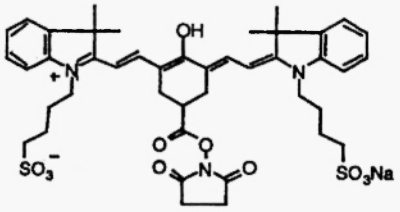
Graphical Abstracts

Heterocycl. Commun. **10** (2004) 381-382

SYNTHESIS OF A FUNCTIONALIZED CYANINE DYE FOR COVALENT LABELING OF BIOMOLECULES WITH A pH-SENSITIVE CHROMOPHORE

Lucjan Strekowski,* Christian C. Mason, Hyeran Lee and Gabor Patonay, Department of Chemistry, Georgia State University, Atlanta, Georgia 30303, USA



Hetcrocycl. Commun. **10** (2004) 383-388

A NEW TYPE OF WATER-SOLUBLE FLUORESCENT BORONIC ACID SUITABLE FOR CONSTRUCTION OF POLYBORONIC ACIDS FOR CARBOHYDRATE RECOGNITION

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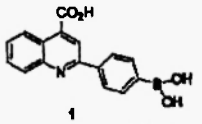
[‡]Department of Chemistry, 33 Gilmer St. S.E., Georgia State University, Atlanta, Georgia 30303, USA. E-mail: wang@gsu.edu, fax: (404) 654-5827



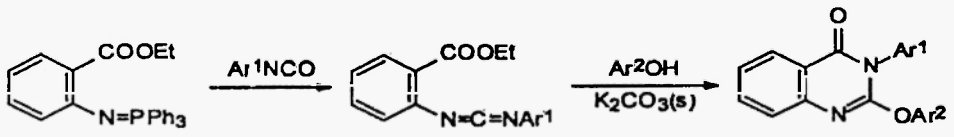
1

Boronic acid 1 with a quinoline moiety was found as a new type of fluorescent probe for carbohydrates, which shows significant fluorescence intensity increases upon sugar binding at physiological pH. This compound has the unique structural feature of separating the boronic acid moiety from the presumed fluorophore, and is ready for the construction of polyboronic acids through tethering to its carboxylic group for high selectivity and affinity recognition of carbohydrates of biological interest.

Heterocycl. Commun. **10** (2004) 389-392

NEW EFFICIENT SYNTHESIS OF 2-ARYLOXY-4(3*H*)-QUINAZOLINONES

Ming-Wu Ding*, Shang-Jun Yang, Bo-Qiao Fu
Institute of Organic Synthesis, Central China Normal University, Wuhan, 430079, P. R. China



Heterocycl. Commun. 10 (2004) 393-398

Studies on cephradine and its compounds with tin(II), lead(II), manganese(II) and iron(II)

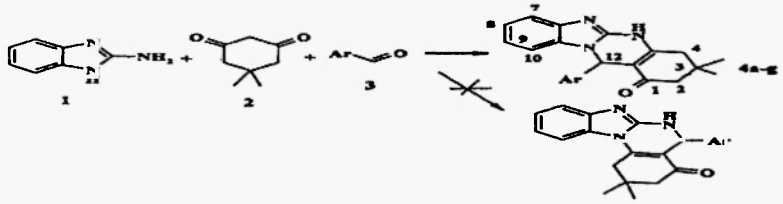
Ashu Chaudhary[a], Anita Phor[b], G.K. Agarwal[c] and R.V. Singh[a*]
[a]Department of Chemistry, University of Rajasthan, Jaipur – 302 004, India
[b]Hindu College Sonepat – 131 001, India
[c]Department of Chemistry, D.J. College, Baraut, Meerut-250611, India

Synthesis, spectroscopic elucidation and biological aspects of tin(II), lead(II), manganese(II) and iron(II) complexes of cephradine has been given. The complexes have been screened for their antibacterial activity against *Escherichia coli*, *Staphylococcus aureus* and *Pseudomonas aeruginosa* in details.

Heterocycl. Commun. 10 (2004) 399-404

Regioselective Three-component Synthesis of 12-Aryl-3,3-dimethyl- 3,4,5,12-tetrahydrobenzimidazo [2,1-b]quinazolin-1(2*H*)-ones

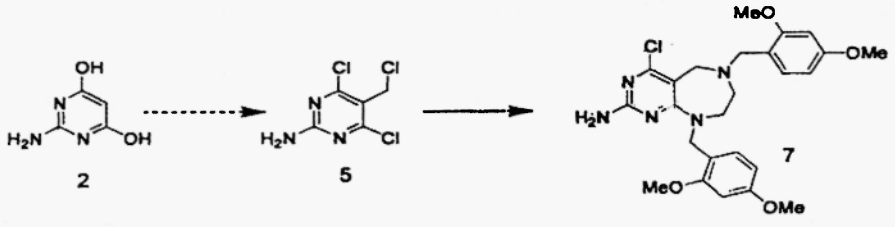
Braulio Insuasty,[a*] Angela Salcedo,[a] Jairo Quiroga,[a*] Rodrigo Abonía,[a] Manuel Nogueras,[b] Justo Cobo[b] and Sofía Salido[b]
[a]Grupo de Investigación de Compuestos Heterocíclicos, Department of Chemistry, Universidad del Valle, A. A. 25360, Cali – Colombia. [b]Department of Inorganic and Organic Chemistry, Universidad de Jaén, 23071 Jaén, Spain.



Heterocycl. Commun. 10 (2004) 405-406

SYNTHESIS OF 2-AMINO-4-CHLORO-6,9-BIS-(2,4-DIMETHOXYBENZYL)-6,7,8,9-TETRAHYDRO-5*H*-PYRIMIDO[4,5-*e*][1,4]DIAZEPINE: A POTENTIALLY USEFUL INTERMEDIATE TO PYRIMIDO-[4,5-*e*][1,4]DIAZEPINE-BASED FOLATES

Noah E. Huddleston, Jessica L. Harris, Hang L. Nguyen, and Partha S. Ray*
Department of Chemistry, State University of West Georgia, Carrollton, GA 30118, USA

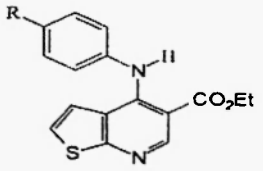


Heterocycl. Commun. **10** (2004) 407-410

SYNTHESIS AND ANTIVIRAL ACTIVITY OF NEW 4-(PHENYLAMINO)THIENO[2,3-*b*]PYRIDINE DERIVATIVES

Alice M. R. Bernardino; Luiz C. S. Pinheiro, Vitor Francisco Ferreira; Alexandre R. Azevedo; Jose W. de M. Carneiro; Thiago M. L. Souza and Izabel C. P. P. Frugulhetti
Universidade Federal Fluminense, Instituto de Química, Departamento de Química Orgânica, Programa de Pós-Graduação em Química Orgânica. Outeiro de S. João Batista, s/n°, Centro, Niteroi, CEP 24020-150, Rio de Janeiro, Brazil

Several new 4-(phenylamino)thieno[2,3-*b*]pyridines (**6a-e**) were synthesized and tested against herpes simplex virus type 1 (HSV-1). For the first time one compound (**6a**) of this heterocyclic system showed 86% of inhibitory indicating that these compounds retain antiviral potency in comparison to the parent pirazolo-pyridine derivatives.[5]



6a, R = H
6b, R= p-CH_3
6c, R= p-OCH_3
6d, R= p-F
6e, R= p-NO_2

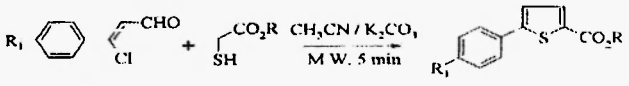
Heterocycl. Commun. **10** (2004) 411-414

MICROWAVE ASSISTED SYNTHESIS OF 5-ARYL-THIOPHENE-2-CARBOXYLATES

G. Jagath Reddy *, D. Latha, S. Sailaja, K. Pallavi and K. Srinivasa Rao

R & D Laboratories, Dr. Jagath Reddy's Heterocyclics, 81, S.V.Co-op Industrial Estate, Balanagar, Hyderabad – 500 037, India. e-mail-jagathreddy@usa.net; Fax # 91-40-23773487.

A simple and rapid method for the synthesis of 5-Aryl-thiophene-2-carboxylates **3** has been developed by the condensation of β-chlorovinyl aldehydes **1** with mercaptoacetic acid esters **2** under microwave irradiation conditions.



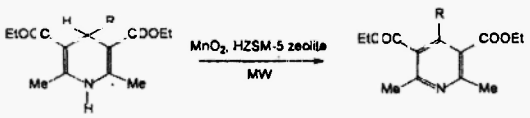
1 **2** **3**

Heterocycl. Commun. **10** (2004) 415-418

Manganese dioxide supported onto HZSM-5 Zeolite, A Versatile Reagent for the aromatization of Hantzsch 1,4-Dihydropyridines

M. M. Heravi,[a,*] F. S. Sh. Moosavi[a], Y. Sh. Beheshtiha[a] and M. Ghassemzadeh[b]
[a]Department of Chemistry, School of Sciences, Azzahra University, Vanak, Tehran, Iran
[b]Chemistry & Chemical Engineering Research Center of Iran, Tehran, Iran

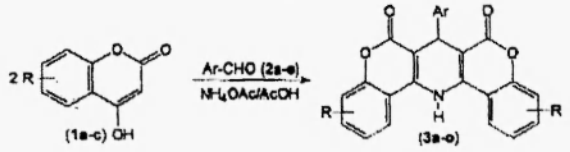
A general and practical route for the fast and high yield aromatization of 1,4-dihydropyridine using a relatively benign oxidant, manganese dioxide under classical heating and microwave irradiation is described.



Heterocycl. Commun. **10** (2004) 419-422

SYNTHESIS OF 4-ARYL-1,4-DIHYDRO DICOUMARINO[4,3-b;3',4'-e]PYRIDINES

D I Brahmbhatt*, Urvish R Pandya & G B Raolji

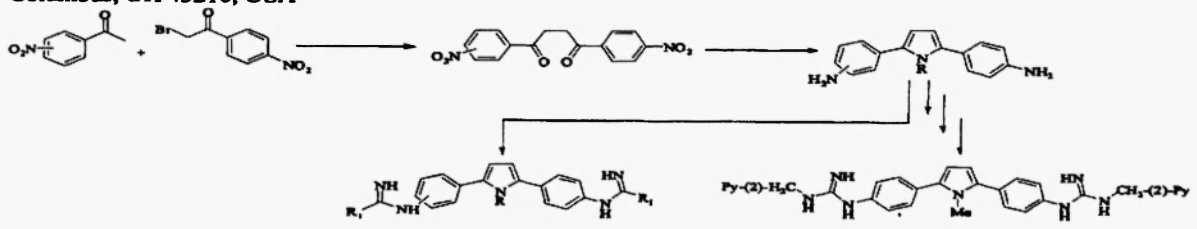


The title compounds **3a-o** have been synthesized by the Hantzsch reaction of 4-hydroxy coumarins **1a-c** and aromatic aldehydes **2a-e** in the presence of ammonium acetate in acetic acid.

Heterocycl. Commun. **10** (2004) 423-428

SYNTHESIS OF DICATIONIC 2,5-DIARYLPYRROLES

Reem K. Arafa[a], Reto Brun[b], Karl A. Werbovetz[c], W. David Wilson[a] and David W. Boykin[a]*
[a]Department of Chemistry, Georgia State University, Atlanta, GA 30303, USA
[b]Antiparasite Chemotherapy, Swiss Tropical Institute, Basel, Switzerland
[c]Divison of Medicinal Chemistry and Pharmacognosy, College of Pharmacy, The Ohio State University, Columbus, OH 43210, USA

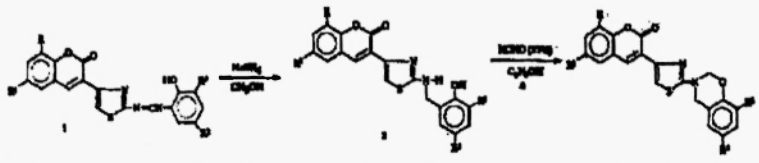


Heterocycl. Commun. **10** (2004) 429-434

FACILE SYNTHESIS OF SOME NEW 3-(2-1,3-BENZOXAZIN-3-YL)-4-THIAZOLYL COUMARINS

M. Madan Mohan Reddy and V. Rajeswar Rao*
Department of Chemistry, National Institute of Technology, Warangal - 506 004, A.P., India.

3-(2-Substituted benzalimino-4-thiozolyl)-coumarins (1) on reduction with $NaBH_4$ resulted in the formation of corresponding 3-(2-o-hydroxy benzyl hydrazino-4-thiazolyl)coumarins (2). These on condensation with formaldehyde gave the cycloproducts 3-(2-(1,3-benzoxazin-3-yl)-4-thiazolyl)coumarins (3).

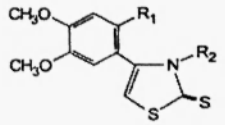


Heterocycl. Commun. **10** (2004) 435-440

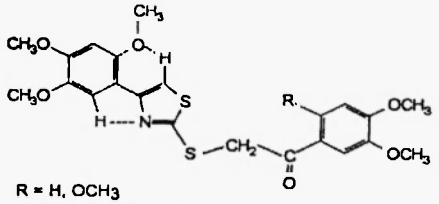
SYNTHESIS AND SPECTROSCOPY OF NEW 4-ARYL-2(3*H*)-THIAZOLETHIONES AND DERIVED THIAZOLES

F. Sanchez-Viesca* and Martha Berros

Faculty of Chemistry, Graduate Division. National Autonomous University of Mexico
University City. Mexico, D. F., 04510



R_1 = H, OCH_3, Cl
R_2 = H, CH_3



R = H, OCH_3
and structural isomer without hidrogen bonding

Heterocycl. Commun. **10** (2004) 441-446

Impact of microwave radiations on macrocyclization reactions: solvent free synthesis of 1,4-benzothiazin-3-one derivatives on basic alumina

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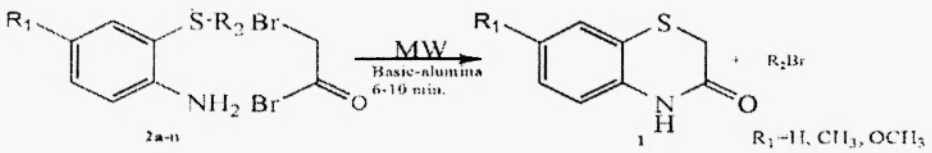
[a]Medicinal Chemistry Research Laboratory, Dr. B. R. Ambedkar Center for Biomedical Research, University of Delhi, Delhi, India.[b]Department of Radiopharmaceutical Chemistry, Institute of Nuclear Medicine and Allied Sciences, Delhi, India.

A rapid transformation of alkyl and arylalkyl amino phenyl thioethers (2-alkylsulphanyl-phenylamine) into 7-substituted 1,4-benzothiazines in presence of basic-alumina under solvent free conditions using microwave irradiation has been described. The specific microwave effects are due to increase in polarity during the course of reaction

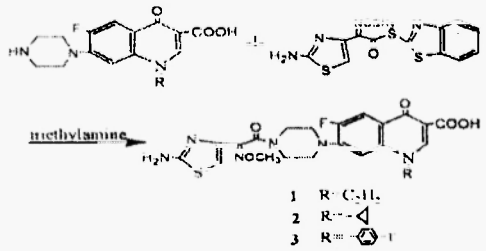


Heterocycl. Commun. **10** (2004) 447-450

Syntheses of novel fluoroquinolone compounds

Jianyong Li[a,b]*, Runhua Lu[a,c], Aimei Yang[b], Jiyu Zhang[b]

a *Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, P.R.China,*
b* *Lanzhou Institute of Animal and Pharmaceutical Veterinary Science, Chinese Academy of Agricultural Sciences, Lanzhou730050, P.R.China,*
c *Chengdu Institute of Biology, Chinese Academy of Sciences, Chengdu610046, P.R.China*



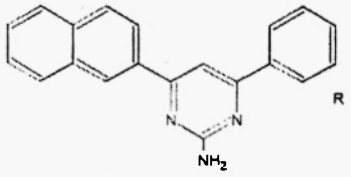
Scheme 1 Synthesis of 7-((4-acyl) piperazinyl)fluoro-quinolones (1, 2, 3). Reagents and conditions: (1) 95% ethyl acohol, triethylamine, 4h, (2)HCl (until PH=2-3), (3) DMF (recrystalized)

Heterocycl. Commun. **10** (2004) 451-456

SYNTHESIS AND ANTIBACTERIAL ACTIVITIES OF SOME 2-AMINO-4, 6-DIARYLPYRIMIDINES

T. Balasankar and S. Nagarajan*
Department of Chemistry, Annamalai University, Annamalainagar-608 002, India

A series of 2-aminopyrimidines have been prepared by the condensation of 1-(1,1'- biphenyl-4-yl)-3-arylprop-2-en-1-ones with guanidine-nitrate

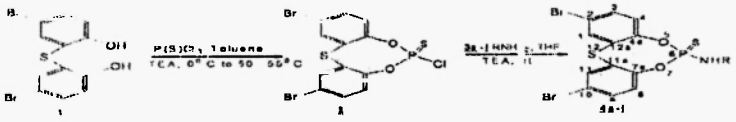


Heterocycl. Commun. **10** (2004) 457-464

Synthesis and Antimicrobial activity of 2, 10 - dibromo dibenzo [*d,g*] [1,3,6,2] dioxathiaphosphocin 6-sulfido-6-amino acid esters

P. Haranath, U. Anasuyamma, G. Syam Prasad, C. Naga Raju und C. Suresh Reddy* Department of Chemistry, Sri Venkateswara University, Tirupati-517 502, India.
csureshsvu@yahoo.com

The title compounds **4a-i** were synthesized by 5, 5'-dibromo -2, 2' - dihydroxy diphenyl sulfide **1** with thiophosphoryl chloride followed by addition of amino acid ester hydrochlorides **3a-i** in the presence of triethylamine in dry tetrahydrofuran.

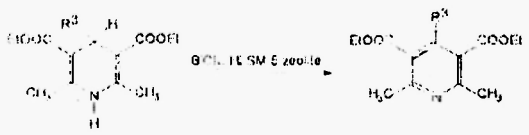


Heterocycl. Commun. **10** (2004) 465-468

Aromatization of Hantzsch 1,4-Dihydropyridine with Bismuth(III) Chloride Supported onto Wet HZSM-5 Zeolite under Microwave Irradiation in Solventless System

Majid M. Heravi* and Mitra Ghassemzadeh, Department of Chemistry, School of Sciences, Azzahra University, Vanak, Tehran, Iran; Chemistry & Chemical Engineering Research Center of Iran, Tehran, Iran

Hantzsch 1,4-dihydropyridines (1,4 DHP's) can be aromatized to pyridines by bismuth(III) chloride supported onto wet HZSM-5 zeolite under microwave irradiation in high yields and short time.

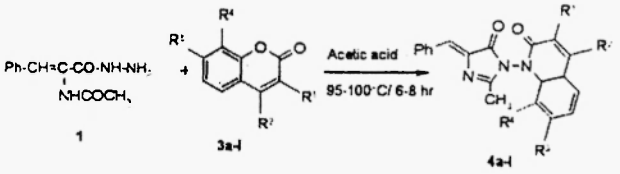


Heterocycl. Commun. **10** (2004) 469-474

Synthesis of New Aryl Imidazole Quinoline-2-Ones

G V Parakala Rao, B Rajitha, Y. Thirupathi Reddy and P. Narsimha Reddy
Department of Chemistry, National Institute of Technology, Warangal-506004 (A P) India.

A new class of aryl imidazole quinoline-2-ones were synthesized



Heterocycl. Commun. **10** (2004) 475-478

An efficient and facile synthesis of substituted 3-aminocoumarins under MW irradiation in dry media

H. Valizadeh [1,*] and A. Shockravi [2]
[1]Department of Chemistry, Faculty of Science, Tarbiat-Moallem University of Azarbaydjan, P. O. Box 53714-161, Tabriz, Iran.

A variety of 3-aminocoumarins were prepared by reaction of salicylaldehyde derivatives with benzoylglycine catalyzed by piperidine under microwave irradiation (MWI) and subsequent acid hydrolysis.