Experimental Chemistry I Your Name: _____
CH 362/362H
PreLab 4
Winter Term, 2009

Pre-Lab assignments are due at 1pm before lecture – Feb 3 TR Section; Feb 4 WF Section. Show all work and use proper significant figures. There is one page for this prelab. You will want to review the bomb calorimetry section in the lab manual. There is a video on the course web page on using the calorimeter system (you may have to be on a campus networked computer to view it).

1. (4 pts) With the following data set, find the value for the calorimeter constant (C) for system #2. Please show all steps and use significant figures.
    - methyl salicylate combusted: 1.557g (Specific heat of combustion = 24.69 kJ/g)
    - mass of wire consumed: 1.6 mg (Specific heat of combustion – 5.858 J/mg)
    - mass of soot formed – 0.9 mg (Specific heat of combustion – 32.64 J/mg)
    - ΔT 2.738 ºC

2. (2 pts) Explain what might happen if you were to load too much sample into the bomb calorimeter.

3. (2 pts) Write out the balanced chemical reaction for the complete combustion of methyl salicylate ($2\text{-}(HO)C_6H_4CO_2CH_3$).

4. (1 pt) Briefly explain why the pressure of the pure oxygen put into the calorimeter is so high (i.e., 30 atm).

5. (1 pt) **TRUE** **FALSE** All the bomb calorimeters available for use in this lab are identical. Therefore I don't need to record which one I am using or worry about mixing and matching pieces from other calorimeters.