

## Answer on the question #42603, Chemistry, Physical Chemistry

Question

What is the molarity of a solution obtained by diluting .125 mL of 6.00 M HCl to 500. mL

Solution

$$C_1 = 6.00 \text{ M}$$

$$V_1 = 0.125 \text{ mL}$$

$$V_2 = 500 \text{ mL}$$

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$$C_2 = ?$$

As the number of moles of HCl is constant:

$$n = \text{const}$$

$$C_1 V_1 = C_2 V_2$$

$$C_2 = \frac{C_1 V_1}{V_2} = 6.00 * 0.125 / 500 = 0.0015 \text{ M}$$

Answer: 0.0015 M