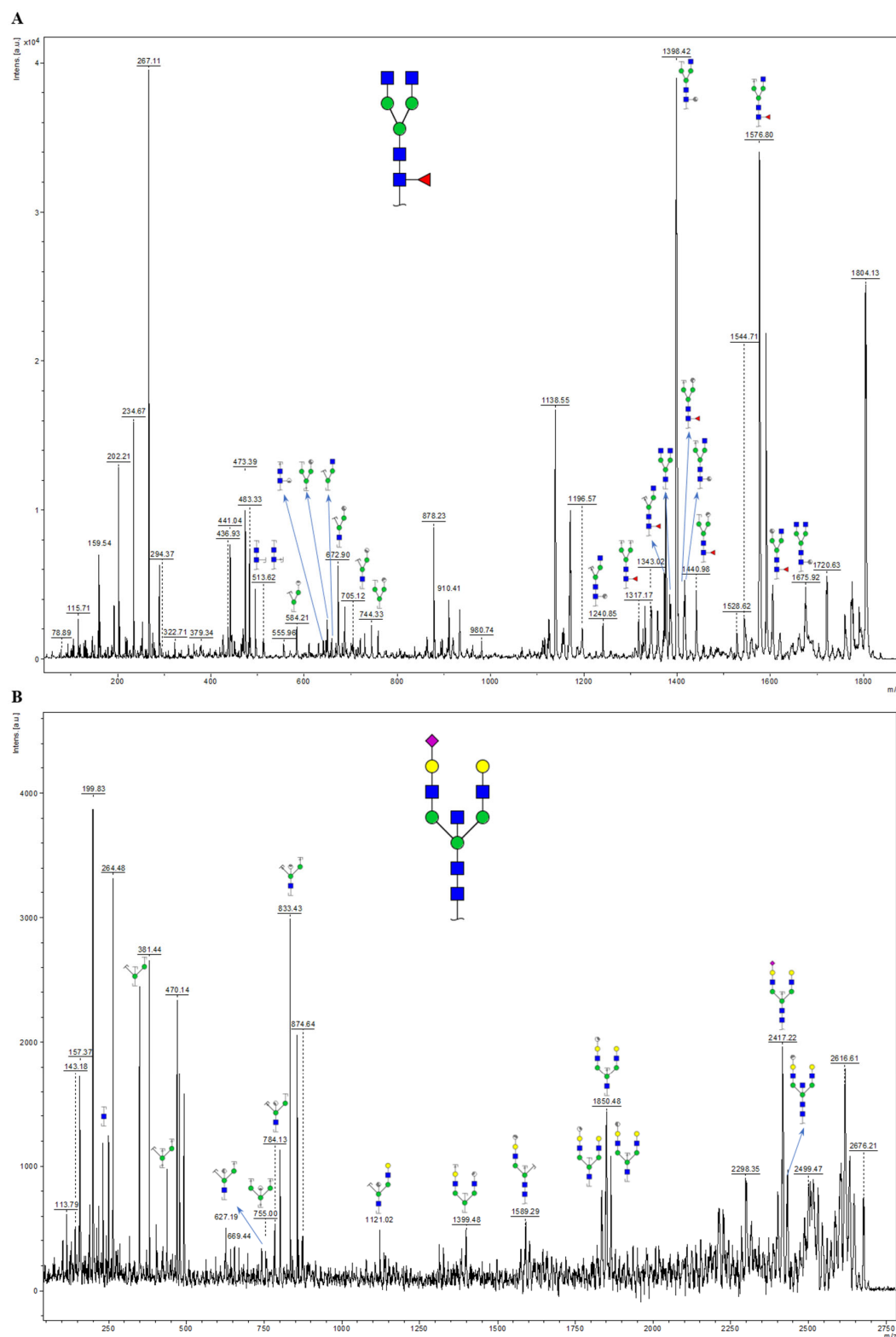
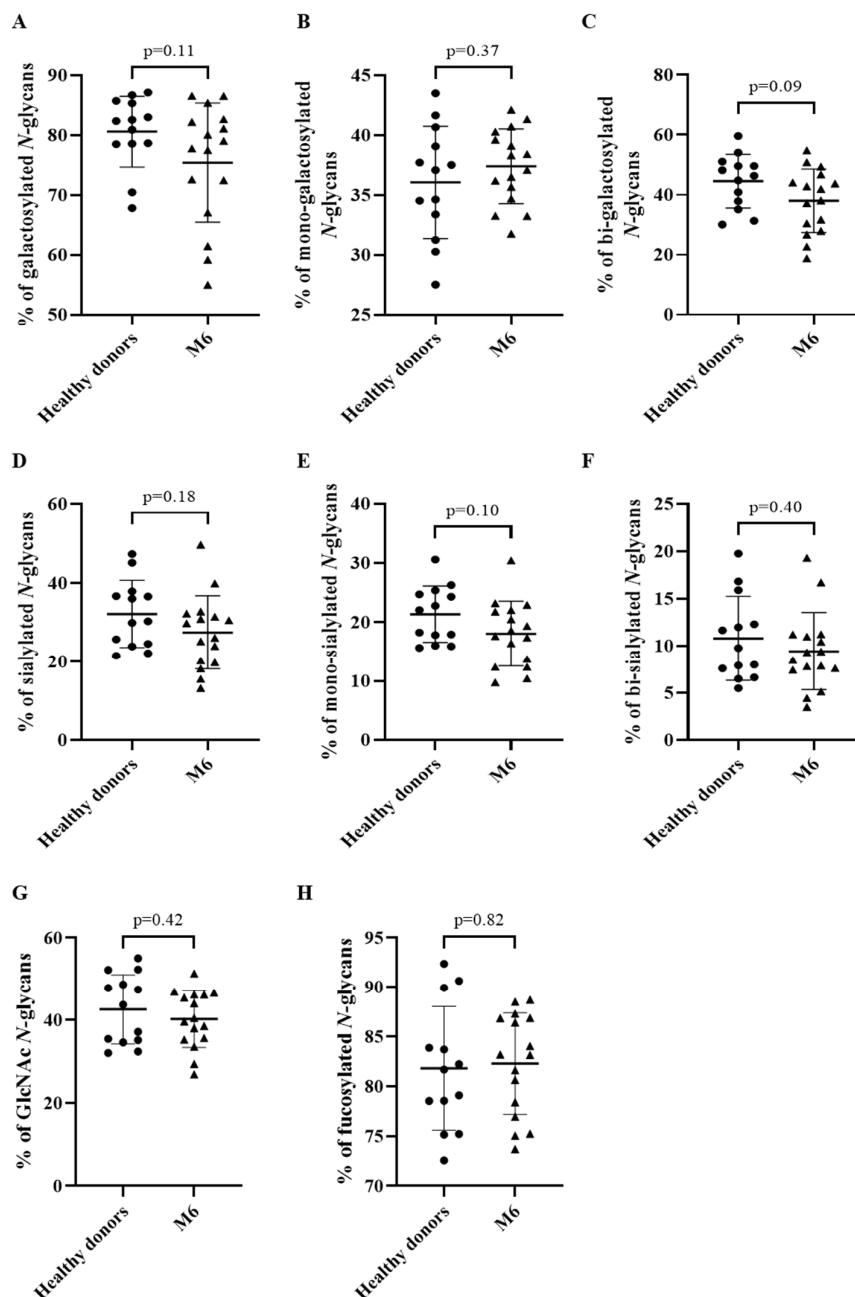


# Supplementary Materials



**Figure S1.** Examples of MALDI-TOF MS-MS spectra allowing the identification of the N-glycan structures assigned to the different ions. (A) LIFT MS-MS MALDI-TOF spectra of the ion at  $m/z$  1835

corresponding to the biantennary *N*-glycan containing two terminal *N*-acetylglucosamine. (B) LIFT MS-MS MALDI-TOF spectra of the ion at  $m/z$  2676 corresponding to a complex-type *N*-glycan bearing an additional bisecting *N*-acetylglucosamine. The *N*-glycan structures were drawn according to the international nomenclature [25]. Blue Square: *N*-acetylglucosamine; green circle: mannose; yellow circle: galactose; purple diamond: *N*-acetylneuraminic acid, red triangle: fucose.



**Figure S2.** Pemphigus patient's *N*-glycan profile after rituximab treatment (M6) ( $n = 16$ ) compared to healthy donor ( $n = 13$ ). Percentage based on relative quantification of galactosylated (A), mono-galactosylated (B), bi-galactosylated (C), sialylated (D), mono-sialylated (E), bi-sialylated (F), *N*-acetylglucosamine (GlcNAc) (G), fucosylated (H) *N*-glycans from IgG. Means  $\pm$  standard deviations were compared using unpaired standard *t*-test. Differences were considered significant when  $p$  cor.  $< 0.006$  with Bonferroni adjustment.