

SPECORD® PLUS

Applications in Food Analysis



UV/Vis photometers are used in the food industry for many analyses for quality control and product monitoring. The content of different ingredients can be determined with the classic methods through enzymatic reactions and subsequent measurements at one wavelength.

The classic uses of photometric analysis in the food industry include the determination of ingredients such as acetate, citric acid, lactate, glucose, maltose and many other substances. They are usually performed with enzyme kinetic measurements.

In kinetic measurements, the change in concentration of a reactant with photometric properties depending on the time is determined by performing analysis at a fixed wavelength in short time intervals over a certain period. The change of absorbance within a certain period corresponds to the rate of reaction. With the module "Kinetics" the evaluation of kinetic measurements becomes child's play.

Enzyme kinetics can also be done very easily with the aid of test kits. A cell changer certainly reduces the analysis time enormously.

The WinASPECT® PLUS software includes a comprehensive range of enzymatic methods, just make a selection and follow the instructions appearing on the screen. All results are displayed without any manual calculation.

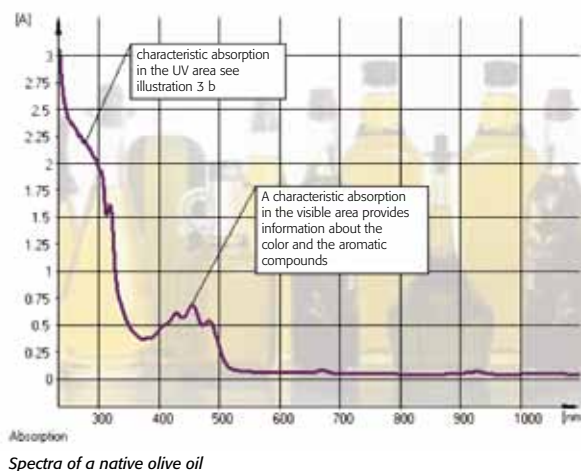
Some example test kits for enzyme kinetics are given below:



Acetate	Alcohol	Ammoniac
Cholesterol	Citric acid	Fructose
Galactose	Glucose	Malate
Hydroxy butyric acid	Xylit	Nitrate
Glutamic acid	Lactate	Sulfit
Sorbit	Malat	Oxalic acid
Saccharose	Sorbitol	Starch

Photometers are also used for food analysis in which specific ingredients are to be characterized. A very well known example is the determination of the colour of fruit juice, beer or wine. For such applications a VIS spectrum is recorded and evaluated at specific wavelengths (e.g. for wine, at 420 and 520 nm). Another example application is the characterization of olive oil by means of UV/Vis photometry. Important

parameters to be investigated are for instance UV spectrum, distribution of fatty acids, sterines, aromatic compounds, tocopheroles or triglycerides.



Recommended instrumentation

Device option	SPECORD® 50 PLUS	822-0050P-2
	SPECORD® 200 PLUS	823-0200P-2
	SPECORD® 210 PLUS	823-0210P-2
	SPECORD® 250 PLUS	823-0250P-2
Accessory option	6 cell changer for 1, 2 and 5 cm cells, not thermostatted; without stirrer	820-60126-P
	8 cell changer for 1 cm cells, not thermostatted, without stirrer	820-60223-P
	Cell carousel 15 positions, not thermostatted, without stirrer	820-60202-P
Software	WinASPECT® PLUS software includes methods for enzymatic kinetic analysis in standard software package	-

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Subject to changes in design and
 scope of delivery as well as
 further technical development!

