CONTENTS

PRODUCTION PROCESSES	
SIMS: Simplified Investigations of Messy Samples	3
Finding the Flavor Component: A Job for the Analytical Chemist	7
Tracing the Origin of Off-Flavors in a Breakfast Cereal	11
Characterization of Corrosion Scale from Nuclear Reactors: Approaching the Whole Problem	15
Urgent Production Problem Solved by Unique Capabilities of Analytical Chemists	19
Recognition and Solution of Production Problem in Vitamin Manufacture	23
Identification of Impurity in Blood Preservative System	25
Effects of Raw Material Change in Manufacturing Process Resolved	29
Pure Steam Ahead!	31
Problem Solving in the Coatings Industry	37
Refinery Crisis Solved	41
Cross-Section of Analytical Problem Solving in the Home Appliance Industry	45
PRODUCTS	
Analytical Chemists at the Launch Pad	51
Analysis of Orange Juice	55
Search for the Elusive Phosphorus Source	57
Over-the Counter Drug Analyses with HPLC	61
Analysis of Products Used in the Electronics Industry	65
Assuring the Quality of Honey: Is It Honey or Syrup?	69
Snap, Crack, Blister, and Peel: An Analytical Approach	75
PRODUCTS-CONTINUED	
Multitechnique Approach Solves Construction Materials Failure Problems	79
Chromatopyrography for Polymer Characterization	83
Analysis of Liquid Crystal Mixtures	87
Analysis of Rubber and Plastic Chemicals by LC/Spectroscopy	93
ENVIRONMENTAL	
Who Spilled the Oil?	101
Controversy Erupts over Mt. St. Helens Ash	105
Scientists Still Split over Silica in Ash	109
Ocean Pollution	111
Plutonium in Glaciers	113
Crystalline Silica in Mount St. Helens Ash	117

Identification of Organic Compounds in an Industrial Wastewater	121
Industrial Analytical Chemists and OSHA Regulations for Vinyl Chloride	127
Detecting and Defining Air Pollutants: One Laboratory's Experiences and Approaches	131
Sampling and Analysis of Radioactive Solutions	135
TOXICITY	
Analytical Chemists Vital in Commercialization of New Food Packaging Material	141
Industrial Hygiene: Safer Working Through Analytical Chemistry	145
Carcinogenesis Testing and Analytical Chemistry	151
In Search of the Cause of Legionnaires' Disease	157
An Unknown Salivary Morpholine Metabolite	163
FORENSIC	
	160
Drugs of Abuse Detected in Hair by Radioimmunoassay	169
FBI Investigates Analytical Chemistry	171
The Case of the Great Yellow Cake Caper	175
Analytical Techniques in Arson Investigation	179
Investigations of Clandestine Drug Manufacturing Laboratories	183
The Forensic Chemist: "An Analytical Detective'	187
JFK Assassination: Bullet Analyses	191
Detection of Curare in the Jascalevich Murder Trial	197
Behind the Identification of China White	201
The Analytical Chemist as a Third Party Fact Finder	207
MISCELLANEOUS	
Reliability in the Analysis of Rocks and Minerals	215
Voyager Infrared Spectrometer	219
Authenticity of Medieval Document Tested by Small Particle Analysis	223
The Bust of Nefertiti	227
Index	233