

# Preliminary studies for ciclopirox olamine determination by thermal lens spectrophotometry

Soto, César

Saavedra, Renato

Toral, María Inés

Nacaratte, Fallon

Poza, Cristián

© 2016 Elsevier B.V. The spectrophotometric kinetic methods are broadly used in the determination of drugs in several types of matrices. Thermal Lens Spectrometry (TLS) has demonstrated to be a sensitive indirect spectrophotometric technique used in the field of applied sciences, such as environmental and biochemical sciences. Ciclopirox olamine (CXO) is a synthetic fungicide that inhibits the growth of pathogenic dermatophytes. This work presents the results of CXO determination by TLS, through a kinetic method, based on the CXO oxidation with  $\text{KMnO}_4$  in alkaline medium to form manganate ( $\text{MnO}_4^{2-}$ ). The Thermal Lens (TL) effect was generated by a He-Ne laser (TEM<sub>00</sub>, 20 mW, 632 nm). The TLS measurements were performed on a single beam assembly with a lens of  $f = 7.5$  cm focal distance and 10 Hz modulation frequency. The TL signal from the detector was acquired for each sample. The optimization was at 30 min reaction time,  $\text{KMnO}_4$   $8.0 \cdot 10^{-4}$  mol L<sup>-1</sup> and  $\text{Na}_2\text{SO}_4$  0.6 mol L<sup>-1</sup>. Under these conditi