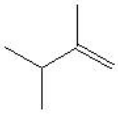
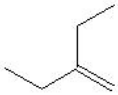
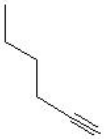
Complete the following reactions. Circle the most favored products.

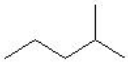
1.  + $KMnO_4 + H_2O$ →

2.  + H_2 (g) →

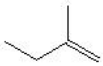
3. + H_2 (g) →

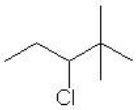
4. + H_2O →

5.  + O_2 →

6.  + Cl_2 →

7. $\xrightarrow[\Delta]{500\ K}$

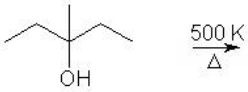
8.  + HCl →

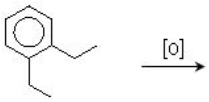
9.  $\xrightarrow[\Delta]{500\ K}$

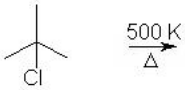
10. + H_2 (g) →

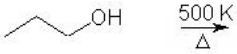
11. $\xrightarrow[\Delta]{500\ K}$

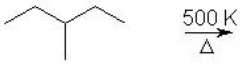
12. + Cl_2 →

13. 

14. 

15. 

16. 

17. 

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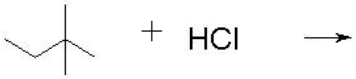
19. 

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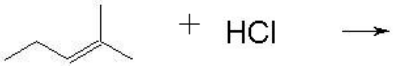
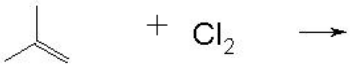
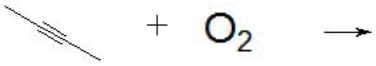
21. 

22. 

23. 

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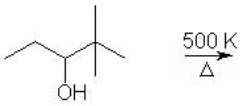
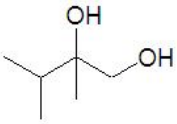
25. 

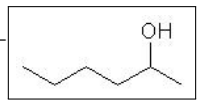
Question 1: 

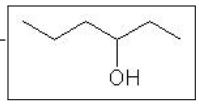
+ MnO_2 + KOH

Question 2:

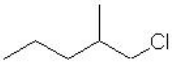
Question 3:

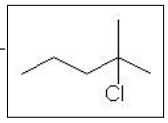
Question 4: H_2 (g) +

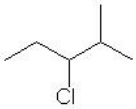
+ 

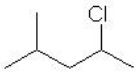
+ 

Question 5: ___ CO_2 (g) + ___ H_2O (g) + Heat Balance: (2,17,12,10)

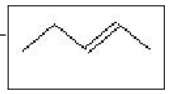
Question 6: HCl + 

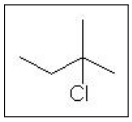
+ 

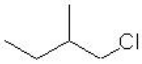
+ 

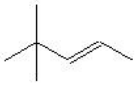
+ 

+

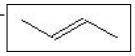
Question 7:
+ 
+ H_2 (g)

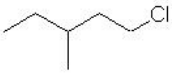
Question 8: 

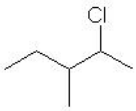
+ 

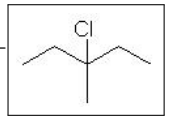
Question 9: 
+ HCl

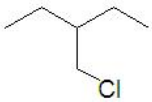
Question 10:

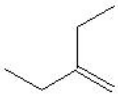
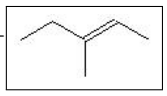
Question 11:
+ 
+ H_2 (g)

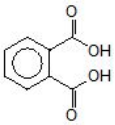
Question 12: HCl + 

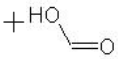
+ 

+ 

+ 

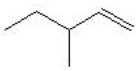
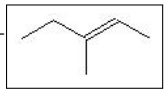
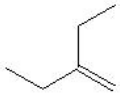
Question 13: 
+ 
+ H_2O

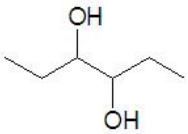
Question 14: 

+ 

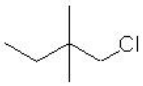
Question 15: + HCl

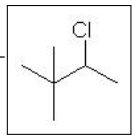
Question 16: + H_2O

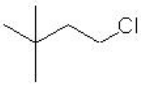
Question 17:  +  +  + H_2 (g)

Question 18: 

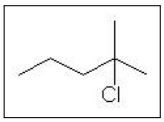
+ MnO_2 + KOH

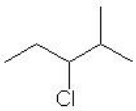
Question 19: H_2 (g) + 

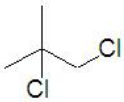
+ 

+ 

Question 20: + H_2 (g)

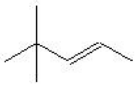
Question 21: 

+ 

Question 22: 

Question 23: ___ CO_2 (g) + ___ H_2O (g) + Heat Balance: (2,11,8,6)

Question 24: ___ CO_2 (g) + ___ H_2O (g) + Heat Balance: (1,8,5,6)

Question 25:  + H_2O