Journal of Fluorine Chemistry 130 (2009) 517–521

Contents lists available at ScienceDirect

Journal of Fluorine Chemistry

journal homepage: www.elsevier.com/locate/fluor

Graphical Abstracts/J. Fluorine Chem. 130 (2009) 517–521

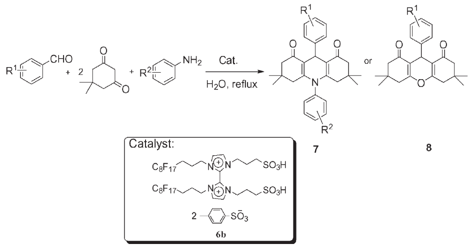
J. Fluorine Chem., 130 (2009) 522

Brønsted acidic imidazolium salts containing perfluoroalkyl tails catalyzed one-pot synthesis of 1,8-dioxo-decahydroacridines in water

Wei Shen, Li-Min Wang, He Tian, Jun Tang, Jian-jun Yu

Laboratory for Advanced Materials & Institute of Fine Chemicals, East China University of Science and Technology, 130 Meilong Road, Shanghai 200237, People's Republic of China

A simple and one-pot protocol for the synthesis of 1,8-dioxo-9,10-diaryl-decahydroacridines via Brønsted acidic imidazolium salts containing perfluoroalkyl tails catalyzed three-component reactions in water has been described.



J. Fluorine Chem., 130 (2009) 528

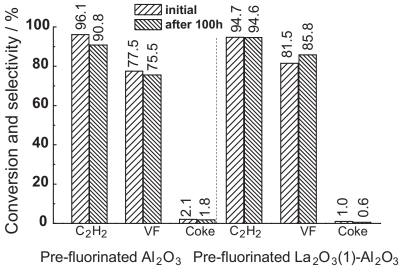
Vapor phase hydrofluorination of acetylene to vinyl fluoride over La_2O_3-Al_2O_3 catalysts

Qing-Yuan Bi[a], Lin Qian[a], Li-Qiong Xing[a], Li-Ping Tao[a], Qiang Zhou[b], Ji-Qing Lu[a], Meng-Fei Luo[a]

[a]*Zhejiang Key Laboratory for Reactive Chemistry on Solid Surfaces, Institute of Physical Chemistry, Zhejiang Normal University, Jinhua 321004, China*

[b]*Juhua Group Engineering Technology Research Center of National fluoride materials, Quzhou 324004, China*

It is found that the La-doped catalyst gives a stable catalytic performance and a higher selectivity to the desired vinyl fluoride (VF) and a lower selectivity to coke deposition compared with the pure Al_2O_3 catalyst. The enhancement in VF selectivity on the La-doped catalysts is due to the elimination of acidic sites on the Al_2O_3 surface by the addition of La_2O_3, evidenced by NH_3–TPD results.



J. Fluorine Chem., 130 (2009) 534

Mean amplitudes of vibration of the ClF_6^-, BrF_6^- and IF_6^- anions

Enrique J. Baran

Centro de Química Inorgánica (CEQUINOR, CONICET/UNLP), Facultad de Ciencias Exactas, Universidad Nacional de La Plata, C. Correo 962, 1900 La Plata, Argentina

Mean amplitudes of vibration for the title anions were calculated from known spectroscopic and structural data in the temperature range between 0 and 1000 K.
Calculated mean amplitudes of vibration (in Å) at 298.16K :
$u_{(\mathrm{Cl–F})} = 0.0572$; $u_{(\mathrm{Br–F})} = 0.0498$;
$u_{(\mathrm{I–F})} = 0.0431$(short); 0.0567(long)

doi:10.1016/S0022-1139(09)00124-9

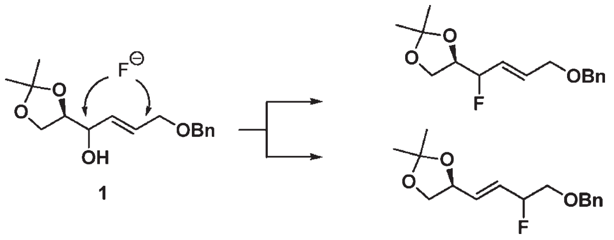
J. Fluorine Chem., 130 (2009) 537

A regio- and stereoisomeric study of allylic alcohol fluorination with a range of reagents

Stefano Bresciani, Alexandra M.Z. Slawin, David O'Hagan

School of Chemistry and Centre for Biomolecular Sciences, University of St Andrews, North Haugh, St Andrews, Fife, Scotland, KY16 9ST, UK

The outcome of the regio- and stereoselectivity of fluorination of diastereoisomers of allylic alcohol **1** with a range of dehydroxyfluorination reagents is reported.



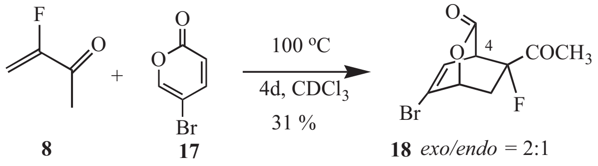
J. Fluorine Chem., 130 (2009) 544

Cycloaddition reactions of 3-fluorobutenone

Timothy B. Patrick, Hongli Li

Department of Chemistry, Southern Illinois University, Box 1652, Edwardsville, IL, USA

The title compound (**8**) is shown to react with several dienes with good regioselectivity and with *exo* selectivity.

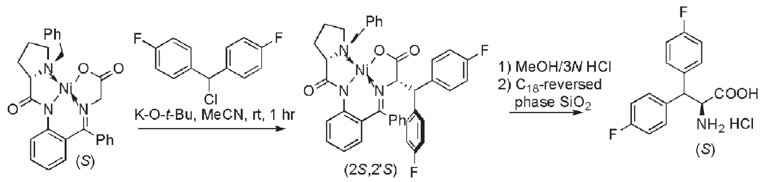


J. Fluorine Chem., 130 (2009) 547

Operationally convenient asymmetric synthesis of (*S*)-2-amino-3,3-*bis*-(4-fluorophenyl)propanoic acid

Vadim A. Soloshonok[a,b], Taizo Ono[a,b]

[a]*National Institute of Advanced Industrial Science and Technology (AIST), 2266-98 Anagahora, Shimoshidami, Moriyama-ku, Nagoya, Aichi Prefecture 463-8560, Japan*
[b]*Department of Chemistry and Biochemistry, University of Oklahoma, Norman, OK 73019, United States*



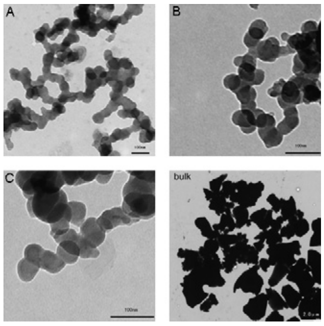
J. Fluorine Chem., 130 (2009) 550

Size-dependent defluoridation properties of synthetic hydroxyapatite

Shan Gao[a], Rong Sun[a], Zhenggui Wei[a,b], Haiyan Zhao[a], Huixin Li[a], Feng Hu[a]

[a]*College of Resources and Environmental Sciences, Nanjing Agricultural University, Nanjing 210095, PR China*
[b]*School of Chemistry and Environmental Science, Nanjing Normal University, Nanjing 210097, PR China*

For the first time, various particle sized hydroxyapatite samples, prepared by a thermal decomposition of precursor, were used to remove the excess fluoride from water.



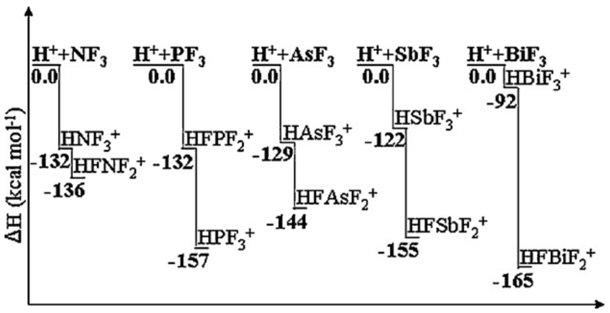
J. Fluorine Chem., 130 (2009) 557

Protonated MF_3 (M = N–Bi): Structure, stability, and thermochemistry of the $H–MF_3^+$ and $HF–MF_2^+$ isomers

Maria Giordani, Felice Grandinetti

Dipartimento di Scienze Ambientali, Università della Tuscia, L.go dell' Università, 01100 Viterbo, Italy

The protonation of the group XV fluorides MF_3 (M = N, P, As, Sb, Bi) has been investigated by high level of theory ab initio calculations.



J. Fluorine Chem., 130 (2009) 562

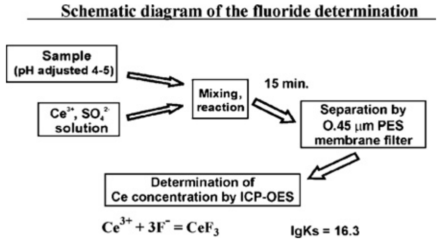
Indirect determination of fluoride in aqueous samples by inductively coupled plasma atomic emission spectrometry following precipitation of CeF_3

M. Kovács[a], M.H. Nagy[b], J. Borszéki[a], P. Halmos[c]

[a]*Institute of Analytics, Environmental Science and Limnology, University of Pannonia, Egyetem u. 10, Veszprém, H-8200, Hungary*

[b]*Chemical Toxicological Lab. Dept., National Public Health and Medical Officer Service, Veszprém, József A. u. 36, Veszprém, H-8200, Hungary*

[c]*Institute of Analytics, Environmental Science and Limnology, Hungarian Academy of Sciences, University of Pannonia, Egyetem u. 10, Veszprém, H-8200, Hungary*



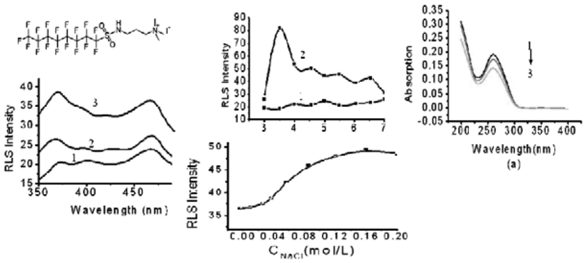
Measuring the excess cerium(III) ion after precipitation by means of inductively coupled plasma atomic emission spectrometry, it is possible to develop a method for indirect fluoride determination. Fluoride contaminated solid hazardous wastes and groundwater samples were studied to prove the applicability of the proposed method.

J. Fluorine Chem., 130 (2009) 567

Determination of nucleic acid based on increased resonance light-scattering of fluorinated surfactants

Ling Li, Zu Shun Xu, Quan Pan, Gong Wu Song

Ministry-of-Education Key Laboratory for the Synthesis and Application of Organic Function Molecules, Hubei University, Wuhan City, Hubei Province 430062, People's Republic of China

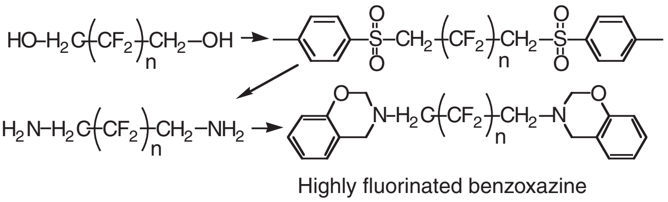


J. Fluorine Chem., 130 (2009) 573

Synthesis and characterization of highly fluorinated diamines and benzoxazines derived therefrom

Pedro Velez-Herrera, Hatsuo Ishida

Department of Macromolecular Science and Engineering, Case Western Reserve University, Cleveland, OH 44106, United States



Highly fluorinated benzoxazine

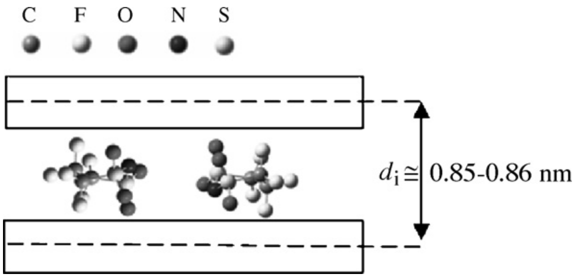
A novel method for the synthesis of highly fluorinated benzoxazines in a high yield derived form a α,ω-diamine-polyfluoroalkane and α,ω-dianiline-polyfluoroalkane is described. The synthetic method increases the yield by 20% and reduces the reaction time by 90% in comparison to the currently known method, allowing synthesis of large quantity of highly fluorinated diamines. The diamines were used as the precursors for benzoxazine compounds. The diamines and benzoxazines are obtained in high yield and purity. The structures are characterized by NMR and FT-IR.

J. Fluorine Chem., 130 (2009) 581

Electrochemical preparation of graphite intercalation compounds containing a cyclic amide, $[CF_2(CF_2SO_2)_2N]^-$

Bahar Özmen-Monkul[a], Michael M. Lerner[a], Rika Hagiwara[b]

[a]*Department of Chemistry, Oregon State University, Corvallis, OR 97331-4003, USA*
[b]*Graduate School of Energy Science, Kyoto University Sakyo-ku, Kyoto, 606-8501, Japan*



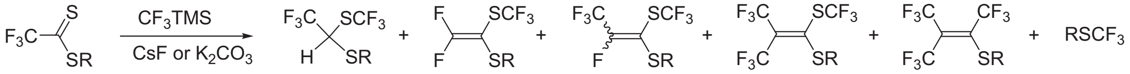
Graphite intercalation compounds (GICs) of stages 2 and 3 which have cyclo-hexafluoropropane-1,3-bis(sulfonyl)amide anion, $[CF_2(CF_2SO_2)_2N]^-$ as an intercalate are prepared by electrochemical oxidation of graphite in a nitromethane electrolyte. These GICs show marked differences in exchange chemistry from those containing linear amide intercalates.

J. Fluorine Chem., 130 (2009) 586

Domino nucleophilic trifluoromethylations of alkyl perfluorodithioesters

Vadim M. Timoshenko, Charles Portella

Université de Reims Champagne Ardenne, Institut de Chimie Moléculaire de Reims, CNRS UMR 6229, Faculté des Sciences, BP 1039, 51687 Reims Cedex 2, France

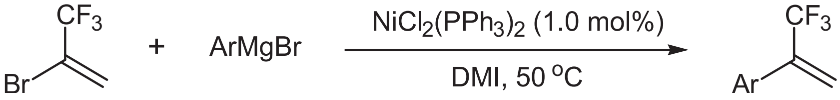


J. Fluorine Chem., 130 (2009) 591

Synthesis of α-trifluoromethylstyrene derivatives *via* Ni-catalyzed cross-coupling of 2-bromo-3,3,3-trifluoropropene and aryl Grignard reagents

Osamu Kobayashi, Daisuke Uraguchi, Tetsu Yamakawa

Sagami Chemical Research Center, Hayakawa 2743-1,
Ayase, Kanagawa 252-1193, Japan



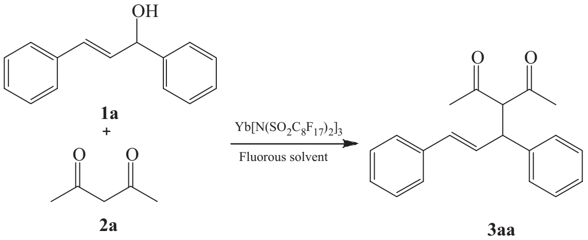
The Ni-catalyzed cross-coupling of 2-bromo-3,3,3-trifluoropropene (**1**) and aryl Grignard reagents was investigated. $NiCl_2(PPh_3)_2$ showed the highest activity in the coupling of **1** and phenylmagnesium bromide providing α-trifluoromethylstyrene (89%) in 1,3-dimethyl-2-imidazolidinone at 50 °C for 30 min. Various α-trifluoromethylstyrene derivatives could be produced in satisfactory yields by $NiCl_2(PPh_3)_2$-catalyzed coupling using aryl Grignard reagents.

J. Fluorine Chem., 130 (2009) 595

$Yb[N(SO_2C_8F_{17})_2]_3$-catalyzed allylation of 1,3-dicarbonyl compounds with allylic alcohols in a fluorous biphase system

Ming-Gui Shen, Chun Cai, Wen-Bin Yi

Chemical Engineering College, Nanjing University of Science & Technology, Nanjing 210094, JiangSu, China



Allylation of 1,3-dicarbonyl compounds with allylic alcohols was successfully accomplished using rare earth metal (III) bis(perfluorooctanesulfonyl)imide [RE(NPf$_2$)$_3$, RE = La~Lu] as catalysts in fluorous solvents. Ytterbium bis(perfluorooctanesulfonyl)imide [Yb(NPf$_2$)$_3$] catalyzes the high efficient reaction of allylation in fluorous solvents. By simple separation, fluorous phase containing only catalyst can be reused several times.

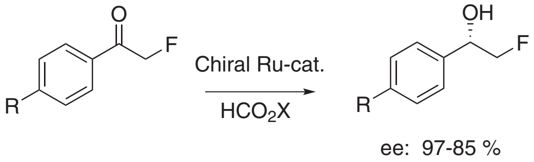
J. Fluorine Chem., 130 (2009) 600

Ruthenium-catalysed asymmetric transfer hydrogenation of *para*-substituted α-fluoroacetophenones

Erik Fuglseth[a], Eirik Sundby[b], Bård H. Hoff[a]

[a]*Norwegian University of Science and Technology, Department of Chemistry, Høgskoleringen 5, NO-7491 Trondheim, Norway*
[b]*Sør-Trøndelag University College, E. C. Dahls gate 2, 7004 Trondheim, Norway*

The asymmetric transfer hydrogenation of *para*-substituted α-fluoroacetophenones using ruthenium based chiral catalysts gave the (*S*)-1-aryl-2-fluoroethanols in ee ranging from 85–97.5%.



R = OMe, OBn, H, F, Br, CF_3, CN, NO_2.
X = H, Na.

J. Fluorine Chem., 130 (2009) 604

Corrigendum to "A novel pyrrolidinium ionic liquid with 1,1,2,2-tetrafluoro-2-(1,1,2,2-tetrafluoroethoxy)ethanesulfonate anion as a recyclable reaction medium and efficient catalyst for Friedel–Crafts alkylations of indoles with nitroalkenes" [J. Fluorine Chem. 130 (2009) 394–398]

Jin-Hong Lin, Cheng-Pan Zhang, Zhi-Qiang Zhu, Qing-Yun Chen, Ji-Chang Xiao

Key Laboratory of Organofluorine Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 345 Lingling Road, Shanghai 200032, PR China