

Supporting information

Dark-field microscopy studies of polarization- dependent plasmonic resonance of single gold nanorods: Rainbow nanoparticles

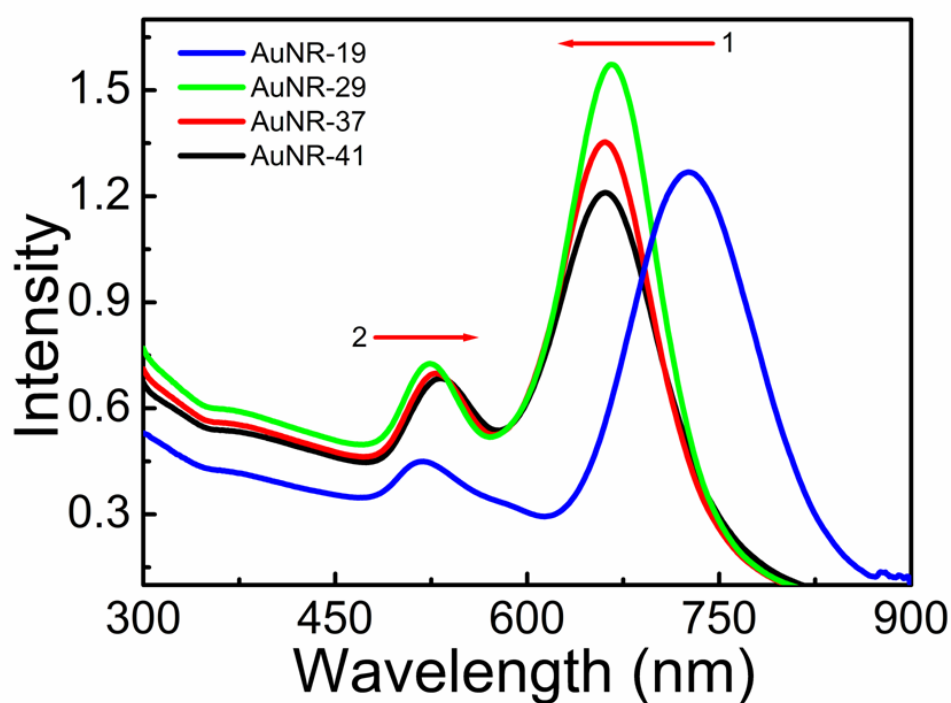
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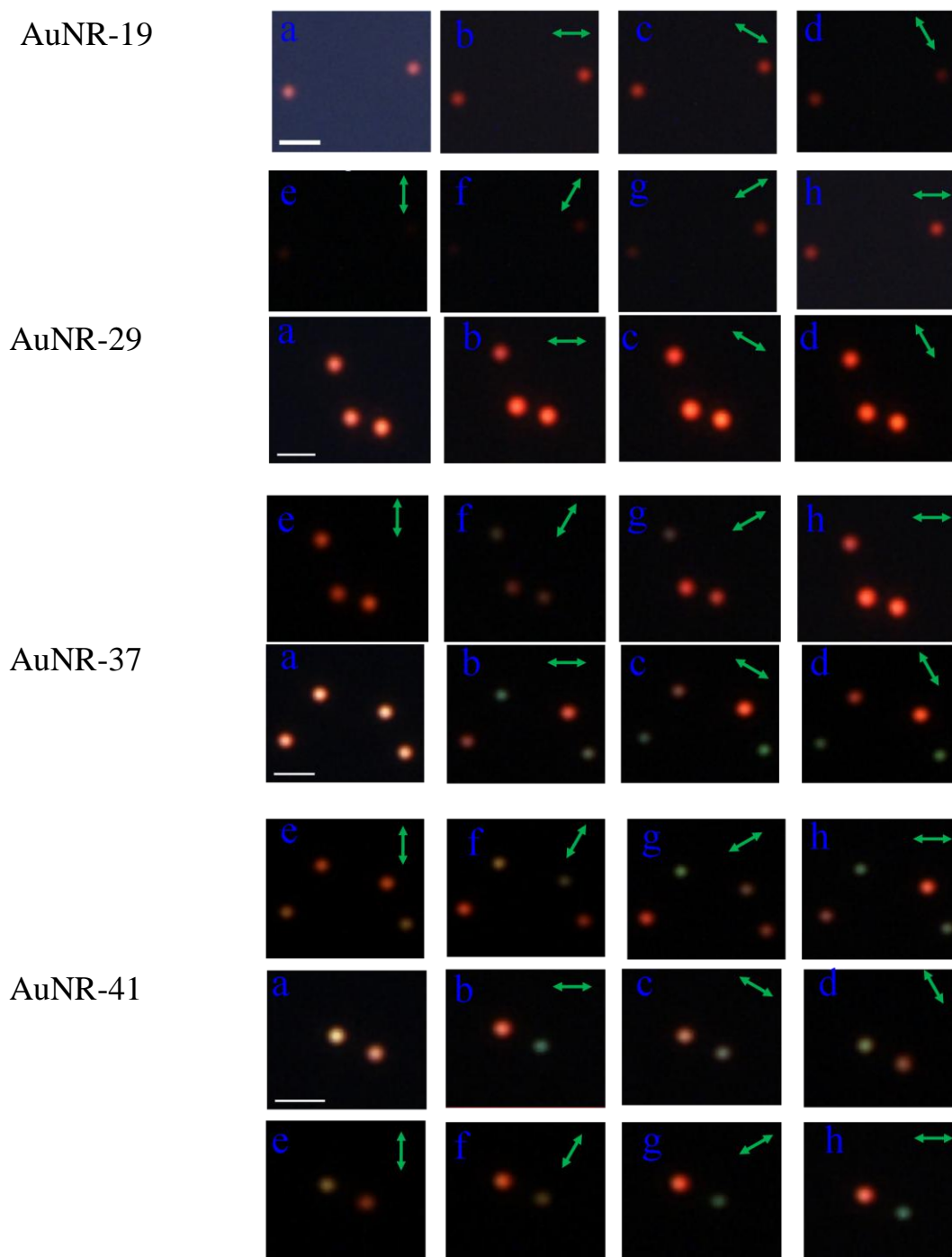
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S-TABLE 1. Detailed information regarding the average size of the gold nanorods. Each data point was obtained from at least 150 particles.

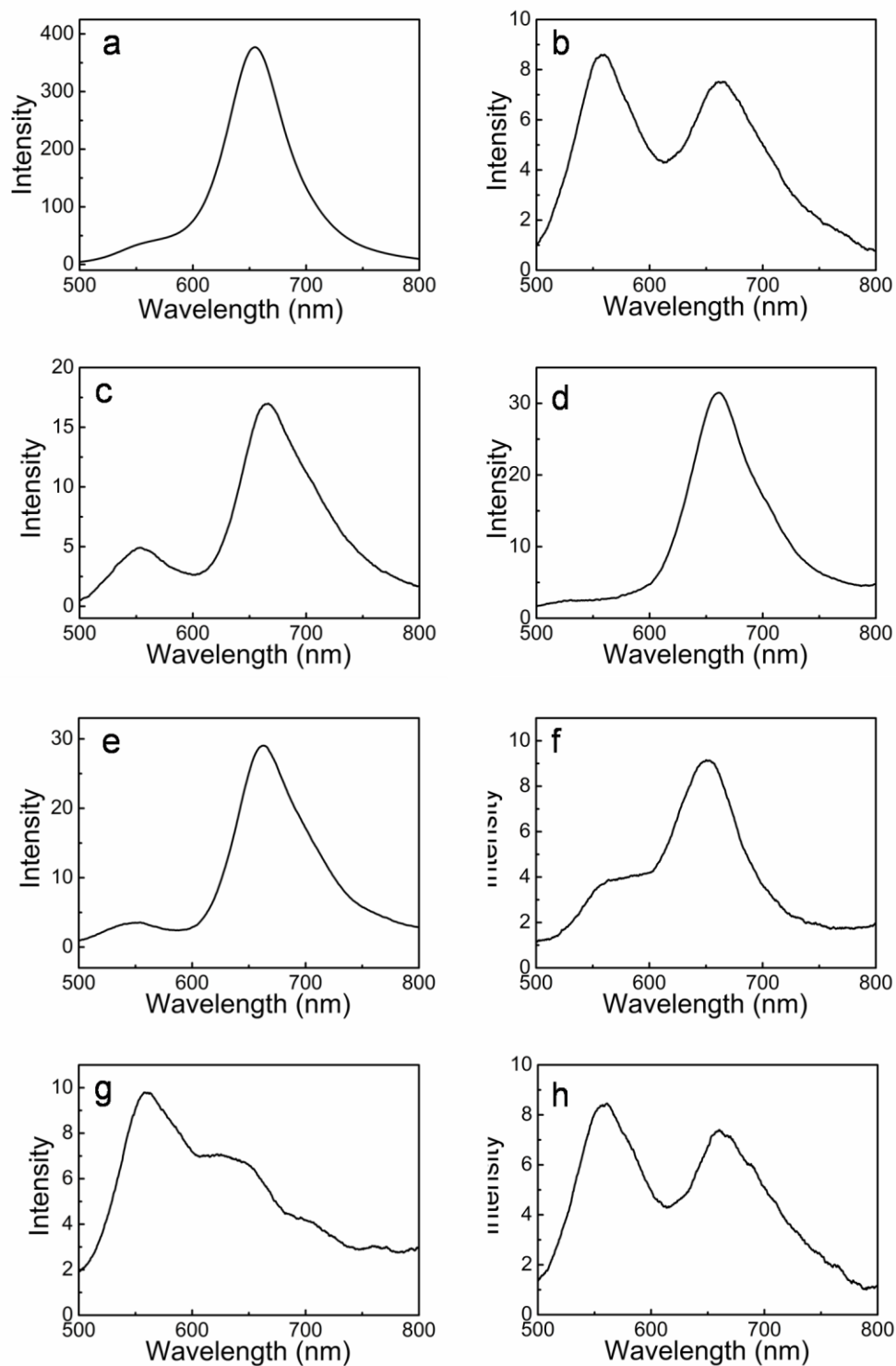
Sample number	Length/nm	Diameter/nm	Aspect ratio
AuNR-19	48.6 ± 4.6	18.8 ± 2.1	2.6 ± 0.3
AuNR-29	58.5 ± 5.4	28.9 ± 2.3	2.0 ± 0.2
AuNR-37	63.2 ± 5.2	36.7 ± 3.1	1.7 ± 0.2
AuNR-41	74.7 ± 6.3	40.6 ± 4.2	1.8 ± 0.2



S-Figure 1. UV-Vis spectra of gold nanorods with different diameters (AuNR-18 (a), AuNR-29 (b), AuNR-37 (c) and AuNR-41 (d)). A decreased aspect ratio of the AuNRs results in a blue shift (arrow 1) in the longitudinal surface plasmon peak, whereas an increased diameter of the AuNRs causes a red shift in the transverse peak (arrow 2).



S-Figure 2. Dark-field images of single nanorods of AuNR-19, AuNR-29, AuNR-37 and AuNR-41 without polarization (a) and at different polarization angles (b: 0°; c: 30°; d: 60°; e: 90°; f: 120°; g: 150°; h: 180°). All scale bars represent 2 μm . Green double-arrows represent the incident light polarization.



S-Figure 3. The corresponding background subtracted LSPR spectra of the single AuNR shown in Figure 6 without polarization (a) and at different polarization angles (b: 0° ; c: 30° ; d: 60° ; e: 90° ; f: 120° ; g: 150° ; f: 180°).