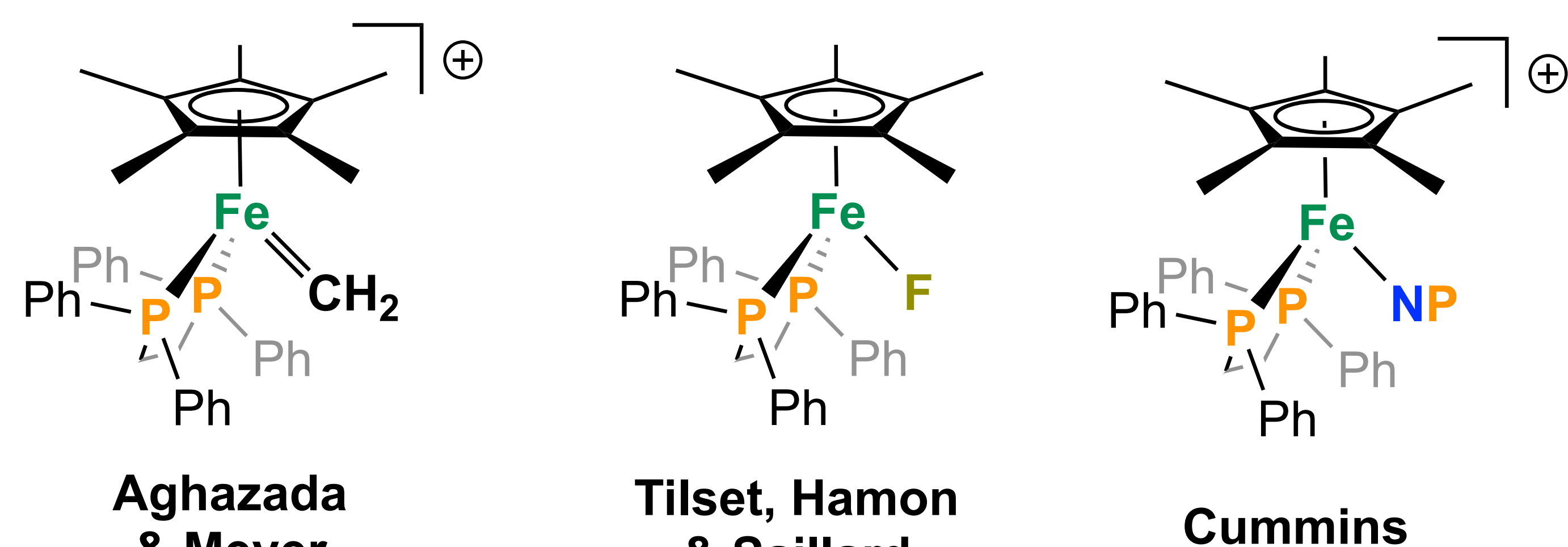
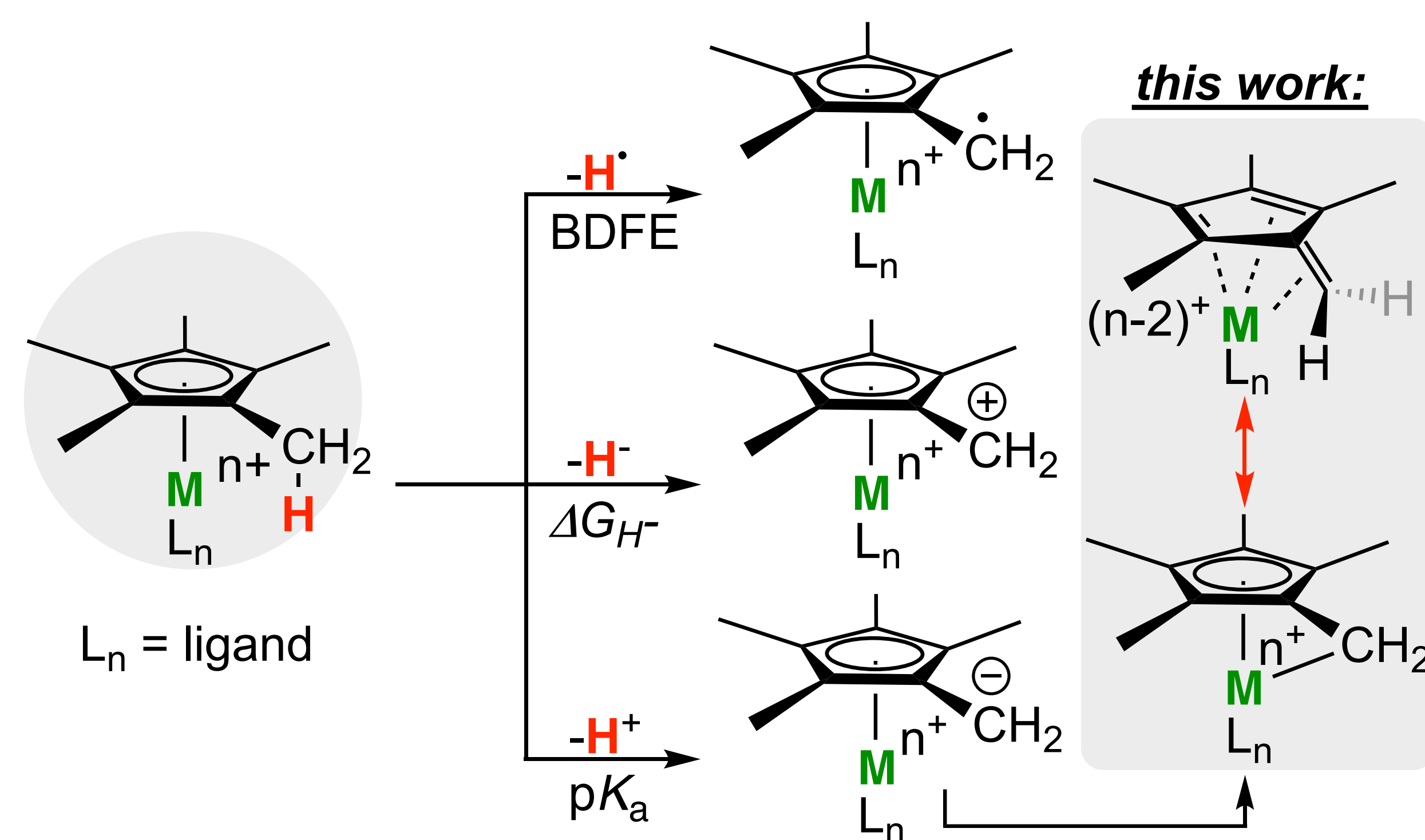




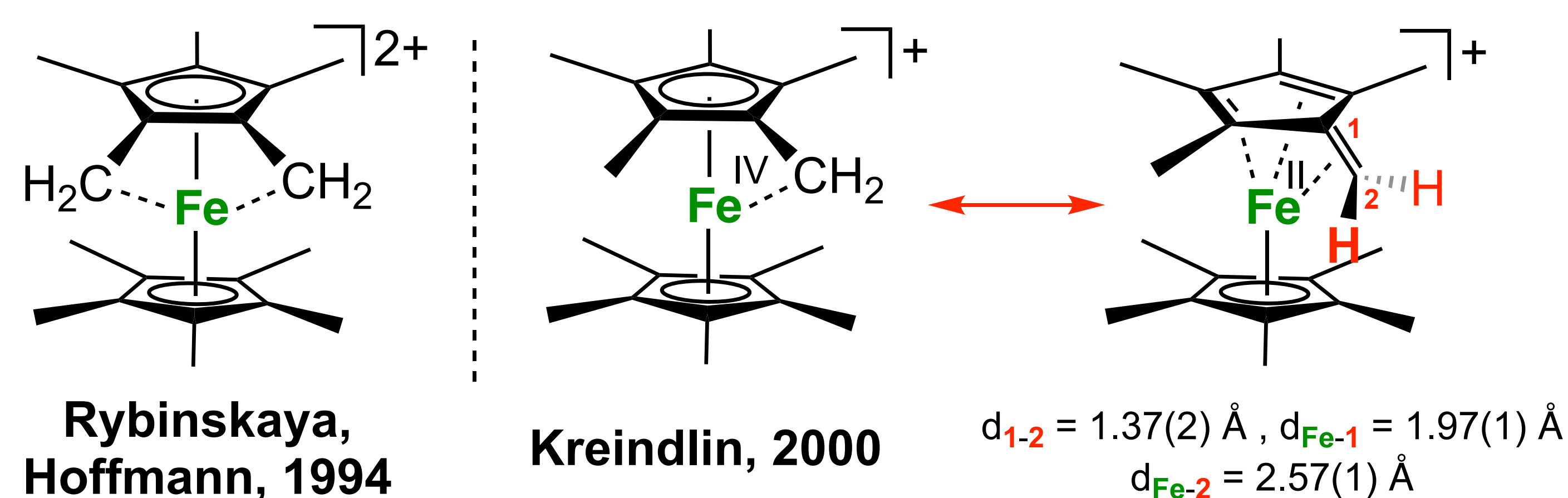
{Cp*Fe} complexes stabilize unique functional groups



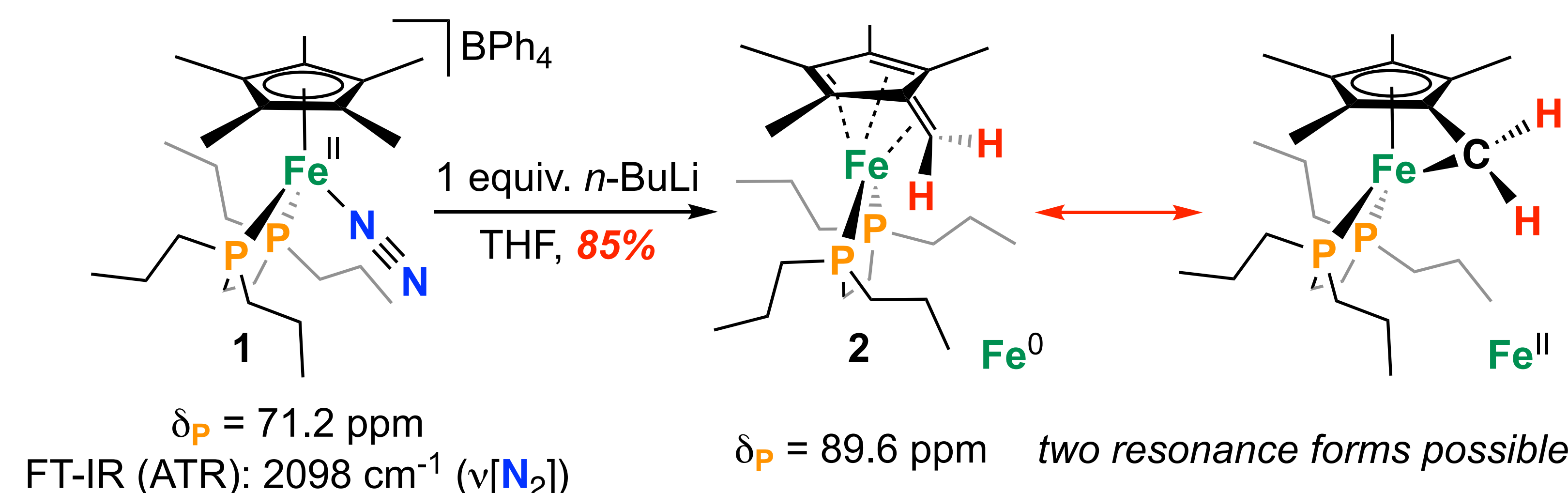
Modification of Cp* can lead to 'tucked-in' complexes



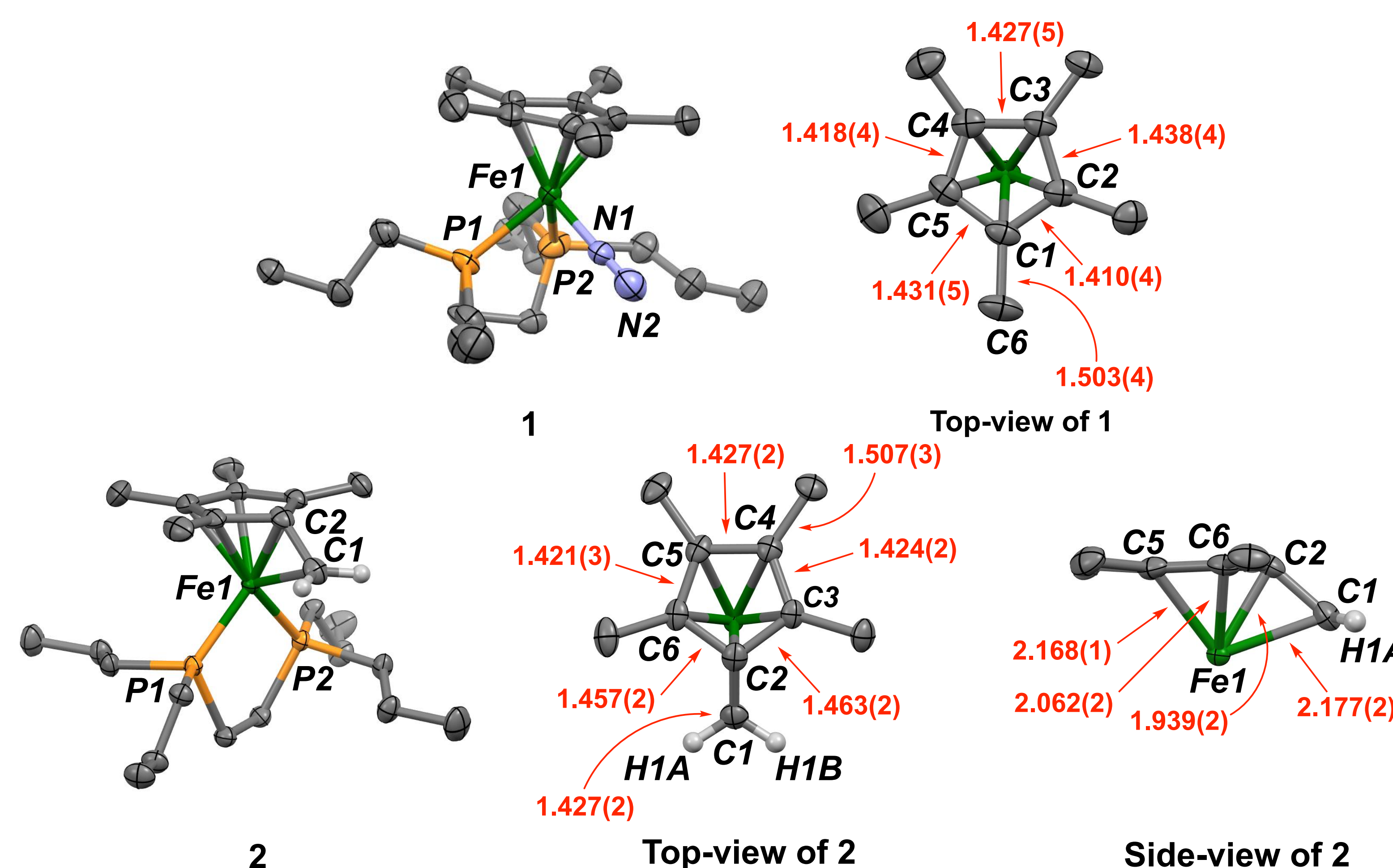
Previous examples of iron tucked-in complexes took advantage of the decamethylferrocene scaffold



Deprotonation of Cp* forms tucked-in complex 2



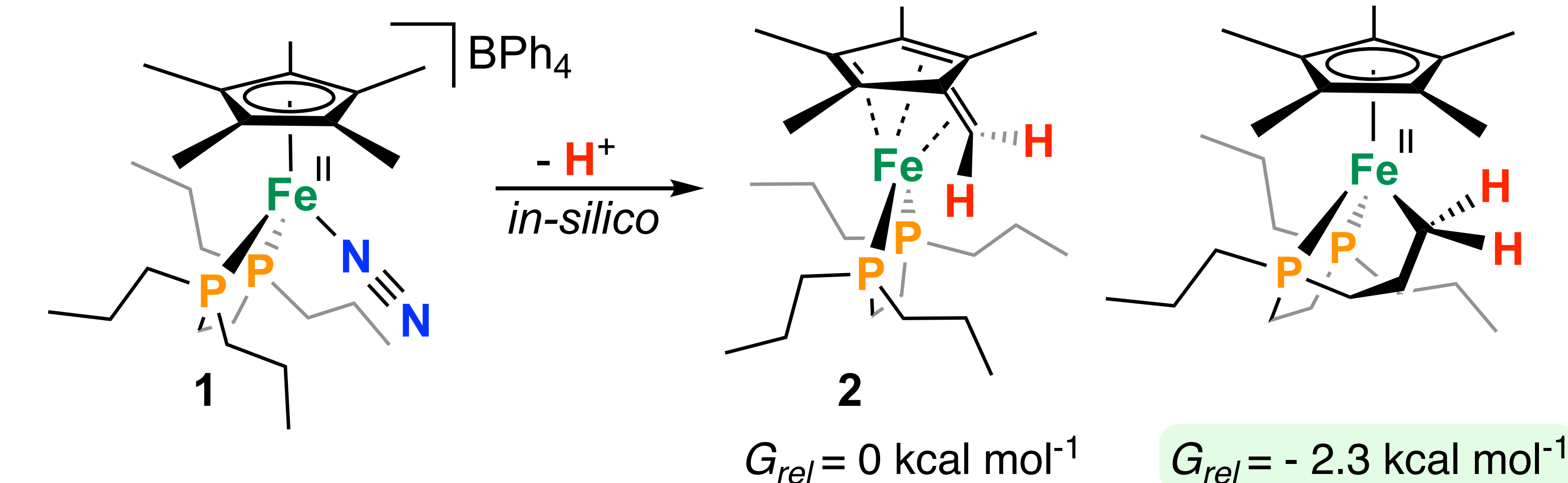
X-ray diffraction reveals 2 is best represented as Fe⁰



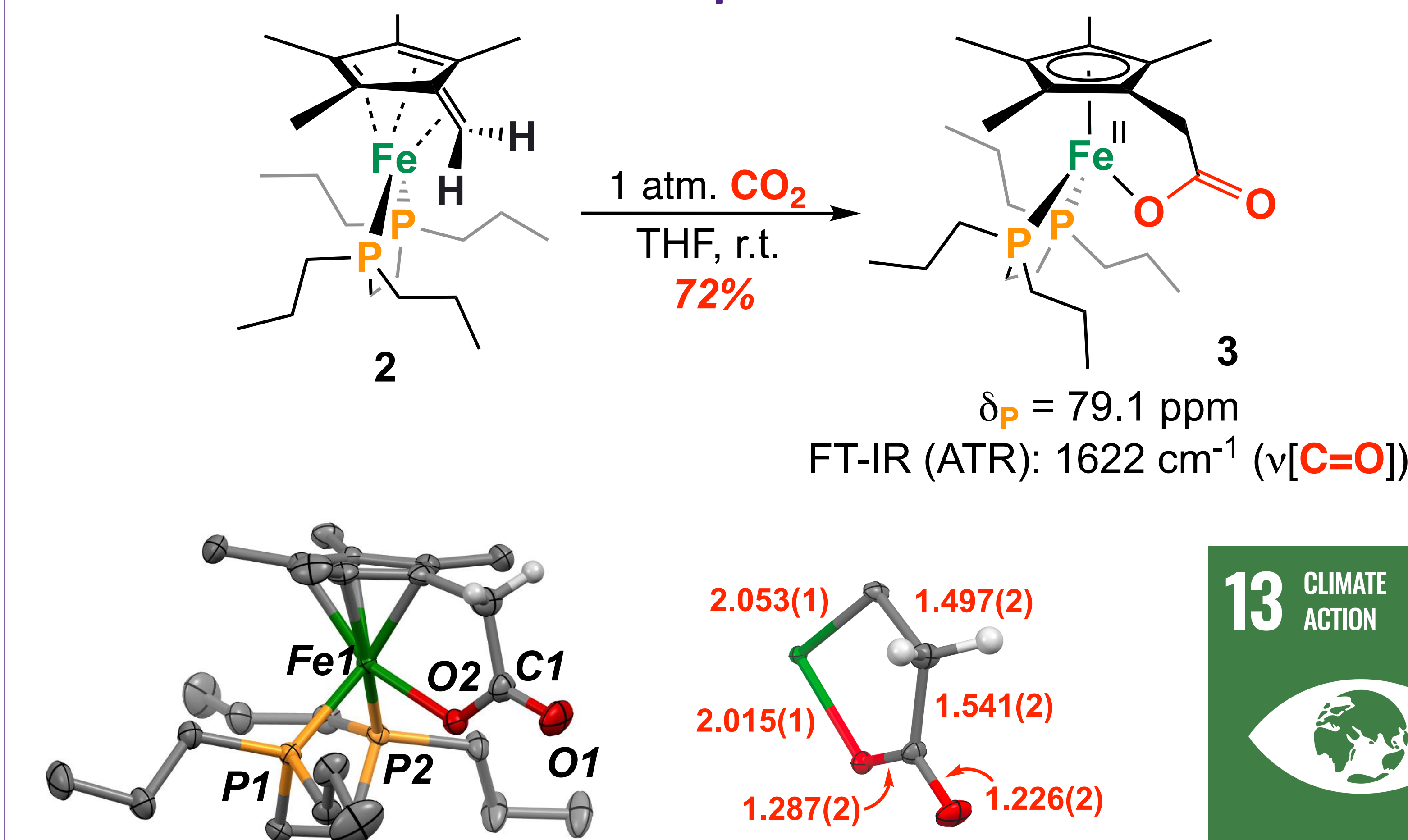
References

This work: J. A. Zurakowski and M. W. Drover, *Chem. Commun.* 2023, **59**, 113349. **Previous work from the Drover group:** a) *Trends Chem.* 2022, **4**, 331. b) *Chem. Soc. Rev.* 2022, **51**, 1861. **Key literature:** a) *Angew. Chem. Int. Ed.* 2020, **59**, 20863. b) *Chem. Lett.* 2017, **46**, 74. c) *J. Am. Chem. Soc.* 2021, **143**, 17219. d) *J. Am. Chem. Soc.* 2020, **142**, 18963. e) *Nat. Chem.* 2022, **14**, 928. f) *Inorg. Chem.* 2023, **62**, 5961.

Thermodynamics of generating 2 examined *in-silico*



Reactivity with CO₂ was achieved through metal-ligand cooperation



Our focus is now on CO₂ reduction using complex 3