

1. Record Nr.	UNINA9910807188503321
Autore	Simoes J. A. Martinho
Titolo	Molecular energetics [[electronic resource]] : condensed-phase thermochemical techniques / / Jose A. Martinho Simoes, Manuel E. Minas da Piedade
Pubbl/distr/stampa	Oxford ; ; New York, : Oxford University Press, 2008
ISBN	1-281-37459-8 0-19-756155-1 9786611374594 1-4356-5678-4 0-19-972285-4
Edizione	[1st ed.]
Descrizione fisica	viii, 296 p. : ill
Altri autori (Persone)	PiedadeM. E. Minas da (Manuel E. Minas)
Disciplina	541/.36
Soggetti	Condensed matter Molecular dynamics Thermochemistry Thermodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover -- Title Page -- Copyright Page -- Preface -- Contents -- Part I: Introduction -- 1 Thermochemistry and Molecular Energetics -- 2 The Thermodynamic Background -- 2.9 The Gibbs Energy: First and Second Law Methods -- 3 The Kinetic Background -- 4 Gas-Phase Ion Energetics -- 5 Bond Energies -- References to Part I -- Part II: Condensed Phase Methods -- 6 Overview of Condensed Phase Methods -- 7 Combustion Calorimetry -- 8 Isoperibol Reaction-Solution Calorimetry -- 9 Heat Flow Calorimetry -- 10 Photocalorimetry -- 11 Titration Calorimetry -- 11.2 Heat Flow Titration Calorimetry -- 12 Differential Scanning Calorimetry (DSC) -- 12.1 Thermodynamic Data from DSC Experiments -- 13 Photoacoustic Calorimetry -- 14 Equilibrium in Solution -- 15 Kinetics in Solution -- 16 Electrochemical Measurements -- References to Part II -- Appendix A: Units, Conversion Factors, and Fundamental Constants -- Appendix B: Thermochemical Databases -- Index.

Sommario/riassunto

Thermochemistry is the branch of thermodynamics that deals with the energy released or required as heat when a chemical reaction takes place. This volume will provide a comprehensive and modern overview of a range of experimental and computational methods in thermochemistry. The text will be suitable for postgraduate students and researchers active in this area of physical chemistry.
