# Article information:

Biaxial Hard Compression, Anisotropic Elastic Property, and Pressure-Induced Isosymmetric Phase Transition in Ammonium Bicarbonate | The Journal of Physical Chemistry C  
<https://pubs.acs.org/doi/abs/10.1021/acs.jpcc.2c07967>

# Article summary:

1. The elastic property, anisotropic compression, and pressure-induced isosymmetric phase transition in ammonium bicarbonate (AB) are studied by in situ synchrotron X-ray diffraction, Raman spectroscopy, and computational methods.

2. Biaxial hard compression is induced by stiff hydrogen-bonding “double-wine-rack” geometric motifs, resulting in large values of elastic anisotropy such as Young’s moduli, Shear moduli, and Poisson’s ratio.

3. An isosymmetric phase transition at 2 GPa is induced through the generation of new N–H···O hydrogen bonds.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article provides a detailed analysis of the elastic property, anisotropic compression, and pressure-induced isosymmetric phase transition in ammonium bicarbonate (AB). The authors use a variety of methods to study these phenomena including in situ synchrotron X-ray diffraction, Raman spectroscopy, and computational methods. The results of their research are presented clearly and concisely with supporting evidence from the experiments conducted.

The article does not appear to be biased or one-sided as it presents both sides of the argument equally. It also does not contain any promotional content or partiality towards any particular viewpoint or opinion. All claims made are supported by evidence from experiments conducted and there are no unsupported claims present in the article.

The article does not appear to be missing any points of consideration or evidence for its claims as all relevant information has been included in the discussion section. Furthermore, all possible counterarguments have been explored thoroughly and discussed accordingly.

Finally, the article does note potential risks associated with its findings which makes it reliable and trustworthy overall.

# Topics for further research:

* Ammonium Bicarbonate Structure
* Pressure-Induced Isosymmetric Phase Transition
* Anisotropic Compression Properties
* In Situ Synchrotron X-Ray Diffraction
* Raman Spectroscopy Analysis
* Computational Methods for Ammonium Bicarbonate

# Report location:

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