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This manuscript was compiled on September 21, 2020

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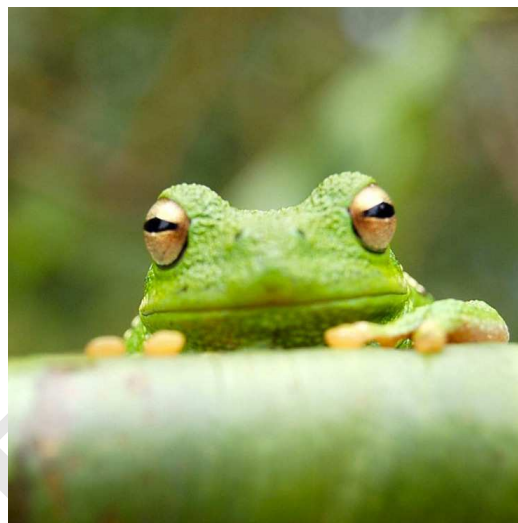


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¹A.O.(Author One) contributed equally to this work with A.T. (Author Two) (remove if not applicable).

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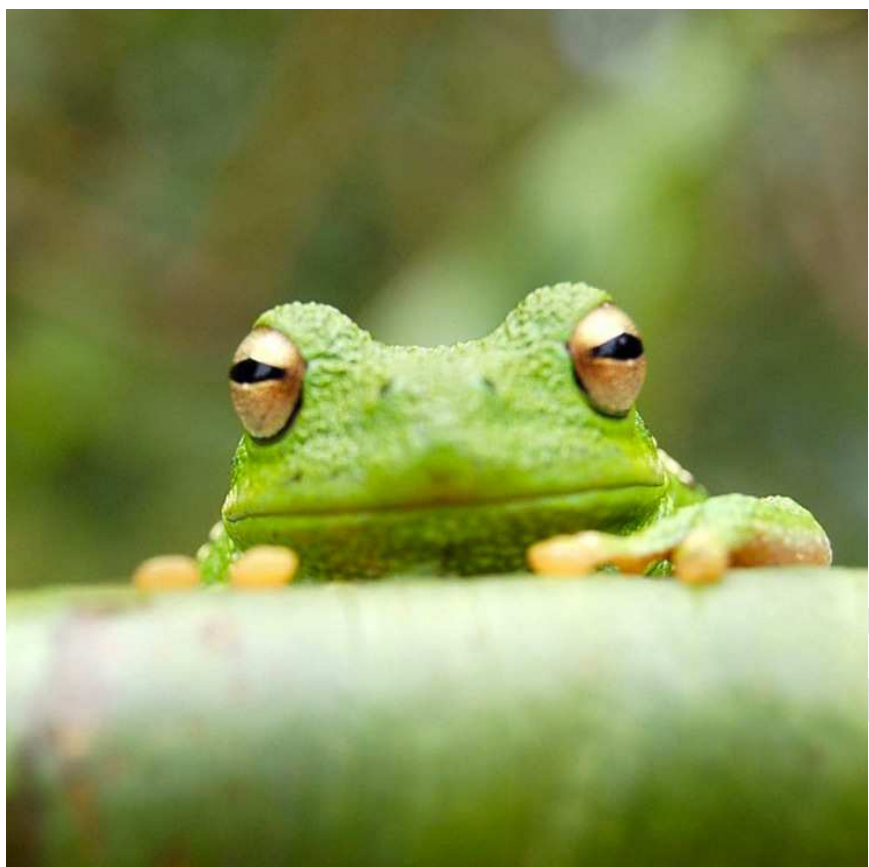


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Table 1. Comparison of the fitted potential energy surfaces and ab initio benchmark electronic energy calculations

| Species | CBS | CV | G3 |
|----------------------|------|------|------|
| 1. Acetaldehyde | 0.0 | 0.0 | 0.0 |
| 2. Vinyl alcohol | 9.1 | 9.6 | 13.5 |
| 3. Hydroxyethylidene | 50.8 | 51.2 | 54.0 |

nomenclature for the TSs refers to the numbered species in the table.

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$$\begin{aligned}
 (x+y)^3 &= (x+y)(x+y)^2 \\
 &= (x+y)(x^2 + 2xy + y^2) \\
 &= x^3 + 3x^2y + 3xy^2 + y^3.
 \end{aligned}
 \tag{1}$$

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