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Authors: P. Sivaprakash, A.Nitthin Ananth, V. Nagarajan, Sujin P. Jose, S. Arumugam



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Remarkable enhancement of $\text{La}_{(1-x)}\text{Sm}_x\text{CrO}_3$ nanoperovskite properties: An influence of its doping concentrations

P. Sivaprakash^{a,#}, A. Nitthin Ananth^{b,#}, V. Nagarajan^c, Sujin P. Jose^{b,*}, S. Arumugam^{a,*}

^aCentre for High Pressure Research, School of Physics, Bharathidasan University, Trichy 620024, Tamil Nadu, India.

^bNano Laboratory, School of Physics, Madurai Kamaraj University, Madurai 625021, Tamil Nadu, India.

^cResearch Department of Physics, N.M.S.S.V.N College, Madurai 625021, Tamil Nadu, India.

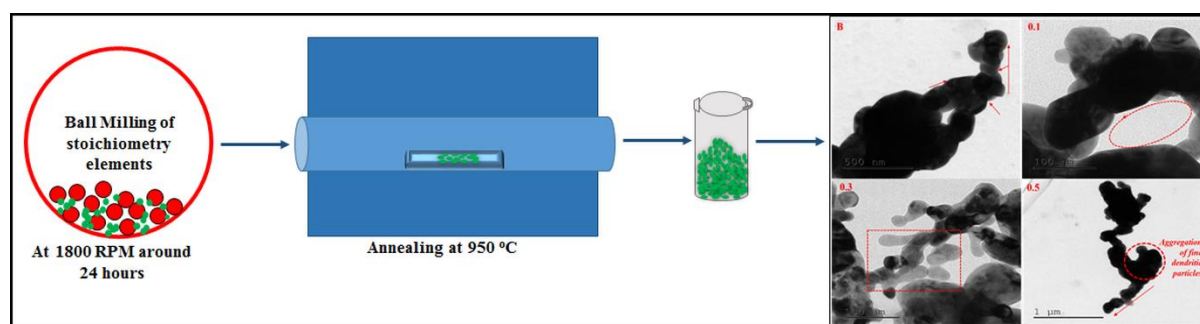
Equally contributed first authors.

*Corresponding authors:

E-mail addresses: sujamystica@yahoo.com (Sujin P. Jose)

sarumugam1963@yahoo.com (S. Arumugam)

Graphical Abstract



Highlights

- LSCO solid solutions have been synthesized using ball milling method for first time.
- Highly polycrystalline single phase LSCO with tolerance factor $0.8 < T < 0.9$.
- Effective occupancy of dopants onto the respective lattice site is analyzed.
- Exhibits dendritic morphology and aggregates with decreasing dopant concentrations.
- Synthesized LSCO nanoperovskites exhibit room temperature antiferromagnetism.

ABSTRACT

Rare earth orthochromites of type $\text{La}_{(1-x)}\text{Sm}_x\text{CrO}_3$ ((LSCO) $x = 0, 0.1, 0.3, 0.5$) have been synthesized through solid state reaction. These polycrystalline samples exhibit orthorhombic

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