Paradigm Shift in Reactivity of Quinone Variants

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Oxidative dearomatization of aromatic compounds has been widely identified as an impressive tactic for the generation of high levels of molecular complexity from easily accessible resources. Of particular prominence is the dearomatization of phenolic compounds into cyclohexadienone synthons. Benzoquinone monoketals are synthetically useful and highly reactive electrophilic intermediates and can be obtained by the oxidation of electron-rich aromatic compounds such as 2-methoxy/4-methoxy-phenols. Benzoquinone monoimines belong to another interesting class of reactive intermediates. These entities conventionally undergo reactions such as Diels-Alder cycloaddition and Michael addition. We have been working on harnessing the reactivity of quinone variants for the synthesis of functionally-rich molecular skeletons. During our investigations we have developed the polarity inverse transformations of these transiently generated species and our work on their synthetic utility will be presented.

Quinone variants