Table of contents provided by Syndetics

- Foreword (p. xi)
- **Preface** (p. xiii)
- 1 What You Need to Know about Organic Chemistry (p. 1)
- Organic Chemicals (p. 2)
- Paraffins (p. 3)
- **Olefins** (p. 4)
- **Cyclic Compounds** (p. 7)
- Polymers and Oligomers (p. 12)
- **Distillation** (p. 15)
- Measuring Processes (p. 21)
- Catalysts (p. 22)
- Separation and Transformation (p. 24)
- **3** Benzene (p. 25)
- Benzene from Coal (p. 27)
- Benzene from Olefin Plants (p. 35)
- Benzene from Toluene Hydrodealkylation (p. 35)
- Commercial Aspects (p. 38)
- Heterocompounds (p. 9)
- 2 Processes and Equipment (p. 15)
- Benzene in Petroleum Refining (p. 28)
- Benzene from Toluene Disproportionation (p. 36)
- A Historical Perspective (p. 25)
- 4 Toluene and the Xylenes (p. 41)
- **Toluene** (p. 41)
- The Xylenes (p. 45)
- 5 Olefin Plants, Ethylene, and Propylene (p. 53)
- Olefin Plants (p. 53)
- Other Technologies (p. 62)
- **Ethylene** (p. 64)
- **Propylene** (p. 68)
- 6 Cyclohexane (p. 71)
- The Traditional Process (p. 72)
- The Liquid Phase Process (p. 75)
- Commercial Aspects (p. 76)
- 7 The C 4 Hydrocarbon Family (p. 79)
- **Processing** (p. 81)
- Butadiene (p. 82)
- Isobutylene (p. 85)
- **Butene-1** (p. 86)
- **Butene-2** (p. 87)
- Alkylation (p. 88)
- 8 Cumene and Phenol (p. 91)
- **Cumene** (p. 91)
- **Phenol** (p. 96)

- 9 Ethylbenzene and Styrene (p. 103)
- Ethylbenzene (p. 103)
- Styrene (p. 108)
- 10 Ethylene Dichloride, Vinyl Chloride, and Epichlorohydrin (p. 117)
- Ethylene Dichloride and Vinyl Chloride (p. 117)
- **Epichlorohydrin** (p. 122)
- 11 Ethylene Oxide and Ethylene Glycol (p. 125)
- Ethylene Oxide (p. 126)
- 12 Propylene Oxide and Propylene Glycol (p. 133)
- **Propylene Oxide** (p. 133)
- **Propylene Glycol** (p. 141)
- 13 Ethanolamines and Polyols (p. 145)
- Ethanolamines (p. 145)
- **Polyols** (p. 147)
- 14 Methanol and Synthesis Gas (p. 153)
- Synthesis Gas (p. 153)
- **Methanol** (p. 156)
- 15 FischerTropsch Process (p. 161)
- **The Process** (p. 161)
- **The Equipment** (p. 163)
- 16 Lots of Other Alcohols (p. 165)
- Ethyl Alcohol (p. 167)
- Isopropyl Alcohol (p. 171)
- Secondary and Tertiary Butyl Alcohols (p. 179)
- **1,4-Butanediol** (p. 179)
- The Higher Alcohols (p. 182)
- **The Process** (p. 193)
- 18 Formaldehyde and Acetaldehyde (p. 197)
- Formaldehyde (p. 198)
- Acetaldehyde (p. 202)
- 19 The Ketones: Acetone, Methyl Ethyl Ketone, and Methyl Isobutyl Ketone (p. 207)
- Acetone (p. 208)
- **Ethylene Glycol** (p. 129)
- Normal Butyl Alcohol and 2-Ethyl Hexanol (p. 175)
- 17 MTBE (p. 193)
- Methyl Ethyl Ketone (p. 211)
- Methyl Isobutyl Ketone (p. 214)
- 20 Acids (p. 217)
- **Acetic Acid** (p. 218)
- Adipic Acid (p. 221)
- Phthalic Acids (p. 223)
- 21 Maleic Anhydride (p. 229)
- The Process (p. 230)
- Commercial Aspects (p. 234)
- 22 Acrylonitrile, Acrylic Acid, and Acrylates (p. 235)
- Acrylonitrile (p. 236)

- Acrylic Acid (p. 240)
- Acrylates (p. 241)
- Methacrylates (p. 246)
- 23 Aniline and Phosgene (p. 251)
- **Aniline** (p. 251)
- **Phosgene** (p. 254)
- 24 Bisphenol A (p. 257)
- **The Process** (p. 262)
- Commercial Aspects (p. 263)
- **25 Alpha Olefins** (p. 261)
- Historical Development (p. 262)
- Manufacturing Alpha Olefins (p. 263)
- Commercial Aspects (p. 271)
- 26 Making Polymers (p. 273)
- A Little History (p. 273)
- Classifying Polymers (p. 274)
- Commercial Aspects (p. 321)
- Making Polymers (p. 277)
- Methods of Polymerization (p. 283)
- **MDI** (p. 309)
- The Chemistry (p. 317)
- **Polymer Properties** (p. 284)
- **TDI** (p. 312)
- **29 Polyurethane** (p. 317)
- **27 Thermoplastics** (p. 289)
- **Polyethylene** (p. 289)
- **Polypropylene** (p. 298)
- **Polystyrene** (p. 304)
- 28 MDI and TDI (p. 309)
- **Polyvinyl Chloride** (p. 301)
- Foams (p. 306)
- Choosing Plastics (p. 308)
- Processing (p. 320)
- 30 Epoxy Resins and Polycarbonates (p. 323)
- Epoxy Resins (p. 323)
- **Polycarbonates** (p. 326)
- 31 Fibers and Other Resins (p. 331)
- **Resins** (p. 331)
- Fibers (p. 336)
- Appendix: Conversion and Yield Calculations (p. 341)
- **Measuring** (p. 342)
- **Index** (p. 373)
- **Glossary** (p. 345)