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Study of antimicrobial activity of Perovskite nanocubes of sodium potassium niobate ($Na_{0.5}K_{0.5}NbO_3$)

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Nanocubes have extensively used for their various application in building nano-devices, nano-sensors and functional nano-material. Basically these alkali metal niobate shows great deal of attention as a future functional material because of their excellent piezoelectric, ferroelectric, electro-optic, non-linear optical properties. Sodium potassium niobate ($Na_{0.5}K_{0.5}NbO_3$) is an excellent lead free piezo material; however its antimicrobial potential is yet to be explored. With this in view the present work, studies its antimicrobial effects against four test organisms, two bacterial species, *Escherichia coli* and *Bacillus subtilis* and two fungal genera belonging to *Aspergillus* species and *Candida albicans*. The experiment involved the use of contact method in order to assess the antimicrobial effects of the material. Results indicated that the compound was effective against all the four types tested, though at a higher concentration and a longer duration of time of exposure. These results seem to be significant since this material finds potential use in biomedical devices.

Biography

Deepak Mohan Kapse has completed his MSc in Organic Chemistry from University of Mumbai. Recently he has completed MPhil in Nanoscience and Nanotechnology from National Center for Nano-science and Nanotechnology, University of Mumbai. Currently he is taken enrolled for PhD in Nanosciences and Nanotechnology under the guidance of Dr. H. Muthurajan. He has recently published one paper in *Journal of Material Sciences and Surface Engineering*. He has also presented two papers in national conference as well as two papers in international conferences.

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