Referee Report

by DSc Vladimir Dimitrov, professor at IOCCP-BAS
of the materials submitted for the competition
to occupy the academic position of 'Assistant Professor'
at the Institute of Organic Chemistry with the Center for Phytochemistry (IOCCP), BAS

in the professional field 4.2 Chemical Sciences : scientific specialty "Bioorganic chemistry, chemistry of natural and physiologically active substances "

In the competition for 'Associate Professor' , announced in the State Gazette, issue. 43 / 31.05.2019 and in the website of IOCCP-BAS, as a candidate involved

Boryana Stoykova Trusheva, PhD, from IOCCP-BAS

1. General presentation of the received materials

For participation in the announced competition the sole candidate is

Boryana Stoykova Trusheva, PhD, from IOCCP-BAS

Dr. Trusheva participated in the competition with the following documents:
1. Completed table (Appendix 1 of the regulations of the IOCCF), certifying the fulfilment of the requirements for occupation of the academic position "Associate Professor".
2. Scientific autobiography.
3. Diploma for the Doctor's degree (copy).
4. An abstract of the dissertation for acquisition of ONS "Doctor".
5. Extended habilitation reference for the scientific contributions in Bulgarian and English with a common list of publications.
6. List and copies of publications by Indicator B (equivalent equivalent number of articles).
7. List and copies of publications and certificate of registration of utility model under indicator D.
8. List of noted quotes not submitted in another competition.
9. List of participation in research projects with supporting evidence.
10. Supplementary materials for scientific activity (list and evidence)

The set of materials, printed and electronic media, presented by Dr. Trushev correspond the Low of Republic Bulgaria and the Rules for the development of the academic staff of the Institute of Organic Chemistry and corresponds to the criteria of the Institute of Organic Chemistry, BAS for academic positions "Associate Professor'.

The candidate Dr. Trusheva has applied with a total of 26 scientific papers for participation in the competition, of which 23 articles in Impact factor journals (Q 1-4 quarts), 3 book chapters and 1 registered utility model. The listed works are outside the thesis and are accepted for evaluation of contributions.

The distribution of scientific papers according to the relevant Q factors is as follows: Publications in a group of indicators C – Q-1, 1 pcs; Q-2, 4 pcs; Q-3, 2 pcs (total points 135); Publications in a group of indicators D – Q-7, 7 pcs; Q-2, 5 pcs; Q-3, 1 pcs; Q-4, 1 pcs (total points 372). The lists of indicators C and D do not cover publications 6 and 7, which are in quartile magazines, respectively Q -4 and Q -2 (which are outside the thesis).

2. Short biographical e Annie

Boryana Trusheva has completed her higher education at Sofia University “St. Kliment Ohridski "in 2002 with a Master's Degree in Organic and Analytical Chemistry.

In the period 2003-2006, she is a PhD student at IOCCF-BAS and defended her dissertation work for acquiring a PhD in 2006, after which she was appointed in the position “chemist”. In 2007, she was elected to the academic post of "Chief Assistant".

Dr. Trusheva's professional experience is in the field of organic chemistry and chemistry of natural compounds – synthesis, isolation and structural characterization of natural and synthetic compounds.

3. General characteristics of the applicant's activities

Scientific and applied research activity of the candidate

Boryana Trusheva participated in the competition with 26 scientific papers, according to the "Habilitation Report for Scientific Contributions" (publications No. 6, 7, 9, 11-32, 34 and 35 of the complete list). These writings can be grouped as follows: Pub. № 6 and 7 of the complete list is beyond dissertation (with them she participated in the competition for “Ch. Assistant”: they are not covered in the group indicators C and D; consideration within the Habilitation statement does not contradict the laws and regulations); publ. No. 11, 18 and 26 are chapters of edited books (collections); 1 piece registered utility model in Bulgaria; the other 20 papers are publications in international journals with an impact factor. The publications presented show that Dr. Trusheva made a major or significant contribution to the published results; in one of the publications he is author of correspondence.

Lists of noted citations are presented – 778 citations in refereed international publications (514 of which are out of dissertation) and 451 citations in journals, books, patents and diploma papers not referenced in Scopus or Web of Science (the latter are for the post-borrowing period) of the position of “Ch. Assistant”.

Dr. Trusheva has submitted documents for participation in 6 projects funded by the NI Fund, 2 pcs. projects funded by the Cooperation Fund between BAS and the respective scientific institutions in Vietnam and Macedonia, as well as 3 pcs. EC funded projects (1 Horizon 2020 and 3 FP7). She has participated in 6 pcs. contractual development with companies (5 outside Bulgaria) with financial revenue for IOCCP-BAS. Dr. Trusheva has omitted to submit materials for her participation in conferences, which is why it is worth mentioning that as a colleague at the Institute I know about her participation in no less than 10 international events.

Dr. Trusheva specializes in the field of application of liquid chromatography and mass spectrometry at the University of Skopje on the basis of fruitful cooperation. She has accomplished the so called 'Mobility' in scientific institutions in Spain, Morocco and Greece, in the framework of projects funded by the Erasmus, Horizon 2020 and FP7 programs.

Assessment of educational and pedagogical activity

Dr. Trusheva has managed one diploma student in the course work and has been a consultant for two. She has the leadership of 1 intern in the laboratory where she works.

Contributions

In the Habilitation Report on Scientific Contributions, Dr. Trusheva has summarized the results of the research into 2 groups:

1. Propolis research
2. Study of compounds contained in some woody mushrooms in the class Basidiomycetes

I consider this systematization to be appropriate and consistent with the scientific papers submitted for review.

In the first group, the research focuses on the study of the composition of propolis extracted in different geographical areas. Propolis is the means of bees to provide a healthy environment for the population within the bee family (control of moulds, microorganisms, etc.). For centuries, propolis has also been used by humans as a remedy – empirical knowledge passed down through generations that are remarkably analogous across cultures and geographies. At the same time, the chemical composition of propolis differs in different geographical areas due to the fact that bees collect "material" from different plant species. By studying the chemical composition and biological activity of different origin propolis is at yield knowledge of the new compounds and new sources (plants) rich in valuable for applications bioactive chemical components. Therefore, the study of propolis harvested from different sources and different geographical areas provides specific information relevant to obtaining medicinal preparations based on natural optimized by evolution bioactive compounds. This is the area in which Dr. Trusheva's main contributions have been realized. In presented for review papers describe the results of chemical profiling of propolis from many directions, and especially from regions with well-known tradition in this field, for example. Iran, Isfahan Province; Java Island; Malta (Mediterranean plants, sources of propolis); Bulgaria and Greece; Perm region in European Russia; various sources in Brazil; Fiji Islands; Pitcairn islands (located in the South Pacific between Australia, Easter Island and the Tuamotu and Gambia islands). In the propolis samples studied, many compounds of diverse structural types were identified and structurally characterized to follow the biodiversity of the respective geographical areas. Various and advanced methods for extraction, separation, isolation and structural characterization of complex, naturally occurring compounds are applied. This part of the scientific results presented by Dr. Trusheva demonstrates a high degree of competence in applying the most up-to-date methods in the field. At the same time, it should be emphasized that personal qualities and commitment in the experimental efforts to study the objects of research are indisputable and clearly demonstrated through the materials presented.

In the second group of scientific studies, Dr. Trusheva deals with the study of the metabolic composition of some wood mushrooms, for which scientific information is scarce. Chemical profiling of secondary metabolites is focused to explore the chemical structures of potential bioactivity. The available modern methods in phyto- and organic chemistry are also applied. Obviously, the study of these sites will continue, given the promising results obtained.

Dr. Trusheva's role in scientific and applied research is a significant part of her work. New extraction methods are being developed to isolate bioactive compounds within projects funded by Bulgarian and European sources. It should be noted that the development of a water-soluble propolis extract was carried out within a team of IOCCP, in collaboration with a staff of the Institute of Polymers of BAS. A utility model has been registered for this development.

It should be emphasized that the developments with the participation of Dr. Trusheva have received considerable appreciation from the international scientific community, as evident from the large number of citations to her works (1229 citations in total ; for details, see above); Dr. Trusheva possesses the h-factor 15 (according to Scopus , without self-citation).

Dr. Trusheva outlined the directions of her professional development in 3 directions, in which the researches continue and build on the achievements so far. In my opinion, the scientific plans are in current areas, which are in line with the IOCCP scientific strategy.

4. Assessment of the applicant 's personal contribution

In the case of collective and interdisciplinary research, the question of the personal contribution of the candidate is always raised – the contribution is undoubtedly different in different publications and if the personal contribution is measured by the place in the line of authors, then Dr. Trusheva is in most publications 1 to 3 place. In my opinion, the order of the authors may not be a precise measure of personal contribution. After reading the materials submitted for review, I can confidently state that Dr. Trusheva demonstrates personal development and increasing contribution to the results obtained (taking into account the timeline of publications and the results described), which give me a high appreciation for personal participation in the published scientific results .

5. Critical comments and recommendations

There are gaps in the documents submitted for evaluation – it has already been mentioned that there is no list of her attendance at conferences. I recommend revising the CV for a more attractive presentation of personal qualities.

6. Personal impressions

Dr. Trusheva is a helpful colleague who is ready to cooperate in joint projects. She contributes in creating a work atmosphere and good collegial relationships.

Conclusion

The documents presented by Dr. Boryana Stoykova Trusheva for participation in the competition meet the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria, the Rules for the implementation of the Low and the Rules for the Terms and Conditions for Occupation of the Academic Position "Associate Professor" at IOCCP-BAS. Dr. Trusheva participates in the competition with a sufficient number and with high scientific quality of works, published after the materials used in the defence of the PhD thesis.

After acquaintance with the materials presented in the competition, I give my positive assessment and recommend to the Scientific Jury to prepare a report-proposal to the Scientific Board of IOCCP-BAS for the selection of Dr. Boryana Stoykova Trusheva for the academic position of Assistant Professor in the scientific specialty Organic Chemistry in professional direction 4.2. Chemical sciences, specialty "Bioorganic chemistry, chemistry of natural and physiologically active substances"

10.09. 20 19 g. Reviewer

(Prof. DSc Vladimir Dimitrov)