Polysubstituted arene structural motifs broadly exist in numerous natural products, drug molecules, and organic functional materials. How to quickly construct them continues to be one of the themes in organic chemistry. Although traditional benzyne intermediate can readily assemble vicinal difunctionalized arenes, it has been restricted to accomplish multifunctionalization with this highly active species. Our research focuses on the ways to break the limitation of traditional arene chemistry, which could be achieved via either 1,2-benzdiyne (namely domino aryne) chemistry or cascade simple aryne reaction/C-H functionalization. Meanwhile, we are interested in the discovery of new research maneuvers in aryne chemistry. Along with the development of our aryne multifunctionalization systems, several drug molecules could be prepared as well.

References: