

Answer on the Question #62285, Chemistry / General Chemistry

A large bottle containing 883 g of water at 4 oC is removed from the refrigerator. How many kilojoules are absorbed to warm the water to room temperature of 22 oC?

Answer

The amount of heat can be calculated as following:

$$Q = C \times m \times \Delta t,$$

where C is a specific heat of water ($4186 \frac{J}{kg \times K}$)

Therefore,

$$Q = 4186 \frac{J}{kg \times K} \times 0.883 kg \times 18K \approx 66530 J = 66.53 kJ$$

Answer: 66.53 kJ