

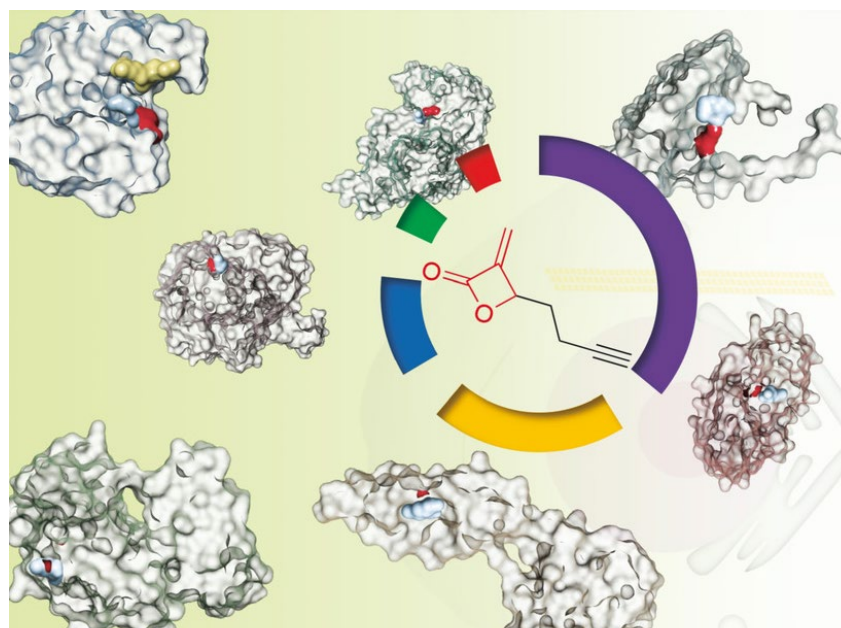


The Xudong Yao Group: Study of the proteomic reaction of proteins with small molecules using mass spectrometry-based proteomics

Research significance: The proteomic reactivity relates to *chemical probing of protein function in the native proteome* and *chemical manipulation of protein function for improving human health*.

Analysis of the proteomic reaction of proteins with small molecules is a grand measurement challenge.

Protein nucleophiles change their reactivities from residues to residues, domains to domains, and proteins to proteins. Moreover, small molecules selectively utilize microenvironment of proteins to accelerate the reactions.



We develop innovative technologies and tool compounds to analyze highly complex proteomic reactions. Our research keywords include mass spectrometry, quantitative proteomics, chemical proteomics, covalent probe, proteomic chemistry, protein modification, peptide derivatization, and separation and chromatography.

Our students are sought-after bioanalytical chemists for biotech and pharmaceutical companies like Biogen Idec, Takeda, and Pfizer.

