

SOLID OXIDE FUEL CELLS BASED ON THE MICRO/MESOPOROUS CATHODES AND ANODES

**Enn Lust, Gunnar Nurk, Priit Möller, Indrek Kivi, Kadi Tamm, Rainer Küngas,
Anton Samussenko, Silvar Kallip, Heisi Kurig**

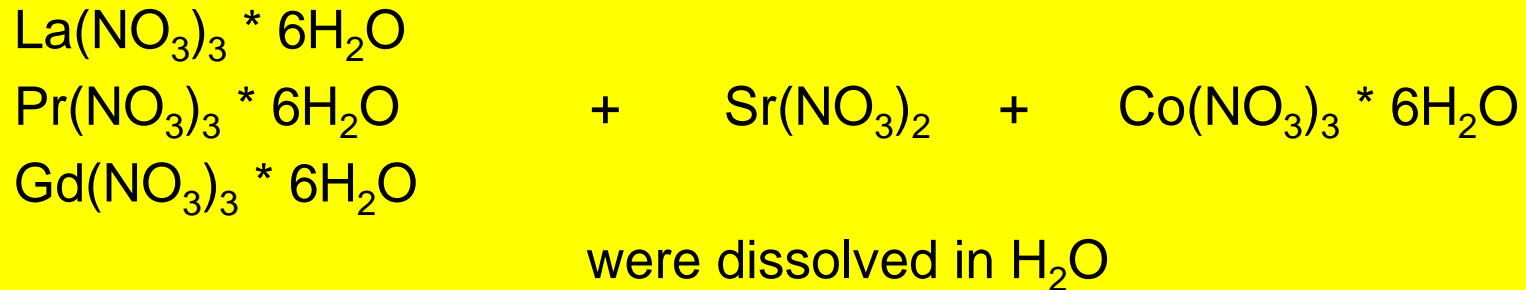


**Institute of Chemistry
University of Tartu**

Elcogen AS

Estonia

La_{1-x}Sr_xCoO_{3-δ} nanopowder synthesis (modified M.P. Bansal, Z. Zhong method)
J. Power Sources 158 (2006) 148



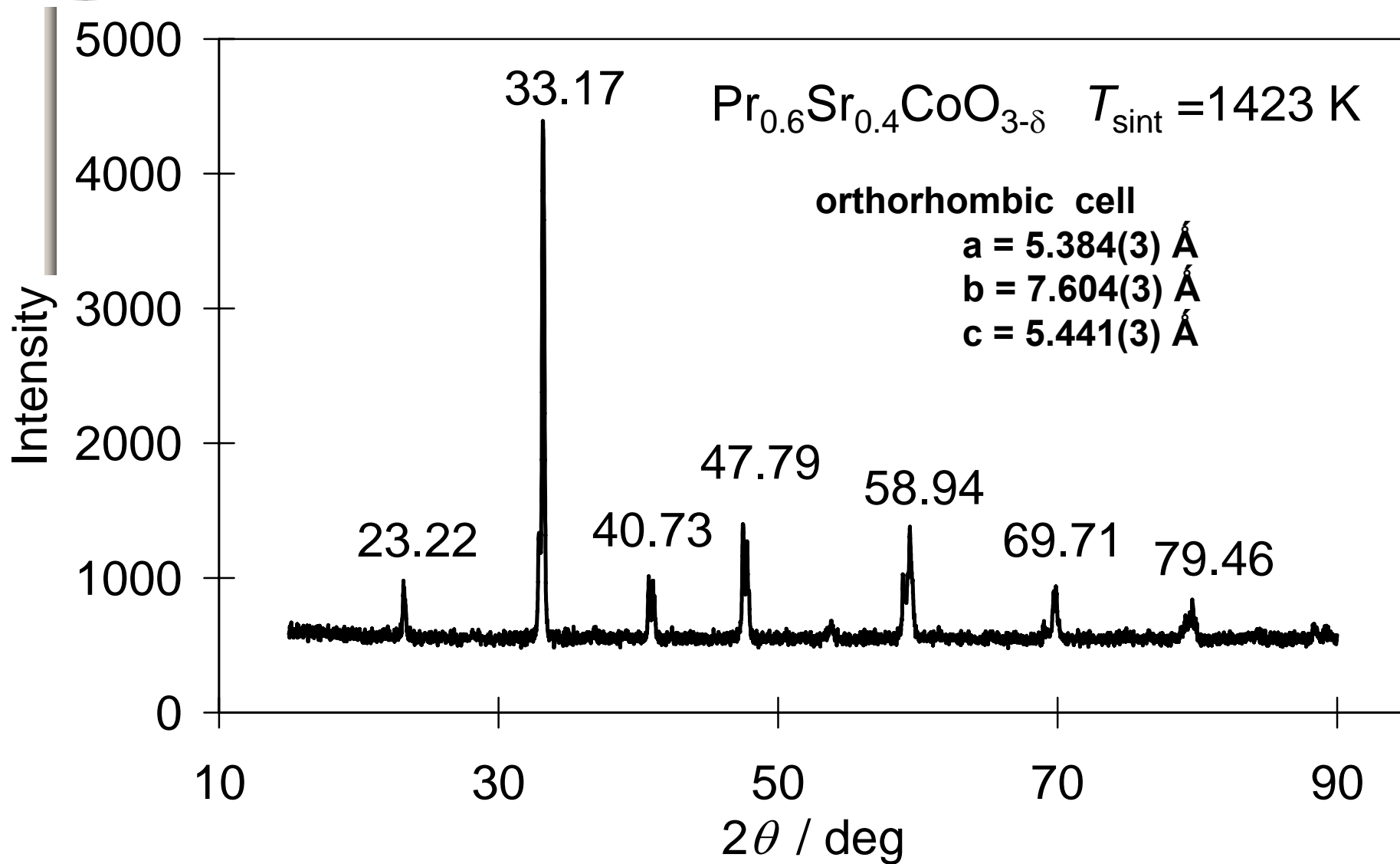
glycine dissolved in H₂O was added



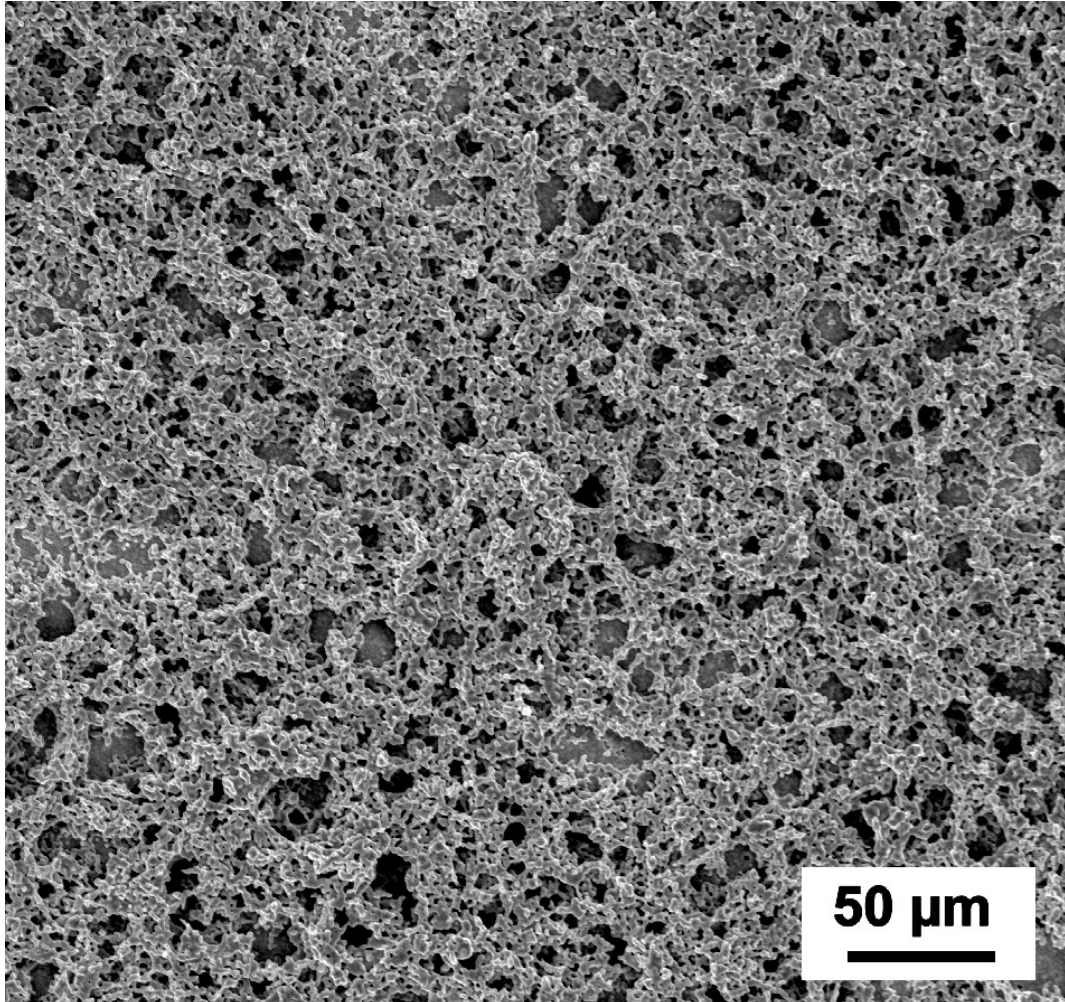
thermal decomposition reaction at $T = 575 \div 675$ K



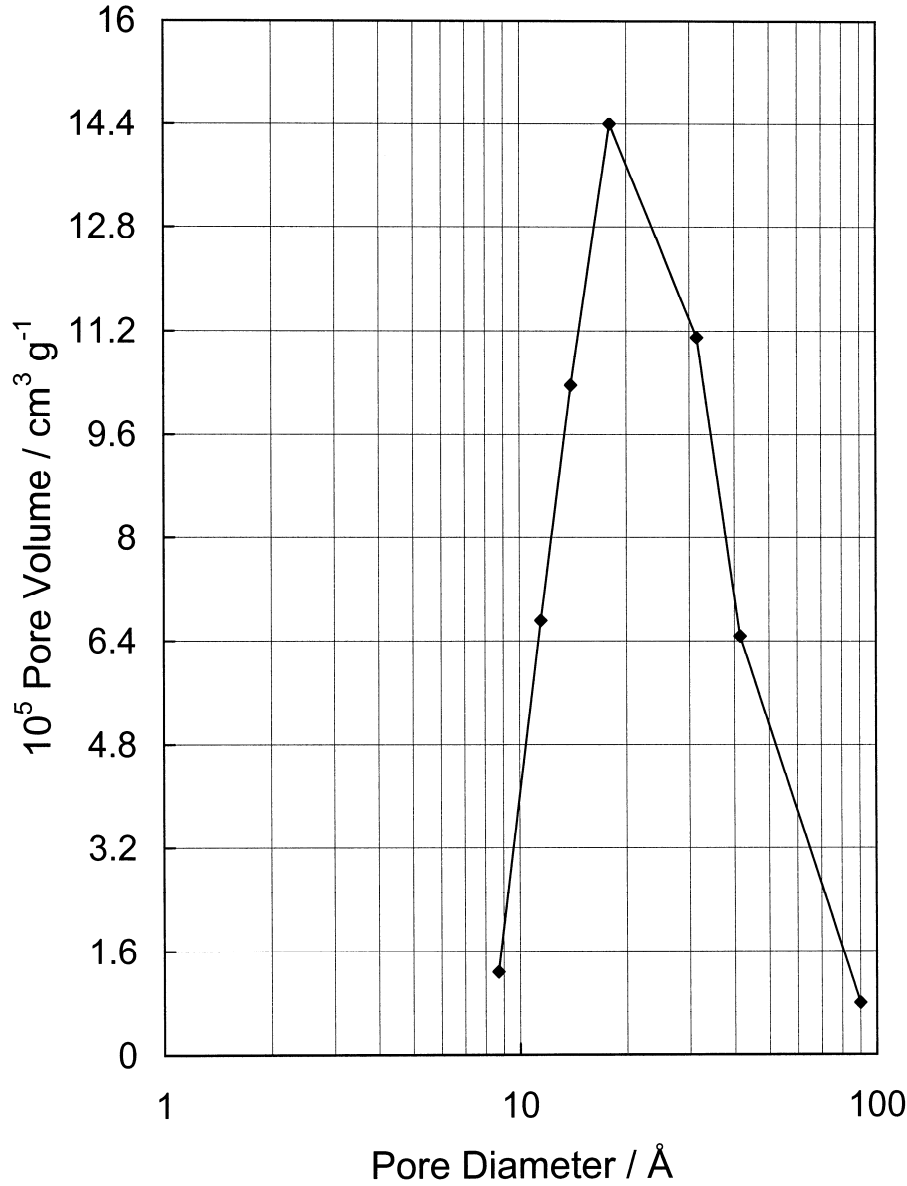
sintering at $T = 1073 \div 1273$ K to form La_{1-x}Sr_xCoO_{3-δ}



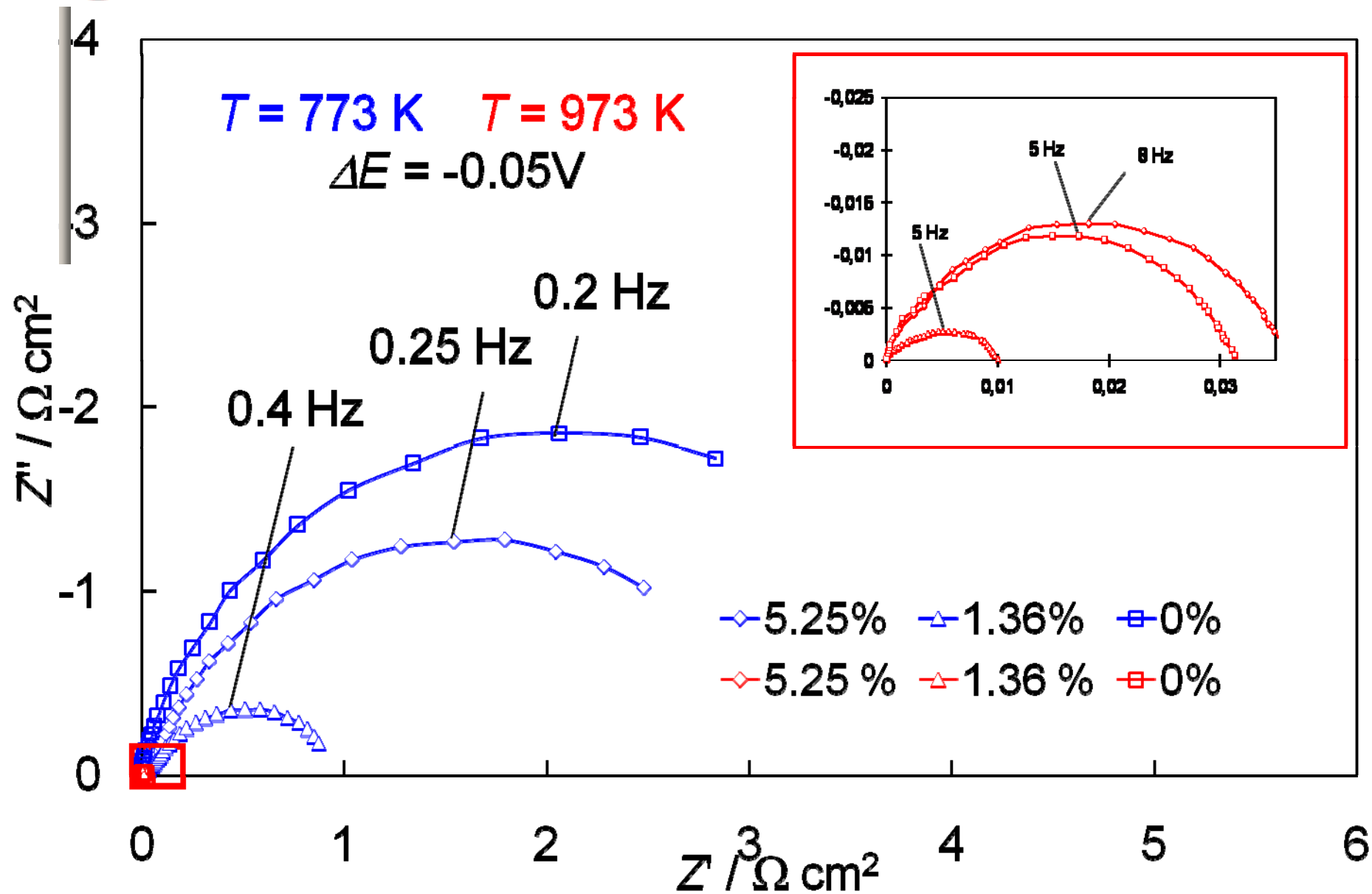
$\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$; $T_{\text{sin}} = 1423\text{K}$; 8h

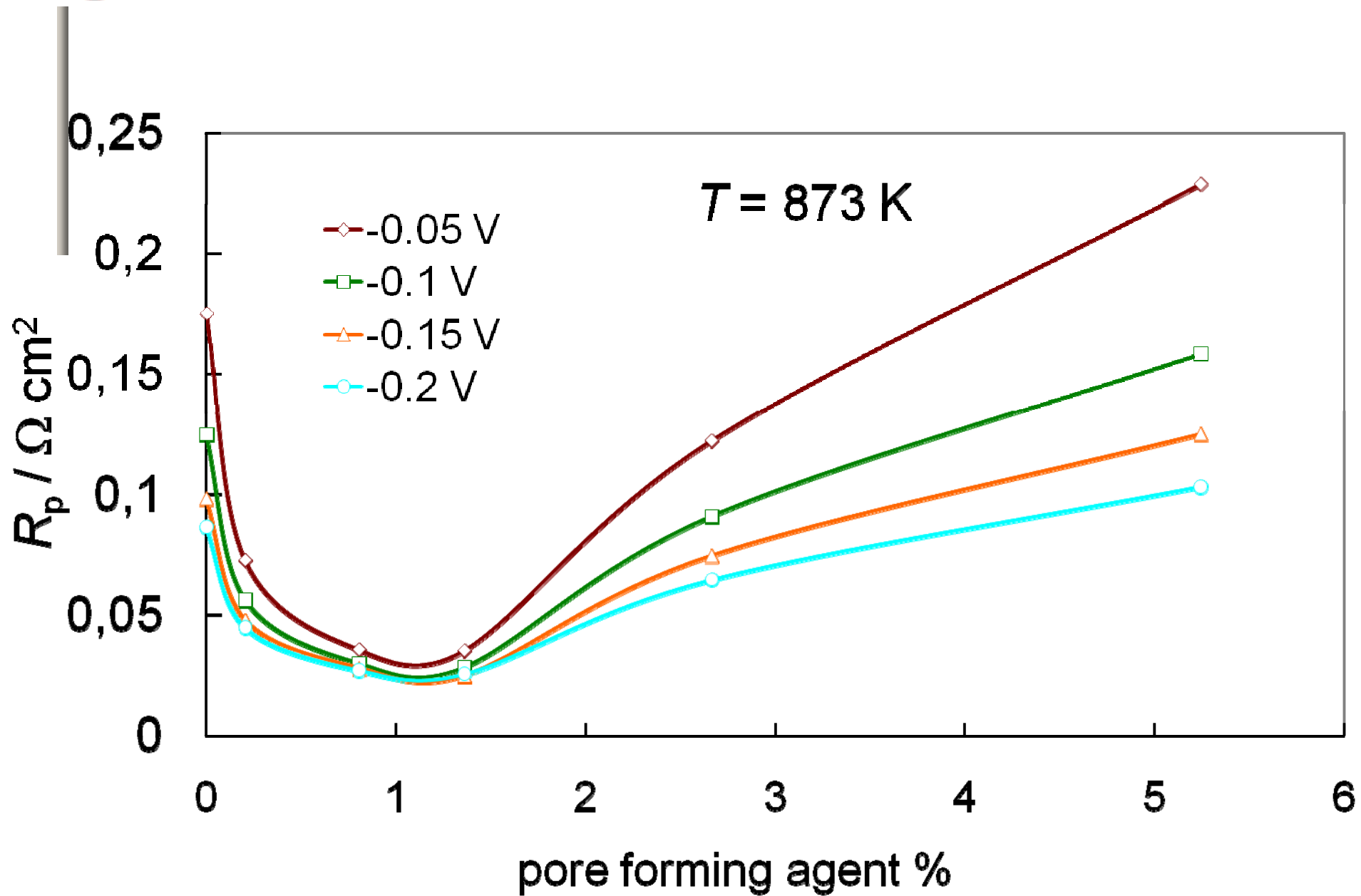


$\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$



Materials	$S_{\text{BET}} / \text{m}^2 \text{g}^{-1}$
$\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$	10.5
$\text{Pr}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$	6.8
$\text{Gd}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta}$	6.3
$\text{La}_{0.6}\text{Sr}_{0.4}\text{Co}_{0.8}\text{Fe}_{0.2}\text{O}_{3-\delta} +$ $\text{Ce}_{0.8}\text{Gd}_{0.2}\text{O}_{1.9}$ (30%)	20.8
$\text{La}_{0.6}\text{Sr}_{0.4}\text{CoO}_{3-\delta} +$ $\text{Ce}_{0.8}\text{Gd}_{0.2}\text{O}_{1.9}$ (30%)	60.2





We would like to thank our sponsors
AS Elcogen and
Estonian Science Foundation
for financial support !



Thank You
for Your kind
attention!

