Exam 4

1. Draw the structures of the following:

N, N-dimethyl-4-pentyn-1-amine

1-cyclohexyl-1-propyne

1. Draw the most Unstable resonance form of the following: CH3NCH2
2. Draw the most stable resonance form of the following: 
3. Draw a Benzylic Carbocation and show one resonance structure of the molecule.
4. Draw the structure of the dienophile used to make the following:



1. Show all intermediates formed in the reaction of 3-methyl-1,3-pentadiene + HBr. Circle the intermediates (this will indicate you know how many form) AND indicate which intermediate is the most stable AND why.
2. Give the Major product of the following (proper stereochemistry/shape required; chirality can be ignored).

1,3-pentadiene + 1equivalent Br2 @ 0°C 🡪

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3-methyl-1-pentyne + 1.BH3/THF, 2. H2O2, OH-, H2O 🡪

3-methyl-1-pentyne + 1 equivalent Cl2

1. Describe in an Ordered List how to synthesize trans-2-pentene from propyne.
2. Describe in an Ordered List how to synthesize 3-heptyne from acetylene.
3. Describe in an Ordered List how to synthesize 2-bromobutane from acetylene.