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BOOK  
OF ABSTRACTS

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## Low pressure chromatographic flow systems based on monolithic columns and electrochemical detection.

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The coupling of monolithic columns to low pressure flow systems has been introduced in 2003 [1]. Still, the development of analytical methodologies following this strategy has not yet been widely explored. Recently, our research group initiated the development of analytical methodologies using this approach. The case study selected focused on the determination of methylxanthines in coffee brewed samples with spectrophotometric detection [2]. The results obtained highlighted the potentialities of this strategy as a multiparametric analytical tool in the analysis of complex samples. The main advantages presented were the easy coupling of monolithic columns into low pressure flow systems, low reagent consumption and low cost.

In this work, this line of research is being further studied. The coupling of laboratory-made electrochemical detectors to low pressure chromatographic flow systems is exploited. Critical aspects related with minimizing band broadening and ionic strength adjustment are experimentally viewed. It is expected to reinforce the potentialities of this approach, especially compared to usual HPLC systems. A case study attesting the applicability of this strategy shall be presented.

### References

- [1] D. Satinsky, P. Solich, P. Chocholous, R. Karlicek, *Anal. Chim. Acta*, 499 (2003) 205-214
- [2] João Rodrigo Santos, António O.S.S. Rangel, *Anal. Chim. Acta*, 715 (2012) 57-63

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