

# Synthetic and Analytical Tools in Glycosciences

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Carbohydrates are the components of one of the largest classes of biopolymers on Earth, made up of sugar building blocks that are connected by glycosidic linkages in oligo- and polysaccharides and glycoconjugates such as glycolipids, glycopeptides, glycoproteins and a great variety of glycosylated metabolites. To improve our understanding of the complex mechanisms whereby covalent addition of different glycans to a metabolite or biopolymer can fine-tune its structure, functions and interactions, it is necessary to have a robust toolbox of synthetic and analytical methodologies available. Here we present an integrated platform consisting of biocatalytic methods for glycoconjugate synthesis [1, 2], glycan arrays for functional studies[3, 4] and hyphenated mass spectrometry for carbohydrate sequence analysis [5-8].

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