

Wine COLOR Reagent

Product: Color F400 (200 Tests)

Photometric method for assessment of 420, 520 & 620nm Abs in red wine

INTENDED USE

Wine Color Reagent permits the standardized measurement and expression of red wine color intensity as well as the relative contribution of 420, 520 and 620nm pigments to the wine color.

PREPARATION & STORAGE

Reagent as supplied is ready to use and stable through the labeled expiration date when stored at room temperature between 15 to 25° C (**do not refrigerate!**) Unopened reagent is stable until the expiration date; after opening it is stable until the expiry date when protected from direct light, tightly closed, and stored at recommended temperature.

PRECAUTIONS AND WARNINGS

The Reagent is an irritant. In case of contact, rinse immediately with plenty of water. Dispose of unused reagents according to the local regulations.

PROCEDURE

Measure at 420, 520 and 620nm, 1 cm lightpath, at 15 to 25°C. Zero spectrophotometer against distilled water. Pipette water for reagent blank and samples into respective cuvettes; add Chromogen Reagent, incubate, and read as shown - on the table.

Pipette into Cuvettes	Reagent Blank	Reaction Cuvettes
Sample		400µL
DI water	400µL	
Reagent	1600µL	
Mix, wait 2 minutes at room temperature		
Abs _{420, 520, 620}		

Note: If Abs values obtained for a given wine exceed the range of your spectrophotometer, reduce the volume ratio of Sample (& DI Water for Blank) to Reagent. For example if one uses 200 + 1800, the dilution factor $f = 10$ (see below).

CALCULATIONS

$$\begin{aligned} \text{Abs } 420 &= (\text{Abs}_{420} \text{ Sample} - \text{Abs}_{420} \text{ Blank}) \times f \\ \text{Abs } 520 &= (\text{Abs}_{520} \text{ Sample} - \text{Abs}_{520} \text{ Blank}) \times f \\ \text{Abs } 620 &= (\text{Abs}_{620} \text{ Sample} - \text{Abs}_{620} \text{ Blank}) \times f \end{aligned}$$

Where $f = 5$ (the dilution factor)

420 & 520 nm Measurement

Intensity: Abs 420 + Abs 520

Ratio: Abs 420 / Abs 520

420, 520 & 620 nm Measurement

Intensity: Abs 420 + Abs 520 + Abs 620

Contribution % by Wavelength

$$\% \text{ 420} = \frac{\text{Abs } 420}{\text{Abs } 420 + \text{Abs } 520 + \text{Abs } 620}$$

$$\% \text{ 520} = \frac{\text{Abs } 520}{\text{Abs } 420 + \text{Abs } 520 + \text{Abs } 620}$$

$$\% \text{ 620} = \frac{\text{Abs } 620}{\text{Abs } 420 + \text{Abs } 520 + \text{Abs } 620}$$

QUALITY CONTROL

Each laboratory should establish its own internal Quality Control scheme and procedures for corrective action if controls do not recover within the acceptable tolerances.

REFERENCES

- 1- S. Aubert, I.N.R.A. – Méthodes usuelles d'évaluation des Anthocyanes et Tanins dans les vins – Ann. Fals. Exp. Chim. 1970 pp. 107-116
 - 2- Ribèreau-Gayon (P.) et Stonestreet (E.). Le dosage des Anthocyanes dans le vin rouge, Bull. Soc. Chim. France, 1965, 419, 2649-2652.
 - 3- Puissant (A), Leon (H) – La matière colorante des grains de raisins de certains cépages cultivés en Anjou en 1965 – Ann. Agric. 1967 16 (3) pp 217-225.
- Abs₄₂₀.

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