**Nanocomposite: Synthesis and Thermal Properties of Polyaniline-Pbs using DTA Technique.**

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**Abstract:**

DTA thermal analysis indicated that the Polyaniline powder had discernible moisture content. This phenomenon was in agreement with the XRD results. Moreover, in the first run of DTA thermal analysis, an exothermic peak at 150-310*o*C was found. This peak was due to the chain cross linking, resulting from a coupling of two neighboring -N=Q=N- groups to give two -NH-B-NH groups through a link of the N with its neighboring Quindío ring. Thus, on the basis of thermal profile of these materials, we can say that among all composite material, the PANI/PbS composite materials, cross-linking or oxidative reaction starts at higher temperature, which indicates that the thermal stability of PANI/PbS Nanocomposite is higher.

**Keywords:** DTA, thermal analysis, Polyaniline, Pbs, Nanocomposite

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