

## Supplementary Materials

### Enhancement of the VIS-NIR absorption in a sulfurated-high-entropy film

Jie Ren<sup>1), &</sup>, Ping Song<sup>2), &</sup>, Cong Wang<sup>1), 3), \*</sup>, Ying Sun<sup>1)</sup>, Yong Zhang<sup>4)</sup>, Angélique Bousquet<sup>5)</sup>, and Eric Tomasella<sup>5)</sup>

1) School of Physics, Beihang University, Beijing 100083, PR China

2) State Key Laboratory of Metastable Materials Science & Technology and Key Laboratory for Microstructural Material Physics of Hebei Province, School of Science, Yanshan University, Qinhuangdao 066004, PR China

3) School of Integrated Circuit Science and Engineering, Beihang University, Beijing 100083, PR China

4) State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing 100083, PR China

5) Université Clermont Auvergne, CNRS, SIGMA Clermont, Institut de Chimie de Clermont-Ferrand (ICCF), Clermont-Ferrand F-63000, France

&These authors contributed equally to this work and should be considered co-first authors

\*Corresponding author: Cong Wang. E-mail address: [congwang@buaa.edu.cn](mailto:congwang@buaa.edu.cn)

Table S1. The average reflectance, transmittance, and absorptance of (NiCrCuFeSi)O, (NiCrCuFeSi)OS, and CuS films at the wavelength range of 300~1700 nm.

	average reflectance	average transmittance	average absorptance
(NiCrCuFeSi)O	0.16	0.54	0.30
(NiCrCuFeSi)OS	0.08	0.02	0.90
CuS	0.35	0.02	0.63

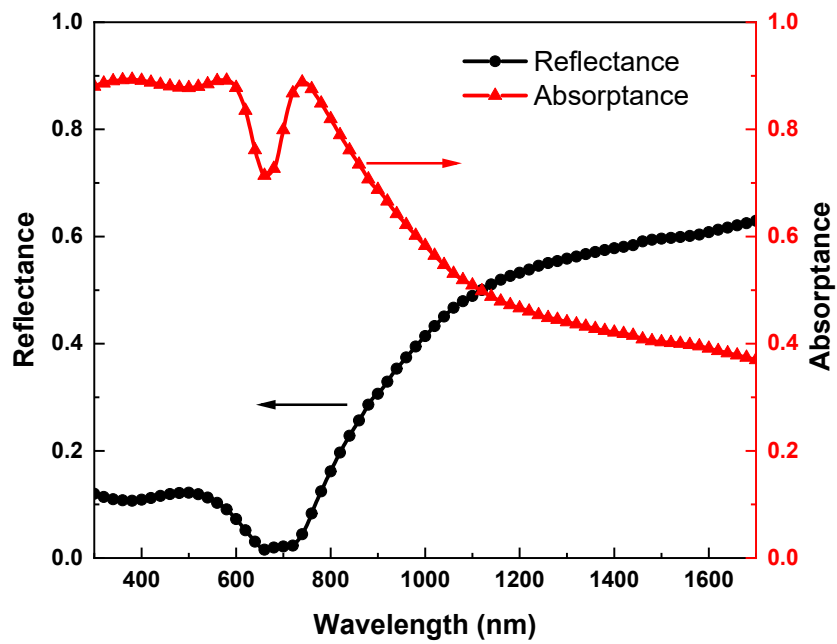


Figure S1. The reflectance and absorptance at the range of 300~1700 nm of CuS film with a thickness of 400 nm. The refractive index  $n$  and extinction coefficient  $k$  are from reference (Diliegros-Godines, et al. 2019).

Reference:

C. J. Diliegros-Godines, D. I. Lombardero-Juarez, R. Machorro-Mejía, R. S. González and M. Pal, *Opt. Mater.*, 2019, **91**, 147–154.