only fucosylated available)*	*IgG2_G1FN(10)/IgG4_G1FN(10)*
	LC_IGP_SC36	IgG2_G2FN(10)/IgG4_G2FN	*The relation of percentage of IgG2_G2FN in fucosylated IgG2 glycans and percentage of IgG4_G2FN in total IgG4 glycans (only fucosylated available)*	*IgG2_G2FN(10)/IgG4_G2FN(10)*
	LC_IGP_SC37	IgG2_G1FS1(10)/IgG4_G1FS1	*The relation of percentage of IgG2_G1FS1 in fucosylated IgG2 glycans and percentage of IgG4_G1FS1 in total IgG4 glycans (only fucosylated available)*	*IgG2_G1FS1(10)/IgG4_G1FS1(10)*
	LC_IGP_SC38	IgG2_G2FS1(10)/IgG4_G2FS1	*The relation of percentage of IgG2_G2FS1 in fucosylated IgG2 glycans and percentage of IgG4_G2FS1 in total IgG4 glycans (only fucosylated available)*	*IgG2_G2FS1(10)/IgG4_G2FS1(10)*
	LC_IGP_SC39	IgG2_G1FNS1(10)/IgG4_G1FNS1	*The relation of percentage of IgG2_G1FNS1 in fucosylated IgG2 glycans and percentage of IgG4_G1FNS1 in total IgG4 glycans (only fucosylated available)*	*IgG2_G1FNS1(10)/IgG4_G1FNS1(10)*
	LC_IGP_SC40	IgG2_G2FNS1(10)/IgG4_G2FNS1	*The relation of percentage of IgG2_G2FNS1 in fucosylated IgG2 glycans and percentage of IgG4_G2FNS1 in total IgG4 glycans (only fucosylated available)*	*IgG2_G2FNS1(10)/IgG4_G2FNS1(10)*

Glycan Proportions				
IgG1 Glycans Percentage per Glycan on Total Area Norm	LC_IGPRG1	IgG1_G0F_pG	*The percentage of IgG1_G0F in G0F glycans for IgG1, IgG2 and IgG4*	*IgG1_G0F(10)/ SUM(IgG1_G0F(10)+IgG2_G0F(10)+IgG4_G0F(10))*
	LC_IGPRG2	IgG1_G1F_pG	*The percentage of IgG1_G1F in G1F glycans for IgG1, IgG2 and IgG4*	*IgG1_G1F(10)/ SUM(IgG1_G1F(10)+IgG2_G1F(10)+IgG4_G1F(10))*
	LC_IGPRG3	IgG1_G2F_pG	*The percentage of IgG1_G2F in G2F glycans for IgG1, IgG2 and IgG4*	*IgG1_G2F(10)/ SUM(IgG1_G2F(10)+IgG2_G2F(10)+IgG4_G2F(10))*
	LC_IGPRG4	IgG1_G0FN_pG	*The percentage of IgG1_G0FN in G0FN glycans for IgG1, IgG2 and IgG4*	*IgG1_G0FN(10)/ SUM(IgG1_G0FN(10)+IgG2_G0FN(10)+IgG4_G0FN(10))*
	LC_IGPRG5	IgG1_G1FN_pG	*The percentage of IgG1_G1FN in G1FN glycans for IgG1, IgG2 and IgG4*	*IgG1_G1FN(10)/ SUM(IgG1_G1FN(10)+IgG2_G1FN(10)+IgG4_G1FN(10))*
	LC_IGPRG6	IgG1_G2FN_pG	*The percentage of IgG1_G2FN in G2FN glycans for IgG1, IgG2 and IgG4*	*IgG1_G2FN(10)/ SUM(IgG1_G2FN(10)+IgG2_G2FN+IgG4_G2FN(10))*
	LC_IGPRG7	IgG1_G1FS1_pG	*The percentage of IgG1_G1FS1 in G1FS1 glycans for IgG1, IgG2 and IgG4*	*IgG1_G1FS1(10)/ SUM(IgG1_G1FS1(10)+IgG2_G1FS1(10)+IgG4_G1FS1(10))*
	LC_IGPRG8	IgG1_G2FS1_pG	*The percentage of IgG1_G2FS1 in G2FS1 glycans for IgG1, IgG2 and IgG4*	*IgG1_G2FS1(10)/ SUM(IgG1_G2FS1(10)+IgG2_G2FS1(10)+IgG4_G2FS1(10))*
	LC_IGPRG9	IgG1_G1FNS1_pG	*The percentage of IgG1_G1FNS1 in G1FNS1 glycans for IgG1, IgG2 and IgG4*	*IgG1_G1FNS1(10)/ SUM(IgG1_G1FNS1(10)+IgG2_G1FNS1(10)+IgG4_G1FNS1(10))*
	LC_IGPRG10	IgG1_G2FNS1_pG	*The percentage of IgG1_G2FNS1 in G2FNS1 glycans for IgG1, IgG2 and IgG4*	*IgG1_G2FNS1(10)/ SUM(IgG1_G2FNS1(10)+IgG2_G2FNS1(10)+IgG4_G2FNS1(10))*
IgG2 Glycans Percentage per Glycan on Total Area Norm	LC_IGPRG11	IgG2_G0F_pG	*The percentage of IgG2_G0F in G0F glycans for IgG1, IgG2 and IgG4*	*IgG2_G0F(10)/ SUM(IgG1_G0F(10)+IgG2_G0F(10)+IgG4_G0F(10))*
	LC_IGPRG12	IgG2_G1F_pG	*The percentage of IgG2_G1F in G1F glycans for IgG1, IgG2 and IgG4*	*IgG2_G1F(10)/ SUM(IgG1_G1F(10)+IgG2_G1F(10)+IgG4_G1F(10))*
	LC_IGPRG13	IgG2_G2F_pG	*The percentage of IgG2_G2F in G2F glycans for IgG1, IgG2 and IgG4*	*IgG2_G2F(10)/ SUM(IgG1_G2F(10)+IgG2_G2F(10)+IgG4_G2F(10))*
	LC_IGPRG14	IgG2_G0FN_pG	*The percentage of IgG2_G0FN in G0FN glycans for IgG1, IgG2 and IgG4*	*IgG2_G0FN(10)/ SUM(IgG1_G0FN(10)+IgG2_G0FN(10)+IgG4_G0FN(10))*
	LC_IGPRG15	IgG2_G1FN_pG	*The percentage of IgG2_G1FN in G1FN glycans for IgG1, IgG2 and IgG4*	*IgG2_G1FN(10)/ SUM(IgG1_G1FN(10)+IgG2_G1FN(10)+IgG4_G1FN(10))*
	LC_IGPRG16	IgG2_G2FN_pG	*The percentage of IgG2_G2FN in G2FN glycans for IgG1, IgG2 and IgG4*	*IgG2_G2FN(10) SUM(IgG1_G2FN(10)+IgG2_G2FN(10)+IgG4_G2FN(10))*
	LC_IGPRG17	IgG2_G1FS1_pG	*The percentage of IgG2_G1FS1 in G1FS1 glycans for IgG1, IgG2 and IgG4*	*IgG2_G1FS1(10)/ SUM(IgG1_G1FS1(10)+IgG2_G1FS1(10)+IgG4_G1FS1(10))*
	LC_IGPRG18	IgG2_G2FS1_pG	*The percentage of IgG2_G2FS1 in G2FS1 glycans for IgG1, IgG2 and IgG4*	*IgG2_G2FS1(10)/ SUM(IgG1_G2FS1(10)+IgG2_G2FS1(10)+IgG4_G2FS1(10))*
	LC_IGPRG19	IgG2_G1FNS1_pG	*The percentage of IgG2_G1FNS1 in G1FNS1 glycans for IgG1, IgG2 and IgG4*	*IgG2_G1FNS1(10)/ SUM(IgG1_G1FNS1(10)+IgG2_G1FNS1(10)+IgG4_G1FNS1(10))*
	LC_IGPRG20	IgG2_G2FNS1_pG	*The percentage of IgG2_G2FNS1 in G2FNS1 glycans for IgG1, IgG2 and IgG4*	*IgG2_G2FNS1(10)/ SUM(IgG1_G2FNS1(10)+IgG2_G2FNS1(10)+IgG4_G2FNS1(10))*
IgG4 Glycans Percentage per Glycan on Total Area Norm	LC_IGPRG21	IgG4_G0F_pG	*The percentage of IgG4_G0F in G0F glycans for IgG1, IgG2 and IgG4*	*IgG4_G0F/ SUM(IgG1_G0F(10)+IgG2_G0F(10)+IgG4_G0F(10))*
	LC_IGPRG22	IgG4_G1F_pG	*The percentage of IgG4_G1F in G1F glycans for IgG1, IgG2 and IgG4*	*IgG4_G1F/ SUM(IgG1_G1F(10)+IgG2_G1F(10)+IgG4_G1F(10))*
	LC_IGPRG23	IgG4_G2F_pG	*The percentage of IgG4_G2F in G2F glycans for IgG1, IgG2 and IgG4*	*IgG4_G2F/ SUM(IgG1_G2F(10)+IgG2_G2F(10)+IgG4_G2F(10))*
	LC_IGPRG24	IgG4_G0FN_pG	*The percentage of IgG4_G0FN in G0FN glycans for IgG1, IgG2 and IgG4*	*IgG4_G0FN/ SUM(IgG1_G0FN(10)+IgG2_G0FN(10)+IgG4_G0FN(10))*
	LC_IGPRG25	IgG4_G1FN_pG	*The percentage of IgG4_G1FN in G1FN glycans for IgG1, IgG2 and IgG4*	*IgG4_G1FN/ SUM(IgG1_G1FN(10)+IgG2_G1FN(10)+IgG4_G1FN(10))*
	LC_IGPRG26	IgG4_G2FN_pG	*The percentage of IgG4_G2FN in G2FN glycans for IgG1, IgG2 and IgG4*	*IgG4_G2FN/ SUM(IgG1_G2FN(10)+IgG2_G2FN+(10)IgG4_G2FN(10))*
	LC_IGPRG27	IgG4_G1FS1_pG	*The percentage of IgG4_G1FS1 in G1FS1 glycans for IgG1, IgG2 and IgG4*	*IgG4_G1FS1/ SUM(IgG1_G1FS1(10)+IgG2_G1FS1(10)+IgG4_G1FS1(10))*
	LC_IGPRG28	IgG4_G2FS1_pG	*The percentage of IgG4_G2FS1 in G2FS1 glycans for IgG1, IgG2 and IgG4*	*IgG4_G2FS1/ SUM(IgG1_G2FS1(10)+IgG2_G2FS1(10)+IgG4_G2FS1(10))*
	LC_IGPRG29	IgG4_G1FNS1_pG	*The percentage of IgG4_G1FNS1 in G1FNS1 glycans for IgG1, IgG2 and IgG4*	*IgG4_G1FNS1/ SUM(IgG1_G1FNS1(10)+IgG2_G1FNS1(10)+IgG4_G1FNS1(10))*
	LC_IGPRG30	IgG4_G2FNS1_pG	*The percentage of IgG4_G2FNS1 in G2FNS1 glycans for IgG1, IgG2 and IgG4*	*IgG4_G2FNS1/ SUM(IgG1_G2FNS1(10)+IgG2_G2FNS1(10)+IgG4_G2FNS1(10))*
Sums of Glycans per Subclasses on Total Area Norm	LC_IGPRG31	sumIgG1	*The sum of the percentages of glycans of IgG1*	*SUM(IgG1_G0F_pG+IgG1_G1F_pG+IgG1_G2F_pG+IgG1_G0FN_pG+IgG1_G1FN_pG+IgG1_G2FN_pG+IgG1_G1FS1_pG+IgG1_G2FS1_pG+IgG1_G1FNS1_pG+IgG1_G2FNS1_pG)*
	LC_IGPRG32	sumIgG2	*The sum of the percentages of glycans of IgG2*	*SUM(IgG2_G0F_pG+IgG2_G1F_pG+IgG2_G2F_pG+IgG2_G0FN_pG+IgG2_G1FN_pG+IgG2_G2FN_pG+IgG2_G1FS1_pG+IgG2_G2FS1_pG+IgG2_G1FNS1_pG+IgG2_G2FNS1_pG)*
	LC_IGPRG33	sumIgG4	*The sum of the percentages of glycans of IgG4*	*SUM(IgG4_G0F_pG+IgG4_G1F_pG+IgG4_G2F_pG+IgG4_G0FN_pG+IgG4_G1FN_pG+IgG4_G2FN_pG+IgG4_G1FS1_pG+IgG4_G2FS1_pG+IgG4_G1FNS1_pG+IgG4_G2FNS1_pG)*
	LC_IGP_RG34	sumIgG1/sumIgG4	*The relation of the percentage of the sum of the percentages of glycans in IgG1*	*sumIgG1/sumIgG4*
	LC_IGP_RG35	sumIgG2/sumIgG4	*The relation of the percentage of the sum of the percentages of glycans in IgG2*	*sumIgG2/sumIgG4*

	LC_IGP_RG36	sumIgG1/sumIgG2	*The relation of the percentage of the sum of the percentages of glycans in IgG4*	*sumIgG1/sumIgG2*