ELSEVIER

Volume 128, Issue 2, February 2007

JOURNAL OF FLUORINE CHEMISTRY

www.elsevier.com/locate/fluor

Graphical Abstracts/J. Fluorine Chem. 128 (2007) 87–89

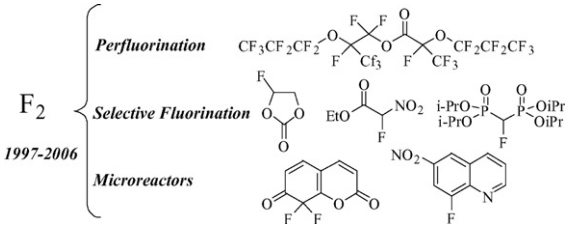
J. Fluorine Chem., 128 (2007) 90

Elemental fluorine in organic chemistry (1997–2006)

Graham Sandford

Department of Chemistry, University of Durham, South Road, Durham DH1 3LE, UK

The use of elemental fluorine as a reagent for carbon–fluorine bond formation in organic synthesis over the period 1997–2006 is reviewed.



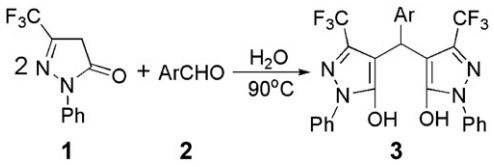
J. Fluorine Chem., 128 (2007) 105

The synthesis of 4,4′-arylmethylene-bis(3-(trifluoromethyl) -1-phenyl-1*H*-pyrazol-5-ol) in aqueous media without catalyst

Chang-Sheng Yao[a,b], Chen-Xia Yu[a,b], Shu-Jiang Tu[a,b], Da-Qing Shi[a,b], Xiang-Shan Wang[a,b], You-Quan Zhu[c], Hua-Zheng Yang[c]

[a]*Department of Chemistry, Xuzhou Normal University, Xuzhou 221116, People's Republic of China*
[b]*Key Laboratory of Biotechnology for Medical Plants of Jiangsu Province, Xuzhou 221116, People's Republic of China*
[c]*State Key Laboratory of Element-Organic Chemistry, Institute of Element-Organic Chemistry, Nankai University, Tianjin 300071, People's Republic of China*

The synthesis was performed in aqueous media without any catalyst.



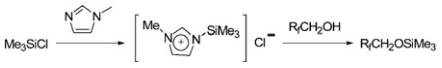
J. Fluorine Chem., 128 (2007) 110

A facile synthesis of fluorinated alkoxytrimethylsilanes using 1-methylimidazole as an acid scavenger

Bora Lee[a], Jin Hyung Kim[a], Hyunjoo Lee[b], Byoung Sung Ahn[b], Minserk Cheong[a], Hoon Sik Kim[a], Honggon Kim[b]

[a]*Department of Chemistry and Research Institute of Basic Sciences, Kyung Hee University, Seoul 130-701, Republic of Korea*
[b]*Division of Environment and Process Technology, Korea Institute of Science and Technology, Sungbuk-gu, Seoul 136-791, Republic of Korea*

Fluorinated alkoxytrimethylsilanes, $R_fCH_2OSiMe_3$ were synthesized in high yields over 95% from the reaction of chlorotrimethylsilane and fluorinated alcohol (R_fCH_2OH) in the presence of 1-methylimidazole.



doi:10.1016/S0022-1139(06)00467-2

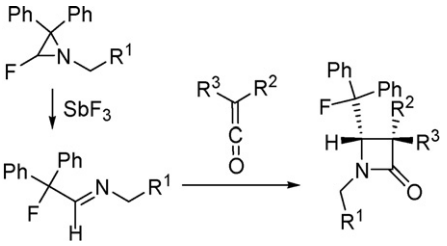
J. Fluorine Chem., 128 (2007) 114

A simple route to side-chain fluorinated β-lactams from ring-fluorinated aziridines

Alexander S. Konev[a], Mikhail S. Novikov[a], Alexander F. Khlebnikov[a], Kourosch Abbaspour Tehrani[b]

[a]*Department of Chemistry, St. Petersburg State University, Universitetskii pr. 26, 198504 St. Petersburg, Petrodvorets, Russia*
[b]*Faculty of Science, Department of Applied Biological Sciences, Laboratory for Organic Chemistry, Vrije Universiteit Brussel, Pleinlaan 2, B-1050 Brussel, Belgium*

β-Lactams bearing a Ph_2CF substituent at the C(4)-atom were synthesized from *N*-alkyl-2-fluoro-3,3-diphenylaziridines.



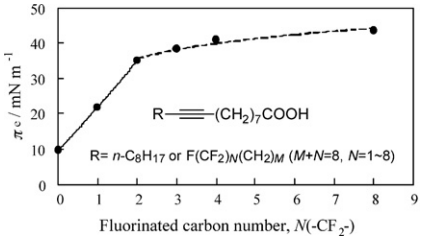
J. Fluorine Chem., 128 (2007) 120

Synthesis and characterization of partially fluorinated stearolic acid analogs: Effect of their fluorine content on the monolayer at the air–water interface

Katsuki Takai, Toshiyuki Takagi, Teruhiko Baba, Toshiyuki Kanamori

Research Center of Advanced Bionics (RCAB), National Institute of Advanced Industrial Science and Technology (AIST), AIST Tsukuba Central 5, 1-1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan

Stabilization of stearolic acid monolayer at the air–water interface due to the successive fluorination of stearolic acid molecules.



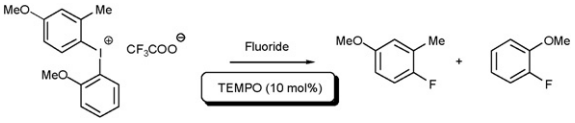
J. Fluorine Chem., 128 (2007) 127

Radical scavengers: A practical solution to the reproducibility issue in the fluoridation of diaryliodonium salts

Michael A. Carroll[a], James Nairne[b], Graham Smith[a], David A. Widdowson[c]

[a]*School of Natural Sciences – Chemistry, Newcastle University, Newcastle upon Tyne NE1 7RU, UK*
[b]*GE-Healthcare, The Grove Centre, White Lion Road, Amersham, Buckinghamshire HP7 9LL, UK*
[c]*Department of Chemistry, Imperial College, London SW7 2AY, UK*

The addition of a radical scavenger (e.g. TEMPO) significantly improves both the reproducibility and the material yield in the formation of fluoroarenes by the fluoridation of diaryliodonium salts.

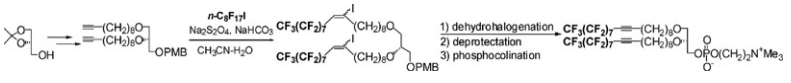


J. Fluorine Chem., 128 (2007) 133

Synthesis of phospholipids containing perfluorooctyl group and their interfacial properties

Toshiyuki Takagi, Katsuki Takai, Teruhiko Baba, Toshiyuki Kanamori

Research Center of Advanced Bionics (RCAB), National Institute of Advanced Industrial Science and Technology (AIST), AIST Tsukuba Central 5, 1-1-1 Higashi, Tsukuba, Ibaraki 305-8565, Japan



Introduction of the perfluorooctyl moiety into the alkyn compound under the mild condition was successful by using $Na_2S_2O_4$ as a free radical initiator to yield the flexible hydrophobic components of fluorinated phosphatidylcholine. The fluorinated phosphatidylcholine formed stable and fluid vesicle membrane in water at ambient temperature.

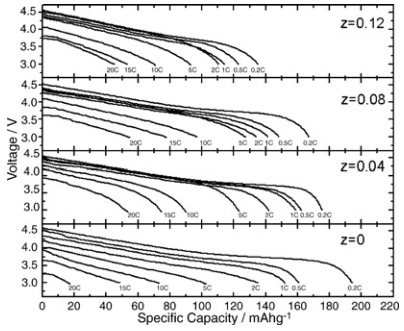
J. Fluorine Chem., 128 (2007) 139

Synthesis of $LiNi_{1/3}Co_{1/3}Mn_{1/3}O_{2-z}F_z$ cathode material from oxalate precursors for lithium ion battery

Yu-Shi He, Li Pei, Xiao-Zhen Liao, Zi-Feng Ma

Department of Chemical Engineering, Shanghai Jiao Tong University, Shanghai 200240, PR China

The effects of fluorine substitution on the discharge characteristics of the prepared $LiNi_{1/3}Co_{1/3}Mn_{1/3}O_{2-z}F_z$ cathode materials in voltages of 3.0–4.6 V at different discharge rate.

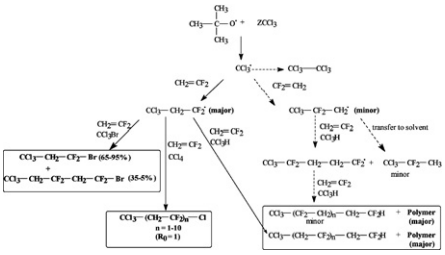


J. Fluorine Chem., 128 (2007) 144

Kinetics of radical telomerization of vinylidene fluoride in the presence of CCl_3Z chain transfer agents

Michel Duc, Bruno Ameduri, Ghislain David, Bernard Boutevin

Laboratoire de Chimie Macromoléculaire, UMR/CNRS 5253, Institut Gerhardt, Ecole Nationale Supérieure de Chimie de Montpellier, 8 rue de l'Ecole Normale, 34296 Montpellier Cedex 5, France

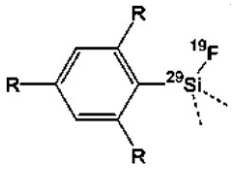


J. Fluorine Chem., 128 (2007) 150

Improved ^{29}Si NMR detection of sterically protected fluorosilanes using the $^{29}Si(^{19}F)$-INEPT technique

Rudolf Pietschnig

Karl-Franzens-Universität, Institut für Chemie, Schuberstraße 1, A-8010 Graz, Austria

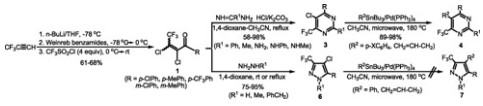


J. Fluorine Chem., 128 (2007) 153

One pot synthesis of novel α,β-dichloro-β-trifluoromethylated enones and their application to the synthesis of trifluoromethylated heterocycles

Sung Lan Jeon[a], Joa Kyum Kim[a], Jang Bae Son[a], Bum Tae Kim[b], In Howa Jeong[a]

[a]*Department of Chemistry, Yonsei University, Wonju 220-710, South Korea*
[b]*Korea Research Institute of Chemical Technology, Daejeon 305-606, South Korea*



Trifluoropropynyllithium was reacted with 1 equiv of Weinreb benzamides in THF at −78 to 0 °C, followed by treatment with 4 equiv of trifluoromethanesulfonyl chloride to give α,β-dichloro-β-trifluoromethylated enones **1** in 61–68% yield. The reactions of **1a** with substituted amidines or hydrazines in refluxing 1,4-dioxane-CH_3CN afforded trifluoromethylated chloropyrimidines **3** and chloropyrazoles **6** in 58–98% yields. The microwave-assisted coupling reactions of **3** with substituted phenylstannane and allylstannane in refluxing CH_3CN in the presence of $Pd(PPh_3)_4$ provided the corresponding phenyl and allyl substituted pyrimidines **4** in 89–98% yields.