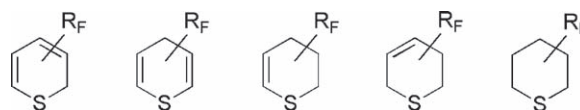




Graphical Abstracts/J. Fluorine Chem. 137 (2012) 1–5

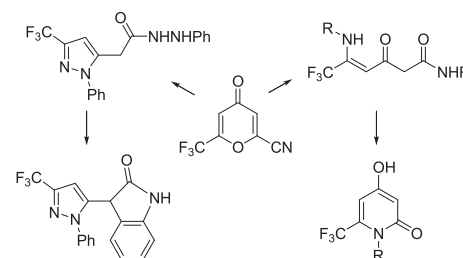
J. Fluorine Chem., 137 (2012) 6

Synthesis of polyfluoroalkyl containing thiopyran derivatives and their applications in fluoroorganic chemistry

Sergiy A. Siry^a, Vadim M. Timoshenko^a, Jean-Philippe Bouillon^b^aInstitute of Organic Chemistry, NAS of Ukraine, Murmanska 5, 02094 Kyiv, Ukraine^bUniversité de Rouen, Laboratoire COBRA UMR 6014 & FR 3038, IRCOF, 1 rue Tesnière, F-76821 Mont-Saint-Aignan Cedex, France

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2-Cyano-6-(trifluoromethyl)-4H-pyran-4-one: A novel versatile CF₃-containing building block

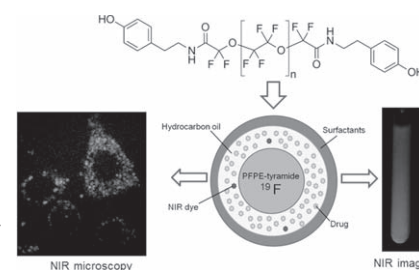
Boris I. Usachev^a, Dmitrii L. Obydenov^a, Gerd-Volker Röschenthaler^b, Vyacheslav Ya. Sosnovskikh^a^aDepartment of Chemistry, Ural Federal University, Kuybysheva st., 48, 620026 Ekaterinburg, Russia^bSchool of Engineering and Science, Jacobs University Bremen gGmbH, Campus Ring 1, 28759 Bremen, Germany

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NIR-labeled perfluoropolyether nanoemulsions for drug delivery and imaging

Claire E. O'Hanlon^a, Konjit G. Amede^a, Meredith R. O'Hear^b, Jelena M. Janjic^a^aGraduate School of Pharmaceutical Sciences, Duquesne University, Pittsburgh, PA 15282, United States^bDepartment of Biological Sciences, Carnegie Mellon University, Pittsburgh, PA 15213, United States

First perfluoropolyether (PFPE) nanoemulsion formed by combination of self-assembly and high energy emulsification techniques (sonication and microfluidization), incorporates water insoluble COX-2 inhibitor (celecoxib) and can be detected by two imaging modalities: near-infrared (NIR) and ¹⁹F MR.

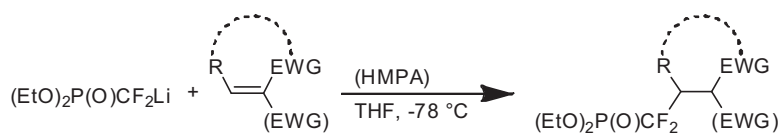


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Nucleophilic additions of [(diethoxyphosphoryl) difluoromethyl]lithium to α,β -unsaturated compounds

Prabhakar Cherkupally, Petr Beier

Institute of Organic Chemistry and Biochemistry,
Academy of Sciences of the Czech Republic, Flemingovo nám. 2,
166 10 Prague, Czech Republic



R = H, alkyl, aryl
EWG = COR, CO₂R, CN, NO₂, SPh, SO₂Ph

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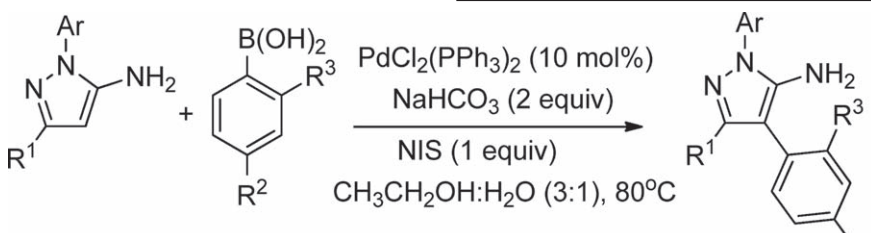
Pd-catalyzed direct arylation of phenylpyrazole: Synthesis of fipronil derivatives with aryl boronic acids promoted by a stoichiometric amount of NIS

Ting Lv^a, Xiao-Hong Zhang^a, Jiang-Sheng Han^a, Ping Zhong^{ab}

^aCollege of Chemistry and Materials Science,
Wenzhou University, Wenzhou 325035, China

^bOujiang College, Wenzhou University, Wenzhou 325035, China

Pd-catalyzed arylation of phenylpyrazole (**1a-c**) with arylboronic acid to afford a series of fipronil derivatives.



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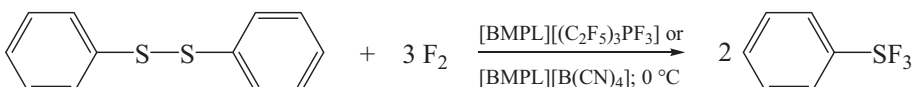
Selective elemental fluorination in ionic liquids

M.E. Hirschberg^a, N.V. Ignat'ev^b, A. Wenda^a, H. Willner^a

^aFB C Inorganic Chemistry, Bergische Universität
Wuppertal, Gaußstr. 20, D-42097 Wuppertal, Germany

^bPM-ABE, Merck KGaA, Frankfurter Str. 250, D-64293 Darmstadt, Germany

Selective elemental fluorination in ionic liquids as a new methodology. Tested reagents are organic disulphides and organic iodides. Stabilities of selected ionic liquids against diluted fluorine are investigated.



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Synthesis and characterization of polyfluorinated 2,2'-bipyridines and their palladium and platinum complexes, [MX₂(bis(R_fCH₂OCH₂)-2,2'-bpy)] (X = Cl, Br)

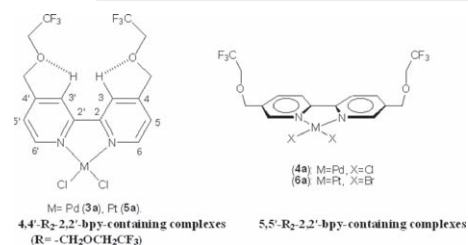
Norman Lu^a, Yu-Meng Ou^{ab}, Tsung-Yao Feng^{ab}, Wei-Jen Cheng^{ab},
Wen-Han Tu^a, Han-Chang Su^a, Xiao Wang^b, Liu Liu^b, Matthew D. Hennek^b,
Todd S. Saylor^b, Joseph S. Thrasher^{bc}

^aInstitute of Organic and Polymeric Materials, National Taipei University of Technology,
Taipei 106, Taiwan

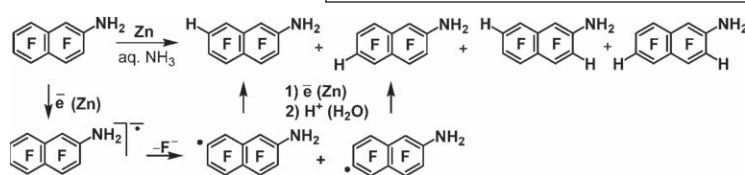
^bDepartment of Chemistry, The University of Alabama, Tuscaloosa, AL 35487, USA

^cDepartment of Chemistry, Clemson University, Advanced Materials Research Laboratory, Anderson, SC 29625, USA

Both **4a** and **6a** show the two ponytails with the ethereal linkage being more easily rotated, and the two poly-fluorinated ponytails are situated in a way that they are perpendicular to the square plane of the core metal center. In contrast, the structures of complexes **3a** and **5a** are shown for comparison.



Hydrodefluorination of polyfluoro-2-naphthylamines by Zn in aqueous NH₃: A correlation of the product distribution and the computationally predicted regioselectivity of the substrate radical anion fragmentation



Galina A. Selivanova^a, Alexey V. Reshetov^{ab}, Irina V. Beregovaya^a, Nadezhda V. Vasil'eva^a, Irina Yu. Bagryanskaya^a, Vitalij D. Shteingarts^a

^a*N. N. Vorozhtsov Institute of Organic Chemistry, Siberian Division of the Russian Academy of Sciences, 9 Ac. Lavrentjev Avenue, Novosibirsk 630090, Russia*

^b*Novosibirsk State University, Pirogova Str., 2, Novosibirsk 630090, Russia*

The combined results of chemical, CVA and quantum-chemical studies provide a mechanistic insight into an interrelation between the regioselectivities of polyfluoro-2-naphthylamines hydrodefluorination and fragmentation of the substrate radical anions.

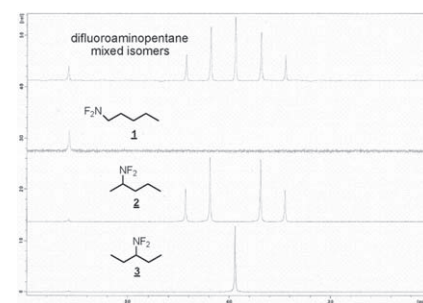
¹⁹F NMR of linear *N,N*-difluoroaminoalkanes

Randolph K. Belter

Y-Not Chemical Consulting, Zachary, LA 70791, USA

¹⁹F NMR of difluoroaminoalkanes.

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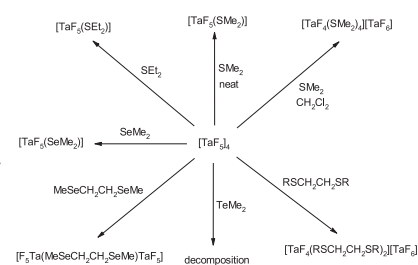
Tantalum(V) fluoride complexes of thio- and seleno-ether ligands and a comparison with the TaX₅ (X = Cl or Br) analogues

Sophie L. Benjamin, Alison Hyslop, William Levason, Gillian Reid

School of Chemistry, University of Southampton, Southampton SO17 1BJ, UK

Synthesis and characterisation of the very rare examples of TaF₅ complexes with soft donor ligands are reported, and the properties compared to analogues with TaCl₅ and TaBr₅.

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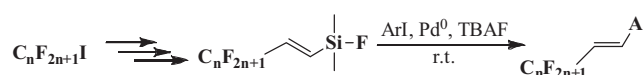
Hiyama coupling reaction of fluorosilanes: Scope and mechanistic considerations

Ágnes Csapó, Andrea Bodor, József Rábai

Institute of Chemistry, Eötvös Loránd University, P.O. Box 32, H-1518, Budapest 112, Hungary

A series of novel fluorosilanes were prepared and applied for a room temperature Hiyama coupling reaction.

J. Fluorine Chem., 137 (2012) 85



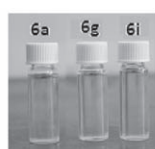
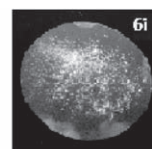
J. Fluorine Chem., 137 (2012) 93

Synthesis, characterization and photoluminescence properties of strong fluorescent BF₂ complexes bearing (2-quinolin-2-yl)phenol ligands

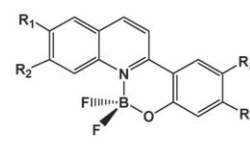
Ru-Zheng Ma, Qi-Chao Yao, Xi Yang, Min Xia

Department of Chemistry, Zhejiang Sci-Tech University, Hangzhou 310018, PR China

Novel *N,O* bidentate BF₂ complexes were prepared in good to excellent yields through the coordination of (2-quinolin-2-yl)phenol and its derivatives with boron trifluoride etherate under mild conditions. These compounds exhibited strong fluorescence both in organic solvents and in solid state. Their photophysical properties were thoroughly studied by UV-visible absorption and fluorescence spectroscopy in various solvents. All these complexes were characterized by infrared (IR) spectroscopy, ¹H, ¹³C, ¹⁹F nuclear magnetic resonance (NMR) as well as microanalysis.

day light (CHCl₃ solution)365 nm (CHCl₃ solution)

365 nm (solid state)



Complex 6a-i

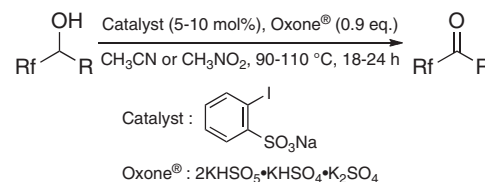
J. Fluorine Chem., 137 (2012) 99

A new entry for the oxidation of fluoroalkyl-substituted methanol derivatives: Scope and limitation of the organiodine(V) reagent-catalyzed oxidation

Yusuke Tanaka, Takashi Ishihara, Tsutomu Konno

Department of Chemistry and Materials Technology, Kyoto Institute of Technology, Matsugasaki, Sakyo-ku, Kyoto 606-0962, Japan

The hypervalent iodine(V)-catalyzed oxidation of fluorinated alcohols to the corresponding ketones was developed as the alternative to Dess–Martin oxidation.

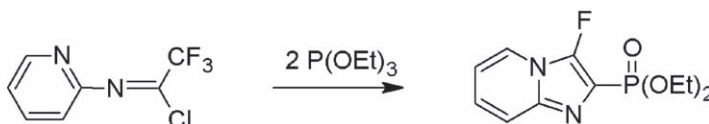


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Synthesis of 3-fluoro-2-(diethoxyphosphoryl)imidazo[1,2-*a*]pyridine

Alexei Yu. Aksinenko, Tatyana V. Goreva, Tatyana A. Epishina, Vladimir B. Sokolov

Institute of Physiologically Active Compounds, Severnyi pr. 1, Chernogolovka, Moscow Region 142432, Russia

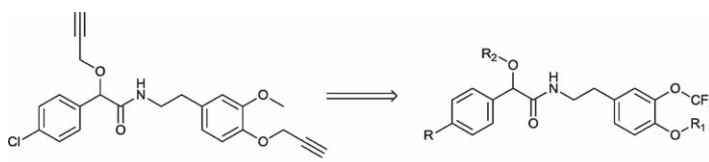


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Synthesis and fungicidal activity of new fluorine-containing mandelic acid amide compounds

Shuai Li^a, Can Cui^a, Man-Yi Wang^a, Shui-Jing Yu^a, Yan-Xia Shi^b, Xiao Zhang^a, Zheng-Ming Li^a, Wei-Guang Zhao^a, Bao-Ju Li^b^aState Key Laboratory of Elemento-Organic Chemistry, National Pesticide Engineering Research Center (Tianjin), Nankai University, Tianjin 300071, China^bInstitute of Vegetables and Flowers, Chinese Academy of Agricultural Science, Beijing, China

A series of novel fluorine-containing mandelic acid amide compounds were designed and synthesized by a facile method, and their structures were characterized by ¹H nuclear magnetic resonance (NMR) and high-resolution mass spectrometry. The preliminary *in vivo* bioassays indicated that some of the title compounds showed excellent fungicidal activities *in vivo* against *Pseudoperonospora cubensis* at the dosage of 25 mg L⁻¹, which were comparable with the control (Mandipropamid).



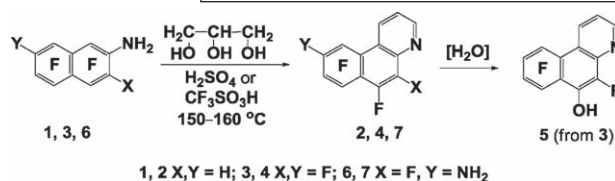
J. Fluorine Chem., 137 (2012) 113

Skraup-like cyclization of polyfluoro-2-naphthylamines: Vicarious electrophilic substitution of fluorine

Galina A. Selivanova, Alexey V. Reshetov, Irina Yu Bagryanskaya,
Vitalij D. Shteingarts

N. N. Vorozhtsov Institute of Organic Chemistry, Siberian Division of the Russian
Academy of Sciences, Lavrentiev Ave. 9, Novosibirsk 630090, Russia

Polyfluoro-2-naphthylamines with glycerol in H_2SO_4 or CF_3SO_3H at 150–160 °C give polyfluorobenzo[f]quinolines via intramolecular vicarious electrophilic fluorine substitution.



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Brønsted acidic ionic liquids: Green, efficient and reusable catalyst for synthesis of fluorinated spiro [indole-thiazinones/thiazolidinones] as antihistamic agents

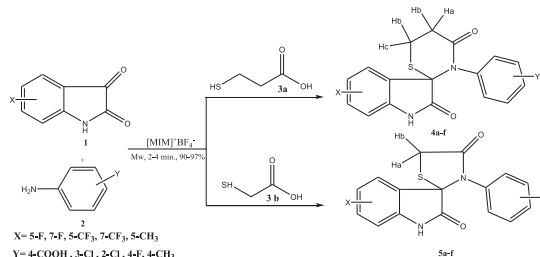
Kapil Arya^a, Diwan Singh Rawat^a, Anshu Dandia^b, Hiroaki Sasai^c

^aDepartment of Chemistry, University of Delhi, Delhi 110007, India

^bDepartment of Chemistry, University of Rajasthan, Jaipur 302055, India

^cInstitute of Scientific and Industrial Research (ISIR), Osaka University, Mihogaoka,
Ibaraki, Osaka 567-0047, Japan

. Brønsted acidic ionic liquid containing nitrogen-based organic cations 1-methylimidazolium and 1-butyl-3-methylimidazolium and inorganic anions such as BF_4^- , PF_6^- and $PTSA^-$ have been used as a catalysts and reaction medium for synthesis of fluorinated spiro[3H-indole-3,2'-tetrahydro-1,3-thiazine]-2,4'(1H)-diones (**4**) spiro[3H-indole-3,2'-thiazolidine]-2,4'(1H)-diones (**5**). The titled compounds are screened for antihistamic activity against guinea pig ileum.



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Selectfluor™ F-TEDA-BF₄ mediated thiocyanation or isothiocyanation of alcohols by in situ generation of [⁺SCN] under heterogeneous and neutral conditions

Ardeshir Khazaei^a, Sadegh Rahmati^a, Ali Khalafi-nezhad^b, Shahnaz Saednia^a

^aFaculty of Chemistry, Bu-Ali Sina University, P.O. Box 651783868, Hamedan, Iran

^bDepartment of Chemistry, Faculty of Science, Shiraz University P.O. Box 6617715143, Shiraz, Iran

