Aluminium and ruthenium based catalysis

Abstract: The synthesis of several well-defined Lewis acid compounds based on aluminium is discussed. These complexes have showed to be quite reactive catalysts for various Diels-Alder reactions. It was also discovered that a very subtle structural modification led to unprecedented polymerization of cyclic dienophiles. Furthermore, we were quite successful in identifying a ruthenium based complex capable of site-selective H/D exchange (deuteration) of polyunsaturated alkenes.