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Graphical Abstracts/J. Fluorine Chem. 178 (2015) vii–xviii

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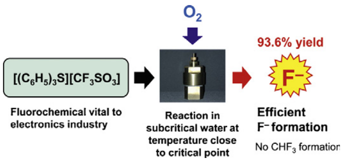
Efficient oxygen-induced decomposition of triphenylsulfonium trifluoromethanesulfonate to fluoride ions in subcritical water

Hisao Hori, Hiroaki Yokota

Department of Chemistry, Faculty of Science, Kanagawa University, 2946 Tsuchiya, Hiratsuka 259-1293, Japan



● $CF_3SO_3^-$ in $[(C_6H_5)_3S][CF_3SO_3]$ showed low reactivity in pure subcritical water under argon. ● Zerovalent iron enhanced decomposition of $CF_3SO_3^-$ in $[(C_6H_5)_3S][CF_3SO_3]$ to F^-. ● O_2 further increased the decomposition of $CF_3SO_3^-$ to F^- at temperature close to the critical point. ● The maximum F^- yield reached 93.6% by use of O_2. ● Decomposition of $CF_3SO_3^-$ in $[(C_6H_5)_3S][CF_3SO_3]$ proceeded more efficiently than that in CF_3SO_3K.

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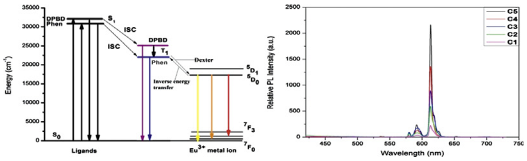
Synthesis, photoluminescent features and intramolecular energy transfer mechanism of europium (III) complexes with fluorinate β-diketone ligand and auxiliary ligands

Manju Bala, Satish Kumar, V.B. Taxak, Priti Boora, S.P. Khatkar

Department of Chemistry, Maharshi Dayanand University, Rohtak 124001, Haryana, India

● A series of novel europium (III) complexes based on fluorinated β-diketone have been synthesized. ● IR, NMR, XRD, TG/DTA-DSC, UV–vis, PL techniques for the complexes. ● Excellent photophysical properties of complexes. ● Relative emission spectra of complexes **C1–C5**. ● Energy transfer mechanism from ligands to central metal ion in complexes.



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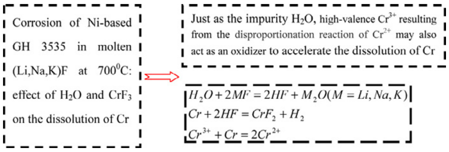
Electrochemical study of the corrosion of a Ni-based alloy GH3535 in molten (Li,Na,K)F at 700 °C

Yanli Wang[a], Huijun Liu[a], Guojun Yu[b], Juan Hou[b], Chaoliu Zeng[a]

[a]*Laboratory for Corrosion and Protection, Institute of Metal Research, Chinese Academy of Sciences, 62 Wencui Road, Shenyang 110016, China*
[b]*Shanghai Institute of Applied Physics, Chinese Academy of Sciences, 2019 Jialuo Road, Shanghai 201800, China*


Corrosion of Ni-based GH 3535 in molten (Li,Na,K)F at 700^{0}C: effect of H_2O and CrF_3 on the dissolution of Cr

Just as the impurity H_2O, high-valence Cr^{3+} resulting from the disproportionation reaction of Cr^{2+} may also act as an oxidizer to accelerate the dissolution of Cr

$$H_2O + 2MF = 2HF + M_2O (M = Li, Na, K)$$
$$Cr + 2HF = CrF_2 + H_2$$
$$Cr^{3+} + Cr = 2Cr^{2+}$$

● The corrosion of GH3535 goes on mainly by the preferential dissolution of Cr from the substrate. ● The presence of 5%H_2O in Ar promotes the cathodic and anodic reactions of GH3535 in molten (Li,Na,K)F. ● CrF_3 acts as an oxidizer to accelerate the dissolution of Cr from the substrate.

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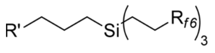
Synthesis and fluorophilicity of compounds with tris(3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl)silyl substituent

Tomáš Strašák[a,b], Lucie Červenková Šťastná[a], Veronika Bílková[a,c], Veronika Skoupá[a,d], Jindřich Karban[a], Petra Cuřínová[a], Jan Čermák[a,b]

[a]*Institute of Chemical Process Fundamentals of the Czech Academy of Sciences, v.v.i., Rozvojová 2/135, 165 02 Prague 6, Czech Republic*
[b]*Faculty of Science, Purkinje University Ústí nad Labem, České mládeže 8, 400 96 Ústí nad Labem, Czech Republic*
[c]*Department of Organic Chemistry, Faculty of Chemical Technology, University of Chemistry and Technology Prague, Technická 5, 166 28 Prague 6, Czech Republic*
[d]*Department of Chemistry of Natural Compounds, Faculty of Food and Biochemical Technology, University of Chemistry and Technology Prague, Technická 5, 166 28 Prague 6, Czech Republic*



R' = $-C_2H$, $-C_2SiMe_3$, $-N_3$, $-NMe_2$, Me_3N^+-, 2-pyridylmethyl-, N-butylimidazolium-, $C_5H_5TiCl_2C_5H_4$-, (cod)CoC_5H_4-

- New synthons, ligands and transition metal complexes containing heavy fluorous tag.
- New imidazolium-type heavy fluorous ionic liquids.
- Partition coefficients in a standard fluorous/organic solvent system.
- Comparison of fluorophilicity data using different methods.

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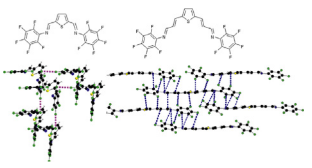
Fluorine–fluorine type II versus π_F–π stacking interactions in the supramolecular organizations of extended thiophene derivatives end capped by imino-perfluorophenyl units

Chady Moussallem, Magali Allain, Charlotte Mallet, Frédéric Gohier, Pierre Frère

Université d'Angers, MOLTECH-Anjou, UMR CNRS 6200, 2 boulevard Lavoisier, 49045 Angers cedex, France

- Efficient synthesis of azomethine bonds from pentafluoroaniline.
- Extended conjugated systems based on thiophene and iminoperfluorophenil moieties.
- Supramolecular organization via aryl–perfluroaryl interactions and halogen bonds.



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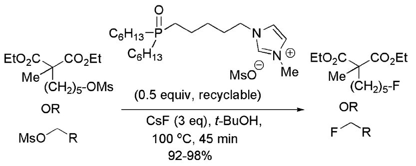
Catalytic nucleophilic fluorination by an imidazolium ionic liquid possessing trialkylphosphine oxide functionality

Minakshmi Paramanik[a], Rekha Singh[a], Sulekha Mukhopadhyay[b], Sunil K. Ghosh[a]

[a]*Bio-Organic Division, Bhabha Atomic Research Centre, Trombay, Mumbai 400085, India*
[b]*Chemical Engineering Division, Bhabha Atomic Research Centre, Trombay, Mumbai 400085, India*

- Enhanced rates of fluorination compared to conventional ionic liquids using CsF.
- Cooperative effect of imidazolium and phosphine oxide groups facilitates fluorination.
- Simple and quick procedure suitable for ^{18}F-labeled compounds preparation.
- Recyclability of the catalyst with no change in yield and purity of the products.



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Anthracene-Fe^{3+} ensemble based turn-on fluorescent probes for selective detection of fluoride

Xiaoliang Dong, Yuhan Zhou, Yuming Song, Jingping Qu

State Key Laboratory of Fine Chemicals, School of Pharmaceutical Science and Technology, Dalian University of Technology, Dalian 116024, PR China

- Two new and simple chemosensors were synthesized.
- They show highly selective recognition for Fe^{3+}.
- Ensemble **3a**-Fe^{3+} and **3b**-Fe^{3+} complexes show selective detection of F^-.
- Both of the Fe^{3+} and F^- recognition processes are reversible.