

Answer on Question #51528, Chemistry, Physical Chemistry

Question: Calculate the de Broglie wavelength of Li⁺ ion, if it moves with the velocity of 2×10^4 m s⁻¹. Assume that the mass of Li⁺ ion is equal to two mass of Li atom

Answer: The formula for de Broglie wavelength calculation is:

$$\lambda = \frac{h}{mv} = \frac{6.63 \times 10^{-34}}{11.5241401048 \times 10^{-27} \times 2 \times 10^4} = 2.8 \times 10^{-12}$$