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Titolo	Life : an introduction to complex systems biology / / K. Kaneko
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ISBN	1-280-62721-2 9786610627219 3-540-32667-7
Edizione	[1st ed. 2006.]
Descrizione fisica	1 online resource (383 p.)
Collana	Understanding complex systems
Disciplina	570
Soggetti	Cytology Life Molecular biology Systems biology Biological systems Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Based in part on a Japanese work published in 2003 by the University of Tokyo Press--cf. Preface.
Nota di bibliografia	Includes bibliographical references (pages [349]-364) and index.
Nota di contenuto	How Should Living Systems Be Studied? -- Constructive Biology -- Basic Concepts in Dynamical Systems and Statistical Physics for Biological System -- Origin of Bioinformation -- Origin of a Cell with Recursive Growth -- Universal Statistics of a Cell with Recursive Growth -- Cell Differentiation and Development -- Irreversible Differentiation from Stem Cell and Robust Development -- Pattern Formation and Origin of Positional Information -- Genetic Evolution with Phenotypic Fluctuations -- Speciation as a Fixation of Phenotypic Differentiation -- Conclusion.
Sommario/riassunto	What is life? Has molecular biology given us a satisfactory answer to this question? And if not, why, and how to carry on from there? This book examines life not from the reductionist point of view, but rather asks the question: what are the universal properties of living systems and how can one construct from there a phenomenological theory of

life that leads naturally to complex processes such as reproductive cellular systems, evolution and differentiation? The presentation has been deliberately kept fairly non-technical so as to address a broad spectrum of students and researchers from the natural sciences and informatics.