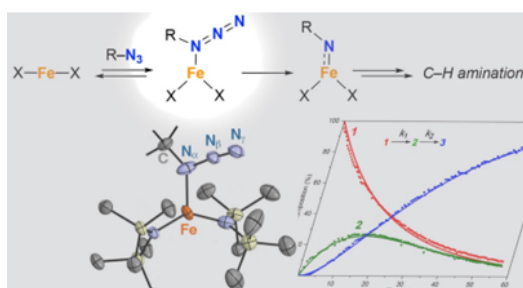


## Synthesis and Reactivity of a Stable Organoazide Iron Complex and its Relevance to C-H Bond Amination

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The formation of C-N bonds is of paramount importance for synthesis of pharmaceuticals, agrochemicals and natural products.<sup>[1]</sup> Complexes with organic azides are critical precursors for the formation of nitrene systems en route to the direct C-H amination, forming C-N bonds very efficiently and sustainably. Despite their relevance, first-row transition metals with  $\alpha$ -organoazide coordinated are extremely rare,<sup>[2,3]</sup> and they have been elusive so far for iron, even though iron complexes are by far the most active C-H amination catalysts with organic azides.<sup>[4-6]</sup>



In this contribution we will show the first example of the full characterization of such an organoazide iron complex. We will demonstrate the further reactivity to a transient nitrene intermediate and discuss reactivity of the azide both in solution and in crystallo. The characterization of both these intermediates is of paramount importance for understanding the catalytic C-H amination reaction and for designing new and improved catalytic systems.

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