

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

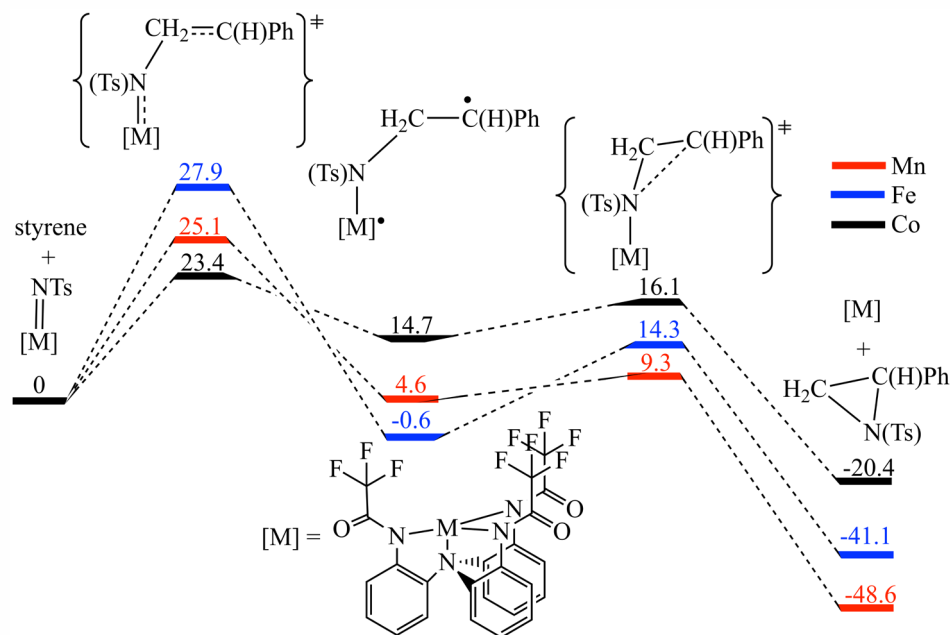
NMR, X-ray Diffraction, EPR, E-chem, Magnetism

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Keywords

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

Representative Publications

- *Molecules* **2025**, 30, 3097 ([DOI: 10.3390/molecules30153097](https://doi.org/10.3390/molecules30153097))
- *Organometallics* **2024**, 43, 634-652 ([DOI: 10.1021/acs.organomet.3c00493](https://doi.org/10.1021/acs.organomet.3c00493))
- *Dalton Trans.* **2024**, 53, 15946-15958 ([DOI: 10.1039/D4DT01670J](https://doi.org/10.1039/D4DT01670J))
- *Inorg. Chem.* **2023**, 62, 10743-10761 ([DOI: 10.1021/acs.inorgchem.3c01209](https://doi.org/10.1021/acs.inorgchem.3c01209))