

Development of Catalytic 3d-Transition-Metal Reagents

Research Topics

Development of First-row Transition Metals for Atom/Group Transfer to C–H/C=C Bonds

1. Nitrene transfer (aminations, aziridinations)
2. Halogen transfer (radical polymerizations)
3. Oxo transfer (hydroxylations, epoxidations)

Approach

1. Synthesis of Suitable Ligands & Metal Catalysts
2. Extensive Application in Catalysis
3. Mechanistic Studies

Techniques

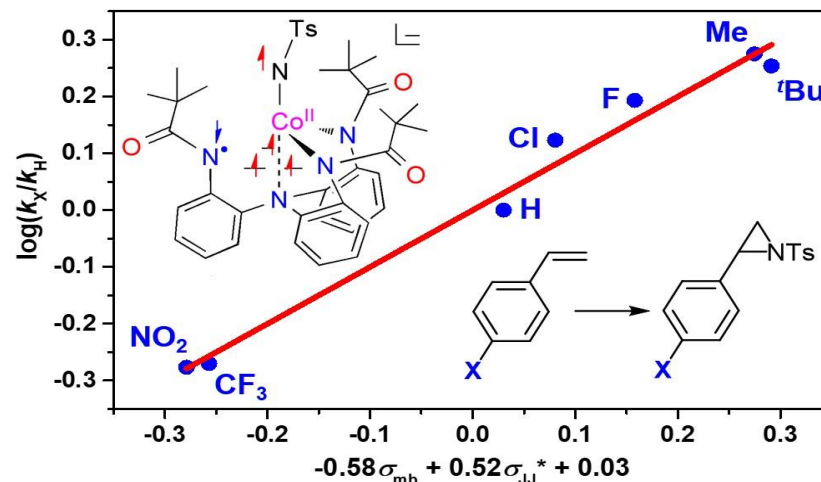
NMR, X-ray Diffraction, EPR, E-chem, Magnetics

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Keywords

- 3d-Transition Elements, Catalysis, C–N Bond Construction

Representative Publications

- *Organometallics* **2021**, *40*, 1974-1996 (DOI: [10.1021/acs.organomet.1c00267](https://doi.org/10.1021/acs.organomet.1c00267))
- *ACS Catal.* **2018**, *8*, 9183-9206 (DOI: [10.1021/acscatal.8b01941](https://doi.org/10.1021/acscatal.8b01941))
- *J. Org. Chem.* **2022**, *87*, 7934-7944 (DOI: [10.1021/acs.joc.2c00587](https://doi.org/10.1021/acs.joc.2c00587))
- *J. Am. Chem. Soc.* **2014**, *136*, 11362-11381 (DOI: [10.1021/ja503869j](https://doi.org/10.1021/ja503869j))