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Microwave assisted synthesis of novel dihydropyrazolo[1,5-a]pyrimidine, [1,2,4]triazolo[1,5-a] pyrimidine and 3,4-dihydrobenzo[4,5]imidazo[1,2-a]pyrimidine derivatives incorporating Schiff base moiety as potential anticancer agents

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The present work was devoted to be used as an efficient green technique for synthesis of novel, dihydropyrazolo[1,5-a] pyrimidine (3, 5), [1,2,4]triazolo[1,5-a]pyrimidine (7) and 3,4-dihydrobenzo[4,5]imidazo[1,2-a]pyrimidine (9) derivatives incorporating Schiff base moiety. The reactions of chalcone 1 with different heterocyclic amines were achieved under solvent-less conditions using microwave irradiation and/or under classical reflux condition. In general, microwave irradiation offered the advantages of high yields, short reaction times, and simplicity compared to the conventional methods. The structures of all the compounds were confirmed by analytical and spectral data. Some of the synthesized compounds were evaluated against HepG-2 and showed significant antitumor activities.



Figure : Schematic diagram for the reactions of chalcone 1 with different heterocyclic amines

Recent Publications

- 1. Ahmed Younis, Usama Fathy, A Atef El-Kateb and Hanem M Awad (2016) Ultrasonic assisted synthesis of novel anticancer chalcones using water as green solvent. Der Pharma Chemica 8(17):129-136.
- 2. Ahmed Younis, Ali M Hassan, Mohamed F Mady, El-Haddad A F, Yassin F A and Mahmoud Fayad (2017) Microwaveassisted one-pot synthesis of novel polyarylpyrrole derivatives of expected anticancer activity. Der Pharma Chemica 9(3):33-44.
- 3. Dimmock J R, Elias D W, Beazely M A, Kandepu N M (1999) Bioactivities of chalcones. Curr. Med. Chem. 6:1125-1149.

Biography

Ahmed Younis has completed his PhD from Alazhar University. He has supervised PhD thesis and has published more than 6 papers in reputed journals and has been contributed in more than one project in green chemistry field.

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