

## Abstract

A novel capillary electrophoretic method for the separation of pancuronium (PM) and vecuronium (VM) ions utilizing capacitively coupled contactless conductivity detection (C<sup>4</sup>D) was devised and validated. The separation was carried out in bare fused-silica capillaries (50  $\mu$ m i.d., 75/45 cm) at 25 °C. Optimal background electrolyte was 50 mM borate buffer of pH 9.5 containing 12.5 mg/ml of hydroxypropyl- $\gamma$ -cyclodextrine; (phenyltrimethylammonium iodide was used as internal standard). The samples were injected hydrodynamically at 1000 mbar for 3 s. The separation was performed at +30 kV. Under such conditions the PM and VM were base-line resolved and the separation took < 4 min. Calibration curves were linear for both PM bromide and VM bromide in the range 25-250  $\mu$ g/ml with  $r > 0.9968$ . The limits of detection were 7 and 6  $\mu$ g/ml for PM bromide and VM bromide, respectively. The accuracy tested by recovery experiment at three concentration levels of added PM bromide and VM bromide was satisfactory (95.7-102.7 %, n=3, with RSD < 2.61 %). The method was successfully applied to the assay of PM bromide and VM bromide in commercial injection solutions.