Société Française de Spectrométrie de Masse SFSM Société Française des Isotopes Stables SFIS

23èmes Journées Françaises de Spectrométrie de Masse NANTES
4èmes Journées de la Société Française des Isotopes Stables 11-14 septembre 2006

Formulaire de soumission de communication

A compléter et à renvoyer avant le 30 mai 2006 par courriel à l'adresse suivante :

abstracts.jfsm2006@vet-nantes.fr

Session T1-Caractérisation et quanti. de petites molécules

Orale ☒ Par affiche ☐

Identité de l'auteur principal soumettant la communication

Nom	: FOCANT
Prénom	: Jef

Coordonnées de l'auteur principal soumettant la communication

Organisme	: Université de Liège
Adresse	: Laboratoire de Spectrométrie de Masse, Chimie Analytique Organique et Biologique, allée de la Chimie, B6c
Code Postal	: 4000
Ville	: LIEGE
Pays	: BELGIQUE
Courriel	: JF.Focant@ulg.ac.be
Tél.	: +32 (0)4 366 3531
Fax	: +32 (0)4 366 4387

Références de la communication soumise

Titre	: **HYPHENATED TECHNIQUES FOR THE MEASUREMENT OF POPS IN BIOLOGICAL MATRICES**
Auteur(s)	: J.-F. Focant et E. De Pauw
Adresse(s)	: idem

Contenu de la communication soumise (350 mots maximum)

Résumé :

Hyphenated analytical techniques are strictly defined as the on-line coupling between a “slow” separation technique and a “rapid” spectroscopic detection technique (e.g. GC-MS). Separation techniques themselves can result from on-line coupling (“hyphenation”) of basic separation procedures (e.g. extraction, chromatography…). Basic chromatographic techniques can also be coupled and the comprehensiveness of such a multi(two)-dimensional chromatographic technique is achieved when the entire sample is subjected to the whole separation process under orthogonality and conservation rules. The multiplex sign is then used instead of the hyphen sign to designate such a chromatographic displacement. The efficiency of the symbiotic relation between analytical techniques depends upon the degree of orthogonality, or the degree of independence of the retention mechanisms in the various dimensions.

Because a rather selective bio-accumulation of Persistent Organic Pollutants (POPs) occurs in biological samples, their analysis is usually less demanding in terms of separation power than for environmental samples that can virtually contain all compounds. Nevertheless, the measurement of POPs in biological samples is challenging and concern dozens of analytes. Hyphenated and comprehensive multi-dimensional techniques find here a stimulating area of application.

We report on latest developments in the coupling and hyphenation of sample preparation techniques as well as separation and detection techniques for the measurement of selected POPs in foodstuffs of animal origin. Target analytes consist in polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), and polybrominated diphenyl ethers (PBDEs). Data obtained using emerging hyphenated multi-dimensional techniques demonstrate the power of such instrumentation for target compound analysis as well as for comprehensive screening of biological samples. The combination of enhanced analytical and chromatographic resolution permits the separation and quantification of target analytes in complex mixtures at high analytical speed under stringent QA/QC requirements..