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Graphical Abstract

Heterocyclic Letters 1: iss.-3, (2011), 197-204

Synthesis and hydrolysis of ethoxycarbonylmethyl and cyanoethyl 5-cyano-6-methylsulfanyl-1,4-dihydropyridine-3-carboxylates

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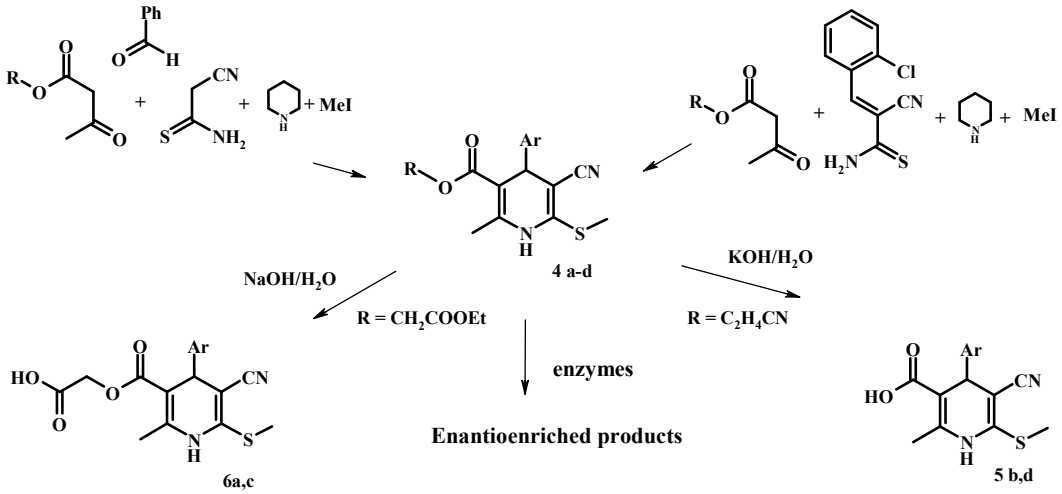
Ethoxycarbonylmethyl and 2-cyanoethyl 6-methylsulfanyl-1,4-dihydropyridine-3-carboxylates **4a-d** were synthesized by making use of three methods. 1,4-DHP-3-carboxylic acids **5b,d** and (1,4-DHP-3-carbonyloxy)acetic acids **6a,c** were prepared by basic hydrolysis of esters **4a-d**. Enzymatic hydrolysis of **4a,c** gave slightly enantioenriched products: both acids and remaining esters.



a) Ar = C_6H_5, R = CH_2COOEt; b) Ar = C_6H_5, R = C_2H_4CN;
c) Ar = 2-Cl-C_6H_4, R = CH_2COOEt; d) Ar = 2-Cl-C_6H_4, R = C_2H_4CN

Heterocyclic Letters 1: iss.-3, (2011), 205-211

Multi-Component One-Pot Synthesis Of New 3-Aryl-3,4-Dihydro-4-(3-Methyl-4-Nitro-5-Isoxazolyl)-Methyl-Benzo[*E*][1,3]-Oxazine-2-Ones

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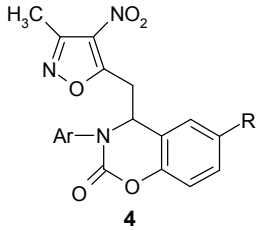
A three component one-pot protocol has been developed for the synthesis of new isoxazolyl-1,3-benzoxazine-2-ones from commercially available materials.



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Heterocyclic Letters 1: iss.-3, (2011), 213-219

Manganese perchlorate catalyzed efficient greener sonochemical synthesis of aryl-14-h-dibenzo [α,j] xanthenes and 4-substituted 2h-chromen-2-ones

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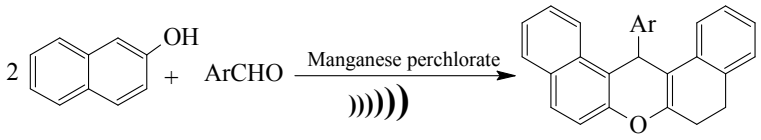
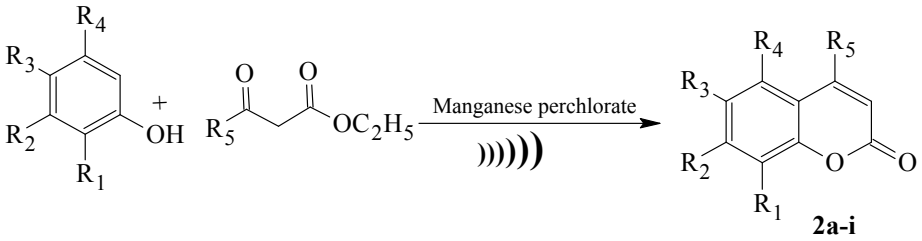
[2] Post Graduate Department of Chemistry, M. M. Modi College, Patiala. 147001 (Pb.) INDIA

Hydrated manganese perchlorate under ultrasonic irradiation is found to be an efficient, greener protocol for the synthesis of Aryl-14-H-dibenzo [α,j] xanthenes (Scheme-1) and 4-substituted 2H-Chromen-2-ones (Scheme-2).



Scheme-1



Scheme-2

Heterocyclic Letters 1: iss.-3, (2011), 221-226

Synthesis and therapeutic evaluation of some formazans as potential antimicrobial agents.

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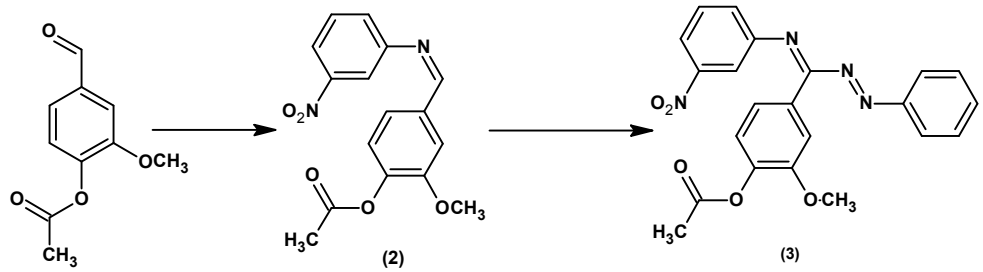
A new series of formazan was synthesized and evaluated for antifungal and antibacterial sensitivity. The reaction of 2-methoxy-4-{[(3-nitrophenyl) imino] methyl} phenol **(2)** with diazonium salt was carried out in pyridine. The antimicrobial activity of the synthesized target compounds **(3)** was evaluated by screening on different human bacterial and fungal pathogens using disc diffusion and broth dilution methods respectively. All the synthesized compounds exhibited considerable inhibition against the human pathogens tested.



Heterocyclic Letters 1: iss.-3, (2011), 227-233

Addition Reactions Upon 1,4-Dihydropyridines

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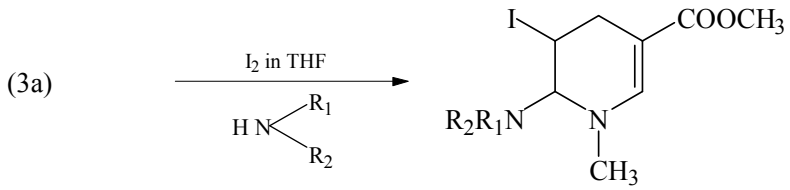
Addition of halonium ions followed by reaction nucleophiles (such as primary amines, secondary amines, sodium salts of methanol, ethanol and ethyleneglycol) upon N-methyl 1,4-dihydropyridines (3) resulting in interesting 2-substituted or 2,3-disubstituted tetrahydropyridines and some cyclic compounds.



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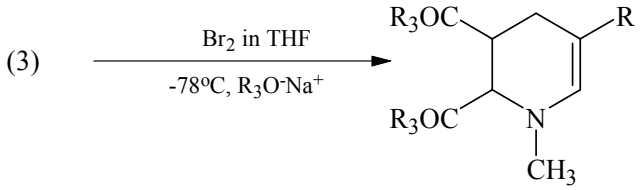

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Heterocyclic Letters 1: iss.-3, (2011), 235-240

Synthesis and microbial activity of novel chromenone Heterocycles bearing benzothiazole moiety

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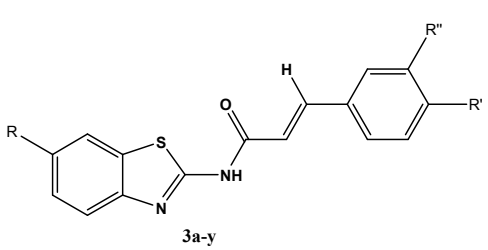
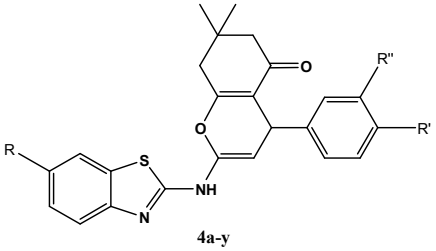
Chromenone Heterocycles bearing substituted benzthiazole groups have been synthesized *via* different synthetic practices. In present research work synthesis of the final Chromenone derivative was achieved in three steps: Acetylation of benzothiazole **1a-e** furnishes N-(benzo[d]thiazo-2-yl)acetamide **2a-e,**which on further condensation with substituted aromatic aldehydes yielded (E)-N-(benzo[d]thiazo-2-yl)cinnamide**3a-y.** The creation of final Chromenone derivative **4a-y** was carried out under Dean and Stark apparatus by cyclization of **3a-y** with Dimedone in presence of p-toluenesulphonic acid. Toluene used as a solvent in final step, was redistilled and used for the same reaction.



3a-y



4a-y

Heterocyclic Letters 1: iss.-3, (2011), 241-245

Synthesis of 2- (6 -chlorobenzothiazol-2'-yl amino) -4- (2-chloro-4-trifluoromethyl phenyl thioureido)-6-(substituted thioureido)-1,3,5-triazine as antifungal agents

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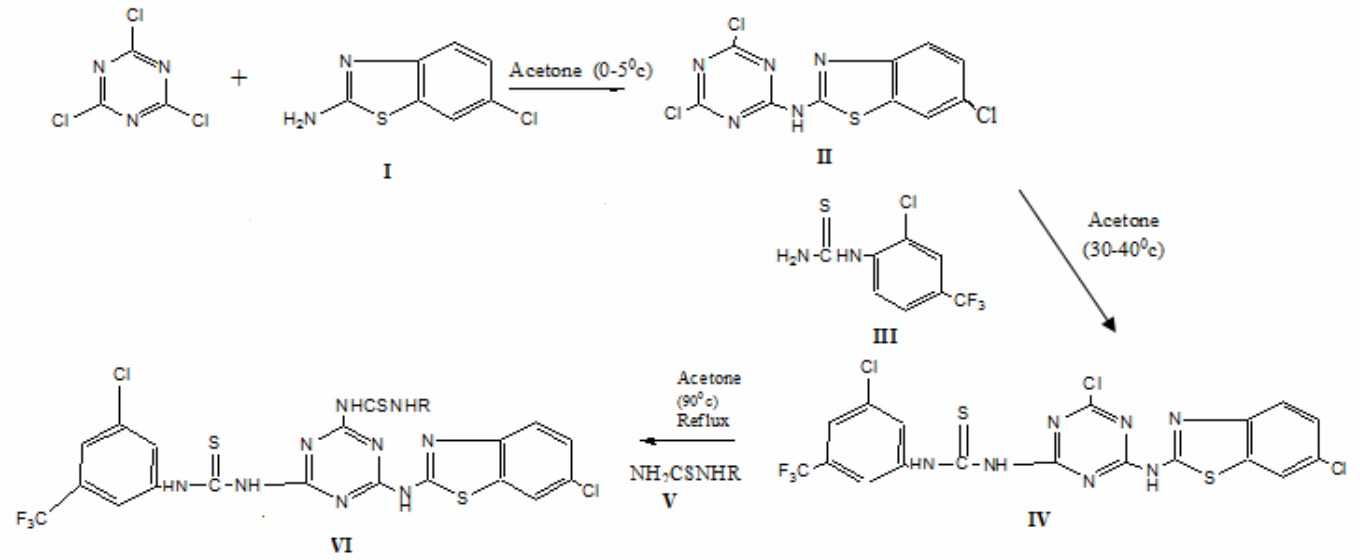
2,4, 6-Trichloro-1,3,5-triazine has been reacted selectively with nucleophilic reagents, 2-amino -6- chlorobenzothiazole **I**, and then the product **II** so obtained is reacted with 2-chloro -4- trifluoromethyl phenyl thiourea **III** to give **IV** and then **IV** is reacted with different substituted thioureas **V** to give 2-(6-chlorobenzothiazol - 2'-yl amino) -4- (2- chloro -4- trifluoromethyl phenyl thioureido) -6-(substituted thioureido)-1, 3, 5-triazine **VI**. These compounds are evaluated for their antifungal activity and shown promising results. The structures of all these compounds have been confirmed by IR, ^{1}HNMR, mass spectral data and elemental analysis.



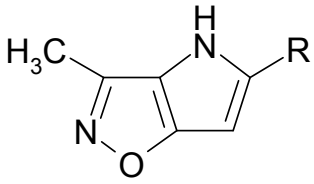
Heterocyclic Letters 1: iss.-3, (2011), 247-253

A Facile Synthesis Of New Pyrrolo [2,3-*D*] Isoxazoles By Unexpected Ring Opening Of Aziridines

E. Rajanarendar,* K. Rama Murthy, K. Govardhan Reddy, M. Nagi Reddy, S. RamaKrishna

Department of Chemistry, Kakatiya University, Warangal, 506 009, A.P, India.

Phosphomolybdic acid (PMA, $H_3PMo_{12}O_{40}$) is found to be an efficient catalyst for aziridation of aminostyrylisoxazoles in the presence of inexpensive Chloramine-T as a nitrogen source. The initially formed unisolated aziridine underwent unexpected ring opening by attack of amino nucleophile, leading to the formation of a new N-C bond, ultimately producing pyrrole ring to give title compounds.



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Heterocyclic Letters 1; iss.-3, (2011), 255-261

Synthesis of Pyrazolyl-1-4- Benzothiazine Derivatives.

Vijay V Dabholkar* and Rahul P Gavande.

Organic Research Laboratory, Department of Chemistry,
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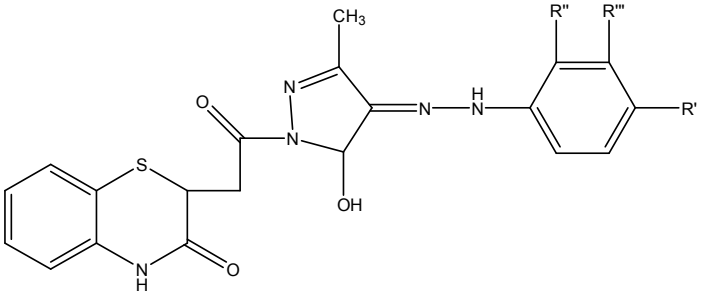

Heterocyclic Letters 1: iss.-3, (2011), 263-268

Application of Schotten-Baumann reaction: Synthesis of some tetrahydroquinoline-3-carbohydrazide derivatives.

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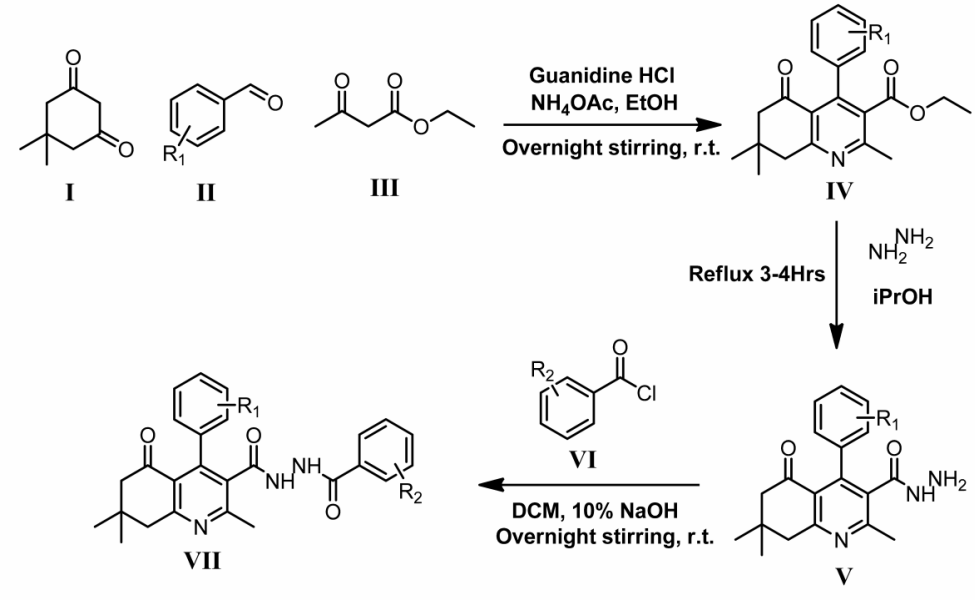
Application of Schotten-Baumann transformation use to achieve the aryl derivative of tetrahydroquinoline-3-carbohydrazide has been reported. The synthesized compounds have been characterized by their elemental analyses and spectral characteristics.



R_1 = 4-F/2-Cl, R_2 = H/4-NO_2/4-OCH_3

Heterocyclic Letters 1: iss.-3, (2011), 269-274

Ultrasound assisted efficient and greener one pot synthesis of aryl-14-H-dibenzo[a,j] xanthene derivatives

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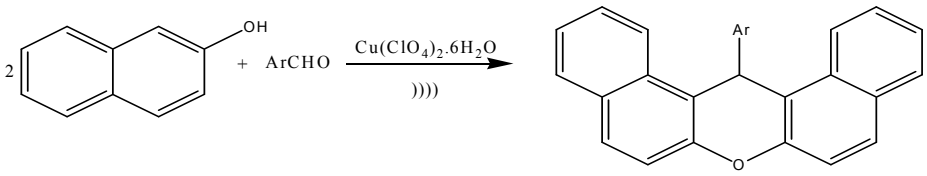
[2]Post Graduate dept. of chemistry, M.M. Modi College Patiala.
[3*]Department of Chemistry, Sant Longowal Institute of Engineering & Technology, Longowal-148106 (Pb.), India
Email: hk67@rediffmail.com

Aryl-14-H-dibenzo[a,j]xanthenes have been synthesized in high yields from the condensation of aryl aldehydes and 2-napthol in presence of copper perchlorate hexahydrate as catalyst at room temperature gives aryl-14-H-dibenzo[a,j]xanthenes with excellent yields under ultrasound irradiation (35 kHz).



Heterocyclic Letters 1: iss.-3, (2011), 275-279

Synthesis and biological evaluation of novel 1, 4-dihydropyridine derivatives

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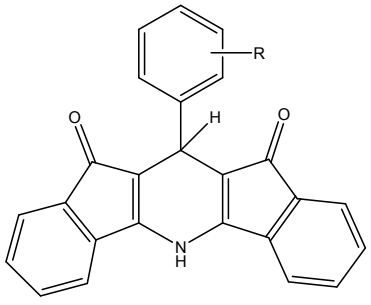
A new series of new1, 4-dihydropyridine and their derivatives have been synthesized and the structures of the compounds have been confirmed by IR and NMR. Representative compounds were screened for their anti-microbial activity against gram-negative bacteria, *E coli* and *P.aeruginosa* and gram-positive bacteria, *S aureus*, and *C diphtheriae* using disc diffusion method. Some of these compounds have been found to exhibit excellent antibacterial activity.



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