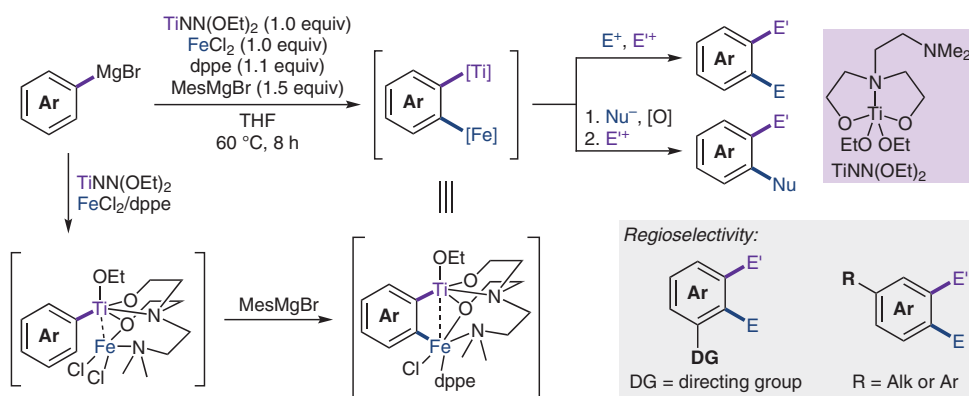


Y.-M. WEI, X.-D. MA, M.-F. WANG, X.-F. DUAN* (BEIJING NORMAL UNIVERSITY, P. R. OF CHINA)

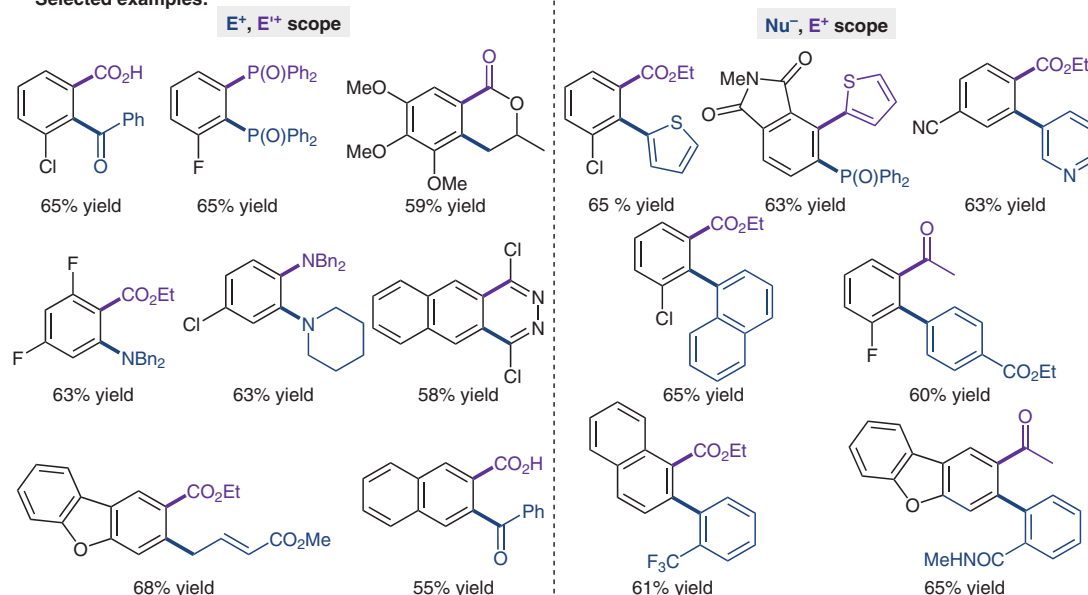
Synergism of Fe/Ti Enabled Regioselective Arene Difunctionalization

J. Am. Chem. Soc. **2023**, *145*, 1542–1547, DOI: 10.1021/jacs.2c13207.

ortho Difunctionalization of Arenes by Iron/Titanium Synergistic Interaction



Selected examples:



Significance: Duan and co-workers report an *ortho* difunctionalization of arenes through an unusual 1,2-aryl heterobimetallic Fe/Ti intermediate. This strategy allows facile access to *ortho*-difunctionalized arenes in a regioselective manner.

Comment: The ferration process can be formally regarded as a C–Ti bond-directed *ortho* metalation (DOM). The regioselectivity of the ferration was shown to be dependent either on steric effects or the presence of an iron-chelating atom acting as a directing group (see gray box).

SYNFACTS Contributors: Martin Oestreich, Hendrik F. T. Klare, Emilio Acuña Bolomey
Synfacts 2023, 19(04), 0357 Published online: 17.03.2023
DOI: 10.1055/s-0042-1753425; Reg-No.: M04823SF

© 2023, Thieme. All rights reserved.
Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

Category

Metals in Synthesis

Key words

arenes

heterobimetallic

iron

ortho
difunctionalization

titanium

Synfact
of the
Month