

STATEMENT OF OPINION

by **Assoc. Prof Kalin Valentinov Ivanov, PhD**

Head of Department of Pharmacognosy and Pharmaceutical Chemistry
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on dissertation work for awarding the educational and scientific degree "Doctor"
professional field 7.3 Pharmacy
higher education field of 7. Healthcare and Sport
doctoral program Pharmaceutical chemistry

Author: Nadya Borislavova Hadzhieva,
Department of Pharmaceutical Chemistry, Faculty of Pharmacy. Medical University – Varna

Form of dissertation: regular form of education

Department: Pharmaceutical Chemistry

Thesis: "Synthesis, structure and properties of new iodine derivatives of natural aromatic acids."

Scientific supervisor: Assoc. Prof. Dr. Svetlana Fotkova Georgieva, MScBiotech, PhD, Department of Pharmaceutical Chemistry, Faculty of Pharmacy. Medical University – Varna.

1. General introduction of the procedure and the doctoral student

The presented materials on paper and electronic carrier completely correspond to the Regulations for Academic Development in the Medical University - Varna, **Art. 69** and include the following documents:

- Order for checking off with the right of defence - P-109-119/ 18.03.2022;
- A dissertation work in 1 paper copy and 1 electronic copy;
- A summary of dissertation in Bulgarian and English in paper and electronic PDF carrier;
- A curriculum vitae in European format signed by the doctoral student;
- A list of publications and research papers related to the dissertation topic;
- Copies of the publications and research papers related to the dissertation topic;
- A list of participations in scientific forums;
- A list of registered citations;
- A record for passed exam of the doctoral minimum;
- A copy notarially attested higher education diploma;
- A declaration for originality and reliability of the applied documents;

- A certificate for credits received from the common curriculum of the Doctoral School of Medical University of Varna;
- Other documents related to the procedure.

The presented dissertation is written on 113 pages. It is structured according to the standard model including Introduction, Theoretical review, Aim and tasks, Experiments, Results and discussion, Conclusions, Contributions, References, and Appendixes. It is illustrated with 14 tables, 110 figures and 6 appendixes. Nadya Borislavova Hadzhieva has included 3 scientific articles (1 with IF).

2. Relevance of the subject

The topic of the project-dissertation is up-to-date. It is related to the synthesis, structure and properties of new iodine derivatives of natural aromatic acids and evaluation of their potential in the synthesis of other compounds

3. Problem analysis

In forming the *Theoretical review*, it is noteworthy that Nadya Hadzhieva used 148 literary sources. The in-depth and detailed knowledge of the scientific problem is evident both from the detailed and well-structured literature review, and from the analysis of the presented facts and the conclusions made. The *aim* is well-defined – to synthesise and study the structural features and some of the biological manifestations of a series of new organoiodic substances and evaluate their potential in the synthesis of other compounds. The set seven tasks correspond to the goal and realise its implementation.

4. Evaluation of the research publications and personal participation of the doctoral student in the dissertation

Nadya Hadzhieva is the first author in the attached 1 of 3 *scientific publications* on the topic of the dissertation. The total number of points of the doctoral student by group of indicators D is 42,5. The minimum required points for group of indicators D for obtaining the scientific degree "Doctor" in area 7. Health and Sports, according to the Act for the Development of the Academic Staff in the Republic of Bulgaria (ADASRB), are 30. Three of the scientific publications are cited a total of 24 times. I am fully convinced that the personal participation of Nadya Hadzhieva, in the experimental part, is indisputable.

5. Evaluation of the professional and personal qualities of the doctoral student

The *Experiments and Results and Discussion* sections follow good logical sequence. The detailed description of the methods used allows them to be reproduced by other scientists. The contribution and the significance of the conducted research and the obtained results are systematised in the conclusions made, and the contributions formulated by the doctoral student. The PhD student synthesised a new organoiodic compound - 2,6-diiodo-3,4,5-trimethoxybenzoic acid (DITMBA). She has established the optimal reaction conditions allowing the synthesis of DITMBA in maximum yield and high purity. She conducted a study of the molecular structure of DITMBA and found patterns in its spectral behaviour. She determined the antibacterial activity of DITMBA. She has synthesised new derivatives.

CONCLUSION

Nadya Borislavova Hadzhieva has successfully developed a dissertation in the scientific specialty " Pharmaceutical chemistry". The dissertation consists of scientific and scientific-applied results, which are original contributions to science and correspond to the Act for Development of the Academic Staff in the Republic of Bulgaria (ADASRB), the Regulations for the Academic Development in MU-Varna, 2021.

The dissertation work shows that Nadya Borislavova Hadzhieva possesses thorough theoretical knowledge and professional skills in the scientific program Pharmaceutical chemistry, as she demonstrates qualities and skills to implement an individual research study.

Taking into account the above-mentioned, I give with conviction my positive assessment to the research work presented with the dissertation, a summary of the dissertation, obtained results and contributions. **I propose to the honourable scientific jury to award Nadya Borislavova Hadzhieva the educational and scientific degree Doctor** in the doctoral program Pharmaceutical chemistry, professional field 7.3 Pharmacy, Higher education field 7. Healthcare and Sport.

15.04.2022

Reviewer: 

Assoc. Prof Kalin Valentinov Ivanov, PhD