



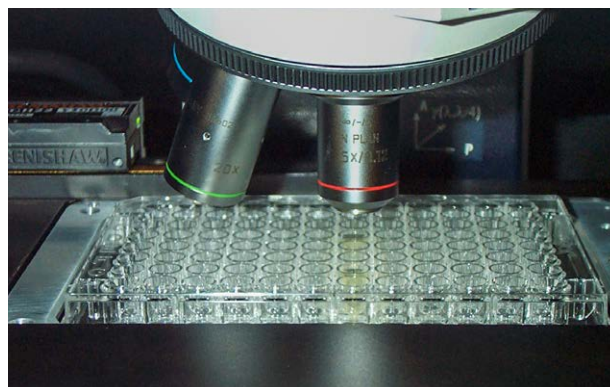
Microplate mapping with Renishaw Raman systems

Introduction

Pharmaceutical, combinatorial organic chemistry, and genomic and proteomic researchers are increasingly employing high-throughput compound production and screening techniques, in which material created in microplates is rapidly analysed by one or more analytical techniques.

Raman spectroscopy is well suited to these applications as it provides detailed information about molecular composition, is highly chemically specific, is non-destructive, and can be used to analyse material in aqueous solutions, or through glass or transparent blister packages.

Renishaw's microplate mapping package enables researchers to use Renishaw's Raman spectroscopy products to rapidly and easily analyse material contained in microplates. The package consists of two parts; hardware for mounting the samples on the systems' motorised sample stage, and software for controlling the data acquisition and analysis.



Hardware

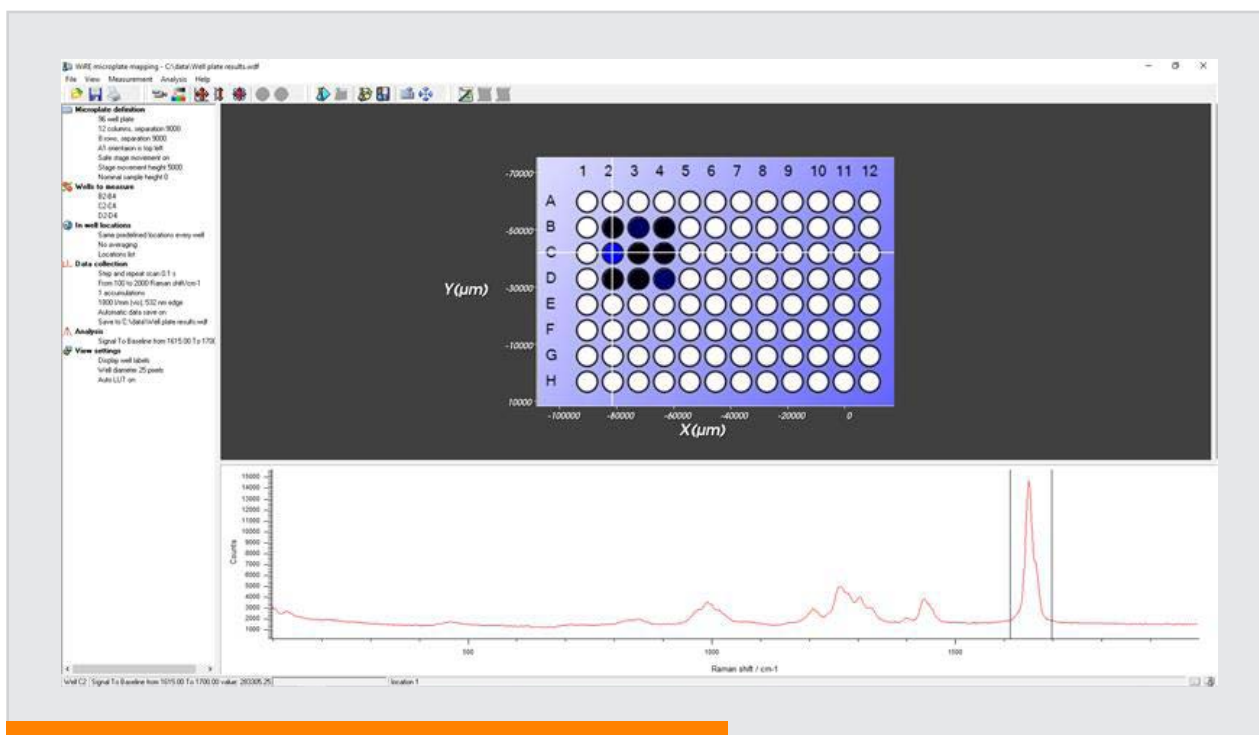
An interface mount securely locates the microplate onto the motorised stage of the Raman system. The standard interface mount accepts 128 mm × 85 mm microplates (with 24, 96, or 384 wells). Custom interface mounts are available for a range of other arrays and plates; please contact Renishaw for details.

Software

The microplate mapping software runs within Renishaw's Windows® Raman Environment (WiRE™) software. The mapping software presents the user with a graphical representation of the microplate or array. The user is prompted for the acquisition parameters, such as spectrum acquisition time and spectral range. The spectrum from each location is displayed as the experiment progresses, giving the user immediate feedback.

The software also supports Renishaw's LiveTrack™ technology that automatically adjusts the height of the sample stage to maintain focus, providing optimum signal data collection quality, even if the volumes of material in the microplate vary.

Once the spectra have been acquired, the full analytical power of the WiRE™ software can be used to extract data from each spectrum (such as fitted band intensities, component analysis, etc.). The data can be displayed either in a graphical form, or as a colour image superimposed on a representation of the array/microplate. The latter is particularly useful for getting a quick overview of the outcome of the experiment. The resulting data are recorded in Renishaw's .WDF format, but can be exported to other data formats.



WiRE™ screenshot showing a 96 well analysis in progress.

Want to learn more? Contact our spectroscopy team to discuss your specific requirements.

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