PRACTICE SHEET Key CHAPTER 10 and CHAPTER 11

1. Draw the major organic products formed in the following reactions, clearly showing all appropriate regio- and stereochemistry.





1. Provide starting materials in the boxes below to complete the following reactions.



1. Each of the following conversions requires more than one step. Show reagents and experimental conditions necessary to bring about each conversion.

Give the major organic products of each of the following reactions or sequences of reactions.

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| a. |  This is the standard addition of a Grignard reagent to a ketone to make a tertiary alcohol. |
| b. |  This is the addition of two equivalents of a Grignard reagent to an ester to make a tertiary alcohol. |
| c. |   Sodium borohydride only reduces the ketone. |
| d. |   Hydrogen and a catalyst reduces C=C’s faster than C=O’s. |

