



## 4 + 3 CYCLOADDITION BETWEEN ISOMERIC DIENES AND VINYL CARBENOIDS

By Liang Deng

VDM Verlag Okt 2009, 2009. Taschenbuch. Book Condition: Neu. 220x150x5 mm. Neuware - The primary objective of this project was the exploration of the rhodium(II) (N- dodecylbenzenesulfonyl)-prolinate (Rh<sub>2</sub>(DOSP)<sub>4</sub>) catalyzed decomposition of donor/acceptor substituted diazo compounds in the presence of a mixture of E/Z dienes. The dienes in the project are provided by the enyne metathesis between various alkynes and vinyl ethers. The reaction generally displays a slight preference for the formation of E-dienes. In this project, the intermolecular tandem cyclopropanation/Cope rearrangement reaction between vinylcarbenoids and dienes was used to synthesize cycloheptadienes asymmetrically. High levels of asymmetric induction were observed with aryl substituted vinylcarbenoids. The reaction achieves high diastereoselectivity at room temperature. With the increase of the size of the 3-substituent, a highly regio- and enantioselectivity reaction was achieved. The reaction not only discriminates the diene topology, but also differentiates the propargylic stereochemistry in an effective kinetic resolution. By combining the reaction with the intermolecular enyne metathesis, a highly stereoselective synthesis of complex cycloheptadienes can be achieved. 88 pp. English.



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