OC04
STEREORETENTIVE OLEFIN METATHESIS MADE EASY: IN-SITU GENERATION OF HIGHLY SELECTIVE RUTHENIUM CATALYSTS FROM COMMERCIAL STARTING MATERIALS

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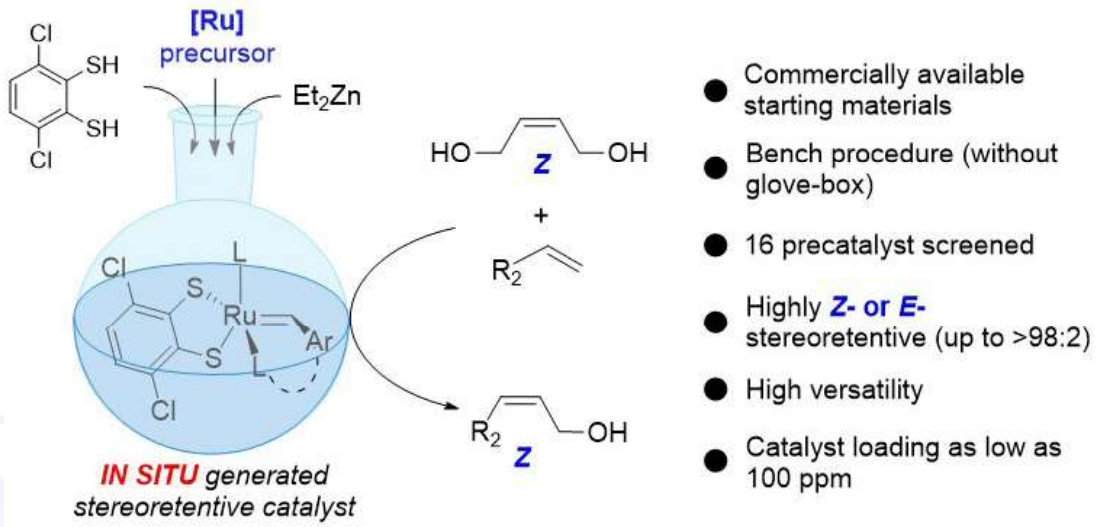
Catalytic methods for the synthesis of olefins with high stereochemical purity are in high demand, particularly if these transformations produce less waste vis-à-vis established stoichiometric procedures. Recently, a number of efficient Z-selective Ru-based metathesis catalysts have been reported by Grubbs and Jensen[1,2] leading to Z-alkenes with high stereoselectivity. In 2013, Hoveyda reported the first highly stereoretentive ruthenium dithiolate catalyst allowing the transformation of E- or Z-olefins with high retention of the original stereochemical information[3,4]. Stimulated by our recent involvement in the field of stereoselective and stereoretentive metathesis catalysts[5,6], we became interested in the development of a highly practical and easily accessible stereoretentive metathesis catalyst. Therefore, an in-situ procedure was established to perform cross-metathesis reactions without using a glovebox (Figure 1). Consequently, our methodology is available to every practicing organic chemist and presents a powerful approach for the identification of new stereoretentive catalysts[7].

Figure 1: Use of in-situ stereoretentive complexes



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