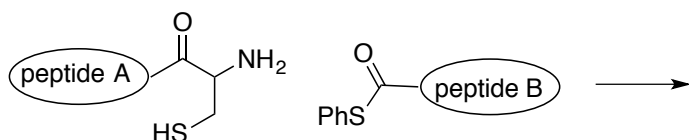
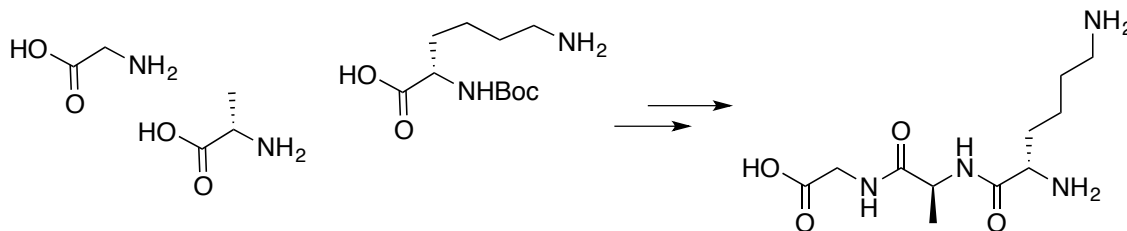


Some practice Problems for Lipids/Amino Acids/Peptides/Nucleic Acids

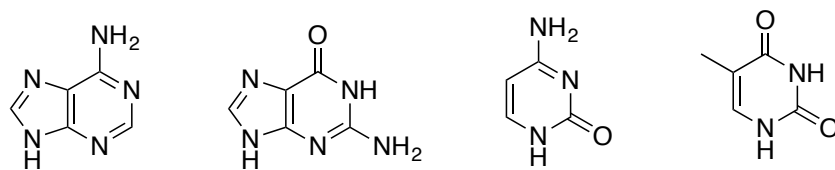
1. Show a mechanism that demonstrates how DMAPP and IPP couple.
See the following for reference: http://en.wikipedia.org/wiki/Isopentenyl_pyrophosphate
2. Show the product of a 1,3-dicyclohexylcarbodiimide coupling of benzoic acid with benzyl amine and show a mechanism.
3. Show a product and mechanism for the following Chemical Ligation



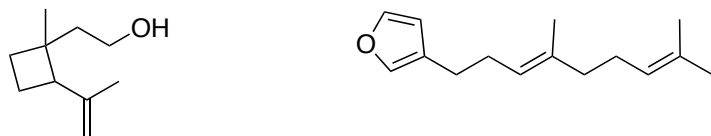
4. Show a synthesis for the following tripeptide, making sure to use appropriate protecting groups.



5. Here are A, T, C, and G bases. Which go with which in DNA helices, 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 peaking at the intermediates, ie 2, 3 and 5): http://en.wikipedia.org/wiki/Amadori_rearrangement