at position R2 potentiated and at R1 depressed the effect. With regard to the CNS depressant activity, it has been found that all compounds have different degrees of CNS depressant property and among them a few (compounds 1, 8, 9, 10, 11, 12 and 13) were found to have significant activity in comparison to the standard drug while a few had shown comparable effect (compounds 5, 6 and 7); but all were less active than the standard. Compound 5 showed CNS depressant activity having a score of 56.3, the highest among the compounds, where as in case of chlorpromazine HCl, it was 57.9. Among the aminoethyl and aminophenyl imidazolinones, compounds 5-8 were found to show more activity than compounds 1-4, while compounds 13-16 were found to be less active than compounds 5-8. The observations of the CNS depressant property exhibited by individual series of compounds i.e. 1-4, 5-8, 9-12 and 13-16 indicate that the activity was highest in case of CH_3 substitution in position R1 and R2 and it gradually decreased upon substitution with C_6H_5 on those positions. It was observed that in case of Schiff's bases, the activity was more, when R3 = CH_2CH_2, and in case of imidazolinones the amino phenyl ($R3=C_6H_4$) showed more activity than aminoethyl ($R3=CH_2CH_2$) derivatives.

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Spectrophotometric Analysis of Amlodipine Besylate in Bulk and in Tablet Dosage Forms

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A reproducible and sensitive method for estimation of amlodipine besylate in bulk drug and in its tablet formulations has been developed. The method is based on formation of a yellow colored ion pair with methyl orange in acidic medium. This method follows Beer's law and has a range of 1 to 10µg/ml.

Amlodipine besylate is a calcium channel blocker used as antihypertensive and antianginal drug[1]. A survey of literature revealed that a direct spectrophotometric method[2], difference spectrophotometric methods[3], HPLC[4-9], GC[10] and HPTLC[11-12] have been reported for the analysis of amlodipine besylate. In the reported difference spectroscopy method[3]

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the drug is dissolved in DMSO and the difference in the amplitude of acidic and alkaline solutions was plotted against concentration. Though the method is simple, the limit of quantification (20μg/ml) is higher than the proposed method (1.0 μg/ml). Moreover, differential spectroscopy requires a double beam spectrophotometer whereas the proposed colorimetric method can be satisfactorily performed in a simple colorimeter or single beam spectrophotometer. Another reported spectroscopic method[2] is for the estimation of amlodipine besylate in combination with atenolol, where the absorbance of methanolic solution is measured at two different wavelengths.

In the present investigation, a simple and sensitive colorimetric method for the estimation of amlodipine besylate in bulk drug and in tablet formulations is developed. Method is based on the formation of an ion-pair when amlodipine besylate is reacted with acidic dye methyl orange in acidic medium.

A systronics 119 UV/VIS spectrophotometer was used for all the spectral measurements. All the chemicals used were of AnalaR grade (Merck, Mumbai). Aqueous solutions of methyl orange (0.1%w/v) and acid phthalate buffer of pH-4 were prepared as per procedure given in IP.

Stock solution of amlodipine besylate (1 mg/ml) was prepared in 10 % v/v hydroalcoholic solution. From the stock solution, suitable aliquot was taken and diluted with distilled water to prepare standard solution of 100 μg/ml. Tablets of three different strengths (2.5, 5.0 and 10.0 mg) were analyzed using the method under development. Ten tablets of each strength were ground to a fine powder and mixed thoroughly. Amount equivalent to 5 mg of amlodipine besylate was transferred to a 50 ml volumetric flask and dissolved in 10 % v/v hydro alcoholic solution. These solutions were filtered through 0.45 μ filter and diluted with distilled water to obtain the required concentration.

Aliquots of standard amlodipine besylate solution were taken in different separating funnels. To each of these funnels 5 ml of acid phthalate buffer of pH 4 was added, followed by 2 ml of 0.1% methyl orange solution. The yellow colored ion-pair was then extracted with chloroform and dried over anhydrous sodium sulfate. The solution was diluted to 10 ml with chloroform and absorbance was measured at 417 nm against reagent blank.

Beer's law limits and other optical parameters for proposed method are given in Table 1. Recovery studies (Table 2) were also carried out by spiking the previously analyzed sample at three levels to further ascertain the accuracy and precision and results indicate that the method can be used for estimation of amlodipine besylate in its tablet formulation.

TABLE 1: OPTICAL CHARACTERISTICS AND OTHER PARAMETERS

Data	Results
λmax (nm)	417
Beer's law range (μg/ml)	1-10
Molar absorptivity(l/molxcm)	$1.342x10^4$
Slope	0.0329
Intercept	-0.0183
Correlation coefficient r	0.988
Precision (%RSD)	0.0239
Sandell's sensitivity (μg/cm²/0.001 abs.unit)	0.0422

TABLE 2: ANALYSIS OF AMLODIPINE BESYLATE IN FORMULATIONS BY PROPSED METHOD

Tablet strength (mg)	Amount taken for estimation (mg)	Amount of drug found (mg)	% Recovery*
2.5	5.0	4.97	99.4
5.0	5.0	4.98	97.6
10.0	5.0	4.92	98.4

*after spiking the previously analyzed sample with standard solution.

The proposed method is simple, precise and reproducible and does not suffer from any interference due to common excipients usually present in the formulations. Due to high sensitivity and simple sample preparation, the method can be used for the analysis of in-process quality control and as an experiment for undergraduate studies. Moreover spectrophotometric methods have obvious advantages over sophisticated instrumental analysis. Though there is a steady increase in the number of HPLC units in the academic institutions in the recent years, still it is not widely used for undergraduate teaching. This is probably due to the expenses involved and skill required to handle the instruments. Hence, simple and economical instrumental methods always have a role in pharmaceutical analysis.

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Residue Determination of Dimethoate in Grapes and Tomatoes Using RP-HPLC

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Residues of dimethoate were analyzed in different grapes (paneer, green, seedless violet) and tomatoes (nattu and Bangalore). Analyses were performed by HPLC using a reversed-phase column (RP-18). Extractions from grapes and tomatoes were carried out with benzene. The residues found in grapes were lower than the admissible limits mentioned by FDA, whereas in case of tomatoes, the residues were found to exceed the limits prescribed by FDA to a slight extent

Toxic substances that are used to kill insects, mites, nematodes, rodents, mollusks, weeds that cause economic damage to crops and ornamental plants are called as pesticides[1-4]. They are hazardous to the health of domestic animals and human beings if not handled properly. All pesticides interfere with normal metabolic processes in plants and are classified according to the type of organism they are intended to control, e.g. insecticides to control insects; acaricides to control mites; rodenticides to control rats; herbicides to control weeds; molluscides to control snails, slugs; fungicides to control fungal infections; antibiotics to control bacterial, fungal, viral and mycoplasma infections. Hence in recent years the role of pesticide in relation to human welfare has been discussed world over emotionally. Insecticides being toxic in nature, they should be used with extreme caution. Their misuse can lead to disastrous effects both on human being and environment. FDA limitation[5] for Dimethoate in the following fruits and vegetables are apples-0.01 mg/kg, grapes-0.012 mg/kg and tomatoes-2 ppm. If these limitation[6] is crossed it may cause serve adverse effect like numbness, tingling sensations, in coordination, headache, dizziness, tremor, nausea, abdominal cramps, sweating, blurred vision, difficulty in breathing respiratory depression and slow heart beat, very high doses may result in unconsciousness, incontinence and convulsions or fatality. Hence this paper aims at reporting the detection of the pesticides

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