**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 | 0.6210 g | 12.5030 g | 44.2489 g |
| Sample 2 | 0.6688 g | 12.4563 g | 42.4812 g |
| Sample 3 | 1.5619 g | 12.3857 g | 45.1804 g |
| Sample 4 | 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”.