

How to Make and how to Use Carbon Nanostructures

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Graphene is praised as multifunctional wonder material and rich playground for physics. Above all, it is a two-dimensional polymer and thus a true challenge for materials synthesis. Herein I present, both, “bottom-up” precision synthesis and “top-down” fabrication protocols toward graphene. The resulting materials properties cover an enormous breadth ranging from batteries, supercapacitors, oxygen reduction catalysts, photodetectors and sensors to semiconductors. Another question is whether graphene holds promise for robust technologies. An attempt will be made at providing answers.

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