Chem 217L **Group Members Name(s): Jordan Lewis**

Fall 2020 (Total 8 points, each question = 2 points)

Active learning Exercise: Melting Point

Post Lab Questions:

1. **One of the most common causes of inaccurate melting points is too rapid heating of the melting point bath. Under these circumstances, how will the observed melting point compare with the true melting point?**
   The observed melting point will more likely be higher than the true melting point. This is commonly due to the rapid heating of the thermometer, resulting in the reading to differ from the actual true temperature of the heat.
2. **What effect would incomplete drying of a sample (for example the incomplete removal of a recrystallization solvent) have on the melting point?**
   The incomplete drying of a sample can result in impurities. The presence of impurities can cause the solvent to depress and broaden the melting point.
3. **Why is it important to pack the sample tightly in the melting point capillary?**
   Packing the sample tightly will allow good heat transfer throughout the crystals from the capillary. Having a proficient heat transfer will produce accurate results. If the sample are not packed tightly the compound will be heated unevenly and contain air bubbles.
4. **Why is it important to heat the melting point bath or block slowly and steadily when the temperature gets close to the mp.?**
   Melting point baths are used to determine the melting point of a solid. If the melting point bath is heated too rapidly, the melting point will be overshot due to the sample not achieving thermal equilibrium. Also, if the block is heated uniformly, one part will be melted while the other part remains un-melted. This will further lead to an error in the melting point determination.