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units connected at the 1,1- and 2,5-positions""

""1.7.2 Polysiloles and silole polymers connected through 2,5-positions"""""1.7.3 Polymers with silole pendants and hyperbranched polymers""; ""1.7.4 Polybenzosiloles and ladder polymers""; ""1.7.5 Polymers that contain silafluorenes""; ""1.7.6 Germoles in oligomers and polymers""; ""1.8 Summary and Future Directions""; ""References""; ""2 Aggregation-Induced Emission in Group 14 Metalloles (Siloles, Germoles, and Stannoles): Spectroscopic Considerations, Substituent Effects, and Applications""; ""2.1 Introduction""; ""2.1.1 The group 14 metalloles""

""2.2 Characteristics of AIE in the Group 14 Metalloles"""""2.2.1 Aryl-substituted siloles""; ""2.2.2 Aryl-substituted germoles and stannoles""; ""2.3 Origins of AIE in Group 14 Metalloles: Restricted Intramolecular Rotation""; ""2.3.1 Effect of solvent viscosity""; ""2.3.2 Effect of temperature""; ""2.3.3 Room-temperature glasses""; ""2.3.4 Effect of pressure""; ""2.3.5 Excited-state lifetimes""; ""2.3.6 Molecular geometry""; ""2.3.7 Aggregate nanoparticle morphology""; ""2.3.8 Internal structural control of intramolecular rotations""; ""2.4 Polymer Films and Polymerized Siloles""

""2.5 Applications of AIE-Active Metalloles"""""2.5.1 Electrooptical devices""; ""2.5.2 Chemical sensors""; ""References""; ""3 Aggregation-Induced Emission of 9,10-Distyrylanthracene Derivatives and Their Applications""; ""3.1 Introduction""; ""3.2 AIE Molecules Based on 9,10-Distyrylanthracene""; ""3.2.1 Small molecules""; ""3.2.2 Macromolecules""; ""3.3 AIE Mechanism of 9,10-Distyrylanthracene Molecule Systems""; ""3.4 Application of AIE Luminogens Based on 9,10-Distyrylanthracene""; ""3.4.1 Solid-state emitters""; ""3.4.2 Piezochromism""; ""3.4.3 Fluorescent sensors and probes""

""3.4.4 Bioimaging""

Sommario/riassunto

Aggregation-Induced Emission (AIE) is a novel photophysical phenomenon which offers a new platform for researchers to look into the light-emitting processes from luminogen aggregates, from which useful information on structure-property relationships may be collected and mechanistic insights may be gained. The discovery of the AIE effect opens a new avenue for the development of new luminogen materials in the aggregate or solid state. By enabling light emission in the practically useful solid state, AIE has the potential to expand significantly the technological applications of luminescent mate