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Autore	Kricheldorf Hans R
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Nota di contenuto	Chapter 1 Introduction -- Chapter 2 Hypotheses and birthplaces of the chemical evolution -- Chapter 3 The polymerization processes of the chemical evolution -- Chapter4 Model Syntheses of Amino Acids -- Chapter 5 Model syntheses of saccharides, nucleobases, nucleosides and nucleotides -- Chapter 6 Model syntheses of oligopeptides and polypeptides -- Chapter 7 Model syntheses of oligo- and polynucleotides -- Chapter 8 Copolymerization, Self-reproduction and the genetic code -- Chapter 9 The message from space -- Chapter 10 The problem of homochirality -- Chapter 11 Summary and conclusions.
Sommario/riassunto	This book provides an in-depth analysis of the hypothesis of chemical evolution that may have led to the origin of life, serving three main

purposes: it provides a comprehensive summary of hundreds of chemical experiments and analytical studies from the past 70 years, evaluates their significance in supporting the hypothesis of chemical evolution, and offers a critical review of these experiments and hypotheses. The book is particularly valuable for students, postdocs, and scientists engaged in experimental work in this field. This book outlines the latest experimental and theoretical achievements in chemical evolution research, addressing fundamental questions such as “How to define life?” and “Why life by chemical evolution?”. It explores various hypotheses and covers topics like polymerization processes, model syntheses of amino acids, saccharides, and nucleotides, and the chemistry of interstellar clouds and meteorites. In this book, readers will discover a thorough examination of the problem of homochirality and its implications for the origin of life. The book also invites readers to think through critical questions such as the likelihood of life emerging elsewhere in the universe and the role of race-mization in early biochemical processes. This volume is an essential resource for researchers and scholars in biochemistry, as-trobiology, and evolutionary biology, as well as students and interested laypersons. Offering valuable insights into the chemical foundations of life, this book appeals to all who are curious about how life began.