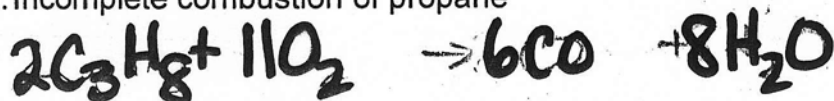


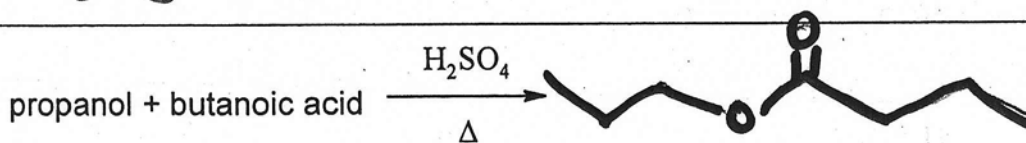
12. heptane + O₂ →



13. Incomplete combustion of propane



14.



15. $H_2C=CH_2 + O_2 \rightarrow CO_2 + H_2O$

16. Which of the above are addition reactions?

~~10, 6~~, 2, 1, 3

17. Which of the above are condensation reactions?

14, 8

18. Give specific industrial uses of the following reactions:

- Hydration → production of ethanol
- Addition of H₂ → hydrogenation of oil to make margarine
- Condensation of alcohol and carboxylic acid : make esters that are used as

19. List 4 uses of esters

- fragrances
- additives / plasticizers
- solvents
- flavors (in syllabus)

20. Describe a test that can be done to identify the presence of

a. An alkene

→ Br₂ goes from red/brown to colorless

b. An Alcohol

K₂Cr₂O₇ goes from orange to green

(Breathalyzer relies on this)