



# HMSTRUST ANALYTICAL LABORATORY

Based at the Monash Institute of Pharmaceutical Sciences in Parkville, the HMSTrust Analytical Laboratory is an open-access pharmaceutical research platform that offers sophisticated physical and chemical characterisation techniques to complement research and overcome challenges faced in modern drug development.

This laboratory provides an affordable pathway for the development of new pharmaceutical and diagnostic products. At the same time, we strive to provide exceptional training to the next generation of pharmaceutical scientists.

## EXPERTISE

Our team has extensive experience in providing tailored, non-routine analytical solutions to support pharmaceutical research and development. The HMSTrust Analytical Laboratory, through MIPS, taps into some of Australia's leading drug development expertise. It uniquely combines the knowledge and resources of Australia's premier pharmaceutical research institute with the capacity to accommodate academic and commercial research and drug development projects from within and outside of Monash University. Our Platform operates a Quality Management System (certified to ISO 9001) with regular verification of instrument performance.

## WORKING WITH US

The HMSTrust Laboratory provides two modes of access

### Contracted services

We can provide help troubleshooting your analytical methodology for a new pharmaceutical or diagnostic product, or assist you to develop and validate a new analytical method.

We specialise in undertaking non-routine physical and chemical characterisation studies, including:

- early stage, pre-clinical drug development studies
- sensitive quantitative analysis of drugs and metabolites in biological matrix
- stability studies under ICH ambient and accelerated conditions
- polymorphic studies — identification and confirmation of crystal form
- impurity profiling — identification of process impurities and related substances in drugs
- identification of product contaminants arising from pharmaceutical manufacturing processes

We are a non-GMP, not-for-profit Laboratory and are therefore able to provide competitively priced services.

### Direct instrument access

Researchers from within and outside of Monash University have direct access to a comprehensive suite of physical and chemical characterisation techniques. This mode of access is ideally suited to researchers who are able to invest the necessary time in building their expertise, or researchers already competent in using the techniques. One-on-one training is provided and our fees have been set to create a flexible and affordable pathway for post-graduate students and Victorian researchers.

## KEY INSTRUMENTATION

The HMSTrust Analytical Laboratory features a comprehensive suite of instruments including LCMS, GCMS, UHPLC, DSC, TGA, Karl Fischer, FTIR Spectrometer, FTIR and Raman Microscopes and XRD.

### Chromatography And Mass Spectrometry

Our triple quadrupole LC/MS/MS instruments are the most sensitive in the Shimadzu range. The 8030, 8050 and 8060 mass spectrometers are linked to UHPLC systems for optimum chromatography and reduced run times. Our UHPLC systems offer a variety of detection options including UV-visible, photodiode array and fluorescence. We have a GC/MS with a headspace autosampler for identifying and measuring volatile compounds in ultra-trace amounts, down to the femtogram level.

### Microscopy, Spectroscopy, Thermal, XRD And Moisture Analysis

PerkinElmer DSC and TGA instruments are available for the thermal analysis of materials and are complemented by a Raman probe and microscope. For measuring the infra-red spectrum of either a gas, liquid or solid sample we have a PerkinElmer FTIR spectrometer. The FTIR is coupled to an FTIR microscope with ATR capable of producing infrared images of heterogeneous surfaces. A Shimadzu XRD-7000L X-ray powder diffractometer is available for crystallographic characterisation and assessment. Our Metrohm Karl Fischer moisture analyser uses volumetric and coulometric titration to determine any water content from 0.001 to 100 per cent.

#### HMSTRUST LABORATORY

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