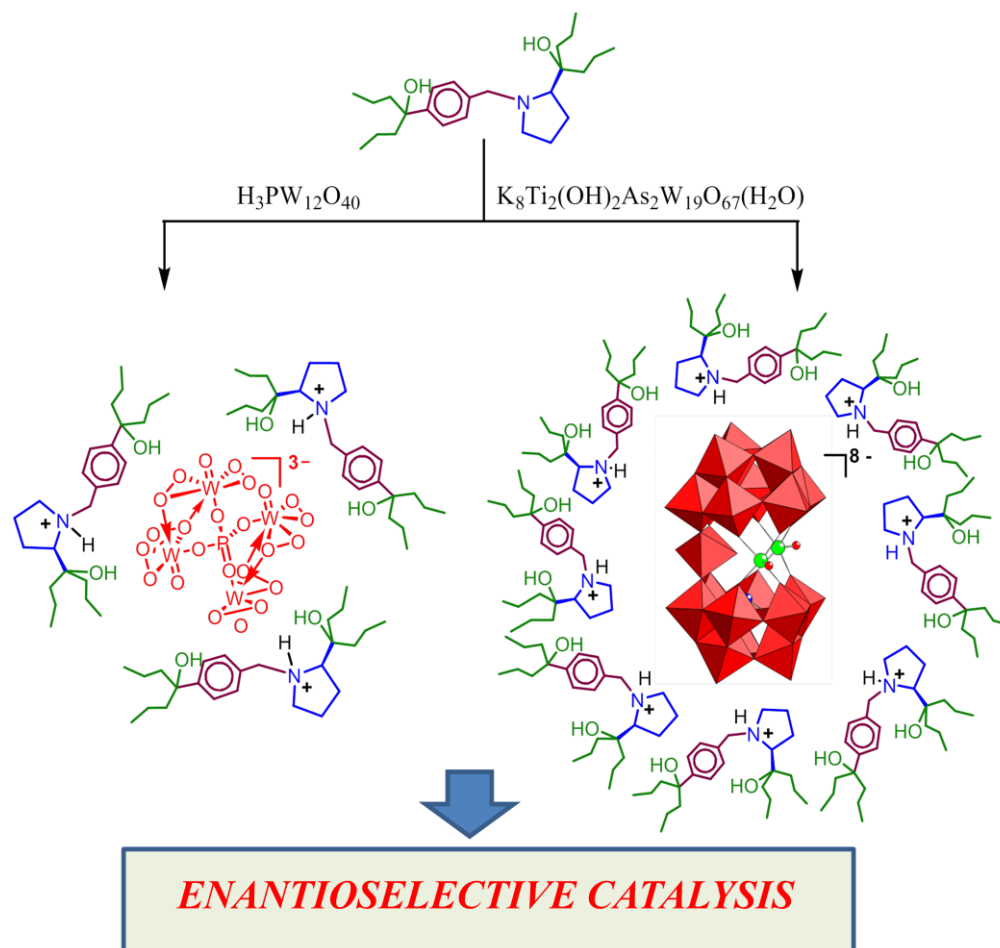


Polyoxometalate-Based Dendritic Catalysts for Enantioselective Oxidation

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The quest for new catalytic and highly enantioselective processes is currently one of the primary challenges in chemical synthesis. In this context, chiral polyoxometalates (POMs) have become a topic of recent interest due to their potential application in medicine and stereoselective catalysis. The fixation of POM catalysts onto chiral supports such as chiral dendrimers or chiral nanoaggregate is a very promising route to Nanocatalysts, which allow the coupling of molecular control, mechanistic knowledge and the catalytic efficiency of the POM unit with indispensable methods of recovery and recycling. We have reported that the coupling of enantiopure dendritic cations to anionic polyoxometalates led to enantiopure dendritic-POM hybrids that catalyzed the oxidation of alkenes and sulfides to the corresponding epoxides and sulfoxides with up to 37% enantioselectivity, highlighting a chirality transfer from the dendritic wedges to the POM cluster.



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