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Design, synthesis and anti-tubercular potential of some new substituted 1,2,4-triazoles derived from isonicotinic acid hydrazides

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Objective of the study was to design and synthesize some new substitutes of 1,2,4-triazoles derived from isonicotinic acid hydrazides and screen for anti-tubercular activity. A series of new substituted 1,2,4-triazoles; isonicotinic acid hydrazide derivative (1–28) were synthesized. Potassium dithiocarbazinate (1) was obtained from the reaction of isonicotinic acid hydrazide with carbon disulfide in basic medium (KOH) and converted into 4-amino-5-(pyridin-4-yl)-4H-1,2,4-triazole-3-thiol (2) by the treatment with hydrazine hydrate. The synthesis of the other compound was performed from the reaction of (2) with seven different benzaldehyde resulted in the formation of 4-[(substituted phenyl)-methylene]-amino-5-(pyridine-4-yl)-4H-1,2,4-triazol-3-thiol (3). The final compound synthesized from the reaction of 3 with four different acetanilide resulted in the formation of 4-[(substituted phenyl)-methylene]-amino-3-(N-substitutedcarboxamidomethylthio)-5-(pyridine-4-yl)-4H-1,2,4-triazoles (4). The structures of the synthesized compounds (1-28) were characterized by IR, ¹H NMR, ¹³C NMR, mass spectroscopy and elemental method of analysis. IR data, ¹H NMR spectra, ¹³C NMR spectra, mass spectra and elemental analysis indicates that 28 compounds were synthesized as proposed. In conclusion, their biological activities and study for toxicity are required.

Biography

Varsha Kashaw has completed her PhD in 2007 from Dr Harisingh Gour University, (A Central University; 'A' Grade by UGC-NAAC), India. Currently, she is working at the Department of Pharmaceutical Sciences, SVN University, India as an Associate Professor. To her credit, she is handling two research projects which are sponsored by State and Indian Government. She has published many research papers in the journals of great repute. At present she is pursuing her MBA from Global University.

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