One pot multicomponent microwave assisted synthesis of pyrano [2,3-c]pyrazoles and its biological activity against prostate cancer cell lines

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Now a days, study of heterocycles becoming more importance because of their potency in drug activities. Also, over past decades they have been sealed a significant mark in the medicine. Our literature survey revealed that Heterocycles possess pharmacological activities such as anti-inflammatory, antibacterial, antiviral, anti-HIV, anti-cancer. We planned to synthesize N-heterocycles particularly, Pyrazole derivatives which can exhibit efficient pharmacological activity. Multicomponent such as ethyl acetoacetate, hydrazine hydrate, malanonitrile and different substituted aromatic ketones afforded Pyrano [2,3-c]pyrazoles. All the starting substrates are to be involved in the reaction by adding a green catalyst "Natrolite" (Zeolite) by microwave irradiation under solvent-free condition. Synthesized molecules are characterized by FT-IR, 1HNMR, 13CNMR and Elemental analysis. Biological screening of all the molecules studied In-vitro. Majority of the molecules exhibited excellent potency against Prostate cancer cell lines. % viability and IC50 values reports showed that Pyrano [2,3-c] pyrazoles are potent molecules for being good inhibitors of Prostate cancer cell lines.

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