

Understanding complex molecular interactions using advanced ITC microcalorimetry



Eric Ennifar

Institut de Biologie Moléculaire et Cellulaire (IBMC), Strasbourg, France

ITC is a true in-solution technique and is considered the “gold standard” assay for binding since it directly provides, in one single experiment, the complete thermodynamic binding profile between two molecules, without any labelling requirement. Here I will present recent developments from our laboratory and show how ITC can be used to dissect complex molecular interactions. I will show that ITC can also be used to obtain kinetic data in addition to thermodynamics on some biological systems. I will also present a new approach designed to investigate step by step successive chemical reactions will be presented. These ITC applications will be illustrated by various examples, including a MDa complex such as the ribosome translational machinery.