
Contents

Chapter 1

Introduction to Chemometrics	1
<i>Paul J. Gemperline</i>	

Chapter 2

Statistical Evaluation of Data	7
<i>Anthony D. Walmsley</i>	

Chapter 3

Sampling Theory, Distribution Functions, and the Multivariate Normal Distribution	41
<i>Paul J. Gemperline and John H. Kalivas</i>	

Chapter 4

Principal Component Analysis	69
<i>Paul J. Gemperline</i>	

Chapter 5

Calibration	105
<i>John H. Kalivas and Paul J. Gemperline</i>	

Chapter 6

Robust Calibration	167
<i>Mia Hubert</i>	

Chapter 7

Kinetic Modeling of Multivariate Measurements with Nonlinear Regression	217
<i>Marcel Maeder and Yorck-Michael Neuhold</i>	

Chapter 8

Response-Surface Modeling and Experimental Design	263
<i>Kalin Stoyanov and Anthony D. Walmsley</i>	

Chapter 9

Classification and Pattern Recognition	339
<i>Barry K. Lavine and Charles E. Davidson</i>	

Chapter 10

Signal Processing and Digital Filtering379

Steven D. Brown

Chapter 11

Multivariate Curve Resolution417

Romà Tauler and Anna de Juan

Chapter 12

Three-Way Calibration with Hyphenated Data.....475

Karl S. Booksh

Chapter 13

Future Trends in Chemometrics509

Paul J. Gemperline

Index.....521