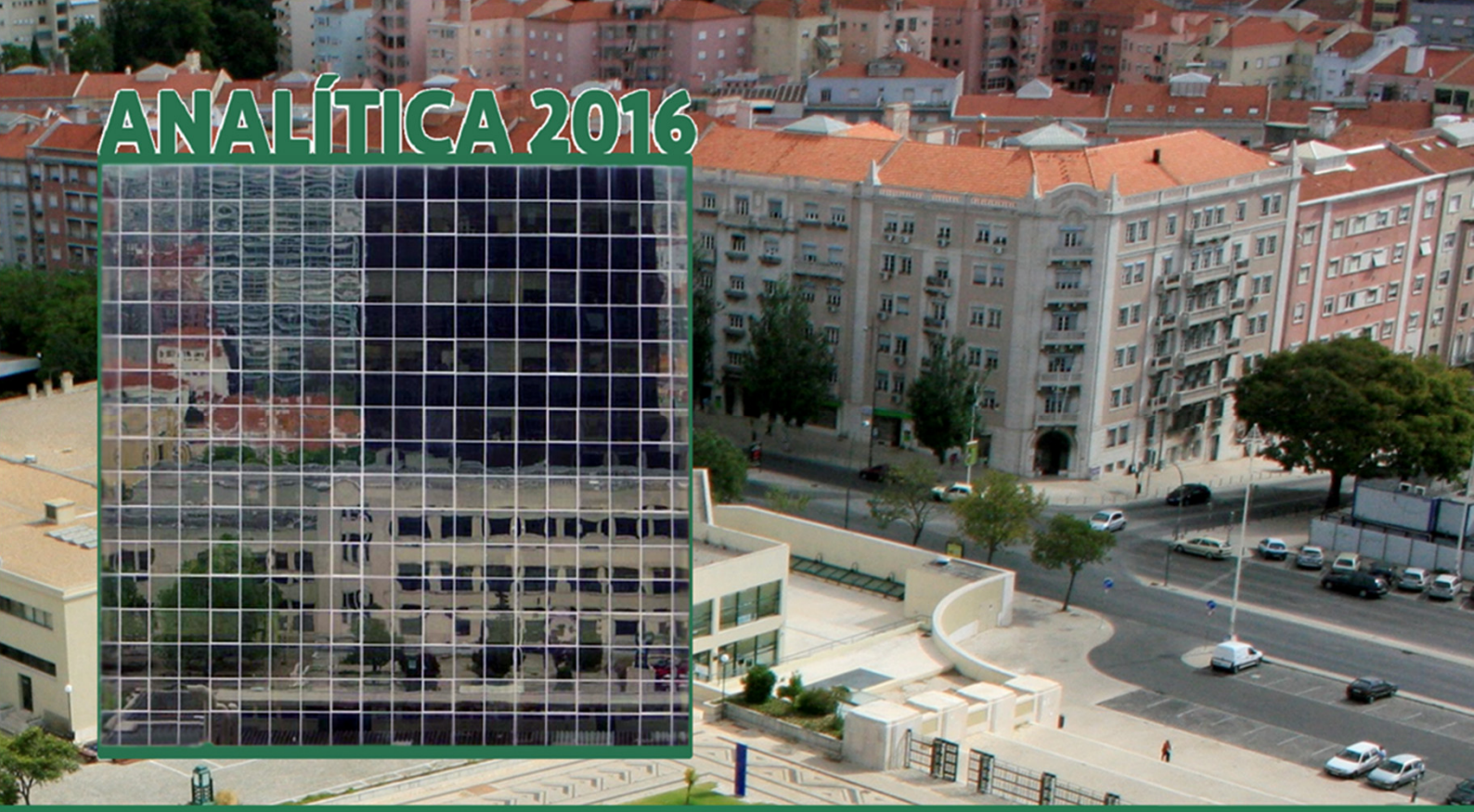

ANALÍTICA 2016

8TH MEETING OF THE ANALYTICAL CHEMISTRY DIVISION OF THE PORTUGUESE CHEMICAL SOCIETY

Book of Abstracts

SOCIEDADE PORTUGUESA DE QUÍMICA

LISBON - PORTUGAL

6 – 7 JUNE 2016

P-7

CONSTRUCTION OF AN IRON(III) SELECTIVE ELECTRODE WITH A RHODAMINE-BASED NEWLY SYNTHESIZED CHELATOR

Letícia Mesquita[1], Raquel B. R. Mesquita[1,2], Andreia Leite[3],
Maria Rangel[3], António O. S. S. Rangel[1]

[1]Universidade Católica Portuguesa, CBQF - Centro de Biotecnologia e Química Fina – Laboratório Associado, Escola Superior de Biotecnologia,
Rua Arquiteto Lobão Vital, Apartado 2511, 4202-401 Porto, Portugal, arangel@porto.ucp.pt
[2]ICBAS/UP - Instituto de Ciências Biomédicas Abel Salazar,
Universidade do Porto, Rua Jorge Viterbo Ferreira 228, P 4050-313 Porto, Portugal
[3]REQUIMTE-UCIBIO - Instituto de Ciências Biomédicas Abel Salazar,
Universidade do Porto, Rua Jorge Viterbo Ferreira 228, P 4050-313 Porto

The concentration of iron in natural waters is an important indicator of the water quality. As a micronutrient, iron(III) has a particularly important role in the environment as shown by the cycle of iron. The variation of physical-chemical parameters of the water body can shift the oxidation state of iron. The impact of this process may cause irreversible environmental damage.

A rhodamine-based turn-on fluorescent ligand has been especially designed to complex iron(III) in physiological applications [1]. In addition to their high iron (III) affinity, its low solubility in water potentially makes it potentially suitable for the preparation of ion-selective membranes. In this scenario, different cocktail compositions were used for the preparation of the electrode plastic membrane. The resulting electrodes performance was evaluated in terms of sensitivity, response time and potential interferences; these results are presented and discussed in this presentation.

The combination of these ligands with potentiometric detection intended to add the advantage of portability, possible with ion selective electrodes, with the ligands selectivity. In this context, we aim to apply the iron(III) electrodes to the in situ determination of iron in natural waters.

Acknowledgements: This work was supported by National Funds from FCT – Fundação para a Ciência e a Tecnologia through projects UID/Multi/50016/2013 and PTDC/AAG-MAA/5887/2014. The authors thank Prof. Maria da Conceição Montenegro (Univ. Porto) for helpful discussion.

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