HORIBA
Scientific

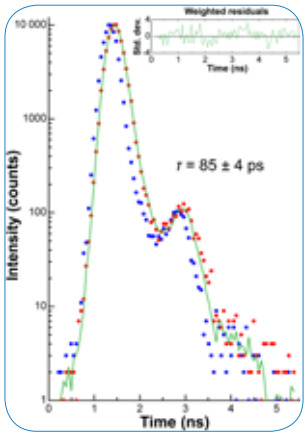
TemPro

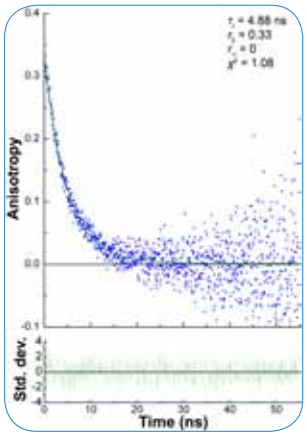
Fluorescence lifetime system

Fluorescence lifetime spectroscopy for every laboratory

TemPro brings the power of lifetime spectrofluorometry to researchers who previously found it unaffordable. Recording fluorescence lifetimes gives you a dynamic picture of your sample's characteristics, including molecular motion and size, solvation environment, and intermolecular distances—things that steady-state fluorescence cannot provide. Lifetime spectrofluorometry is unique in its sensitivity and selectivity: for example, you can temporally separate similar fluorescence spectra from two distinct species in a solution. TemPro uses Time-Correlated Single-Photon Counting (TCSPC)—the reliable, intuitive, and most sensitive lifetime-measurement technique. The filter-based TemPro can measure a complete range of lifetimes from only 100 picoseconds to 1 second, with our NanoLED and SpectraLED solid-state pulsed excitation sources spanning wavelengths from the UV to NIR. The TemPro lifetime spectrofluorometer is so affordable that any lab now can exploit the power of fluorescence dynamics coupled with a phosphorescence capability.

Fluorescence decay of 10^{-5} M aqueous Erythrosin B, taken with the TemPro, giving a lifetime of 85 ps. Excitation = 488 nm. Emission > 550 nm. The green line is the mono-exponential fit to the decay data (red dots) after reconvolution with the instrumental response (blue dots).





Anisotropy decay of 10^{-5} M DPH in Kaydol®, recorded with the TemPro. Excitation = 373 nm. Emission > 418 nm. The initial anisotropy of 0.33 drops to zero showing a free rotation with 4.9 ns correlation time.

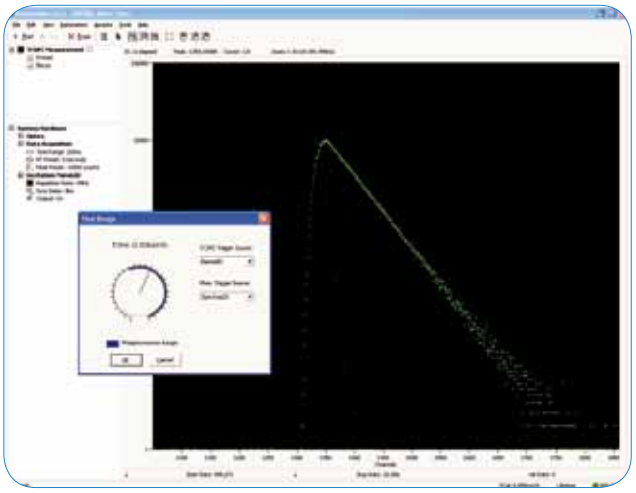
APPLICATIONS

- ***FRET (Förster Resonance Energy Transfer)***
- ***Stern-Volmer quenching***
- ***Efficiency of photosynthesis***
- ***Lanthanide luminescence***
- ***Fluorescence anisotropy***
- ***Protein fluorescence***
- ***Phosphorescence lifetimes and anisotropy***

JOBIN YVON Technology

Full performance at a desktop price!

Value, power, and compactness are the hallmarks of TemPro, a product perfect for basic research and analytical measurements. HORIBA Scientific backs TemPro with nearly 200 years of sales, service, and applications expertise in optical instrumentation.

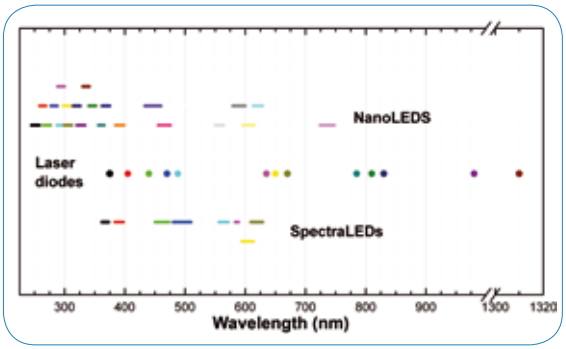


Span 100 ps to 1 s with the twist of a dial using TemPro's intuitive data-acquisition and lifetime-analysis software, DataStation and DAS6.

ADVANCED FEATURES

- ***Lifetime determination from 100 ps to 1 s****
- ***Detector response from 185–650 nm (others optional)***
- ***Single-photon counting detection***
- ***Data-acquisition and analysis software***
- ***Fast, reliable USB 2.0 data link***

**** Dependent on source, sample, and detector.***



Upgrades

- ***NIR extended range detector (to 850 nm)***
- ***Digital temperature sensor and magnetic stirring***
- ***Front-face sample holder***
- ***Monochromators***
- ***Polarizers***

Our versatile pulsed solid-state excitation sources: NanoLED and SpectraLED.

HORIBA Scientific provides reliability and expertise at a surprising price!

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HORIBA Scientific

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