 Chemical Analysis Facility OPTICAL Sample Submission Form.

Technical Services

Email: [caf.optspect@reading.ac.uk](mailto:caf.optspect@reading.ac.uk)

**Please complete all parts and clearly label samples.**

Forms missing essential information will result in delayed analysis

### Requester’s information.

- GIVEN NAMES:

- FAMILY NAME:

- DATE:

- POSITION:

Internal chargeable:

Please include project code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PhD student

MSc reseacher

Postdoc,

Staff,

Internal non-chargeable:

Undergraduate student

MSc taught

- DEPARTMENT AND SCHOOL:

- SUPERVISOR PI:

- EMAIL:

### Sample information. You can attach a sample table if you prefer.

- Number of samples:

- names: (please correctly labelled the samples with a printed number or name)

- Physical NATURE OF SAMPLE: (solid -powder, dispersion, film…-, liquid/solution…)

- AMOUNT (concentration and solvent if needed):

- chemical formula (if known):

 - Attach a COSHH Assessment for the sample analysis. Please if required, take into account the likely degradation products.

- Special Instructions:

- Room T/Fridge/Freezer Location?

- IS THE SAMPLE REQUIRED TO BE RETURNED??

**Instrument selection.**

Perkin-Elmer Spectrum 100 FTIR spectrometer.

Perkin-Elmer Spotlight 400 Imaging System.

Renishaw inVia Dispersive Raman Microscope.

Thermonicolet NXR 9650 FTRaman spectrometer.

Varian Cary 300 UV-Visible spectrometer.

Varian Eclipse Fluorescence spectrophotometer.

### Method information.

PLEASE FILL IN ONLY the method information of the instrument you previously selected.

PERKIN-ELMER SPECTRUM 100 FTIR SPECTROMETER.

- scope of your analysis:

- DESIRED IR TECHNIQUE (ATR, transmission…):

- ACCESSORIES to be used (like the furnace used for variable temperature IR analysis, more information in the appendix of the SOP):

- Describe the method: and the method name in case you want to use a saved one. If you don´t have any preference the method will be chosen by the technician. For the default values please see the SOP (Appendix, the right default setup).

Foot attachment tip (only for ATR, flat or sharp one):

Is there any particular force gauge (arm pressure) you want to use for the analysis? (Especially important for quantifications) If you do not have a preference this will be selected by the technician.

Wavelength range:

Resolution:

Number of scans:

- NUMBER OF REPLICATES PER SAMPLE:

- SAMPLE PREPARATION: sample preparation is the responsibility of the user. For more information please check the instrument SOP, sections “*What is the best way to prepare and analyse your sample?”*

PERKIN-ELMER SPOTLIGHT 400 IMAGING SYSTEM.

- scope of your analysis:

- DESIRED IR TECHNIQUE: (form more information please see the User´s Guide).

Image mode Transmission.

Image mode Reflectance.

Point mode Transmission.

Point mode Reflectance

Point mode with ATR objective.

ATR imaging mode.

- Please indicate the area of interest/or special feature and approximate size:

- Describe the method: and the method name in case you want to use a saved one. If you don´t have any preference the method will be chosen by the technician. For more information please see the SOP.

Aperture size:

Wavelength range:

Interval:

Number of scans:

Image mode additional parameters:

Pixel size: (µm).

6.25  25  50

Resolution (cm-1)

Scan speed (cm-1):

- NUMBER OF REPLICATES PER SAMPLE:

- SAMPLE PREPARATION: sample preparation is the responsibility of the user. For more information please check the user´s guide.

**RAMAN ANALYSIS:**We have two different instruments: a Thermonicolet NXR 9650 FTRaman spectrometer and a Renishaw inVia Dispersive Raman Microscope. The Renishaw has more flexibility (three lasers: 785nm, 532nm and 633nm) and it also has mapping capabilities, the FTRaman is used only for bulk analysis and it has only one laser (1064nm). If you have doubts on which instrument you need to use, please select the Renishaw. It could be difficult to get good analysis with a Raman spectrophotometer. Therefore, to save time and effort, it is extremely useful to know the methodology applied for a similar sample before running your samples. Please look for an article where a similar sample has been analysed and check the method that was used., this could be a very good starting point.***Please if you find an article send it with the submission form.***

RENISHAW INVIA DISPERSIVE RAMAN MICROSCOPE.

- scope of your analysis:

- MAPPING (please indicate the area of interest/or special feature and approximate size) or SINGLE ANALYSIS:

- Describe the method: and the method name in case you want to use a saved one. Please fill in the maximum information available in the article or in your previous method.

Laser wavelength:

Power:

Grating:

Objective:

Spectrum range (Raman shift cm-1):

Exposure time/s:

Accumulations:

Any additional information (timing, laser focus, bleaching time to reduce fluorescence, , confocality, etc ).

It is also important to know the thermal behaviour of your samples, since they could be damaged by the intense power/heat of the laser. Please describe how sensitive your sample is to heat (laser power):

- NUMBER OF REPLICATES PER SAMPLE:

- SAMPLE PREPARATION: sample preparation is the responsibility of the user. For more information please check the instrument SOP,

THERMONICOLET NXR 9650 FTRAMAN SPECTROMETER.

- scope of your analysis:

- Describe the method: and the method name in case you want to use a saved one. Please fill in the maximum information available in the article or in your previous method.

Power:

Spectrum range (Raman shift cm-1):

Number of scans:

Resolution:

Any additional information (aperture for example or accessories):

It is also important to know the thermal behaviour of your samples, since they could be damaged by the intense power/heat of the laser. Please describe how sensitive is your sample to heat (lase power):

- NUMBER OF REPLICATES PER SAMPLE:

- SAMPLE PREPARATION: sample preparation is the responsibility of the user. For more information please check the instrument SOP (section “Sample preparation and sample loading” and Appendix),

VARIAN CARY 300 UV-VISIBLE SPECTROMETER.

- scope of your analysis:

- Describe the method: and the method name in case you want to use a saved one. Please provide as much information as possible. The following sections are the basic ones used in the Scan application, but for other applications more information may be needed. The CAF technician may contact you for additional information needed for more complex applications such as thermal, kinetic studies etc. If you do not have any preference the method will be chosen by the technician. For more information please see the SOP.

Application:

Wavelength range (nm):

Average (Ave) time :

Data interval:

SBW:

Beam mode:

Baseline correction:

Temperature value:

Any additional information:

Cuvettes used: (Please provide a blank and a standard if needed) (For more information of the possible cuvettes please check the instrument SOP Appendix),

- NUMBER OF REPLICATES PER SAMPLE:

- SAMPLE PREPARATION: sample preparation is the responsibility of the user.

VARIAN ECLIPSE FLUORESCENCE SPECTROPHOTOMETER..

- scope of your analysis:

- Describe the method: and the method name in case you want to use a saved one. Please provide as much information as possible. The following sections are the basic ones used in the Scan application, but for other applications more information may be needed. The CAF technician may contact you for additional information needed for more complex applications such as thermal, kinetic studies etc. If you do not have any preference the method will be chosen by the technician. For more information please see the SOP.

Application:

Set up mode (Fluorescence, Phosphorescence or bio/chemiluminescence, for more information please see the Appendix F in the SOP):

For fluorescence emission spectrum: (for excitation spectrum, an emission fix value, emission slit and excitation range is needed)

Excitation wavelength (nm):

Excitation slit (nm):

Emission Start and Stop values (nm):

Scan control (Ave Time and Data Interval):

Excitation filter:

Emission filter:

PMT Detector Voltage:

Temperature value:

Any additional information (3-D Mode, accessories…):

Cuvettes used: (Please provide a blank and a standard if needed) (For more information of the possible cuvettes please check the instrument SOP Appendix),

- NUMBER OF REPLICATES PER SAMPLE:

- SAMPLE PREPARATION: sample preparation is the responsibility of the user.