Available online at **www.joac.info**

ISSN: 2278-1862

Journal of Applicable Chemistry

2013, 2 (1): 91-95

(International Peer Reviewed Journal)

Spectrophotometric Estimation of Metoprolol Succinate by using different Hydrotropic agents

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Received on 03rd January and finalized on 15th January 2013

ABSTRACT

The present study describes simple, sensitive, rapid, accurate, precise and economical spectrophotometric method for determination of Metoprolol Succinate. The spectrophotometric estimation and area under curve method is used for the analysis of the Metoprolol Succinate using an hydrotropic agent as a solvent. Metoprolol Succinate has absorbance maxima at 272 nm. Area under curve method was based on measurement of area under curve (AUC) in the wavelength range 262nm to 282nm. In both spectrophotometric methods, linearity of Metoprolol was found in the concentration range 5 to 30µg/ml by using various hydrotropic agents. The concentrations of the drugs were determined by using simultaneous equations method. The mean recovery was 99.63 ± 0.47 for Metoprolol Succinate. The method was found to be simple, sensitive, accurate and precise and was applicable for the determination of Metoprolol Succinate using hydrotopic agents. The results of analysis have been validated statistically and by recovery studies. Limit of detection and quantization in all methods were found laser in potassium acetate as compared to other hydrotropic agents used in studies. The objective of the present study is to explore the application of hydrotropy in spectrophotometric analysis of Metoprolol to replace the use of organic solvents which may be costlier, toxic and pollutant.

Keywords: Metoprolol Succinate, Hydrotropic agents, Area under Curve method.
