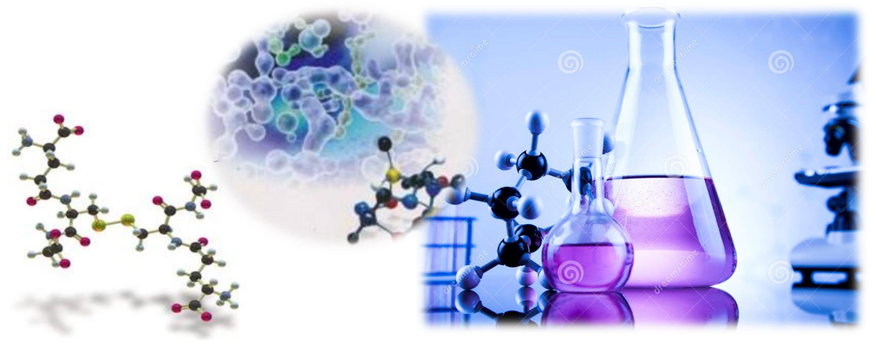
北京大学物理化学学术报告



Solution NMR spectroscopy for studying functional relevant biomolecular dynamics in μs~ms timescale

Dr. Tairan Yuwen

Department of Biochemistry， University of Toronto

Abstract:

NMR (Nuclear Magnetic Resonance) spectroscopy is one of the most powerful tools for studying biomolecular dynamics in many different timescales. The functional relevant biomolecular dynamics usually falls into μs~ms timescale, various NMR techniques have been developed for studying biomolecular dynamics in this time window, which include CPMG (Carr–Purcell–Meiboom–Gill), CEST (Chemical Exchange Saturation Transfer), $R_{1\rho}$ and several other techniques. The first part of the talk will present basic principles of various NMR techniques for studying biomolecular dynamics, along with several typical examples. The second part of the talk will present several experiments developed in Prof. Lewis E. Kay's group in University of Toronto for studying biomolecular dynamics in μs~ms timescale, which include triple-quantum CPMG (TQ-CPMG), 1H CEST and ^{15}N off-resonance $R_{1\rho}$ experiments. These experiments mainly target at studying biomolecular dynamics with different properties, therefore they have different applications for studying functional relevant biomolecular dynamics.

Biography

Tairan Yuwen enrolled in Peking University in 2004 and received the Bachelor Degree of Biological Sciences in 2008. After graduation from Peking University, he enrolled in Purdue University in 2008 and received the PhD Degree of Chemistry in 2014. He finished PhD Degree thesis with Professor Nikolai Skrynnikov. After graduation from Purdue University, he continued to work with Professor Nikolai Skrynnikov as post-doctoral research fellow for several months and then moved to Canada. He is currently working as post-doctoral research fellow with Professor Lewis E. Kay in the Department of Biochemistry in the University of Toronto since Nov. 2015, his research topics are still mainly about developing novel NMR methodologies for studying structure and dynamics of biomolecules.

报告时间：2018年3月7日（星期三）上午10:00

报告地点：北京大学化学学院A717报告厅

主 持 人：来鲁华 教授

联 系 人：北京大学化学学院物理化学研究所　朱婧 62753525