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Supporting Information

Optical properties of orthorhombic germanium selenide: an anisotropic layered semiconductor promising for optoelectronic applications

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Table S1. Experimental and reference[a)] energies of the EELS edges observed in the acquired spectra.

EELS edge	Energy (eV)			
	Ge		Se	
	Experiment	Reference	Experiment	Reference
L_1	1413	1414	1655	1654
L_2	1255	1248	1479	1476
L_3	1221	1217	1436	1436

a) EELS Atlas, https://eels.info/atlas

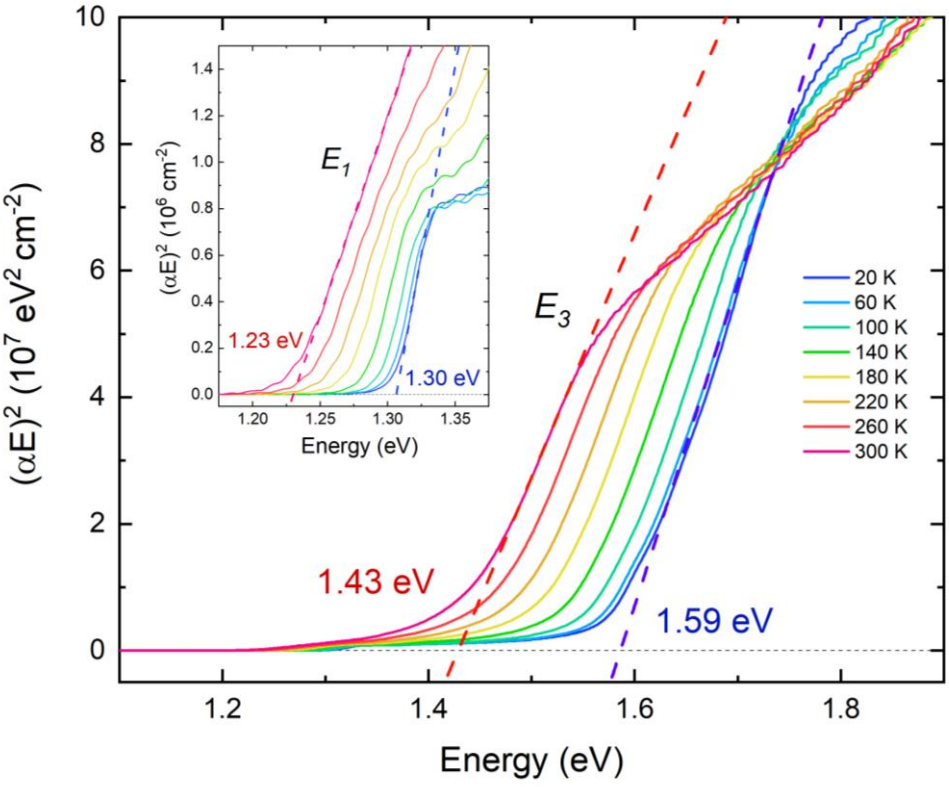

Fig. S1. Temperature dependence and linear approximation of Tauc plot of GeSe optical absorption, assuming allowed direct character of the observed absorption edge, corresponding to transition E_3. The inset shows the weaker absorption edge at the energy of 1.30 eV (at 20 K), corresponding to transition E_1.

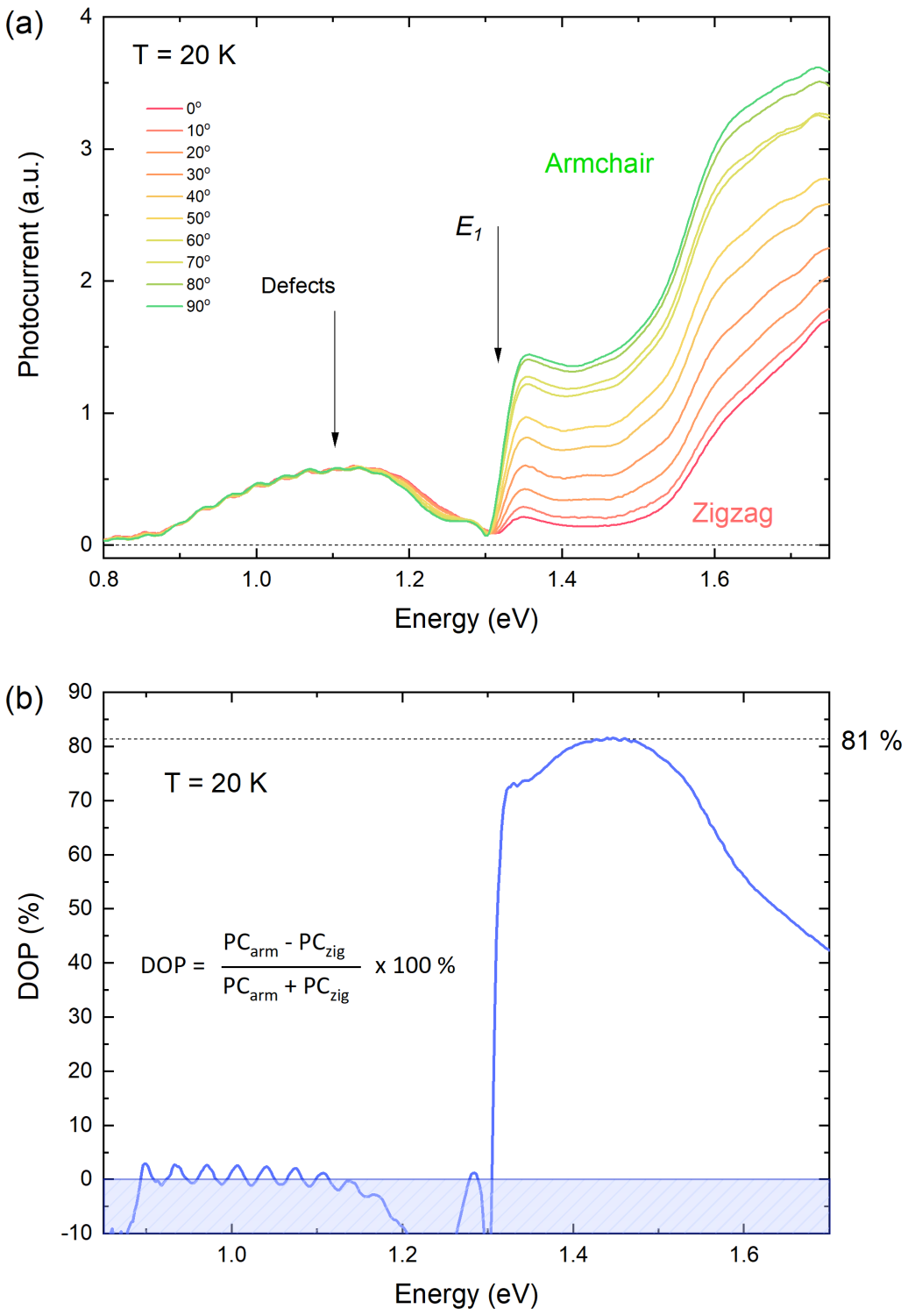

Fig. S2. (a) Polarization dependence of the photocurrent, measured at the temperature of 20 K, in zero-bias conditions and (b) the photocurrent degree of polarization (DOP), calculated using the equation from the figure.

Table S2. Transition energies from experiment and calculations with mBJ-TB09 and HSE06.

Transition	Energy (eV)		
	Exp	mBJ-TB09	HSE06
E_0	–	0.99	1.18
E_1	1.29	1.29	1.38
E_2	1.52	1.78	2.07
E_3	1.58	1.68	1.88