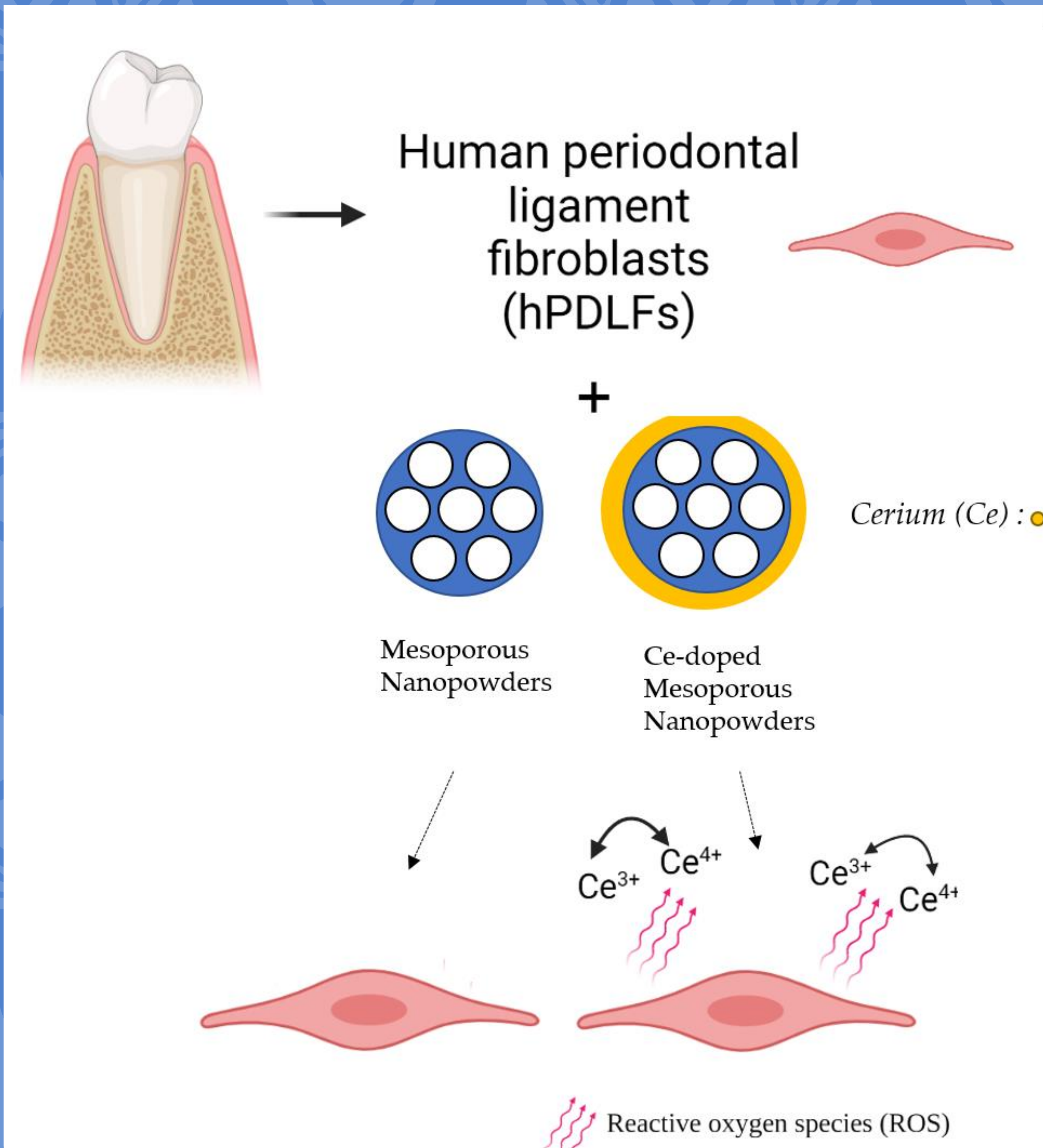


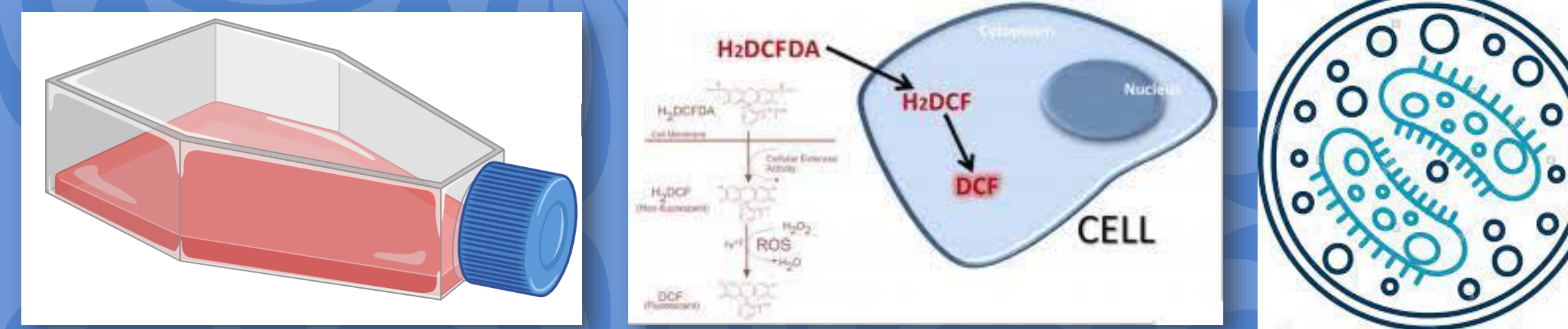
#1194 BIOACTIVE AND BIOCOMPATIBLE CERIUM DOPED MESOPOROUS NANOPARTICLES

I. Tsamesidis, D. Gkiliopoulos, G. K. Pouroutzidou, E. Lymperaki, E. Likotrafiti, J. Rhoades, E. Kontonasaki, K. M. Paraskevoloulos, A. Theocharidou
Aristotle University of Thessaloniki

INTRODUCTION



MATERIAL & METHODS

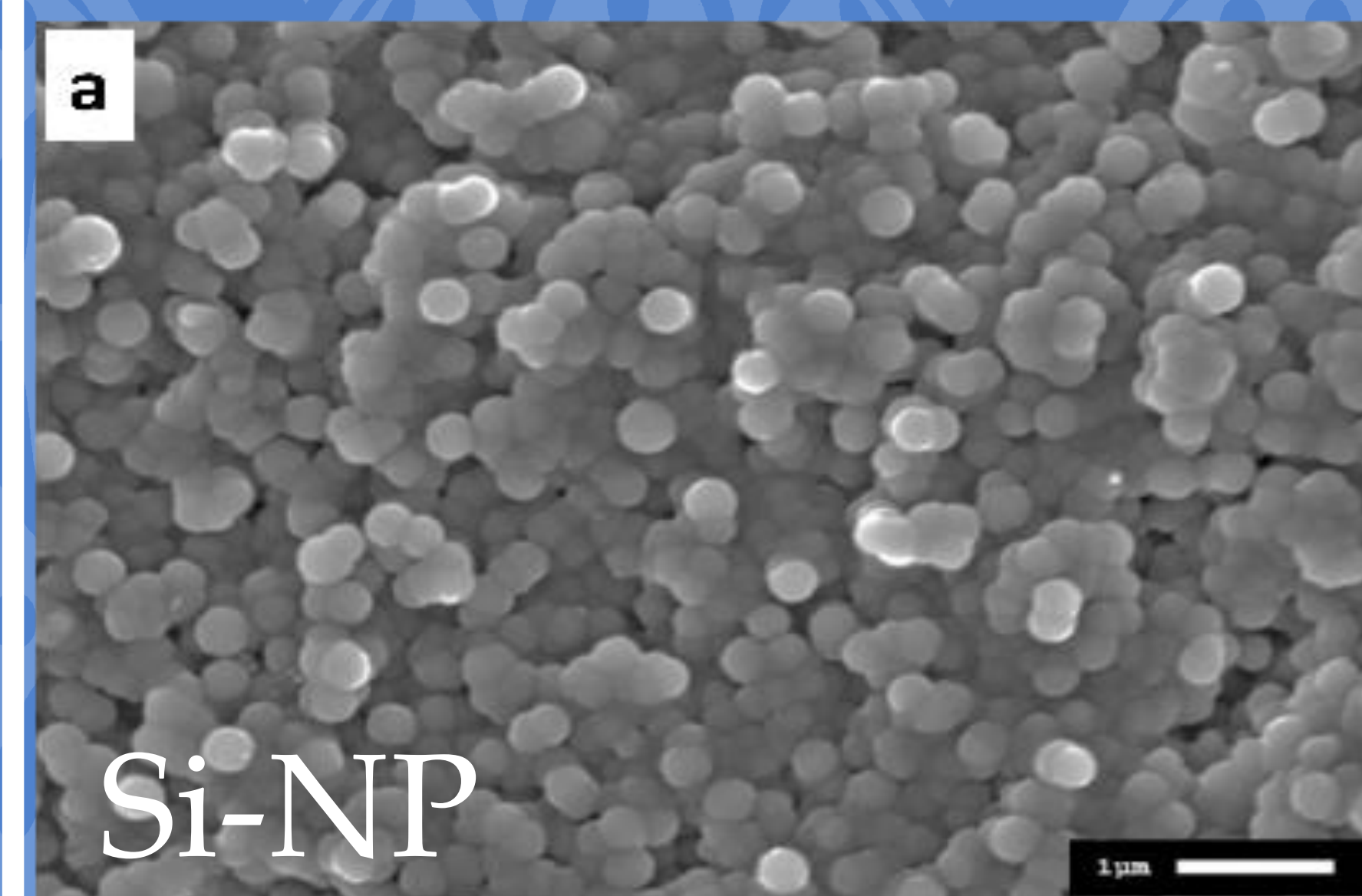


- Cytotoxicity evaluation
- Oxidative stress analysis
- Antibacterial properties
- Apatite formation ability

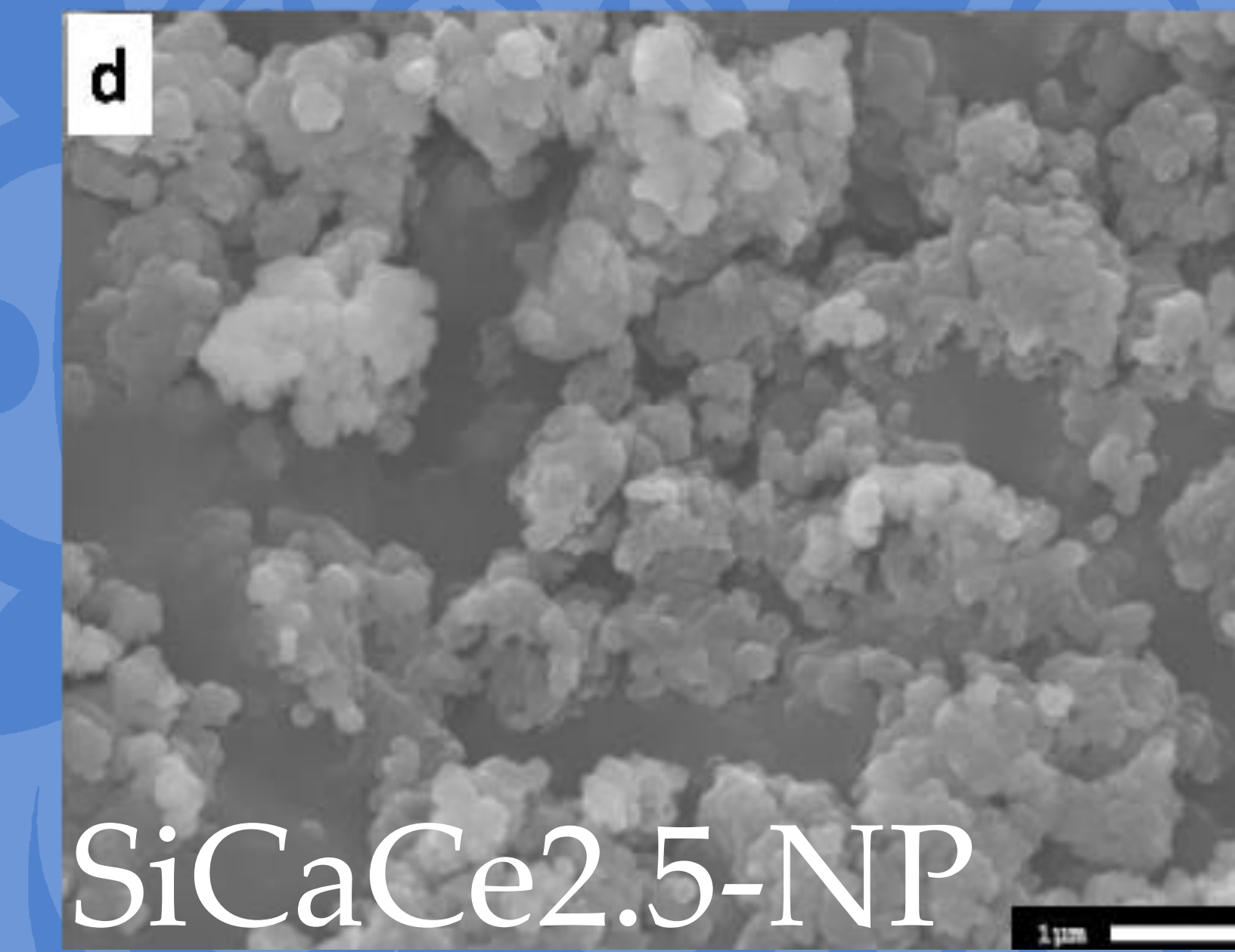
Antibacterial properties

	Staphylococcus aureus		Pseudomonas aeruginosa	
Incubation time	1 h	24 h	1 h	24 h
Si-NP (2 mg/mL)	5.05 ^a	8.60 ^a	5.27 ^a	9.10 ^a
SiCaCe2.5 -NP (2 mg/mL)	5.10 ^a	8.54 ^a	5.30 ^a	9.11 ^a
Control	4.99 ^a	9.06 ^b	5.20 ^a	9.51 ^a

RESULTS

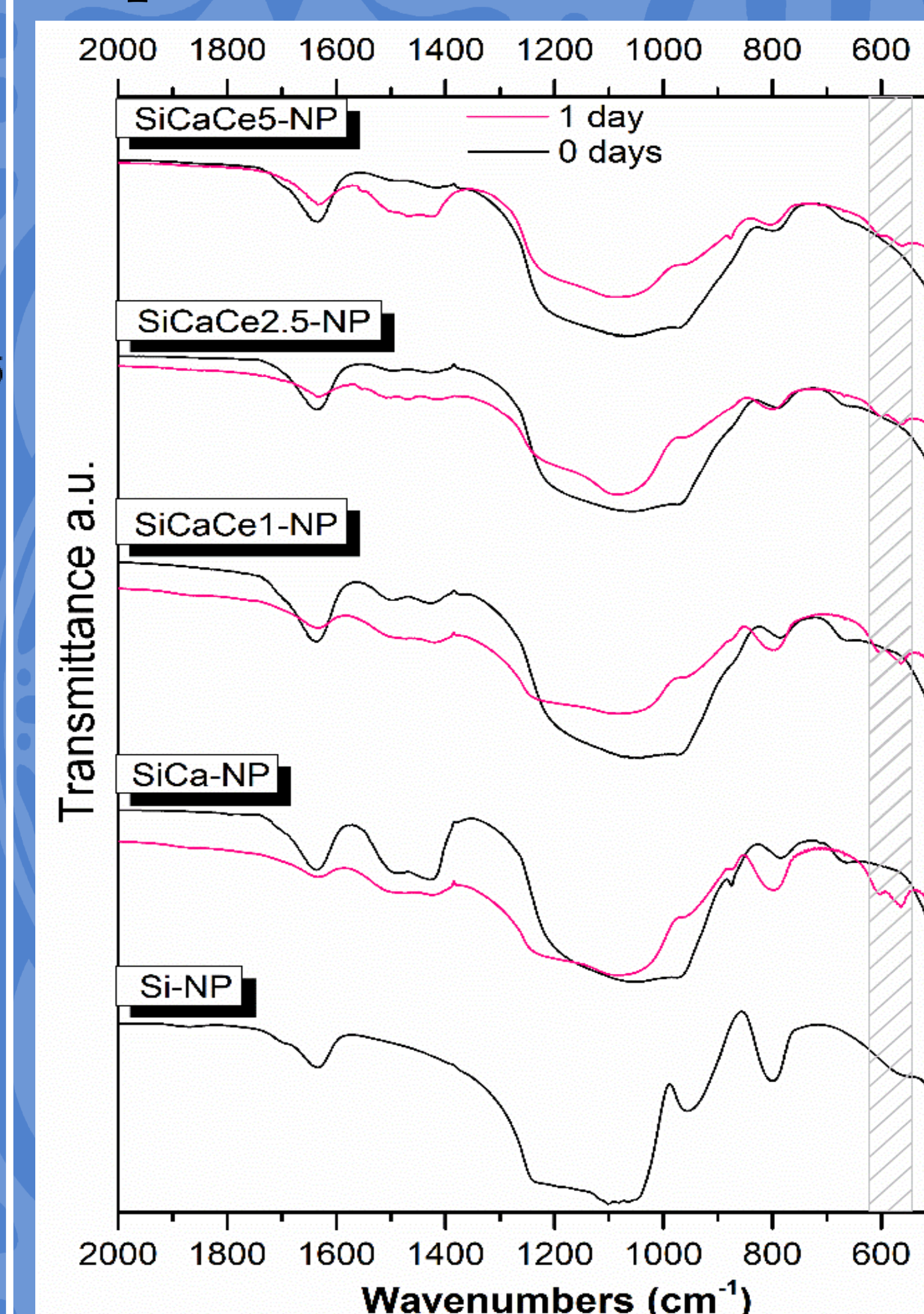
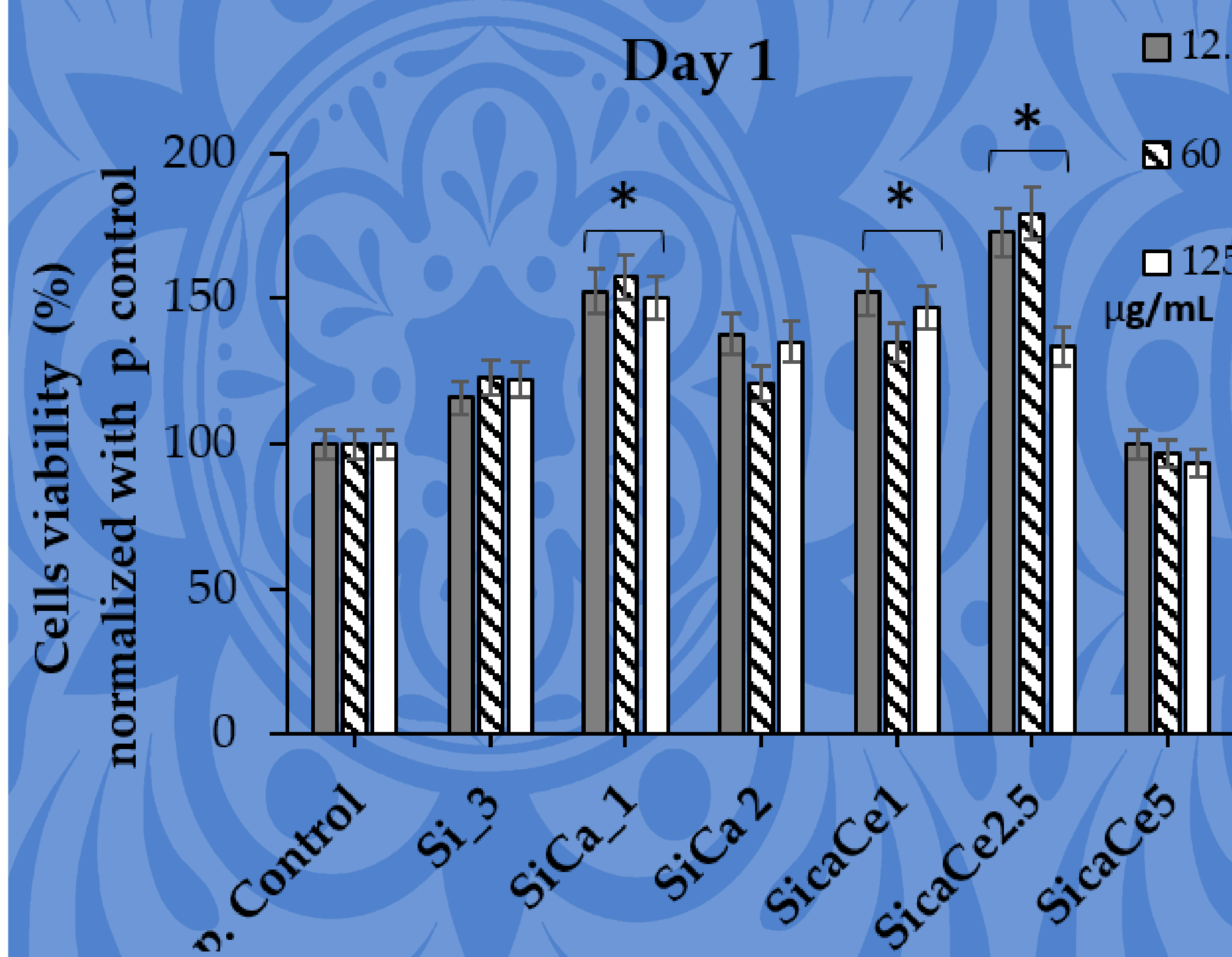


SEM images of MSNs



Apatite formation ability

Cytotoxicity evaluation



CONCLUSION

Their limited antibacterial activity under the tested concentrations was correlated with a progressive reduction of ROS, which however, was associated with a significant upregulation of cell proliferation, verifying the potential use of these materials in various dental and biomedical applications.

Acknowledgement

"This research is funded in the context of the project "Mesoporous nanocarriers with cerium ions (Ce-doped MSNs) for controlled release of active molecules aiming at osteogenic differentiation of human periodontal fibroblasts" (MIS: 5049566) under the call for proposals "Support for researchers with an emphasis on young researchers-second cycle "of the OP "Human Resources Development, Education and Lifelong Learning" (EDBM103). The project is co-financed by Greece and the European Union (European Social Fund- ESF) by the Operational Programme Human Resources Development, Education and Lifelong Learning 2014-2020



Operational Programme
Human Resources Development,
Education and Lifelong Learning

Co-financed by Greece and the European Union

