

**Anharmonic vibrations from the Chloride•••Amide Ionic Hydrogen
Bonds in $\text{Cl}(\text{N-methylacetamide})_1(\text{H}_2\text{O})_{0-2}\text{Ar}_2$ Cluster Ions.
Combined IRPD experiments and BOMD simulations.**

Supplementary Information

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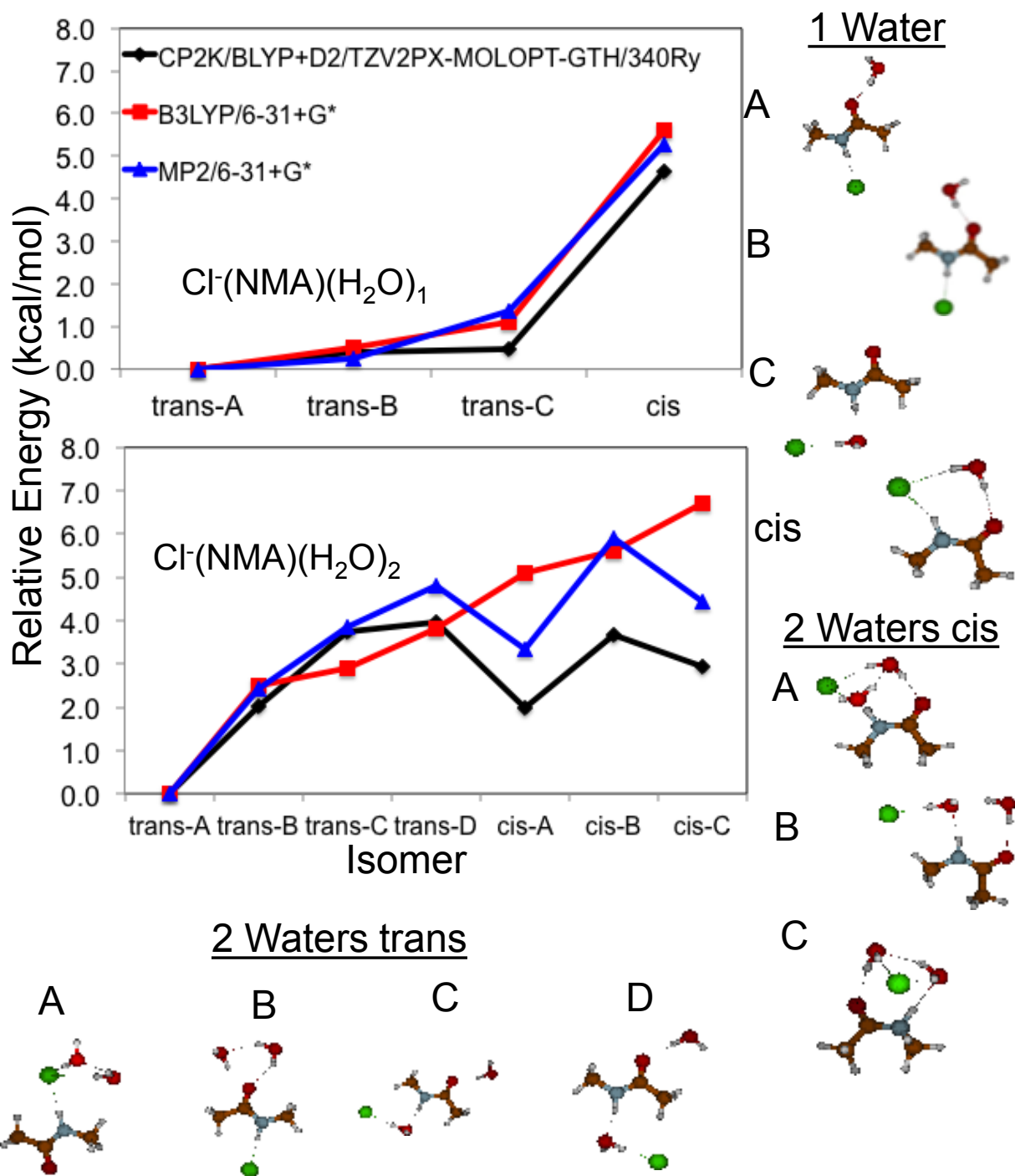
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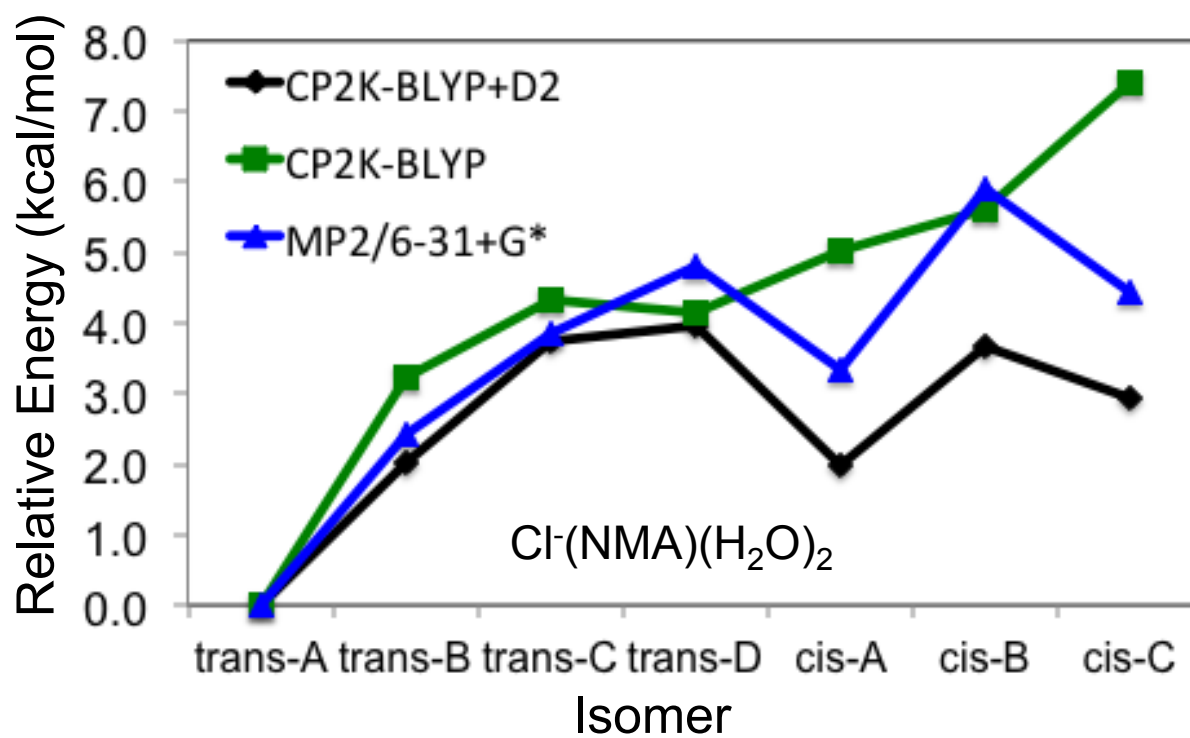
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SI Figure 1: Relative energies of several isomers of Cl⁻(NMA)(H₂O)_n for n=1 (top panel) and n=2 (bottom) calculated with various approaches for comparison. The structures of all the isomers are also shown.



SI Figure 2: Comparison of the relative energies for Cl-(NMA)(H₂O)₂ to show the impact of dispersion on the CP2K calculations. The calculations which include dispersion match the relative energies from the MP2 calculations more closely than the calculations not including dispersion.