

Supporting Information

Green Synthesis of Silver Nanoparticles with *Torenia fournieri* leaf extracts and Assessing the Antioxidant, Antibacterial Properties, Para-nitrophenol Catalysis, and Nanotoxicity.

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Statistical Analysis -

One-way ANOVA using Microsoft® Excel 2016 software and Pearson correlation was analysed using IBM SPSS Statistics software Version 29.

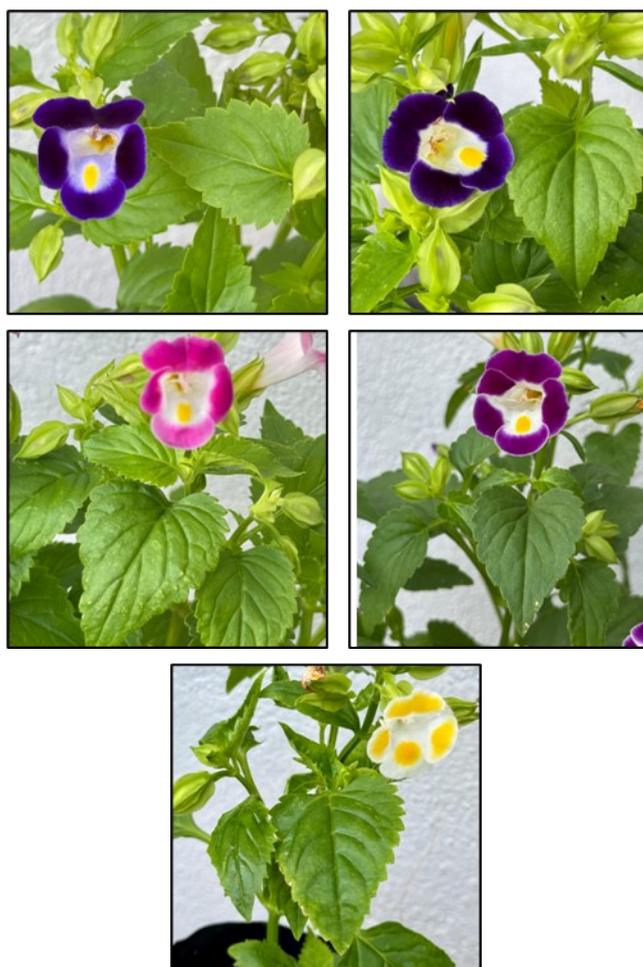


Figure S1. Leaves of five varieties of *Torenia fournieri*: (A) – Deep blue (D.B), (B) – Blue White (B.W), (C) – Rose (R), (D) – Burgundy (B), (E) – Lemondrop (L)

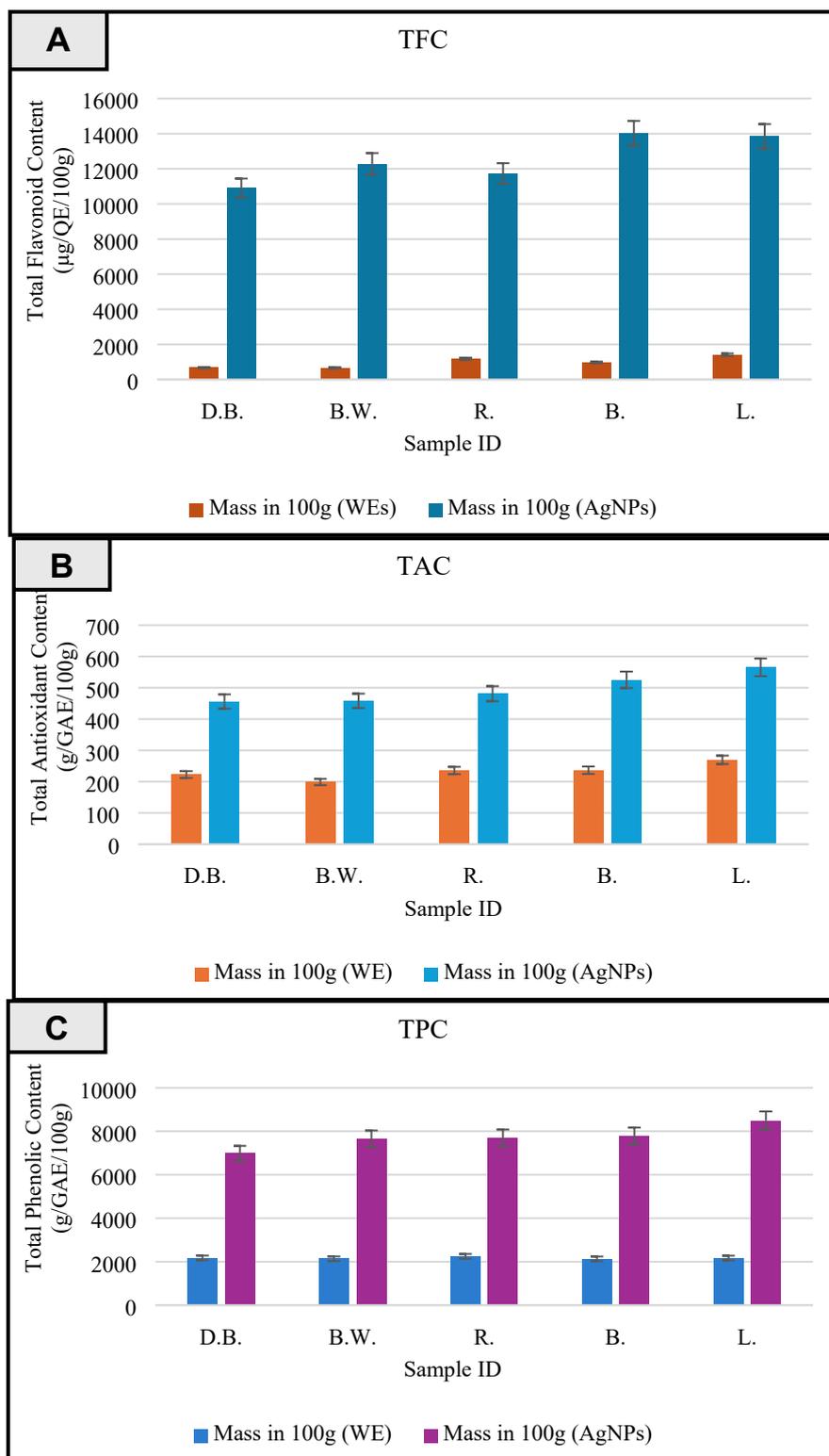


Figure S2. Graphs of tested WEs and AgNPs depicting the amount of (A) – TFC, (B) – TPC, and (C) – TAC.

Table S1 ANOVA test for TFC in WEs and AgNPs

| SUMMARY | | | | | | |
|----------------------|----------------|--------------------|-------------|-------------|------------------------|------------------|
| Groups | Count | Sum | Average | Variance | | |
| Mass in 100g (WEs) | 5 | 4908.85 | 981.77 | 104754.47 | | |
| Mass in 100g (AgNPs) | 5 | 62799.48 | 12559.90 | 1835598.41 | | |
| ANOVA | | | | | | |
| Source of Variation | Sum of squares | Degrees of freedom | Mean square | F-statistic | P-value (Significance) | Critical F-value |
| Between Groups | 335132446.3 | 1 | 335132446.3 | 345.43 | 7.24E-08 | 5.32 |
| Within Groups | 7761411.54 | 8 | 970176.44 | | | |
| Total | 342893857.8 | 9 | | | | |

*Error rate – 95 % confidence with an error rate of 5%

Table S2 ANOVA test for TPC in WEs and AgNPs

| SUMMARY | | | | | | |
|----------------------|----------------|--------------------|-------------|-------------|------------------------|------------------|
| Groups | Count | Sum | Average | Variance | | |
| Mass in 100g (WEs) | 5 | 10856.43 | 2171.29 | 2100.67 | | |
| Mass in 100g (AgNPs) | 5 | 38592.86 | 7718.58 | 286265.31 | | |
| ANOVA | | | | | | |
| Source of Variation | Sum of squares | Degrees of freedom | Mean square | F-statistic | P-value (Significance) | Critical F-value |
| Between Groups | 76930946.99 | 1 | 76930946.99 | 533.56 | 1.31E-08 | 5.32 |
| Within Groups | 1153463.88 | 8 | 144182.99 | | | |
| Total | 78084410.87 | 9 | | | | |

*Error rate – 95 % confidence with an error rate of 5%

Table S3 ANOVA test for TAC in WEs and AgNPs

| SUMMARY | | | | |
|--------------------|-------|---------|---------|----------|
| Groups | Count | Sum | Average | Variance |
| Mass in 100g (WEs) | 5 | 1163.47 | 232.70 | 660.35 |

| Mass in 100g (AgNPs) | 5 | 2485.80 | 497.16 | 2218.75 | | |
|----------------------|----------------|--------------------|-------------|-------------|------------------------|------------------|
| ANOVA | | | | | | |
| Source of Variation | Sum of squares | Degrees of freedom | Mean square | F-statistic | P-value (Significance) | Critical F-value |
| Between Groups | 174855.50 | 1 | 174855.54 | 121.47 | 4.09E-06 | 5.32 |
| Within Groups | 11516.39 | 8 | 1439.55 | | | |
| Total | 186371.9 | 9 | | | | |

*Error rate – 95 % confidence with an error rate of 5%

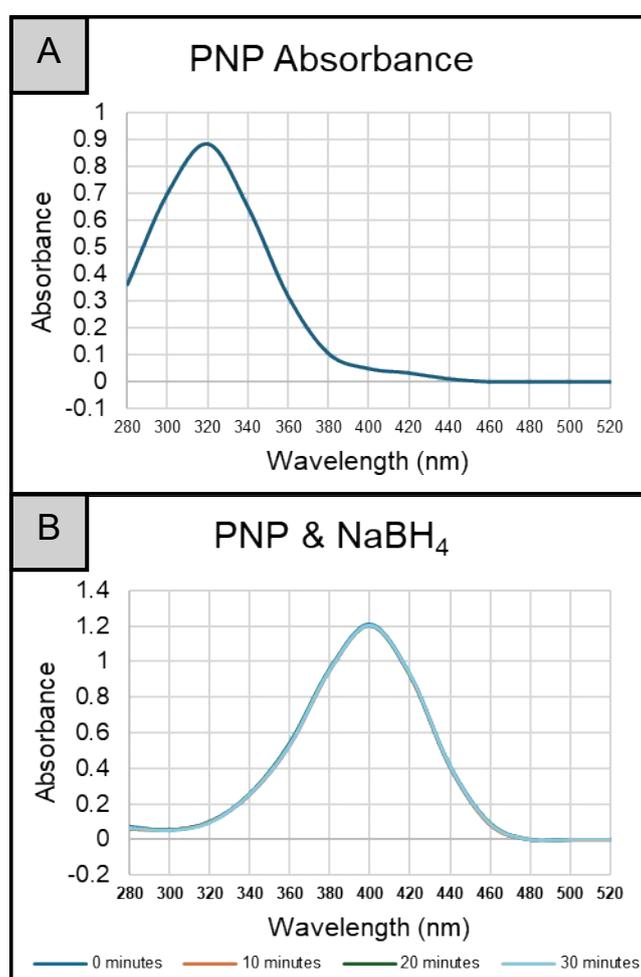


Figure S3. Absorbance curves (A)-PNP (showing maximum absorbance at 320nm) (B)-PNP and NaBH₄ (peak shift to 400nm)

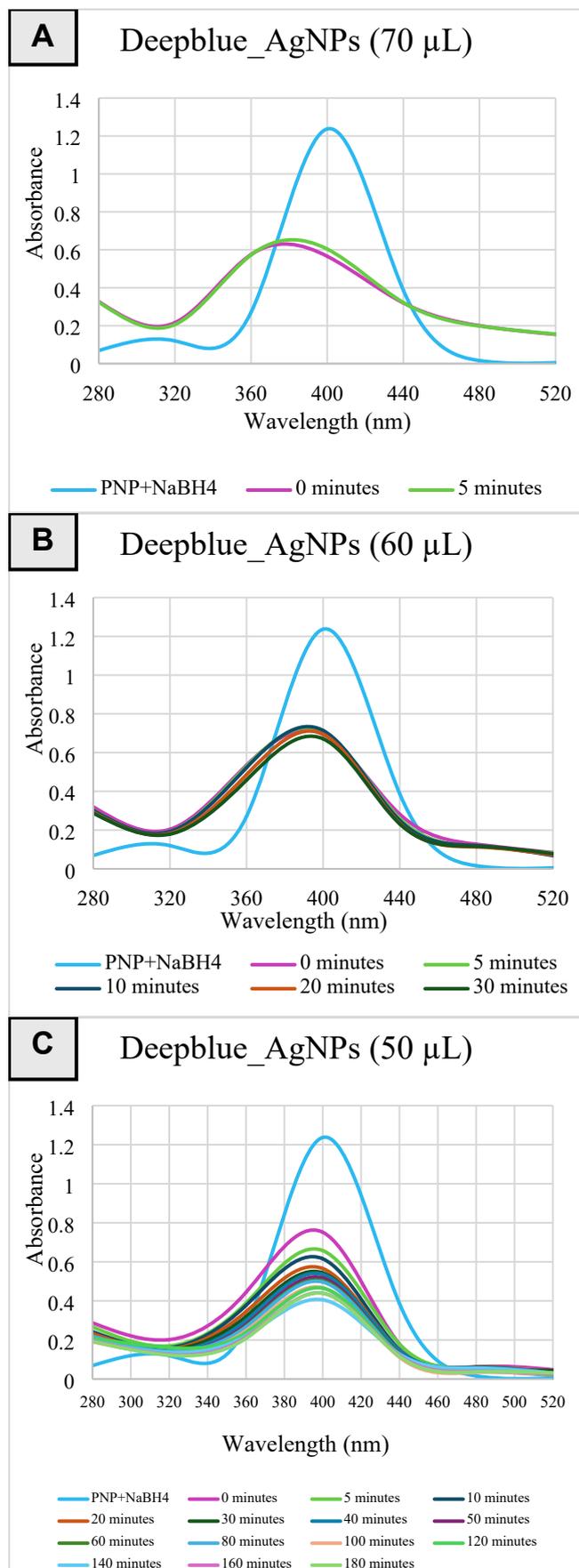
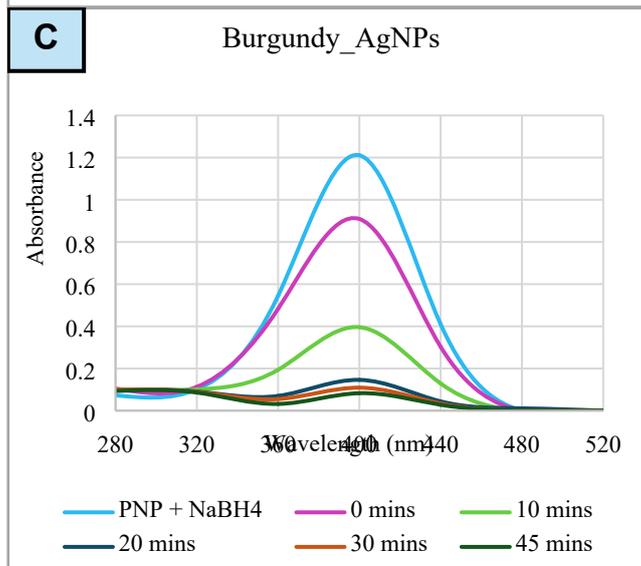
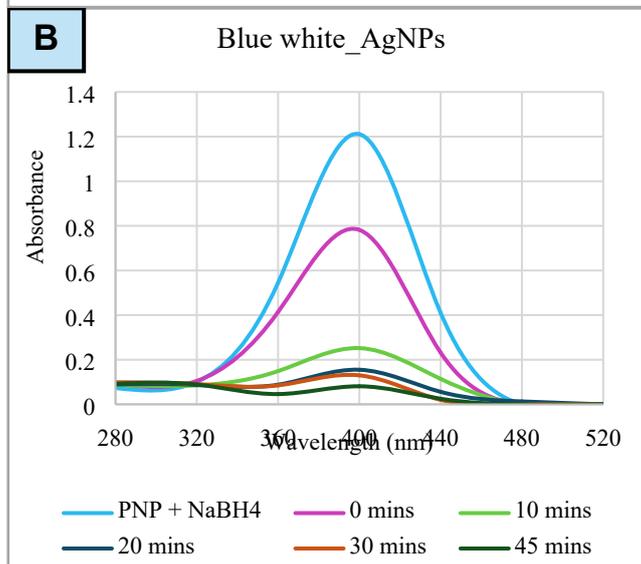
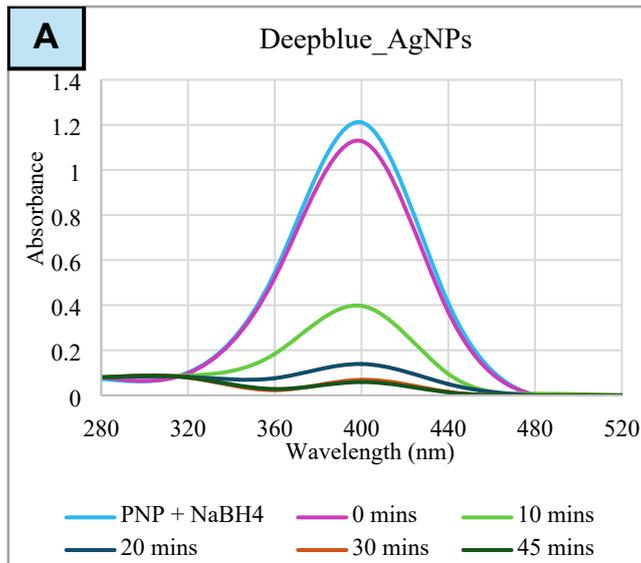


Figure S4. PNP catalysis with 4000ppm Deepblue_AgNPs in the presence of NaBH_4 , (A) – 70 μ L, (B) – 60 μ L, and (C) – 50 μ L.



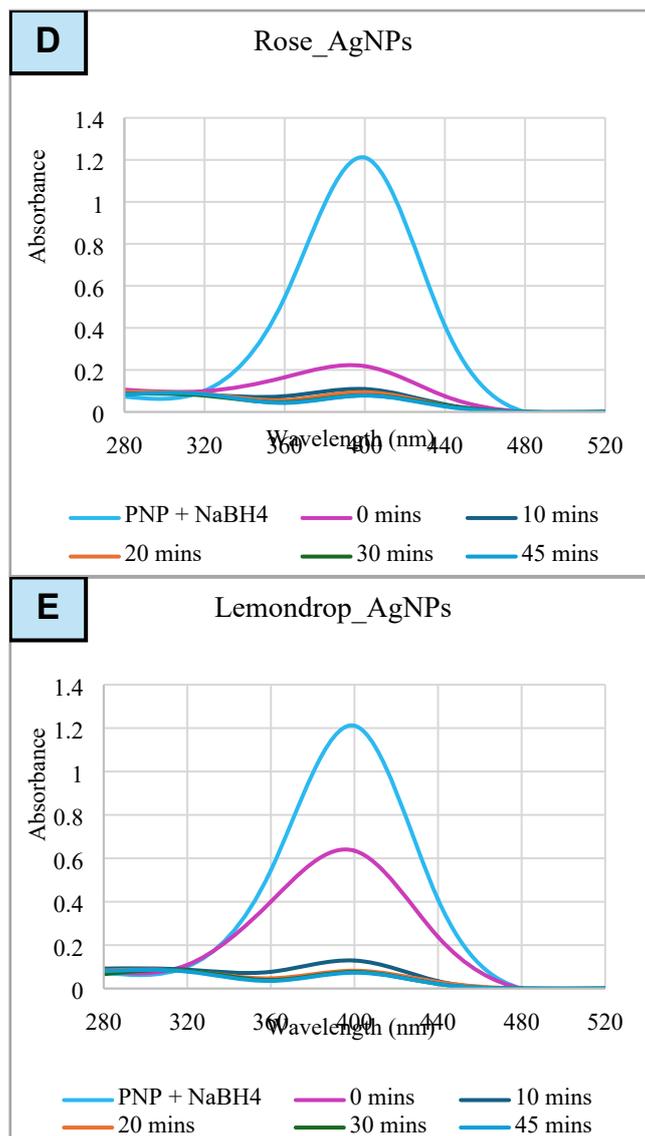


Figure S5. PNP catalysis with 5 μL of 4000ppm AgNPs in the presence of NaBH_4 . (A)-Deepblue_AgNPs, (B)-Blue white_AgNPs, (C)-Rose_AgNPs, (D)-Burgundy_AgNPs, and (E)-Lemondrop_AgNPs

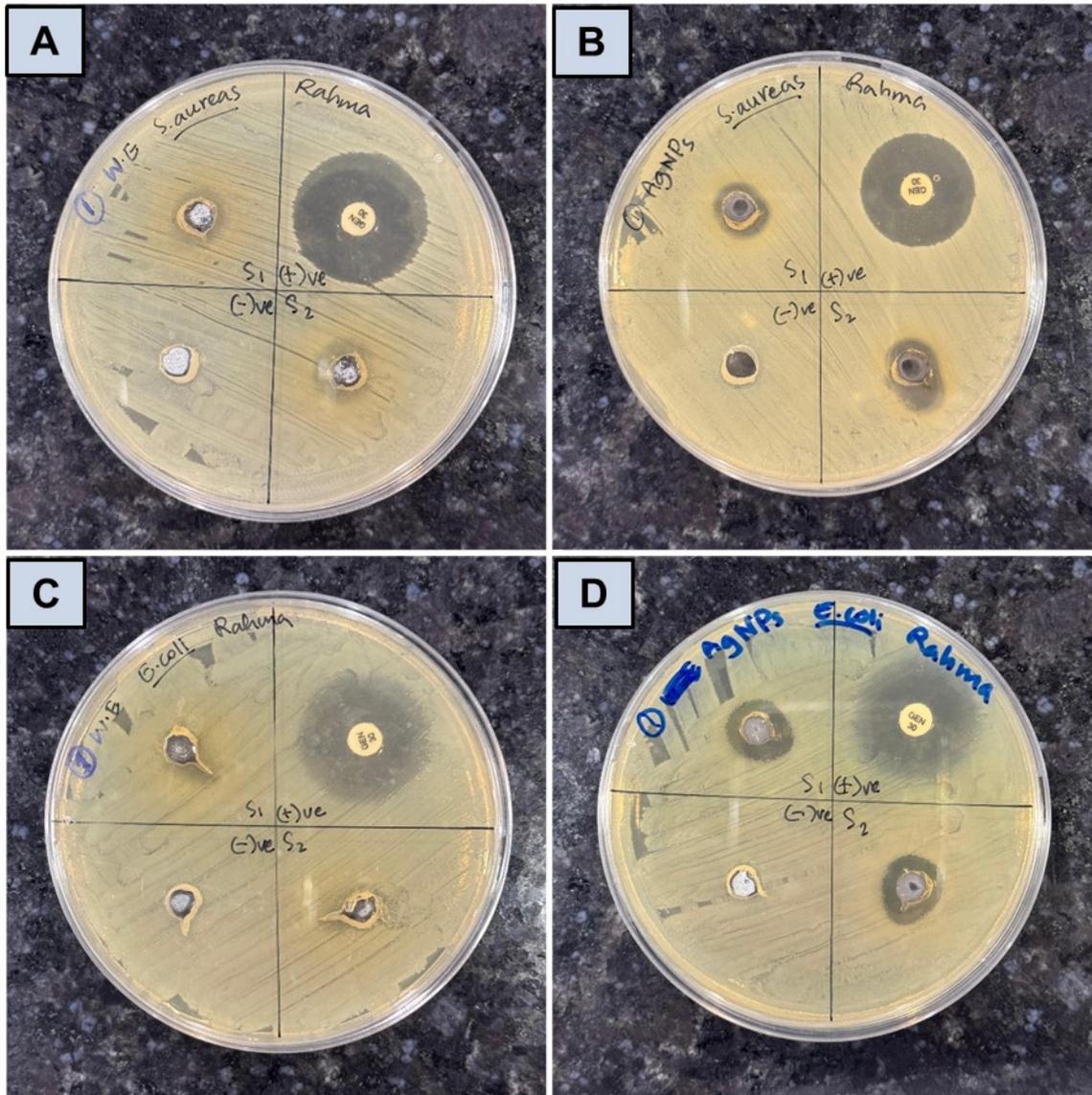


Figure S6. ZOIs of DeepBlue (A)-WE against *S. aureus* (B)-AgNPs against *S. aureus* (C)-WE against *E. coli* and (D)-AgNPs against *E. coli*.

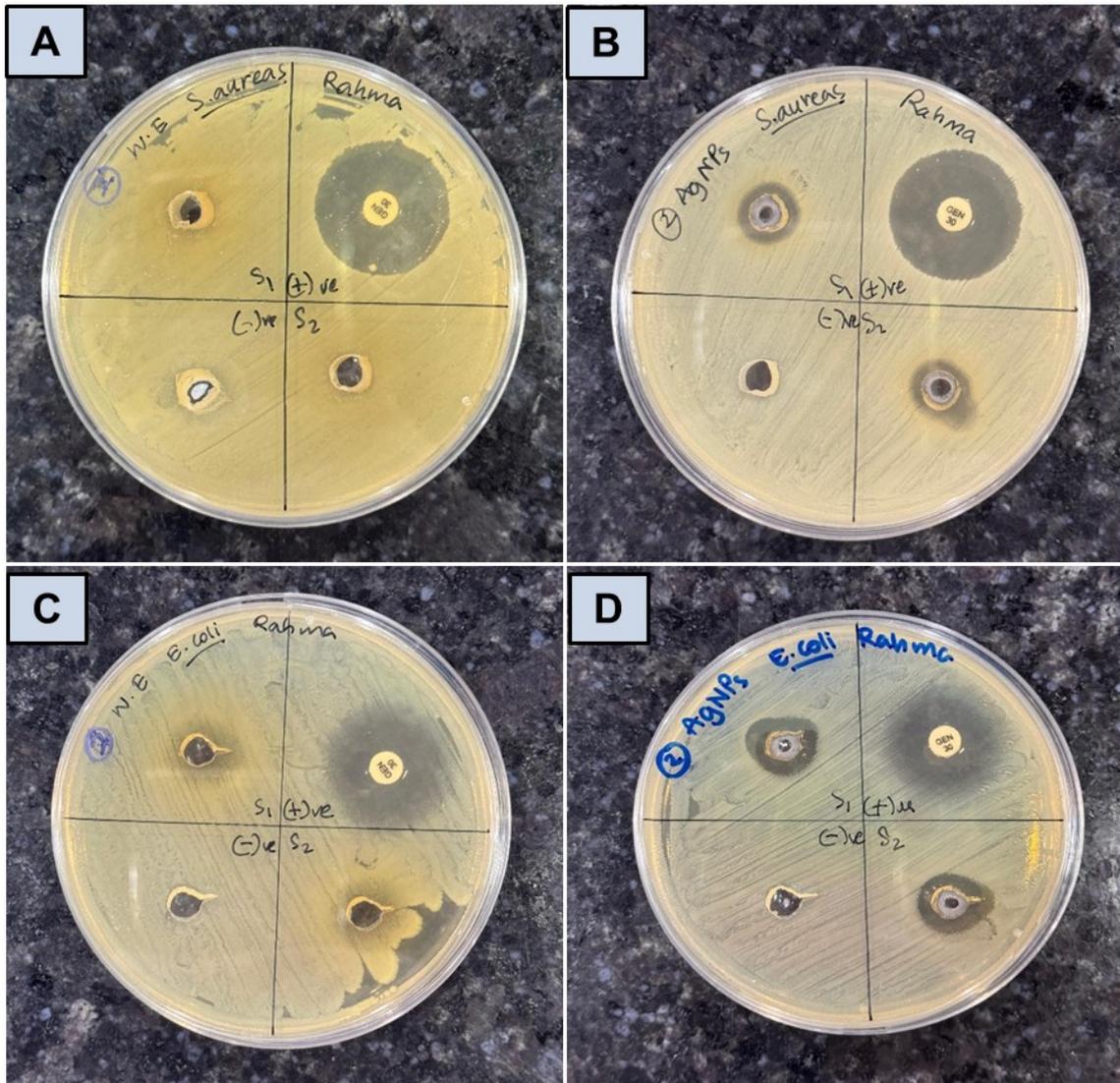


Figure S7. ZOIs of Blue white (A)-WE against *S. aureus* (B)-AgNPs against *S. aureus* (C)-WE against *E. coli* and (D)-AgNPs against *E. coli*.

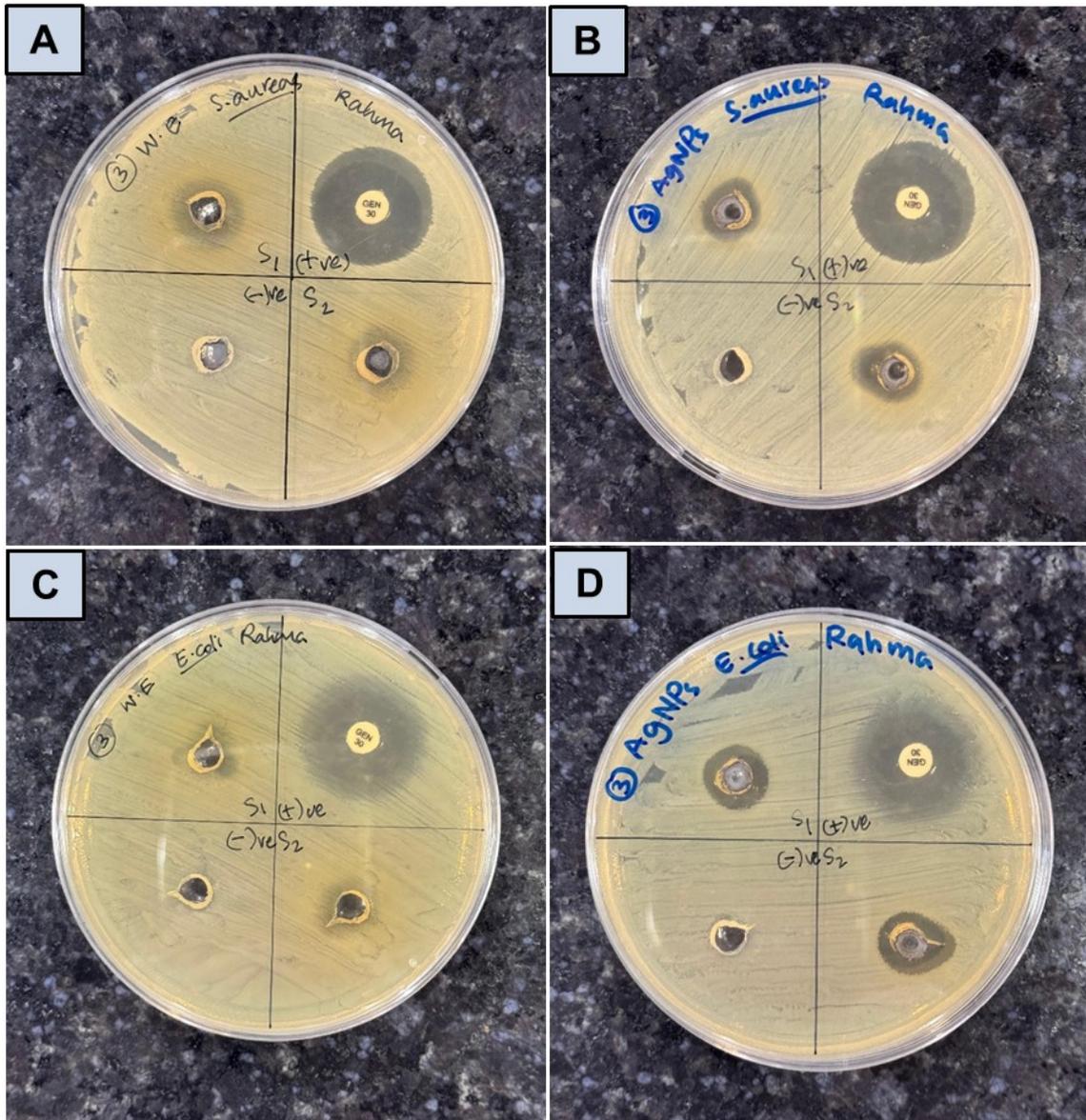


Figure S8. ZOIs of Rose (A)-WE against *S. aureus* (B)-AgNPs against *S. aureus* (C)-WE against *E. coli* and (D)-AgNPs against *E. coli*.

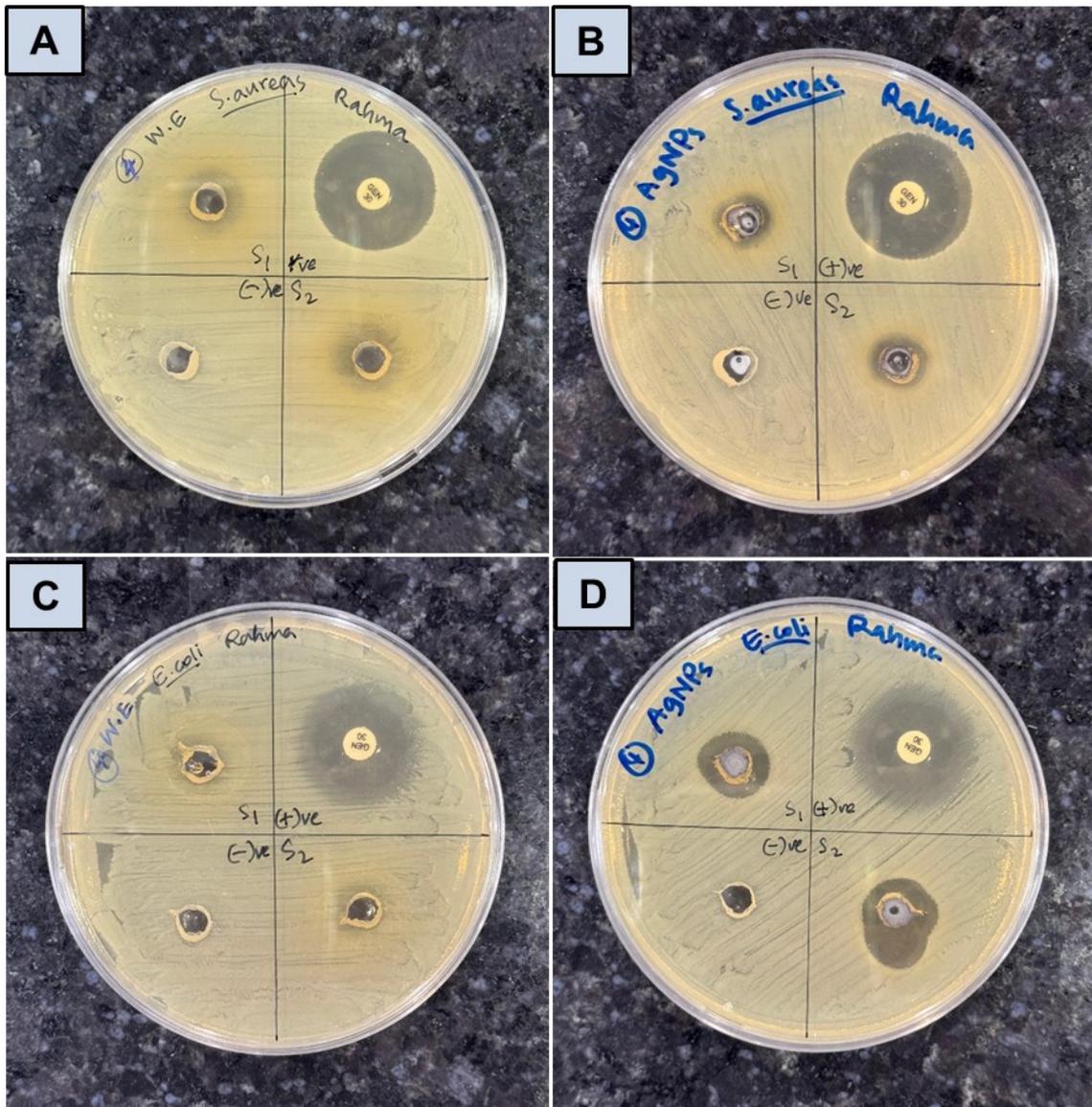


Figure S9. ZOIs of Burgundy (A)-WE against *S. aureus* (B)-AgNPs against *S. aureus* (C)-WE against *E. coli* and (D)-AgNPs against *E. coli*.

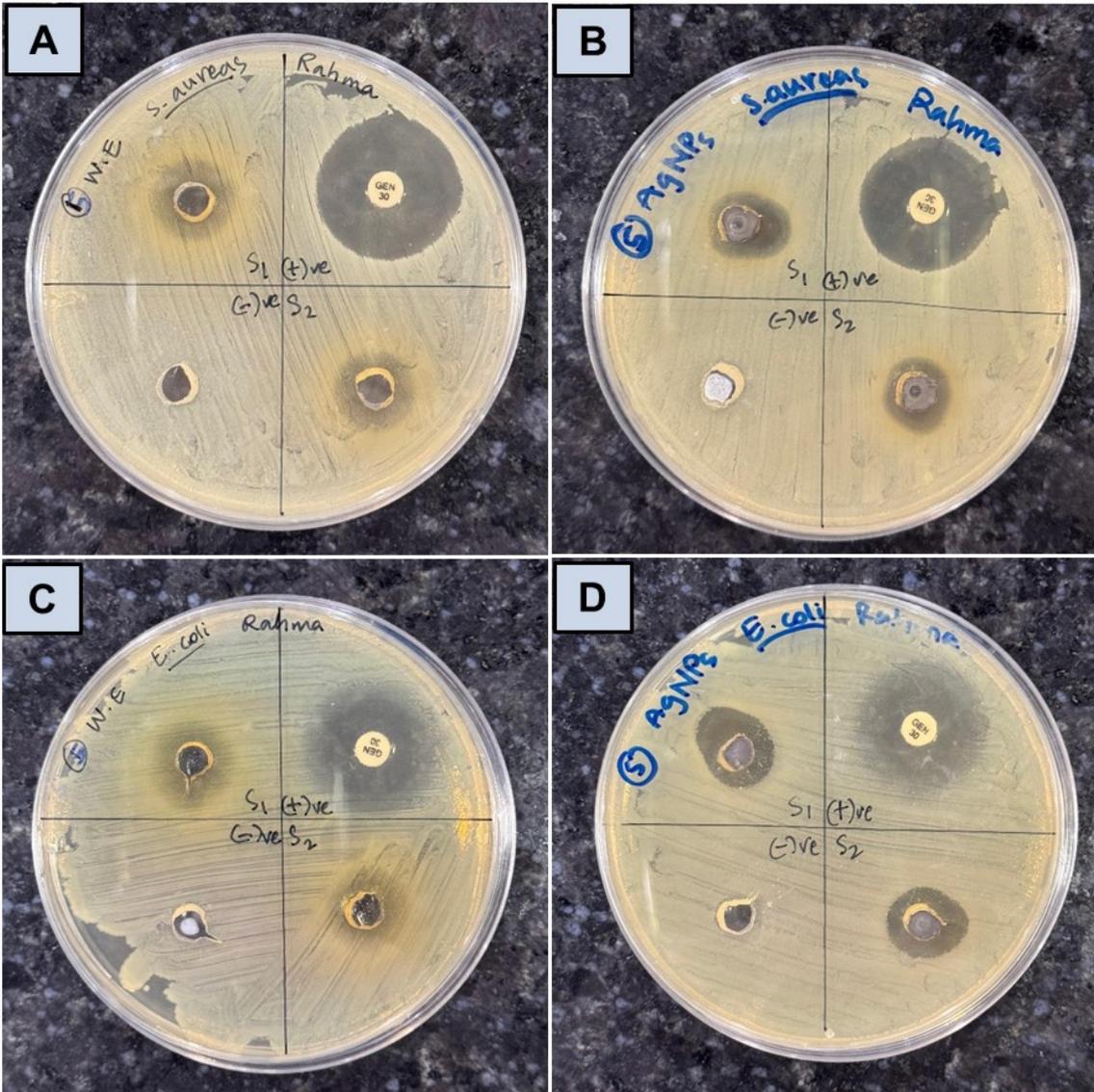


Figure S10. ZOIs of Lemondrop (A)-WE against *S. aureus* (B)-AgNPs against *S. aureus* (C)-WE against *E. coli* and (D)-AgNPs against *E. coli*.

Table S4 ANOVA test of WEs and AgNPs against *S.aureus*

| SUMMARY | | | | | | |
|---------------------|----------------|--------------------|-------------|-------------|------------------------|------------------|
| Groups | Count | Sum | Average | Variance | | |
| WEs | 5 | 3.75 | 0.75 | 0.005 | | |
| AgNPs | 5 | 5.7 | 1.14 | 0.003 | | |
| ANOVA | | | | | | |
| Source of Variation | Sum of squares | Degrees of freedom | Mean square | F-statistic | P-value (Significance) | Critical F-value |
| Between Groups | 0.38 | 1 | 0.38 | 95.06 | 1.03E-05 | 5.32 |
| Within Groups | 0.03 | 8 | 0.004 | | | |
| Total | 0.41 | 9 | | | | |

*Error rate – 95 % confidence with an error rate of 5%

Table S5 ANOVA test of WEs and AgNPs against *E.coli*

| SUMMARY | | | | | | |
|---------------------|----------------|--------------------|-------------|-------------|------------------------|------------------|
| Groups | Count | Sum | Average | Variance | | |
| WEs | 5 | 3.90 | 0.78 | 0.0045 | | |
| AgNPs | 5 | 6.25 | 1.25 | 0.0075 | | |
| ANOVA | | | | | | |
| Source of Variation | Sum of squares | Degrees of freedom | Mean square | F-statistic | P-value (Significance) | Critical F-value |
| Between Groups | 0.55 | 1 | 0.55 | 92.04 | 1.16E-05 | 5.32 |
| Within Groups | 0.05 | 8 | 0.01 | | | |
| Total | 0.60 | 9 | | | | |

*Error rate – 95 % confidence with an error rate of 5%

Table S6 ANOVA test of AgNPs against *S.aureus* and *E.coli*

| SUMMARY | | | | | | |
|---------------------|----------------|--------------------|-------------|-------------|------------------------|------------------|
| Groups | Count | Sum | Average | Variance | | |
| <i>S. aureus</i> | 5 | 5.70 | 1.14 | 0.003 | | |
| <i>E. coli</i> | 5 | 6.25 | 1.25 | 0.0075 | | |
| ANOVA | | | | | | |
| Source of Variation | Sum of squares | Degrees of freedom | Mean square | F-statistic | P-value (Significance) | Critical F-value |
| Between Groups | 0.03 | 1 | 0.03 | 5.76 | 0.043 | 5.32 |

| | | | | | | |
|---------------|------|---|------|--|--|--|
| Within Groups | 0.04 | 8 | 0.01 | | | |
| Total | 0.07 | 9 | | | | |

*Error rate – 95 % confidence with an error rate of 5%

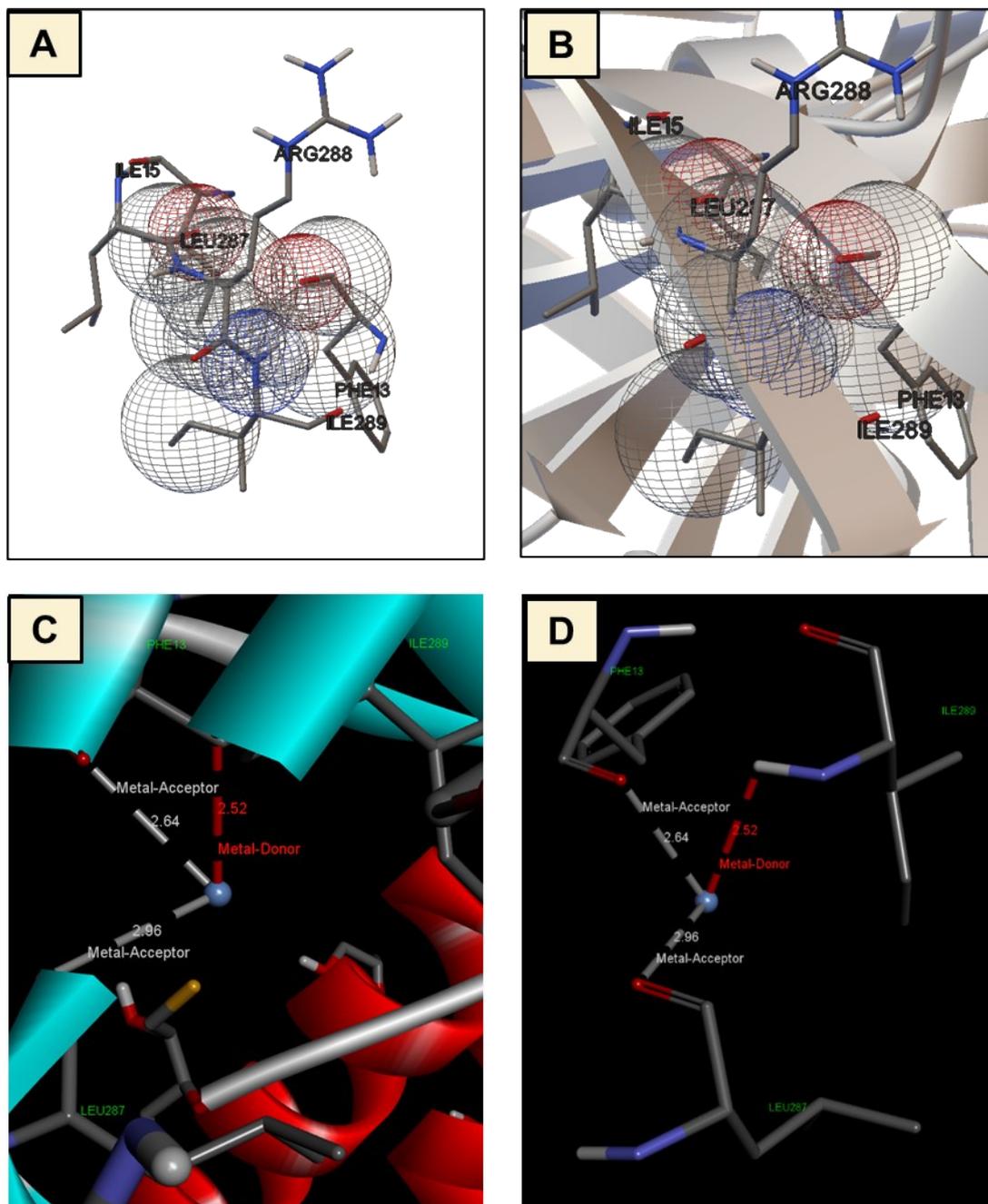


Figure S11. 3D interactions of Ag atom with protein Mre-11 viewed through (A-B)-AutoDock Tools and (C-D)-BIOVIA.

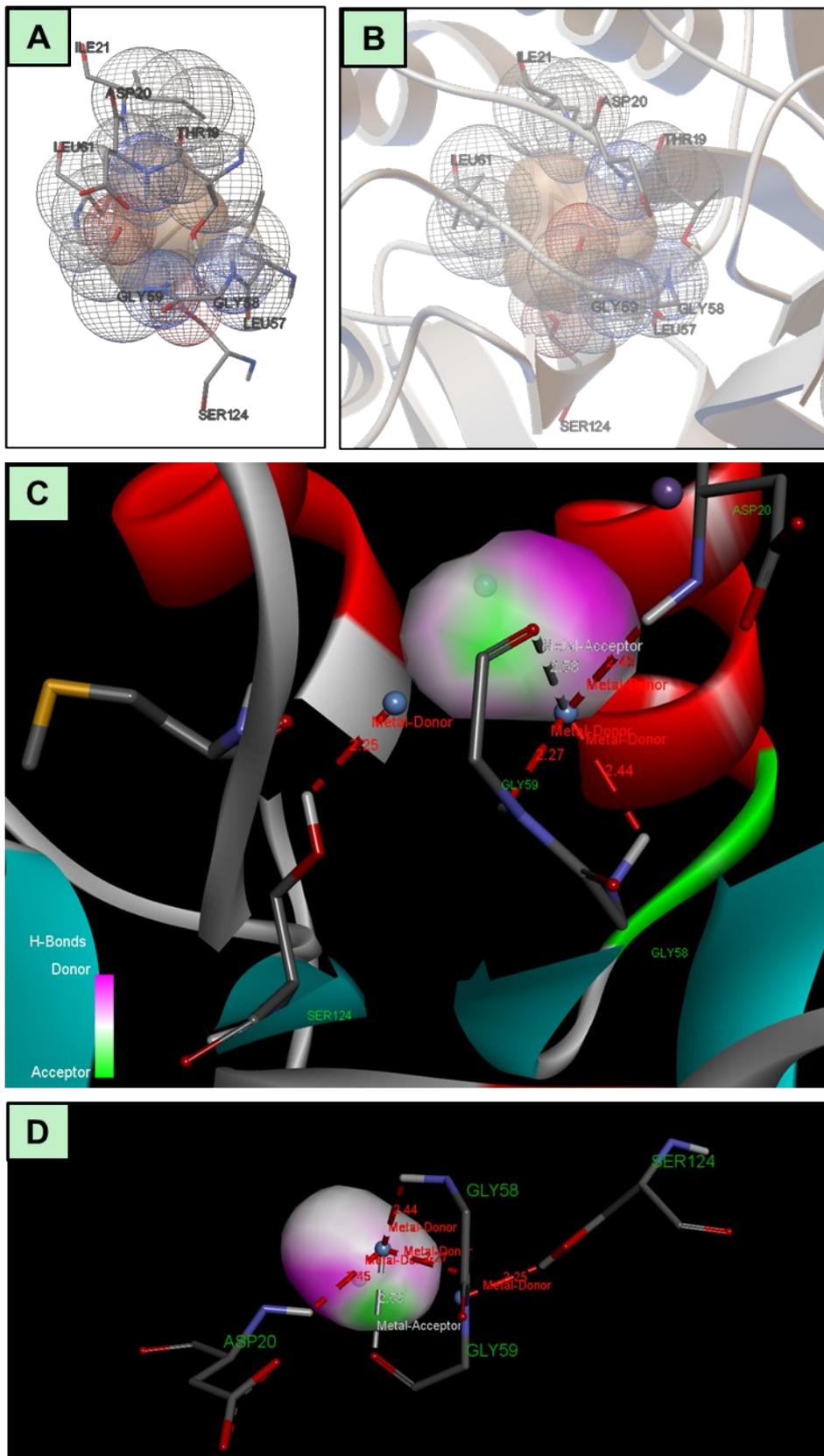


Figure S12. 3D interactions of Ag cluster with protein Mre-11 viewed through (A-B)-AutoDockTools and (C-D)-BIOVIA.