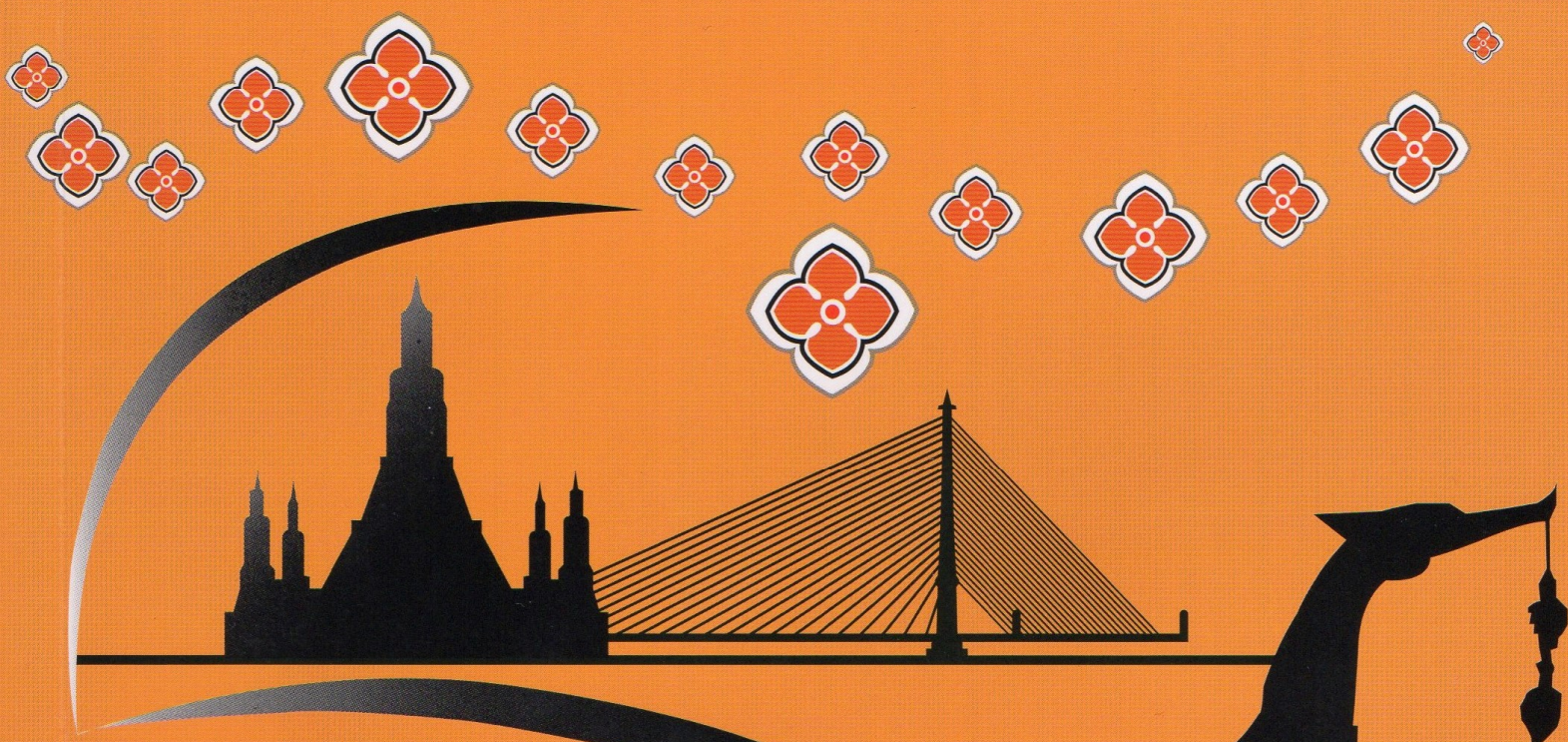


# Abstract book

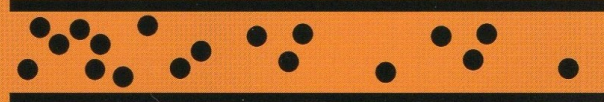
วิธีวิเคราะห์สมัยใหม่ biological ๒๐๑๕ Excursion Gas diffusion  
FIA MPAD อาหาร ๒๐๑๕ GC MBLVP  
CE 14th การวิเคราะห์  
SIA การเตรียมตัวอย่าง quantitative Solid phase extraction  
SIEMA ตัวอย่าง analysis  
MSFIA ๑๕  
Sample สเปกโทรสโกปี SIA CIA spectroscopy  
Electrochemistry ๒๐๑๕ สิ่งแวดล้อม เคมีไฟฟ้า

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## Bromate determination in natural waters and soil leachates using sequential injection analysis

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### Abstract

Bromate has been associated to some adverse health effects [1] and consequently categorized as potentially carcinogenic to humans by the International Agency for Research on Cancer [2]. Bromate ion is not naturally present in water, it can occur as a result of industrial water pollution or as consequence of soil contaminations. Additionally, when disinfection processes, namely ozonation, are carried out in waters containing it can be converted to bromate [2]. Several methods for bromate determination have been described in the literature such as ion and gas chromatography, flow injection analysis, and capillary electrophoresis [3]. The aim of this work was to develop an alternative automatic analytical tool as a fast, environment friendly and low-cost method, for bromate determination in natural waters and soil leachates. A sequential injection (SI) method based on the reaction between bromate and o-dianisidine (ODA), in the presence of bromide, was developed to attain the spectrophotometric determination of bromate. Operation parameters like the reagent and sample volume, the reagent preparation (ODA and KBr proportion) and reaction temperature were studied. Three samples of ground water were ozonized for one hour and bromate quantification was performed.

**Keywords:** Bromate, o-dianisidine, Sequential injection analysis, Soil leachates, Natural waters

### References

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- [2] World Health Organization; *Guidelines for Drinking-water Quality* (2011) 324-325
- [3] Michalski, R.; Lyko, A.; *Critical Reviews in Analytical Chemistry* 43 (2013) 100-122

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