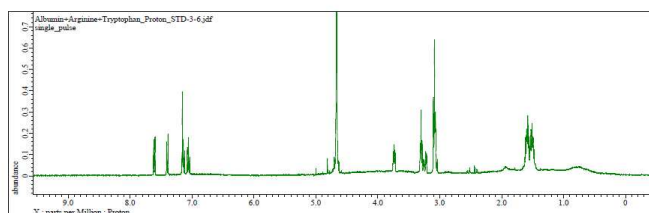


Protein-Ligand Interaction I: STD experiments

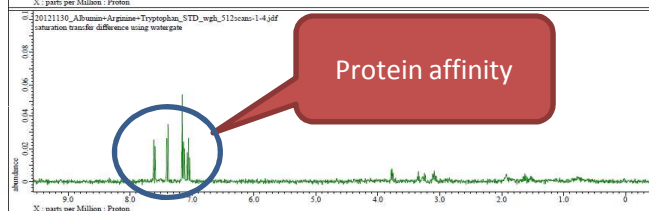
Saturation Transfer Difference (STD) NMR spectroscopy is a very useful tool for screening compounds for protein-binding activity.^{1,2)} In this method, the magnetization from proteins transfers to all compounds in solution, but only the compound with binding activity will be saturated due to the protein-ligand interaction. The difference between a saturation transfer difference spectrum and a normal NMR spectrum can clearly identify binding-activity compounds. Recently we have used this method on albumin, L-(+)-arginine and L-tryptophan as standard experiments on a JEOL Resonance ECS-400MHz spectrometer.

Here we show the results of 1D and 2D STD experiments.

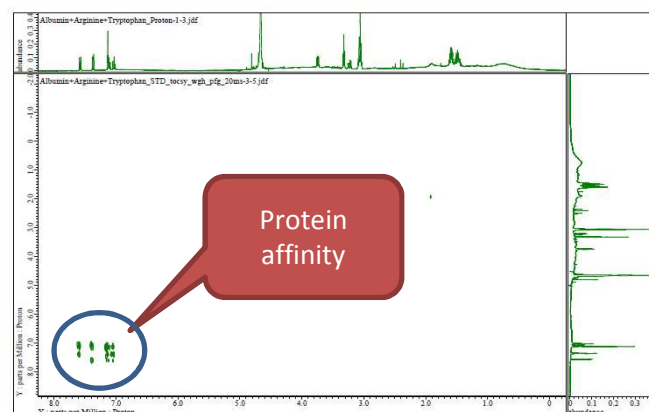
Normal spectrum



STD spectrum



STD-TOCSY spectrum



- 1). Moriz Mayer and Bernd Meyer, *Angew. Chem. Int. Ed.* **1999**, 38, 1784-1787.
- 2). Moriz Mayer and Bernd Meyer, *J. Am. Chem. Soc.* **2001**, 123, 6108-6117.