

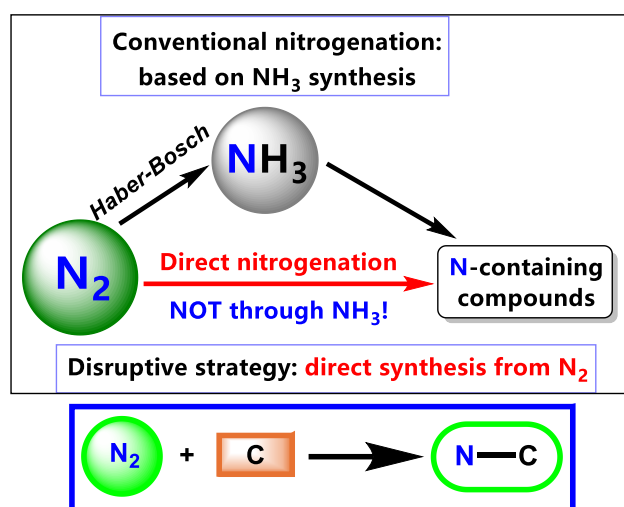
Dinitrogen N₂ Activation and Functionalization For Nitrogen-Carbon Bond Formation

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Abstract:

Nowadays almost all artificially synthetic nitrogen-containing organic compounds (N-C bonding) are prepared via ammonia (NH₃, the Haber-Bosch product). The ultimate research goal of our group is to synthesize nitrogen-containing organic compounds efficiently and directly from N₂ gas as the nitrogen source, bypassing the NH₃-depended synthetic pathway, mainly via metal-mediated or catalyzed dinitrogen functionalization.¹



At this presentation, I will briefly introduce two results recently realized in my research group. One result is about the method and mechanism on efficient first-step and second-step N₂ electrophilic functionalization of L_nCr-N₂ metal dinitrogen complexes.² The other result is on the synthesis of nitrogen-containing organic compounds via LiNCNLi from N₂ gas and carbon by synergizing the heterogeneous synthetic approach with the homogeneous synthetic methodology.³

References:

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