Light-Induced Self-Assembly of Ag NPs for Dual-Range Colorimetric Detection of Ethanol

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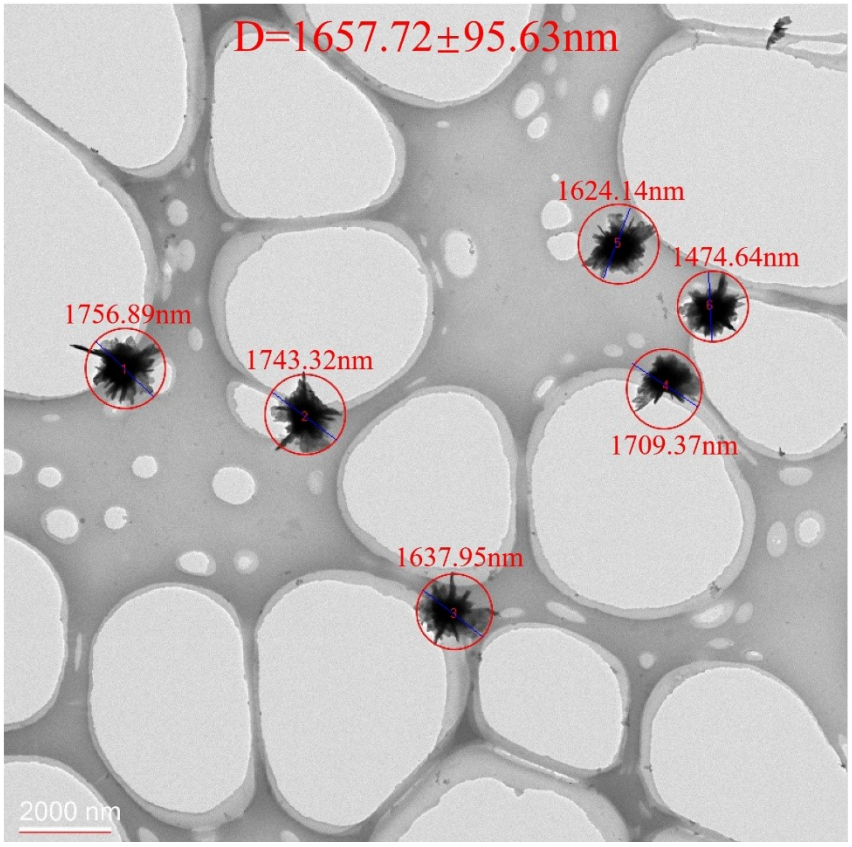

Figure S1. Size distribution histogram of sea urchin-like Ag nanostructures obtained by light-induced self-assembly without ethanol. Average size: 1657.72 ± 95.63 nm.

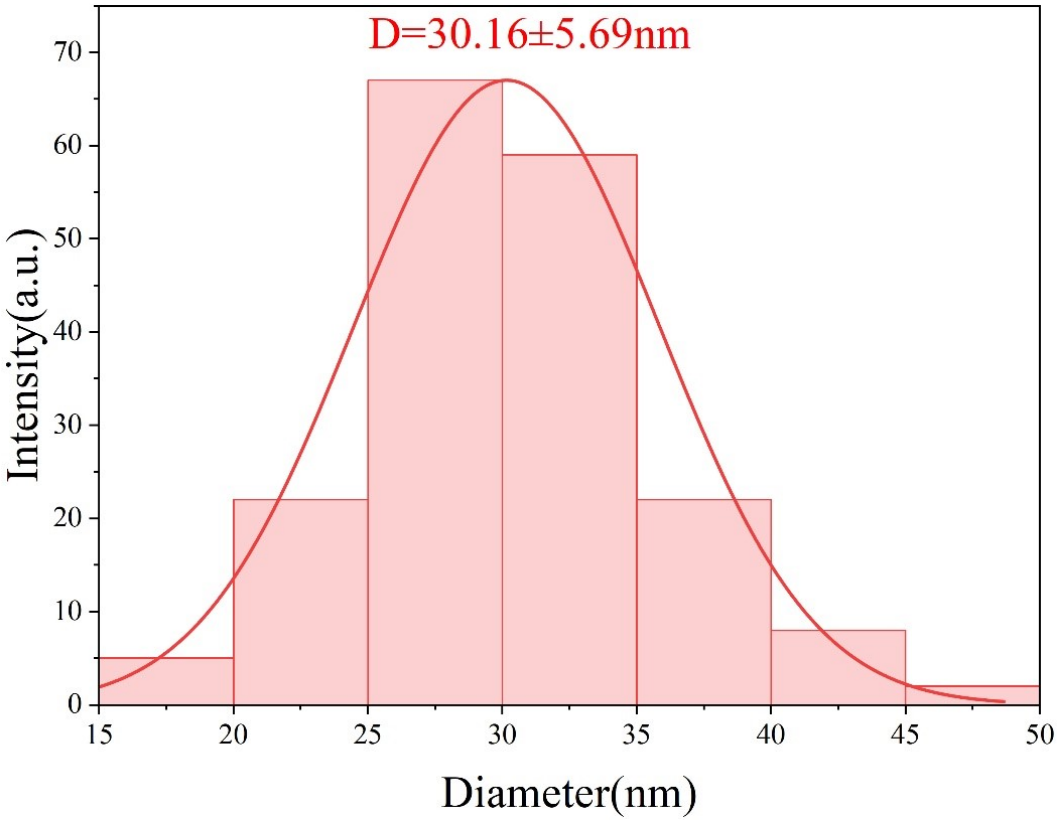

Figure S2. Size distribution histogram of spherical Ag NPs formed under 20% ethanol concentration. Average size: 30.16 ± 5.69 nm

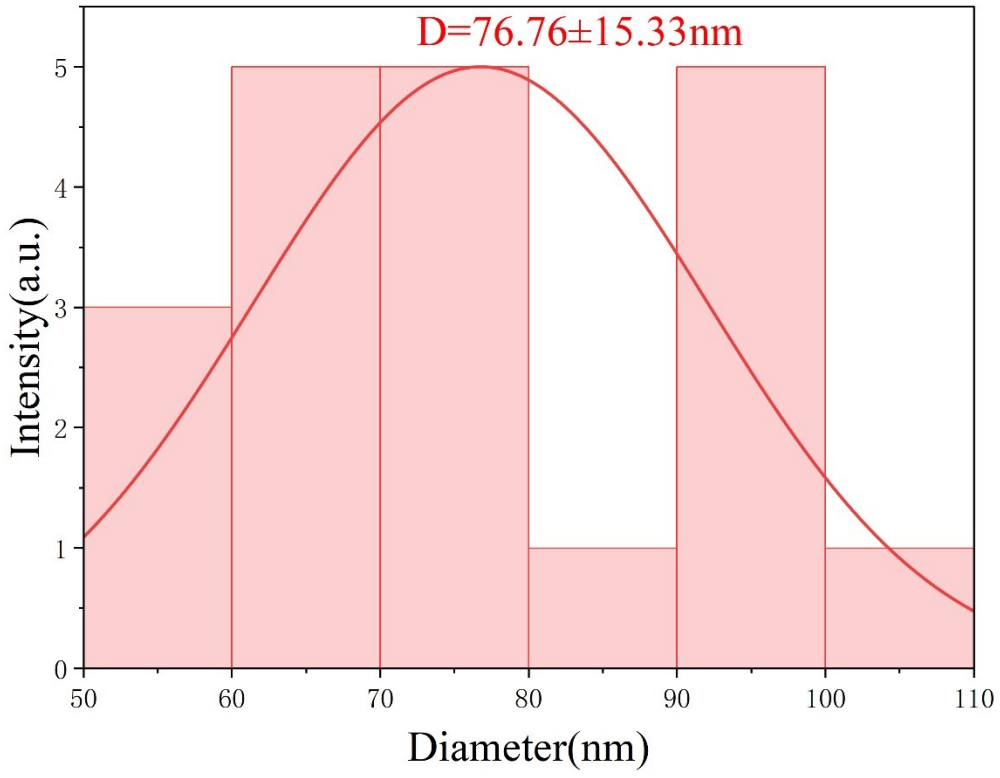

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Figure S3. Size distribution histogram of Ag NPs synthesized under 50% ethanol concentration. Average size: 76.76 ± 15.33 nm.

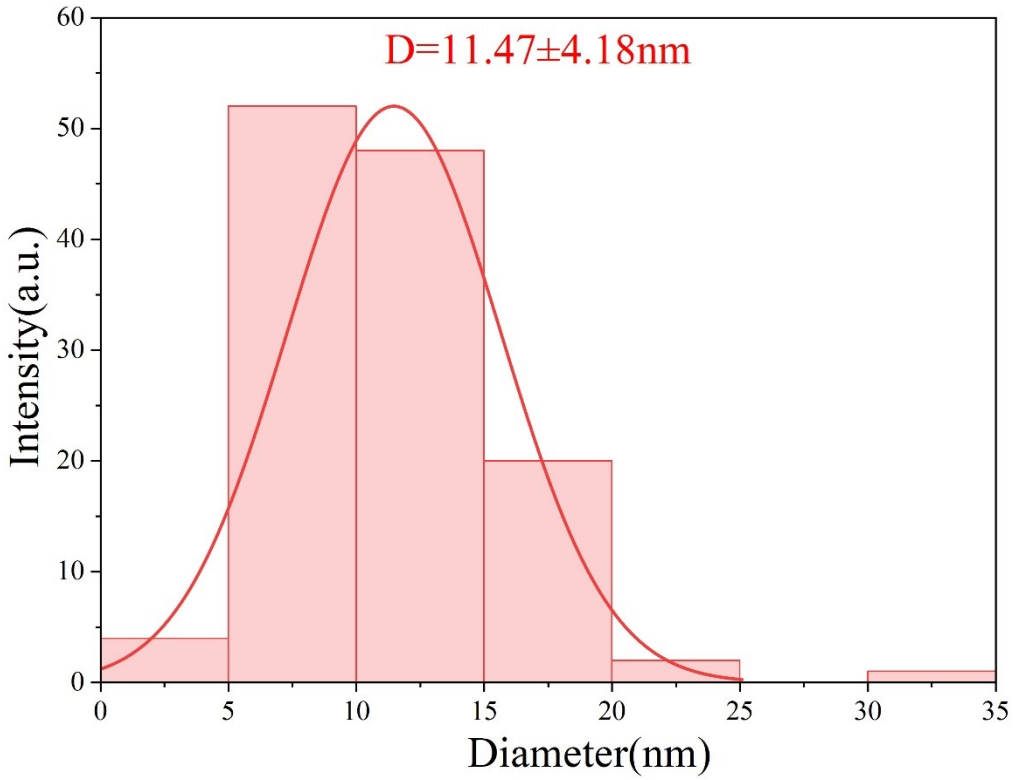

Figure S4. Size distribution histogram of Ag NPs obtained under 90% ethanol concentration. Average size: 11.47 ± 4.18 nm.

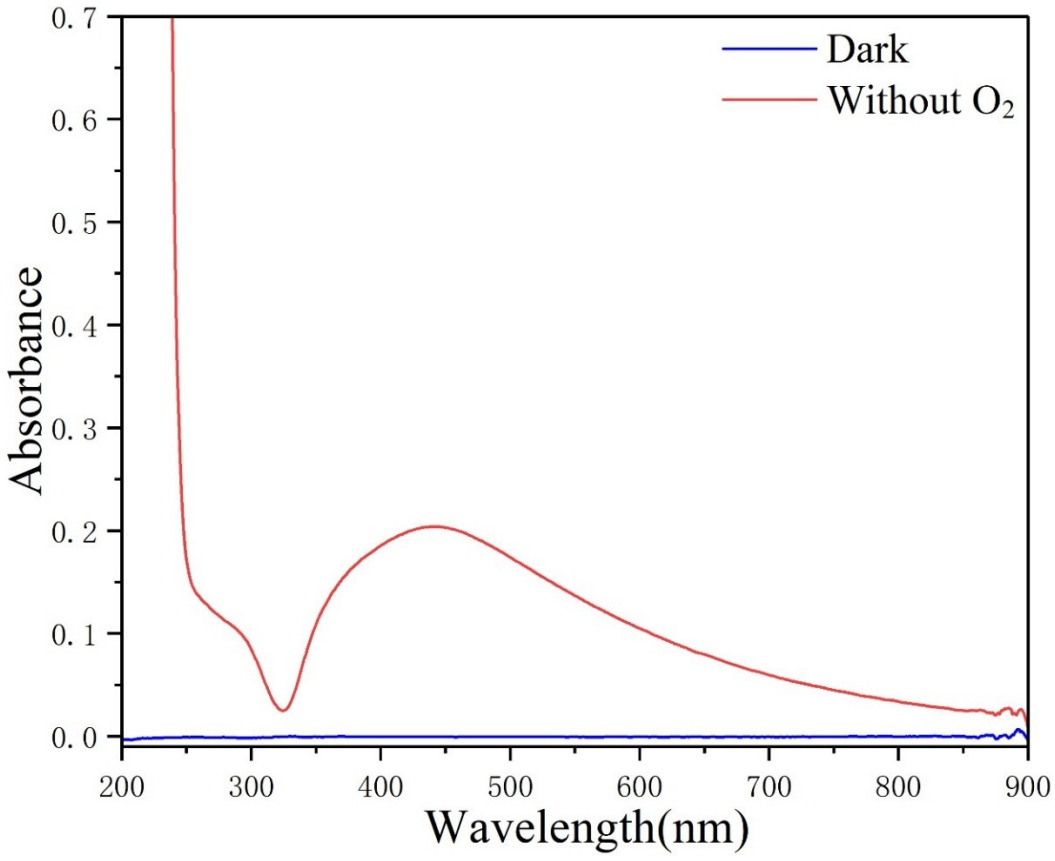

Figure S5. UV–Vis absorption spectra of the reaction system under dark and oxygen-free conditions.

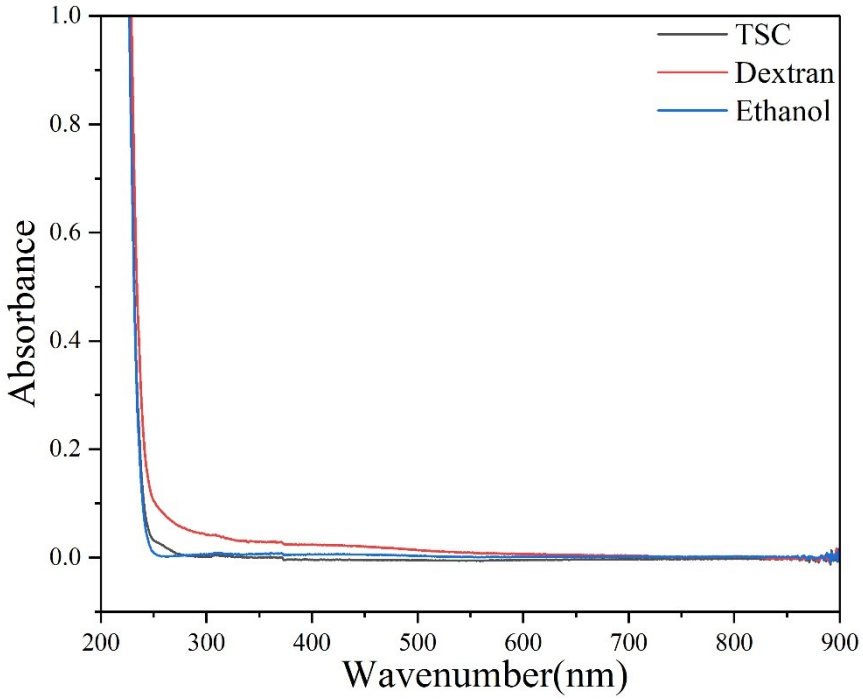

Figure S6. UV-Vis absorption spectra of control experiments demonstrating the necessity of synergistic interaction among all components. Solutions containing Ag NO_3 (0.5 mM) with individual components—TSC (2 mM), dextran (0.7 mg/mL), and ethanol (20% v/v)—were exposed to LED irradiation (50 W, 15 min) under conditions identical to those described in the main text.