

JURY MEMBER'S REPORT

by Prof. Denitsa Pantaleeva, PhD, Institute of Organic Chemistry with Centre of Phytochemistry
– Bulgarian Academy of Sciences,

with respect to the competition, announced in State Gazette No. 21 of 15.03.2022., for occupying the academic position of "Professor" at the Faculty of Chemistry and Pharmacy - Sofia University "St. Kl. Ohridski" in the professional field 4.2 "Chemical Sciences", scientific specialty "Physical Chemistry"

CANDIDATE: Assoc. Prof. PhD Vesselin Petrov, Faculty of Chemistry and Pharmacy - Sofia University "St. Kl. Ohridski"

1. General presentation of the procedure and the candidate

In the competition for the academic position "Professor" for the needs of the Department of Physicochemistry of the Faculty of Chemistry and Pharmacy at Sofia University "St. Kliment Ohridski", announced in State Gazette No. 21 of 15.03.2022., participated only one candidate - Assoc. Prof. Dr. Veselin Petrov. The materials submitted by Assoc. Prof. Dr. Veselin Petrov are in accordance with the Regulations on the Conditions and Procedure for Acquisition of Scientific Degrees and for Occupation of Academic Positions at Sofia University "St. Kliment Kliment". Kliment Ohridski" and meet the criteria for holding the academic position of "professor" described in the rulebook. Assoc. Prof. Dr. Veselin Petrov has submitted for participation in the competition a total of 22 scientific publications in scientific journals refereed in the world databases (Scopus and Web of Science). The articles were published in scientific journals with high rank (according to the respective Q-factors), as follows: 15 publications in journals with Q1; 6 publications in journals with Q2; 1 publication in a journal with Q3. Seven of the presented publications are grouped under Indicator C (equivalent to a habilitation thesis), and the rest - under Indicator D. The presented reference of citations in scientific publications, refereed and indexed in world-known databases with scientific information (Scopus; Web of Science), covers a total of 102 citations for the period 2018-2022, and the h-index of Assoc. Prof. Dr. Petrov is 13 respectively (according to the Scopus database, after exclusion of self-citations). Relevant documents proving the candidate's active teaching and learning activities, as well as his participation in Bulgarian and international scientific and educational projects, are also presented. Assoc. Prof. Dr. Petrov has also submitted a 44-page habilitation thesis and a 17-page author's note on scientific contributions.

Assoc. Prof. Dr. Petrov completed his higher education at the Sofia University "St. Kl. Ohridski", as a Master in the specialty "Particularly pure substances and materials based on them", and subsequently upgraded it with a postgraduate qualification at the Free University of Amsterdam and a doctorate at the Forestry University in Sofia. Dr. Petrov's research career so far has been developed successfully at the Institute of Organic Chemistry with Centre of

Phytochemistry (IOCCP-BAS), the New University of Lisbon and the University of Sofia "St. Kl. In the latter he has held the academic position of Associate Professor since the beginning of 2018.

2. Evaluation of the major scientific contributions of the candidate

The scientific works submitted for the competition show that the research interests of Assoc. Prof. Dr. Petrov are in the field of physicochemistry and in particular focused on the preparation and study of the properties of (i) new synthetic flavylum salts; (ii) complexes of inclusion in cyclodextrins and cucurbiturils; (iii) complexes of rare earth elements. The research in these three main areas, the results obtained and their scientific contributions are discussed in detail in the habilitation thesis and the author's note on the scientific contributions of Assoc. Prof. Dr. Petrov.

In the first direction, the most significant contributions are the identification and description of the relationships in the thermodynamic and kinetic behavior of flavylum salts and their chain of reactions, as well as the preparation of new compounds in which the typical chain of reactions of anthocyanins and flavylum cations is extended; the study of the aggregation of synthetic and natural flavylum salts and its influence on their behavior and properties; the preparation of analogues of natural anthocyanins with wide practical application.

In the second thematic area the following contributions should be mentioned: the elucidation of the change in properties of model and natural flaviliums upon incorporation into beta-cyclodextrins and cucurbiturils; the improvement of the solubility, stability and photochromic properties of the systems, enabling tuning of their properties; the preparation and characterization of complexes of ibuprofen and naproxen incorporated into cyclodextrins.

In the third direction, the scientific contributions include the preparation and investigation of new complexes of 1,10-phenanthroline with rare earth elements; the preparation of functionalized materials with strong red or blue emission upon UV excitation; the development of a new model describing the broadening of the observed spectral bands and the elucidation of the structure of $\text{LiMn}_{2-y}\text{Ti}_y\text{O}_4$ spinels.

The novelty of Assoc. Prof. Petrov's research is beyond doubt and is confirmed by the large number of citations by other authors: the noted citations on all publications of the author amount to 1028 (according to Google), 788 (according to Web of Science) and 828 (according to Scopus). The contributions described in all the three areas are both of fundamental scientific interest and have significant potential for practical application. Considering the leading positions of the candidate in the authors lists and his role as a corresponding author in a significant part of them, the personal contribution of the candidate can be evaluated as leading for the design and conduct of the presented research.

3. Critical remarks and recommendations

I have no critical comments on the materials presented. My impressions of Prof. Dr. Veselin Petrov, acquired during our joint work at the Institute of Organic Chemistry with the Phytochemistry Centre and later, are excellent.

CONCLUSION

The analysis of the materials presented for participation in the competition for academic position "professor" shows that Assoc. Prof. PhD Vesselin Petrov is an experienced researcher with high-level scientific expertise, broad publishing and teaching activity. In terms of volume and quality, all scientific metrics of Assoc. Prof. PhD Vesselin Petrov not only fulfill, but also exceed the recommended requirements for occupying the academic position "professor" in view of the Development of Academic Staff in the Republic of Bulgaria Act (DASRB), the Rules for the Application of the DASRB, and the Regulations on the Conditions and Procedure for Acquisition of Scientific Degrees and for Occupation of Academic Positions at Sofia University "St. Kliment Kliment". Therefore, I strongly recommend to the members of the Scientific Jury and the Faculty Council at the Faculty of Chemistry and Pharmacy - Sofia University "St. Kl. Ohridski", to vote with "YES" for the election of Assoc. Prof. PhD Vesselin Petrov to the academic position "professor" in the professional field 4.2 "Chemical Sciences", scientific specialty "Physical Chemistry".

11.07.2022 г.

Signature of Member of the Jury:



/ Prof. Denitsa Pantaleeva, PhD /