

Particle-in-a-box Problem

Treat the molecule stilbene as a particle in a box that effective has 6 electrons. Stilbene can isomerize from cis to trans as shown below. The effective lengths for electron motion are $L_{\text{cis}} = 7.2 \text{ \AA}$ and $L_{\text{trans}} = 7.8 \text{ \AA}$. Determine the transition energy in each form of stilbene in units of cm^{-1} . Write a general formula for your answer in these units.

