Service Level Agreement for the Analytical Laboratory School of Biological and Chemical Sciences Queen Mary University of London

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Definition of Service
The Analytical Laboratory offers facilities for Atomic Absorption Spectrometry, Chromatography, Mass Spectrometry and Radioisotope Measurement.

Users of the service are encouraged to actively participate in the analysis of their materials, to acquire a working knowledge of the techniques employed and to learn method development.

The Analytical Laboratory is also able to undertake a limited amount of contract work, although its primary function is to support research activities in the ‘School’.

Service Provided
• The Atomic Absorption Spectrometry facility is able to provide quantitative analysis of a wide range of metals in aqueous solution using either flame or electrothermal atomization. (sub mg/l by ‘flame’ aas for many elements and pg amounts using ‘electrothermal’ is achievable).

• Gas and Liquid Chromatography with mass selective detection is provided for the separation and identification of complex mixtures, both with automatic sample injection and multiple sample handling. The gc-ms can operate in both EI & CI modes and has a large mass spectral library for identification of separated components (mass range 1.6 – 800 amu) whilst the lc-ms has both electrospray and APCI ion sources and an Ion Trap for confirmation of Mr up to 4000 Da and MS^n capability for structure elucidation. The lc-ms is particularly useful for protein analysis and has deconvolution software for identification of large proteins; direct infusion into the ion trap is also possible.

• The radioisotope suite has a automatic liquid scintillation counter for measurement of beta emitting isotopes such as ^3H, ^14C and ^35S with sample capacity up to 1248 vials depending on size. The counter uses digital spectrum analysis, digital overlay and spectrum libraries for dpm counting and avoids the time consuming preparation of quench curves.

The suite also has a high capacity automatic gamma counter for measurement of gamma emitting isotopes such as ^51Cr, ^57Co, ^65Zn, ^109Cd, ^110mAg, ^125I and many others.

The Analytical Laboratory also features a Gamma Spectrometer with a high resolution germanium detector, particularly suitable for qualitative and quantitative analysis of environmental gamma emitting radioisotopes such as ^137Cs.
**User Responsibilities**
Sample preparation is normally the responsibility of the service user; however the user is strongly recommended to discuss this with the service provider since this is a crucial part of any analysis.
Consumable items required for analysis are usually provided by the user. This can for example include chromatography columns for particular applications and other ancillary items; it is advisable to discuss these matters when planning experiments so that full costings can be taken into account.

**Confidentiality**
All analytical data and any related information regarding work taking place in the ‘Analytical Laboratory’ will remain confidential and not released in any format without the permission of the user.

**Publications**
The service provider should be consulted about publication of data acquired and techniques used in the ‘Analytical Laboratory’ to ensure that the integrity of the service is not compromised.
Where acknowledgements are to be made the service provider should be consulted and given the opportunity to comment.