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OF INFRARED MICROSPECTROSCOPY AND IMAGING BY VARIOUS MEANS; 3.1 Introduction; 3.2 Specimen Sources, Experimental Schemes, and Optical Substrates; 3.3 Applications; 3.4 Instrumental Means of Biomedical IMS; 3.5 Comment; Acknowledgments; Acronyms and Trademarks; References; 4 INFRARED SPECTROSCOPY OF BIOFLUIDS IN CLINICAL CHEMISTRY AND MEDICAL DIAGNOSTICS; 4.1 Introduction; 4.2 Vibrational Spectroscopy of Biofluids
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5.7 Raman Spectroscopy of Other Body Fluids5.8 Summary; Acknowledgments; References; 6 VIBRATIONAL MICROSPECTROSCOPY OF CELLS AND TISSUES; 6.1 Introduction; 6.2 Infrared Histopathology: IR Microspectroscopic Mapping of Tissues; 6.3 Vibrational Cytology: IR and Raman Spectroscopy of Eukaryotic Cells; 6.4 Concluding Remarks; Acknowledgments; References; 7 RESONANCE RAMAN MICROSPECTROSCOPY AND IMAGING OF HEMOPROTEINS IN SINGLE LEUKOCYTES; 7.1 Hemoproteins; 7.2 Raman Microspectroscopy; 7.3 Outline of This Chapter; 7.4 Instrumentation and Spectral Data Analysis
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8.5 Resonance Raman of Heme Derivatives Using Near-Infrared Excitation in the Solid State

Sommario/riassunto

This comprehensive overview of biomedical applications of vibrational spectroscopy focuses on methodologies that are most relevant to biodiagnostics. After a few introductory chapters that summarize the current status of the field, the reference covers current spectroscopic applications; new spectroscopic directions; and study design and the analysis of vibrational spectral fingerprints from complex biological and clinical samples . With chapters contributed by leading international experts, Biomedical Vibrational Spectroscopy is a core resource.