Functionalization of [60]Fullerene via Palladium-Catalyzed C–H Activation Reactions

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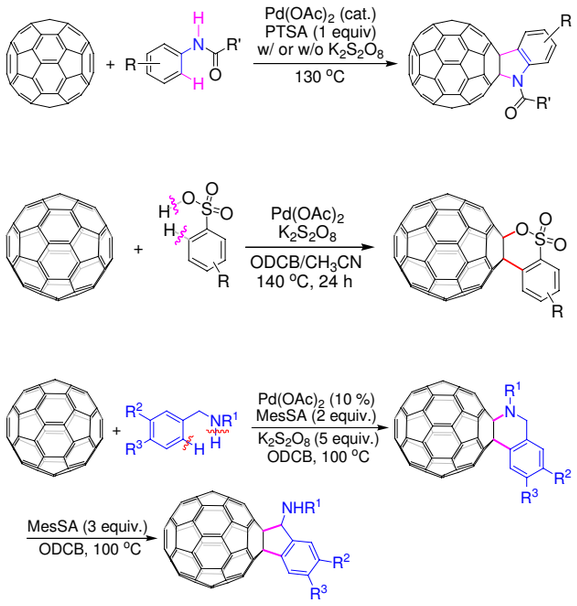
The C–H bond activation has emerged as one of the most important methodologies to construct C–C and C–X (X = heteroatom) bonds in organic synthesis. We were the first to apply the C–H activation strategy to fullerene chemistry. We have synthesized fulleroindolines by the reaction of anilides with [60]fullerene (C_{60}),[1] obtained fullerosultones by the reaction of arylsulfonic acids with C_{60},[2] and prepared C_{60}-fused tetrahydroisoquinolines by the reaction of *N*-benzyl sulfonamides with C_{60}.[3] The synthesized fullerene products could be further transformed into other fullerene derivatives.



References

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