**Notes for Grignard**

* All glassware *must* be completely dry! (Place the glassware in the oven for 20 minutes to dry. It is not necessary to flame-dry. Lightly grease the ground joints before placing the glassware in the oven. After drying, assemble the glassware while it is still hot.
* Plan to add 1 or 2 crystals of iodine, *no more* than that, *prior* to beginning to add 2-bromopentane to the magnesium. You will receive additional instructions for initiating the reaction from your AI.
* You will perform this reaction at ½ scale.

1. **How might primary, secondary, and tertiary alcohols be prepared from a Grignard reagent and a suitable carbonyl-containing compound? Write chemical reactions for these preparations using any starting materials you wish; indicate stoichiometry where important.**

**13. What molecular feature or features allow carbon dioxide to function as an electrophile?**

1. **Why is it necessary to acidify the mixture obtained after the reaction of phenyl- magnesium bromide with carbon dioxide?**

**19. The yield of benzoic acid obtained when only enough acid is added to the aqueous solution of sodium benzoate to bring the pH to 7 is lower than that obtained if the pH is brought below 5. Explain.**