Supporting Information: Strain Tuning of the Anisotropy in the Optoelectronic Properties of TiS_3

J. A. Silva-Guillén,[*,†,‡] E. Canadell,[¶] F. Guinea,[‡,§] and R. Roldán[‖]

†*School of Physics and Technology, Wuhan University, Wuhan 430072, China*

‡*Fundación IMDEA Nanociencia, C/Faraday 9, Campus Cantoblanco, 28049 Madrid, Spain*

¶*Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus Bellaterra, 08193 Barcelona, Spain*

§*Department of Physics and Astronomy, University of Manchester, Oxford Road, Manchester M13 9PL, UK*

‖*Materials Science Factory. Instituto de Ciencia de Materiales de Madrid (ICMM). Consejo Superior de Investigaciones Cientficas (CSIC), Sor Juana Ines de la Cruz 3, 28049 Cantoblanco, Madrid, Spain*

E-mail: josilgui@gmail.com

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- In Fig. S1 we show the evolution of the band structure with strain, ranging from +7.5% (tensile) to -1.5% (compresive).
- In Table S1 we show the fit ($y = a \cdot x + b$) of the effective masses for the three bands of interest of the TiS_3 single-layer (see Fig. 4 of the main text).

- In Fig. S2 we show a polar plot the optical conductivity depending on the polarization angle of the incident light for energies coinciding at the peak in the optical conductivity of each case (that is 1.47 eV for the case of -1.5% strain, 1.6 eV for the case of 0.0% strain and 1.74 eV for the case of +1.5% strain).

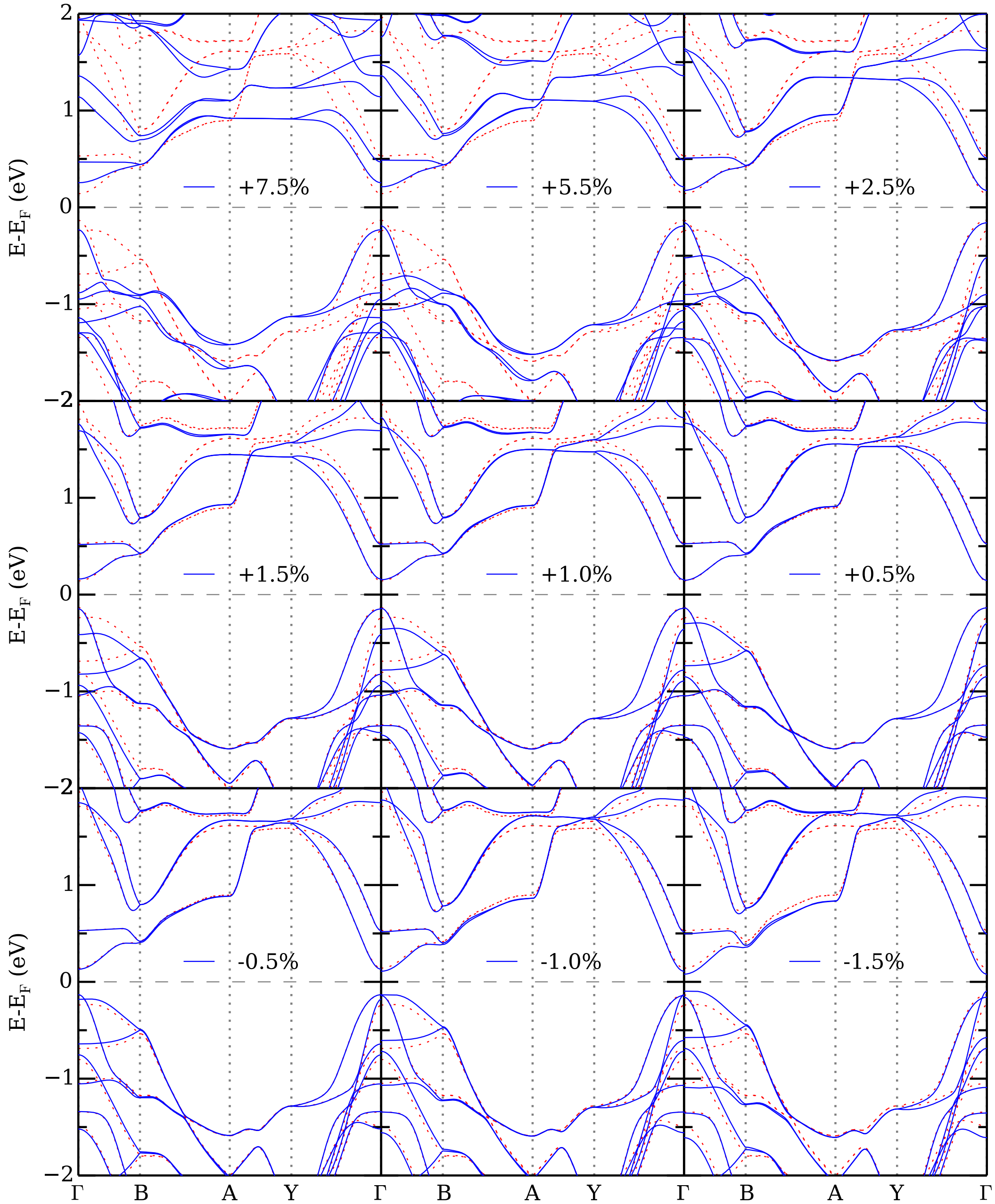

Figure S1: Band structure of TiS_3 single-layer under tensile and compressive strain (solid line). We also plot the band structure for the case with no strain for clarity (dashed line). Γ = (0, 0, 0), B = (1/2, 0, 0), A = (1/2, 1/2, 0) and Y = (0, 1/2, 0) in units of the reciprocal lattice vectors.

Table S1: Fit ($y = a \cdot x + b$) of the effective masses for the three bands of interest of the TiS_3 single-layer (see Fig. 4).

	$b(m_{e^-}/strain)$	$a(m_{e^-})$
$CB_{\Gamma-B}$	0.11104436	1.61517364
$CB_{Y-\Gamma}$	0.02077982	0.39255455
$VB1_{\Gamma-B}$	-2.18016636	7.50028
$VB1_{Y-\Gamma}$	0.014358	0.15574545
$VB2_{\Gamma-B}$	-0.01392509	0.31911182
$VB2_{Y-\Gamma}$	-0.03831873	0.93913

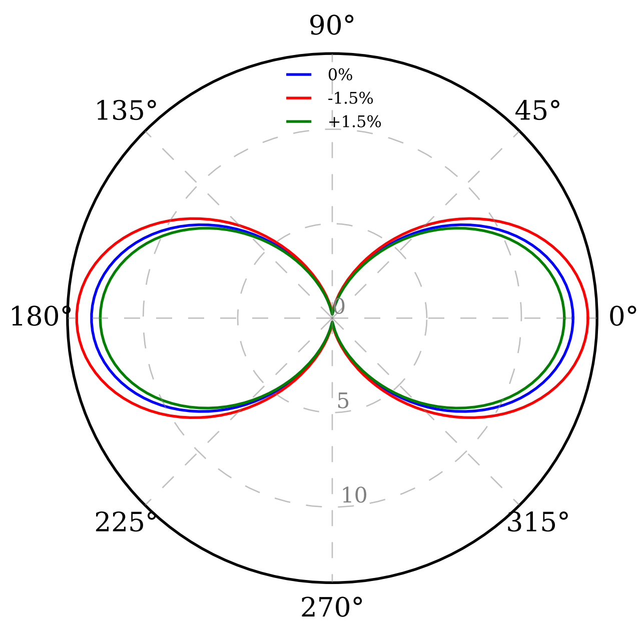

Figure S2: Optical conductivity depending on the polarization angle of the incident light for energies coinciding at the peak in the optical conductivity in units of 10^5 $(\Omega \cdot m)^{-1}$ of each case (that is 1.47 eV for the case of -1.5% strain, 1.6 eV for the case of 0.0% strain and 1.74 eV for the case of +1.5% strain).