

**Marks**  
**3**

- Lysozyme is an enzyme that breaks down bacterial cell walls. A solution containing 0.150 g of this enzyme in 210 mL of solution has an osmotic pressure of 0.00125 atm at 25 °C. What is the molar mass of lysozyme?

Answer:

**3**

- What mass of ethylene glycol, HOCH<sub>2</sub>CH<sub>2</sub>OH, is required to lower the freezing point of 1.00 L of water to -10.0 °C? The freezing point depression constant of water is 1.86 °C kg mol<sup>-1</sup>. Assume the density of water is 1.00 g mL<sup>-1</sup> at 0 °C.

Answer: