

Formulation and Evaluation of Mouth Dissolving Tablets of Losartan Potassium

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ABSTRACT

Losartan Potassium is an angiotensin II receptor antagonist and used as antihypertensive drug. The molecular weight of Losartan Potassium is 461.0 g/mole, half-life is 1.5 to 2 hours, and its bioavailability is 125-35%. It gets metabolized mainly in the liver but have good buccal absorption. Mouth dissolving tablets will be the better option for formulation of Losartan Potassium as far as tablet dosage form is concern. Mouth dissolving tablets are soluble in saliva and absorbed from the mouth. thus enhance the bioavailability by avoiding first pass metabolism. Mouth dissolving tablets also leads to an increased patient compliance, and fast onset of action. Mouth dissolving tablets were prepared by direct compression method using natural super disintegrating agents (banana powder) and evaluated for pre-compression parameters and post compression parameters such as appearance, dimensions, hardness, weight variation, friability, wetting time, dispersion time, water absorption ratio, disintegration & dissolution study. According to results of optimized batches it has been concluded that formulation batch F10 was an ideal batch which contain banana powder & croscarmellose sodium showed least disintegration time that is 61 seconds & maximum drug release of (98.42%) within 10 minutes and was best among all the formulations.

KEYWORDS: *Losartan Potassium, mouth dissolving tablets, natural super disintegrating agent banana powder and synthetic super disintegrating agent croscarmellose sodium*

INTRODUCTION

Disregarding different course of medication organization the oral course of medication organization is the least demanding, most reasonable and generally involved course of medication organization for foundational impacts. Anyway it is assumed that 90% of medications which are utilized for fundamental impacts are controlled through the oral course of medication organization.^[1] The oral measurement structures require water for drug organization and when there is no water free then tolerant difficulty. Numerous patient track down trouble to swallow tablet and hard gelatin container, thusly they don't accept medicine as recommended. It is assessed that half of the populace is impacted by this issue which result high episode of incompliance and inadequate treatment. The trouble is knowledgeable about specific by pediatric and geriatric patients, however it likewise applied to individuals who are sick in bed and those dynamic

working patients who are occupied or voyaging, particularly the people who have no admittance to water. Consequently, tablets which can quickly break up or crumble in the oral cavity have drawn in a lot of consideration. Quickly dissolving orodisintegrating tablets are not just shown for individuals who have gulping challenges, yet in addition are great for dynamic individuals.^[2-5] United States Food and Drug Administration (FDA) characterized MDT as "A strong measurement structure containing restorative substance or dynamic fixing which crumbles quickly generally inside merely seconds when set upon the tongue". The breaking down time for mouth dissolving tablets by and large ranges from a few seconds to around 3 minutes.^[6-7] Due to the presence of superdisintegrants, it gets disintegrated rapidly, bringing about quick ingestion of medication which results fast beginning of activity. In mouth dissolving tablets the retention is occurring straightforwardly

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from mouth that for what reason don't experiences the principal pass digestion, so bioavailability of medication increments.^[8] Losartan Potassium is an angiotensin II receptor antagonist and utilized as antihypertensive medication. The sub-atomic load of Losartan Potassium is 461.0 g/mole, half-life is 1.5 to 2 hours, and its bioavailability is 25-35%. It gets utilized mostly in the liver. Mouth dissolving tablets are solvent in spit are retained from the mouth, pharynx and throat as the spit passes down into stomach, accordingly upgrade the bioavailability by keeping away from first pass digestion. Mouth dissolving tablets likewise prompts an expanded patient consistence, and quick beginning of activity.^[9] Keeping this multitude of variables as a main priority, it was viewed as proper to plan mouth dissolving of Losartan Potassium.

MATERIALS AND METHODS

Losartan Potassium was gotten as a gift test from Sun Pharma Ltd, Banana powder was bought from Research Lab Fine Chemical Industries Pvt. Ltd. Mumbai, Microcrystalline cellulose was taken from pharmaceuticals lab which was bought from Research Lab Fine Chemical Industries Pvt. Ltd. Mumbai, croscarmellose sodium were gotten from pharmaceuticals lab and were bought from Research Lab Fine Chemical Industries Pvt. Ltd. Mumbai, croscarmellose sodium was gotten from drug science lab which was bought from Research Lab Fine Chemical Industries Pvt. Ltd. Mumbai. SLS and PEG 6000 was taken from fundamental store and it was bought from Research Lab Fine Chemical Industries Pvt. Ltd. Mumbai. Arrangement of mouth Dissolving Tablet mouth dissolving tablets containing 25 mg of Losartan Potassium were ready by direct pressure technique utilizing recipe give in Table 1. The medication and excipients were gone through 60 cross section strainer guarantee better blending. mannitol was utilized as a straightforwardly compressible diluent. Lactose, Talc, Vanilla Flavor were gotten from pharmaceuticals lab and were bought from Research Lab Fine Chemical Industries Pvt. Ltd. Mumbai. The straightforwardly compressible blends were compacted utilizing multi punch tableting machine fitted with 8 mm level punches. Before pressure, the outer layer of pass on and punch were greased up with Magnesium stearate.

Preparation of Mouth Dissolving Tablet

Mouth dissolving tablets containing 25 mg of Losartan Potassium were prepared by direct compression method using formula give in Table 1. The drug and excipients were passed through 60 mesh sieve ensure better mixing. MCC and Spray Dryer Lactose was used as a directly compressible diluent. The directly compressible mixtures were compressed

using multi punch tableting machine fitted with 8 mm flat punches. Before compression, the surface of die and punch were lubricated with Magnesium stearate.^[10]

EVALUATION

Pre-Compression Parameters^[11-12]

Angle of repose

Angle of repose is defined as the maximum angle possible between the surface of a pile of the Powder and horizontal plane. The improper flow of powder is due to frictional force between the particles and these frictional forces are quantified by angle of repose.

$$\tan \theta = h / r$$

$$\theta = \tan^{-1} (h/r)$$

Where, θ = angle of repose; h = height of pile; r = radius of the base of pile

Bulk Density

Bulk density is defined as the mass of a powder divided by the bulk volume. The bulk density of a powder depends primarily on particle size distribution, particle shape, and cohesiveness of particles.

Mathematically it is defined as:

$$\text{Bulk Density (pb)} = w/V_b$$

Where, w = mass of powder; V_b = bulk volume

Tapped Density

Tapped density is defined as the mass of a powder divided by the tapped volume. It was determined by mechanically tapping the measuring cylinder and the volume was noted.

$$\text{Tapped density (pt)} = w / V_t$$

Where, w = mass of powder; V_t = bulk volume Carr's

Compressibility Index

It is also one of the simple methods to evaluate flow property of a powder by comparing the bulk density and tapped density. It is calculated by

$$\text{Tapped Density - Bulk Density}$$

$$\text{Carr's Index} = \frac{\text{Tapped Density - Bulk Density}}{\text{Bulk Density}}$$

Hausner's Ratio

It indicates the flow properties of the powder and is measured by the ratio of tapped density to the bulk density.

$$\text{Hausner's ratio} = \text{Tapped density/Bulk density}$$

Lower Hausner ratio (<1.25) indicates better flow properties than higher ones (>1.25).

Post Compression Parameter ^[13-17]

Appearance Twenty tablets of each formulation were taken to check any physical or surface roughness in the tablet formulation. **Dimension** Thickness and diameter were measured using a calibrated barmier caliper. Five tablets of each formulation were picked randomly and dimensions determined. **Uniformity of Weight** The test was performed according to specifications given in the Indian Pharmacopoeia, 2007 on 20 tablets which was selected randomly. The maximum acceptable limit is $\pm 7.5\%$ deviation of not more than two of the individual mass from average mass and none deviates by more than twice this percentage. **Measurement of Tablet Friability** Tablet friability was measured using the Roche Friabilator according to I.P. The friability was determined by following formula $F = \frac{WA-WB}{WA} \times 100$ Where F = Friability; WA = Initial weight (g); WB = Final weight (g). Limit of friability for tablets under 1% is acceptable.

Measurement of Tablet hardness The crushing strength of tablets was measured by a Monsanto Hardness Tester. **Wetting Time** A piece of tissue paper was folded twice and placed in small petri dish containing 6 ml of phosphate buffer (pH 6.8) the tablet was placed on it and the time required for complete wetting of tablet was recorded. **Water Absorption Ratio** A piece of tissue paper folded twice was placed in a small petri dish containing 6 ml of water. A tablet was put on the paper and was allowed for complete wetting. The wetted tablet was then weighed. Water absorption ratio, R, was determined using following equation $R = \frac{(WA-WB)}{WB} \times 100$ Where, WB= Weight of tablet before water absorption; WA= Weight of tablet after water absorption

In-Vitro Dissolution Study

The dissolution study of selected Losartan Potassium F10 formulation was conducted by using USP dissolution apparatus Type – II (Electrolab Mumbai) by taking 900 ml phosphate buffer pH 6.8 as dissolution medium which maintained at $37 \pm 0.5^\circ\text{C}$. At every 2 min interval upto 10 min 5 ml samples was withdrawn and the same volume was replaced to maintain the sink condition. The samples were analysed using UV spectroscopy at wavelength maxima 284 nm and concentration of the drug was determined from standard calibration curve.

Uniformity of Drug Content

This method is performed as per Indian Pharmacopoeia. Two tablets were crushed and added to 30 ml of 0.1M NaOH in 100 ml volumetric flask sonicated to disintegrate, then diluted by acetonitrile, then these solution was filtered and diluted the filtrate with a mixture of seven volumes acetonitrile and three volumes of 0.1M NaOH. Absorbance was measured by UV spectroscopy at 222 nm and drug content was calculated.

Stability Study ^[18]

The prepared mouth dissolving tablet of Losartan Potassium were placed in plastic tube containing desiccant and stored at ambient condition, such as room temperature at $40^\circ\text{C} \pm 2^\circ\text{C}$ / 75 % RH $\pm 5\%$ for period of 90 days. Each tablet was weighed and wrapped in aluminum foil and packed in black PVC bottle and put at above specified condition in a heating humidity chamber for 3 month and evaluated for their physical appearance, hardness, disintegration time, dissolution testing and drug content at specified interval of time.

Table 1: Formulation Table of Losartan Potassium Mouth Dissolving Tablet

Ingredients	F1	F2	F8	F4	F5	F6	F7	F8	F9	F10
Losartan Potassium	25	25	25	25	25	25	25	25	25	25
Banana powder	5	10								
Crospovidone			5	10						
Croscarmellose sodium					5	10				
Crospovidone + banana powder							3+2	5+5		
Croscarmellose sodium+ banana powder									3+2	5+5
SLS	1	1	1	1	1	1	1	1	1	1
PEG 6000	7	7	7	7	7	7	7	7	7	7
Spray Dryer Lactose	50	50	50	50	50	50	50	50	50	50
Microcrystalline cellulose	105	100	105	100	105	100	105	100	105	100
Vanilla	2	2	2	2	2	2	2	2	2	2
Sodium saccharine	2	2	2	2	2	2	2	2	2	2
Magnesium stearate	1	1	1	1	1	1	1	1	1	1
Talc	2	2	2	2	2	2	2	2	2	2
Total	200	200	200	200	200	200	200	200	200	200

RESULTS AND DISCUSSION

Pre Formulations Studies

Scanning of Losartan Potassium

The standard solution of Losartan potassium was scanned in the range of 200-400nm and absorbance maxima was found at 222nm.

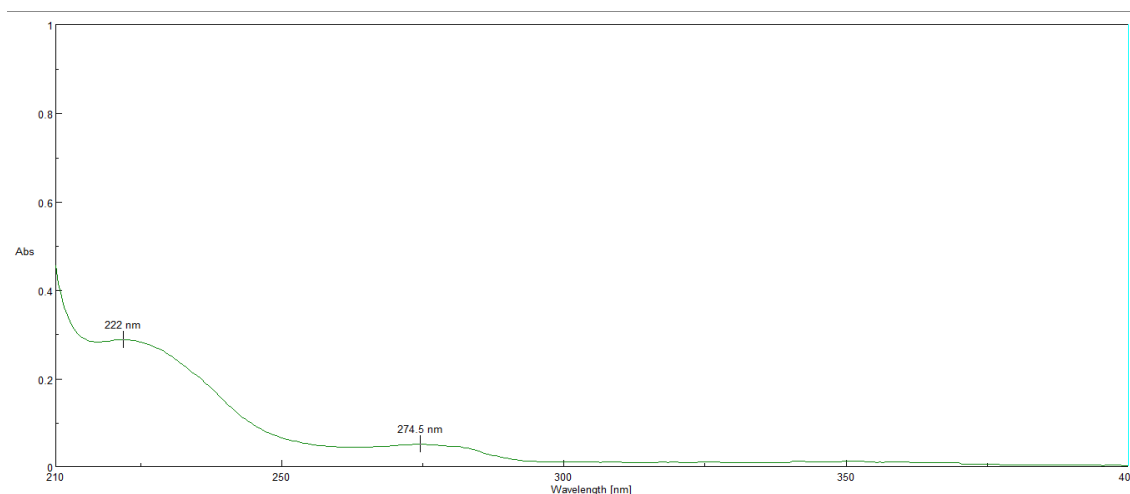


Figure 1: Calibration Curve of Losartan Potassium in Phosphate Buffer 6.8.

The calibration curve of Losartan potassium was prepared in Phosphate Buffer 6.8. The various concentrations ($\mu\text{g/mL}$) of Losartan potassium with their respective absorbance's at λ_{max} 222 nm were recorded are shown in Table 2 and a standard plot of absorbance versus concentration of Losartan potassium has been obtained and shows good linearity. To calculate the regression equation (y) and correlation coefficient (R^2), absorbance and concentration were subjected to a minimum square line regression analysis. The calibration curve's linear regression equation and correlation coefficient was found to be $y = 0.0609x + 0.029$ and $R^2 = 0.9913$ respectively, which reveals that, the drug Losartan Potassium obeys the Beers lamberts law.

Table 2: Data For Calibration Curve of Losartan Potassium in Phosphate Buffer 6.8

Sr. No	Concentration ($\mu\text{g/ml}$)	Absorbance at 222 nm
1	0	0
2	2	0.17
3	4	0.28
4	6	0.42
5	8	0.51
6	10	0.62

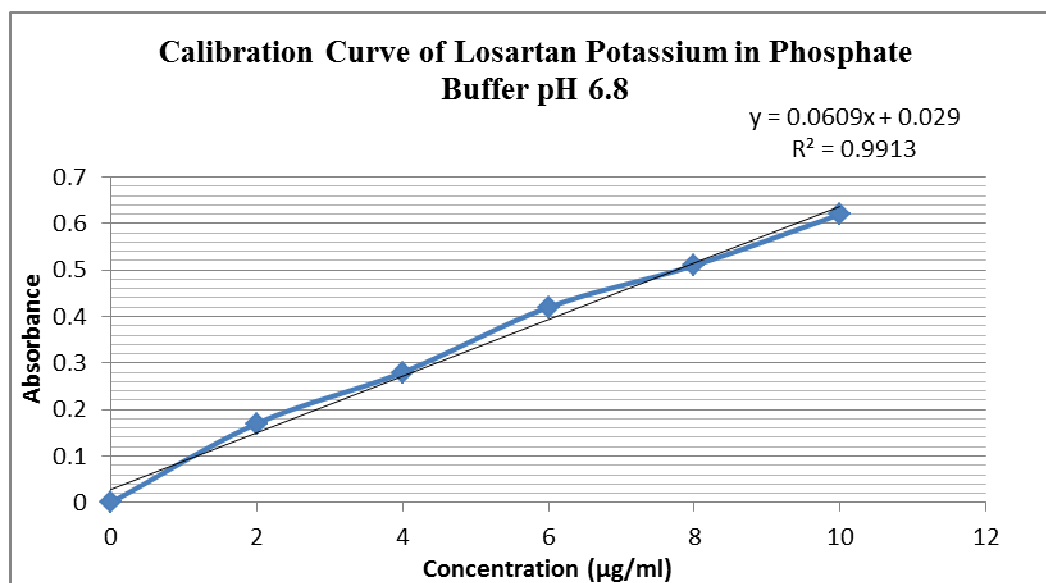
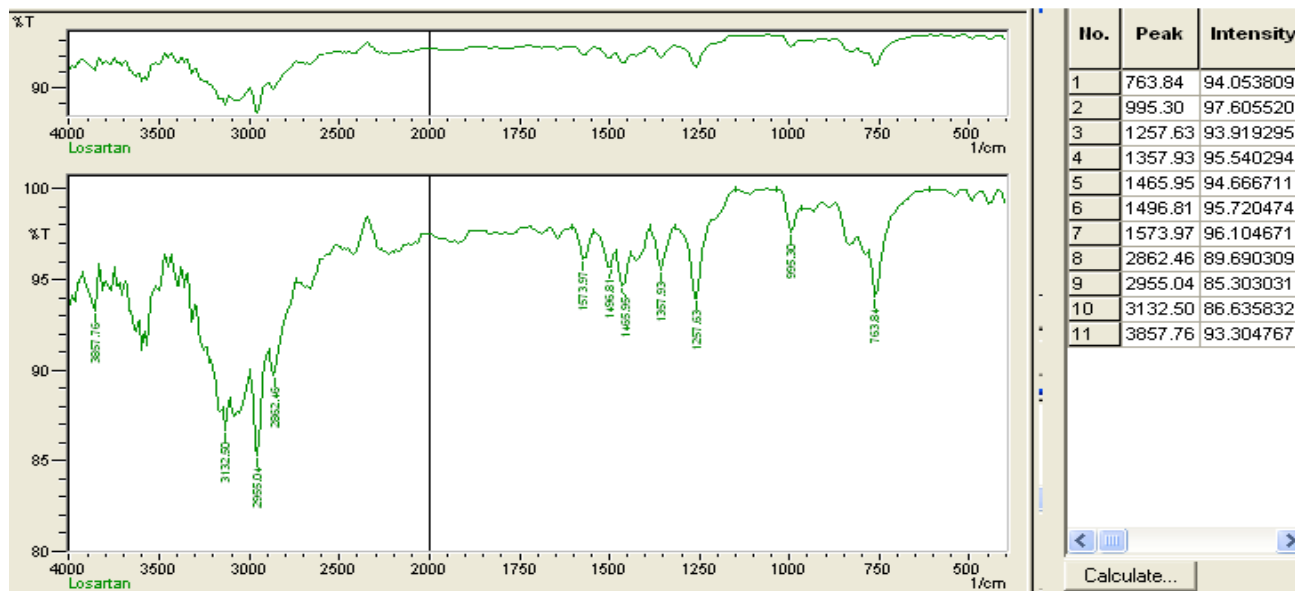


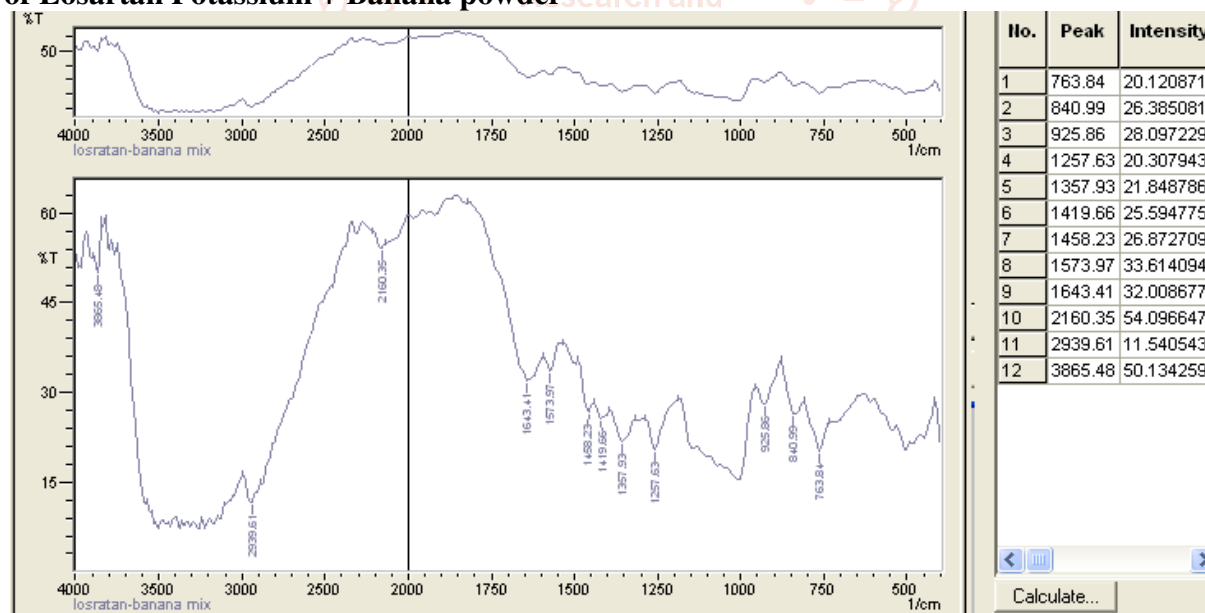
Figure 2: Calibration curve of Losartan Potassium in Phosphate Buffer 6.8

Drug Excipient Compatibility Study

The FTIR spectrum of pure drug and drug- excipients physical mixture and its interpretation is shown below-

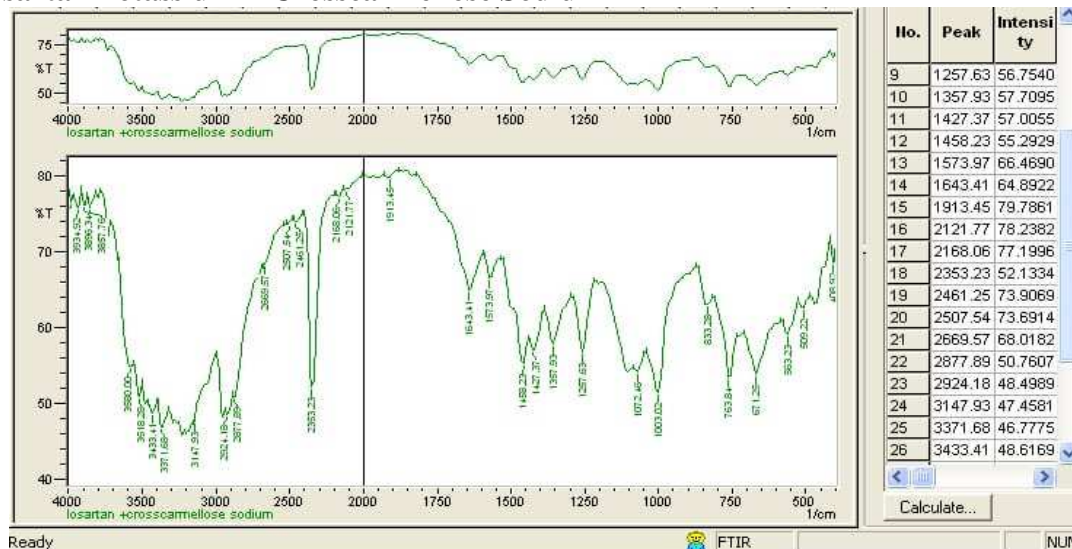
FTIR of Losartan Potassium**Figure 3: FTIR Spectra of Losartan Potassium**

Reference Peak Wavenumber(cm^{-1})	Observed Peak Wavenumber(cm^{-1})	Functional group
1256-1392	1257	C-N Stretch
1340-1530	1496	C=C Stretch
3500-3100	3132	N-H Stretch
1300-1100	1357	C-O Stretch
2850-2975	2862	C-H

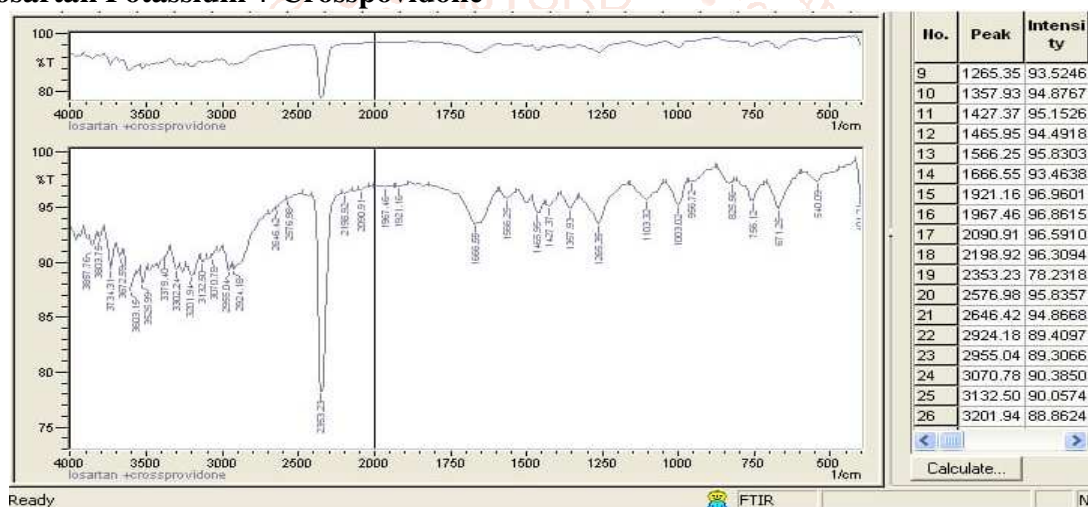
Table 3: FTIR Peaks of Losartan Potassium**FTIR of Losartan Potassium + Banana powder****Figure 4: FTIR of Losartan Potassium + Banana powder**

Reference peak wavelength	Observed peak wavelength	Functional group
1256-1392	1257.63	C-N Stretch
1340-1530	1357.93	C=C Stretch
3500-3100	3132	N-H Stretch
1300-1100	1357	C-O Stretch
2850-2975	2939.61	C-H

Table 4: FTIR Peaks of Losartan Potassium + Banana powder

FTIR of Losartan Potassium + Crosscarmellose Sodium**Figure 5: FTIR OF Losartan Potassium + Crosscarmellose Sodium**

Sr.no.	Reference Peak Wavenumber(cm^{-1})	Observed Peak Wavenumber(cm^{-1})	Functional Group
1	1256-1392	1357.93	C-N Stretch
2	1340-1530	1465.95	C=C Stretch
3	3500-3100	3132.50	N-H Stretch
4	1300-1100	1265.35	C-O Stretch

Table 5: Interpretation of FTIR Spectrum of Losartan Potassium + Crosscarmellose Sodium**FTIR of Losartan Potassium + Crosspovidone****Figure no 6: FTIR of Losartan Potassium + Crosspovidone**

Sr.no.	Reference Peak Wave number(cm^{-1})	Observed Peak Wave number(cm^{-1})	Functional Group
1	1256-1392	1357.93	C-N Stretch
2	1340-1530	1427.37	C=C Stretch
3	3500-3100	3132.50	N-H Stretch
4	1300-1100	1265.35	C-O Stretch

Table 6: Interpretation of FTIR Spectrum of Losartan Potassium + Crosspovidone

The results for characterization of blended powder are shown in Table 7. The bulk density of blend varied between 0.412-0.446 g/cm³. The tapped density was found in the range of 0.497 to 0.531 g/cm³. By using these two density data, Hausner's ratio and compressibility index was calculated. The powder blends of all formulation had Hausner's ratio of less than 1.14 indicating good flow characteristics. The values for compressibility index were found between 12.26- 18.62. The flow ability of the powder was also evidenced by the angle of repose. The angle of repose below 30°. ranges indicates good flow properties of powder. The angle of repose was found to be in range 20-24°. The powder flow properties were analyzed. It was observed that all formulations showed good flow properties with Carr's index ranging from 12.26 to 18.62 and Hausner's ratio below 1.14 which indicated good compressibility and flow ability

Evaluation of pre compression parameter**Table 7: Evalution of Tablet Blend of Mouth Dissolving Tablet of Losartan Potassium**

Formulations	Angle of Repose (θ°)	Bulk Density (gm/ml)	Tapped Densit (gm/ml)	Hauser's Ratio (HR)	Carr's Compressibility Index (%)
F1	22.52 \pm 0.28	0.428 \pm 0.002	0.498 \pm 0.002	1.16 \pm 0.004	14.07 \pm 0.33
F2	21.21 \pm 0.5	0.434 \pm 0.004	0.532 \pm 0.005	1.22 \pm 0.01	18.54 \pm 0.37
F3	23.44 \pm 0.28	0.442 \pm 0.003	0.496 \pm 0.002	1.12 \pm 0.01	14.62 \pm 0.4
F4	24.42 \pm 1.96	0.446 \pm 0.002	0.522 \pm 0.003	1.14 \pm 0.02	12.26 \pm 0.4
F5	21.61 \pm 0.14	0.412 \pm 0.006	0.474 \pm 0.003	1.17 \pm 0.01	13.46 \pm 1.02
F6	20.12 \pm 0.8	0.419 \pm 0.004	0.468 \pm 0.004	1.11 \pm 0.04	15.54 \pm 0.37
F7	21.44 \pm 0.14	0.401 \pm 0.001	0.458 \pm 0.006	1.14 \pm 0.06	12.64 \pm 0.48
F8	23.2 \pm 1.91	0.436 \pm 0.002	0.522 \pm 0.004	1.19 \pm 0.04	18.62 \pm 0.78
F9	22.31 \pm 0.28	0.432 \pm 0.005	0.514 \pm 0.006	1.18 \pm 0.08	16.87 \pm 0.314
F10	21.71 \pm 0.14	0.422 \pm 0.006	0.484 \pm 0.003	1.14 \pm 0.01	12.80 \pm 1.02

Post Compression Studies

Appearance All the tablets were white in colour, flat in shape with smooth surface without any defects.

Uniformity of thickness The diameters of all the formulations was almost uniform (7.7-7.8 mm). Thickness of all the formulations was found to be within the range of 3.0 ± 0.17 mm – 3.4 ± 0.10 mm shown in Table 8.

Weight Uniformity All the tablets passed weight variation test as the % weight variation was within the pharmacopoeia limits of $\pm 7.5\%$. It is related to tooling of the compression machine, head pressure, machine speed and flow properties of the powder.

Hardness The hardness of the Mouth dissolving tablet was found in the range of 1.99 ± 0.1 - 2.4 ± 0.1 kg/cm². is given in Table 8.

Friability Friability was observed less than 1% represented in Table 8, indicated that Mouth Dissolving Tablets had a good mechanical resistance. It is designed to evaluate the ability of the tablet to withstand abrasion in packaging, handling and shipping.

Wetting time The wetting time was rapid in all the formulations. Wetting is closely related to inner structure of tablets, this may be due to ability of swelling and also capacity of absorption of water. Among all the formulations F10 showed less wetting time. The result was shown in Table 8.

Water absorption ratio The capacity of disintegrant to swell in presence of little amount of water were found to be in the range of 91-96 % as shown in Table 8. The water absorption ratio that is the up taking of water was very fast and the ratio was found higher.

Drug Content

The drug content was found to be within the range of 98.23 ± 0.13 - 98.67 ± 0.01 %w/w. indicating uniform distribution of drug in the formulated tablets as per pharmacopoeia specification. The Drug content of all formulations was given in Table 8.

Evaluation of post compression parameters**Table 8: Evaluation of Mouth Dissolving Tablets of Losartan Potassium**

Formulations	Thickness (mm)	Hardness (Kg/cm ²)	Friability (%)	Drug Content (%)	Weight Variations (mg)	Disintegration time (sec)	Wetting Time (sec)	% Water Absorption Ratio
F1	3.4 \pm 0.03	2.3 \pm 0.02	0.78 \pm 0.036	98.67 \pm 0.45	200 \pm 0.93	35.42 \pm 0.92	25 \pm 3.28	92.0 \pm 0.21
F2	3.3 \pm 0.05	2.2 \pm 0.10	0.73 \pm 0.045	98.58 \pm 0.13	201 \pm 0.32	38.11 \pm 1.25	20 \pm 2.00	91.11 \pm 0.29
F3	3.4 \pm 0.09	1.95 \pm 0.05	0.70 \pm 0.044	99.12 \pm 0.22	203 \pm 0.51	42.28 \pm 1.01	17 \pm 1.41	96.30 \pm 1.17
F4	3.2 \pm 0.06	2.0 \pm 0.04	0.84 \pm 0.024	98.16 \pm 0.67	198 \pm 0.47	54.74 \pm 0.63	22 \pm 1.89	91.35 \pm 1.49
F5	3.1 \pm 0.2	1.99 \pm 0.02	0.81 \pm 0.048	98.23 \pm 0.04	200 \pm 0.85	57.23 \pm 0.26	31 \pm 1.41	93.32 \pm 1.22
F6	3.2 \pm 0.3	2.4 \pm 0.12	0.79 \pm 0.022	98.23 \pm 0.36	199 \pm 0.56	44.5 \pm 0.64	23 \pm 2.28	95.10 \pm 1.11
F7	3.0 \pm 0.05	2.35 \pm 0.06	0.84 \pm 0.45	98.36 \pm 0.37	201 \pm 0.67	61 \pm 0.34	26 \pm 2.00	94.58 \pm 1.20
F8	3.3 \pm 0.08	2.5 \pm 0.09	0.83 \pm 0.32	98.23 \pm 0.56	201 \pm 0.16	59 \pm 0.66	17 \pm 1.41	93.78 \pm 1.54
F9	3.4 \pm 0.02	2.1 \pm 0.01	0.81 \pm 0.65	98.44 \pm 0.23	202 \pm 0.70	41 \pm 0.20	21 \pm 1.41	94.21 \pm 1.64
F10	3.2 \pm 0.03	2.4 \pm 0.12	0.79 \pm 0.022	98.55 \pm 0.01	200 \pm 0.85	25.12 \pm 0.92	21 \pm 1.19	92.0 \pm 0.21

In vitro % Drug Release of Drug from Tablet

All the formulations were subjected for the *in vitro* dissolution studies using tablet dissolution apparatus (USP). The phosphate buffer 6.8 was used as dissolution medium. The sample were withdrawn at different time intervals, filtered and analyzed at 222nm. The cumulative % drug release was calculated on the basis of mean

amount of Losartan Potassium present in respective tablet. The result obtained in the in vitro drug release for all formulations F1 to F10 are tabulated in Table 9. The rapid dissolution was observed in formulation F10 which released 98.42% of drug at the end of 10 minutes. The rapid dissolution might be due to fast breakdown of tablet. The drug release was completely achieved in shorter duration of time. In cumulative percent drug release study, F10 batch showed higher percent of drug release compared to other formulations at the end of 10 minutes. Therefore it was concluded that the F10 is best batch as because of lesser disintegration time and highest percentage of drug release at the end of 10 min among all the formulations

In vitro % Drug Release of Drug from Tablet

Table 9: In vitro % Drug Release of Drug from Tablet

Time (min)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
2	38.62±0.86	40.43±0.13	43.86±1.26	44.55±0.45	48.24±0.89	46.91±0.36	45.06±2.97	52.40±0.34	49.67±0.15	50.02±0.22
4	50.48±1.56	51.85±0.96	58.65±2.23	53.9±0.52	57.81±0.56	62.65±0.63	60.39±0.78	63.34±1.63	61.25±0.61	65.28±1.23
6	73.64±0.24	74.28±1.97	71.15±1.05	79.24±1.23	79.52±0.93	75.52±0.42	76.40±0.31	80.33±1.34	81.10±0.78	83.64±2.15
8	81.99±0.66	81.35±2.29	83.54±2.12	84.67±0.95	84.99±1.88	85.30±0.27	86.39±1.55	87.03±0.22	88.34±1.07	90.89±0.55
10	90.01±1.63	91.13±1.08	91.94±0.65	92.96±1.36	93.37±0.46	93.93±0.12	94.89±2.07	95.96±1.59	97.52±0.14	98.42±0.98

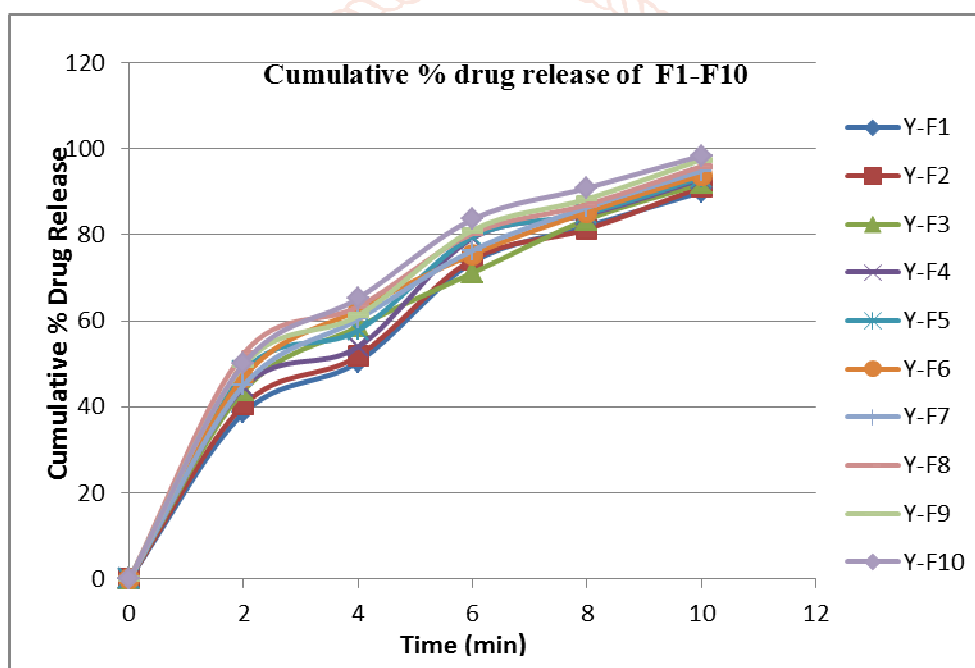


Figure 7: Cumulative % drug release of F1-F10 formulations

STABILITY STUDY

The formulation F10 was subjected to stability study. The stability studies were carried out at 40°C±2°C temperature and 75% ±5% relative humidity for three months. After every month the tablets were analyzed for hardness, disintegration time, content uniformity, % drug release study up to three months. The results obtained in Table 10.

Table 10: Stability Study

Formulation	Parameters Evaluated	Initial	After 2 Month	After 3 Months
F10	Hardness (kg/cm ²)	2.4±0.12	2.3±0.15	2.2±0.10
	Disintegration time (Sec)	25.12±0.92	27.10±0.94	29.22±0.90
	Content Uniformity (%)	98.55±0.01	98.55±0.90	98.55±1.92
	% drug release	98.42±0.98	98.25±1.25\7	98.12±1.94

From the results it is concluded that the mouth dissolving tablet of Losartan Potassium are stable.

CONCLUSION

- Losartan Potassium is an angiotensin II receptor antagonist and used as antihypertensive drug. The molecular weight of Losartan Potassium is 461.0 g/mole, half-life is 1.5 to 2 hours, and its bioavailability is 25-35%. It gets metabolized mainly in the liver but have good buccal absorption.
- Mouth dissolving tablets will be the better option for formulation of Losartan Potassium as far as tablet dosage form is concern. Mouth dissolving tablets are soluble in saliva and absorbed from the mouth. thus enhance the bioavailability by avoiding first pass metabolism. Mouth dissolving tablets also leads to an increased patient compliance, and fast onset of action. So, keeping all these factors in mind, it was considered appropriate to formulate mouth dissolving tablet of Losartan potassium by using combination of natural and synthetic Superdisintegrant
- The drug was characterized according to different methods, on the basis of identification by UV spectroscopy, organoleptic properties and other tests. In UV spectroscopy study, the maximum wavelength (λ_{max}) of Losartan Potassium in 6.8 pH phosphate buffer was found 222 nm. Standard calibration curve of Losartan Potassium in 6.8 pH phosphate buffer is developed absorbance against the concentration of drug in $\mu\text{g/ml}$ and which showed the linearity with R^2 value 0.9971.
- The IR spectra did not show any significant difference from those obtained for their physical mixture. These obtained results indicate that there was no positive evidence for the interaction between Losartan Potassium and other excipients. These results clearly indicate that the excipients can be used without any interaction for preparation of Mouth dissolving tablet.
- The values of Pre- compression parameter evaluated, were within prescribed limits and indicated good free flowing properties.
- The batches formulated F1 to F10 of mouth dissolving tablet of losartan potassium.
- The batch F10 was found with disintegrating time 12.28 sec and percent of drug release of 98.42 %, hence it was selected as best batch and then subjected to stability study.
- During stability study no change was observed in drug release profile, so prepared tablet batch of mouth dissolving tablet of Losartan Potassium was concluded to be stable.

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