XV Reunión Científica de la SECyTA y VII Reunión Nacional de la SEEM

Resumen razonado (en inglés) de la comunicación que le hayan parecido más interesantes de la XV SECyTA (200-250 palabras aproximadamente)

KN-02 New Analytical Strategies for Sorption-Based Methods (*J.M.F. Nogueira*):

Many strategies based on sample preparation have been developed in order to diminish time, interferences and resources at the same way that yielding high recovery levels. In these terms, modern sorption-based techniques have been revised in this conference:

Absorptive techniques: SPME (Solid Phase Micro Extraction) as a static sampling technique and SBSE (Stir Bar Sorptive Extraction) as a dynamic sampling technique are known as most applied techniques in this group. Some general advantages related to this group are that they are fast, easy to apply, sensible enough, robust and effective. On the other hand, some disadvantages are associated to SPME (expensive fibers, limited amount of sorbent, best applied in GC and experience required) and to SBSE (thermal desorption required, coating deterioration and limited for polar compounds).

Adsorptive techniques: included in this group, Adsorptive Micro Extraction techniques, also known as *AµE*, are novel analytical approaches indicated to monitor trace levels of polar compounds in aqueous matrices. These strategies are characterized by providing selective sorbent phases, requiring low sample volume and a negligible amount of organic solvents employed. *BAµE* (Bar adsorptive micro-extraction), which consist on a magnetized bar recovered with a specific sorbent coating is a representative strategy of this group and it can be applied a as immersion or floating mode.

In conclusion, many strategies can be applied depending on the type and polarity of the analytes and detection limits required. Taken into account these terms, *BAµE* seems to be a competitive strategy yielding good quality parameters.

Resumen razonado (en inglés) de la comunicación que le hayan parecido más interesantes de la VII SEEM (200-250 palabras aproximadamente)

KN-01 Breath Analysis: Transitioning from Bench to Bedside (*Pablo Martínez-Lozano Sinués*):

Biological markers are extensively used in order to monitor the biochemical activity of a subject. Till now, typical sampling strategies applied in this field are blood and urine analysis, which can be, sometimes too much invasive for the subject. After it, other analytical and detective strategies such as the use of animals, GC-MS, PTR-MS (Proton Transfer Reaction – Mass Spectrometry) or sensors can be used. Although a great amount of techniques is available for monitoring biological markers, any of them is perfect in terms of coverage and time of analysis. For this reason, another technique is considered in this conference: SESI/MS (Secondary Electrospray Ionization Mass Spectrometry), which analyse gas samples ionized by contact with an electrospray of acidified or ammoniated solvent. Taken it into account, a breath analysis platform has been developed in order to monitor biological markers in real-time breath samples.

Some of the advantages associated to this technique are: it allows to perform fast analysis, it is not an invasive technique for the subject and it has achieved sensitivities in the sub-ppt range for polar vapors such as drugs, explosives and breath.

This technique has been already applied, for instance, in drugs detection or in the monitoring of OSA (Obstructive Sleep Apnea).

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