Advances in the chemo- and regio-selective conjugation of proteins

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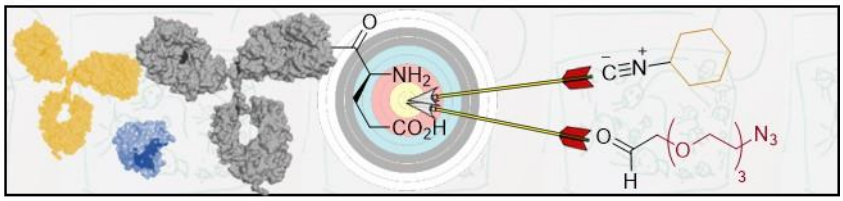

ABSTRACT. The chemical conjugation of proteins has seen tremendous applications in the past decades, with the booming of antibody-drug conjugates and their use in oncology. While genetic engineering has permitted to produce bespoke proteins with key (un-)natural amino acid residues poised for site-selective modifications, the conjugation of native proteins is riddled with selectivity issues. Chemoselective strategies are plentiful and enable the precise modification of virtually any residue with a reactive side-chain; site-selective methods are less common and usually most effective on small and medium-sized proteins. This presentation will offer some of our lab's recent attempts at addressing these selectivity issues, with the use of multicomponent reactions, and the Ugi reaction more specifically.