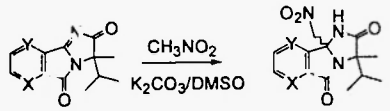
Graphical Abstract

Heterocycl. Commun. 6 (2006) 403-406

Condensation of tricyclic diones with methylnitronate anion

David A. Hunt
Department of Chemistry, The College of New Jersey, 2000 Pennington Road, Ewing, NJ 08628-0718

3-Isopropyl-3-methyl-9b-nitromethyl-1*H*,3*H*,9b*H*-imidazo-[1',2':1,2]-pyrrolo-[3,4-*b*]-pyridine-2,5-dione and 3-isopropyl-3-methyl-9b-nitromethyl-1*H*,3*H* 9b*H*-imidazo-[2,1-*a*]-isoindoline-2,5-dione are prepared in fair yields by addition of potassium methylnitronate to the azomethine linkage of the corresponding tricyclic precursors. A mechanistic rationale for the formation of the observed products is proposed.



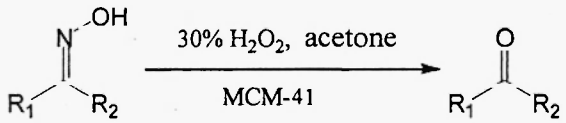
X=CH; Y=N
X=N; Y=CH
X=Y=CH

Heterocycl. Commun. 6 (2006) 407-410

Oxidative deoximation with H_2O_2 and MCM-41

N. Vijayakumari, B. Balakrishna Reddy and Lingaiah Nagarapu*
Organic Chemistry Division-II, Indian Institute of Chemical Technology, Hyderabad, India.

A simple and mild method of oxidative deoximation with 30% H_2O_2 and MCM-41 is described.

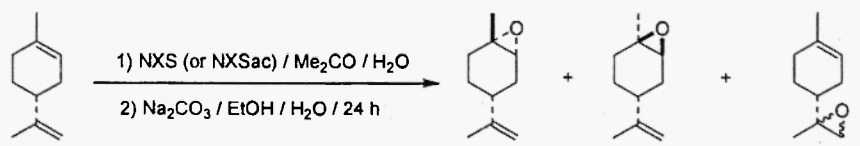


Heterocycl. Commun. 5 (2006) 411-414

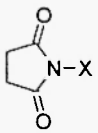
Studies on the cohalogenation of limonene with *N*-halosuccinimides and *n*-halosaccharins in water. A chemo- and stereoseletive preparation of (1*s*, 2*r*, 4*r*)-1,2-epoxylimonene

Marcio C.S. de Mattos* and Rafael Berrelho Bernini
Instituto de Química, Departamento de Química Orgânica, Universidade Federal do Rio de Janeiro, Caixa Postal 68545, 21945-970, Rio de Janeiro, Brazil.

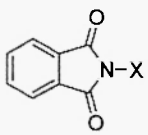
Cohalogenation of (*R*)-limonene with *N*-halosuccinimides and *N*-halosaccharins followed by base treatment (Na_2CO_3 / EtOH / H_2O) of the resulting halohydrins produced stereoselectively (1*S*, 2*R*, 4*R*)-1,2-epoxylimonene (*trans*-1,2-epoxylimonene). The best results were obtained with *N*-bromosuccinimide (54 % total yield).



Graph



NXS X = Cl (NCS)
Br (NBS)
I (NIS)



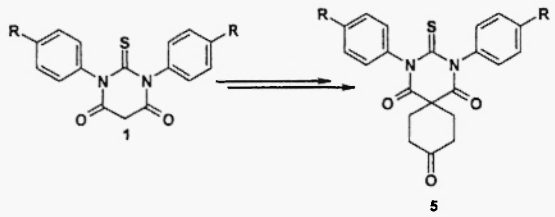
NXSac X = Cl (NCSac)
Br (NBSac)
I (NISac)

Heterocycl. Commun. 5 (2006) 415-418

Synthesis of novel spirothiobarbituric acid derivatives via regioselective michael addition

Madhukar S Chande* and Vijay Suryanarayan
Department of Chemistry, The Institute of Science, 15, Madam Cama Road, Mumbai 400032, India

The paper describes regioselective Michael addition of 1,3-diaryl thiobarbituric acid with acceptors like methyl acrylate and acrylonitrile. The Michael adducts thus obtained were utilized as key intermediates to synthesize novel spirocyclohexanone derivatives.

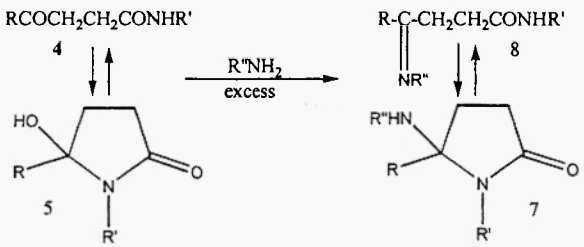


Heterocycl. Commun. 5 (2006) 419-422

Some observations concerning the tautomerization of γ-keto amides schiff bases to 2-aminopyrrolidin-5-ones

Georgia Tsolomiti, Kyriaki Tsolomiti and Athanase Tsolomitis*
The Laboratory of Organic Chemistry, The School of Chemical Engineering, The National Technical University of Athens, Athens 157 80, Greece.

Some preliminary results from the reactions of γ-keto amides of 4-oxo-5-phenylpentanoic and 4-oxopentanoic acids, or their tautomers (2-hydroxypyrrolidin-5-ones), with excess of primary amines, to the corresponding Schiff bases or their cyclic tautomers, 2-aminopyrrolidin-5-ones, are described here.

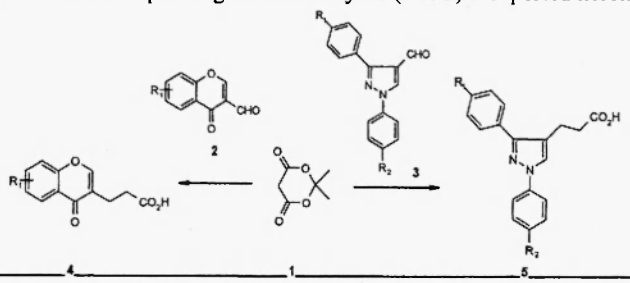


Heterocycl. Commun. 5 (2006) 423-426

A simple and rapid synthesis of 4*H*-4-oxo-1-benzopyran-3-yl and 1,3-diarylpyrazol-4-yl propanoic acids

G. Jagath Reddy * and K. Srinivasa Rao
R & D Laboratories, Dr. Jagath Reddy's Heterocyclics , 81, S.V.Co-op. Indl Estate, Balanagar, Hyderabad – 500 037, India
Md. Khalilullah, C. Thirupathaiah and D. Latha
Department of Chemistry, Jawaharlal Nehru Technological University, Hyderabad 500 072, India.

A simple and rapid synthesis of 4H-4-oxo-1-benzopyran-3-yl (**4a-h**) and 1,3-diarylpyrazol-4-yl propanoic acids (**5a-h**) using Meldrum's acid (**1**) from the corresponding carboxaldehydes (**2** & **3**) is reported herein.

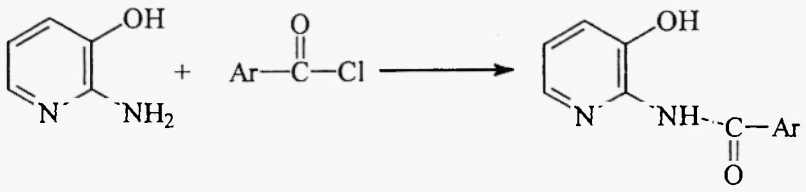


Heterocycl. Commun. 5 (2006) 427-430

Synthesis and antibacterial activity of some n-(3-hydroxy-2-pyridyl) benzamides

A. Mobinikhaledi*[1], N. Forughifar[1], S. M. Shariatzadeh[2] and M. Fallah[1]
1) Department of Chemistry, Faculty of Science, University of Arak, Dr. Beheshti Ave, Arak-Iran
2) Department of Biology, Faculty of Science, University of Arak, Dr. Beheshti Ave, Arak-Iran

N-(3-Hydroxy-2-pyridyl)benzamides **3(a-J)** were synthesized and the microbiological activity of them was tested in vitro against some bacterias.

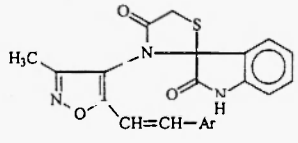


Heterocycl. Commun. 5 (2006) 431-436

Synthesis of some novel isoxazolyl-spiro-[3*H*-indole-3,2'-thiazolidine]-2,4'-(1*H*)-diones, [3*H*-indole-3,4'-azetidine]-2,2'-(1*H*)-diones and [3*H*-indole-3,5'-3'-phenyl-1',2',4'-oxadiazoline]-2(1*H*)-ones

E. Rajanarendar*, G. Mohan, P. Ramesh and E. Kalyan Rao
Department of Chemistry, Kakatiya University, Warangal – 506 009, India.

Condensation of 4-amino-3-melthyl-5-styrylisoxazoles **1** with different isatins **2** gives 3-(3-methyl-5-styryl-4-isoxazolylimino)-2-indolinones **3**. Cyclocondensation of **3** with mercaptoacetic acid and chloroacetyl chloride affords spiro thiazolidinones **4** and spiroazetidinones **5** respectively, while cycloaddition of **3** with benzo nitrileoxide leads to spiro 1,2,4-oxadiazolines **6**. The structures of the compounds **3-6** have been established on the basis of their elemental analyses and spectral (IR, ^{1}H NMR and mass) data.



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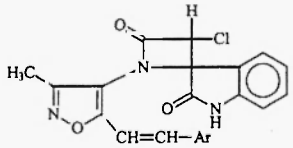

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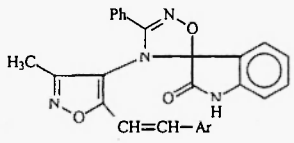


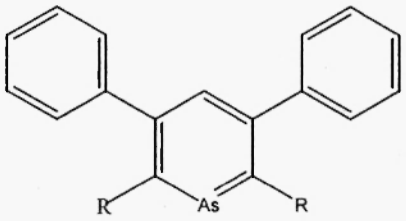
6

Heterocycl. Commun. 5 (2006) 437-442

Stability of arsinine

Roberto Salcedo* and Lioudmila Fomina.
Instituto de Investigaciones en Materiales, UNAM, Circuito Exterior s/n, Ciudad Universitaria, Coyoacan 04510, Mexico D.F.

The substitution of certain active groups in some positions of the arsinine ring are analyzed from a theoretical point of view. The results show it is possible to find stable arsinine analogues by raising the electronic flow in the ring and, more importantly, straining the ring in order to modify the C-As-C angle.

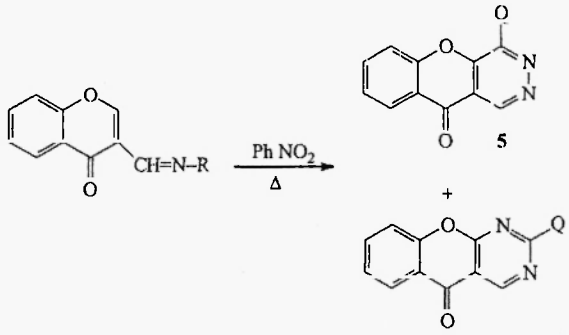


Heterocycl. Commun. 5 (2006) 443-448

Synthesis of novel heterocycles from 3-(3-alkyl-5-mercapto-1,2,4-triazolyliminomethyl) chromones.

Zeba N. Siddiqui*, Gulrana Khuwaja and M. Asad.
*Department of Chemistry, Aligarh Muslim University, Aligarh-202002

3- Formylchromone **1** reacts with 3- alkyl-4-amino-5-mercapto-1,2,4- triazole, **2a-2c** to give 3-(3-alkyl -5- mercapto–1,2,4-triazolyliminomethyl) chromones, **3a-3c**. On refluxing in nitrobenzene for 6 h, **3a-3c** afforded 2- (4-oxo-4H- [1] benzopyran-3-yl) [1] benzopyrano [3, 2-e] pyrimidin-5 (5H)- one **4** and 1- (4-oxo-4H- [1] benzopyran-3-yl) [1] benzopyrano [3,2-d] pyridazin-5 (5H)- one **5**. The compounds have been tested for their antibacterial and antifungal activities.



Q = Chromone unit[4]
R = 3-Alkyl-5-mercapto-1,2,4-triazole unit

Heterocycl. Commun. 5 (2006) 449-452

Synthesis and antibacterial activities of trans-1,2-bis [(3-aryl)-1,2,4-triazolo[3,4-*b*]-[1,3,4]thiadiazole-6-yl]ethenes

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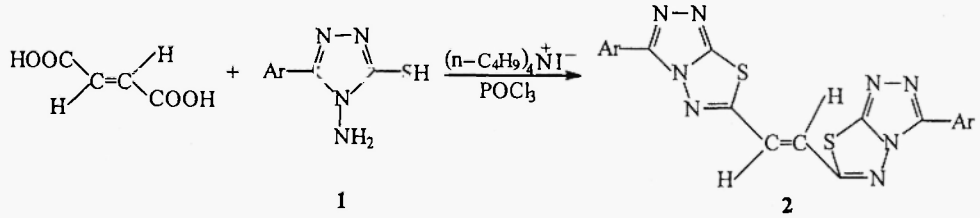
Department of Chemistry, Yunyang Teachers College, Danjiangkou, Hubei 442700, P. R. China [a] and Research Institute of Chemical Engineering, South China University of Technology, Guangzhou 510640, P. R. China [b]

A series of trans-1,2-bis[(3-aryl)-1,2,4-triazolo[3,4-*b*]-[1,3,4]thiadiazole-6-yl]ethenes were synthesized in high yields by reaction of 3-aryl-4-amino-5-mercapto-1,2,4-triazole with trans-butenedioic acid in the presence of $POCl_3$ and tetrabutylammonium iodide as catalyst. The newly synthesized compounds were characterized by elemental analysis, IR, ^{1}H NMR and MS. The preliminary antibacterial tests showed that most of them were effective against *S.aureus*, *E.coli* and *B.subtilis*.



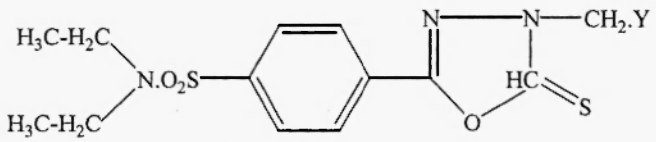
1 **2**

Heterocycl. Commun. 5 (2006) 453-456

Syntheses and biological activity of 2-(4'-diethylsulfonamide phenyl)-4-substituted aminomethyl- 1,3,4-oxadiazolin-5-thiones

Freddy H. Havaldar* and Navinchandra K. Khatri
Nadkarny-Sacasa Research Laboratory, Department of Chemistry, St. Xavier's College, Mumbai 400 001 India

4-(Chlorosulfonyl) benzoic acid was condensed with diethyl amine to afford 4-(diethylsulfamoyl) benzoic acid 1 which was esterified to obtain methyl ester 2. The condensation of compound 2 with hydrazine hydrate gave hydrazino derivative 3. This intermediate undergoes cyclization with carbon disulphide and potassium hydroxide to yield substituted 1,3,4-oxadiazolin-5-thione 4. Aminomethylation of 4 using different amines furnished 4-substituted aminomethyl-2-(4'-diethylsulphonamide phenyl)-1,3,4-oxadiazolin-5-thiones 5a-e. The structure of the newly synthesized compounds have been established by analytical and spectral data. These compounds have also been screened for their biological activity.



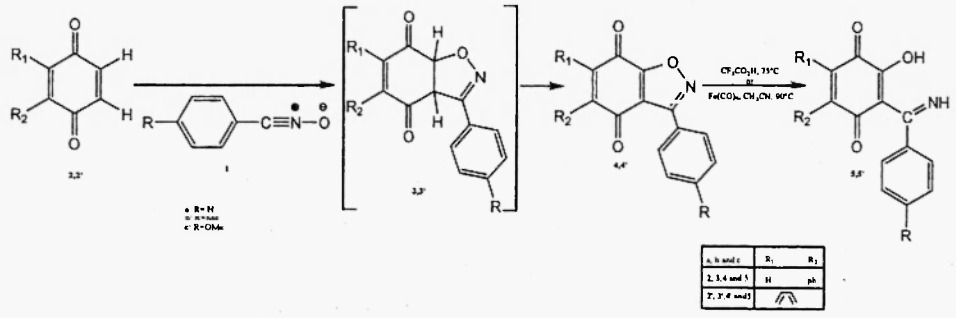
5a - e

Heterocycl. Commun. 5 (2006) 457-462

Synthesis and evolution of new isoxazolo-1,4-quinones of biologic interest

Naoufel BEN HAMADI and Moncef MSADDEK*
*Current Address: Laboratoire de Synthese Heterocyclique, Photochimie et Complexation. Departement de Chimie, Faculte des Sciences 5000 Monastir (Tunisie)

In the exploration of synthesis and chemistry of isoxazoles, we found that the reaction of aromatic nitrile oxides with the Quinone derivatives produced isoxazolo-1,4-quinones is of considerable biological interest. The reductive cleavage of the N-O bond gave arylimidoyl-3-hydroxy-1,4-quinones.

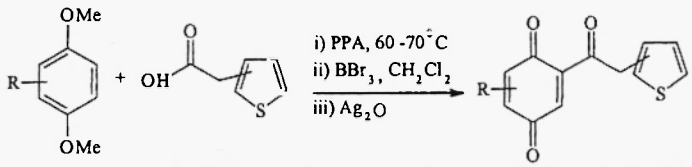


Heterocycl. Commun. 5 (2006) 463-466

Synthesis of thiophenoacetyl-1,4-benzoquinones

P. Khatri[a], Ignatious Abraham[a] P. Pardasani[a], R.T. Pardasani[a]*, and T. Mukherjee[b]
[a]Department of Chemistry, University of Rajasthan, Jaipur – 302004, India
[b]Chemistry Division, Bhabha Atomic Research Centre, Mumbai – 400085, India

Synthesis of thiophenoacetyl-1,4-benzoquinones from readily available starting materials is described. The new quinones have been characterized by spectral data.

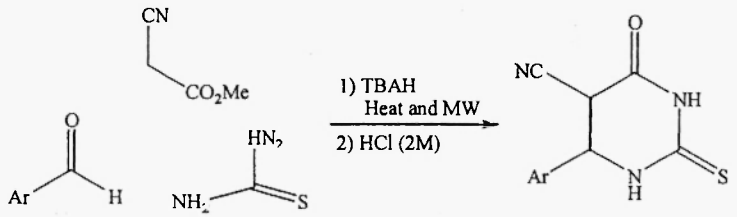


Heterocycl. Commun. 5 (2006) 467-472

An efficient one-pot synthesis of 6-aryl-5-cyano-2-thiopyrimidinone derivatives and their tetra-butyl ammonium ionic forms

Mahdieh Mohammadnejad, Morteza Bararjanian, and Saeed Balalaie*
Department of Chemistry , K.N.Toosi University of Technology, P.O.Box 15875-4416

Three-component condensation of benzaldehyde derivatives, methylcyanoacetate and thiourea in the presence of tetra-butyl ammonium hydroxide in reflux condition to afford the corresponding tetra-butyl ammonium 6-aryl-5-cyano-2-thiopyrimidonate ionic forms.These reactions were also carried out under microwave irradiation. The yields of products under the microwave condition were better as compared to the reflux media. The acidification of these ionic forms resulted 6-aryl-5-cyano-2-thiopyrimidone derivatives.

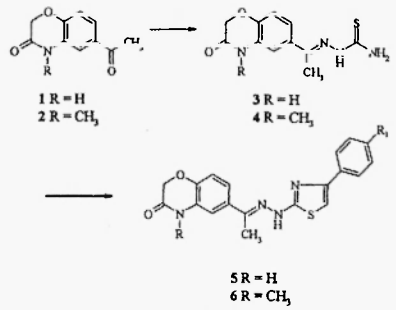


Heterocycl. Commun. 5 (2006) 473-476

Synthesis of some new 1-(3-oxo-1,4-benzoxazin-6-yl) ethanone (4-aryl-1,3-thiazol-2-yl) hydrazones

G. Jagath Reddy* and K. Srinivasa Rao
R & D Laboratories, Dr. Jagath Reddy's Heterocyclics, 81, S.V.Co-op Industrial Estate, Balanagar, Hyderabad 500 037, India
and
Md. Khalilullah and D. Latha
Department of Chemistry, Jawaharlal Nehru Technological University, Hyderabad 500 072, India

A series of some new 1-(3-oxo-1,4-benzoxazin-6-yl)ethanone (4-aryl-1,3-thiazol-2-yl)hydrazones (5 & 6) have been synthesized.

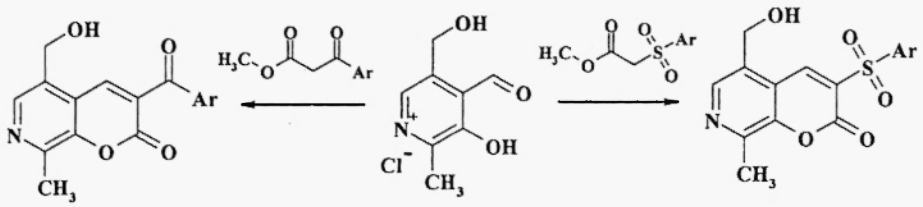


Heterocycl. Commun. 5 (2006) 477-480

Synthesis of new 3-substituted derivatives of 7-azacoumarines

Irina O. Zhuravel', Svitlana S. Kovalenko, Olexiy V. Silin and Sergiy M. Kovalenko
National Pharmaceutical University, 53, Pushkinska str., Kharkiv, Ukraine

New 3-arylsulfonyl/3-aroyl-5-hydroxymethyl-8-methyl-2*H*-pyrano[2,3-*c*]pyridin-2-ones were obtained by reaction of pyridoxal hydrochloride with methyl arylsulfonylacetate or methyl arylacetoacetate under



Heterocycl. Commun. 5 (2006) 481-484

Rediscovered synthesis of 3-cyanoquinoline derivatives

B.M. Kiran amd K.M. Mahadevan*
Department of Studies in Chemistry, Kuvempu University, Shankaraghatta-577451, Dist: Shimoga, Karnataka, India

The easy and rapid synthetic procedure for the synthesis of substituted 3-cyanoquinoline derivatives using available laboratory reagents is reported. Vilsmeier-Haack reaction is employed to the *p*-substituted aniline to yield formyl aniline. These on reaction with cyano ethylacetate and with malono nitrile in presence catalyst results in to 3-substituted quinolines.