Measurement of Spectralon Diffuse Fluorescence Standard (Green) (Fluorescence Spectrum)

INTRODUCTION

Spectralon diffuse fluorescence standard is a fluorescence standard prepared by using Spectralon, a diffuse reflectance material made of teflon, as the base. As an inorganic fluorescent material is used, its fluorescence properties are stable for a long period of time and it can be used to confirm spectral shapes or as the standard for the fluorescence intensities of solid samples.

When comparing the spectral shape and intensity with other samples by using the Spectralon fluorescence standard as the fluorescence standard, the spectral correction for the wavelength characteristics of the optical components in the fluorophotometer is necessary. A green fluorescence spectrum having the peak at 536 nm was confirmed.

The standard installation for the F-7000 model includes the spectral correction function for 200 - 600 nm. The correction up to longer wavelengths (200 - 800 nm) is possible by using the optional photomultiplier R928F (PN: 650-1246) and sub standard light source (PN: 5J0-0135(115V)/5J0-0136(220V)).

SAMPLE

SAMPLE NAME : USFS-210 Labsphere, Inc.

ACCESSORY

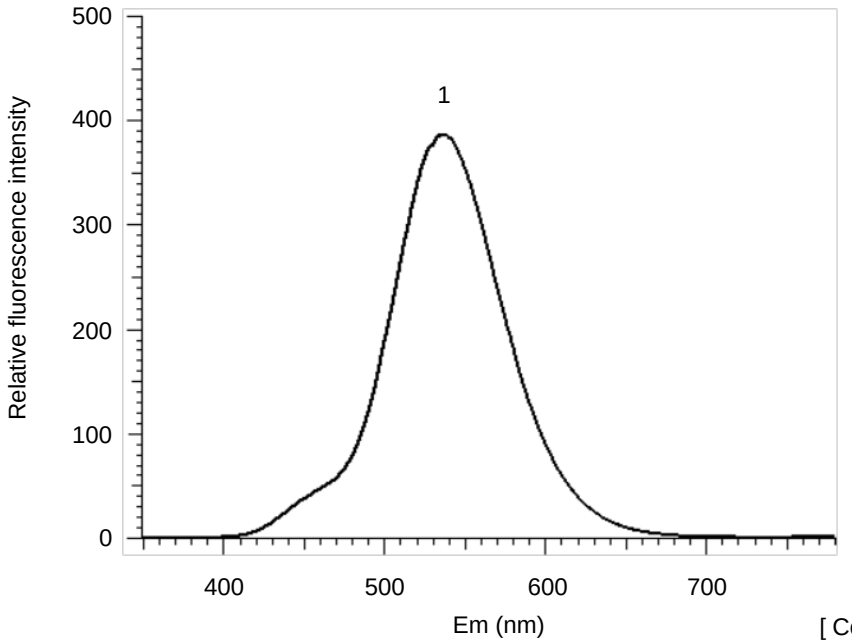
Solid sample holder
(P/N : 650-0161)

INSTRUMENT CONDITIONS

INSTRUMENT	: F-7000	RESPONSE	: Auto
EX WAVELENGTH	: 340 nm	EM FILTER	: 390
EX BANDPASS	: 5 nm	PHOTOMULTIPLIER	: R928F
EM BANDPASS	: 5 nm	PHOTOMULTIPLIER VOL.	: 250 V
SCAN SPEED	: 240 nm/min		

PEAKS (nm)

1 : 536



[Corrected spectrum]

KEY WORDS

Material/Processing Material Related, Pigment/Paint/Dye, Glass/Ceramics, Spectralon Diffuse Fluorescence Standard, Green, Fluorescence Spectrum, FL, FL-7000

Fluorophotometer (FL)

Sheet No. FL100001-01A

Measurement of Spectralon Diffuse Fluorescence Standard (Green) (Excitation Spectrum)

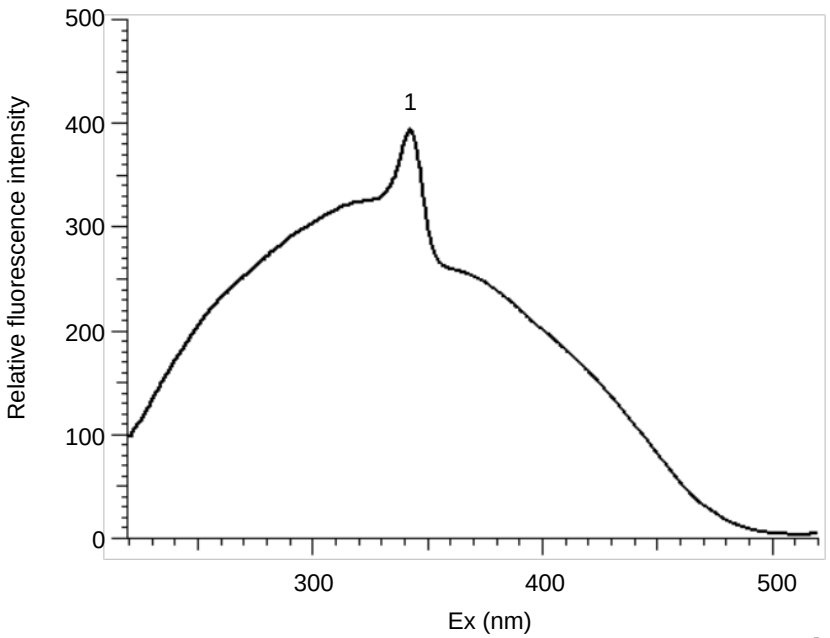
INTRODUCTION

Spectralon diffuse fluorescence standard is a fluorescence standard prepared by using Spectralon, a diffuse reflectance material made of teflon, as the base. As an inorganic fluorescent material is used, its fluorescence properties are stable for a long period of time and it can be used to confirm spectral shapes or as the standard for the fluorescence intensities of solid samples.

The excitation spectrum of the Spectralon diffuse fluorescence standard (green) was measured and its characteristic peak at about 340 nm was confirmed. The analysis data was obtained by using the spectral correction for the wavelength characteristics of the optical components in the fluorophotometer.

SAMPLE	ACCESSORY
SAMPLE NAME : USFS-210 Labsphere, Inc. 	Solid sample holder (P/N : 650-0161)

INSTRUMENT CONDITIONS				PEAKS (nm)
INSTRUMENT	: F-7000	RESPONSE	: Auto	1 : 342
EM WAVELENGTH	: 535 nm	EM FILTER	: 390	
EX BANDPASS	: 5 nm	PHOTOMULTIPLIER	: R928F	
EM BANDPASS	: 5 nm	PHOTOMULTIPLIER VOL.	: 250 V	
SCAN SPEED	: 240 nm/min			



[Corrected spectrum]

KEY WORDS

Material/Processing Material Related, Pigment/Paint/Dye, Glass/Ceramics, Spectralon Diffuse Fluorescence Standard, Green, Excitation Spectrum, FL, FL-7000

Fluorophotometer (FL)

Sheet No. FL100001-02A

Measurement of Spectralon Diffuse Fluorescence Standard (Green) (Overlay spectrum)

INTRODUCTION

The overlay of the excitation spectrum and fluorescence spectrum of the Spectralon diffuse fluorescence standard (green) is shown.

The F-7000 model allows the spectral correction for each of the excitation and fluorescence spectra. The spectra corrected for the wavelength characteristics can be used to compare the spectral shapes and fluorescence intensities at different wavelengths.

The standard installation for the F-7000 model includes the spectral correction function for 200 - 600 nm. The correction up to longer wavelengths (200 - 800 nm) is possible by using the optional photomultiplier R928F (PN: 650-1246) and sub standard light source (PN: 5J0-0135(115V)/5J0-0136(220V)).

SAMPLE

SAMPLE NAME : USFS-210 Labsphere, Inc.

ACCESSORY

Solid sample holder
(P/N : 650-0161)

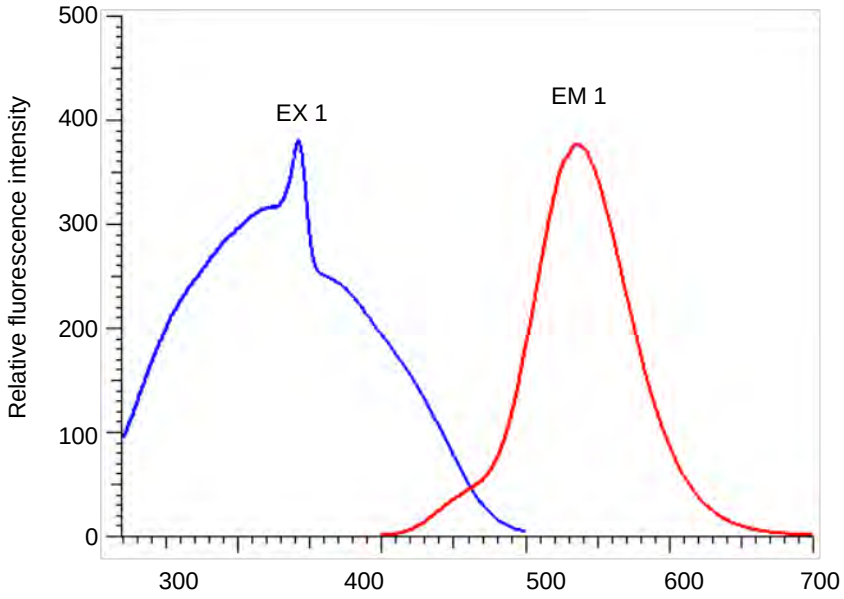
INSTRUMENT CONDITIONS

INSTRUMENT	: F-7000	SCAN SPEED	: 240 nm/min
EM WAVELENGTH	: 535 nm	RESPONSE	: Auto
EX WAVELENGTH	: 340 nm	EM FILTER	: 390
EX BANDPASS	: 5 nm	PHOTOMULTIPLIER	: R928F
EM BANDPASS	: 5 nm	PHOTOMULTIPLIER VOL.	: 250 V

PEAKS (nm)

EX 1 : 342

EM 1 : 536



[Corrected spectrum]

KEY WORDS

Material/Processing Material Related, Pigment/Paint/Dye, Glass/Ceramics, Spectralon Diffuse Fluorescence Standard, Green, Fluorescence Spectrum, Excitation Spectrum, FL, FL-7000

Fluorophotometer (FL)

Sheet No. FL100001-03A

Measurement of Spectralon Diffuse Fluorescence Standard (Green) (3D Fluorescence Spectra)

INTRODUCTION

Spectralon diffuse fluorescence standard is a fluorescence standard prepared by using Spectralon, a diffuse reflectance material made of teflon, as the base. As an inorganic fluorescent material is used, its fluorescence properties are stable for a long period of time and it can be used to confirm spectral shapes or as the standard for the fluorescence intensities of solid samples.
The 3D fluorescence spectrum of Spectralon was measured to analyze the excitation and fluorescence properties of the Spectralon fluorescence standard. F-7000, with the fastest scan speed for the instrument class, allows this analysis in about 1.5 minutes.

SAMPLE

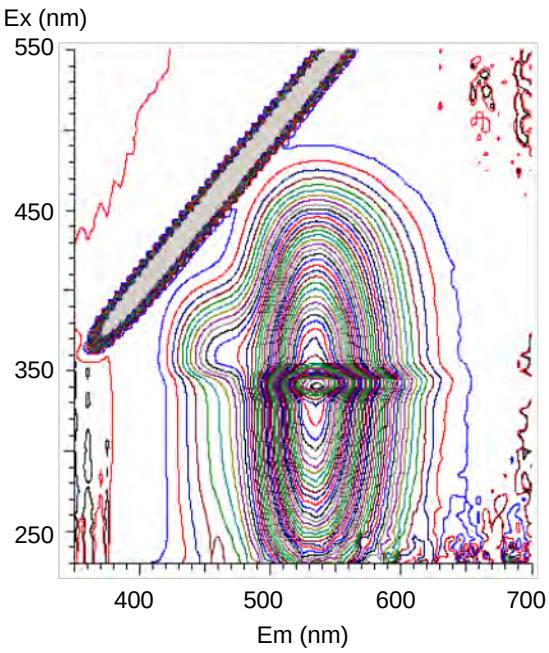
SAMPLE NAME : USFS-210 Labsphere, Inc.

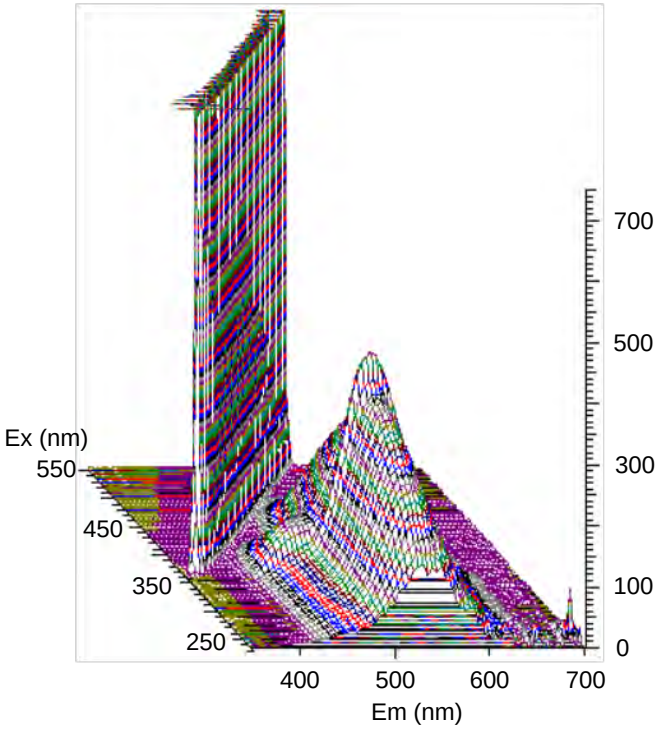
ACCESSORY

Solid sample holder
(P/N : 650-0161)

INSTRUMENT CONDITIONS

INSTRUMENT	: F-7000	RESPONSE	: Auto	FULLSCALE	: 750
EX BANDPASS	: 5 nm	EM FILTER	: 390	DIVISION NUMBER	: 7.5
EM BANDPASS	: 5 nm	PHOTOMULTIPLIER	: R928F		
SCAN SPEED	: 60000 nm/min	PHOTOMULTIPLIER VOL.	: 250 V		





[Corrected spectrum]

KEY WORDS

Material/Processing Material Related, Pigment/Paint/Dye, Glass/Ceramics, Spectralon Diffuse Fluorescence Standard, Green, 3D Fluorescence Spectrum, 3D, FL, FL-7000

Fluorophotometer (FL)

Sheet No. FL100001-04A