

Table of contents

Introduction	1
Protein and protein structure.....	1
Fourier transform infrared spectroscopy.....	9
Chemometrics	19
References	30
Aim of the work	37
Chapter 1	39
Protein microarrays, preliminaries.....	39
Chapter 2.....	49
Analysis of protein microarrays by FTIR imaging	50
Chapter 3.....	61
Infrared imaging of high-density protein arrays	62
Chapter 4.....	73
A convenient protein library for spectroscopic calibrations	74
Chapter 5.....	101
FTIR imaging of protein microarrays for high throughput secondary structure determination	102
Chapter 6.....	143
Searching for a better match between proteins secondary structure definitions and protein FTIR spectra	144
Chapter 7.....	169
Amino acid side chain contribution to protein FTIR spectra: impact on secondary structure evaluation.....	170
Chapter 8.....	193
Evaluation of protein secondary structure from FTIR spectra improved after partial deuteration	194
Chapter 9.....	219
Protein structural denaturation evaluated by MCR-ALS of protein microarray FTIR spectra	220
Chapter 10.....	245
Protein microarrays for high throughput hydrogen/deuterium exchange monitored by FTIR imaging	246
General conclusions and perspectives	283

