

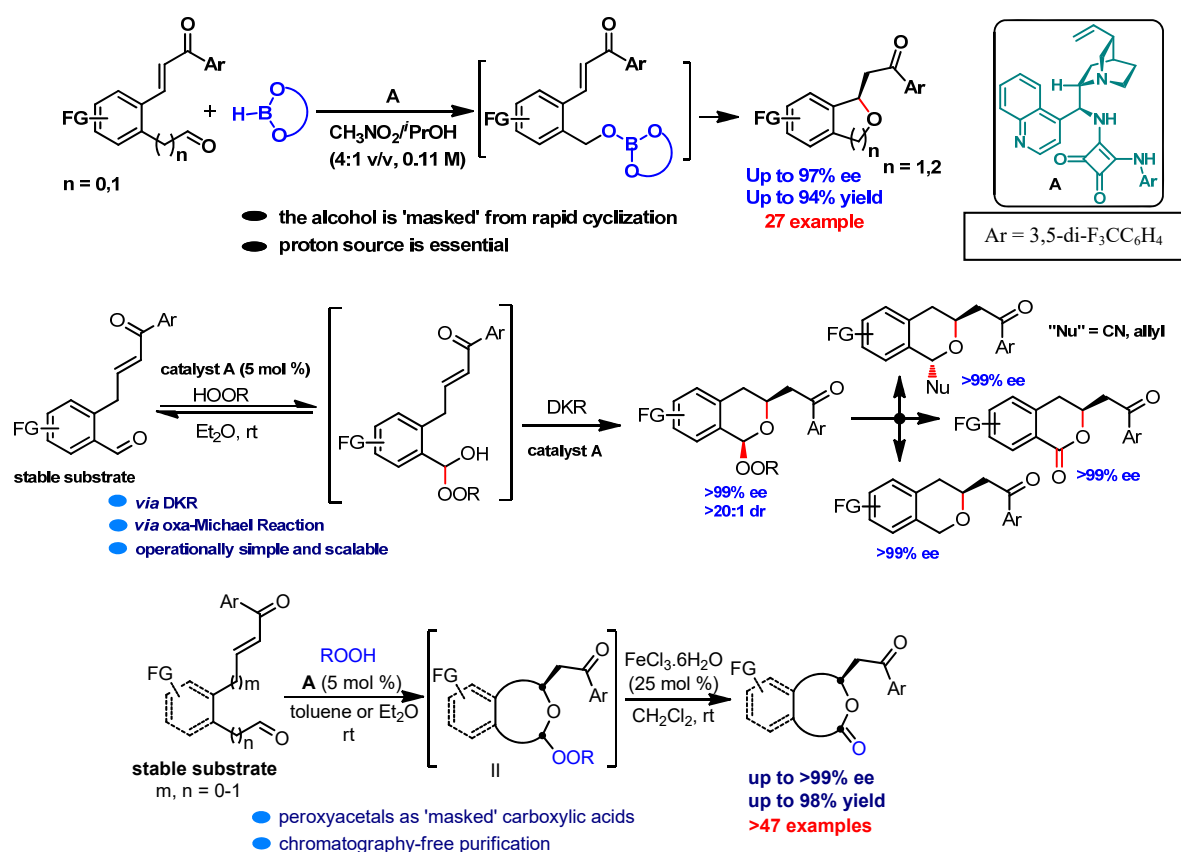
Strategies to Suppress the Rapid Intramolecular oxa-Michael Addition for the Enantioselective Synthesis of oxa-Cycles.

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Abstract: Intramolecular oxa-Michael addition reaction of alcohol and acid is one of the most fundamental and abundant way to make oxa-cycles. These are present in many natural product, medicine and bio-active molecules¹. But the asymmetric version is quite challenging due to its reversibility and rapid self-cyclization. Our group is working on asymmetric intramolecular oxa-Michael addition reaction by suppressing these difficulties to get enantioenriched oxa-cycles. By using transient masking agent, rapid self-cyclisation was ceased and further cyclized by bi-functional organocatalyst to furnish chiral oxa-cycles. Here we developed an alkoxyboronate masking for alcohols and peroxyacetal for acids which provided chiral isobenzofuran, isochroman and lactones.²



Scheme: a) Catalytic enantioselective synthesis of isobenzofuran and isochroman. b) Catalytic enantio- and diastereo selective synthesis of exo-peroxyacetals. c) Catalytic enantioselective synthesis of lactones.

References and Notes:

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