

Abstract Submitted  
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**Pressure dependences of the vibrational modes of crystalline adenosine as studied by infrared spectroscopy** CARL STARKEY, SCOTT LEE, University of Toledo — The vibrational modes of nucleic acids are of great interest since some of them are believed to be involved in the conformational transitions of DNA. We report the pressure dependences of the infrared-active vibrational modes of crystalline adenosine up to pressures above 9 GPa. In order to provide information about the eigenvectors of the vibrational modes, we evaluate the logarithmic derivatives with respect to pressure of these modes. Some of the hydrogen-stretching modes show a negative pressure derivative, indicating a weakening of the molecular bond as the hydrogen bond strengthens. The results are used to shed light on the conformational transitions of DNA.

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