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Synthesis of novel spiro heterocyclic indeno[1,2-b]quinoxaline and evaluation of their biological activity

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The spiro heterocyclic compounds with nitrogen in five and six-membered rings are important synthetic targets that are often found in various biologically active molecules. They are considered to be privileged scaffolds in medicinal chemistry due to their broad range of biological activities including anticancer, antimalarial and antituberculosis and progesterone receptor agonists. A variety of carbonyl compounds undergo smooth addition with α - amino acids and indeno[1,2-b] quinoxalin-11-one in acetonitrile under ambient conditions to produce the corresponding spiro-heterocyclic derivatives in good yields with excellent selectivity. It is an entirely new strategy to construct the spirocycles in a one-pot operation through a 1,3-dipolar cycloaddition in regio and diastereoselective cascade process. The reaction involves generation of azomethine ylides as an intermediate which was derived from reactive primary or secondary amines. The synthesized molecule has been characterized by ¹H-NMR, ¹³C-NMR and mass spectroscopy. It also may be subjected to the *in vitro* testing for biological applications.

Biography

Nakul Kumar has is doing PhD at the age of 27 years from Central University of Gujarat, India. Recently he is working in Organic Synthetic Chemistry.

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