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Titolo	Deterministic Kinetics in Chemistry and Systems Biology : The Dynamics of Complex Reaction Networks / / by Gábor Lente
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Descrizione fisica	1 online resource (142 p.)
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Soggetti	Chemometrics Mathematical physics Systems biology Math. Applications in Chemistry Mathematical Applications in the Physical Sciences Systems Biology
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Note generali	Description based upon print version of record.
Nota di bibliografia	includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Rates and Rate Equations -- Solving Rate Equations -- Inevitable Approximations -- Information from Parameter Values -- Common Pitfalls.
Sommario/riassunto	This book gives a concise overview of the mathematical foundations of kinetics used in chemistry and systems biology. The analytical and numerical methods used to solve complex rate equations with the widely used deterministic approach will be described, with primary focus on practical aspects important in designing experimental studies and the evaluation of data. The introduction of personal computers transformed scientific attitudes in the last two decades considerably as computational power ceased to be a limiting factor. Despite this improvement, certain time-honored approximations in solving rate equations such as the pre-equilibrium or the steady-state approach are still valid and necessary as they concern the information content of measured kinetic traces. The book shows the role of these approximations in modern kinetics and will also describe some

common misconceptions in this field.