

Biocalorimetry

Foundations and Contemporary Approaches

"Whether the reader is new to the area or already an experienced scientist, this book will serve as the ultimate reference in the field of biocalorimetry. The very pioneers that gave us the instrumentation and techniques cover the history and background of biocalorimetry. The ongoing research is described by current experts in different fields of biocalorimetry."

—Arne Schön, Research Scientist, Department of Biology,
Johns Hopkins University

"This book is a much-needed update on the field of biothermodynamics and biocalorimetry. ... take the time to read the book from its beginning to grasp how the field started and until the end to have an idea on where it is expanding to."

—Watson Loh, Professor of Physical Chemistry, Institute of Chemistry,
University of Campinas

Biocalorimetry: Foundations and Contemporary Approaches explores biocalorimetry's history, fundamentals, methodologies, and applications. Some of the most prominent calorimeter developers and users share invaluable personal accounts of discovery, discussing innovative techniques as well as special and original applications. Wide in scope, the book also covers calorimetry use on membranes, nucleic acids, and proteins and addresses both thermodynamics and kinetics.

Features

- Presents contributions from world-renowned scientists who developed the main instruments used in the field
- Discusses the historical and methodological background of biocalorimetry
- Covers both thermodynamics and kinetics, including new approaches on kinetics derived from isothermal titration calorimetry for proteins and membrane partition
- Describes new ways to deal with data from proteins, DNA, and membranes as well as interpret the obtained results
- Includes various applications that illustrate the use of calorimetry to monitor bacterial populations and biofilms, study enzyme catalysis, investigate clinical samples, and aid in pharmaceutical drug development

K23600



CRC Press
Taylor & Francis Group
an informa business

www.crcpress.com

6000 Broken Sound Parkway, NW
Suite 300, Boca Raton, FL 33487
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New York, NY 10017
2 Park Square, Milton Park
Abingdon, Oxon OX14 4RN, UK

ISBN: 978-1-4622-4665-0

