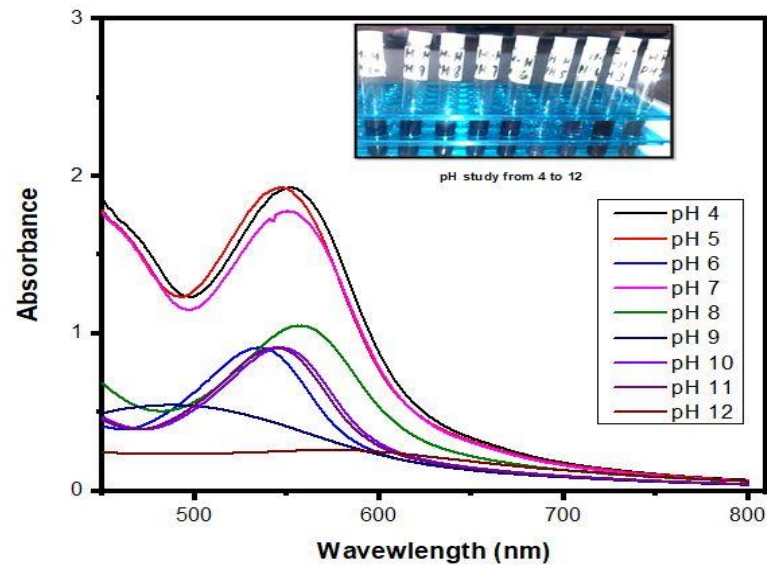
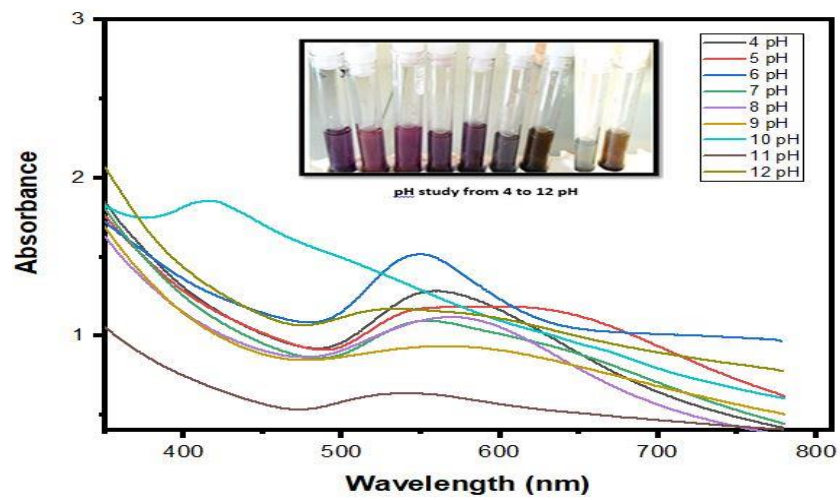


A

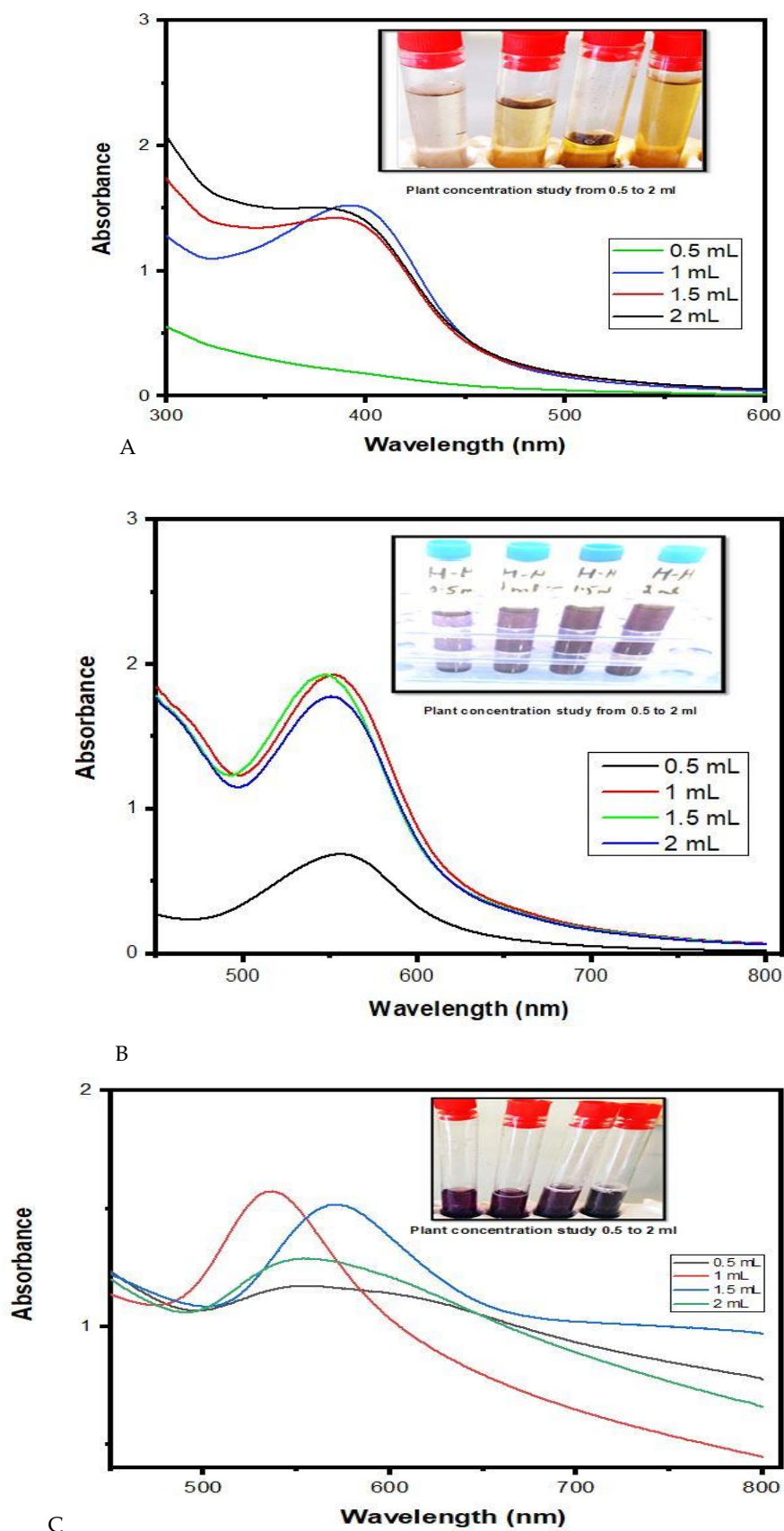


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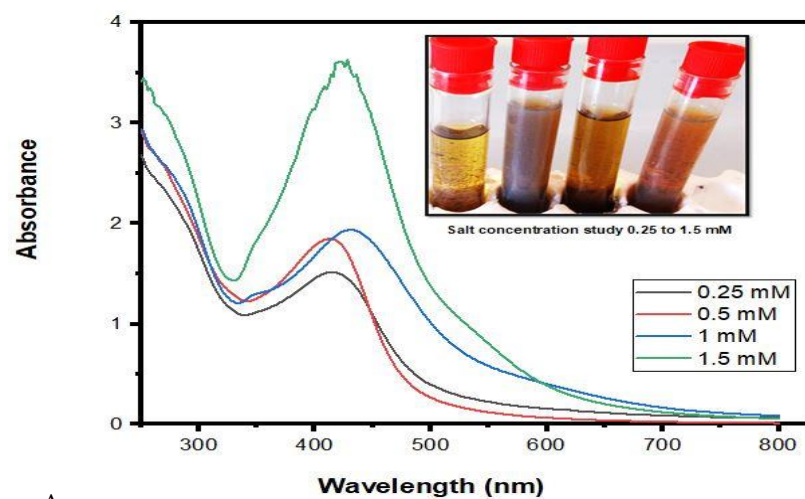


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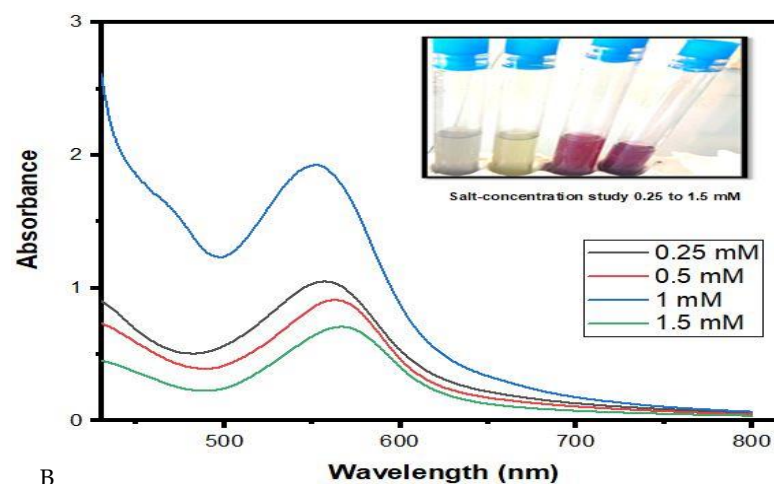
**Figure S1.** UV-vis spectrum of NPs biologically synthesized by using the HH plant extract at different pH (Both acidic and basic). (A) HH-AgNPs, (B) HH-AuNPs, and (C) Ag/Au BNPs.



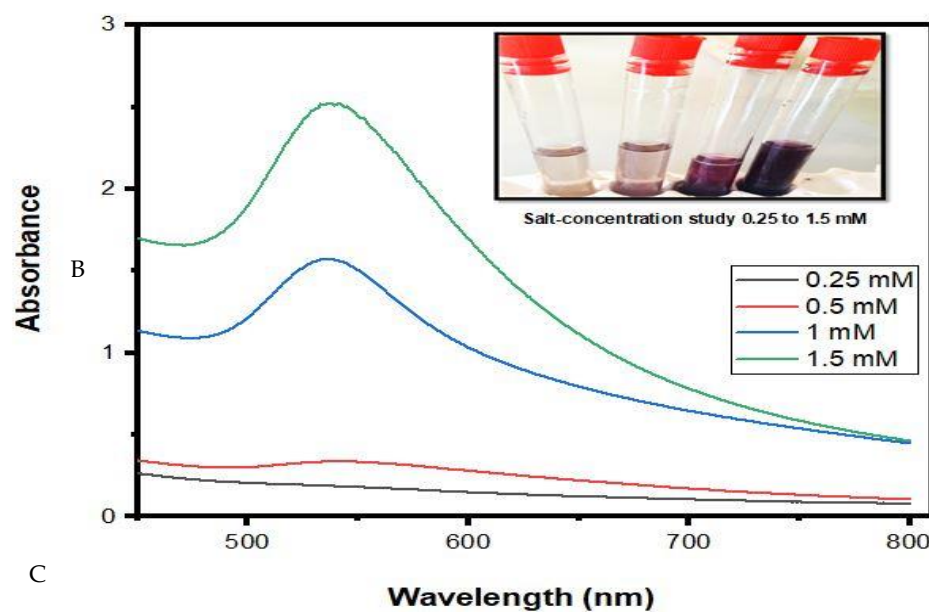
**Figure S2.** UV-vis spectrum of biologically synthesized NPs by using the different concentrations of HH plant extract. (A) HH-AgNPs, (B) HH-AuNPs, and (C) Ag/Au BNPs.



A

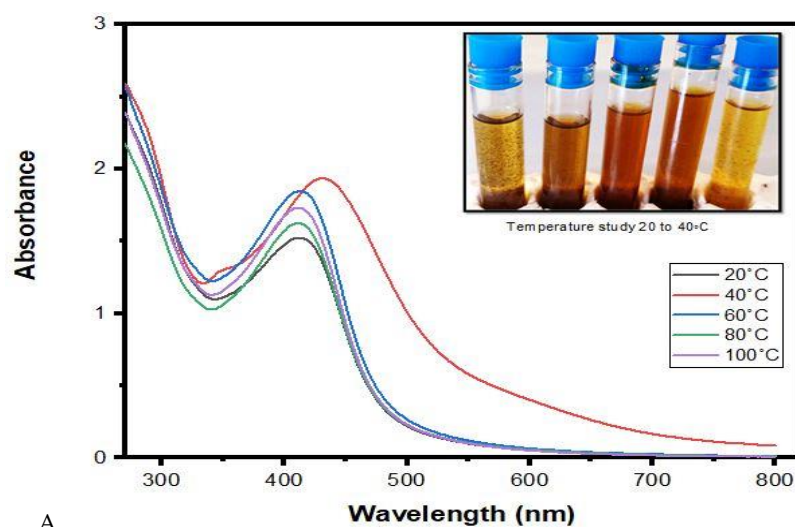


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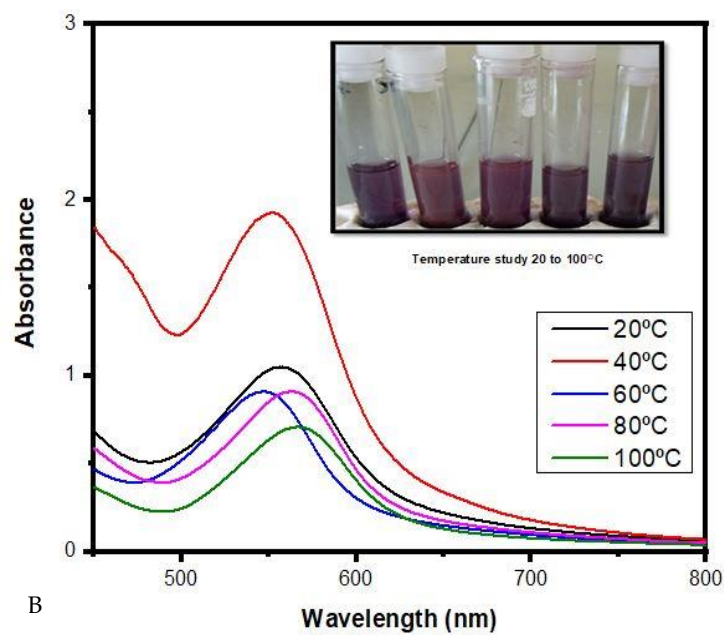


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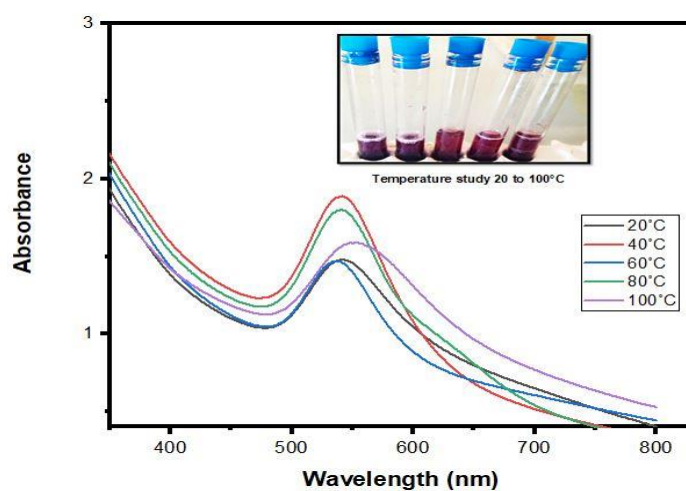
**Figure S3.** UV-vis spectrum of biologically synthesized NPs by using the HH plant extract at different concentrations of  $\text{AgNO}_3/\text{HAuCl}_4 \cdot 3\text{H}_2\text{O}$  salts. (A) HH-AgNPs, (B) HH-AuNPs, and (C) Ag/Au BNPs.



A



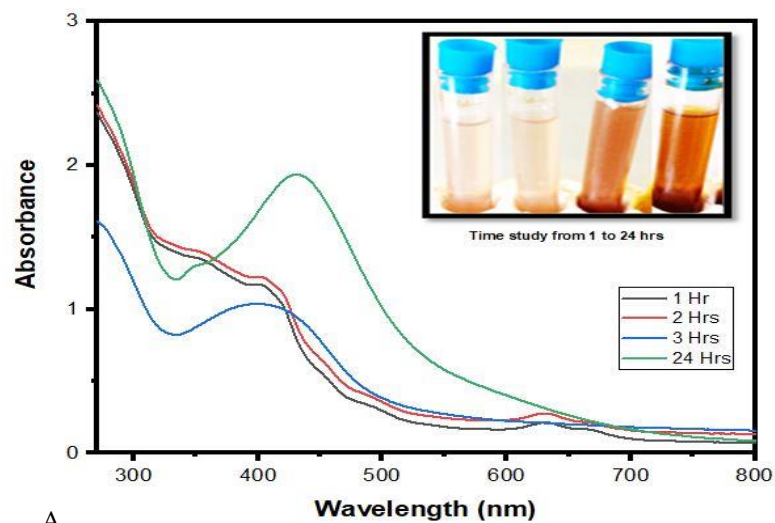
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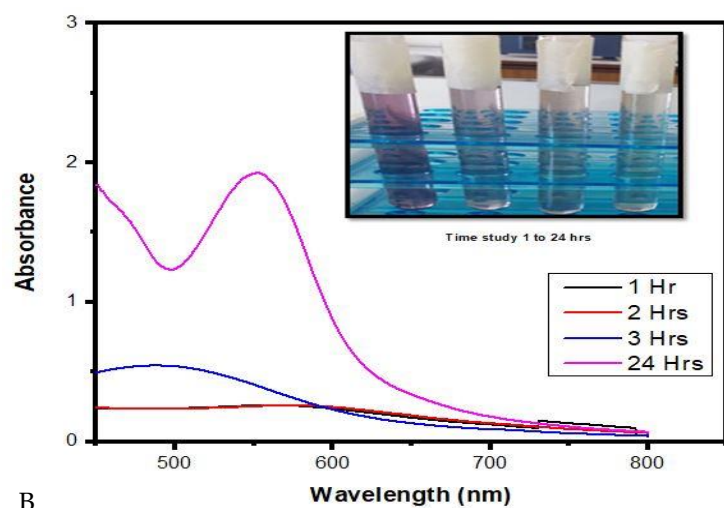
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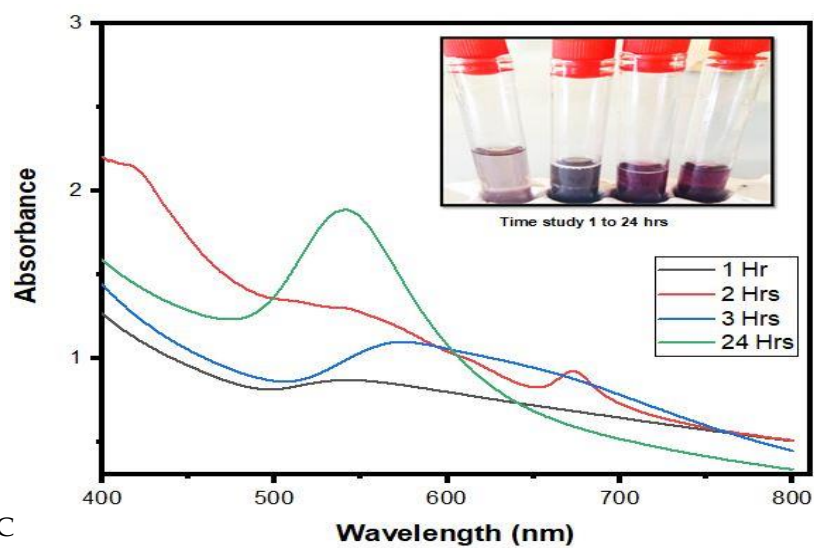
**Figure S4.** UV-vis spectrum of biologically synthesized NPs by using the HH plant extract at different temperatures. (A) HH-AgNPs, (B) HH-AuNPs, and (C) Ag/Au BNPs.



A

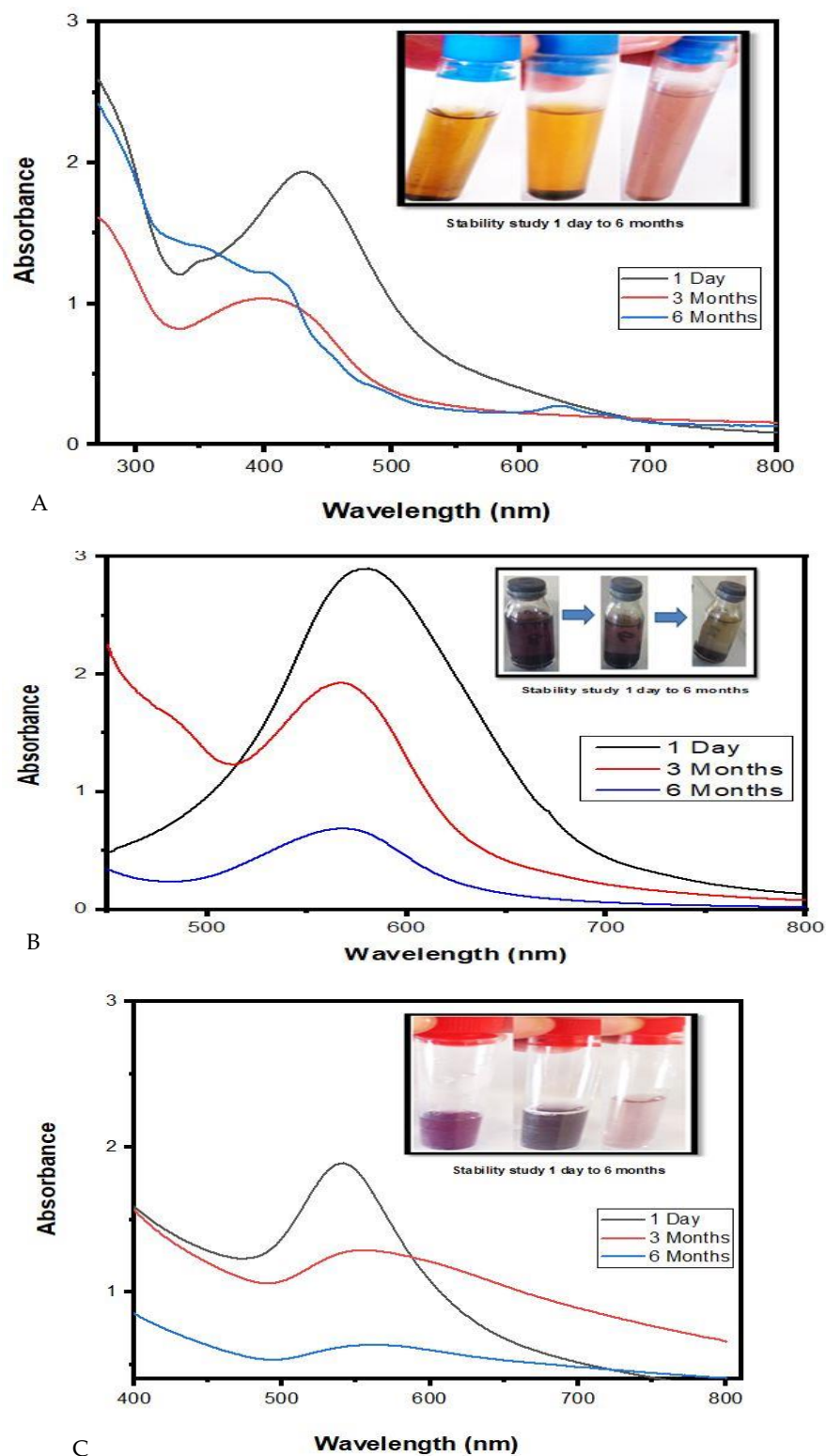


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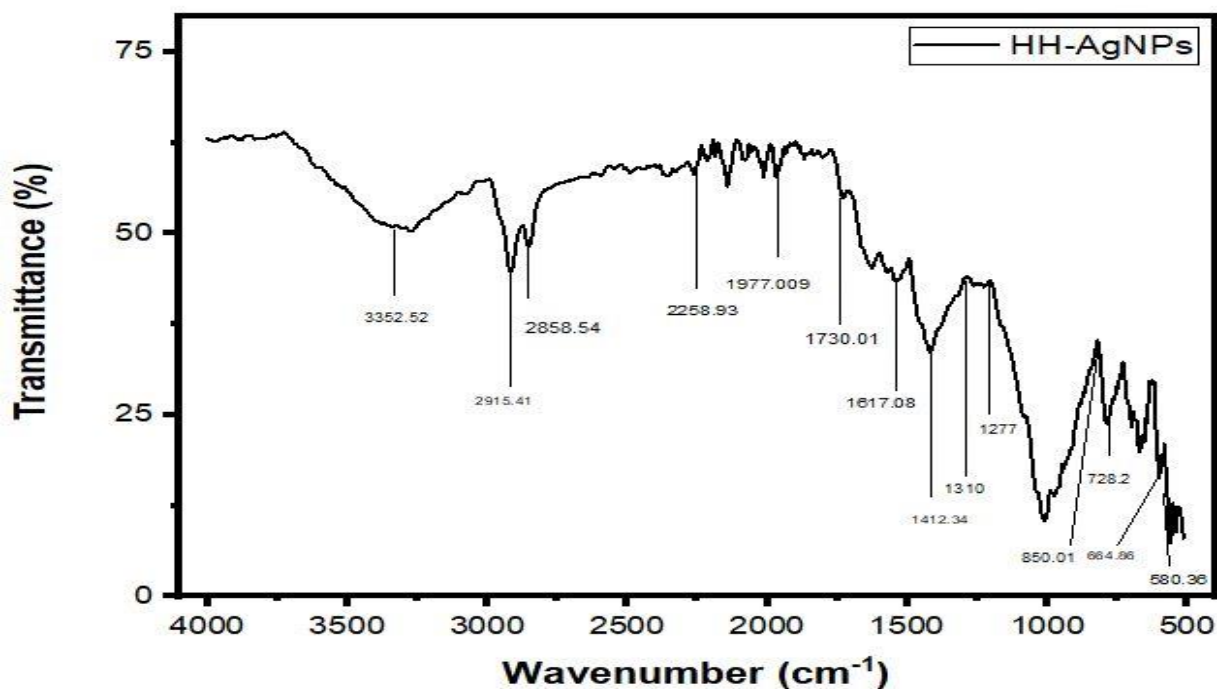


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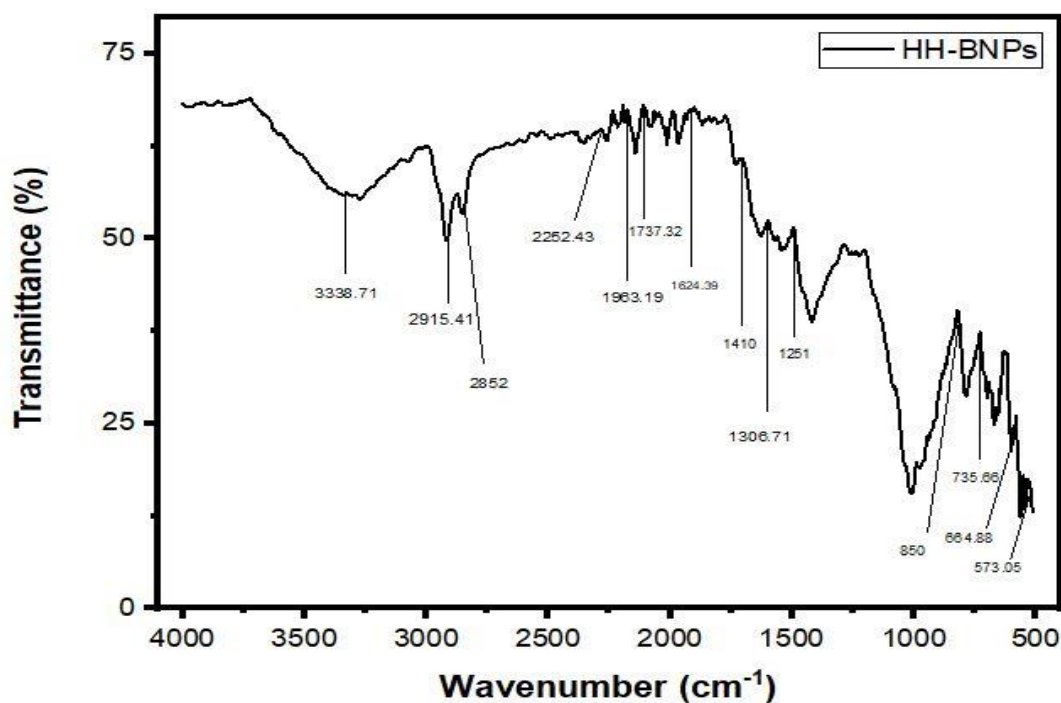
**Figure S5.** V-vis spectrum of biologically synthesized NPs by using the HH plant extract at different reaction times A) HH-AgNPs, (B) HH-AuNPs, and (C) Ag/Au BNPs.



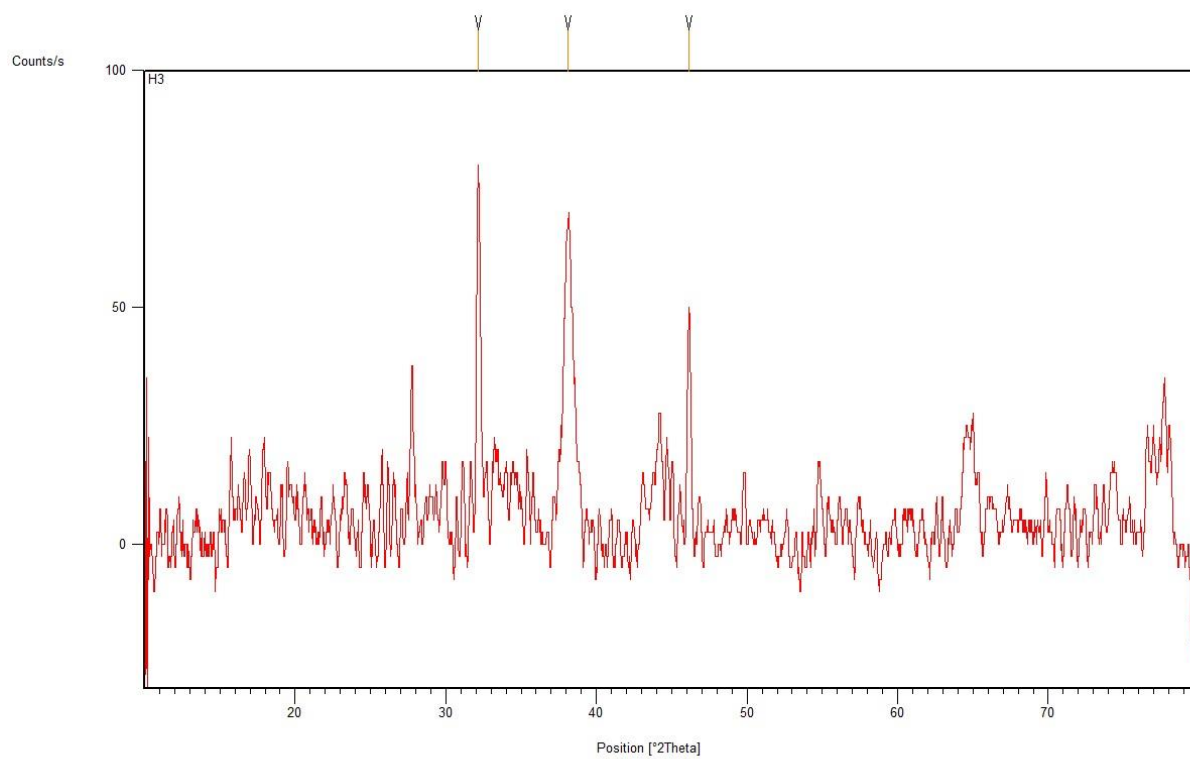
**Figure S6.** V-vis spectrum of biologically synthesized NPs by using the HH plant extract at different periods. (A) HH-AgNPs, (B) HH-AuNPs, and (C) Ag/Au BNPs.



**Figure S7.** FT-IR analysis of HH-AgNPs.

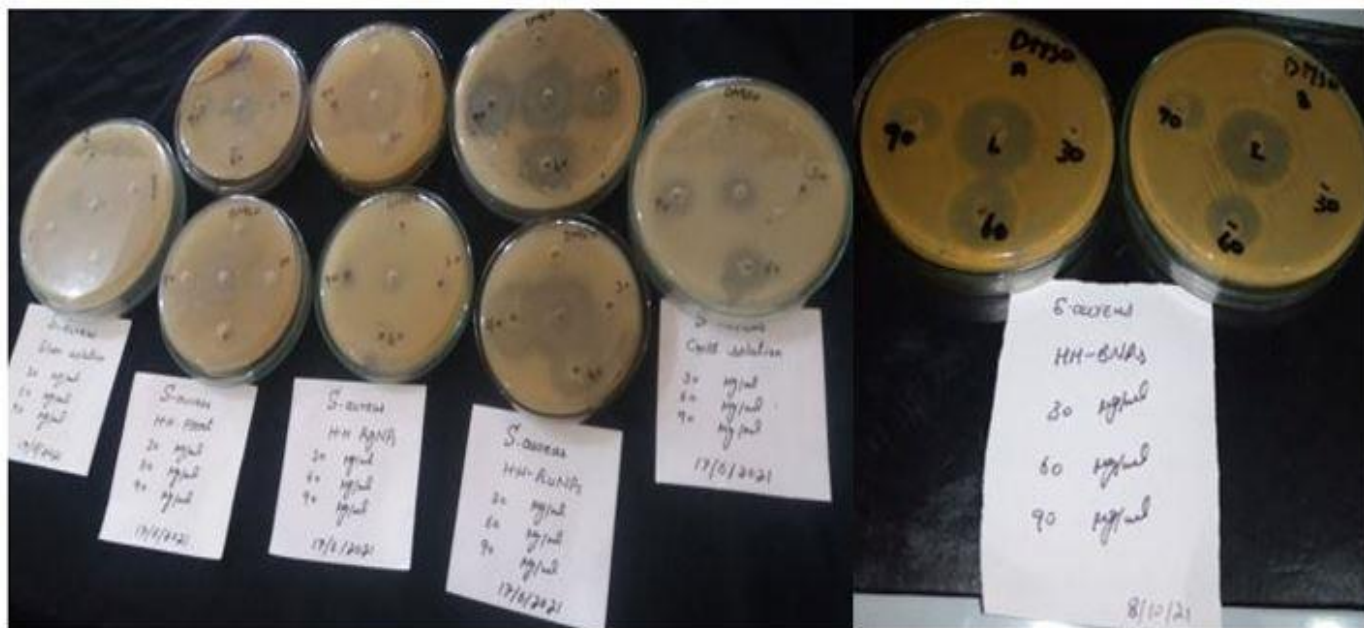


**Figure S8.** FT-IR analysis of HH-BNPs.



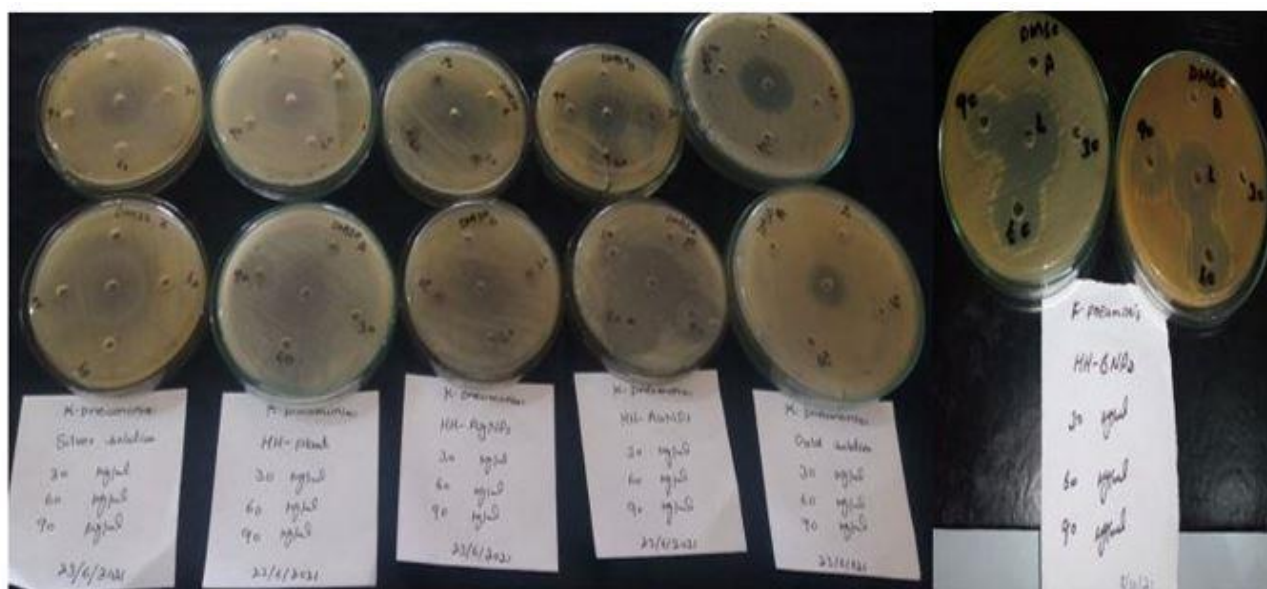
**Figure S9. XRD analysis of HH-BNPs.**





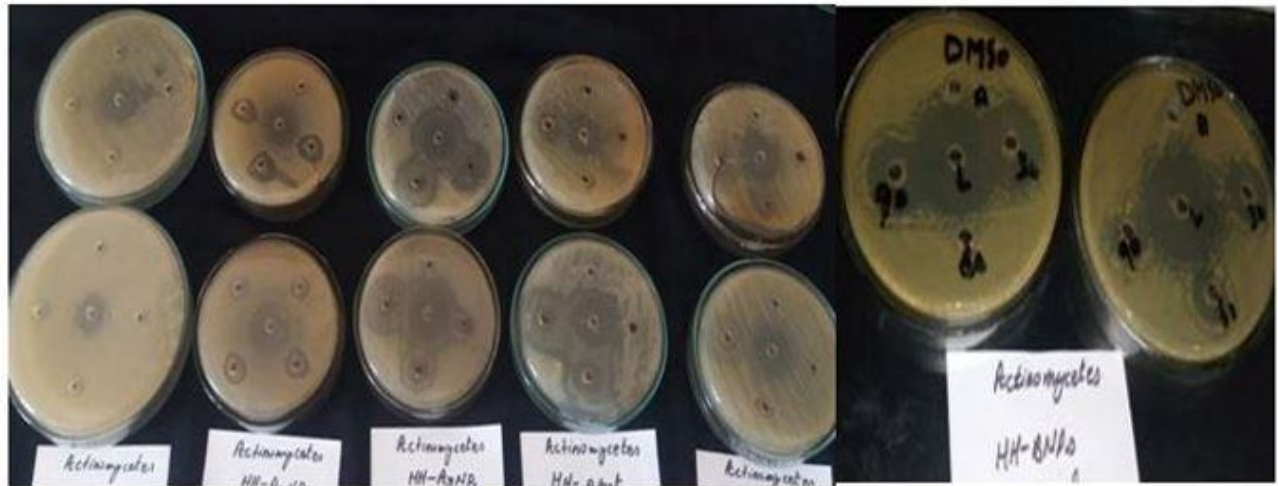
***S. aureus* HH-samples**

A



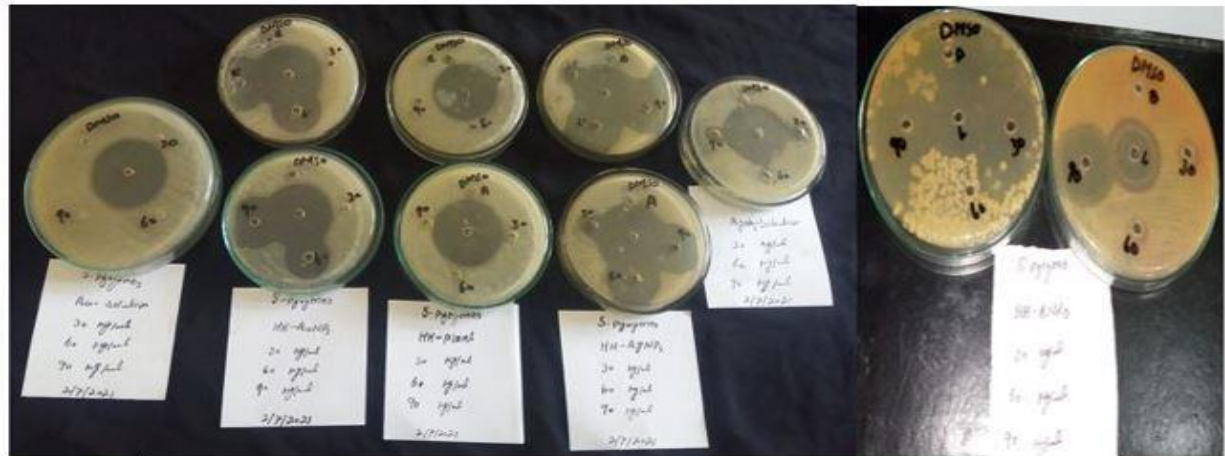
***K. pneumonia* HH-samples**

B



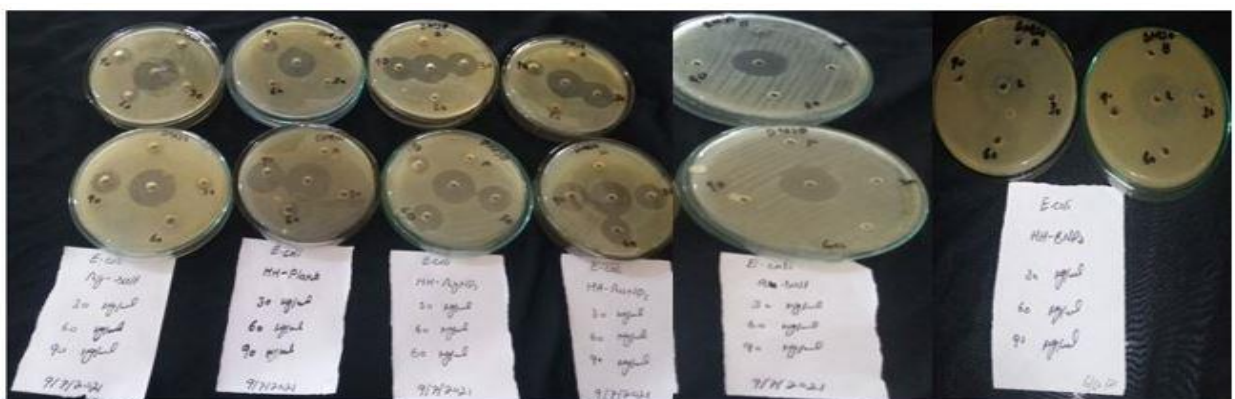
***A. meriye* HH-samples**

C



***S. pyogen* HH-samples**

D



***E. coli* HH-samples**

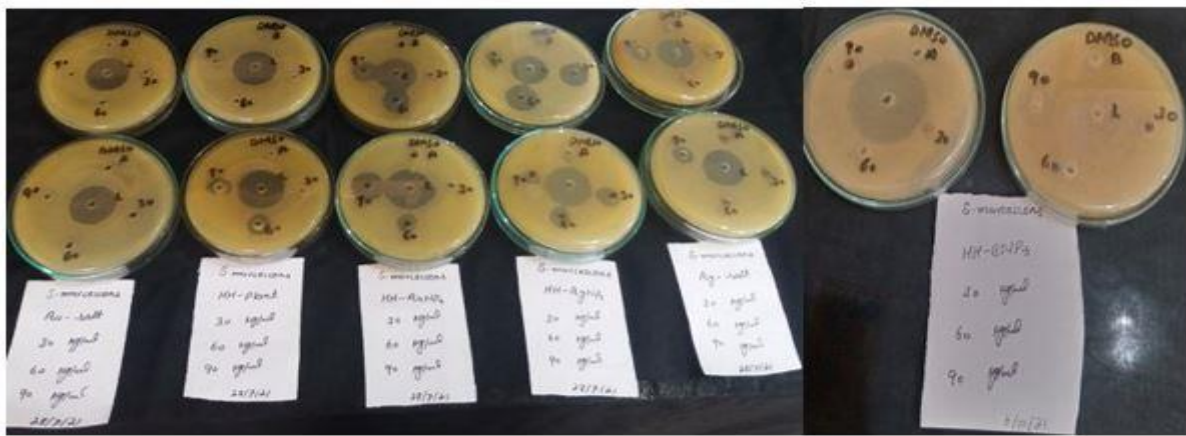
E





***S. marcescens* HH-samples**

F



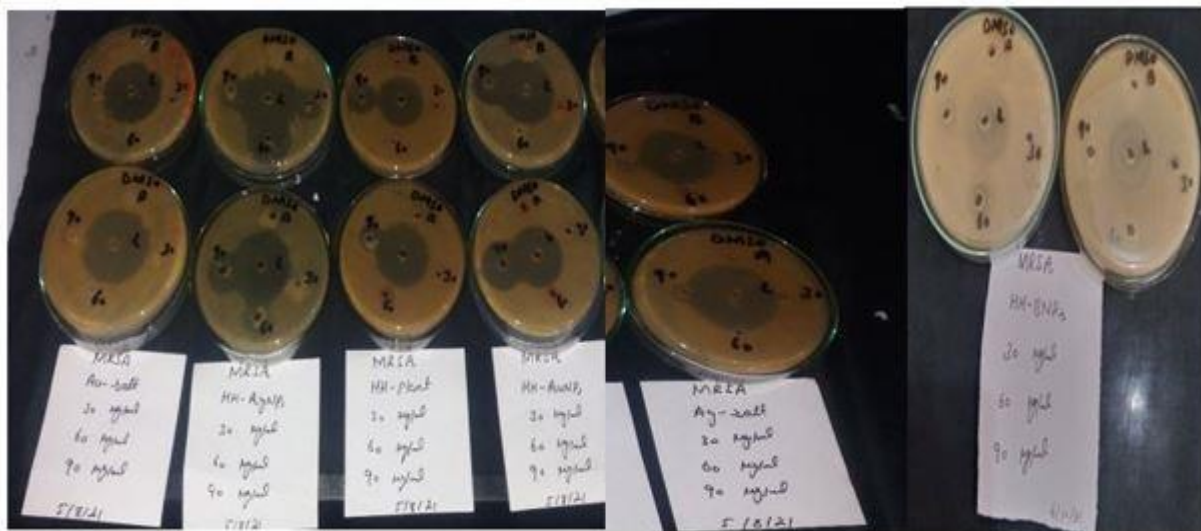
***B. cereus* HH-samples**

G



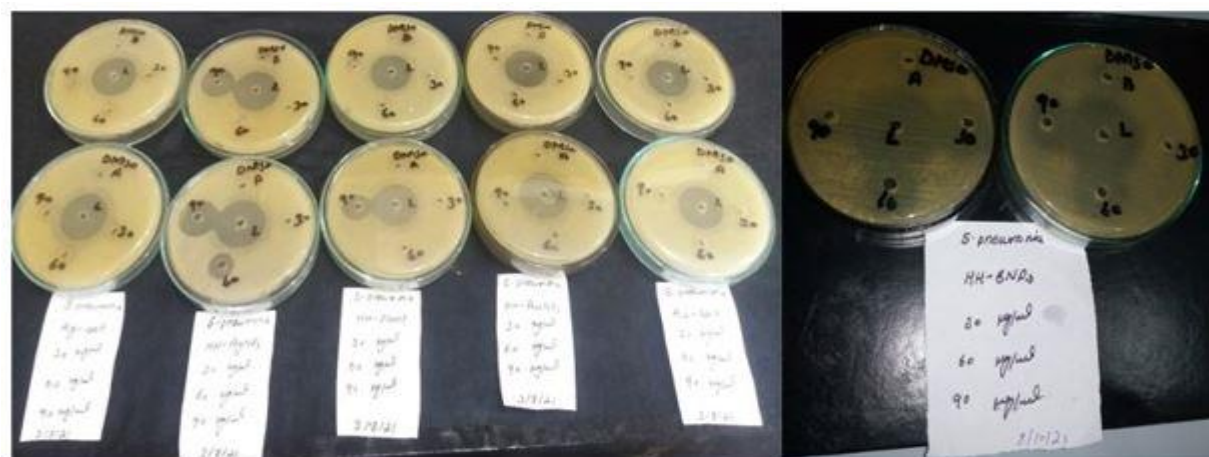
***MRS4* HH-samples**

H



***M. luteus* HH-samples**

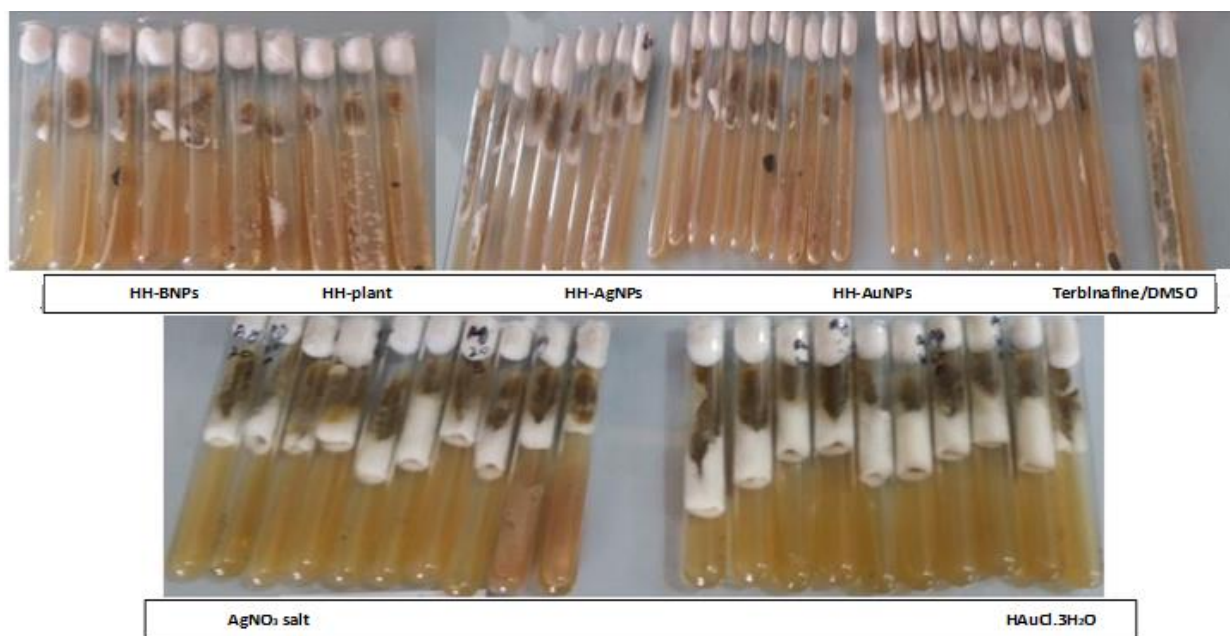
I



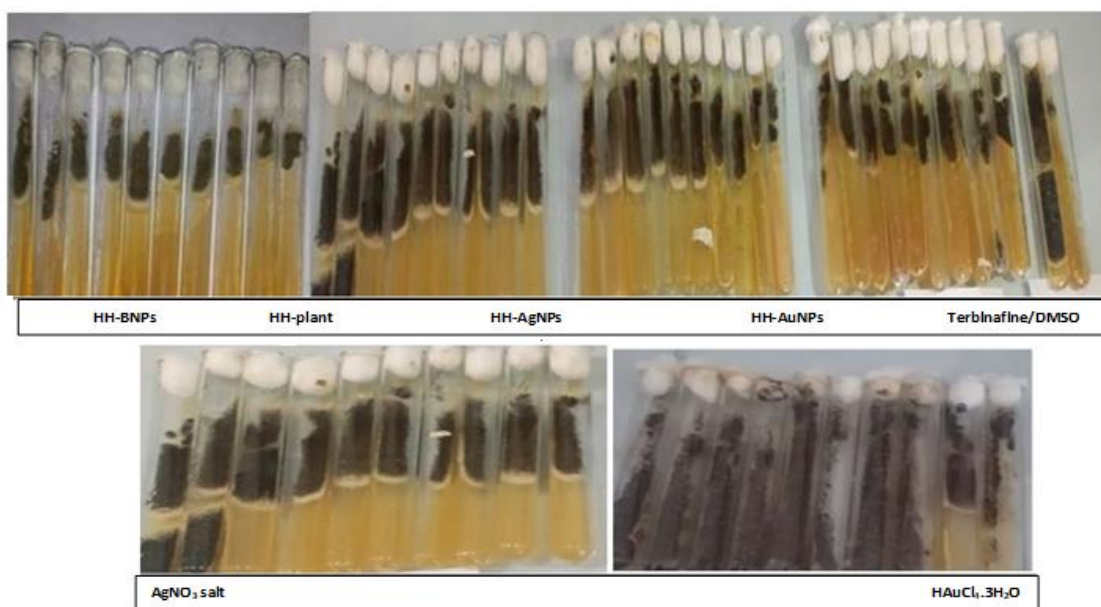
***S. pneumonia* HH-samples**

J

**Figure S10.** (A) *S. aureus* zone of inhibition (B) *K. pneumonia* zone of inhibition (C) *A. meriye* of inhibition (D) *S. pyogenes* zone of inhibition (E) *E. coli* zone of inhibition (F) *M. luteus* zone of inhibition (G) *S. marcescens* zone of inhibition (H) *B. cereus* zone of inhibition (I) MRSA zone of inhibition (J) *S. pneumonia* zone of inhibition (J) zone of inhibition.

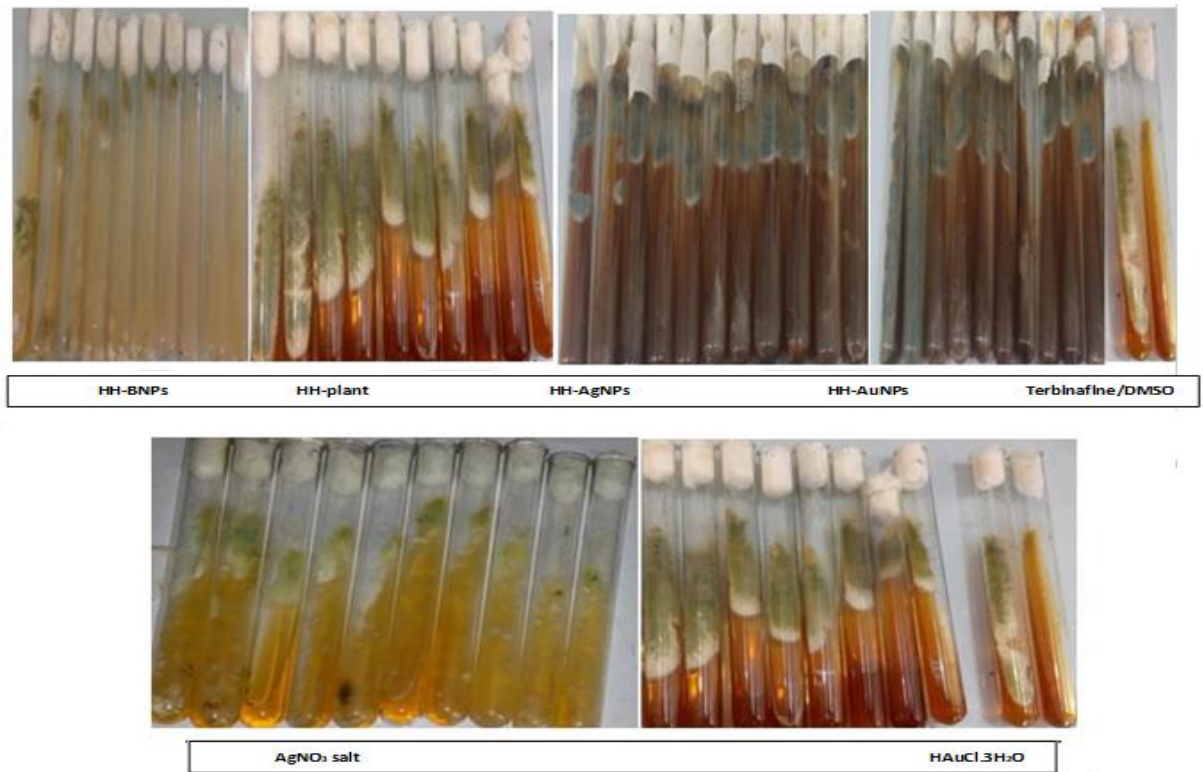


A



B





C

**Figure S11.** (A) *A. niger* growth inhibition, (B) *A. fumigatus* growth inhibition, and (C) *A. flavus* growth inhibition.