



Department of Chemistry
INDIAN INSTITUTE OF TECHNOLOGY KANPUR
Kanpur - 208 016 (India)

Dr. Dattatraya H. Dethe
Professor

To

Selection Committee

Sun Pharma Science Foundation

Science Scholar Awards-2021

Dear Sir/Madam,

I am pleased to nominate Mr. Nagabhushana C. B. for a *Sun Pharma Science Scholar Awards - 2021*. Nagabhushan completed his master's degree and qualified all india level. Council of Scientific and Industrial Research/University Grants Commission (CSIR-UGC) exam for the PhD. scholarship in 2017 (UGC-JRF) (all India rank - 98). Before joining as a junior research fellow in my group at IIT kanpur for the PhD in july 2017, Nagabhushan worked as a research associate at Aurigene Drug Discovery Technologies Pvt Ltd., Bangalore from june 2016 to july 2017.

From more than four years, he is extensively working on the development of novel transition metal catalyzed C-H functionalization reactions and syntheses of biologically active natural products. Currently, he is working on the total synthesis of complex macrolide natural product, kulkenon. Nagabhushan has contributed immensely and obtained a state-of-the-art experience in synthetic organic chemistry. I give him full credit for originally conceiving the ideas and further execution of all the projects on bench. Until now, he has 6 peer-reviewed publications with his contribution as major portion of work (1-chemical science, 2-Organic letters, 2-JOC and 1- EJOC) and 2 more publications where he has significant contribution are under communication.

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Nagabhushan has developed new synthetic route for norpyrenophorin, a synthetic and unnatural 16-membered macrolactone which has essentially the same physiological activity as shown by natural macrocyclic dilactides, antifungal pyrenophorin and the antibiotic (-)-vermiculine. The shortest and efficient synthesis of norpyrenophorin has been reported via Ru-catalyzed oxidative coupling of allylsilanes/allyl esters with activated olefins. The developed method offers efficient access to highly functionalized 1,3-dienes, which are crucial intermediates for Diels-Alder reaction and many other reactions in organic synthesis. He has also developed a highly atom-/step economical Ru-catalyzed strategy for the shortest and straightforward synthesis of hydroxy β -sanshool and ZP amide-I, zanthoxylum-derived alkylamides isolated from *Szechuan pepper*. These natural products possess remarkable academic and industrial scrutiny due to their universal interest for both culinary and medicinal applications.

Based on his research qualities, nagabhushan would be a suitable candidate and I strongly recommend him for "*Sun Pharma Science Scholar Awards-2021*".

Yours Sincerely

Prof. Dattatraya H. Dethe

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