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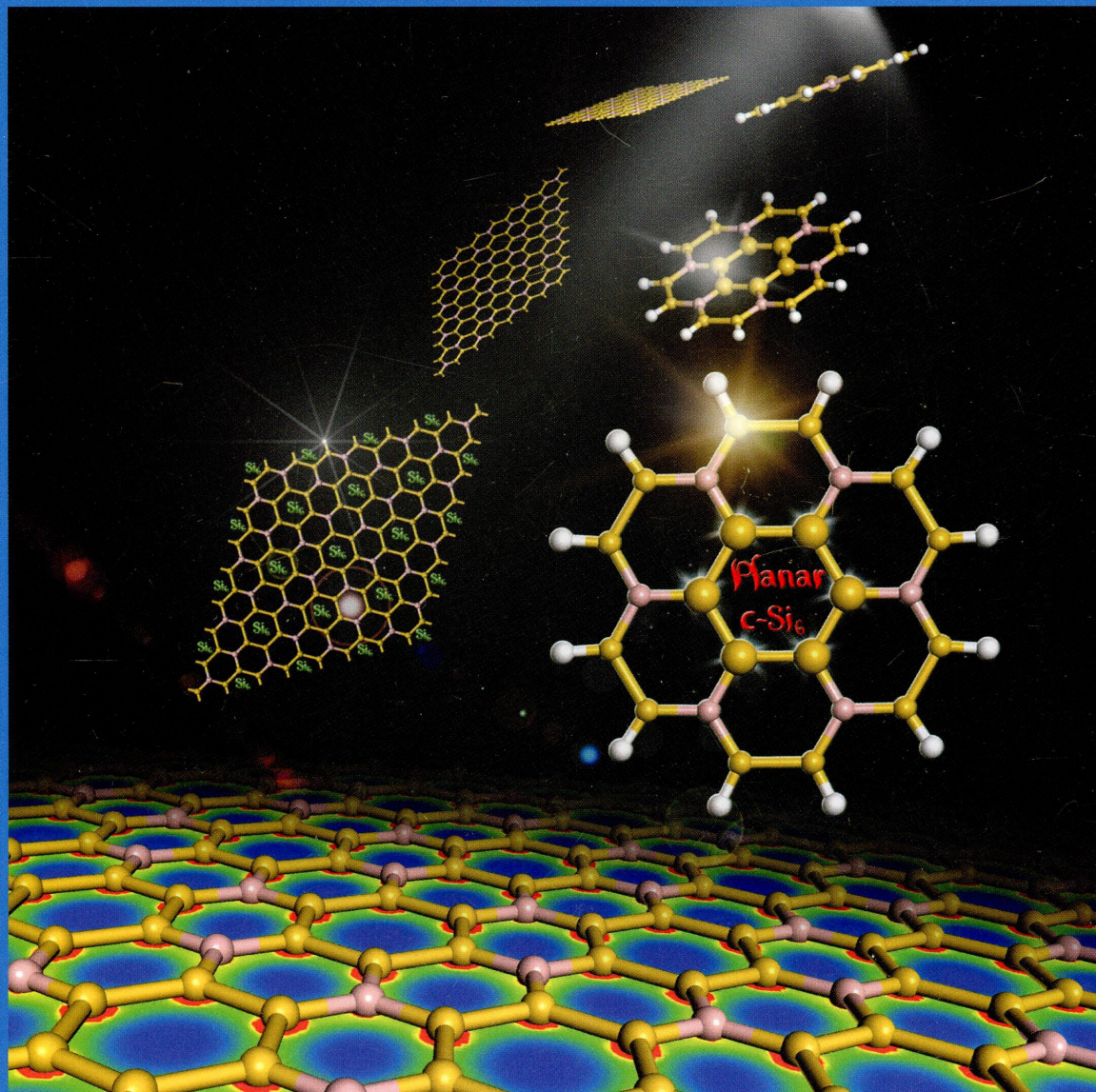
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Consequence of π -p
Conjugation: Planar D_{6h}
c-Si₆ Rings and Metallic
BSi₃ Silicene
(see pages 25825
and 25836)

ENERGY CONVERSION AND STORAGE, OPTICAL AND ELECTRONIC DEVICES,
INTERFACES, NANOMATERIALS, AND HARD MATTER




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ON THE COVER: Consequence of π -p conjugation: planar D_{6h} c-Si₆ rings and metallic BSi₃ silicene. The silicon analogs with planar aromatic D_{6h} cyclic six-membered silicon ring (c-Si₆), such as hexasilabenzene and planar graphene-like structure of silicon, have been intriguing chemists but remain elusive. Here, by means of DFT computations, Chen and coworkers show that the strong π -p conjugation between c-Si₆ and B atoms not only flattens the Si₆ rings but also results in the metallicity of c-BSi₃ silicene and its one-dimensional derivatives (nanotubes and nanoribbons). See page 25825 (*J. Phys. Chem. C*, DOI: 10.1021/jp507011p). The metallic BSi₃ silicene is predicted to be a promising high-capacity anode material for lithium-ion batteries. See page 25836 (*J. Phys. Chem. C*, DOI: 10.1021/jp503597n).

Articles

Energy Conversion and Storage; Energy and Charge Transport

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Metallic BSi₃ Silicene and Its One-Dimensional Derivatives: Unusual Nanomaterials with Planar Aromatic D_{6h} Six-Membered Silicon Rings

Xin Tan, Fengyu Li, and Zhongfang Chen*

25836 

DOI: 10.1021/jp503597n

Metallic BSi₃ Silicene: A Promising High Capacity Anode Material for Lithium-Ion Batteries

Xin Tan, Carlos R. Cabrera, and Zhongfang Chen*

25844 

DOI: 10.1021/jp504876w

Visible-Light-Driven Photoproduction of Hydrogen Using Rhodium Catalysts and Platinum Nanoparticles with Formate

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DOI: 10.1021/jp5051904

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DOI: 10.1021/jp505735j

Graphene on Metal Grids as the Transparent Conductive Material for Dye Sensitized Solar Cell


Pei Dong, Yu Zhu,* Jing Zhang, Cheng Peng, Zheng Yan, Lei Li, Zhiwei Peng, Gedeng Ruan, Wanyao Xiao, Hong Lin, James M. Tour,* and Jun Lou*

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- 25931 DOI: 10.1021/jp5089146
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- 26027 DOI: 10.1021/jp506999k
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- 26033 DOI: 10.1021/jp5070352
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- 26041 DOI: 10.1021/jp507160s
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- 26070 DOI: 10.1021/jp5076077
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- 26080 DOI: 10.1021/jp507650w
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- 26091 DOI: 10.1021/jp507718n
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26103 DOI: 10.1021/jp5078664

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26115  DOI: 10.1021/jp507922u

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26130 DOI: 10.1021/jp508144z

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26139  DOI: 10.1021/jp5081675

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26155  DOI: 10.1021/jp5081753

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26162 DOI: 10.1021/jp508194d

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26182 DOI: 10.1021/jp5083592

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