FP100

High-Energy Light Source
High-energy DPSS laser with good beam quality and long lifetime
Optional OPO for broadband, fully automatic wavelength tuning

High Temporal Resolution
500 MHz high-bandwidth oscilloscope enabling nanosecond-level transient process capture

Full Automated Operation
Highly integrated software for fully automated measurement workflow



Specifications

Probe Light Source

Light Source	75 W xenon lamp
Spectral Range	185-2000 nm

Detection System

Detection Mode	Transmission mode
Detection Range	200-900 nm PD
	400-900 nm PD
	800-1700 nm NIR PD
	200-1200 nm IsCMOS
Detection Sensitivity	≤ 0.2 mOD
Time Window Range	≤ 20 ms
Temporal Resolution	≤ 10 ns
IRF	≤ 20 ns (typical)
Oscilloscope Bandwidth	500 MHz
Fluorescence Measurement	Long lifetime measurement available (> 0.1 μs)

Spectrometer

Type	Monochromator, 200 mm focal length, slit exit
Detector Coupling	Photodiode detectors/IsCMOS

Software & Control

Acquisition Software	Data acquisition and analysis software
Control Functions	Program-controlled monochromator & oscilloscope enabling single-wavelength kinetics and spectral scan data acquisition
Data Processing	Background subtraction available to eliminate fluorescence interference
Automation	Fully integrated system with automatic optical path switching

DPSS Nanosecond OPO Laser

Laser Output Wavelengths	1064 / 532 / 355 nm
OPO Wavelength Tuning Range	420-700 nm / 720-2300 nm

Expandable Modules

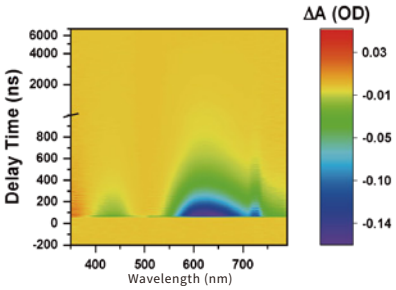
NIR Detection Module Range	900-1600 nm
IsCMOS Fast Spectral Acquisition	Direct time-resolved spectral acquisition

Sample Data

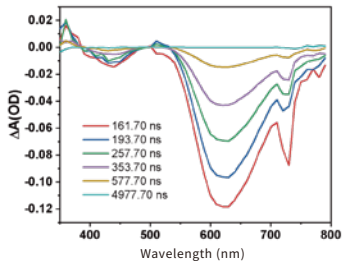
Kinetic Scanning

Vis Example

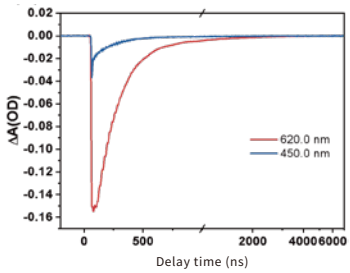
Sample	$[Ru(bpy)_3]Cl_2 \cdot 6H_2O \cdot MeCN$
Excitation wavelength	355 nm



TA Spectra



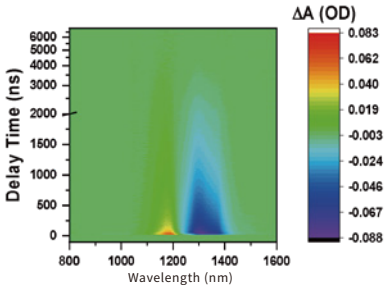
TA Spectra



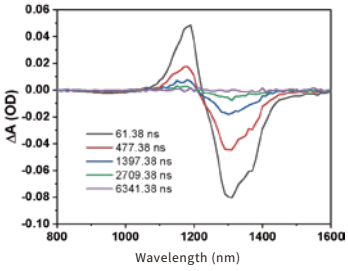
TA kinetics

NIR Example

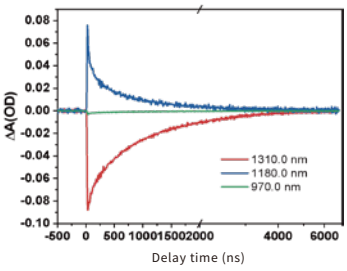
Sample	PbS
Excitation wavelength	355 nm



TA Spectra



TA Spectra

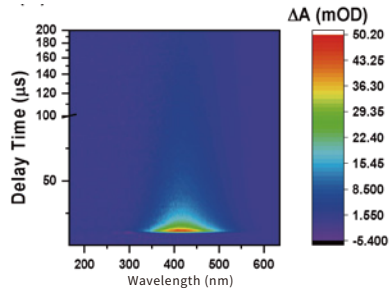


TA kinetics

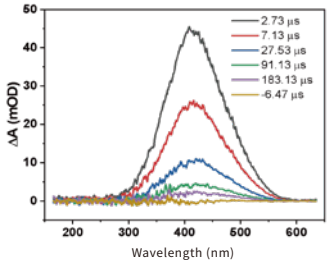
Full-spectrum Scanning

UV-Vis Example

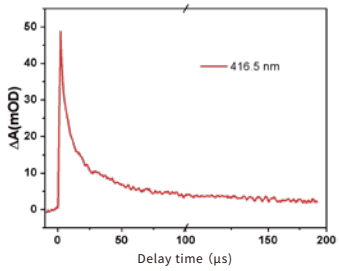
Sample	Sodium persulfate
Excitation wavelength	343 nm



TA Spectra



TA Spectra



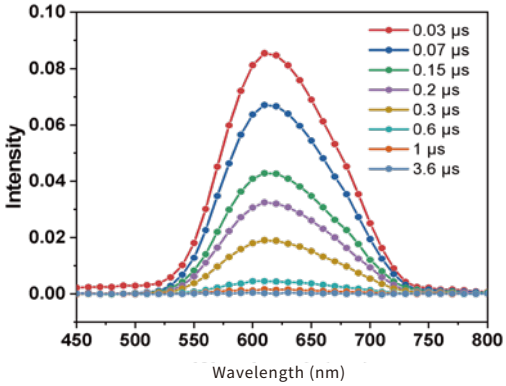
TA kinetics

Fluorescence Detection

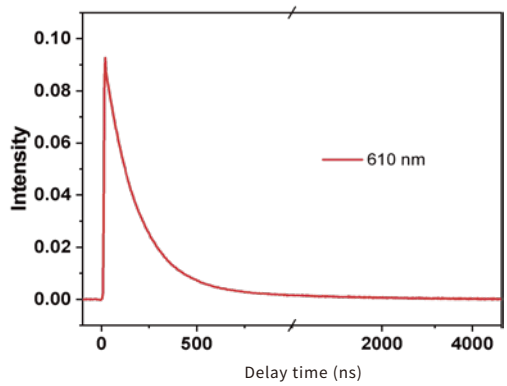
During the test, there is a fluorescence subtraction option in the software, allowing the acquisition of TA signals free of fluorescence interference.

Vis Example

Sample	$[Ru(bpy)_3]Cl_2 \cdot 6H_2O \cdot MeCN$
Excitation wavelength	355 nm



FL spectra



FL kinetics

Layout

- OPO
- Laser
- Optical Path Switching
- Probe Light Source
- Sample Chamber
- Controller
- Monochromator & Detector Module

