



Starna scientific
'Setting the Standard'

Quality Assurance in the Analytical Laboratory

Spectrophotometer UV Absorbance and Wavelength Qualification

Starna "Deep UV" Reference

Purpose

This Reference Material can be used to qualify the wavelength and absorbance scales of spectrophotometers in the deep ultra-violet region of the spectrum, between 190 nm and 230nm.

Description and Discussion

Qualifying a UV spectrophotometer in the deep UV presents particular problems, both in identifying a suitable reference material and in accommodating the variability in transmittance characteristics of UV grade quartz below 200nm. These problems have been overcome with this novel Reference Material by using innovative design and manufacturing protocols.

The Reference Material consists of a TS8* solution which has distinct absorption/transmission and peak characteristics in the deep UV, supplied together with a solvent blank in an identically matched pair of 10 mm far UV quartz cells. Each liquid is permanently heat-fused sealed into the cell.

The Reference Material is suitable for qualifying UV spectrophotometers in the range 190-230 nm. The reference is certified for absorbance qualification at approximately 191 nm, 209 nm and 226 nm. Nominal absorbance values are 1.2 A, 0.6 A and 1.0 A respectively.

*TS8 is a proprietary matrix with the necessary spectral characteristics and stability to be used as a reference material.



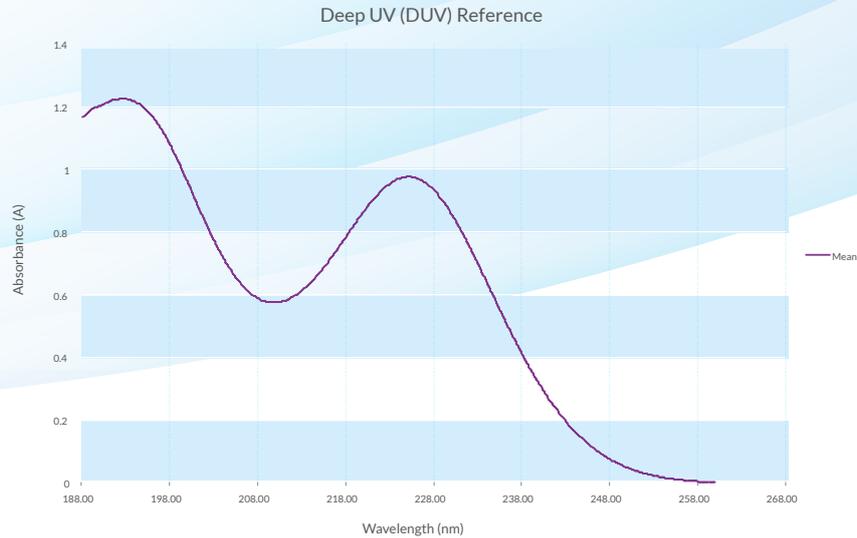
This reference is also certified for wavelength qualification, and to allow users flexibility in use the reference is supplied with certified wavelength and absorbance values at two different bandwidths, 1.0 nm and 5.0 nm.

The peak wavelengths are first identified by a wavelength scan and verified as being within the expected wavelength tolerance, after which the absorbance values at these peak wavelengths are measured.

Note: The above values are for guidance only. The Calibration Certificate accompanying the reference gives actual values measured at bandwidths of 1.0 nm and 5.0 nm, and only these certified values should be used for instrument qualification.

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Certification and Documentation

A Certificate of Calibration and Traceability and full instructions for use are provided with each Reference Material. The certificate is supplied in electronic format, on a USB drive in the same box as the references, allowing hard copy to be produced on demand and giving easy interface to the user's own IT systems. Certification measurements are made on a reference spectrophotometer that has been qualified using Standard Reference Materials certified by the National Institute of Standards and Technology (NIST) in the USA, or against primary physical references such as elemental emission lines.

Accreditation

Starna Scientific is accredited to both ISO 17034 as a Reference Material producer, and ISO/IEC 17025 as a Calibration Laboratory for optical reference measurements. Starna Scientific's manufacturing facility is accredited to the ISO 9001 Quality Management System with BSI. For details see www.starna.com/accreditations.

Warranty

STARNA offers a Lifetime Guarantee on all Starna Certified Reference Materials, unless otherwise stated, such that any reference material that moves outside its published uncertainty budget will be replaced free of charge. This guarantee is subject to the reference materials being re-certified at least every two years and that the references have not been physically, thermally or optically abused. The STARNA UKAS accredited calibration laboratory aims to re-certify and despatch references within five working days from receipt

How to Order

Nominal Wavelength and Absorbance Values			CATALOGUE NUMBER
191 nm	209 nm	226 nm	RM-DUV/195
1.2 A	0.6 A	1.0A	



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