

Supporting information file for

# Nanocrystalline Antiferromagnetic High- $\kappa$ Dielectric $\text{Sr}_2\text{NiMO}_6$ (M = Te, W) with Double Perovskite Structure Type

Jelena Bijelić<sup>1</sup>, Dalibor Tatar<sup>1</sup>, Sugato Hajra<sup>2</sup>, Manisha Sahu<sup>2</sup>, Sang Jae Kim<sup>2</sup>, Zvonko Jagličić<sup>3,4</sup> and Igor Djerdj<sup>1,\*</sup>

<sup>1</sup> Department of Chemistry, Josip Juraj Strossmayer University of Osijek, Cara Hadrijana 8/A, HR-31000 Osijek, Croatia; [jelena.bijelic@kemija.unios.hr](mailto:jelena.bijelic@kemija.unios.hr) (J.B.); [tatar.dalibor42@gmail.com](mailto:tatar.dalibor42@gmail.com) (D.T.)

<sup>2</sup> Nanomaterials and System Lab, Major of Mechatronics Engineering, Faculty of Applied Energy Systems, Jeju National University, Jeju 63243, South Korea; [sugatofl@outlook.com](mailto:sugatofl@outlook.com) (S.H.); [manishaf1@outlook.com](mailto:manishaf1@outlook.com) (M.S.); [kimsangj@jejunu.ac.kr](mailto:kimsangj@jejunu.ac.kr) (S.J.K.)

<sup>3</sup> Institute of Mathematics, Physics and Mechanics, University of Ljubljana, Jadranska 19, SI-1000 Ljubljana, Slovenia; [zvonko.jaglicic@imfm.si](mailto:zvonko.jaglicic@imfm.si)

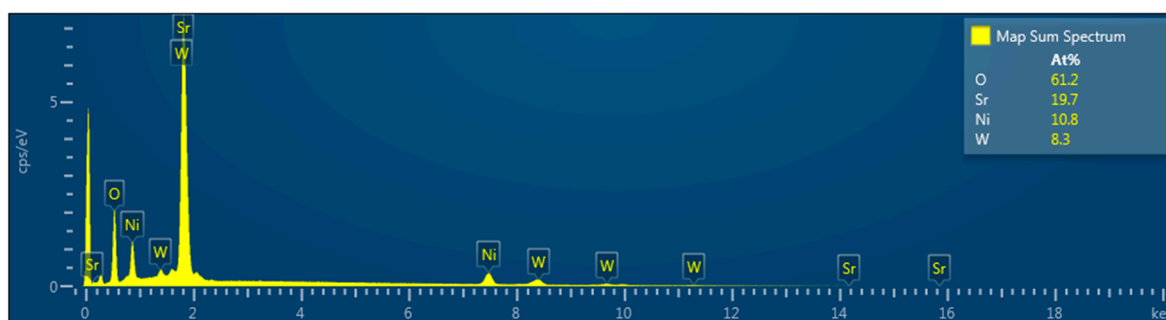
<sup>4</sup> Faculty of Civil and Geodetic Engineering, University of Ljubljana, Jamova 2, SI-1000 Ljubljana, Slovenia

\* Correspondence: [igor.djerdj@kemija.unios.hr](mailto:igor.djerdj@kemija.unios.hr); Tel.: +385 31 399 975

Received: 07 August 2020; Accepted: 01 September 2020; Published: date

TableS1. Optical phonons (in  $\text{cm}^{-1}$ ) of phase pure SNWO and SNT0.

Compound	Raman Shift ( $\text{cm}^{-1}$ )	Assignment
$\text{Sr}_2\text{NiWO}_6$	134	Lattice (T-translational)
	440	$\nu_5$
	497	
	564	$\nu_2$
	850	$\nu_1$
$\text{Sr}_2\text{NiTeO}_6$	141	Lattice (T-translational)
	416	$\nu_5$
	510	
	600	$\nu_2$
	760	$\nu_1$



FigureS1. EDX spectrum of SNWO.

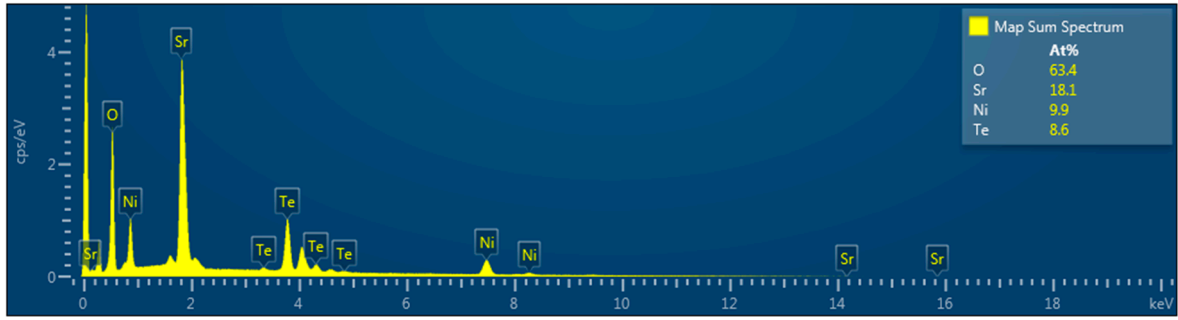


Figure S2. EDX spectrum of SNT0.

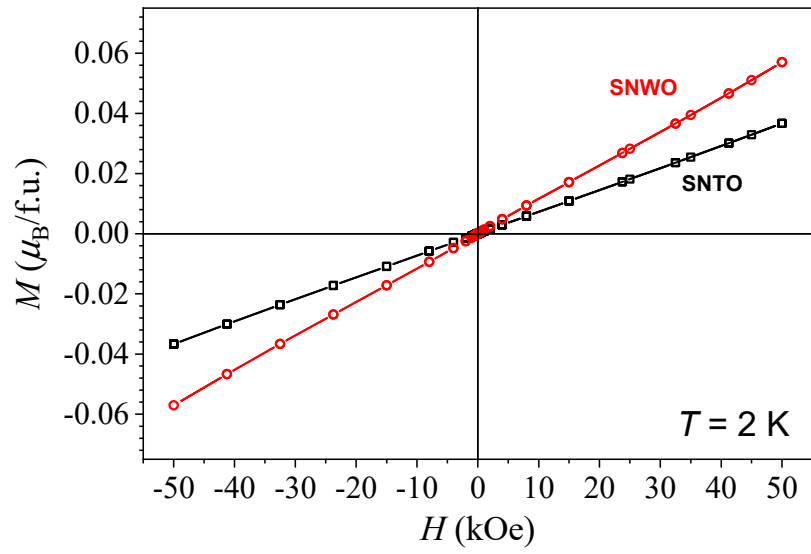


Figure S3. Magnetization curves of SNT0 and SNWO at 2 K.