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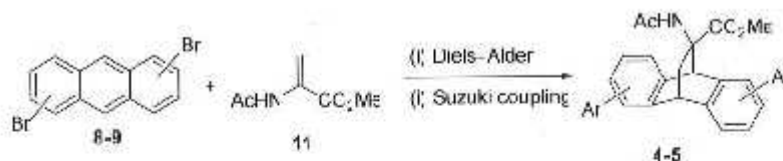
April 2015

CONTENTS

Papers

- 505 **Synthesis of conformationally constrained α -amino acid derivatives containing bicyclo[2.2.2] unit via the Diels-Alder and Suzuki-Miyaura cross-coupling reactions as key steps**

A simple route to synthesize conformationally constrained α -amino acid (AAA) derivatives containing bicyclo[2.2.2]octane ring-system has been devised. Diels-Alder reaction has been chosen to assemble highly constrained AAA derivatives and further expanded the scope of the methodology by Suzuki-Miyaura cross-coupling reaction with various boronic acids.

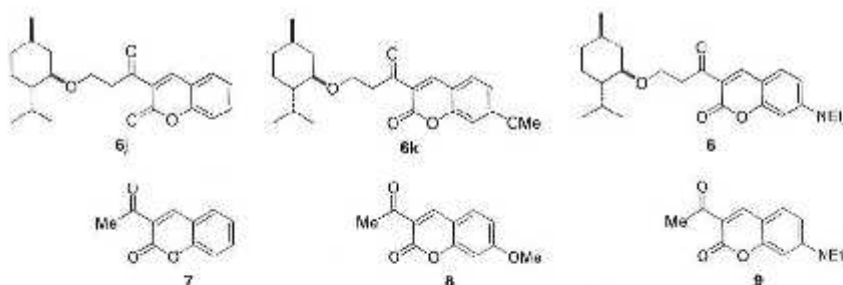


Sambasivarao Kotha*, Milind Meshram & Gopinathan Muthusamy

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- 514 **Synthesis and fluorescence studies on menthol-coumarin conjugates**

A three-step protocol for synthesis of alcohol containing aliphatic natural products and coumarins has been described. The Blaise reaction of converting the nitrile to β -keto esters formed key-step in this protocol. The absorption and fluorescence emission studies of menthol-coumarin conjugates revealed that menthol substitution has little influence on the absorption or emission characteristic of the chromophore. However, substitution of C(6)H or C(6)OMe of the coumarin with NEt_2 has dramatic influence on both absorption and emission of the conjugate. Solvatochromic studies and analysis of Stoke shift data show that the menthol-coumarin conjugate with C(6) NEt_2 stabilizes its dipolar push-pull structure in ground and excited states.

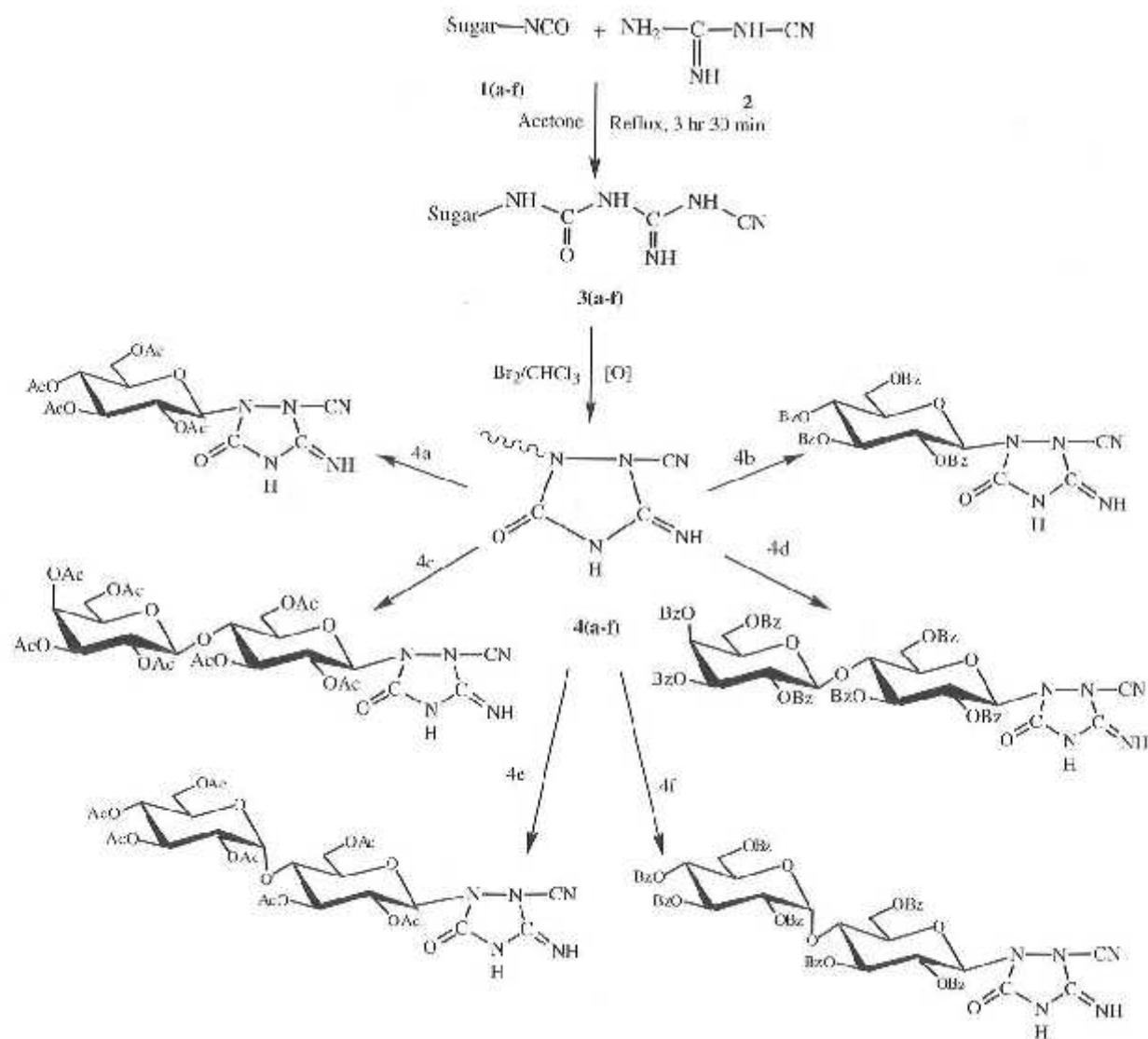


H Surya Prakash Rao* & Avinash Desai

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525 **Synthesis and screening of sugar triazolidines for antimicrobial activity**

Several new 1-sugar-3-cyanoamidino carbamides have been synthesized by the interaction of sugar isocyanates with diacyandiamide in acetone medium. Furthermore several novel 1-cyano-2-sugar-3-one-5-imino-1,2,4-triazolidines have also been synthesized by the oxidative cyclisation of 1-sugar-3-cyanoamidino carbamides.



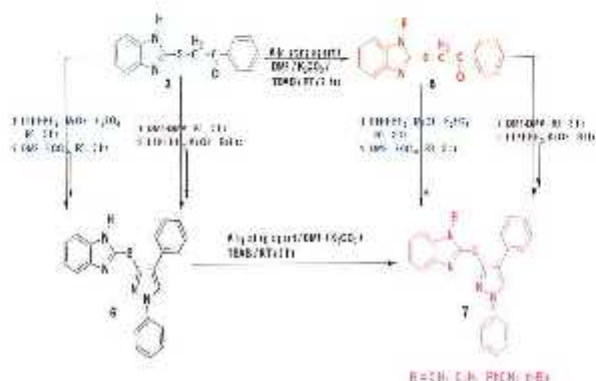
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Synthesis of *N*-alkylated-2-(1,3-diphenyl-1*H*-pyrazol-4-ylsulfanyl)-1*H*-benzimidazoles by Vilsmeier-Haack reaction and by condensation with DMF-DMA

N-Alkylated-2-(1,3-diphenyl-1*H*-pyrazol-4-ylsulfanyl)-1*H*-benzimidazole **7a-d** have been prepared by four different methods using three distinct stages in each method from 2-(1*H*-benzimidazol-2-ylsulfanyl)-1-phenylethanone **3**.



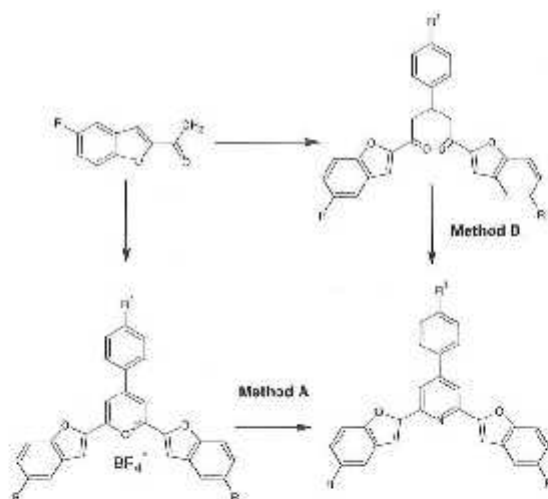
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538

Comparative studies of synthesis of symmetric 2,6-di(benzofuran-2-yl)-4-phenyl-pyridine derivatives via pyrylium tetrafluoroborate salt and 1, 5-dione derivatives

Synthesis of symmetric 2,6-di(benzofuran-2-yl)-4-phenyl-pyridine derivatives **4a-h** has been reported by two methods. Method **A** follows nucleophilic substitution reaction of 2,6-di(benzofuran-2-yl)-4-phenyl-pyrylium tetrafluoroborate salt derivatives **3a-h** with ammonium acetate in ether at room temperature. Method **B** follows cyclisation reaction of 1,5-di(benzofuran-2-yl)-3-(4-substituted-aryl)-pentane-1,5-dione derivatives **2a-h** with ammonium acetate in acetic acid under reflux. It has been found that method **B** proceeds under mild reaction condition with short reaction time and high yield when compared to method **A**. The structures of the newly synthesized compounds are characterized by spectral studies.

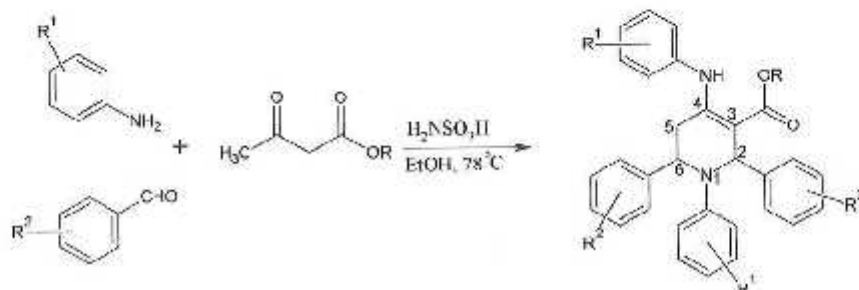


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545 Multicomponent synthesis of highly functionalized piperidines using sulfamic acid as a heterogeneous and cost effective catalyst

A one pot multicomponent synthesis of some new densely functionalized piperidines derivatives using sulfamic acid as an efficient and cost effective catalyst is described.

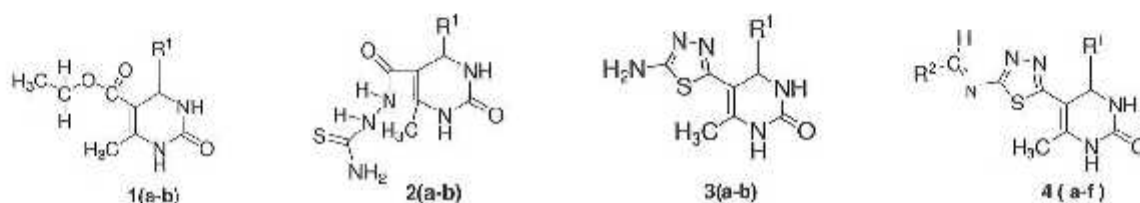


Dayanand Patil, Dattatray Chandani, Abhijeet Mulik, Prasad Patil, Suryabala Jagdale & Madhukar Deshmukh*

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551 Synthesis of novel Schiff bases and evaluation of their antimicrobial activities

The novel Schiff bases **4a-f** were synthesised from the corresponding dihydropyrimidinones **1a,b** by converting the dihydropyrimidinones to 1,3,4-thiadiazol-2-amine, **3a,b** via hydrazinecarbothioamide, **2a,b**. 1,3,4-Thiadiazol-2-amine, on condensation with various selected aromatic aldehydes furnished Schiff bases, **4a-f**.



4a, $R^1 = R^2 = C_6H_5$.

b, $R^1 = C_6H_5$, $R^2 = 4-CH_3.C_6H_4$.

c, $R^1 = C_6H_5$, $R^2 = 3-OH.C_6H_4$.

d, $R^1 = 4-CH_3.C_6H_4$, $R^2 = C_6H_5$.

e, $R^1 = R^2 = 4-CH_3.C_6H_4$.

f, $R^1 = 4-CH_3.C_6H_4$, $R^2 = 3-OH.C_6H_4$.

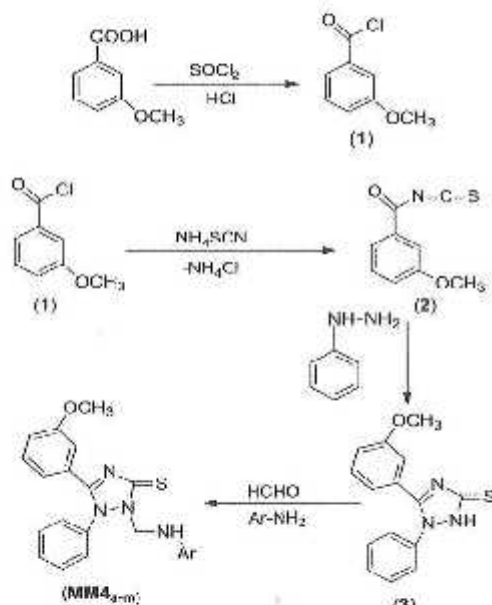
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556

Synthesis and biological screening of 1,2,4-triazole derivatives

A series of 2-((arylamino)methyl)-5-(3-methoxyphenyl)-1-phenyl-1*H*-1,2,4-triazole-3-thione derivatives have been synthesized and characterized by FT-IR, NMR, mass spectral and elemental analysis. Compounds **MM4_{a-m}** have been evaluated for their *in vitro* antibacterial, antifungal and antitubercular activity. Of all the compounds **MM4_d**, **MM4_e**, **MM4_j** and **MM4_k** show good antibacterial activity and **MM4_a**, **MM4_d**, **MM4_e** and **MM4_j** compounds have been found to possess good antitubercular activity.



Dinesh R Godhani*, Anand A Jogel, Anil M Sanghania & Jignasu P Mehta

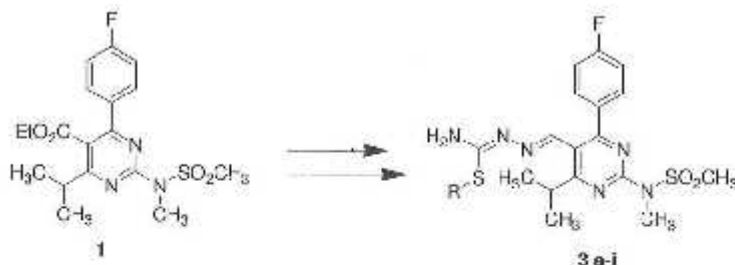
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Notes

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Synthesis and antimicrobial activity of new *S*-alkyl isothiosemicarbazone derivatives of pyrimidine

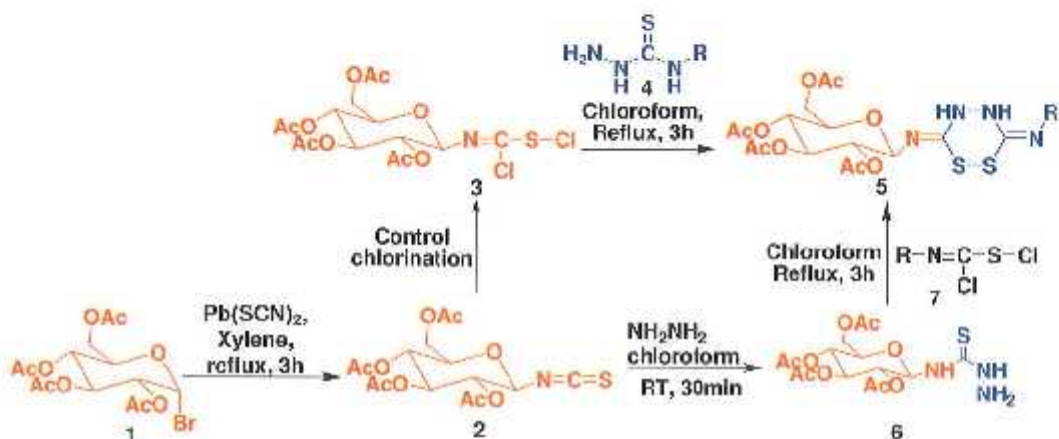
A series of *S*-alkyl isothiosemicarbazone derivatives of 2,4,6-trisubstituted pyrimidine are synthesized.



Hemant N Raundal, Rahul P Jadhav, Amar A Patil, Pravin C Mhaske & Vivek D Bobade*

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- 570 Sulfur-sulfur bond formation through cyclo condensation: Synthesis of some N-glucosylated dithiadiazines



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