**Lab sheet #3**

**- Dilution of prepared solutions-**

**Objectives:**

* To get familiar with solution dilutions by different methods.

**Method:**

(1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Prepare 50 ml with 1:20 dilution using the 0.08 M NaOH solution you previously prepared.**

Calculation:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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🡺 To prepare the 1:20 dilution \_\_\_\_\_\_\_\_ ml of the starting solution (0.08M NaOH) is needed and volume made up to a final volume of \_\_\_\_\_\_\_ ml.

(2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Prepare 100 ml of 0.2M HCl from the previously 0.4 M HCl solution you previously prepared.**Calculation:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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🡺 To prepare the 0.2M HCl \_\_\_\_\_\_\_\_ ml of the starting solution (0.4M HCl) is needed and volume made up to a total volume of \_\_\_\_\_\_\_\_ ml by adding water.

(3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Starting with a 0.2 M stock solution of hydrochloric acid, prepare 8ml of four standard solutions (1 to 4) of the following Molarity respectively (dilution 2:8) :  
(1) \_\_\_\_\_\_\_\_\_ M (2) \_\_\_\_\_\_\_\_\_ M (3) \_\_\_\_\_\_\_\_\_ M (4) \_\_\_\_\_\_\_\_\_ M .**

Calculation:

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🡺 **To prepare standard solution 1:** \_\_\_\_\_\_\_\_\_ ml of the stock 0.2M solution is needed and volume made up to \_\_\_\_\_\_\_\_\_ ml with distilled water.  
  
 🡺 **To prepare standard solution 2-4:** \_\_\_\_\_\_\_\_\_\_ ml of the previously diluted solution is taken and volume is made up to a final volume of \_\_\_\_\_\_\_\_\_ ml by the addition of distilled water.

**Note:** Atomic weights: Na = 23, Cl= 35.5, O = 16, H = 1