**Table 1:** A comparison of the calculated restricted Hartree-Fock interaction energies for \( \text{H}_3(\text{A}^\prime) \), in \( \mu \text{E}_\text{H} \), with the fitted values from Eq. 5.

<table>
<thead>
<tr>
<th>Number</th>
<th>shape</th>
<th>( R_1 )</th>
<th>( R_2 )</th>
<th>( R_3 )</th>
<th>calc.</th>
<th>fit</th>
<th>error(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2.00</td>
<td>2.00</td>
<td>2.00</td>
<td>255870.62</td>
<td>255599.03</td>
<td>0.11</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>71578.66</td>
<td>70979.18</td>
<td>0.84</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
<td>19137.06</td>
<td>19072.88</td>
<td>0.34</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>5.00</td>
<td>5.00</td>
<td>5.00</td>
<td>4637.59</td>
<td>4633.15</td>
<td>0.10</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>6.00</td>
<td>6.00</td>
<td>6.00</td>
<td>1015.77</td>
<td>1015.65</td>
<td>0.01</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>7.00</td>
<td>7.00</td>
<td>7.00</td>
<td>204.30</td>
<td>204.59</td>
<td>-0.14</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>8.00</td>
<td>8.00</td>
<td>8.00</td>
<td>38.41</td>
<td>38.58</td>
<td>-0.44</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>2.25</td>
<td>1.88</td>
<td>1.88</td>
<td>261754.22</td>
<td>261774.44</td>
<td>-0.01</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>3.38</td>
<td>2.81</td>
<td>2.81</td>
<td>77195.34</td>
<td>76967.39</td>
<td>0.30</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>4.50</td>
<td>3.75</td>
<td>3.75</td>
<td>21813.02</td>
<td>21806.05</td>
<td>0.03</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>5.63</td>
<td>4.69</td>
<td>4.69</td>
<td>5644.01</td>
<td>5642.94</td>
<td>0.02</td>
</tr>
<tr>
<td>12</td>
<td>2</td>
<td>6.75</td>
<td>5.63</td>
<td>5.63</td>
<td>1339.28</td>
<td>1339.44</td>
<td>-0.01</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>7.88</td>
<td>6.56</td>
<td>6.56</td>
<td>299.74</td>
<td>300.07</td>
<td>-0.11</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>9.00</td>
<td>7.50</td>
<td>7.50</td>
<td>62.50</td>
<td>62.66</td>
<td>-0.26</td>
</tr>
<tr>
<td>15</td>
<td>3</td>
<td>2.75</td>
<td>1.75</td>
<td>1.75</td>
<td>276311.33</td>
<td>278620.32</td>
<td>-0.84</td>
</tr>
<tr>
<td>16</td>
<td>3</td>
<td>3.75</td>
<td>2.63</td>
<td>2.63</td>
<td>92704.85</td>
<td>93784.57</td>
<td>-1.16</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
<td>5.00</td>
<td>3.50</td>
<td>3.50</td>
<td>29513.21</td>
<td>29775.11</td>
<td>-0.89</td>
</tr>
<tr>
<td>18</td>
<td>3</td>
<td>6.25</td>
<td>4.38</td>
<td>4.38</td>
<td>8536.71</td>
<td>8561.96</td>
<td>-0.30</td>
</tr>
<tr>
<td>19</td>
<td>3</td>
<td>7.50</td>
<td>5.25</td>
<td>5.25</td>
<td>2318.59</td>
<td>2322.51</td>
<td>-0.17</td>
</tr>
<tr>
<td>20</td>
<td>3</td>
<td>8.75</td>
<td>6.13</td>
<td>6.13</td>
<td>580.76</td>
<td>581.62</td>
<td>-0.15</td>
</tr>
<tr>
<td>21</td>
<td>3</td>
<td>10.00</td>
<td>7.00</td>
<td>7.00</td>
<td>140.22</td>
<td>140.43</td>
<td>-0.15</td>
</tr>
<tr>
<td>22</td>
<td>4</td>
<td>2.75</td>
<td>1.63</td>
<td>1.63</td>
<td>317956.56</td>
<td>320895.49</td>
<td>-0.92</td>
</tr>
<tr>
<td>23</td>
<td>4</td>
<td>4.13</td>
<td>2.44</td>
<td>2.44</td>
<td>121622.00</td>
<td>124537.20</td>
<td>-2.40</td>
</tr>
<tr>
<td>24</td>
<td>4</td>
<td>5.50</td>
<td>3.25</td>
<td>3.25</td>
<td>42780.39</td>
<td>43477.86</td>
<td>-1.63</td>
</tr>
<tr>
<td>25</td>
<td>4</td>
<td>6.88</td>
<td>4.06</td>
<td>4.06</td>
<td>13818.05</td>
<td>13876.89</td>
<td>-0.43</td>
</tr>
<tr>
<td>26</td>
<td>4</td>
<td>8.25</td>
<td>4.88</td>
<td>4.88</td>
<td>4111.88</td>
<td>4118.98</td>
<td>-0.17</td>
</tr>
<tr>
<td>27</td>
<td>4</td>
<td>9.63</td>
<td>5.69</td>
<td>5.69</td>
<td>1173.82</td>
<td>1175.16</td>
<td>-0.11</td>
</tr>
<tr>
<td>28</td>
<td>4</td>
<td>11.00</td>
<td>6.50</td>
<td>6.50</td>
<td>319.57</td>
<td>319.80</td>
<td>-0.07</td>
</tr>
<tr>
<td>29</td>
<td>5</td>
<td>3.00</td>
<td>1.50</td>
<td>1.50</td>
<td>373411.99</td>
<td>377351.54</td>
<td>-1.06</td>
</tr>
<tr>
<td>30</td>
<td>5</td>
<td>4.50</td>
<td>2.25</td>
<td>2.25</td>
<td>171488.10</td>
<td>170692.73</td>
<td>0.46</td>
</tr>
</tbody>
</table>

*continued on next page*
<table>
<thead>
<tr>
<th>Number</th>
<th>shape</th>
<th>$R_1$</th>
<th>$R_2$</th>
<th>$R_3$</th>
<th>calc</th>
<th>fit</th>
<th>error(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>5</td>
<td>6.00</td>
<td>3.00</td>
<td>3.00</td>
<td>63857.63</td>
<td>64314.55</td>
<td>-0.72</td>
</tr>
<tr>
<td>32</td>
<td>5</td>
<td>7.50</td>
<td>3.75</td>
<td>3.75</td>
<td>22201.06</td>
<td>22123.98</td>
<td>0.35</td>
</tr>
<tr>
<td>33</td>
<td>5</td>
<td>9.00</td>
<td>4.50</td>
<td>4.50</td>
<td>7378.79</td>
<td>7350.67</td>
<td>0.38</td>
</tr>
<tr>
<td>34</td>
<td>5</td>
<td>10.50</td>
<td>5.25</td>
<td>5.25</td>
<td>2349.86</td>
<td>2344.85</td>
<td>0.21</td>
</tr>
<tr>
<td>35</td>
<td>5</td>
<td>12.00</td>
<td>6.00</td>
<td>6.00</td>
<td>719.05</td>
<td>718.21</td>
<td>0.12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.25</td>
<td>2.25</td>
<td>1.50</td>
<td>289072.57</td>
<td>289216.77</td>
<td>-0.05</td>
</tr>
<tr>
<td>37</td>
<td>6</td>
<td>3.38</td>
<td>3.38</td>
<td>2.25</td>
<td>97503.76</td>
<td>97286.03</td>
<td>0.22</td>
</tr>
<tr>
<td>38</td>
<td>6</td>
<td>4.50</td>
<td>4.50</td>
<td>3.00</td>
<td>34110.48</td>
<td>33952.50</td>
<td>0.46</td>
</tr>
<tr>
<td>39</td>
<td>6</td>
<td>5.63</td>
<td>5.63</td>
<td>3.75</td>
<td>11582.88</td>
<td>11533.81</td>
<td>0.42</td>
</tr>
<tr>
<td>40</td>
<td>6</td>
<td>6.75</td>
<td>6.75</td>
<td>4.50</td>
<td>3792.27</td>
<td>3783.65</td>
<td>0.23</td>
</tr>
<tr>
<td>41</td>
<td>6</td>
<td>7.88</td>
<td>7.88</td>
<td>5.25</td>
<td>1194.01</td>
<td>1193.06</td>
<td>0.08</td>
</tr>
<tr>
<td>42</td>
<td>6</td>
<td>9.00</td>
<td>9.00</td>
<td>6.00</td>
<td>362.75</td>
<td>362.76</td>
<td>0.00</td>
</tr>
<tr>
<td>43</td>
<td>7</td>
<td>2.50</td>
<td>2.13</td>
<td>1.38</td>
<td>313059.70</td>
<td>313891.27</td>
<td>-0.27</td>
</tr>
<tr>
<td>44</td>
<td>7</td>
<td>3.75</td>
<td>3.19</td>
<td>2.06</td>
<td>118010.29</td>
<td>118399.15</td>
<td>-0.33</td>
</tr>
<tr>
<td>45</td>
<td>7</td>
<td>5.00</td>
<td>4.25</td>
<td>2.75</td>
<td>45949.85</td>
<td>45843.65</td>
<td>0.23</td>
</tr>
<tr>
<td>46</td>
<td>7</td>
<td>6.25</td>
<td>5.31</td>
<td>3.44</td>
<td>17461.82</td>
<td>17403.30</td>
<td>0.34</td>
</tr>
<tr>
<td>47</td>
<td>7</td>
<td>7.50</td>
<td>6.38</td>
<td>4.13</td>
<td>6424.73</td>
<td>6414.21</td>
<td>0.16</td>
</tr>
<tr>
<td>48</td>
<td>7</td>
<td>8.75</td>
<td>7.44</td>
<td>4.81</td>
<td>2318.91</td>
<td>2317.68</td>
<td>0.05</td>
</tr>
<tr>
<td>49</td>
<td>7</td>
<td>10.00</td>
<td>8.50</td>
<td>5.50</td>
<td>796.95</td>
<td>796.92</td>
<td>0.00</td>
</tr>
<tr>
<td>50</td>
<td>8</td>
<td>2.75</td>
<td>2.00</td>
<td>1.25</td>
<td>357478.06</td>
<td>360188.95</td>
<td>-0.76</td>
</tr>
<tr>
<td>51</td>
<td>8</td>
<td>4.13</td>
<td>3.00</td>
<td>1.88</td>
<td>150897.00</td>
<td>152357.96</td>
<td>-0.97</td>
</tr>
<tr>
<td>52</td>
<td>8</td>
<td>5.50</td>
<td>4.00</td>
<td>2.50</td>
<td>64858.54</td>
<td>64912.41</td>
<td>-0.08</td>
</tr>
<tr>
<td>53</td>
<td>8</td>
<td>6.88</td>
<td>5.00</td>
<td>3.13</td>
<td>26899.93</td>
<td>26838.14</td>
<td>0.23</td>
</tr>
<tr>
<td>54</td>
<td>8</td>
<td>8.25</td>
<td>6.00</td>
<td>3.75</td>
<td>11096.17</td>
<td>11085.00</td>
<td>0.10</td>
</tr>
<tr>
<td>55</td>
<td>8</td>
<td>9.63</td>
<td>7.00</td>
<td>4.38</td>
<td>4407.78</td>
<td>4406.62</td>
<td>0.03</td>
</tr>
<tr>
<td>56</td>
<td>8</td>
<td>11.00</td>
<td>8.00</td>
<td>5.00</td>
<td>1726.97</td>
<td>1726.90</td>
<td>0.00</td>
</tr>
<tr>
<td>57</td>
<td>9</td>
<td>1.88</td>
<td>3.00</td>
<td>1.13</td>
<td>416557.36</td>
<td>423482.60</td>
<td>-1.66</td>
</tr>
<tr>
<td>58</td>
<td>9</td>
<td>2.81</td>
<td>4.50</td>
<td>1.69</td>
<td>208327.13</td>
<td>204504.06</td>
<td>1.84</td>
</tr>
<tr>
<td>59</td>
<td>9</td>
<td>3.75</td>
<td>6.00</td>
<td>2.25</td>
<td>93850.41</td>
<td>92919.27</td>
<td>0.99</td>
</tr>
<tr>
<td>60</td>
<td>9</td>
<td>4.69</td>
<td>7.50</td>
<td>2.81</td>
<td>42008.10</td>
<td>41719.98</td>
<td>0.69</td>
</tr>
<tr>
<td>61</td>
<td>9</td>
<td>5.63</td>
<td>9.00</td>
<td>3.78</td>
<td>10989.50</td>
<td>10970.89</td>
<td>0.17</td>
</tr>
<tr>
<td>62</td>
<td>9</td>
<td>3.94</td>
<td>10.50</td>
<td>6.56</td>
<td>8362.91</td>
<td>8355.70</td>
<td>0.09</td>
</tr>
</tbody>
</table>

continued on next page
<table>
<thead>
<tr>
<th>Number</th>
<th>shape</th>
<th>( R_1 )</th>
<th>( R_2 )</th>
<th>( R_3 )</th>
<th>calc</th>
<th>fit</th>
<th>error(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>9</td>
<td>7.50</td>
<td>12.00</td>
<td>4.50</td>
<td>3666.21</td>
<td>3665.10</td>
<td>0.03</td>
</tr>
<tr>
<td>64</td>
<td>10</td>
<td>2.50</td>
<td>2.50</td>
<td>1.00</td>
<td>436834.96</td>
<td>436834.51</td>
<td>0.00</td>
</tr>
<tr>
<td>65</td>
<td>10</td>
<td>3.75</td>
<td>3.75</td>
<td>1.50</td>
<td>202200.39</td>
<td>201782.38</td>
<td>0.21</td>
</tr>
<tr>
<td>66</td>
<td>10</td>
<td>5.00</td>
<td>5.00</td>
<td>2.00</td>
<td>108070.49</td>
<td>107433.33</td>
<td>0.59</td>
</tr>
<tr>
<td>67</td>
<td>10</td>
<td>6.25</td>
<td>6.25</td>
<td>2.50</td>
<td>57590.17</td>
<td>57391.44</td>
<td>0.35</td>
</tr>
<tr>
<td>68</td>
<td>10</td>
<td>7.50</td>
<td>7.50</td>
<td>3.00</td>
<td>29985.97</td>
<td>29950.67</td>
<td>0.12</td>
</tr>
<tr>
<td>69</td>
<td>10</td>
<td>8.75</td>
<td>8.75</td>
<td>3.50</td>
<td>15221.43</td>
<td>15217.15</td>
<td>0.03</td>
</tr>
<tr>
<td>70</td>
<td>10</td>
<td>10.00</td>
<td>10.00</td>
<td>4.00</td>
<td>7530.20</td>
<td>7529.93</td>
<td>0.00</td>
</tr>
<tr>
<td>71</td>
<td>11</td>
<td>2.75</td>
<td>2.37</td>
<td>0.88</td>
<td>518915.37</td>
<td>519856.29</td>
<td>-0.18</td>
</tr>
<tr>
<td>72</td>
<td>11</td>
<td>4.13</td>
<td>3.56</td>
<td>1.31</td>
<td>257062.28</td>
<td>256521.42</td>
<td>0.21</td>
</tr>
<tr>
<td>73</td>
<td>11</td>
<td>5.50</td>
<td>4.75</td>
<td>1.75</td>
<td>147174.74</td>
<td>146172.65</td>
<td>0.68</td>
</tr>
<tr>
<td>74</td>
<td>11</td>
<td>6.88</td>
<td>5.94</td>
<td>2.19</td>
<td>85199.76</td>
<td>84924.38</td>
<td>0.32</td>
</tr>
<tr>
<td>75</td>
<td>11</td>
<td>8.25</td>
<td>7.13</td>
<td>2.63</td>
<td>48681.14</td>
<td>48637.98</td>
<td>0.09</td>
</tr>
<tr>
<td>76</td>
<td>11</td>
<td>9.63</td>
<td>8.31</td>
<td>3.06</td>
<td>27669.87</td>
<td>27664.63</td>
<td>0.02</td>
</tr>
<tr>
<td>77</td>
<td>11</td>
<td>11.00</td>
<td>9.50</td>
<td>3.50</td>
<td>15219.15</td>
<td>15219.03</td>
<td>0.00</td>
</tr>
<tr>
<td>78</td>
<td>12</td>
<td>3.00</td>
<td>2.25</td>
<td>0.75</td>
<td>650706.19</td>
<td>661990.48</td>
<td>-1.73</td>
</tr>
<tr>
<td>79</td>
<td>12</td>
<td>4.50</td>
<td>3.38</td>
<td>1.13</td>
<td>340943.81</td>
<td>336933.07</td>
<td>1.16</td>
</tr>
<tr>
<td>80</td>
<td>12</td>
<td>6.00</td>
<td>4.50</td>
<td>1.50</td>
<td>206284.79</td>
<td>201298.63</td>
<td>2.42</td>
</tr>
<tr>
<td>81</td>
<td>12</td>
<td>7.50</td>
<td>5.63</td>
<td>1.88</td>
<td>125813.33</td>
<td>124821.09</td>
<td>0.79</td>
</tr>
<tr>
<td>82</td>
<td>12</td>
<td>9.00</td>
<td>6.75</td>
<td>2.25</td>
<td>78981.76</td>
<td>78850.04</td>
<td>0.17</td>
</tr>
<tr>
<td>83</td>
<td>12</td>
<td>10.50</td>
<td>7.88</td>
<td>2.63</td>
<td>48658.16</td>
<td>48644.48</td>
<td>0.03</td>
</tr>
<tr>
<td>84</td>
<td>12</td>
<td>12.00</td>
<td>9.00</td>
<td>3.00</td>
<td>29967.03</td>
<td>29965.49</td>
<td>0.01</td>
</tr>
<tr>
<td>85</td>
<td>13</td>
<td>2.75</td>
<td>2.75</td>
<td>0.50</td>
<td>1155992.89</td>
<td>1136132.64</td>
<td>1.72</td>
</tr>
<tr>
<td>86</td>
<td>13</td>
<td>4.13</td>
<td>4.13</td>
<td>0.75</td>
<td>605043.70</td>
<td>605043.70</td>
<td>0.00</td>
</tr>
<tr>
<td>87</td>
<td>13</td>
<td>5.50</td>
<td>5.50</td>
<td>1.00</td>
<td>384475.86</td>
<td>384475.44</td>
<td>0.00</td>
</tr>
<tr>
<td>88</td>
<td>13</td>
<td>6.88</td>
<td>6.88</td>
<td>1.25</td>
<td>268961.35</td>
<td>268909.01</td>
<td>0.02</td>
</tr>
<tr>
<td>89</td>
<td>13</td>
<td>8.25</td>
<td>8.25</td>
<td>1.50</td>
<td>196329.37</td>
<td>196328.11</td>
<td>0.00</td>
</tr>
<tr>
<td>90</td>
<td>13</td>
<td>9.63</td>
<td>9.63</td>
<td>1.75</td>
<td>145123.83</td>
<td>145127.81</td>
<td>0.00</td>
</tr>
<tr>
<td>91</td>
<td>13</td>
<td>11.00</td>
<td>11.00</td>
<td>2.00</td>
<td>107182.97</td>
<td>107185.69</td>
<td>0.00</td>
</tr>
<tr>
<td>92</td>
<td>14</td>
<td>3.00</td>
<td>2.63</td>
<td>0.38</td>
<td>1696644.79</td>
<td>1672989.78</td>
<td>1.39</td>
</tr>
<tr>
<td>93</td>
<td>14</td>
<td>4.50</td>
<td>3.94</td>
<td>0.56</td>
<td>944406.50</td>
<td>947766.94</td>
<td>-0.36</td>
</tr>
</tbody>
</table>

*continued on next page*
<table>
<thead>
<tr>
<th>Number</th>
<th>shape</th>
<th>$R_1$</th>
<th>$R_2$</th>
<th>$R_3$</th>
<th>calc.</th>
<th>fit</th>
<th>error(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>94</td>
<td>14</td>
<td>6.00</td>
<td>5.25</td>
<td>0.75</td>
<td>606453.24</td>
<td>607884.37</td>
<td>-0.24</td>
</tr>
<tr>
<td>95</td>
<td>14</td>
<td>7.50</td>
<td>6.56</td>
<td>0.94</td>
<td>427627.45</td>
<td>425021.53</td>
<td>0.61</td>
</tr>
<tr>
<td>96</td>
<td>14</td>
<td>9.00</td>
<td>7.87</td>
<td>1.13</td>
<td>317535.50</td>
<td>317076.63</td>
<td>0.14</td>
</tr>
<tr>
<td>97</td>
<td>14</td>
<td>10.50</td>
<td>9.19</td>
<td>1.31</td>
<td>248878.67</td>
<td>248874.07</td>
<td>0.00</td>
</tr>
<tr>
<td>98</td>
<td>14</td>
<td>12.00</td>
<td>10.50</td>
<td>1.50</td>
<td>196330.86</td>
<td>196351.41</td>
<td>-0.01</td>
</tr>
<tr>
<td>1</td>
<td>9.00</td>
<td>9.00</td>
<td>9.00</td>
<td>6.83</td>
<td>6.90</td>
<td>-1.02</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>11.00</td>
<td>11.00</td>
<td>11.00</td>
<td>0.16</td>
<td>0.16</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>12.00</td>
<td>12.00</td>
<td>12.00</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>8.54</td>
<td>8.54</td>
<td>10.00</td>
<td>10.51</td>
<td>10.64</td>
<td>-1.24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>