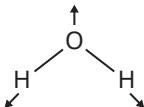
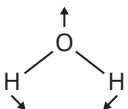
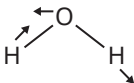


**A**

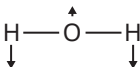
Symmetric stretching ( $\omega_1$ )



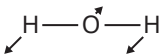
Bending ( $\omega_2$ )



Antisymmetric stretching ( $\omega_3$ )

**B**

Bending  
( $1747.2 \text{ i cm}^{-1}$ )



Bending  
( $1747.2 \text{ i cm}^{-1}$ )



Symmetric stretching  
( $4253.9 \text{ cm}^{-1}$ )



Antisymmetric stretching  
( $4672.2 \text{ cm}^{-1}$ )