Applications of Microcalorimetry to Biomolecular Interactions

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Modern calorimeters are extremely sensitive devices to measure the evolution or consumption of heat in the micro-calorie range. The binding of small ligands to proteins is very often associates with a measureable heat change, either exothermic (left panel) or endothermic (right panel) and thus binding affinities can be determined by means of isothermic titration microcalorimetry (ITC). Similarly, protein to protein interactions are also amenable to ITC. The main advantages of ITC for the determination of molecular interactions will be illustrated using several examples from our recent research projects.

