Dec 9, 2019 – 02:32 AM EST

PDB ID : 6QG6
EMDB ID:  EMD-4548
Title : Structure of eIF2B-eIF2 (phosphorylated at Ser51) complex (model D)
Authors : Llacer, J.L.; Gordiyenko, Y.; Ramakrishnan, V.
Submitted on : 2019-01-10
Resolution : 4.65 Å (reported)
Based on PDB ID : 6FYX, 5B04

This is a Full wwPDB/EMDataBank EM Map/Model Validation Report
for a publicly released PDB/EMDB entry.

We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
with specific help available everywhere you see the ① symbol.

MolProbity : 4.02b-467
Mogul : 1.8.0 (224370), CSD as540be (2019)
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : 2.4
## 1 Overall quality at a glance

The following experimental techniques were used to determine the structure: 

**ELECTRON MICROSCOPY**

The reported resolution of this entry is 4.65 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Percentile Ranks</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clashscore</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Ramachandran outliers</td>
<td></td>
<td>3.0%</td>
</tr>
<tr>
<td>Sidechain outliers</td>
<td></td>
<td>9.3%</td>
</tr>
</tbody>
</table>

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for $\geq$3, 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq$5%.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Length</th>
<th>Quality of chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>305</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>381</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>381</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>578</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>578</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>651</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>651</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>712</td>
<td></td>
</tr>
</tbody>
</table>

*Continued on next page...*
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Length</th>
<th>Quality of chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>J</td>
<td>712</td>
<td>44% 15% 39%</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>304</td>
<td>61% 18% 19%</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>304</td>
<td>66% 13% 19%</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>527</td>
<td>66% 11% 23%</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>527</td>
<td>68% 9% 23%</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>285</td>
<td>5% 94%</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>285</td>
<td>6% 94%</td>
</tr>
</tbody>
</table>
2 Entry composition

There are 8 unique types of molecules in this entry. The entry contains 36982 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Translation initiation factor eIF-2B subunit alpha.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Residues</th>
<th>Atoms</th>
<th>AltConf</th>
<th>Trace</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>302</td>
<td>Total C N O S</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2351 1504 394 443 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Molecule 2 is a protein called Translation initiation factor eIF-2B subunit beta.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Residues</th>
<th>Atoms</th>
<th>AltConf</th>
<th>Trace</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>C</td>
<td>345</td>
<td>Total C N O S</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2665 1694 463 502 6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Molecule 3 is a protein called Translation initiation factor eIF-2B subunit gamma.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Residues</th>
<th>Atoms</th>
<th>AltConf</th>
<th>Trace</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>E</td>
<td>267</td>
<td>Total C N O S</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2164 1391 363 400 10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Molecule 4 is a protein called Translation initiation factor eIF-2B subunit delta.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Residues</th>
<th>Atoms</th>
<th>AltConf</th>
<th>Trace</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>G</td>
<td>355</td>
<td>Total C N O S</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2744 1738 474 521 11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Molecule 5 is a protein called Translation initiation factor eIF-2B subunit epsilon.
- Molecule 6 is a protein called Eukaryotic translation initiation factor 2 subunit alpha.

- Molecule 7 is a protein called Eukaryotic translation initiation factor 2 subunit gamma.

- Molecule 8 is a protein called Eukaryotic translation initiation factor 2 subunit beta.
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain A:

- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain B:

- Molecule 2: Translation initiation factor eIF-2B subunit beta

Chain C:
• Molecule 2: Translation initiation factor eIF-2B subunit beta

Chain D:

• Molecule 3: Translation initiation factor eIF-2B subunit gamma

Chain E:

• Molecule 3: Translation initiation factor eIF-2B subunit gamma

Chain F:
• Molecule 4: Translation initiation factor eIF-2B subunit delta

Chain G:

- 43%
- 11%
- 45%

• Molecule 4: Translation initiation factor eIF-2B subunit delta

Chain H:

- 41%
- 12%
- 45%
Molecule 5: Translation initiation factor eIF-2B subunit epsilon

Chain I:

- Molecule 5: Translation initiation factor eIF-2B subunit epsilon
Molecule 6: Eukaryotic translation initiation factor 2 subunit alpha

Chain K:
Molecule 6: Eukaryotic translation initiation factor 2 subunit alpha

Chain L:
• Molecule 7: Eukaryotic translation initiation factor 2 subunit gamma

Chain M:

• Molecule 7: Eukaryotic translation initiation factor 2 subunit gamma

Chain N:

• Molecule 8: Eukaryotic translation initiation factor 2 subunit beta

Chain O: 5%
- Molecule 8: Eukaryotic translation initiation factor 2 subunit beta

Chain P: 6% 94%
# 4 Experimental information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reconstruction method</td>
<td>SINGLE PARTICLE</td>
<td>Depositor</td>
</tr>
<tr>
<td>Imposed symmetry</td>
<td>POINT, C1</td>
<td>Depositor</td>
</tr>
<tr>
<td>Number of particles used</td>
<td>12575</td>
<td>Depositor</td>
</tr>
<tr>
<td>Resolution determination method</td>
<td>FSC 0.143 CUT-OFF</td>
<td>Depositor</td>
</tr>
<tr>
<td>CTF correction method</td>
<td>PHASE FLIPPING AND AMPLITUDE CORRECTION</td>
<td>Depositor</td>
</tr>
<tr>
<td>Microscope</td>
<td>FEI TITAN KRIOS</td>
<td>Depositor</td>
</tr>
<tr>
<td>Voltage (kV)</td>
<td>300</td>
<td>Depositor</td>
</tr>
<tr>
<td>Electron dose ($e^-/Å^2$)</td>
<td>45</td>
<td>Depositor</td>
</tr>
<tr>
<td>Minimum defocus (nm)</td>
<td>1500</td>
<td>Depositor</td>
</tr>
<tr>
<td>Maximum defocus (nm)</td>
<td>3500</td>
<td>Depositor</td>
</tr>
<tr>
<td>Magnification</td>
<td>104478</td>
<td>Depositor</td>
</tr>
<tr>
<td>Image detector</td>
<td>FEI FALCON III (4k x 4k)</td>
<td>Depositor</td>
</tr>
</tbody>
</table>
5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: SEP.

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Bond lengths</th>
<th>Bond angles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>RMSZ</td>
<td>#</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>0.41</td>
<td>0/2395</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>0.43</td>
<td>0/2395</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>0.42</td>
<td>0/2714</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>0.41</td>
<td>0/2714</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>0.47</td>
<td>0/2209</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>0.48</td>
<td>0/2209</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>0.41</td>
<td>0/2781</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>0.42</td>
<td>0/2781</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>0.44</td>
<td>0/3468</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>0.43</td>
<td>0/3468</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>0.45</td>
<td>0/1989</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>0.44</td>
<td>0/1989</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>0.44</td>
<td>0/3087</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>0.44</td>
<td>0/3087</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>0.54</td>
<td>0/146</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>0.51</td>
<td>0/146</td>
</tr>
<tr>
<td>All</td>
<td>All</td>
<td>0.43</td>
<td>0/37578</td>
</tr>
</tbody>
</table>

There are no bond length outliers.

All (6) bond angle outliers are listed below:

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
<th>Atoms</th>
<th>Z</th>
<th>Observed(°)</th>
<th>Ideal(°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>G</td>
<td>412</td>
<td>LEU</td>
<td>CA-CB-CG</td>
<td>6.66</td>
<td>130.62</td>
<td>115.30</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>135</td>
<td>LEU</td>
<td>CA-CB-CG</td>
<td>5.92</td>
<td>128.91</td>
<td>115.30</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>298</td>
<td>LEU</td>
<td>CA-CB-CG</td>
<td>5.60</td>
<td>128.18</td>
<td>115.30</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>323</td>
<td>LEU</td>
<td>CA-CB-CG</td>
<td>5.33</td>
<td>127.55</td>
<td>115.30</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>135</td>
<td>LEU</td>
<td>CA-CB-CG</td>
<td>5.14</td>
<td>127.12</td>
<td>115.30</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>319</td>
<td>LEU</td>
<td>CA-CB-CG</td>
<td>5.13</td>
<td>127.10</td>
<td>115.30</td>
</tr>
</tbody>
</table>

There are no chirality outliers.
There are no planarity outliers.

### 5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Non-H</th>
<th>H(model)</th>
<th>H(added)</th>
<th>Clashes</th>
<th>Symm-Clashes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>2351</td>
<td>0</td>
<td>2367</td>
<td>94</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>2351</td>
<td>0</td>
<td>2367</td>
<td>118</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>2665</td>
<td>0</td>
<td>2625</td>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>2665</td>
<td>0</td>
<td>2626</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>2164</td>
<td>0</td>
<td>2154</td>
<td>21</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>2164</td>
<td>0</td>
<td>2154</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>2744</td>
<td>0</td>
<td>2819</td>
<td>28</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>2744</td>
<td>0</td>
<td>2819</td>
<td>38</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>3406</td>
<td>0</td>
<td>3359</td>
<td>46</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>3406</td>
<td>0</td>
<td>3359</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>1974</td>
<td>0</td>
<td>2019</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>1974</td>
<td>0</td>
<td>2019</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>3044</td>
<td>0</td>
<td>3126</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>3044</td>
<td>0</td>
<td>3126</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>143</td>
<td>0</td>
<td>148</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>143</td>
<td>0</td>
<td>148</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>All</td>
<td>All</td>
<td>36982</td>
<td>0</td>
<td>37235</td>
<td>499</td>
<td>0</td>
</tr>
</tbody>
</table>

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 7.

All (499) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:B:283:LEU:HB3</td>
<td>1:B:291:THR:OG1</td>
<td>1.42</td>
<td>1.16</td>
</tr>
<tr>
<td>1:B:291:THR:H</td>
<td>1:B:292:PRO:CD</td>
<td>1.65</td>
<td>1.09</td>
</tr>
<tr>
<td>1:B:20:MET:SD</td>
<td>1:B:102:VAL:HG13</td>
<td>1.93</td>
<td>1.06</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:B:20:MET:CE</td>
<td>1:B:102:ILE:HG13</td>
<td>1.89</td>
<td>1.02</td>
</tr>
<tr>
<td>1:B:21:THR:HB</td>
<td>1:B:24:ILE:HD13</td>
<td>1.39</td>
<td>1.02</td>
</tr>
<tr>
<td>1:B:291:THR:H</td>
<td>1:B:292:PRO:HD2</td>
<td>1.27</td>
<td>0.99</td>
</tr>
<tr>
<td>1:B:283:LEU:HD23</td>
<td>1:B:291:THR:HA</td>
<td>1.48</td>
<td>0.93</td>
</tr>
<tr>
<td>1:B:294:ALA:O</td>
<td>1:B:298:GLU:HG3</td>
<td>1.71</td>
<td>0.91</td>
</tr>
<tr>
<td>1:A:149:PHE:CE1</td>
<td>1:A:174:ILE:HD11</td>
<td>2.01</td>
<td>0.89</td>
</tr>
<tr>
<td>1:B:20:MET:CE</td>
<td>1:B:102:VAL:CG1</td>
<td>2.51</td>
<td>0.89</td>
</tr>
<tr>
<td>1:B:21:THR:HB</td>
<td>1:B:24:ILE:CD1</td>
<td>2.04</td>
<td>0.88</td>
</tr>
<tr>
<td>7:M:142:TYR:HB2</td>
<td>7:M:319:ARG:NH2</td>
<td>1.87</td>
<td>0.88</td>
</tr>
<tr>
<td>7:M:142:TYR:CB</td>
<td>7:M:319:ARG:HH2</td>
<td>1.86</td>
<td>0.87</td>
</tr>
<tr>
<td>1:A:136:PHE:HZ</td>
<td>1:A:168:LEU:HB3</td>
<td>2.09</td>
<td>0.87</td>
</tr>
<tr>
<td>1:A:146:PHE:HZ</td>
<td>5:J:332:VAL:HG13</td>
<td>1.54</td>
<td>0.86</td>
</tr>
<tr>
<td>1:B:21:THR:CB</td>
<td>1:B:24:ILE:HD13</td>
<td>2.05</td>
<td>0.86</td>
</tr>
<tr>
<td>1:B:290:LEU:HD23</td>
<td>2:C:366:TRP:HH2</td>
<td>1.39</td>
<td>0.85</td>
</tr>
<tr>
<td>1:B:172:LYS:HE2</td>
<td>1:B:172:LYS:HA</td>
<td>1.60</td>
<td>0.84</td>
</tr>
<tr>
<td>1:B:292:PRO:HG1</td>
<td>2:C:268:ASN:HA</td>
<td>1.60</td>
<td>0.83</td>
</tr>
<tr>
<td>1:B:293:SER:HB3</td>
<td>2:C:362:TYR:CE1</td>
<td>2.14</td>
<td>0.83</td>
</tr>
<tr>
<td>1:B:291:THR:O</td>
<td>1:B:292:PRO:CD</td>
<td>2.41</td>
<td>0.82</td>
</tr>
<tr>
<td>1:B:23:PRO:HG2</td>
<td>1:B:234:HIS:NE2</td>
<td>1.95</td>
<td>0.81</td>
</tr>
<tr>
<td>1:A:21:THR:HG22</td>
<td>1:A:23:PRO:HD2</td>
<td>1.61</td>
<td>0.81</td>
</tr>
<tr>
<td>1:B:283:LEU:CB</td>
<td>1:B:291:THR:OG1</td>
<td>2.27</td>
<td>0.80</td>
</tr>
<tr>
<td>1:B:9:THR:O</td>
<td>1:B:12:ARG:HB2</td>
<td>1.81</td>
<td>0.79</td>
</tr>
<tr>
<td>1:B:21:THR:HG21</td>
<td>1:B:234:HIS:HE1</td>
<td>1.46</td>
<td>0.79</td>
</tr>
<tr>
<td>1:B:21:THR:HG22</td>
<td>1:B:23:PRO:HD2</td>
<td>1.65</td>
<td>0.78</td>
</tr>
<tr>
<td>1:A:113:ALA:CB</td>
<td>1:A:138:LEU:HD23</td>
<td>1.67</td>
<td>0.75</td>
</tr>
<tr>
<td>1:A:149:PHE:HZ</td>
<td>1:A:174:ILE:HD11</td>
<td>1.50</td>
<td>0.75</td>
</tr>
<tr>
<td>1:B:240:PHE:HZ</td>
<td>4:H:572:LYS:HB3</td>
<td>1.52</td>
<td>0.74</td>
</tr>
<tr>
<td>1:A:20:MET:HG2</td>
<td>1:A:24:ILE:HG22</td>
<td>1.67</td>
<td>0.73</td>
</tr>
<tr>
<td>1:A:136:PHE:HZ</td>
<td>1:A:168:LEU:CB</td>
<td>2.71</td>
<td>0.73</td>
</tr>
<tr>
<td>5:J:414:ILE:HG12</td>
<td>5:J:432:ILE:HD12</td>
<td>1.70</td>
<td>0.72</td>
</tr>
<tr>
<td>3:F:160:LEU:H</td>
<td>3:F:161:PRO:HD2</td>
<td>1.54</td>
<td>0.72</td>
</tr>
<tr>
<td>1:A:148:ARG:HD3</td>
<td>5:J:337:CYS:SG</td>
<td>2.30</td>
<td>0.72</td>
</tr>
<tr>
<td>1:A:20:MET:CG</td>
<td>1:A:24:ILE:HG22</td>
<td>2.19</td>
<td>0.72</td>
</tr>
<tr>
<td>1:B:292:PRO:HG2</td>
<td>2:C:362:TYR:HB3</td>
<td>1.70</td>
<td>0.72</td>
</tr>
<tr>
<td>1:B:139:LEU:HD11</td>
<td>1:B:151:CYS:SG</td>
<td>2.30</td>
<td>0.71</td>
</tr>
<tr>
<td>1:A:20:MET:CG</td>
<td>1:A:24:ILE:CG2</td>
<td>2.69</td>
<td>0.71</td>
</tr>
<tr>
<td>1:B:294:ALA:O</td>
<td>1:B:298:GLU:CG</td>
<td>2.40</td>
<td>0.70</td>
</tr>
<tr>
<td>1:B:129:HIS:HD2</td>
<td>1:B:196:VAL:HG13</td>
<td>1.57</td>
<td>0.70</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:B:146:PHE:HB3</td>
<td>5:I:332:VAL:CG1</td>
<td>2.23</td>
<td>0.69</td>
</tr>
<tr>
<td>1:B:164:GLN:O</td>
<td>1:B:167:THR:OG1</td>
<td>2.11</td>
<td>0.68</td>
</tr>
<tr>
<td>1:B:283:LEU:HB3</td>
<td>1:B:291:THR:HG1</td>
<td>1.56</td>
<td>0.68</td>
</tr>
<tr>
<td>1:B:293:SER:HB3</td>
<td>2:C:362:TYR:HE1</td>
<td>1.59</td>
<td>0.68</td>
</tr>
<tr>
<td>1:B:139:LEU:HD23</td>
<td>1:B:139:LEU:C</td>
<td>2.15</td>
<td>0.67</td>
</tr>
<tr>
<td>1:B:22:MET:HB2</td>
<td>1:B:23:PRO:HD3</td>
<td>1.77</td>
<td>0.67</td>
</tr>
<tr>
<td>5:I:161:ASP:HB3</td>
<td>5:I:271:LYS:HG2</td>
<td>1.77</td>
<td>0.67</td>
</tr>
<tr>
<td>1:A:136:PHE:CE2</td>
<td>1:A:168:LEU:HB3</td>
<td>2.30</td>
<td>0.66</td>
</tr>
<tr>
<td>6:K:207:SER:HB2</td>
<td>6:K:250:LYS:HD2</td>
<td>1.77</td>
<td>0.66</td>
</tr>
<tr>
<td>1:B:9:THR:HA</td>
<td>1:B:12:ARG:HD2</td>
<td>1.78</td>
<td>0.65</td>
</tr>
<tr>
<td>1:A:164:GLN:O</td>
<td>1:A:167:THR:OG1</td>
<td>2.11</td>
<td>0.65</td>
</tr>
<tr>
<td>5:I:304:TYR:HB3</td>
<td>5:I:305:PRO:HD3</td>
<td>1.77</td>
<td>0.65</td>
</tr>
<tr>
<td>1:B:129:HIS:HB3</td>
<td>1:B:196:VAL:HG22</td>
<td>1.77</td>
<td>0.65</td>
</tr>
<tr>
<td>1:B:20:MET:HE2</td>
<td>1:B:102:VAL:CG1</td>
<td>2.25</td>
<td>0.65</td>
</tr>
<tr>
<td>1:A:23:PRO:O</td>
<td>1:A:27:ILE:HD12</td>
<td>1.97</td>
<td>0.64</td>
</tr>
<tr>
<td>4:G:487:ALA:HA</td>
<td>4:G:564:LYS:HG2</td>
<td>1.80</td>
<td>0.64</td>
</tr>
<tr>
<td>1:B:290:LEU:HD23</td>
<td>2:C:366:TRP:CH2</td>
<td>2.28</td>
<td>0.64</td>
</tr>
<tr>
<td>2:C:258:VAL:HB</td>
<td>2:C:292:VAL:HA</td>
<td>1.79</td>
<td>0.64</td>
</tr>
<tr>
<td>1:A:144:ASN:HD22</td>
<td>1:A:144:ASN:N</td>
<td>1.95</td>
<td>0.64</td>
</tr>
<tr>
<td>2:C:317:GLY:HA2</td>
<td>5:I:301:ARG:HB3</td>
<td>1.80</td>
<td>0.64</td>
</tr>
<tr>
<td>1:B:19:GLU:OE1</td>
<td>1:B:19:GLU:HA</td>
<td>1.97</td>
<td>0.64</td>
</tr>
<tr>
<td>1:B:292:PRO:HB2</td>
<td>2:C:362:TYR:CD1</td>
<td>2.32</td>
<td>0.64</td>
</tr>
<tr>
<td>1:B:293:SER:CB</td>
<td>2:C:362:TYR:CE1</td>
<td>2.80</td>
<td>0.63</td>
</tr>
<tr>
<td>1:B:135:VAL:HG22</td>
<td>1:B:230:VAL:HB</td>
<td>1.79</td>
<td>0.63</td>
</tr>
<tr>
<td>2:D:183:HIS:H</td>
<td>2:D:210:THR:HB</td>
<td>1.63</td>
<td>0.63</td>
</tr>
<tr>
<td>5:J:464:VAL:HB</td>
<td>5:J:467:VAL:HG23</td>
<td>1.80</td>
<td>0.63</td>
</tr>
<tr>
<td>1:B:146:PHE:HB3</td>
<td>5:I:332:VAL:HG13</td>
<td>1.81</td>
<td>0.62</td>
</tr>
<tr>
<td>1:B:139:LEU:HD23</td>
<td>1:B:139:LEU:O</td>
<td>2.00</td>
<td>0.62</td>
</tr>
<tr>
<td>1:B:146:PHE:CB</td>
<td>5:I:332:VAL:CG1</td>
<td>2.78</td>
<td>0.62</td>
</tr>
<tr>
<td>1:B:20:MET:HE1</td>
<td>1:B:102:VAL:CG1</td>
<td>2.29</td>
<td>0.61</td>
</tr>
<tr>
<td>1:A:175:PRO:HG2</td>
<td>5:J:335:GLN:NE2</td>
<td>2.14</td>
<td>0.61</td>
</tr>
<tr>
<td>1:A:123:ASP:OD1</td>
<td>1:A:148:ARG:O</td>
<td>2.18</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:E:160:LEU:H</td>
<td>3:E:161:PRO:HD2</td>
<td>1.66</td>
<td>0.60</td>
</tr>
<tr>
<td>1:B:21:THR:HG21</td>
<td>1:B:234:HIS:CE1</td>
<td>2.32</td>
<td>0.60</td>
</tr>
<tr>
<td>4:H:432:ARG:HB3</td>
<td>4:H:532:LEU:HD11</td>
<td>1.83</td>
<td>0.60</td>
</tr>
<tr>
<td>4:G:483:LEU:HB3</td>
<td>4:G:566:ALA:HB3</td>
<td>1.84</td>
<td>0.60</td>
</tr>
<tr>
<td>1:A:256:PHE:HA</td>
<td>1:B:177:THR:HB</td>
<td>1.83</td>
<td>0.59</td>
</tr>
<tr>
<td>2:C:90:ARG:HH22</td>
<td>2:C:298:LEU:HD13</td>
<td>1.66</td>
<td>0.59</td>
</tr>
<tr>
<td>6:L:146:LYS:O</td>
<td>6:L:149:ILE:HG13</td>
<td>2.02</td>
<td>0.59</td>
</tr>
<tr>
<td>2:C:333:THR:HG22</td>
<td>4:G:453:TYR:HB3</td>
<td>1.85</td>
<td>0.59</td>
</tr>
<tr>
<td>1:B:172:LYS:CE</td>
<td>1:B:172:LYS:HA</td>
<td>2.24</td>
<td>0.59</td>
</tr>
<tr>
<td>2:D:67:ILE:HA</td>
<td>2:D:70:LEU:HD12</td>
<td>1.83</td>
<td>0.59</td>
</tr>
<tr>
<td>1:B:283:LEU:N</td>
<td>1:B:291:THR:OG1</td>
<td>2.36</td>
<td>0.59</td>
</tr>
<tr>
<td>1:B:20:MET:CE</td>
<td>1:B:102:VAL:HG11</td>
<td>2.33</td>
<td>0.59</td>
</tr>
<tr>
<td>5:J:414:ILE:HA</td>
<td>5:J:432:ILE:HB</td>
<td>1.84</td>
<td>0.58</td>
</tr>
<tr>
<td>1:A:120:ILE:HG12</td>
<td>1:A:126:ILE:HG12</td>
<td>1.84</td>
<td>0.58</td>
</tr>
<tr>
<td>1:B:9:THR:HA</td>
<td>1:B:12:ARG:CD</td>
<td>2.33</td>
<td>0.58</td>
</tr>
<tr>
<td>2:D:198:LYS:O</td>
<td>2:D:201:ILE:HG22</td>
<td>2.04</td>
<td>0.57</td>
</tr>
<tr>
<td>1:B:120:ILE:HG21</td>
<td>1:B:147:ILE:CG2</td>
<td>2.33</td>
<td>0.57</td>
</tr>
<tr>
<td>1:B:126:ILE:HD12</td>
<td>1:B:149:PHE:HD2</td>
<td>1.68</td>
<td>0.57</td>
</tr>
<tr>
<td>1:B:291:THR:H</td>
<td>1:B:292:PRO:HD3</td>
<td>1.63</td>
<td>0.57</td>
</tr>
<tr>
<td>4:H:487:ALA:HA</td>
<td>4:H:564:LYS:HE3</td>
<td>1.86</td>
<td>0.57</td>
</tr>
<tr>
<td>1:B:23:PRO:HG2</td>
<td>1:B:235:LYS:NZ</td>
<td>2.20</td>
<td>0.57</td>
</tr>
<tr>
<td>5:I:32:LEU:HB2</td>
<td>5:I:136:SER:HA</td>
<td>1.86</td>
<td>0.57</td>
</tr>
<tr>
<td>2:C:74:LEU:HD12</td>
<td>2:C:88:ILE:HD11</td>
<td>1.86</td>
<td>0.57</td>
</tr>
<tr>
<td>2:D:317:GLY:HA2</td>
<td>5:J:301:ARG:HB3</td>
<td>1.85</td>
<td>0.57</td>
</tr>
<tr>
<td>2:C:219:PHE:HA</td>
<td>2:C:223:THR:HG23</td>
<td>1.85</td>
<td>0.57</td>
</tr>
<tr>
<td>1:B:146:PHE:CB</td>
<td>5:I:332:VAL:HG11</td>
<td>2.35</td>
<td>0.57</td>
</tr>
<tr>
<td>5:J:83:ALA:HA</td>
<td>5:J:86:ILE:HD12</td>
<td>1.87</td>
<td>0.57</td>
</tr>
<tr>
<td>7:M:140:LEU:HA</td>
<td>7:M:193:ASP:O</td>
<td>2.05</td>
<td>0.57</td>
</tr>
<tr>
<td>1:B:120:ILE:CG2</td>
<td>1:B:147:ILE:HG21</td>
<td>2.34</td>
<td>0.56</td>
</tr>
<tr>
<td>1:B:21:THR:O</td>
<td>1:B:24:ILE:HB</td>
<td>2.04</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:D:275:ASN:HA</td>
<td>2:D:338:THR:HA</td>
<td>1.86</td>
<td>0.56</td>
</tr>
<tr>
<td>1:A:113:ALA:CA</td>
<td>1:A:138:LEU:HD22</td>
<td>2.33</td>
<td>0.56</td>
</tr>
<tr>
<td>2:C:173:GLN:HA</td>
<td>2:C:176:ALA:HB3</td>
<td>1.87</td>
<td>0.56</td>
</tr>
<tr>
<td>5:I:40:PHE:HA</td>
<td>5:I:288:TRP:HE1</td>
<td>1.70</td>
<td>0.56</td>
</tr>
<tr>
<td>5:I:357:ILE:HA</td>
<td>5:I:374:ILE:HB</td>
<td>1.87</td>
<td>0.56</td>
</tr>
<tr>
<td>1:A:139:LEU:HD11</td>
<td>1:A:151:CYS:SG</td>
<td>2.46</td>
<td>0.56</td>
</tr>
<tr>
<td>1:B:230:VAL:HA</td>
<td>1:B:284:ILE:HB</td>
<td>1.88</td>
<td>0.56</td>
</tr>
<tr>
<td>3:E:267:THR:HG23</td>
<td>5:J:225:VAL:HA</td>
<td>1.88</td>
<td>0.56</td>
</tr>
<tr>
<td>1:B:20:MET:HE2</td>
<td>1:B:102:VAL:HG13</td>
<td>1.84</td>
<td>0.55</td>
</tr>
<tr>
<td>2:C:42:LEU:HA</td>
<td>2:C:45:LEU:HD12</td>
<td>1.87</td>
<td>0.55</td>
</tr>
<tr>
<td>1:B:283:LEU:HB3</td>
<td>1:B:291:THR:CB</td>
<td>2.35</td>
<td>0.55</td>
</tr>
<tr>
<td>1:B:109:ARG:HH22</td>
<td>1:B:133:ARG:HB3</td>
<td>1.71</td>
<td>0.55</td>
</tr>
<tr>
<td>1:B:290:LEU:HD13</td>
<td>1:B:294:ALA:HB3</td>
<td>1.89</td>
<td>0.55</td>
</tr>
<tr>
<td>1:B:22:MET:CB</td>
<td>1:B:23:PRO:HD3</td>
<td>2.37</td>
<td>0.55</td>
</tr>
<tr>
<td>2:C:301:LEU:HD21</td>
<td>2:C:365:ALA:HA</td>
<td>1.89</td>
<td>0.55</td>
</tr>
<tr>
<td>1:A:20:MET:HG3</td>
<td>1:A:24:ILE:CG2</td>
<td>2.35</td>
<td>0.54</td>
</tr>
<tr>
<td>1:A:20:MET:HG3</td>
<td>1:A:24:ILE:HG21</td>
<td>1.90</td>
<td>0.54</td>
</tr>
<tr>
<td>1:B:126:ILE:CD1</td>
<td>1:B:149:PHE:HD2</td>
<td>2.20</td>
<td>0.54</td>
</tr>
<tr>
<td>1:B:257:THR:HG21</td>
<td>1:B:266:ALA:HA</td>
<td>1.88</td>
<td>0.54</td>
</tr>
<tr>
<td>1:B:20:MET:HE1</td>
<td>1:B:102:VAL:HG11</td>
<td>1.90</td>
<td>0.54</td>
</tr>
<tr>
<td>7:M:113:LYS:HE3</td>
<td>7:M:195:PRO:HA</td>
<td>1.89</td>
<td>0.54</td>
</tr>
<tr>
<td>1:A:112:ILE:HG22</td>
<td>1:A:138:LEU:HD11</td>
<td>1.90</td>
<td>0.54</td>
</tr>
<tr>
<td>5:I:123:ASP:HB3</td>
<td>5:I:247:GLN:HE21</td>
<td>1.72</td>
<td>0.54</td>
</tr>
<tr>
<td>5:I:432:ILE:HG12</td>
<td>5:I:459:ASP:HB2</td>
<td>1.89</td>
<td>0.54</td>
</tr>
<tr>
<td>4:H:547:LYS:HE2</td>
<td>4:H:558:ARG:HH21</td>
<td>1.73</td>
<td>0.53</td>
</tr>
<tr>
<td>5:J:188:ASP:HB3</td>
<td>5:J:193:ARG:H</td>
<td>1.73</td>
<td>0.53</td>
</tr>
<tr>
<td>1:A:202:ALA:HB2</td>
<td>1:A:208:ILE:HD11</td>
<td>1.91</td>
<td>0.53</td>
</tr>
<tr>
<td>1:B:290:LEU:HD12</td>
<td>1:B:290:LEU:O</td>
<td>2.09</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:B:163:ASN:O</td>
<td>1:B:167:THR:HG23</td>
<td>2.09</td>
<td>0.53</td>
</tr>
<tr>
<td>1:B:34:LEU:HD22</td>
<td>1:B:73:PHE:HZ</td>
<td>1.72</td>
<td>0.53</td>
</tr>
<tr>
<td>7:N:142:TYR:CE2</td>
<td>7:N:190:SER:HB2</td>
<td>2.44</td>
<td>0.53</td>
</tr>
<tr>
<td>1:A:143:ALA:HA</td>
<td>1:A:149:PHE:CE2</td>
<td>2.45</td>
<td>0.52</td>
</tr>
<tr>
<td>3:F:219:GLN:HE22</td>
<td>3:F:249:LYS:HD2</td>
<td>1.74</td>
<td>0.52</td>
</tr>
<tr>
<td>5:J:186:VAL:O</td>
<td>5:J:194:CYS:HA</td>
<td>2.09</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:113:ALA:HA</td>
<td>1:A:138:LEU:CD2</td>
<td>2.33</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:19:GLU:HA</td>
<td>1:A:19:GLU:OE1</td>
<td>2.10</td>
<td>0.52</td>
</tr>
<tr>
<td>4:G:416:ASN:HD22</td>
<td>4:G:424:ILE:HG12</td>
<td>1.73</td>
<td>0.52</td>
</tr>
<tr>
<td>1:B:189:ASP:HB3</td>
<td>4:G:500:ASN:HB2</td>
<td>1.90</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:113:ALA:HB2</td>
<td>1:A:138:LEU:CD2</td>
<td>2.39</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:160:LYS:HB3</td>
<td>1:A:163:ASN:HD22</td>
<td>1.73</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:113:ALA:CA</td>
<td>1:A:138:LEU:CD2</td>
<td>2.88</td>
<td>0.52</td>
</tr>
<tr>
<td>1:B:68:ALA:HB2</td>
<td>1:B:237:VAL:HG22</td>
<td>1.92</td>
<td>0.52</td>
</tr>
<tr>
<td>1:B:146:PHE:CB</td>
<td>5:I:332:VAL:HG13</td>
<td>2.38</td>
<td>0.52</td>
</tr>
<tr>
<td>1:B:64:VAL:HA</td>
<td>1:B:67:ARG:HD2</td>
<td>1.92</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:109:ARG:HH12</td>
<td>1:A:133:ARG:HB3</td>
<td>1.74</td>
<td>0.52</td>
</tr>
<tr>
<td>5:I:75:VAL:HG23</td>
<td>5:I:102:PHE:HB2</td>
<td>1.92</td>
<td>0.52</td>
</tr>
<tr>
<td>5:I:31:VAL:HB</td>
<td>5:I:77:LEU:HD23</td>
<td>1.91</td>
<td>0.52</td>
</tr>
<tr>
<td>1:A:165:LEU:O</td>
<td>1:A:169:LEU:HD12</td>
<td>2.10</td>
<td>0.51</td>
</tr>
<tr>
<td>7:N:471:THR:HG21</td>
<td>7:N:491:ALA:HB2</td>
<td>1.91</td>
<td>0.51</td>
</tr>
<tr>
<td>5:I:343:THR:HG22</td>
<td>5:I:360:SER:H</td>
<td>1.74</td>
<td>0.51</td>
</tr>
<tr>
<td>1:B:120:ILE:HG21</td>
<td>1:B:147:ILE:HG21</td>
<td>1.91</td>
<td>0.51</td>
</tr>
<tr>
<td>4:H:305:LYS:HA</td>
<td>4:H:364:LYS:HE3</td>
<td>1.93</td>
<td>0.51</td>
</tr>
<tr>
<td>5:I:28:GLN:HE21</td>
<td>5:I:132:PHE:HB2</td>
<td>1.75</td>
<td>0.51</td>
</tr>
<tr>
<td>1:A:9:THR:O</td>
<td>1:A:13:PHE:CE2</td>
<td>2.63</td>
<td>0.51</td>
</tr>
<tr>
<td>1:B:154:THR:HA</td>
<td>1:B:179:ILE:O</td>
<td>2.09</td>
<td>0.51</td>
</tr>
<tr>
<td>1:B:27:ILE:HA</td>
<td>1:B:30:LEU:HD12</td>
<td>1.91</td>
<td>0.51</td>
</tr>
<tr>
<td>1:B:291:THR:N</td>
<td>1:B:292:PRO:HD3</td>
<td>2.22</td>
<td>0.51</td>
</tr>
<tr>
<td>6:L:7:ARG:HD2</td>
<td>6:L:12:LYS:HG2</td>
<td>1.92</td>
<td>0.51</td>
</tr>
<tr>
<td>1:B:23:PRO:CG</td>
<td>1:B:235:LYS:NZ</td>
<td>2.73</td>
<td>0.51</td>
</tr>
<tr>
<td>2:D:89:ARG:HA</td>
<td>2:D:92:LEU:HD12</td>
<td>1.91</td>
<td>0.51</td>
</tr>
<tr>
<td>2:D:19:ASN:HB2</td>
<td>2:D:22:ILE:HD11</td>
<td>1.91</td>
<td>0.51</td>
</tr>
<tr>
<td>5:J:300:GLY:HA2</td>
<td>5:J:324:HIS:HE1</td>
<td>1.76</td>
<td>0.50</td>
</tr>
<tr>
<td>6:K:92:SER:HA</td>
<td>6:K:95:ILE:HD12</td>
<td>1.94</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:C:206:ARG:HG3</td>
<td>2:C:209:ARG:HD2</td>
<td>1.94</td>
<td>0.50</td>
</tr>
<tr>
<td>5:J:410:ASP:HB2</td>
<td>5:J:428:ARG:HE</td>
<td>1.76</td>
<td>0.50</td>
</tr>
<tr>
<td>1:A:22:MET:CB</td>
<td>1:A:23:PRO:HD3</td>
<td>2.41</td>
<td>0.50</td>
</tr>
<tr>
<td>2:D:48:LEU:HD13</td>
<td>2:D:91:ILE:HD13</td>
<td>1.93</td>
<td>0.50</td>
</tr>
<tr>
<td>2:D:244:PRO:HG2</td>
<td>2:D:247:ALA:HB3</td>
<td>1.94</td>
<td>0.50</td>
</tr>
<tr>
<td>2:D:323:PRO:HD3</td>
<td>4:H:537:TYR:HD1</td>
<td>1.77</td>
<td>0.50</td>
</tr>
<tr>
<td>5:J:94:LYS:HB3</td>
<td>5:J:99:TRP:HZ2</td>
<td>1.77</td>
<td>0.50</td>
</tr>
<tr>
<td>5:1:329:LYS:O</td>
<td>5:J:330:ASP:HB2</td>
<td>2.12</td>
<td>0.49</td>
</tr>
<tr>
<td>4:G:405:SER:HB3</td>
<td>4:G:436:GLU:HB3</td>
<td>1.94</td>
<td>0.49</td>
</tr>
<tr>
<td>5:J:324:HIS:HB3</td>
<td>5:J:342:CYS:H</td>
<td>1.77</td>
<td>0.49</td>
</tr>
<tr>
<td>2:C:93:ALA:HB2</td>
<td>2:C:369:TYR:HA</td>
<td>1.94</td>
<td>0.49</td>
</tr>
<tr>
<td>4:G:441:ALA:HA</td>
<td>4:G:444:LEU:HD12</td>
<td>1.94</td>
<td>0.49</td>
</tr>
<tr>
<td>4:G:399:THR:HB</td>
<td>4:G:467:VAL:HA</td>
<td>1.95</td>
<td>0.49</td>
</tr>
<tr>
<td>5:1:353:GLU:H</td>
<td>5:J:370:GLU:HG2</td>
<td>1.77</td>
<td>0.49</td>
</tr>
<tr>
<td>1:A:136:PHE:CZ</td>
<td>1:A:168:LEU:HB2</td>
<td>2.46</td>
<td>0.49</td>
</tr>
<tr>
<td>2:C:29:LEU:HD13</td>
<td>2:C:78:HIS:HB2</td>
<td>1.94</td>
<td>0.49</td>
</tr>
<tr>
<td>1:A:185:GLY:H</td>
<td>1:B:215:SER:HB2</td>
<td>1.78</td>
<td>0.49</td>
</tr>
<tr>
<td>5:1:357:ILE:HG12</td>
<td>5:J:374:ILE:HD12</td>
<td>1.95</td>
<td>0.49</td>
</tr>
<tr>
<td>5:J:195:ILE:HG12</td>
<td>5:J:264:ILE:HG21</td>
<td>1.94</td>
<td>0.49</td>
</tr>
<tr>
<td>5:J:296:GLN:HA</td>
<td>5:J:299:LEU:HD12</td>
<td>1.95</td>
<td>0.49</td>
</tr>
<tr>
<td>7:N:238:ILE:HG12</td>
<td>7:N:514:TRP:HB3</td>
<td>1.95</td>
<td>0.49</td>
</tr>
<tr>
<td>2:C:244:PRO:HG3</td>
<td>4:G:560:PHE:HB2</td>
<td>1.94</td>
<td>0.48</td>
</tr>
<tr>
<td>1:B:240:PHE:CZ</td>
<td>4:H:572:LYS:HB3</td>
<td>2.42</td>
<td>0.48</td>
</tr>
<tr>
<td>5:1:97:LEU:HD23</td>
<td>5:1:98:PRO:HD2</td>
<td>1.95</td>
<td>0.48</td>
</tr>
<tr>
<td>1:B:120:ILE:CG2</td>
<td>1:B:147:ILE:CG2</td>
<td>2.90</td>
<td>0.48</td>
</tr>
<tr>
<td>1:B:293:SER:HB3</td>
<td>2:C:362:TYR:CZ</td>
<td>2.47</td>
<td>0.48</td>
</tr>
<tr>
<td>1:B:91:LYS:HA</td>
<td>1:B:94:LEU:HD12</td>
<td>1.96</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Continued on next page...
<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:J:195:ILE:HA</td>
<td>5:J:264:ILE:HD13</td>
<td>1.95</td>
<td>0.48</td>
</tr>
<tr>
<td>7:N:473:ALA:HB1</td>
<td>7:N:485:ILE:HB3</td>
<td>1.95</td>
<td>0.48</td>
</tr>
<tr>
<td>2:C:186:LEU:HD22</td>
<td>2:C:259:ILE:HD11</td>
<td>1.95</td>
<td>0.48</td>
</tr>
<tr>
<td>2:D:231:LYS:HD2</td>
<td>4:H:546:ASN:HD21</td>
<td>1.77</td>
<td>0.48</td>
</tr>
<tr>
<td>2:C:319:GLN:HA</td>
<td>2:C:328:ARG:HH22</td>
<td>1.77</td>
<td>0.48</td>
</tr>
<tr>
<td>1:A:24:ILE:HG23</td>
<td>1:A:102:VAL:HG22</td>
<td>1.96</td>
<td>0.48</td>
</tr>
<tr>
<td>5:J:349:THR:HG22</td>
<td>5:J:366:CYS:HB2</td>
<td>1.96</td>
<td>0.48</td>
</tr>
<tr>
<td>6:K:133:PRO:HG2</td>
<td>6:K:134:ILE:HD12</td>
<td>1.94</td>
<td>0.48</td>
</tr>
<tr>
<td>1:A:170:GLU:OE2</td>
<td>1:B:260:THR:CB</td>
<td>2.62</td>
<td>0.48</td>
</tr>
<tr>
<td>1:A:200:GLY:HA2</td>
<td>1:A:235:LYS:HB3</td>
<td>1.96</td>
<td>0.48</td>
</tr>
<tr>
<td>1:B:195:PHE:HA</td>
<td>1:B:228:TYR:HB2</td>
<td>1.96</td>
<td>0.48</td>
</tr>
<tr>
<td>1:B:230:VAL:HG22</td>
<td>1:B:284:ILE:HD12</td>
<td>1.95</td>
<td>0.48</td>
</tr>
<tr>
<td>6:L:75:ARG:H</td>
<td>6:L:84:ASP:HB2</td>
<td>1.78</td>
<td>0.48</td>
</tr>
<tr>
<td>1:A:144:ASN:N</td>
<td>1:A:144:ASN:ND2</td>
<td>2.60</td>
<td>0.47</td>
</tr>
<tr>
<td>2:C:44:THR:HA</td>
<td>2:C:47:LEU:HD12</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>1:A:182:SER:HB2</td>
<td>1:B:212:GLY:HA3</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>2:C:186:LEU:HD23</td>
<td>2:C:257:LYS:HB2</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>5:I:178:ARG:HH22</td>
<td>5:I:229:ASP:HA</td>
<td>1.78</td>
<td>0.47</td>
</tr>
<tr>
<td>5:I:59:LEU:HA</td>
<td>5:I:62:TYR:CE2</td>
<td>2.49</td>
<td>0.47</td>
</tr>
<tr>
<td>5:J:255:LEU:HA</td>
<td>5:J:259:PHE:HB3</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>2:C:28:LYS:HB3</td>
<td>2:C:34:VAL:HB</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>5:J:27:LEU:HB3</td>
<td>5:J:133:ILE:HD11</td>
<td>1.97</td>
<td>0.47</td>
</tr>
<tr>
<td>6:K:146:LYS:O</td>
<td>6:K:149:ILE:HG13</td>
<td>2.15</td>
<td>0.47</td>
</tr>
<tr>
<td>7:M:142:TYR:HD1</td>
<td>7:M:319:ARG:NH2</td>
<td>2.13</td>
<td>0.47</td>
</tr>
<tr>
<td>7:N:240:LYS:HG3</td>
<td>7:N:498:LYS:HE3</td>
<td>1.97</td>
<td>0.47</td>
</tr>
<tr>
<td>1:B:23:PRO:CG</td>
<td>1:B:234:HIS:NE2</td>
<td>2.74</td>
<td>0.47</td>
</tr>
<tr>
<td>5:J:304:TYR:HB3</td>
<td>5:J:305:PRO:HD3</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>5:J:43:LEU:HD12</td>
<td>5:J:288:TRP:HH2</td>
<td>1.80</td>
<td>0.47</td>
</tr>
</tbody>
</table>

*Continued on next page...*
### Atom-1

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:E:157:LYS:HG2</td>
<td>3:E:288:LEU:HB3</td>
<td>1.96</td>
<td>0.47</td>
</tr>
<tr>
<td>7:N:142:TYR:HE2</td>
<td>7:N:190:SER:HB2</td>
<td>1.79</td>
<td>0.46</td>
</tr>
<tr>
<td>2:D:302:SER:HA</td>
<td>2:D:303:PRO:HD3</td>
<td>1.79</td>
<td>0.46</td>
</tr>
<tr>
<td>5:I:340:GLY:HA3</td>
<td>5:I:358:GLU:HG2</td>
<td>1.96</td>
<td>0.46</td>
</tr>
<tr>
<td>5:I:355:THR:HG22</td>
<td>5:I:372:ILE:H</td>
<td>1.80</td>
<td>0.46</td>
</tr>
<tr>
<td>6:L:119:PHE:HB3</td>
<td>6:L:121:ILE:HG12</td>
<td>1.96</td>
<td>0.46</td>
</tr>
<tr>
<td>2:D:292:VAL:HB</td>
<td>2:D:346:ILE:HA</td>
<td>1.97</td>
<td>0.46</td>
</tr>
<tr>
<td>6:K:20:VAL:HG12</td>
<td>6:K:38:GLU:HB3</td>
<td>1.96</td>
<td>0.46</td>
</tr>
<tr>
<td>1:A:56:LEU:HD21</td>
<td>1:A:66:LEU:HB3</td>
<td>1.98</td>
<td>0.46</td>
</tr>
<tr>
<td>4:H:410:THR:HA</td>
<td>4:H:413:LEU:HD12</td>
<td>1.97</td>
<td>0.46</td>
</tr>
<tr>
<td>3:E:303:ASP:N</td>
<td>3:E:304:PRO:HD2</td>
<td>2.30</td>
<td>0.46</td>
</tr>
<tr>
<td>5:I:184:ALA:HA</td>
<td>5:I:228:ASN:HA</td>
<td>1.97</td>
<td>0.46</td>
</tr>
<tr>
<td>1:A:147:ILE:O</td>
<td>1:A:147:ILE:HG22</td>
<td>2.16</td>
<td>0.46</td>
</tr>
<tr>
<td>4:H:483:LEU:HB3</td>
<td>4:H:566:ALA:HB3</td>
<td>1.97</td>
<td>0.46</td>
</tr>
<tr>
<td>5:I:255:LEU:HD12</td>
<td>5:I:256:ARG:HG2</td>
<td>1.98</td>
<td>0.46</td>
</tr>
<tr>
<td>3:E:157:LYS:HD3</td>
<td>3:E:292:PRO:HB3</td>
<td>1.96</td>
<td>0.46</td>
</tr>
<tr>
<td>5:I:165:THR:HA</td>
<td>5:I:274:TYR:HB2</td>
<td>1.97</td>
<td>0.46</td>
</tr>
<tr>
<td>1:A:149:PHE:CZ</td>
<td>1:A:174:ILE:CD1</td>
<td>2.65</td>
<td>0.46</td>
</tr>
<tr>
<td>1:A:196:VAL:HG12</td>
<td>1:A:229:VAL:HG13</td>
<td>1.98</td>
<td>0.46</td>
</tr>
<tr>
<td>6:L:100:GLU:HA</td>
<td>6:L:103:GLN:HE21</td>
<td>1.81</td>
<td>0.46</td>
</tr>
<tr>
<td>1:B:139:LEU:HD11</td>
<td>1:B:151:CYS:HG</td>
<td>1.80</td>
<td>0.46</td>
</tr>
<tr>
<td>1:B:15:GLU:H</td>
<td>1:B:15:GLU:HG2</td>
<td>1.61</td>
<td>0.46</td>
</tr>
<tr>
<td>4:G:576:ILE:HG22</td>
<td>4:G:577:GLY:H</td>
<td>1.81</td>
<td>0.46</td>
</tr>
<tr>
<td>5:I:168:LEU:HD22</td>
<td>5:I:230:LEU:HB3</td>
<td>1.98</td>
<td>0.45</td>
</tr>
<tr>
<td>2:C:45:LEU:HD22</td>
<td>2:C:162:ILE:HG13</td>
<td>1.97</td>
<td>0.45</td>
</tr>
<tr>
<td>5:I:24:GLU:HG2</td>
<td>5:I:153:LYS:HD3</td>
<td>1.97</td>
<td>0.45</td>
</tr>
<tr>
<td>1:B:126:ILE:HD12</td>
<td>1:B:149:PHE:CD2</td>
<td>2.50</td>
<td>0.45</td>
</tr>
<tr>
<td>1:B:13:PHE:CD1</td>
<td>1:B:13:PHE:N</td>
<td>2.85</td>
<td>0.45</td>
</tr>
<tr>
<td>1:A:212:GLY:HA3</td>
<td>1:B:182:SER:HB2</td>
<td>1.97</td>
<td>0.45</td>
</tr>
<tr>
<td>2:D:222:ASN:HA</td>
<td>2:D:225:ASN:HD22</td>
<td>1.82</td>
<td>0.45</td>
</tr>
<tr>
<td>2:D:230:ALA:HA</td>
<td>2:D:233:LEU:HD12</td>
<td>1.97</td>
<td>0.45</td>
</tr>
<tr>
<td>7:N:337:VAL:HA</td>
<td>7:N:399:GLY:HA2</td>
<td>1.97</td>
<td>0.45</td>
</tr>
<tr>
<td>1:B:155:GLU:HB3</td>
<td>1:B:180:VAL:HA</td>
<td>1.97</td>
<td>0.45</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:L:224:ALA:HB3</td>
<td>6:L:227:LEU:HB2</td>
<td>1.98</td>
<td>0.45</td>
</tr>
<tr>
<td>1:B:21:THR:OG1</td>
<td>1:B:24:ILE:HD13</td>
<td>2.16</td>
<td>0.45</td>
</tr>
<tr>
<td>4:G:427:ILE:HG12</td>
<td>4:G:452:MET:HB2</td>
<td>1.98</td>
<td>0.45</td>
</tr>
<tr>
<td>4:H:471:PHE:HA</td>
<td>4:H:504:LEU:O</td>
<td>2.16</td>
<td>0.45</td>
</tr>
<tr>
<td>1:B:8:GLU:O</td>
<td>1:B:12:ARG:HD2</td>
<td>2.16</td>
<td>0.45</td>
</tr>
<tr>
<td>1:A:257:THR:HG21</td>
<td>1:A:265:ASP:HB3</td>
<td>1.98</td>
<td>0.45</td>
</tr>
<tr>
<td>7:M:337:VAL:HA</td>
<td>7:M:399:GLY:HA</td>
<td>1.98</td>
<td>0.45</td>
</tr>
<tr>
<td>5:I:416:PHE:CD2</td>
<td>5:I:434:ALA:HB1</td>
<td>2.52</td>
<td>0.45</td>
</tr>
<tr>
<td>5:I:338:LYS:HG3</td>
<td>5:I:356:LYS:HG2</td>
<td>1.99</td>
<td>0.44</td>
</tr>
<tr>
<td>6:K:46:ILE:HG13</td>
<td>6:K:85:LEU:HB2</td>
<td>1.98</td>
<td>0.44</td>
</tr>
<tr>
<td>7:M:462:LEU:HD22</td>
<td>7:M:503:ARG:HG2</td>
<td>2.00</td>
<td>0.44</td>
</tr>
<tr>
<td>3:E:179:PRO:HA</td>
<td>3:E:180:PRO:HD3</td>
<td>1.80</td>
<td>0.44</td>
</tr>
<tr>
<td>7:N:145:ALA:HB3</td>
<td>7:N:189:VAL:HG23</td>
<td>1.99</td>
<td>0.44</td>
</tr>
<tr>
<td>1:A:21:THR:HG21</td>
<td>1:A:234:HIS:NE2</td>
<td>2.32</td>
<td>0.44</td>
</tr>
<tr>
<td>1:A:187:VAL:HG23</td>
<td>1:B:270:PRO:HG3</td>
<td>1.99</td>
<td>0.44</td>
</tr>
<tr>
<td>2:D:285:ALA:O</td>
<td>2:D:289:ARG:N</td>
<td>2.51</td>
<td>0.44</td>
</tr>
<tr>
<td>4:G:432:ARG:N</td>
<td>4:G:433:PRO:HD2</td>
<td>2.33</td>
<td>0.44</td>
</tr>
<tr>
<td>4:G:284:TYR:HE1</td>
<td>4:G:286:ILE:HB</td>
<td>1.83</td>
<td>0.44</td>
</tr>
<tr>
<td>1:A:241:PRO:HB3</td>
<td>1:A:247:LEU:HG</td>
<td>2.00</td>
<td>0.44</td>
</tr>
<tr>
<td>7:M:165:LYS:HA</td>
<td>7:M:296:GLU:OE1</td>
<td>2.18</td>
<td>0.44</td>
</tr>
<tr>
<td>5:I:37:GLU:HG2</td>
<td>5:I:49:ARG:HB2</td>
<td>2.00</td>
<td>0.44</td>
</tr>
<tr>
<td>7:N:247:LEU:HD23</td>
<td>7:N:281:VAL:HB</td>
<td>2.00</td>
<td>0.44</td>
</tr>
</tbody>
</table>

Continued on next page...
<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:A:170:GLU:OE2</td>
<td>1:B:260:THR:C</td>
<td>2.57</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:23:PRO:CG</td>
<td>1:B:235:LYS:HZ3</td>
<td>2.31</td>
<td>0.43</td>
</tr>
<tr>
<td>5:I:234:ARG:HB2</td>
<td>5:I:284:ARG:HD2</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>3:E:294:SER:HA</td>
<td>3:E:299:ALA:HB3</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>2:C:26:VAL:HA</td>
<td>2:C:29:LEU:HD12</td>
<td>1.99</td>
<td>0.43</td>
</tr>
<tr>
<td>2:D:196:VAL:HG21</td>
<td>2:D:261:GLY:HA3</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>1:A:170:GLU:CG</td>
<td>1:B:260:THR:O</td>
<td>2.66</td>
<td>0.43</td>
</tr>
<tr>
<td>3:E:16:ALA:HB3</td>
<td>3:E:17:PRO:HD3</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>3:F:98:VAL:HG12</td>
<td>3:F:139:LYS:HG2</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>4:G:291:PRO:HA</td>
<td>4:G:294:ILE:HD12</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>5:J:163:ILE:HD11</td>
<td>5:J:271:LYS:HB3</td>
<td>2.01</td>
<td>0.43</td>
</tr>
<tr>
<td>6:L:119:PHE:HE1</td>
<td>6:L:164:ASP:HB3</td>
<td>1.83</td>
<td>0.43</td>
</tr>
<tr>
<td>7:M:339:GLY:HA2</td>
<td>7:M:397:GLY:HA2</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>1:A:10:TYR:HE1</td>
<td>1:A:26:ALA:HB2</td>
<td>1.82</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:120:ILE:HD13</td>
<td>1:B:147:ILE:HD12</td>
<td>2.01</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:23:PRO:HG2</td>
<td>1:B:235:LYS:HZ2</td>
<td>1.84</td>
<td>0.43</td>
</tr>
<tr>
<td>2:C:328:ARG:HA</td>
<td>2:C:331:LEU:HB2</td>
<td>1.99</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:290:LEU:HD22</td>
<td>1:B:294:ALA:HB1</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>2:C:67:ILE:HA</td>
<td>2:C:70:LEU:HD12</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>5:I:135:VAL:HG22</td>
<td>5:I:235:ILE:HG23</td>
<td>2.01</td>
<td>0.43</td>
</tr>
<tr>
<td>4:G:450:ASN:HB3</td>
<td>5:I:341:LYS:NZ</td>
<td>2.34</td>
<td>0.43</td>
</tr>
<tr>
<td>1:A:170:GLU:OE2</td>
<td>1:B:260:THR:HB</td>
<td>2.19</td>
<td>0.43</td>
</tr>
<tr>
<td>3:F:101:ILE:HG23</td>
<td>3:F:102:GLU:HG3</td>
<td>2.01</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:16:GLU:HB3</td>
<td>1:B:17:ASP:H</td>
<td>1.70</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:201:VAL:HG22</td>
<td>1:B:207:ILE:HG13</td>
<td>2.01</td>
<td>0.43</td>
</tr>
<tr>
<td>1:B:21:THR:HB</td>
<td>1:B:24:ILE:HD12</td>
<td>1.97</td>
<td>0.43</td>
</tr>
<tr>
<td>4:G:507:CYS:SG</td>
<td>4:G:508:GLU:N</td>
<td>2.91</td>
<td>0.43</td>
</tr>
<tr>
<td>2:D:316:GLY:CA</td>
<td>2:D:337:ILE:HG13</td>
<td>2.49</td>
<td>0.43</td>
</tr>
<tr>
<td>5:I:64:LEU:HA</td>
<td>5:I:67:LEU:HD12</td>
<td>2.00</td>
<td>0.43</td>
</tr>
<tr>
<td>7:M:142:TYR:CD1</td>
<td>7:M:319:ARG:NH2</td>
<td>2.87</td>
<td>0.43</td>
</tr>
<tr>
<td>1:A:242:LEU:HB2</td>
<td>4:G:504:LEU:HD11</td>
<td>2.00</td>
<td>0.42</td>
</tr>
<tr>
<td>4:H:409:LEU:O</td>
<td>4:H:413:LEU:HG</td>
<td>2.19</td>
<td>0.42</td>
</tr>
<tr>
<td>1:B:139:LEU:CD2</td>
<td>1:B:139:LEU:C</td>
<td>2.86</td>
<td>0.42</td>
</tr>
<tr>
<td>4:G:399:THR:HA</td>
<td>4:G:425:LYS:HB2</td>
<td>2.01</td>
<td>0.42</td>
</tr>
<tr>
<td>1:B:283:LEU:CA</td>
<td>1:B:291:THR:OG1</td>
<td>2.67</td>
<td>0.42</td>
</tr>
<tr>
<td>2:C:152:GLN:HA</td>
<td>2:C:155:ILE:HD12</td>
<td>2.00</td>
<td>0.42</td>
</tr>
<tr>
<td>5:I:155:MET:HB3</td>
<td>5:I:274:TYR:CE1</td>
<td>2.54</td>
<td>0.42</td>
</tr>
<tr>
<td>Atom-1</td>
<td>Atom-2</td>
<td>Interatomic distance (Å)</td>
<td>Clash overlap (Å)</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>-------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>2:C:41:ALA:HB2</td>
<td>2:C:83:SER:HB2</td>
<td>2.02</td>
<td>0.42</td>
</tr>
<tr>
<td>4:G:256:LEU:HB3</td>
<td>4:G:526:LEU:HB3</td>
<td>2.01</td>
<td>0.42</td>
</tr>
<tr>
<td>4:H:480:ASN:HB2</td>
<td>4:H:482:PHE:HD1</td>
<td>1.83</td>
<td>0.42</td>
</tr>
<tr>
<td>5:J:327:LYS:HE2</td>
<td>5:J:331:VAL:HG11</td>
<td>2.02</td>
<td>0.42</td>
</tr>
<tr>
<td>7:M:313:PRO:HA</td>
<td>7:M:345:GLY:HA3</td>
<td>2.01</td>
<td>0.42</td>
</tr>
<tr>
<td>2:D:168:ILE:HG13</td>
<td>2:D:168:ILE:H</td>
<td>1.72</td>
<td>0.42</td>
</tr>
<tr>
<td>7:M:179:CYS:HA</td>
<td>7:M:180:PRO:HD3</td>
<td>1.94</td>
<td>0.42</td>
</tr>
<tr>
<td>1:A:139:LEU:C</td>
<td>1:A:139:LEU:HD23</td>
<td>2.40</td>
<td>0.42</td>
</tr>
<tr>
<td>1:B:31:VAL:HG21</td>
<td>1:B:98:GLY:CA</td>
<td>2.49</td>
<td>0.42</td>
</tr>
<tr>
<td>2:C:151:ARG:HD2</td>
<td>2:C:151:ARG:H</td>
<td>1.85</td>
<td>0.42</td>
</tr>
<tr>
<td>7:N:356:ARG:HB2</td>
<td>7:N:416:VAL:HG23</td>
<td>2.02</td>
<td>0.42</td>
</tr>
<tr>
<td>2:C:25:PHE:CE2</td>
<td>2:C:29:LEU:HD11</td>
<td>2.54</td>
<td>0.42</td>
</tr>
<tr>
<td>3:E:64:LEU:HA</td>
<td>3:E:65:PRO:HD3</td>
<td>1.84</td>
<td>0.42</td>
</tr>
<tr>
<td>5:J:308:LEU:HB2</td>
<td>5:J:326:TYR:CE1</td>
<td>2.55</td>
<td>0.42</td>
</tr>
<tr>
<td>7:N:312:SER:HA</td>
<td>7:N:313:PRO:HD3</td>
<td>1.84</td>
<td>0.42</td>
</tr>
<tr>
<td>1:A:97:ASN:HA</td>
<td>1:A:100:LEU:HB2</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>6:K:198:ILE:HG13</td>
<td>7:M:404:PRO:HD3</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>2:C:21:THR:O</td>
<td>2:C:24:THR:HG22</td>
<td>2.20</td>
<td>0.41</td>
</tr>
<tr>
<td>5:J:159:ASP:HB3</td>
<td>5:J:162:HIS:CD2</td>
<td>2.55</td>
<td>0.41</td>
</tr>
<tr>
<td>2:C:262:THR:HA</td>
<td>2:C:273:SER:HA</td>
<td>2.01</td>
<td>0.41</td>
</tr>
<tr>
<td>2:C:255:VAL:HG12</td>
<td>2:C:290:THR:HG21</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>3:F:246:ASP:HA</td>
<td>3:F:249:LYS:HB2</td>
<td>2.01</td>
<td>0.41</td>
</tr>
<tr>
<td>4:G:334:ARG:HA</td>
<td>4:G:335:PRO:HD3</td>
<td>1.96</td>
<td>0.41</td>
</tr>
<tr>
<td>1:B:146:PHE:HB2</td>
<td>5:I:332:VAL:CG1</td>
<td>2.50</td>
<td>0.41</td>
</tr>
<tr>
<td>1:A:41:THR:HA</td>
<td>6:K:75:ARG:HH11</td>
<td>1.85</td>
<td>0.41</td>
</tr>
<tr>
<td>7:M:440:LEU:HD12</td>
<td>7:M:451:ALA:HB3</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>7:N:140:LEU:O</td>
<td>7:N:319:ARG:NH1</td>
<td>2.54</td>
<td>0.41</td>
</tr>
<tr>
<td>1:B:136:PHE:CZ</td>
<td>1:B:169:LEU:H</td>
<td>2.55</td>
<td>0.41</td>
</tr>
<tr>
<td>2:C:243:VAL:HA</td>
<td>2:C:244:PRO:HD2</td>
<td>1.92</td>
<td>0.41</td>
</tr>
<tr>
<td>5:J:37:GLU:C</td>
<td>5:J:39:ARG:H</td>
<td>2.24</td>
<td>0.41</td>
</tr>
<tr>
<td>6:K:247:ALA:HA</td>
<td>6:K:250:LYS:HE3</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>7:M:149:LYS:HD3</td>
<td>7:M:151:GLN:HE21</td>
<td>1.85</td>
<td>0.41</td>
</tr>
<tr>
<td>1:A:57:ILE:HA</td>
<td>1:A:60:ILE:HD12</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>1:B:31:VAL:HG21</td>
<td>1:B:98:GLY:HA2</td>
<td>2.03</td>
<td>0.41</td>
</tr>
</tbody>
</table>
Continued from previous page...

<table>
<thead>
<tr>
<th>Atom-1</th>
<th>Atom-2</th>
<th>Interatomic distance (Å)</th>
<th>Clash overlap (Å)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:E:97:PRO:HA</td>
<td>3:E:141:ILE:HD13</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>3:E:265:ASN:HD21</td>
<td>5:J:227:ARG:HG2</td>
<td>1.86</td>
<td>0.41</td>
</tr>
<tr>
<td>7:N:357:PRO:HG2</td>
<td>7:N:415:GLN:HA</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>1:B:207:ILE:HD13</td>
<td>1:B:229:VAL:HG21</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>2:C:361:ILE:HA</td>
<td>2:C:364:ILE:HD13</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>2:D:232:LYS:O</td>
<td>2:D:235:GLN:HB2</td>
<td>2.21</td>
<td>0.41</td>
</tr>
<tr>
<td>5:J:349:THR:HA</td>
<td>5:J:366:CYS:H</td>
<td>1.84</td>
<td>0.41</td>
</tr>
<tr>
<td>5:J:435:SER:HA</td>
<td>5:J:436:PRO:HD3</td>
<td>1.94</td>
<td>0.41</td>
</tr>
<tr>
<td>1:A:113:ALA:CB</td>
<td>1:A:138:LEU:HD23</td>
<td>2.43</td>
<td>0.41</td>
</tr>
<tr>
<td>1:A:9:THR:O</td>
<td>1:A:12:ARG:HB2</td>
<td>2.20</td>
<td>0.41</td>
</tr>
<tr>
<td>7:N:430:ILE:HG13</td>
<td>7:N:485:LEU:HB2</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>1:A:269:GLY:HA2</td>
<td>1:A:270:PRO:HD2</td>
<td>1.90</td>
<td>0.41</td>
</tr>
<tr>
<td>2:C:293:PHE:CZ</td>
<td>2:C:348:ILE:HD13</td>
<td>2.56</td>
<td>0.41</td>
</tr>
<tr>
<td>5:J:194:CYS:SG</td>
<td>5:J:195:ILE:N</td>
<td>2.93</td>
<td>0.41</td>
</tr>
<tr>
<td>7:N:142:TYR:CD1</td>
<td>7:N:142:TYR:C</td>
<td>2.95</td>
<td>0.41</td>
</tr>
<tr>
<td>7:N:104:GLY:HA3</td>
<td>7:N:211:MET:HG2</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>1:A:304:Tyr:HB3</td>
<td>2:D:116:PRO:HB3</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>2:D:233:LEU:HA</td>
<td>2:D:238:ILE:HD12</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>2:D:80:THR:HG21</td>
<td>2:D:314:GLU:HB2</td>
<td>2.03</td>
<td>0.41</td>
</tr>
<tr>
<td>5:J:155:MET:HB3</td>
<td>5:J:274:TYR:CE1</td>
<td>2.56</td>
<td>0.41</td>
</tr>
<tr>
<td>7:N:349:LEU:HD12</td>
<td>7:N:388:LYS:HG2</td>
<td>2.02</td>
<td>0.41</td>
</tr>
<tr>
<td>2:D:193:SER:HB2</td>
<td>2:D:196:VAL:HG23</td>
<td>2.03</td>
<td>0.40</td>
</tr>
<tr>
<td>2:C:227:HIS:N1</td>
<td>4:G:547:LYS:HD2</td>
<td>2.37</td>
<td>0.40</td>
</tr>
<tr>
<td>6:K:33:TYR:HB3</td>
<td>6:K:45:MET:HB3</td>
<td>2.04</td>
<td>0.40</td>
</tr>
<tr>
<td>7:M:245:ILE:HG12</td>
<td>7:M:279:PRO:HG2</td>
<td>2.03</td>
<td>0.40</td>
</tr>
<tr>
<td>1:B:240:PHE:HA</td>
<td>1:B:241:PRO:HD3</td>
<td>1.92</td>
<td>0.40</td>
</tr>
<tr>
<td>4:G:416:ASN:HA</td>
<td>4:G:420:LEU:HD12</td>
<td>2.03</td>
<td>0.40</td>
</tr>
<tr>
<td>3:F:4:GLN:HG3</td>
<td>3:F:167:PHE:HB3</td>
<td>2.03</td>
<td>0.40</td>
</tr>
<tr>
<td>5:J:300:GLY:HA2</td>
<td>5:J:324:HIS:CE1</td>
<td>2.56</td>
<td>0.40</td>
</tr>
<tr>
<td>1:B:293:SER:HB2</td>
<td>2:C:359:SER:O</td>
<td>2.22</td>
<td>0.40</td>
</tr>
<tr>
<td>5:J:268:ILE:HD13</td>
<td>5:J:271:LYS:HD2</td>
<td>2.03</td>
<td>0.40</td>
</tr>
</tbody>
</table>

There are no symmetry-related clashes.
5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Analysed</th>
<th>Favoured</th>
<th>Allowed</th>
<th>Outliers</th>
<th>Percentiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>300/305 (98%)</td>
<td>240 (80%)</td>
<td>52 (17%)</td>
<td>8 (3%)</td>
<td>5 38</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>300/305 (98%)</td>
<td>245 (82%)</td>
<td>44 (15%)</td>
<td>11 (4%)</td>
<td>4 31</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>339/381 (89%)</td>
<td>296 (87%)</td>
<td>36 (11%)</td>
<td>7 (2%)</td>
<td>8 43</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>339/381 (89%)</td>
<td>296 (87%)</td>
<td>33 (10%)</td>
<td>10 (3%)</td>
<td>5 36</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>253/578 (44%)</td>
<td>206 (81%)</td>
<td>41 (16%)</td>
<td>6 (2%)</td>
<td>6 40</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>253/578 (44%)</td>
<td>204 (81%)</td>
<td>42 (17%)</td>
<td>7 (3%)</td>
<td>5 38</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>349/651 (54%)</td>
<td>277 (79%)</td>
<td>58 (17%)</td>
<td>14 (4%)</td>
<td>3 29</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>349/651 (54%)</td>
<td>293 (84%)</td>
<td>41 (12%)</td>
<td>15 (4%)</td>
<td>3 28</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>427/712 (60%)</td>
<td>358 (84%)</td>
<td>51 (12%)</td>
<td>18 (4%)</td>
<td>3 28</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>427/712 (60%)</td>
<td>357 (84%)</td>
<td>49 (12%)</td>
<td>21 (5%)</td>
<td>2 26</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>237/304 (78%)</td>
<td>198 (84%)</td>
<td>33 (14%)</td>
<td>6 (2%)</td>
<td>6 39</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>237/304 (78%)</td>
<td>200 (84%)</td>
<td>34 (14%)</td>
<td>3 (1%)</td>
<td>13 53</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>398/527 (76%)</td>
<td>329 (83%)</td>
<td>61 (15%)</td>
<td>8 (2%)</td>
<td>8 45</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>398/527 (76%)</td>
<td>341 (86%)</td>
<td>52 (13%)</td>
<td>5 (1%)</td>
<td>13 53</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>15/285 (5%)</td>
<td>13 (87%)</td>
<td>1 (7%)</td>
<td>1 (7%)</td>
<td>1 20</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>15/285 (5%)</td>
<td>12 (80%)</td>
<td>2 (13%)</td>
<td>1 (7%)</td>
<td>1 20</td>
</tr>
<tr>
<td>All</td>
<td>All</td>
<td>4636/7486 (62%)</td>
<td>3865 (83%)</td>
<td>630 (14%)</td>
<td>141 (3%)</td>
<td>8 36</td>
</tr>
</tbody>
</table>

All (141) Ramachandran outliers are listed below:

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>61</td>
<td>PRO</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>158</td>
<td>PRO</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>291</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>276</td>
<td>SER</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>100</td>
<td>GLU</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>100</td>
<td>GLU</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>G</td>
<td>487</td>
<td>ALA</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>536</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>202</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>202</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>98</td>
<td>GLY</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>304</td>
<td>TYR</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>337</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>180</td>
<td>PRO</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>265</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>357</td>
<td>SER</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>397</td>
<td>SER</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>579</td>
<td>LYS</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>586</td>
<td>SER</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>537</td>
<td>TYR</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>330</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>464</td>
<td>VAL</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>182</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>201</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>464</td>
<td>VAL</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>467</td>
<td>VAL</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>64</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>81</td>
<td>GLY</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>507</td>
<td>LYS</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>497</td>
<td>GLU</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>507</td>
<td>LYS</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>5</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>61</td>
<td>PRO</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>267</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>291</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>38</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>275</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>337</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>58</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>237</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>275</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>276</td>
<td>SER</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>160</td>
<td>LEU</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>160</td>
<td>LEU</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>311</td>
<td>GLN</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>289</td>
<td>SER</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>397</td>
<td>SER</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>58</td>
<td>PRO</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>I</td>
<td>112</td>
<td>ALA</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>421</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>423</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>112</td>
<td>ALA</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>355</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>371</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>388</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>423</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>459</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>225</td>
<td>ALA</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>132</td>
<td>TRP</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>164</td>
<td>PHE</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>129</td>
<td>LEU</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>129</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>16</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>97</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>5</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>16</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>263</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>267</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>79</td>
<td>PRO</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>274</td>
<td>SER</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>73</td>
<td>ASN</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>306</td>
<td>THR</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>309</td>
<td>GLN</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>269</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>359</td>
<td>PRO</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>537</td>
<td>TYR</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>542</td>
<td>GLU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>245</td>
<td>THR</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>248</td>
<td>GLU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>542</td>
<td>GLU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>555</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>579</td>
<td>LYS</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>82</td>
<td>HIS</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>305</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>399</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>459</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>26</td>
<td>ARG</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>48</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>311</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>336</td>
<td>SER</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>K</td>
<td>49</td>
<td>SER</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>259</td>
<td>GLY</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>38</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>253</td>
<td>PRO</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>16</td>
<td>SER</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>289</td>
<td>ARG</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>16</td>
<td>ALA</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>245</td>
<td>ARG</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>242</td>
<td>VAL</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>548</td>
<td>GLY</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>251</td>
<td>PHE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>421</td>
<td>LYS</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>98</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>311</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>342</td>
<td>CYS</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>44</td>
<td>THR</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>127</td>
<td>ARG</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>177</td>
<td>PRO</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>178</td>
<td>GLY</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>122</td>
<td>GLY</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>227</td>
<td>PRO</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>383</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>270</td>
<td>PRO</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>303</td>
<td>PRO</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>191</td>
<td>PRO</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>540</td>
<td>PRO</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>548</td>
<td>GLY</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>369</td>
<td>GLY</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>126</td>
<td>GLY</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>192</td>
<td>SER</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>304</td>
<td>TYR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>369</td>
<td>GLY</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>383</td>
<td>GLU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>555</td>
<td>ILE</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>197</td>
<td>GLY</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>63</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>11</td>
<td>PRO</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>242</td>
<td>VAL</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>163</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>122</td>
<td>GLY</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>177</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>65</td>
<td>PRO</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>H</td>
<td>539</td>
<td>ASN</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>545</td>
<td>GLY</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>182</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>466</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>138</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>177</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>255</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>215</td>
<td>PRO</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>133</td>
<td>PRO</td>
</tr>
</tbody>
</table>

5.3.2 Protein sidechains

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Analysed</th>
<th>Rotameric</th>
<th>Outliers</th>
<th>Percentiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>257/265 (97%)</td>
<td>221 (86%)</td>
<td>36 (14%)</td>
<td>4 22</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>257/265 (97%)</td>
<td>229 (89%)</td>
<td>28 (11%)</td>
<td>7 29</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>286/338 (85%)</td>
<td>245 (86%)</td>
<td>41 (14%)</td>
<td>3 21</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>286/338 (85%)</td>
<td>255 (89%)</td>
<td>31 (11%)</td>
<td>7 30</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>249/529 (47%)</td>
<td>231 (93%)</td>
<td>18 (7%)</td>
<td>16 47</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>249/529 (47%)</td>
<td>231 (93%)</td>
<td>18 (7%)</td>
<td>16 47</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>305/561 (54%)</td>
<td>283 (93%)</td>
<td>22 (7%)</td>
<td>16 47</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>305/561 (54%)</td>
<td>278 (91%)</td>
<td>27 (9%)</td>
<td>11 38</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>389/649 (60%)</td>
<td>354 (91%)</td>
<td>35 (9%)</td>
<td>10 38</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>389/649 (60%)</td>
<td>358 (92%)</td>
<td>31 (8%)</td>
<td>13 44</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>219/273 (80%)</td>
<td>186 (85%)</td>
<td>33 (15%)</td>
<td>3 19</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>219/273 (80%)</td>
<td>189 (86%)</td>
<td>30 (14%)</td>
<td>4 23</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>319/449 (71%)</td>
<td>302 (95%)</td>
<td>17 (5%)</td>
<td>25 57</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>319/449 (71%)</td>
<td>308 (97%)</td>
<td>11 (3%)</td>
<td>40 67</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>16/246 (6%)</td>
<td>15 (94%)</td>
<td>1 (6%)</td>
<td>20 51</td>
</tr>
<tr>
<td>8</td>
<td>P</td>
<td>16/246 (6%)</td>
<td>16 (100%)</td>
<td>0</td>
<td>100 100</td>
</tr>
<tr>
<td>All</td>
<td>All</td>
<td>4080/6620 (62%)</td>
<td>3701 (91%)</td>
<td>379 (9%)</td>
<td>14 36</td>
</tr>
</tbody>
</table>
All (379) residues with a non-rotameric sidechain are listed below:

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>10</td>
<td>TYR</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>13</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>14</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>15</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>17</td>
<td>ASP</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>21</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>24</td>
<td>ILE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>37</td>
<td>LYS</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>54</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>56</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>93</td>
<td>HIS</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>101</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>119</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>126</td>
<td>ILE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>136</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>144</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>147</td>
<td>ILE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>166</td>
<td>TYR</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>169</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>172</td>
<td>LYS</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>188</td>
<td>ILE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>192</td>
<td>ASP</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>207</td>
<td>ILE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>231</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>232</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>236</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>237</td>
<td>VAL</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>242</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>243</td>
<td>SER</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>247</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>255</td>
<td>ASP</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>280</td>
<td>ILE</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>287</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>290</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>297</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>304</td>
<td>TYR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>9</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>12</td>
<td>ARG</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>15</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>21</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>37</td>
<td>LYS</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>54</td>
<td>GLU</td>
</tr>
</tbody>
</table>

*Continued on next page...*
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>56</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>75</td>
<td>ARG</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>79</td>
<td>ARG</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>86</td>
<td>ASP</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>100</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>104</td>
<td>ARG</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>109</td>
<td>ARG</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>136</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>140</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>148</td>
<td>ARG</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>149</td>
<td>PHE</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>161</td>
<td>GLN</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>166</td>
<td>TYR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>172</td>
<td>LYS</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>231</td>
<td>THR</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>232</td>
<td>GLU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>237</td>
<td>VAL</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>242</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>255</td>
<td>ASP</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>267</td>
<td>LEU</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>293</td>
<td>SER</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>295</td>
<td>VAL</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>17</td>
<td>ASP</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>22</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>24</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>31</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>38</td>
<td>TYR</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>40</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>69</td>
<td>ASP</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>95</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>151</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>153</td>
<td>VAL</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>168</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>175</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>179</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>180</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>190</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>199</td>
<td>PHE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>201</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>206</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>222</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>223</td>
<td>THR</td>
</tr>
</tbody>
</table>

Continued on next page...
### Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>C</td>
<td>238</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>249</td>
<td>PHE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>262</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>272</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>286</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>288</td>
<td>PHE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>298</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>301</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>307</td>
<td>PHE</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>314</td>
<td>GLU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>320</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>322</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>331</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>336</td>
<td>GLN</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>17</td>
<td>ASP</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>24</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>38</td>
<td>TYR</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>44</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>47</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>62</td>
<td>ASP</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>80</td>
<td>THR</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>84</td>
<td>CYS</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>160</td>
<td>ASP</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>161</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>164</td>
<td>GLU</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>168</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>180</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>199</td>
<td>PHE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>200</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>206</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>222</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>259</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>260</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>284</td>
<td>CYS</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>286</td>
<td>ARG</td>
</tr>
</tbody>
</table>

*Continued on next page...*
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>D</td>
<td>287</td>
<td>GLU</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>298</td>
<td>LEU</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>307</td>
<td>PHE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>308</td>
<td>ASP</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>330</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>348</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>350</td>
<td>ILE</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>363</td>
<td>ARG</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>366</td>
<td>TRP</td>
</tr>
<tr>
<td>2</td>
<td>D</td>
<td>371</td>
<td>GLN</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>3</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>100</td>
<td>GLU</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>133</td>
<td>HIS</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>153</td>
<td>GLU</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>174</td>
<td>PHE</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>181</td>
<td>GLN</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>183</td>
<td>LEU</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>185</td>
<td>ASP</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>249</td>
<td>LYS</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>255</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>303</td>
<td>ASP</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>384</td>
<td>PHE</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>385</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>390</td>
<td>THR</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>393</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>398</td>
<td>LEU</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>402</td>
<td>MET</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>406</td>
<td>ARG</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>81</td>
<td>LEU</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>100</td>
<td>GLU</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>134</td>
<td>HIS</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>141</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>173</td>
<td>ASP</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>174</td>
<td>PHE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>181</td>
<td>GLN</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>192</td>
<td>ASP</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>222</td>
<td>PHE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>255</td>
<td>ILE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>258</td>
<td>HIS</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>270</td>
<td>THR</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>274</td>
<td>ASN</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>277</td>
<td>ILE</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>F</td>
<td>303</td>
<td>ASP</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>384</td>
<td>PHE</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>402</td>
<td>MET</td>
</tr>
<tr>
<td>3</td>
<td>F</td>
<td>403</td>
<td>ASP</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>284</td>
<td>TYR</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>293</td>
<td>CYS</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>296</td>
<td>MET</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>366</td>
<td>ASP</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>393</td>
<td>GLN</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>395</td>
<td>GLU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>406</td>
<td>SER</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>412</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>424</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>434</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>439</td>
<td>LYS</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>445</td>
<td>ARG</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>455</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>462</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>500</td>
<td>ASN</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>523</td>
<td>PHE</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>526</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>532</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>536</td>
<td>ASP</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>550</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>568</td>
<td>GLU</td>
</tr>
<tr>
<td>4</td>
<td>G</td>
<td>576</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>257</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>264</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>284</td>
<td>TYR</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>286</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>290</td>
<td>ILE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>293</td>
<td>CYS</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>296</td>
<td>MET</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>297</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>317</td>
<td>ARG</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>319</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>339</td>
<td>THR</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>364</td>
<td>LYS</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>366</td>
<td>ASP</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>408</td>
<td>VAL</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>412</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>424</td>
<td>ILE</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>H</td>
<td>438</td>
<td>ARG</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>455</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>460</td>
<td>ASP</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>478</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>491</td>
<td>MET</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>503</td>
<td>VAL</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>518</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>523</td>
<td>PHE</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>532</td>
<td>LEU</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>564</td>
<td>LYS</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>576</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>39</td>
<td>ARG</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>41</td>
<td>MET</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>51</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>88</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>97</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>102</td>
<td>PHE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>106</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>113</td>
<td>ARG</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>122</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>127</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>132</td>
<td>PHE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>136</td>
<td>SER</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>138</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>140</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>158</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>165</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>173</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>176</td>
<td>LYS</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>181</td>
<td>GLU</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>211</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>226</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>231</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>232</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>246</td>
<td>PHE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>247</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>276</td>
<td>TYR</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>313</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>330</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>345</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>349</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>381</td>
<td>ASP</td>
</tr>
</tbody>
</table>
**Continued from previous page...**

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>I</td>
<td>388</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>427</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>457</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>467</td>
<td>VAL</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>41</td>
<td>MET</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>51</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>62</td>
<td>TYR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>63</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>77</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>88</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>89</td>
<td>TYR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>97</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>99</td>
<td>TRP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>113</td>
<td>ARG</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>122</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>128</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>131</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>138</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>140</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>141</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>173</td>
<td>THR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>174</td>
<td>TYR</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>176</td>
<td>LYS</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>216</td>
<td>GLU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>219</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>235</td>
<td>ILE</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>247</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>279</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>324</td>
<td>HIS</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>333</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>341</td>
<td>LYS</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>421</td>
<td>ASP</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>436</td>
<td>PRO</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>457</td>
<td>LEU</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>467</td>
<td>VAL</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>3</td>
<td>THR</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>7</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>11</td>
<td>ASN</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>17</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>18</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>19</td>
<td>ILE</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>22</td>
<td>VAL</td>
</tr>
</tbody>
</table>

*Continued on next page...*
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>K</td>
<td>40</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>45</td>
<td>MET</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>54</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>59</td>
<td>ILE</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>64</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>75</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>79</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>88</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>97</td>
<td>LYS</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>109</td>
<td>HIS</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>114</td>
<td>TYR</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>128</td>
<td>LYS</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>129</td>
<td>THR</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>137</td>
<td>LYS</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>140</td>
<td>HIS</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>143</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>154</td>
<td>VAL</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>159</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>166</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>168</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>169</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>185</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>230</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>235</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>236</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>251</td>
<td>ILE</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>7</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>11</td>
<td>ASN</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>17</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>18</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>19</td>
<td>ILE</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>45</td>
<td>MET</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>47</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>51</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>54</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>59</td>
<td>ILE</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>62</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>75</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>79</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>88</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>97</td>
<td>LYS</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>119</td>
<td>PHE</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>L</td>
<td>127</td>
<td>TYR</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>137</td>
<td>LYS</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>143</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>159</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>165</td>
<td>VAL</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>166</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>168</td>
<td>GLU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>169</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>185</td>
<td>ARG</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>230</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>235</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>236</td>
<td>ASP</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>244</td>
<td>LEU</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>251</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>111</td>
<td>HIS</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>169</td>
<td>GLU</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>267</td>
<td>LEU</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>291</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>292</td>
<td>ASP</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>342</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>353</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>395</td>
<td>LEU</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>402</td>
<td>VAL</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>403</td>
<td>ASP</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>406</td>
<td>LEU</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>432</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>475</td>
<td>VAL</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>494</td>
<td>GLU</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>495</td>
<td>ILE</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>508</td>
<td>HIS</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>510</td>
<td>ARG</td>
</tr>
<tr>
<td>8</td>
<td>O</td>
<td>131</td>
<td>TYR</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>142</td>
<td>TYR</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>260</td>
<td>LEU</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>292</td>
<td>ASP</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>351</td>
<td>ASP</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>354</td>
<td>GLU</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>371</td>
<td>LYS</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>386</td>
<td>ASP</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>395</td>
<td>LEU</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>429</td>
<td>ASP</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>432</td>
<td>ILE</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>N</td>
<td>508</td>
<td>HIS</td>
</tr>
</tbody>
</table>

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (46) such sidechains are listed below:

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>82</td>
<td>HIS</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>144</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>163</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>A</td>
<td>277</td>
<td>GLN</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>129</td>
<td>HIS</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>144</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>209</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
<td>12</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
<td>19</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
<td>221</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
<td>222</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
<td>335</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>C</td>
<td>352</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>19</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>61</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>66</td>
<td>GLN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>174</td>
<td>GLN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>221</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>222</td>
<td>ASN</td>
</tr>
<tr>
<td>1</td>
<td>D</td>
<td>225</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>E</td>
<td>258</td>
<td>HIS</td>
</tr>
<tr>
<td>2</td>
<td>E</td>
<td>265</td>
<td>ASN</td>
</tr>
<tr>
<td>2</td>
<td>F</td>
<td>59</td>
<td>GLN</td>
</tr>
<tr>
<td>3</td>
<td>G</td>
<td>271</td>
<td>HIS</td>
</tr>
<tr>
<td>3</td>
<td>G</td>
<td>416</td>
<td>ASN</td>
</tr>
<tr>
<td>3</td>
<td>G</td>
<td>446</td>
<td>ASN</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>271</td>
<td>HIS</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>450</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>28</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>73</td>
<td>HIS</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>247</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>249</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>I</td>
<td>335</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>87</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>124</td>
<td>ASN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>316</td>
<td>GLN</td>
</tr>
<tr>
<td>5</td>
<td>J</td>
<td>359</td>
<td>ASN</td>
</tr>
</tbody>
</table>

Continued on next page...
Continued from previous page...

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>J</td>
<td>371</td>
<td>ASN</td>
</tr>
<tr>
<td>6</td>
<td>K</td>
<td>41</td>
<td>ASN</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>23</td>
<td>ASN</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>103</td>
<td>GLN</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>98</td>
<td>GLN</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>151</td>
<td>GLN</td>
</tr>
<tr>
<td>7</td>
<td>M</td>
<td>324</td>
<td>ASN</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>98</td>
<td>GLN</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>111</td>
<td>HIS</td>
</tr>
</tbody>
</table>

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

2 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

<table>
<thead>
<tr>
<th>Mol</th>
<th>Type</th>
<th>Chain</th>
<th>Res</th>
<th>Link</th>
<th>Bond lengths</th>
<th>Bond angles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Counts</td>
<td>RMSZ</td>
</tr>
<tr>
<td>6</td>
<td>SEP</td>
<td>K</td>
<td>52</td>
<td>6</td>
<td>9,9,10</td>
<td>0.61</td>
</tr>
<tr>
<td>6</td>
<td>SEP</td>
<td>L</td>
<td>52</td>
<td>6</td>
<td>9,9,10</td>
<td>0.68</td>
</tr>
</tbody>
</table>

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. ‘-’ means no outliers of that kind were identified.

<table>
<thead>
<tr>
<th>Mol</th>
<th>Type</th>
<th>Chain</th>
<th>Res</th>
<th>Link</th>
<th>Chirals</th>
<th>Torsions</th>
<th>Rings</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>SEP</td>
<td>K</td>
<td>52</td>
<td>6</td>
<td>-</td>
<td>1/5/8/10</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>SEP</td>
<td>L</td>
<td>52</td>
<td>6</td>
<td>-</td>
<td>1/5/8/10</td>
<td>-</td>
</tr>
</tbody>
</table>

There are no bond length outliers.
All (1) bond angle outliers are listed below:

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
<th>Atoms</th>
<th>Z</th>
<th>Observed(°)</th>
<th>Ideal(°)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>L</td>
<td>52</td>
<td>SEP</td>
<td>OG-CB-CA</td>
<td>2.74</td>
<td>110.81</td>
<td>108.14</td>
</tr>
</tbody>
</table>

There are no chirality outliers.

All (2) torsion outliers are listed below:

<table>
<thead>
<tr>
<th>Mol</th>
<th>Chain</th>
<th>Res</th>
<th>Type</th>
<th>Atoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>K</td>
<td>52</td>
<td>SEP</td>
<td>N-CA-CB-OG</td>
</tr>
<tr>
<td>6</td>
<td>L</td>
<td>52</td>
<td>SEP</td>
<td>N-CA-CB-OG</td>
</tr>
</tbody>
</table>

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates

There are no carbohydrates in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.