

SUPPLEMENTARY DATA:

Structural analysis and thermoelectric properties of
mechanically alloyed colusites

Cédric Bourgès¹, Margaux Gilmas¹, Pierrick Lemoine², Natalia. E. Mordvinova^{1,3}, Oleg I. Lebedev¹, Eric Hug¹, Vivian Nassif⁴, Bernard Malaman⁵, Ramzy Daou¹ and Emmanuel Guilmeau^{1*}

¹ Laboratoire CRISMAT, UMR 6508, CNRS, ENSICAEN, 6 Boulevard du Maréchal Juin, 14050 Caen Cedex 04, France

² Institut des Sciences Chimiques de Rennes (ISCR) - UMR CNRS 6226, Rennes, France

³ Department of Chemistry, Moscow State University, Moscow 119899, Russia

⁴Institut NEEL, UPR2940, CNRS/UGA, 25 rue des Martyrs BP 166 38042 Grenoble cedex 9, France

⁵Institut Jean Lamour, UMR 7198, CNRS, Université de Lorraine, Faculté des Sciences et Technologie, B.P. 70239, 54506 Vandœuvre-lès-Nancy Cedex, France

*Corresponding Author: emmanuel.guilmeau@ensicaen.fr

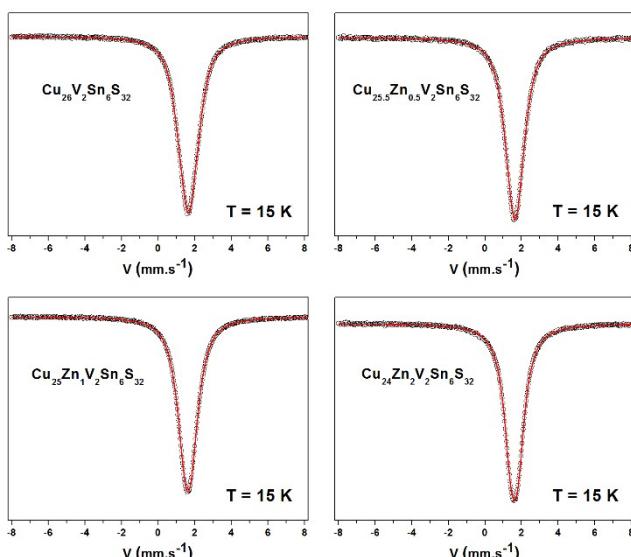


Figure 1S: Observed and calculated ¹¹⁹Sn Mössbauer spectra in the series Cu_{26-x}Zn_xV₂Sn₆S₃₂ ($\Gamma \approx 1.00(1)$ mm.s⁻¹; percentage effect $\approx 10\%$)

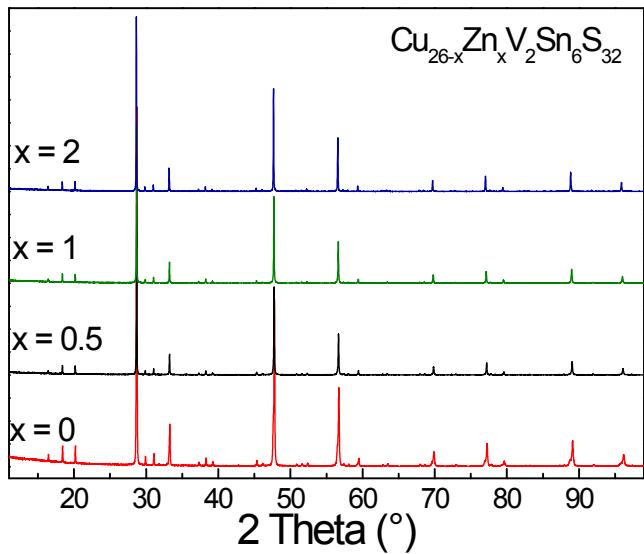


Figure 2S: XRPD patterns of $\text{Cu}_{26-x}\text{Zn}_x\text{V}_2\text{Sn}_6\text{S}_{32}$ compounds processed by SPS

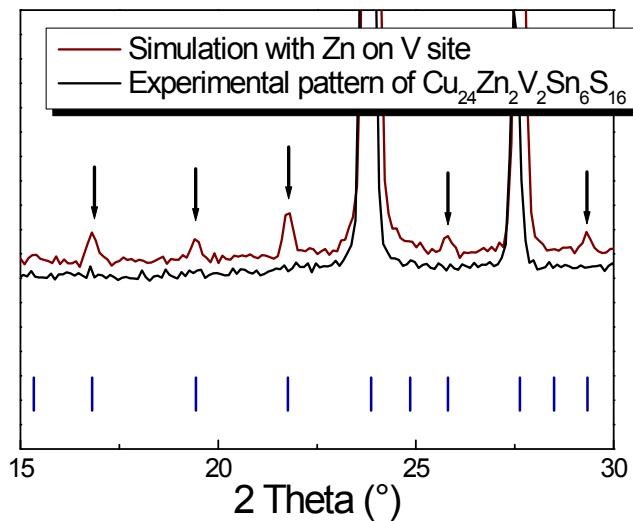


Figure 3S: Experimental neutron diffraction pattern of $\text{Cu}_{24}\text{Zn}_2\text{V}_2\text{Sn}_6\text{S}_{32}$ at room temperature ($\lambda = 1.28\text{\AA}$) and corresponding simulated neutron diffraction pattern considering Zn atoms on the V tetrahedral site