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OR08 – Sulfoxide as Handful Tool for Stereoselective C–H Activation

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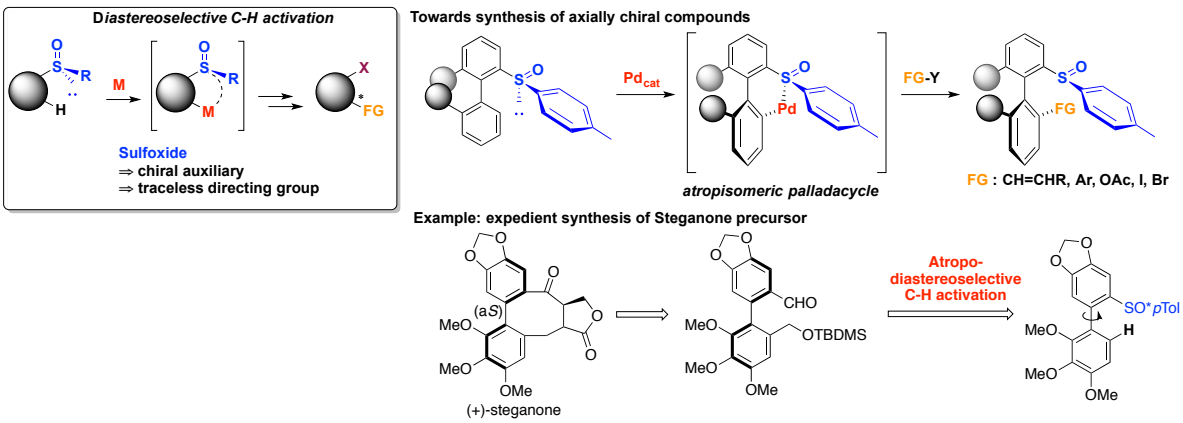
Considering the importance of chiral molecules, a continuous search for original strategies for asymmetric synthesis presents a great scientific challenge. A direct functionalization of C–H bonds opens new avenues in this field as now unprecedented retrosynthetic disconnections may be envisioned to construct stereogenic scaffolds from simple starting materials in a step- and waste-economic manner. Recently the potential of the chiral sulfoxide to play the role of both, a chiral auxiliary and a traceless directing group, in C–H activation reactions, has been evidenced. The sulfoxide-directed asymmetric C–H functionalization enabled very efficient and highly stereoselective synthesis of various axially chiral biaryls via direct C–C,[1] C–O,[2] and C–X[2] couplings. The synthetic utility of this approach could by illustrated by performing a straightforward synthesis of biologically relevant Steganone scaffold.[3] The latest results shows also that chiral sulfoxide directing group is also a promising tool to allow challenging, asymmetric C(sp^3)-H functionalization.[4]



References

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