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 significantly expand the technological applications of luminescent materials.

*Aggregation-Induced Emission: Applications* is the first book to explore the high-tech applications of AIE luminogens, including technological utilizations of AIE materials in the areas of electroluminescence, mechanochromism, chiral recognition, ionic sensing, biomolecule detection, and cell imaging. Potential applications in room temperature phosphorescence, liquid crystals, circularly polarized luminescence, and organic lasing are also introduced in this volume.

Topics covered include:

- AIE materials for electroluminescence applications
- Liquid crystals with AIE characteristics
• Mechanochromic AIE materials

• Chiral recognition and enantiomeric differentiation based on AIE

• AIE and applications of aryl-substituted pyrrole derivatives

• New chemo-/biosensors with AIE-active molecules

• AIE luminogens for in vivo functional bioimaging

• Applications of AIE materials in biotechnology

This book is essential reading for scientists and engineers who are designing optoelectronic materials and biomedical sensors, and will also be of interest to academic researchers in materials science, physical and synthetic organic chemistry as well as physicists and biological chemists.

ABOUT THE AUTHOR

ANJUN QIN

Department of Polymer Science and Engineering, Zhejiang University, China

BEN ZHONG TANG

Department of Chemistry, The Hong Kong University of Science and Technology, China

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