

Simultaneous estimation of Thiocolchicoside and Keorolac tromethamine using UV spectroscopy

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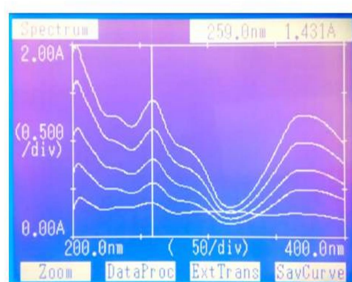
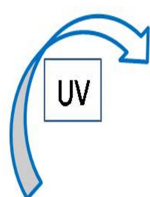
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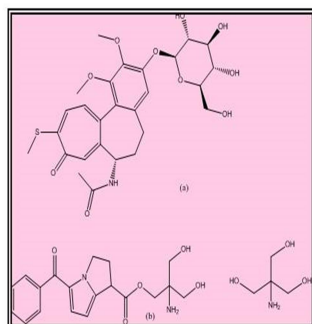
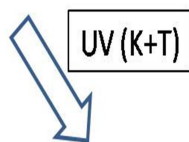
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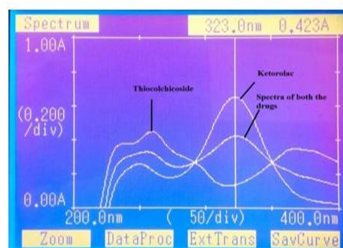
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UV spectra of Thiocolchicoside



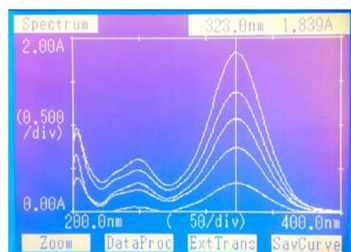
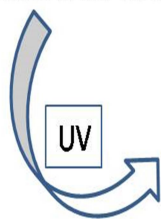
UV Spectrophotometric method for estimation of thiocolchicoside and ketorolac in combined dosage is found to be accurate, précised, specific, selective and sufficiently sensitive



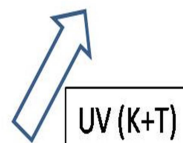
UV spectra of Thiocolchicoside and Ketorolac tromethamine and their combination

(a) Structure of Thiocolchicoside

(b) Structure of Ketorolac tromethamine



UV spectra of Ketorolac tromethamine



Abstract:

Thiocolchicoside and Ketorolac are potent anti-inflammatory and pain relieving agent. They impart synergistic action when delivered in combination. In the present study a simple accurate, précised and sensitive method was

developed for the simultaneous estimation of both drugs. The drug thiocolchicoside and ketorolac have absorption maxima at 259 nm and

323 nm respectively. Both of the drugs in the proposed method showed linearity in the range of 5-25 μ g/mL with an r^2 value of 0.997. The accuracy study results data showed recovery of the standard drug in the range of 98.84-100.67% with a standard deviation of 0.92 for thiocolchicoside and 98.20-101.69% with a standard deviation of 1.96 for ketorolac. Intraday and inter-instrument variability study results also found within the standard limits, showing the precision of the methodology. The LOD and LOQ values for thiocolchicoside was 1.11 and 3.390 μ g/ml, respectively, whereas, the LOD and LOQ values for ketorolac were 0.986 and 2.99 μ g/ml, respectively. Thus, it could be concluded that the developed method was accurate, précised, specific with enough sensitive and successfully implied for the simultaneous estimation of thiocolchicoside and ketorolac in their combined dosage during the routine analysis work.

Key Words: Simultaneous estimation, Accuracy, Precision, Selectivity, LOD & LOQ