



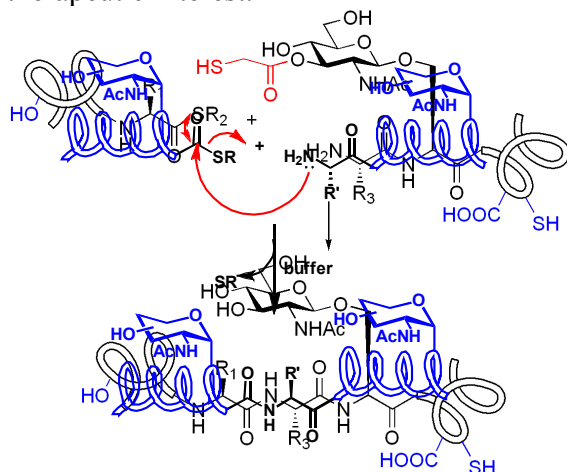
New Strategies for the Synthesis of Post-Translationally Modified Peptides and Proteins

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Glycosylation is the most complex post-translational modification of proteins. Over 50% of human proteins are known to display covalently bound glycans which are required to mediate an array of biological recognition events, including cell adhesion, cell differentiation and cell growth. Aberrant glycosylation is associated with a number of disease states including autoimmune diseases and cancer. Unfortunately, the detailed study of glycoprotein structure and function at the molecular level has been hampered by the heterogeneous display of glycans on the protein backbone, resulting in glycoforms which are inseparable by current chromatographic techniques. This has led to the demand for new tools to facilitate the total chemical synthesis of homogeneous glycopeptides and glycoproteins for biological study. This seminar will outline the development of new ligation and solid-phase methods for the construction of complex glycopeptides and glycoproteins. The scope of these methods for the efficient chemical and chemoenzymatic synthesis of complex glycopeptides will be discussed along with their potential applications in the construction of homogeneous glycoproteins of therapeutic interest.



References:

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