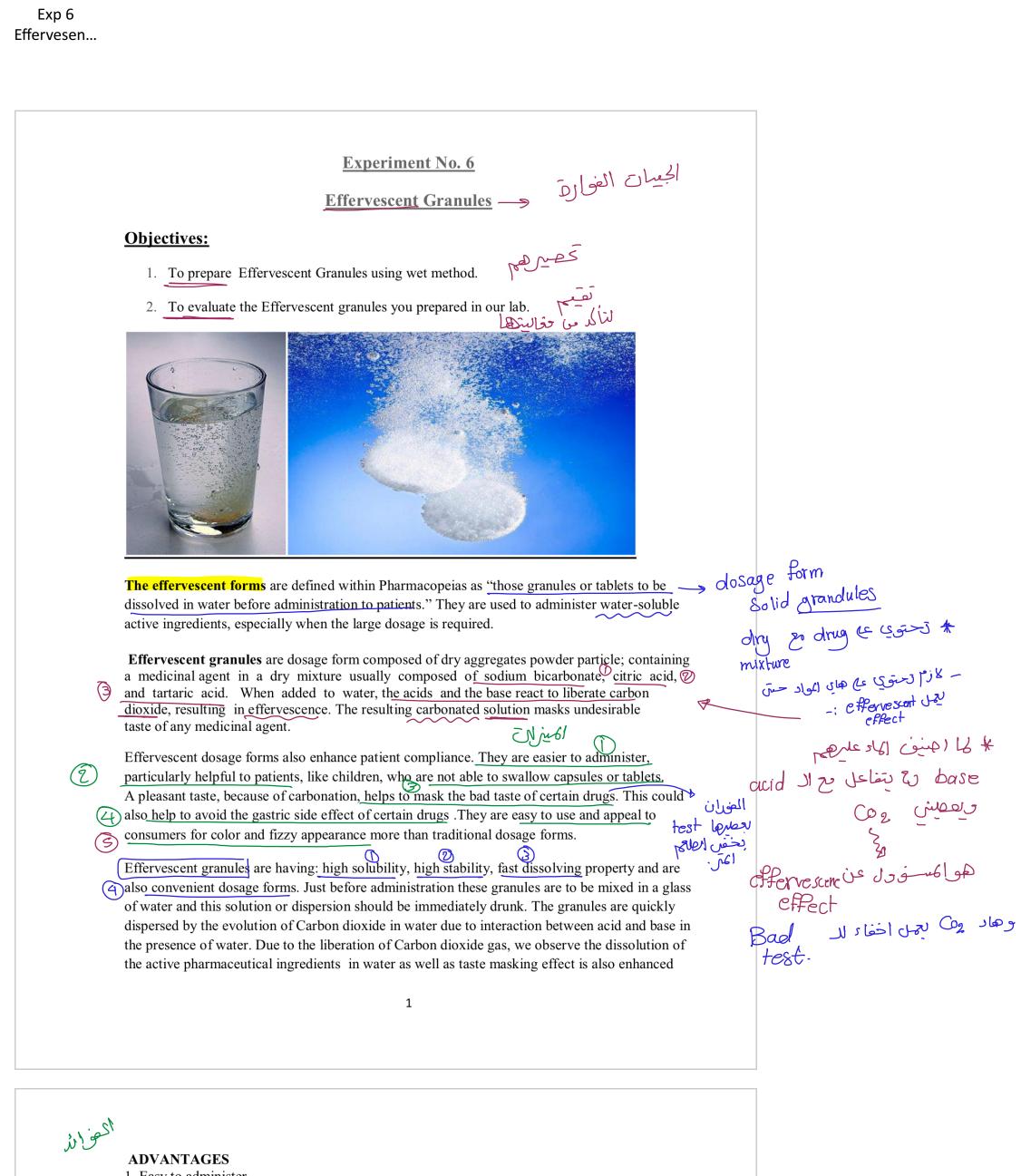
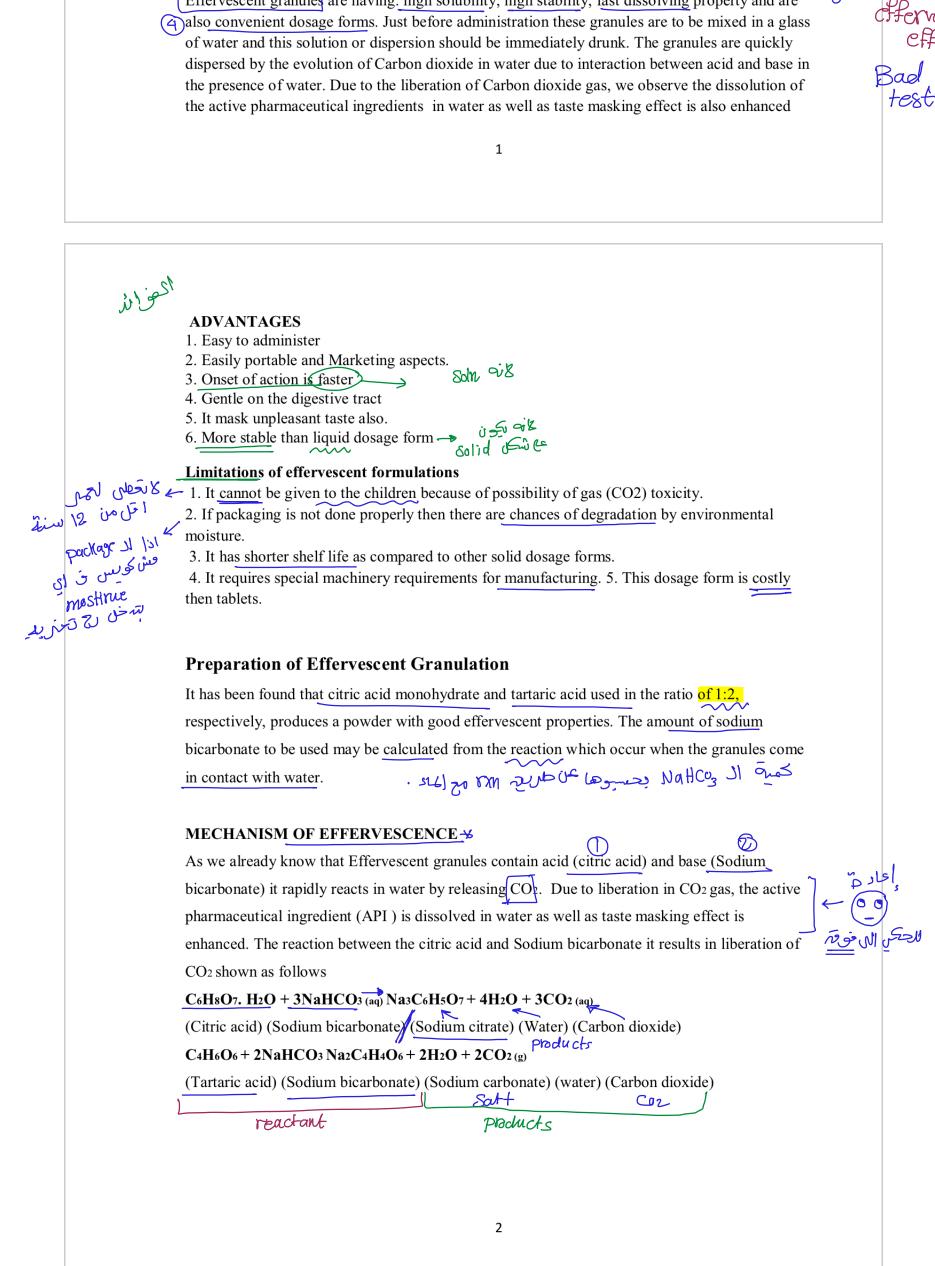
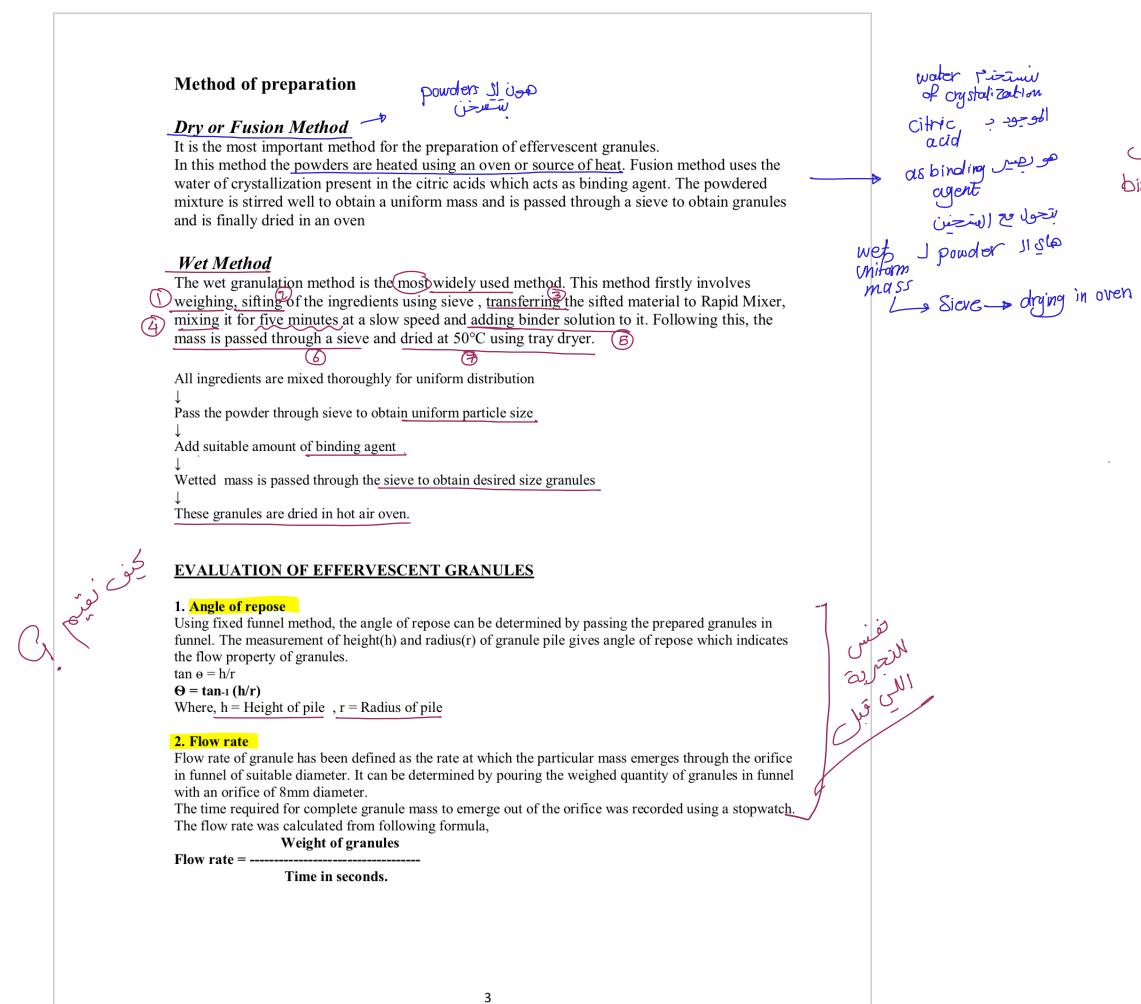
Exp 6 Effervesent Granules (1) Saturday, 2 December 2023 11:20 AM Exp 6 Effervesen...







In a measuring cylinder, a certain quantity of prepared granules were taken without compacting. The volume occupied by the granule is noted as V₁ (bulk volume). Bulk density can be calculated by using the

3. Bulk density

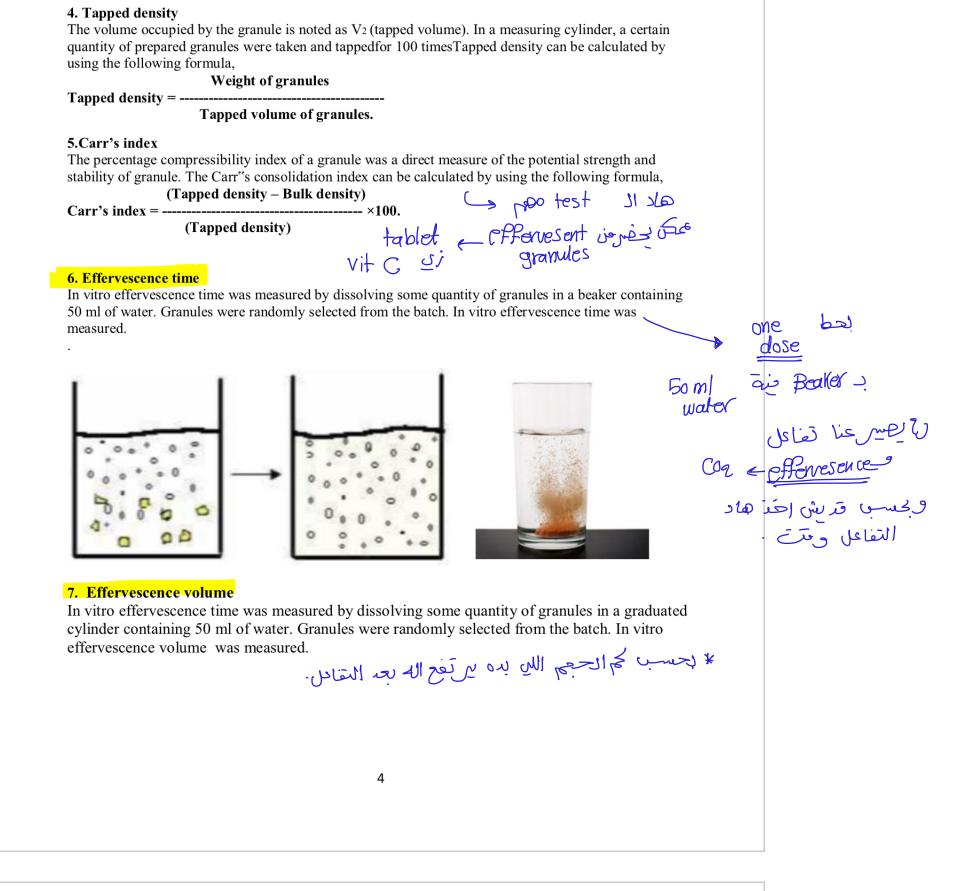
following formula,

8. Disintegration test

Bulk density = -

Weight of granules

Bulk volume of granules



granules JIUS PJX either dissolved or dispersed in water. Repeat the operation on 5 other doses. If each of 6 doses Disintegration المسكال وتعنين علال 5 دقائقة disintegrate within 5 minutes, then the preparation complies with this test. 9. Particle size by image analysis Image analysis is a powerful analytical technique that provides particle shape information in addition to a sample's standard particle size distribution. This technique captures digital images of dispersed particles utilizing an appropriate objective/magnification and CCD camera. Instrument software assigns a grey scale value to the pixels within the digital images and the operator evaluates the images to differentiate between particles and background. This process is known as "thresholding" and based on the value set by the operator, the pixel is turned on or off. Each digital image is then processed by the software, and, once complete, results are available on a variety of size and shape parameters. Image analysis provides a very useful method for the measurement of the size distribution of granular materials. The method is very useful when the grains to be measured are very small $(1 - 25 \,\mu\text{m})$.

One dose of effervescent granules is poured in the beaker containing water at 15-25°, numerous bubbles of gas is liberated. When the liberation of gas around the granules stop, granules get disintegrated, being

Weight (g)

2.0 g

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Experimental Part

Master Formula: (to prepare 20.0 g) granules)

Part 1 : Preparation of effervescent granules

Material Magnesium sulfate Citric acid monohydrate Tartaric acid

Materials and instrument:

2.8 g 5.6 g Sodium bicarbonate 9.6 g -Binder: Ethanol 96% -Top loading balance -Stainless steel Tray -Sieve 1.4m<u>m</u>, 2.0 mm -Drying oven

1. Weigh the different ingredients based on the computed amount. 2. Using a mortar and pestle; triturate the ingredients to ensure uniform and appropriate size for powder. 3. Transfer the powder

Preparation method:

- 4. to a small tray. 5. Add a sufficient amount of ethanol 96% to make it wet. to reach end points 6. Pass the mixture through sieve 1.4 mm or 2.0 mm. 7. Collect the wet granules in a suitable stainless steel tray.
 - 8. Put in oven at 50 °C for 15 minutes.
 - 9. After drying, collect the dry granules and pass through sieve used in step 5. 10. Evaluate the resulted granules as described in part 2.
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Part 2 : Evaluation of effervescent granules 1. Effervescent volume: a. Put 50 ml of water in 100 ml graduated cylinder

c. Add granules in cylinder containing water

b. Weigh 2.0 g of granules

- d. Measure the effervescent volume 2. Effervescent time
- 3. Disintegration time a. Put 50 ml of water in 100 ml beaker b. Weigh 2.0 g of granules

4. Particle size analysis

- c. Add granules in beaker containing water d. Measure the effervescent time
- e. After 5 minutes, the granules dissolve completely no any residue remaining in the beaker
- Refer to video to measure particle size of your granules
 - Arten Academis.

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