

Larvicidal activity of 1,3,4- oxadiazole analogues and their Molecular Docking Studies

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[Cite This](#)[PDF](#)K. Santhanalakshmi ; Gomathi Thandapani ; K. Margandan ; N. Neelakandeswari [All Authors](#)

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Abstract:

A new series of 2-(5-bromo-2-(trifluoromethoxy)phenyl)-5-aryl-1,3,4-oxadiazole 4a-4h compounds (aryl = C₆H₅, p-ClC₆H₄, p-NO₂C₆H₄, C₅H₄N, p-OCH₃C₆H₄, p-BrC₆H₄, p-OHC₆H₄, p-CH₃OC₆H₄) were synthesized by reacting acid hydrazide with 5-bromo-2-(trifluoromethoxy) benzoic acid in POCl₃. The new synthetic approach concluded with good results. The structure of synthesized Oxadiazole derivatives have been confirmed by Fourier transform infrared spectroscopy, Proton nuclear magnetic resonance and Carbon-13 NMR spectroscopy. The intention of this study to evaluate strong larvicidal activity of synthesized compounds towards *Culex quinquefasciatus* mosquitoes. The outcomes indicated that larvicidal activity of the synthesized compounds due to the existence of groups in the phenyl ring present of oxadiazole derivatives.

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I. INTRODUCTION

Mosquitoes are routes for a enormous number of infections especially in the tropics which includes filariasis transmitted by *Culex quinquefasciatus*, *Anopheles gambiae* causes malaria and *Aedes aegypti* reasons for dengue fever and yellow fever [1]-

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