

SYNTHESIS OF BARIUM ALUMINOGERMANATE BY CITRATE METHOD

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Barium aluminogermanate ($\text{BaAl}_2\text{Ge}_2\text{O}_8$, BAG) is a ceramic material which is candidate for electronic applications with interesting structural and microwave dielectric properties. BAG was prepared using barium chloride, aluminium chloride and germanium oxide as reactants by citrate method. Different pH and citric acid stoichiometric conditions were employed to know their influence in the final product. Material composition was characterized by powder X-ray diffraction (XRD). Results showed $\text{BaAl}_2\text{Ge}_2\text{O}_8$ phase and secondary phases such as barium germanates-aluminates. Therefore, it was investigated distinct factors that could play an important role in this reaction system, for example, precursor's nature and their relationship with synthesis conditions in which they can promote or halted complete $\text{BaAl}_2\text{Ge}_2\text{O}_8$ phase formation.

Biography

Jesús Roberto Rodríguez Sánchez has a Bachelor's degree in Chemistry (2010-2016) and currently he is pursuing his Master's degree in Science and Technology of Materials at the Autonomous University of Coahuila, which is a part of Mexican Postgraduate Quality Program SEP-CONACYT (PNPC). Within his experience, it can be found he has participated in preparation courses that local and external universities offered. Also, he has attended several national conferences with the publication of the following works: Synthesis of $\text{TiO}_2\text{-CaSiO}_3$ composite by high energy milling, Journal CiBlyT, year XI, number 32, 2016; Effect of milling time on the crystalline size in the synthesis of $\text{TiO}_2\text{-CaSiO}_3$ composite, 2016; Synthesis and Characterization of precursor mix $0.75 \text{ BaCO}_3\text{-}0.5\text{SrCO}_3\text{-Al}_2\text{O}_3\text{-}2\text{SiO}_2$ mechanically activated to form $\text{Ba}_{0.75}\text{Sr}_{0.25}\text{Al}_2\text{Si}_2\text{O}_8$. Journal CiBlyT, year XII, number 35, 2017.

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