

# Chemistry of $\alpha$ -Iminonitriles:

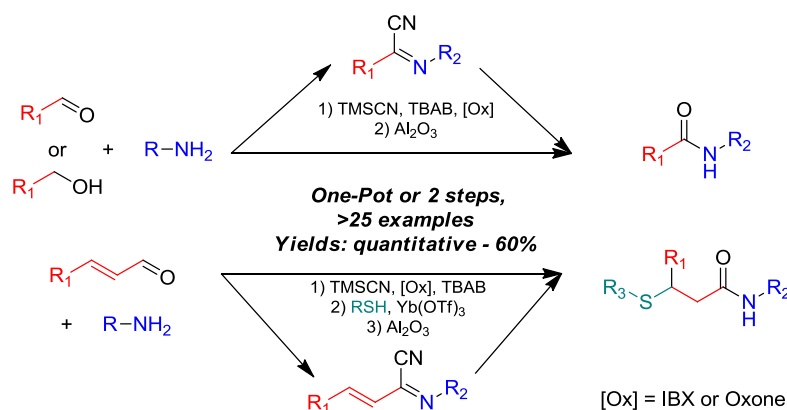
## Amidation of Aldehydes and Alcohols and Three-component Strecker /Thio-Michael Addition/ Hydrolysis to Access $\beta$ -Mercaptoamides

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A mild and general alumina-promoted hydrolysis of  $\alpha$ -iminonitriles to amides was developed. In combination with the oxidative three-component Strecker reaction, a one-pot amidation of aldehydes and alcohols was documented. We subsequently detailed an Yb(OTf)<sub>3</sub>-catalyzed Michael addition of thiols to  $\alpha,\beta$ -unsaturated  $\alpha$ -iminonitriles for the synthesis of  $\beta$ -mercapto- $\alpha$ -iminonitriles. Successful integration of both processes allowed us to develop a direct conversion of an amine, an aldehyde and a thiol to a  $\beta$ -mercaptoamide. All these protocols were applicable to aromatic as well as aliphatic amines and aldehydes. Extension of these protocols to replace expensive IBX by eco-friendly Oxone was also detailed giving access to an even broader range of substrates.



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