

Flow-injection colorimetric method for the assay of vitamin C in drug formulations using tris(1,10-phenanthroline)-iron(III) complex as an oxidant in sulfuric acid media.

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Abstract

A simple, fast and accurate spectrophotometric flow-injection (FI) method suitable for the assay of vitamin C in formulations was carried out by injecting the drug into a flowing stream of iron(III) and then mixing with 1,10-phenanthroline in 0.05M H₂SO₄ media. The mixt. was allowed to react in a 45-cm long coil and the resulting soln. of tris, 1-10-phenanthroline-iron(II) complex was monitored at 510 nm. The method was adopted by fully investigating the kinetics of the reaction and proposing a suitable mechanism. A throughput of 100 samples/h was achieved with a relative std. deviation of 0.88% for vitamin C concn. range of 100-400 ppm.