

OPINION

by Prof. Mariana Dimitrova Argirova, DSc

Department of Chemical Sciences, Faculty of Pharmacy, MU-Plovdiv

on the materials submitted for participation in the competition for the academic position of Associate Professor at Plovdiv University "Paisii Hilendarski"

1. General presentation of the procedure

By order No. PD-22-80 of 17.01.2025 of the Rector of Plovdiv University (PU) "Paisii Hilendarski" I have been appointed as a member of the scientific jury in a competition for the academic position of Associate Professor in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.2. Chemical Sciences (Organic Chemistry, Bioorganic Chemistry), announced in the State Gazette No. 98/19.11.2024 for the needs of the Department of organic chemistry of the Faculty of Chemistry. Chief Assistant Professor Mina Mihaylova Todorova, PhD, from the same department, has submitted documents for participation in the announced competition. At the first meeting of the scientific jury, held on 29.01.2025, I was assigned to prepare an opinion on the materials submitted in an electronic form by the candidate, which are in accordance with the Regulations for the Development of the Academic Staff of PU "Paisii Hilendarski". The candidate has attached a declaration of originality and authenticity of the materials for the competition.

2. General characteristics of the candidate's activities

Dr. Mina Todorova's *teaching and pedagogical activities* at the Faculty of Chemistry of the PU "Paisii Hilendarski" began in 2021, when she was elected as Chief Assistant Professor in the Department of Organic Chemistry. Her academic work includes conducting lectures, seminars and practical exercises in organic chemistry, laboratory exercises in bioorganic chemistry, lectures, and laboratory exercises in dye chemistry with bachelor's students from the specialties Chemistry, Medical Chemistry, Chemical Analysis and Quality Control and Chemistry with Marketing. She has developed a curriculum for the subject Dye Chemistry.

The annual classroom work of Dr. Mina Todorova for the last four academic years is 3203.4 hours of bachelor's education, which fulfills the additional requirement for acquiring academic positions at the Faculty of Chemistry, according to which candidates must have conducted no less than 1080 hours of classroom classes with students.

He is the scientific supervisor of four theses for obtaining the educational and qualification degree "bachelor" and two for "master".

He is a co-author of two textbooks in food chemistry for students from the University of Food Technology, where Dr. Mina Todorova worked from 2007 to 2021.

The candidate's scientific and scientific-applied activity. Dr. Mina Todorova is a co-author of 64 publications, of which 41 are referenced in the Scopus and/or Web of Science databases. For participation in the competition, Dr. Mina Todorova presents 24 scientific publications and 2 teaching books that do not repeat the materials used in the previous procedures for acquiring a PhD degree and for the academic position "Chief Assistant Professor". The candidate's principal scientific area of interest is synthesis, spectral and structural characterization with instrumental methods of six organic materials with nonlinear optical properties. Their properties in the crystalline state or their thin layers obtained by laser deposition have been studied. At the same time, their potential anti-inflammatory activity has been studied using *in vitro* methods.

Another main area of the candidate's scientific research is the study of biological activity of propolis and proving its pharmacological potential. A large-scale, planned study of eighty propolis samples obtained from the 28 regions of Bulgaria, including the five climatic zones, was conducted. A comparison of basic phytochemical indicators such as total phenolic content and flavonoids was made, with the content of which the antioxidant and antimicrobial properties of natural products are most often associated. The possibility of applying propolis extracts in edible coatings in the biological preservation of foods was studied. Dr. Mina Todorova is also an active co-author in publications related to *ex vivo* studies of synthetic products or natural compounds on the gastrointestinal tract.

According to the Scopus database, 28 articles co-authored by the candidate have been cited 172 times (excluding self-citations), which gives her Hirsch index of 9.

Compliance of the submitted materials with the quantitative indicators of the Regulations for the Implementation of the Development of Academic Staff in the Republic of Bulgaria Act (DASRBA)

The materials presented by Dr. Mina Todorova not only fully cover the scientific indicators set out in the above Regulations, but also significantly exceed them. To cover the criteria under indicator C (B), for example, the 10 articles presented in fact summarize two of the scientific areas in which the candidate works and brings her 170 points, instead of the required 100 points. The articles presented in indicator D (Γ) significantly exceed the required points – 285 points with required 200. With 25 citations required in indicator E (Δ), the candidate presents 152 citations of her scientific works. All these data outline the candidate for the position of Associate Professor as a productive researcher, able to fit in well, according to her qualifications, in various research groups with wide-ranging scientific research. The scientific works presented correspond to the specialty for which the competition was announced – Organic Chemistry, Bioorganic Chemistry.

3. Critical remarks and recommendations

I have no critical comments on the candidate's materials for the position of Associate Professor. I am sure that Dr. Mina Todorova's appointment to this position will give her the opportunity not only to deepen her work in her current research area, but also to find her own topic for further scientific research, to take on the guidance of doctoral students and to become the principal investigator of scientific projects.

CONCLUSION

The documents and materials presented by Chief Assistant Professor Mina Todorova, PhD meet all the requirements of the Regulations for Implementation of DASRBA, and the corresponding Regulations set by PU "Paisii Hilendarski".

The candidate in the competition has presented enough scientific papers published after the defense of her PhD dissertation thesis and holding the position of Senior Assistant. Her works contain original scientific and applied scientific contributions that have received international recognition, all of which have been published in journals and scientific issues by international academic publishing houses. Undoubtedly, Dr. Mina Todorova possesses rich theoretical and experimental knowledge in the field of dye chemistry and research of natural products and possesses the necessary teaching experience; factors that define her as a promising researcher and respected teacher.

After reviewing the materials and scientific papers presented in the competition, analyzing their significance and their scientific and applied scientific contributions, I give my positive assessment and recommend to the respected scientific jury to prepare a report-proposal to the Faculty Council of the Faculty of Chemistry for the election of **Chief Assistant Professor Mina Mihaylova Todorova, PhD** to the academic position of Associate Professor at the PU "Paisii Hilendarski" in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.2. Chemical Sciences (Organic Chemistry, Bioorganic Chemistry).

March 6, 2025.

Plovdiv

Prepared by:

prof. Mariana Argirova, DSc