

ABSTRACT

A rapid, precise, sensitive and validated reverse-phase high performance liquid chromatographic (RP-HPLC) method was developed for the simultaneous estimation of Hydroquinone (HQ) and Betamethasone valerate (BV) in skin whitening formulations. Upon utilizing isocratic mode the drugs were well resolved on a 250*4.6, 5 μ Merck C-18 column. Eluents were monitored at a wavelength of 224 nm and 238 using diode array detector with a mobile phase consisting of 0.1 % formic acid : acetonitrile in the ratio of (20:80 v/v). The linearity was observed in the concentration range of 6-600 μ g/ml for hydroquinone and 4.8-480 μ g/ml for betamethasone valerate, with correlation coefficient 0.993 for HQ and 0.994 for BV. The limit of detection and quantification was 0.1, 0.9 and 0.2, 1.8 μ g/ml HQ and BV respectively. The recovery was greater than 98% and 97% for HQ and BV for respectively with RSD less than 2%. The total run time was less than seven minutes. The proposed method was validated by testing its linearity, accuracy, recovery and LOD/LOQ values and proposed method was successfully employed for the determination of HQ and BV in Faiza Beauty, Golden pearl, Sandal, Fair & Lovely and Betovate-N creams.