Palladium(0)-Catalyzed Asymmetric C(sp^3)–H Arylation: the Chiral Base Approach

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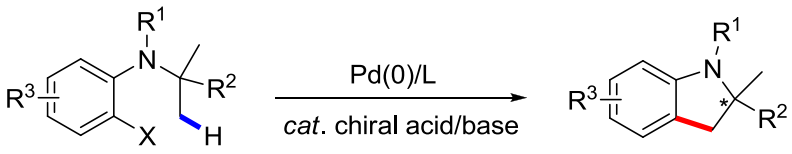
In recent years, transition-metal-catalyzed asymmetric C(sp^3)–H activation has received increasing attention.[1] In this regard, the groups of Kündig,[2] Kagan,[3] and Cramer[4] reported the highly enantioselective construction of (fused) indolines using chiral *N*-heterocyclic carbene or phosphine ligands. In parallel, our group has reported the diastereo- and enantioselective synthesis of (fused) indanes containing up to three adjacent stereocenters by using chiral Binepine ligands.[5] Herein, we show that the enantioselective synthesis of chiral indolines containing 2^{ary} and 3^{ary} stereocenters (up to 98:2 e.r.) can be achieved *via* C(sp^3)–H activation using a catalytic chiral base, which is formed in situ upon deprotonation of a chiral acid, as the sole source of chirality.[6]



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