GFAAS Sample Preparation
CHEM 322
Fall 2009

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 trace metal 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 MDS2000 and run through a heating cycle to promote decomposition. 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
Sample 1 (muscle)	0.6210 g	12.5030 g	44.2489 g
Sample 2 (muscle)	0.6688 g	12.4563 g	42.4812 g
Sample 3 (liver)	1.5619 g	12.3857 g	45.1804 g
Sample 4 (liver)	1.5203 g	12.4976 g	44.3273 g
Blank 1	---	12.5140 g	43.5057 g
Blank 2	---	12.4918 g	41.7392 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 (National Institute of Standards and Technology) (**www.nist.gov**). Begin by clicking the "Standard Reference Materials" link. On the page that opens, click on “Search the Online Catalog”. Search for the corresponding reference material using its RM# and look for either a “Certificate of Analysis” or “Report of Investigation”.