Special Issue

Trends and Prospects of New Lithium Batteries

Message from the Guest Editors

Li-S batteries have great potential to be high-energy-density devices due to their ultrahigh theoretical energy density of 2600 Wh kg-1. However, there are still several significant technological challenges, including their low sulfur utilization; the “shuttle effect” of soluble polysulfides; and the irreversible, large volume expansion of the cathode structure during cycling, which hinders the commercialization of Li–S batteries. This Special Issue aims to publish a collection of papers on electrode/electrolyte design, binder/separator modification, and metallic Li protection for boosting the electrochemical performance of advanced Li-S batteries. Meanwhile, this collection is not limited to the above topics, and also can be extended to areas of computational chemistry or machine learning.

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As the premier open access journal dedicated to experimental organic chemistry, and now in its 25th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts and novel materials. Pushing the boundaries of the discipline, we invite papers on multidisciplinary topics bridging biochemistry, biophysics and materials science, as well as timely reviews and topical issues on cutting edge fields in all these areas.

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