



Black Phosphorus: Application in Materials Science

Guest Editor:

Prof. Dr. Xue-Feng Yu

Shenzhen Institutes of Advanced
Technology, Chinese Academy of
Sciences, Shenzhen 518055,
China

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Message from the Guest Editor

Dear Colleagues,

Black phosphorus (BP), also known as phosphorene, has attracted recent scientific attention owing to its unique structure and properties. As a direct-bandgap layered 2D semiconductor, BP has intriguing physical properties, such as high charge carrier mobility, large on-off ratio, significant anisotropy, and layer-dependent bandgap. Therefore, it has shown great application potential in field-effect transistors, photoelectric devices, lithium-ion batteries, photo-therapy, photovoltaics, sensing, and catalysis. Furthermore, the biodegradability and biocompatibility of BP bode well for biomedical applications.

In this Special Issue, articles are invited to provide a recent insight into the synthesis, properties and applications of black phosphorus.

Prof. Xue-Feng Yu
Guest Editor





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Editor-in-Chief

Prof. Dr. Thomas J. Schmidt

Institute of Pharmaceutical
Biology and Phytochemistry,
University of Münster,
Corrensstrasse 48, D-48149
Münster, Germany

Message from the Editor-in-Chief

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Molecules Editorial Office
MDPI, St. Alban-Anlage 66
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