

STATEMENT

**by Assoc. Prof. Stoyanka Atanasova, PhD,
The Paisii Hilendarski Plovdiv University, Faculty of Chemistry,
Department of Organic Chemistry**

Subject: academic position "associate professor" of Plovdiv University Paisii Hilendarski, 4. Natural sciences, mathematics and informatics, 4.2 Chemical sciences, Organic chemistry, Chromatographic analysis

Name of the candidate: Dimitar Georgiev Bozhilov, Ph.D, Department of Organic Chemistry, Faculty of Chemistry, the Paisii Hilendarski Plovdiv University

In the competition for the academic position "Associate Professor", announced in the State Gazette, no. 39 of 02.05.2023 and on the Paisii Hilendarski Plovdiv University website, for the Department of Organic Chemistry at the Faculty of Chemistry.

1. Introduction. General presentation of the candidate.

The presented by Chief Assistant Professor Dimitar Georgiev Bozhilov, Ph.D., a set of paper materials is in accordance with the Regulations for the Development of the Academic Staff of the Plovdiv University and includes the following documents: Application for admission to the competition, CV, MSc Diploma, Ph.D. Diploma, List of scientific papers, Copies of scientific papers, List of citations, Certificate of compliance with the minimum requirements of the Faculty of Chemistry, Annotation of materials, Self-assessment of contributions, Declaration of Originality, Certificate of work experience, Participation in projects, etc.

Chief Assistant Professor Dimitar Bozhilov, Ph.D. has submitted a total of 46 scientific articles, 24 of them are cited in Scopus, 22 of them are not cited in Scopus, or are conference papers. Dimitar Bozhilov has been working in the Department of Organic Chemistry of Plovdiv University since 2012, in 2015 he was enrolled as a Ph.D. student, and in 2017 he successfully defended his dissertation in Organic Chemistry on the topic: "Phytochemical investigation on the essential oil and polyphenolic complex of yarrow, peppermint, and *Chenopodium botrys*".

2. General characteristics of the applicant's activity.

Dimitar Bozhilov is a Chief Assistant Professor in the Department of Organic Chemistry since 2018. As a Chief Assistant Professor he conducted practical and seminar lessons in organic chemistry; as well as lectures and practicals in bioorganic chemistry, modern chromatographic methods, and analysis of medicinal substances. In addition, the candidate has lectured chromatographic methods in pharmaceutical analysis, mass spectrometry, and UHPLC-MS for students of the Bachelor program Medicinal Chemistry, as well as the Master's program Pharmaceutical Chemistry at the Faculty of Chemistry of the Paisii Hilendarski Plovdiv University. The candidate also conducted specialized courses on

HPLC-DAD-MS for bachelor's and master's graduates, and from the 2022/2023 academic year is the head of the High-Performance Liquid Chromatography Center.

Dimitar Bozhilov's scientific interests are related to chromatographic profile, identification and structural characterization of polyphenols, GC-MS, *in vitro* antioxidant, anti-inflammatory, and anti-arthritic activity of plant extracts. On the indicated topics, the candidate has submitted 10 publications cited in Scopus journals with impact factor, 5 of them are in journals with Q1, 3 are in journals with Q3 and 2 are in BCC with Q4.

Later, the candidate's scientific interests were supplemented with synthesis, *in vitro* inhibition of albumin denaturation, as well as antioxidant, anti-tryptic, and antibacterial activity of newly synthesized compounds, including hybrid molecules of differently substituted profens. On the indicated topic, the candidate has submitted 14 refereed publications, of which one is in a journal with Q1, two are in a journal with Q2, one is in a journal with Q3, and nine are in a journal with Q4.

In addition to the mentioned publications, the candidate has also presented 11 publications that are not cited by Scopus and Web of Science journals and 11 conference papers.

All the aforementioned publications are written in English and most of them have 3 or more co-authors, which is fully justified within the scope of the topic and direction of research.

Dimitar Bozhilov's major contribution is the development of a chromatographic fingerprint profile of the polyphenolic composition of medicinal plants and three types of lettuce. Chromatographic profiles are used to establish a characteristic chemical pattern for the plant, fraction, or extract and are of utmost importance in developing methods for the analysis of foods, medicinal plants, and herbs. The candidate also contributes using combined techniques such as HPLC-PDA, UHPLC-MS, etc. to identify polyphenols in unexplored herbs, as well as HPLC-MS/MS to identify and elucidate the structure of biologically active compounds. So far unreported glycosides and flavones in the composition of various plants have been identified. Antioxidant activity of 7 types of wild-growing edible mushrooms collected in the area of Batak, Bulgaria was also done.

The candidate also contributes to the *in vitro* study of the biological activity of newly synthesized compounds and hybrid molecules, including antioxidant activity assessed with hydrogen peroxide deactivation, anti-inflammatory activity by prevention of albumin denaturation, anti-arthritic activity (estimated with anti-tryptic activity) and mass spectral analysis of some of the compounds.

The scientific activity of Dr. Bozhilov described in this way has been cited so far in a total of 130 citations, of which 103 are in refereed journals (Scopus/Web of Science), 16 in specialized publications, 8 in Ph.D. theses and 3 in master's theses. The Hirsch index of candidate (h-index) is 5, excluding self-citations.

A valuable contribution of the candidate is involving students in the research work. The candidate is a supervisor of 4 bachelor's and 3 master's theses, as well as a co-supervisor of 5 bachelor's and 1 master's theses.

3. Critical remarks and recommendations.

I have no critical remarks or comments.

CONCLUSION

The materials presented by Chief Assistant Professor Dimitar Bozhilov clearly indicate that the candidate satisfies all the requirements of the Law of Academic Development and the Rules for its implementation, as well as the Plovdiv University specific rules for the academic position "Associate Professor". That is why I give my "positive" vote for his selection to the academic position of "Associate Professor" at the Plovdiv University in the professional field of Chemical Science, Organic Chemistry (Chromatographic Analysis).

Plovdiv
22.08.2023 г.

(Assoc. Prof. Stoyanka Atanasova, PhD)