

On the electrolytic method of preparation of nano alumina from aluminum scrap

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Aluminum scraps collected from local workshop, were used as electrode to electrolyze distilled water at different pH. A mixture of gibbsite, boehmite, bayerite and a little diaspor were precipitated. Subsequent heating of this mixture of compounds, results in the formation of different phases of aluminum oxide, namely α (corundum), δ , γ and θ , depending - on pH and temperature. If the pH is about 9, a mixture of predominantly nano δ and θ phase result at 900° C. As the temperature is further raised, predominantly θ -phase is produced at 1100° C. On the other hand, if the pH is around 4, micro-meter sized α - phase predominates.

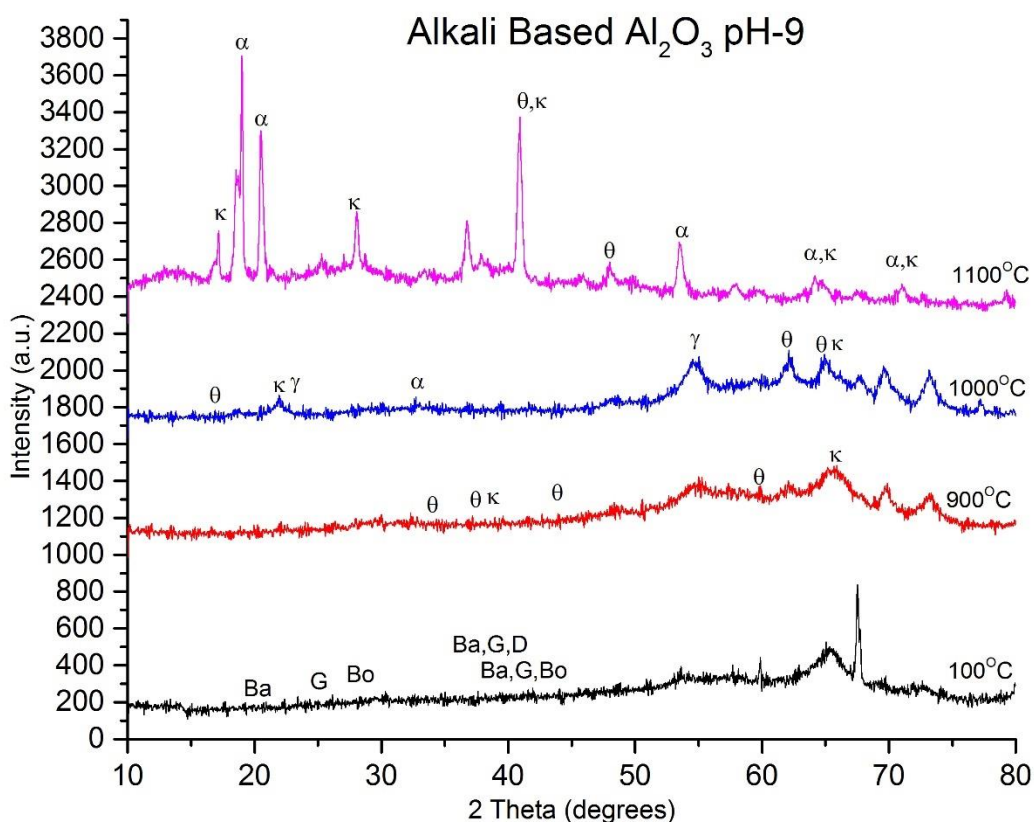


Figure 1