

**Research Article**

Luqman Shah\*, Hani S. H. Mohammed Ali, Bello Aminu Bello, Shahid Ali Khan\*, Yasir Anwar, Muhammad Sharjeel Javed Khan, Khalid Ms Alghamdi, and Sher Bahadar Khan\*

## Catalytic performance of the biosynthesized AgNPs from *Bistorta amplexicaule*: antifungal, bactericidal, and reduction of carcinogenic 4-nitrophenol

### Supplementary material



**Supplementary Figure S1:** Picture of the dried *B. amplexicaule* rhizomes (a). Mixture of  $\text{AgNO}_3$  solution and rhizome extract before synthesis (b). Solution after synthesis of AgNPs (c).

\* Corresponding author: Luqman Shah, Department of Biochemistry, King Abdul-Aziz University, Jeddah, Kingdom of Saudi Arabia, e-mail: luqmanshah89@yahoo.com

\* Corresponding author: Shahid Ali Khan, Department of Chemistry, University of Swabi, Anbar 23561, Khyber Pakhtunkhwa, Pakistan; Center of Excellence for Advanced Materials Research (CEAMR), King Abdul-Aziz University, Jeddah, Kingdom of Saudi Arabia, e-mail: shahidsawal007@gmail.com

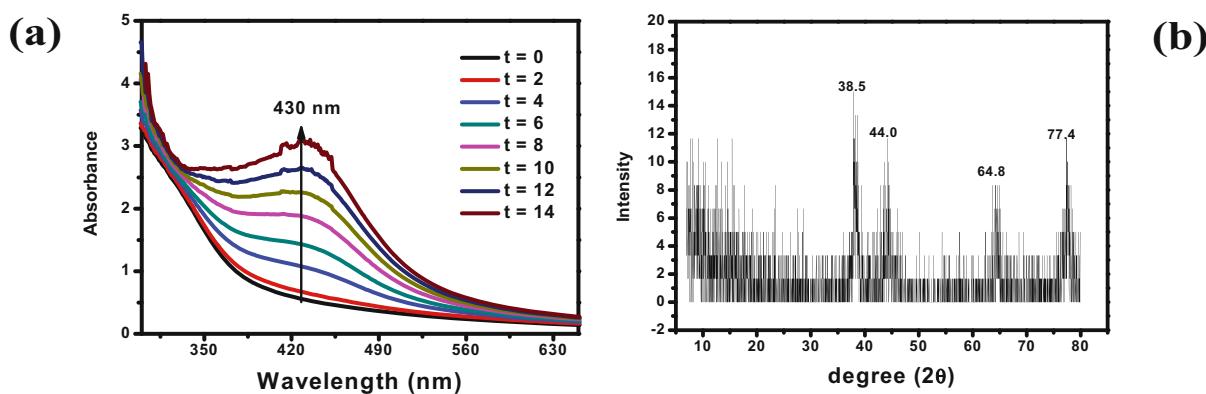
\* Corresponding author: Sher Bahadar Khan, Center of Excellence for Advanced Materials Research (CEAMR), King Abdul-Aziz University, Jeddah, Kingdom of Saudi Arabia, e-mail: sbkhan@kau.edu.sa

Hani S. H. Mohammed Ali, Khalid Ms Alghamdi: Department of Biological Sciences, Faculty of Science, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia

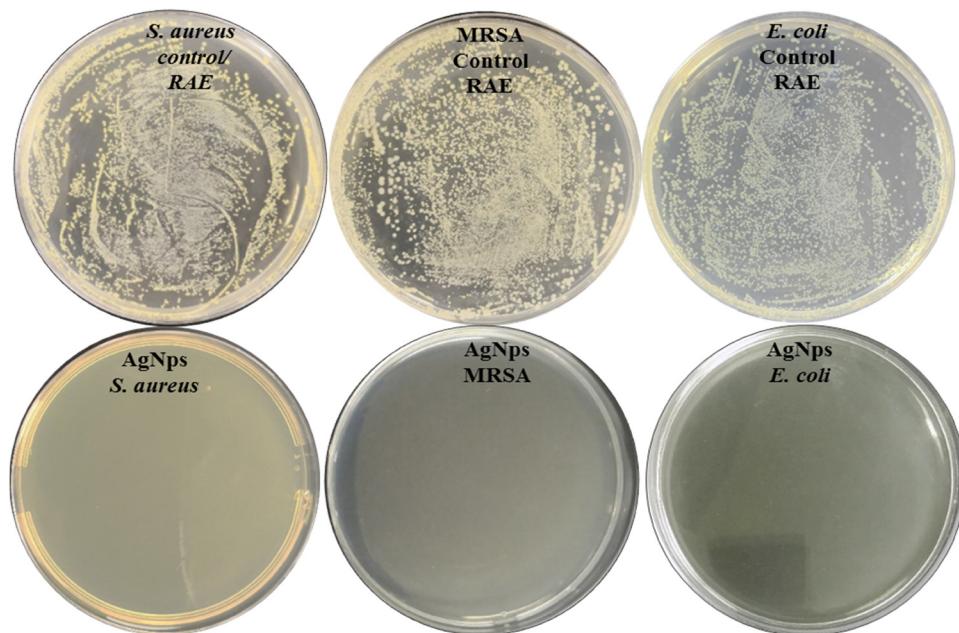
Bello Aminu Bello: Department of Biochemistry, Federal University Dutse, P.M.B.7156 Dutse, Jigawa State, Nigeria

Yasir Anwar: Department of Biological Sciences, Faculty of Science, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia

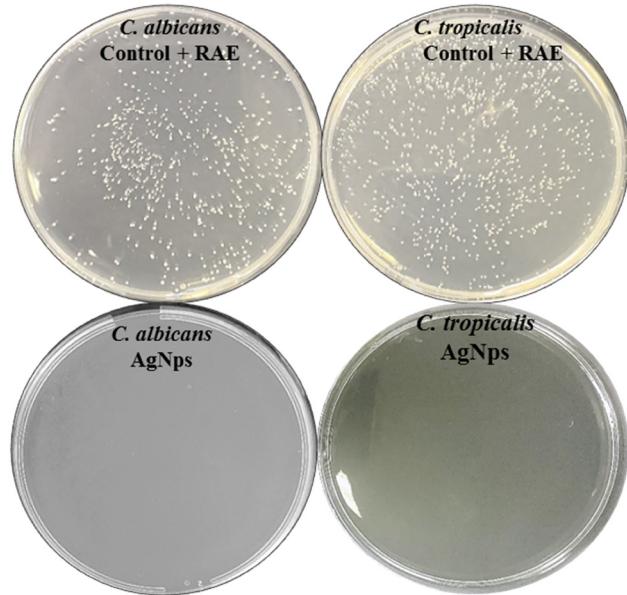
Muhammad Sharjeel Javed Khan: Center of Excellence for Advanced Materials Research (CEAMR), King Abdul-Aziz University, Jeddah, Kingdom of Saudi Arabia



**Supplementary Figure S2:** Uv-Vis spectrum indicating the growth of plasmon resonance of the synthesized AgNPs completed in 14 min (a) and XRD spectrum indicating the sharp crystalline peak of the synthesized AgNPs (b).



**Supplementary Figure S3:** Growth of *S. aureus*, MRSA and *E. coli* on nutrient plate agar showing inhibition in the presence of control (B.A crude extract) and synthesized AgNPs.



**Supplementary Figure S4:** Growth of *C. albicans* and *C. tropicalis* on yeast extract agar showing inhibition in the presence of control (B.A crude extract) and synthesized AgNPs.