Electron Spin Resonance For Quantitative Assay Of Chlorpromazine In Drug Formulations By Oxidation With Cerium(IV) In Sulfuric Acid Media

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Summary

For the first time electron spin resonance (ESR) spectroscopic technique has been used for a highly selective determination of chlorpromazine. The method is based on the oxidation reaction of chlorpromazine with cerium(IV) in sulfuric acid media. In this method, $3.8 \times 10^{-3}$ mol dm$^{-3}$ cerium(IV) was used in 0.035 mol dm$^{-3}$ sulfuric acid with the ESR spectra recorded at room temperature. A calibration equation of the following form was obtained over the linear concentration range of 10-100 ppm with a correlation coefficient ($r$) of 0.999: $A = 1.355 + 0.0382C$. The results obtained by the ESR method were found to be comparable with those obtained by the British Pharmacopoeia (BP) method. The method suffers no interferences excipients rendering the method suitable for determination of this drug in pharmaceutical preparations. (C) 2000 Elsevier Science B.V. All rights reserved.

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