Starna scientific
'Setting the Standard'

Microvolume Spectrophotometer UV and Visible Absorbance and Wavelength Qualification

Starna Green Microvolume References

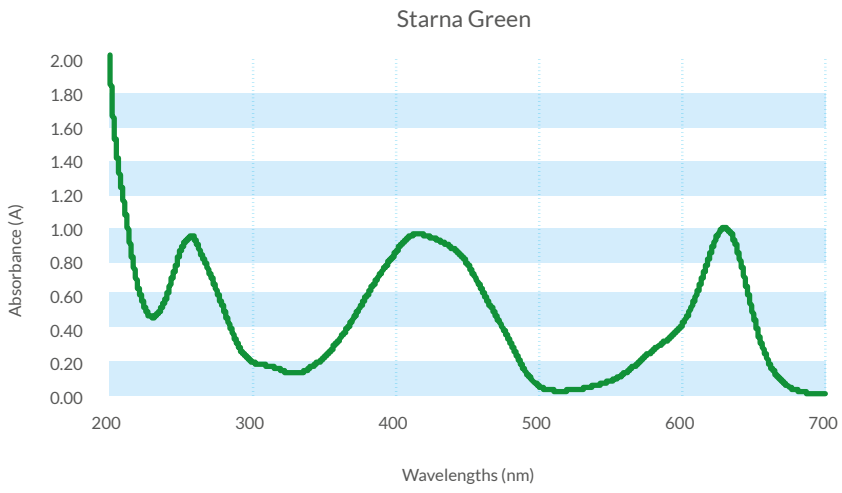
Purpose

These reference materials have been specially developed for the qualification of the dedicated low volume (< 5 ul) and short path length (< 1 mm) instrumentation offered by several vendors for use when sample is often at a premium. They are also ideal for qualifying conventional instruments when they are used with ultra-low-volume cells such as the Starna DMV cell. As the use of these references involves their physical transfer by the user in to the measuring device, this material is fully REACH compliant.

Description and Discussion

Many microvolume spectrophotometers have relatively wide spectral bandwidths, up to 8 nm in some cases. Most reference materials available for instrument wavelength qualification are chosen for their well-defined spectra, with sharp absorption bands, and are usually recommended for instruments with spectral bandwidths of 3 nm or less. This is partly because most absorption bands are asymmetric, so the apparent peak wavelength will change with bandwidth, and partly because wider bandwidth instruments may be unable to resolve some peaks at all. References with sharp absorption bands may therefore be unsuitable for the qualification of these instruments.

The use of aqueous dye solutions, however, is an established and well-recognised method for the validation of the absorbance scale and linearity of a spectrophotometer. Starna Green is a specially formulated, highly stable dye solution with three broad but well-defined peaks that can be certified for both wavelength and absorbance value in the UV and visible regions, at bandwidths up to 12nm.



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The reference is formulated to give an approximate absorbance of 1.0 A at each of the certified wavelengths, 258, 416 and 630 nm, at a nominal path length of 1.0 mm.

The references are supplied in vials with screw-cap closure for ease of handling, and from which it is easy to transfer them to the instrument under test using a micropipette or syringe. Each vial contains 1.5 ml of Starna Green solution.

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 (SRMs) 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

The certification is valid for a maximum period of one year from the date of issue or until the seal on the vial is broken, whichever occurs first.

Once the seal is broken, responsibility for the control of the reference is now assigned to the user. If it is anticipated that the reference may be required to be used in the future, then it is recommended that it be sub-sampled into appropriate containers, e.g. PCR tubes, at this time.

Note: If sub-sampling is performed, then the user should verify the validity of the protocol, with respect to value assignment, stability, homogeneity, storage and handling of these derived references.

How to Order

	CATALOGUE NUMBER
Starna Green Microvolume reference, 1 x 1.5 ml vial	RM-1000G-SC1
Starna Green Microvolume reference, 2 x 1.5 ml vials	RM-1000G-SC2
Starna Green Microvolume reference, 4 x 1.5 ml vials	RM-1000G-SC4

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www.starna.com
sales@starna.com
+ 44 (0) 20 8501 5550

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