

till 6 h after injection of carrageenan to each group. The difference between the initial and subsequent readings gave actual oedema volume.

Percent of inhibition of inflammation was calculated using the formula $\% \text{ inhibition} = 100 (1 - V_t/V_c)$, where V_c represents oedema volume in control and V_t is oedema volume in group treated with test compounds. The data were analyzed using student 't' test and the level of significance was set at $p < 0.001$. The results represented as % inhibition of inflammation are presented in fig. 1.

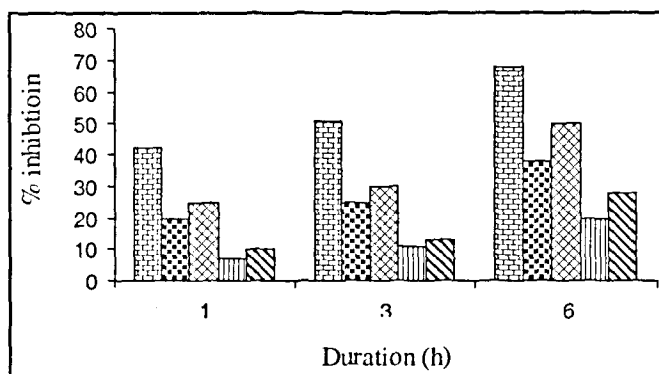


Fig. 1: Percent inhibition of carrageenan-induced rat paw oedema

■ Phenyl butazone, ▨ Decalepis hamiltonii, ▤ Cryptolepis buchananii, ▧ Hemidesmus indicus and ▩ Ichnocarpus frutescens

Carrageenan-induced inflammation is a biphasic phenomenon⁴. The first phase of oedema is attributed to the release of histamine and 5-hydroxytryptamine. Plateau

phase is maintained by kinin like substances and second accelerating phase of swelling is attributed to prostaglandin like substances⁵. The knowledge of these mediators involved in different phases is important for interpreting mode of drug action. In carrageenan-induced rat paw oedema test, it was found that there was a significant reduction in the oedema in the groups treated with 70% ethanol extracts of *Cryptolepis buchananii*, followed by *Decalepis hamiltonii*, *Ichnocarpus frutescens* and *Hemidesmus indicus* when compared to control. Thus it can be concluded that ethanol extract of *Cryptolepis buchananii* possess significant antiinflammatory activity. This study may be useful for monitoring the dosage with reference to botanical species and percentage of biological activity for deriving prescribed therapeutic efficacy.

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New Spectrophotometric Method for Estimation of Ciprofloxacin Hydrochloride in Tablets

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A simple and sensitive spectrophotometric method for the determination of ciprofloxacin hydrochloride in tablets is proposed. The solution of drug has been found to give a light reddish orange

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chromogen with β -naphthol in acidic medium, which absorbs at λ_{\max} 365 nm. This light reddish color was sufficiently stable to be used for quantitative purposes. The Beer-Lambert's law was found to be obeyed in the concentration range of 10-80 $\mu\text{g/ml}$.

Ciprofloxacin, chemically (1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxo-7,(1-piperazinyl)-3-quinolone carboxylic acid, is a potent and broad spectrum antibacterial agent used in the treatment of urinary and genital tract infections¹. Titrimetric², spectrophotometric³⁻⁶, spectrofluorimetric⁷, chromatographic⁸⁻¹¹, HPLC¹² and microbiological methods¹³ are reported in literatures for estimation of the drug in formulations. During the course of working on ciprofloxacin, we found that it formed colored complex with β -naphthol. The complex might be of a charge transfer type in which the β -naphthol acts as electron donor and ciprofloxacin as the electron acceptor. This property has been used in the present analytical procedure. The λ_{\max} was found to be 365 nm. Cintra 10 UV spectrophotometer (M/s GBC Instrument Division, Australia) with 1 cm matched quartz cell was used in the present study. All chemicals used were of analytical grade. Ciprofloxacin hydrochloride obtained from M/s Sarabhai Chemicals Limited, Vadodara was used as such without further purification.

A stock solution of the drug (1 mg/ml) was prepared by dissolving 100 mg of drug in 100 ml of 0.1 N sulphuric acid. Further dilution was then made with 0.1 N sulphuric acid to give working standard solution of 100 $\mu\text{g/ml}$. β -naphthol solution (analytical grade, E. Merck India Limited) was prepared by dissolving 2 g of β -naphthol in 25 ml of concentrated sulphuric acid and diluting to 100 ml with distilled water.

An aliquots (1-8 ml) of the stock solution (100 $\mu\text{g/ml}$) was transferred to 10 ml volumetric flasks and 1 ml of β -naphthol solution added. The contents were shaken and the volume made up with 0.1 N sulphuric acid. The absorbances were measured at 365 nm and standard curve was made (10-80 $\mu\text{g/ml}$). The regression line was found to be $Y=7.7 \times 10^{-3}X+2.3 \times 10^{-2}$ where, X is the concentration of ciprofloxacin hydrochloride in $\mu\text{g/ml}$ and Y is the absorbance value. The correlation coefficient (R^2) was found to be 0.9994.

Tablets of different brands were procured from the local market and average weight determined. The powder equivalent to 100 mg of the drug was accurately weighed and dissolved in 0.1 N sulphuric acid (50 ml). After filtration the volume was made up to 100 ml with 0.1 N sulphuric acid to give final concentration 1 mg/ml. Further dilutions were

made with 0.1 N sulphuric acid to give concentration 100 $\mu\text{g/ml}$. An aliquot of the drug (2-8 ml) was transferred to 10 ml volumetric flask. After addition of 1 ml of β -naphthol the volume was made up with 0.1N sulphuric acid. The absorbances were determined and the concentration found from calibration curve. The optical characteristics and precision data of the proposed method have been calculated and presented in Table 1. To evaluate the validity and reproducibility of the proposed method, known amount of the pure drug was added to the previously analysed pharmaceutical formulation and the mixtures were again analysed. The percent recovery data of the drug by this method is given in Table 2. Interferences studies revealed that the excipients and additives commonly present in the tablets did not have any effect in the determination. The results so obtained were compared with the official method¹⁴. Compared results are presented in the Table 2. The present method is simple, rapid, sensitive, handy and can easily be applied for the estimation of ciprofloxacin hydrochloride.

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TABLE 1: OPTICAL CHARACTERISTICS, PRECISION AND ACCURACY OF THE PROPOSED METHOD

Parameters	Values
λ_{\max} (nm)	365 nm
Beer's law limits ($\mu\text{g/ml}$)	10-80
Sandell's sensitivity ($\mu\text{g/cm}^2/0.001$ absorbance unit)	1.329×10^{-1}
Molar absorptivity ($\text{lit.mole}^{-1}, \text{cm}^{-1}$)	3.357×10^3
Regression equation ($c + mX$)	
Slope (m)	7.7×10^{-3}
Intercept (c)	2.3×10^{-2}
Correlation coefficient	0.9994
(% RSD)	0.4341
Percent range of error	
Confidence limit with 0.05 level	0.5311
Confidence limit with 0.01 level	0.8245

TABLE 2: ESTIMATION OF CIPROFLOXACIN HYDROCHLORIDE IN TABLETS

Dosage form (Brand name)	Labeled amount (mg)	Amount obtained (mg)	% Recovery*	
			Proposed Method	I. P. Method
Tablet 1 (Ciprobid) ^a	250	249.5	99.80	101.2
Tablet 2 (Ciprolet) ^b	250	248.0	98.20	98.65

^aCadila Healthcare; ^bDr. Reddy's Lab. Ltd.; *Each result is the mean of five replicates

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Synthesis, Antibacterial and AntiHIV Activities of 3-[5-Amino-6-(2,3-Dichloro-Phenyl)-[1,2,4]Triazin-3-yl]-6,8-Dibromo-2-Substituted-3H-Quinazolin-4-one

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A series of novel 2,3-disubstituted/6,8-dibromo-2,3-disubstituted quinazolin-4(3H)-ones have been synthesized by condensing the primary amino group of lamotrigine with benzoxazin-4-one. The structure of the synthesised compounds was elucidated by spectral analysis (IR, NMR and Mass). The compounds synthesized were screened for antibacterial and antiHIV activities against replication of HIV-1 and HIV-2 in acutely infected MT-4 cells. The compounds SPC-I, SPC-I Br and SPC-

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