Determining wavelength accuracy below 230nm for HPLC instruments – How To

Holmium oxide is an internationally recognized wavelength calibration primary standard, supported by NIST and other standards organizations. It provides 14 official absorbance bands ranging from 241 nm to 641 nm. Caffeine is considered a secondary standard, with two absorbance bands at 205 nm and 273 nm. Caffeine is also widely used as a wavelength and absorbance standard.

The HSQ Kit™ has been engineered so that the combination of caffeine with holmium oxide, will provide NIST-Traceable wavelength calibration down to 205 nm. First using holmium oxide, the detector is calibrated as described in the instructions, at 241nm and above. Next, the wavelengths of caffeine are determined at 205nm and 273nm. NIST traceability is achieved by the 273nm band, which overlaps the official NIST range.

Assuming that the detector meets at this wavelength, the 205nm band becomes NIST traceable, and can be used with confidence to ascertain the wavelength accuracy of the detector at this lower wavelength. Using these two standards in combination with each other, provides a means to qualify your detector from 205nm to 641nm with full confidence.

Click *HERE* to download a note on traceability of caffeine for wavelength qualification.
Click *HERE* for HSQ kit ordering information and pictures.