Special Issue

Aggregation-Induced Emission: Materials and Applications

Message from the Guest Editors

Luminescent materials have been studied tremendously in recent decades because of their applications in many fields including light-emitting diodes (LED), sensing, biomedical, photocatalysis, etc. However, most of the luminescent materials are highly emissive when they are dispersed but weakly or non-emissive in the aggregated/solid-state due to the strong intramolecular π–π stacking is regarded as aggregation-caused quenching (ACQ) effect. This notorious effect limits their usage in solid-state applications. In 2001 B.Z Tang has discovered a new phenomenon that is directly opposite to the ACQ effect and is regarded as 'aggregation-induced emission' (AIE) which provides a new direction for the development of luminescent materials and their applications in multidisciplinary research fields. AIE materials weakly emit light in solution and are highly emissive in the solid/aggregated state. The restriction of intramolecular motion has been recognized as the general mechanism of AIE but the functioning mechanism of some of the AIE systems remains still unclear. AIE materials have been proven to be in multidisciplinary research fields and high-tech applications.

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Welcome to *Crystals*, the journal dedicated to the fascinating world of crystallographic research! Crystals are more than mere decorative elements; they hold the key to understanding the fundamental structure of matter. Our mission is to explore the crucial significance of this research across various fields. From medicine to technology, chemistry to geology, crystals play a vital role. Their structure provides insights into new advanced materials, innovative drugs, and groundbreaking technologies. Through *Crystals*, we delve into the microscopic world to discover solutions that will shape the future. Join us on a journey through the *Crystals*, where science merges with beauty and innovation.

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