

RESEARCH ARTICLE

Predication of topological states in the allotropes of group-IV elements

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SUPPLEMENTARY MATERIAL

Table S1 The formation energy (E_f) of T5 and Diamond structures for group-IV elements.

System		E_f (eV)
T5	C	-8.4
	Si	-5.1
	Ge	-4.21
	Sn	-3.6
Diamond	C	-9.1
	Si	-5.42
	Ge	-4.49
	Sn	-3.83

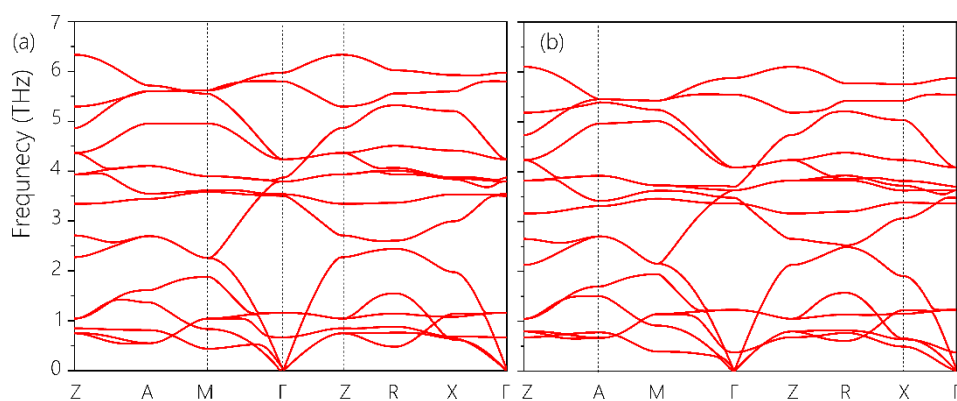


Fig. S1 The phonon spectra of T5-Sn for (a) 2% compressive strain and (b) 2% tensile strain along c direction.

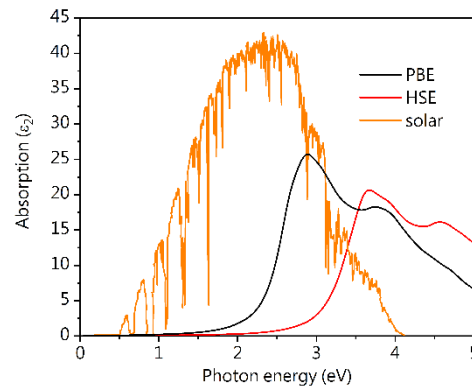


Fig. S2 The absorption spectra of T5-Si under PBE and HSE level and the reference air mass 1.5 solar spectral irradiance.