



Supplementary Materials

Low Concentrations of silver Nanoparticles Inhibit Spore Germination and Disturb Gender Differentiation of *Ceratopteris thalictroides* (L.) Brongn

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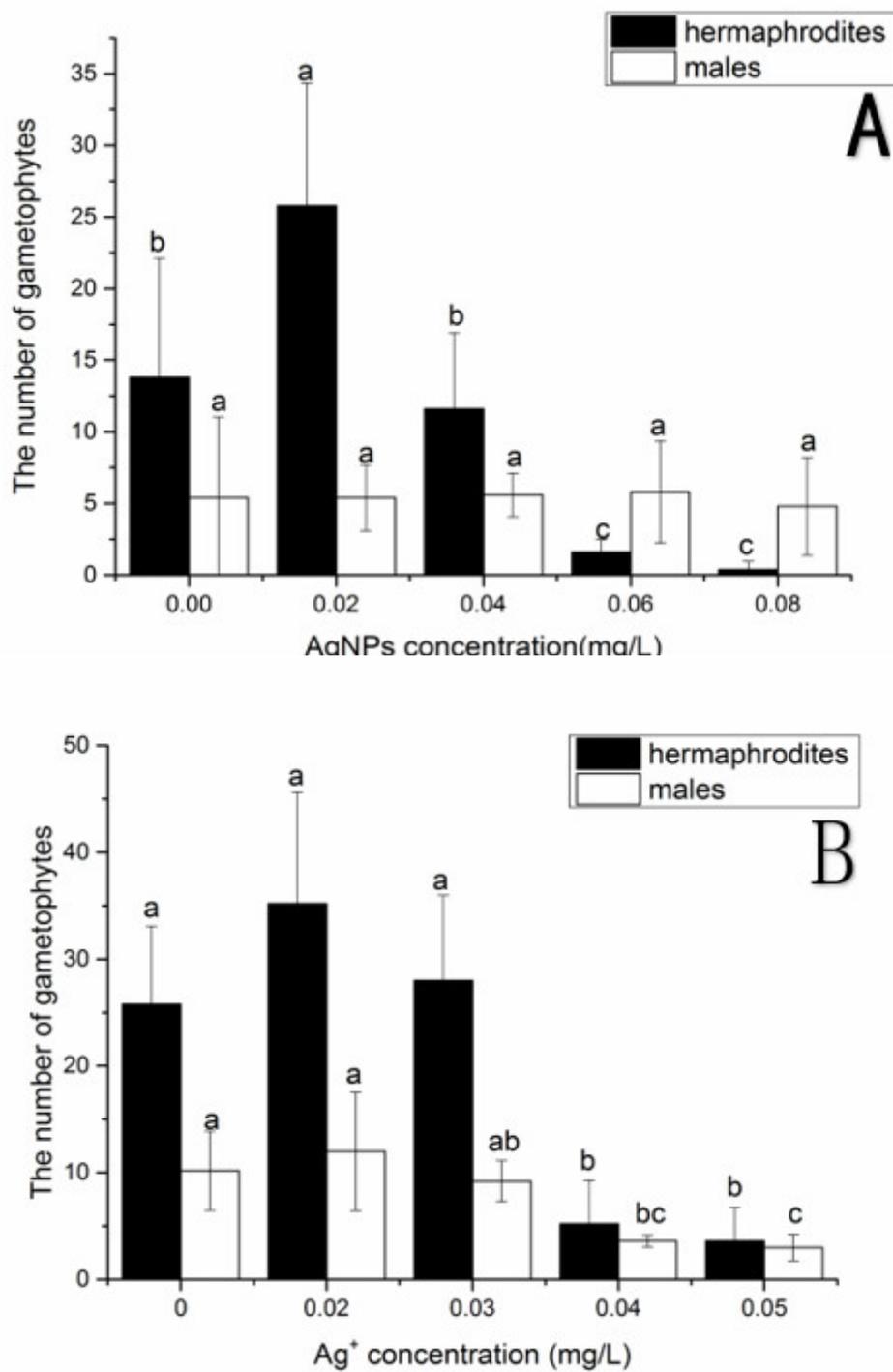


Figure S1. Effect of AgNPs (A) and Ag⁺ (B) on the number of gametophytes of *Ceratopteris thalictroides* after 19d exposure. Data represent the mean \pm SD ($n = 5$). Data with different letters are significantly different ($p < 0.05$).

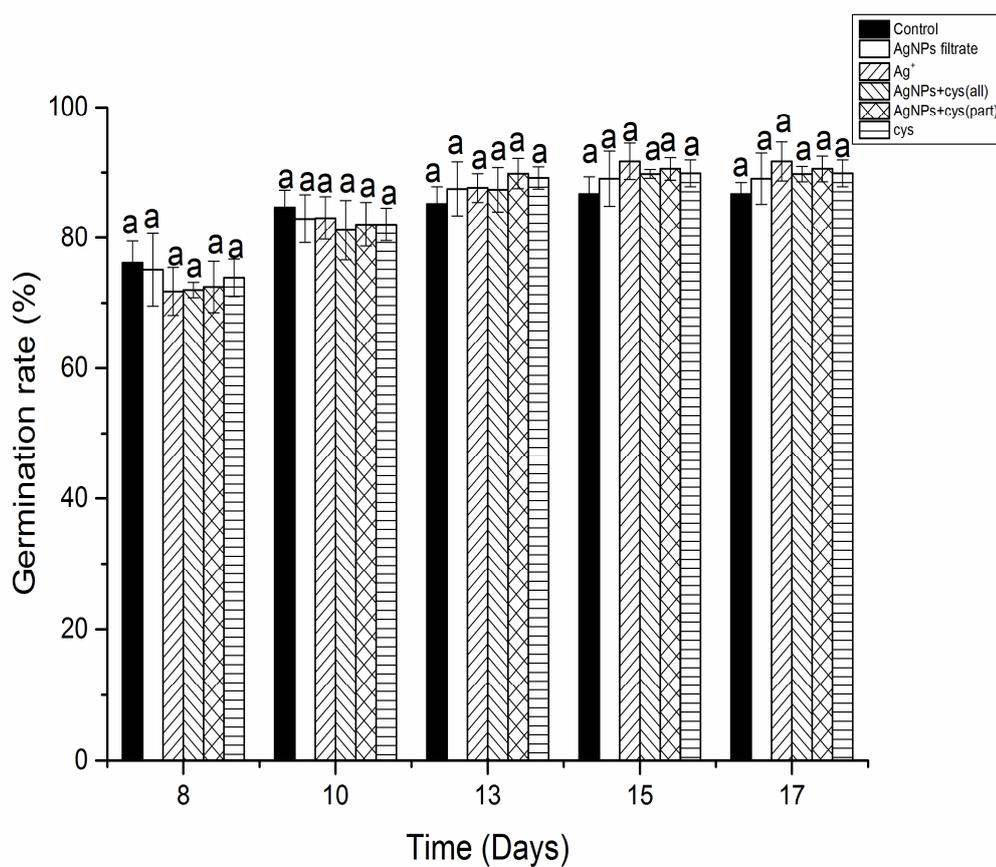


Figure S2. Effect of various comparison groups on the spore germination of *Ceratopteris thalictroides* after 17d exposure. (Control; AgNPs filtrate: 0.08 mg/L AgNPs filtrate; Ag⁺: 0.004 mg/L Ag⁺; AgNPs + cys(all): 0.08 mg/L AgNPs + 0.09 mg/L cys; AgNPs + cys(part): 0.08 mg/L AgNPs + 0.0045 mg/L cys; Cys: 0.09 mg/L cys) Data represent the mean \pm SD ($n = 5$). Data with same letters were not significantly different ($p = 0.05$).

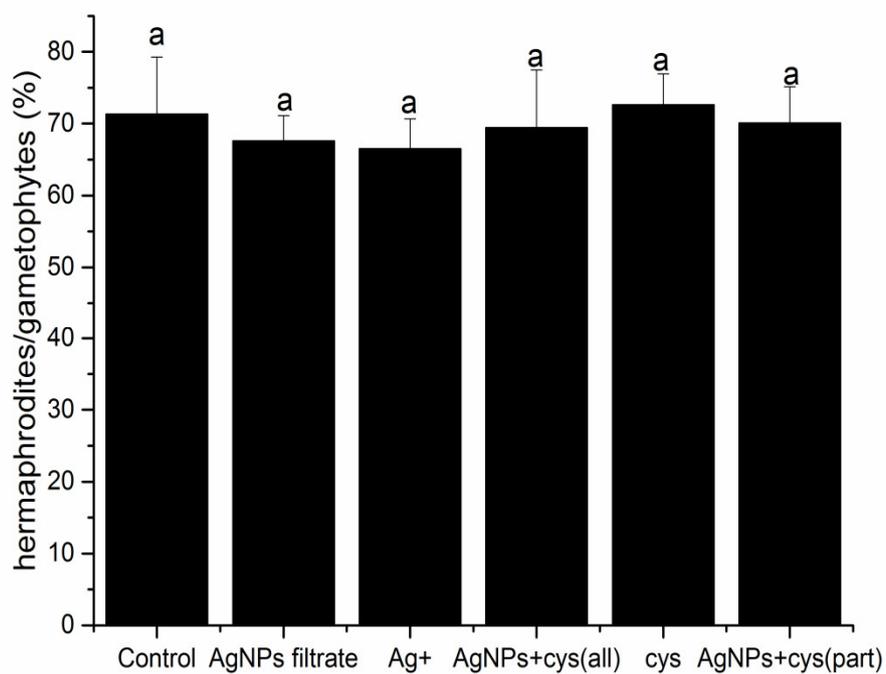


Figure S3. The proportion of hermaphrodites of various comparison groups after 19d exposure. (Control; AgNPs filtrate: 0.08 mg/L AgNPs filtrate; Ag⁺: 0.004 mg/L Ag⁺; AgNPs + cys(all): 0.08 mg/L AgNPs + 0.09 mg/L cys; Cys: 0.09 mg/L cys; AgNPs + cys(part): 0.08 mg/L AgNPs + 0.0045 mg/L cys) Data represent the mean \pm SD ($n = 5$). Data with same letters were not significantly different ($p = 0.05$).

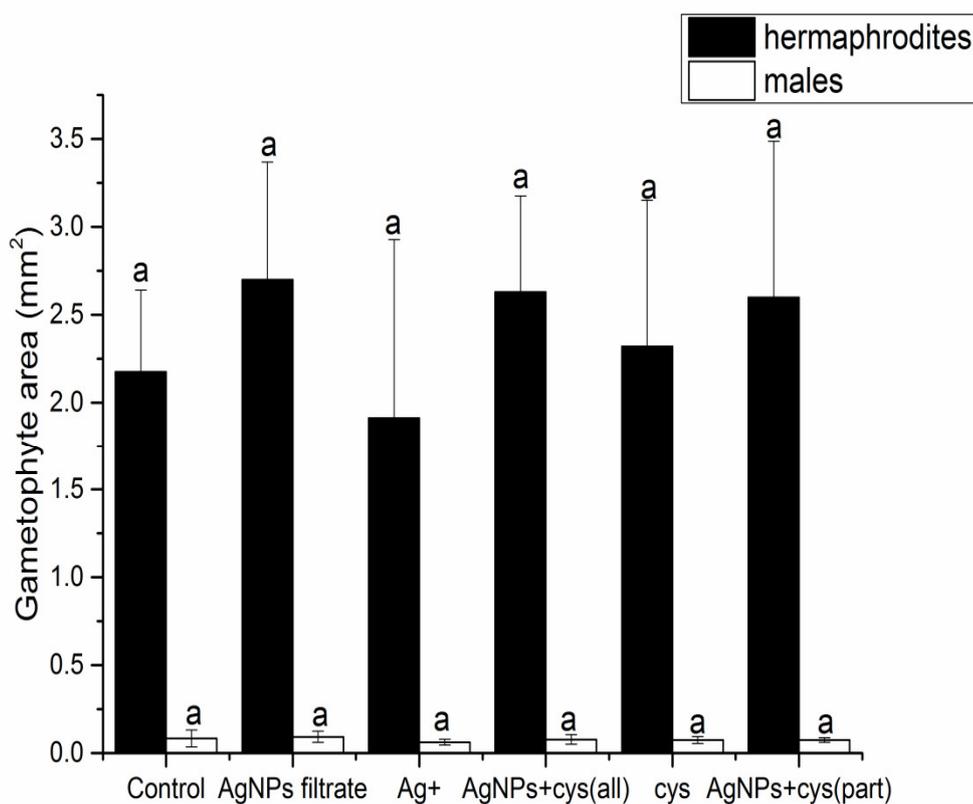


Figure S4. Effect of various comparison groups on area of male gametophytes and hermaphrodites of *Ceratopteris thalictroides* after 21d exposure. (Control; AgNPs filtrate: 0.08 mg/L AgNPs filtrate; Ag⁺: 0.004 mg/L Ag⁺; AgNPs + cys(all): 0.08 mg/L AgNPs +0.09 mg/L cys; Cys: 0.09 mg/L cys; AgNPs + cys(part): 0.08 mg/L AgNPs + 0.0045 mg/L cys) Data represent the mean \pm SD ($n = 5$). Data with same letters were not significantly different ($p = 0.05$).