

Abstract Submitted
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Conductivity of $\text{Cs}_{1-x}\text{Si}_x\text{H}_2\text{PO}_4$ through Impedance spectroscopy: Partial pressure and temperature dependence study?¹ MATTHEW HILDING, CRISTIAN BOTEZ, University of Texas at El Paso — The purpose of this study is to find a correlation of an induced cubic phase in Phosphate solid acids due to applied heat and proton conductivity. In order to calculate the proton conductivity the application of the Nernst–Einstein equation. In this study we used different partial humidity pressures with a combination of Cesium Dihydrogen Phosphate CsH_2PO_4 (CDP) with SiO_2 , to provide more stability to the sample. We tested different ratios of CDP/ SiO_2 under different partial pressures. Electrochemical Impedance Spectroscopy techniques (EIS) techniques were used to determine the impedance of the samples, later used in the Nernst–Einstein equation.

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