E-ISSN: 2706-8927
P-ISSN: 2706-8919
IJAAS 2019; 1(2): 212-213
Received: 24-08-2019
Accepted: 28-09-2019

Virendra Prasad Singh
Biraul, Khajauli, Madhubani, Bihar, India

Studies of synthesis and characterization of hydrazides derivative

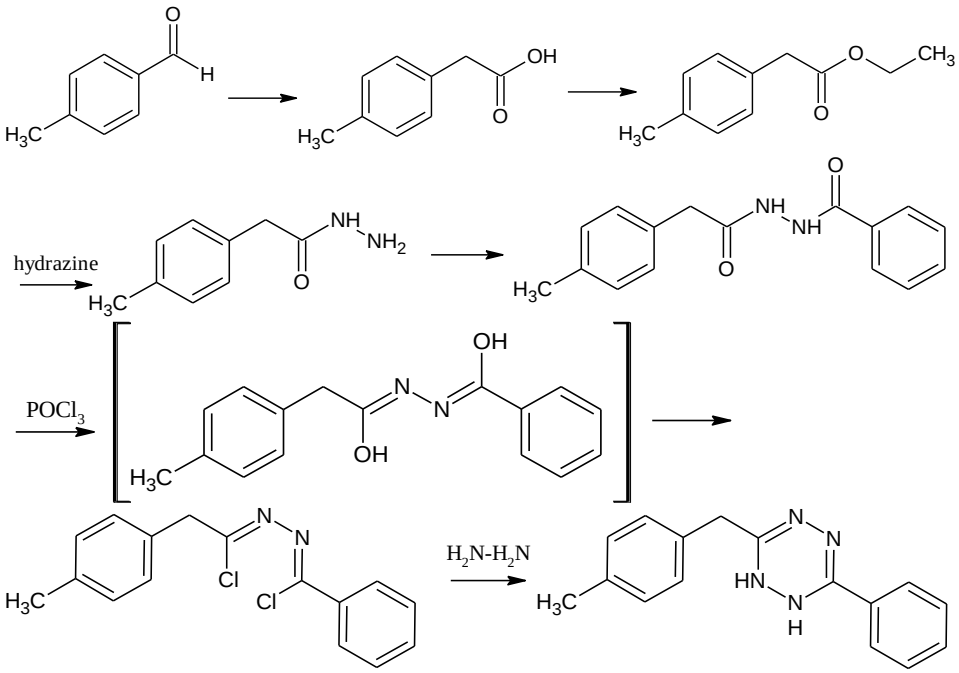
Virendra Prasad Singh

Abstract
In this paper, synthesis of acid hydrazide derivative say 3-(4-methylbenzyl)-6-phenyl-1,2-dihydro-1,2,4,5-tetrazine has been reported. The reaction was started by taking p-methylbenzaldehyde as starting material. By using the many simple and common reaction, acid hydrazide derivative containing four nitrogen atoms have been completed. The structures of synthesized compounds are confirmed by their IR and ^{1}H-NMR spectral data. Melting point of the compound has been determined by open capillary tube.

Keywords: acid hydrazide, IR, NMR cyclizatione, hydrazine.

Introduction
The important class of heterocyclic is acid hydrazide derivatives. These are reported to possess a wide spectrum of biological properties such as antibacterial [1], analgesic [2], anti-inflammatory [3], antifungal [4], antimalarial [5], antihypertensive [6], CNS depressant [7], anticonvulsant [8] etc.
In this paper a novel synthesis of acid hydrazide derivative 3-(4-methylbenzyl)-6-phenyl-1,2-dihydro-1,2,4,5-tetrazine has been reported.

Scheme



Procedure
13.8 g (or 0.10 mol) of 3-nitroaniline was taken in a round bottom flask to which 50 ml of acetone was added and mixed thoroughly. The 11.2 g (or 0.10 mol) of chloroacetyl chloride was added drop wise to it with continuous shaking. After complete addition, the reaction mixture was refluxed for 3-4 h. The reaction was monitored by TLC.

Corresponding Author:
Virendra Prasad Singh
Biraul, Khajauli, Madhubani, Bihar, India

The reaction mixture was cooled and poured into ice-cold water with continuous stirring. Sodium bicarbonate was added to neutralize the hydrogen chloride liberated during the reaction. The product obtained was filtered, thoroughly washed with water, dried and recrystallised with ethanol.

Procedure

The 0.86 g (0.0031 mol) 2-amino-1,4-dihydropyrido[2,3-*c*]pyridazin-3(2*H*)-one was taken in a round bottom flask and dissolved in 20 ml of dry pyridine then 0.80 g (0.0037 mol) of 2-chloro-*N*-(3-nitrophenyl)acetamide was added and refluxed for 6 h. The reaction was monitored by TLC. After the completion of reaction, the contents were cooled and poured into ice-cold water with continuous stirring and kept aside for 10 min, the crystalline solid obtained was filtered at pump, thoroughly washed with water, dried and recrystallised with ethanol.

References

1. Burgers Medicinal Chemistry, Part II. 4th ed, New York: Wiley Publishers 1979.
2. Wilson and Giswold's organic, medicinal and pharmaceutical chemistry. 11th ed, Philadelphia: Lippincott Publishers 1998.
3. Kar A. Medicinal Chemistry. 2nd ed. New Age International Publishers, New Delhi 2001.
4. Chambers HF, Hantman BJ, Tomsaz A. J Chin Invest 1985;76:325-31.
5. Wilson, Gisvold's Organic, Medicinal and Pharmaceutical Chemistry, 11th ed, Delgado JN, and Remers WA, Eds, Philadelphia, Lippincott Williams and Wilkins 2004, 3-271.
6. Korolkovas A. Essentials of medicinal chemistry. 2nd ed, New York: Wiley Publishers 1987.
7. Martin JN, Rose DA, Hadley WK, Perdreu-Remington F, Lam PK, Gerberding JL. R – J Infect Dis 1999;180:1809-18.
8. Mitsuhashi S. Mol Cell Biochem 1979;26:135.
9. Nikaido H. J Antimicrob Chemother 1988;22:17-22.
10. Tomsaz A, Albino A, Zanati E. Nature 1970;227:138.
11. Chambers HF, Hartman BJ, Tomsaz A. J Clin Invest 1985;76:325-31.
12. Foingold DS. J Med 1969;281:1189
13. Spera RV, Farber BF. J Amer Med Asso 1992;268:2563-4.
14. Speer BS, Shoemaker NB, Salyers AA. Clin Microbiol Rev 1992;5:387-99.