Notice for the PhD Viva Voce Examination

Mr V P Rama Kishore Putta (Reg. No. 1650082), PhD scholar at CHRIST (Deemed to be University), will defend his PhD thesis at the public viva-voce examination on Wednesday, 16 December 2020 at 3.00 pm on the Webex Meeting platform.

Title of the Thesis	:	**Synthesis of Benzothiazinones, Benzothiazines and their Selenium Analogues through Novel Synthetic Routes**
Discipline	:	**Chemistry**
External Examiner (Outside Karnataka)	:	**Dr Suresh B Waghmode** Professor Department of Chemistry Savitribai Phule Pune University Ganeshkhind Road Pune - 411007 Maharashtra
External Examiner (Within Karnataka)	:	**Dr Maddasani Srinivasulu** Associate Professor Department of Chemistry Manipal Institute of Technology Manipal - 576104 Karnataka
Supervisor	:	**Dr Prasad Pralhad Pujar** Associate Professor Department of Chemistry School of Sciences Bangalore Central Campus CHRIST (Deemed to be University) Bengaluru – 560029 Karnataka

The faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva.

Registrar

Place: Bengaluru
Date: 10 December 2020

ABSTRACT

Benzo fused N-heterocyclic scaffolds containing oxygen, sulphur or selenium have found wide interest in the field of drug-discovery. Among these N-heterocycles, benzothiazine, benzoxazine, benzoselenazine and benzothiazinone derivatives are a unique class of compounds and have a larger scope towards the development of efficient and simple synthetic methodologies for their synthesis with readily available substrates. During the course of the present thesis a convenient and simple synthetic procedures were developed for the synthesis of benzothiazines, benzoxazines, benzoselenazines and benzothiazinones in an onepot methodology. 2-aryl/alkyl substituted 1,3-benzothiazines and selenazines were synthesized by reacting 2-amino benzyl alcohols and thio or seleno benzamides in the presence of T3P. A reagent controlled methodology was developed for the synthesis of 2-amino substituted 1,3-benzothiazines and oxazines. Initially, various 2-amino benzylalcohols are reacted with isothiocyanates to form the corresponding thioureas. The formed thioureas undergo cyclodehydration in the presence of T3P to yield 2-amino substituted 1,3-benzothiazines and on the other hand molecular iodine facilitates desulfurization of the thiourea to yield 2-amino substituted 1,3-benzoxazines. 2-amino substituted 1,3-benzothiazinones were synthesized by reacting anthranilic acids and isothiocyanates in the presence of EDC.HCl. 2-aryl substituted 1,3-benzothiazinones were synthesized by employing thiobenzamides in the presence of T3P. All the compounds synthesized were characterized by $_{1}$HNMR, $_{13}$C, Mass spectroscopic (LCMS, HRMS) analysis. Docking studies against TANKYRASE-1 enzyme for colorectal cancer (CRC) and antibacterial studies were also discussed.

Keywords: *Benzothiazines, Benzoxazines, Benzoselenazines, Benzothiazinone, Cyclodehyration, Desulfurization, T3P, EDC.HCl, Tankyrase-1, CRC, $_{1}$HNMR, $_{13}$C, LCMS, HRMS.*