

# REPORT

by Prof. Dr. Olya Stoilova Stoilova, Institute of Polymers - BAS  
member of the Scientific Jury set to render a decision on the competition for filling the  
academic position of an Associate Professor in the Professional Field 4.2. Chemical  
Sciences (Organic photochemistry), published in the SG no. 103/12.12.2023

This Report is prepared in response to Order № RD 38-14/10.01.2024 issued by the Rector of the Sofia University “St. Kl. Ohridski” (SU), following the decision made by the Academic Jury that was held on 21.02.2024. The Report is in compliance with Development of the Academic Staff in the Republic of Bulgaria Act (DASRBA), the Regulations on the implementation of the Development of Academic Staff in the Republic of Bulgaria Act (RIDASRBA), the Rules on the Conditions and Procedure for Acquiring Science Degrees and Holding Academic Positions in SU, as well as with the recommended criteria of the Faculty of Chemistry and Pharmacy (FCP) for acquiring the academic position “Associate Professor” at SU in the Professional Field 4.2. Chemical Sciences.

**Chief Assistant Professor Stanislava Borisova Yordanova-Tomova PhD**, is the only candidate on the competition for filling the academic position of an Associate Professor in the Professional Field 4.2. Chemical Sciences (Organic photochemistry), announced in SG no. 103/12.12.2023 at the Faculty of Chemistry and Pharmacy, SU.

## 1. Career development and assessment of the research accomplishments

Dr. Yordanova-Tomova graduated as a Master of Chemistry with a professional qualification in organic materials in advanced technologies in 2011 at the Faculty of Chemistry of SU “St. Kl. Ohridski”. In 2014 she received educational and scientific degree “Doctor of Philosophy” on 4.2. Chemical Sciences (Organic Chemistry), based on a defended dissertation on “*Light-driven molecular devices for rapid environmental monitoring*”. From 2014 to 2015 she held the position “Assistant” and since 2015 she has held the academic position of “Assistant Professor” at the Department of Organic Chemistry and Pharmacognosy of the FCP at SU “St. Kl. Ohridski”.

In the competition, Dr. Yordanova-Tomova has participated with **19 research publications (6 in Group C.4 and 13 in Group D.7) all co-authored**. The publications are refereed and indexed in *Scopus* or *Web of Science (WoS)* and included 16 articles published in international journals with impact factor and 3 with SJR without IF. 4 of the publications are published in high-ranking journals (quartile Q1) for the respective year of publication, 5 are published in Q2, 9 of them are in Q3 and one is in Q4.

**In the Group C.4**, a total of **6 publications** equivalent to a habilitation thesis are presented. Dr. Yordanova-Tomova is not the first or corresponding author in none of them. **The verification made shows that the publications in this group give a total score of 117, against the minimum 100 required.**

Out of the habilitation thesis, **13 articles are presented additionally in the Group D.7.** In 4 of them, Dr. Yordanova-Tomova is first author, which indicates her contribution to their development. **The verification made shows that the publications in this group give a total score of 230, against the minimum 220 required.** It should be noted that in both groups of indicators – C.4. and D.7., in 15 of the total 19 publications submitted for assessment by the candidate, the IF/SJR are wrong for the respective year of publishing, the quartiles in three of the journals are also wrong, and one of the papers even had the wrong year of publishing. That is why there is a discrepancy in the total number of points calculated by the candidate and those after the verification for these two groups of indicators.

**In the Group E.11.** a list of 109 citations (excluding self-citations and citations by co-authors) of the publications submitted for assessment is presented. Thus, **the score under indicator E is 218 points, with the minimum required 70.** Here again has a discrepancy between the number of citations presented by the candidate in the reference to fulfill the minimum requirements (100 citations) and in the list of citations (109 citations).

**In the Group G** a *h-index* of the candidate (**G.21.**), the number of graduated students under the supervision of the candidate (**G.23.**) and her participation in scientific projects (**G.25.**) are provided. Referring in the Scopus database shows that the *h-index* of the candidate is **7** (excluding self-citations and citations by co-authors). With regard to the supervision of graduated students, there is again a discrepancy in the data presented – only two graduated students are listed in the reference to fulfill the minimum requirements, while 6 such are listed in the CV. According to the presented reference, Dr. Yordanova-Tomova was the project leader of one completed project. However, it is clear from the candidate's CV that she also participated in 5 more scientific projects (3 completed and 2 ongoing). **The score in this group gives a total score of 100, with the minimum 70 required.**

**The verification made and the candidate's scientific output evaluation shows that in all Groups of indicators (A, C, D, E and G), the candidate Dr. Stanislava Yordanova-Tomova meets the minimum national and exceeds the recommended requirements (total score of 715, with the required 510) for filling the academic position Associate Professor in the Professional Field 4.2. Chemical Sciences. Unfortunately, the mistakes made, the systematic discrepancy in the information presented by the candidate and the lack of perspicuity make an extremely negative impression and speaks of something more than negligence in the preparation of the documents for the competition.**

The contributions of the scientific works presented by the candidate represents mostly translation of the conclusions of the 19 publications submitted for assessment. At the beginning of this report, an attempt was made to classified these publications into four thematic fields, but in the exposition lacks such a description. There is also a lack of description of the originality of the works. At the end of the report, the candidate has described his personal contribution in

the four thematic fields, which causes some confusion. Moreover, from what has been written shows that there is a misunderstanding by the candidate regarding the scientific contribution and originality of the works.

In my opinion, the publications submitted for assessment might be classified thematically in the following fields: (i) preparation of new compounds (surface modified dendrimers and conjugates) as potential sensors; (ii) photophysical characterization in organic solvents with different polarity and in different pH of the medium by determining the absorption and fluorescence maxima, the extinction coefficient, Stokes shift and quantum yield of fluorescence; (iii) the effect of different metal ions on their photophysical properties. The antimicrobial activity of the metal complexes was also investigated in collaboration with fellow microbiologists. Undoubtedly, the publications submitted for assessment are distinguished by their originality and have significant applied potential.

The habilitation thesis has no title and bibliography, as well it is not described which of the publications submitted for assessment are included in it. A logical and systematic review of the synthesis, characterization and properties of the obtained new compounds and of the cotton fabrics treated with their metal complexes are missing. Moreover, negligence has been shown as well and a number of mistakes have been made – after figure 3 a new figure 2 appears; after figure 18, the text cites figure 7, which is actually figure 19. In point “2. *Synthesis and Characterization of New Compounds*”, only the surface modification of the new poly(propylene imine) dendrimer with 4-chloro-7-nitrobenzofurazan is presented. The syntheses of the other new compounds are not presented (although they are described in the corresponding articles), but only the structure of these compounds is given. It is also not clear why a special new point has been allocated to SEM characterization. Unfortunately, poor presentation of the candidate's results, and even without an attempt to logically systematize them, significantly devalues their value.

## **2. Educational work**

Dr. Yordanova-Tomova gives seminars and exercises in Organic Chemistry I and II for the academic years 2019/2020, 2022/2023 and 2023/2024 in the Department of Organic Chemistry and Pharmacognosy of the FCP. A report for educational work is also presented, which shows 375 hours for the 2018/2019 academic year and 450 hours for the 2022/2023 year.

## **3. Opinions, notes and recommendations**

I do not know Dr. Yordanova-Tomova personally, but the presented materials, the mistakes made, the lack of attempt to systematize the results and the discrepancy in the submitted information make an extremely bad personal impression and cause great disappointment. Unfortunately, negligence was also shown in the preparation of the author's reference for the contributions of the scientific works and in the writing of the habilitation

thesis. Moreover, as a university teacher, Dr. Yordanova-Tomova works with students and must set a personal example of precision, diligence and perspicuity, which is definitely missing in the materials submitted for assessment. Therefore, I strongly recommend that in her future career development, especially as a university teacher, to show greater diligence and responsibility. I will note here that it is clear from the presented materials that Dr. Yordanova-Tomova has a personal involvement in the preparation and photophysical characterization of the new compounds, as a result of which she has gained a kind of knowledge and competence in this research field.

#### **4. Conclusion**

Based on the assessment of the presented documents, I consider that Dr. Stanislava Borisova Yordanova-Tomova meets the minimum national requirements as defined in the DASRBA, RIDASRBA, the Rules on the Conditions and Procedure for Acquiring Science Degrees and Holding Academic Positions in SU, as well as with the recommended criteria of the Faculty of Chemistry and Pharmacy for acquiring the academic position “Associate Professor” at SU in the professional field 4.2. Chemical Sciences. **I express my positive assessment and I would like to recommend to the Faculty Council of Faculty of Chemistry and Pharmacy at SU to support the election of Chief Assistant Professor Dr. Stanislava Borisova Yordanova-Tomova, at the Academic position of “Associate Professor” in the Professional Field 4.2. Chemical Sciences (Organic photochemistry).**

**25.03.2024**

**Report prepared by:**

Prof. Dr. O. Stoilova

Member of the Academic Jury