

The most effective process for preparing an antipsychotic drug is olanzapine

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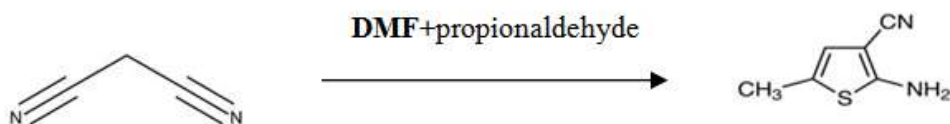
ABSTRACT- Olanzapine is used to treat a number of mental/emotional disorders. In preparation of the drug Malononitrile in, 2-floro nitrobenzene, Stannous chloride & N-methyl piperazine are used in stage A, B, C & D respectively. Maintaining different temperatures of solvents such as isopropyl alcohol, Dimethyl formamide, DMSO, Acetone and water is important. Thin layer chromatography should comply at the respective stages. All the solvents used should have the moisture content NMT < 0.2% W/V

Index Terms- DMF, RBF, TEA, LOD, TLC

I. INTRODUCTION

Olanzapine is used to treat a number of mental/emotional disorders, including bipolar disorder and schizophrenia. It can also be used to treat depression in addition to other medications. With the help of this drug, you may experience fewer hallucinations, think more clearly and positively about yourself, feel less stressed, and engage in daily activities more actively. Olanzapine is a member of the atypical antipsychotic medication class. It functions by assisting in the restoration of the proper ratio of several organic compounds in the brain.

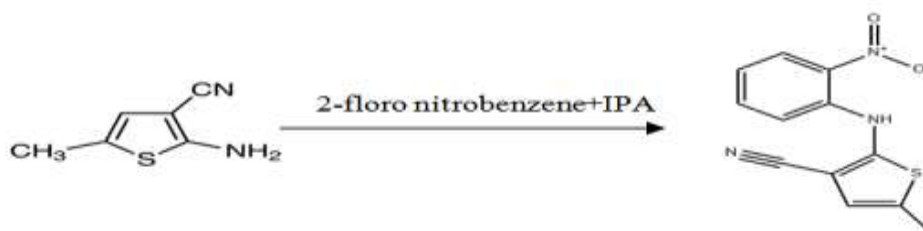
Stage A. 2-Amino-5-methylthiophene-3-carbonitrile



Charge 235 ml DMF into clean dry RBF at 25-30°C & Check MC ensure MC to be less than 0.5%. Charge propionaldehyde and sulphur powder at 5-10°C, slowly add 61ml TEA at 5-10°C over a period of ½ hr. Raise temp to 18-20°C over a period of 50 minutes. Slowly add Malononitrile solution at 18-20°C

over a period of 70 minutes (47.5gm malononitrile in 95ml DMF). Maintain for 45 minutes at 15-20°C. Quench RM into 420g ice+850ml water mix. Below 10°C Air dry the material for 2-3 hrs then dry at 40-45°C till LOD .5% OUT PUT 70-80 gm.

Stage B. 2-(2-nitroanilino)-5-methylthiophene-3-carbonitrile



Charge IPA and 2-Amino-5-methyl-3-thiophenecarbonitrile Charge 2-floro nitrobenzene at 5-10°C KOH powder at 5-10°C Slowly raise

temperature to 80-85°C Send sample to QC for TLC Slowly add DM water over a period of 1 hour. Drying of this stage is not required to proceed to next step

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