**ABSTRACT**

Oral dispersible tablets have emerged as an alternative to the conventional oral dosage forms to improve the patient compliance. Due to problem in swallowing ability with age, the pediatric and geriatric patients complain of difficulty to take conventional solid dosage forms. The ODT's are solid dosage forms that dissolve or disintegrate rapidly in the oral cavity. This results in dissolution or suspension without the need of water. The main objective of this work is to formulate and evaluate Rizatriptan Benzoate ODT's using different concentration of super disintegrating agents like croscarmellose, Sodium Starch Glycolate (SSG), Crospovidone. Tablets were prepared by direct compression method and evaluated for hardness, thickness, uniformity of weight, friability, wetting time, disintegration time, percentage of drug release and assay by HPLC. Drug compatibility with excipients was checked by FTIR studies. No chemical interaction between drug and excipients was confirmed by FTIR studies. Moisture uptake studies and stability studies are also conducted. The results indicated that formulation prepared with Crospovidone was found to be optimised which provides maximum drug release (100%) and minimum disintegration time (less than 10 second). The drug release from all the formulations followed first order kinetics. Stability studies of the tablet at 40±2º/75%±5%RH for 3 months showed non-significant drug loss. Apart from fulfilling all official and other specifications, the tablets exhibited higher rates of release.

**Keywords:** Oral dispersible tablets, Rizatriptan benzoate, Crospovidone, Super disintegrant, Direct compression and Innovator.

**INTRODUCTION**

Over a decade, the demand for development of orally disintegrating tablets (ODTs) has enormously increased as it has significant impact on the patient compliance. Orally disintegrating tablets offer an advantage for populations who have difficulty in swallowing. It has been reported that Dysphagia (difficulty in swallowing) is common among all age groups and more specific with paediatric, geriatric population along with institutionalized patients and patients with nausea, vomiting, and motion sickness complications. United States of America

Food and Drug Administration (USFDA) define ODTs as "A solid dosage form containing medicinal substances or active ingredient which disintegrates rapidly usually within a matter of seconds when placed upon a tongue". The major advantage of the ODT formulations is that it combines the advantages of both liquid and conventional tablet formulations. It provides the convenience of a tablet formulation, and also allowing the ease of swallowing provided by the liquid formulation. The various technologies used to prepare ODTs include direct compression, sublimation, tablet moulding, spray drying, freeze drying and mass extrusion. The new generation anti-migraine drug, Rizatriptan benzoate is a potent and selective 5-hydroxytryptamine 1B/1D receptor agonist and is considered more effective than the traditional triptans for the treatment of acute migraine attack. It is a faster acting oral triptan with the highest pain free and sustained pain free responses of the available triptans. The current commercially available ODT of Rizatriptan benzoate (MAXALT-MLT, USA) is prepared by lyophilization. However, the ODTs formed by lyophilization may have low mechanical strength and may exhibit poor stability at higher temperatures and humidity. The present study is to formulate an oral delivery device, in the form of rapidly disintegrating tablets by using direct compression technology, with the aim of rapid disintegration and a complete drug release in a short period of time.

In this study, efforts have been made to prepare different formulations based on varying concentrations of superdisintegrants at their two levels viz., higher and lower concentrations. The main effect and the interaction of disintegrants on dispersion time and drug levels were studied.

**MATERIALS AND METHODS**

Rizatriptan Benzoate was obtained as a gift sample from Natco Pharma Ltd., Hyderabad. Crospovidone XL, Croscarmellose sodium, Avicel pH 102 were obtained as a gift sample from Signet chemical corporation, Mumbai. Sodium starch glycolate and other excipients were obtained as a gift sample from KMV enterprises, Hyderabad. All chemical used were of analytical grade.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Ingredients</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>F7</th>
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<td>Peppermint flavour</td>
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<td>1</td>
<td>1</td>
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<td>Magnesium stearate</td>
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<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
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</tbody>
</table>
Formulation of oral disintegrating tablets of Rizatriptan 10mg were carried out by direct compression technique. Rizatriptan was weighed and sifted through #30 mesh and then taken in a polybag. Diluents were weighed according to ratio and sifted through #30 mesh and added to the above and mixed for 5 minutes. Superdisintegrant was weighed and sifted through #30 mesh and added to the above and mixed for 5 minutes. Sweetener and flavor were weighed and passed through #30 mesh separately and added to the above mixture one after the other and for each addition the mixture was blended thoroughly for 5 minutes. The lubricant Magnesium stearate was weighed and sifted through #30 and added to the above mixture and blended with the mixture for 1 minute. The final blend was mixed thoroughly for 2-3 minutes in the poly bag and tablets were compressed as 10mg tablets using 8.5 mm round flat shaped punches.

Evaluation of powder blends

Bulk density

Apparent bulk density (ρ_b) was determined by placing presieved drug excipients blend into a graduated cylinder and measuring the volume (V_b) and weight (M) as "as it is".

\[ \rho_b = \frac{M}{V_b} \]

Tapped density

The measuring cylinder containing a known mass of blends was tapped for a fixed number of taps. The minimum volume (V_t) occupied in the cylinder and the weight (M) of the blend was measured. The tapped density (ρ_t) was calculated using following formula.

\[ \rho_t = \frac{M}{V_t} \]

Angle of repose

Angle of repose (α) was determined using funnel method. The blend was poured through a funnel that can be raised vertically until a maximum cone height (h) was obtained. The radius of the heap (r) was measured and angle of repose was calculated.

\[ \alpha = \tan^{-1}\left( \frac{h}{r} \right) \]

Compressibility index

The simplest way of measurement of free flow property of powder is compressibility, an indication of the ease with which a material can be induced to flow. It is given by % compressibility which is calculated as follows:

\[ C = \left( \frac{\rho_t - \rho_b}{\rho_t} \right) \times 100 \]

Hausner’s ratio

Hausner ratio is an index of ease of powder flow; it is calculated by following formula.

\[ \text{Hausner’s ratio} = \frac{\rho_t}{\rho_b} \]

Loss on drying (% LOD)

Loss on drying is an expression of moisture content. The loss on drying test is designed to determine the amount of water and volatile matters in a sample. When the sample is dried under specified conditions, the loss on drying of the blend (1g) was determined by using electronic LOD (moisture baloon analyzer).

Evaluation of tablets

Thickness

Thickness was determined for randomly selected 20 tablets of each batch using a digital vernier scale and the average thickness was determined in mm. The tablet thickness should be controlled within ± 5% of the thickness of a standard.

Weight Variation

20 tablets were selected randomly from a batch and were individually weighed and then the average weight was calculated. The tablets meet the USP specifications if not more than 2 tablets are outside the percentage limit and if no tablet differs by more than 2 times the percentage limits.

Hardness Test

The crushing load which is the force required to break the tablet in the radial direction was measured using a schlenzner hardness tester. The hardness of 10 tablets was noted and the average hardness was calculated. It is given in kp or kg/cm².

Percentage Friability

In friability testing the tablets are subjected to abrasion and shock. It gives an indication of the tablets ability to resist chipping and abrasion during transportation and shipping. If the tablet weight is ≥650 mg 10 tablets are taken and initial weight was noted. The tablets were rotate in the Roche friabilator for 4 minutes which gives 100 revolutions at 25 rpm. The tablets were dedusted and reweighed. For conventional tablets the percentage friability should be less than 1% whereas friability values of up to 4% are acceptable for oral disintegrating and chewable tablets.

The percentage friability is expressed as the loss of weight and is calculated by the formula:

\[ \% \text{ Friability} = \left( \frac{\text{Initial weight of tablets} - \text{Final weight of tablets}}{\text{Initial weight of tablets}} \right) \times 100 \]

Disintegration Time

Disintegration time is the time taken by the tablet to break into smaller particles. The disintegration test is carried out in an apparatus containing a basket rack assembly with six glass tubes of 7.75 cm length and 2.15 mm in diameter the bottom of which consists of a 10 mesh sieve. The basket is raised and lowered 28-32 times per minute in the medium of 900 ml which is maintained at 37±2°C. Six tablets were placed in each of the tubes and the time required for complete passage of tablet fragments through the sieve (#10) was considered as the disintegration time of the tablet.

Table 2: Table Shows Evaluations Powder Blend

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Formulation Code</th>
<th>Bulk density (g/ml)</th>
<th>Tapped density (g/ml)</th>
<th>Carr's index</th>
<th>Hausner’s ratio</th>
<th>Angle of repose (°)</th>
<th>% LOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>F1</td>
<td>0.58±0.02</td>
<td>0.79±0.02</td>
<td>26.58±0.03</td>
<td>1.36±0.04</td>
<td>25±0.02</td>
<td>0.82±0.36</td>
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<tr>
<td>2</td>
<td>F2</td>
<td>0.60±0.04</td>
<td>0.76±0.01</td>
<td>13.1±0.03</td>
<td>1.11±0.04</td>
<td>26±0.04</td>
<td>1.06±0.41</td>
</tr>
<tr>
<td>3</td>
<td>F3</td>
<td>0.67±0.03</td>
<td>0.78±0.02</td>
<td>12.8±0.01</td>
<td>1.16±0.03</td>
<td>29±0.01</td>
<td>0.96±0.58</td>
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<td>4</td>
<td>F4</td>
<td>0.59±0.01</td>
<td>0.65±0.03</td>
<td>9.2±0.04</td>
<td>1.10±0.01</td>
<td>24±0.02</td>
<td>0.88±0.37</td>
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<tr>
<td>5</td>
<td>F5</td>
<td>0.62±0.01</td>
<td>0.70±0.03</td>
<td>11.4±0.03</td>
<td>1.12±0.02</td>
<td>27±0.03</td>
<td>0.62±0.02</td>
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<tr>
<td>6</td>
<td>F6</td>
<td>0.59±0.04</td>
<td>0.66±0.04</td>
<td>10.6±0.02</td>
<td>1.11±0.03</td>
<td>25±0.01</td>
<td>1.15±0.51</td>
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<tr>
<td>7</td>
<td>F7</td>
<td>0.63±0.03</td>
<td>0.71±0.01</td>
<td>11.2±0.02</td>
<td>1.12±0.01</td>
<td>27±0.04</td>
<td>1.14±0.40</td>
</tr>
<tr>
<td>8</td>
<td>F8</td>
<td>0.66±0.02</td>
<td>0.73±0.01</td>
<td>10.8±0.02</td>
<td>1.12±0.03</td>
<td>24±0.02</td>
<td>1.05±0.34</td>
</tr>
<tr>
<td>9</td>
<td>F9</td>
<td>0.66±0.01</td>
<td>0.74±0.02</td>
<td>10.8±0.02</td>
<td>1.12±0.03</td>
<td>32±0.03</td>
<td>1.08±0.40</td>
</tr>
</tbody>
</table>
The time for disintegration of ODTs is generally <1 min and actual disintegration time that patience can experience ranges from 5 to 30 s.

**Dissolution Studies: By (Uv Method)**

Dissolution is a process by which the disintegrated solid solute enters the solution. The test determines the time required for a definite percentage of the drug in a tablet to dissolve under specified conditions.

The dissolution test was carried out in USP apparatus Type II (paddle) with water as the dissolution medium. The samples were drawn at 5, 10, 15, 18, 24, 30, 45, and 60 min. Fresh volumes of the medium were replaced with the withdrawn volume to maintain the sink conditions. Samples withdrawn were analyzed for the percentage of drug released.

**Percentage water content by (KARL FISCHER TITRATION)**

Transfer 35-40 ml of a mixture of methanol to the titration vessel and titrate with karl fischer reagent to the electrometric end-point. To consume any moisture that may be present (disregard the volume consumed, Since it does not enter into the calculation) use powder from 5 tablets ground to a fine powder in an atmosphere of temperature and relative humidity known not to influence the results. Accuracy and transfer about 300 mg of powder into the titration vessel. Mix and titrate with the karl fischer reagent to the electrometric end-point. Calculate the watercontent of the specimen in mg taken by the formula:

\[ S = \frac{F \times 100 + W}{F} \]

Where:
- \( S \) = The volume in ml of reagent consumed in the titration
- \( F \) = is the water equivalence factor of the karl fischer reagent
- \( W \) = wt of sample

**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 & the time required for complete wetting was measured. The wetted tablet was then weighed.

**Water absorption ratio = Final weight / Initial weight / Final weight x 100**

**Wetting Time**

Wetting time is closely related to the inner structure of the tablets and to the hydrophilicity of the excipients. It is obvious that poor tablets become smaller and wetting time increases with an increase in compression force or a decrease in porosity. A piece of tissue paper folded double was placed in a petri plate containing 6 ml of water containing water soluble eosin dye. The tablet was placed on the paper and the time for complete wetting of the tablet was measured in seconds.

**Wetting volume**

The tablet is placed in the center of the petri dish and with the help of 5 ml pipette, distilled water was added dropwise on the tablet. The volume required to completely disintegration of the tablet was noticed as the wetting volume.

**Assay By Hplc**

**Sample preparation**

Equivalent to 50 mg of rizatriptan Benzoate was taken in 100 ml volumetric flask and 60 ml of diluents was added and sonicated for 20 min. To this solution diluents was added up to the mark. Centrifuge at 300 rpm for 15 min, filter through pvdf filter. Take 3 ml of filtered solution and add 50 ml of diluent (30 ppm).

**Procedure**

Separately injected equal volumes (about 10 µl) of diluents as blank and standard preparation and sample preparations into the system and the chromatograms were recorded and the peak area responses were measured and the percentage content of the drug in the sample was determined using the formula

\[ \% \text{ Content of Rizatriptan} = \frac{TA \times SW \times 100 \times P \times 
\text{Avg wt}}{SA \times 100 \times 100 \times TW \times 100 \times LA} \]

**Moisture Uptake Studies**

Moisture uptake studies for ODT should be conducted to have an insight into the stability of the formulation. As several excipients used are hygroscopic. Moisture uptake studies were carried out by weight method. Cleaned and dried petriplates were taken and their empty weights were recorded. 10 tablets were placed into each petriplate and the total weight of each petriplate with the test substance was recorded. Finally, the petriplates were placed in desiccators saturated to 29, 43 and 75% relative humidities at 25 °C using various standard solutions. The weights of all the petriplates were recorded at the end of 1, 2, 4, 5, 6, 8, 24, 48, 72 h. The petriplates were carefully wiped with tissue paper to remove any adhering moisture before the weight was recorded.

The percentage of moisture absorption was determined using the formula

\[ \% \text{Moisture absorption} = \frac{\text{Observed weight} - \text{ initial weight}}{\text{Initial weight}} \]

**Stability Studies**

The purpose of stability testing is to provide evidence on how the quality of a drug substance or drug product varies with time under the influence of a variety of environmental factors, such as temperature, humidity, etc.

**Objective**

To generate documented evidence that the tablets manufactured comply with the finished product specifications under accelerated and long term stability conditions.

**Design Plan**

**Accelerated study:** The products are subjected to accelerated stability studies at 35 ± 2°C for 2 weeks and 40°C/75% RH for 6 months.

**Long term study:** The product is subjected to long term studies at 25°C/60% ±5% RH for 12 months.

**Package type**

The tablets were packed as 30’s count in HDPE containers, induction sealed with absorbent cotton.

**RESULTS AND DISCUSSION**

For each designed formulation, blend of drug and excipients was prepared and evaluated. Formicimetric properties shown in Table-2. Bulk density was found to be between 0.58±0.02 and 0.68±0.04 gm/cm³ and tapped density between 0.66±0.04 and 0.79±0.02 gm/cm³ for all Formulations. From density data, cars index was calculated and was found to be between 9.2±0.04 and 26.58±0.03. Angle of repose was found to be in the range of 24.13±0.02 and 32±0.03. Hausner ratio was found below 1.36. All the formulation showed the good blend properties for direct compression and hence tablets were prepared by using direct compression technology. As the tablet powder mixture was free flowing, tablets produced were of Hardness (1.12-2.08 kp) and friability loss (0.21-1.29 %) indicated that tablets had a good mechanical resistance. Drug content was found to be high (≥99.8%) in all the tabletformulations. Thus wetting times of tablets was found to be crospropionde ≤ croscarmellose sodium ≤ sodium starch glycolate ≤ crospovidone. While dispersion time was found as croscarmellose sodium ≤ sodium starch glycolate ≤ crospovidone. The influence of superdisintegrants on dissolution of rizatriptan from the tablets is shown below. The drug release in 5 min and 15 min increased with increase in the level of crospovidone. However, values decreased with increase in the level of sodium starch glycolate. While water did not change proportionally with increase in the level of croscarmellose shown in fig 1, 2 and 3. Of all the formulations F4 formulation is best shows drug release 100 in 15 min shown in fig 2. Moisture uptake studies for the final batch F4 were performed at 43, 64 and 75% RH and there was a slight moisture uptake observed in tablets at 75% RH. The reproductibility batch F4 was loaded for long term and accelerated stability studies at 25 ± 2°C/60±5% RH and 40±2°C/75±5% RH. The results of stability data for 1st, 2nd month and 3rd months (40±2°C/75±5% RH) were found to be good.
Table 3: Table Shows Evaluations of Tablets

<table>
<thead>
<tr>
<th>Formulation Code</th>
<th>Average weight (mg)</th>
<th>Thickness (mm)</th>
<th>Hardness (kp)</th>
<th>Percentage Friability (%)</th>
<th>Disintegration Time (sec)</th>
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</thead>
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<tr>
<td>F1</td>
<td>199.23±0.12</td>
<td>2.97±0.02</td>
<td>1.12±0.12</td>
<td>1.29±0.06</td>
<td>11±0.44</td>
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<td>F2</td>
<td>200.01±0.12</td>
<td>3.01±0.01</td>
<td>2.08±0.21</td>
<td>0.21±0.12</td>
<td>21±0.14</td>
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<td>F3</td>
<td>200.03±0.24</td>
<td>2.89±0.04</td>
<td>1.77±0.23</td>
<td>0.39±0.11</td>
<td>13±0.25</td>
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<td>F4</td>
<td>199.89±0.23</td>
<td>2.94±0.02</td>
<td>1.76±0.08</td>
<td>0.35±0.04</td>
<td>11±0.14</td>
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<tr>
<td>F5</td>
<td>200.01±0.27</td>
<td>3.01±0.02</td>
<td>1.78±0.14</td>
<td>0.43±0.12</td>
<td>14±0.36</td>
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<td>F6</td>
<td>200.12±0.21</td>
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<td>F7</td>
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<td>F8</td>
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<td>1.75±0.14</td>
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<td>10±0.23</td>
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<td>F9</td>
<td>200.02±0.22</td>
<td>3.01±0.07</td>
<td>1.74±0.22</td>
<td>0.39±0.12</td>
<td>12±0.36</td>
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</table>

Table 4: Dissolution Studies for Rizatriptan Odt

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<tr>
<th>S. No.</th>
<th>TIME(min)</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
<th>F7</th>
<th>F8</th>
<th>F9</th>
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<td>90.2+</td>
<td>89.3+</td>
<td>89.7+</td>
<td>89.8+</td>
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<tr>
<td></td>
<td></td>
<td>0.034</td>
<td>0.05</td>
<td>0.024</td>
<td>+0.031</td>
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<td>0.06</td>
<td>0.026</td>
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<td>96.1+</td>
<td>95.9+</td>
<td>97.3</td>
<td>96.1+</td>
<td>96.9+</td>
<td>96.8+</td>
<td>97.4</td>
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<tr>
<td></td>
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<td>0.032</td>
<td>0.026</td>
<td>+</td>
<td>0.05</td>
<td>0.012</td>
<td>0.026</td>
<td>+</td>
<td>0.031</td>
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<td>15</td>
<td>99.0+</td>
<td>99.2+0.0012.</td>
<td>99.7+</td>
<td>100.0+</td>
<td>99.3+</td>
<td>99.8+</td>
<td>99.9+</td>
<td>100.1+</td>
<td>99.7+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.05</td>
<td>0.06</td>
<td>0.015</td>
<td>0.12</td>
<td>0.05</td>
<td>0.03</td>
<td>0.06</td>
<td>0.024</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 1: Figure Shows % Cumulative Drug Release of Formulation F1, F2 and F3

Fig. 2: Figure Shows % Cumulative Drug Release of Formulation F4, F5 and F6
CONCLUSION

Based on various studies carried out we have arrived at the following conclusions:

Direct compression can be used as a method for the preparation of oral disintegrating tablets of Rizatriptan.

Based on the preliminary studies various formulation trials (F1-F9) were carried out with different concentrations of superdisintegrants, diluents and lubricant. From the various formulations, the formulation F4 was finalized as the optimized formula. Based on the various parameters which were compared with the reference.

Formulation F4 showed satisfactory results with various physicochemical evaluation parameters like Hardness, Percentage weight loss, Disintegration time, Dissolution profile, Assay and Moisture content when compared with the marketed product. When subjected to accelerated stability studies the tablets were found to be stable.

REFERENCES

3. Ansef's Pharmaceutical Dosage Forms And Drug Delivery Systems, 8th edition 227-260
9. Brahmanar, suniljaipal. Biopharmaceutics and pharmacoekinetica treatise.25
16. Forisman et al, Immediate release tablet, United States Patent 6521253

Fig. 2: Figure shows % cumulative drug release of formulation F7, F8 and F9

Comparaison of dissolution profile of F7-F9 with Innovator

Cumulative % of drug release

TIME IN MINUTES

F7

F8

F9

0 0

20 50

100 100

120 120

INNOVATOR