

UNITECH SCIENTIFIC

FLEX-REAGENT™

Anthocyanins

Photometric method for polyphenolic anthocyanic compounds in wine

Product #: Antho F150 (75 Tests)

Caution: Corrosive, Acid

INTENDED USE

This reagent is intended for spectrophotometric detection of polyphenolic anthocyanic compounds in wine. Both ionized and ionizable anthocyanins are detected; anthocyanins polymerized with tannins are not detected by this method.

METHODOLOGY & CHEMICAL PRINCIPLES

Polyphenolic red color of Vitis wines is contributed to by monomeric anthocyanins and polymeric red pigments. Anthocyanins are ionized at acid pH; this reagent is optimized to complete ionization and to eliminate turbidity from proteic compounds.

Note that no reference standards adequately represents the complexity of anthocyanins in wine. Values from this photometric method are considered an *index* of anthocyan concentration. Values depend on calculation factors (420 and 470nm) experimentally derived at two wavelengths through correlation to HPLC. Chromogen Reagent solubilizes and ionizes Anthocyanins and reacts with them to produce the complex which is detected photometrically.

REAGENTS

Chromogen Reagent (liquid) contains strong acid: Buffer pH 0.6, ethanol, and stabilizer. 4x50 mL

PREPARATION & STORAGE

Chromogen Reagent is ready to use and stable through the labeled expiration date when stored at room temperature between 15 to 25° C and protected from direct light in a tightly closed bottle.

PERFORMANCE:

The method is specific for anthocyanins and is linear to 800 mg/L. Precision: In a double determination, using 0.100 mL of a same wine, CV = 1.6% for 20 wine samples (mean anthocyanin concentration of 450 mg/L.)

PRECAUTIONS AND WARNINGS

The Chromogen Reagent is corrosive and can cause serious burns. Wear suitable eye & face protection, protective clothing and gloves. In case of contact with the eyes, rinse immediately with plenty of water and seek medical attention. Dispose of unused reagents according to the local regulations.

PROCEDURE

Measure photometrically at 520 (or 535) nm, 1 cm lightpath, at +15 to 25°C. Zero spectrophotometer against distilled water. Pipette sample (or water for reagent blank cuvette) plus Chromogen Reagent into cuvettes, incubate, and read as shown on the table:

Pipette into Cuvettes	Reagent Blank Cuvette	Reaction Cuvettes
Sample		100 uL
DI water	100 uL	
Chromogen	2000 uL	
Mix, wait 5 minutes at room temp.		
Measure Absorbance		

CALCULATION

Readings at 520 nm:

$(\text{Abs Sample} - \text{Abs Rgt. Blank}) \times 420 = \text{mg/L Anthocyanins}$

Readings at 535 nm:

$(\text{Abs Sample} - \text{Abs Rgt. Blank}) \times 470 = \text{mg/L Anthocyanins}$

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.

BIBLIOGRAPHY

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3. Puissant (A), Leon (H) — La matiere colorante des grains de raisins de certains cepages cultives en Anjou en 1965 — Ann. . Agric. 1967 16 (3) pp 217-225.

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