Manganese-Catalyzed Methylation of C(sp<sup>3</sup>)–H Bonds α to Heteroatoms

Significance: White and co-workers report a chemoselective C(sp<sup>3</sup>)–H methylation of heterocycles by using a three-step protocol. The method was applied to a broad substrate scope, including drug molecules, peptides, and natural products. The ability to introduce a 'magic methyl' group in certain pharmacologically relevant compounds has been shown to significantly improve their bioactivity.

Comment: The authors combined a manganese-catalyzed methylene hydroxylation with subsequent iminium/oxonium formation and methylation to achieve the functionalization of various heterocyclic cores α to the heteroatom. The transformation proceeds at low catalyst loading with remarkable chemoselectivity and moderate to good overall yields.