Contents

Synthesis of Diverse β-Lactams: Role of Appended Hetero Moiety on Its Activity .................................................. 1
Aman Bhalla, Shamsher S. Bari and Jitender Bhalla

Role of Transition Metal Reagents in β-Lactam Synthesis: New Paradigms ......................................................... 41
Shamsher S. Bari, Aman Bhalla and Jitender Bhalla

4-Vinyloxyazetidin-2-one, a Novel Substrate for β-Lactam Synthesis . . 73
Urszula Klimczak, Bartłomiej Furman and Bartosz Zambroń

β-Lactams from Ketene-Imine Cycloadditions: An Update ............ 105
Thomas T. Tidwell

Recent Approaches Toward the Generation of Molecular Diversity Based on β-Lactam Structures .................................. 129
Carina M.L. Delpiccolo, Maitena Martinez-Amezaga and Ernesto G. Mata

Synthesis of Five-Membered Heterocycles Through β-Lactam Ring-Expansion Reaction ...................................... 163
Benito Alcaide, Pedro Almendros and Cristina Aragoncillo

β-Lactams Through Single Bond Ring Closing: Methods, Transformations and Bioactivity .................................. 219
Inmaculada Martin-Torres and Rosario González-Muñiz

Solid Phase Synthesis of β-Lactams: Results and Scope ........... 253
Prakash T. Parvatkar, Perunninakulath S. Parameswaran and Bimal K. Banik

Beta-Lactams as Clinically Active Medicines ........................ 285
Shibani Basu and Bimal K. Banik
Nanochemistry in Drug Design ........................................ 311
Marta Sowinska, Maja Morawiak, Zofia Urbanczyk-Lipkowska
and Jolanta Solecka

Asymmetric Synthesis of β-Lactams via the Ketene-Imine
Cycloaddition ......................................................... 335
Claudio Palomo and Mikel Oiarbide

The Never-Ending Story of β-Lactams: Use as Molecular
Scaffolds and Building Blocks ............................. 373
Prabuddha Bhattacharya, Sansa Dutta, Koushik Chandra and Amit Basak
Beta-Lactams
Novel Synthetic Pathways and Applications
Banik, B.K. (Ed.)
2017, VIII, 419 p. 593 illus., 15 illus. in color., Hardcover
ISBN: 978-3-319-55620-8