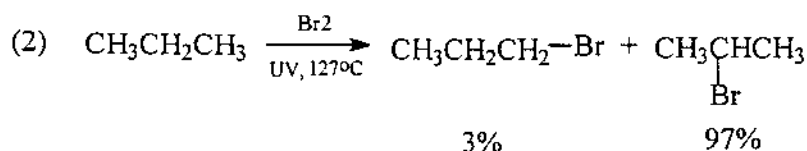
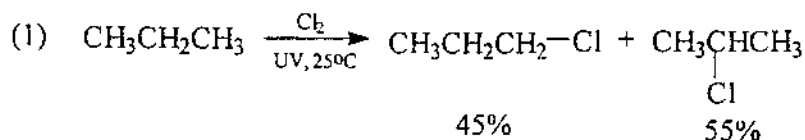
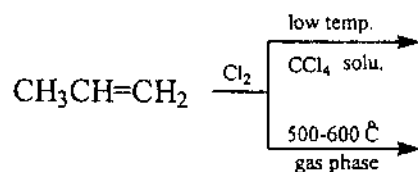


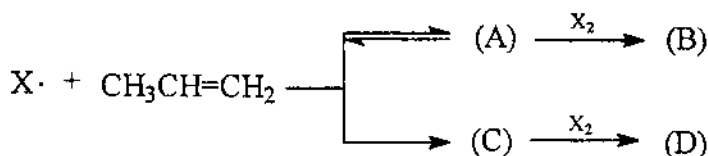
1. For the chlorination of sec-butyl chloride, suppose that the products from (S)-sec-butyl chloride show an S,S : meso ratio of 20:80. What would we get from chlorination of (R)-sec-butyl chloride? Estimate the e.e.% of the products. (10%)
2. Compare the following reactions and describe why the selectivities of the reactions are so different? (10%)



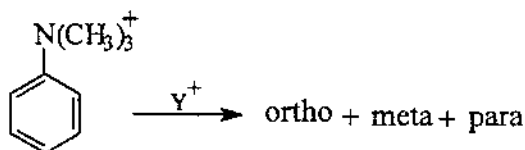
3. (a) Complete the following reactions. (5%)



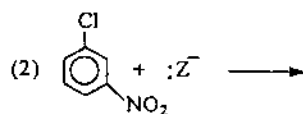
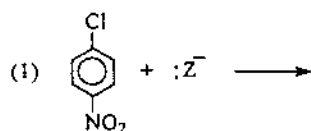
- (b) Complete the following mechanism for the reaction occurred at 500-600 °C or at a very low concentration. (10%)



4. Draw all resonance structures of ortho, meta, and para attack products of the following reaction, and compare their relative reactivity. (10%)



5. Draw all possible Ortho, Meta, and Para attack products (to NO₂), and compare their stabilities. (10%)



(背面仍有題目,請繼續作答)

