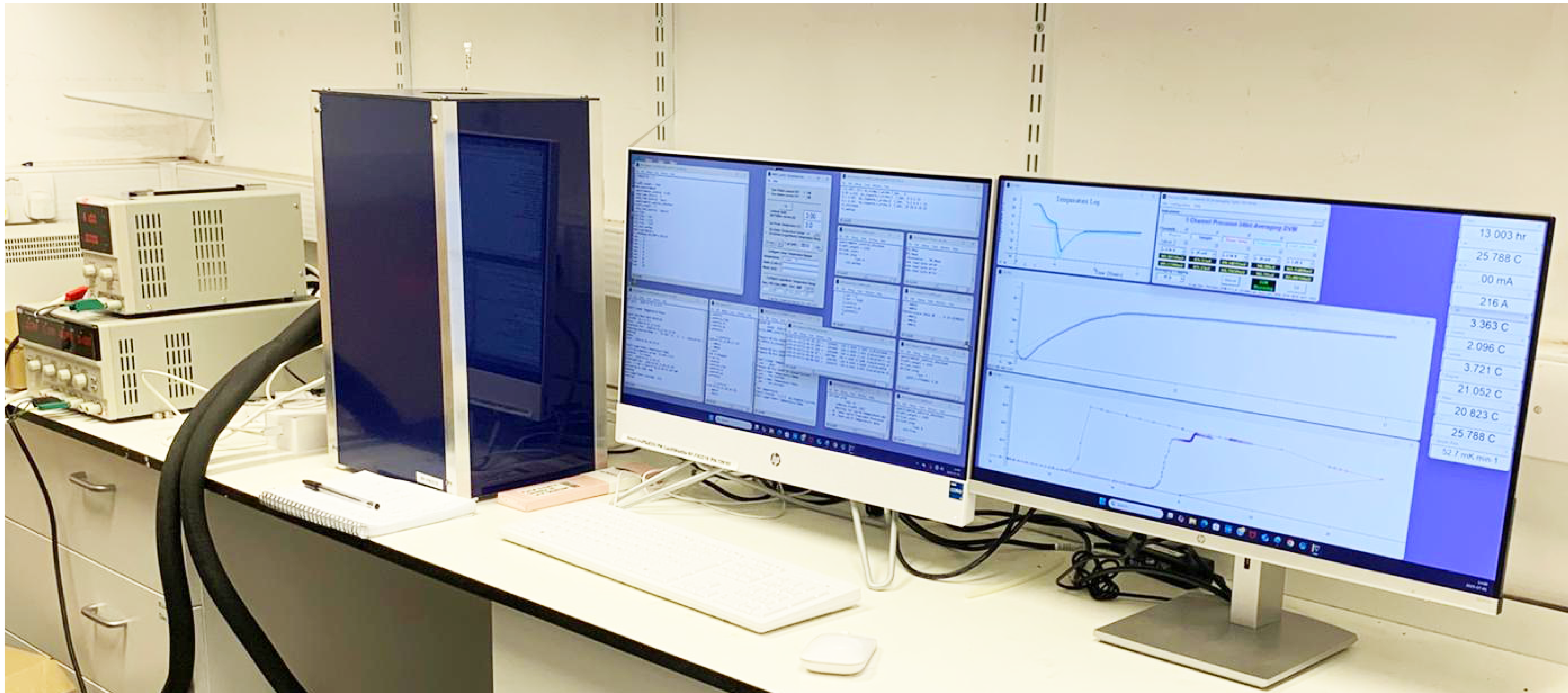


LAB-TOOLS NMR NANO-PORE TO MICRO-PORE MEASURING INSTRUMENT



LAB-TOOLS NMR CRYOPOROMETER VERSION CRYOP9



DESCRIPTION

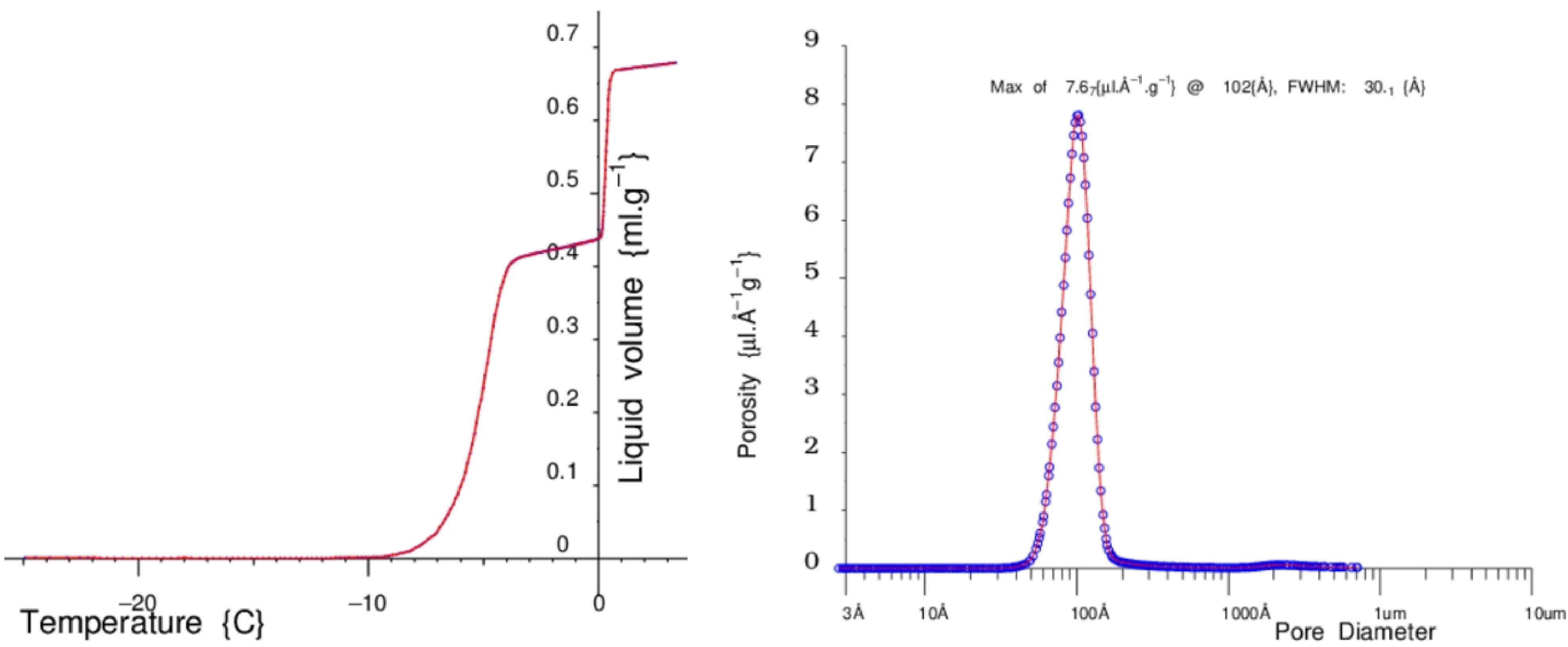
Nuclear Magnetic Resonance (NMR) cryoporometry is a technique for non-destructively determining pore size distributions in porous media through the observation of the depressed melting point of a confined liquid. It is suitable for measuring pore diameters in the range 1 nm–1 μm . The applications of NMR cryoporometry include studies of silica gels, bones, cements, rocks and many other porous materials.

Lab-Tools have recently updated their NMR Cryoporometry instruments to version CryoP9, and have just sold, delivered and installed the first of this version at the UK Biochar Research Centre at the University of Edinburgh in Scotland.

CryoP9 uses our new MK4 Time-Domain NMR Spectrometer and Peltier Thermo-electric cooling to achieve temperatures as low as -60°C . Optional gas-assisted cooling down to -75°C offers sub-nanometric pore size resolution.

EXAMPLE DATA

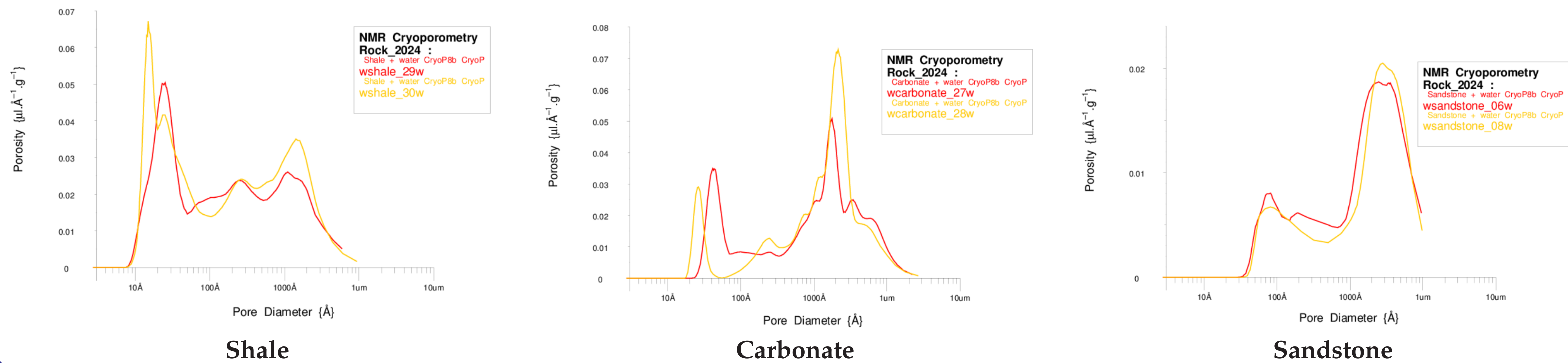
Measuring silica pore size distribution:



Left: Melting curve, from -25°C , for water in a sol-gel with nominal 100 Å;
Right: Corresponding pore-size distribution calculated using the Gibbs-Thompson equation.

EXAMPLE APPLICATIONS

Thermodynamic measurements of rock pore size distributions:



FURTHER INFORMATION

Web: <http://www.lab-tools.com/> | **Email:** nmr@lab-tools.com | **Tel:** +44 (0) 7805 437 241
Review Publication: *Nuclear Magnetic Resonance Cryoporometry* J. Mitchell, J. Beau W. Webber and J.H. Strange. Physics Reports, 461, 1-36, 2008.
DOI: 10.1016/j.physrep.2008.02.001