

COMPOSITION EFFECTS OF Al_2O_3 ON FTIR AND DTA IN LITHIUM BORATE GLASSES

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ABSTRACT

Lithium aluminum borate glasses of composition $35\text{Li}_2\text{O} : (65-x) \text{B}_2\text{O}_3 : x\text{Al}_2\text{O}_3$ (where $x = 0,5,10,15,20$) were prepared by melting quenching technique and investigated by XRD, SEM, DTA and FTIR measurement. Differential Thermal Analysis showed that glass transition temperature changes due to change of composition. The FTIR analysis revealed that network structures of sample are mainly based on BO_3 and BO_4 unit.

KEYWORDS: Melt quenching, XRD, DTA and FTIR