Determine the multiplicity and coupling constants of each of the following simulated first-order 500 MHz $^1$H NMR peaks. Provide descriptions (e.g. "doublet of quartets") and coupling constants (e.g., 12.3, 3.8 Hz) in the blanks provided.

<table>
<thead>
<tr>
<th>ppm</th>
<th>hz</th>
<th>height</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.476</td>
<td>737.8</td>
<td>2.04</td>
</tr>
<tr>
<td>1.491</td>
<td>745.3</td>
<td>4.23</td>
</tr>
<tr>
<td>1.494</td>
<td>747.2</td>
<td>2.43</td>
</tr>
<tr>
<td>1.506</td>
<td>752.8</td>
<td>2.43</td>
</tr>
<tr>
<td>1.509</td>
<td>754.7</td>
<td>4.23</td>
</tr>
<tr>
<td>1.525</td>
<td>762.3</td>
<td>2.04</td>
</tr>
</tbody>
</table>

description:

____________________________
coupling constants (in appropriate order):

____________________________

description:

____________________________
coupling constants (in appropriate order):

____________________________

description:

____________________________
coupling constants (in appropriate order):

____________________________

description:

____________________________
coupling constants (in appropriate order):

____________________________

description:

____________________________
coupling constants (in appropriate order):

____________________________

description:

____________________________
coupling constants (in appropriate order):

____________________________
The saturated ring of this phosphate ester has four proton resonances which are shown. Assign the multiplets and explain their appearance.
Assign and interpret the 300 MHz $^1$H NMR spectrum of this compound as fully as possible. Can you draw any conclusions about the conformation? [The expanded multiplets A–G are all plotted to the same height].