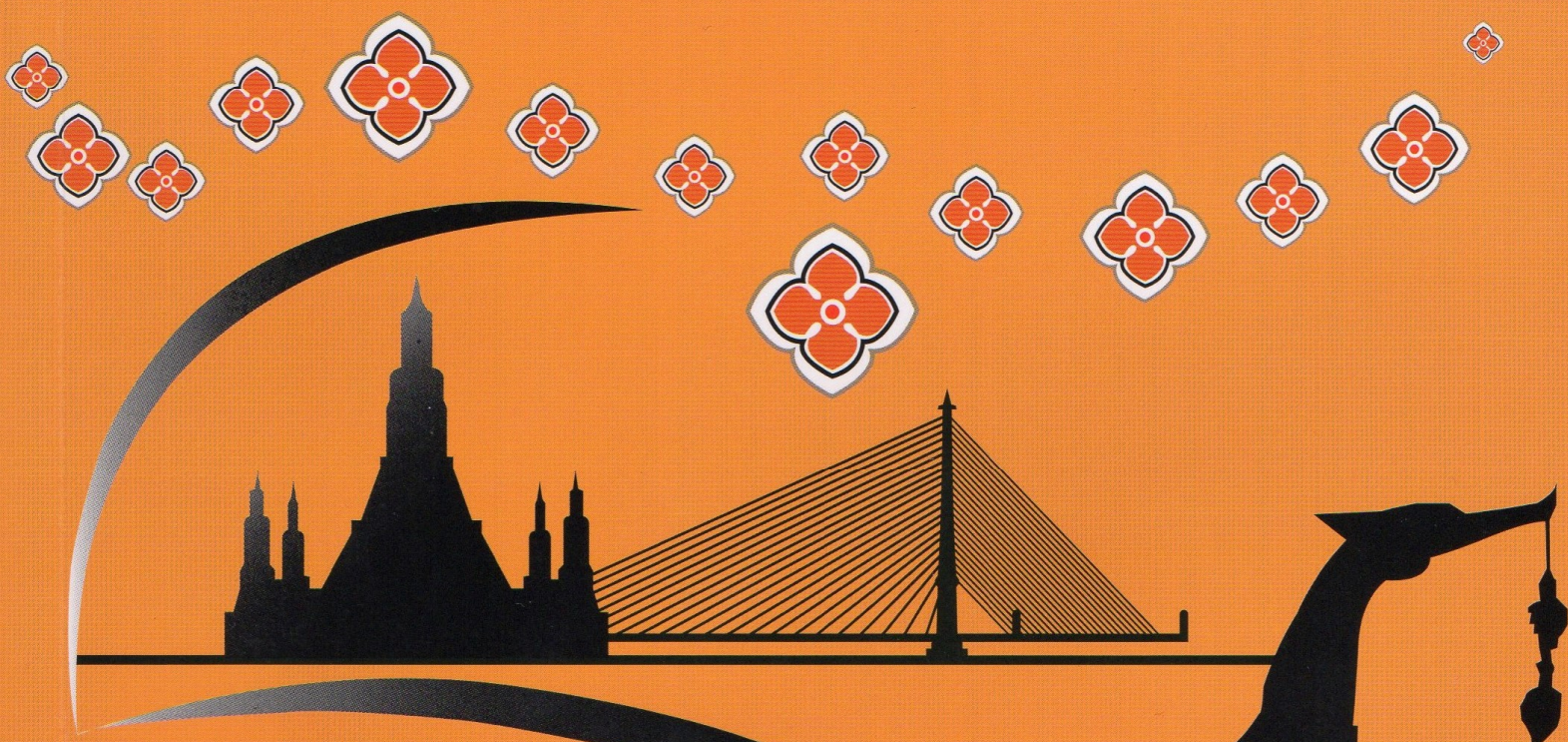


Abstract book

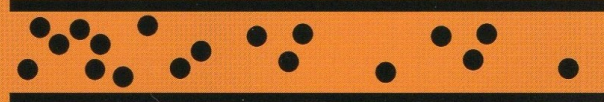
วิธีวิเคราะห์สมัยใหม่ biological ๒๐๑๕ Excursion Gas diffusion
FIA MPAD อาหาร ๒๐๑๕ GC MBLVP
CE 14th การวิเคราะห์
SIA การเตรียมตัวอย่าง quantitative Solid phase extraction
SIEMA ตัวอย่าง analysis
MSFIA ๑๕
Sample สเปกโทรสโกปี SIA CIA spectroscopy
Electrochemistry ๒๐๑๕ สิ่งแวดล้อม เคมีไฟฟ้า

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Design of microfluidic paper-based devices as disposable, easy-to-use solutions for on-hand, real time analysis

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Abstract

The idea of an on hand solution for instant analysis is appealing and has been gaining relevancy. So, the search for faster, user friendly, ready-to-use, and still accurate monitoring techniques has been increasing. In this context, microfluidic paper-based analytical devices (μ PADs) provide a novel approach for conducting inexpensive, on-site analyte determinations as an attractive alternative to the current monitoring techniques requiring specialized skills, laborious laboratory processes, or/and expensive equipment. The μ PADs small dimensions, inexpensive materials, minimal consumption of both reagents and sample, and ease of operation, makes them ideally suited for unskilled operators. The use of digital scanning as detection process has enabled to maintain the accuracy and reliability of the analysis in opposition to other paper-based visual indication techniques, with a positive/negative or concentration range response. In colourimetric reactions, the analyte concentration relates to the colour intensity, which can be measured with flatbed scanner and computer software [1]. Overall, the analytical performance of the μ PADs makes them quite attractive for rapid on-site analysis in many fields, namely environmental and biological samples. An overview of the advantages and limitations of this emerging quantification method is presented, highlighting the versatility of μ PADs with applications to both natural waters and saliva samples.

Keywords: Microfluidic paper-based analysis, Disposable devices, Water samples, Saliva samples

References

[1] Jayawardane, B. M.; McKelvie, I. D.; Kolev, S. D. *Talanta* 100 (2012), 454–460.

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