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## **Supporting Information**

## Large dielectric constant, high acceptor density, and deep electron traps in $perovskite\ solar\ cell\ material\ CsGeI_3$

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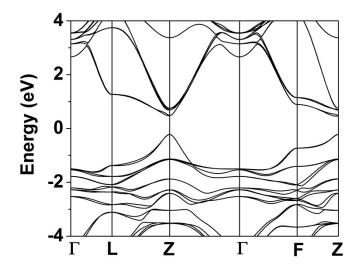
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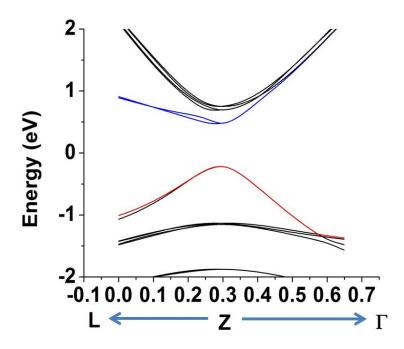
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The top panel shows that band structure of CsGeI<sub>3</sub>; the bottom panel is the band structure zoomed in near the Z point. The band structure is calculated using the PBE functionals including the spin-orbit coupling.