

Contents

1	Synthesis of Surface Active Monomers	1
1.1	Basic Concept of Surfmers	1
1.2	Synthesis of Maleic Surfmers	5
1.3	Synthesis of Surface-Active Monomers Containing Maleimide Fragment	9
1.4	Synthesis of (Meth)acrylate Surface-Active Monomers	11
1.5	Synthesis of Surface-Active Monomers Containing Styrene Polymerizable Fragments	15
	References	16
2	Colloidal Properties of Surface Active Monomers	23
2.1	Colloidal Properties of Surfactants	23
2.2	Fundamentals of Colloidal Chemistry of Surface-Active Monomers	24
2.3	Properties and Polymerization of Micelles, Vesicles, Mesophases or Lyotropic Liquid Crystals, and Microemulsions	27
2.3.1	Micelles	27
2.3.2	Vesicles and Bilayers	31
2.3.3	Lyotropic Liquid Crystals	33
2.3.4	Microemulsions	34
	References	35
3	Polymerization Behavior of Surface-Active Monomers	39
3.1	Emulsion Polymerization	39
3.2	Polymerization in Microemulsion	43
3.3	Radical Polymerization and Atom Transfer Radical Polymerization	44
3.4	Reversible Addition-Fragmentation Chain Transfer Polymerization	47
3.5	Synthesis of Polyelectrolyte Polymers	50
	References	51

4 Application of Surface Active Monomers and Polymers	
Containing Links of Surface Active Monomers	57
4.1 The Importance of Polymers of Biomedical Application.	57
4.2 The Application of Surfmers for Creating Materials	
of Biomedical Application. A Brief Review of Publications	59
References	63
Conclusions	67

Surface Active Monomers

Synthesis, Properties, and Application

Borzenkov, M.; Hevius, O.

2014, XV, 67 p. 39 illus., 1 illus. in color., Softcover

ISBN: 978-3-319-08445-9