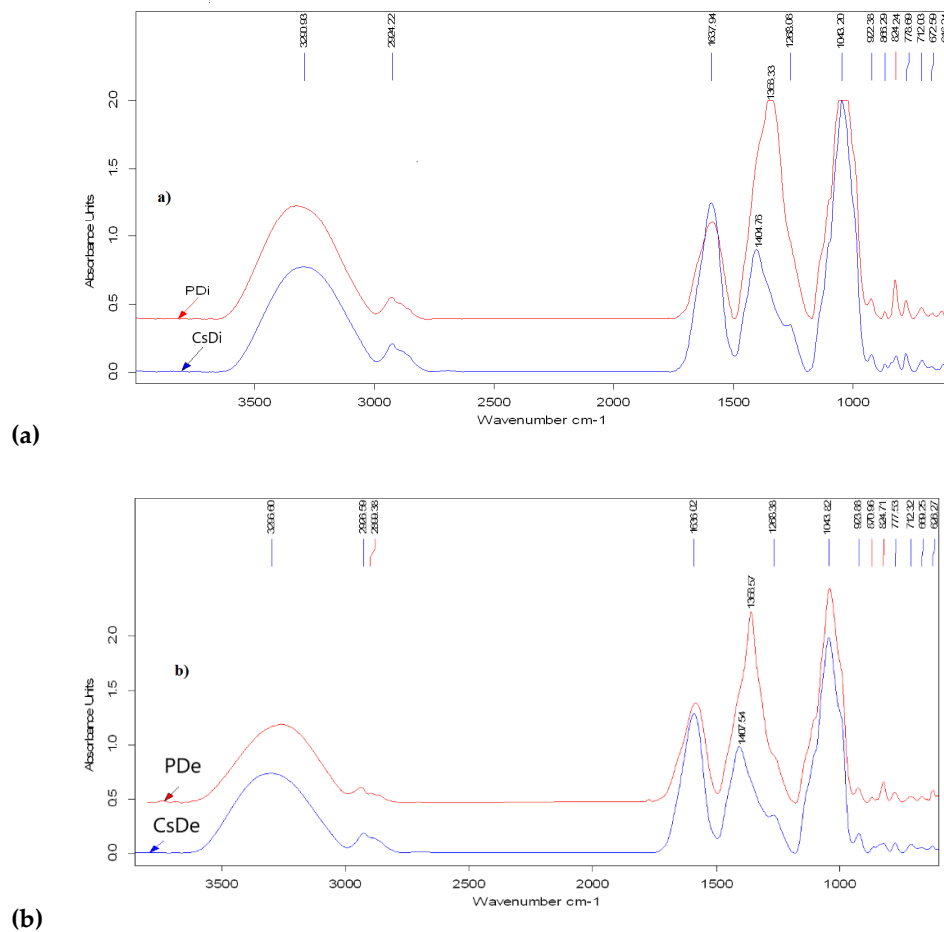


Green synthesis, characterization, and antibacterial properties of silver nanoparticles obtained by using diverse varieties of *Cannabis sativa* leaf extracts

Supplementary Information

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FT-IR ATR spectra of the samples are presented in Figure S1.



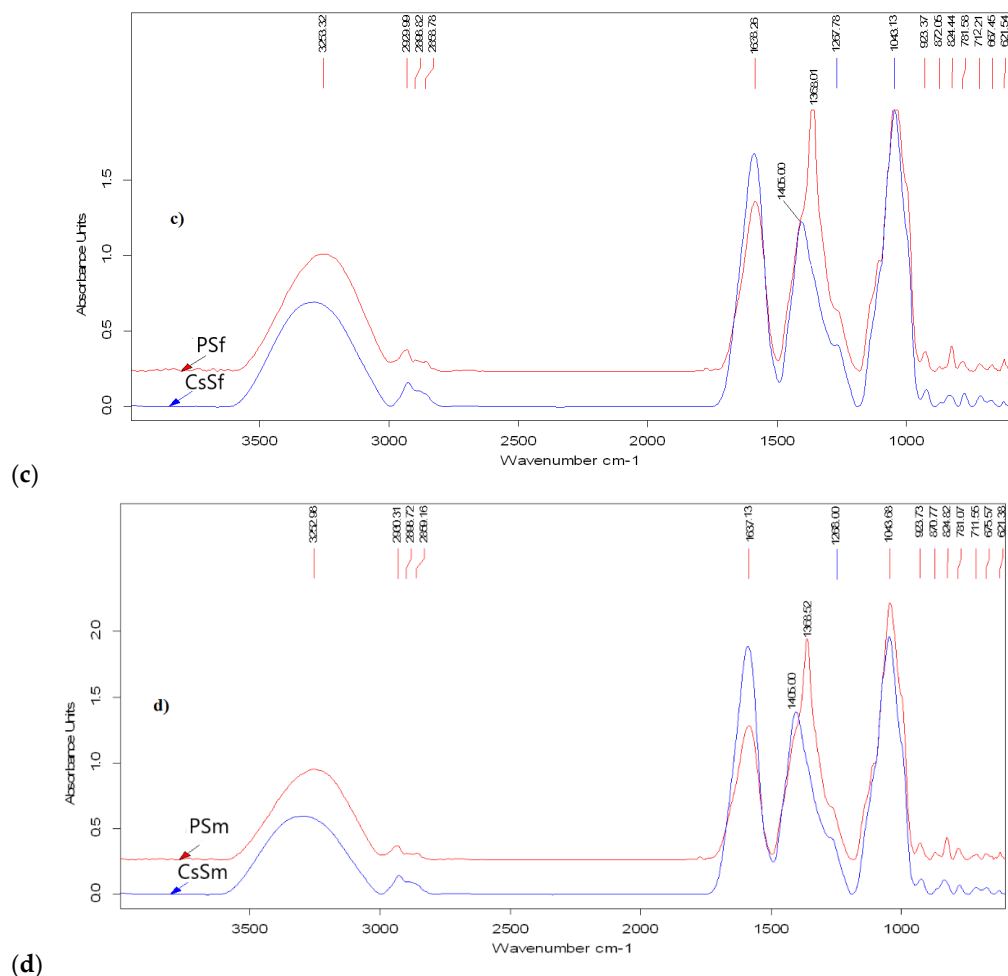
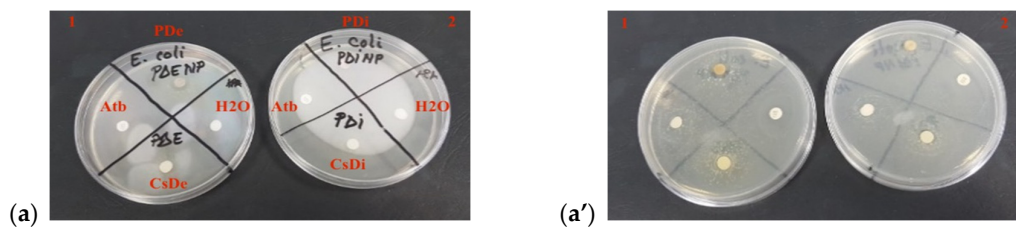


Figure S1. FT-IR ATR spectra of the *Cannabis sativa* leaves extracts with blue [CsDi (a), CsDe (b), CsSf (c), CsSm (d)) and of mixtures of extracts+biosynthesized silver nanoparticles AgNPs with red: PDi (a) PDe (b), PSf (c), PSm (d)].

The antibacterial activity of the leaves *Cannabis sativa* extracts without or with biosynthesized AgNPs was evaluated on four bacterial strains, namely 3 Gram-negative bacteria: *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas fluorescens*, and one Gram-positive bacteria *Staphylococcus aureus* using a disc agar diffusion method (Figure S2).



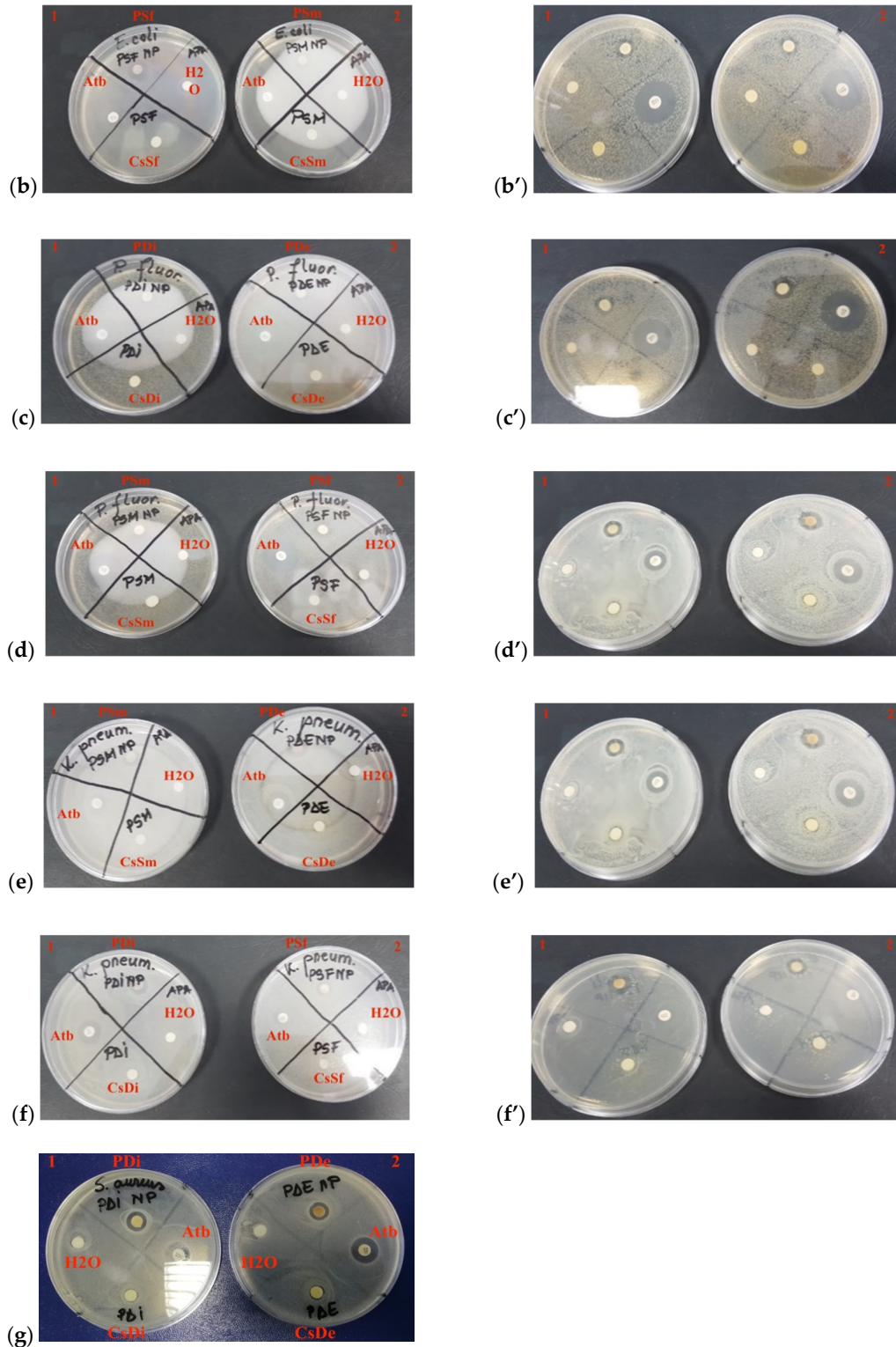


Figure S2. Images with inhibition zones against bacteria: *Escherichia coli* (a-1) PDe, CsDe, Amikacin (positive control), negative control (water: H₂O); (a-2) PDi, CsDi, Amikacin (positive control), negative control (water); (b-1) PSt, CsSf, Amikacin, negative control (water); (b-2) PSm, CsSm, Amikacin (positive control), control. *Pseudomonas fluorescens*: (c-1) PDi, CsDi, Gentamicin (positive control), negative control (water); (c-2) PDe, CsDe, Gentamicin (positive

control), negative control (water); (d-1) PSm, CsSm, Gentamicin (positive control), negative control (water); (d-2) PSf, CsSf, Gentamicin (positive control), negative control (water); *Klebsiella pneumoniae*: (e-1) PSm, CsSm, Amikacin (positive control), negative control (water); (e-2) PDe, CsDe, Amikacin (positive control), negative control (water); (f-1) PDi, CsDi, Amikacin(positive control), negative control (water); and (f-2) PSf, CsSf, Amikacin (positive control), negative control (water); *Staphylococcus aureus*: (g-1) PDi, CsDi, Amikacin (positive control), negative control (water); and (g-2) PDe, CsDe, Amikacin (positive control), negative control (water); Antibiotic is abbreviated as Atb. (a' – f' are the reversed Petri dishes).