

Application of fluorescence spectroscopy for expeditious characterisation of treated wastewater for reuse

Dissertação de Mestrado

de

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ABSTRACT

This dissertation aimed to develop and validate an expeditious methodology, based on fluorescence spectroscopy and PARAFAC analysis, for acquiring and processing EEM from treated wastewater, aiming for a reliable DOM characterisation to support monitoring the quality of water intended for reuse. After validation with public data, the methodology was applied to sample dataset of treated effluent subjected to different doses of chlorine to assess chlorination's impact on the composition of DOM. Methods such as fluorescence regional integration (FRI) and the calculation of fluorescence indices were used to complement the information obtained by PARAFAC. The methodology used proved to be effective since it was possible to identify groups of compounds present in the samples and obtain a profile of the DOM composition, thus enabling the assessment of the impact of chlorination on them.

