Some practice Problems for Lipids/Amino Acids/Peptides/Nucleic Acids

1. Show a mechanism that demonstrates how DMAPP and IPP couple.
   See the following for reference:  http://en.wikipedia.org/wiki/Isopentenyl_pyrophosphate

2. Show the product of a 1,3-dicyclohexylcarbodiimine coupling of benzoic acid with benzyl amine and show a mechanism.

3. Show a product and mechanism for the following Chemical Ligation

4. Show a synthesis for the following tripeptide, making sure to use appropriate protecting groups.

5. Here are A,T,C, and G bases. Which go with which in DNA helixes, and explain showing a hydrogen bond network.

6. Identify the terpene/isopentane units in the following structures:

7. Show the mechanism of the amadori rearrangement (1 to 4 with ammonia in the following reaction, try to do it without peeking at the intermediates, ie 2, 3 and 5): http://en.wikipedia.org/wiki/Amadori_rearrangement