

STATEMENT

by Assoc. Prof. Stoyanka Atanasova, PhD,
The “Paisii Hilendarski” Plovdiv University, Faculty of Chemistry,
Department of Organic Chemistry

Subject: Ph.D. defense, 4. „Natural science, mathematics, and informatics”, 4.2. Chemical sciences, Doctoral program „Bioorganic chemistry, chemistry of natural and physiological active compounds“

Name of the PhD Student: Temenuga Petrova Trifonova

Title of Thesis: *Investigation of persistent organic pollutants in breast milk*

Supervisor: Assoc. Prof. Stanislava Georgieva, Ph.D.

Member of Jury, designated by a written order P-109-131/01.04.2024 of the Rector of the Medical University – Varna.

1. Introduction.

The set of documents presented by Temenuga Trifonova is under the Regulations on the terms and conditions for acquiring scientific degrees and holding academic positions at the Medical University - Varna.

The Ph.D. thesis consists of 176 pages, the content is presented on 2 pages, a list of used abbreviations - on 1 page, an introduction - on 2 pages, the aim and objectives on 1 page, literature review – on 39 pages, materials and methods on 18 pages, results and discussion - 61 pages, conclusions - 3 pages, contributions - 1 page, as well as a list of publications related to the dissertation work and appendixes. The literature contains 244 sources, more than half from the last 10 years. The dissertation includes 37 figures, 24 tables, and 7 appendixes.

The abstract is made according to the requirements and reflects the main results achieved in the dissertation.

2. Relevance of the topic.

The Ph.D. thesis presented by Temenuga Trifonova addresses the human biomonitoring as a method for assessing human exposure to chemical substances, their metabolites, and their effects on human health. The object of

research were persistent organic pollutants, which, as lipophilic compounds, accumulate in fat tissue and can remain in the body for an indefinite period. The amount of persistent contaminants in breast milk was assessed. The Ph.D. student, for the first time, published data on the analysis of persistent contaminants in the breast milk of women from North-Eastern Bulgaria, which is the importance of the topic.

A bibliographic reference was made, which was interpreted with understanding. Based on the extensive, orderly, and very good literature review and the conclusion drawn from it, the purpose and tasks of the research in the dissertation work are correctly formulated.

3. Evaluation of the PhD thesis.

The Ph.D. thesis includes original research and is written clearly and cogently. The thesis is very well-organized and each section is presented chronologically. It can be seen that the educational tasks of the doctoral program have been fulfilled. An in-depth scientific study has been carried out, and the contributions are formulated clearly and precisely. The PhD student has developed an analytical method for the analysis of persistent organic pollutants using chromatographic methods and skillfully analyzes the data to assess exposure and potential health risks. This allows achieving the set goals and solving the tasks set in the dissertation work. Based on the experimental results, it can be seen that the educational tasks of the doctoral program have been fulfilled.

The results achieved in the Ph.D. thesis are summarized in three articles, one of them published in Q1 journal, one in Q3, and one is in press in Q4 journal. In two of the articles, Temenuga Trifonova is the first author, and in one is the second author, which unequivocally proves her contribution to the presented results. The results of the conducted research were reported at seven scientific conferences – two international and five national conferences and congresses.

CONCLUSION

The Ph.D. thesis contains scientific and scientific-applied results, which represent an original contribution to science and meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the

Regulations for the Implementation of the law, and the relevant Regulations of the Medical University – Varna.

The Ph.D. thesis shows that Temenuga Trifonova possesses in-depth theoretical knowledge and professional skills in the scientific specialty of Bioorganic Chemistry, Chemistry of Natural and Physiologically Active Substances, demonstrating qualities and skills for independent conduct of scientific research.

Taking into account the relevance and significance of the topic of the dissertation, the abstract, the fulfillment of the set goal, and the scientific and scientific-applied results contained in it, which represent an original contribution to the scientific community, I give my positive assessment of the research presented by Temenuga Trifonova and propose to the esteemed academic board to award the educational and academic degree "Doctor" in higher education field 4. Natural Sciences, Mathematics, and Informatics; doctoral study 4.2. Chemical sciences, doctoral program "Bioorganic chemistry, chemistry of natural and physiologically active substances.

Plovdiv
29.05.2024 г.

Reviewer:
(Assoc. Prof. Stoyanka Atanasova, PhD)

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