1. For the following reactions, draw a mechanism and predict the product. Be sure to account for regiochemistry, stereochemistry, and any rearrangements in the mechanism. (20 pts)

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1. For the following reactions, predict the products (no mechanism). Make sure you include the proper regiochemistry and stereochemistry. (4 pts)

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1. Fill in the boxes below. All reagents are in the box. (6 pts)

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| HBr | HBr, HOOH | H2O,  dil. H2SO4 | H2, Pt | Br2, H2O | Br2 |
| 1. Hg(OAc)2, H2O 2. NaBH4 | 1. BH3 2. H2O2, NaOH | 1. CH3CO3H 2. H+ | 1. OsO4 2. NaHSO3/H2O | 1. O3 2. SMe2 | 1. KMnO4, 2. NaOH |

