

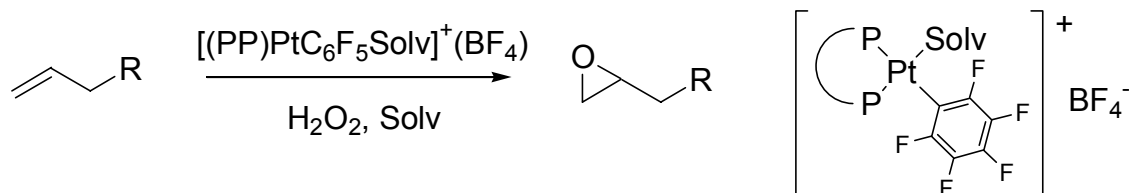
TERMINAL ALKENE EPOXIDATION WITH HYDROGEN PEROXIDE MEDIATED BY Pt(II) CATALYSTS

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Epoxides represent important building blocks for organic synthesis both at the industrial and academic point of view and their large use in the recent years has prompted the development of a wide plethora of heterogeneous¹ and homogeneous methods² for oxidation of alkanes, the latter both in a symmetric and asymmetric fashion.³ It is noteworthy that most of the known catalytic systems are applied to electron rich olefins like di, tri and tetra-substituted alkanes, while terminal alkenes epoxidation (except styrene), has been far less successful and largely underdeveloped.⁴

Among the many terminal oxidants available for this oxidation, hydrogen peroxide has reached the broad attention of many research groups due to its many advantages, like low cost, environmentally friendly character being a waste-avoiding oxidant,⁵ and high atom efficiency.

It is well known that Pt(II) complexes with diphosphines are good catalysts for hydrogen peroxide activation for Baeyer-Villiger oxidation⁶ and especially electron poor ones are able to perform epoxidation.⁷ In this communication we present the results obtained in the challenging oxidation of terminal olefins with hydrogen peroxide mediated by new electron poor Pt(II) complexes with general structure [(PP)PtC₆F₅Solv]⁺ (PP= diphosphine, Solv= solvent molecule).



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