

## User Report

UV/Vis Spectrophotometry:

### **Automated Wine Color Determination - For Consistency in Every Glass**

**Maintaining high sample throughput while adhering to industry standards is increasingly important in food and beverage production. Automated systems can accurately characterize wine color for quality control while ensuring proper documentation and traceability of the results.**

Wine is subjected to a range of analyses during production and prior to sale, typically to meet the standards imposed by the International Organisation of Vine and Wine (OIV). As well as determining parameters such as acidity, producers assess vintages' chromatic characteristics reflecting color's importance to perceptions of flavor and quality alike.

Though one of the most recognizable features of a wine varietal, color is perceived differently from individual to individual and even fluctuates with lighting. Instrument-based color determination is strongly recommended to counter this problem, allowing the standardization of measurements and an objective assessment of each sample.

OIV describes a spectroscopic procedure to determine the chromatic characteristics of wine based on CIE Lab values. At a renowned winery, an automated solution from METTLER TOLEDO allows the analysis of many samples per day by the OIV color method.

#### **Compliance through automation**

The winery, based in Northern Italy, determines tonality, luminosity, and chromatism to comply with OIV stipulations. Based on their specifications, METTLER TOLEDO's application specialists developed a system consisting of a UV5 Excellence spectrophotometer, an InMotion™ autosampler, and an immersion probe from Hellma Analytics to simplify their measurements. The probe allows the measurement of color directly in the sample vessel, bypassing the need for transfer to a flow cell (Figure 1).

Replacing a manual scanning system that was slow and cumbersome due to outdated software and technology, the new setup enables faster operations and affords considerably easier maintenance.

The system and each step of the procedure is controlled by LabX® laboratory software. After the analyst has loaded the samples onto the InMotion rack, measurements are carried out without manual intervention. The software executes the analysis correctly and consistently for all samples, ensuring adherence to the OIV norm.

Values for the chromatic characteristics can now be obtained within seconds from samples' spectral profiles thanks to built-in calculations; afterward, all results are easily accessible in the LabX database in an audit-proof format. The lab's productivity and compliance with international norms have substantially increased.



Figure 1. The winery uses a UV5 Excellence spectrophotometer with an immersion probe and the InMotion Autosampler for compliant color measurements.

### **Über METTLER TOLEDO**

METTLER TOLEDO is a leading global supplier of precision instruments and services. The Company is the world's largest manufacturer and marketer of weighing instruments for use in laboratory, industrial, and food retailing applications. METTLER TOLEDO also holds top-three market positions in several related analytical instruments and is a leading provider of automated chemistry systems used in drug and chemical compound discovery and development. In addition, the Company is the world's largest manufacturer and marketer of metal detection and other end-of-line inspection systems used in production and packaging and holds a leading position in certain process analytics applications. Additional information about METTLER TOLEDO can be found at [www.mt.com](http://www.mt.com).

### **Presse Kontakt**

Mettler-Toledo GmbH  
Business Unit Analytical  
Heuwinkelstrasse 3  
8606 Nänikon  
Switzerland