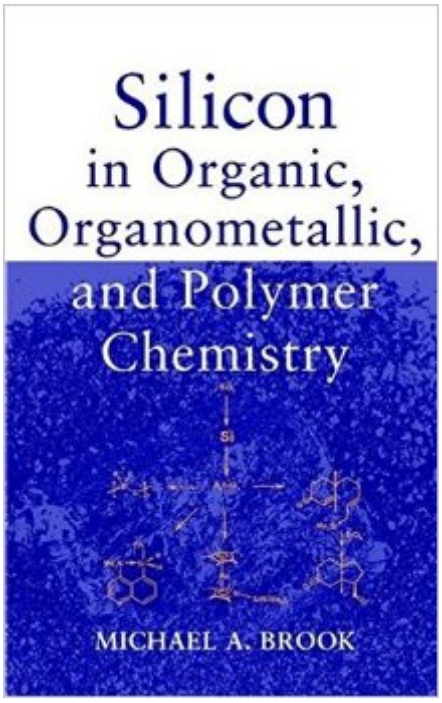
Silicon In Organic, Organometallic, And Polymer Chemistry



Synopsis

A comprehensive, up-to-date reference to synthetic applications of organosilicon chemistry Organic, organometallic, and polymer chemistry as well as materials science all utilize silicon in various forms, yet there is little cross-fertilization of ideas and applications among the disciplines. This book presents a much-needed overview of silicon chemistry, allowing fundamental and applied scientists to take full advantage of progress made within and outside their primary fields of expertise. With an emphasis on the preparation and reactivity of silicon compounds in organic, organometallic, and polymer chemistry, the author examines a broad range of useful topics-from mechanisms to syntheses of and syntheses using different organofunctional silanes. Numerous schemes as well as up-to-date examples from academia and industry will help readers to solve current synthetic problems and explore ideas for future research. Clear, concise coverage includes: * The mechanistic basis for the development of new silicon-based reactions * Formation and cleavage of silane reagents and functional siliconheteroatom compounds * Silicones, silica, polysilanes, and other silicon-containing polymers * Properties of molecules containing silicon, including bioactivity * Methods for the preparation of Si-C compounds * Silicon in organic synthesis * An extensive functional group index for easy access to functional group transformations

Book Information

Hardcover: 704 pages

Publisher: Wiley-Interscience; 1 edition (December 28, 1999)

Language: English

ISBN-10: 0471196584

ISBN-13: 978-0471196587

Product Dimensions: 6.4 x 1.6 x 9.6 inches

Shipping Weight: 1.6 pounds (View shipping rates and policies)

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