Abstract

The oxidation of bopindolol [4-(2-benzoyloxy-3-tert-butylaminopropyl)-2-methylindole (**I**)], by permanganate in the medium of aqueous H_2SO_4 is accompanied by the emission of chemiluminescence (CL) radiation. The CL signal is enhanced by hexametaphosphate. This CL reaction was used for devising automated sequential injection analysis (SIA) assay of **I** in pharmaceutical preparations. The PC-controlled SIA setup consisted of a Cavro XL 3000 2.5-ml syringe pump, Vici-Valco 10–port selection valve and Spectra-Physics FS970 flow-through fluorescence detector equipped with a lab-made CL detection module. The net CL signal of **I** increased by a factor of 3 (compared to purely aqueous test solution of **I** injected) if the test solution contained 60% (v/v) of methanol. Optimal order, concentrations and volumes of aspirated zones of reactants were: 61μl of 80mM Na hexametaphosphate, 60 μl of **I** in 60% (v/v) methanol, 40 μl of 30mM H_2SO_4 and 9 μl of 0.5mM $KMnO_4$. Calibration curve relating the intensity of CL (peak height) to the concentration of **I** was linear in the range 1 - 8 μM **I**; the limit of detection (S/N = 3) was 0.2 μM **I.** The sample throughput was 100 h^{-1}. The repeatability of the peak heights was characterised by RSD 1.8% for 15 replicate injections of 2 μM **I.** The SIA-CL method was used for the assay of **I** in Sandonorm 1mg tablets (including content uniformity test). The mean value found was 0.986 mg of I with RSD 1.50% (n = 7). The result did not show any statistically significant difference from that found by a reference isotachophoretic method.