Question #73997, Physics / Molecular Physics | Thermodynamics

the volume of alcohol was 300cm3 at the temperature of 78 the volume letter increase to 320cm3 when the temperature was raised to 110 calculate the real expansivity

Solution

The volumetric thermal expansion coefficient is calculated as follows.

$$\alpha_V = \frac{1}{V}\frac{\Delta V}{\Delta T} = \frac{1}{3.00\times10^{-4}} \times \frac{\left(3.20-3.00\right)\times10^{-4}}{110-78} = 6.25\times10^{-3}$$

Answer: 6.25×10^{-3}.