

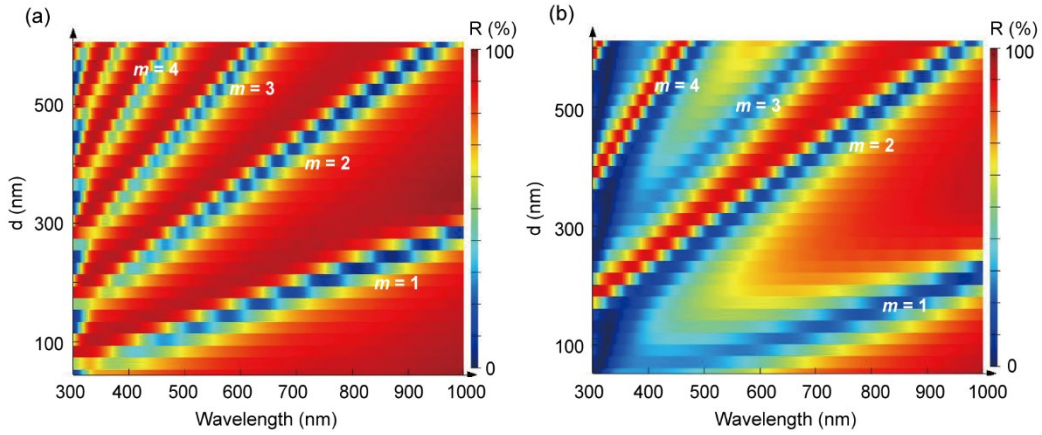
## Supplementary Information

# High-purity reflective color filters based on thin film cavities embedded with an ultrathin $\text{Ge}_2\text{Sb}_2\text{Te}_5$ absorption layer

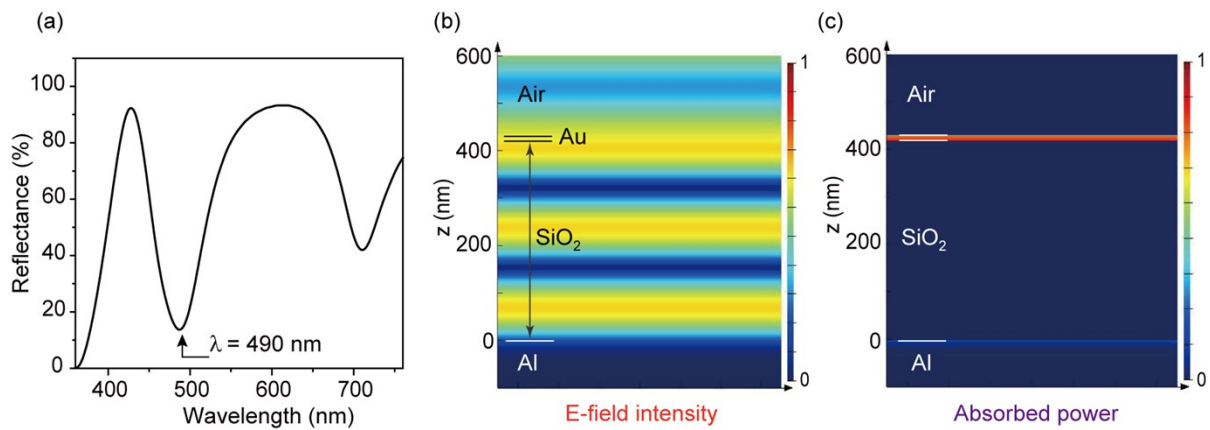
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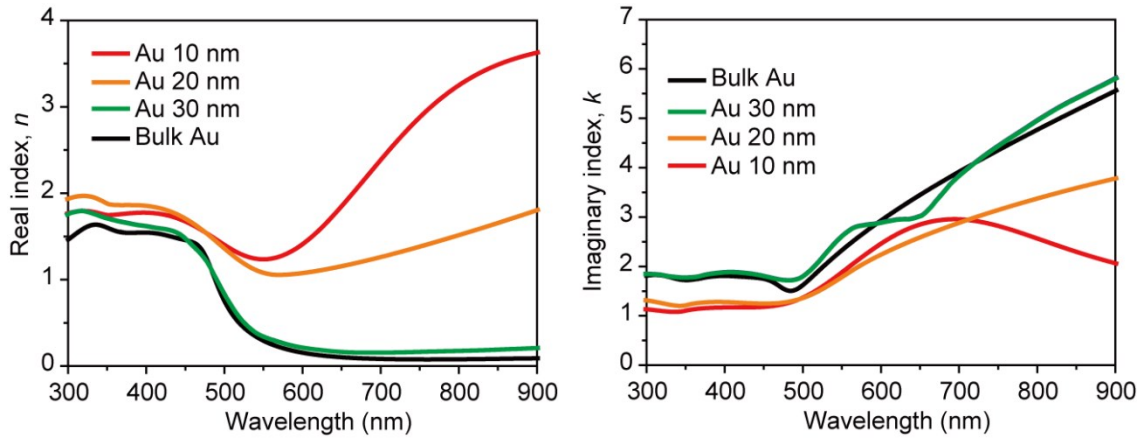
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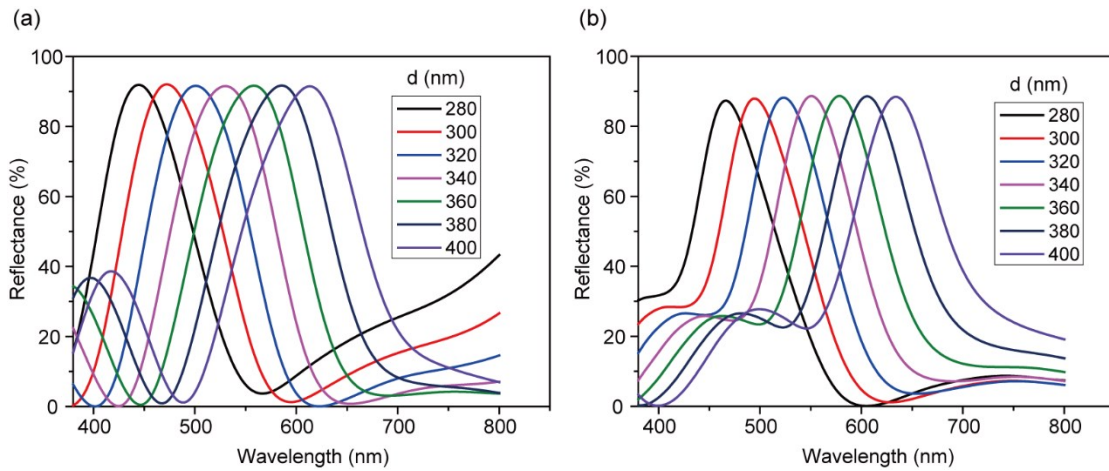
**Figure S1.** Reflectance maps for the (a) MIM and (b) MIGIM structures with a 10-nm-thick Ag top layer



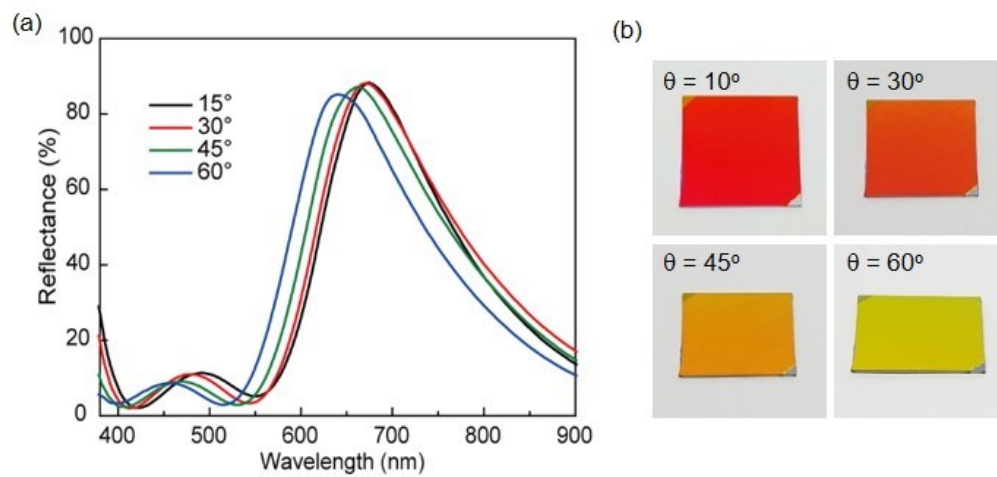
**Figure S2.** (a) Reflectance spectrum obtained for the MIM structure of Au(10 nm)–SiO<sub>2</sub>(420 nm)–Al(100 nm). The resonance peak observed at  $\lambda = 490$  nm corresponds to  $m = 3$ . (b), (c) E-field intensity and absorbed power distributions at the resonance wavelength, respectively.



**Figure S3.** Refractive indices measured for Au films of different thicknesses. The index of bulk Au is from “D. R. Ride, CRC Handbook of Chemistry and Physics, 88th ed., CRC Press, 2007”



**Figure S4.** Reflectance spectra of MIGIM (measured) structure with a GST layer thickness of (a) 3.6 nm and (b) 14 nm.



**Figure S5.** Dependence of (a) reflectance spectra and (b) colors on the incident angle of light investigated with a red-color sample.