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Descrizione fisica	1 online resource (186 pages)
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Nota di contenuto	Introduction -- Global Requirements -- The Narrower General Conditions: Chemistry, Physics and Physical Chemistry--We Can't Live Without Them -- Really Helpful: A Brief Outline of What Happens in Biological Cells Today -- The Previous Models: Sighting the Great Nebula -- The RNA world: A Beginning with a Very Special Molecule? -- The New Model: Hydrothermal Systems in the Early Continental Crust -- A Hypothetical Approach: Hydrothermal Systems in the Early Continental Crust -- Life = Order + Complexity -- After LUCA: What Happened Next?.
Sommario/riassunto	This book introduces a fresh perspective on the conditions for the genesis of the first cell. An important possible environment of the prehistoric Earth has long been overlooked as a host to the perfect

biochemical conditions for this process. The first complexes of continental crust on the early Earth must have already contained systems of interconnected cracks and cavities, which were filled with volatiles like water, carbon dioxide and nitrogen. This book offers insights into how these conditions may have provided the ideal physical and chemical setting for the formation of protocells and early stages of life. The authors support their hypothesis with a number of astonishing findings from laboratory experiments focusing on a variety of organic compounds, and on the formation of key cellular ingredients and of primitive cell-like structures. Moreover, they discuss the principles of prebiotic evolution regarding the aspects of order and complexity. Guiding readers through various stages of hypotheses and re-created evolutionary processes, the book is enriched with personal remarks and experiences throughout, reflecting the authors' personal quest to solve the mystery surrounding the first cell.

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