

## Viewing RP1\_sm\_35-107-FFX1Hmulti.table

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Hint: Use File | Save As... to save a copy of this page.

| All-Atom         | Clashscore, all atoms: 1.72   |              |             | 99 <sup>th</sup> percentile* (N=1784, all resolutions) |  |  |
|------------------|-------------------------------|--------------|-------------|--|--|--|
| Contacts         | Clashscore is the number      | of seriou    | us steric o | verlaps (> 0.4 Å) per 1000 atoms.                      |  |  |
|                  | Poor rotamers                 | 1            | 1.54%       | Goal: <1%  |  |  |
|                  | Ramachandran outliers         | 3            | 4.23%       | Goal: <0.05%   |  |  |
| II .             | Ramachandran favored          | 64 90.14% Go |             | Goal: >98%   |  |  |
| Protein Geometry | MolProbity score <sup>^</sup> | 1.61         |             | 92 <sup>nd</sup> percentile* (N=27675, 0Å - 99Å)       |  |  |
| geometry         | Cβ deviations >0.25Å          | 2            | 2.99%       | Goal: 0  |  |  |
|                  | Bad backbone bonds:           | 0 / 592      | 0.00%       | Goal: 0%   |  |  |
|                  | Bad backbone angles:          | 6 / 797      | 0.75%       | Goal: <0.1%  |  |  |

In the two column results, the left column gives the raw count, right column gives the percentage.

<sup>^</sup> MolProbity score combines the clashscore, rotamer, and Ramachandran evaluations into a single score, normalized to be on the same scale as X-ray resolution.

| #       | Alt R | Res | High<br>B     | Clash > 0.4Å     | Ramachandran   | Rotamer   | Cβ<br>deviation   | Bond<br>lengths      | Bond<br>angles    |
|---------|-------|-----|---------------|------------------|--|---|-------------------|----------------------|-------------------|
|         |       |     | Avg:<br>56.85 | Clashscore: 1.72 | Outliers: 3 of 71  | Poor rotamers: 1 of 65  | Outliers: 2 of 67 | Outliers:<br>0 of 73 | Outliers: 5 of 73 |
| A<br>35 | A     | LA  | 50            | -                | -  | -   | 0.052Å            | -                    | -                 |
| A<br>36 | L     | YS  | 50            | -                | Favored<br>(38.08%)<br>General /<br>-77.9,133.4          | 96.1% ( <i>mttt</i> )<br>chi angles:<br>300.5,183.3,176.9,183.8 | 0.035Å            | -                    | -                 |
| A<br>37 | A     | RG  | 99.99         | -                | Allowed (1.4%)<br>General /<br>-105.2,78.6               | 0%<br>chi angles:<br>58.6,225.3,145.5,295.5                     | 0.129Å            | -                    | -                 |
| A<br>38 | I     | LE  | 50            | -                | Favored (6.21%)<br>Isoleucine or valine<br>/-101.4,150.0 | 59.8% ( <i>mt</i> ) chi angles: 288.4,176.6                     | 0.141Å            | -                    | -                 |
| A<br>39 | S     | SER | 50            | -                | Favored (16.16%)   | 8.4% (t)  | 0.022Å            | -                    | -                 |

<sup>\* 100&</sup>lt;sup>th</sup> percentile is the best among structures of comparable resolution; 0<sup>th</sup> percentile is the worst. For clashscore the comparative set of structures was selected in 2004, for MolProbity score in 2006.

|         |     |    |   | General /<br>-101.2,158.3                                    | chi angles: 194.3   |        |   |   |
|---------|-----|----|---|--|---|--------|---|---|
| A<br>40 | PHE | 50 | - | Favored<br>(25.65%)<br>General /<br>-144.4,135.8             | 72% ( <i>m-85</i> )<br>chi angles: 286.9,278                    | 0.067Å | - | - |
| A<br>41 | TYR | 50 | - | Favored (3.57%)<br>General /<br>-121.8,-177.5                | 82.6% ( <i>m-85</i> )<br>chi angles: 298.9,82.5                 | 0.053Å | - | - |
| A<br>42 | LYS | 50 | - | Favored<br>(48.41%)<br>General /<br>-136.4,149.7             | 28.5% (mtmt)<br>chi angles:<br>303.5,160.9,305.2,194.2          | 0.155Å | - | - |
| A<br>43 | SER | 50 | - | Favored<br>(48.64%)<br>General /<br>-63.5,131.6              | 8.1% ( <i>t</i> )<br>chi angles: 195                            | 0.04Å  | - | - |
| A<br>44 | GLY | 50 | - | Favored (69.96%)<br>Glycine / 83.8,15.6                      | -   | -      | - | - |
| A<br>45 | ASP | 50 | - | Favored (2.49%)<br>Pre-proline /<br>-155.1,96.5              | 43.9% ( <i>t0</i> ) chi angles: 194.1,348.5                     | 0.046Å | - | - |
| A<br>46 | PRO | 50 | - | Favored (3.54%)<br>Trans-proline /<br>-92.7,-3.5             | 10.2% ( <i>Cg_endo</i> ) chi angles: 40.2                       | 0.014Å | - | - |
| A<br>47 | GLN | 50 | - | Favored<br>(19.23%)<br>General /<br>-88.1,-31.5              | 24.4% (mm100)<br>chi angles:<br>307.4,309.4,120.6               | 0.094Å | - | - |
| A<br>48 | PHE | 50 | - | Favored (7.28%)<br>General /<br>-48.6,123.8                  | 88% ( <i>t80</i> )<br>chi angles: 179.8,80.8                    | 0.106Å | - | - |
| A<br>49 | GLY | 50 | - | Favored (73.7%)<br>Glycine /<br>-70.1,-17.2                  | -   | -      | - | - |
| A<br>50 | GLY | 50 | - | Favored<br>(12.35%)<br>Glycine /<br>105.6,144.3              | -   | -      | - | - |
| A<br>51 | VAL | 50 | - | Favored<br>(69.16%)<br>Isoleucine or valine<br>/-112.0,127.4 | 2.9% ( <i>t</i> )<br>chi angles: 155                            | 0.081Å | - | - |
| A<br>52 | ARG | 50 | - | Favored<br>(34.56%)<br>General /<br>-99.3,139.7              | 86.5% ( <i>mtt-85</i> )<br>chi angles:<br>280.5,181.9,175,278.8 | 0.045Å | - | - |

| A<br>53 | VAL     | 50         | -                | Favored (20.73%) Isoleucine or valine / -141.1,154.0        | 4.6% (p)<br>chi angles: 77.1                                   | 0.109Å               | -                 | -                 |
|---------|---------|------------|------------------|---|--|----------------------|-------------------|-------------------|
| A<br>54 | VAL     | 99.99      | -                | Favored<br>(15.06%)<br>Isoleucine or valine<br>/-95.7,103.8 | 85% ( <i>t</i> )<br>chi angles: 177.4                          | 0.065Å               | -                 | -                 |
| #       | Alt Res | High<br>B  | Clash > 0.4Å     | Ramachandran  | Rotamer  | <b>C</b> β deviation | Bond lengths      | Bond<br>angles    |
|         |         | Avg: 56.85 | Clashscore: 1.72 | Outliers: 3 of 71   | Poor rotamers: 1 of 65   | Outliers: 2 of 67    | Outliers: 0 of 73 | Outliers: 5 of 73 |
| A<br>55 | VAL     | 50         | -                | Favored<br>(18.41%)<br>Isoleucine or valine<br>/-84.5,110.0 | 83.3% ( <i>t</i> ) chi angles: 174.8                           | 0.057Å               | -                 | -                 |
| A<br>56 | ASN     | 50         | -                | Favored<br>(46.48%)<br>Pre-proline /<br>-147.2,155.8        | 21.7% ( <i>t30</i> )<br>chi angles: 204.8,55                   | 0.126Å               | -                 | -                 |
| A<br>57 | PRO     | 50         | -                | Favored<br>(74.57%)<br>Trans-proline /<br>-62.7,-23.5       | 40.1% ( <i>Cg_exo</i> ) chi angles: 325.9                      | 0.06Å                | -                 | -                 |
| A<br>58 | ARG     | 50         | -                | Favored<br>(40.14%)<br>General /<br>-81.9,-19.8             | 45.9% ( <i>tpt85</i> )<br>chi angles:<br>188.2,59.8,188.9,83.5 | 0.146Å               | -                 | -                 |
| A<br>59 | SER     | 50         | -                | Favored<br>(14.16%)<br>General /<br>-95.9,-29.5             | 16.5% ( <i>p</i> )<br>chi angles: 49.3                         | 0.171Å               | -                 | -                 |
| A<br>60 | PHE     | 50         | -                | Favored<br>(28.74%)<br>General /<br>-138.0,130.1            | 76.1% ( <i>m-85</i> ) chi angles: 302.8,286.2                  | 0.093Å               | -                 | -                 |
| A<br>61 | LYS     | 50         | -                | Favored<br>(81.63%)<br>General /<br>-66.8,-36.1             | 17.9% ( <i>pttp</i> )<br>chi angles:<br>62.2,169,192.3,73.1    | 0.122Å               | -                 | -                 |
| A<br>62 | SER     | 50         | -                | Favored (3.58%)<br>General /<br>-167.7,-177.7               | 37.2% (p) chi angles: 53.4                                     | 0.092Å               | -                 | -                 |
| A<br>63 | PHE     | 50         | -                | Favored<br>(97.89%)<br>General /<br>-60.8,-42.6             | 30.3% ( <i>t80</i> ) chi angles: 191.8,60.6                    | 0.072Å               | -                 | -                 |
|         |         |            |                  |   |  |                      |                   |                   |

| A<br>64 | ASP     | 50         | -                                   | Favored<br>(69.44%)<br>General /<br>-56.6,-36.5 | 6.2% ( <i>p-10</i> )<br>chi angles: 49.6,298.7                   | 0.121Å                      | -            | -   |
|---------|---------|------------|-------------------------------------|---|--|-----------------------------|--------------|---|
| A<br>65 | ALA     | 50         | -                                   | Favored (86.2%)<br>General /<br>-62.6,-37.5     | -  | 0.1Å                        | -            | -   |
| A<br>66 | LEU     | 50         | -                                   | Favored<br>(67.08%)<br>General /<br>-73.0,-36.8 | 59.2% ( <i>tp</i> )<br>chi angles: 177.5,58.5                    | 0.08Å                       | -            | -   |
| A<br>67 | LEU     | 50         | -                                   | Favored<br>(92.59%)<br>General /<br>-61.0,-40.2 | 14.8% ( <i>mt</i> ) chi angles: 309.9,192.6                      | 0.151Å                      | -            | -   |
| A<br>68 | ASP     | 50         | 0.522Å<br>HA with A 71<br>SER HB2   | Favored<br>(31.57%)<br>General /<br>-84.7,-20.2 | 34.4% ( <i>m-20</i> ) chi angles: 288.4,294.9                    | 0.399Å                      | -            | -   |
| A<br>69 | ASN     | 50         | -                                   | Favored (68.72%)<br>General /<br>-58.7,-31.9    | 11.6% ( <i>t30</i> )<br>chi angles: 183.9,84.1                   | 0.075Å                      | -            | -   |
| A<br>70 | LEU     | 99.99      | -                                   | Favored<br>(27.77%)<br>General /<br>-108.3,10.2 | 68.1% ( <i>mt</i> ) chi angles: 305.3,176.6                      | 0.064Å                      | -            | -   |
| A<br>71 | SER     | 99.99      | 0.522Å<br>HB2 with A 68<br>ASP HA   | Favored (3.18%)<br>General /<br>-76.5,77.4      | 42.6% ( <i>t</i> ) chi angles: 181.1                             | 0.118Å                      | -            | -   |
| A<br>72 | ARG     | 99.99      | -                                   | Favored (5.93%)<br>General /<br>-62.4,165.5     | 15.6% ( <i>tpt180</i> )<br>chi angles:<br>202.7,61.5,195.7,169.7 | 0.064Å                      | -            | -   |
| A<br>73 | LYS     | 99.99      | -                                   | Favored (2.66%)<br>General /<br>-136.2,40.8     | 35.3% ( <i>mmtm</i> )<br>chi angles:<br>301.2,289.9,162.8,290.5  | 0.036Å                      | -            | -   |
| A<br>74 | VAL     | 99.99      | 0.723Å<br>HG13 with A<br>75 PRO HD2 | OUTLIER (0%) Pre-proline / -155.4,-91.2         | 2.7% (p)<br>chi angles: 49.9                                     | 0.51Å                       | -            | OUTLIER(S)<br>worst is C-CA-<br>CB: 7.069 σ |
| #       | Alt Res | High<br>B  | Clash > 0.4Å                        | Ramachandran                                    | Rotamer  | <b>C</b> β <b>deviation</b> | Bond lengths | Bond<br>angles                              |
|         |         | Avg: 56.85 | Clashscore: 1.72                    | Outliers: 3 of 71                               | Poor rotamers: 1 of 65   | _                           | •            | Outliers: 5<br>of 73                        |
| A<br>75 | PRO     | 50         | 0.723Å<br>HD2 with A 74<br>VAL HG13 | Favored (3.93%) Trans-proline / -71.8,114.3     | 28.1% ( <i>Cg_endo</i> ) chi angles: 20.7                        | 0.052Å                      | -            | -   |
|         |         |            |                                     | OUTLIER   |  |                             |              |   |

| A<br>76 | LEU   | 50    | - | (0.04%)<br>Pre-proline /<br>73.9,97.1                    | 30.1% ( <i>mt</i> ) chi angles: 311.7,181                         | 0.108Å | - | -         |
|---------|-------|-------|---|--|---|--------|---|-----------|
| A<br>77 | PRO   | 50    | - | Allowed<br>(1.03%)<br>Trans-proline /<br>-84.4,-28.7     | 86.3% ( <i>Cg_endo</i> ) chi angles: 31.3                         | 0.086Å | - | -         |
| A<br>78 | PHE   | 50    | - | Favored<br>(14.48%)<br>General /<br>-91.7,-34.8          | 11.6% ( <i>m-85</i> )<br>chi angles: 318.9,118.8                  | 0.081Å | - | -         |
| A<br>79 | GLY   | 50    | - | Favored (27.5%)<br>Glycine /<br>143.0,-160.1             | -   | -      | - | -         |
| A<br>80 | VAL   | 50    | - | Favored (61.57%) Isoleucine or valine / -106.0,125.8     | 62.1% ( <i>t</i> ) chi angles: 180.1                              | 0.04Å  | - | -         |
| A<br>81 | ARG   | 50    | - | Favored (2.96%)<br>General /<br>-137.5,10.8              | 33.3% ( <i>mmt180</i> )<br>chi angles:<br>294.7,297.9,172.3,236.3 | 0.139Å | - | -         |
| A<br>82 | ASN   | 50    | - | Favored<br>(29.84%)<br>General /<br>-154.9,152.5         | 27.2% ( <i>t30</i> )<br>chi angles: 174.9,34.4                    | 0.118Å | - | -         |
| A<br>83 | ILE   | 50    | - | Favored (48.2%)<br>Isoleucine or valine<br>/-136.1,137.7 | 46.4% ( <i>mt</i> ) chi angles: 284.4,172.1                       | 0.064Å | - | -         |
| A<br>84 | SER   | 50    | - | Favored (25.6%)<br>General /<br>-114.0,155.6             | 30.6% ( <i>t</i> ) chi angles: 184.8                              | 0.034Å | - | -         |
| A<br>85 | THR   | 50    | - | Favored<br>(94.25%)<br>Pre-proline /<br>-64.8,150.7      | 8.6% (p)<br>chi angles: 43.7                                      | 0.05Å  | - | -         |
| A<br>86 | PRO   | 50    | - | Favored (5.85%) Trans-proline / -80.2,5.7                | 6.2% ( <i>Cg_endo</i> )<br>chi angles: 41                         | 0.012Å | - | -         |
| A<br>87 | ARG 9 | 99.99 | - | Favored (7.47%)<br>General /<br>-126.8,15.6              | 37.4% ( <i>mmt-85</i> )<br>chi angles:<br>307.8,299.2,173.9,241.1 | 0.109Å | - | -         |
| A<br>88 | GLY   | 50    | - | Favored<br>(96.36%)<br>Glycine / 65.3,42.2               | -   | -      | - | -         |
| A<br>89 | ARG 9 | 99.99 | - | Favored (8.27%) General / -125.4,16.2                    | 94.5% ( <i>mtt180</i> )<br>chi angles:<br>296.9,188.4,178.6,192.3 | 0.138Å | - | -         |
|         |       |       |   |  |   |        |   | OLITLIED/ |

OUTLIER(S)

| A<br>90                    | HIS               | 50            | -                | OUTLIER<br>(0.03%)<br>General /<br>170.6,142.4   | 46.4% ( <i>m-70</i> ) chi angles: 280.5,304.5   | 0.177Å                     | -                    | worst is CA-<br>CB-CG: 4.994<br>σ             |
|----------------------------|-------------------|---------------|------------------|--|---|----------------------------|----------------------|---|
| A<br>91                    | SER               | 50            | -                | Favored<br>(15.74%)<br>General /<br>-78.6,171.0  | 3.7% ( <i>m</i> )<br>chi angles: 276.5  | 0.029Å                     | -                    | -   |
| A<br>92                    | ILE               | 50            | -                | Favored<br>(48.55%)<br>Isoleucine or valine<br>/-124.6,140.2   | 50.8% ( <i>mm</i> ) chi angles: 302.3,299   | 0.117Å                     | -                    | -   |
| A<br>93                    | THR               | 50            | -                | Favored (9.69%)<br>General /<br>-120.6,-6.9  | 6.2% (t)<br>chi angles: 195.5   | 0.176Å                     | -                    | -   |
| A<br>94                    | ARG               | 50            | -                | Favored<br>(29.75%)<br>General /<br>-149.9,166.4   | 14.6% ( <i>ptt-85</i> )<br>chi angles:<br>87.1,196.2,192.9,257.2  | 0.129Å                     | -                    | -   |
| #                          | Alt Res           | High<br>B     | Clash > 0.4Å     | Ramachandran   | Rotamer   | Cβ<br>deviation            | Bond lengths         | Bond<br>angles                                |
|                            |                   | Avg:<br>56.85 | Clashscore: 1.72 | Outliers: 3 of 71  | Poor rotamers: 1 of 65  | Outliers: 2 of 67          | Outliers:<br>0 of 73 | Outliers: 5 of 73                             |
|                            |                   |               |                  |  |   |                            |                      |   |
| A<br>95                    | LEU               | 50            | -                | Favored<br>(78.78%)<br>General /<br>-62.7,-35.1  | 90.5% ( <i>mt</i> )<br>chi angles: 298.7,174.1  | 0.112Å                     | -                    | -   |
|                            | LEU<br>GLU        | 50<br>50      | -                | (78.78%)<br>General /  |   | 0.112Å<br>0.082Å           | -                    | -   |
| 95<br>A                    |                   |               | -                | (78.78%) General / -62.7,-35.1 Favored (79.78%) General /  | chi angles: 298.7,174.1  26% ( <i>mt-10</i> ) chi angles:   |                            | -                    | -   |
| 95<br>A<br>96              | GLU               | 50            | -                | (78.78%) General / -62.7,-35.1 Favored (79.78%) General / -68.6,-37.4 Favored (70.66%) General /   | chi angles: 298.7,174.1  26% ( <i>mt-10</i> ) chi angles: 311,189.6,285.1  40.5% ( <i>mt-10</i> ) chi angles:   | 0.082Å                     | -                    | -   |
| 95<br>A<br>96<br>A<br>97   | GLU<br>GLU        | 50<br>50      | -                | (78.78%) General / -62.7,-35.1 Favored (79.78%) General / -68.6,-37.4 Favored (70.66%) General / -65.7,-30.1 Allowed (0.77%) General /                                       | chi angles: 298.7,174.1  26% ( <i>mt-10</i> ) chi angles: 311,189.6,285.1  40.5% ( <i>mt-10</i> ) chi angles: 289.4,157.8,29  | 0.082Å<br>0.045Å           | -                    | - OUTLIER(S) worst is C-N- CA: 4.412 $\sigma$ |
| 95<br>A 96<br>A 97<br>A 98 | GLU<br>GLU<br>GLU | 50<br>50      | -                | (78.78%) General / -62.7,-35.1 Favored (79.78%) General / -68.6,-37.4 Favored (70.66%) General / -65.7,-30.1 Allowed (0.77%) General / -65.8,102.6 Favored (25.5%) General / | chi angles: 298.7,174.1  26% ( <i>mt-10</i> ) chi angles: 311,189.6,285.1  40.5% ( <i>mt-10</i> ) chi angles: 289.4,157.8,29  15.1% ( <i>mt</i> ) chi angles: 308.1,161.8  5.1% ( <i>tp10</i> ) chi angles: | 0.082Å<br>0.045Å<br>0.061Å | -                    | worst is C-N-                                 |

| A<br>102 | GLU   | 50    | - | Allowed<br>(0.59%)<br>General /<br>-52.2,161.7   | 5.1% ( <i>tp10</i> )<br>chi angles:<br>181.6,54.8,118.3 | 0.068Å | - | OUTLIER(S)<br>worst is C-N-<br>CA: 4.406 σ |
|----------|-------|-------|---|--|---|--------|---|--|
| A<br>103 | SER   | 50    | - | Favored<br>(29.33%)<br>General /<br>-105.0,146.2 | 74.2% ( <i>m</i> ) chi angles: 295.1                    | 0.134Å | - | -  |
| A<br>104 | TYR   | 50    | - | Favored<br>(33.18%)<br>General /<br>-131.6,161.2 | 58.7% ( <i>m-85</i> ) chi angles: 304.2,262.3           | 0.036Å | - | -  |
| A<br>105 | LEU   | 50    | - | Favored<br>(55.53%)<br>General /<br>-110.5,130.6 | 3% ( <i>tt</i> )<br>chi angles: 179.2,132.5             | 0.058Å | - | -  |
| A<br>106 | CYS   | 50    | - | Favored<br>(30.32%)<br>General /<br>-88.6,139.6  | 96.9% ( <i>m</i> )<br>chi angles: 294.7                 | 0.047Å | - | OUTLIER(S)<br>worst is C-N-<br>CA: 4.855 σ |
| A<br>107 | SER 9 | 99.99 | - | -  | 5.6% (t)<br>chi angles: 161.1                           | 0.095Å | - | -  |

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