Special Issue

Functional Polymer Materials and Devices

Message from the Guest Editors

Functional polymers and devices involve a great variety of polymer materials and engineering which enables a wide range of flexible, wearable, scalable and biocompatible applications. In particular, the advance of novel functional polymeric systems with unique functionalities is highly desired to enable promising device applications in electronics, sensing, energy storage and conversion, which are the central topics in current research. In particular, the rational induction of structural defects to tailor functional properties is essential to the design of functional polymers, which is of both fundamental and practical importance. Moreover, the critical role of the interfacial coupling effect is regarded to be responsible for the exceptional performance of dielectric, electrocaloric, capacitive, piezoelectric and pyroelectric polymer nanocomposites, which demands unprecedented updates to provide fundamental insights into the interfaces. In addition, the nature of the electromechanical coupling effect in polymers and nanocomposites remains elusive, especially at the molecular level.

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