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Nota di contenuto	Contents ; Preface; Acknowledgments; Introduction; I OVERVIEW: BRIDGING NONLIVING AND LIVING MATTER; 1 The Early History of Protocells: The Search for the Recipe of Life; 2 Experimental Approaches to Fabricating Artificial Cellular Life; 3 Semisynthetic Minimal Cells: New Advancements and Perspectives; 4 A Roadmap to Protocells; II INTEGRATION; 5 Steps Toward a Synthetic Protocell; 6 Assembly of a Minimal Protocell; 7 Population Analysis of Liposomes with Protein Synthesis and a Cascading Genetic Network; 8 Constructive Approach to Protocells: Theory and Experiments 9 Origin of Life and Lattice Artificial Chemistry10 Models of Protocell Replication; 11 Compositional Lipid Protocells: Reproduction without Polynucleotides; 12 Evolutionary Microfluidic Complementation Toward Artificial Cells; III COMPONENTS; 13 Self-Replication and Autocatalysis; 14 Replicator Dynamics in Protocells; 15 Peptide Nucleic Acids as Prebiotic and Abiotic Genetic Material; 16 The Core of a Minimal Gene Set: Insights from Natural Reduced Genomes; 17 Parasitism and Protocells:Tragedy of the Molecular Commons 18 Forming the Essential Template for Life: The Physics of Lipid Self-Assembly19 Numerical Methods for Protocell Simulations; 20 Core Metabolism as a Self-Organized System; 21 Energetics, Energy Flow, and Scaling in Life; IV BROADER CONTEXT; 22 Ganti's Chemoton Model

	and Life Criteria; 23 Viral Individuality and Limitations of the Life Concept; 24 Nonlinear Chemical Dynamics and the Origin of Life: The Inorganic-Physical Chemist Point of View; 25 Early Ancestors of Existing Cells; 26 Prebiotic Chemistry, the Primordial Replicator, and Modern Protocells 27 Cell-like Entities: Scientific Challenges and Future Applications28 Social and Ethical Issues Concerning Protocells; Glossary; About the Authors; Index; Color Plates
Sommario/riassunto	The first comprehensive general resource on state-of-the-art protocell research, describing current approaches to making new forms of life from scratch in the laboratory.