

## Contents

### Preface VII

<b>1</b>	<b>Introductory Remarks</b>	<b>1</b>
	References	7
<b>2</b>	<b>General Methods for the Preparation of Enolates</b>	<b>11</b>
2.1	Enolate Formation by Deprotonation	11
2.2	Enolate Formation by Conjugate Addition to $\alpha,\beta$ -Unsaturated Carbonyl Compounds	51
2.3	Alkali Metal Enolates by Cleavage of Enol Acetates or Silyl Enol Ethers	60
2.4	Enolates from Ketenes and Organolithium Compounds	62
2.5	Enolates from $\alpha$ -Halogen-Substituted Carbonyl Compounds by Halogen–Metal Exchange	63
2.6	Formation of Enolates by Transmetallation	65
2.7	Enolates by Miscellaneous Methods	70
	References	72
<b>3</b>	<b>Structures of Enolates</b>	<b>83</b>
3.1	Enolates of Alkali and Alkaline Earth Metals	83
3.2	Enolates of Other Main Group Metals	98
3.3	Transition Metal Enolates	100
	References	109
<b>4</b>	<b>Enolates with Chiral Auxiliaries in Asymmetric Syntheses</b>	<b>115</b>
4.1	Auxiliary-Based Alkylation of Enolates	116
4.2	Auxiliary-Based Arylation of Enolates	144
4.3	Auxiliary-Based Aldol, Vinylogous Aldol, and Reformatsky Reactions	147
4.4	Auxiliary-Based Mannich Reactions and Ester Enolate-Imine Condensations	202
4.5	Auxiliary-Based Conjugate Additions	214

4.6	Auxiliary-Based Oxidation of Enolates	227
	References	242
<b>5</b>	<b>Enolates in Asymmetric Catalysis</b>	<b>257</b>
5.1	Enantioselective Catalysis in Alkylations and Allylations of Enolates	257
5.2	Enantioselective Catalysis for Enolate Arylation	300
5.3	Catalytic, Enantioselective Aldol, Vinylogous Aldol, and Reformatsky Reactions	309
5.4	Catalytic Enantioselective Mannich Reactions, Ester Enolate–Imine Condensations, and Imine Reformatsky Reactions	352
5.5	Catalytic Enantioselective Conjugate Additions	369
5.6	Enantioselective Protonation of Enolates	385
5.7	Enantioselective Oxidation of Enolates	394
	References	408
	<b>List of Procedures</b>	<b>423</b>
	<b>Index</b>	<b>437</b>