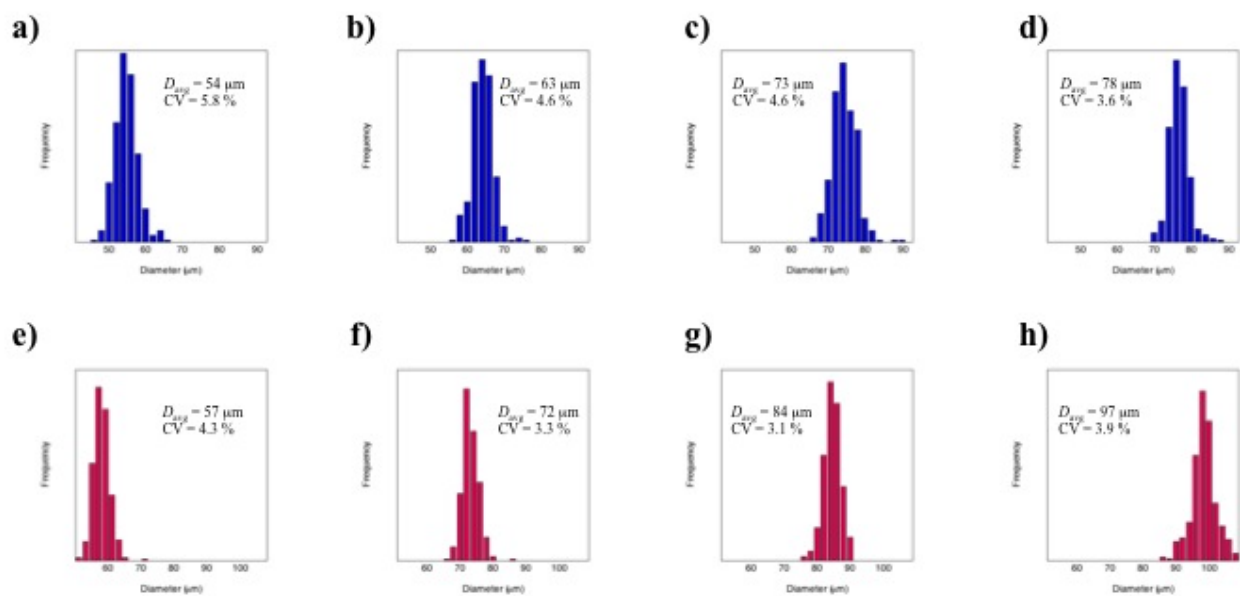
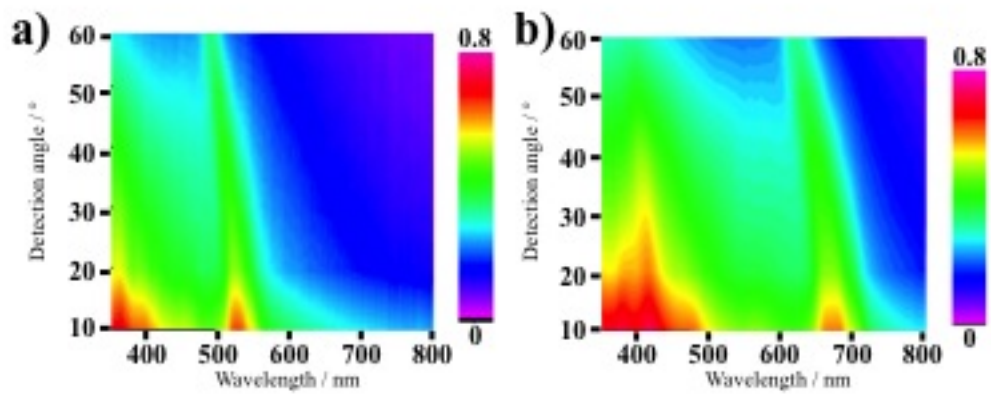


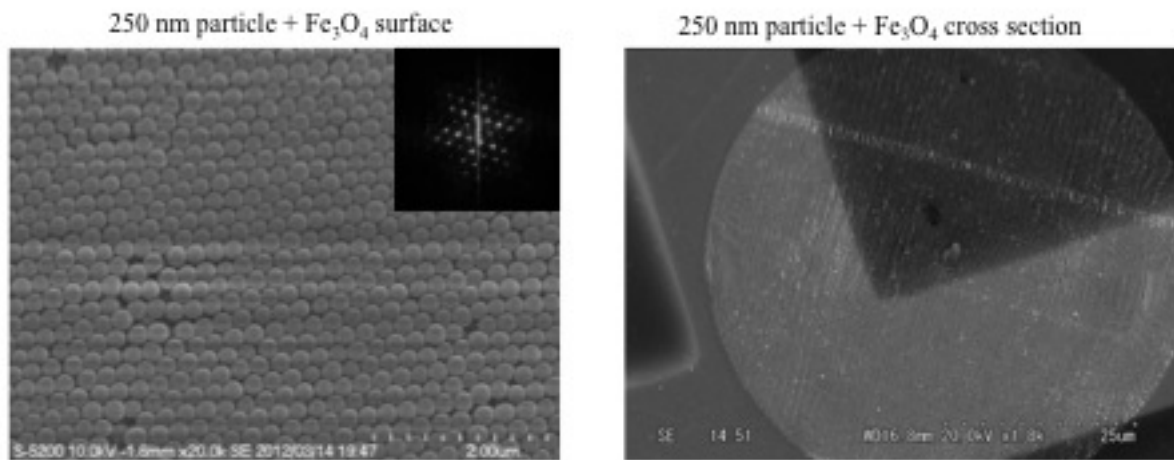
**Figure S1** Images of dried SAs composed of 310-nm SiO<sub>2</sub> colloidal particles at various concentrations: a) 10 wt%, b) 20 wt%, c) 30 wt%, and d) 40 wt%.



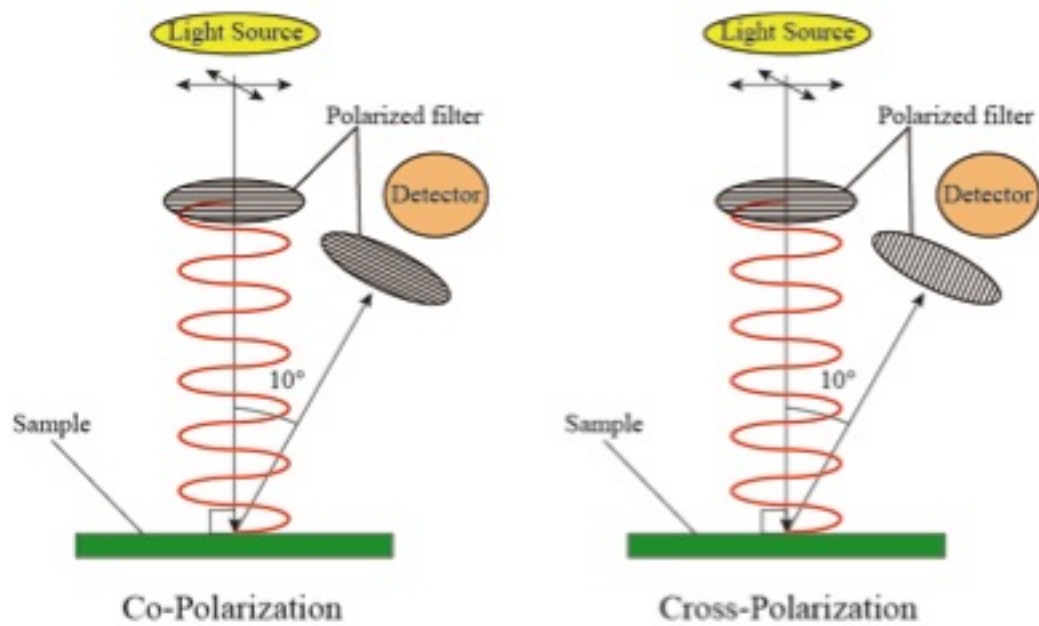
**Figure S2** Size distributions of SAs in Figure 2b-e and Figure 1Sa-d.



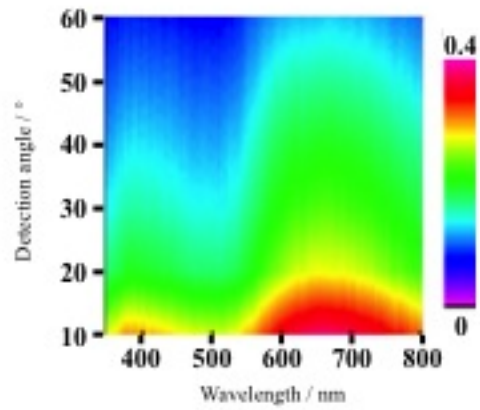
**Figure S3** False-color maps showing the scattered light intensity as a function of the detection angle  $\theta$  and the wavelength from a) a glossy SA composed of 250-nm SiO<sub>2</sub> colloidal particles and b) a glossy SA composed of 310-nm SiO<sub>2</sub> colloidal particles.



**Figure S4** a) An SEM image of a glossy SA composed of 250-nm SiO<sub>2</sub> colloidal particles nm and magnetite colloidal particles. The inset presents the corresponding 2D FFT image. b) A cross-sectional SEM image of a glossy SA composed of 250-nm SiO<sub>2</sub> colloidal particles and magnetite colloidal particles prepared by microtoming the embedded sample.



**Figure S5** Schematic of the instrument setup used to obtain the co-polarization and cross-polarization spectra.



**Figure S6** False-color map showing the scattered light intensity as a function of the detection angle  $\theta$  and the wavelength from a matte SA composed of 310-nm SiO<sub>2</sub> colloidal particles and magnetite colloidal particles.