

Cr/Salen-Catalyzed Nazarov Cyclization of Dienones

Category

Metal-Catalyzed
Asymmetric
Synthesis and
Stereoselective
Reactions

Key words

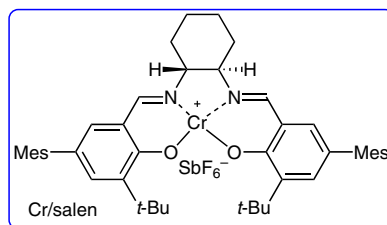
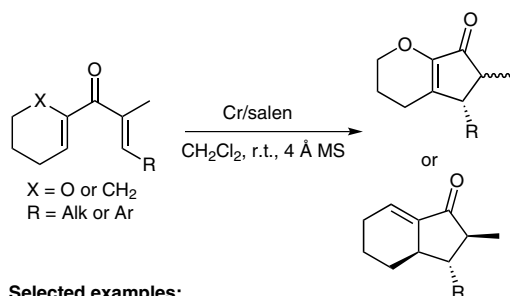
chromium

salen

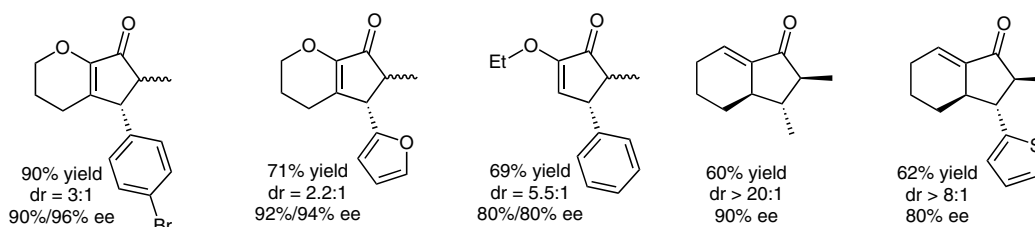
Nazarov cyclization

dienones

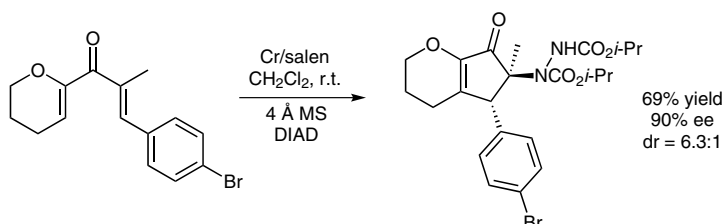
SYNFACTS
of the month



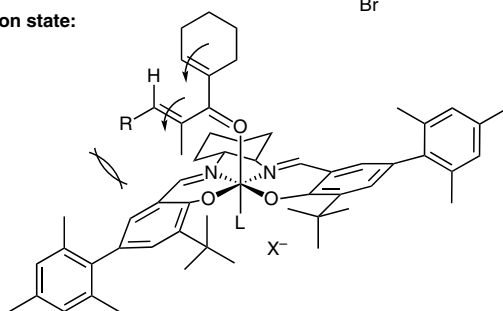
Selected examples:



Tandem Nazarov cyclization–azination reaction:



Proposed transition state:



Significance: Rawal and co-workers describe the highly enantioselective Cr/salen-catalyzed Nazarov cyclization of both activated and unactivated dienones, giving the desired hydridenone products with three contiguous chiral centers in moderate to good yields and stereoselectivities.

Comment: This paper represents the first example of highly enantioselective Nazarov reactions of unactivated dienones. A one-point activation mode was proposed and a counter-clockwise conrotatory cyclization would release the R group into a less sterically congested environment.