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2.3.1 Introduction2.3.2 Laboratory Spectroscopic Methods; 2.3.2.1 Neutral PAHs; 2.3.2.2 Cationic PAHs; 2.3.2.3 Computational; 2.3.2.4 Comparison of Experimental Methods; 2.3.3 Far-Infrared Spectroscopy; 2.3.3.1 Laboratory Results; 2.3.4 IR Spectral Features of PAHs; 2.3.5 PAH Derivatives and Related Species; 2.3.5.1 Nitrogen-Substituted PAHs; 2.3.5.2 Protonated PAHs; 2.3.5.3 Hydrogenated and Dehydrogenated PAHs; 2.3.5.4 Metal--PAH Complexes; 2.3.5.5 Other PAH Modifications; 2.3.6 Conclusions; 2.4 The Spectroscopy of Complex Molecules; 2.4.1 Introduction
2.4.2 General Spectroscopic Considerations2.4.3 The Quest for Interstellar Glycine; 2.4.4 General Astronomic Considerations; 2.4.5 Alkyl Alcohols; 2.4.5.1 Methanol, CH3OH; 2.4.5.2 Ethanol, C2H5OH; 2.4.5.3 Larger alkanols; 2.4.5.4 Alkanediols and -polyols; 2.4.6 Alkyl Ethers; 2.4.6.1 Dimethyl, Ether CH3OCH3; 2.4.6.2 Larger Ethers; 2.4.7 Esters; 2.4.8 Alkyl Cyanides; 2.4.9 Other Complex Molecules; References; Chapter 3 Gas Phase Chemistry; 3.1 Introduction; 3.1.1 Cross Sections and Rate Coefficients for Binary Collisions; 3.1.2 Differential Scattering and Crossed Beam Experiments
3.1.3 Low-Energy Collisions in Merged Beams and Integral Cross Sections3.1.4 Low-Temperature Collisions in Beams and Traps, Thermal Rate Coefficients; 3.1.4.1 Selected Ion Flow Tubes; 3.1.4.2 Laval Nozzle Expansions; 3.1.4.3 Trap Experiments; Acknowledgment; 3.2 Dissociative Recombination; 3.2.1 Principle and Main Occurrence; 3.2.1.1 Mechanisms of Dissociative Recombination; 3.2.1.2 Dissociative Recombination in Astronomical Environments; 3.2.2 Methods of Laboratory Study; 3.2.2.1 Multicollisional Swarm Methods; 3.2.2.2 Single-Collision Beam Methods
3.2.3 Recent Laboratory Results and their Impact on Molecular Astrophysics

Sommario/riassunto

Written by leading scientists in the field and intended for a broader readership, this is an ideal starting point for an overview of current research and developments. As such, the book covers a broad spectrum of laboratory astrophysics and chemistry, describing recent advances in experiments, as well as theoretical work, including fundamental physics and modeling chemical networks.
For researchers as well as students and newcomers to the field.

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Sommario/riassunto	"Chronicles the life of Missouri native Jessie Benton Fremont--firm opponent of slavery and writer of such works as A Year of American Travel and Souvenirs of My Time, daughter of Senator Thomas Hart Benton, and wife of army explorer and first Republican Party nominee John Charles Fremont"--Provided by publisher.