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An experimental approach to perform solid liquid extraction in flow systems

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Chemical characterization of solid samples is a cumbersome laboratorial task when it requires the previous preparation of a liquid extract. From grinding to the filtration of the extract, this sample pre-treatment procedure usually involves several glassware operations and analyst time, before final analysis is performed. In order to simplify solid-liquid extraction experimental work, the development of a strategy to deal with solid samples within flow systems is therefore both an appealing [1-3] and challenging task.

In this work, a strategy that aims to address the main critical aspects of performing solid liquid extraction within a flow system is presented: liquid extract enrichment, filtration of the solid and fast/easy solid sample replacement.

A solid liquid extraction chamber prototype to be coupled into flow systems was designed and constructed. Analytical applications are shown to illustrate the functioning of the proposed prototype.

References

¹ W. Tiyapongpattana et al., *Talanta* 62 (2004) 765.

² R. Chomchoei et al., *Anal. Chim. Acta* 526 (2004) 177.

³ P.S. Fedotov et al., *Anal. Chim. Acta* 538 (2005) 93.

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