2. (28 pts) Predict the major product(s) or provide the missing reagent(s) for each of the following reactions. Remember to indicate stereochemistry, when appropriate. Unless otherwise noted, you may assume that each reagent is available in excess. If no reaction is expected, write NR.

a) OH
$$CH_3$$
 CH_2 CH_2 CH_2 CH_3 CH_3

$$O_{1}$$
 O_{2} O_{3} O_{4} O_{4} O_{4}

$$^{\mathrm{g})}$$
 $^{\mathrm{OCH}_3}$ $^{\mathrm{OCH}_3}$