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Synthesis and in vitro Antidiabetic Screening of Novel Dihydropyrimidine Derivatives

- J. N. Lalpara,
- M. D. Vachhani,
- S. D. Hadiyal,
- S. Goswami &
- G. G. Dubal

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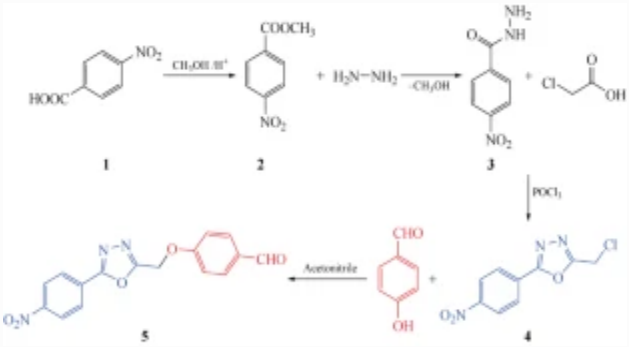
Abstract

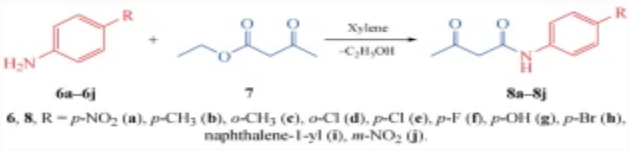
A series of *N*-substituted-6-methyl-4-{4-[5-(4-nitrophenyl)-1,3,4-oxadiazol-2-yl]methoxyphenyl}-2-oxo-1,2,3,4-tetrahydropyrimidine-5-carboxamides have been synthesized by the condensation of newly synthesized {4-[5-(4-nitrophenyl)-1,3,4-oxadiazol-2-yl]methoxy}benzaldehyde with variously substituted acetoacetanilides and urea in the presence of ethanol. The synthesized compounds have been characterized by ^{1}H, ^{13}C NMR, IR spectroscopy, and mass spectrometry. All

synthesized compounds were evaluated for in vitro antidiabetic activity using the α-amylase inhibition assay with the 3,5-dinitrosalicylic acid (DNSA) reagent.

Scheme

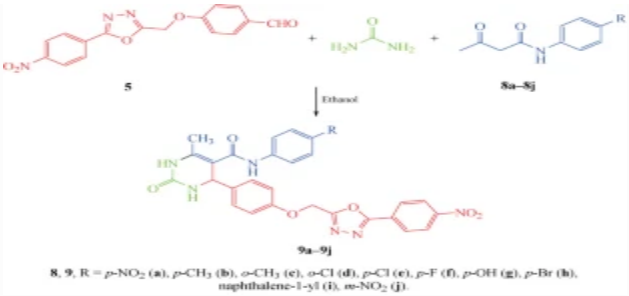


Scheme



6, 8, R = *p*-NO_2 (**a**), *p*-CH_3 (**b**), *o*-CH_3 (**c**), *o*-Cl (**d**), *p*-Cl (**e**), *p*-F (**f**), *p*-OH (**g**), *p*-Br (**h**), naphthalene-1-yl (**i**), *m*-NO_2 (**j**).

Scheme



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Author information

Affiliations

1. School of Science, Department of Chemistry, RK University, 360020, Rajkot, India

   J. N. Lalpara, M. D. Vachhani, S. D. Hadiyal & G. G. Dubal

2. School of Science, Department of Microbiology, RK University, 360020, Rajkot, India

   S. Goswami

Corresponding author

Correspondence to G. G. Dubal.

Ethics declarations

The authors declare no conflict of interest.

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- Biginelli-type reaction

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