

REVIEW

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

1. General presentation of the procedure

By order No. PD-22-53 of 09.01.2026 of the Rector of Plovdiv University "Paisii Hilendarski" (PU), I have been appointed as a member of the scientific jury set to render a decision on a competition for the acquisition of academic position "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. 96/11.11.2025 for the needs of the Department of Organic Chemistry of the Faculty of Chemistry (FC). Assoc. Prof. Stoyanka Nikolova Atanasova, Ph.D., from the same department, has been admitted to participate in the announced competition. At the first meeting of the scientific jury, held on January 21, 2026, I was assigned to prepare a review of the materials submitted by the candidate on electronic form, which are in accordance with the Regulations for the Development of the Academic Staff of the PU. The candidate has signed a declaration of originality and authenticity of the materials for the competition.

2. Brief biographical data of the candidate

Assoc. Prof. Stoyanka Nikolova is a graduate of the University of Shumen "Ep. Konstantin Preslavski", where in 1996 she received a master's degree in chemistry. In 2003 she was awarded the educational and scientific degree "doctor" (PhD) in the scientific specialty "Organic Chemistry with Organic Synthesis".

Since 2004 she has been a member of the Department of Organic Chemistry, Faculty of Chemistry of the University of Plovdiv, where she has been promoted from assistant to associate professor (2012). She is a member of the Union of Scientists in Bulgaria and the Scientific and Technical Unions. She is a guest lecturer under the Erasmus+ program at the University of Alicante, Spain and the University of Warsaw, Poland.

3. General characteristics of the candidate's activities

Assoc. Prof. Stoyanka Nikolova's *educational and pedagogical activity* includes conducting lectures, seminars and practical exercises with students from various specialties of the Faculty of Chemistry. She has lectures, exercises and seminars with students from the specialties "Biology and Chemistry" and "Chemistry and English" and is the author of a lecture and practical course on "Bioorganic Chemistry" and "Organic Analysis". Under her

supervision, over 50 student theses have been defended. She is the supervisor or co-supervisor of six doctoral students.

The annual classroom workload of Assoc. Prof. Stoyanka Nikolova for the last 5 academic years is 1981 hours, which meets 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 sessions with students.

Scientific and applied scientific activities of the candidate

The candidate for the academic position of “professor” is the author of 59 scientific papers, referenced in Scopus and/or Web of Science. To participate in the announced competition for professor, she applied 28 of them, all of which were published after taking up the academic position of “associate professor”. The topics of the scientific papers are mainly in the field of synthesis of new compounds with potential biological activity and synthesis of nanoparticles. The topics of the scientific papers fully correspond to the specialty for which the competition was announced – organic chemistry and bioorganic chemistry.

The achievements of Assoc. Prof. Stoyanka Nikolova’s scientific research have been presented to the scientific community at a number of national and international forums through 28 reports and 12 poster presentations.

According to the ORCID database, Assoc. Prof. Stoyanka Nikolova has prepared 147 reviews for 38 articles in international scientific journals; a fact that is indicative of her competence and scientific authority.

Assoc. Prof. Nikolova is the leader of one and a participant in two projects funded by the Bulgarian Scientific Research Fund, the leader of one and a participant in four projects funded by the PU or the Medical University - Plovdiv. She has completed a number of courses and seminars to improve her qualifications.

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

The presented materials from Assoc. Prof. Stoyanka Nikolova for participation in the competition for the academic position of "professor" were not used in the procedure for acquiring the degree of "doctor" and for occupying the academic position of "associate professor".

Indicator A

Assoc. Prof. Stoyanka Nikolova has presented a copy of the diploma for the award of the educational and scientific degree "doctor", which covers the required 50 points of the quantitative indicators.

Indicator C (B)

To meet the requirements for this indicator, the candidate presents 8 scientific publications in journals that are referenced and indexed in world-renowned databases for

scientific information (Web of Science and Scopus). The general theme of these publications is their subject matter – directed synthesis of organic compounds with an expected pharmacological effect for the treatment of irritable bowel syndrome, influencing inflammatory processes with anthranilic acid derivatives, synthesis of compounds with antispasmodic effect and their incorporation into nanoparticles.

Seven of these articles were published in the first quartile journals and one in second, which brings the number of points for this indicator to 195 out of the required 100 points.

Indicator D (Γ)

Under this indicator, Assoc. Prof. Stoyanka Nikolova presents 20 of her scientific articles, some of which follow the already outlined scientific area – design and directed synthesis of 28 compounds with potential biological effect, synthesis of silver nanoparticles and their use as drug delivery vehicles. In terms of reputation, the journals in which these works were published are mainly in the first (15 of them) and second (5 articles) quartile. With a total number of points of 475, Assoc. Prof. Stoyanka Nikolova fully meets the requirements under indicator G (Γ).

Indicator E (Δ)

Over the past 5 years, the candidate's scientific works have been cited 296 times and the relevant citations are presented in the competition documents. Through this good citation rate, the candidate meets the 100 points required by the Regulations for the Implementation of the DASRBA under indicator E (Δ).

Under indicator F (E), the candidate presents evidence of leadership and participation in scientific projects, attracted funds for these projects and published teaching textbooks for university education.

The fulfillment of the minimum national requirements for holding the position of "professor" and their fulfillment by the candidate is summarized in the following table:

№	Group indicators	Minimum points according to the Regulations in direction 4.2. Chemical Sciences	Points completed by Assoc. Prof. Stoyanka Nikolova
1	A (A)	50	50
2	C (B)	100	195
3	D (Γ)	200	475
4	E (Δ)	100	592
5	F (E)	150	192

As already mentioned above, the candidate also meets the specific minimum requirements for the Faculty of Chemistry for conducting no less than 1080 hours of classroom classes.

5. Candidate's scientific and applied scientific contributions, response among the scientific community

Assoc. Prof. Stoyanka Nikolova has spent a significant part of her professional career in the Department of Organic Chemistry of the Faculty of Chemistry and her research work is a continuation of the long-standing traditional theme developed by this department – synthesis of new heterocyclic compounds with potential biological activity. I would outline the following main contributions of the candidate's scientific works (the numbers of the articles are given in brackets according to the list attached to the documents):

- Directed synthesis of compounds with potential pharmacological activity and their biological testing (articles Г6, Г7, Г8, Г10, Г11, Г12, Г13)

Synthetic approaches have been found for obtaining target molecules with antispasmodic, anti-inflammatory and antimicrobial activity. The desired biological properties of these compounds have been studied using *in vitro* and *in silico* methods. Clear structure-effect relationships have been found, which in the future may point to new possibilities for the synthesis of bioactive molecules.

- Synthesis of silver nanoparticles and their use as a drug delivery vehicle (articles Г1, Г2, Г3, Г4)

"Green" methods for obtaining nanoparticles using the reducing properties of plant extracts have been proposed, the release of the active substance with which the particles are loaded, and the effect of these nanoparticles on inflammatory processes in the gastrointestinal tract and photothermal therapy have been studied.

- Research on plant extracts with potential biological activity (articles Г4, Г5, Г14, Г15, Г16, Г17, Г18, Г 19, Г20)

A significant part of the scientific works of Assoc. Prof. Nikolova, presented in the competition, enrich the knowledge about the content of bioactive compounds in plant extracts. Through chromatographic and conventional analytical methods, the phytochemical composition of extracts from poorly studied plant species has been clarified to a significant extent; their antioxidant, antibacterial and anti-inflammatory properties have been studied. These studies enrich the knowledge about the content of bioactive compounds in plant extracts and on this basis reveal their potential application in medicine, nutrition and cosmetics.

The contributions of Assoc. Prof. Nikolova's scientific works are both theoretical and have the potential for practical application.

Some of the publications presented in the competition are reviews (B1, D14, D19), which demonstrates the candidate's ability to critically summarize information from literary sources. In total, the Scopus database references 59 scientific works by Assoc. Prof. Nikolova, with 28 of them, published in the period 2020-2026, being cited nearly 300 times (excluding self-citations). Her Hirsch index is 12.

6. Assessment of the candidate's personal contribution

Although all the scientific papers submitted in the competition are the result of collective efforts of large author teams from different scientific specialties, the leading role of the candidate is well outlined. Of the 28 scientific papers submitted for participation in the competition, Assoc. Prof. Nikolova has taken on the responsibility of corresponding author of 15 of them, which testifies to her scientific competence not only in the field of organic synthesis, but also in the application of various *in vitro*, *ex vivo* and *in silico* biological tests.

7. Critical notes and recommendations

I have no critical notes regarding the materials presented in the competition. I know Assoc. Prof. Nikolova personally, as she has led practical exercises in organic chemistry at the Department of Chemical Sciences of the Faculty of Pharmacy of the Medical University of Plovdiv, and in her person we had a responsible and respected lecturer by colleagues and students.

CONCLUSION

The documents and materials submitted by Assoc. Prof. Stoyanka Nikolova Atanasova, Ph.D. meet all the requirements of the DASRBA, the Regulations for its implementation and the relevant Regulations of the Plovdiv University "Paisii Hilendarski".

The candidate in the competition has presented a sufficient number of scientific works published after being awarded the academic position of "associate professor". Her works contain original scientific and applied scientific contributions that have received international recognition, all of which have been published in journals issued by the international academic publishing house MDPI. Stoyanka Nikolova's scientific and pedagogical qualifications are undoubted and her ambition and consistency define her as a productive researcher and respected teacher.

After reviewing the materials and scientific papers presented in the competition, analyzing their significance and the scientific and applied scientific contributions contained in them, I give my positive assessment and recommend to the esteemed scientific jury to prepare a report-proposal to the Faculty Council of the Faculty of Chemistry for the election of Assoc. Prof. Stoyanka Nikolova Atanasova, PhD, to the academic position of "professor" at the "Paisii Hilendarski" University in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.2. Chemical Sciences (Organic Chemistry, Bioorganic Chemistry).

March 6, 2026

Plovdiv

Reviewer:

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