Fundamentals in Organic Geochemistry

Series Editors

Jan Schwarzbauer

RWTH Aachen University, Germany

Branimir Jovančičević

Faculty of Chemistry, University of Belgrade, Belgrade, Serbia

Organic Geochemistry is a modern scientific subject characterized by a high trans-disciplinarity and located at the edge of chemistry, environmental sciences, geology and biology. Therefore, there is a need for a flexible offer of appropriate academic teaching material (BSc and MSc level) addressed to the variety of students coming originally from different study disciplines. For such a flexible usage the textbook series 'Fundamentals in Organic Geochemistry' consists of different volumes with clear defined aspects and with manageable length. Students as well as lecturers will be able to choose those organic-geochemical topics that are relevant for their individual studies and programs. Hereby, it is the intention to introduce (i) clearly structured and comprehensible knowledge, (ii) process orientated learning and (iii) the complexity of natural geochemical systems. This textbook series covers different aspects of Organic Geochemistry comprising e.g. diagenetic pathways from biomolecules to molecular fossils, the chemical characterization of fossil matter, organic geochemistry in environmental sciences, and applied analytical aspects.

More information about this series at <http://www.springer.com/series/13411>

Jan Schwarzbauer • Branimir Jovančević

Fossil Matter in the Geosphere

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Jan Schwarzbauer
RWTH Aachen University
Aachen
Germany

Branimir Jovančičević
Faculty of Chemistry
University of Belgrade
Belgrade
Serbia

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Preface

In 1933 a four-pages article published by Treibs et al. in the German journal *Angewandte Chemie* pointed for the first time to molecular structures of biogenic origin in fossil matter. This publication opened the door to a new and fascinating scientific field—the Organic Geochemistry.

Since this discipline is located at the interface of geology and organic chemistry its position in academic education is versatile. Organic Geochemistry is part of study programs in chemistry but also in geology, it is located in BSc as well as MSc courses, and students obtain knowledge in this transdisciplinary field in obligatory or optional lessons. The educational experiences of the authors at the University of Belgrade (Serbia) as well as at the RWTH Aachen University (Germany) represent very nicely this complementary character of academic teaching. Organic Geochemistry is on the one hand a facultative lecture in the MSc program of Applied Chemistry at Belgrade University. On the other hand, Organic Geochemistry is taught at RWTH Aachen University as obligatory lecture in geoscientific BSc programmes.

In the light of this educational diversity and the obvious need for a very flexible offer of organic geochemical teaching material, the idea arised to create a textbook series for Organic Geochemistry that allows students to pick up those topics in a selectable way, that are useful and essential for their individual studies. Therefore, this textbook series is addressed to BSc as well as MSc students, and to scholars of chemistry as well as geosciences.

The first volume presents an overview on the diversity and properties of fossil material on earth. Organic substances of the Earth's crust are part of one of the major cycles in nature—the carbon cycle. Therefore, this volume focusses on principal aspects about origin and transformation of organic matter in geosphere and, in particular, on the most important forms of fossil organic matter.

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