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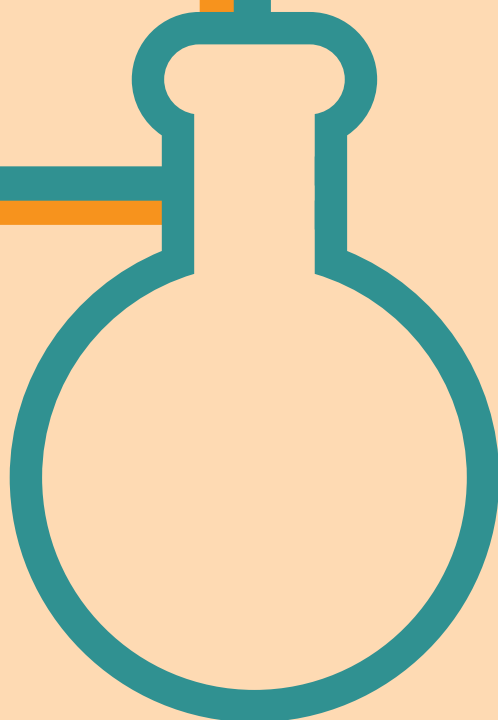
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**BOOK OF
ABSTRACTS**



STUDY OF 3,4-HYDROXYPYRIDINONES FUNCTIONALIZED BEADS FOR IRON(III) DETERMINATION IN A MICROSEQUENTIAL INJECTION SOLID PHASE SPECTROMETRY MODE

Joana L. A. Miranda¹, Raquel B. R. Mesquita^{1,2}, Andreia Leite², André Silva², Maria Rangel², António O. S. S. Rangel¹

¹*Universidade Católica Portuguesa, CBQF - Centro de Biotecnologia e Química Fina - Laboratório Associado, Escola Superior de Biotecnologia, Rua Arquitecto Lobão Vital, 172, 4200-374 Porto, Portugal*

²*REQUIMTE - LAQV, Instituto de Ciências Biomédicas de Abel Salazar, Universidade do Porto, Rua de Jorge Viterbo Ferreira, 228, 4050-313 Porto, Portugal
arangel@porto.ucp.pt*

In a previous study [1], a bidentate 3,4-hydroxypyridinone (3,4-HPO) ligand was used as a novel colour reagent, in a sequential injection mode, to carry out the spectrophotometric determination of iron(III); the metal ion was previously retained in nitrilotriacetic acid (NTA) microbeads. In this study, the objective was to accomplish both iron(III) retention and spectrophotometric measurement, by functionalizing the beads with the bidentate 3,4-hydroxypyridinone ligand. This way, by using the sorbent/colour reagent in consecutive cycles, the ligand consumption could be minimized. The spectrophotometric reaction was carried out at the beads surface, packed in a lab-on-valve flow cell, in a solid phase spectrometry (SPS) approach. The results obtained were compared with those obtained using the NTA Superflow resin for iron (III) retention. The functionalized beads proved to be a more efficient method to quantify iron(III) at pH~7 if compared to the NTA resin, that retains iron(III) at pH~2. This is an important factor if a direct application to biological samples, namely blood serum, is envisaged.

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[1] Mesquita, R. B. R.; Suárez, R.; Cerdà, V.; Rangel, M.; Rangel, A. O. S. S. *Talanta* **2013**, *108*, 38-45.