FLOW-INJECTION METHOD FOR THE ASSAY OF THE ANTIARRHYTHMIC PROCAINAMIDE HCL IN DRUG FORMULATIONS UTILIZING STATISTICAL OPTIMIZATION TECHNIQUES

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Summary

A flow injection spectrophotometric method for the determination of procainamide HCl was explored. The method was based on the oxidation of procainamide HCl with cerium(IV) in sulphuric acid media and subsequent monitoring of the absorbance of the oxidized form of the drug at 480 nm. A sample rate of 250 samples per hour was attained. The procedure was optimized by the Factorial Design at two upper and lower levels of the five parameters sample loop size, flow rate, coil length, sulphuric acid and cerium(IV) concentrations. The latter three indicated high interactions and revealed significance to peak height value therefore optimized by the Super Modified Simplex programme. The optimized FI system with a linear calibration range of 100-600 ppm was found to be adequate and suitable for determination of procainamide HCl in proprietary drugs. A high degree of accuracy of the results was demonstrated by a statistical comparison with those obtained by the British Pharmacopoeia method of the same batch of drugs.

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