

Supporting Information

ECO-SYNTHESIS OF GREEN SILVER NANOPARTICLES USING NATURAL EXTRACTS AND ITS APPLICATION AS CO-CATALYST IN PHOTOCATALYTIC HYDROGEN PRODUCTION

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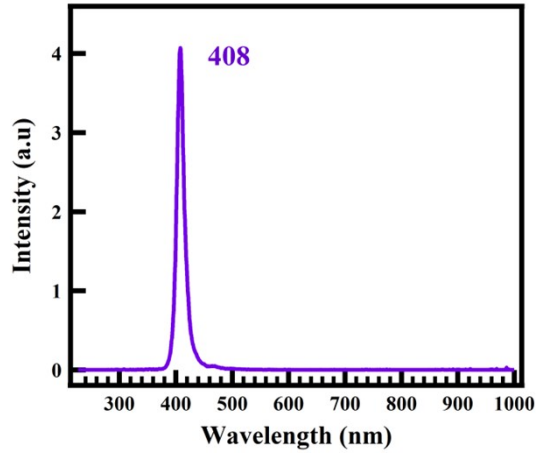


Figure S1: Light source spectrum of the photo-irradiation system used in the experiment (light intensity at a distance of 5 cm and 11 cm are 210W/m² and 78W/m², respectively).

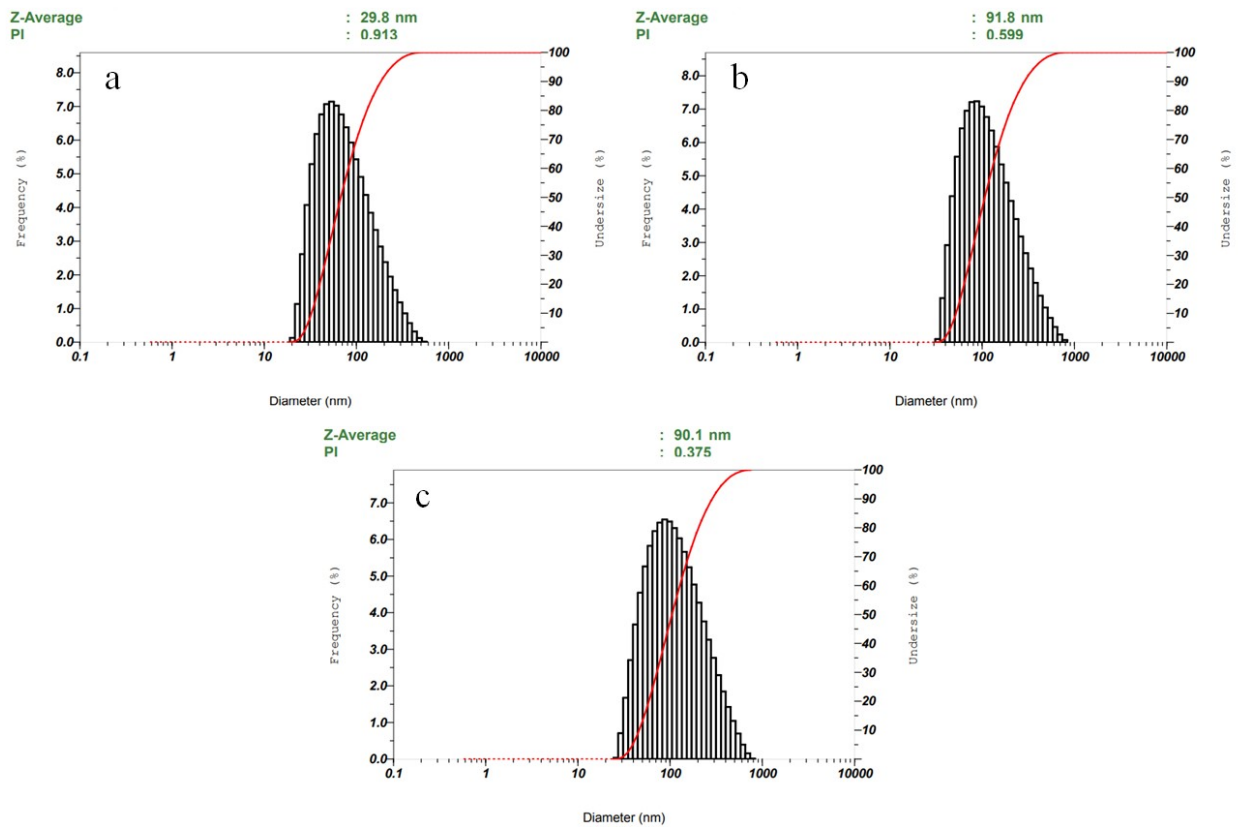


Figure S2: DLS spectra of AgNPs_CC (a), AgNPs_GT (b), AgNPs_PP (c).

Calculating the particle size by Scherrer equation

$$d = \frac{k\lambda}{\beta \cos\theta}$$

Where, d: particle size

k: Scherrer constant (k=0.9)

λ = 0.15418 nm

β : full width at half maximum (FWHM) (radian)

θ : peak position (radian)

Table S1: The summary of the particle size of AgNPs_CC, AgNPs_GT, AgNPs_PP.

| | θ (degree) | FWHM (radian) | particle size (XRD patterns) (nm) | average particle size (SEM images) (nm) | average particle size (DLS measurement) (nm) |
|----------|-------------------|---------------|-----------------------------------|---|--|
| AgNPs_CC | 38.145 | 0.62 | 17.26 | 12 - 25 | 29.8 |
| AgNPs_GT | 38.313 | 1.01 | 10.43 | 20 - 95 | 91.8 |
| AgNPs_PP | 38.125 | 0.77 | 11.40 | 10 - 45 | 90.1 |

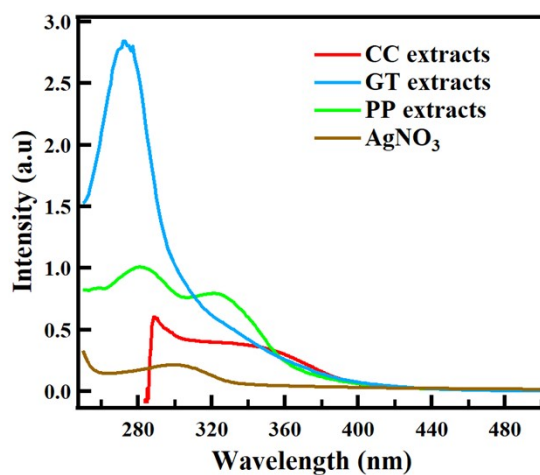


Figure S3: UV-vis spectra of CC leaf extracts, GT leaf extracts, PP leaf extracts and AgNO₃.