

tugal, France, Italy, Slovenia, Croatia, Albania, Greece, Bulgaria, Romania, Georgia, Russia, Cyprus, Turkey, Egypt, Jordan, Tunisia, Algeria, and Morocco. Under this program, core institutions will collaborate in cutting-edge fields of research and on research topics deemed to be of high international importance. The core institutions in the various countries will conduct exchanges based on a principle of equal partnership in the form of joint research, scientific meetings, and researcher exchanges. It is anticipated that the hubs formed by the core institutions will continue to carry out research activities after the funded project has ended. The scope of the project on heterocyclic chemistry includes, but is not limited to, the core areas of heterocyclic chemistry, organic synthesis methodology, and total synthesis of natural products. Research in green chemistry, bioorganic chemistry, medicinal chemistry, pharmacology, structural and materials sciences, and environmental chemistry, as well as the applications of these fields to ultimately benefit the society and economy of the Mediterranean Sea Area, are also encouraged.

Within that framework, the most recent **Trans Mediterranean Colloquium on Heterocyclic Chemistry**, Tramech VIII, was held in Antalya, Turkey, 11-15 November 2015, and turned out to be particularly successful from a scientific point of view, as well as a social and friendly gathering. The local organization proved to be very efficient, creating a friendly atmosphere. There were more than 220 participants coming from several countries, including Turkey, Algeria, Morocco, Tunisia, Greece, Slovenia, Italy, Germany, Belgium, France, Portugal, Spain, Poland, Australia, Czech Republic, Finland, Hungary, Iran, India, Republic of Korea, Romania, Russian Federation, Saudi Arabia, and the United Kingdom. With support from IUPAC, it was possible to facilitate the participation of 10 young people from different countries, giving them the opportunity to present the results of their research and the chance to strengthen already existing collaborations and start new ones. The program included 14 invited speakers, 26 oral communications, and 161 posters. The level of all the scientific presentations was very high, and discussions that followed were interesting and stimulating. The subjects of the lectures ranged from innovative synthetic methodologies, metal-free synthesis of heterocycles, synthesis of complex heterocycles, heterocycles as organocatalysts in asymmetric synthesis, organosulfur synthons for the synthesis of heterocycles, synthesis and reactions of chromones and quinolones, and structural and conformational studies in the

chemistry of strained heterocycles and synthesis of beta-aminoacids to carbon nanotubes as platforms for material chemistry and drug delivery (see the program at the webpage of the meeting: www.tramech8.org)

At the closing of TRAMECH VIII, the chair of the scientific committee announced that TRAMECH IX will be organized at Fez (Morocco) in November 2017 by the Laboratory of Organic Chemistry of the Faculty of Sciences Dhar El Mahraz using the infrastructure of the University and the City of Fez. The involvement of very distinguished speakers will be pursued and the participation of young, motivated people will be facilitated. IUPAC will provide financial support within the project 2015-027-1-300. As in the Rabat and Antalya meetings, the interactions among participants are expected to promote scientific collaborations and give young people the chance for research experience in well-established laboratories, either as PhD students or as visiting researchers.

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www.iupac.org/project/2015-027-1-300

Nomenclature for Properties and Units or NPU Terminology

Laboratory medicine has an important role in clinical decision making in healthcare everywhere. Results of sample-based patient investigations are involved in almost every decision on diagnosis or treatment and frequently make up the largest amount of data in healthcare records. Most of the results represent chemical and biochemical measurements, with increasing involvement of molecular biology.

With the advent of digital data storage and widespread communication of investigation results, new possibilities have opened for both research and patient care. The challenge is to ensure that all users have a common understanding of what is being measured, how the results are expressed, and with which unit. This demands a stable and metrological sound international standard for identifying measurement results. To support this, IUPAC and the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) have partnered to publish several recommendations and supported work on the Nomenclature for Properties and Units (or NPU) terminology and its basic principles for decades.

The NPU definitions have a uniform structure

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and use a referenced vocabulary for every term. The outcome of a patient examination yields information about certain properties of the patient, and the NPU terminology identifies the laboratory result by specifying these properties. It follows international standards of metrology, including IUPAC Recommendations.

Today, NPU terminology is a coding system and terminology for the identification and communication of examination results, covering most fields of clinical laboratory science.

The structured definitions describe:

- the part of the universe that is studied (the system)
- the component that is examined in that system
- the estimated kind-of-property of the component in that system
- measurement unit and specifications where relevant
- an individual code value identifying the definition

Example:

NPU03568 B—Thrombocytes; num.c. = ? × 10⁹/L.

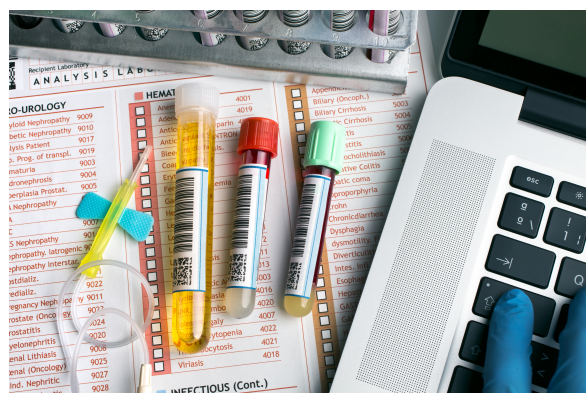
- B - is Blood and is the part of the universe that is studied (the system)
- Thrombocytes is the component that is examined in the system, Blood
- num.c. is number concentration, the estimated kind-of-property of the component in the system
- 10⁹/L is the measurement unit and specification where relevant

NPU03568 B—Thrombocytes; num.c. = 60 × 10⁹/L - means
The number of thrombocytes per litre blood is 60 × 10⁹

By using the NPU codes, the examination results will be:

- fully defined in the clinical context
- transferable between systems
- comparable to other results of the same kind
- reusable for decision support, calculations, research, statistics, etc.

The NPU terminology has proved useful in health informatics and health care for 15 years, and is today a National standard in Denmark, Sweden, and Norway. It is implemented in all laboratory departments at hospitals and private labs, suppliers of laboratory systems and EHRs, and National registers and databases, and is used for online requesting from the GP to the



researching laboratory.

The Norwegian Directorate of eHealth has implemented the NPU terminology as a national standard for laboratories in communicating requisitions and examination results in the sector of specialized health services.

The NPU terminology has been in use in Sweden for more than 10 years and is the basis for the National Patient Summary to collect information from different healthcare systems in hospitals, GP's, and private healthcare providers and to make the information available for all users of EHR in the country.

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Visit the NPU website at www.npu-terminology.org