

Title	3-Amino-8-hydroxy-4-imino-6-methyl-5-phenyl-4,5-dihydro-3H-chromeno[2,3-d]pyrimidine: An Efficient Key Precursor for Novel Synthesis of Some Interesting Triazines and Triazepines as Potential Anti-Tumor Agents
Authors	Mohamed G. Badrey and Sobhi M. Gomha
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Abstract

A number of interesting heterocycles were prepared through interaction of the intermediate 3-amino-8-hydroxy-4-imino-6-methyl-5-phenyl-4,5-dihydro-3H-chromeno-[2,3-d]pyrimidine (1) and reagents such as hydrazonyl halides 2 to furnish triazine derivatives 4a–l. Reaction of 1 with phenacyl bromide afforded compound 5. Moreover, the title compound 1 was subjected to condensation with active methylene compounds (ethyl acetoacetate and ethyl benzoylacetate) to give triazipinones 8a,b. The condensation with aromatic aldehydes afforded either the triazole derivatives 10a–d or Schiff base 11. In addition, the behavior of compound 1 towards activated unsaturated compounds namely dimethyl acetylene dicarboxylate and ethoxymethylenemalonitrile was studied and it was found to furnish the triazine 13 and triazepine derivative 15, respectively. Combination of title compound 1 with chlorinated active methylene compounds delivered the triazine derivatives 18a–c. Reaction of 1 with chloroacetonitrile furnished compound 20. The structures of the products were elucidated based on their microanalyses and spectroscopic data. Finally, the antitumor activity of the new compounds 4a and 8a against human breast cell MCF-7 line and liver carcinoma cell line HepG2 were recorded.