

Technology Offer

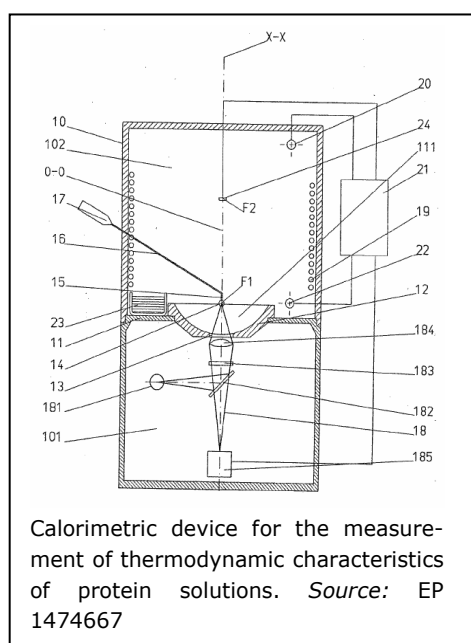
Pyrometric Micro-Calorimetry and Kinetic Activity Measurements on Protein Solutions

Reference Number
TO 11-00013

The Challenge

Calorimetric measurements are essential for the determination of thermodynamic characteristics and kinetic features of compounds and material. In life sciences, the features of bio-molecules are analysed under functional aspects rather than under biophysical ones. However, in some scientific fields, like e.g. protein crystallization, knowledge on thermodynamic and calorimetric features of bio-molecules in their environment is a prerequisite for problem solution.

The Technology



Calorimetric device for the measurement of thermodynamic characteristics of protein solutions. *Source: EP 1474667*

The technology provides a device for the measurement of quantities of heat while simultaneously determining the evaporation or condensation kinetics. The device is explicitly suitable for the determination of thermodynamic characteristics of molecules available in low amounts and small sample volumes only, like proteins or other bio-molecules.

In particular, the system measures the changes of volume or weight of a sample upon detection of pressure, humidity, and temperature, resulting in thermodynamic characteristics. As a sample either solutions or crystals may be used. Data analysis may occur based on the aim of the

studies. The method has been applied in particular in the field of crystallization of hard-to-crystallize proteins.

Commercial Opportunity

- In-licensing opportunity for development and adaptation of the technology, and for the distribution of devices based on the technology
- Know how for the development and adaptation of technology

Patent situation

A Patent application is pending in Europe (EP 1474667). Patents in the USA (US 7,137,734) and Germany (DE 103 06 077) are granted.

Further Reading

Muhlig et al., 2003, [J Struct Biol.](#) 142(1):47-55.

Contact:

Mathias Bell, Ph.D.
Technology Manager
Ascension GmbH

T : +49 (0)30 9406 2304

F : +49 (0)30 9406 2302

E : bell@ascension.de



Berlin
Braunschweig
Munich

Ascension GmbH
Robert-Rössle-Strasse10
13125 Berlin-Buch
Germany

Intellectual Property
Asset Management

An Enterprise of the
Foundation for the
Promotion of Life Sciences