

Happy New Year!

We hope to make this the beginning of a series of Newsletters to bring the community up to date on developments at NANUC. In these letters we'll announce new equipment, experiments, training courses, and conferences that NANUC will be providing or participating in.

One of the biggest issues for solution NMR work is the limited concentration, solubility, and stability of the molecules we wish to examine. Often one has limited material and/or has to use high salt concentrations to support the molecule. NANUC is happy to announce the arrival of our new 3mm 800MHz high salt probe. Initial results have been completed and we encourage anyone with material limited samples (200 uL are ideal) and any sample requiring salt conditions over 250 mM to take advantage of this new equipment. Our tests have shown that a sample containing 340 mM salt (200 uL of sample volume) with the new 3mm probe yields more than 2/3 the signal to noise of the same sample and salt concentration (at 600 uL volume) in our 5mm probe (i.e., a two fold increase in S/N for a third of the sample). The pulse widths for  $^1\text{H}$  are also extremely encouraging even at 340 mM salt. Our 5mm probe has  $^1\text{H}$  pulse widths of 6.5 and 12 us for 0 and 340 mM salt, respectively, while the 3mm probe has pulse widths of 4.6 and 4.8 us under the same salt conditions. We do not have full heteronuclear comparisons completed yet for high salt conditions, but we are running with pulse widths below 10 and 30 us for carbon and nitrogen, respectively on the 3mm probe even at 400 mM salt concentrations.

Thank you to everyone who has made our year so enjoyable, and our experiences so varied. We look forward to working with you on exciting new research challenges.



All the best from the staff at NANUC.

Brian, Bruce, Susan, Deryck, Ioannis and Ryan