

**Title: Supplementary Data 1**

**Description:** Structure list of Endo-F2 released and procainamide labelled *N*-glycans identified in Myozyme. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 2**

**Description:** Structure list of Endo-F2-released and procainamide-labelled *N*-glycans identified in Aflibercept. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 3**

**Description:** List of PNGaseF released *N*-glycans identified in horse nasal tissue. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 4**

**Description:** List of PNGaseF released *N*-glycans identified in horse nasal tissue, replicate 1. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 5**

**Description:** List of PNGaseF released *N*-glycans identified in horse nasal tissue, replicate 2. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 6**

**Description:** List of PNGaseF released *N*-glycans identified in horse frontal tracheal tissue. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 7**

**Description:** List of PNGaseF released *N*-glycans identified in horse middle tracheal tissue. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 8**

**Description:** List of PNGaseF released *N*-glycans identified in horse rear tracheal tissue. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 9**

**Description:** Structure list of PNGaseF-released and procainamide-labelled *N*-glycans identified in equine  $\alpha$ 2-macroglobulin. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.

**Title: Supplementary Data 10**

**Description:** Structure list of neutralized hypochlorite released *O*-glycans identified in BSM. The structures are assigned according to enzymatic pathways and observations for structural assumptions of *N*-glycan structures as described in Supplementary Note 1 in the Supplementary Information.