Isothermal Titration Calorimetry *Calorimetry*	Model: Unit and Room: Responsible: Further information:	*GE Healthcare / Microcal VP-ITC and ITC200 microcalorimeters* *Biochemistry,9th floor, R.910* *Dr. Stefan Gerhardt, 203 5970* *http://portal.uni-freiburg.de/xray/equipment*

Short Description:

The ITC unit directly measures heat evolved or absorbed in liquid samples as a result of mixing precise amounts of reactants. A spinning syringe is utilized for injecting and subsequent mixing of reactants. Spin rates are user selectable.
The normal operating range is 2°C to 80°C.

Picture of the Equipment

Available Experiments/Techniques:

Protein/ligand and protein/protein titrations for the determination of thermodynmic parameters

Special Equipment:

Two devices are available, VP-ITC with a sample volume of 1.4 mL and ITC200 with a sample volume of 200 µL. Sensitivity of the larger machine is slightly superior.

Measurements on the equipment are currently done by:	☐ Students ☐ Students after Introduction ☒ Students after extensive training ☒ Trained scientific service personal
Recent Publications, where this instrument was important (optional): Give citation	
Typical problems that may be solved with this instrument:	*- Quantitation of molecular interactions.* *- Determination of reaction enthalpies and entropies, binding constants and stoichiometries.* *- Determination of affinities for ligand screening in drug discovery / lead optimization processes.* *- Direct measurements of reaction kinetics by enthalpy change.*