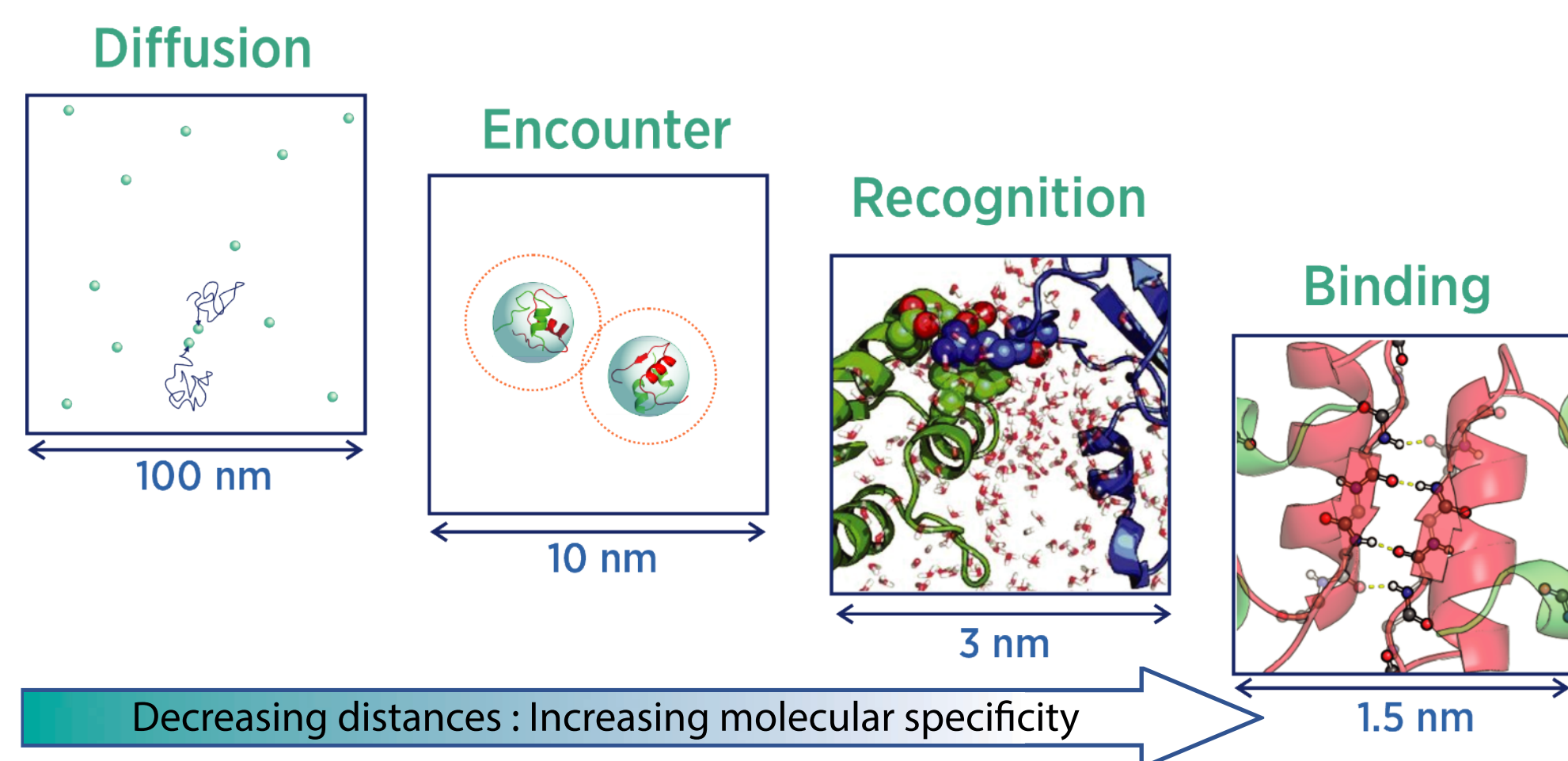
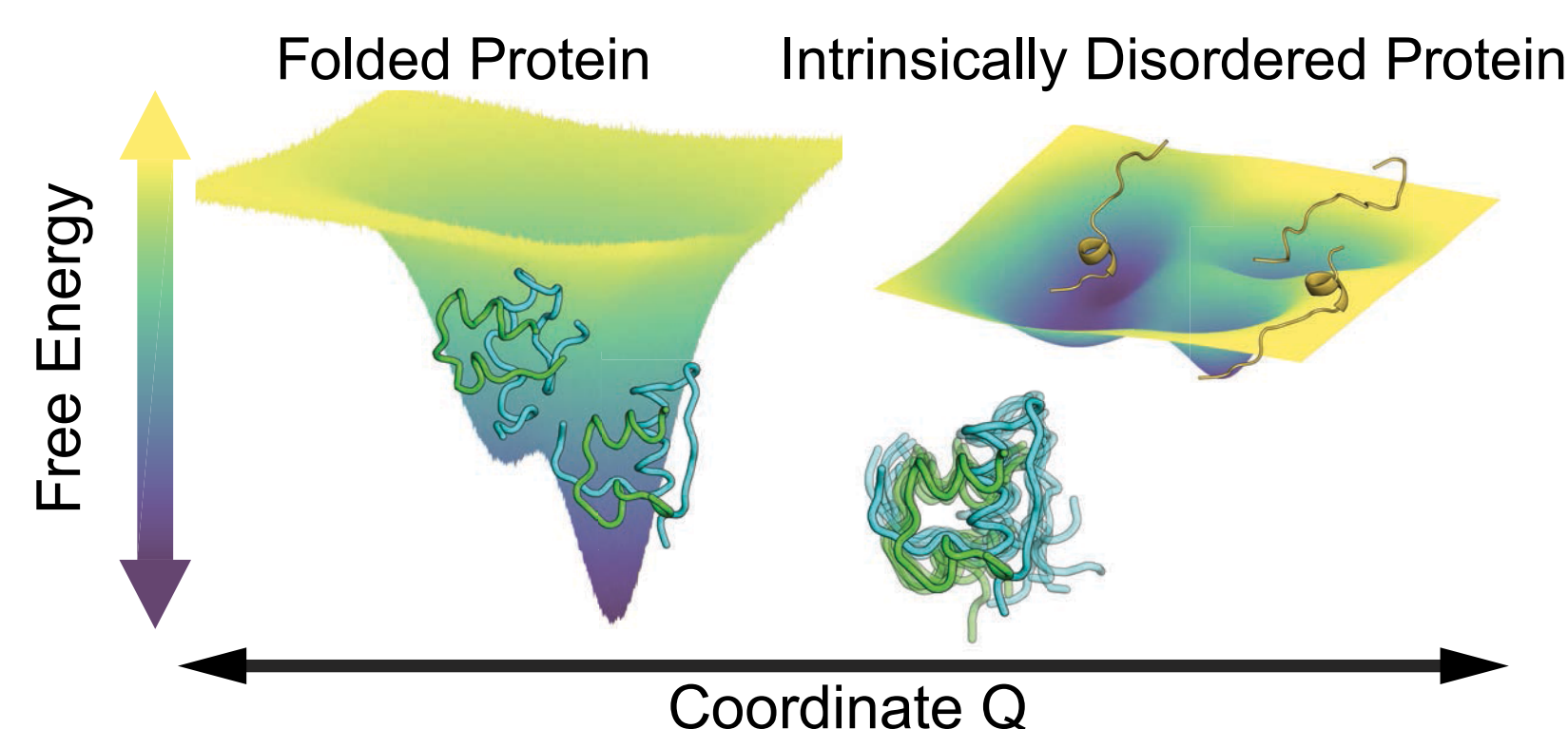


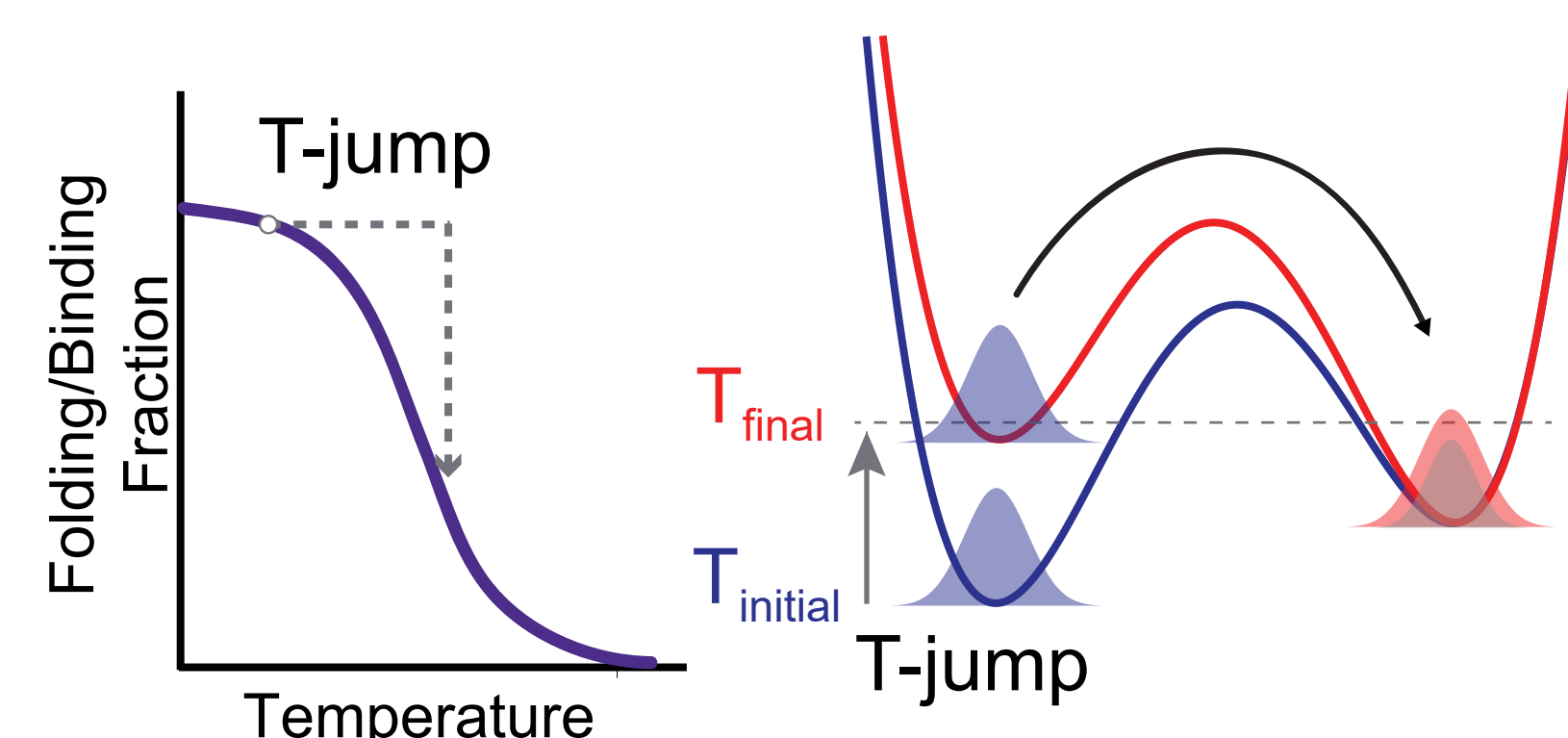
## Molecular Dynamics of Protein Association



## Coupled Folding and Binding Funneled Free Energy Landscape



## Probing Non-equilibrium Protein Dynamics with T-jump IR Spectroscopy

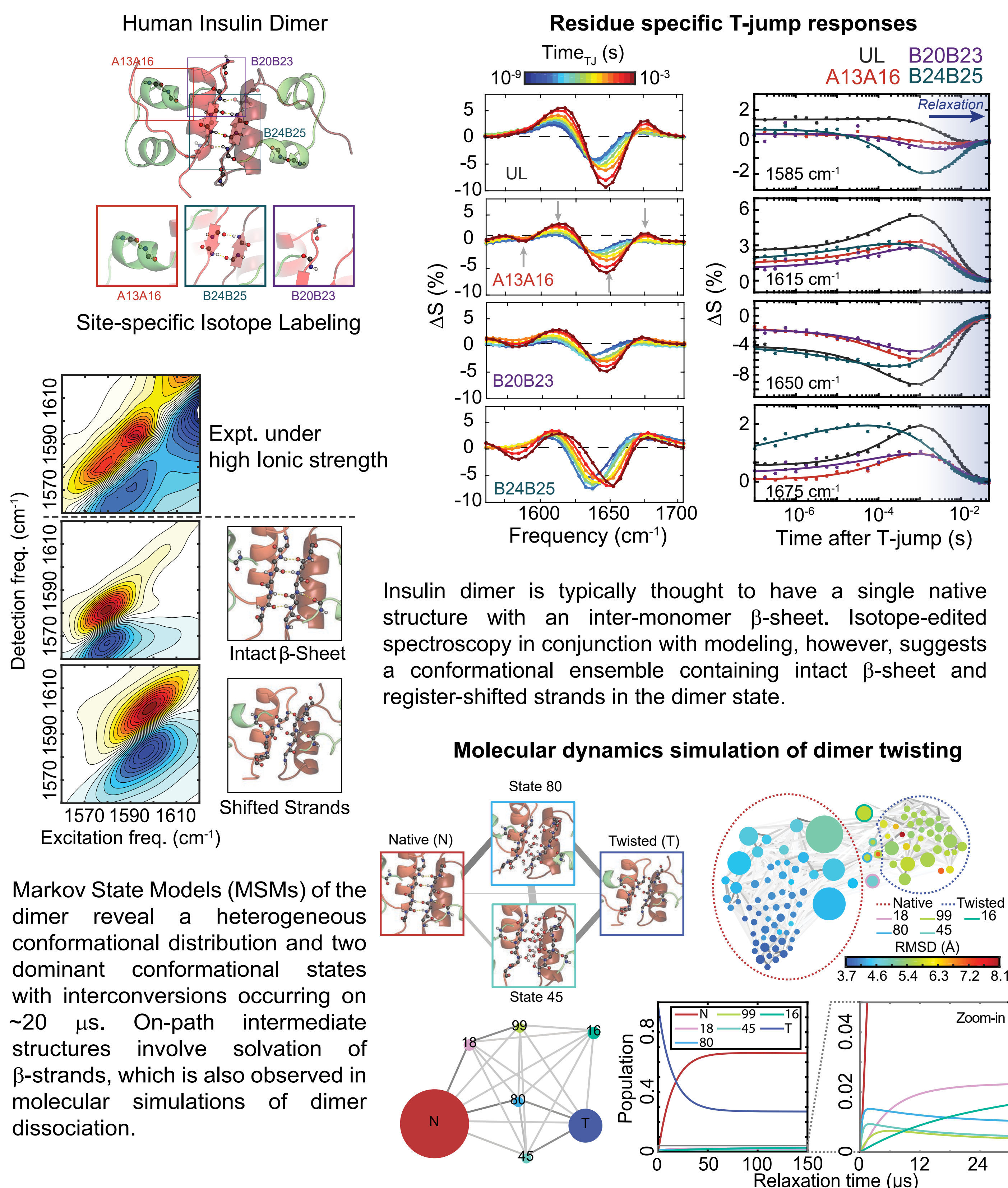


## Conformational Disorder in Protein Recognition and Binding

Conformational disorder leads to structural motions that occur over a wide range of timescales and is commonly involved in protein binding and recognition. The course of molecular interactions required for proteins to recognize and bind with specific targets is critical to their cellular functionalities.

Protein structural transitions often occur in non-equilibrium conditions, through pathways inaccessible at equilibrium. We study coupled folding and binding dynamics using IR spectroscopy, isotope labeling, T-jump spectroscopy, and computational modeling.

### Dissociation and Unfolding of Insulin Dimer



### Coupled Folding and Binding of Ribonuclease S

