Supporting Information: Wide-angle tunable critical coupling in nanophotonic optical coatings with low-loss phase change material

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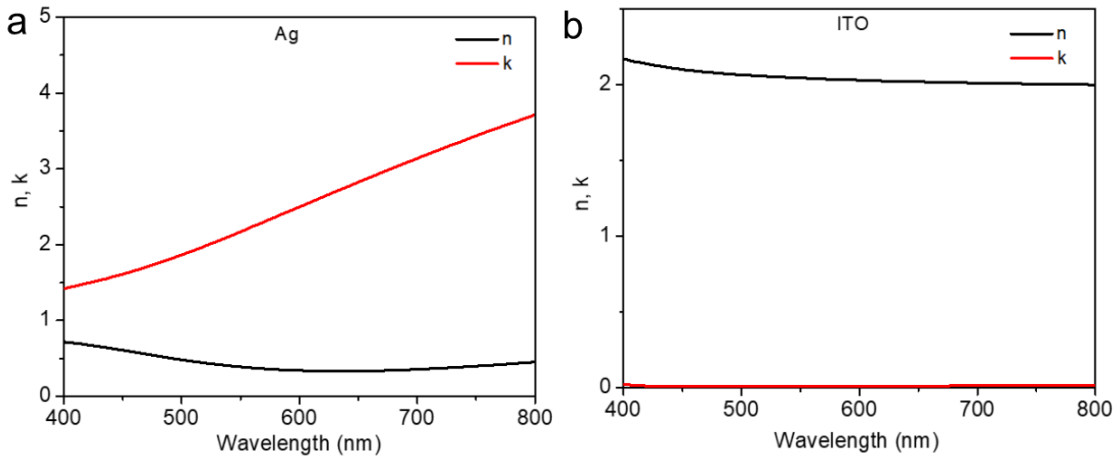

Figure S1 Measured optical constants of thin layers of Ag and ITO

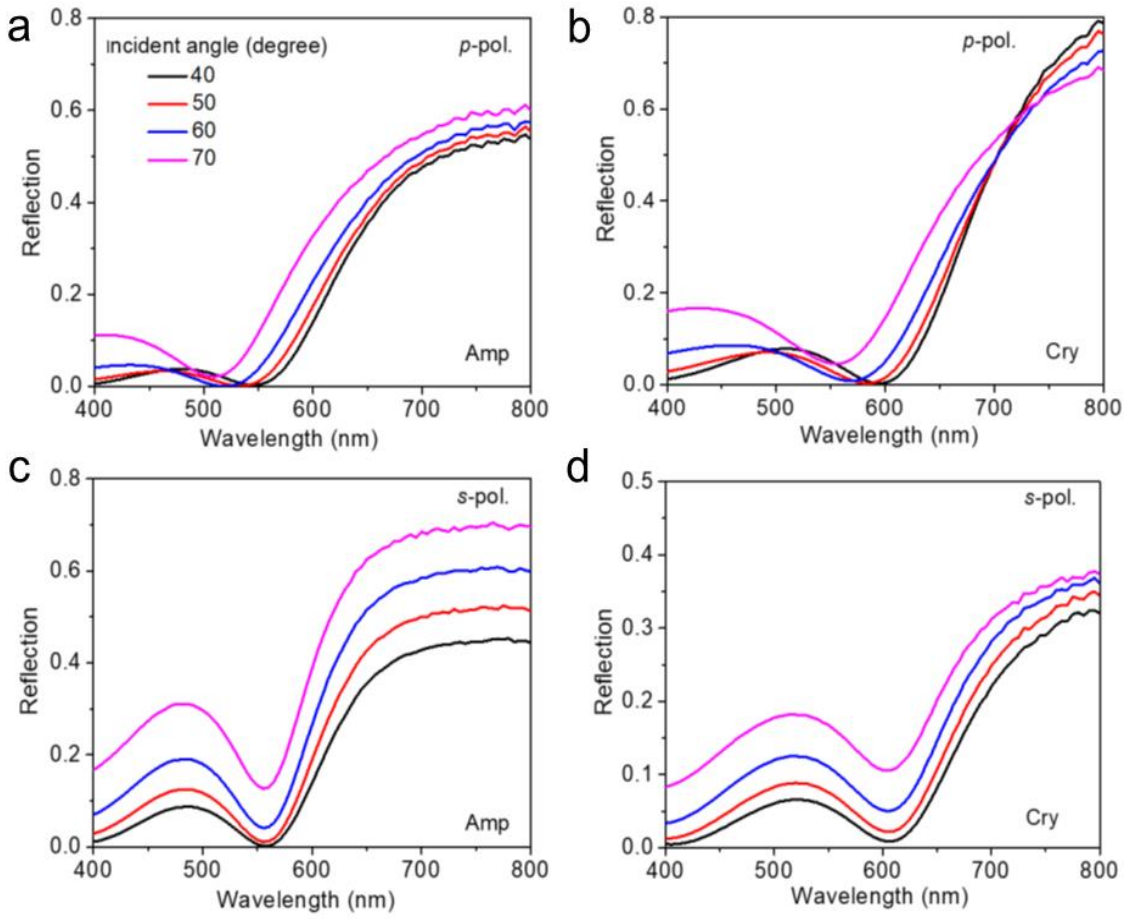

Figure S2 Measured angular reflection spectra of Ag/Sb_2S_3/ITO stack for (a) *p*-polarization and amorphous phase, (b) *p*-polarization and crystalline phase, (b) *s*-polarization and amorphous phase, and (b) *s*-polarization and crystalline phase

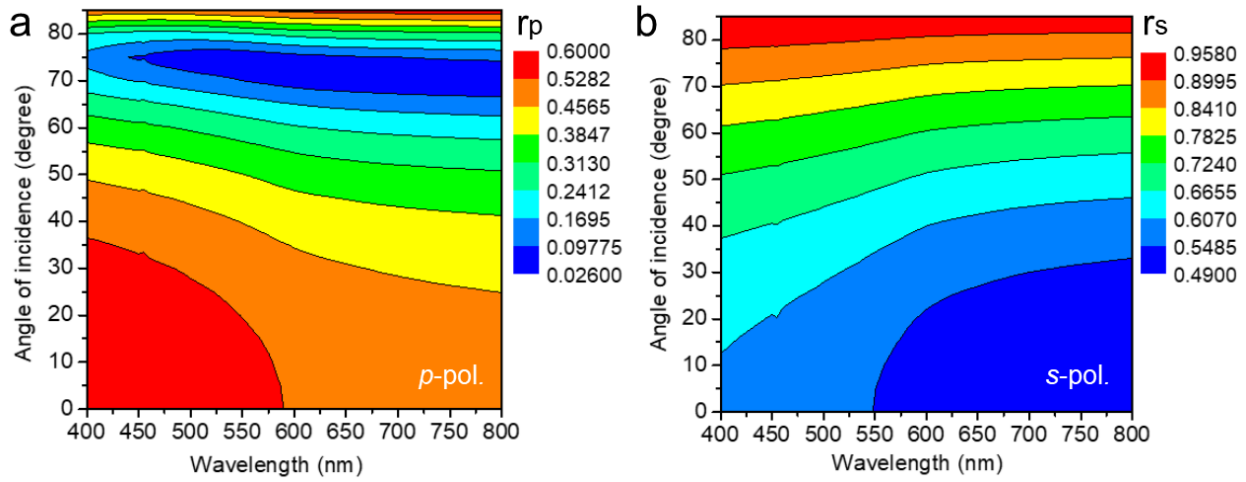

Figure S3 Calculated angle dependent Fresnel reflection coefficient at air/dielectric (Sb_2S_3) interface for (a) *p*-polarization and (b) *s*-polarization

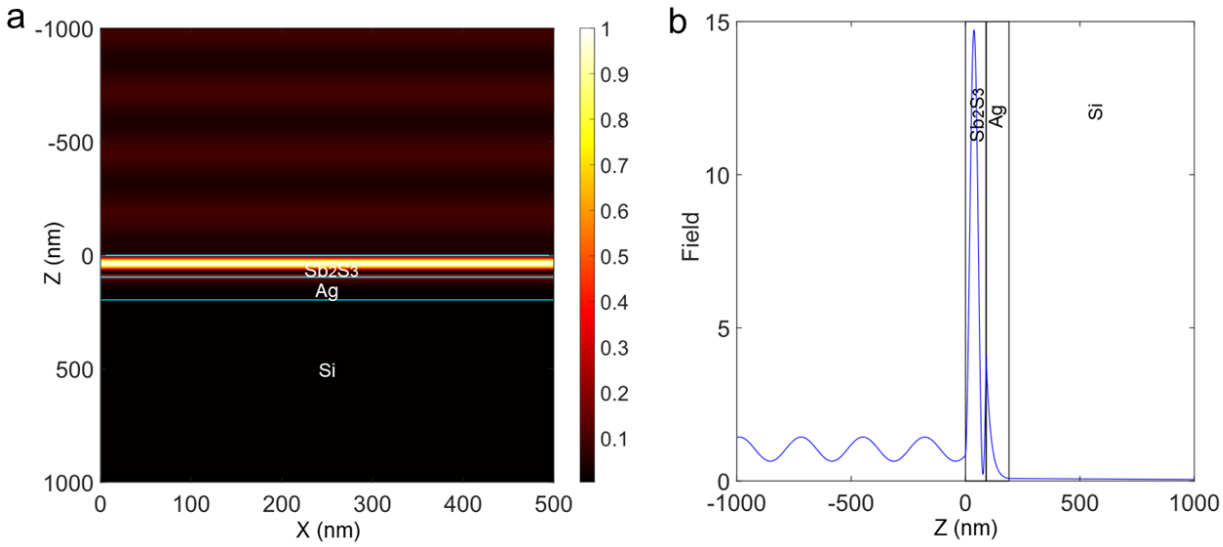

Figure S4 Simulated electric field distribution of Ag/Sb_2S_3 (Amp) stack at normal incidence and 540 nm wavelength (a) 2D plot and (b) line plot along z-axis. Field is tightly confined inside the Sb2S3 cavity layer.

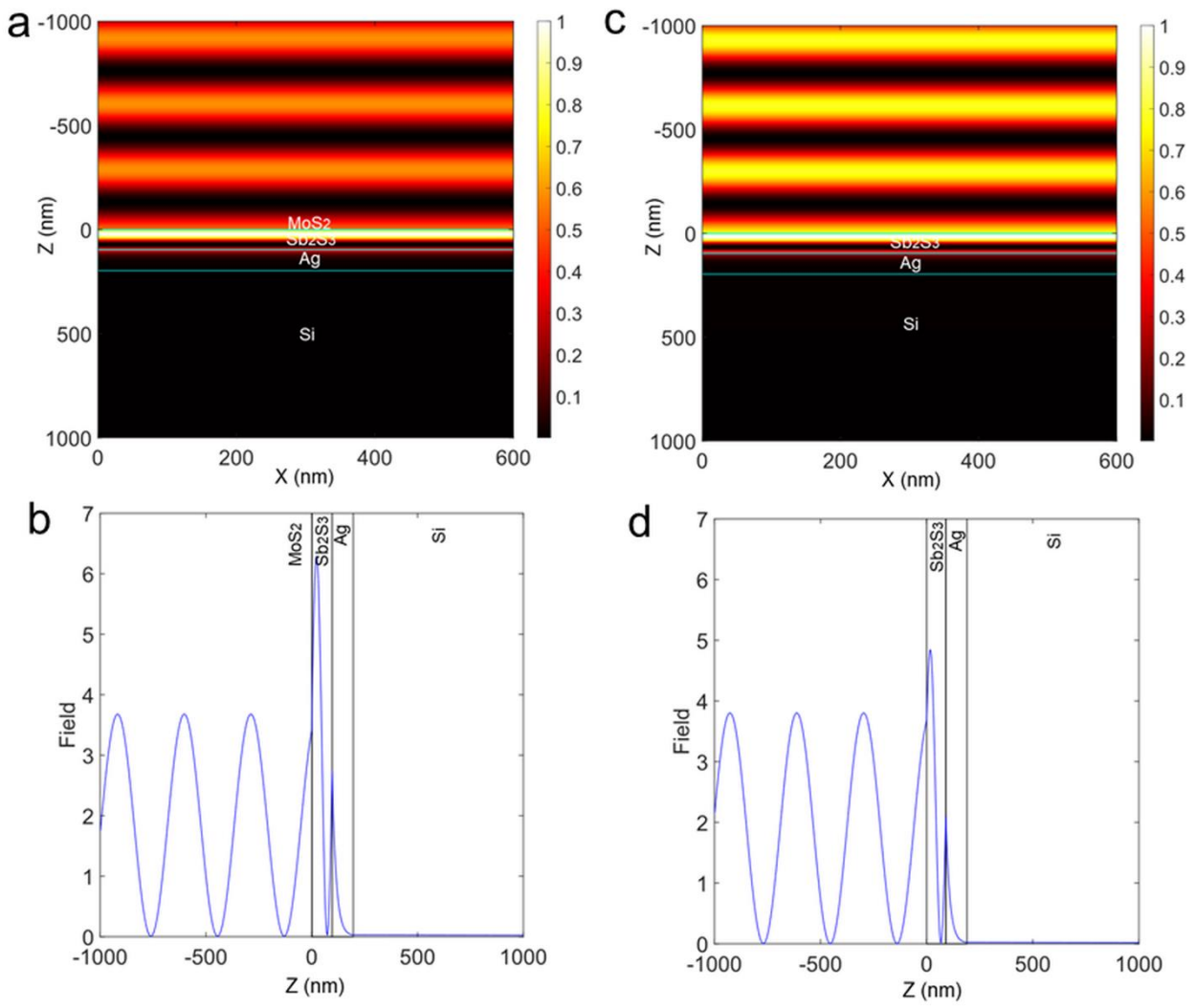

Figure S5 Simulated electric field distribution at normal incidence and 620 nm wavelength. With MoS_2 layer (a) 2D plot and (b) line plot along z-axis. Without MoS_2 layer (c) 2D plot and (d) line plot along z-axis. Field is enhanced in the presence of monolayer MoS_2.

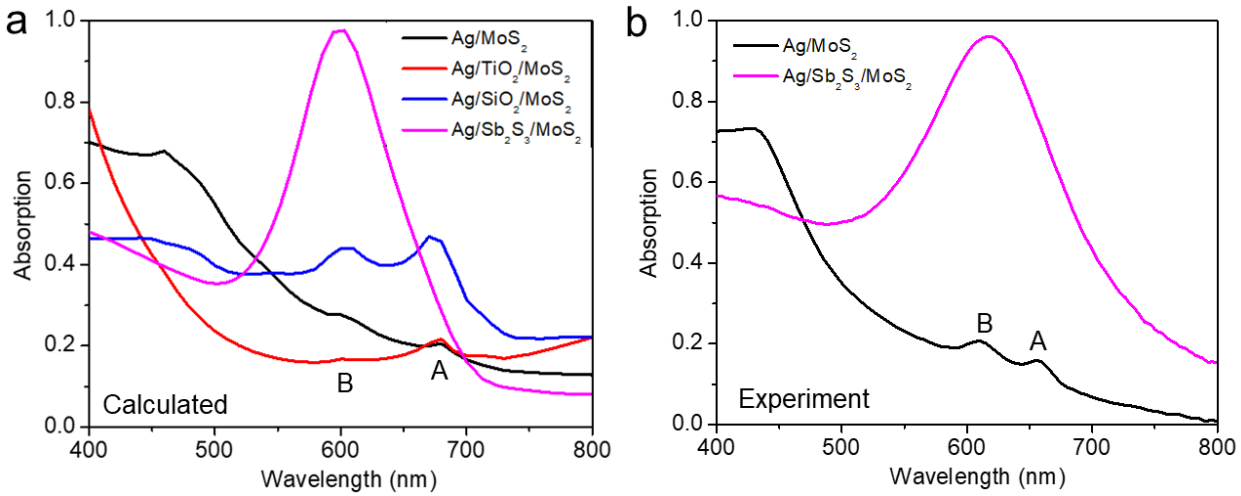

Figure S6 Absorption spectrum of MoS_2 on different substrates at normal incidence (a) Calculated (b) Experiment. The MoS_2 excitonic bands 'A' and 'B' are clearly visible on the spectra.

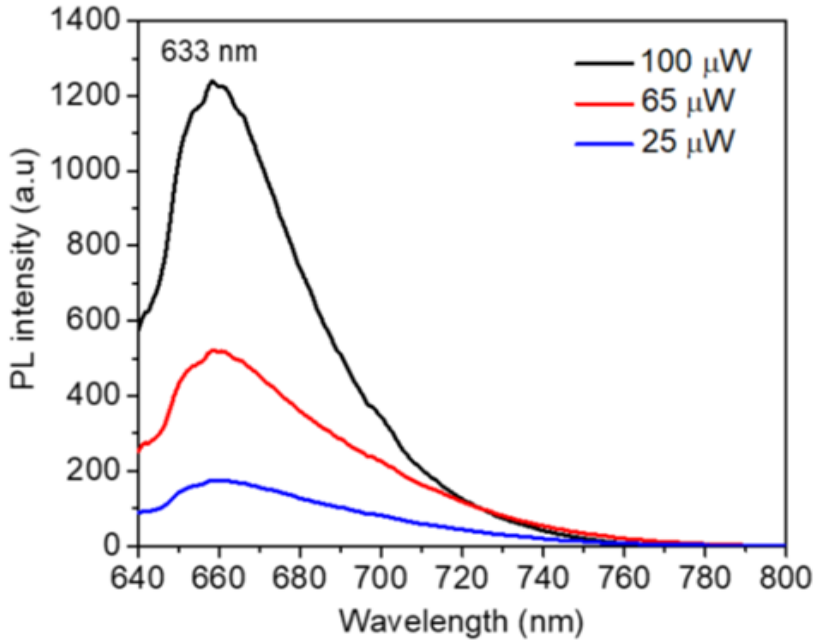

Figure S7 Measured PL intensity of $Si/Ag/Sb_2S_3/MoS_2$ stack for different laser power

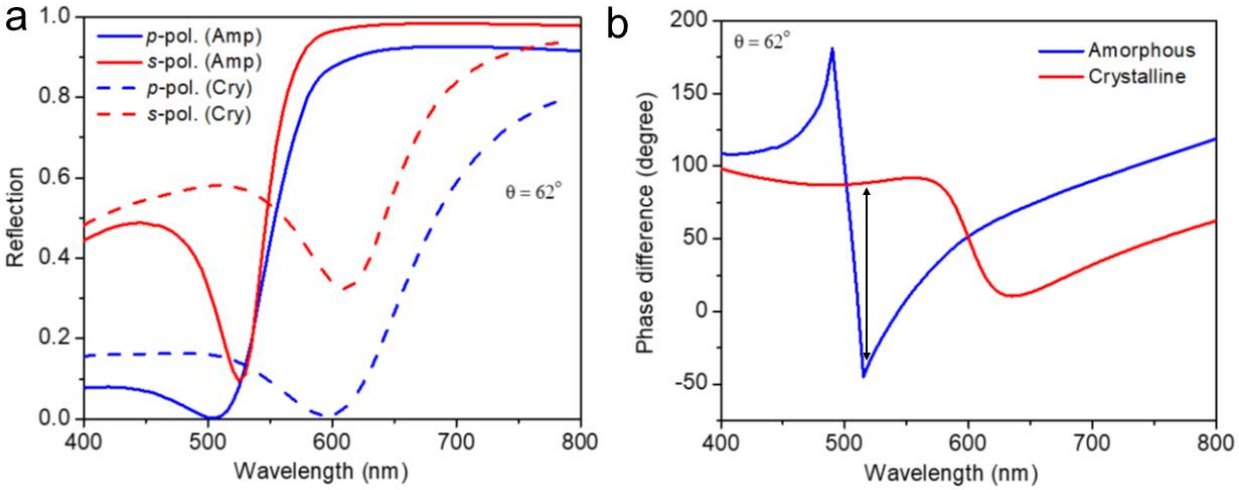

Figure S8 Calculated reflection and phase spectra at 62° angle of incidence (a) Reflection spectrum of Ag/Sb_2S_3/ITO stack in both amorphous and crystalline phases for *p*-and *s*-polarizations. (b) Phase spectra in both amorphous and crystalline phases.