**Crystallization Post-lab questions**

**Introduction**

What is crystallization and how is it used?

What are the main steps of crystallization?

Upon what, does a successful crystallization depend?

What makes a solvent good for crystallization (basis for choosing one)?

**Results**

Volume of solvent predicted to be needed (approximated)

Actual volume of solvent used (approximated)

Calculation of % recovery based on mass showing all work

Table containing:

* Weight of impure substance
* Weight of purified substance
* melting point of impure substance
* melting point of purified substance
* melting point of commercially available substance
* appearance/color of impure substance
* appearance/color of purified substance

**Conclusion**

Why is crystallization wasteful? (i.e. 100% recovery not possible)

Why was it not possible to recover all your product even after cooling over an ice water bath?

How much did you expect to lose to the mother liquor at 0 ℃ compared to actual loss?

How would loss of the desired substance be altered if:

* The solubility of the impurity was much greater than that of the desired compound
* The impurity was present in an even smaller amount

Would it have been possible to purify your compound if the impurity was present in equal amount AND of equal solubility? Explain your answer.

In dissolving your compound, was it important to add hot solvent in small aliquots?

How might purity have been affected by cooling too rapidly?

Why was it necessary to rinse the purified crystals in ice-cold solvent?

How would % recovery and your judgment of purity by mp have been affected if you did not thoroughly dry your crystals?