



# **THE PREPARATORY PROBLEMS FROM THE INTERNATIONAL CHEMISTRY OLYMPIADS**

**Series 4**

**48<sup>th</sup> – 51<sup>st</sup> IChOs**

**2016 – 2019**

**Edited by Anton Sirota**

ICHO International and Information Centre  
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**IChO International Information Centre, Bratislava, Slovakia**

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## P r e f a c e

According to the rules of the International Chemistry Olympiad (IChO) the organizer is expected to distribute a set of preparatory tasks written in English to all participating countries in January of the competition year. The total number of theoretical and experimental tasks in the set of preparatory problems cannot be lower than 25 and 5, respectively. The preparatory tasks are intended to give students a good idea of the type and difficulty of the competition tasks, including safety aspects. SI units should be used throughout the preparatory tasks.

This publication contains the preparatory problems from the International Chemistry Olympiads (IChO) organized in the years 2016 – 2019. Not less than 147 theoretical and 34 practical preparatory problems were prepared and published by the organizers of the mentioned IChOs. Consequently, a great number of authors from different countries and universities were involved in their preparation and gave them a final shape and structure. SI quantities and units are used in this publication as it is required by the regulations of the IChO. Only some exceptions have been made when, in an effort to preserve the original text, the quantities and units have been used that are not SI.

Although the numbers of significant figures in the results of the problems do not obey sometimes the criteria generally accepted, they were left without changes.

Nevertheless, some small formal corrections made in the text of the original preparatory problems do not concern their contents and language. And, therefore, the responsibility for the scientific content and language of the problems lies exclusively with the authors and organizers of the particular International Chemistry Olympiads.

This review of the preparatory problems should serve to both competitors and their teachers as a source of further ideas in their preparation for the IChO competitions. Moreover, the collection of the problems could serve as an documentary material and will be a part of the archive of the International Chemistry Olympiads.

Bratislava, December 2020

Anton Sirota, editor