

G12 Chemistry: Class 3 Homework

For the questions below, give full structural diagrams and names for all reactants and products. Also indicate any catalysts/reaction conditions for the reaction. Also indicate the TYPE OF REACTION.

1. The reaction between 2 molecules of water with pentyne **[4 marks]**
2. The reaction between hexan-3-ol and potassium dichromate (catalyst) **[4 marks]**
3. The reaction of H_2 with butanal **[4 marks]**
4. The formation of dimethylamine from ammonia **[4 marks]**
5. The reaction between trans-2-pentene with hydrogen bromide **[4 marks]**

6. The hydrolysis of N-methylpropanamide **[4 marks]**

7. The reaction of water and 2-methylpentene **[4 marks]**

8. Reaction of an alkene to produce 2-chloropentane **[4 marks]**

9. The reaction of benzene with 2-chlorobutane, in the presence of catalyst (AlCl_3) **[4 marks]**

10. The formation of an ether from 1-propanol **[4 marks]**

11. The heating of propanol in the presence of some sulfuric acid **[4 marks]**

12. Reaction of an aldehyde to form benzoic acid **[4 marks]**

13. The reaction between propanol and butanoic acid **[4 marks]**

14. Reaction of ethanoic acid and sodium hydroxide **[4 marks]**

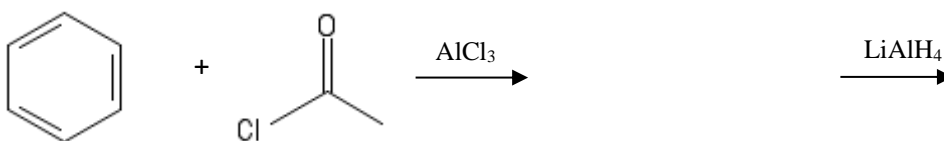
15. Formation of N-ethylpropanamide **[4 marks]**

Challenge Problems:

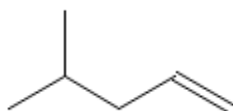
16. Draw (2E)-N-isopropyl-N-methylbut-2-enamide [1 mark]

17. Draw 2-amino-3-hydroxy-5-oxo-7-phenylhept-2-en-6-ynoic acid [1 mark]

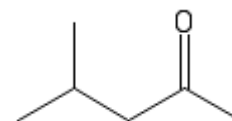
18. Deduce the intermediate and final compounds based on the reagents provided. Give full structural diagrams, names, and type of reaction. [6 marks]



19. Propose a 3-step method for the following. Include any reagents used, full structural diagrams, names, and type of reaction. [5 marks]



Starting material



Target material