GFAAS Sample Preparation
CHEM 322
Fall 2012

Protocol:

All glass and plastic-ware used for solution preparation was cleaned by washing with dilute nitric acid. Solutions were prepared by digesting an accurately weighed sample of either NIST Bovine muscle (RM # 8414) or NIST Bovine Liver (RM # 1577b). Briefly, the digestion procedure involved addition of a 7 mL of tracemetal grade concentrated nitric acid and 2 mL of 18 MΩ water to the pre-weighed samples in a Teflon microwave vessel. The vessels were inserted into the CEM MARS and run through a heating cycle to promote decomposition (50% power, 10 min ramp to 150^{o} C, hold at 150^{o} C for 10 min). Two reagent blanks were also prepared following this protocol. After cooling, the samples were quantitatively transferred to clean, pre-weighed plastic bottles.

Sample Information:

ID	Mass of Sample	Mass of Empty Bottle	Mass of Bottle + Solution
Muscle Sample 1 (M1)	0.6140 g	11.8670 g	43.8547 g
Muscle Sample 2 (M2)	0.6924 g	11.8916 g	44.1740 g
Liver Sample 1 (L1)	1.4307 g	12.0791 g	44.6587 g
Liver Sample 2 (L2)	1.4938 g	11.8651 g	42.5937 g
Blank 1 (B1)	---	11.8534 g	43.0763 g
Blank 2 (B2)	---	11.8221 g	42.8456 g

Characteristics of Bovine Standards:

The Certificate of Analysis for the Bovine Muscle and Bovine Liver Standard Reference Materials can be found online at the NIST archive (National Institute of Standards and Technology) (**www-s.nist.gov/srmors/certArchive.cfm**). Enter the RM# in the search field and click "Go". Clicking on the resulting hyperlink will bring up the “Certificate of Analysis” or “Report of Investigation” for the material.