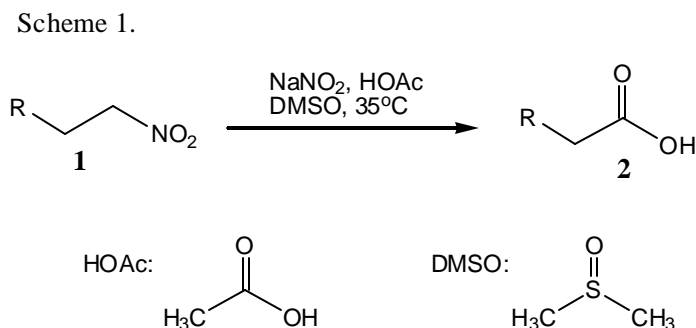


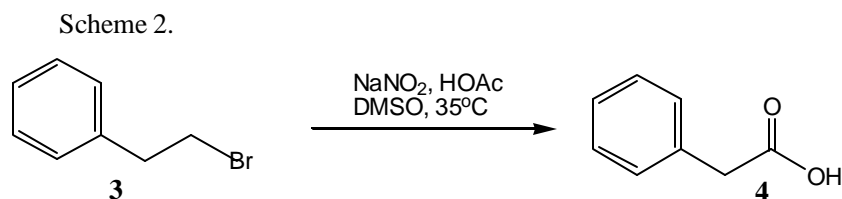
Honorary Homework for Chem2320
Due 5pm, March 25, 2005.

Name:

I. An interesting reaction listed in Scheme 1 was reported by Mioskowski and co-workers (*J. Org. Chem. Soc.* **1997**, 62, 234-235). Provide an electron-pushing mechanism for the transformation from compound **1** to compound **2**.



II. In the same article, the authors also reported that alkyl bromide can be converted to the corresponding carboxylic acid using the same condition (Scheme 2). Provide an electron-pushing mechanism for the transformation from compound **3** to compound **4**.



III. In an effort to elucidate the mechanism, the authors used 1-hexene to trap the intermediate, resulting the formation of compound **5** (Scheme 3). Re-examine your proposed electron-pushing mechanism and explain how your mechanism can be supported by the experimental result. Provide a revised electron-pushing mechanism if your mechanism cannot be supported by the experimental result.

