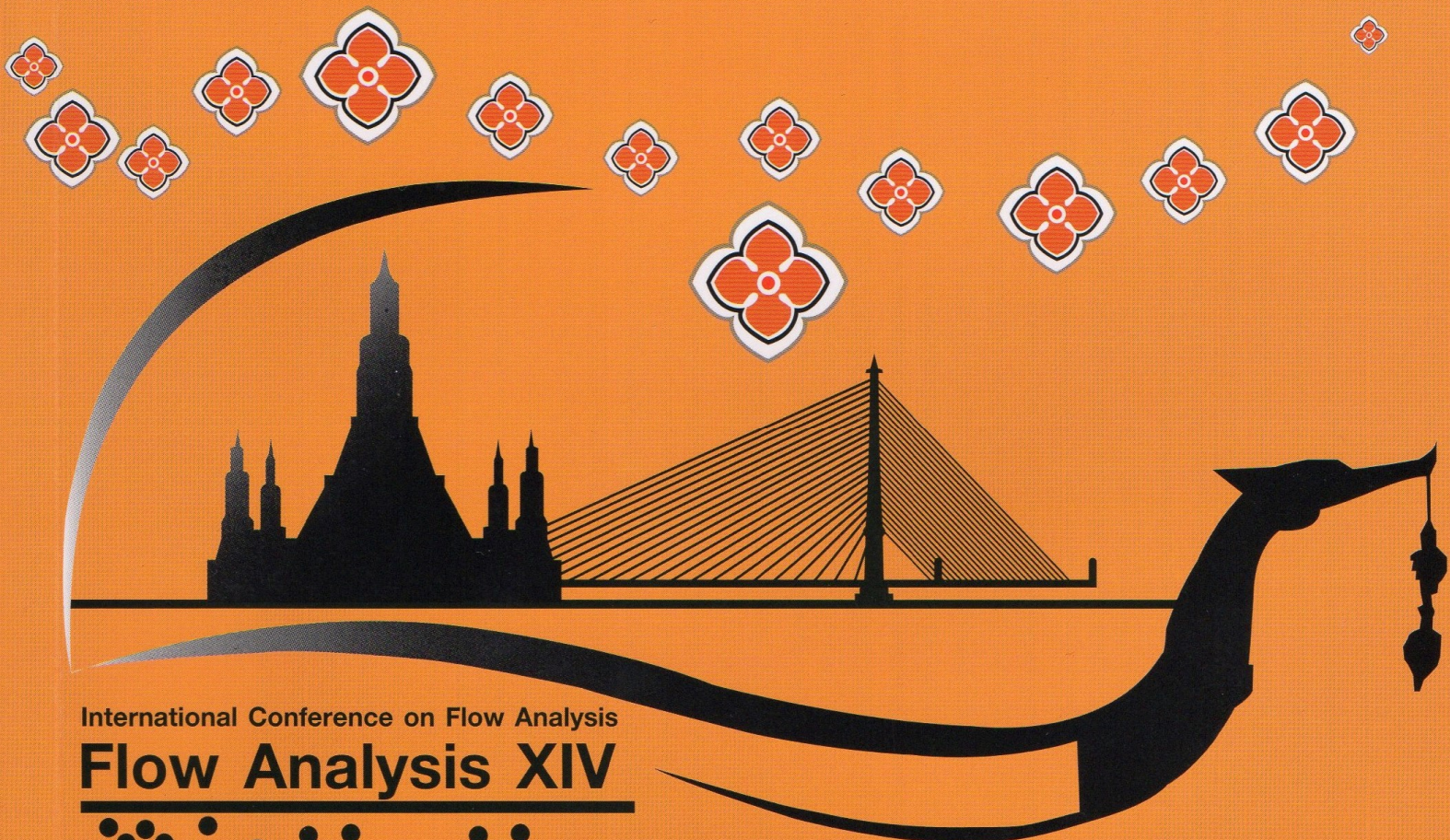


Abstract book

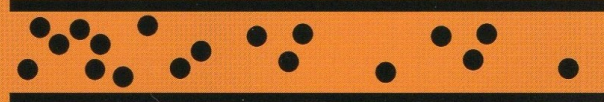
วิธีวิเคราะห์สมัยใหม่ biological ๒๐๑๕ Excursion Gas diffusion
FIA MPAD อาหาร ๒๐๑๕ GC MBLVP
CE 14th การวิเคราะห์
SIA การเตรียมตัวอย่าง quantitative Solid phase extraction
SIEMA ตัวอย่าง analysis
MSFIA ๑๔
Sample สเปกโทรสโกปี SIA CIA spectroscopy
Electrochemistry ๒๐๑๘ สิ่งแวดล้อม เคมีไฟฟ้า

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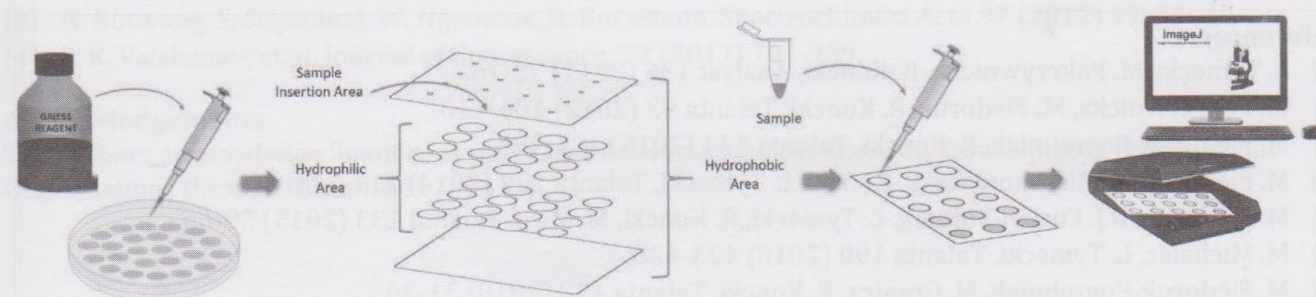
Bangkok, Thailand 2018

Design and assembly of microfluidic paper-based analytical devices (μ PAD) for the quantification of nitrite and nitrate in saliva

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Abstract

Nitrite and nitrate (NO_x) are compounds found everywhere, from waters to food, and even in the human body. Salivary content of NO_x has been primarily believed to be correlated with oral cancer and other disfunctions and infections in the mouth. However, recently some studies reported newly found benefits to the presence of nitrite and nitrate in the oral cavity. In any case, it has become more and more relevant to carry out its assessment. In this context, the objective of this work was to develop a microfluidic paper-based analytical device (μ PAD) for nitrite/nitrate determination in saliva samples. The choice of the μ PAD approach intended to explore the known advantages of these devices, which make them ideally suited to conduct on-hand analyte determinations. While many of the current monitoring techniques require specialized skills, laborious laboratory processes, or/and expensive equipment, μ PADs provide a way to very quickly and cheaply attain an analytical result. The minimal consumption of reagent and sample, coupled with the portability has enabled the development devices ideally suited for unskilled operators and regular monitoring. The determination was based upon the colorimetric determination of nitrite with the Griess reaction.



Keywords: Saliva, Nitrate, Nitrite, Microfluidic Paper-based Analytical Device (μ PAD), Griess Reaction

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