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Copper-catalyzed intra-molecular α-c–h amination via ring-opening cyclization strategy to quinazolin-4-ones: Development and application in rutaecarpine synthesis

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A copper catalysed intramolecular α-C–H amination has been developed for the synthesis of quinazolin-4(3H)-one derivatives from commercially available isatoic anhydride besides primary and secondary benzyl amines via Ring-Opening Cyclization (ROC) Strategy. This method shows good functional group tolerance and allows access to a range of 2-aryl, 2-alkyl and spiro quinazolinone derivatives and also 2-methyl and 2-aryl quinazolin-4(1H)-one derivative by C–C and N–C bond cleavage in the progress of ROC strategy. It is the first general method to construct the potentially useful 2-methyl quinazolin-4(3H)-one by copper-catalyzed intramolecular C–H amination. And also, this ROC strategy has been successfully applied to the synthesis of quinazolinone alkaloid rutaecarpine.

Speaker Biography

Srilaxmi M Patel was born in 1988 in Ameenpur, India. She obtained her BSc degree from SLDC, Osmania University (OU), India in 2008 and MSc (Organic Chemistry) degree from the MNR PG College, Osmania University (OU) in 2010, Later she worked as a Lecturer in NTR Degree College for Women's (June 2011 to July 2013) Mahaboob Nagar, India. Then she joined the IIT Hyderabad in August 2013 as a junior research scholar.

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