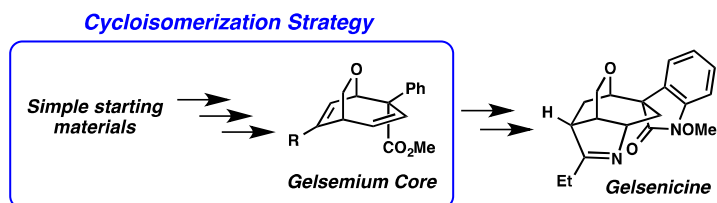


## The Total Synthesis of Gelsenicine via Platinum-Catalyzed Cycloisomerization

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The Gelsemium alkaloids constitute a significant family of natural products featuring a breadth of both structural and biological diversity. Our efforts toward a unified total synthesis of these molecules will be presented. A focal point of this endeavor is the application of a cascade platinum-catalyzed cycloisomerization/rearrangement to establish the core molecular architecture of these alkaloids. Our analysis of this specific transformation provided a fundamental understanding of this unique process and the facets that govern it. Our studies of this central process and subsequent direct manipulations have culminated in the successful total synthesis of gelsenicine, representing the shortest total synthesis to date of a Gelsemium alkaloid. We envision strategic diversifications will enable the syntheses of a broad array of members in the gelsemium family. Our overall efforts in this project will be presented.