CONTENTS

Foreword vii
Preface ix
Contributors xi

1 Aliphatic Nucleophilic Substitution 1
   Jade D. Nelson

2 Addition to Carbon–Heteroatom Multiple Bonds 73
   Rajappa Vaidyanathan and Carrie Brockway Wager

3 Addition to Carbon–Carbon Multiple Bonds 167
   John A. Ragan

4 Nucleophilic Aromatic Substitution 237
   Stéphane Caron and Arun Ghosh

5 Electrophilic Aromatic Substitution 255
   Stéphane Caron

6 Selected Metal-Mediated Cross-Coupling Reactions 279
   Stéphane Caron, Arun Ghosh, Sally Gut Ruggeri, Nathan D. Ide, Jade D. Nelson,
   and John A. Ragan

7 Rearrangements 341
   David H.B. Ripin

8 Eliminations 383
   Sally Gut Ruggeri
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Reductions</td>
<td>419</td>
</tr>
<tr>
<td></td>
<td>Sally Gut Ruggeri, Stéphane Caron, Pascal Dubé, Nathan D. Ide, Kristin E. Price, John A. Ragan, and Shu Yu</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Oxidations</td>
<td>493</td>
</tr>
<tr>
<td></td>
<td>David H. Brown Ripin</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Selected Free Radical Reactions</td>
<td>557</td>
</tr>
<tr>
<td></td>
<td>Nathan D. Ide</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Synthesis of “Nucleophilic” Organometallic Reagents</td>
<td>575</td>
</tr>
<tr>
<td></td>
<td>David H. Brown Ripin</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Synthesis of Common Aromatic Heterocycles</td>
<td>609</td>
</tr>
<tr>
<td></td>
<td>Stéphane Caron</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Access to Chirality</td>
<td>649</td>
</tr>
<tr>
<td></td>
<td>Robert W. Dugger</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Synthetic Route Development of Selected Contemporary Pharmaceutical Drugs</td>
<td>661</td>
</tr>
<tr>
<td></td>
<td>Stéphane Caron</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Green Chemistry</td>
<td>683</td>
</tr>
<tr>
<td></td>
<td>Juan C. Colberg</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Naming Carbocycles and Heterocycles</td>
<td>703</td>
</tr>
<tr>
<td></td>
<td>Heather N. Frost and David H. Brown Ripin</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>pKa</td>
<td>771</td>
</tr>
<tr>
<td></td>
<td>David H. Brown Ripin</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>General Solvent Properties</td>
<td>805</td>
</tr>
<tr>
<td></td>
<td>Stéphane Caron</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Practical Chemistry Concepts: Tips for the Practicing Chemist or Things They Don’t Teach You in School</td>
<td>819</td>
</tr>
<tr>
<td></td>
<td>Sally Gut Ruggeri</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Functional Group Interconversion Index</td>
<td>837</td>
</tr>
<tr>
<td>Index</td>
<td></td>
<td>845</td>
</tr>
</tbody>
</table>