

## DENSITY AND TEMPERATURE STUDY OF THE RAMAN NON-COINCIDENCE EFFECT IN ALKYL BENZOATES

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The non-coincidence ( $\Delta\nu$ ) of the isotropic and anisotropic peak frequencies of the Raman carbonyl band was studied for a series of alkyl benzoates. Methyl benzoate, ethyl benzoate, propyl benzoate, butyl benzoate, hexyl benzoate and 2-ethylhexyl benzoate were observed over a density range of 0.95 to 1.20 g  $cm^{-3}$  at 20 and 40 °C. The characteristic density dependence of the value of the non-coincidence effect for each alkyl benzoate correlates well with the length and branching of the alkyl side chain. In fact, it was possible to interpret the density dependence of  $\Delta\nu$  in terms of packing fraction and conformational changes of the alkyl side chain.