Synthesis and Antioxidant and Antitumor Activity of Novel Pyridine, Chromene, Thiophene and Thiazole Derivatives

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Abstract

2-Tosylacetonitrile (1) when reacted with a,beta-unsaturated nitriles 2ac or a mixture of formaldehyde and 3-amino-2-substituted-pent-2-endinitriles 6a,b yielded pyridine derivatives 3ac and 9a,b, respectively, while when subjected to react with salicylaldehyde yielded chromene derivatives 4 and 5, subsequently. The behavior of thiocarbamoyl derivative 10 derived from 1 towards some a-halogenated compounds have been investigated as well as its behavior towards elemental sulfur and phenyl isothiocyanate. Newly synthesized compounds were screened for their antioxidant activity, erythrocytes haemolysis and bleomycin-independent DNA damage. Some of the tested compounds exhibited promising activities.

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References

1-A. Santovito, P. Cervella, M. Delpero, Arch. Toxicol. 2011, 85, 689– 693; M. S. Kim, M. K. Kim, C. J. Lee, Y. M. Jung, M. S. Lee, Bull. Korean Chem. Soc. 2009, 30, 2930–2934; G. Lima, F. De Curtis, D. Piedimonte, A. M. Spina, V. De Cicco, Postharvest Biology & Tech. 2006, 40, 301– 307.

2-*P. M. Allen, D. Gottlieb, Appl. Microbiol. 1970, 20, 919– 926.*

3 -*A. A. Fadda, F. M. Abdel Razek, Kh. Samir, H. M. Mostafa, H. A. Etman, Eur. J. Chem. 2010, 1, 90– 95.*

4-A. A. Fadda, S. Bondock, H. A. Etman, R. Rabie, Eur. J. Med. Chem. 2008, 43, 2122– 2129.

5 -*A. A. Fadda, M. Hammoda, E. A. Afsah, A. A. Hanash, Phosphorous, Sulfur and Silicon 2010, 185, 433– 446.*

6 -*A. A. Fadda, S. Bondock, T. Abdel Gaber, Arkivoc 2011, ii, 227– 239.*

7 - *S. Bondock, W. Khalifa, A. A. Fadda, Eur. J. Med. Chem. 2011, 46, 2555– 2561.*

8 - *F. M. Abdelrazek, A. A. Fadda, A. N. Elsayed, Synth. Commun. 2011, 41, 1119– 1126.*

9 - *A. A. Fadda, E. H. E. Youssif, Synth. Commun. 2011, 41, 677– 694.*

10 - *A. A. Fadda, S. Bondock, T. Abdel-Gaber, Curr. Org. Chem. 2011, 15, 753– 781.*

11 - *L. Fuentes, J. J. Vaquero, M. I. Ardid, J. C. Del Castillo, J. L. Soto, Synthesis 1984, 1984, 768– 770.*

12 -*A. A. Fadda, H. M. Rafat, Monat. Chem. 1999, 130, 1487– 1492.*

13- A. A. Fadda, F. A. Amer, M. E. A. Zaki, Kh. Samir, Chem. Heterocycl. Comp. 2003, 9, 1413– 1419.

14 -*A. A. Fadda, E. Abdel-Latif, R. E. El-Mekway, Phosphorous, Sulfur and Silicon 2008, 183, 1940– 1953.*

15-R. B. Rao, S. R. J. Singh, Indian Chem. Soc. 1973, 50, 492.

16 - *P. N. Bhargava, S. C. Sharma, Bull. Chem. Soc. 1962, 35, 1926.*

17 - *S. K. Mallick, A. R. Martin, R. G. Lingard, J. Med. Chem. 1971, 14, 528– 532.*

18 - *S. R. Singh, J. Indian Chem. Soc. 1975, 52, 734.*

19 - *A. Hantzsch, H. J. Ber. Chem. 1887, 20, 3118– 3132.*

20-*E. A. Lissi, B. Modak, R. Torres, J. Esocbar, A. Urzua, Free Radical Res. 1999, 30, 471– 477.*

21 –*J. Gutteridge, D. Rowley, B. Halliwel, Biochem. J. 1981, 199, 263– 265.*

22 B. F. Abdel-Wahab, A. A. S. El-Ahl, F. A. Badria, Chem. Pharm. Bull. 2009, 57, 1348– 1351.

Synthesis of Some New Naphthopyran, Pyrazole, Pyridine, and Thienobenzochromene Derivatives Using 1-(1-Hydroxy-2-naphthyl) Ethanone as a Versatile Starting Material

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Abstract

Treatment of the enaminone 2, prepared from 1-(1-hydroxy-2-naphthyl)ethanone 1 and N,N-dimethylformamide dimethylacetal with acetic acid, thionyl chloride, or bromine, gave the corresponding 4-oxo-4H-naphtho[1,2-b]pyran derivatives 3, 4, and 5. Refluxing of p-toluidine or p-anisidine with 2 afforded compounds 6 and 7, respectively. The naphtho[1,2-b]pyran-3-carbaldehyde 9 was prepared via the acetylation of 2. Condensation of 9 with malononitrile or ethyl cyanoacetate gave the pyridine derivatives 10 and 11. Refluxing of 9 with hydrazine hydrate, phenylhydrazine, semicarbazide hydrochloride, or thiosemicarbazide afforded the pyrazole derivatives 12, 13, 14, and 15 respectively. Reaction of ethanone 1 with malononitrile gave the chromene carbonitrile derivative 16. Treatment of 16 with malononitrile afforded the chromene malononitrile derivative 17. Also, compound 17 was obtained from the reaction of 1 with excess of malononitrile and catalytic piperidine. Treatment of 16 with ethyl cyanoacetate produced compound 18. When 16 was treated with elemental sulfur, theino[3,4-c]benzochromene derivative 19 was produced. Hydrolysis of 16 with hydrochloric acid yielded the benzochromene carbonitrile derivative 20 which on heating with elemental sulfur afforded the theinobenzochromene derivative 21. Treatment of 21 with acetic anhydride, p-chlorobenzaldehyde, phenyl isothiocyanate, or thionylchloride furnished compounds 22, 23, 24, and 25, respectively.

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1.Title: HYPOCHOLESTEROLEMIC EFFECT OF KHELLIN AND METHOXSALEN IN MALE ALBINO-RATS

Author(s): ELNASER, H; GHAFFAR, EA; MAHMOUD, SS

Source: ARZNEIMITTEL-FORSCHUNG/DRUG RESEARCH Volume: 42-1 Issue: 2 Pages: 140-142 Published: FEB 1992

2. Title: NEW AND EFFICIENT SYNTHESIS OF 3-HALOGENATED 4H-1-BENZOPYRAN-4-ONES

Author(s): GAMMILL, RB

Source: SYNTHESIS-STUTTGART Issue: 11 Pages: 901-903 Published: 1979

3. Title: TOTAL SYNTHESIS OF THE LIPID-ALTERING AND ANTI-ATHEROSCLEROTIC FUROCHROMONE KHELLIN - THE FUROIC ACID ROUTE TO HIGHLY FUNCTIONALIZED BENZOFURANS

Author(s): GAMMILL, RB; HYDE, BR

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 48 Issue: 21 Pages: 3863-3865 DOI: 10.1021/jo00169a069 Published: 1983

4. Title: SYNTHESIS OF SOME COUMARIN DERIVATIVES AND THEIR ANTIMICROBIAL ACTIVITY

Author(s): HISHMAT O H; MIKY J A A; FARRAG A A; et al.

Source: Archives of Pharmacal Research (Seoul) Volume: 12 Issue: 3 Pages: 181-185 DOI: 10.1007/BF02855551 Published: 1989

5. Title: BENZODIPYRANS OF EXPECTED BIOLOGICAL-ACTIVITY

Author(s): HISHMAT, OH; KHALIL, KHM; GALIL, FMA; et al.

Source: PHARMAZIE Volume: 44 Issue: 11 Pages: 793-794 Published: NOV 1989

6. Title: PREPARATION OF SULPHINYLHYDRAZIDES AND THEIR CONVERSION INTO CARBOXYLIC ACIDS AND CARBOXYLIC ACID DERIVATIVES

Author(s): HOPE, P; WILES, LA

Source: JOURNAL OF THE CHEMICAL SOCIETY Issue: OCT Pages: 5386-& DOI: 10.1039/jr9650005386 Published: 1965

7. Title: [not available]

Author(s): KANDIL A

Source: J DRUG RES Volume: 9 Pages: 195 Published: 1977

8. Title: [not available]

Author(s): KREZE G

Source: CHEM BER Volume: 98 Pages: 3401 Published: 1965

9. Title: NOVEL 2 STEP SYNTHESIS OF PYRAZOLES AND ISOXAZOLES FROM ARYL METHYL KETONES

Author(s): LIN, YI; LANG, SA

Source: JOURNAL OF HETEROCYCLIC CHEMISTRY Volume: 14 Issue: 2 Pages: 345-347 Published: 1977

10. Title: [not available]

Author(s): MANDOUR AH

Source: AFINIDAD Volume: 59 Pages: 497 Published: 2002

11. Title: ACTIVE OXYGEN FORMS IN PHOTOREACTION BETWEEN DNA AND FURANOCHROMONES KHELLIN AND VISNAGIN (View record in MEDLINE)

Author(s): MARTELLI, P; BOVALINI, L; FERRI, S; et al.

Source: FEBS LETTERS Volume: 189 Issue: 2 Pages: 255-257 DOI: 10.1016/0014-5793(85)81034-6 Published: 1985

12. Title: [not available]

Author(s): MICKY JAA

Source: NAT PROD SCI Volume: 3 Pages: 273 Published: 1997

13. Title: EFFECTS OF VARIOUS CORONARY VASODILATORS ON MYOCARDIAL OXYGEN-CONSUMPTION (View record in MEDLINE)

Author(s): OGURO, K; KUBOTA, K; KIMURA, T; et al.

Source: JAPANESE JOURNAL OF PHARMACOLOGY Volume: 23 Issue: 4 Pages: 459-

466 DOI: 10.1254/jjp.23.459 Published: 1973

14. Title: QUANTITATIVE AND COMPARATIVE STUDIES OF PHARMACOLOGICAL FEATURES IN CORONARY, FEMORAL AND RENAL CIRCULATIONS WITH DIFFERENT CORONARY VASODILATORS (View record in MEDLINE)

Author(s): OGURO, K; HASHIMOT.K

Source: JAPANESE JOURNAL OF PHARMACOLOGY Volume: 24 Issue: 2 Pages: 227-233 DOI: 10.1254/jjp.24.227 Published: 1974

15. Title: Microwave assisted synthesis of 1-aryl-3-dimethylaminoprop-2-enones: A simple and rapid access to 3(5)-arylpyrazoles

Author(s): Pleier, AK; Glas, H; Grosche, M; et al.

Source: SYNTHESIS-STUTTGART Issue: 1 Pages: 55-62 Published: JAN 2001

16. Title: [not available]

Author(s): RUSCHIG H

Source: GER OFFER Volume: 2 Pages: 597 Published: 1972

17. Title: [not available]

Author(s): SALEH NM

Source: ALAZHAR B SCI Volume: 10 Pages: 625 Published: 1999

18. Title: HYPOCHOLESTEROLEMIC EFFECT OF KHELLIN AND KHELLOSIDE IN FEMALE CYNOMOLGUS MONKEYS (View record in MEDLINE)

Author(s): STEVENS, TJ; JONES, BW; VIDMAR, TJ; et al.

Source: ARZNEIMITTEL-FORSCHUNG/DRUG RESEARCH Volume: 35-2 Issue: 8 Pages: 1257-1260 Published: 1985

19. Title: EVALUATION OF TIMEFURONE, A NEW ANTI-ATHEROSCLEROTIC DRUG, FOR ITS EFFECTS ON LIPOPROTEIN CHOLESTEROL IN MALE CYNOMOLGUS MONKEYS FED AN ATHEROGENIC DIET FOR 18 MONTHS (View record in MEDLINE)

Author(s): STEVENS, TJ; VIDMAR, TJ; DAY, CE

Source: ATHEROSCLEROSIS Volume: 56 Issue: 3 Pages: 301-311 DOI: 10.1016/0021-9150(85)90005-X Published: 1985

20. Title: EVALUATION OF TIMEFURONE, A NEW ANTI-ATHEROSCLEROTIC DRUG, FOR ITS EFFECTS ON LIPOPROTEIN CHOLESTEROL IN MALE SEA JAPANESE QUAIL AND

RATS (View record in MEDLINE)

Author(s): STEVENS, TJ; SCHURR, PE; GAMMILL, RB; et al.

Source: ATHEROSCLEROSIS Volume: 56 Issue: 3 Pages: 313-321 DOI: 10.1016/0021-9150(85)90006-1 Published: 1985

21. Title: SYNTHESIS OF KHELLIN AND ITS ANALOGS VIA CHROMIUM CARBENE COMPLEXES

Author(s): YAMASHITA, A; TOY, A; SCAHILL, TA

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 54 Issue: 15 Pages: 3625-3634 DOI: 10.1021/jo00276a024 Published: JUL 21 1989

22. Title: [not available]

Author(s): YOKEO I

Source: CHEM PHARM BULL Volume: 42 Pages: 1697 Published: 1994

23. Title: [not available]

Author(s): ZOHAIR MMY

Source: EGYPT J CHEM Volume: 27 Pages: 399 Published: 1985

One-Pot Three-Component Synthesis of beta-Acylaminoketones Containing a Thiophene Ring by the Use of Tetrachlorosilane-Zinc Chloride as a Binary Reagent Under Ambient Conditions

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Abstract

A new route for the synthesis of -acylaminoketones containing a thiophene ring through multicomponent condensation reaction of different ketones, different aldehydes, and different nitriles with tetrachlorosilane (TCS) and zinc chloride as the binary reagent is described.

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REFERENCES:

1. Title: Silicon tetrachloride in organic synthesis: new applications for the vinylogous aldol reaction

Author(s): Acocella, MR; De Rosa, M; Massa, A; et al.

Source: TETRAHEDRON Volume: 61 Issue: 16 Pages: 4091-4097 DOI:

10.1016/j.tet.2005.02.020 Published: APR 18 2005

2. Title: REAGENTS AND SYNTHETIC METHODS .59. IODOTRIMETHYLSILANE MEDIATED ALDOL TYPE CONDENSATION BETWEEN TRIALKYLSILYL ENOL ETHERS AND TRIMETHYLSILYL HALOHYDRINS

Author(s): AIZPURUA, JM; PALOMO, C

Source: ANALES DE QUIMICA SERIE C-QUIMICA ORGANICA Y BIOQUIMICA Volume: 83 Issue: 1 Pages: 121-123 Published: JAN-APR 1987

3. Title: Multiple-component condensation strategies for combinatorial library synthesis

Author(s): Armstrong, RW; Combs, AP; Tempest, PA; et al.

Source: ACCOUNTS OF CHEMICAL RESEARCH Volume: 29 Issue: 3 Pages: 123-131 DOI: 10.1021/ar9502083 Published: MAR 1996

4. Title: Montmorillonite K10 clay: An efficient catalyst for the one-pot stereoselective synthesis of beta-acetanxido ketones

Author(s): Bahulayan, D; Das, SK; Iqbal, J

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 68 Issue: 14 Pages: 5735-5738 DOI: 10.1021/jo020734p Published: JUL 11 2003

5. Title: 1,3-AMINO ALCOHOLS FROM 4-AMINO-1-AZA DIENES - DIASTEREOSELECTIVE AND ENANTIOSELECTIVE APPROACH TO THE 4 DIASTEREOISOMERS OF THE N-TERMINAL AMINO-ACID COMPONENT OF NIKKOMYCIN-B AND NIKKOMYCIN-B(X)

Author(s): BARLUENGA, J; VIADO, AL; AGUILAR, E; et al.

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 58 Issue: 22 Pages: 5972-5975 DOI: 10.1021/jo00074a024 Published: OCT 22 1993

6. Title: COBALT-CATALYZED 3-COMPONENT COUPLING INVOLVING KETONES OR KETOESTERS, ALDEHYDES AND ACETONITRILE - A NOVEL ONE-POT SYNTHESIS OF BETA-ACETAMIDO KETONES

Author(s): BHATIA, B; REDDY, MM; IQBAL, J

Source: JOURNAL OF THE CHEMICAL SOCIETY-CHEMICAL COMMUNICATIONS Issue: 6 Pages: 713-714 DOI: 10.1039/c39940000713 Published: MAR 21 1994

7. Title: THE DAKIN-WEST REACTION

Author(s): BUCHANAN, GL

Source: CHEMICAL SOCIETY REVIEWS Volume: 17 Issue: 2 Pages: 91-109 DOI: 10.1039/cs9881700091 Published: JUN 1988

8. Title: FIRST APPLICATION OF THE DAKIN-WEST REACTION TO FMOC CHEMISTRY - SYNTHESIS OF THE KETOMETHYLENE TRIPEPTIDE FMOC-N-ALPHA-ASP(TBU)-(R,S)TYR(TBU)PSI(CO-CH2)GLY-OH

Author(s): CASIMIR, JR; TURETTA, C; ETTOUATI, L; et al.

Source: TETRAHEDRON LETTERS Volume: 36 Issue: 27 Pages: 4797-4800 DOI: 10.1016/0040-4039(95)00869-E Published: JUL 3 1995

9. Title: INFRARED SPECTRA OF XANTHONE - LEWIS ACID COMPLEXES

Author(s): COOK, D

Source: CANADIAN JOURNAL OF CHEMISTRY-REVUE CANADIENNE DE CHIMIE Volume: 41 Issue: 2 Pages: 522-& DOI: 10.1139/v63-072 Published: 1963

10. Title: [not available]

Author(s): Dahn, U.; Hagenmaier, H.; Hohne, H.; et al; Konig, W.A.; Wolf, G.; Zohner, H.

Source: Arch. Microbiol. Volume: 107 Pages: 249 Published: 1976

11. Title: A general reaction of amino acids. II.

Author(s): Dakin, HD; West, R

Source: JOURNAL OF BIOLOGICAL CHEMISTRY Volume: 78 Issue: 3 Pages: 745-756 Published: AUG 1928

12. Title: Lewis base activation of Lewis acids: Catalytic, enantioselective addition of silyl ketene acetals to aldehydes

Author(s): Denmark, SE; Beutner, GL; Wynn, T; et al.

Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY Volume: 127 Issue: 11 Pages: 3774-3789 DOI: 10.1021/ja047339w Published: MAR 23 2005

13. Title: Catalytic, enantioselective alpha-additions of isocyanides: Lewis base catalyzed Passerini-type reactions

Author(s): Denmark, SE; Fan, Y

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 70 Issue: 24 Pages: 9667-9676 DOI: 10.1021/jo050549m Published: NOV 25 2005

14. Title: Lewis base activation of Lewis acids. Catalytic enantioselective addition of silyl enol ethers of achiral methyl ketones to aldehydes

Author(s): Denmark, SE; Heemstra, JR

Source: ORGANIC LETTERS Volume: 5 Issue: 13 Pages: 2303-2306 DOI:

10.1021/ol034641l Published: JUN 26 2003

15. Title: [not available]

Author(s): Doming, A.; Ugi, I.

Source: Angew. Chem., Int. Ed. Volume: 39 Pages: 3168 Published: 2000

16. Title: Chemoselective bromination in a two-step substitution under the influence of tetrachlorosilane and N-bromosuccinimide

Author(s): Elmorsy, Saad S.; Badawy, Doria S.; Khatab, Tamer K.

Source: PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS Volume: 181 Issue: 9 Pages: 2005-2012 DOI: 10.1080/10426500600574838 Published: SEP 2006

17. Title: Evaluation of TCS/ZnCl2 with acetic anhydride as an acetylating reagent for methylene ketones

Author(s): Elmorsy, SS; Badawy, DS; Khatab, TK

Source: PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS Volume: 180 Issue: 1 Pages: 109-116 DOI: 10.1080/104265090507920 Published: JAN 2005

18. Title: A NOVEL ROUTE FOR THE DIRECT SYNTHESIS OF SECONDARY AMIDES FROM ALDEHYDES

Author(s): ELMORSY, SS; NOUR, MA; KANDEEL, EM; et al.

Source: TETRAHEDRON LETTERS Volume: 32 Issue: 15 Pages: 1825-1826 DOI: 10.1016/S0040-4039(00)74340-1 Published: APR 8 1991

19. Title: THE DIRECT SYNTHESIS OF SECONDARY AMIDES FROM ALDEHYDES - A NOVEL GENERAL REDOX PROCEDURE MEDIATED BY IODOTRICHLOROSILANE (ITCS)

Author(s): ELMORSY, SS; BADAWY, DS; NOUR, MA; et al.

Source: ZEITSCHRIFT FUR NATURFORSCHUNG SECTION B-A JOURNAL OF CHEMICAL SCIENCES Volume: 49 Issue: 3 Pages: 417-421 Published: MAR 1994

20. Title: Diastereo- and enantioselective synthesis of differently N,O-protected 1,3-amino alcohols with three neighbouring stereogenic centers

Author(s): Enders, D; Moser, M; Geibel, G; et al.

Source: SYNTHESIS-STUTTGART Issue: 12 Pages: 2040-2046 DOI: 10.1055/s-2004-829142 Published: AUG 19 2004

21. Title: One-pot multicomponent synthesis of p-acetamido ketones based on BiCl3 generated in situ from the procatalyst BiOCl and acetyl chloride

Author(s): Ghosh, R; Maiti, S; Chakraborty, A

Source: SYNLETT Issue: 1 Pages: 115-118 DOI: 10.1055/s-2004-836024 Published: JAN 5 2005

22. Title: ZrOCl2 center dot 8H(2)O: an efficient Lewis acid catalyst for the one-pot multicomponent synthesis of beta-acetamido ketones

Author(s): Ghosh, R; Maiti, S; Chakraborty, A; et al.

Source: TETRAHEDRON Volume: 62 Issue: 17 Pages: 4059-4064 DOI: 10.1016/j.tet.2006.02.037 Published: APR 24 2006

23. Title: Application of the Dakin-West reaction for the synthesis of oxazole-containing dual PPAR alpha/gamma agonists

Author(s): Godfrey, AG; Brooks, DA; Hay, LA; et al.

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 68 Issue: 7 Pages: 2623-2632 DOI: 10.1021/jo026655v Published: APR 4 2003

24. Title: A CONVENIENT METHOD FOR THE PREPARATION OF SECONDARY PROPARGYLIC ETHERS - THE REACTIONS OF ACETALS WITH 1-TRIMETHYLSILYL-1-ALKYNES PROMOTED BY THE COMBINED USE OF CATALYTIC AMOUNTS OF TIN(IV) CHLORIDE AND ZINC-CHLORIDE

Author(s): HAYASHI, M; INUBUSHI, A; MUKAIYAMA, T

Source: BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN Volume: 61 Issue: 11 Pages: 4037-4042 DOI: 10.1246/bcsj.61.4037 Published: NOV 1988

25. Title: Enamination of beta-dicarbonyl compounds catalyzed by CeCl3 center dot 7H(2)O at ambient conditions: Ionic liquid and solvent-free media

Author(s): Khodaei, MM; Khosropour, AR; Kookhazadeh, M

Source: SYNLETT Issue: 11 Pages: 1980-1984 DOI: 10.1055/s-2004-830879 Published: SEP 6 2004

26. Title: Efficient and chemoselective conversion of aryl aldehydes to their azalactones catalysed by Bi(III) salts under solvent free conditions

Author(s): Khodaei, MM; Khosropour, AR; Jomor, SJH

Source: JOURNAL OF CHEMICAL RESEARCH-S Issue: 10 Pages: 638-641 Published: OCT 2003

27. Title: An efficient and environmentally friendly method for synthesis of 3,4-dihydropyrimidin-2(1H)-ones catalyzed by Bi(NO3)(3)center dot 5H(2)O

Author(s): Khodaei, MM; Khosropour, AR; Beygzadeh, M

Source: SYNTHETIC COMMUNICATIONS Volume: 34 Issue: 9 Pages: 1551-1557 DOI: 10.1081/SCC-120030742 Published: MAY 2004

28. Title: A modified procedure for the Dakin-West reaction: an efficient and convenient method for a one-pot synthesis of beta-acetamido ketones using silica sulfuric acid as catalyst

Author(s): Khodaei, MM; Khosropour, AR; Fattahpour, P

Source: TETRAHEDRON LETTERS Volume: 46 Issue: 12 Pages: 2105-2108 DOI: 10.1016/j.tetlet.2005.01.149 Published: MAR 21 2005

29. Title: Zn/CeCl3.7H(2)O-TBPB: A new and 'Green' promoter system for rapid and regioselective thiolyzation of 1,2-epoxides with aryl Disulfides

Author(s): Khosropour, AR; Khodaei, MM; Ghozati, K

Source: CHEMISTRY LETTERS Volume: 33 Issue: 10 Pages: 1378-1379 DOI: 10.1246/cl.2004.1378 Published: OCT 5 2004

30. Title: A mild, efficient and environmentally friendly method for the regio- and chemoselective synthesis of enaminones using Bi(TFA)(3) as a reusable catalyst in aqueous media

Author(s): Khosropour, AR; Khodaei, MM; Kookhazadeh, M

Source: TETRAHEDRON LETTERS Volume: 45 Issue: 8 Pages: 1725-1728 DOI: 10.1016/j.tetlet.2003.12.093 Published: FEB 16 2004

31. Title: Conversion of alkyltrifluoroborates into alkyldichloroboranes with tetrachlorosilane in coordinating solvents

Author(s): Kim, BJ; Matteson, DS

Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION Volume: 43 Issue: 23 Pages: 3056-3058 DOI: 10.1002/anie.200453690 Published: 2004

32. Title: [not available]

Author(s): KOBALKA GW

Source: J ORG CHEM Volume: 63 Pages: 6438 Published: 1998

33. Title: NEOPOLYOXIN-A, NEOPOLYOXIN-B, AND NEOPOLYOXIN-C, NEW CHITIN SYNTHETASE INHIBITORS

Author(s): KOBINATA, K; URAMOTO, M; NISHII, M; et al.

Source: AGRICULTURAL AND BIOLOGICAL CHEMISTRY Volume: 44 Issue: 7 Pages: 1709-1711 Published: 1980

34. Title: BISMUTH(III) HALIDE-CATALYZED TANDEM ALDOL-HALOGENATION REACTION - A CONVENIENT SYNTHESIS OF BETA-HALO KETONE AND ESTERS

Author(s): LEROUX, C; GASPARDILOUGHMANE, H; DUBAC, J

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 59 Issue: 8 Pages: 2238-2240 DOI: 10.1021/jo00087a048 Published: APR 22 1994

35. Title: [not available]

Author(s): MANYEL LT

Source: CHEM BER Volume: 97 Pages: 2234 Published: 1964

36. Title: Asymmetric alkyldifluoroboranes and their use in secondary amine synthesis

Author(s): Matteson, DS; Kim, GY

Source: ORGANIC LETTERS Volume: 4 Issue: 13 Pages: 2153-2155 DOI: 10.1021/ol025973d Published: JUN 27 2002

37. Title: Studies on the chemistry of heterocyclics. XVII. Thiophene polyene acids, aldehydes, and ketones

Author(s): Robert, EM; Nord, FF.

Source: J Org Chem Volume: 16 Issue: 11 Pages: 1720-1730 Published: 1951

38. Title: Novel uncatalyzed hydrocyanation of ketones utlizing Tetrachlorosilane-Potassium cyanide reagent

Author(s): Salama, Tarek A.; Elmorsy, Saad S.; Khalil, Abdel-Galel M.; et al.

Source: SYNTHETIC COMMUNICATIONS Volume: 37 Issue: 7-9 Pages: 1313-1319 DOI: 10.1080/00397910701226897 Published: 2007

39. Title: [not available]

Author(s): SRINIVASA A

Source: PHOSPHORUS SULFUR Volume: 182 Pages: 2249 Published: 2007

40. Title: [not available]

Author(s): TERENIN VI

Source: CHEM HETEROCYL COMP Volume: 33 Pages: 318 DOI: 10.1007/BF02253112 Published: 1997

41. Title: COMBINATORIAL SYNTHESIS - THE DESIGN OF COMPOUND LIBRARIES AND THEIR APPLICATION TO DRUG DISCOVERY

Author(s): TERRETT, NK; GARDNER, M; GORDON, DW; et al.

Source: TETRAHEDRON Volume: 51 Issue: 30 Pages: 8135-8173 DOI: 10.1016/0040-4020(95)00467-M Published: JUL 24 1995

42. Title: Synthesis and applications of small molecule libraries

Author(s): Thompson, LA; Ellman, JA

Source: CHEMICAL REVIEWS Volume: 96 Issue: 1 Pages: 555-600 DOI: 10.1021/cr9402081 Published: JAN-FEB 1996

43. Title: Domino reactions for library synthesis of small molecules in combinatorial chemistry

Author(s): Tietze, LF; Lieb, ME

Source: CURRENT OPINION IN CHEMICAL BIOLOGY Volume: 2 Issue: 3 Pages: 363-371 DOI: 10.1016/S1367-5931(98)80010-0 Published: JUN 1998

44. Title: Asymmetric ring opening of meso-epoxides catalyzed by the chiral phosphine oxide BINAPO

Author(s): Tokuoka, E; Kotani, S; Matsunaga, H; et al.

Source: TETRAHEDRON-ASYMMETRY Volume: 16 Issue: 14 Pages: 2391-2392 DOI: 10.1016/j.tetasy.2005.06.021 Published: JUL 18 2005

Tetrachlorosilane-Zinc Chloride as a New Potent Binary Reagent for One-Pot, Three-Component Synthesis of Mannich-Type Products

Badawy, DS (Badawy, Doria S.)[1]; Abdel-Galil, E (Abdel-Galil, Ebrahim)[1]; Kandeel, EM (Kandeel, Ezzat M.)[1]; Basyouni, WM (Basyouni, Wahid M.)[2];

Khatab, TK (Khatab, Tamer K.)[2]

Abstract

A combination of tetrachlorosilane and zinc chloride in dichloromethane as an efficient and ambient binary reagent to promote a one-pot amidoalkylation reaction of enolizable ketones, aromatic aldehydes with acetonitriles, or benzonitrile have been developed. The newly synthesized beta-acetamidoketones 3 and beta-benzamidoketones 5 were obtained in good yields.

Source: PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS Volume: 184 Issue: 11 Pages: 2799-2812 DOI: 10.1080/10426500802589907 Published: 2009

Author Keywords: beta-Acylaminoeketones; amidoalkylation; binary reagent; multicomponent; naphthyl; tetrachlorosilane

KeyWords Plus: BETA-ACETAMIDO KETONES; DAKIN-WEST REACTION; AMINO ACID-DERIVATIVES; SILICA SULFURIC-ACID; MULTICOMPONENT SYNTHESIS; TETRAZOLE DERIVATIVES; CONDENSATION REACTION; CARBONYL-COMPOUNDS; CONVENIENT METHOD; SECONDARY AMIDES

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Web of Science Categories: Chemistry, Inorganic & Nuclear; Chemistry, Organic

REFERENCES:

1-Title: One-Pot Three-Component Synthesis of beta-Acylaminoketones Containing a Thiophene Ring by the Use of Tetrachlorosilane-Zinc Chloride as a Binary Reagent Under Ambient Conditions

Author(s): Badawy, Doria S.; Abdel-Galil, Ebrahim; Kandeel, E. M.; et al.

Source: PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS Volume: 184 Issue: 1 Pages: 220-233 Article Number: PII 907051526 DOI: 10.1080/10426500802095921 Published: 2009

2. Title: Montmorillonite K10 clay: An efficient catalyst for the one-pot stereoselective synthesis of beta-acetanxido ketones

Author(s): Bahulayan, D; Das, SK; Iqbal, J

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 68 Issue: 14 Pages: 5735-5738 DOI: 10.1021/jo020734p Published: JUL 11 2003

3. Title: A novel highly selective chiral auxiliary for the asymmetric synthesis of L- and D-alpha-amino acid derivatives via a multicomponent Ugi reaction

Author(s): Basso, A; Banfi, L; Riva, R; et al.

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 70 Issue: 2 Pages: 575-579 DOI: 10.1021/jo048389m Published: JAN 21 2005

4. Title: U-4C-3CR versus U-5C-4CR and stereochemical outcomes using suitable bicyclic beta-amino acid derivatives as bifunctional components in the Ugi reaction

Author(s): Basso, A; Banfi, L; Riva, R; et al.

Source: TETRAHEDRON LETTERS Volume: 45 Issue: 3 Pages: 587-590 DOI: 10.1016/j.tetlet.2003.10.193 Published: JAN 12 2004

5. Title: One-pot synthesis and biological evaluation of aspergillamides and analogues

Author(s): Beck, B; Hess, S; Domling, A

Source: BIOORGANIC & MEDICINAL CHEMISTRY LETTERS Volume: 10 Issue: 15 Pages: 1701-1705 DOI: 10.1016/S0960-894X(00)00305-X Published: AUG 7 2000

6. Title: SINTEZ KHALKONOV NA OSNOVE BETA-KHLORVINILKETONOV

Author(s): BELYAEV, VF

Source: ZHURNAL OBSHCHEI KHIMII Volume: 34 Issue: 3 Pages: 861-864 Published: 1964

7. Title: [not available]

Author(s): BELYAEV VF

Source: KIM GETEROTSIKL SOED Volume: 5 Pages: 827 Published: 1967

8. Title: COBALT-CATALYZED 3-COMPONENT COUPLING INVOLVING KETONES OR KETOESTERS, ALDEHYDES AND ACETONITRILE - A NOVEL ONE-POT SYNTHESIS OF BETA-ACETAMIDO KETONES

Author(s): BHATIA, B; REDDY, MM; IQBAL, J

Source: JOURNAL OF THE CHEMICAL SOCIETY-CHEMICAL COMMUNICATIONS Issue: 6 Pages: 713-714 DOI: 10.1039/c39940000713 Published: MAR 21 1994

9. Title: [not available]

Author(s): BRAUDE EA

Source: J CHEM SOC Pages: 46 Published: 1959

10. Title: THE DAKIN-WEST REACTION

Author(s): BUCHANAN, GL

Source: CHEMICAL SOCIETY REVIEWS Volume: 17 Issue: 2 Pages: 91-109 DOI: 10.1039/cs9881700091 Published: JUN 1988

11. Title: FIRST APPLICATION OF THE DAKIN-WEST REACTION TO FMOC CHEMISTRY - SYNTHESIS OF THE KETOMETHYLENE TRIPEPTIDE FMOC-N-ALPHA-ASP(TBU)-(R,S)TYR(TBU)PSI(CO-CH2)GLY-OH

Author(s): CASIMIR, JR; TURETTA, C; ETTOUATI, L; et al.

Source: TETRAHEDRON LETTERS Volume: 36 Issue: 27 Pages: 4797-4800 DOI: 10.1016/0040-4039(95)00869-E Published: JUL 3 1995

12. Title: [not available]

Author(s): Dahn, U.; Hagenmaier, H.; Hohne, H.; et al; Konig, W.A.; Wolf, G.; Zohner, H.

Source: Arch. Microbiol. Volume: 107 Pages: 249 Published: 1976

13. Title: A general reaction of amino acids. II.

Author(s): Dakin, HD; West, R

Source: JOURNAL OF BIOLOGICAL CHEMISTRY Volume: 78 Issue: 3 Pages: 745-756 Published: AUG 1928

14. Title: A novel uncatalyzed insertion reaction of in situ formed trichlorosilyl cyanide with imines: A facile silicon mediated synthesis of alpha-aminonitriles

Author(s): El-Ahl, AAS

Source: SYNTHETIC COMMUNICATIONS Volume: 33 Issue: 6 Pages: 989-998 DOI: 10.1081/SCC-120016363 Published: 2003

15. Title: A novel approach for the synthesis of 5-substituted tetrazole derivatives from primary amides in mild one-step method.

Author(s): ElAhl, AAS; Elmorsy, SS; Elbeheery, AH; et al.

Source: TETRAHEDRON LETTERS Volume: 38 Issue: 7 Pages: 1257-1260 DOI: 10.1016/S0040-4039(97)00052-X Published: FEB 17 1997

16. Title: A FACILE AND CONVENIENT SYNTHESIS OF SUBSTITUTED TETRAZOLE DERIVATIVES FROM KETONES OR ALPHA-BETA-UNSATURATED KETONES

Author(s): ELAHL, AAS; ELMORSY, SS; SOLIMAN, H; et al.

Source: TETRAHEDRON LETTERS Volume: 36 Issue: 40 Pages: 7337-7340 DOI: 10.1016/0040-4039(95)01513-H Published: OCT 2 1995

17. Title: [not available]

Author(s): ELMORSY SS

Source: J CHEM RES S Volume: 231 Published: 1997

18. Title: Chemoselective bromination in a two-step substitution under the influence of tetrachlorosilane and N-bromosuccinimide

Author(s): Elmorsy, Saad S.; Badawy, Doria S.; Khatab, Tamer K.

Source: PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS Volume: 181 Issue: 9 Pages: 2005-2012 DOI: 10.1080/10426500600574838 Published: SEP 2006

19. Title: Evaluation of TCS/ZnCl2 with acetic anhydride as an acetylating reagent for methylene ketones

Author(s): Elmorsy, SS; Badawy, DS; Khatab, TK

Source: PHOSPHORUS SULFUR AND SILICON AND THE RELATED ELEMENTS Volume: 180 Issue: 1 Pages: 109-116 DOI: 10.1080/104265090507920 Published: JAN 2005

20. Title: New routes for synthesis of branched functionalized benzenoid compounds by using tetrachlorosilane-ethanol reagent

Author(s): Elmorsy, SS; Khalil, AGM; Girges, MM; et al.

Source: TETRAHEDRON LETTERS Volume: 38 Issue: 6 Pages: 1071-1074 DOI: 10.1016/S0040-4039(96)02470-7 Published: FEB 10 1997

21. Title: Use of reductive properties of iodotrichlorosilane .2. Chemoselective reduction of alpha,beta-unsaturated ketones and nitriles

Author(s): Elmorsy, SS; ElAhl, AAS; Soliman, H; et al.

Source: TETRAHEDRON LETTERS Volume: 37 Issue: 13 Pages: 2297-2298 DOI: 10.1016/0040-4039(96)00247-X Published: MAR 25 1996

22. Title: SYNTHESIS OF TRIAZIDOCHLOROSILANE (TACS) - A NOVEL SILICON MEDIATED ONE-POT CONVERSION OF ALDEHYDES TO NITRILES

Author(s): ELMORSY, SS; EIAHL, AAS; SOLIMAN, H; et al.

Source: TETRAHEDRON LETTERS Volume: 36 Issue: 15 Pages: 2639-2640 DOI: 10.1016/0040-4039(95)00302-S Published: APR 10 1995

23. Title: A NOVEL ROUTE FOR THE DIRECT SYNTHESIS OF SECONDARY AMIDES FROM ALDEHYDES

Author(s): ELMORSY, SS; NOUR, MA; KANDEEL, EM; et al.

Source: TETRAHEDRON LETTERS Volume: 32 Issue: 15 Pages: 1825-1826 DOI: 10.1016/S0040-4039(00)74340-1 Published: APR 8 1991

24. Title: THE DIRECT SYNTHESIS OF SECONDARY AMIDES FROM ALDEHYDES - A NOVEL GENERAL REDOX PROCEDURE MEDIATED BY IODOTRICHLOROSILANE (ITCS)

Author(s): ELMORSY, SS; BADAWY, DS; NOUR, MA; et al.

Source: ZEITSCHRIFT FUR NATURFORSCHUNG SECTION B-A JOURNAL OF CHEMICAL SCIENCES Volume: 49 Issue: 3 Pages: 417-421 Published: MAR 1994

25. Title: [not available]

Author(s): ESIKOV KA

Source: CHEM HETEROCYCLIC CO Volume: 7 Pages: 992 Published: 2000

26. Title: Three-component synthesis of polysubstituted 6-azaindolines and its tricyclic derivatives

Author(s): Fayol, A; Zhu, JP

Source: ORGANIC LETTERS Volume: 7 Issue: 2 Pages: 239-242 DOI:

10.1021/ol0477881 Published: JAN 20 2005

27. Title: One-pot multicomponent synthesis of p-acetamido ketones based on BiCl3 generated in situ from the procatalyst BiOCl and acetyl chloride

Author(s): Ghosh, R; Maiti, S; Chakraborty, A

Source: SYNLETT Issue: 1 Pages: 115-118 DOI: 10.1055/s-2004-836024 Published: JAN 5 2005

28. Title: ZrOCl2 center dot 8H(2)O: an efficient Lewis acid catalyst for the one-pot multicomponent synthesis of beta-acetamido ketones

Author(s): Ghosh, R; Maiti, S; Chakraborty, A; et al.

Source: TETRAHEDRON Volume: 62 Issue: 17 Pages: 4059-4064 DOI: 10.1016/j.tet.2006.02.037 Published: APR 24 2006

29. Title: Application of the Dakin-West reaction for the synthesis of oxazole-containing dual PPAR alpha/gamma agonists

Author(s): Godfrey, AG; Brooks, DA; Hay, LA; et al.

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 68 Issue: 7 Pages: 2623-2632 DOI: 10.1021/jo026655v Published: APR 4 2003

30. Title: SiCl4-ethanol as a trimerization agent for organometallics: convenient syntheses of the symmetrically substituted arenes 1,3,5-C6H3R3 where R=(C5H4)Mn(CO)(3) and (C5H4)Fe(C5H5)

Author(s): Gupta, HK; Reginato, N; Ogini, FO; et al.

Source: CANADIAN JOURNAL OF CHEMISTRY-REVUE CANADIENNE DE CHIMIE Volume: 80 Issue: 11 Pages: 1546-1554 DOI: 10.1139/V02-152 Published: NOV 2002

31. Title: [not available]

Author(s): Hantzsch, A.

Source: Ber. Volume: 23 Pages: 1474 DOI: 10.1002/CBER.189002301243 Published: 1890

Times Cited: 122 (from All Databases)

32. Title: NaHSO4 center dot H2O as an efficient and eco-friendly catalyst for the one-pot multicomponent synthesis of beta-acetamido ketones under mild and

heterogeneous conditions

Author(s): Hassankhani, Asadollah; Maghsoodlou, Malek Taher; Habibi-Khorassani, Sayyed Mostafa; et al.

Source: ARKIVOC Pages: 134-140 Part: Part 2 Published: 2008

33. Title: A CONVENIENT METHOD FOR THE PREPARATION OF SECONDARY PROPARGYLIC ETHERS - THE REACTIONS OF ACETALS WITH 1-TRIMETHYLSILYL-1-ALKYNES PROMOTED BY THE COMBINED USE OF CATALYTIC AMOUNTS OF TIN(IV) CHLORIDE AND ZINC-CHLORIDE

Author(s): HAYASHI, M; INUBUSHI, A; MUKAIYAMA, T

Source: BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN Volume: 61 Issue: 11 Pages: 4037-4042 DOI: 10.1246/bcsj.61.4037 Published: NOV 1988

34. Title: Chalkones : Synthesis of deoxybenzoins from chalkones.

Author(s): Hutchins, WA; Motwani, DC; Mudbhatkal, KD; et al.

Source: JOURNAL OF THE CHEMICAL SOCIETY Pages: 1882-1885 DOI: 10.1039/jr9380001882 Part: Part 2 Published: 1938

35. Title: Iron(III) chloride-catalyzed convenient one-pot synthesis of beta-acetamido carbonyl compounds

Author(s): Khan, Abu T.; Parvin, Tasneem; Choudhury, Lokman H.

Source: TETRAHEDRON Volume: 63 Issue: 25 Pages: 5593-5601 DOI: 10.1016/j.tet.2007.04.019 Published: JUN 18 2007

36. Title: A modified procedure for the Dakin-West reaction: an efficient and convenient method for a one-pot synthesis of beta-acetamido ketones using silica sulfuric acid as catalyst

Author(s): Khodaei, MM; Khosropour, AR; Fattahpour, P

Source: TETRAHEDRON LETTERS Volume: 46 Issue: 12 Pages: 2105-2108 DOI: 10.1016/j.tetlet.2005.01.149 Published: MAR 21 2005

37. Title: NEOPOLYOXIN-A, NEOPOLYOXIN-B, AND NEOPOLYOXIN-C, NEW CHITIN SYNTHETASE INHIBITORS

Author(s): KOBINATA, K; URAMOTO, M; NISHII, M; et al.

Source: AGRICULTURAL AND BIOLOGICAL CHEMISTRY Volume: 44 Issue: 7 Pages:

1709-1711 Published: 1980

38. Title: [not available]

Author(s): KOTHA S

Source: SYNLETT Volume: 1621 Published: 1999

39. Title: Modern strategies in organic catalysis: The advent and development of iminium activation

Author(s): Lelais, Gerald; MacMillan, David W. C.

Source: ALDRICHIMICA ACTA Volume: 39 Issue: 3 Pages: 79-87 Published: 2006

40. Title: [not available]

Author(s): LUTZ RE

Source: J ORG CHEM Pages: 982 Published: 1949

41. Title: [not available]

Author(s): Mannich, C.; Krosche, W.

Source: Arch. Pharm. Volume: 250 Pages: 647 DOI: 10.1002/ARDP.19122500151 Published: 1912

42. Title: Cobalt catalyzed multiple component condensation route to beta-acetamido carbonyl compound libraries

Author(s): Mukhopadhyay, M; Bhatia, B; Iqbal, J

Source: TETRAHEDRON LETTERS Volume: 38 Issue: 6 Pages: 1083-1086 DOI: 10.1016/S0040-4039(96)02474-4 Published: FEB 10 1997

43. Title: Enantioselective ring opening of meso-epoxides with tetrachlorosilane catalyzed by chiral bipyridine N,N'-dioxide derivatives

Author(s): Nakajima, M; Saito, M; Uemura, M; et al.

Source: TETRAHEDRON LETTERS Volume: 43 Issue: 49 Pages: 8827-8829 Article Number: PII S0040-4039(02)02229-3 DOI: 10.1016/S0040-4039(02)02229-3 Published: DEC 2 2002

44. Title: Synthesis of Mannich type products via a three-component coupling reaction

Author(s): Pandey, G; Singh, RP; Garg, A; et al.

Source: TETRAHEDRON LETTERS Volume: 46 Issue: 12 Pages: 2137-2140 DOI: 10.1016/j.tetlet.2005.01.118 Published: MAR 21 2005

45. Title: [not available]

Author(s): PEYMAN S

Source: MONATSH CHEM Volume: 133 Pages: 1291 Published: 2002

46. Title: Solid-phase synthesis of five-dimensional libraries via a tandem Petasis-Ugi multi-component condensation reaction

Author(s): Portlock, DE; Naskar, D; West, L; et al.

Source: TETRAHEDRON LETTERS Volume: 44 Issue: 27 Pages: 5121-5124 DOI: 10.1016/S0040-4039(03)01119-5 Published: JUN 30 2003

47. Title: Heteropoly acids as solid green Bronsted acids for a one-pot synthesis of beta-acetamido ketones by Dakin-West reaction

Author(s): Rafiee, E; Tork, F; Joshaghani, M

Source: BIOORGANIC & MEDICINAL CHEMISTRY LETTERS Volume: 16 Issue: 5 Pages: 1221-1226 DOI: 10.1016/j.bmcl.2005.11.080 Published: MAR 1 2006

48. Title: Tetrachlorosilane catalyzed multicomponent one-step fusion of biopertinent pyrimidine heterocycles

Author(s): Ramalingan, Chennan; Kwak, Young-Woo

Source: TETRAHEDRON Volume: 64 Issue: 22 Pages: 5023-5031 DOI: 10.1016/i.tet.2008.03.078 Published: MAY 26 2008

49. Title: [not available]

Author(s): RICHARD HW

Source: J ORG CHEM Volume: 23 Pages: 782 Published: 1958

50. Title: A convenient regiospecific synthesis of new conjugated tetrazole derivatives via the reaction of dienones with the tetrachlorosilane-sodium azide reagent and their NMR structural assignment

Author(s): Salama, TA; El-Ahl, AAS; Khalil, AGM; et al.

Source: MONATSHEFTE FUR CHEMIE Volume: 134 Issue: 9 Pages: 1241-1252 DOI:

10.1007/s00706-003-0045-x Published: SEP 2003

51. Title: Novel uncatalyzed hydrocyanation of ketones utlizing Tetrachlorosilane-Potassium cyanide reagent

Author(s): Salama, Tarek A.; Elmorsy, Saad S.; Khalil, Abdel-Galel M.; et al.

Source: SYNTHETIC COMMUNICATIONS Volume: 37 Issue: 7-9 Pages: 1313-1319 DOI: 10.1080/00397910701226897 Published: 2007

52. Title: SiCl4-Zn induced reductive coupling of carbonyl compounds: novel and efficient routes for one-pot syntheses of 1,2,3-triaryl-2-propen-1-ones and pinacolones at room temperature

Author(s): Salama, Tarek A.; Elmorsy, Saad S.; Khalil, Abdel-Galel M.

Source: TETRAHEDRON LETTERS Volume: 48 Issue: 25 Pages: 4395-4398 DOI: 10.1016/j.tetlet.2007.04.092 Published: JUN 18 2007

53. Title: [not available]

Author(s): SALAMA TA

Source: TETRAHEDRON LETT Volume: 48 Pages: 5199 Published: 2007

54. Title: A novel polycyclic system: synthesis of 1,3,5-tri(1-azulenyl)benzenes by cyclotrimerization of 1-acetylazulenes

Author(s): Sato, K; Yamashiro, S; Imafuku, K; et al.

Source: JOURNAL OF CHEMICAL RESEARCH-S Issue: 7 Pages: 334-335 Published: JUL 2000

55. Title: One-pot preparation of beta-amido ketones and esters in four-component condensation reaction using ferric hydrogensulfate as effective and reusable catalyst

Author(s): Shaterian, Hamid Reza; Yarahmadi, Hossein; Ghashang, Majid

Source: ARKIVOC Pages: 298-313 Part: Part 16 Published: 2007

56. Title: [not available]

Author(s): STERCKER A

Source: ANN CHEM PHARM Volume: 75 Pages: 27 Published: 1850

57. Title: [not available]

Author(s): TAMAYO M

Source: CHEM BER Volume: 97 Pages: 2230 Published: 1964

58. Title: [not available]

Author(s): TERENIN VI

Source: CHEM HETEROCYL COMP Volume: 33 Pages: 318 DOI: 10.1007/BF02253112 Published: 1997

59. Title: Since 1995 the new chemistry of multicomponent reactions and their libraries, including their heterocyclic chemistry

Author(s): Ugi, I; Domling, A; Werner, B

Conference: 17th International Congress of Heterocyclic Chemistry Location: VIENNA UNIV TECHNOL, INST ORGAN CHEM, VIENNA, AUSTRIA Date: AUG 01-05, 1999

Sponsor(s): Vienna Univ Technol, Inst Organ Chem

Source: JOURNAL OF HETEROCYCLIC CHEMISTRY Volume: 37 Issue: 3 Pages: 647-658 Published: MAY-JUN 2000

60. Title: TIN(IV) CHLORIDE-PROMOTED VS METAL BETA-CARBONYL-ENOLATE-CATALYZED REACTIONS OF BETA-DICARBONYLS WITH NITRILES

Author(s): VERONESE, AC; GANDOLFI, V; BASATO, M; et al.

Source: JOURNAL OF CHEMICAL RESEARCH-S Issue: 8 Pages: 246-246 Published: AUG 1988

61. Title: Silica sulphuric acid: An efficient and recyclable catalyst for the synthesis of beta-acetamido ketones in single pot

Author(s): Yakaiah, T; Reddy, GV; Lingaiah, BPV; et al.

Source: SYNTHETIC COMMUNICATIONS Volume: 35 Issue: 10 Pages: 1307-1312 DOI: 10.1081/SCC-200057240 Published: 2005

62. Title: Perfluorinated resin-sulfonic acid (Nafion-H): an efficient, environment friendly and recyclable heterogeneous catalyst for the one-pot multicomponent synthesis of beta-acetamido ketones

Author(s): Yakaiah, T.; Lingaiah, B. P. V.; Reddy, G. Venkat; et al.

Source: ARKIVOC Pages: 227-234 Part: Part 13 Published: 2007

63. Title: [not available]

Author(s): YMASHIRO S

Source: SYNTHETIC COMMUN Volume: 33 Pages: 2757 Published: 2003

64. Title: Multicomponent Reactions

Book Editor(s): Zhu, J; Bienayme, H

Source: MULTICOMPONENT REACTIONS Pages: 1-468 DOI: 10.1002/3527605118 Published: 2005

Publisher: BLACKWELL SCIENCE PUBL, OSNEY MEAD, OXFORD OX2 0EL, ENGLAND

Chemoselective bromination in a two-step substitution under the influence of tetrachlorosilane and N-bromosuccinimide

Elmorsy, SS (Elmorsy, Saad S.); Badawy, DS (Badawy, Doria S.);

Khatab, TK (Khatab, Tamer K.)

Abstract

The synthesis of gem dibromide carbonyl compounds via a cheep and readily available combined reagent from tetrachlorosilane and N-bromosuccinimide (TCS-NBS).

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KeyWords Plus: CHLOROSUCCINIMIDE; HALOGENATIONS

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References:

1.Title: POLAR EFFECTS IN BROMINATIONS WITH N-BROMOSUCCINIMIDE

Author(s): BAILEY, WJ; BELLO, J

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 20 Issue: 4 Pages: 525-529 DOI: 10.1021/jo01122a015 Published: 1955

Times Cited: 48 (from All Databases

2. Title: RING HALOGENATIONS OF POLYALKYLBENZENES WITH N-HALOSUCCINIMIDE AND ACIDIC CATALYSTS

Author(s): BOVONSOMBAT, P; MCNELIS, E

Source: SYNTHESIS-STUTTGART Issue: 2 Pages: 237-241 Published: FEB 1993

3. Title: COMPARISON OF N-BROMOACETAMIDE AND N-BROMOSUCCINIMIDE AS BROMINATING AGENTS

Author(s): BUCKLES, RE; JOHNSON, RC; PROBST, WJ

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 22 Issue: 1 Pages: 55-59 DOI: 10.1021/jo01352a014 Published: 1957

4. Title: [not available]

Author(s): Cheung, Y. F.

Source: Tetrahedron Lett. Volume: 20 Pages: 3809 Published: 1979

5. Title: SYNTHETIC METHOD FOR FORMYL-]ETHYNYL CONVERSION (RCHO-]RC=CH OR RC=CR')

Author(s): COREY, EJ; FUCHS, PL

Source: TETRAHEDRON LETTERS Issue: 36 Pages: 3769-& Published: 1972

6. Title: N-BROMOSUCCINIMIDE .1. ALLYLIC BROMINATION, A GENERAL SURVEY OF REACTION VARIABLES

Author(s): DAUBEN, HJ; MCCOY, LL

Source: JOURNAL OF THE AMERICAN CHEMICAL SOCIETY Volume: 81 Issue: 18 Pages: 4863-4873 DOI: 10.1021/ja01527a027 Published: 1959

7. Title: A SIMPLE HIGH-YIELDING APPROACH TO PERYLENEQUINONE FROM THE NOVEL ONE-STEP DOUBLE COUPLING REACTION OF 1,2-NAPHTHOQUINONE

Author(s): DIWU, ZJ; LOWN, JW

Source: TETRAHEDRON Volume: 48 Issue: 1 Pages: 45-54 DOI: 10.1016/S0040-4020(01)80577-9 Published: JAN 3 1992

8. Title: BROMINATIONS WITH N-BROMOSUCCINIMIDE AND RELATED COMPOUNDS - THE WOHL-ZIEGLER REACTION (View record in MEDLINE)

Author(s): DJERASSI, C

Source: CHEMICAL REVIEWS Volume: 43 Issue: 2 Pages: 271-317 DOI: 10.1021/cr60135a004 Published: 1948

9. Title: Halogenations of anthracenes and dibenz[a,c]anthracene with N-bromosuccinimide and N-chlorosuccinimide

Author(s): Duan, SM; Turk, J; Speigle, J; et al.

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 65 Issue: 10 Pages: 3005-3009 DOI: 10.1021/jo991495h Published: MAY 19 2000

10. Title: [not available]

Author(s): DUHAMEL P

Source: J B CHEM SOC FR Volume: 10 Pages: 3641 Published: 1970

11. Title: [not available]

Author(s): FILLER R

Source: CHEM REV Pages: 21 Published: 1968

12. Title: [not available]

Author(s): FRITZ K

Source: BER B Volume: 69 Pages: 921 Published: 1936

13. Title: STUDY OF THE COURSE OF SUBSTITUTION .15. RECENT METHODS OF PREPARATIVE ORGANIC CHEMISTRY .14. N-BROMOSUCCINIMIDE, ITS PROPERTIES AND TYPES OF REACTION

Author(s): HORNER, L; WINKELMANN, EH

Source: ANGEWANDTE CHEMIE-INTERNATIONAL EDITION Volume: 71 Issue: 11 Pages: 349-365 DOI: 10.1002/ange.19590711102 Published: 1959

14. Title: A MILD SELECTIVE MONOBROMINATION REAGENT SYSTEM FOR ALKOXYBENZENES - N-BROMOSUCCINIMIDE-SILICA GEL

Author(s): KONISHI, H; ARITOMI, K; OKANO, T; et al.

Source: BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN Volume: 62 Issue: 2 Pages: 591-593 DOI: 10.1246/bcsj.62.591 Published: FEB 1989

15. Title: HALOGENATION OF AROMATIC COMPOUNDS BY N-BROMO- AND N-CHLOROSUCCINIMIDE UNDER IONIC CONDITIONS

Author(s): LAMBERT, FL; ELLIS, WD; PARRY, RJ

Source: JOURNAL OF ORGANIC CHEMISTRY Volume: 30 Issue: 1 Pages: 304-& DOI: 10.1021/jo01012a512 Published: 1965

16. Title: [not available]

Author(s): LARRY DB

Source: J HETEROCYCLIC CHEM Volume: 38 Pages: 1103 Published: 2001

17. Title: [not available]

Author(s): MOUSAWI SM

Source: ORG PREP PROCEED INT Volume: 24 Pages: 60 Published: 1992

18. Title: REACTIVITIES OF STABLE ROTAMERS .33. ADDITION OF POSITIVE BROMINE COMPOUNDS TO THE OLEFINIC MOIETY OF 1-(9-FLUORENYL)-2-(1-METHYLETHENYL)NAPHTHALENE ROTAMERS AND FACILE BENZENE-RING CLEAVAGE IN ONE OF THE INTERMEDIATES FROM THE SP-FORM

Author(s): OKI, M; MAEDA, K; AKINAGA, T; et al.

Source: BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN Volume: 67 Issue: 10 Pages: 2825-2830 DOI: 10.1246/bcsj.67.2825 Published: OCT 1994

19. Title: REGIOSELECTIVE BROMINATION OF ACTIVATED AROMATIC SUBSTRATES WITH N-BROMOSUCCINIMIDE OVER HZSM-5

Author(s): PAUL, V; SUDALAI, A; DANIEL, T; et al.

Source: TETRAHEDRON LETTERS Volume: 35 Issue: 38 Pages: 7055-7056 DOI: 10.1016/0040-4039(94)88224-X Published: SEP 19 1994

20. Title: [not available]

Author(s): SAVGNAC P

Source: SYNTHESIS-STUTTGART Pages: 197 Published: 1976

21. Title: *BROMIERUNGEN MIT BROM-SUCCINIMID BEI GEGENWART VON KATALYSATOREN .2.

Author(s): SCHMID, H

Source: HELVETICA CHIMICA ACTA Volume: 29 Issue: 5 Pages: 1144-1151 DOI: 10.1002/hlca.19460290520 Published: 1946

22. Title: MECHANISM OF RU(III) CATALYSIS IN N-BROMOSUCCINIMIDE OXIDATION OF SOME GLYCOLS IN PERCHLORIC-ACID MEDIA

Author(s): SINGH, B; SINGH, AK; SINGH, VK; et al.

Source: JOURNAL OF MOLECULAR CATALYSIS Volume: 40 Issue: 1 Pages: 49-56
DOI: 10.1016/0304-5102(87)80005-6 Published: APR 1987