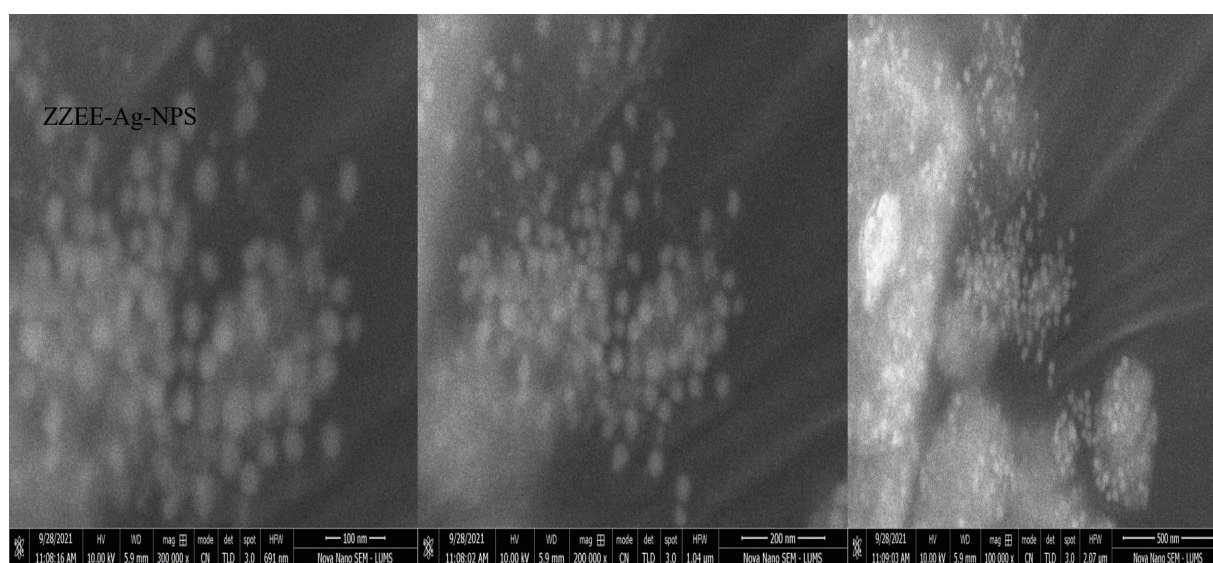
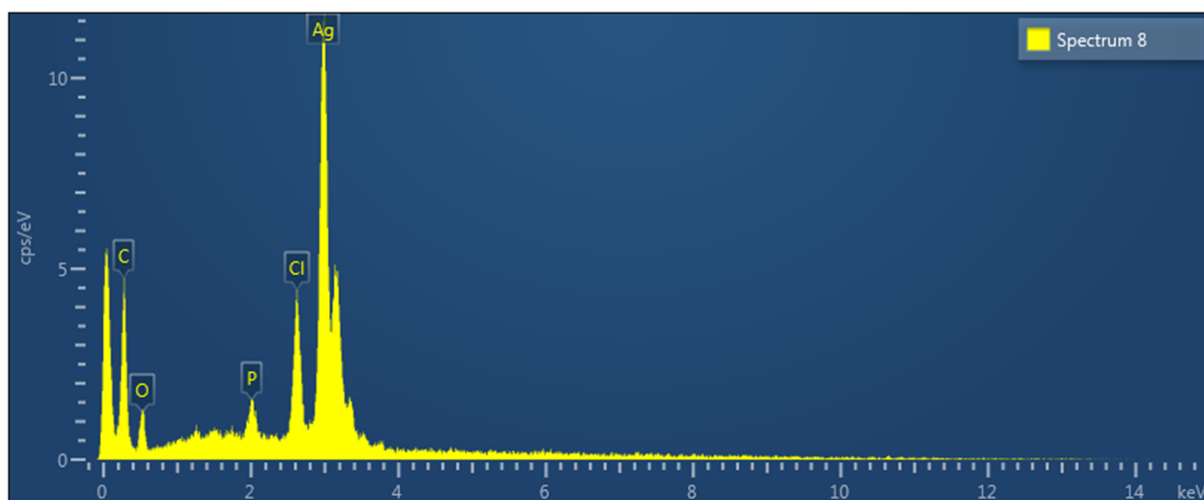


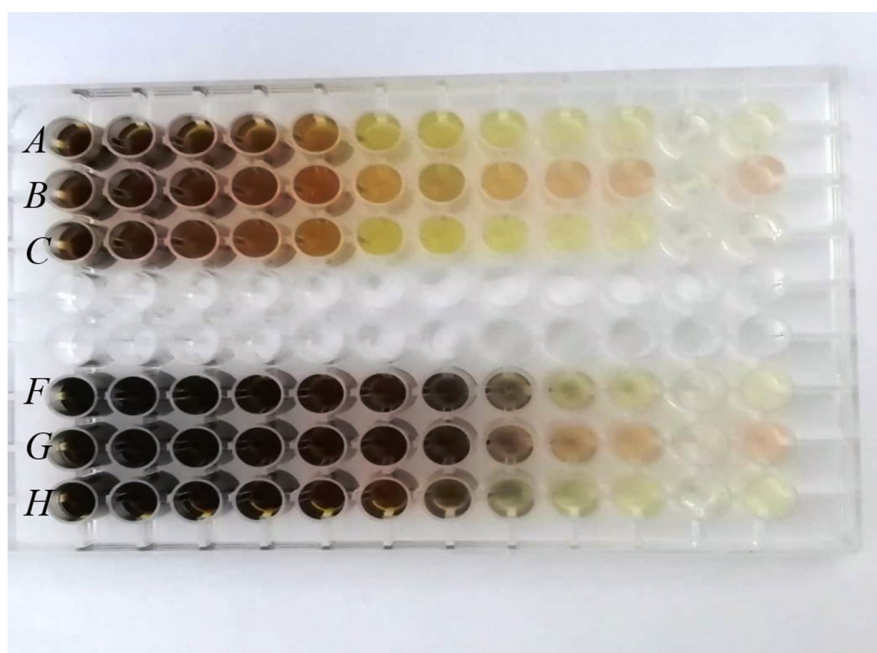
**Figure S1.** Visual observation of color changes at variation of pH after 24 hours biosynthesized silver nanoparticles using (A) aqueous extracts and (B) organic extracts of *Z. zerumbet*.



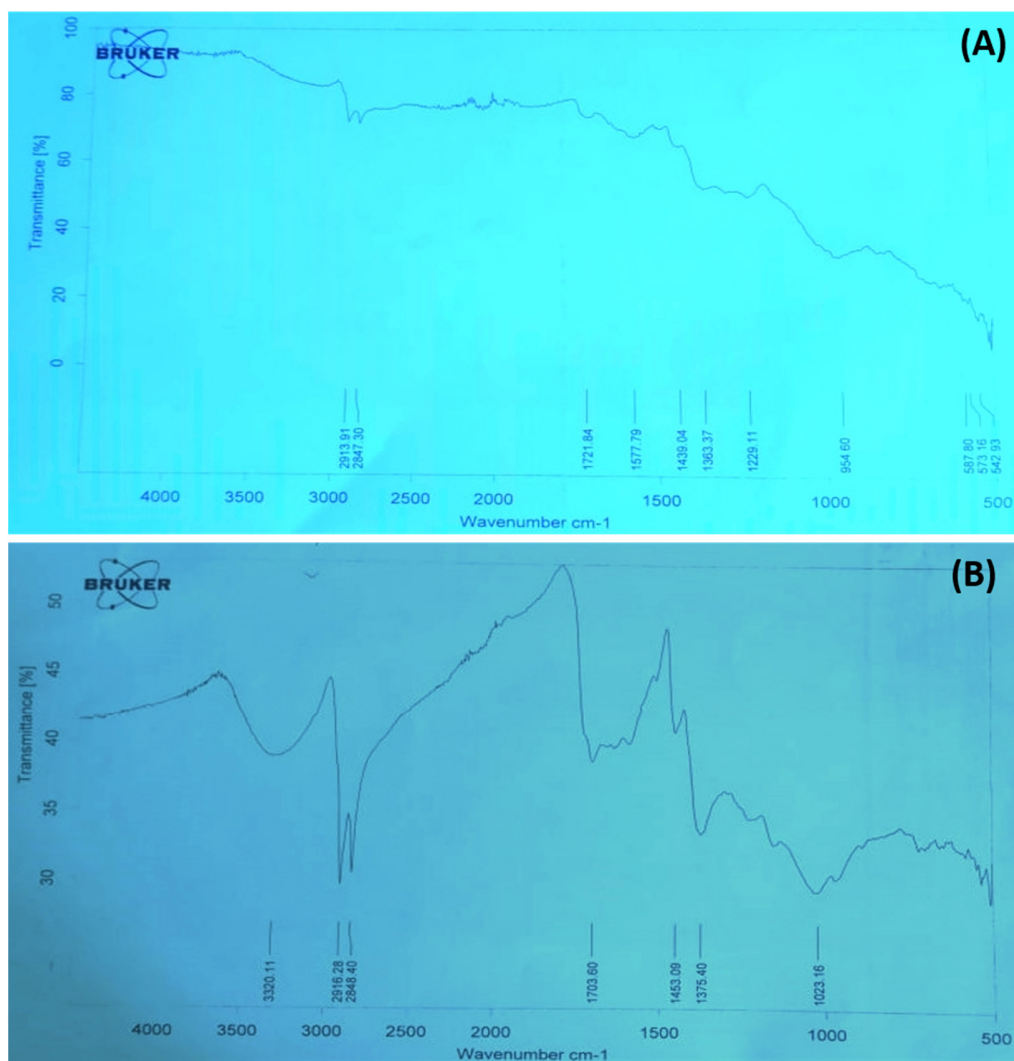
**Figure S2.** SEM micrograph showing the shape of AgNPs synthesized from ZZEE at different magnification.



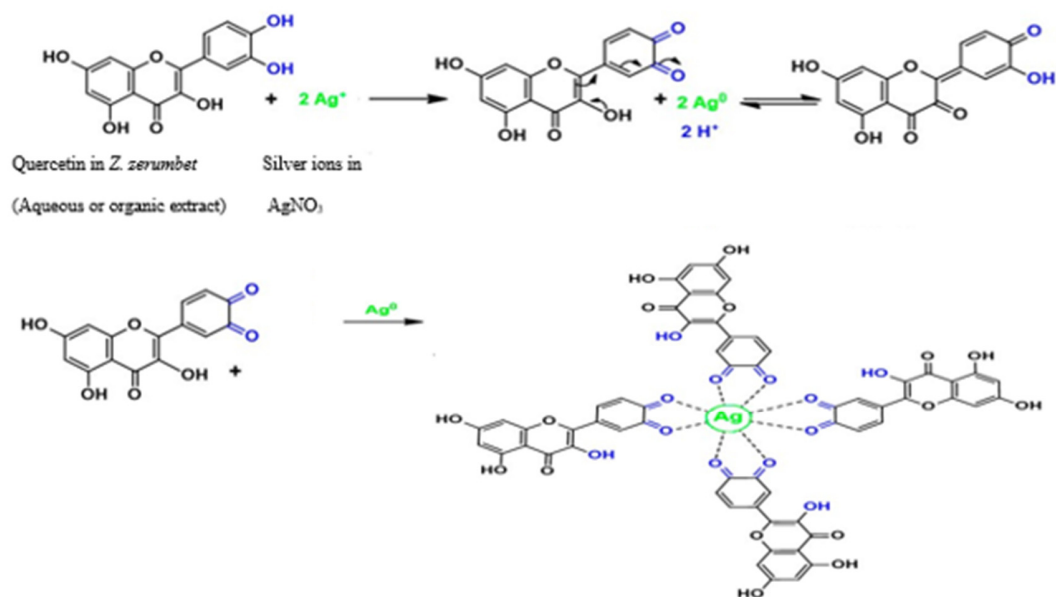
**Figure S3.** EDX spectra demonstrating the quantitative amount of different element in the synthesized silver nanoparticle using organic extract of *Z. zerumbet*.



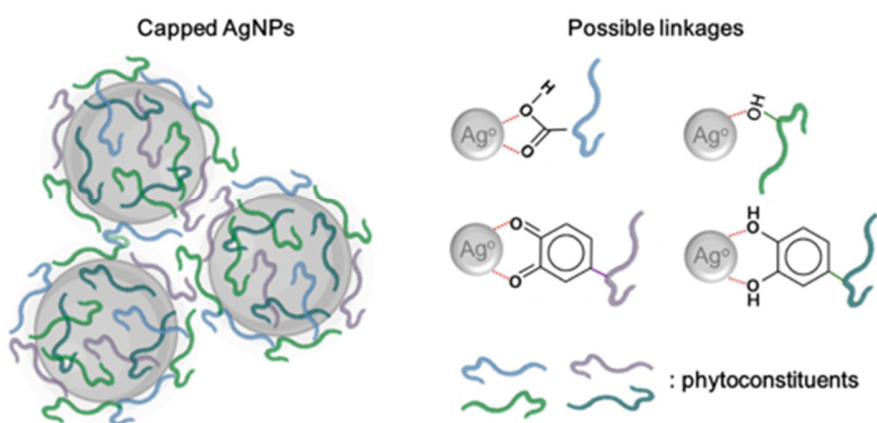
**Figure S4.** Micro-titer plates showing MIC top three row of silver nanoparticles using aqueous extract and bottom three rows of Ag-NPs using organic extract. Top Three rows A–C: *Staphylococcus aureus*, *Enterococcus faecalis* and *Streptococcus mutans*, the bottom three rows F–H: *Staphylococcus aureus*, *Enterococcus faecalis* and *Streptococcus mutans*. Columns 1-10: contain two-fold serial dilutions top three rows 50µg/ml ZZEE Ag-NPS and three bottom rows 50µg/ml synthesize ZZAE-Ag-NPs respectively. Column 11: NG (negative control well), Columns 12: PG (positive Control wells).



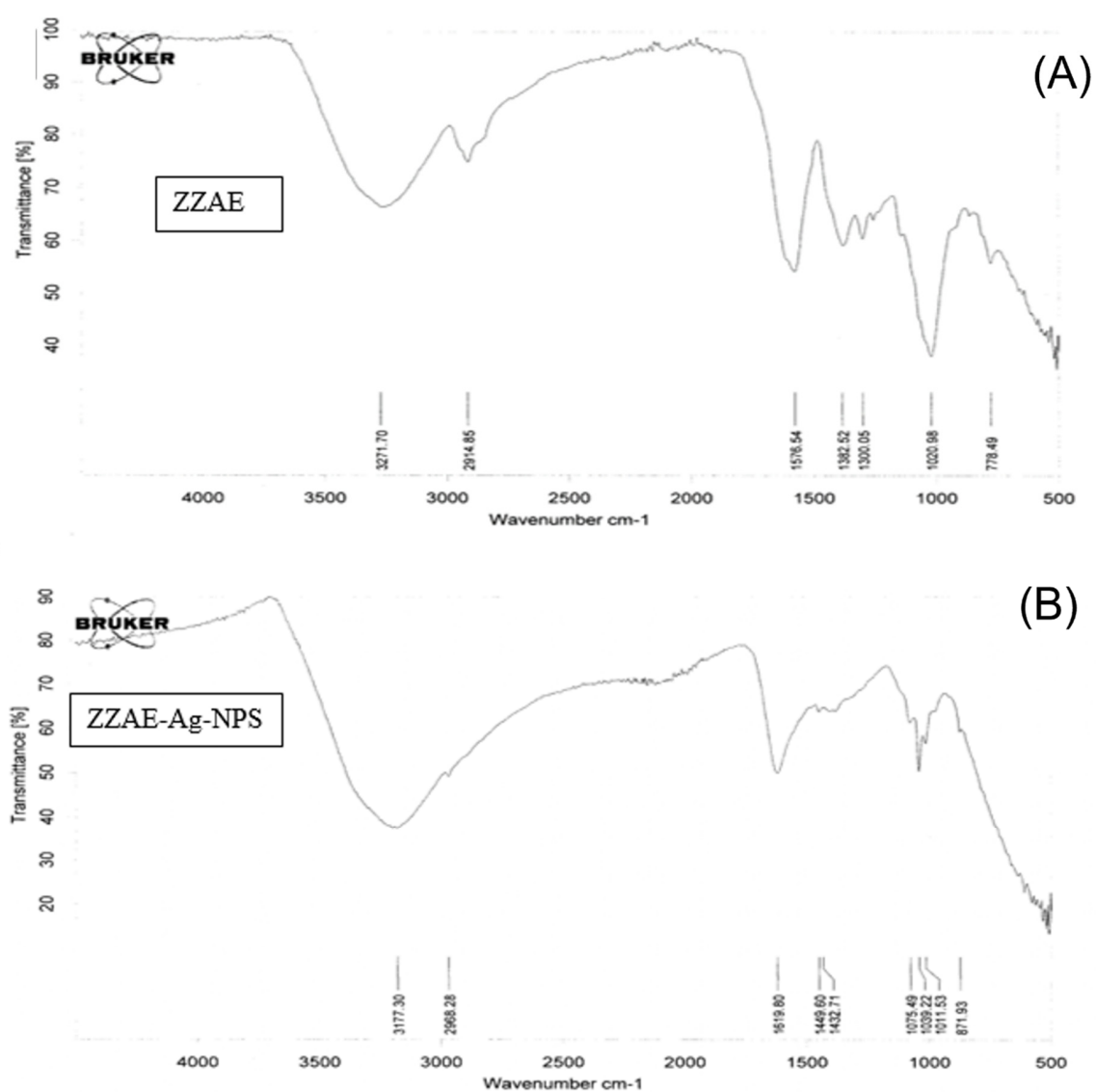
**Figure S5.** ATR- FTIR spectra (A) biosynthesized AgNPs using organic extract of *Z. zerumbet*. (B) biosynthesized AgNPs using aqueous extract of *Z. zerumbet*.



**Figure S6.** Mechanism for silver ion reduction to metallic silver nanoparticles via quercetin as reducing agent in *Z. zerumbet* Rhizome extract solution.

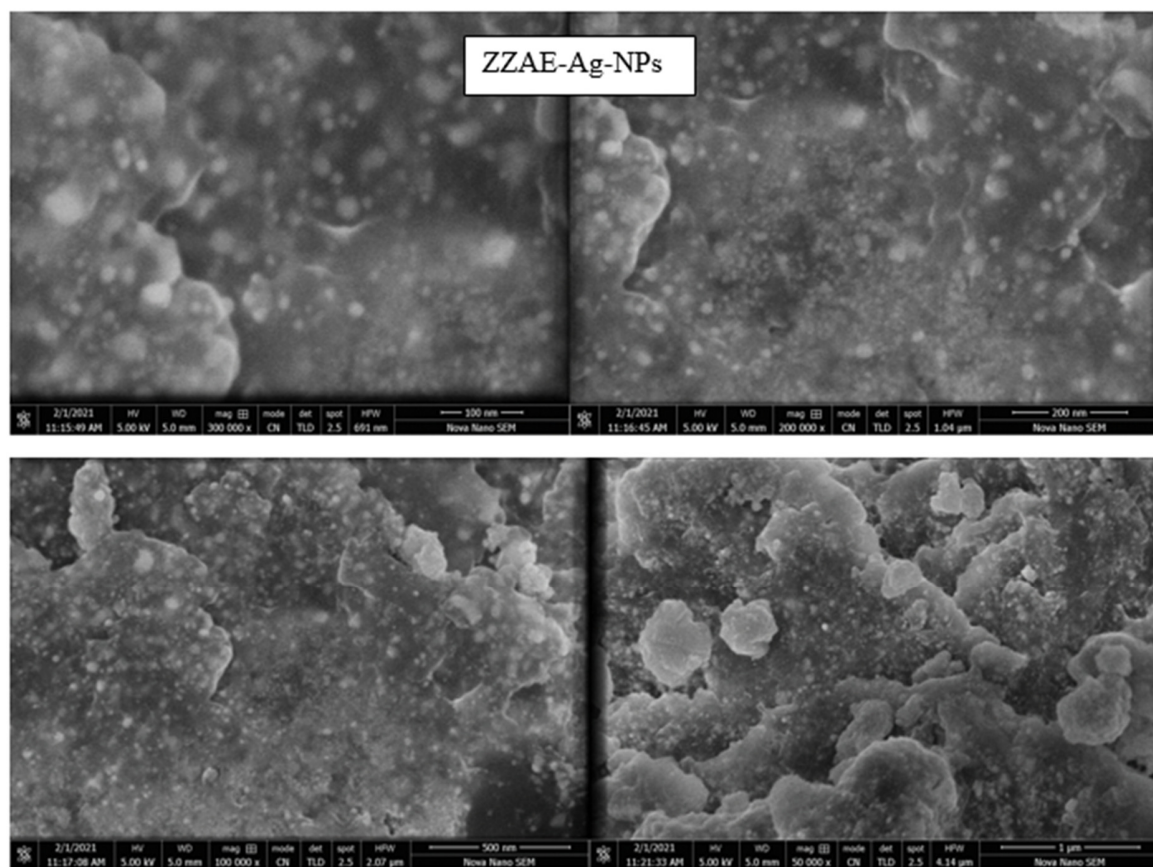


**Figure S7.** Schematic illustration of biosynthesized silver nanoparticle (ZZEE-Ag-NPs and ZZAE-Ag-NPs) Capped by phytoconstituents through carboxyl, hydroxyl and silver interactions.

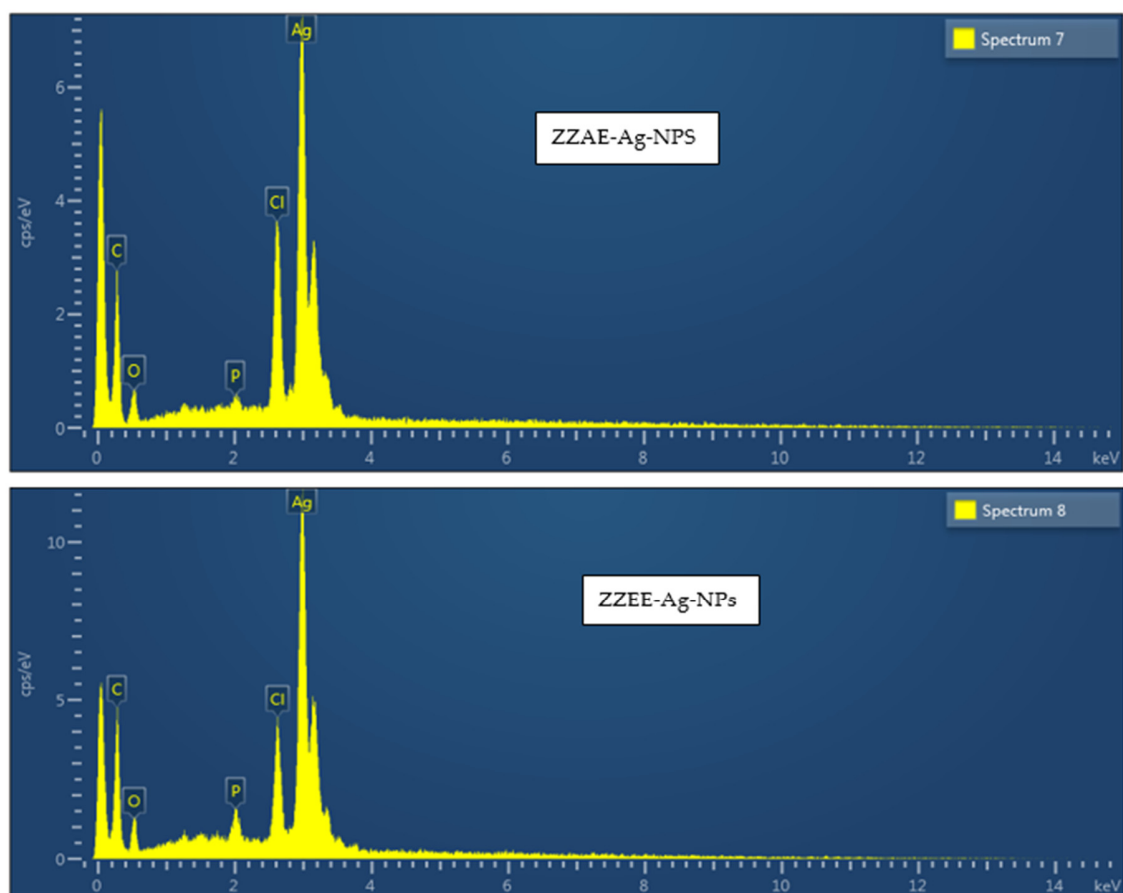


**Figure S8.** ATR-FTIR Spectra for (A) ZZEE and resultant ZZEE-Ag-NPs and (B) ZZAE and Their ZZAE-AG-NPs.





**Figure S9.** SEM micrograph showing the shape of AgNPs synthesized from ZZAE and ZZEE at different magnification.



**Figure S10.** EDX spectra demonstrating the quantitative number of different elements in the synthesized silver nanoparticle using an aqueous and organic extract of *Z. zerumbet*.

**Table S1.** Antibacterial efficacy of commercial antibiotics against *E. coli*, *Salmonella enterica* and *S. aureus*.

<i>Sr. No.</i>	<i>Pathogens Species</i>	<i>Antibiotics</i>	<i>Zone of Inhibition (mm)</i>
1	<i>Enterococcus faecalis</i>	Amoxicillin	-
		Azocillin	-
		Cloxacillin	-
		Oxacillin	-
		Ticarcillin	-
2	<i>Streptococcus mutans</i>	Amoxicillin	-
		Azocillin	-
		Cloxacillin	-
		Oxacillin	-
		Ticarcillin	-
3	<i>S. aureus</i>	Amoxicillin	10
		Azocillin	-
		Cloxacillin	-
		Oxacillin	-
		Ticarcillin	-

Abbreviations: Ax<sub>25</sub> (Amoxicillin), Az<sub>75</sub> (Azocillin), Cx<sub>1</sub> (Cloxacillin), Ox<sub>1</sub> (Oxacillin), Ti<sub>75</sub> (Ticarcillin).



**Table S2.** Abbreviation and their detail.

Abbreviations	Detail
AgNPs	Silver nanoparticles
ZZEE-AgNPs	Synthesized silver nanoparticles using organic or ethanol extract of <i>Z. zerumbet</i>
ZZAE-AgNPs	Synthesized silver nanoparticles using aqueous extract of <i>Z. zerumbet</i>
ZZAE	aqueous extract of <i>Z. zerumbet</i>
ZZAQE-AgNPs	Synthesized silver nano particles using aqueous extract of <i>Z. zerumbet</i>
ZZEE	Organic or ethanol extract of <i>Z. zerumbet</i>
Mg	Milligram
ml	Milliliter
MIC	Minimum Inhibitory Concentration
MDR	Multidrug resistance
OD	Optical density
mM	Milli-mole
Rpm	Revolution per minutes
v/v	Volume by volume
w/v	Weight by volume
°C	Centigrade