

## How to perform analysis with Oenolab Diagnostics' reagents:

Our reagents have been developed to be reliable and easy to use.

Each kit allows analyzing one wine parameter.

In each kit there are always 2 reagents: reagent 1 (R1) and reagent 2 (R2).

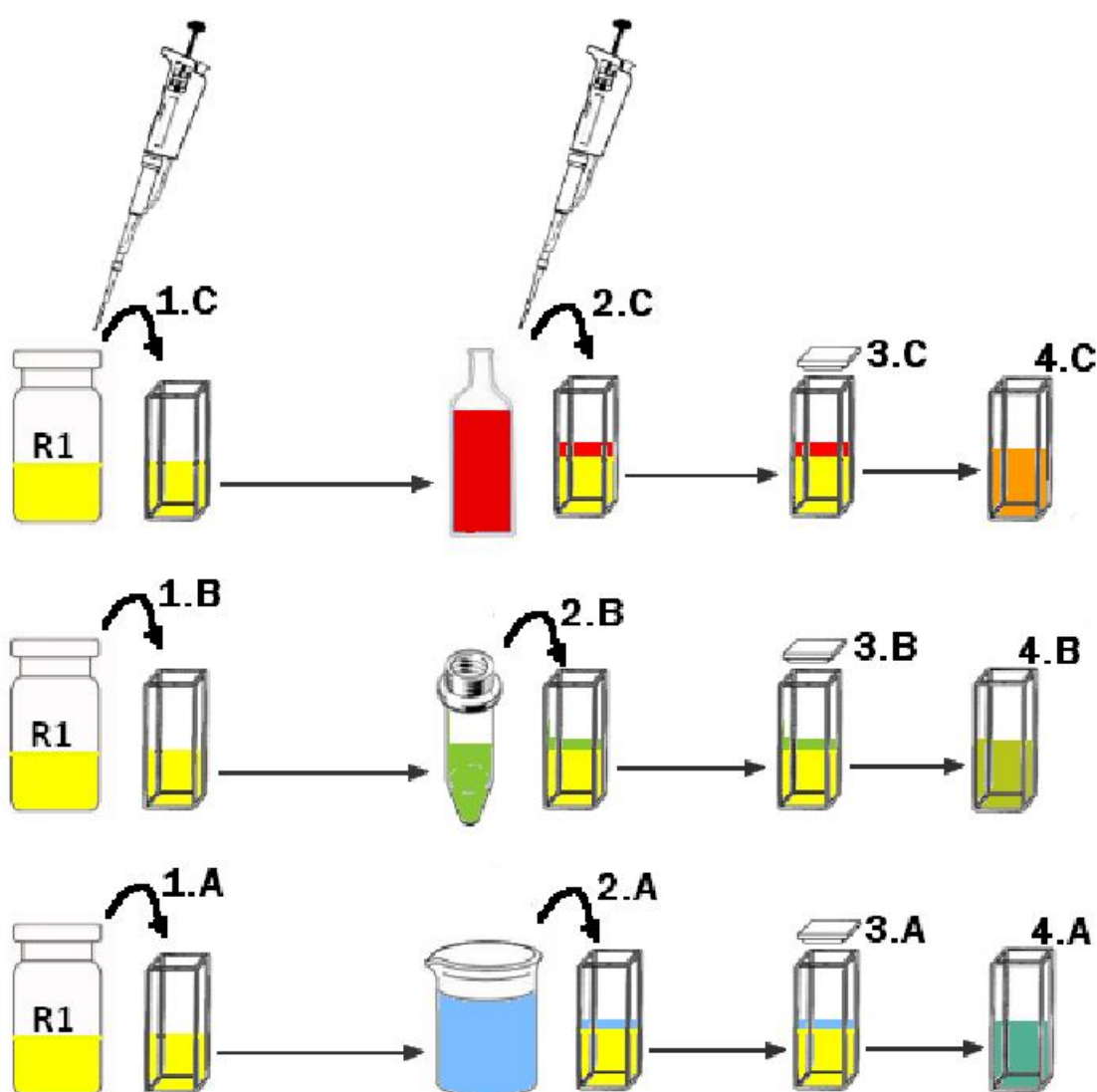
The reagents R1 and R2 are ready to use or have to be reconstituted.

The procedure in order to reconstitute the reagents is described in the operating instruction manuals.

The operating instruction manuals are included in each kit and are available on our web site:

[www.oenolab.com](http://www.oenolab.com)

**Once the reagents R1 and R2 are ready the procedure described below is same for every kit.**



- A. Blank analysis with distilled water.
- B. Standard analysis with the standard bottle included in the kit. (the exact concentration is written on the bottle).
- C. Wine analysis. The step C should be repeated for every wine that has to be analyzed.

**Step 1: Pipette R1, in a clean cuvette.**

The volume of R1 is indicated in the operating instruction manual.

Disposable cuvette in PMMA (300 - 900 nm) are well adapted.

In order to perform a maximum of analysis, it is advised to use Semi-micro cuvettes.



**Step 2: Pipette:**

- Distillated water
- Standard
- Wines

The volume of distillated water, standard and wine is indicated in the operating instruction manual.

**Step 3:** Close the cuvettes with a cap or with parafilm.  
Then mix gently.

**Step 4:** Wait for the time indicated on the operating instruction manual.

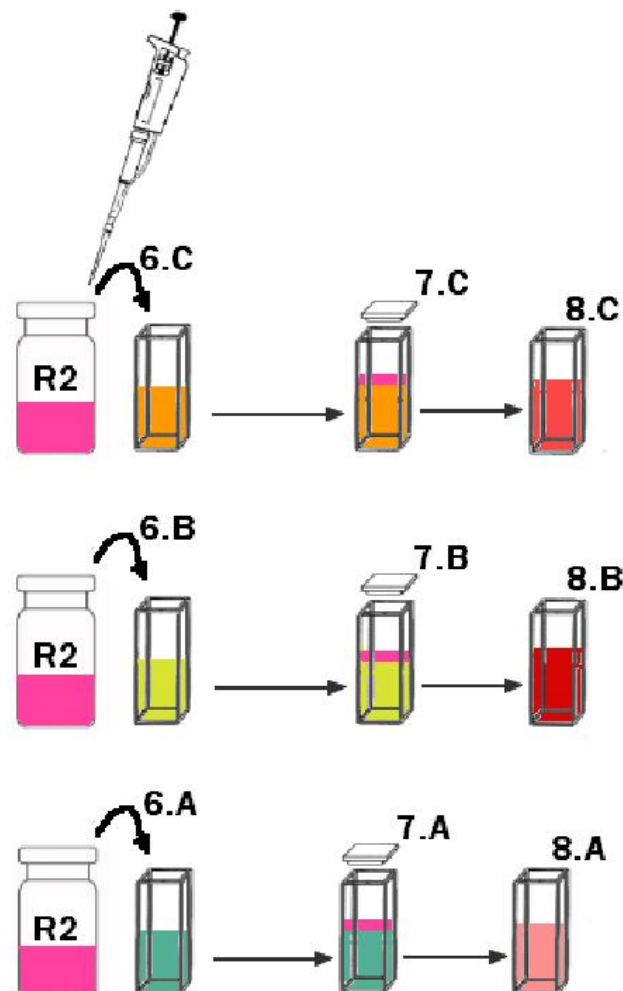
**Step 5:** Spectrophotometric measurement

Step up the required wavelength.

Step up the « zero » of the spectrophotometer with water.

Measure and note the absorbance:

- of the Blank (4.A) = DO1 Blank
- of the standard (4.B) = DO1 Standard
- of the wine sample 1 (4.C) = DO1 Sample 1
- of the wine sample 2 (4.C) = DO2 sample 2
- ...



**Step 6:**      **Pipette R2.**  
The volume of R2 is indicated in the operating instruction manual.

**Step 7:**      Close the cuvettes with a cap or with parafilm.  
Then mix gently.

**Step 8:**      Wait for the time indicated on the operating instruction manual.

**Step 9:**      Spectrophotometric measurement

Measure and note the absorbance:

- of the Blank (8.A) = DO2 Blank
- of the standard (8.B) = DO2 Standard
- of the wine sample 1 (8.C) = DO2 Sample 1
- of the wine sample 2 (8.C) = DO2 Sample 2
- ...



### Step 10: Calculation

The concentration of the parameter analyzed, in a sample of wine, is determined by using the following calculations:

$$\Delta DO_{\text{standard}} = (DO_2 - DO_1)_{\text{standard}} - (DO_2 - DO_1)_{\text{blank}}$$

$$\Delta DO_{\text{sample 1}} = (DO_2 - DO_1)_{\text{sample 1}} - (DO_2 - DO_1)_{\text{blank}}$$

$$[\text{sample 1}] = [\text{standard}] \times \frac{\Delta DO_{\text{sample 1}}}{\Delta DO_{\text{standard}}}$$

Remark:

The unity is the same then the one of the standard

The concentration and the unity of the standard are written on the standard bottle.

### EQUIPMENT NEEDED

[www.labozone.com](http://www.labozone.com)

#### Photometer

- 3 Micropipettes** adjustable volume:
- 10 to 100  $\mu\text{l}$
  - 100 to 1000  $\mu\text{l}$
  - 1000 to 5000  $\mu\text{l}$

- Tips** for micropipettes
- 10 to 100  $\mu\text{l}$
  - 100 to 1000  $\mu\text{l}$
  - 1000 to 5000  $\mu\text{l}$

**Disposable cuvettes:** Disposable cuvettes made of PMMA

**Rack for 12 cuvettes**

