**Statement of research achievements**

1. Dr B V Subba Reddy has been working with Colgate-Pamolive Company for the last eight years. Initially, he has developed novel fluorescein dyes for liquid aquarium soap formulations. Subsequently, he was involved in the development of novel anti-bacterial agents based on Natural Products such as Honokiol, Magnolol and Hinokitiol, for use in tooth paste, mouth wash, hair care and skin care products. The technologies developed by him have been transferred to industry for commercialization. He has developed an industrially viable synthesis of Poly(allyl)guanidine, which is used for Gum tissue grafting surgery. He is also involved in the development of synthetic route for natural shellac, which is being used for nail polish, wood polish and drug delivery. Recently, he is involved in the process development of Asthma drugs such as Salbutamol, Ciclesonide, Fenoterol, Fluticasone, Salmeterol, Vilaneterol, Indecaterol and Clobetasol for Vamsi Labs Ltd. He has also developed the process for both (*R*,*S*)- and (*R*,*R*)-cyclopenten-1,3-diols for Dev Synthesis, Hyderabad. They are chiral precursors for Prostaglandins such as Prostacyclin, Pentenomycin, PGE2, PGF2α, PGD1, PGE1, Terrein and for drugs like Ticagrelor, Noraristeromycin etc. He has been involved in the development of novel synthetic routes for different drugs such as Solifenacin, Almorexant, Dihydrotetrabenazine, Sitagliptin, Ramatroban, Dapoxetine and Rivastigmine etc. Apart from industrial contributions, he has been actively working on Asymmetric synthesis using Transition metal catalysis and Organocatalysis. For the purpose of drug discovery, he has developed tandem Prins-type cyclizations and metal catalyzed cycloaddition reactions of α-diazocarbonyl compounds to generate combinatorial libraries for biological screening. In the area of asymmetric synthesis, he was primarily involved in the design, synthesis and application of sugar based chiral ligands such as *bis*-oxazolines (developed as alternatives to D-amino acid derived *bis*-oxazolines) for the enantioselective C-C bond formation reactions such as Mukaiyama Michael reaction (*Advanced Synthesis & Catalysis*, **2013**, *355*, 383), Friedel-Crafts alkylation(*Org. Biomol. Chem.* **2012**, *10*, 4731). Recently, he has reported for the first time an organocatalytic (quinine-squaramide) enantioselective addition of diphenyl phosphite to ketimines derived from isatins for the synthesis ofchiral α-aminophosphonates (*Org. Biomol. Chem.* **2014**, *12*, 1595)*.* He is the first to develop sugar based chiral thiourea catalysts for the enantioselective Michael addition reactions (*RSC Advances* **2013**, *3*, 930; *RSC Advances* **2013**, *3*, 8756; *RSC Advances* **2014**, *4*, 9107; *RSC Advances* **2014**, *4*, 42299). Besides asymmetric catalysis, he has developed a new concept of tandem cyclization of oxo-carbenium ion generated from aldehyde and a homoallylic alcohol tethered with a nucleophile. He is the first to develop 'tandem Prins-type cyclizations' such as Prins/Friedel-Crafts cyclization (J. Org. Chem. **2011**, 76, 7677; *Eur. J. Org. Chem*. **2013**, 1993; J. Org. Chem. **2013**, *78*, 8161; *Asian J. Org. Chem.,* **2015**, DOI: 10.1002/ajoc.201500218), Prins/bicyclization (*Org. Biomol. Chem.* **2012**, *10*, 6562; J. Org. Chem. **2012**, *77*, 11355; J. Org. Chem. **2013**, 78, 6303; *Org. Biomol. Chem.* **2012**, *10*, 1349; *Org. Biomol. Chem.* **2014**, *12*, 4754; J. Org. Chem. **2014**, 79, 2716; *Eur. J. Org. Chem.* **2015**, 3103; ***Org. Biomol. Chem.****,* **2015**, *13*, 4733; ***Org. Biomol. Chem.***, **2015**, *13,* 6737), Prins/ene cyclization (*Org. Biomol. Chem.* **2015**, *13*, 2669; *Eur. J. Org. Chem*. **2015**, 3706), Prins/pinacol reaction (*Org. Biomol. Chem.* **2014**, *12*, 7257; *Org. Biomol. Chem.* **2015**, *13*, 8729), Prins/Wagner/Ritter reaction (*Org. Biomol. Chem.* **2015**, *13*, 5532) and Prins/spirocyclization (*Organic Lett.* **2014**, *16*, 6267; *Eur. J. Org. Chem*. **2014**, 4234; *RSC Advances*, **2014**, 16739; J. Org. Chem. **2014**, 79, 2289; J. Org. Chem. **2015**, 80, 653) using homoallylic substrates with tethered nucleophiles. In addition to tandem cyclizations, he has been working on transition metal catalyzed cycloaddition reactions of diazocarbonyl compounds for the synthesis of highly substituted pyrroles and indoles (*Organic Letters* **2013**, *15*, 464) and for the synthesis of spirooxindolyl oxazolidines/pyrrolines (*Organic Letters* **2013**, *15*, 1512), dispirooxindoles (*Eur. J. Org. Chem.* **2015**, 2038), spirooxindolyl furocoumarins (*Tetrahedron* **2014**, 70, 8148) and oxindole derived α-alkoxy-β-amino acids (*Eur. J. Org. Chem.* **2014**. 2221). He has also been working on gold catalysis to generatethe spirooxindole (*Eur. J. Org. Chem.,* **2014**, 3313), and andem Prins-type cyclization for the stereoselective construction of fused polycyclic ring systems *Organic Chemistry Frontiers*, **2018**, *5*,1320–1324. Recently, he has reported enantiselective amination, aza-Friedel-Crfats reaction, and domino Robinson annulation reactions (*Org. Lett*. **2017**, 19, 170−173; *Chemistry-An Asian Journal****,* 2018,** *13***,** 1327–1334and*Org.Lett*. **2018**, 20, 4195−4199). More recently, he has also reported metal‐free one‐pot synthesis of 1,2,4‐triazolo[4,3‐*a*]pyridines from 2‐hydrazinylpyridines *Advanced Synthesis &* Catalalysis **2018**, 360, 3069–3073. Rh(III)-catalyzed tandem bicyclization of 2‑arylimidazo[1,2‑*a* ]pyridines with cyclic enones for the construction of bridged scaﬀolds, *Organic Lett*ers, **2019**, *21*, 8548- 8552. Tandem Prins cyclization for the synthesis of indole fused spiro-1,4-diazocane scaffolds, *Organic & Biomolecular Chemistry***, 2020,** *18*, 7224-7224. Enantioselective Fluorination of 3-Indolinone-2-carboxylates with NFSI Catalyzed by Chiral Bisoxazolines, *Organic Biomolecular Chemistry,* **2021**,19, 6085.