

K5800F Microvolume UV-Vis Spectrophotometer

Introduction

The micro spectrophotometer has become a routine instrument in modern molecular biology laboratories. It is an instrument that conducts quantitative and qualitative analysis of substances using the spectrophotometric method, and is commonly used for nucleic acid and protein quantification, microarray, full-wavelength scanning, and quantitative determination of bacterial concentration, etc. By adding a fluorescence module to the micro spectrophotometer, it is often used for the detection of low-concentration nucleic acids and proteins, greatly expanding the detection range.

Applications

Whether in the fields of scientific research such as physics, chemistry, biology, medicine, materials science, and environmental science, or in modern production and management departments like chemical engineering, medicine, environmental testing, and metallurgy, ultra-trace ultraviolet-visible spectrophotometers have extensive and significant applications.

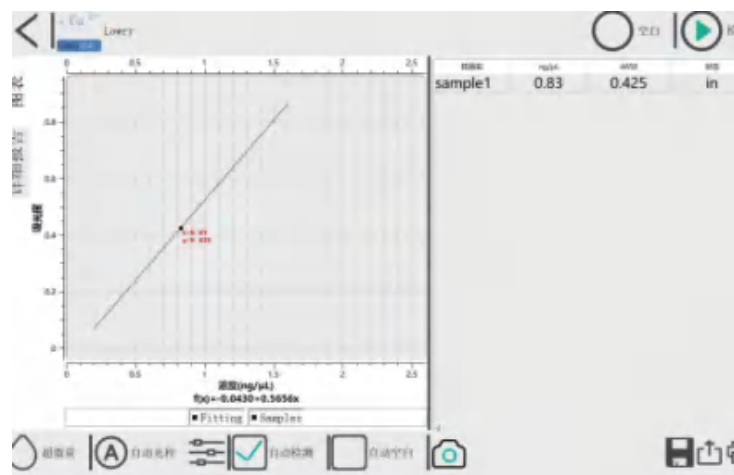
Advantage

- (1) Five optical path automatic conversion, automatically matching the best optical path according to the sample concentration without manual setting.
- (2) Long-life flash xenon lamp, with up to 10° flashes.
- (3) Full wavelength mode for cuvette detection, with a detection range of 190-850nm.
- (4) Cuvette temperature control function, capable of heating and cooling, 10-45°C ($\pm 0.5^\circ\text{C}$).
- (5) Internal display: 10.1-inch touch display, multi-point capacitive touch screen.
- (6) Has pollutant identification function.
- (7) Optional liquid column monitoring function.
- (8) Operating system: LINUX system.
- (9) Supported languages: Chinese, English and other multiple languages.
- (10) Supports U disk data output, can be connected to Ethernet, Bluetooth, and Wi-Fi.
- (11) Can be equipped with a printer, with an internal printer for direct printing of test results.
- (12) Has user login and user permission management functions.
- (13) Can be equipped with an audit trail function.



Introduction

- Output port: Equipped with 2 USB-A interfaces, 1 TypeC interface, 1 HDMI interface, and 1 Ethernet port, enabling connection and use with various devices such as mice, keyboards, desktop computers, etc.
- Has a one-click export function for spectral diagrams of scanning and detection results.
- Can export various forms of detection reports.
- Fluorescence detection range: 5 orders of magnitude.
- Fluorescence detection has a customizable standard curve module, allowing for more flexible compatibility with more reagent kits and experimental methods.
- Fluorescence detection has a kinetic module, enabling fluorescence kinetic detection and drawing kinetic curves.
- The colloidal gold module has a unique automatic peak detection function, which can automatically find the characteristic wavelengths of different particle sizes of colloidal gold.
- The standard curve has multiple fitting methods to meet diverse experimental needs.



Specifications

★ Optical path	Ultra-micro mode: 1mm、0.4mm、0.1mm、0.04mm、0.02mm (Automatic optical path conversion) Cuvette mode: 10mm、5mm、2mm、1mm
Volume requirements	Ultra-micro: 0.3~2L; Cuvette: ≥1000uL(10mm Optical path);
Optical source	Long-life pulsed xenon flash lamp(109times);
Detector	2048(cmos)linear imaging sensor
Detection wavelength range	190~850nm;
Xenon light intensity range	185~2000nm;
Wavelength accuracy	±1nm;
Wavelength resolution	2nm(FWHM at Hg 254nm);
Precision of absorbance rate	0.002 Abs;
Accuracy of absorbance rate	1%(0.988 Absorbance at 257 nm);
★Absorption rate range	Ultra-micro mode: 0~800 Abs(Equivalent to 10mm optical path) Cuvette mode: 0~16 Abs(Equivalent to 10mm optical path)
★Concentration measurement range	Ultra-micro: 2~40000ng/μl(dsDNA); 0.06~1194mg/mL(BSA); 0.03mg/mL~584mg/mL(IgG); 0.02mg/mL~303mg/mL(Lysozyme); Cuvette(10mm):0.2~80ng/μl(dsDNA);0.006~2.38mg/mL(BSA); 0.003mg/mL~1.16mg/mL(IgG);0.002mg/mL~0.61mg/mL(Lysozyme);
Detection time	< 3s

Fluorescent module

Optical source	Blue LED lamp, red LED lamp
Excitation filter	Blue excitation range is 430 - 495 nm, while red excitation range is 590 - 640 nm.
Shutter filter	Green emits wavelengths ranging from 510 to 580 nm, while red emits wavelengths from 660 to 725 nm.
Detector	Photodiode (320 - 1100nm)
Sample throughput	1 unit
Sample quantity	1-20 μL;
Tube type	0.5mL pcr tube
Sample volume of tube	≥100 μL
Preheating time	No need for preheating
Measuring speed	3s / tube
Linearity	R2≥0.995;
Linearity range	Five orders of magnitude
Built-in reagent calculator, which calculates the amounts of dyes and buffers required for the working solution;	
With the fluorescence measurement mode, the fluorescence intensity of the sample can be directly measured.	
Including the IonSphere mode	
Contains a fluorescence standard curve module, allowing for free selection of excitation and emission light sources, selection of curve types, standard sample volume and total reagent volume.	
Contains a fluorescence standard curve module, allowing for free selection of excitation and emission light sources, selection of curve types, standard sample volume and total reagent volume.	

Model	K5800	K5800C	K5800F	K5800T	K5800S
Optical path	1mm、 0.4mm、 0.1mm、 0.04mm、 0.02mm				1mm/0.2mm/0.1mm/0.05mm/0.03mm
Detector	2048(cmos)linear imaging sensor				
Display	10.1-inch touch screen				
Cuvette	-	√	√	√	√
Fluorescent	-	-	√	√	Optional
Automatic detection	√	√	√	√	√
Stir	-	Optional	Optional	Optional	Optional
Temperature control	-	-	-	√	Optional
Identification of pollutants	√	√	√	√	√
Print	Optional	Optional	Optional	Optional	Optional
Liquid column monitoring	Optional	Optional	Optional	Optional	√
Audit trial	Optional	Optional	Optional	Optional	Optional