

Iron-Catalyzed Intramolecular Allylic C–H Amination

Category

Metal-Catalyzed
Asymmetric
Synthesis and
Stereoselective
Reactions

Key words

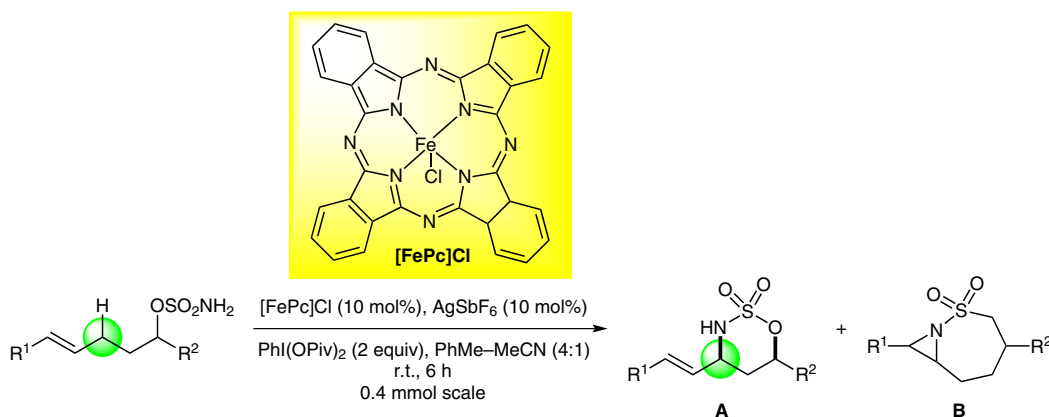
iron

allylic
functionalization

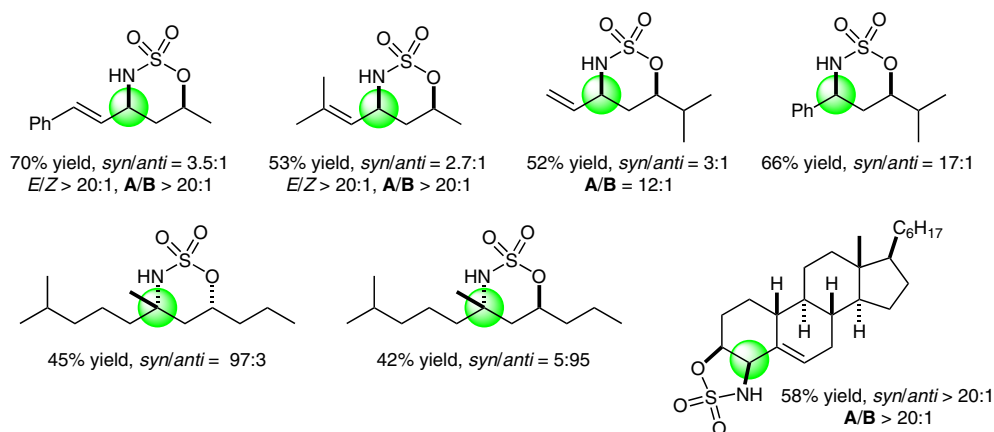
C–H amination

SYNFACT
of the month

Overall transformation:



Selected substrate scope:



Significance: The area of transition-metal-catalyzed C–H functionalization reactions has seen much interest from the synthetic community in the last decade. Indeed, the field continues to progress and encompass increasingly complex and difficult chemical transformations with milder conditions and cheaper precatalyst/ligand combinations. The use of an inexpensive and environmentally benign metal such as iron in such transition-metal chemistry is highly advantageous and should attract much interest in the coming years.

Comment: The authors report an iron-catalyzed intramolecular C–H amination. A variety of systems are studied and the yields are generally moderate to good with moderate to excellent levels of diastereoselectivity. Reactivity trends are explored thoroughly and a mechanistic study is performed, but no postulated mechanism is proposed at present. This transformation shows incredible potential for widespread use in the synthesis of nitrogen-containing compounds in a complex setting.