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4.6 Thietanes, β -sultams, and related systems
4.7 Silicon and phosphorus heterocycles. Miscellaneous;
4.8 References; Chapter 5.1 Five-Membered Ring Systems: Thiophenes and Se/Te Analogues; 5.1.1 Introduction; 5.1.2 Thiophene ring synthesis; 5.1.3 Reactions of thiophenes; 5.1.4 Non-polymeric thiophene organic materials; 5.1.5 Thiophene oligomers and polymers; 5.1.6 Thiophene derivatives in medicinal chemistry; 5.1.7 Selenophenes and tellurophenes; 5.1.8 References; Chapter 5.2 Five-Membered Ring Systems: Pyrroles and Benzo Analogs; 5.2.1 Introduction; 5.2.2 Synthesis of pyrroles
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5.4.4 1,2,3-Triazoles and ring-fused derivatives; 5.4.5 1,2,4-Triazoles and ring-fused derivatives; 5.4.6 Tetrazoles and ring-fused derivatives; 5.4.7 References; Chapter 5.5 Five-Membered Ring Systems: With N and S (Se) Atoms; 5.5.1 Introduction; 5.5.2 Thiazoles; 5.5.3 Isothiazoles; 5.5.4 Thiadiazoles and selenodiazoles; 5.5.5 1,3-Selenazoles, 1,3-selenadolidines and 1,3-tellurazoles; 5.5.6 References; Chapter 5.6 Five-Membered Ring Systems: With O & S (Se, Te) Atoms; 5.6.1 1,3-Dioxoles and dioxolanes; 5.6.2 1,3-Dithioles and dithiolanes
5.6.3 1,3-Oxathioles and oxathiolanes

Sommario/riassunto

Progress in Heterocyclic Chemistry (PHC) is an annual review series commissioned by the International Society of Heterocyclic Chemistry (ISHC). Volumes in the series contain both highlights of the previous year's literature on heterocyclic chemistry and articles on emerging topics of particular interest to heterocyclic chemists. The chapters in Volume 21 constitute a systematic survey of the important original material reported in the literature of heterocyclic chemistry in 2008. Additional articles in this volume review "Biocatalytic approaches to chiral heterocycles" and "Ring-e
