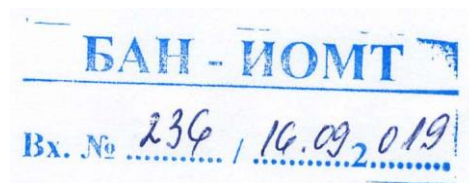


Statement



by Associate Professor Dr. Valya Kirilova Nikolova,

Faculty of Chemistry and Pharmacy

Sofia University "St. Kliment Ohridski"

for the competition for an Associate Professor position
at the Institute of Optical Sciences and Technologies, BAS in professional field 4.2 Chemical
Sciences, scientific specialty "Physical Chemistry"

There is only one candidate applying for the Associate Professor position, announced in the State Gazette 41/21.05.2019, assistant professor Dr. Silvia Emilova Angelova. The documents presented by the candidate are in accordance with the requirements of the Regulations for implementation of the Law on the development of the academic community in the Republic of Bulgaria and the Rules for the Conditions and Procedures for acquiring degrees and occupation of academic positions at the Institute of Optical Materials and Technologies, BAS.

1. Career development of the candidate

Dr. Angelova obtained Master's Degree in 1995 in the field of Organic and Analytical Chemistry" at Sofia University "St. Kliment Ohridski ", Faculty of Chemistry. In the periods 1996-1997 and 2000-2005, she worked as a chemist, respectively at the "Laboratory of NMR Spectroscopy" and the "Laboratory of Physical Organic and Computational Chemistry" at the Institute of Organic Chemistry with the Center of Phytochemistry – BAS. From 2005-2011 she held Research Associate position in the laboratory of "Physical Organic and Computational Chemistry", and from 2011 until now she held the Assistant Professor position in the laboratories of "Theoretical Chemistry" and "Structural Organic Analysis" at the same institute. In 2009 Silvia Angelova successfully defended her PhD thesis in theoretical chemistry on the topic "Quantum-chemically calculated NMR parameters as a tool for studying tautomeric and conformational transformations".

2. Research activity

Dr. Silvia Angelova is the co-author of 62 published scientific publications. The candidate participates in the competition with 28 scientific papers, 14 of which are in group

"B", indicator "4", and 14 - in group "D", indicator 7". Five publications, which were not included in the competition and are not subject to peer review, were used for the Ph.D. degree. Dr. Angelova is also co-authored 29 other publications, which were also not included in the competition for the academic position of associate professor. For the period 2016-2019, Dr. Angelova has participated in 43 scientific international and national conferences, where she has presented papers or posters.

Many of Dr. Angelova's publications have been published in reputable international journals and correspond to the announced scientific direction. Publications in high impact factor journals such as, Journal of Physical Chemistry, Tetrahedron, Beilstein Journal of Organic Chemistry and Dyes and Pigments prove the high quality of Dr. Angelova's scientific production.

98 citations of the scientific publications participating in the competition were noted and the candidate's h index was 10 (WoS).

The scientific papers presented for participation in the competition are predominantly in the field of theoretical chemistry, namely in its following sections: quantum chemistry, computational chemistry and molecular modeling. Five of the scientific publications contain experimental results of the study of the structure and properties of organic compounds and complexes by the methods of NMR spectroscopy (1-3, 13) and X-ray diffraction analysis (8).

In short, scientific contributions can be grouped thematically in the following areas:

- 1) Application of quantum-chemical calculations for characterization of properties of dyes for photovoltaic applications [23, 27, 29, 30, 33, 34, 36, 47].
- 2) Application of quantum-chemical calculations for studying the electron structure in both ground and excited states of tautomeric systems [24, 25].
- 3) Application of molecular orbital calculations for studying the electron structure in ground state and physico-chemical properties of fluorescent dyes – biomarkers [35, 51,56,57].

3. Work with students

Dr. Silvia Angelova has been actively participating in student education programs. She is a mentor to many students at Sofia University and the University of Chemical Technology and Metallurgy under the Student Practices program. During (and after) their studies the students conduct research, participate in conferences, defend diploma thesis and publish articles in prestigious scientific journals. Silvia Angelova is co-supervisor (together with colleagues from Sofia University and the University of Chemical Technology and Metallurgy) of 8 successfully graduated students.

4. Conclusion

After getting acquainted with the materials and scientific papers presented in the competition, an analysis of their importance and their scientific and applied contributions, as well as my personal impressions, I give my positive assessment and recommend to the Scientific Jury, Head Assistant Professor Silvia Emilova Angelova to be elected Associate Professor in the professional field 4.2 Chemical Sciences, scientific specialty "Physical Chemistry " for the needs of the Institute of Optical Materials and Technologies, BAS.

16.09.2019

Reviewer:

(Assos. Prof. Valya Nikolova)