

# The Structure of Molten Rare-earth Iodide-Alkali Iodide Mixtures

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The composition and temperature dependence of the Raman spectra of molten  $\text{LnI}_3\text{-CsI}$  ( $\text{Ln} = \text{Ce}, \text{Dy}, \text{Ho}$ ) mixtures have been measured. Raman spectra of the polycrystalline compounds  $\text{CeI}_3$ ,  $\text{DyI}_3$ ,  $\text{Cs}_3\text{CeI}_6$ ,  $\text{Cs}_3\text{DyI}_6$  and  $\text{Cs}_3\text{Dy}_2\text{I}_9$  have also been measured from room temperature up to  $\sim 750^\circ\text{C}$ , where melting occurs for most of these salts. The data are correlated to previous studies involving rare-earth chlorides and bromides and are discussed in terms of the melt structure and the structural systematics of the rare-earth iodide-alkali iodide molten mixtures.

*Key words:* Rare-earth Iodides; Molten Salts; Structure.