

## Viewing crx\_sm\_34-95H-multi.table

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| All-Atom         | Clashscore, all atoms: 6.55   |           |             | 89 <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         | 1.79%       | Goal: <1%  |  |  |
|                  | Ramachandran outliers         | 2         | 3.33%       | Goal: <0.05%   |  |  |
|                  | Ramachandran favored          | 52        | 86.67%      | Goal: >98%   |  |  |
| Protein Geometry | MolProbity score <sup>^</sup> | 2.18      |             | 66 <sup>th</sup> percentile* (N=27675, 0Å - 99Å)       |  |  |
|                  | Cβ deviations >0.25Å          | 0         | 0.00%       | Goal: 0  |  |  |
|                  | Bad backbone bonds:           | 0 / 538   | 0.00%       | Goal: 0%   |  |  |
|                  | Bad backbone angles:          | 1 / 722   | 0.14%       | 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 | Res | High<br>B  | Clash > 0.4Å     | Ramachandran   | Rotamer   | Cβ<br>deviation   | Bond lengths      | Bond<br>angles                              |
|---------|-----|-----|------------|------------------|--|---|-------------------|-------------------|---|
|         |     |     | Avg: 50.81 | Clashscore: 6.55 | Outliers: 2 of 60                                    | Poor rotamers: 1 of 56  | Outliers: 0 of 62 | Outliers: 0 of 62 | Outliers: 1<br>of 62                        |
| A<br>34 |     | SER | 50         | -                | -  | 59.8% ( <i>m</i> )<br>chi angles: 299.2                           | 0.06Å             | -                 | -   |
| A<br>35 |     | ALA | 50         | -                | Favored<br>(36.42%)<br>Pre-proline /<br>-110.2,147.5 | -   | 0.114Å            | -                 | -   |
| A<br>36 | •   | PRO | 50         | -                | OUTLIER (0%)<br>Trans-proline /<br>15.2,-77.9        | 24.5% ( <i>Cg_exo</i> ) chi angles: 342.6                         | 0.202Å            | -                 | OUTLIER(S) worst is CA-N-CD: $4.897 \sigma$ |
| A<br>37 | ,   | ARG | 50         | -                | Favored<br>(24.03%)<br>General / 56.7,34.1           | 55.9% ( <i>mmm-85</i> )<br>chi angles:<br>295.5,298.1,293.1,278.1 | 0.032Å            | -                 | -   |
| A<br>38 | }   | LYS | 50         | -                | Favored<br>(13.76%)<br>General /                     | 30.8% ( <i>mtpp</i> )<br>chi angles:<br>293.4,183.6,65.7,64.2     | 0.111Å            | -                 | -   |

<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.

|         |     |    |                                    | -101.9,161.3                                     |  |        |   |   |
|---------|-----|----|------------------------------------|--|--|--------|---|---|
| A<br>39 | GLN | 50 | -                                  | OUTLIER (0%)<br>General /<br>125.6,147.1         | 52.8% ( <i>tt0</i> )<br>chi angles:<br>183,178.9,60.8            | 0.067Å | - | - |
| A<br>40 | ARG | 50 | -                                  | Favored<br>(50.89%)<br>General /<br>-109.2,124.4 | 8.3% ( <i>tpt180</i> )<br>chi angles:<br>178.9,62.9,203.2,293.6  | 0.056Å | - | - |
| A<br>41 | ARG | 50 | -                                  | Favored<br>(23.05%)<br>General /<br>-72.5,166.2  | 0.1%<br>chi angles:<br>285.8,80.9,74.6,165.1                     | 0.063Å | - | - |
| A<br>42 | GLU | 50 | -                                  | Allowed<br>(1.17%)<br>General /<br>-94.6,-63.5   | 33.9% ( <i>tt0</i> )<br>chi angles:<br>186.1,185.4,275.5         | 0.035Å | - | - |
| A<br>43 | ARG | 50 | -                                  | Favored<br>(32.56%)<br>General /<br>-153.0,153.3 | 11.1% ( <i>tpt85</i> )<br>chi angles:<br>210.6,76.5,178.2,82.3   | 0.117Å | - | - |
| A<br>44 | THR | 50 | -                                  | Favored<br>(5.27%)<br>General /<br>-107.4,-40.8  | 10.1% ( <i>t</i> )<br>chi angles: 184                            | 0.054Å | - | - |
| A<br>45 | THR | 50 | -                                  | Favored<br>(29.27%)<br>General /<br>-103.6,146.0 | 18.4% ( <i>m</i> )<br>chi angles: 310.9                          | 0.068Å | - | - |
| A<br>46 | PHE | 50 | -                                  | Favored<br>(56.72%)<br>General /<br>-67.2,143.0  | 96.8% ( <i>m-85</i> )<br>chi angles: 294.3,270.7                 | 0.021Å | - | - |
| A<br>47 | THR | 50 | -                                  | Favored<br>(16.73%)<br>General /<br>-96.2,155.5  | 8% ( <i>t</i> )<br>chi angles: 179.4                             | 0.092Å | - | - |
| A<br>48 | ARG | 50 | -                                  | Favored<br>(5.37%)<br>General /<br>-43.8,-42.2   | 30.2% ( <i>tpt180</i> )<br>chi angles:<br>173.4,54.5,180.2,170.6 | 0.031Å | - | - |
| A<br>49 | SER | 50 | -                                  | Favored<br>(97.25%)<br>General /<br>-63.7,-43.2  | 33.3% ( <i>t</i> ) chi angles: 183.6                             | 0.019Å | - | - |
| A<br>50 | GLN | 50 | 0.459Å<br>CD with A 78<br>LEU HD11 | Favored (76.17%)<br>General / -68.1,-44.5        | 79.7% ( <i>mt-30</i> )<br>chi angles:<br>287.6,168.7,7.4         | 0.023Å | - | - |

| A<br>51 | LEU    | 50         | -                                 | Favored (42.36%)<br>General /<br>-63.8,-54.0    | 68.8% ( <i>mt</i> ) chi angles: 286.5,169.6                    | 0.043Å  | -                 | -                 |
|---------|--------|------------|-----------------------------------|---|--|---|-------------------|-------------------|
| A<br>52 | GLU    | 50         | -                                 | Favored<br>(6.85%)<br>General /<br>-45.1,-40.4  | 10.1% ( <i>tm-20</i> )<br>chi angles:<br>178.9,289.7,326.1     | 0.055Å  | -                 | -                 |
| A<br>53 | GLU    | 50         | 0.544Å<br>OE2 with A 72<br>VAL HA | Favored<br>(5.39%)<br>General /<br>-79.2,-55.0  | 59.7% ( <i>tt0</i> )<br>chi angles:<br>181.8,175.3,328.8       | 0.023Å  | -                 | -                 |
| # A     | lt Res | High<br>B  | Clash > 0.4Å                      | Ramachandran                                    | Rotamer  | $\begin{array}{c} C\beta \\ \text{deviation} \end{array}$ | Bond lengths      | Bond angles       |
|         |        | Avg: 50.81 | Clashscore:<br>6.55               | Outliers: 2 of<br>60                            | Poor rotamers: 1 of 56   | Outliers: 0 of 62   | Outliers: 0 of 62 | Outliers: 1 of 62 |
| A<br>54 | LEU    | 50         | -                                 | Favored<br>(31.87%)<br>General /<br>-47.9,-46.5 | 81.7% ( <i>mt</i> ) chi angles: 288.6,171.2                    | 0.051Å  | -                 | -                 |
| A<br>55 | GLU    | 50         | -                                 | Favored (83.97%)<br>General / -67.8,-40.5       | 33.1% ( <i>mt-10</i> )<br>chi angles:<br>302.5,192.7,275.3     | 0.045Å  | -                 | -                 |
| A<br>56 | ALA    | 50         | -                                 | Favored<br>(67.68%)<br>General /<br>-55.6,-37.0 | -  | 0.02Å   | -                 | -                 |
| A<br>57 | LEU    | 50         | -                                 | Favored<br>(45.92%)<br>General /<br>-78.9,-32.2 | 43.7% ( <i>tp</i> )<br>chi angles: 185.2,60                    | 0.066Å  | -                 | -                 |
| A<br>58 | PHE    | 50         | -                                 | Favored<br>(61.83%)<br>General /<br>-73.3,-27.9 | 63.9% ( <i>t80</i> )<br>chi angles: 183.4,65.9                 | 0.039Å  | -                 | -                 |
| A<br>59 | ALA    | 50         | -                                 | Favored<br>(57.57%)<br>General /<br>-76.9,-32.6 | -  | 0.026Å  | -                 | -                 |
| A<br>60 | LYS    | 50         | -                                 | Favored<br>(13.1%)<br>General /<br>-87.1,-42.4  | 21.9% ( <i>ptmt</i> )<br>chi angles:<br>58.8,180.9,290.2,181.6 | 0.065Å  | -                 | -                 |
| A<br>61 | THR    | 50         | -                                 | Favored<br>(4.48%)<br>General /                 | 12.2% ( <i>t</i> )<br>chi angles: 185.4                        | 0.087Å  | -                 | -                 |

|         |     |    |                                   | -149.4,111.0   |   |        |   |   |
|---------|-----|----|-----------------------------------|--|---|--------|---|---|
| A<br>62 | GLN | 50 | -                                 | Favored (71.75%) General / -63.7,-30.7                 | 84.4% ( <i>mt-30</i> )<br>chi angles:<br>296.7,180.9,297.5      | 0.023Å | - | - |
| A<br>63 | TYR | 50 | -                                 | Favored<br>(12.87%)<br>Pre-proline /<br>-117.8,78.8    | 56.7% ( <i>m-85</i> )<br>chi angles: 286.3,79.1                 | 0.059Å | - | - |
| A<br>64 | PRO | 50 | -                                 | Favored<br>(15.98%)<br>Trans-proline /<br>-67.0,168.9  | 98.6% ( <i>Cg_endo</i> )<br>chi angles: 30.5                    | 0.033Å | - | - |
| A<br>65 | ASP | 50 | -                                 | Favored<br>(5.77%)<br>General /<br>-99.5,175.7         | 40.9% ( <i>t0</i> ) chi angles: 190.3,25.4                      | 0.076Å | - | - |
| A<br>66 | VAL | 50 | 0.401Å<br>O with A 70<br>GLU HG3  | Favored (39.33%)<br>Isoleucine or valine / -53.7,-39.6 | 34.6% ( <i>m</i> )<br>chi angles: 298.6                         | 0.062Å | - | - |
| A<br>67 | TYR | 50 | -                                 | Favored<br>(80.72%)<br>General /<br>-64.8,-46.7        | 97.5% ( <i>m-85</i> )<br>chi angles: 294.4,274.2                | 0.011Å | - | - |
| A<br>68 | ALA | 50 | -                                 | Favored<br>(73.41%)<br>General /<br>-63.7,-49.4        | -   | 0.022Å | - | - |
| A<br>69 | ARG | 50 | -                                 | Favored (91%)<br>General /<br>-59.4,-42.1              | 92% ( <i>mtm-85</i> )<br>chi angles:<br>285.1,193.3,288.3,278.9 | 0.053Å | - | - |
| A<br>70 | GLU | 50 | 0.401Å<br>HG3 with A 66<br>VAL O  | Favored (90.39%)<br>General /<br>-64.3,-44.8           | 47.7% ( <i>mt-10</i> )<br>chi angles:<br>289.4,187.6,44.9       | 0.058Å | - | - |
| A<br>71 | GLU | 50 | -                                 | Favored (3.49%)<br>General /<br>-55.7,-60.4            | 41.2% (tt0)<br>chi angles:<br>182.5,173.3,311.3                 | 0.023Å | - | - |
| A<br>72 | VAL | 50 | 0.571Å<br>O with A 76 ILE<br>HG12 | Favored (2.07%)<br>Isoleucine or valine / -52.6,-58.8  | 53.5% ( <i>t</i> ) chi angles: 170.3                            | 0.061Å | - | - |
| A<br>73 | ALA | 50 | -                                 | Favored (6.52%)<br>General / -50.8,-27.0               | -   | 0.046Å | - | - |

| # /     | Alt Res | High<br>B  | Clash > 0.4Å                         | Ramachandran   | Rotamer   | Cβ<br>deviation   | Bond<br>lengths   | Bond<br>angles    |
|---------|---------|------------|--------------------------------------|--|---|-------------------|-------------------|-------------------|
|         |         | Avg: 50.81 | Clashscore: 6.55                     | Outliers: 2 of 60  | Poor rotamers: 1 of 56  | Outliers: 0 of 62 | Outliers: 0 of 62 | Outliers: 1 of 62 |
| A<br>74 | LEU     | 50         | -                                    | Favored<br>(19.48%)<br>General /<br>-87.2,-33.1            | 74.3% ( <i>mt</i> ) chi angles: 290.9,166.4                       | 0.028Å            | -                 | -                 |
| A<br>75 | LYS     | 50         | 0.405Å<br>HE3 with A 53<br>GLU OE1   | Allowed (0.83%)<br>General / -75.5,-66.0                   | 57.9% (tttp)<br>chi angles:<br>176.9,172.4,162,62.4               | 0.056Å            | -                 | -                 |
| A<br>76 | ILE     | 50         | 0.812Å<br>HD12 with A 78<br>LEU HD12 | Favored (2.73%)<br>Isoleucine or valine / -59.9,-11.1      | 29.1% ( <i>pt</i> ) chi angles: 60.8,180                          | 0.056Å            | -                 | -                 |
| A<br>77 | ASN     | 50         | -                                    | Allowed<br>(1.77%)<br>General / 66.0,48.4                  | 64.4% ( <i>m-80</i> ) chi angles: 301.3,288.2                     | 0.036Å            | -                 | -                 |
| A<br>78 | LEU     | 50         | 0.812Å<br>HD12 with A 76<br>ILE HD12 | Favored<br>(66.92%)<br>Pre-proline /<br>-125.8,149.8       | 62.5% ( <i>mt</i> ) chi angles: 293.3,183.5                       | 0.083Å            | -                 | -                 |
| A<br>79 | PRO     | 50         | -                                    | Favored<br>(55.99%)<br>Trans-proline /<br>-65.2,138.4      | 59.2% ( <i>Cg_endo</i> ) chi angles: 26.8                         | 0.029Å            | -                 | -                 |
| A<br>80 | GLU     | 50         | -                                    | Favored (2.1%)<br>General /<br>-47.5,-28.1                 | 13.5% ( <i>tm-20</i> )<br>chi angles:<br>185.3,287.8,331.1        | 0.076Å            | -                 | -                 |
| A<br>81 | SER     | 50         | -                                    | Favored (13.32%)<br>General / -59.9,-57.3                  | 40.9% ( <i>t</i> ) chi angles: 181.3                              | 0.006Å            | -                 | -                 |
| A<br>82 | ARG     | 50         | -                                    | Favored<br>(52.22%)<br>General /<br>-50.8,-39.1            | 10.2% ( <i>mmm180</i> )<br>chi angles:<br>287.7,275.2,287.9,199.5 | 0.063Å            | -                 | -                 |
| A<br>83 | VAL     | 50         | -                                    | Favored (16.33%) Isoleucine or valine / -61.9,-56.6        | 57.6% ( <i>t</i> ) chi angles: 180.6                              | 0.041Å            | -                 | -                 |
| A<br>84 | GLN     | 50         | -                                    | Favored<br>(70.75%)<br>General /<br>-55.4,-40.0<br>Allowed | 5.1% ( <i>tp60</i> )<br>chi angles:<br>178.5,61.9,317.3           | 0.04Å             | -                 | -                 |

| A<br>85 | VAL    | 50         | -                | (0.68%)<br>Isoleucine or valine<br>/ -65.0,-64.6 | 83.7% ( <i>t</i> )<br>chi angles: 179                            | 0.053Å            | -                    | -                 |
|---------|--------|------------|------------------|--|--|-------------------|----------------------|-------------------|
| A<br>86 | TRP    | 50         | -                | Favored<br>(4.97%)<br>General /<br>-44.1,-40.6   | 85.4% ( <i>t</i> 90)<br>chi angles: 182.7,93                     | 0.027Å            | -                    | -                 |
| A<br>87 | РНЕ    | 50         | -                | Favored<br>(98.32%)<br>General /<br>-61.1,-43.8  | 10.8% ( <i>m</i> -85) chi angles: 273.7,66.2                     | 0.017Å            | -                    | -                 |
| A<br>88 | LYS    | 50         | -                | Favored<br>(11.13%)<br>General /<br>-68.2,-55.8  | 34.6% ( <i>ttpt</i> )<br>chi angles:<br>171.2,163.6,58.8,174.2   | 0.076Å            | -                    | -                 |
| A<br>89 | ASN    | 50         | -                | Favored<br>(72.96%)<br>General /<br>-58.5,-35.9  | 1.6% ( <i>m-80</i> )<br>chi angles: 277.8,227.1                  | 0.038Å            | -                    | -                 |
| A<br>90 | ARG    | 50         | -                | Allowed<br>(1.63%)<br>General /<br>-70.9,-61.8   | 26.8% ( <i>tpt180</i> )<br>chi angles:<br>185.6,62.5,180.5,186.4 | 0.024Å            | -                    | -                 |
| A<br>91 | ARG    | 50         | -                | Favored<br>(72.15%)<br>General /<br>-58.5,-35.3  | 12.8% (ttp180)<br>chi angles:<br>201.7,206.6,72.8,162.7          | 0.053Å            | -                    | -                 |
| A<br>92 | ALA    | 50         | -                | Favored (8.24%)<br>General /<br>-52.6,-24.3      | -  | 0.034Å            | -                    | -                 |
| A<br>93 | LYS    | 50         | -                | Favored<br>(75.31%)<br>General /<br>-58.4,-37.5  | 84.7% (tttt)<br>chi angles:<br>177.3,185.6,177.3,172.7           | 0.051Å            | -                    | -                 |
| # A     | lt Res | High<br>B  | Clash > 0.4Å     | Ramachandran                                     | Rotamer  | Cβ<br>deviation   | Bond lengths         | Bond<br>angles    |
|         |        | Avg: 50.81 | Clashscore: 6.55 | Outliers: 2 of 60                                | Poor rotamers: 1 of 56   | Outliers: 0 of 62 | Outliers:<br>0 of 62 | Outliers: 1 of 62 |
| A<br>94 | CYS    | 50         | -                | Allowed (0.2%)<br>General /<br>-42.2,-28.6       | 22.7% ( <i>p</i> )<br>chi angles: 68.3                           | 0.027Å            | -                    | -                 |
| A<br>95 | ARG    | 99.99      | -                | -  | 36.3% (ttm180)<br>chi angles:<br>187.9,166,295.1,182.1           | 0.088Å            | -                    | -                 |

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