# ORGOREVIEW

## Question Vault

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Select the statement that is ***not true*** about the carboxylic acid and amide functional groups and their infrared absorptions.


**1710-1780 $cm^{-1}$** **1630-1690 $cm^{-1}$**

- **(A)** When either of these functional groups absorbs infrared radiation, the excitation of an electron to an anti-bonding orbital is not occurring.
- **(B)** The carboxylic acid absorbs higher energy infrared radiation.
- **(C)** The difference in infrared absorptions of the different carbonyl groups (C=O) is consistent with the amide group having the stronger C=O bond.
- **(D)** The absorption of infrared radiation by the C=O group causes the carbon and oxygen atoms to vibrate with an increased amplitude.
- **(E)** The infrared absorptions of carboxylic acid and amide functional groups can be used to indicate the presence of these functional groups in organic molecules.

## VIDEO SOLUTION

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