

Details of Item 14 of the Annexure VIII**CONTRIBUTION TO THE SOCIETY**

The synthesized compounds 2-(5-methyl-1,3-diphenyl-1*H*-pyrazole-4-yl)-5-(5-methyl-3-phenyl-isoxazole-4-yl)-[1,3,4]-oxadiazoles has showed moderate antioxidant activities as compared to standard ascorbic acid. The synthesized compounds were also evaluated for their ability to reduce ferric chloride and potassium ferricyanide complex. The absorbances were measured at 700 nm. As the concentration was increased (100-500 µg/mL) it showed higher reducing power. In addition, synthesized 1,3,4-oxadiazole derivatives were screened for their antibacterial activity and antifungal activity. The compounds are showed moderate antibacterial and antifungal activities. On this basis the synthesized compounds shall be investigated towards clinical trial. After getting result from clinical trial evaluation it will be benefit for society towards antioxidant, antibacterial and antifungal treatment.

SUMMARY OF THE FINDINGS

- i). The synthesized samples 2-(5-methyl-1,3-diphenyl-1*H*-pyrazole-4-yl)-5-(5-methyl-3-phenyl-isoxazole-4-yl)-[1,3,4]-oxadiazoles [**Scheme 3**] is a newer method by incorporating pyrazoles and isoxazoles derivatives as the side chain.
- ii). The synthetic analogues 2-(5-methyl-1,3-diphenyl-1*H*-pyrazole-4-yl)-5-(5-methyl-3-phenyl-isoxazole-4-yl)-[1,3,4]-oxadiazoles derivatives were screened for antioxidant activity evaluated by DPPH radical scavenging assay and reducing power determination. The investigation of antioxidant activities revealed that the compounds showed moderate antioxidant activities as compared to standard ascorbic acid.
- iii). In addition, the reducing power of the synthesized compounds was also evaluated for their ability to reduce ferric chloride and potassium ferricyanide complex. The absorbances were measured at 700 nm. Increased absorbance of the reaction mixture indicated increased reducing power. As the concentration was increased (100-500 µg/mL) it showed higher reducing power.
- iv). Synthesized 1,3,4-oxadiazole derivatives were screened for their antibacterial activity using bacterial strains *Staphylococcus aureus*, *Bacillus mycoides*, *Escherchia Coli* and *Proteous vulgaris* and Streptomycin was used as a standard drug. Also screened for their antifungal activity against *Aspergillus niger* and *Trichoderma viridae* were used for investigation and Nystatin was used standard drug. The compounds are showed moderate antibacterial and antifungal activities.

Details of Item 16 of the Annexure VIII

PAPER PUBLISHED UNDER THE PROJECT TITLE

“SYNTHESIS AND BIOLOGICAL STUDIES ON 1,3,4-OXADIAZOLE INCORPORATED WITH ISOXAZOLE AND PYRAZOLE DERIVATIVES”

1. FT-IR, Laser-Raman spectra and computational analysis of 5-Methyl-3-phenylisoxazole-4-carboxylic acid; Yusuf Sert, M. Mahendra, S. Keskinoglu, Chandra, N. Srikantamurthy, **K. B. Umesha**, C. Cirak. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy.*, **2015**, 139, 145–155.
2. Novel pyrazole integrated 1,3,4-oxadiazoles; Synthesis, characterization and antimicrobial evaluation, N. Srikantamurthy, **K. B. Umesha**, Shridevi D. Doddaramappa, Shubakara Keshavamurthy, Chethan Javarasetty. *Bioorg. Med. Chem. Lett.*, **2014**, 24, 245-248.
3. 5-Methyl-3-phenylisoxazole-4-carboxylic acid; Chandra, N. Srikantamurthy, G. J. Vishalakshi, S. Jeyaseelan, **K. B. Umesha**, M. Mahendra. *Acta Cryst.* **2013**. E69, o897.
4. 3-(4-Methoxyphenyl)-5-methylisoxazole-4-carboxylic acid; Chandra, K. Raghu, N. Srikantamurthy, **K. B. Umesha**, K. Palani, M. Mahendra. *Acta Cryst.* **2013**. E69, o388.
5. Ethyl 5-methyl-3-phenylisoxazole-4-carboxylate; Chandra, K. Raghu, S. Jeyaseelan, **K. B. Umesha**, M. Mahendra. *Acta Cryst.* **2013**. E69, o987.
6. Molecular docking of 1H-pyrazole derivatives to receptor tyrosine kinase and protein kinase for screening potential inhibitors. Chandra, Vishalakshi, G. Javaregowda, B. H. Doreswamy, N. Srikantamurthy, **K. B. Umesha**, K. Kemparaju, M. Mahendra. *Bioinformation*: 10(7), 22nd July, **2014**, 413-418.
7. **K. B. Umesha**, K. Shubakar and N. Srikantamurthy. Synthesis and Antimicrobial Evaluation of 2-(5-methyl-1,3-diphenyl-1H-pyrazole-4-yl)-5-(5-methyl-3-phenylisoxazole-4-yl)-[1,3,4]-oxadiazoles, *Bioorg. Med. Chem. Lett.*, **2015** (Communicated).

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