



the Tanimoto
coefficient

Figure S4. The cluster dendrogram of the co-occurrence of the reaction patterns in the glycan database. The co-occurrence score of the reaction patterns appearing higher in the database (top 50 of 302 reaction patterns) was used. This dendrogram was drawn using the Ward method using negative value of the Tanimoto coefficient as distance. The clusters were divided into five groups. Cluster I consists of *N*-glycan core reaction patterns and their terminal/internal reaction patterns. Clusters II and III contain the components of proteoglycan and xyloglucan, respectively. Cluster IV consists of *O*-glycan and glycolipid core reaction patterns.