

Table S1. Green silver nanoparticles exhibiting antimicrobial activity

Plant type	Part used	Operative conditions for synthesis	NP characteristics (Shape and size)	Microiological analyses (operative conditions)			Ref.
				Methods, incubation temperature, incubation time, pH, inoculum density, positive control	Tested bacteria and fungi	MIC, ZOI or PI*	
<i>Piper longum</i>	Catkin	Silver nitrate 1 mM/ plant extract 10 % (19:1 v/v) 95°C Incubation time NM pH NM	Spherical 10–42 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>B. cereus</i> MTCC 1272 <i>E. coli</i> MTCC 1687 <i>K. pneumoniae</i> MTCC 530 <i>P. mirabilis</i> MTCC 425 <i>P. aeruginosa</i> MTCC 1688 <i>S. typhi</i> MTCC 531 <i>S. aureus</i> MTCC 96	12 13 14 15 11 12 11 mm	[465]
<i>Carissa carandas</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 60°C 1 h pH 7.2	Spherical 30 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>S. typhi</i> <i>Enterococcus faecalis</i> <i>Shigella flexneri</i> <i>Citrobacter spp</i> <i>Gonococci spp</i>	12 16 24 14 21 mm	[466]
<i>Solanum tricornatum</i>	Leaves	Silver nitrate 1 mM/ plant extract 1.5 % (1:10 v/v) 37°C 48 h pH NM	Irregular 26.5 nm	Diffusion 35°C 18 h pH NM Inoculum NM No control	<i>S. aureus</i> <i>P. aeruginosa</i> <i>E. coli</i> <i>K. pneumoniae</i>	30 12 14 18 mm	[467]
<i>Cleome viscosa</i>	Fruit	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) 25 ± 2°C 24 h	Spherical 5–30 nm	Diffusion 37°C 18 h pH NM 1×10 ⁷ CFU/ml	<i>B. subtilis</i> <i>S. aureus</i> <i>E. coli</i> <i>K. pneumoniae</i>	12 13 13 11 mm	[468]

		pH NM		Tétracycline**			
<i>Musa paradisiaca</i>	Peels	Silver nitrate 1.75 mM/ plant extract 1 % (5:1 v/v) 40–100°C 72 h pH 4.5	Spherical 23.7 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Levofloxacin**	<i>B. subtilis</i> <i>S. aureus</i> ATCC 6538 <i>P. aeruginosa</i> ATCC 9027 <i>P. aeruginosa</i> isolated <i>E. coli</i> ATCC 8739	12 16 20 18 17 mm	[469]
<i>Azadirachta indica</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) Room temperature Incubation time NM pH NM	Spherical 5–20 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>S. aureus</i> <i>E. coli</i>	9 9 mm	[470]
<i>Centella asiatica</i>	Leaves	Silver nitrate 1 mM/ plant extract 1.5 % (1:2 v/v) 37°C 24–48h pH NM	Irregular 42 nm	Diffusion 35 °C 18 h pH NM Inoculum NM No control	<i>S. aureus</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i> <i>E. coli</i>	15 16 0 mm 12	[471]
<i>Citrus sinensis</i>			Irregular 41 nm		<i>S. aureus</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i> <i>E. coli</i>	12 16 11 12 mm	
<i>Rheum ribes</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (10:1 w/v) 75°C 48 h pH NM	Spherical 18.2 ± 3.6 nm	Diffusion 37 °C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>E. coli</i> ATCC 8739 <i>S. aureus</i> ATCC 6538 MRSA ATCC43300 <i>B. subtilis</i> ATCC6633	15 17 17 19 mm	[472]
<i>Sisymbrium irio</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 60 °C	Spherical 45 nm	Diffusion 37°C 24 h pH NM	<i>P. aeruginosa</i> <i>Acinetobacter baumannii</i> <i>E. coli</i> ATCC 25922	20 18 6 mm	[473]

		24 h NM		1×10 ⁶ CFU/ ml Meropenem 10 µg			
<i>Tephrosia apollinea</i>	Seeds	NM NM NM NM	Spherical and cubic 300–700 nm	Dilution 37°C 24 h pH NM 1–2×10 ⁸ CFU/ml No control	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 29213	31.25 15.625 µg/ml	[474]
<i>Picea abies</i>	Bark	Silver acetate 1 mM / plant extract 10 % (9:1 v/v) 60°C 3 h pH 4	Spherical 165.5 nm	Dilution Temperature NM Incubation time NM pH NM Inoculum NM Ciprofloxacin**	<i>S. aureus</i> ATCC 25923 <i>S. aureus</i> ATCC 43300 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27853 <i>K. pneumoniae</i> ATCC 700603	1,24 1.86 >1.86 >1.86 1.86 mg/ml	[475]
<i>Aesculus hippocastanum</i>	Leaves	Silver nitrate 5 mM/ plant extract 20 % (3:1 v/v) 95 °C 10 min pH NM	Spherical 50 ± 5 nm	Diffusion 37°C 18 –24h pH NM 1×10 ⁸ CFU/ml Ampicillin 10 µg	<i>S. aureus</i> ATCC 25923 <i>S. epidermidis</i> ATCC 12228 <i>Micrococcus luteus</i> ATCC 10240 <i>B. subtilis</i> ATCC 29213 <i>B. cereus</i> NRLL B-3008 <i>E. faecalis</i> ATCC 292112 <i>P. aeruginosa</i> ATCC 27853 <i>E. coli</i> ATCC 25922 <i>E. aerogenes</i> ATCC 13048 <i>K. pneumonia</i> ATCC 13883 <i>P. mirabilis</i> ATCC 25933 <i>Listeria monocytogenes</i> ATCC 19115 <i>Corynebacterium renale</i> ATCC 19412 <i>Pseudomonas fluorescens</i> ATCC 49838	18 13 17 15 15 11 20 10 11 13 10 13 12 8 mm	[476]

<i>Galega officinalis</i>	Leaves	Silver nitrate 1.6 mM/ plant extract 15 % (1:1 v/v) Room temperature 24 h pH 11	Spherical 8–34 nm	Dilution 37°C 24 h pH NM 2×10 ⁶ CFU/ml Streptomycin** Gentamycin**	<i>E. coli</i> <i>Pseudomonas syringae</i> <i>S. aureus</i>	5 10 50 µg/ml	[477]
<i>Alpinia nigra</i>	Fruits	Silver nitrate 2 mM/ plant extract 10 % (6.25 :1 v/v) Room temperature 2 h pH NM	Spherical 65.9 nm	Diffusion 37°C 16–18 h pH NM 1×10 ⁸ CFU/ml Neomycin 1 mg/ml	<i>S. aureus</i> ATCC 11682 <i>K. pneumoniae</i> ATCC 13883	18 20 mm	[478]
				Diffusion 30°C 24–48h pH NM 1×10 ⁸ CFU/ml Nystatin 2mg/ml	<i>C. albicans</i> MTCC 3017	12 mm	
<i>Impatiens balsamina</i>	Leaves	Silver nitrate 10 mM/ plant extract 10 % (1:1 v/v) 60°C 5h pH NM	Spherical 12 –23.3 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ciprofloxacin**	<i>S. aureus</i> <i>E. coli</i>	11 10 mm	[479]
<i>Lantana camara</i>			Spherical 3.2–14.1 nm		<i>S. aureus</i> <i>E. coli</i>	14 18 mm	
<i>Juniperus procera</i>	Leaves	Silver nitrate 1 mM / plant extract 20 % (9:1 v/v) Room temperature 24h pH NM	Spherical and cubic 30–90 nm	Diffusion 32°C 18 h pH NM Inoculum NM Penicillin 10 µg	<i>B. subtilis</i> <i>Micrococcus luteus</i> <i>Proteus mirabilis</i> <i>K. pneumoniae</i> <i>C. albicans</i>	28 28 29 18 24 mm	[480]

<i>Acalypha wilkesiana</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 90–100°C 90 min pH 9	Spherical 10–26 nm	Diffusion 37°C 24 h pH 9 1.5×10 ⁸ CFU/ml Chloramphenicol**	<i>E. coli</i> <i>S. aureus</i>	17 19 mm	[481]
<i>Selaginella bryopteris</i>	Leaves	Silver nitrate 1 mM/ plant extract 25 % (10:1 v/v) 80°C 30 min pH NM	Spherical 5–10 nm	Diffusion 37 °C 24–48 h. pH ±7 Inoculum NM Ciproflaxin**	<i>E. coli</i> <i>S. aureus</i>	12 11 mm	[482]
				Diffusion 25°C 48–72 h pH 6.8 Inoculum size NM Amphotericin B**	<i>A. niger</i>	2 mm	
<i>Camellia sinensis</i>	Leaves	Silver nitrate 10 mM / plant extract 15 % (30:1 v/v) 30°C 10 min pH NM	Spherical 30–40 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml No control	<i>E. coli</i> MTCC 443 <i>S. aureus</i> MTCC 10536 <i>S. pyogenes</i> MTCC 442	14 13 10 MM	[483]
<i>Citrus sinensis</i>	Pericarp	Silver nitrate 50 mM/ plant extract 0.3 % (1:1 v/v) 60°C 2 h pH NM	Spherical 107.1 ± 2.6 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamycin**	<i>E. coli</i> MRSA	0.5 0.5 0.5 µg/ml	[484]

<i>Artemisia marschalliana</i>	Aerial part	Silver nitrate 1 mM/ plant extract 10 % (25 :1 v/v) Room temperature 5 min pH NM	Spherical 5–20 nm	Diffusion 37°C 24 h pH NM 1×10 ⁷ CFU/ml Ampicillin**	<i>B. cereus</i> ATCC 14579 <i>S. aureus</i> ATCC 6538 <i>P. aeruginosa</i> ATCC 15442 <i>Acinetobacter baumannii</i> ATCC 19606	9 16 13 11 mm	[485]
<i>Gleichenia pectinata</i>	Fern	Silver nitrate 5 mM/ plant extract 10 % (5:1 v/v) Room temperature 30 min pH NM	Spherical 7.5 ± 2.9 nm	Diffusion Temperature NM Incubation NM pH NM Inoculum NM Streptomycin**	<i>P. aeruginosa</i> <i>E. coli</i> <i>K. pneumoniae</i>	15 11 10 mm	[486]
				Diffusion Temperature NM Incubation time NM pH NM Inoculum size NM Nystatin**	<i>C. albicans</i>	12 mm	
<i>Cymbopogon citratus</i>	Leaves and raw fruits	Silver nitrate 1 mM / plant extract 10 % (9:1 v/v) 37°C 24 h pH NM	Spherical 20–40 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁶ CFU/ml No control	<i>B. cereus</i> ATCC BAA512 <i>E. coli</i> ATCC 11775 <i>P. aeruginosa</i> ATCC 19429 <i>Bacillus licheniformis</i> D5MZ- 8059	12 16 18 10 mm	[487]
<i>Rhus coriaria</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (1:1 v/v) 25°C 2 h pH NM	Spherical and tetragonal 22.4–37.6 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml	<i>P. vulgaris</i> <i>S. aureus</i> <i>Erwinia carotovora</i> <i>B. subtilis</i> <i>K. pneumoniae</i>	8 8 11 10 10 mm	[488]
<i>Carthamus tinctorius</i>	Leaves		Spherical and tetragonal 14.5–35.8 nm	No control	<i>P. vulgaris</i> <i>S. aureus</i> <i>Erwinia carotovora</i>	14 14 11	

					<i>B. subtilis</i> <i>K. pneumoniae</i>	9 15 mm	
<i>Verbena officinalis</i>	Leaves	Silver nitrate 2 mM / plant extract 10 % (10:1 v/v) 37°C 24 h pH NM	Spherical 42.57 ± 5.34 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁶ CFU/ml No control	<i>Listeria monocytogenes</i> <i>Yersinia ruckeri</i> <i>Vibrio cholera</i>	15 16 13 mm	[489]
<i>Vaccinium macrocarpon</i>	NM	Silver nitrate 10 mM / plant extract 0.8 % (10:1 v/v) 30°C 24 h pH 6	Spherical 1.4–11.1 nm	Dilution 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>P. aeruginosa</i> MRSA	39.5 25.3 39.5 µg/ml	[490]
<i>Garcinia quaesita</i>	Fruits	Silver nitrate 1 mM/ plant extract 1 % (10:1 v/v) 100°C Room temperature 24 h pH NM	Spherical 7–22 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Vancomycin 10 mg/ml Gentamycin 10 mg/ml	<i>S. aureus</i> <i>P. aeruginosa</i> <i>E. coli</i> MRSA <i>C. albicans</i> ATCC 10231	16 18 16 22 21 mm	[491]
<i>Arisaema flavum</i>	Tubers	Silver nitrate**/ plant extract 5 % (ratio NM) Room temperature 4 h pH NM	Spherical 5–8 nm	Diffusion 37 °C 18–20 h pH NM Inoculum size NM Streptomycin 1 mg/ml	<i>E. coli</i> <i>B. subtilis</i> BL-21 <i>S. aureus</i> <i>Pseudomonas putida</i> <i>E. coli</i> substrain QH4	16 18 23 12 11 mm	[492]
<i>Olea europaea</i>	Leaves	Silver nitrate 1 mM / plant extract 1.5 % (2:3 v/v) 37 °C 30 min	Spherical 45 ± 2 nm	Dilution 37°C 24 h pH NM 1×10 ⁶ CFU/ml	<i>E. coli</i> <i>S. enterica</i> <i>S. aureus</i>	9.38 18.75 9.38 µg/ml	[493]
<i>Rosmarinus officinalis</i>			Spherical		<i>E. coli</i>	4.69	

		pH NM	38 ± 3 nm	No control	<i>S. enterica</i> <i>S. aureus</i>	18.75 4.69 µg/ml	
<i>Bergenia ciliate</i>	Roots	Silver nitrate 1 mM / plant extract 4 % (9:1 v/v) 37 °C 24 h pH NM	Spherical 25 nm	Diffusion 37 °C 12–16 h pH NM 1×10 ⁷ –10 ⁸ CFU/ml Streptomycin**	<i>S. aureus</i> KX 262679 <i>B. cereus</i> KX 262674 <i>E. coli</i> ATCC 10536 <i>S. typhi</i> ATCC 6539 <i>P. aeruginosa</i> ATCC 9027 <i>Staphylococcus haemolyticus</i> KX262673	13 0 0 13 15 0 mm	[494]
<i>Bergenia stracheyi</i>			Spherical 73 nm		<i>S. aureus</i> KX 262679 <i>B. cereus</i> KX 262674 <i>E. coli</i> ATCC 10536 <i>S. typhi</i> ATCC 6539 <i>P. aeruginosa</i> ATCC 9027 <i>Staphylococcus haemolyticus</i> KX 262673	13 0 0 13 16 0 mm	
<i>Rumex dantatus</i>			Spherical 50 nm		<i>S. aureus</i> KX 262679 <i>B. cereus</i> KX 262674 <i>E. coli</i> ATCC 10536 <i>S. typhi</i> ATCC 6539 <i>P. aeruginosa</i> ATCC 9027 <i>Staphylococcus haemolyticus</i> KX 262673	16 0 0 12 14 16 0 mm	
<i>Rumex hastatus</i>			Spherical 48 nm		<i>S. aureus</i> KX 262679 <i>B. cereus</i> KX 262674 <i>E. coli</i> ATCC 10536 <i>S. typhi</i> ATCC 6539 <i>P. aeruginosa</i> ATCC 9027 <i>Staphylococcus haemolyticus</i> KX 262673	15 8 10 18 17 9 mm	

<i>Bougainvillea spectabilis</i>	Flowers	Silver nitrate 1 mM/ plant extract 5 % (9:1 v/v) Room temperature 24 h pH NM	Spherical 16–83 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. typhi</i> <i>S. aureus</i> <i>B. subtilis</i> <i>B. cereus</i> <i>Enterococcus faecalis</i> <i>Corynebacterium diphtheria</i> <i>Streptococcus pneumoniae</i> <i>K. pneumoniae</i> <i>E. coli</i> <i>Enterobacter aerogenes</i> <i>P. aeruginosa</i>	4 8 15 9 6 6 9 3 7 10 3 mm	[495]
<i>Bauhinia acuminata</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) Room temperature 24 h pH NM	Irregular 78–110 nm	Dilution 37° C 24 h pH NM 1×10 ⁵ CFU/ml Ciproflaxin**	<i>E. coli</i> <i>S. aureus</i>	900 750 µg/ml	[496]
<i>Prosopis juliflora</i>	Leaves	Silver nitrate 2 mM/ plant extract 10 % (1:1 v/v) Room temperature 24 h pH NM	Spherical 10–20 nm	Diffusion 37° C 24 h pH NM 10 ⁵ CFU/ml Kanamycin**	<i>E. coli</i> <i>P. aeruginosa</i>	15 12 mm	[172]
<i>Coriandrum sativum</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (4:1 v/v) 75°C 20 min pH 8.6	Ball shape 11.9 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Gentamycin**	<i>Pasteurella multocida</i> <i>Enterobacter aerogenes</i> <i>S. aureus</i> <i>B. subtilis</i>	10 11 12 14 mm	[497]
<i>Datura metel</i>	Leaves	Silver nitrate 1 mM/ plant extract 30 % (20:1 v/v)	Spherical 20 nm	Diffusion 28°C 48 h	<i>E. coli</i> <i>Pseudomonas spp</i>	14 11 mm	[498]

		60°C 2 h pH NM		pH NM Inoculum size NM No control			
<i>Abelmoschus esculentus</i>	Vegetable	Silver nitrate 45 mM/ plant extract 25 % (1:5 v/v) Room temperature 12 h NM	Spherical 30 nm	Diffusion 37°C 24 h pH 7.4 Inoculum size NM No control	<i>S. aureus</i> <i>E. coli</i>	11 17 mm	[499]
<i>Tithonia diversifolia</i>	Leaves	Silver nitrate 1 mM/ plant extract 2 % (9 :1 v/v) Room temperature 90 min pH NM	Spherical 10–26 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin**	<i>E. coli</i> <i>S. typhirium</i> <i>Salmonella enterica</i> <i>B. subtilis</i>	13 12 13 15 mm	[500]
<i>Raphanus sativus</i>	Roots	Silver nitrate 1 mM/ plant extract 16 % (9:1 v/v) Room temperature 15 min pH NM	Polygonal 30–60 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Amikacin**	<i>E. coli</i> <i>K. pneumoniae</i> <i>B. subtilis</i> <i>S. aureus</i>	10 10 14 12 mm	[501]
<i>Ribes khorasanicum</i>	Fruits	Silver nitrate 1 mM/ plant extract 1.2 % (9:1 v/v) 70°C 1 h pH NM	Spherical 15–45 nm	Diffusion 37 °C 24 h pH NM 1.5×10 ⁸ CFU/ml Gentamicin** Streptomycin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i>	9 9 13 mm	[502]
<i>Withania coagulans</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (1:9 v/v) 27 °C	Spherical 7–32 nm	Diffusion 37 °C 24 h pH NM	<i>E. coli</i> <i>S. aureus</i> <i>K. pneumoniae</i>	4 10 8 mm	[503]

		72 h pH NM		Inoculum size NM Ampicillin**			
<i>Eucalyptus citriodora</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (1:1 v/v) 28 °C 16h pH NM	Spherical 8–15 nm	Dilution 37 °C 18 h pH NM 1×10 ⁸ CFU/ml No control	<i>Acinetobacter baumannii</i>	0.18 µg/ml	[504]
<i>Canarium ovatum</i>	Leaves	Silver nitrate 1.5 mM/ plant extract 10 % (1:20 v/v) 25°C 40 min pH NM	Spherical 119.7 ± 7 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Kanamycin 10 µg	<i>P. aeruginosa</i>	15 mm	[505]
<i>Elaeocarpus ganitrus</i>	Beads	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 60–80°C 20 min pH NM	Spherical 13.6–36.3 nm	Diffusion 37°C 24 h pH NM 1×10 ⁵ CFU/ml Ampicillin**	<i>S. typhimurium</i> MTCC 98 <i>E. coli</i> MTCC 433 <i>Clostridium perfringes</i> MTCC 450 <i>Listeria monocytogenes</i> MTCC 657 <i>S. aureus</i> MTCC 740 <i>Vibrio mimicus</i> MTCC 4434	29 20 28 29 29 26 mm	[506]
<i>Oryza sativa</i>	Beads	Silver nitrate 10 mM/ plant extract 0.9 % (1:100 v/v) 75°C 60 min NM	Spherical 80.4 ± 2.8 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁶ CFU/ml No control	<i>E. coli</i> ATCC 2592 <i>S. aureus</i> ATCC 25923	13 8 mm	[507]
<i>Glaucium corniculatum</i>	Arial part	Silver nitrate 10 mM/ plant extract 8 % (8:1 v/v) 60°C	Spherical 45 nm	Diffusion 37°C 16 h pH NM	<i>E. coli</i> ATCC 35218 <i>S. typhimurium</i> ATCC 14028 <i>S. aureus</i> ATCC 29213 <i>B. cereus</i> ATCC 14579	10 9 8 8 mm	[508]

		1h pH NM		1×10 ⁵ CFU/ml No control			
<i>Elettaria cardamom</i>	Seeds	Silver nitrate 1 mM/ plant extract 40 % (9:1 v/v) Room temperature 24 h NM	Spherical 40–70 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>B. subtilis</i>	14 mm	[509]
<i>Trigonella foenum-graecum</i>	Seeds	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) 50–100°C 30 min pH NM	Spherical 95–110 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin**	<i>S. aureus</i> <i>P. aeruginosa</i> <i>Proteus vulgaris</i> <i>E. coli</i>	17 12 6 9 mm	[510]
<i>Synedrella nodiflora</i>	Leaves	Silver nitrate 1 mM/ plant extract 25 % (9:1 v/v) Room temperature Incubation time NM pH NM	Spherical 14.2 nm	Diffusion 37°C 24–48 h pH NM Inoculum NM No control	<i>B. subtilis</i> <i>Streptococcus spp</i> <i>Pseudomonas spp</i> <i>E. coli</i>	9 8 11 14 mm	[511]
				Diffusion 25°C 7 days pH NM Inoculum size NM No control	<i>Aspergillus spp</i> <i>Penicillium spp</i>	12 10 mm	
<i>Cassia roxburghii</i>	Leaves	Silver nitrate 1 mM/ plant extract 4 % (9:1 v/v) Room temperature 24h pH NM	Spherical 10–30 nm	Diffusion 37°C 24 h pH NM Inoculum NM Streptomycin 10 µg	<i>B. subtilis</i> <i>S. aureus</i> <i>Micrococcus luteus</i> <i>P. aeruginosa</i> <i>E. coli</i> <i>Enterobacter aerogenes</i>	17 19 12 21 18 16 mm	[512]

<i>Acacia rigidula</i>	Stems	Silver nitrate 1 mM/ plant extract 10 % (3:1 v/v) 60°C 1 h pH NM	Spherical 8–66 nm	Dilution 37°C 20 h pH NM 1×10 ⁶ CFU/ml No control	<i>E. coli</i> ATCC 11229 <i>P. aeruginosa</i> ATCC 27853 <i>P. aeruginosa</i> MDRS strain <i>B. subtilis</i> ATCC 23857	62.5 15.6 7.8 0.5 µg/ml	[313]
<i>Napier grass</i>	Fibers	Silver nitrate 5 mM/ plant extract 5 % (1:1 v/v) 80°C 24 h pH NM	Triangle, cube and spherical 10–100 nm	Diffusion 37 °C 48 h pH 7 1×10 ⁶ CFU/ml No control	<i>E. coli</i> <i>S. aureus</i>	32 33 mm	[513]
<i>Thymus vulgaris</i>	Leaves	Silver nitrate 1 mM/ plant extract 2 % (5:1 v/v) Room temperature Incubation time NM pH NM	Spherical 95 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	MRSA <i>E. coli</i>	3.13 0.39 µg/ml	[514]
<i>Malva sylvestris</i>	Flowers	Silver nitrate 50 mM/ plant extract 15 % (1:18 v/v) 25°C 4 h pH NM	Spherical 20–40 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>S. aureus</i> <i>S. pyogenes</i>	10 9 9 mm	[515]
<i>Salvadora persica</i>	Roots	Silver nitrate 0.5 mM/ plant extract 10 % (49:1 v/v) 90°C 2 h pH NM	Spherical 10–20 nm	Diffusion 37°C 24 h pH NM 1×10 ⁵ CFU/ml No control	<i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>Micrococcus luteus</i>	13 11 15 14 mm	[516]

<i>Costus afer</i>	Leaves	Silver nitrate 1 mM/ plant extract 1.3 % (5:1 v/v) 90°C 2 h pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum NM Gentamycin**	<i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i>	23 21 18 14 mm	[517]
<i>Phoenix dactylifera</i>	Fruits	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 25°C 48 h pH NM	Spherical 20–60 nm	Diffusion 37°C 18–24h pH NM 2.5×10 ⁵ CFU/ml Ciprofloxacin**	<i>S. aureus</i> <i>P. aeruginosa</i> <i>E. coli</i>	18 12 15 mm	[518]
<i>Madhuca longifolia</i>	Flowers	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) 40°C 20 min pH NM	Spherical and oval 30–50 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>E. coli</i> KCTC 1682 <i>S. typhimurium</i> KCCM 11862 <i>B. cerues</i> ATCC13061 <i>Staphylococcus saprophyticus</i> KCTC 3345	90 80 60 40 µg/ml	[519]
<i>Saussurea lappa</i>	Roots	Silver nitrate 5 mM/ plant extract 10 % (1:1 v/v) 37°C 24 h pH NM	Spherical 20.2 nm	Diffusion 30°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>P. aeruginosa</i>	11 9 mm	[520]
<i>Jurinea dolomiaea</i>	Roots	Silver nitrate 5 mM / plant extract 20 % (1:1 v/v) 37°C 24 h pH NM	Spherical, cubic and triangular 24.6 nm	Diffusion 35°C 24 h pH NM Inoculum NM No control	<i>P. aeruginosa</i> <i>E. coli</i>	11 11 mm	[521]

<i>Gardenia jasminoides</i>	Seeds	Silver nitrate 3 mM/ plant extract 5 % (9:1 v/v) 25°C 24 h pH NM	Spherical 20 nm	Dilution 37°C 24 h pH NM 1×10 ⁹ CFU/ml No control	<i>S. aureus</i> ATCC13150 <i>S. typhimurium</i> ATCC14028	7.5 10 µg/ml	[522]
<i>Stachys lavandulifolia</i>	Leaves	Silver nitrate 8 mM/ plant extract 10 % (2:1 v/v) 25°C 2 h pH NM	Spherical 20–40 nm	Dilution 37°C 24 h pH NM Inoculum NM Tetracycline**	<i>E. coli</i> ATCC 1103 <i>S. aureus</i> ATCC9144	43 16 µg/ml	[523]
<i>Cocos nucifera</i>	Nuts	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) 25°C 1 h pH NM	Spherical 14.2–22.9 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin**	<i>S. aureus</i> ATCC 25923 <i>E. coli</i> ATCC 25922 <i>S. typhimurium</i> ATCC 13311 <i>Listeria monocytogenes</i> ATCC 19111	26 53 106 212 µg/ml	[524]
<i>Tridax procumbens</i>	Leaves	Silver nitrate 1 mM / plant extract 10 % (20:1 v/v) 25°C 48 h pH NM	Spherical 20–50 nm	Diffusion 37 °C 24 h pH NM Inoculum NM No control	<i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>S. epidermidis</i>	10 14 8 10 mm	[525]
<i>Reinwardtia indica</i>	Leaves	Silver nitrate 1 mM/ plant extract 14 % (9:1 v/v) 38°C 48 h pH 7	Spherical 3–15nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 25923 <i>P. aeruginosa</i> ATCC 27853	13 15 16 mm	[526]

				Diffusion 25°C Incubation time NM pH NM 1×10 ⁶ CFU/ml No control	<i>C. albicans</i> ATCC 90028	14 mm	
<i>Bergenia ciliata</i>	Rhizome	Silver nitrate 1 mM/ plant extract 5 % (1:4 v/v) 100°C Incubation time NM pH NM	Spherical 35 nm	Diffusion 37°C 24 h pH NM Inoculum NM Chloramphenicol 10 µg/ml	<i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i> <i>S. epidermidis</i> <i>Serratia marcescens</i> <i>S. aureus</i> <i>S. pyogenes</i>	8 8 8 8 7 8 6 mm	[527]
<i>Citrus sinensis</i>	Peels	Silver nitrate 1 mM/ plant extract 6.25 % (1:1 v/v) Temperature NM 2 h pH NM	Spherical 48.1 ± 20.5 nm	Dilution 35°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin 50 µg/ml	<i>Xanthomonas axonopodis</i>	22 µg/ml	[528]
<i>Stereospermum suaveolens</i>	Roots	Silver nitrate 1 mM/ plant extract 5 % (9:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 27.2 ± 5.9 nm	Diffusion 37°C Incubation time NM pH NM Inoculum NM No control	<i>B. subtilis</i> MTCC 441 <i>S. aureus</i> MTCC 96 <i>E. coli</i> MTCC 443 <i>P. aeruginosa</i> MTCC 424	14 16 17 20 mm	[529]
				Diffusion Temperature NM Incubation time NM pH NM Inoculum NM No control	<i>Aspergillus nidulans</i> MTCC 344 <i>A. flavus</i> MTCC 277	11 12 mm	

<i>Wedelia chinensis</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 60°C Incubation time NM pH NM	Spherical 18–68.8 nm	Diffusion 37°C 24 h pH NM Inoculum NM Ampicillin**	<i>E. coli</i> <i>Listeria monocytogenes</i>	17 12 mm	[530]
<i>Allium sativum</i>	Bulb	Silver nitrate 1 mM/ plant extract 20 % (3:1 v/v) Room temperature 15 min pH NM	Spherical 3–6 nm	Dilution 37°C 24 h pH NM 1×10 ⁵ CFU/ml Ciprofloxacin**	<i>Streptococcus faecalis</i> ATCC 29212 <i>B. cereus</i> ATCC 10702 <i>E. coli</i> ATCC 25922 <i>Shigella flexneri</i> KZN	125 125 125 µg/ml	[531]
<i>Zingiber officinale</i>	Rhizome		Spherical 3–22 nm		<i>Streptococcus faecalis</i> ATCC 29212 <i>B. cereus</i> ATCC 10702 <i>E. coli</i> ATCC 25922 <i>Shigella flexneri</i> KZN	25 25 25 25 µg/ml	
<i>Capsicum frutescens</i>	Fruits		Spherical 3–18 nm		<i>Streptococcus faecalis</i> ATCC 29212 <i>B. cereus</i> ATCC 10702 <i>E. coli</i> ATCC 25922 <i>Shigella flexneri</i> KZN	125 125 125 125 µg/ml	
<i>Brassica oleracea</i>	Whole plant	Silver nitrate 0.9 mM/ plant extract 20 % (9 :1 v/v) 40 °C 2 h pH 10	Spherical 4–18 nm	Diffusion 37°C 24 h pH NM Inoculum NM Erythromycin 1.5 µg/ml	<i>E. coli</i> <i>P. aeruginosa</i> <i>Kocuria myroides</i> <i>Promicromonospora</i>	9 7 12 6 mm	[532]
<i>Borago officinalis</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (4:1 v/v) 65 °C 30 min	Spherical, hexagonal and irregular 30–80 nm	Diffusion 28°C 24 h pH NM 1×10 ⁶ CFU/ml	<i>P. aeruginosa</i> <i>E. coli</i> <i>S. aureus</i> <i>Vibrio parahaemolyticus</i>	14 11 13 13 mm	[533]

		pH NM		No control			
<i>Phoenix dactylifera</i>	Seeds	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 37 °C 48 h pH NM	Spherical 14–30 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	MRSA ATCC 43300	24 mm	[534]
<i>Zea mays</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (4:1v/v) 37°C 40 min pH NM	Spherical 12.6 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>S. aureus</i> ATCC 29213 <i>E. coli</i> ATCC 25922	0.337 0.084 µg/ml	[535]
				Dilution 37°C Incubation time NM pH NM 1.5×10 ⁸ CFU/ml Fluconazol**	<i>C. albicans</i>	0.021 µg/ml	
<i>Tirmania sp.</i>	Ascocarps	Silver nitrate 1 mM/ plant extract 5 % (1:2 v/v) 30°C 72 h pH NM	Spherical or irregular 3–15 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Gentamycin** 25 µg/ml	<i>E. coli</i> <i>P. aeruginosa</i> <i>Klebsiella spp</i> <i>S. aureus</i>	26 28 25 22 mm	[536]
<i>Ulmus wallichiana</i>	Leaves	Silver nitrate 1 mM / plant extract 10 % (4:1 v/v) 37°C	Spherical 54 nm	Diffusion 37°C 24 h pH NM	<i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i>	17 18 18 15 mm	[537]

		24 h NM		Inoculum size NM Ampicillin 100 µg/ml			
<i>Garcinia indica</i>	Fruits	Silver nitrate 2 mM/ plant extract 10 % (1:1 v/v) 70°C 24 h pH 10	Spherical and hexagonal 5–30 nm	Diffusion 37°C 24 h pH NM Inoculum NM Tetracyclin 10 µg/ml	<i>E. coli</i> <i>B. subtilis</i> <i>S. aureus</i> <i>P. aeruginosa</i> <i>S. typhi</i> <i>P. vulgaris</i> <i>Serratia marcescens</i>	14 12 15 12 0 0 0 mm	[538]
<i>Swertia paniculata</i>	Arial part	Silver nitrate 1 mM / plant extract 5 % (1:1 v/v) 40°C 24 h pH 7	Spherical 31–44 nm	Diffusion 37°C 24 h pH 7 10 ⁵ –10 ⁶ CFU/ml No control	<i>S. aureus</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	15 18 19 mm	[539]
<i>Prunus cerasifera</i>	Fruits	Silver nitrate 1 mM/ plant extract 10 % (5:1 v/v) 80°C 2 h NM	Spherical 2 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin**	<i>Xanthomonas axonopodus</i> <i>Pseudomonas syringae</i>	21 19	[540]
				Diffusion Temperature NM 72 h pH NM Inoculum size NM Amphotericin B**	<i>A. niger</i> <i>A. flavus</i> <i>Aspergillus spergillus</i> <i>Aspergillus fumigatus</i> <i>Aspergillus terreus</i> <i>Penicillium chrysogenum</i> <i>Fusarium solani</i> <i>Lasiodiplodia heobromae</i>	20 26 18 14 24 23 21 22 mm	

<i>Thymbra spicata</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) 60°C 12 h pH NM	Spherical 20–50 nm	Diffusion 35°C 24 h pH NM 1×10 ⁵ –10 ⁶ CFU/ml Gentamycin**	<i>B. cereus</i> ATCC 11778 <i>S. aureus</i> ATCC 25923 <i>E. coli</i> ATCC 25922 <i>S. typhimurium</i> ATCC 14028	15 16 12 14 mm	[541]
<i>Sida acuta</i>	Leaves and stems	Silver nitrate 1 mM/ plant extract 10 % (9:2 v/v) Temperature NM Incubation time NM pH NM	Spherical 5–30 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum NM Gentamycin**	<i>S. aureus</i> <i>Streptococcus faecalis</i> <i>E. coli</i>	9 0 11 mm	[542]
<i>Ocimum Sanctum</i>	Leaves	Silver nitrate 2 mM / plant extract 5 % (2:1 v/v) 60°C 10 min pH 10	Spherical 18 nm	Diffusion 35°C 48 h pH NM Inoculum NM No control	<i>E. coli</i>	14 mm	[543]
<i>Desmodium adscendens</i>	Whole plant	Silver nitrate 1 mM / plant extract 5 % (1:1 v/v) 37°C 5 h pH NM	Spherical 15–100 nm	Dilution 37°C 24 h pH NM 1×10 ⁶ CFU/ml Ciprofloxacin 10 µg /ml	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 25923 <i>B. cereus</i> ATCC 11778	31.3 7.8 12.5 µg/ml	[544]
<i>Cyperus rotundus</i>	Weeds	Silver nitrate 15 mM/ plant extract 9 % (1 :1 v/v) 37°C 24 h pH NM	Spherical 20.5 ± 9.6 nm	Diffusion 37°C 24 h pH NM 5×10 ⁵ CFU/ml No control	<i>Chromobacterium</i> <i>haemolyticum</i> <i>E. coli</i> <i>B. cereus</i>	15 8 10 mm	[545]
<i>Eleusin indica</i>			Spherical 55.0 ± 24.1 nm		<i>Chromobacterium</i> <i>haemolyticum</i> <i>E. coli</i>	9 12	

					<i>B. cereus</i>	10 mm	
<i>Punica granatum</i>	Peels	Silver nitrate 1 mM/ plant extract 10 % (1:1 v/v) 60°C 3 h pH NM	Spherical 3–13 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum NM No control	<i>S. aureus</i> <i>P. aeruginosa</i> <i>Micrococcus leutus</i> <i>Bordetella bronchiseptica</i>	11 10 10 11 mm	[546]
<i>Ardisia solanacea</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 60°C 12 h pH NM	Polyhedral 29 nm	Diffusion 37°C 24 h pH NM Inoculum NM Gentamycin**	<i>B. subtilis</i> MTCC 736 <i>S. aureus</i> MTCC 737 <i>E. coli</i> MTCC 443 <i>P. aeruginosa</i> MTCC 424	16 0 0 28 mm	[547]
<i>Agrimonia pilosa</i>	Arial part	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) 40°C 10 min pH NM	Spherical and oval 10–20 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>B. cereus</i> ATCC 130601 <i>S. aureus</i> ATCC 6538 <i>E. coli</i> KCTC 1635 <i>Pseudomonas putida</i> ATCC 49128 <i>Listeria monovytogenes</i> ATCC 7644 <i>Staphylococcus saprophyticus</i> KCTC 1682	14 15 15 15 16 17 mm	[548]
<i>Limonia acidissima</i>	Leaves	Silver nitrate 5 mM/ plant extract 10 % (1:1 v/v) Room temperature 24 h pH NM	Spherical 21–42 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Erythromycin 15 µg	<i>S. aureus</i> MTCC 3160 <i>B. cereus</i> MTCC 8733 <i>Enterococcus faecalis</i> ATCC 35550 <i>E. coli</i> MTCC 433 <i>S. typhi</i> MTCC 3216 <i>P. aeruginosa</i> ATCC 25619	16 16 15 18 9 9 mm	[549]
<i>Lantana camara</i>	Leaves	Silver nitrate 1 mM/ plant extract 33 % (6:1 v/v)	Spherical 42.5 nm	Diffusion 37°C 24 h	<i>S. aureus</i> MTCC 87 <i>P. aeruginosa</i> MTCC 741 <i>E. coli</i> MTCC 443	28 21 22 mm	[550]

		37°C 24 h pH NM		pH NM Inoculum NM Ciprofloxacin**			
<i>Euphorbia cf. lactea</i>	Latex	Silver nitrate 10 mM/ plant extract 0.2 % (19:1 v/v) Room temperature 3 h pH NM	Pseudospherical and cubic 57 ± 14.7 nm	Dilution 37°C 24 h pH NM 1×10 ⁴ CFU/ml No control	<i>S. aureus</i> TISTR 1466 MRSA DMST 20654 <i>B. cereus</i> TISTR 687 <i>E. coli</i> TISTR 780 <i>P. aeruginosa</i> TISTR781	6.25 25 6.25 12.5 12.5 µg/ml	[551]
<i>Sterculia foetida</i>	Leaves	Silver nitrate 1 mM/ plant extract 4 % (1:9 v/v) Temperature NM 48 h pH NM	Spherical 50–70 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum NM Gentamycin**	<i>S. aureus</i> <i>B. cereus</i> <i>E. coli</i> <i>P. aeruginosa</i>	19 11 13 20 mm	[552]
<i>Ziziphus jujuba</i>	Whole plant	Silver nitrate 10 mM/ plant extract 3 % (1:4 v/v) 60°C 30 min pH 4.85	Spherical 11.5 ± 4. 8 nm	Diffusion 37°C 24 h pH NM Inoculum NM Gentamycin**	<i>S. aureus</i> <i>E. coli</i>	8 6 mm	[553]
<i>Rumex hymenosepalus</i>	Roots	Silver nitrate 10 mM/ plant extract 15 % (1 :1 v/v) 25°C 24 h pH NM	Spherical 10 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml No control	<i>S. aureus</i> ATCC 25923 <i>Listeria monocytogenes</i> ATCC 7644 <i>E. coli</i> ATCC 11229 <i>E. coli</i> ATCC 43895 <i>S. typhi</i> ATCC 6539 <i>P. aeruginosa</i> ATCC 15442	20 18 11 17 17 16 mm	[554]
				Diffusion 37°C 24 h pH NM	<i>C. albicans</i> ATCC 90028	24 mm	

				1.5×10 ⁸ CFU/ml No control			
<i>Heterotheca inuloides</i>	Leaves	Silver nitrate 10 mM/ plant extract 1 % (4 :1 v/v) 37°C 8 h pH NM	Spherical 17 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>S. aureus</i> <i>E. coli</i> <i>Lactobacillus casei</i> <i>Streptococcus mutans</i>	3 2 5 7 mm	[555]
<i>Citrus maxima</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (20:1 v/v) Temperature NM 4–6 h pH NM	Spherical 2–50 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Gentamycin 10 µg/ml	<i>E. coli</i> MG 1655 <i>B. cereus</i> MTCC 430 <i>B. subtilis</i> MTCC 121 <i>K. pneumoniae</i> MTCC 3384 <i>P. aeruginosa</i> MTCC 741 <i>S. aureus</i> MTCC 740	14 11 12 11 12 12 mm	[556]
<i>Melissa officinalis</i>	Leaves	Silver nitrate 1 mM/ plant extract 14 % (4:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 13 nm	Diffusion 37°C 24h pH NM 1.5×10 ⁸ CFU/ml No control	<i>S. aureus</i> ATCC 25923 <i>B. cereus</i> B1079 <i>P. aeruginosa</i> ATCC 27853 <i>E. coli</i> ATCC 25922	12 20 12 15 mm	[557]
				Diffusion 37°C 24–48 h pH NM 1.5×10 ⁸ CFU/ml No control	<i>C. albicans</i> ATCC 10231 <i>Candida parapsilosis</i> ATCC 22109 <i>Candida glabrata</i> ATCC 64677 <i>Candida krusei</i> ATCC 1424 <i>A. niger</i> <i>Trichoderma viride</i>	11 10 0 7 0 0 mm	
<i>Elephantopus scaber</i>	Leaves	Silver nitrate 1 mM / plant extract 5 % (9:1 v/v) Temperature NM Incubation time NM	Spherical 20–60 nm	Diffusion 37°C 24 h pH NM Inoculum NM	<i>B. subtilis</i> MTCC 441 <i>Lactococcus lactis</i> MTCC 3041 <i>P. aeruginosa</i> MTCC 424 <i>Pseudomonas fluorescens</i> MTCC 2421	10 6 6 5 mm	[558]

		pH NM		Streptomycin**			
<i>Artemisia quttensis</i>	Aerial part	Silver nitrate 1 mM/ plant extract 10 % (1:15 v/v) Temperature NM Incubation time NM pH NM	Spherical 10.9 ± 8.1 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin**	<i>S. aureus</i> ATCC 6538 <i>P. aeruginosa</i> ATCC 15442 <i>E. coli</i> ATCC 6633	14 7 10 mm	[559]
<i>Cucurbita maxima</i>	Fruit Pulp, Seeds, Flowers and Callus	Silver nitrate 1 mM/ plant extract 5 % (9:1 v/v) 60°C Incubation time NM pH NM	Spherical 7.3–15.6 nm	Diffusion 37°C 24 h pH NM Inoculum NM Ciprofloxacin 10 µg	<i>E. coli</i>	14 mm	[560]
<i>Corchorus capsularis</i>	Leaves	Silver nitrate 1 mM/ plant extract 2 % (1 :1 v/v) NM 10 min pH NM	Spherical and ellipsoidal 20.5 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Gentamycin 15 µg	<i>P. aeruginosa</i> <i>S. aureus</i>	21 15 mm	[561]
<i>Mentha pulegium</i>	NM	Silver nitrate 10 mM/ plant extract 4 % (1:4 v/v) Room temperature Incubation time NM pH NM	Anisotropic 5–50 nm	Diffusion 37°C 24 h pH NM 1×10 ⁵ CFU/ml Ampicillin 10 µg	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 25923 <i>S. pyogenes</i> ATCC 1447	10 11 10 mm	[562]

<i>Diospyros sylvatica</i>	Roots	Silver nitrate 1 mM/ plant extract** (5 :1 v/v) 60°C 3 h pH NM	Spherical 10–40 nm	Diffusion 37°C 18 h pH NM Inoculum size NM Chloramphenicol 100 µg/ml	<i>B. subtilis</i> MTCC 441 <i>Bacillus pumilis</i> MTCC 432 <i>S. pyogenes</i> MTCC 2327 <i>P. aeruginosa</i> MTCC 424 <i>S. aureus</i> MTCC 3160 <i>E. coli</i> MTCC 443 <i>K. pneumoniae</i> MTCC 452 <i>P. vulgaris</i> MTCC 426	19 23 19 16 16 13 15 20 mm	[300]
				Diffusion 37°C 48 h pH NM Inoculum size NM Nystatin 100 µg/ml	<i>A. niger</i> MTCC 961 <i>A. flavus</i> MTCC 149 <i>Penicillium notatum</i> MTCC 722 <i>Saccharomyces cerevisiae</i> MTCC 783	15 12 13 15 mm	
<i>Trigonella foenum graecum</i>	Leaves	Silver nitrate 1 mM / plant extract 2.5 % (49:1 v/v) 37°C 24 h pH NM	Spherical 2–15 nm	Diffusion 37°C 24 h pH 7.3 Inoculum NM Ciproflaxacin**	<i>Enterococcus faecalis</i> <i>S. aureus</i> <i>Acinetobacter baumannii</i> <i>Enterobacter asburiae</i> <i>Enterobacter cloacae</i> <i>Enterobacter kobei</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>Proteus mirabilis</i> <i>P. aeruginosa</i>	9 10 8 10 10 9 10 8 9 7 mm	[563]
<i>Catharanthus roseus</i>	Callus	Silver nitrate 1 mM/ plant extract 10 % (1:1 v/v) 25°C 96 h pH NM	Spherical 2–15 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>E. coli</i> ATCC 25922	5 mm	[564]

<i>Artemisia vulgaris</i>	Leaves	Silver nitrate 20 mM/ plant extract 1 % (1:1 v/v) Room temperature 2 h pH NM	Spherical 27–53 nm	Diffusion 37°C 24 h pH NM 10 ⁵ –10 ⁶ CFU/ml Gentamycin**	<i>E. coli</i> <i>S. aureus</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i> <i>Haemophilus influenza</i>	14 18 14 13 16 mm	[565]
<i>Momordica charantia</i>	Fruits	Silver nitrate 1 mM/ plant extract 20 % (1:3 v/v) NM 2 h pH NM	Circular 78.5–100 nm	Diffusion 37°C 24 h pH NM Inoculum NM Ciprofloxacin**	<i>S. aureus</i> ATCC 25923 <i>S. typhi</i> ATCC 14028 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27853	24 7 345 26 mm	[566]
<i>Trigonella foenum graecum</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (20:1 v/v) 35°C 96 h pH NM	Spherical 20–30 nm	Diffusion 35°C 24 h pH NM Inoculum NM 1×10 ⁵ CFU/ml Streptomycin**	<i>S. aureus</i> ATCC 29736 <i>E. coli</i> ATCC 8739	12 16 mm	[567]
<i>Syzygium cumini</i>	Leaves	Silver nitrate 5 mM/ plant extract 10 % (10:1 v/v) Room temperature 6 h pH NM	Spherical 16 ± 2 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>S. aureus</i> <i>P. aeruginosa</i>	14 18 mm	[568]
<i>Arbutus unedo</i>	Leaves	Silver nitrate 3 mM / plant extract 10 % (10:1 v/v) 80°C 0.5 h pH 4.3	Spherical 40–50 nm	Dilution 37°C 48 h pH NM 5×10 ⁶ CFU/ml No control	<i>S. epidermidis</i> C5M6 <i>B. subtilis subsp.</i> Bg G11 <i>E. coli</i> DH5a <i>P. aeruginosa</i> ADD1976	15 3 15 15 µg/ml	[569]
<i>Carica papaya</i>	Leaves		Spherical	Diffusion	<i>E. coli</i>	18	[570]

		Silver nitrate 150 mM/ plant extract 3 % (1:1 v/v)	13–69 nm	37°C	<i>B. cereus</i>	17 mm	
<i>Manihot esculenta</i>			Spherical 13–38 nm	24 h pH NM	<i>E. coli</i> <i>B. cereus</i>	17 17 mm	
<i>Morinda citrifolia</i>		37°C 24 h pH NM	Spherical 9–54 nm	5×10 ⁵ CFU/ml No control	<i>E. coli</i> <i>B. cereus</i>	16 13 mm	
<i>Curcuma aromatica</i>	Tuber	Silver nitrate 1 mM/ plant extract 20 % (10:1 v/v) 37°C 24 h pH NM	Triangular and spherical 10–40 nm	Dilution 37°C 24h pH NM Inoculum NM No control	<i>S. aureus</i>	1.95 µg/ml	[571]
<i>Decalepis hamiltonii</i>	Roots	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 37°C 24 h pH NM	Spherical 32.5 nm	Diffusion 37°C 24 h pH NM Inoculum NM Norfloxacin**	<i>B. cereus</i> MTCC 430 <i>Bacillus licheniformis</i> MTCC 2465 <i>E. coli</i> MTCC 10312 <i>S. aureus</i> MTCC 7443 <i>P. aeruginosa</i> ATCC 27853	15 13 14 12 17 mm	[572]
<i>Cardiospermum halicacabum</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) Room temperature 16 h pH NM	Spherical 74 nm	Diffusion 37°C 24 h pH NM Inoculum NM Streptomycin** Ampicillin**	<i>P. vulgaris</i> MTCC 426 <i>P. aeruginosa</i> MTCC 2453 <i>S. aureus</i> MTCC 96 <i>B. subtilis</i> MTCC 441 <i>S. paratyphi</i> MTCC 735	15 15 15 16 21 mm	[573]
				Diffusion 37°C 24 h pH NM Inoculum NM Ketoconazol**	<i>Alternaria solania</i> <i>Fusarium porum</i>	8 18 mm	

<i>Malus domestica</i>	Leaves	Silver nitrate 1 mM/ plant extract 50 % (9:1 v/v) 80°C 16 h pH NM	Spherical 30.3 ± 5.3 nm	Dilution 37°C 24 h pH NM 5×10 ⁵ CFU/ml No control	<i>E. coli</i> <i>S. aureus</i> MRSA <i>P. aeruginosa</i>	125 1000 1000 500 µg/ml	[574]
<i>Ziziphus nummularia</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (12:1 v/v) Room temperature 4 h pH NM	Spherical 30–85 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>S. typhi</i> <i>B. cereus</i>	18 17 18 21 16 mm	[575]
				Dilution Room temperature 96 h 8 days Inoculum NM No control	<i>A. niger</i> <i>A. flavus</i> <i>C. albicans</i>	120 150 95 µg/ml	
<i>Pedaliium murex</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (2:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 20–50 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ofloxacin 2 mg/ml	<i>B. subtilis</i> ATCC 6633 <i>S. aureus</i> ATCC 29737 <i>E. coli</i> ATCC 8739 <i>Micrococcus flavus</i> ATCC 25619 <i>P. aeruginosa</i> ATCC 25619 <i>K. pneumoniae</i> ATCC 10031 <i>B. pumilis</i> ATCC 12228	10 10 11 9 11 9 10 mm	[576]
<i>Dracocephalum moldavica</i>	Seeds	Silver nitrate 1 mM/ plant extract 20 % (100:1 v/v) 60°C 24 h pH NM	Spherical 5–50 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>E. coli</i> <i>P. vulgaris</i> <i>S. aureus</i> <i>Serratia marcescens</i> <i>S. epidermidis</i> <i>B. subtilis</i>	18 13 8 20 11 10 mm	[577]

<i>Biophytum sensitivum</i>	Fruits	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) Room temperature 1 h pH NM	Spherical 7.4 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ciprofloxacin 30 µg	<i>E.coli</i> ATCC 1222 <i>S. aureus</i> ATCC 6538-P	13 11 mm	[578]
<i>Helicteres isora</i>	Roots	Silver nitrate 1 mM/ plant extract 1 % (1:1 v/v) Room temperature 6 h pH NM	Spherical 16–95 nm	Diffusion 37°C 24 h pH NM Inoculum NM Streptomycin**	<i>E. coli</i> <i>Vibrio cholera</i> <i>S. typhi</i> <i>P. aeruginosa</i> <i>B. subtilis</i> <i>Micrococcus luteus</i>	4 6 8 7 8 8 mm	[579]
<i>Psidium guajava</i>	Leaves	Silver nitrate 1 mM/ plant extract 8 % (100:1 v/v) 30°C 10 min pH NM	Spherical 10–90 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>P. aeruginosa</i> MTCC 741	8 mm	[580]
<i>Vigna radiate</i>	Seeds	Silver nitrate 1 mM/ plant extract 20 % (9:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 18 nm	Diffusion 37°C 24 h pH NM Inoculum NM No control	<i>E. coli</i> <i>S. aureus</i>	20 16 mm	[581]
<i>Anthemis tropatana</i>	Arial parts	Silver nitrate 1 mM / plant extract 10 % (25:1 v/v) Room temperature 10 min pH NM	Spherical 38.9 nm	Dilution 37°C 24 h pH NM 5×10 ⁵ CFU/ml No control	<i>S.aureus</i> ATCC 6538 <i>S. pyogenes</i> ATCC 19615 <i>P. aeruginosa</i> ATCC 15442 <i>E. coli</i> ATCC 25922	12.5 50 25 100 µg/ml	[582]

<i>Descurainia sophia</i>	Seeds	Silver nitrate 4 mM / plant extract 10 % (9:1 v/v) 28°C 10 min pH 4.5	Spherical 1–35 nm	Dilution 37°C 48 h pH NM 1.5×10 ⁸ CFU/ml Rifampicin**	<i>Agrobacterium tumefaciens</i> 15843 <i>Agrobacterium rhizogenes</i> GV 3850	4 4 µg/ml	[583]
				Diffusion 28°C 3 days pH NM Inoculum NM No control	<i>Rhizoctonia solani</i>	15 mm	
<i>Cocoa pod husk</i>	Host	Silver nitrate 1 mM / plant extract 10 % (40:1 v/v) 30°C 10 min pH NM	Spherical 4–32 nm	Diffusion 37°C 18 h pH NM 1×10 ⁶ CFU/ml Cefuroxime 30 µg Ampicillin 10 µg	<i>E. coli</i> <i>K. pneumoniae</i>	14 10 mm	[584]
				Diffusion 30 ± 2°C 48 h pH NM 1×10 ⁶ CFU/ml No control	<i>A. flavus</i> <i>Aspergillus fumigatus</i> <i>A. niger</i>	25 23 24 mm	
<i>Aloe vera</i>	Leaves	Silver nitrate 10 mM / plant extract 10% (1:1 v/v) Temperature NM Incubation time NM pH NM	Octahedron 5–50 nm	Diffusion 37°C 24 h pH NM 1×10 ⁷ CFU/ml Gentamycin**	<i>S. aureus</i> <i>B. cereus</i> <i>Micrococcus luteus</i> <i>E. coli</i> <i>K. pneumonia</i>	43 38 33 42 38 mm	[585]

<i>Salmaia malabarica</i>	Gum	Silber nitrate 1 mM/ plant extract 5 % (1:1 v/v) 120°C Incubation time NM pH NM	Spherical 7 ± 2 nm	Diffusion 37°C 24 h pH NM Inoculum NM Ampicillin**	<i>E. coli</i> <i>S. aureus</i>	16 18 mm	[586]
<i>Taxus yunnanensis</i>	Callus	Silver nitrate 1 mM/ plant extract 20 % (9 :1 v/v) 37°C 24 h pH 9	Spherical 6.4–27.2 nm.	Dilution 37°C 24 h pH NM 1×10 ⁶ CFU/ml Gentamycin 1 mM	<i>S. aureus</i> CMCC(B) 26003 <i>S. paratyphi B</i> CMCC(B) 50094 <i>B. subtilis</i> CMCC(B) 63501 <i>E. coli</i> CMCC(B) 44102	2 2 2 2 µg/ml	[587]
<i>Thevetia peruviana</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (4:1 v/v) 50°C 30 min pH NM	Spherical 18.1 nm	Diffusion 37°C 18–24 h pH 7 Inoculum NM No control	<i>E. coli</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i> <i>S. aureus</i> <i>B. subtilis</i> <i>S. typhi</i>	10 10 15 20 11 12 mm	[588]
				Diffusion 28°C 18–24 h pH 7 1×10 ⁵ CFU/ml No control	<i>C. albicans</i> <i>A. niger</i>	20 20 mm	
Hesperidin (<i>Citrus sinensis</i>)	Leaves	Silver nitrate 1 mM/ plant extract 0.02 % (9:1 v/v) Temperature NM Incubation time NM pH 7	Oval 5–50 nm	Diffusion 37°C 24 h pH NM 2.5×10 ⁵ CFU/ml No control	<i>E. coli</i> MTCC 4604 <i>Pseudomonas putida</i> MTCC 1194 <i>S. aureus</i> NCIM 2127	6 5 7 mm	[589]
Naringin (<i>Citrus sinensis</i>)			Oval 5–40 nm		<i>E. coli</i> MTCC 4604 <i>Pseudomonas putida</i> MTCC 1194 <i>S. aureus</i> NCIM 2127	6 5 5 mm	

Diosmin (<i>Citrus sinensis</i>)			Hexagonal 20–80 nm		<i>E. coli</i> MTCC 4604 <i>Pseudomonas putida</i> MTCC 1194 <i>S. aureus</i> NCIM 2127	6 6 7 mm	
<i>Indigofera tinctoria</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 9–26 nm	Diffusion 37°C 24–48h pH NM Inoculum NM No control	<i>Pseudomonas spp</i> <i>B. pumilis</i> <i>S. aureus</i> <i>E. coli</i>	28 13 22 25 mm	[590]
				Diffusion 37°C 24–48 h pH NM Inoculum size NM No control	<i>Aspergillus fumigates</i> <i>A. niger</i>	16 18 mm	
<i>Justicia adhatoda</i>	Roots	Silver nitrate 1mM/ plant extract 10 % (10:1 v/v) 60°C 20 min pH NM	Spherical 25 nm	Diffusion 37°C 24 h pH NM Inoculum NM Tétracyclin**	<i>S. paratyphi</i> <i>P. aeruginosa</i>	15 10 mm	[591]
<i>Skimmia laureola</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (10:1 v/v) Room temperature Incubation time NM pH NM	Spherical and hexagonal 38±0.3 nm	Diffusion 37°C 24 h pH NM Inoculum NM Tetracyclin 10 µg/ml	<i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i> <i>P. vulgaris</i> <i>S. aureus</i>	14 12 13 13 13 mm	[592]
<i>Justicia adhatoda</i>	Leaves	Silver nitrate 1 mM/ plant extract 8 % (7:3 v/v) 60°C	Spherical 5–50 nm	Diffusion 37°C 24 h pH NM	<i>P. aeruginosa</i> MTCC 741	9 mm	[593]

		0.5 h pH NM		Inoculum NM No control			
<i>Caesalpinia ferrea</i>	Seed	Silver nitrate 3 mM/ plant extract 0.1 % (99:1 v/v) 25°C 96 h pH NM	Spheroidal 30–50 nm	Dilution 35 ± 2°C 48 h pH 7 5–25×10 ² CFU/ml Amphotericin B** Nystatin**	<i>C. albicans</i> ATCC 10231 <i>Candida glabrata</i> <i>Candida krusei</i> <i>Candida guilliermondii</i>	312.5 156,3 312.5 156.3 µg/ml	[594]
<i>Alphonsea sclerocarpa</i>	Leaves	Silver nitrate 1 mM/ plant extract 3 % (2.5:1 v/v) 65° 1 h pH NM	Irregular 20–40 nm	Diffusion 25 °C 72 h pH NM 1.5×10 ⁸ CFU/ml Fluconazol 10µg/100µl	<i>Aspergillus brasiliensis</i> <i>A. flavus</i> <i>A. niger</i> <i>Alternaria solani</i> <i>C. albicans</i>	20 10 11 10 12mm	[595]
<i>Oryza sativa</i>	Seeds	Silver nitrate 1 mM/ plant extract 20 % (4:1 v/v) Room temperature 24 h pH NM	Spherical 17.3 ± 0.9 nm	Diffusion 25°C 2–3 days pH NM Inoculum NM No control	<i>Purycularia oryzae</i>	28 mm	[596]
<i>Saccharum officinarum</i>	Leaves	Silver nitrate 1 mM/ plant extract 20 % (8:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 20–50 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum NM Nystatin**	<i>Phytophthora capsici</i> <i>Phytophthora drechsleri</i> <i>Didymella bryoniae</i> <i>Colletotrichum acutatum</i> <i>Cladosporium fulvum</i>	5 4 0 4 4 mm	[597]
<i>Gymnema sylvestre</i>	Callus	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) Temperature NM	Spherical 3–30 nm	Diffusion 28°C 24 h pH NM	<i>C. albicans</i> <i>Candida nonalbicans</i> <i>Candida tropicalis</i>	15 13 16 mm	[598]

		24 h pH NM		Inoculum size NM Voriconazole** Amphotericin B**			
<i>Arnicae anthodium</i>	Leaves	Silver nitrate 1 mM/ plant extract 4.5 % (9:1 v/v) 25°C 24 h pH NM	Spherical 90–118 nm	Dilution 34 °C 18 h pH NM 1×10 ⁶ CFU/ml Nystatin**	<i>C. albicans</i> ATCC 10231	0.2 µg/ml	[599]
<i>Amaranthus gangeticus</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (5:1.5 v/v) 20 min 80°C pH NM	Globular 11–15 nm	Dilution 25°C 48 h pH NM 1×10 ⁸ CFU/ml No control	<i>Sclerotinia spp</i>	0.2 µg/ml	[307]
<i>Syzygium alternifolium</i>	Stem bark	Silver nitrate 1 mM/ plant extract 25 % (10:1 v/v) 60–80°C 1 h pH NM	Spherical 4–48 nm	Diffusion 37°C 24 h pH NM Inoculum NM Fluconazole 50 µg/ml	<i>Alternaria solani</i> <i>A. niger</i> <i>A. flavus</i> <i>Penicillium chrysogenum</i> <i>Trichoderma harzianum</i>	10 9 11 10 11 mm	[600]
<i>Alpinia galanga</i>	Rhizome	Silver nitrate 1 mM/ plant extract 5 % (9:1 v/v) Temperature NM 3 h pH NM	Spherical 20.8 ± 1.8 nm	Diffusion 37°C 48 h pH NM Inoculum size NM No control	<i>A. niger</i>	29 mm	[601]
<i>Guignardia mangiferae</i>	Leaves	Silver nitrate 1 mM/ plant extract 5% (1:1 v/v) 48 h 80°C	Spherical 5–30 nm	Diffusion 37°C 20 h pH 7 5×10 ⁵ CFU/ ml	<i>A. niger</i> <i>Colletotrichum spp</i> <i>Curvularia lunata</i> <i>Fusarium spp</i> <i>Rhizoctonia solani</i>	9 12 11 10 12 mm	[602]

		pH 10		Amphotericin B 1 mg/ ml			
<i>Phoenix dactylifera</i>	Fruits	Silver nitrate 5 mM/ plant extract 20 % (2:1 v/v) 28°C Temperature NM pH NM	Spherical 1–40 nm	Diffusion 28 ± 1°C 72 h pH NM Inoculum NM No control	<i>Rhizoctonia solani</i>	18 mm	[603]
<i>Ocimum tenuiflorum</i>	Leaves	Silver nitrate 2 mM/ plant extract 10 % (9:1 v/v) Room temperature 24 h pH NM	Spherical 2–7 nm	Dilution 35°C 24 h pH NM 4.5×10 ⁵ CFU/ml Fluconazole 4 µg	<i>C. albicans</i> ATCC 90028 <i>Candida tropicalis</i> ATCC 750 <i>Candida glabrata</i> ATCC 90030	60 30 30 µg/ml	[604]
<i>Erythrina suberosa</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) Room temperature 24 h pH NM	Spherical 15–34 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum size NM Clotrimazole**	<i>C. albicans</i> MTCC227 <i>Candida krusei</i> MTCC 9215 <i>Trichophyton mentagrophytes</i> MTCC 8476 <i>Candida viswanathii</i> MTCC 1929	0 15 16 0 mm	[605]
<i>Brassica rapa</i>	Leaves	Silver nitrate 1 mM/ plant extract 30 % (5:1 v/v) 28°C 24 h pH NM	Spherical 16.1 nm	Diffusion 30 °C 48 h pH NM Inoculum NM No control	<i>Gloeophyllum abietinum</i> KACC 51949 <i>Gloeophyllum trabeum</i> KACC 43361 <i>Chaetomium globosum</i> KACC 42262 <i>Phanerochaete sordida</i> KACC 43367	3 8 6 12 mm	[606]
<i>Phyllanthus urinaria</i>	Leaves	Silver nitrate 1 mM/ plant extract 2 % (1:10 v/v) 25°C 8 h	Spherical 28.3 nm	Diffusion Room temperature 96 h pH NM Inoculum size NM	<i>A. niger</i> <i>Fusarium oxysporum</i> <i>A. flavus</i>	10 12 16 mm	[607]
<i>Pouzolzia zeylanica</i>			Hexagonal and triangular		<i>A. niger</i>	6	

		pH 7	26.7 nm	No control	<i>Fusarium oxysporum</i> <i>A. flavus</i>	8 11 mm	
<i>Scoparia dulcis</i>			Spherical 5 nm		<i>A. niger</i> <i>Fusarium oxysporum</i> <i>A. flavus</i>	13 12 15 mm	
<i>Tagetes erecta</i>	Flower	Silver nitrate 1 mM/ plant extract 10 % (20:3 v/v) Room temperature 24 h pH NM	Spherical, triangular and irregular 10–90 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum size NM Nystatin 30 µg/ml	<i>C. albicans</i> NCIM 3102 <i>Candida glabrata</i> NCIM 3448 <i>Candida neoformans</i> NCIM 3542	32 21 25 mm	[608]
<i>Allium cepa</i>	Bulb	Silver nitrate 5 mM/ plant extract 30 % (5:1 v/v)	Spherical 1–10 nm	Dilution 28°C 48 h	<i>Fusarium oxysporum</i> MTCC 3656	10.7 µg/ml	[609]
<i>Musa acuminata</i>	Leaves	50°C 1 h pH 12	Spherical 15–25 nm	pH NM 1×10 ⁸ CFU/ml No control	<i>Fusarium oxysporum</i> MTCC 3656	5.4 µg/ml	
<i>Alstonia scholaris</i>	Bark	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 50 nm	Diffusion 37°C 10 days pH NM Inoculum size NM No control	<i>Aspergillus fumigates</i> <i>A. niger</i> <i>Aspergillus clavatus</i> <i>Cephalosporium acremonium</i> <i>Trichoderma spp</i> <i>R. sporus</i>	4 4 3 2 3 3 mm	[610]
<i>Allamanda cathartica</i>	Leaves	Silver nitrate 1 mM/ plant extract 5 % (1:1 v/v) Temperature NM Incubation time NM pH NM	Spherical 19–34.9 nm	Diffusion Temperature NM 7 days pH NM Inoculum NM Nystatin**	<i>A. flavus</i> <i>A. niger</i> <i>Curcuvalaria lunata</i> <i>Fusarium porum</i> <i>Rhizopus arrhizus</i>	12 10 12 7 13 mm	[611]

<i>Rhinacanthus nasutus</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (9:1 v/v) 60–80°C 20 min pH NM	Spherical 22 nm	Diffusion 37°C 48 h pH NM Inoculum size NM Ciprofloxacin 10 µg	<i>A. niger</i> <i>A. flavus</i>	18 19 mm	[612]
<i>Sesuvium portulacastrum</i>	Callus	Silver nitrate 1 mM/ plant extract 20 % (9:1 v/v) Temperature NM 24 h pH NM	Spherical 5–20 nm	Diffusion 37°C 24 h pH NM 10 ³ CFU/ml No control	<i>Alternaria alternata</i> <i>Penicillium italicum</i> <i>Fusarium equisetii</i> <i>C. albicans</i>	16 18 17 13 mm	[613]
	Leaf				<i>Alternaria alternata</i> <i>Penicillium italicum</i> <i>Fusarium equisetii</i> <i>C. albicans</i>	15 14 14 15 mm	
<i>Brassica oleracea</i>	Leaves	Silver nitrate 1 mM/ plant extract 8 % (10:1 v/v) Room temperature 10 min pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>Bacteroides fragilis</i> ATCC 25285 <i>P. aeruginosa</i> ATCC 9027 <i>S. aureus</i> ATCC 6538 <i>Enterococcus faecalis</i> ATCC 33186 <i>S. pneumoniae</i> ATCC 10015 <i>P. mirabilis</i> ATCC 12453 <i>K. pneumoniae</i> ATCC 10031 <i>E. coli</i> ATCC 25922 <i>S. epidermidis</i> ATCC 12228	9 12 10 11 10 11 10 10 14 mm	[614]
<i>Citrus tangerina</i>	Peels	Silver nitrate 1 mM/ plant extract 10 % (40:3 v/v) Room temperature 5 h pH NM	Spherical 10–70 nm	Diffusion 37°C	<i>E. coli</i> <i>S. aureus</i>	20 14 mm	[615]
<i>Citrus sinensis</i>			Spherical 5–80 nm	48–72 h pH NM	<i>E. coli</i> <i>S. aureus</i>	21 17 mm	
<i>Citrus limon</i>			Spherical 10–50 nm	Inoculum NM No control	<i>E. coli</i> <i>S. aureus</i>	20 16 mm	

<i>Abelmoschus esculentus</i>	Flowers	Silver nitrate 1 mM/ plant extract 5 % (25:1 v/v) Room temperature 72 h pH NM	Spherical 16.2 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Ciprofloxacin 1 mg/ml	<i>B. subtilis</i> MTCC 441 <i>S. aureus</i> ATCC 29213 <i>S. epidermidis</i> MTCC 3615 <i>S. pyogenes</i> ATCC 29213 <i>K. pneumoniae</i> G455 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27584 <i>P. vulgaris</i> ATCC 8427 <i>S. typhi</i> ATCC 14028 <i>Shigella sonnei</i>	12 13 12 13 14 13 11 16 12 14 mm	[616]
<i>Amorphophallus paeoniifolius</i>	Tuber	Silver nitrate 10 mM/ plant extract 0.1 % (1:1 v/v) Temperature NM 2–3 min pH NM	Spherical 22.5 nm	Diffusion 37°C 48 h pH NM Inoculum NM Ciprofloxacin**	<i>E. coli</i> <i>Citrobacter freundii</i> <i>B. subtilis</i> <i>P. aeruginosa</i> <i>S. typhi</i> <i>S. aureus</i>	18 16 14 20 17 13 mm	[617]
<i>Rumexa cetosa</i>	Leaves	Silver nitrate 6 mM/ plant extract 20 % (10 :1 v/v) 60°C 12 h pH 7.5	Spherical 5–80 nm	Diffusion 37°C 24 h pH 7.2 Inoculum NM No control	<i>B. cereus</i> <i>Enterococcus spp</i> <i>E. coli</i> <i>Klebsiella spp</i> <i>Proteus mirabilis</i> <i>Proteus vulgaris</i> <i>Pseudomonas spp</i> <i>S. paratyphy A</i> <i>S. typhi</i> <i>S. typhimurium</i> <i>Serratia</i> <i>Shigella dysentery A</i> <i>Shigella flexneri</i> <i>S. aureus</i> <i>S. epidermidis</i> <i>Vibrio cholera</i>	16 15 18 15 15 16 13 13 14 15 16 18 17 18 18 16 mm	[618]

<i>Vaccinium arctostaphylos</i>	Leaves	Silver nitrate 3 mM/ plant extract 10 % (1:1 v/v) Room temperature 20 min pH NM	Spherical 7–16 mm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamycin** Streptomycin**	<i>S. aureus</i> ATCC 25923 <i>B. subtilis</i> ATCC 9372 <i>E. coli</i> ATCC 25922	14 15 11 mm	[619]
<i>Stenocereus queretaroensis</i>	Fruit peels	Silver nitrate 2 mM/ plant extract 1 % (20:1 v/v) 90°C 24 h pH NM	Spherical 99 nm	Dilution 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml No control	<i>E. coli</i> <i>S. enterica</i> <i>P. aeruginosa</i> <i>S. aureus</i> MRSA	0.3 0.1 0.2 0.3 0.3 µg/ml	[620]
<i>Ocimum tenuiflorum</i>	Leaves	Silver nitrate 1 mM/ plant extract 1.5 % (1:10 v/v) 37°C 24–48 h pH NM	Irregular 28 nm	Diffusion 35°C 18 h pH NM Inoculum NM No control	<i>S. aureus</i> <i>P. aeruginosa</i> <i>E. coli</i> <i>K. pneumoniae</i>	25 20 30 19 mm	[621]
<i>Lippia citriodora</i>	Leaves	Silver nitrate 1 mM/ plant extract 10 % (1:1 v/v) 37°C 24 h pH NM	Spherical 20 nm	Diffusion 37 °C 24 h pH NM Inoculum NM Tetracyclin 0.1 mg/ml	<i>S. aureus</i>	19 mm	[622]
<i>Ocimum gratissimum</i>	Leaves	Silver nitrate 5 mM/ plant extract 2.5 % (1:0.06 v/v) Room temperature 24 h pH 9	Hexagonal 12-60 nm	Disc diffusion 37°C 24 h pH NM 10 ⁵ –10 ⁶ CFU/ml No control	<i>Staphylococcus aureus</i> MTCC7443 <i>Micrococcus luteus</i> MTCC 4821 <i>B. Subtilis</i> MTCC 2389 <i>E. coli</i> MTCC2127 <i>K. pneumoniae</i> MTCC 7162	7.5 8 8 10 12.5 mm	[623]

*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*

Table S2. Green gold nanoparticles exhibiting antibacterial and antifungal activities

Plant type	Part used	Operative conditions for synthesis	NP characteristics (shape and size)	Microbiological analyses (operative conditions)			Ref.
				Methods, Incubation temperature, incubation time, pH, inoculum density, positive control	Tested bacteria	MIC, DOI or PI*	
<i>Convolvulus fruticosus</i>	Flowers	Chloroauric acid 5 mM / plant extract 15 % (5:2 v/v) 50°C 24 h pH NM	Spherical 35 nm	Dilution 37°C 18 h pH NM 1×10 ⁷ CFU/ml Ciprofloxacin**	<i>E. coli</i> <i>Acinetobacter baumannii</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>K. pneumoniae</i> <i>P. mirabilis</i> <i>Enterococcus faecalis</i>	75 75 75 75 150 75 37.5 µg/ml	[624]
<i>Acalypha indica</i>	Leaves	Chloroauric acid 1 mM/ plant extract 30 % (1:1 v/v) 100°C 15 min pH 7	Spherical 20 nm	Disc diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>S. epidermidis</i> <i>E. coli</i>	31 26 mm	[625]
<i>Euphorbia wallichii</i>	Leaves	Chloroauric acid 1 mM/ plant extract 5 % (1:10 v/v) 30°C 24 h pH NM	Spherical 28 nm	Dilution 34°C 24 h pH NM Inoculum size NM Streptomycin**	<i>E. coli</i> <i>S. aureus</i> <i>B. pumilus</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i>	21 15 21 17 17 mm	[626]

<i>Guazuma ulmifolia</i>	Bark	Chloroauric acid 1 mM / plant extract 10 % (10:1 v/v) Room temperature 1 h pH NM	Spherical 20–25 nm	Diffusion 37°C 48 h pH NM Inoculum size NM Neomycin**	<i>B. subtilis</i> <i>S. aureus</i> <i>S. pneumoniae</i> <i>E. coli</i> <i>P. vulgaris</i> <i>Shigella dysenteriae</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	5 3 7 6 5 0 1 1 mm	[627]
				Diffusion 27°C 72 h pH NM Inoculum size NM Amphotricin B**	<i>Trichoderma viridae</i> <i>Fusarium solani</i> <i>A. niger</i> <i>Nigrospora oryzae</i> <i>Aspergillus fumigatus</i> <i>C. albicans</i>	2 6 4 0 0 0 mm	
<i>Glycyrrhiza uralensis</i>	Roots	Chloroauric acid 1 mM/ (1:1 v/v) 80°C 24 h pH NM	Spherical 12 nm	Diffusion 30°C 24 h pH NM Inoculum size NM Neomycin 30 µg	<i>S. aureus</i> <i>E. coli</i> <i>Salmonella enterica</i> <i>P. aeruginosa</i>	13 17 14 11 mm	[628]
<i>Artocarpus heterophyllus</i>	Fruit	Chloroauric acid 2 mM/ plant extract 20 % (1:5 v/v) 90°C 2 h pH NM	Spherical 20–25 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin** Penicillin** Bavistin**	<i>E. coli</i> <i>Streptobacillus spp</i>	17 15 mm	[629]
<i>Allium noeanum</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (10:1 v/v) 50°C	Spherical 10–30 nm	Dilution 37°C 24 h pH NM	<i>S. pneumoniae</i> <i>B. subtilis</i> <i>S. aureus</i> <i>Staphylococcus saprophyticus</i>	60 µg/ml	[630]

		0.5 h pH NM		Inoculum size NM No control	<i>S. typhi</i> <i>P. aeruginosa</i> <i>Shigella flexneri</i> <i>E. coli</i>		
<i>Ribes nigrum</i>	Fruit	Chloroauric acid 0.3 mM/ plant extract 2.5 % (1:1 v/v) 90°C 24 h pH NM	Hexagonal 20 nm	Dilution 34°C 24–48 h pH NM 5×10 ⁵ CFU/ml Amikacin**	<i>S. aureus</i> NCTC 4163 <i>P. aeruginosa</i> NCTC 6749 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> K1 <i>S. aureus</i> K1	13 13 13 13 13 µg/ml	[631]
				Dilution 34°C pH NM 48h 2.5–1×10 ⁵ CFU/ml Nystatin**	<i>C. albicans</i> ATCC 10231 <i>C. albicans</i> K1 <i>A. niger</i> ATCC 16404 <i>Trichophyton rubrum</i> ATCC 28188	26 26 26 26 µg/ml	
<i>Memecylon umbellatum</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (1:2 v/v) 37°C 24 h pH NM	Spherical 15–25 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ofloxacin 10 µg Ciprofloxacin 10 µg Netilmicin 30 µg	<i>P. aeruginosa</i> <i>Streptococcus pyogenes</i> <i>Enterococcus faecalis</i>	10 14.5 7 mm	[632]
<i>Citrullus lanatus</i>	Rind	Gold (III) chloride 1 mM/ plant extract 50 % (10:1 v/v) 100°C 1 h pH NM	Spherical 20–140 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Kanamycin 5 µg	<i>B. cereus</i> ATCC 13061 <i>E. coli</i> ATCC 43890 <i>Listeria monocytogenes</i> ATCC 19115 <i>S. aureus</i> ATCC 49444 <i>S. typhimurium</i> ATCC 43174	11 9 0 0 11 mm	[633]

<i>Artemisia annua</i>	Leaves	Chloroauric acid 5 mM/ plant extract 2 % (1:1 v/v) Room temperature 10 min pH NM	Triangular 15–40 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin 100 mg/ml	<i>E. coli</i> KCTC-1924 <i>P. aeruginosa</i> KCTC-2004 <i>Enterococcus aerogenes</i> KCTC-2190 <i>S. aureus</i> KCTC-1916 <i>B. cereus</i> KCTC-1012	18 10 16 18 23 mm	[634]
<i>Citrus maxima</i>	Peel	Chloroauric acid 1 mM/ plant extract 1% (10:1 v/v) Room temperature 24 h pH NM	Spherical 8–25 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Gentamicin**	<i>S. aureus</i> <i>E. coli</i>	NM NM	[635]
<i>Bauhinia purpurea</i>	Leaves	Chloroauric acid 1 mM/ plant extract 25 % (10:1 v/v) 90°C 25 min pH NM	Nanorods 10–50 nm	Diffusion 37°C 24–48 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>B. subtilis</i> <i>E. coli</i> <i>P. aeruginosa</i>	8 9 11 10	[636]
				Diffusion Room temperature 1 week pH NM Inoculum size NM No control	<i>A. flavus</i> <i>Aspergillus nidulans</i>	8 11 mm	
				Diffusion 37°C 1 week pH NM Inoculum size NM No control	<i>Aspergillus fumigatus</i> <i>A. niger</i>	10 12.5 mm	

<i>Teraxacum officinale</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (19:1 v/v) 70°C 10 min pH NM	Cubic, spherical and rod 20–40 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Penicillin**	<i>E. coli</i> <i>S. aureus</i> <i>B. subtilis</i> <i>C. albicans</i> <i>Saccharomyces cerevisiae</i>	21 19 23 19 18 mm	[637]
<i>Rhodomyrtus tomentosa</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (1:1 v/v) 50°C 48 h pH NM	Spherical 10–20 nm	Dilution 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> ATCC 29213 <i>E. coli</i> ATCC 25922	31.25 500 µg/ml	[638]
<i>Euphrasia officinalis</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (1:5 v/v) 65°C 3 h pH NM	Quasi-spherical 49 ± 1 nm	Diffusion 28°C 24 h pH NM Inoculum size NM No control	<i>P. aeruginosa</i> KACC 14021 <i>E. coli</i> CCARM 0237 <i>S. aureus</i> KCTC 3881 <i>Vibrio parahaemolyticus</i> KACC 15069	15 12 14 15 mm	[639]
<i>Justicia glauca</i>	Leaves	Chloroauric acid 1 mM/ plant extract 3 % (1:1 v/v) Room temperature 10 min pH NM	Hexagonal and spherical 32 nm	Dilution 37°C 24 h pH NM Inoculum size NM Azitromycin 50 µg/ml Claritromycin 50 µg/ml	<i>Micrococcus luteus</i> <i>B. subtilis</i> <i>S. aureus</i> <i>Streptococcus mutans</i> <i>Lactobacillus acidophilus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>Saccharomyces cerevisiae</i> <i>C. albicans</i>	12.5 12.5 12.5 25 25 25 6.3 12.5 12.5 µg/ml	[640]
<i>Lonicera japonica</i>	Flowers	Chloroauric acid 1 mM/ plant extract 10 % (19:1 v/v) Room temperature 2 h	Triangular 8 nm	Diffusion 37°C 24 h pH NM Inoculum size NM	<i>E. coli</i> <i>B. subtilis</i> <i>C. albicans</i> <i>Saccharomyces cerevisiae</i>	21 17 19 15 mm	[641]

		pH NM		Ampicillin**			
<i>Solanum torvum</i>	Fruit	Chloroauric acid 1 mM/ plant extract 10 % (1:4 v/v) Room temperature 24 h pH NM	Spherical 5–10 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>P. aeruginosa</i> <i>B. subtilis</i>	12 11 10 mm	[642]
<i>Terminalia chebula</i>	Seed	Chloroauric acid 10 mM/ plant extract 10 % (1:100 v/v) 80°C 4 h pH NM	Spherical 6–60 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Neomycin 45 µg	<i>S. aureus</i> ATCC 25923 <i>E. coli</i> ATCC 25922	NM NM	[643]
<i>Salix alba</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (15:1 v/v) Room temperature 30 min pH NM	Spherical 50–80 nm	Diffusion 37°C 18–24 h pH NM Inoculum size NM Streptomycin**	<i>K. pneumoniae</i> <i>B. subtilis</i> <i>S. aureus</i>	0 0 10	[644]
				Diffusion 28°C 18–24 h pH NM Inoculum size NM Miconazol**	<i>Alternaria solani</i> <i>A. niger</i> <i>A. flavus</i>	40 50 10 mm	
<i>Hibiscus cannabinus</i>	Stem	Chloroauric acid 1 mM/ plant extract 5 % (1:1 v/v) Room temperature 5 min pH NM	Spherical 13 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>P. aeruginosa</i>	13 15 mm	[645]

<i>Brassica oleracea</i>	Leaves	Chloroauric acid 1 mM/ plant extract 0.5 % (5:1 v/v) 45°C 24 h pH NM	Spherical 24–38 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. typhi</i> <i>E. coli</i> <i>S. aureus</i> <i>B. subtilis</i>	9.5 9 8 6 mm	[646]
<i>Solanum nigrum</i>	Leaves	Gold aurochlorate 1 mM/ plant extract 10 % (10:1 v/v) 85°C 24 h pH NM	Spherical 50 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>B. subtilis</i> <i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i>	22 24 21 23 mm	[647]
<i>Gymnocladus assamicus</i>	Pod	Chloroauric acid 0.5 mM/ plant extract 1 % (2:1 v/v) 60°C 1 h pH NM	Spherical 4–23 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>P.aeruginosa</i> MTCC 2453 <i>S. aureus</i> MTCC 96	23 24 mm	[648]
<i>Carthamus tinctorius</i>	Flowers	Chloroauric acid 2 mM/ plant extract 20 % (9:1 v/v) 60°C 3–4 h pH NM	Triangular and spherical 40–200 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Imipenem** Norfloxacin** Vancomycin **	<i>E. coli</i> <i>Streptobacillus spp</i> <i>A. niger</i> <i>A. flavus</i>	30 21 0 30 mm	[649]
<i>Embelia ribes</i>	Seed	Chloroauric acid 1 mM/ plant extract 10 % (10:1 v/v) 100°C 25 min pH NM	Spherical 10–30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>S. aureus</i>	28 22 mm	[650]

<i>Trianthema decandra</i>	Roots	Chloroauric acid 1 mM/ plant extract 20 % (1:1 v/v) 37°C 24 h pH NM	Spherical 33–65 nm	Diffusion 37°C 24–48 h pH NM 1×10 ⁶ CFU/ml Chloramphenicol**	<i>S. aureus</i> MTCC 29213 <i>Streptococcus faecalis</i> MTCC 0459 <i>Enterococcus faecalis</i> MTCC 2729 <i>E. coli</i> MTCC 443 <i>P. aeruginosa</i> MTCC 1035 <i>Proteus vulgaris</i> MTCC 1771 <i>B. subtilis</i> MTCC 121 <i>Yersinia enterocolitica</i> MTCC 840	14.5 13.5 10 9.5 11.5 15 9.5 15.5 mm	[651]
				Diffusion 37°C 24–48 h pH NM 1×10 ⁶ CFU/ml Nystatin**	<i>C. albicans</i> MTCC 183	8.5 mm	
<i>Rivea hypocrateriformis</i>	Aerial parts	Chloroauric acid 1 mM/ plant extract 5 % (5:2 v/v) 40°C 1 h pH NM	Spherical 20–30 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Ciprofloxacin 100 µg/ml	<i>S. aureus</i> MTCC 7443 <i>K. pneumoniae</i> MTCC 7407 <i>E. coli</i> MTCC 7410 <i>B. subtilis</i> MTCC 121 <i>P. aeruginosa</i> MTCC 7903	8 7 9 9 6 mm	[652]
				Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Fluconazole 100 µg/ml	<i>C. albicans</i> MTCC 227 <i>Chrysosporium indicum</i> MTCC 4266 <i>Trichopyton rubrum</i> MTCC 296	6 6 5 mm	

<i>Jasminum sambac</i>	Leaves	Chloroauric acid 1 mM/ plant extract 5 % (5:1 v/v) 80°C 12 h pH NM	Spherical 20–50 nm	Diffusion 37 °C 24–48 h pH NM 1×10 ⁸ CFU/ml Kanamycin 10 µg Ampicillin 10 µg Erythromycin 10 µg Ciprofloxacin 10 µg	<i>S. aureus</i> <i>E. coli</i> <i>S. typhi</i> <i>P. aeruginosa</i>	18 26 24 21 mm	[653]
				Diffusion 37 °C 24–48 h pH NM 1×10 ⁸ CFU/ml Fluconazol 10 µg Imidazol 10 µg	<i>Trichophyton rubrum</i> <i>C. albicans</i> <i>Candida indicum</i>	9 11 8 mm	
<i>Albizia amara</i>	Leaves	Chloroauric acid 1 mM / plant extract 5 % (10:1 v/v) 30°C 2 h pH NM	Hexagonal 34–64 nm	Diffusion 37 °C 24 h pH 7.4 Inoculum size NM Ciprofloxacin**	<i>S. aureus</i> MTCC 96	16 mm	[654]
<i>Ananas comosus</i>	Peel	Chloroauric acid 2 mM/ plant extract 20 % (2:5 v/v) 90°C 20 min pH NM	Spherical 10 ± 5 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin** Penicillin**	<i>E. coli</i> <i>Streptobacillus spp</i>	14 17 mm	[655]
				Diffusion 37°C 48 h	<i>A. niger</i> <i>A. flavus</i>	14 14 mm	

				pH NM Inoculum size NM No control			
<i>Achillea wilhelmsii</i>	Leaves	Chloroauric acid 1 mM/ plant extract 5 % (9:1 v/v) 60°C 15 min pH NM	Spherical 2.7–38.7 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin** Penicillin** Bavistin**	<i>E. coli</i> <i>Salmonella enterica</i> <i>S. epidermidis</i> <i>B. subtilis</i>	0 0 10 11 mm	[656]
<i>Cerasus serrulata</i>	Leaves	Chloroauric acid 0.5 mM/ plant extract 1 % (5:1 v/v) Room temperature 20 min pH NM	Spherical 5–25 nm	Diffusion 37°C 24 h pH NM 5×10 ⁵ CFU/ml No control	<i>E. coli</i> <i>S. aureus</i>	16 15 mm	[657]
<i>Tamarindus indica</i>	Seeds	Chloroauric acid 1 mM/ plant extract 5 % (1:4 v/v) Room temperature 24 h pH NM	Spherical 8 nm	Diffusion 37°C 24 h pH NM 5×10 ⁵ CFU/ml Streptomycin**	<i>K. pneumoniae</i> <i>B. subtilis</i> <i>S. epidermidis</i>	10 12 10 mm	[658]
<i>Turnera diffusa</i>	Leaves	Chloroauric acid 1 mM/ plant extract 1 % (9:1 v/v) 60°C 4 h pH NM	Spherical 24 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Vibrio parahaemolyticus</i> <i>Aeromonas hydrophila</i>	15 17 mm	[659]
<i>Cotoneaster horizontalis</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (7:5 v/v)	Spherical 18 ± 2 nm	Diffusion 37°C 24 h	<i>P. aeruginosa</i>	17 mm	[660]

		37°C 24 h pH NM		pH NM Inoculum size NM No control			
<i>Combretum erythrophyllum</i>	Leaves	Chloroauric acid 1 mM/ plant extract 5 % (25:1 v/v) 90°C 1 h pH NM	Spherical 13.20 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml Streptomycin 1 mg/ml	<i>Staphylococcus epidermidis</i> ATCC 14990 <i>S. aureus</i> ATCC 25923 <i>Mycobacterium smegmatis</i> MC 215 <i>Proteus mirabilis</i> ATCC 7002 <i>E. coli</i> ATCC 25922 <i>K. pneumoniae</i> ATCC 13822 <i>Klebsiella oxytoca</i> ATCC 8724	62.5 62.5 62.5 62.5 62.5 62.5 62.5 µg/ml	[661]
<i>Tragopogon dubius</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (10:1 v/v) Room temperature 24 h pH NM	Spherical 34 ± 3 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline 30 µg	<i>B. cereus</i> ATCC 14579 <i>E. coli</i> ATCC 35218 <i>S. aureus</i> ATCC 6538 <i>K. pneumoniae</i> ATCC 700603	25 12.5 26 13 mm	[662]
<i>Petroselinum crispum</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (1:1 v/v) 90°C 20 min pH NM	Spherical 17 nm	Diffusion 37°C 48 h pH NM Inoculum size NM No control	<i>B. subtilis</i> <i>Enterococcus faecalis</i> <i>E. coli</i> <i>Enterobacter ludwigii</i>	0 0 4 3.2 mm	[663]
<i>Pimenta dioica</i>	Leaves	Chloroauric acid 1 mM/ plant extract 50 % (3:2 v/v) 30°C 24 h pH NM	Spherical 17 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>E. coli</i>	4 9 mm	[664]

<i>Morchella esculenta</i>	Mushroom	Chloroauric acid 1 mM/ plant extract 20 % (5:1 v/v) 75°C 48 h pH NM	Spherical 16.51 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml Vancomycin** Colistin**	<i>S. aureus</i> <i>B. subtilis</i> <i>E. coli</i>	0.4 0.9 0.2 µg/ml	[665]
				Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml Fluconazole**	<i>C. albicans</i>	0.1 µg/ml	
<i>Cynodon dactylon</i>	Leaves	Chloroauric acid 1 mM/ plant extract 1 % (4:1 v/v) Room 2 h pH NM	Spherical 21.33 nm	Diffusion 37°C 24 h pH NM 5×10 ⁶ CFU/ml Ciprofloxacin**	<i>Enterobacter cloacae</i> <i>Staphylococcus haemolyticus</i> <i>Staphylococcus petrasii</i> <i>B. cereus</i>	13 12 13 12 mm	[666]
<i>Peganum harmala</i>	Leaves	Chloroauric acid/ plant extract 2 % (1:50 w/v) Room temperature 2 h pH NM	Spherical 43 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Cefoxitin** Chloramphenicol**	<i>E. coli</i> <i>S. aureus</i>	25 30 mm	[667]
<i>Rhazya stricta decne</i>	Leaves	Chloroauric acid 2 mM/ plant extract 12 % (5:1 v/v) 24°C 4 h pH NM	Spherical 40 nm	Diffusion 37 °C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>B. subtilis</i>	18 12 mm	[668]

<i>Actinidia deliciosa</i>	Fruit	Chloroauric acid 1 mM/ plant extract 10 % (9:1 v/v) 80°C 1 h pH NM	Spherical 25–40 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>P. aeruginosa</i>	NM	[669]
<i>Angelica pubescens</i>	Roots	Chloroauric acid 5 mM/ plant extract 5 % (2:1 v/v) 80°C 50 min pH NM	Spherical 7 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Neomycin 30 µg	<i>E. coli</i> ATCC 10798 <i>S. aureus</i> ATCC 6538 <i>P. aeruginosa</i> ATCC 27853 <i>Salmonella enterica</i> ATCC 13076	14 17 13 12 mm	[670]
<i>Prunus armeniaca</i>	Gum	Chloroauric acid 1 mM/ plant extract 0.5 % (8:5 v/v) 80°C 10 min pH NM	Spherical 5–40 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Streptomycin**	<i>S. aureus</i> ATCC 25923 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27853	10 9 8 mm	[671]
<i>Senna siamea</i>	Seed	Chloroauric acid 2 mM/ plant extract 16 % (5:2 v/v) 70°C 3 h pH NM	Nearly triangular 50–70 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>B. subtilis</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i> <i>E. coli</i>	13 18 15 21 15 mm	[672]
<i>Ginkgo biloba</i>	Leaves	Chloroauric acid 1 mM/ plant extract 33 % (2:5 v/v) 40°C 12 h pH NM	Spherical 10–30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Agrobacterium tumefaciens</i> <i>B. subtilis</i> <i>E. coli</i>	15 19 19 mm	[673]

<i>Ficus benghalensis</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (2:1 v/v) 30°C 5–7 min pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>B. subtilis</i> <i>S. aureus</i> <i>K. pneumonia</i>	12 8 16 10 mm	[674]
<i>Evolvulus alsinoides</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (9:1 v/v) 60°C 15 min pH NM	Spherical 80 nm	Diffusion 37°C 24–48 h pH NM Inoculum size NM Methicillin 10 µg Itraconazol 10 µg	<i>Aeromonas liquefaciens</i> MTCC 2645 <i>Enterococcus faecalis</i> MTCC 439 <i>K. pneumoniae</i> NCIM 2883 <i>Micrococcus luteus</i> NCIM 2871 <i>S. typhimurium</i> NCIM 2501 <i>Vibrio cholera</i> MTCC 3906	13 17 16 18 14 15 mm	[675]
				Diffusion 25°C 48–72 h pH NM Inoculum size NM Itraconazol 10 µg	<i>C. albicans</i> MTCC 1637 <i>Cryptococcus spp</i> MTCC 7076 <i>Microsporum canis</i> MTCC 3270 <i>Trichophyton rubrum</i> MTCC 3272	10 9 9 7 mm	
<i>Abelmoschus esculentus</i>	Seed	Chloroauric acid 1 mM/ plant extract 2 % (3:2 v/v) Room temperature 10 min pH NM	Spherical 45–75 nm	Diffusion 25°C 72 h pH NM Inoculum size NM Amphotericin B**	<i>Puccinia graminis</i> <i>A. flavus</i> <i>A. niger</i> <i>C. albicans</i>	17 15 16 18 mm	[676]
<i>Rumex hymenosepalus</i>	Roots	Tetrachlauric acid 10 mM/ plant extract 1 % (1:1 v/v) Room temperature 1 h pH NM	Spherical 24 nm	Dilution 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 5538	50 50 µg/ml	[677]

<i>Capsicum annuum</i>	Fruits	Tetrachloroauric acid 5 mM/ plant extract 8 % (5:1 v/v) Room temperature Incubation time pH NM	Spherical 35.1 nm	Diffusion 37°C 48 h pH NM Inoculum size NM Chloramphenicol** Difloxacin**	<i>Pasteurella multocida</i> <i>Klebsiella rhinoscleromatis</i> <i>Streptococcus pyogenes</i> <i>Vibrio vulnificus</i>	32 28 18 33 mm	[678]
<i>Asparagus racemosus</i>	Roots	Tetrachloroauric acid 1 mM/ plant extract 10 % (10:1 v/v) Room temperature 24 h pH NM	Spherical 10–50 nm	Diffusion 37°C 24 h pH NM 1×10 ⁵ CFU/ml Gentamycin** Streptomycin **	<i>P. aeruginosa</i> ATCC 27853 <i>S. aureus</i> ATCC 25923	26 23 mm	[679]
<i>Euphorbia hirta</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (1:1 v/v) 37°C 5 min pH NM	Spherical 6–71 nm	Dilution 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>P. aeruginosa</i> <i>K. pneumoniae</i>	88 86 94 %	[680]
<i>Acorus calamus</i>	Rhizome	Chloroauric acid 1 mM/ plant extract 30 % (1:1 v/v) 100°C 15 min pH 4	Spherical 10 nm	Dilution 37°C 24–48 h pH NM Inoculum size NM No control	<i>S. aureus</i> MTCC 96 <i>E. coli</i> MTCC 1671	63 80 %	[681]
<i>Chenopodium formosanum</i>	Shell	Chloroauric acid 1 mM/ plant extract 1 % (1:2 v/v) 25°C 1 h pH NM	Spherical 8 ± 6 nm	Dilution 37°C 18 h pH NM 1×10 ⁶ CFU/ml Streptomycin 40 µg	<i>E. coli</i> <i>S. aureus</i>	85 60 %	[682]

<i>Avicennia marina</i>	Seeds	Chloroauric acid 1mM/ plant extract 20 % (20:1 v/v) 40°C 24 h pH NM	Spherical 10-15 nm	Dilution 35°C 24 h pH NM Inoculum size NM Neomycin**	<i>E. coli</i> <i>K. pneumoniae</i> <i>S. aureus</i> <i>P. aeruginosa</i> <i>Enterococcus faecalis</i>	200 200 200 200 µg/ml NM	[683]
<i>Chenopodium quinoa</i>	Seed	Chloroauric acid 5 mM/ plant extract 4 % (1:4 v/v) 82°C 30 min pH NM	Spherical 5.5 nm	Dilution 37°C 24 h pH NM 1×10 ⁶ CFU/ml No control	<i>E. coli</i> ATCC 25972 <i>S. aureus</i> ATCC 1901	99 98 %	[684]
<i>Acer pentapomicum</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (10:1 v/v) Room temperature 24 h pH NM	Spherical 19–24 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>B. subtilis</i> <i>Citrobacter freundii</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>Xanthomonas compestris</i>	27 42 38 81 40 38 32 mm	[685]
<i>Panax ginseng</i>	Berries	Gold (III) chloride 1 mM/ plant extract 6 % (1:1 v/v) 80°C 30 min	Spherical 5-10 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Neomycin**	<i>E. coli</i> <i>S. aureus</i>	11 12.3 mm	[686]
<i>Clitoria ternatea</i>	Leaves	Chloroauric acid 1 mM / plant extract 20 % (2:5 v/v) Room temperature	Rod 100 nm	Diffusion 37°C 24 h pH NM Inoculum size NM	<i>S. aureus</i> <i>S. epidermidis</i> <i>E. coli</i> <i>P. aeruginosa</i>	NM	[687]

		24 h		No control			
<i>Pleurotus ostreatus</i>	Basidiocarps	Chloroauric acid 1 mM/plant extract 8 % (5:1 v/v) Room temperature 20 min	Spherical 22.9 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline**	<i>Enterococcus faecalis</i> ATCC 29212 <i>E. coli</i> ATCC 25922 <i>K. pneumonia</i> ATCC 700603 <i>P. aeruginosa</i> ATCC 254992 <i>S. aureus</i> ATCC 254996	0 0 0 29 12 mm	[688]
				Diffusion 37°C 48 h pH NM Inoculum size NM Fluconazole**	<i>C. albicans</i> ATCC 10231	32 mm	
<i>Cajanus cajan</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (9:1 v/v) 60°C 10 min pH NM	Spherical 1-100 nm	Diffusion 37°C 24 h pH NM 1×10 ² CFU/ml No control	<i>Bacillus spp</i> <i>Pseudomonas spp</i>	33 29 mm	[689]
<i>Terminalia bellirica</i>	Fruit	Chloroauric acid 1 mM/ plant extract 5 % (9:1 v/v) Room temperature 20 min pH NM	Spherical, triangular, hexagonal 20-30 nm	Diffusion 37°C 18 h pH NM Inoculum size NM No control	<i>E. coli</i>	14 mm	[690]
				Diffusion 37°C 72 h pH NM Inoculum size NM No control	<i>C. albicans</i> <i>Candida tropicalis</i>	16 13 mm	

<i>Achyranthes aspera</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (1:1 v/v) Room temperature 24 h pH NM	Spherical 18 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Streptococcus mutans</i>	18.5 mm	[691]
<i>Plumbago zeylanica</i>	Leaves	Chloroauric acid 1 mM/ plant extract 2 % (1:1 v/v) Room 24 h pH NM	Spherical 16.89 nm	Diffusion 37°C 16–18 h pH NM Inoculum size NM Netilmicin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>B. subtilis</i> <i>S. aureus</i>	8 11 12 8 mm	[692]
				Diffusion 35°C 48 h pH NM Inoculum size NM Fluconazole**	<i>Candida tropicalis</i> <i>A. flavus</i>	8 0 mm	
<i>Carica papaya</i>	Leaves	Chloroauric acid 1 mM/ plant extract 1 % (1:4 v/v) 55°C 30 min pH NM	Spherical 15±2 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin**	<i>S. aureus</i> <i>Pseudomonas putida</i>	NM NM	[693]
<i>Garcinia kola</i>	Pulp	Chloroauric acid 1 mM/ plant extract 20 % (4:1 v/v) Room 4 h pH NM	Spherical 28 nm	Diffusion 37°C 22 h pH NM 1×10 ⁸ CFU/ml Amoxicillin**	<i>P. aeruginosa</i> <i>E. coli</i> <i>S. aureus</i> <i>B. cereus</i>	11 12 4 7 mm	[694]

<i>Terminalia arjuna</i>	Leaves	Chloroauric acid 1 mM/ plant extract 5 % (20:1 v/v) 60°C 30 min pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> NCIM 5021 <i>P. aeruginosa</i> NCIM 5029 <i>Salmonella typhimurium</i> NCIM 2501	20 18 16 mm	[695]
<i>Populus alba</i>	Leaves	Chloroauric acid 1 mM/ plant extract 5 % (9:1 v/v) 85°C 15 min pH NM	Spherical 16.3 nm	Dilution 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>E. coli</i>	100 100 µg/ml	[696]
<i>Curcuma pseudomontana</i>	Rhizome	Chloroauric acid 1 mM/ plant extract 1 % (20:1 v/v) Room 30 min pH NM	Spherical 16.3 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Streptomycin**	<i>S. aureus</i> <i>E. coli</i> <i>B. subtilis</i> <i>P. aeruginosa</i>	25 28 26 23 mm	[697]
<i>Allium ampeloprasum</i>	Leaves	Chloroauric acid 1 mM/ plant extract 10 % (10:1 v/v) 80°C 48 h pH NM	Spherical 96 nm	Dilution 37°C 24 h pH NM Inoculum size NM Colistin** Vancomycin**	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 29213 <i>B. subtilis</i> ATCC 11774 <i>P. aeruginosa</i> ATCC 27853	0.5 0.1 0.3 1 mg/ml	[698]
				Dilution 37°C 24 h pH NM Inoculum size NM Fluconazole**	<i>C. albicans</i>	0.1 mg/ml	

<i>Glycyrrhiza glabra</i>	Roots	Chloroauric acid 1 mM/ plant extract 2 % (6:1 v/v) 25°C 2.5 h pH 5	Spherical 55 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Norfloxacin**	<i>B. subtilis</i> <i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>S. typhi</i>	25 26 29 25 26 mm	[699]
				Diffusion 37°C 72 h pH NM Inoculum size NM Nystatin**	<i>A. niger</i> <i>C. albicans</i> <i>Fusarium oxysporum</i> <i>A. flavus</i> <i>Penicillium citrinum</i>	14 17 16 18 19 mm	
<i>Viola betonicifolia</i>	Leaves	Chloroauric acid 1 mM / plant extract 15 % (1:1 v/v) 40°C 60 min pH NM	Spherical 13 nm	Dilution 37°C 24 h pH NM 1×10 ⁵ CFU/ml No control	<i>S. aureus</i> ATCC 23235 <i>B. subtilis</i> ATCC 6051 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27853	89 87 92 93 %	[700]
				Dilution 30°C 24 h pH NM 1×10 ⁵ CFU/ml No control	<i>C. albicans</i> ATCC 10231 <i>Aspergillus fumigatus</i> ATCC 13073 <i>A. flavus</i> ATCC 9643 <i>A. niger</i> ATCC 11414	69 76 85 70 %	

*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*

Table S3. Antimicrobial green synthesized zinc (oxide) nanoparticles

Plant type	Part used	Operative conditions for synthesis	NP characteristics (shape and size)	Microbiological analyses (operative conditions)			Ref.
				Methods, incubation temperature, incubation time, pH, inoculum density, positive control	Tested bacteria	MIC, ZOI or PI*	
<i>Veronica multifida</i>	Leaves	Zinc acetate/ plant extract 2 % (1:100 w/v) 50 °C 15 min pH 12	Hexagonal and quasi-spherical 10–100 nm	Diffusion 35°C 16–20 h pH NM 1.5×10 ⁸ CFU/ml Penicillin G 10 mg Gentamicin 10 mg Tetracycline 30 mg	<i>E. coli</i> ATCC 43895 <i>S. aureus</i> ATCC 29213 <i>B. subtilis</i> <i>Bacillus licheniformis</i> <i>P. aeruginosa</i> <i>S. typhi</i>	12 8 15 13 15 14 mm	[701]
<i>Geranium wallichianum</i>	Leaves	Zinc nitrate 1 mM/ plant extract 4 % (3:50 w/v) 60 °C 3 h pH 12	Hexagonal 18 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Oxytetracycline 10 µg	<i>B. subtilis</i> ATCC 6633 <i>S. aureus</i> ATCC 25923 <i>P. aeruginosa</i> ATCC 9721 <i>E. coli</i> ATCC15224 <i>K. pneumoniae</i> ATCC 4617	30 18 22 10 15 mm	[702]

				Diffusion 28°C 48 h pH NM Inoculum size NM Amphotericin B**	<i>A. flavus</i> FCBP 0064 <i>A. niger</i> FCBP 0918 <i>C. albicans</i> FCBP 478 <i>Fusarium solani</i> FCBP 0291 <i>Mucor racemosus</i> FCBP 0300	10 20 12 10 14 mm	
<i>Pelargonium graveolens</i>	Leaves	Zinc acetate/ plant extract 10 % (1:1 w/v) 100°C 20 min pH NM	Spherical 60–80 nm	Diffusion 37°C 24 h pH NM 2×10 ⁵ CFU/ml Amoxycillin**	<i>E. coli</i> <i>S. aureus</i>	18 12 mm	[703]
<i>Capsicum annuum</i>	Fruit	Zinc acetate 5 mM/ plant extract 2 % (4 :1 v/v) 450 °C 30 min pH NM	Hexagonal 30–40 nm	Diffusion 35 ± 1 °C 36 h pH NM 5×10 ⁶ CFU/ml Gentamicin**	<i>E. coli</i> MTCC 443 <i>S. aureus</i> MTCC 5823	8 6 mm	[704]
				Diffusion 28 ± 1°C 72 h pH NM 3×10 ⁵ CFU/ml Fluconazol**	<i>Humicola fuscoatra</i> MTCC 3938	4 mm	
<i>Periploca aphylla</i>	Plant	Zinc acetate/ plant extract 12.5 % (1:50 w/v) 45 °C 25 h pH NM	Spherical 6 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Cefixime 20 µg/ml	<i>E. coli</i> ATCC 2340 <i>Serratia marcescens</i> ATCC 43297 <i>Enterobacter cloacae</i> ATCC 2341	23 19 24.5 mm	[705]
<i>Citrullus colocynthis</i>	Fruit	Zinc nitrate/ plant extract 10 % (3:5 w/v) 100 °C 8 min	Hexagonal 27–85 nm	Diffusion 37°C 24 h pH NM Inoculum size NM	<i>B. subtilis</i> MRSA <i>P. aeruginosa</i> <i>E. coli</i>	14.3 7 12.2 13.4 mm	[706]

		pH NM		No control			
<i>Catharanthus roseus</i>	Leaves	Zinc acetate 10 mM/ plant extract 12 % (50:1 v/v) 40°C 30 min pH 12	Spherical 62–94 nm	Diffusion 30°C 24h pH NM 1×10 ⁸ CFU/ml Streptomycin 10 µg/ml	<i>S. aureus</i> MTCC 9760 <i>B. cereus</i> MTCC 430 <i>P. aeruginosa</i> MTCC 424 <i>P. mirabilis</i> MTCC 3310 <i>E. coli</i> MTCC 40 <i>Streptococcus pyogenes</i> MTCC 1926	12 11.5 11 11 11 11.5 mm	[707]
<i>Hibiscus subdariffa</i>	Leaves	Zinc acetate 91 mM /20 ml of plant extract 5 % (5:2 v/v) 50 °C 10 min pH 10	Spherical 10–60 nm	Dilution 37°C 24 h pH 7 1×10 ⁷ CFU/ml No control	<i>E. coli</i> MTCC 1652 <i>S. aureus</i> MTCC 96	50 50 µg/ml	[708]
<i>Moringa oleifera</i>	Leaves	Zinc nitrate/ plant extract 20 % (1:5 w/v) 60–80 °C 1 h pH NM	Spherical 16–20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 5 µg	<i>S. aureus</i> <i>B. substilis</i> <i>P. aeruginosa</i> <i>Proteus mirabis</i> <i>E.coli</i>	22.5 21.5 20 19 20 mm	[709]
				Diffusion 28–35°C 24h pH NM Inoculum size NM Amphotercin B 10 µg	<i>C. albicans</i> <i>Candida tropicalis</i>	20 18 mm	
<i>Solanum nigrum</i>	Leaves	Zinc nitrate /plant extract 20 % (1:10 w/v) 60°C 2 h pH NM	Spherical 20–30 nm	Diffusion 37°C 18–24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>Salmonella paratyphi</i> <i>Vibrio cholerae</i> <i>E. coli</i>	18 17 11 7 mm	[710]

<i>Petroselinum crispum</i>	Leaves	Zinc acetate/ plant extract 10 % (1:10 w/v) 90°C 72 h pH NM	Spherical 40–50 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i>	4.3 mm	[711]
<i>Sarcopoterium spinosum</i>	Leaves	Zinc nitrate 1 mM/ plant extract 3 % (1:1 v/v) 60°C 2 h pH 10	Spherical 26–115 nm	Dilution 37°C 24 h pH 10 Inoculum size NM Ampicillin**	<i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27853 <i>S. aureus</i> ATCC 25925 <i>B. subtilis</i> ATCC 6633 <i>Enterococcus faecalis</i> ATCC 29212 <i>Streptococcus pneumoniae</i> ATCC 10353	62.5 125 125 62.5 62.5 125 µg/ml	[712]
				Dilution 28°C 24 h pH 10 Inoculum size NM Fluconazol**	<i>Candida glabrata</i> ATCC 4322 <i>C. albicans</i> ATCC 90028	31.3 31.3 µg/ml	
<i>Couroupita guianensis</i>	Leaves	Zinc acetate 25 mM/ plant extract 5 % (25:2 v/v) 70°C 10 min pH NM	Hexagonal 1–100 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>B. cereus</i> <i>K. pneumoniae</i> <i>E. coli</i> <i>Micrococcus luteus</i> <i>S. typhi</i> <i>Vibrio cholerae</i>	17 18 19 15 18 19 mm	[713]
<i>Nephelium lappaceum</i>	Peel	Zinc nitrate 100 mM/ plant extract 10 % (1:10 v/v) 80°C 2 h pH 12	Needle nanocrystals 50 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin 10 µg Gentamicin 10 µg Nalidixic acid 30 µg Chloromphenicol 30 µg	<i>E. coli</i> ATCC 11632 <i>S. aureus</i> ATCC 10536	18 23 mm	[714]

				Cefalexin 30 µg Co trimoxazole 25 µg Penicillin G 10 µg Vancomycin 30 µg Ampicillin 10 µg Oxacillin 1 µg Erythromycin 15 µg Methicillin 5 µg			
<i>Rosa canina</i>	Fruit	Zinc nitrate 50 mM/ plant extract 10 % (1:2 v/v) 150°C 5 h pH 6	Spherical 50 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>Salmonella typhimurium</i> <i>Listeria monocytogenes</i> <i>S. aureus</i>	8 00 10 11 mm	[715]
<i>Terminalia arjuna</i>	Bark	Zinc acetate 1000 mM/ plant extract 10 % (1:10 v/v) 80°C 8 h pH NM	Spherical 21 nm	Diffusion 37°C 18–24 h pH NM Inoculum size NM No control	<i>S. aureus</i> ATCC 6538 <i>E. coli</i> ATCC 9677	22.5 24 mm	[716]
<i>Glycosmis pentaphylla</i>	Leaves	Zinc acetate 200 mM/ plant extract 10 % (1:2 v/v) 60°C 1 h pH NM	Hexagonal 32–36 nm	Diffusion 37°C 24–48 h pH NM Inoculum size NM Ciprofloxacin 5 µg	<i>Shigella dysenteriae</i> <i>B. cereus</i> MTCC 430 <i>Salmonella paratyphi</i> MTCC 735 <i>S. aureus</i> MTCC 737	42 41 40 22 mm	[717]
				Diffusion 30°C 72–96h pH NM Inoculum size NM Nystatin 50 µg	<i>C. albicans</i> MTCC 227 <i>A.niger</i> MTCC 281	34 20 mm	

<i>Adhatoda vasica</i>	Leaves	Zinc acetate 100 mM/ plant extract 5 % (5:1 v/v) 100°C 1 h pH10	Hexagonal 10–12 nm	Dilution 37°C 24h pH NM 1×10 ⁸ CFU/ml Streptomycin 10 µg	<i>S. epidermidis</i> MTCC 435 <i>E. coli</i> MTCC 443 <i>P. aeruginosa</i> MTCC 741 <i>Staphylococcus spp</i> <i>Streptococcus spp</i>	16 16 128 32 128µg/ml	[718]
				Dilution 25°C 72 h pH NM 1×10 ⁶ CFU/ml Fluconazole 10 µg	<i>Aspergillus fumigatus</i> MTCC 6594 <i>Trichophyton rubrum</i> MTCC 296 <i>Microsporum audouinii</i> MTCC 8197 <i>Fusarium spp</i> <i>Candida spp</i>	32 64 256 64 256 µg/ml	
<i>Euphorbia petiolata</i>	Leaves	Zinc nitrate 1000 mM/ plant extract 10 % (5:3 v/v) 80°C 2 h pH NM	Hexagonal 10–12 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Chloramphenicol**	<i>E. coli</i>	12 mm	[719]
<i>Punica granatum</i>	Peel	Zinc nitrate/ plant extract 16 % (1:25 w/v) 80°C 1 h pH 5	Hexagonal 20± 5 nm	Diffusion 37°C 24 h pH NM 1×10 ⁵ CFU/ml Streptomycin** Gentamicin**	MRSA 33591 <i>Proteus vulgaris</i> ATCC 49132 <i>E. coli</i> K12	6 8 9.5 mm	[720]
<i>Swertia chirayita</i>	Leaves	Zinc nitrate 7 mM/ plant extract 3.5 % (1:5 v/v) 80°C 24 h pH NM	Spherical 10 nm	Diffusion 35±2 °C 24h pH NM Inoculum size NM Tetracycline 5 µg/50 ml Ciprofloxacin 20 µg/50 ml	<i>S. aureus</i> ATCC 6538 <i>E. coli</i> ATCC 8739 <i>Salmonella enterica</i> MTCC 3858	14 23 16 mm	[721]

<i>Chelidonium majus</i>	Leaves	Zinc nitrate/ plant extract 1.5 % (1:10 w/v) 90°C 4 h pH NM	Spherical 10 nm	Dilution 34±1 °C 18 h pH NM 1×10 ⁶ CFU/ml Amikacin**	<i>S. aureus</i> ACTC 4163 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> NCTC 6749	40 80 120 µg/ml	[722]
				Dilution 34±1 °C 72 h pH NM 2×10 ⁶ CFU/ml Nystatin**	<i>C. albicans</i> ATCC 10231 <i>A. niger</i> ATCC 16404 <i>Trichophyton rubrum</i> ATCC 28188	120 80 120 µg/ml	
<i>Prunus yedoensis</i>	Leaves	Zinc nitrate 100 mM/ plant extract 25 % (5:1 v/v) 80°C 8 h pH NM	Spherical or oval 10–40 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Penicillin G 10 µg	<i>S. epidermidis</i> KACC 13234 <i>Brevibacterium linens</i> KACC 14346	24 26 mm	[723]
<i>Sechium edule</i>	Leaves	Zinc acetate 5 mM/ plant extract 8 % (4 :1 v/v) 60°C 2 h pH NM	Spherical 36 nm	Diffusion 37°C 24 h pH NM 1×10 ⁴ CFU/ml Streptomycin**	<i>B. subtilis</i> <i>K. pneumoniae</i>	12 14 mm	[724]
<i>Parthenium hysterophorus</i>	Leaves	Zinc nitrate 1 mM/ plant extract 10 % (1:9 v/v) 18°C 15 min pH NM	Spherical and hexagonal 27–84 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Norfloxacin**	<i>S. aureus</i> <i>B. subtilis</i> <i>K. pneumoniae</i> <i>E. coli</i> <i>Enterobacter aerogenes</i>	11 10 14 20 36 mm	[725]
<i>Ruta graveolens</i>	Stem	Zinc nitrate 100 mM/ plant extract 1 % (9:1 v/v) 60°C 4–5 h	Spherical 20–30 nm	Diffusion 37°C 36 h pH NM Inoculum size NM	<i>Klebsiella aerogenes</i> NCIM 2098 <i>E. coli</i> NCIM 5051 <i>S. aureus</i> NCIM 5022 <i>Pseudomonas desmolyticum</i> NCIM 2028	2.3 2.7 6.3 3.7 mm	[726]

		pH 12		Ciprofloxacin 5 µg/50 ml			
<i>Coptidis rhizoma</i>	Rhizome	Zinc nitrate 5 mM/ plant extract 10 % (1:1 v/v) 37°C 1 h pH NM	Rod and spherical 3–25 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Bacillus megaterium</i> <i>Bacillus pumilis</i> <i>E. coli</i> <i>B. cereus</i>	10 9 11 9 mm	[332]
<i>Bauhinia tomentosa</i>	Leaves	Zinc sulfate 2 mM/ plant extract 10 % (4:1 v/v) 60°C 4 days pH NM	Hexagonal 22–94 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Levofloxacin**	<i>P. aeruginosa</i> <i>E. coli</i> <i>B. subtilis</i> <i>S. aureus</i>	20 20 8 11 mm	[727]
<i>Cassia fistula</i>	Leaves	Zinc nitrate 1 mM/ plant extract 10 % (1:10 v/v) 100°C 5 h pH NM	Irregular 5–15 nm	Diffusion 37°C 36 h pH NM Inoculum size NM Ciprofloxacin 5 mg/50 ml	<i>Klebsiella aerogenes</i> NCIM 2098 <i>E. coli</i> NCIM 5051 <i>S. aureus</i> NCIM 5022 <i>Pseudomonas desmolyticum</i> NCIM 2028	10 5 5 4 mm	[728]
<i>Berberis aristata</i>	Leaves	Zinc acetate 100 mM/ plant extract 10 % (1:6 v/v) 70°C 8 h pH 12	Spherical 5–25 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin**	<i>E. coli</i> <i>K. pneumoniae</i> <i>S. aureus</i> <i>B. cereus</i> <i>B. subtilis</i> <i>Serratia marcescens</i> <i>Proteus spp</i> <i>S. typhi</i>	13 15 18 19 26 25 0 0 mm	[729]
<i>Passiflora caerulea</i>	Leaves	Zinc acetate 1 mM/ plant extract 20 % (2:1 v/v) 60°C 1 h pH 12	Spherical 37 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin**	<i>Klebsiella spp</i> <i>Enterococcus spp</i> <i>E.coli</i> <i>Streptococcus spp</i>	11 9.3 13 11.7 mm	[730]

<i>Vitex trifolia</i>	Leaves	Zinc nitrate/ plant extract 10 % (1:20 w/v) 60–80°C 2 h pH NM	Spherical 30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 5 µg	<i>S. aureus</i> <i>B. subtilis</i> <i>P. aeruginosa</i> <i>Proteus mirabilis</i> <i>E. coli</i>	22.5 21.5 19.8 19.3 20.1 mm	[731]
				Diffusion 28–35°C 24 h pH NM Inoculum size NM Amphotericin B 10 µg	<i>C. albicans</i> <i>Candida tropicalis</i>	20.3 17.8 mm	
<i>Cinnamomum verum</i>	Bark	Zinc nitrate/ plant extract 50 % (1:10 w/v) 45–50°C 2 h pH NM	Spherical 10–30 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Streptomycin 25 µg	<i>S. aureus</i> MTCC 7443 <i>E. coli</i> MTCC 7410	16.8 13.3 mm	[732]
<i>Limonia acidissima</i>	Leaves	Zinc nitrate**/ plant extract 10 % (19:1 v/v) 80°C 72 h pH 10	Spherical 12–53 nm	Diffusion 37°C 5 days pH NM 1×10 ⁶ CFU/ml Erythromycin 15 µg	<i>S. aureus</i> MTCC 3160 <i>B. cereus</i> MTCC 8733 <i>Enterococcus faecalis</i> ATCC 35550 <i>E. coli</i> MTCC 433 <i>S. typhi</i> MTCC 3216 <i>P. aeruginosa</i> ATCC 25619	15.2 0 0 0 15.5 13.3 mm	[733]
<i>Rhamnus virgata</i>	Leaves	Zinc nitrate/ plant extract 12 % (3:50 w/v) 25°C 24 h pH NM	Hexagonal 20–30 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Oxytetracycline 10 µg	<i>E. coli</i> ATCC 15224 <i>S. aureus</i> ATCC 25923 <i>B. subtilis</i> ATCC 6633 <i>K. pneumoniae</i> ATCC 4617 <i>P. aeruginosa</i> ATCC 9721	24 18 25 15 14 mm	[734]
				Diffusion 28°C 48 h pH NM	<i>C. albicans</i> FCBP 478 <i>Mucor racemosus</i> FCBP 0300 <i>A. niger</i> FCBP 0918 <i>Fusarium solani</i> FCBP 0291	22 27 25 24	

				1×10 ⁸ CFU/ml Amphotericin B 10 µg	<i>A. flavus</i> FCBP 0064	19 mm	
<i>Cassia auriculata</i>	Flowers	Zinc nitrate/ plant extract 5 % (1:10 w/v) 40°C 2 h pH NM	Hexagonal 50–80 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline 10 µg/ml	<i>E. coli</i> <i>B. subtilis</i> <i>K. pneumonia</i> <i>S. aureus</i> <i>S. typhi</i>	13 17 16 19 13 mm	[735]
<i>Emblica officinalis</i>	Fruit	Zinc nitrate 100 mM/ plant extract 25 % (1:5 v/v) 80°C 2 h pH 6	Hexagonal 35 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 25 µg	<i>B. subtilis</i> <i>Streptococcus pneumoniae</i> <i>S. epidermidis</i> <i>K. pneumoniae</i> <i>S. typhi</i> <i>E. coli</i>	18 16 29 15 15 17 mm	[736]
				Diffusion 28°C 72 h pH NM Inoculum size NM Fluconazol 25 µg	<i>A. niger</i> <i>C. albicans</i>	0 0 mm	
<i>Jatropha curcas</i>	Seed	Zinc acetate 500 mM/ plant extract 10 % (1:3 v/v) 60°C 1 h pH NM	Hexagonal 53 nm	Dilution 37°C 12 h pH NM Inoculum size NM No control	<i>S. aureus</i> ATCC 6538P <i>S. epidermidis</i> ATCC 12228 <i>E. coli</i> ATCC 4157 <i>K. pneumoniae</i> ATCC 9621	62.5 62.5 31.3 31.3 µg/ml	[737]
<i>Aloe vera</i>	Leaves	Zinc sulfate 250 mM/ plant extract 10 % (1:4 v/v) 60 °C 3 h pH 10	Spherical, oval and hexagonal 8–18 nm	Dilution 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> ESBL 336 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ESBL 621 <i>P. aeruginosa</i> ATCC 27853 MRSA <i>S. aureus</i> ATCC 95923	2000 2200 2300 2200 2000 2200 µg/ml	[422]
<i>Rubia cardifolia</i>	Root	Zinc nitrate 25 mM/ plant extract 5 % (9:1 v/v)	Decahedral 14–18 nm	Diffusion 37°C 24h	<i>Vibrio parahaemolyticus</i> <i>Plesiomonas shigelloides</i> <i>Shigella spp</i>	6 16 14	[738]

		60–70°C 10–15 min pH NM		pH NM 1.5×10 ⁸ CFU/ml No control	<i>P. aeruginosa</i> <i>Vibrio alginolyticus</i>	10 12 mm	
<i>Cochlospermum religiosum</i>	Leaves	Zinc nitrate/ plant extract 10 % (1:10 w/v) 60–80°C 2 h pH NM	Hexagonal 76 nm	Diffusion 37 ± 2 °C 24 h pH NM 1.5×10 ⁸ CFU/ml Streptomycin**	<i>B. subtilis</i> MTCC 121 <i>S. aureus</i> MTCC 744 <i>E. coli</i> MTCC 7410 <i>S. typhi</i> MTCC 733	20.1 22.2 20.3 19.4 mm	[739]
<i>Viola canescens</i>	Leaves	Zinc nitrate 1 mM/ plant extract 5 % (1:1 v/v) 60°C 4 h pH NM	Hexagonal 26 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Amoxicillin**	<i>S. aureus</i> <i>E. coli</i>	10.3 7.3 mm	[740]
<i>Vaccinium arctostaphylos</i>	Fruit	Zinc acetate 200 mM/ plant extract 10 % (2:1 v/v) 60°C 24 h pH 10	Spherical 12 nm	Diffusion 37°C 48 h pH NM 1×10 ⁷ CFU/ml No control	<i>S. aureus</i> PTCC 1189 <i>E. coli</i> PTCC 1047	12 15 mm	[267]
<i>Musa acuminata</i>	Peel	Zinc nitrate/ plant extract 5 % (1:50 w/v) 80°C 2h pH NM	Hexagonal 350 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i>	19 mm	[741]
<i>Aristolochia indica</i>	Leaves	Zinc nitrate/ plant extract 20 % (1:20 w/v) 100°C 2 h pH NM	Spherical 22 nm	Dilution 37°C 24 h pH NM 5 × 10 ⁵ CFU/ml Vancomycin** Colistin**	<i>S. aureus</i> ATCC 29213 <i>P. aeruginosa</i> ATCC 27853 <i>E. faecalis</i> ATCC 29212 <i>E. coli</i> ATCC 25922	100 100 100 200 µg/ml	[742]

<i>Nigella sativa</i>	Seed	Zinc nitrate 50 mM/ plant extract 20 % (10 :1 v/v) 45°C 72 h pH 8	Hexagonal 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Azithromycin 2 µg/ml	<i>Chromobacterium violaceum</i> <i>P. aeruginosa</i> <i>E. coli</i> <i>Listeria monocytogenes</i>	32 40 38 14 mm	[70]
<i>Azolla pinnata</i>	Leaves	Zinc nitrate 100 mM / plant extract 10 % (10:1 v/v) 100°C 2 h pH 12	Spherical 12–20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i>	4 mm	[336]
<i>Justicia adhatoda</i>	Leaves	Zinc nitrate 1 mM/ plant extract 10 % (1:5 w/v) 80°C 10 min pH 10	Spherical 55–83 nm	Diffusion 37°C 24h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>E.coli</i>	19 21 mm	[743]
<i>Melia dubia</i>	Leaves	Zinc acetate 100 mM/ plant extract 10 % (2:1 v/v) 60°C 2 h pH NM	Hexagonal 13 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> ATCC25933 <i>E. coli</i> ATCC25922	7 8 mm	[744]
<i>Mentha pulegium</i>	Leaves	Zinc nitrate/ plant extract 5 % (1:10 w/v) 60–80°C 2 h pH NM	Quasi-spherical 40 nm	Diffusion 37 °C 24 h pH NM 1×10 ⁶ CFU/ml Ciprofloxacin 5 µg	<i>S. aureus</i> ATCC 25923 <i>E. coli</i> ATCC 25922	23 19 mm	[301]
<i>Tabernaemontana divaricata</i>	Leaves	Zinc nitrate/ plant extract 20 % (1:10 w/v) 80°C	Spherical 20–50 nm	Diffusion 37 °C 24 h pH NM	<i>Salmonella paratyphi</i> <i>E. coli</i> <i>S. aureus</i>	NM NM NM	[302]

		2 h pH NM		Inoculum size NM No control			
<i>Lavandula vera</i>	Leaves	Zinc sulfate 1 mM/ plant extract 10 % (4:1 v/v) 80°C 30 min pH NM	Spherical 30–80 nm	Dilution 37°C 24 h pH NM 1×10 ⁵ CFU/ml Tobramycin 10 µg Nalidixic acid 30 µg Ceftriaxone 30 µg Ciprofloxacin 5 µg Bacitracin 0.04 unit Vancomycin 30 µg Cephalexin 30 µg Cefixime 5 µg Gentamicin 10 µg Tetracycline 30 µg Amikacin 30 µg Streptomycin 10 µg Amoxicillin 25 µg Cloxacillin 5 µg Erythromycin 15 µg Methicillin 5 µg Imipenem 10 µg Azithromycin 15 µg Kanamycin 30 µg	<i>S. aureus</i> <i>P. aeruginosa</i> <i>Proteus mirabilis</i>	2.6 2.6 2.6 µg/ml	[745]
<i>Pelargonium zonale</i>	Leaves	Zinc oxide/ plant extract 10 % (1:10 w/v) 150°C 2h pH NM	Hexagonal 61 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>E. coli</i>	15 10 mm	[746]
<i>Ailanthus altissima</i>	Fruit	Zinc nitrate 5 mM/ plant extract 1 % (1:1 v/v)	Spherical 5–40 nm	Diffusion 37°C 24 h	<i>E. coli</i> <i>S. aureus</i>	16 20 mm	[747]

		80°C 4 h pH NM		pH NM Inoculum size NM Chloramphenicol**			
<i>Sutherlandia frutescens</i>	Leaves	Zinc nitrate/ plant extract 10 % (2:25 w/v) 80°C 2 h pH NM	Spherical 5–25 nm	Dilution 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>E. faecalis</i> <i>E. coli</i>	0.3 1.3 2.5 mg/ml	[292]
<i>Mirabilis jalapa</i>	Leaves	Zinc acetate 500 mM/ plant extract 10 % (1:1 v/v) 60°C 2 h pH NM	Spherical 13–33 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Roxithromycin**	<i>S. aureus</i> ATCC 6538 <i>B. subtilis</i> ATCC 6633 <i>E. coli</i> ATCC 15224 <i>P. aeruginosa</i> ATCC 9721 <i>K. pneumoniae</i> ATCC 4619	18 25 17 20 21 mm	[748]
<i>Albizia lebbbeck</i>	Stem	Zinc nitrate 10 mM / plant extract 20 % (9:1 v/v) 60°C 5h pH 12	Irregular spherical 66 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 10 µg	<i>B. cereus</i> ATCC 7064 <i>S. aureus</i> 6538 P <i>E. coli</i> O157 H7 <i>K. pneumoniae</i> ATCC 27738 <i>S. typhi</i> B 4420	8.8 4.5 9.1 7.3 10.6 mm	[749]
<i>Ocimum tenuiflorum</i>	Leaves	Zinc nitrate/ plant extract 10 % (1:10 w/v) 60–80°C 2h pH NM	Hexagonal 14–28 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 10 µg	<i>S. aureus</i> <i>P. aeruginosa</i> <i>E. coli</i>	13 18 17 mm	[750]
<i>Costus pictus</i>	Leaves	Zinc nitrate 100 mM/ plant extract 8 % (5:1 v/v) 80°C 4h pH NM	Hexagonal 20–40 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 10 µg	<i>S. aureus</i> <i>B. subtilis</i> <i>E. coli</i> <i>Salmonella paratyphi</i>	10 17 10 12 mm	[751]

				Diffusion 37°C 24 h pH NM Inoculum size NM Fluconazol 10 µg	<i>C. albicans</i> <i>A. niger</i>	12 16 mm	
<i>Lagenaria siceraria</i>	Leaves	Zinc nitrate/ plant extract 10 % (3:50 w/v) 80°C 2 h pH 10	Hexagonal 120 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin 5 µg	<i>B. subtilis</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>S. pyogenes</i>	14 11 16 16 12 mm	[752]
<i>Pithecellobium dulce</i>			Hexagonal 34.7 nm		<i>B. subtilis</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>S. pyogenes</i>	15 17 19 19 15 mm	
<i>Artabotrys hexapetal</i>	Leaves	Zinc nitrate 500 mM/ plant extract 10 % (1:1 v/v) 80°C 2 h pH NM	Spherical 15–20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Streptococcus pneumoniae</i> <i>Serratia marcescens</i>	5 13 mm	[753]
<i>Bambusa vulgaris</i>			Hexagonal 20–50 nm		<i>Streptococcus pneumoniae</i> <i>Serratia marcescens</i>	6 15 mm	
<i>Nyctanthes arbor-tristis</i>	Flowers	Zinc acetate 10 mM/ plant extract 10 % (1:5 v/v) 60°C 2 h pH 12	Hexagonal 32 nm	Dilution 28°C 72 h pH NM 1×10 ⁵ CFU/ml No control	<i>Aspergillus alternata</i> <i>A. niger</i> <i>Botrytis cinerea</i> <i>Fusarium oxysporum</i> <i>Penicillium expansum</i>	64 16 128 64 128 µg/ml	[754]
<i>Aegle marmelos</i>	Fruit	Zinc nitrate/ plant extract 5 % (3:10 w/v)	Hexagonal 20 nm	Diffusion 37°C 24 h	<i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i>	6 7.5 3	[755]

		100°C 2h pH NM		pH NM 1×10 ⁵ CFU/ml No control	MRSA <i>K. pneumoniae</i> <i>B. subtilis</i> <i>S. typhi</i>	3 2 12 7 mm	
<i>Ziziphus nummularia</i>	Leaves	Zinc nitrate/ plant extract 5 % (1:10 w/v) 80°C 2 h	Spherical and irregular 17.3 nm	Diffusion 28°C 48 h pH NM 6×10 ⁵ CFU/ml Clotrimazol 10 µg Fluconazol 10 µg Itraconazol 30 µg Ketoconazol 30 µg	<i>C. albicans</i> ATCC 2091 <i>Candida glabrata</i> NCIM 3448 <i>Cryptococcus neoformans</i> ATCC 34664	12.5 12 15.5 mm	[756]
<i>Lantana aculeata</i>	Leaves	Zinc nitrate/ plant extract 10 % (1:2 w/v) 100°C 5 h pH NM	Spherical 12±3 nm	Diffusion 37°C 48 h pH NM Inoculum size NM Amphotericin B 10 µg/ml	<i>A. niger</i> <i>Fusarium oxysporum</i>	21 19 mm	[757]
<i>Syzygium aromaticum</i>	Flowers	Zinc acetate/ plant extract 10 % (1:5 w/v) 80°C 5–10 min pH NM	Hexagonal 35nm	Dilution 28°C 14 days pH NM 1×10 ⁶ CFU/ml No control	<i>Fusarium graminearum</i>	140 µg/ml	[758]
<i>Ricinus communis</i>	Seed	Zinc nitrate/ plant extract 25 % (1:35 w/v) 40±10 °C 10–15 min pH NM	Hexagonal 12–14 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Penicillium expansum</i> <i>Aspergillus spp</i> <i>Rhizopus spp</i>	3 4 0 mm	[759]
<i>Azima tetracantha</i>	Leaves	Zinc sulfate 500 mM/ plant extract 10 % (1:1 v/v) 90°C	Spherical 18–25 nm	Diffusion 28°C 60 h pH NM	<i>A. niger</i> <i>C. albicans</i>	16 48 mm	[760]

		4 h pH NM		1×10 ⁵ CFU/ml No control			
<i>Scadoxus multiflorus</i>	Leaves	Zinc nitrate 1 mM/ plant extract 30 % (4:1 v/v) 60° C 3 h pH NM	Irregular and spherical 31 nm	Standard plate count 28° C 24 h pH NM Inoculum size NM Carbendazim**	<i>A. flavus</i> MTCC873 <i>A.niger</i> MTCC282	76 63 %	[335]
<i>Trianthema portulacastrum</i>	Plant	Zinc sulfate 30 mM/ plant extract 40% (5:2 v/v) 25° C 10 min pH NM	Spherical 25–90 nm	Diffusion 37° C 24 h pH NM 1×10 ⁸ CFU/ml Chloramphenicol **	<i>E. coli</i> <i>S. aureus</i>	16 16 mm	[19]
				Diffusion 25° C 7 days pH NM Inoculum size NM Nystatin**	<i>A.niger</i> <i>A. flavus</i> <i>A. fumigatus</i>	45 41 51 %	
<i>Pithecellobium dulce</i>	Peel	Zinc nitrate 5 mM/ plant extract 10 % (4: 1 v/v) 80° C 45 min pH NM	Spherical 50–70 nm	Dilution 37° C 72 h pH NM Inoculum size NM Fluconazol	<i>A. flavus</i> <i>A.niger</i>	63.6 43 %	[761]
<i>Costus igneus</i>	Leaves	Zinc acetate 20 mM / plant extract 10 % (10:1 w/v) 80° C 30 min pH NM	Spherical 65–95 nm	Diffusion 37° C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>S. epidermis</i> <i>E. coli</i> <i>K. pneumoniae</i>	60 70 48 52 %	[762]

<i>Jacaranda mimosifolia</i>	Flowers	Zinc gluconate 0.1 mM/ plant extract 1 % (1:1 v/v) 60°C 3 h pH 12	Hexagonal 4 nm	Standard plate count 35±1 °C 24 h pH NM 1×10 ⁶ CFU /ml No control	<i>Entrococcus faecium</i> ATCC 35667 <i>E. coli</i> ATCC 25922	98 92 %	[763]
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*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*

Table S4. Green platinum nanoparticles exhibiting antimicrobial activity

Plant type	Part used	Operative conditions for synthesis	NP characteristics	Microbiological analyses (operative conditions)			Refs.
				Methods,	Tested bacteria or fungi	MIC, DOI or PI*	

			(shape and size)	incubation temperature, incubation time, pH, inoculum density, positive control			
<i>Spinacia oleracea</i>	Leaves	Hexachloroplatinic acid 20 mM/ plant extract 75 % (2:1 v/v) 100°C 24 h pH NM	Rod 154 nm	Diffusion 37°C 24 h pH NM 1×10 ⁵ CFU/ml No control	<i>S. typhi</i> MTCC 098	13 mm	[227]
<i>Prunus yedoensis</i>	Gum	Hexachloroplatinic acid 100 mM/ plant extract 25 % (5:1 v/v) 80°C 5 h pH NM	Spherical and oval 10–50 nm	Diffusion 37°C 48 h pH NM Inoculum size NM Nystatin	<i>Phytophthora capsici</i> <i>Phytophthora drechsleri</i> <i>Didymella bryoniae</i> <i>Colletotrichum acutatum</i> <i>Cladosporium fulvum</i>	0 0 0 15 18 mm	[764]
<i>Xanthium strumarium</i>	Leaves	Hexachloroplatinic acid 1 mM/ plant extract 1 % (19:1 v/v) 100°C 1 h pH NM	Cubic 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Azithromycin 30 µg	<i>E. coli</i> ATCC 25922 <i>K. pneumoniae</i> MTCC 930 <i>P. aeruginosa</i> ATCC 27853 <i>S. aureus</i> ATCC 25923 <i>B. subtilis</i> MTCC 441	20 19 18 22 19	[765]
				Diffusion 37°C 72 h pH NM Inoculum size NM Clotrimazol 30 µg	<i>C. albicans</i> MTCC 227 <i>Candida tropicalis</i> <i>Candida parapsilosis</i> <i>A. flavus</i> MTCC 277 <i>A. niger</i> MTCC 281	16 17 15 16 15 mm	

<i>Jatropha gossypifolia</i>	Leaves	Hexachloroplatinic acid 1 mM/ plant extract 30 % (9:1 v/v) 30°C 1 h pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracyclin 10 µg	<i>Bacillus licheniformis</i> <i>S. epidermidis</i> <i>S. aureus</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	0 0 10 0 8 7 mm	[766]
<i>Jatropha glandulifera</i>			Spherical 100 nm		<i>Bacillus licheniformis</i> <i>S. epidermidis</i> <i>S. aureus</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	0 0 10 0 9 9 mm	
<i>Phoenix dactylifera</i>	date	Hexachloroplatinic acid 1 mM/ date extract 20 % (5:6 v/v) 90 °C 20 min pH 8.5	Spherical 45 nm	Diffusion 37°C 24 h pH NM NM No control	<i>P. aeruginosa</i> <i>S. pyogenes</i>	32.5 35.5 mm	[767]
<i>Combretum erythrophyllum</i>	Leaves	Hexachloroplatinic acid 1 mM/ plant extract 5 % (5:1 v/v) 90 °C 1 h pH NM	Spherical 1.04±0.26 nm	Dilution 37°C 24 h pH NM Inoculum size NM Streptomycin**	<i>S. epidermidis</i> ATCC 14990 <i>Klebsiella oxytoca</i> ATCC 8724 <i>Klebsiella aerogenes</i> ATCC 27853	3.1 1.6 1.6 µg/ml	[768]
<i>Tragia involucrata</i>	Leaves	Hexachloroplatinic acid 1 mM/ plant extract 30 % (9:1v/v) 50°C 1 h	Spherical 10 nm	Diffusion 37°C 24 h pH NM 10 ⁵ CFU/ml Gentamicin**	<i>E. coli</i> <i>S. aureus</i>	23 19 mm	[769]
<i>Atriplex halimus</i>	Leaves	Hexachloroplatinic acid 1.9 mM/ plant extract 5 % (1:10 v/v)	Spherical 3 nm	Diffusion 37°C 24 h	<i>E. coli</i> <i>K. pneumoniae</i> <i>B. subtilis</i>	0 17 0	[770]

		95°C 1 h pH 9.6		pH NM 2×10 ⁸ CFU/ml No control	<i>S. aureus</i>	0 mm	
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*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*

Table S5. Green palladium nanoparticles with antimicrobial activity

Plant type	Part used	Operative conditions for synthesis	NP characteristics (shape and size)	Microbiological analyses (operative conditions)			Refs.
				Methods, incubation temperature, incubation time, pH, inoculum density, positive control	Tested bacteria or fungi	MIC, DOI or PI*	
<i>Salvia hispanica</i>	Leaves	Palladium chloride 100 mM/ plant extract 5 % (4:1 v/v) 80°C 10 min pH NM	Spherical 25 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Gentamycin** Penicillin**	<i>S. aureus</i> <i>E. coli</i>	25.5 21.2 mm	[771]

<i>Diospyros kaki</i>	Leaves	Palladium chloride 1 mM/ plant extract 20 % (1:1 v/v) 60-70°C 25 min pH NM	Spherical 98 nm	Diffusion 37°C 24 h pH NM 10 ⁸ CFU/ml No control	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 25923	18 10.5 mm	[772]
<i>Santalum album</i>	Leaves	Palladium chloride 1 mM/ plant extract 10 % (9:1 v/v) 60°C 10 min pH NM	Spherical 19 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Levofloxacin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>B. subtilis</i>	31 30 12 18 mm	[773]
<i>Solanum nigurum</i>	Leaves	Palladium chloride 0.3 mM/ plant extract 10 % (1:8 v/v) 100°C 10 min pH NM	Spherical 21.55 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i>	18 mm	[774]
<i>Sapium sebiferum</i>	Leaves	Palladium chloride 0.003 mM/ plant extract 5 % (5:1 v/v) 70°C 2 h pH NM	Spherical 5 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Streptomycin**	<i>S. aureus</i> <i>B. subtilis</i> <i>P. aeruginosa</i>	29 19 11 mm	[775]
<i>Orthosiphon stamineus</i>	Gum	Palladium chloride 1 mM/ plant extract 1 % (1:5 v/v) 85°C 2 h pH NM	Spherical 20 nm	Well diffusion 37°C 24 h pH NM Inoculum size NM Erythromycin**	<i>E. coli</i> <i>S. aureus</i>	18 19 nm	[776]
<i>Anogeissus latifolia</i>	Gum	Palladium chloride 1 mM/ plant extract 10 % (1:1 v/v) 121°C	Spherical 5 nm	Diffusion 37°C 24 h pH NM	<i>P. aeruginosa</i> ATCC 27853 <i>S. aureus</i> ATCC 25923	14.3 12 mm	[777]

		30 min pH NM		1×10 ⁸ CFU/ml Streptomycin 10 µg			
<i>Couroupita guianensis</i>	Fruit	Palladium chloride 1 mM/ plant extract 5 % (19:1 v/v) 30°C 9 h pH NM	Spherical 5–15 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Streptomycin 1mg/ml	<i>S. aureus</i> MTCC96 <i>E. coli</i> MTCC1687 <i>Proteus mirabilis</i> MTCC 425 <i>P. aeruginosa</i> MTCC 1688 <i>Vibrio cholerae</i> MTCC 3906 <i>B. cereus</i> MTCC 1272 <i>S. typhi</i> MTCC 3917 <i>Micrococcus luteus</i> MTCC 1809 <i>K. pneumoniae</i> MTCC 530 <i>Rhodococcus rhodochorous</i> MTCC 265	12 17 13 12 14 13 15 9 20 13 mm	[778]
<i>Melia azedarach</i>	Leaves	Palladium chloride 1 mM/ plant extract 10 % (10:1 v/v) 100°C 20 min pH NM	Spherical 10–20 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Ofloxacin** Gentamicin**	<i>B. subtilis</i> ATCC 6633 <i>S. aureus</i> MTCC 96 <i>S. pneumoniae</i> MTCC 1936 <i>E. coli</i> MTCC 40 <i>Proteus vulgaris</i> MTCC 7299 <i>P. aeruginosa</i> MTCC 2642	8.3 7.3 5.3 7.3 5.3 7.3 mm	[779]
				Diffusion 37°C 48 h pH NM 1.5×10 ⁸ CFU/ml Ofloxacin** Gentamicin**	<i>A. niger</i> <i>Fusarium solani</i> <i>Nigrospora oryzae</i> <i>Trichoderma viride</i>	0 0 0 0 mm	
<i>Padina boryana</i>	Powder	Tetrachloropalladate 10 mM/ plant extract 5 % (20:1 v/v) 60°C 2 h pH NM	Spherical 8.7 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamicin**	<i>S. aureus</i> <i>Escherichia fergusonii</i> <i>Acinetobacter pittii</i> <i>P. aeruginosa</i> <i>Aeromonas enteropelogenes</i> <i>Proteus mirabilis</i>	18 20 23 21 19 23 mm	[780]

<i>Catharanthus roseus</i>	Leaves	Palladium chloride 1 mM/ plant extract 5 % (5:1 v/v) 60°C 1 h pH NM	Spherical 38 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Streptomycin**	<i>Proteus mirabilis</i> <i>S. aureus</i>	12 11 mm	[781]
<i>Citrullus lanatus</i>	Rind	Palladium chloride 1 mM/ plant extract 2 % (2:1 v/v) 30°C 24 h pH NM	Spherical 96 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>S. typhi</i>	29 23 mm	[782]
<i>Stachys lavandulifolia</i>	Herbal	Palladium chloride 1 mM/ plant extract 10 % (1:1 v/v) 100°C 2 h pH NM	Spherical 5-7 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Chloramphenicol**	<i>S. aureus</i> <i>P. aeruginosa</i> <i>B. cereus</i>	15 17 19 mm	[783]
<i>Hypericum hookerianum</i>	Leaves	Palladium chloride 1 mM/ plant extract 10 % (1:1 v/v) 70°C 15 min pH NM	Spherical 2-10 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>B. subtilis</i> <i>P. aeruginosa</i>	17 mm	[784]

*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*

Table S6. Green copper nanoparticles exhibiting antimicrobial activity

Plant type	Part used	Operative conditions for synthesis	NP Characteristics (shape and size)	Microbiological analyses (operative conditions)			Refs.
				Methods, incubation temperature, incubation time, pH, inoculum density, positive control	Tested bacteria or fungi	MIC, DOI or PI*	
<i>Echinops sp.</i>	Roots	Copper (II) nitrate 500 mM/ plant extract 10 % (4:1 v/v) Room 24 h pH NM	Spherical 20 nm	Diffusion 35±2°C 18–24 h pH NM Inoculum size NM Chloramphenicol**	<i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>E. aerogenes</i>	13 12 10 12 mm	[785]
<i>Aerva javanica</i>	Leaves	Copper (II) chloride 4 mM/ plant extract 10 % (25:1 v/v) 80°C 2 h pH NM	Spherical, hexagonal and oval 12–14 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Norfloxacin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>Acinetobacter baumannii</i>	5 5 9 5 mm	[786]
<i>Hagenia abyssinica</i>	Leaves	Copper (II) sulfate 5 mM/ plant extract 10 % (10:1 v/v) 50°C	Spherical 34.8 nm	Diffusion 37°C 24 h pH NM	<i>E. coli</i> <i>S. aureus</i> <i>B. subtilis</i> <i>P. aeruginosa</i>	12 14 14 12 mm	[787]

		24 h pH 7		1.3×10 ⁸ CFU/ml Ampicillin**			
<i>Syzygium aromaticum</i>	Bud	Copper (II) acetate 1 mM/ plant extract 10 % (5:1 v/v) 30°C 15 min pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Staphylococcus spp</i> <i>E. coli</i> <i>Pseudomonas spp</i> <i>Bacillus spp</i>	5 6 7 8 mm	[788]
				Diffusion 37°C 72 h pH NM Inoculum size NM No control	<i>A. niger</i> <i>A. flavus</i> <i>Penicillium spp</i>	5 5 6 mm	
<i>Ocimum sanctum</i>	Leaves	Copper (II) sulfate 50 mM/ plant extract 10 % (1:1 v/v) 60°C 10-15 min pH NM	Spherical 29 nm	Dilution 37°C 18–24 h pH NM Inoculum size NM Doxycycline**	<i>E. coli</i> <i>B. subtilis</i> <i>C. albicans</i>	31.2 - 125 ug	[789]
<i>Parthenium hysterophorus</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 10 % (5:2 v/v) Room 24 h pH NM	Spherical 20 nm	Diffusion 37°C 24h pH NM Inoculum size NM Streptomycin**	<i>B. subtilis</i> <i>S. aureus</i>	46 35	[790]
				Diffusion 28°C 48–72 h pH NM Inoculum size NM No control	<i>C. albicans</i> <i>A. flavus</i>	35 42 mm	
<i>Gloriosa superba</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 5 % (4:1 v/v)	Spherical 5–10 nm	Diffusion 37°C 24–36 h	<i>Klebsiella aerogenes</i> NCIM 2098 <i>E. coli</i> NCIM 5051 <i>S. aureus</i> NCIM 5022	15 13 6	[262]

		60°C 3–4 min pH NM		pH NM Inoculum size NM Ciprofloxacin 0.5 µg/µl	<i>Pseudomonas desmolyticum</i> NCIM 2028	5 mm	
<i>Cassia auriculata</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 5 % (4:1 v/v) Room temperature 5 h pH NM	Clusters 38 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Amoxicillin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>Proteus mirabilis</i> <i>B. cereus</i> <i>K. pneumoniae</i>	16 10 14 16 18 14 mm	[263]
<i>Bifurcaria bifurcate</i>	Alga	Copper (II) sulfate 1 mM / plant extract 20 % (10:1 v/v) 100–120°C 24 h pH NM	Spherical 5-45 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Gentamicin**	<i>Enterobacter aerogenes</i> <i>S. aureus</i>	14 16 mm	[791]
<i>Zingiber officinale</i>	Rhizome	Copper (II) sulfate 5 mM/ plant extract 30 % (5:3 v/v) 60°C 4 h pH NM	Spherical 31 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin**	<i>E. coli</i>	22 mm	[792]
<i>Nerium oleander</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 5 % (4:1 v/v) 50°C 20 min pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Gentamicin**	<i>E. coli</i> <i>S. aureus</i> <i>K. pneumoniae</i> <i>S. typhi</i> <i>B. subtilis</i>	10 13 10 18 14 mm	[793]
<i>Tilia europaea</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 20 % (1:4 v/v) 80°C 25 min pH NM	Spherical 4-18 nm	Diffusion 37°C 24 h pH 7.3 Inoculum size NM Cefipime 150 µg/ml	<i>P. aeruginosa</i> ATCC 9027 <i>E. coli</i> ATCC 8739 <i>B. subtilis</i> ATCC 6633 <i>S. aureus</i> ATCC 6538P	16 13 15 13 mm	[794]

				Diffusion 37°C 24 h pH 5.6 Inoculum size NM Fluconazole 150 µg/ml	<i>C. albicans</i> ATCC 10231	11 mm	
<i>Allium sativum</i>	Leaves	Copper (II) sulfate 10 mM/ plant extract 10 % (5:1 v/v) Room temperature 48 h pH NM	Spherical 100 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin**	<i>E. coli</i> <i>B. subtilis</i>	13 18 mm	[795]
<i>Gum karaya</i>	Powder	Copper (II) chloride 10 mM/ plant extract 10 % (1:100 v/v) 75°C 1 h pH NM	Spherical 2–10 nm	Diffusion 37°C 24 h pH NM Inoculum size NM 5×10 ⁶ CFU/ml Tetracycline**	<i>E. coli</i> MTCC 443 <i>S. aureus</i> MTCC 737	16 14 mm	[796]
<i>Eucalyptus globules</i>	Leaves	Copper (II) sulfate 30 mM/ plant extract 20 % (4:1 v/v) 60°C 3 h pH 12	Rod 17 nm	Diffusion 37°C 24 h pH NM 1×10 ⁷ CFU/ml Amoxicillin**	<i>E. coli</i> -336 <i>P. aeruginos</i> - 621 MRSA	25 13 7 mm	[797]
<i>Tea/ Coffee</i>	Powder	Copper (I) nitrate 1 mM/ plant extract 10 % (1:3 v/v) 100°C 7–8 min pH NM	Spherical 5–16 nm	Diffusion 37°C 24 h pH NM 1×10 ⁴ CFU/ml No control	<i>Shigella dysenteriae</i> <i>Vibrio cholera</i> L 4 <i>Vibrio cholerae</i> CSK 6669 <i>Streptococcus pneumoniae</i> <i>S. aureus</i> <i>E. coli</i>	12 12 11 9 12 11 mm	[798]

<i>Acalypha indica</i>	Leaves	Copper (II) sulfate 10 mM/ plant extract 20 % (1:1 v/v) 100°C 7–8 h pH NM	Spherical 26–30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline 10 µg/ml	<i>E. coli</i> <i>Proteus vulgaris</i>	15 9 mm	[799]
				Diffusion 37°C 48 h pH NM Inoculum size NM No control	<i>C. albicans</i>	0 mm	
<i>Moringa oleifera</i>	Leaves	Copper (II) sulfate 3 mM/ plant extract 10 % (1:4 v/v) 60°C 3 h pH NM	Spherical 36–49 nm	Dilution 37°C 24 h pH NM Inoculum size NM Streptomycin 20 µg/ml	<i>E. coli</i> <i>K. pneumoniae</i> <i>S. aureus</i> <i>Enterococcus faecalis</i>	500 500 500 250 125 µg/ml	[800]
				Dilution 37°C 18–24 h pH NM Inoculum size NM Ketoconazole 20 µg/ml	<i>A.niger</i> <i>A. flavus</i> <i>C. albicans</i> <i>Candida glabrata</i>	125 62.5 31.25 µg/ml	
<i>Vitis vinifera</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 10 % (4:1 v/v) Room temperature 1 h pH NM	Spherical 6 nm	Diffusion 37°C 24 h pH 7 Inoculum size NM Chloramphenicol**	<i>E. coli</i> <i>S. aureus</i> <i>B. subtilis</i> <i>S. typhi</i> <i>K. pneumoniae</i>	14 18 12 9 8 mm	[801]

<i>Botryococcus braunii</i>	Alga	Copper (I) acetate 1 mM/ plant extract 2 % (10:1 v/v) 100°C 24 h pH NM	Cubical, spherical 10-70 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Chloramphenicol**	<i>P. aeruginosa</i> MTCC 441 <i>E. coli</i> MTCC 442 <i>K. pneumoniae</i> MTCC 109 <i>S. aureus</i> MTCC 96	17 18 19 22 mm	[802]
				Diffusion 25°C 24 h pH NM Inoculum size NM Nystatin**	<i>Fusarium oxysporum</i> MTCC 2087	12 mm	
<i>Aloe vera</i>	Leaves	Copper (I) nitrate 10 mM / plant extract 25 % (10 :1 v/v) 100–120°C 24 h pH NM	Spherical 20-30 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Sulphafurazole 100 µg/ml	<i>Aeromonas hydrophila</i> MTCC 646 <i>Pseudomonas fluorescens</i> MTCC 671 <i>Flavobacterium branchiophilum</i> ATCC 35036	13 15 11 mm	[803]
<i>Pterocarpus marsupium</i>	Broth	Copper (II) sulfate 1 mM/ plant extract 5 % (1:1 v/v) 50°C 15 min pH NM	Spherical 40 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamicin**	<i>K. pneumoniae</i> MTCC 9751 <i>S. epidermidis</i> MTCC 2639 <i>B. cereus</i> MTCC 90 <i>S. aureus</i> MTCC 9442 <i>P. vulgaris</i> MTCC 7299 <i>E. coli</i> MTCC 9721	25 20 23 20 22 24 mm	[804]
<i>Madhuca longifolia</i>	Seed	Copper (I) nitrate 5 mM/ plant extract 10 % (10:1 v/v) 55 °C 4 h pH 10	Spherical 30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ampicillin 10,000 µg/ml Tetracyclin 10,000 µg/ml	<i>E. coli</i> BL21(DE3) <i>S. aureus</i> <i>B. subtilis</i>	16 0 15 mm	[805]

<i>Citrus limon/ Turmeric curcumin</i>	Fruit	Copper (II) chloride 1 mM/ plant extract 5 % (1:1 v/v) 50-60°C 1 h pH NM	Shape NM Size NM	Diffusion 37°C 24h pH NM 2×10 ⁶ CFU/ml Chloramphenicol**	<i>S. aureus</i> <i>B. subtilis</i> <i>E. coli</i>	17 21 19 mm	[806]
				Diffusion 25°C 72 h pH NM 1×10 ⁵ CFU/ml Fluconazole 1000 µg/ml	<i>C. albicans</i> <i>Curvularia lunata</i> <i>A. niger</i> <i>Trichophyton simii</i>	21 16 19 15 mm	
<i>Ficus carica</i>	Leaves	Copper (II) chloride 10 mM/ plant extract 20 % (1:50 v/v) 70°C 24 h pH NM	Spherical 50-120 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Amoxicillin**	<i>Pediococcus acidilactici</i>	17 mm	[807]
<i>Capparis zeylanica</i>	Leaves	Copper (II) sulfate 1 mM / plant extract 5 % (4:1 v/v) 60°C 24 h pH NM	Spherical 60-100 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>S. aureus</i> <i>P. aeruginosa</i>	11 10 10 mm	[808]
<i>Hibiscus rosasinensis</i>	Leaves	Copper (I) nitrate 50 mM/ plant extract 10 % (1:1 v/v) Room temperature 48 h pH NM	Spherical 500 nm	Diffusion 37°C 16–18 h pH NM Inoculum size NM Ampicillin**	<i>E. coli</i> <i>B. subtilis</i>	0 10 mm	[809]
<i>Dodonaea viscosa</i>	Leaves	Copper (II) chloride 1 mM/ plant extract 20 % (2:1 v/v)	Spherical 30-40 nm	Diffusion 37°C 24 h	<i>E. coli</i> MTCC 443 <i>K. pneumonia</i> NCIM 2079	9 14 8	[274]

		50°C 1 h pH 10		pH NM Inoculum size NM No control	<i>Pseudomonas fluorescens</i> MTCC 121 <i>S. aureus</i> MTCC 4032 <i>B. subtilis</i> MTCC 441	10 9 mm	
<i>Azadirachta indica</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 10 % (1:1 v/v) Room temperature 10 min pH NM	Shape NM Size NM	Diffusion 37°C 24-48 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>A. niger</i>	5 0 mm	[810]
<i>Lantana camera</i>					<i>E. coli</i> <i>A. niger</i>	10 12 mm	
<i>Tridax procumbens</i>					<i>E. coli</i> <i>A. niger</i>	10 0 mm	
<i>Calotropis procera</i>					<i>E. coli</i> <i>A. niger</i>	6 0 mm	
<i>Phyllanthus amarus</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 25 % (4:1 v/v) 130°C 7 h pH NM	Spherical 20 nm	Diffusion 35± 2°C 24 h pH NM 1×10 ⁶ CFU/ml Rifampicin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>B. subtilis</i> <i>S. aureus</i>	24 25 31 38 mm	[811]
<i>Cassia occidentalis</i>	Leaves	Copper (I) nitrate 1 mM/ plant extract 10 % (5:1 v/v) Room temperature 4 h pH NM	Oval 30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin** Gentamicin**	<i>S. aureus</i> <i>E. coli</i> <i>S.typhi</i> <i>K. pneumonia</i>	5 8 11 9 mm	[812]
<i>Oxalis corniculata</i>	Leaves	Copper (II) sulfate 20 mM/ plant extract 10 % (1:1 v/v) 37°C 6 h pH NM	Spherical 78–80 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Cefixime**	<i>B. subtilis</i> <i>S. aureus</i> <i>E. coli</i> <i>S. typhi</i> <i>A. flavus</i> <i>A. niger</i>	24 0 21 11 15 17 mm	[813]
<i>Abutilon indicum</i>	Leaves		Spheroid 17 nm	Diffusion 37°C	<i>E. coli</i> ATCC 25922 <i>S. aureus</i> ATCC 25923	13 14	[814]

<i>Clerodendrum infortunatum</i>		Copper (I) nitrate 10 mM/ plant extract 10 % (1:1 v/v) Room temperature 2-5 min pH NM	Rod 18 nm	24 h pH NM Inoculum size NM Cephadrine**	<i>K. pneumoniae</i> ATCC 10031 <i>B. subtilis</i> ATCC 9637	18 20 mm	
<i>Clerodendrum inerme</i>			Spheroid 21 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Terbinafine**	<i>A. niger</i> ATCC 16404 <i>A. flavus</i> ATCC 9643 <i>Trichoderma harzianum</i> ATCC 20846	17 15 24 mm	
<i>Olea europaea</i>	Leaves	Copper (II) acetate 1 mM/ plant extract 10 % (1:2 v/v) 60°C 2 h pH NM	Spherical 42 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Roxithromycin 2000 µg/ml	<i>S. aureus</i> ATCC 6633 <i>Micrococcus luteus</i> ATCC 10240 <i>S. typhimurium</i> ATCC 14028 <i>E. coli</i> ATCC 15224	11 10 7 9 mm	[815]
				Diffusion 25°C 24 h pH NM Inoculum size NM Clotrimazole**	<i>Aspergillus fumigatus</i> FCBP 66 <i>Mucor species</i> FCBP 0300 <i>A. niger</i> FCBP 0198 <i>A. flavus</i> FCBP 0064	8 6.5 9.7 7.6 mm	
<i>Tabernaemontana divaricate</i>	Leaves	Copper (II) sulfate 10 mM / plant extract 20 % (1:1 v/v) 100°C 7-8 h pH NM	Spherical 48±4 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline 50 µg	<i>E. coli</i>	17 mm	[816]

<i>Persea americana</i>	Seed	Copper (II) sulfate 1 mM/ plant extract 1 % (2:5 v/v) 45-50°C 6-7 h pH NM	Spherical 42-90 nm	Diffusion Temperature NM Incubation time NM pH NM Inoculum size NM No control	<i>E. coli</i> <i>Streptococcus spp</i> <i>Klebsiella spp</i> <i>Rhizobacterium spp</i>	15 20 12 22 mm	[817]
				Diffusion Temperature NM Incubation time NM pH NM Inoculum size NM No control	<i>A. flavus</i> <i>Aspergillus fumigates</i> <i>Fusarium oxysporium</i>	9 10 8 mm	
<i>Pterospermum acerifolium</i>	Leaves	Copper (I) nitrate 1 mM/ plant extract 10 % (1:1 v/v) 45-50°C 24 h pH NM	Spherical 50 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Ciprofloxacin**	<i>B. subtilis</i> <i>S. aureus</i> <i>E. coli</i> <i>S. typhi</i>	13 12 11. 13 mm	[818]
<i>Polygonum minus</i>	Plant	Copper (I) nitrate 1 mM/ plant extract 3 % (20:1 v/v) 60°C 5 min pH NM	Spherical 20-30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>S. aureus</i> <i>Aeromonas hydrophilia</i>	18 15 14 mm	[819]
<i>Falcaria vulgaris</i>	Leaves	Copper (II) sulfate 40 mM/ plant extract 4 % (1:2 v/v) 60°C 1h pH 12	Spherical 20 nm	Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Difloxacin 30 µg/ml Chloramphenicol 30 µg/ml Streptomycin 10 µg/ml Gentamycin 10 µg/ml Oxytetracyclin 30 µg/ml Ampicillin 10 µg/ml	<i>S. typhimurium</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>S. aureus</i> <i>S. pneumoniae</i> <i>B. subtilis</i>	28 29 30 30 32 32 mm	[820]

				Amikacin 25 µg/ml			
				Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Fluconazol 60 µg/ml Itraconazol 60 µg/ml Miconazol 60 µg/ml Amphotericin B 60 µg/ml	<i>C. albicans</i> <i>Candida glabrata</i> <i>Candida guilliermondii</i> <i>Candida krusei</i>	21 22 27 26 mm	
<i>Tinospora cardifolia</i>	Leaves	Copper (II) chloride 0.25 mM/ plant extract 25 % (5:1 v/v) 87°C 24 h pH NM	Spherical 63 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> MTCC 3381 <i>E. coli</i> MTCC 443	23 17 mm	[821]
<i>Malva sylvestris</i>	Leaves	Copper (II) chloride 4 mM/ plant extract 1 % (10:1 v/v) 80°C 2 min pH NM	Spherical 5–30 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Shigella flexneri</i> <i>Listeria monocytogenes</i>	15 18 mm	[822]
<i>Antigonon leptopus</i>	Leaves	Copper (II) sulfate 1 mM/ plant extract 20 % (1:1 v/v) 80°C 15 min pH NM	Cuboid 110–280 nm	Diffusion 37°C 24 h pH NM 5×10 ⁵ CFU/ml Ampicillin 400 µg/µl	<i>B. subtilis</i> MTCC 121 <i>B. licheniformis</i> MTCC 429 <i>S. aureus</i> MTCC 96 <i>S. pneumoniae</i> MTCC 2672 <i>E. coli</i> MTCC 118 <i>K. pneumoniae</i> MTCC 2405 <i>P. aeruginosa</i> MTCC 424 <i>Sphingomonas sanguinis</i> MTCC 5495	12 13 11 12 12 10 8 6 mm	[823]

<i>Citrus reticulata</i>	Peels	Copper (I) nitrate 0.1 mM / plant extract 3 % (9:1 v/v) 100°C 1 h pH 5	Spherical 8–9 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin 10 µg	<i>K. pneumoniae</i> <i>P. aeruginosa</i> <i>Shigella flexneri</i> <i>S. aureus</i> <i>Streptococcus pneumoniae</i> <i>Campylobacter jejuni</i> <i>S. typhimurium</i>	18 12 20 3 18 16 28 mm	[337]
<i>Citrus sinensis</i>			Spherical 16-18 nm		<i>K. pneumoniae</i> <i>P. aeruginosa</i> <i>Shigella flexneri</i> <i>S. aureus</i> <i>Streptococcus pneumoniae</i> <i>Campylobacter jejuni</i> <i>S. typhimurium</i>	21 23 22 8 27 32 34 mm	
<i>Citrus limon</i>			Spherical 18-30 nm		<i>K. pneumoniae</i> <i>P. aeruginosa</i> <i>Shigella flexneri</i> <i>S. aureus</i> <i>Streptococcus pneumoniae</i> <i>Campylobacter jejuni</i> <i>S. typhimurium</i>	3 13 3 2 17 32 19 mm	
<i>Quercus infectoria</i>	Galls	Copper (I) sulfate 5 mM/ plant extract 20 % (17:3 v/v) 85°C 15 min pH NM	Spherical 20 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Chloramphenicol** Penicillin**	<i>B. cereus</i> ATCC 14579 <i>S. aureus</i> ATCC12600 <i>P. aeruginosa</i> ATCC 10145 <i>E. coli</i> ATCC 11175 <i>Acinetobacter baumannii</i> ATCC19606 <i>K. pneumoniae</i> ATCC13883	24 31 20 25 23 28 mm	[824]
<i>Citrus medica</i>	Fruit	Copper (I) acetate 100 mM/ plant extract 10 % (1:1 v/v) 60-100°C 24 h	Spherical 20 nm	Diffusion 37°C 24 h pH NM 2.18×10 ⁸ CFU/ml	<i>E. coli</i> ATCC 14948 <i>S. typhi</i> ATCC 51812 <i>Propionibacterium acnes</i> MTCC 1951 <i>P. aeruginosa</i> MTCC 4676	26 19 19 21	[825]

		pH NM		No control	<i>K. pneumoniae</i> MTCC 4030 <i>Fusarium oxysporum</i> MTCC 1755 <i>Fusarium culmorum</i> MTCC 349	25 28 37 mm	
<i>Stachys lavandulifolia</i>	Flowers	Copper (II) chloride 100 mM /plant extract 10 % (2:1 v/v) 50°C 20 min pH 10	Spherical 80 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Streptomycin**	<i>P. aeruginosa</i>	12 mm	[826]
<i>Magnolia kobus</i>	Leaves	Copper (II) sulfate 1 mM /plant extract 5 % (17:3 v/v) 25-95°C 24 h pH NM	Spherical 50–250 nm	Dilution 37°C 24 h pH NM 22,400 CFU/ml No control	<i>E. coli</i> ATCC 25922	99 %	[827]
<i>Millettia pinnata</i>	Flowers	Copper (II) acetate 1 mM / plant extract 10 % (4:3 v/v) 60°C 20 min pH NM	Spherical 13–35 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>P. aeruginosa</i> <i>E. coli</i> <i>S. aureus</i> <i>B. subtilis</i>	80 77 78 85 %	[828]
<i>Celastrus paniculatus</i>	Leaves	Copper (II) sulfate 5 mM / plant extract 10 % (10:1 v/v) 60°C 20 min pH NM	Spherical 2-10 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Fusarium oxyporum</i>	76 %	[829]
<i>Bambusa arundinacea</i>	Leaves	Copper (II) acetate 10 mM / plant extract 10% (2:1 v/v) 65°C 30 min pH NM	Spherical 24.4 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml No control	<i>B. subtilis</i> <i>S. aureus</i> <i>E. coli</i> <i>P. vulgaris</i>	19 16 22 19 mm	[830]

*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*

Table S7. Antimicrobial green synthesized iron nanoparticles

Plant type	Part used	Operative conditions for synthesis	NP characteristics (shape and size)	Microbiological analyses (operative conditions)			Refs.
				Methods, incubation temperature, incubation time, pH, inoculum density, positive control	Tested bacteria or fungi	MIC, DOI or PI*	
<i>Tridax procumbens</i>	Leaves	Iron (III) chloride 2 mM/ plant extract 15 % (1:1 v/v) Room temperature 10 min pH NM	Spherical 80–100 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>P. aeruginosa</i>	2 mm	[831]
<i>Euphorbia helioscopia</i>	Leaves	Iron nitrate 5 mM/ plant extract 10 % (1:5 v/v) 150°C 15 min pH NM	Spherical 7–10 nm	Diffusion 25°C 48 h pH NM Inoculum size NM No control	<i>Cladosporium herbarum</i>	35 mm	[832]
<i>Glycosmis mauritiana</i>	Leaves	Iron (III) chloride 2 mM/ plant extract 50 % (5:1 v/v) 80°C 20 min pH 12	Spherical 100 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Norfloxacin 20 µg	<i>B. cereus</i> <i>B. subtilis</i> <i>Enterococcus faecalis</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>Micrococcus luteus</i> <i>Proteus mirabilis</i> <i>P. vulgaris</i>	11 19 18 19 12 16 11 19	[833]

					<i>Pseudomonas fluorescence</i> <i>Vibrio fluvialis</i>	18 10 mm	
<i>Lawsonia inermis</i>	Leaves	Iron (II) sulfate 10 mM/ plant extract 20 % (5:1 v/v) 70°C 5 min pH NM	Hexagonal 21 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>Salmonella enterica</i> <i>Proteus mirabilis</i> <i>S. aureus</i>	14 9 11 15 mm	[834]
<i>Gardenia jasminoides</i>			Hexagonal 32 nm		<i>E. coli</i> <i>Salmonella enterica</i> <i>Proteus mirabilis</i> <i>S. aureus</i>	15 12 13 16 mm	
<i>Phoenix dactylifera</i>	Fruit	Iron (III) chloride 100 mM/ plant extract 10 % (1:1 v/v) 80°C 2 h pH NM	Spherical 20 nm	Disc diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamicin**	<i>S. epidermidis</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	25 24 25 mm	[835]
<i>Euphorbia herita</i>	Leaves	Iron (III) chloride 100 mM/plant extract 10 % (2:3 v/v) Room 3 h pH 9	Irregular 25-80 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>Bacillus spp</i> <i>E. coli</i> <i>Pseudomonas spp</i>	27.7 24.3 23.7 mm	[836]
				Diffusion 28°C 48 h pH NM Inoculum size NM No control	<i>Aspergillus fumigatus</i> <i>A. niger</i> <i>Arthogrophis cuboida</i>	21.7 18.7 25.3 mm	
<i>Carica papaya</i>	Leaves	Iron (III) chloride 100 mM/ plant extract 2 % (1:1 v/v) 80°C 3h	Spherical 31.59 nm	Diffusion 37°C 24 h pH NM Inoculum size NM	<i>Klebsiella spp</i> <i>E. coli</i> <i>Pseudomonas spp</i> <i>S. aureus</i>	9 9 10 12.5 mm	[837]

		pH NM		No control			
<i>Laurus nobilis</i>	Leaves	Iron (III) chloride 100 mM/plant extract 10 % (1:1 v/v) Room 2.5 h pH NM	Hexagonal shape 8.09 ± 8.99 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline 30 µg Kanamycine 5 µg Sulfamethoxazole 5 µg Amoxicillin 25 µg Cefixime 5 µg Oxacillin 1 µg Penicillin 10 unit Novobiocin 30 µg	<i>S. aureus</i> PTCC 1189 <i>E. coli</i> ATCC 23922 <i>Listeria monocytogenes</i> PTCC 1294	0 0 12 mm	[838]
				Diffusion 37°C 72 h pH NM Inoculum size NM Nystatin 100 µg	<i>A. flavus</i> PTCC 5004 <i>Penicillium spinulosum</i> PTCC 5251	13 14 mm	
<i>Lawsonia inermis</i>	Leaves	Iron (II) sulfate 20 mM/ plant extract 10 % (1:1 v/v) 60°C 30 min pH 11	Spherical 150-200 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>Staphylococcus typhimurium</i>	16 15 mm	[839]
<i>Spinacia oleracea</i>	Leaves	Iron (III) sulfate 100 mM/ plant extract 20 % (2:1 v/v) 60°C 30 min pH NM	Spherical 10-70 nm	Diffusion 37°C 24 h pH NM Inoculum size NM Tetracycline** Gentamicin**	<i>B. subtilis</i> <i>E. coli</i>	23.6 20.3 mm	[840]
<i>Musa acuminata</i>	Peel		Spherical 20-50 nm		<i>B. subtilis</i> <i>E. coli</i>	22.7 20.5 mm	

<i>Eucalyptus robusta</i>	Leaves	Iron (II) sulfate 5 mM/ plant extract 1 % (2:1 v/v) 40°C 30 min pH NM	Spherical 70 nm	Diffusion 35± 2°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamicin**	<i>E. coli</i> <i>S. aureus</i> <i>P. aeruginosa</i> <i>B. subtilis</i>	1.8 1.8 1 3.9 mm	[841]
<i>Chlorophytum comosum</i>	Leaves	Iron (III) chloride 10 mM/ plant extract 5 % (1:9 v/v) 50°C 12 h pH NM	Spherical 100 nm	Dilution 37°C 18–24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>E. faecalis</i>	6 17 8 9 µg/ml	[842]
<i>Acorus calamus</i>	Rhizome	Iron (III) sulfate 1 mM/ plant extract 1 % (1:1 v/v) 32± 2°C 3 min pH NM	Spherical 20–30 nm	Diffusion 37±2°C 24 h pH NM 5×10 ⁸ CFU/ml No control	<i>P. aeruginosa</i> <i>Enterobacillus spp</i> <i>B. subtilis</i> <i>E. coli</i> <i>S. aureus</i>	20 15 20 15 0 mm	[843]
				Diffusion 28±2°C 48 h pH NM 4×10 ⁷ CFU/ml No control	<i>Penicillium notatum</i> <i>A. niger</i> <i>Rhizopus spp</i>	23 20 20 mm	
<i>Cynometra ramiflora</i>	Leaves	Iron (II) sulfate 10 mM/ plant extract 10 % (2:1 v/v) 40°C 20 min pH NM	Spherical 20–40 nm	Diffusion 30°C 24 h pH NM Inoculum size NM No control	<i>E. coli</i> <i>S. epidermidis</i>	28 26 mm	[844]
<i>Aloe vera</i>	Leaves	Ferric chloride 1 mM/ plant extract 20 % (1:1 v/v) 50– 60°C	Spherical 10–17 mm	Diffusion 37°C 18–24 h pH NM	<i>S. aureus</i> ATCC 2593 <i>E. coli</i> ATCC 25922 <i>P. mirabilis</i> ATCC 43071 <i>P. aeruginosa</i> ATCC 27853	15 15 16 16	[845]

		15 min pH NM		5×10 ⁶ CFU/ml Streptomycin 10 µg	<i>S. typhi</i> ATCC 13311 <i>K. pneumoniae</i> ATCC 700603 <i>Shigella flexneri</i> ATCC 12022 <i>Serratia marcescens</i> ATCC 27137 <i>Enterococcus faecalis</i> ATCC 29212	16 17 14 15 15 mm	
<i>Agrewia optiva</i>	Leaves	Iron (II) chloride 100 mM/ plant extract 20 % (1:1 v/v) 70°C 40 min pH NM	Spherical 15–60	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Ciprofloxacin 5 µg Gentamicin 10µg	<i>S. aureus</i> <i>Streptococcus mutans</i> <i>S. pyrogenes</i> <i>Clostridium diphtheriae</i> <i>Corynebacterium xerosis</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	12 9 9 12 7 6 7 7 mm	[846]
<i>Prunus persica</i>			Spherical 3–70 nm		<i>S. aureus</i> <i>Streptococcus mutans</i> <i>S. pyrogenes</i> <i>Clostridium diphtheriae</i> <i>Corynebacterium xerosis</i> <i>E. coli</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	13 14 13 12 10 12 20 14 mm	
<i>Papaver somniferum</i>	Pods	Iron (II) sulfate 5mM/ plant extract 5 % (5:1 v/v) 85°C 2 h pH 5.7	Irregular 38 ± 13 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Ampicillin** Gentamicin**	<i>B. subtilis</i> ATCC 6633 <i>S. epidermidis</i> ATCC 14990 <i>K. pneumoniae</i> ATCC 4617 <i>P. aeruginosa</i> ATCC 9721	7 8 8 7 mm	[847]
				Diffusion 37°C 48 h pH NM 1×10 ⁸ CFU/ml Amphotericin B**	<i>Fusarium solani</i> FCBP 0041 <i>A. flavus</i> FCBP 0064 <i>Aspergillus fumigates</i> FCBP 1264 <i>A. niger</i> FCBP 0198 <i>Mucor mycosis</i>	19 18 17 17 17 mm	

<i>Allium cepa</i>	Root	Iron (II) nitrate 20 mM/ plant extract 15 % (1:1 v/v) 90°C 60 min pH NM	Cubic 12–52 nm	Diffusion 37°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>P. aeruginosa</i>	17 18 mm	[848]
<i>Ricinus communis</i>	Seeds		Hexagonal 20–99 nm		<i>S. aureus</i> <i>P. aeruginosa</i>	21 25 mm	
<i>Uvaria chamae</i>	Leaves	Ferric chloride 10 mM/ plant extract 10 % (1:1 v/v) Room temperature 10 min pH NM	Spherical 40 nm	Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Ampicillin+cloxacillin**	<i>E. coli</i> <i>P. aeruginosa</i> <i>B. subtilis</i> <i>S. aureus</i>	11 11 14 15 mm	[849]
				Diffusion 37°C 24 h pH NM 1.5×10 ⁸ CFU/ml Nystatin**	<i>C. albicans</i> <i>A. niger</i>	17 16 mm	
<i>Falcaria vulgaris</i>	Leaves	Iron (III) chloride 100 mM/ plant extract 10 % (1:9 v/v) Room temperature 24 h pH NM	Spherical 25 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Difloxacin 30 µg Chloramphenicol 30 µg Streptomycin 10 µg Gentamycin 10 µg Oxytetracycline 30 µg Ampicillin 10 µg Amikacin 25 µg	<i>S. typhi</i> ATCC 14028 <i>E. coli</i> ATCC 25922 <i>P. aeruginosa</i> ATCC 27853 <i>S. aureus</i> ATCC 25923 <i>S. pneumoniae</i> ATCC 49619 <i>B. subtilis</i> ATCC 6633	25 26 27 29 30 31 mm	[850]

				Diffusion 37°C 24 h pH NM 1×10 ⁶ CFU/ml Fluconazole 60 µg Miconazole 60 µg Itraconazole 60 µg Amphotericin B 60 µg Nystatin 60 µg	<i>C. albicans</i> PFCC 89 <i>Candida glabrata</i> ATCC 14028 <i>Candida krusei</i> PFCC 52951 <i>Candida guilliermondii</i> PFCC 88	33 34 37 36 mm	
<i>Citrullus colocynth</i>	Seed	Iron (III) chloride 500 mM/ extract 5 % (1:1v/v) 70°C 25 min pH NM	Spherical 6–15 nm	Diffusion 30°C 24 h pH NM Inoculum size NM No control	<i>S. aureus</i> <i>B. subtilis</i> <i>E. coli</i> <i>P. aeruginosa</i> <i>C. albicans</i>	95 99 88 90 87 %	[851]
<i>Azadirachta indica</i>	Leaves	Iron (II) chloride 100 mM/ plant extract 10 % (1:2 v/v) 60°C 72 h pH NM	Clusters 20–80 nm	Dilution 28± 2°C 5 days pH NM Inoculum size NM No control	<i>Alternaria mali</i> <i>Botryosphaeria dothidea</i> <i>Diplodia seriata</i>	82.5 80.3 79.2 %	[852]
<i>Sageretia thea</i>	Leaves	Iron sulfate 1 mM/ plant extract 15 % (1:1 v/v) 85°C 2 h pH 5.7	Tetragonal 30 nm	Diffusion 37°C 24 h pH NM 1×10 ⁸ CFU/ml Gentamicin 10 µg	<i>E. coli</i> <i>B. subtilis</i> <i>S. epidermidis</i> <i>K. pneumoniae</i> <i>P. aeruginosa</i>	15 17 19 17 20 mm	[853]
<i>Passiflora foetida</i>	Leaves	Ferrous sulfate 1 mM/ plant extract 5 % (1:1 v/v) 80°C 1 h	Spherical 10–16 nm	Diffusion 37°C 24 h pH NM Inoculum size NM	<i>Vibrio cholera</i> <i>Streptococcus pyogenes</i> <i>Shigella flexneri</i>	8 10 10 mm	[854]

		pH NM		No control			
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*MIC=minimal inhibition concentration; ZOI=zone of inhibition; PI=percentage of inhibition

**The quantity or concentration is not mentioned.

NM=not mentioned, MRSA=methicillin-resistant *S. aureus*