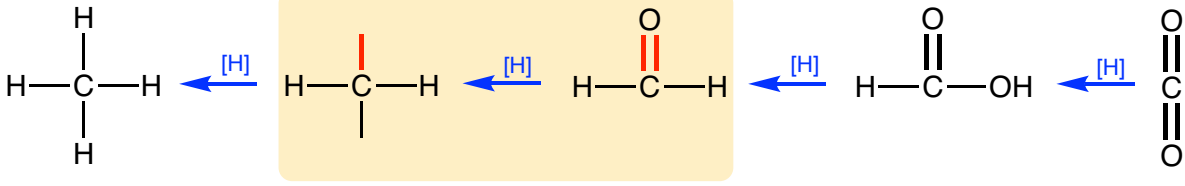
CONCEPT: REDUCTION OF ALDEHYDES AND KETONES

Reduction Reactions

● **Reduction** uses a reducing agent to add as many _____ bonds as possible without breaking any _____ bonds.

Reduction Reactions



EXAMPLE: Which of the following compounds could not be reduced?

a) 2,2-dimethylpentane b) 2-methyl-1-pentanal c) 3-ethyl-2-heptanone d) 4-bromoheptanoic acid

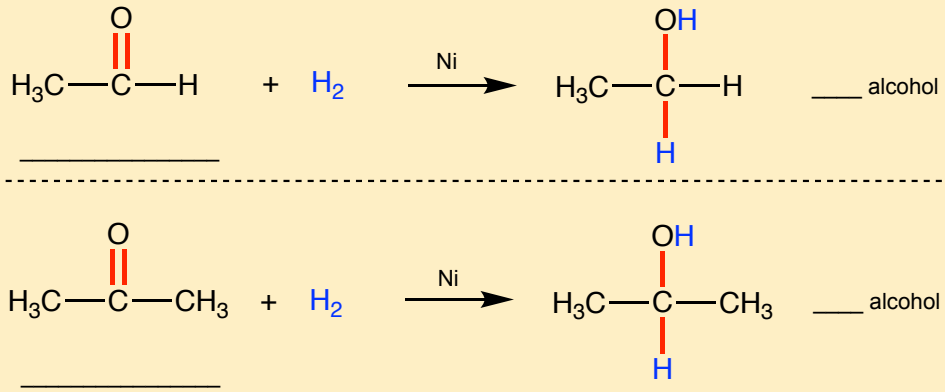
Reduction of Aldehydes and Ketones

● Aldehydes and Ketones are reduced to ____ and ____ alcohol, respectively.

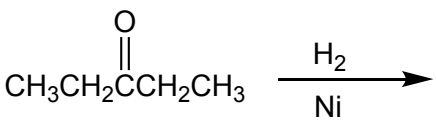
□ **Reducing Agent:** _____ □ **Catalysts:** ____, ____, or ____.

- The carbonyl oxygen gains a ____ and the carbonyl carbon gains a ____.

Reduction Reactions

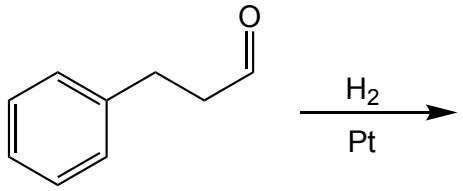


EXAMPLE: Determine the alcohol product formed in the following reaction.

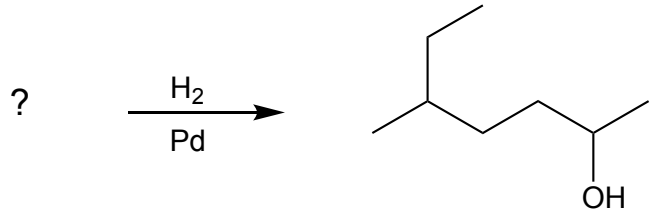


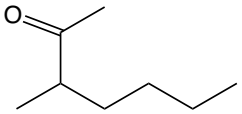
CONCEPT: REDUCTION OF ALDEHYDES AND KETONES

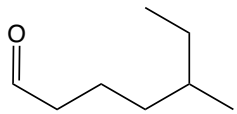
PRACTICE: Determine the alcohol product formed in the following reaction.

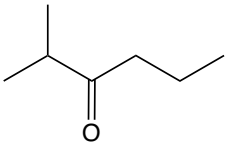


PRACTICE: Determine which reactant should be used to produce the following alcohol.



a) 

b) 

c) 

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