Solid-State\textsuperscript{17}O NMR Studies of Glucose and Development of \textsuperscript{17}O NMR as a New Probe of Glucose/Glutamine Metabolism in \textit{HeLa} Cancer Cells

Abstract:

\textsuperscript{17}O NMR as a direct probe to study biological systems has become increasingly popular thanks to the rapid instrumentation development. In this presentation, I will talk about how [\textsuperscript{6}\textsuperscript{17}O]-D-glucose and [1,1,5\textsuperscript{17}O\textsubscript{3}]-glutamine can be used as new tracers for monitoring glucose/glutamine metabolism in live cells. Effects of insulin, oxygen concentration, and glutamine concentration on the glycolysis process in live \textit{HeLa} cancer cells were also studied by \textsuperscript{17}O NMR in real time.