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Synthesis of 6aH,13H-benz[4',5']oxazole[2',3':2,3][1,3]thiazino[6,5-b]quinolin-13-one derivatives: Characterization and biological evaluation**Hosadu Vagdevi and N D Jayanna**
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The novel heterocyclic compounds 6aH,13H-benz[4,5]oxazole[2,3,2,3][1,3]thiazino[6,5-b] quinolin-13-one derivatives 4-15 have been synthesized by conventional method. The various derivatives of 1,3-benzoxazole-2-thiol were on treating with 2-chloroquinoline-3-carbaldehyde derivatives in DMF yielded target novel molecules 4-15. The obtained products have been characterized by IR, ¹H NMR, ¹³C NMR and mass spectral studies. The newly synthesized compounds were screened for their *in vitro* cytotoxic, antibacterial and molecular docking studies. The synthesized compounds 9-chloro-10-nitro 6aH,13H-benz [4',5']oxazole[2',3':2,3][1,3]thiazino[6,5b]quinolin-13-one 6, 2,10-dichloro-6aH,13H-benz [4',5']oxazole[2',3':2,3][1,3]thiazino[6,5-b]quinolin-13-one 9 and 2,8,10-trichloro-6aH,13H-benz[4',5']oxazole[2',3':2,3][1,3]thiazino[6,5-b]quinolin-13-one 15 exhibited potent cytotoxic activity towards peripheral blood mononuclear cells (PBMCs) with the influence of functional groups attached with central moiety. The cytotoxic results were further supported by molecular interaction by molecular docking studies with receptor PDB ID: 3FLY and showed a minimum binding energy and higher affinity towards the active pocket sites. The study also focused on screening of antibacterial activity and most of the compounds from the series exhibited considerable bacterial inhibition.

Biography

Hosadu Vagdevi is an Associate Professor in Sahyadri Science College, Kuvempu University, India. She has completed her Master of Science degree in Organic Chemistry from Mysore University, Mysore, India. Her research interest is on synthetic organic chemistry and chemistry of natural products.

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