

## Supplementary Material

### Glycan analysis of human neutrophil granules implicates a maturation-dependent glycosylation machinery

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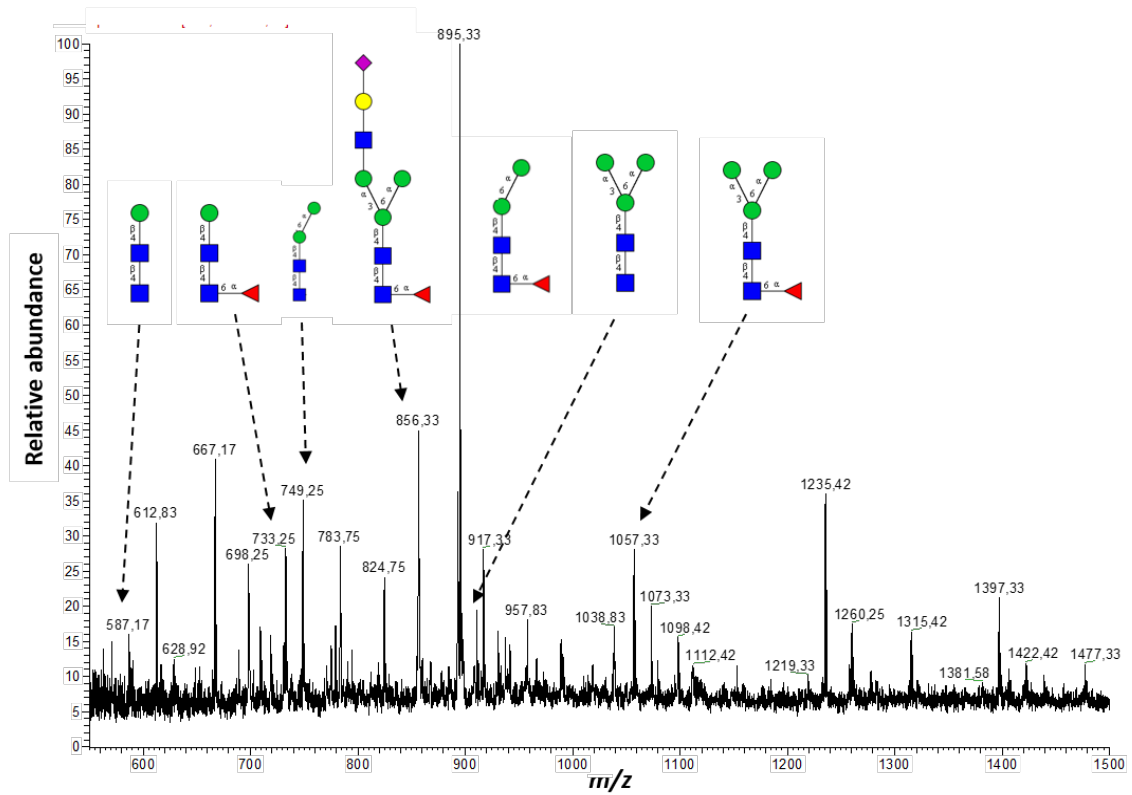
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**Short title:** Glycomic characterization of neutrophil granules

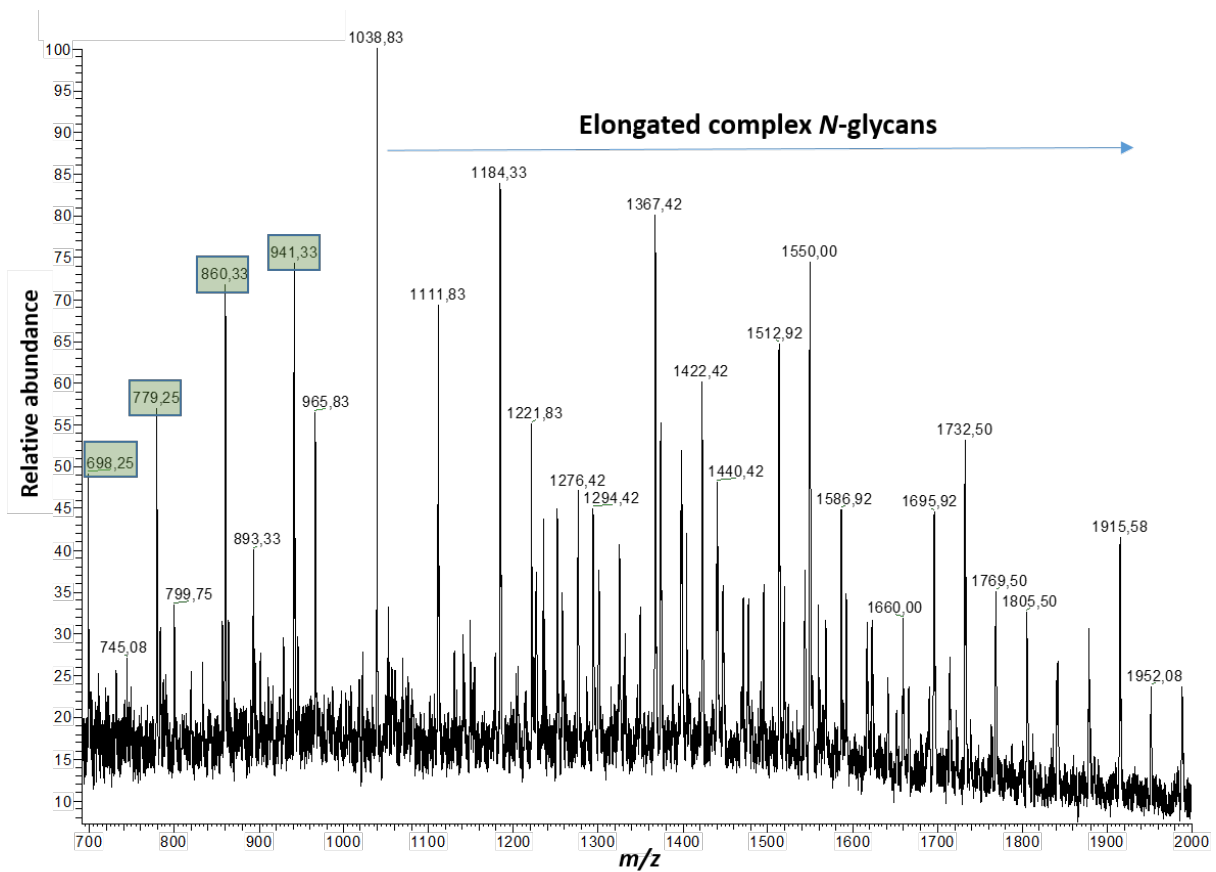
## Supplementary Figure S1

Representative mass spectral profile of AG N-glycans illustrating the presence of the six paucimannosidic glycans ( $m/z$  587.2<sup>1-</sup>, 733.2<sup>1-</sup>, 749.2<sup>1-</sup>, 895.3<sup>1-</sup>, 911.3<sup>1-</sup> and 1057.3<sup>1-</sup>) and the most abundant complex *N*-glycan ( $m/z$  856.3<sup>2-</sup>).



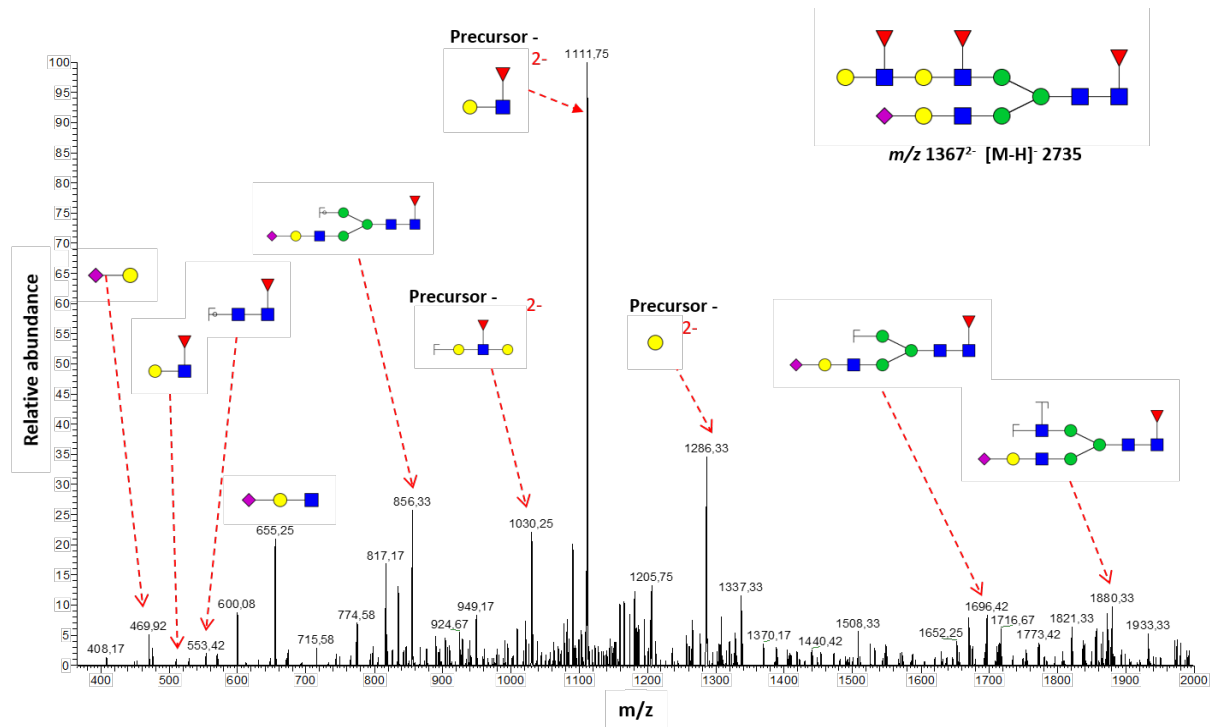
## Supplementary Figure S2

Representative mass spectrum of SV+PM fraction showing the presence of the abundant high mannose (marked in boxes) and the high  $m/z$  region illustrating the elongated complex glycans as observed in SG+GG fraction.



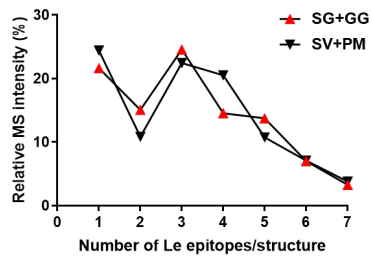
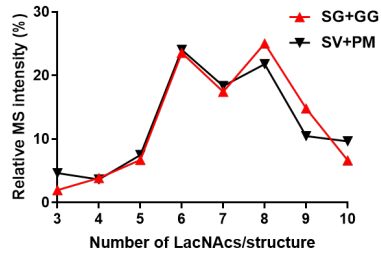
### Supplementary Figure S3

MS/MS fragmentation spectrum of  $m/z$  1367 corresponding to an *N*-glycan containing three LacNAc units with fucose and sialic acid, showing the presence of LacNAc repeats on the 6' arm.



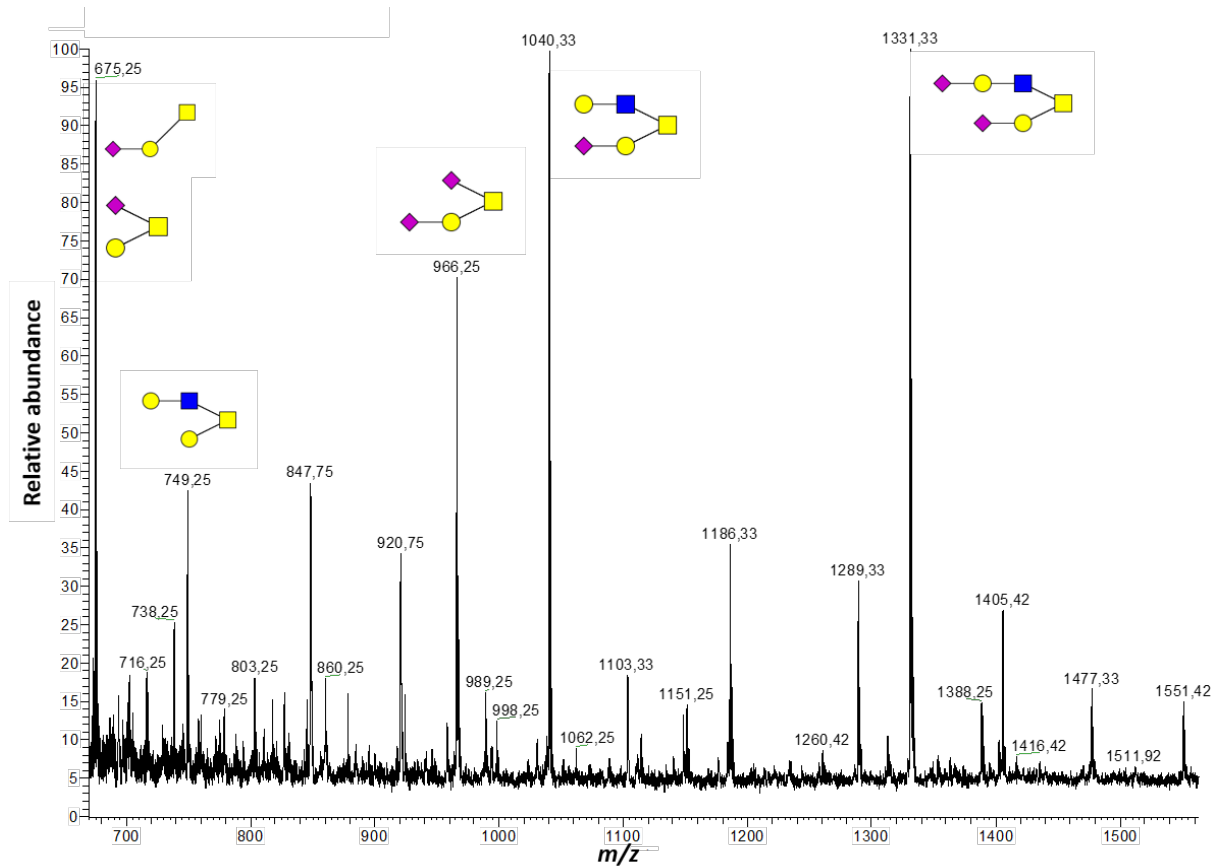
## Supplementary Figure S4

Figure shows the relative MS intensities (in %) of structures containing LacNAcs (3 to 10) and d) Lewis epitopes (0 to 7), which are identified in the SG+GG and SV+PM fraction, respectively.



## Supplementary Figure S5

Mass spectral profile of O-glycans analyzed from SV+PM fraction, illustrating i) abundant O-glycans identified and ii) the similarity between SG+GG and SV+PM O-glycosylation. Some of the abundant O-glycans identified are represented.



## Supplementary Figure S6

The mRNA expression profiles of various glycosidases and glycosyl transferases at different stages during neutrophil maturation in bone marrow. The different stages are referred as MB/PM (myeloblast/promyleocyte), MY/MM (myelocyte/metamyelocyte) and BC/PMN (band cell stage/mature PMN). The data represented here were obtained from publicly available database “Bloodspot”.

