Impact of pH and Time-Dependent Polymers on Colon-Targeted Mebeverine Hydrochloride Drug Delivery System

1. Methodology

1.1. UV Scanning of Mebeverin HCL

UV Scanning of Mebeverin HCL was carried out using UV Spectrophotometer, 25 mg of Mebeverin HCL was accurately weighed using electric balance and then dissolved in each of: 0.1N hydrochloric acid solution and phosphate buffer of PH 6.8. The drug solution in each media was completed to 250 ml with the corresponding media using volumetric flask. The flask was shaken in shaking water bath up for 15 minutes. Samples of each solution were scanned using scanning spectrophotometer to determine the wave length of maximum absorption (λ_{max}) of Mebeverin HCL.

1.2. Construction of calibration curves of Mebeverin HCL

The method was developed according to the method published in **(TarikaPriya et al., 2014)**.

From the standard stock solution, serial dilutions were done to obtain solutions ranging from 2 ug/ml to 10ug/ml. The absorbance of above solutions was measured at wavelength of 264 nm using UV-Visible spectrophotometer **(TarikaPriya et al., 2014)**, against each media as blank. The experiment was carried out in triplicate.

The absorbance values of standard curve were represented in table (1) and a graph was plotted of concentration versus absorbance which was shown in Figure (1). The procedural constant was obtained from the figure.

2. Result and discussion

1.2. UV Scanning of Mebeverine

Figure (1) shows the UV scanning of Mebeverine. The maximum absorption (λ_{max}) was found to be 264 nm in 0.1N HCL and phosphate buffer of pH 6.8. Results showed good agreement with data reported by **(TarikaPriya et al., 2014)**.

2.2. Construction of calibration curves of Mebeverine

Figure (2) show the standard calibration curve of Mebeverine in 0.1N HCL and phosphate buffer 6.8 respectively. In all media, linear regression analysis was carried out and results showed that Mebeverine obeys Beer's Lambert Law. Correlation coefficient values were found to be 0.997 and 0.998 respectively which indicate good linearity.
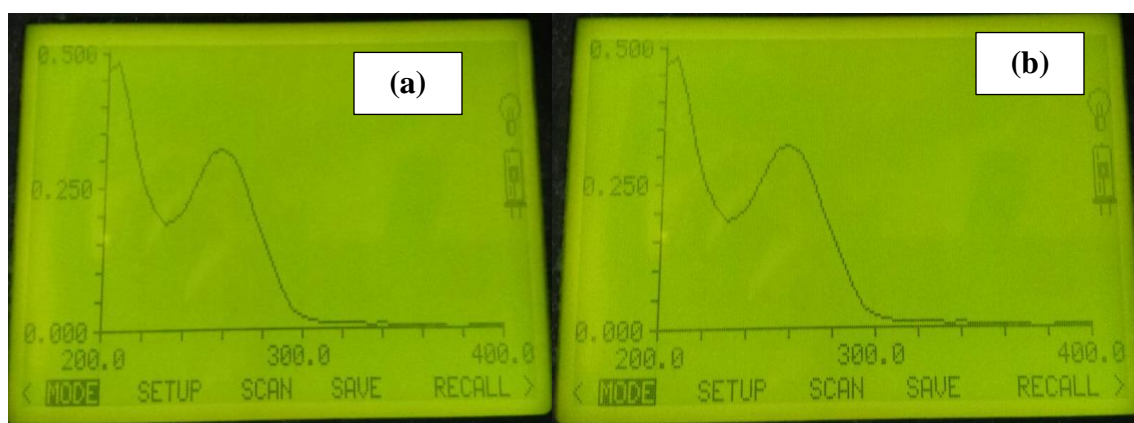

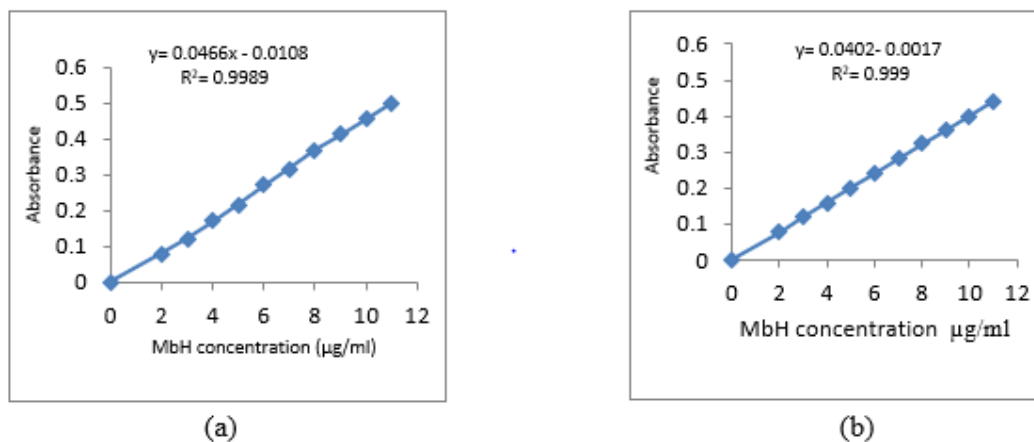**Figure 1.** UV scanning of MbH in (a) 0.1N HCL and (b) Phosphate buffer of pH 6.

Figure 2. Standard curves of MbH in (a) 0.1N HCl of pH 1.2 and (b) phosphate buffer of pH 6.8 at λ_{max} of 263 nm.

Reference:

1. TarikaPriya A, Neeharika MS. Sekhar CK. Formulation and evaluation of sustained release matrix tablets of Mebeverine hydrochloride using natural and synthetic polymers. World J. Pharm & Pharma Sci. 2014; 3: 1044-1056.