Some Aspects on Sintering and Characterization of LaCrO3

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Abstract

The lanthanum chromite (LaCrO3) is largely used in solid oxide fuel cells (SOFC) interconectors due to its properties such as good chemical compatibility with other components and good electric conductivity. In this work we present a study of the synthesis of the lanthanum chromite according to two different routes: (1) starting from the mixture of lanthanum, chromium oxides and calcium oxide as sintering aid for enhancing densification; and (2) starting from the combustion reaction in the presence of urea, with and without the cobalt additions. SEM, XRD and TGA/DTA characterized the obtained powders. Pellets pressed in disc shape from both powders were sintered at different temperatures up to 1700C in air atmosphere. Electrical conductivity (), dielectric constant () and loss (tan) were measured in function of frequency in room temperature.