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A STUDY OF OLEFIN-EPOXIDE CYCLIZATIONS CATALYZED BY METAL TRIFLATES

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An effective method for the synthesis of carbocyclic compounds is cyclization initiated by electrophilic ring-opening of polyene epoxides. These cyclizations occur rapidly in the presence of a variety of Lewis acids, such as TiCl₄ and BF₃·Et₂O. The cyclization of geraniolene oxide 1 (easily obtained from commercially available geraniolene) catalyzed by a variety of metal triflates such as Bi(OTf)₃, Sc(OTf)₃ and Yb(OTf)₃ will be investigated. The reaction of the saturated analog will also be investigated in the presence of various metal triflates. Preliminary results from this study will be presented.