

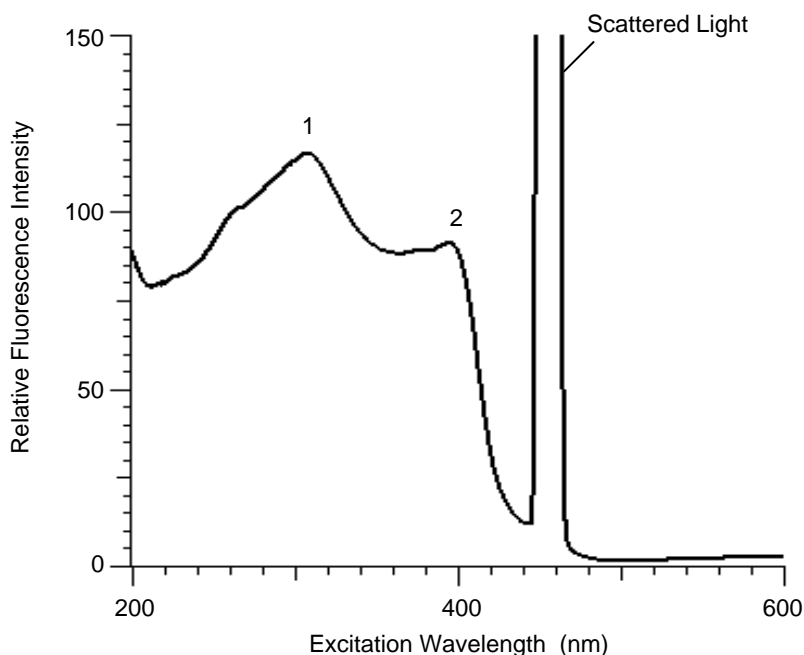
# Measurement of Optical Whitening Agent (Excitation Spectrum)

## INTRODUCTION

Fluorescent brightening agents are contained in laundry detergents to whiten white clothes. When the excitation spectrum of a fluorescent brightening agent was measured at the fluorescence wavelength of 455 nm by F-7000 fluorophotometer, the excitation spectrum with a peak at around 300 nm, a UV wavelength, was obtained.

By performing the spectral correction, an accurate excitation spectrum can be obtained (see FL TD.47 for the spectral correction method).

SAMPLE		ACCESSORY
Sample : Optical Whitening Agent (powder) (Wako Pure Chemical Industries, Ltd.)		Solid Sample Holder (P/N : 650-0161)
ANALYSIS CONDITIONS		WAVELENGTH (nm)
Instrument : F-7000		1. 307 nm
Fluorescence wavelength : 455 nm	Response : Automatic	2. 394 nm
Slit on excitation side : 5 nm	Filter : L37	
Slit on fluorescence side : 5 nm	Detector : R928F	
Scan speed : 240 nm/min	Photomultiplier Vol. : 250 V	



[With Spectral Corrections]

### KEY WORDS

Material/Processing Material Related, Detergent, Fluorescent Brightening Agent, OWA, Excitation Spectrum, Spectral Correction, Optical Whitening Agent, Corrected Spectrum, FL, F-7000

Fluorophotometer (FL)

Sheet No. FL110003-01A

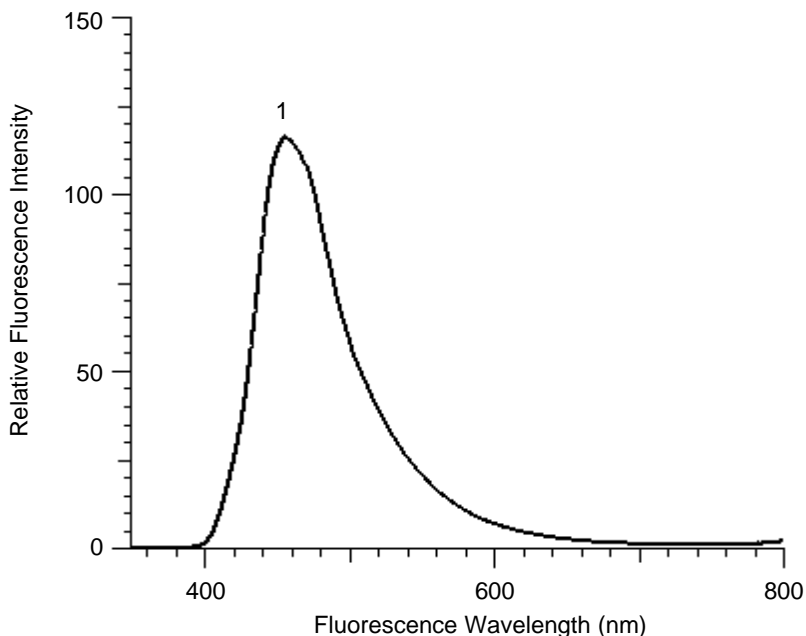
# Measurement of Optical Whitening Agent (Fluorescence Spectrum)

## INTRODUCTION

Fluorescent brightening agents are contained in laundry detergents to whiten white clothes. When the fluorescence spectrum of a fluorescent brightening agent was measured at the excitation wavelength of 300 nm by F-7000 fluorophotometer, a peak was found at around 455 nm, equivalent to the wavelength of a blue light.

By performing the spectral correction, an accurate fluorescence spectrum can be obtained (see FL TD.47 for the spectral correction method).

SAMPLE	ACCESSORY
Sample : Optical Whitening Agent (powder) (Wako Pure Chemical Industries, Ltd.)	Solid Sample Holder (P/N : 650-0161)
ANALYSIS CONDITIONS	WAVELENGTH (nm)
Instrument : F-7000	1. 455 nm
Excitation Wavelength : 300 nm      Response : Automatic	
Slit on excitation side : 5 nm      Filter : L37	
Slit on fluorescence side : 5 nm      Detector : R928F	
Scan speed : 240 nm/min      Photomultiplier Vol. : 250 V	



### KEY WORDS

Material/Processing Material Related, Detergent, Fluorescent Brightening Agent, OWA, Fluorescence Spectrum, Spectral Correction, Optical Whitening Agent, Corrected Spectrum, FL, F-7000

Fluorophotometer (FL)

Sheet No. FL110003-02A

# Measurement of Optical Whitening Agent (3D Fluorescence Spectrum)

## INTRODUCTION

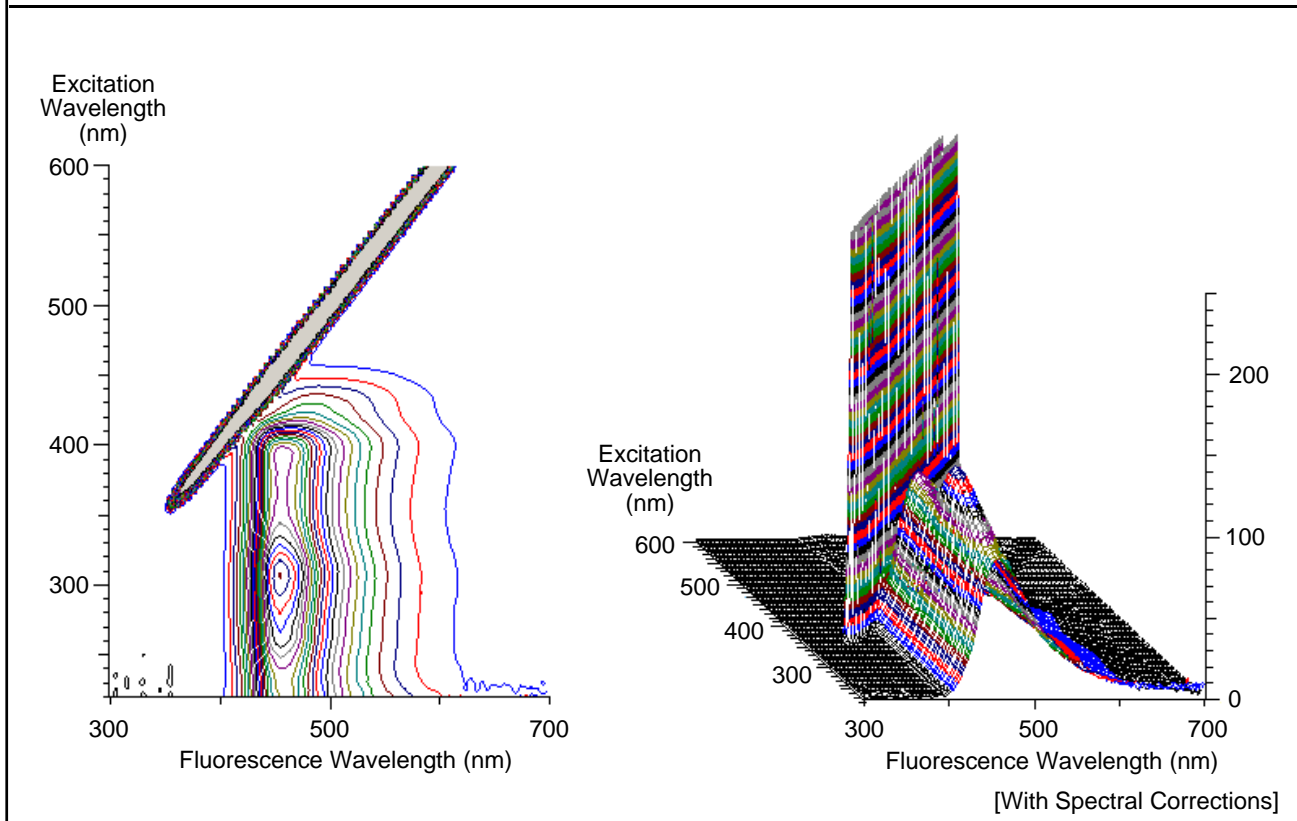
Fluorescent brightening agents are contained in laundry detergents to whiten white clothes. The yellow color of the yellowed clothes is synthesized with the blue color emitted by a fluorescent brightening agent so that the clothes will appear to be white. The 3D fluorescence spectrum of a fluorescent brightening agent was measured by F-7000 fluorophotometer.

By using F-7000 fluorophotometer, with the scan speed of 60000 nm/min which is the fastest for the instrument class, this analysis was completed in about 120 seconds. In addition, necessary spectra can be viewed more easily by using a filter in combination with the instrument.

SAMPLE	ACCESSORY
Sample : Optical Whitening Agent (powder) (Wako Pure Chemical Industries, Ltd.)	Solid Sample Holder (P/N : 650-0161)

## ANALYSIS CONDITIONS

Instrument : F-7000	Response : Automatic		
Slit on excitation side : 5 nm	Filter : L37	Full scale : 250	
Slit on fluorescence side : 5 nm	Detector : R928F	Contour line interval : 5	
Scan speed : 60000 nm/min	Photomultiplier Vol. : 250 V		



### KEY WORDS

Material/Processing Material Related, Detergent, Fluorescent Brightening Agent, OWA, 3D Fluorescence Spectrum, 3D, Spectral Correction, Optical Whitening Agent, Corrected Spectrum, FL, F-7000

Fluorophotometer (FL)

Sheet No. FL110003-03A