

Supplementary Information:

Planar film C_3Ca_2 : A novel 2p Dirac half metal

Wei-xiao Ji,* Bao-min Zhang, Shu-feng Zhang, Chang-wen Zhang,**

Meng Ding, Ping Li and Pei-ji Wang

School of Physics and Technology, University of Jinan,
Jinan, Shandong, 250022, P. R. China

* hellojiweixiao@163.com

** zhchwsd@163.com

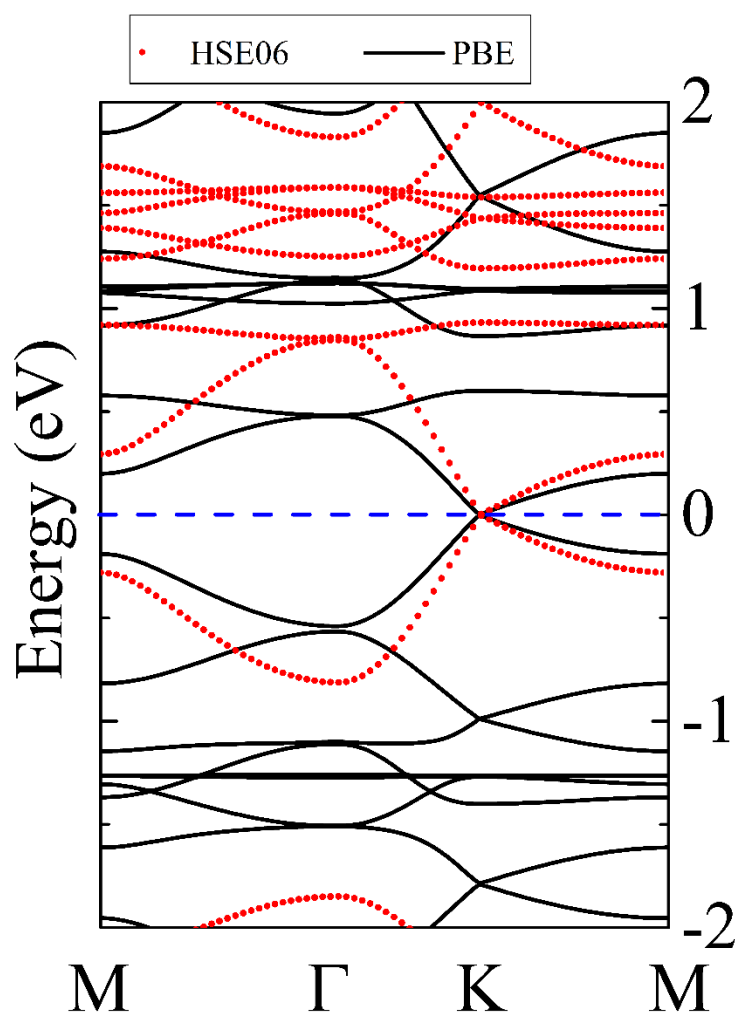


Figure S1 Comparison of band structures from PBE(black lines) and HSE06(red dots) calculations.

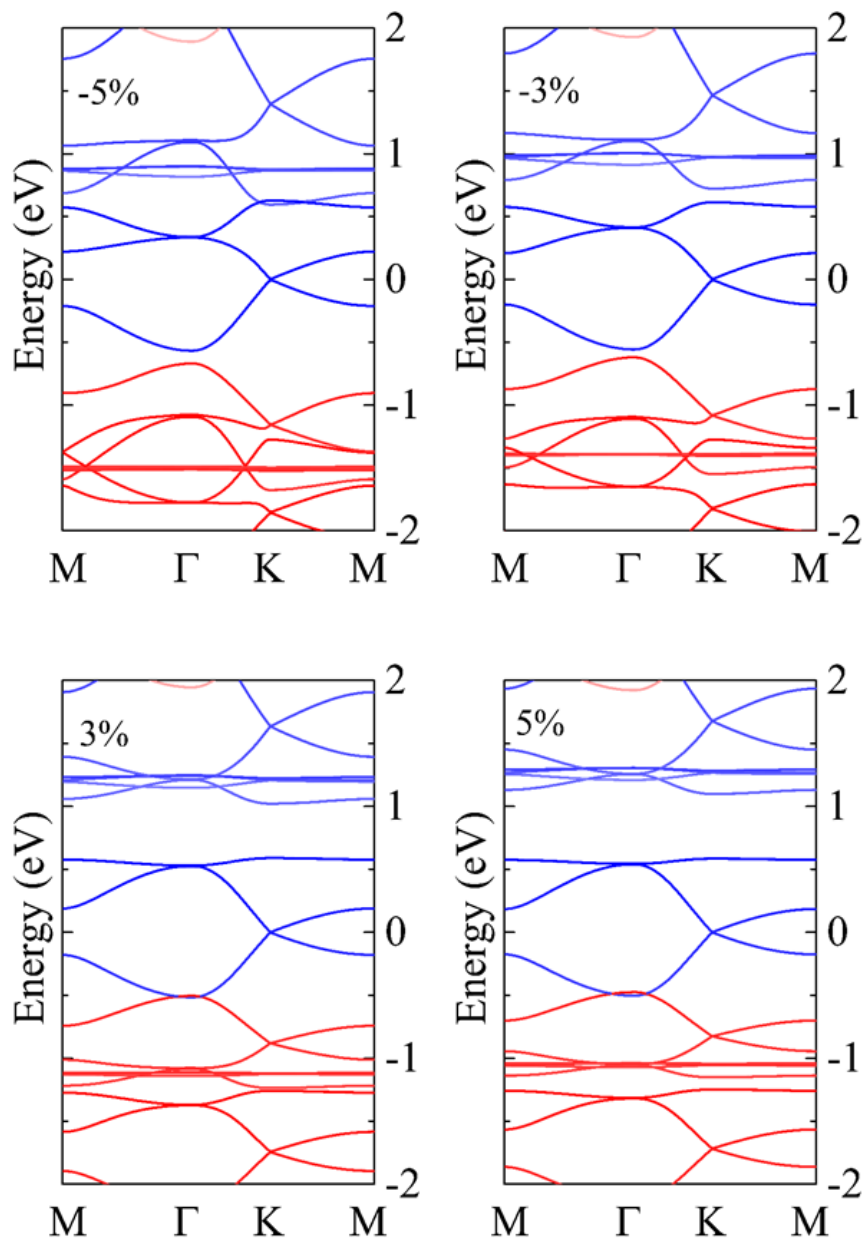


Figure S2 Spin-resolved band structure of C_3Ca_2 under mild biaxial tensile and compressional strains ($\pm 3\% \sim \pm 5\%$), from which the maintenance of Dirac half metal characteristic persists. The red and blue lines represent the spin up and down channel respectively.