How rarely used reactions enabled the synthesis of highly active fungicides

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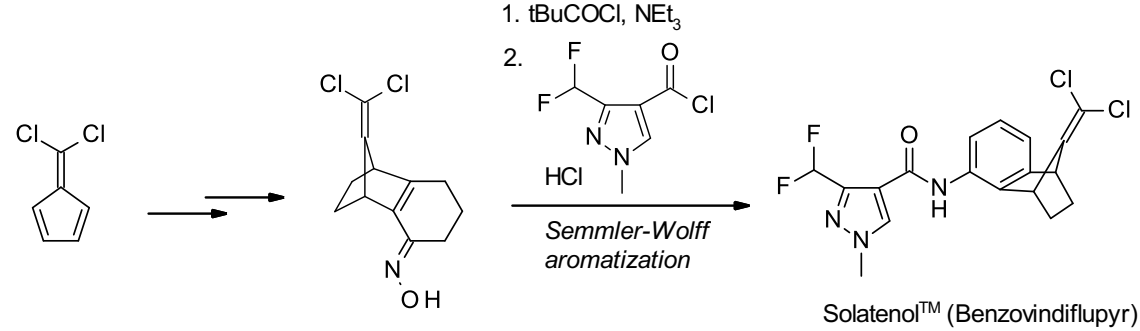
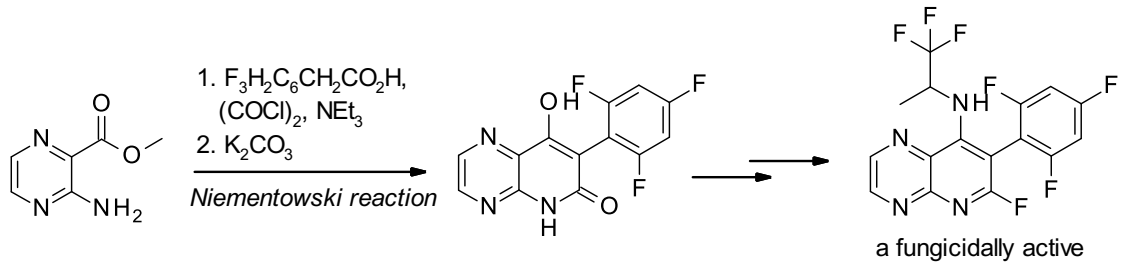
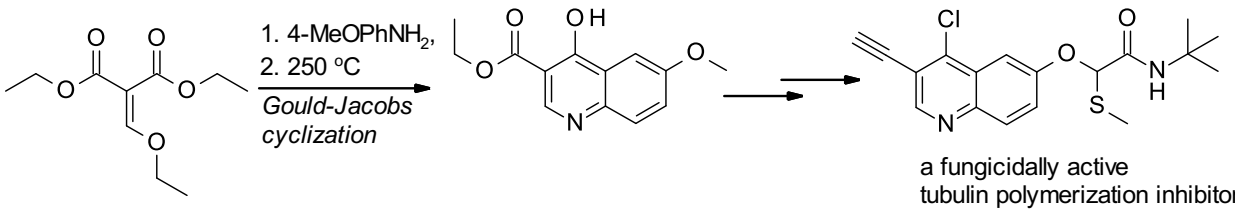
The need for a cost-efficient synthesis as well as increasing chemical complexity makes the preparation of novel agrochemical active ingredients more and more challenging. Recently, some underrepresented, rarely used reactions, such as the Semmler-Wolff aromatization,[1] the Kishner cyclopropanation,[1] the Niementowski reaction,[2] the Gould-Jacobs quinoline synthesis,[3] the Bogert cyclization[4] and the Newman-Kwart rearrangement[5] guided us to novel experimental fungicides with impressive activity and to new manufacturing routes for some of our market products.



Solatenol™ (Benzovindiflupyr),
a Succinate dehydrogenase inhibitor



a fungicidally active
tubulin polymerization promoter



a fungicidally active
tubulin polymerization inhibitor

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