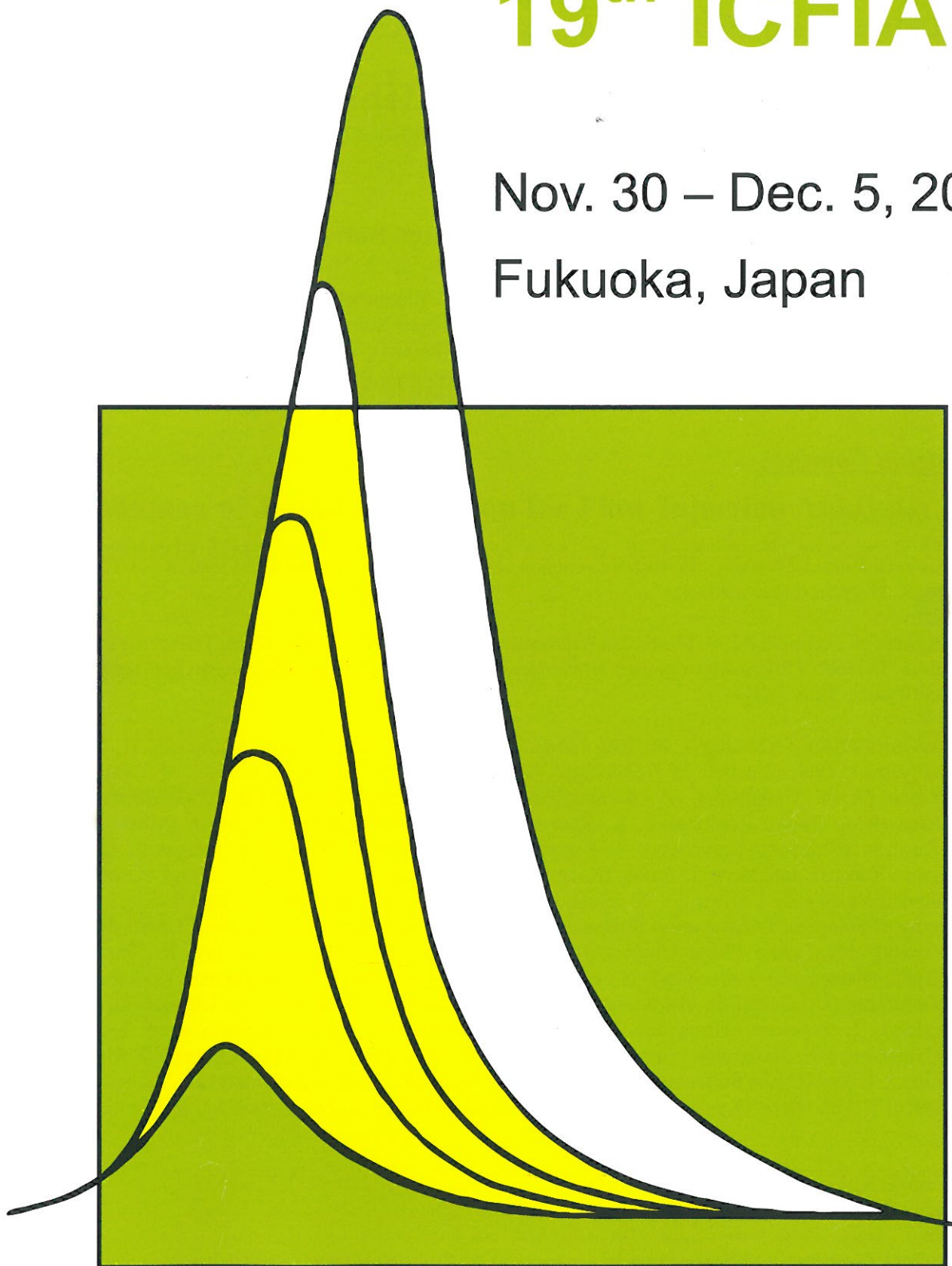


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Development of a sequential injection methodology for iron speciation in waters using an hexadentate 3,4-hydroxypyridinone chelator

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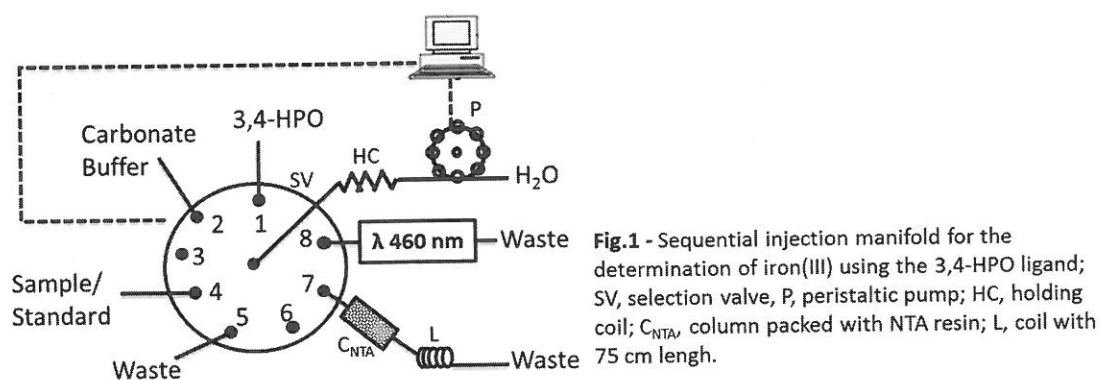
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The 3,4-hydroxypyridinones (3,4-HPO) have been previously used as low toxicity chromogenic reagents for iron determination [1]. However, the bidentate 3,4-HPO ligands have 3:1 stoichiometry with iron(III), so better detection limit was expected with a 1:1 stoichiometry. In this context, the use of an hexadentate 3,4-HPO ligand, providing itself a six coordination sphere for iron(III), and that also exhibits a higher solubility in water, was considered.

In this work, an automatic methodology based on the use of hexadentate 3,4-HPO ligand is described for the spectrophotometric iron speciation in natural waters. A sequential injection analysis methodology, combining the advantages in terms of consumption values, waste production with overall automation, was developed for the spectrophotometric determination of iron(III) with in-line matrix removal (Fig.1).



References:

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

Acknowledgments:

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