

# Contents

## List of contributors — VII

David Elder

### 1 Solubility – definition and basic physicochemical considerations — 1

Annette Bauer-Brandl and Martin Brandl

### 2 Solubility and supersaturation — 27

James L McDonagh, John BO Mitchell, David S Palmer and Rachael E Skyner

### 3 In Silico methods to predict solubility — 71

Bernard Faller, Sandrine Desrayaud, Joerg Berghausen, Marc Laisney and Stephanie Dodd

### 4 How solubility influences bioavailability — 113

Christos Reppas and Maria Vertzoni

### 5 Estimation of intraluminal drug solubility — 133

Jennifer Dressman

### 6 Biorelevant media — 149

Christoph Saal and Klara Valko

### 7 The role of solubility to optimize drug substances – a medicinal chemistry perspective — 169

René Holm

### 8 The role of solubility in optimizing drug products – a pharmaceutical development perspective — 209

Christoph Saal

### 9 The relevance of solid-state forms for solubility — 229

Wolfgang Beckmann

### 10 Solubility and phase behaviour from a drug substance manufacturing perspective — 259

**VI — Contents**

David Elder

**11 Biowaivers — 319**

**List of Abbreviations — 353**

**Index — 357**