Intermolecular reaction of alkylfurans with 1-sulfonyl-1,2,3-triazoles under rhodium catalysis leads to electrophilic addition of iminocarbene species to a furan ring followed by transannulation to form pyrrole derivatives [1]. At the same time, intramolecular reaction of rhodium-iminocarbenes with furans have been described to provide only products of electrophilic heteroaromatic substitution [2, 3].

We discovered that intramolecular reaction of furans with triazole-derived azavinyl carbenoids could lead to substituted pyridines through sequential dearomatization/ring-opeingin/electrocyclization/aromatization.

Optimization and mechanistic details as well as the scope, limitations of the developed synthetic protocol toward substituted pyridine and synthetic utility of the obtained products will be discussed.