Candidature Post-Doc

Vous êtes Docteur et vous souhaitez déposer votre proposition de candidature dans le cadre du dispositif MOBIDOC Post-Doc, merci de remplir les champs suivants :

Nouvelle édition MOBIDOC : Vers l'Excellence

Informations sur le Docteur :

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Expérience professionnelle (s'il y en a) :

enseignante contractuelle à l'institut supérieur des technologies de l'environnement à borj cedria

Informations à propos du diplôme de doctorat et des travaux de recherche et innovation (R&I) envisagées

Etablissement universitaire d'obtention du doctorat : *

FST

Structure de recherche du doctorat : *

FST

Discipline à laquelle appartient le diplôme de doctorat : *

CHIMIE

Année d’obtention : *

2015

Intitulé de la thèse : *

Action de nucléophiles F-alkylés sur les isothiocyanates: Synthèse, étude structurale par RMN à température variable et études de quelques aspects de la réactivité des O-F-alkylthiocarbamates et S-F-alkyldithiocarbamates obtenus.

Bref descriptif de la thèse : *

New highly fluorinated O-thiocarbamates and S-dithiocarbamates were synthesized and fully characterized by IR, multinuclear (1H, 13C and 19F) NMR and HRMS spectroscopic techniques and by elemental analysis. Importantly, the NMR data indicate that the rotation about the N-CS bond in these thiocarbamates and dithiocarbamates is slow at room temperature, confirming the coexistence of the two s-cis and s-trans rotamers.
The rotation around the N-CS bond in these thiocarbamates was studied using dynamic NMR spectroscopy. The results show that the incorporation of F-alky groups on the oxygen atom of the thiocarbamate increases the rotational barrier relative to corresponding (non fluorinated) O-alkyl thiocarbamates. The barrier to rotation about the N-CS bond in dithiocarbamates has also been studied by variable temperature NMR and compared with that obtained for their thiocarbamate counterparts. Our dynamic NMR experiments also reveal that the rotation barrier around the N-CS bond in dithiocarbamates is less affected by the nature of S-F-alkyl substituents compared with that in thiocarbamates.
The study of the reactivity of O-F-alkylthiocarbamates and S-F-dithiocarbamates has been carried out through the alkylation of the thio- and dithiocarbamates. This was dictated by the large number of works describing the interesting medicinal properties acquired by thiocarbamates upon alkylation. Likewise, and by treating the F-alkylthio and dithio-carbamates in the presence of a halogenated derivative with cesium carbonate in THF and in the presence of tetrabutylammonium iodide, a series of highly fluorinated S-alkylimines could be obtained. The products were all characterized by IR, mass spectrometry and NMR.
Another significant aspect of the reactivity of F-alkylthiocarbamates was investigated. This consisted in using the title thiocarbamates as ligands for the preparation of new mercury(II) complexes. The synthetic strategy employed is to deprotonate the ligand (carbamate) by means of an excess of triethylamine as the proton scavenger and then adding mercury (II) chloride. Ten new mercury (II) complexes with F-alkylthiocarbamtes were thus prepared and characterized by IR, multinuclear (1H, 13C, 19F and 199Hg) NMR and in some cases by X-ray diffraction analyses.

Thème(s) de R&I envisagés dans le cadre du projet MOBIDOC : *

CHIMIE ORGANIQUE
SYNTHESE ORGANIQUE
Fluorine chemistry
RMN
MÉTHODES D ANALYSES SPECTROSCOPIQUES
IR, UV
organométalliques
chimie de coordination

A quel(s) secteur(s) d’activité(s) pourrait éventuellement appartenir l’organisme bénéficiaire d'accueil visé ? *

chimie
environnement
CITET
ETAP

Informations complémentaires (s'il y a lieu) :