CHARLES UNIVERSITY

FACULTY OF PHARMACY IN HRADEC KRALOVE

Department: Pharmaceutical Technology Master´s degree program in Pharmacy

Opponent´s review of Master´s thesis

Student´s name: Ghazal Khorsand

Mentor of the thesis: PharmDr. Eva Šnejdrová, Ph.D.

Opponent of the thesis: Dr. Georgios Paraskevopoulos,Ph.D.

Year of the thesis defense: 2022

Title of the thesis:
Rheological properties of silicone gels for scar treatment

Formal comments: number of pages: 52, number of figures: 19, number of tables: 11, number of references: 55.

Type of work: Experimental work

a) The aim of the thesis is: Fulfilled

b) Language and graphic level: Excellent

c) Processing of the theory: Excellent

d) Methods description: Excellent

e) Results description: Very good

f) Discussion and conclusions: Very good

I recommend Diploma thesis for the recognition as Rigorous thesis ☐.

Opponent´s comments: The thesis is dealing with the characterization of rheological properties of four commercially available wound healing formulations and three formulations under development. The theoretical part of the thesis is well written giving nice overall information about wound gealing and scar formation together with an overview of rheological behavior characteristics of gels. I would have avoided the paragraph 5.4.2 Nature of the gel and I would have used a first line indent whenever a new paragraph is starting. In addition, a list of abbreviations is missing but, given the fact that the thesis does not contain many abbreviations, the quality of the thesis is not affected

Questions:
1. Since the sample loading to the Rheometer is not mass specific, can you please estimate how much amount of a gel is needed for a complete rheological characterization?
2. Why the temperature of 25 Celsius was used for the rheological characterization? Wouldn't be more beneficial to perform the characterization at skin's temperature?
3. In your opinion, since two of the commercially available tested formulations are showing a Newtonian flow, why have they been characterized as gels?
4.What are the components of the formulations used? Is there any correlation between the components and the observed rheological characteristics?

5. After characterizing a formulation as a Newtonian fluid with its viscosity curve, what is the additional information extracted from the viscoelastic behavior characterization?

Evaluation of Master´s thesis: Excellent

Recommendations for the thesis defense: Recommended

In Hradec Kralove 23.05.2022

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Opponent´s signature