

## Supporting Information

### Quantum Spin Hall Insulators in Strain-modified Arsenene

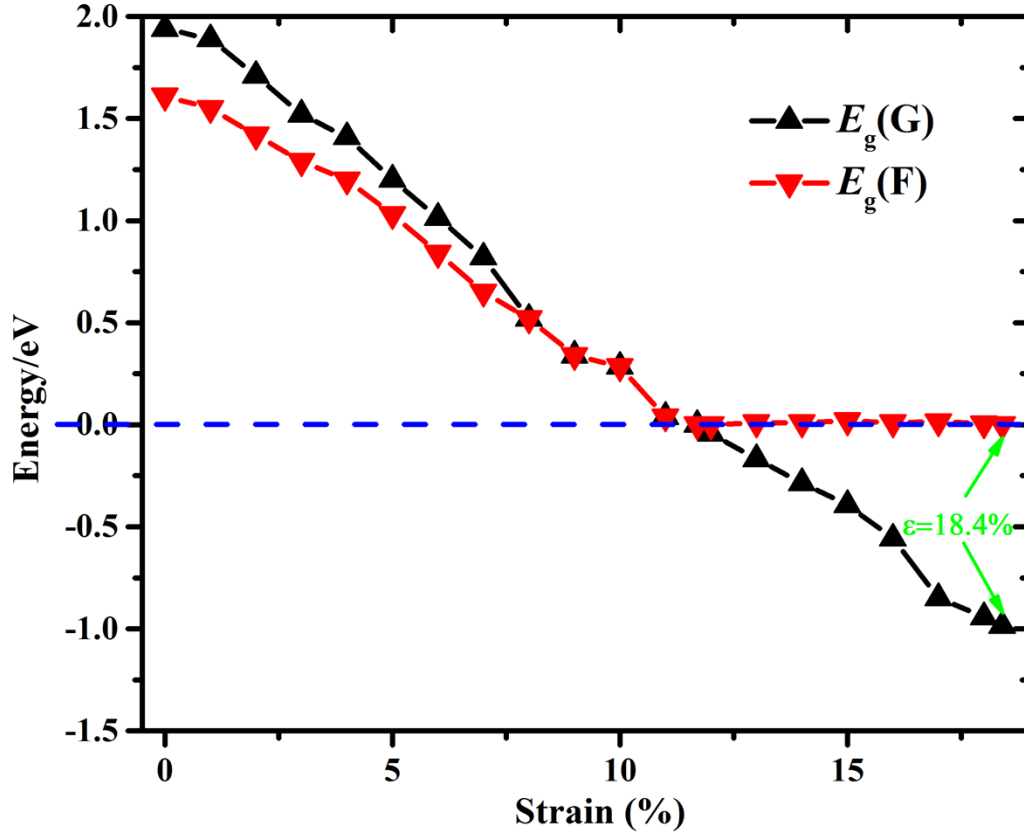
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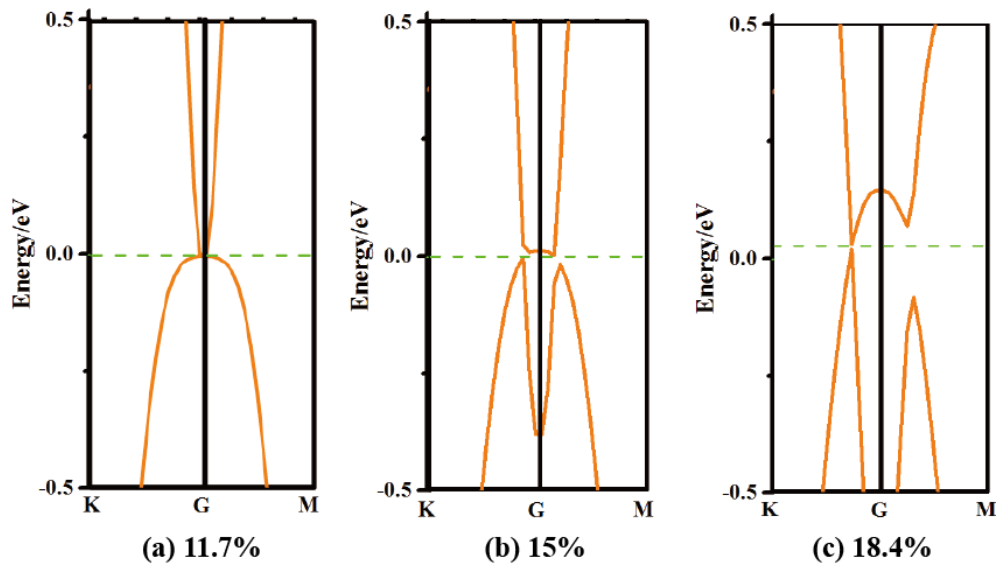
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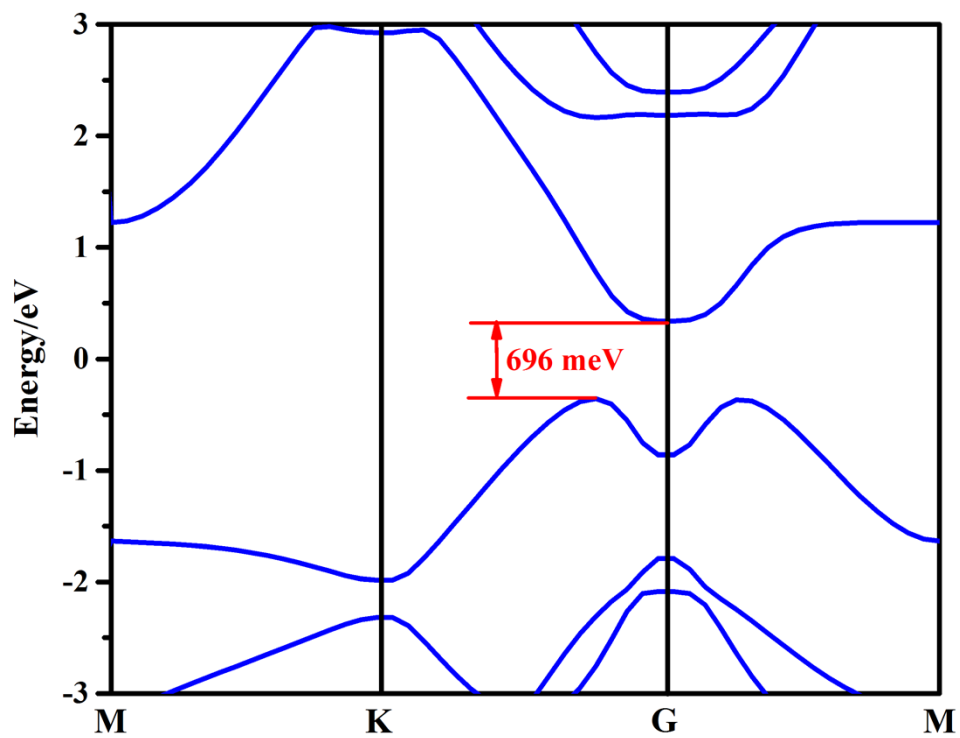
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**Figure S1** Strain dependent of functional energy gaps  $E_g$  (F) and band gaps at G point  $E_g$  (G).



**Figure S2** Enlarged band structures around Fermi level for arsenene with different strain. Green dashed lines represents Fermi level at 0 eV.



**Figure S3** Band structure of arsenene under strain of 18.4%, calculated by HSE06 method with SOC effect.