1. Record Nr. UNINA9910739477903321

Titolo	Heterocycles from Carbenes and Nitrenes : Methods, Reactions and Synthetic Applications / / edited by Michael P. Doyle, Xinfang Xu
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	9783031367359 3031367359
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (381 pages)
Collana	Topics in Heterocyclic Chemistry, , 1861-9290 ; ; 59
Altri autori (Persone)	DoyleMichael P. <1949-> XuXinfang, Professor
Disciplina	547.59
Soggetti	Chemistry Chemistry, Organic Heterogeneous catalysis Materials Chemical Synthesis Organic Chemistry Heterogeneneous Catalysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Photo-induced Carbene Transformations to Heterocycles -- Heterocycles from Onium Ylides -- Heterocycles from Sulfur Ylides -- Heterocycles from Cascade Reactions via Carbene gem-difunctionalization -- Cyclopropanation of Heterocycles -- Heterocycles from Cycloaddition Reaction -- Alkynes as Carbene Precursors for the Synthesis of Heterocycles -- Heterocycles from Donor/Donor Carbenes -- Heterocycles by Nitrene Transfer Reactions.
Sommario/riassunto	This book provides researchers in the fields of organic chemistry, organometallic chemistry and homogeneous catalysis with an overview of recent developments in the applications of reactions involving carbene and nitrene intermediates directed to the synthesis of heterocyclic compounds. Multiple pathways through which diverse heterocyclic compounds are accessed occur from a variety of carbene and nitrene precursors through C-H/X-H insertions, cycloadditions,

ylide transformations, rearrangements, and cascade reactions. Catalytic processes that form metallo-carbenes and nitrenes offer unparalleled chemo-, regio-, and stereo-selectivities. Insights are provided into the scope of these methodologies and the inherent control of catalyst ligands on reaction selectivities.