

Typical thiazolidine-2,4-dione–chalcone chemical hybrids: Synthesis and their *in-silico* evaluation

Srinivasa Rao Vulichi¹, Triloknadh Settypalli² and Venkata Rao Chunduri²

¹*Birla Institute of Technology and Science, Pilani-Hyderabad Campus, India*

²*Sri Venkateswara University, India*

Abstract

Metabolic Syndrome is a clinical condition primarily linked to abnormal metabolic status of lipids and glucose which ultimately leads to Type 2 Diabetes Mellitus and cardiovascular abnormalities. Sedentary life-style and intake of calorie rich diet were known to be the substantial causative factors behind progression of the condition. It is considered as a critical epidemic with about 30 million people suffering from Type 2 Diabetes Mellitus in United States alone. Despite of the existing drug candidates, the devastating side-effects posed by them greatly limit their potential therapeutic identity. Perhaps most of the current research strategies were critically trying to explore various aspects of traditional medicine, in particular due to its proven safety profiles. Considering this issue, we currently have sought rational ligand based designing and synthesized some typical chalcone-thiazolidine-2,4-dione hybrids using conventional synthetic strategies. All the molecules were synthesized and characterized through spectroscopic methods. In addition, the molecules were tested using *in-silico* approach against suitable pharmacological targets selected from protein database (PDB) to understand their preliminary binding efficiency.

Biography

Srinivasa Rao Vulichi has earned his MPharm from Manipal College of Pharmaceutical Sciences, Manipal. He served as Academic Consultant, Guest Lecturer and Assistant Professor for two years in various pharmacy colleges around Tirupati and taught theory and laboratory courses in pharmacy at undergraduate level. He was qualified in National level tests like Graduate Aptitude Test in Engineering (GATE) and Graduate Pharmacy Aptitude Test (GPAT) with All India Ranks of below 300. He has also worked as a Summer Research Fellow on a Fellowship granted by Indian Academy of Sciences (IAS) in Hyderabad Central University for three months. Currently, he is pursuing Doctoral Research Program in the Department of Biological Sciences, BITS Pilani, Hyderabad campus under the supervision of Prof Suman Kapur.

nivchem@gmail.com