# Synthesis of Caffeic acid coated silver nanoparticles for the treatment of osteoarthritis



## OBJECTIVE

Synthetize AgNPs in aqueous medium using Caffeic acid (naturally occurring polyphenol) as reducing and stabilizing agent. TEM, XRD, UV-vis, FT-IR and EDS characterization results confirmed the AgNPs formation.

## SAMPLE PREPARATION

Sample for HR-TEM studies was prepared by introducing a drop of AgNPs dispersion onto a copper grid surface and allowed to dry under vacuum.

## DATA ACQUISITION

The size and morphology of the Caffeic acid mediated AgNPs was analyzed by using HR-TEM instrument (JEOL JEM 2100).

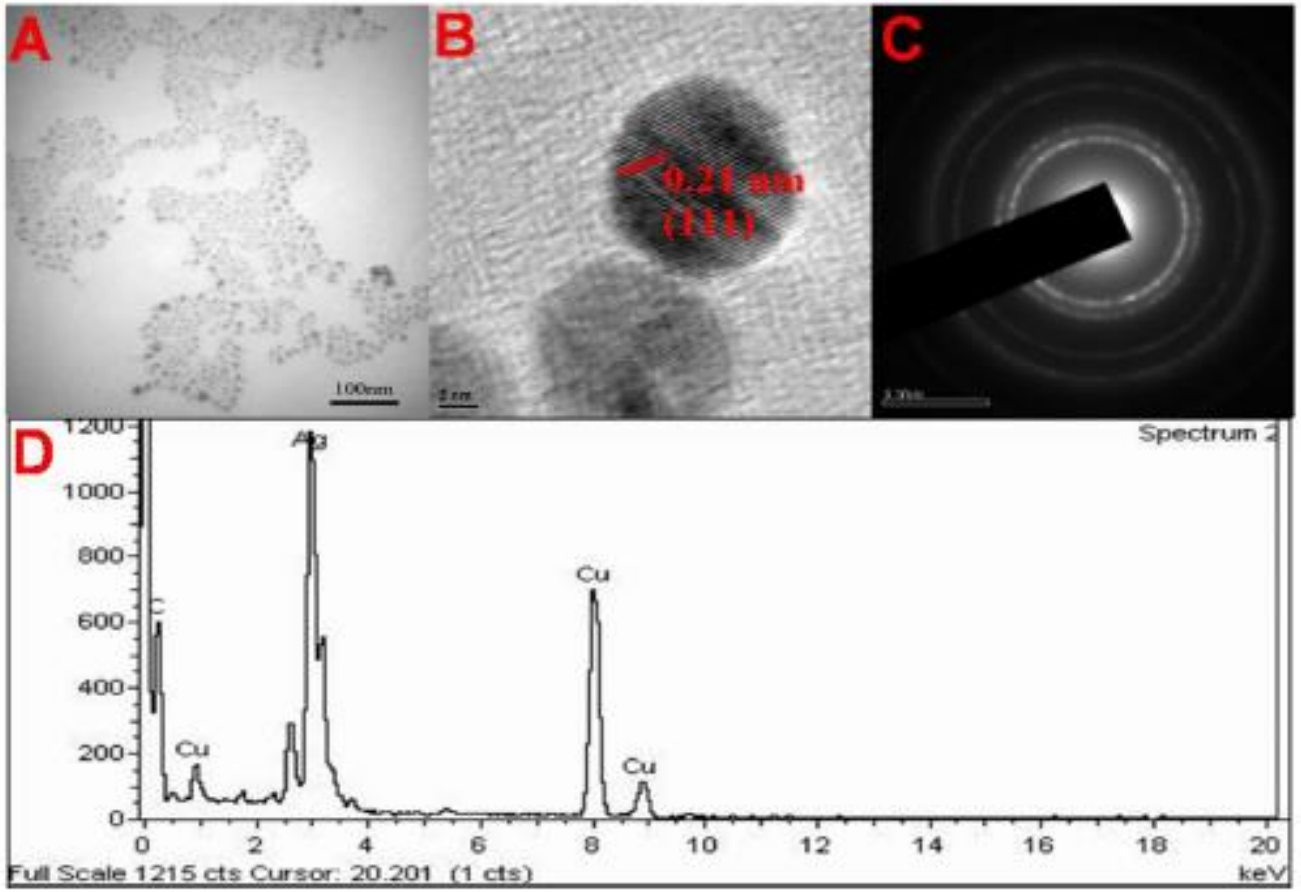
## CONCLUSION

A simple, green and low cost approach for the synthesis of AgNPs by using Caffeic acid is reported. The cytotoxicity of prepared AgNPs opened its scope of therapeutic applications towards osteoarthritis treatment.

## REFERENCE

Lin et al, "Synthesis of Caffeic acid coated silver nanoparticles for the treatment of osteoarthritis", *Biomedical Research,* vol. 28, pp. 1276-1279, 2017.

## REPRESENTATIVE FIGURE AND RESULT




TEM images (A,B) , SAED pattern (C) and EDS spectrum (D).

TEM images revealed that AgNPs are polydispersed and spherical in shape with a mean average size of 10 nm. SAED pattern revealed the crystalline nature with well distinguished diffraction spots. Formation was confirmed by EDS, presenting strong signals related to elemental silver.