

Description of Additional Supplementary Files

Supplementary Data 1.zip

- COMSOL_VaryRefractiveIndex_Simulation_Results_V11.csv** This spreadsheet includes all results of the FEM simulations in which we varied the orientation of the aragonite crystals (Figure 6, Supplementary Figure 8)
- Lumerical_planar_vs_columnar_simulations_V2.csv** This spreadsheet includes all summary results of the FDTD simulations in which we varied the proportion of aragonite crystals that were oriented perpendicularly to the shell surface (Figure 6)
- Lumerical_vary_pillarwidth_simulations_V1.csv** This spreadsheet includes all results of the FDTD simulations in which we varied the width of the aragonite crystals (Figure 6)
- UVVisTransmission_Corculumcardissa_16Mar2022.csv** This spreadsheet includes all results for UV-Vis transmission through the heart cockle shells (Figure 2, Supplementary Figure 2)
- FTIRMeasurements_29April2022.zip** This zipped folder includes all FTIR measurements used to compare the orientation of aragonite crystals in shell windows compared to opaque shell regions (Figure 5)
- lensing_efield_results.zip** This zipped folder includes all E-field plots from Lumerical simulations of the lenses beneath the shell windows (Figure 3, Supplementary Figure 4, Supplementary Figure 5).
- planarvscolumnar.zip** This spreadsheet includes all result files of the FDTD simulations in which we varied the proportion of aragonite crystals that were oriented perpendicularly to the shell surface (Figure 6)
- Corculum_specimens.csv** This spreadsheet includes catalog information for all specimens used in this paper, each specimen's thickness on the sandside and sunside, and notes on color and shape for each shell (Supplementary Figure 9).
- Transmission_Polishedwindows_Corculum-cardissa_18Aug2023.csv** This spreadsheet includes all transmission measurements for the polished windows (Supplementary Figure 1).
- Corculum-cardissa_absorbance_7May2024.csv** This spreadsheet includes all absorbance measurements for the shells (Supplementary Figure 3).