Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information

Green Synthesis of Silver Nanoparticles by *Manilkara Zapota* Leaf Extract for Detection of Aminoglycoside Antibiotic and its Applications

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Figure caption

Fig. S1 Selectivity study: determination of AMG class of antibiotic like STR in the presence of other class of antibiotics with green synthesized AgNPs-MZL.

Fig. S2 Optimization parameters: effect of concentration of AgNPs-MZL (a), effect of pH (b), effect of reaction time (c) and effect of ionic salt (d).

Fig. S3 Effect of the diverse substances in the presence of the green synthesis AgNPs-MZL and AgNPs-MZL with AMG class of antibiotic for selective determination of STR.

Fig. S4 Reproducibility curve for determination of STR using green synthesized AgNPs-MZL at 10 $ngmL^{-1}$ under the optimized condition.

Fig. S5 The *in-vitro* antioxidant activity and antibacterial activity of the seed extract of *Manilkara Zapota,* green synthesized AgNPs-MZL and AgNPs-MZL with STR:

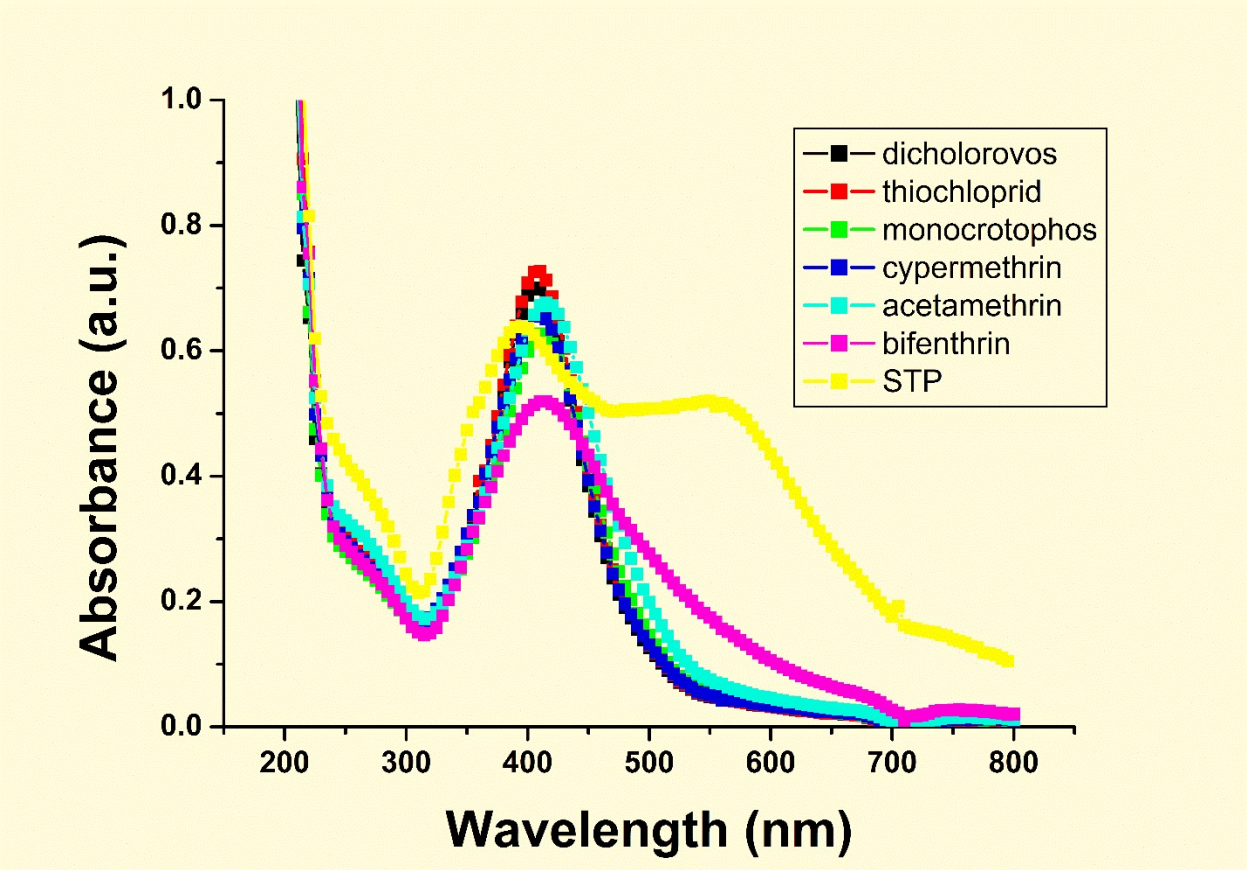

Absorbance (a.u.)
1.0
0.8
0.6
0.4
0.2
0.0
200
300
400
500
600
700
800
Wavelength (nm)
dicholorovos
thiochloprid
monocrotophos
cypermethrin
acetamethrin
bifenthrin
STP

Fig. S1

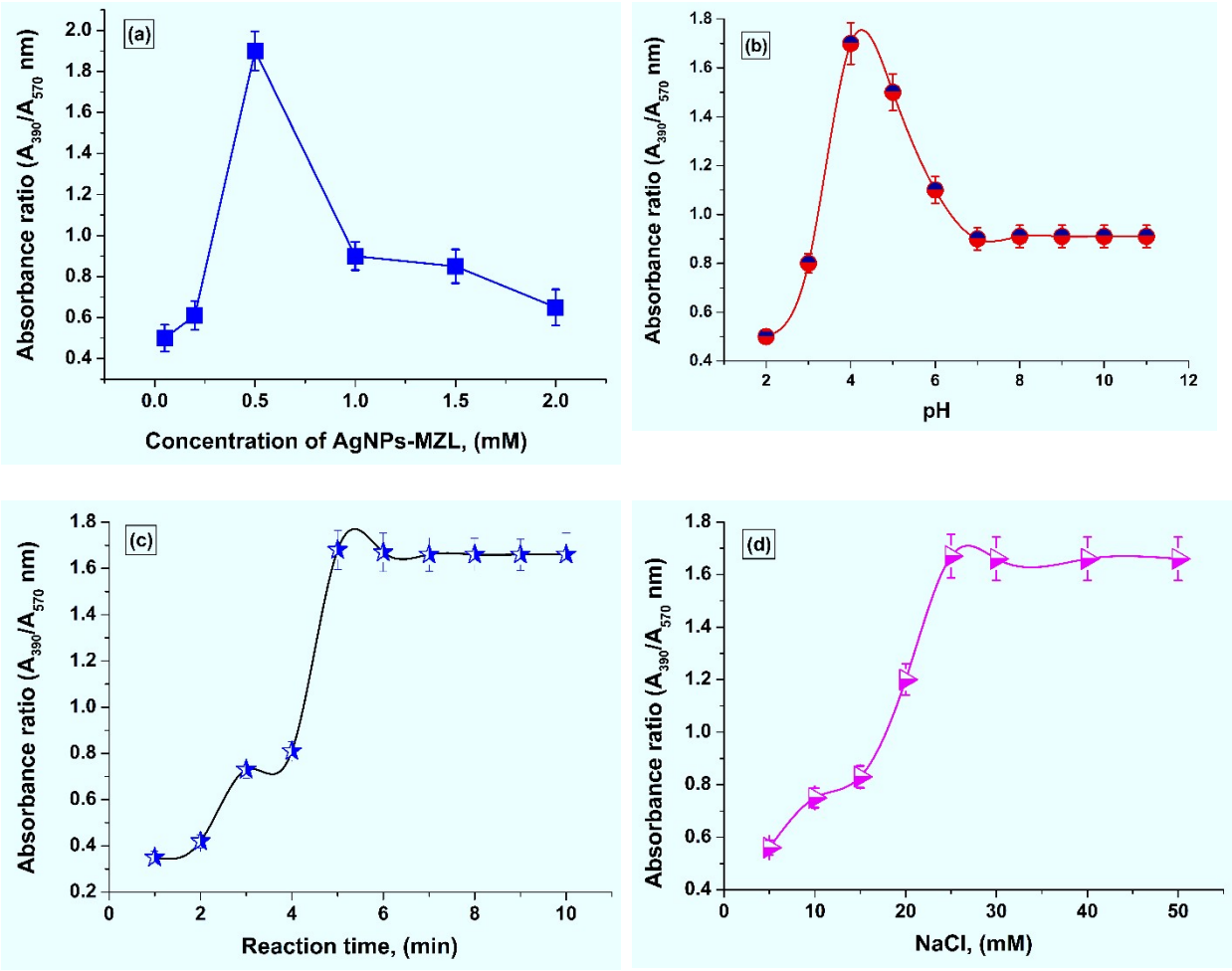

(a)
Absorbance ratio (A_{390}/A_{570} nm)
Concentration of AgNPs-MZL, (mM)
(b)
Absorbance ratio (A_{390}/A_{570} nm)
pH
(c)
Absorbance ratio (A_{390}/A_{570} nm)
Reaction time, (min)
(d)
Absorbance ratio (A_{390}/A_{570} nm)
NaCl, (mM)

Fig. S2

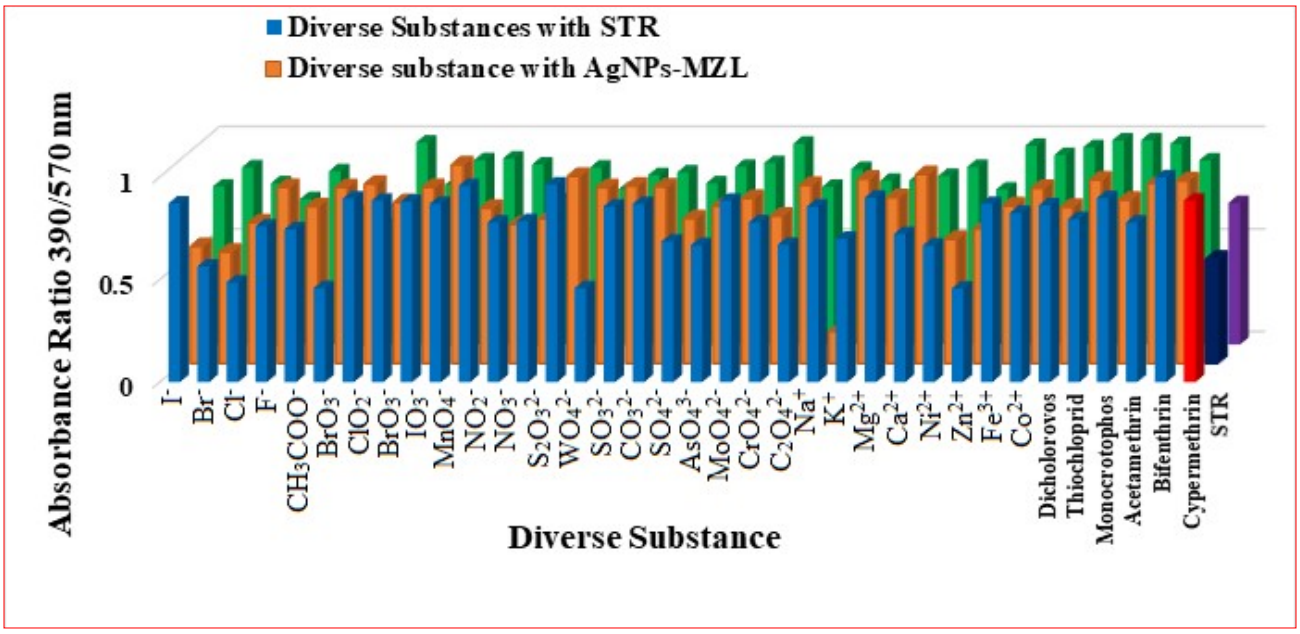

Diverse Substances with STR
Diverse substance with AgNPs-MZL
Absorbance Ratio 390/570 nm
1
0.5
0
I-
Br-
Cl-
F-
CH3COO-
BrO3-
ClO2-
BrO3-
IO3-
MnO4-
NO2-
NO3-
S2O32-
WO42-
SO32-
CO32-
SO42-
AsO43-
MoO42-
CrO42-
C2O42-
Na+
K+
Mg2+
Ca2+
Ni2+
Zn2+
Fe3+
Co2+
Dicholorovos
Thiochloprid
Monocrotophos
Acetamethrin
Bifenthrin
Cypermethrin
STR
Diverse Substance

Fig. S3

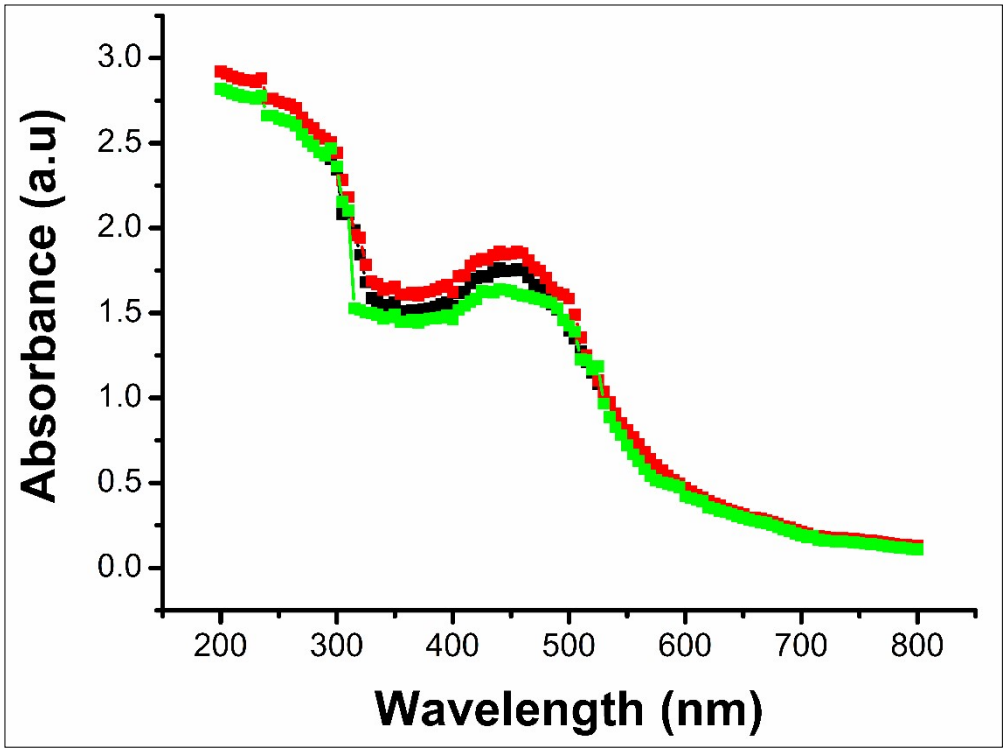
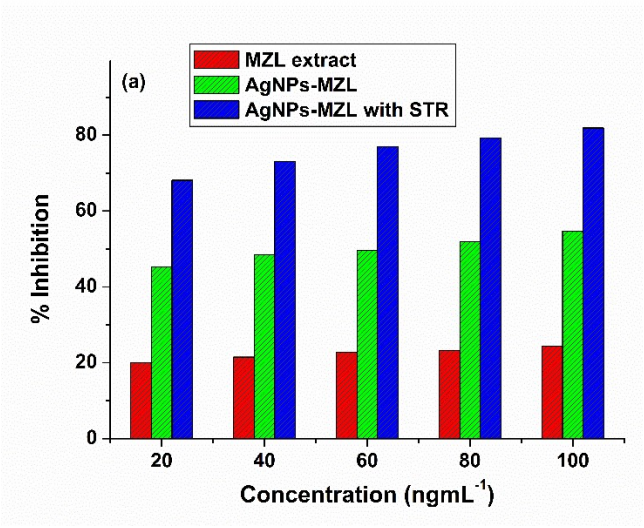
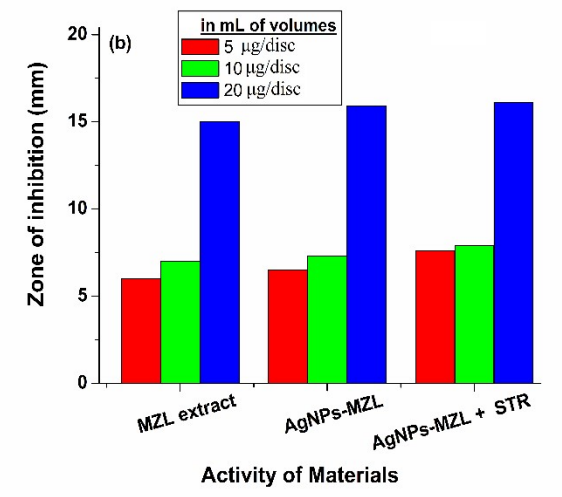

Absorbance (a.u)
3.0
2.5
2.0
1.5
1.0
0.5
0.0
200
300
400
500
600
700
800
Wavelength (nm)

Fig. S4


(a)
MZL extract
AgNPs-MZL
AgNPs-MZL with STR
% Inhibition
0
20
40
60
80
20
40
60
80
100
Concentration (ngmL-1)


(b)
in mL of volumes
5 µg/disc
10 µg/disc
20 µg/disc
Zone of inhibition (mm)
0
5
10
15
20
MZL extract
AgNPs-MZL
AgNPs-MZL + STR
Activity of Materials

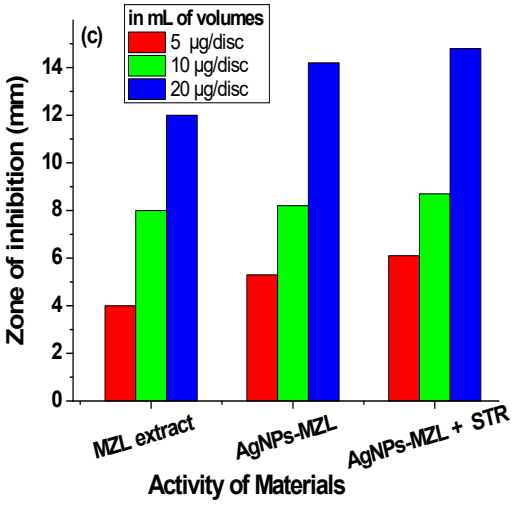

(c)
in mL of volumes
5 µg/disc
10 µg/disc
20 µg/disc
Zone of inhibition (mm)
0
2
4
6
8
10
12
14
MZL extract
AgNPs-MZL
AgNPs-MZL + STR
Activity of Materials

Fig. S5