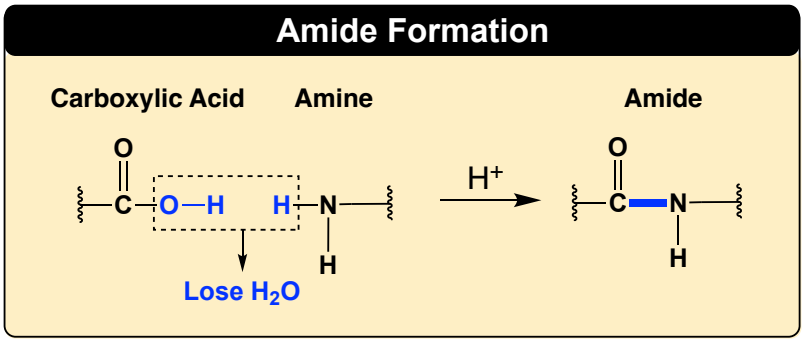
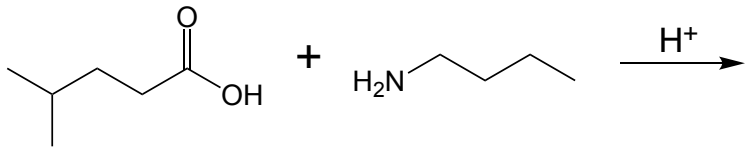
CONCEPT: AMIDE FORMATION

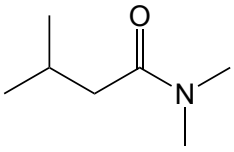
- Under this type of reaction, a carboxylic acid and an amine undergo a condensation reaction to form an _____.
  - □ Recall, a condensation reaction results in the loss of _____.
    - The carboxylic acid loses its _____ and the amine nitrogen loses _____ hydrogen.
  - □ An _____ catalyst is required for the reaction to start.

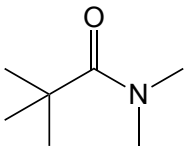


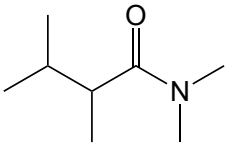
EXAMPLE: Determine the amide product formed when 4-methylpentanoic acid reacts with butylamine.



PRACTICE: Predict the amide product formed when 2,2-dimethylpropanoic acid reacts with dimethylamine.

a) 

b) 

c) 

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