# Naccess Analysis

MEK1 (PDB 3W8Q)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Residues | Number | All | | Total side chain | | Main chain | | Non polar | | All polar | |
|  |  | ABS | REL | ABS | **REL** | ABS | REL | ABS | REL | ABS | REL |
| GLU | 39 | 116.56 | 67.7 | 70.15 | **52.1** | 46.41 | 123.7 | 39.79 | 66 | 76.77 | 68.6 |
| LEU | 40 | 147.04 | 82.3 | 126.21 | **89.4** | 20.83 | 55.5 | 126.6 | 89 | 20.44 | 56.3 |
| GLU | 41 | 150.95 | 87.6 | 132.04 | **98** | 18.91 | 50.4 | 73.52 | 121.9 | 77.43 | 69.2 |
| LEU | 42 | 61.52 | 34.4 | 35.08 | **24.9** | 26.44 | 70.5 | 37.18 | 26.1 | 24.34 | 67 |
| ASP | 43 | 80.89 | 57.6 | 79.18 | **77.1** | 1.71 | 4.5 | 51.66 | 104.9 | 29.23 | 32.1 |
| GLU | 44 | 109.4 | 63.5 | 102.05 | **75.7** | 7.35 | 19.6 | 72.34 | 120 | 37.06 | 33.1 |
| GLN | 45 | 105.8 | 59.3 | 101.48 | **72** | 4.32 | 11.5 | 45.44 | 87 | 60.36 | 47.8 |
| GLN | 46 | 41.84 | 23.4 | 41.41 | **29.4** | 0.43 | 1.2 | 16.05 | 30.7 | 25.79 | 20.4 |
| ARG | 47 | 75.47 | 31.6 | 75.47 | **37.5** | 0 | 0 | 39.56 | 50.8 | 35.92 | 22.3 |
| LYS | 48 | 117.98 | 58.8 | 116 | **71** | 1.97 | 5.3 | 69.43 | 59.6 | 48.55 | 57.6 |
| ARG | 49 | 78.14 | 32.7 | 70.5 | **35** | 7.63 | 20.4 | 30.75 | 39.5 | 47.39 | 29.4 |
| LEU | 50 | 21.56 | 12.1 | 20.38 | **14.4** | 1.19 | 3.2 | 20.38 | 14.3 | 1.19 | 3.3 |
| GLU | 51 | 83.86 | 48.7 | 82.91 | **61.5** | 0.95 | 2.5 | 41.02 | 68 | 42.84 | 38.3 |
| ALA | 52 | 49.25 | 45.6 | 46.94 | **67.6** | 2.32 | 6 | 46.94 | 65.8 | 2.32 | 6.3 |
| PHE | 53 | 28.88 | 14.5 | 28.39 | **17.3** | 0.49 | 1.4 | 28.39 | 17.2 | 0.49 | 1.4 |
| LEU | 54 | 65.6 | 36.7 | 65.41 | **46.4** | 0.19 | 0.5 | 65.41 | 46 | 0.19 | 0.5 |
| THR | 55 | 71.96 | 51.7 | 69.33 | **68.2** | 2.63 | 7 | 47.11 | 62.2 | 24.85 | 39.1 |
| GLN | 56 | 64.33 | 36 | 63.7 | **45.2** | 0.62 | 1.7 | 33.62 | 64.4 | 30.7 | 24.3 |
| LYS | 57 | 26.25 | 13.1 | 20.34 | **12.5** | 5.91 | 15.8 | 16.68 | 14.3 | 9.57 | 11.4 |
| GLN | 58 | 132.8 | 74.4 | 107.54 | **76.3** | 25.26 | 67.3 | 54.78 | 104.9 | 78.01 | 61.8 |
| LYS | 59 | 157.06 | 78.2 | 137.22 | **84** | 19.84 | 52.9 | 105.99 | 90.9 | 51.06 | 60.6 |
| VAL | 60 | 12.73 | 8.4 | 3.08 | **2.7** | 9.65 | 26 | 3.91 | 3.4 | 8.81 | 24.5 |
| GLY | 61 | 54.85 | 68.5 | 36.99 | **114.4** | 17.86 | 37.4 | 40.86 | 108.8 | 13.99 | 32.9 |
| GLU | 62 | 150.53 | 87.4 | 135.6 | **100.6** | 14.93 | 39.8 | 61.4 | 101.8 | 89.13 | 79.6 |
| LEU | 63 | 20.94 | 11.7 | 12.36 | **8.8** | 8.58 | 22.9 | 12.36 | 8.7 | 8.58 | 23.6 |
| LYS | 64 | 98.22 | 48.9 | 98.22 | **60.1** | 0 | 0 | 73.52 | 63.1 | 24.7 | 29.3 |
| ASP | 65 | 65.51 | 46.7 | 62.36 | **60.7** | 3.15 | 8.4 | 16.99 | 34.5 | 48.51 | 53.2 |
| ASP | 66 | 118.53 | 84.4 | 97.4 | **94.8** | 21.13 | 56 | 49.28 | 100.1 | 69.24 | 76 |
| ASP | 67 | 22.22 | 15.8 | 22.15 | **21.6** | 0.07 | 0.2 | 0.64 | 1.3 | 21.58 | 23.7 |
| PHE | 68 | 23.27 | 11.7 | 1.13 | **0.7** | 22.15 | 62.6 | 1.62 | 1 | 21.66 | 63.3 |
| GLU | 69 | 76.88 | 44.6 | 76.88 | **57.1** | 0 | 0 | 38.67 | 64.1 | 38.21 | 34.1 |
| LYS | 70 | 136.59 | 68 | 103.46 | **63.4** | 33.13 | 88.3 | 65.1 | 55.8 | 71.49 | 84.9 |
| ILE | 71 | 91.6 | 52.3 | 64.38 | **46.7** | 27.22 | 73.3 | 65.22 | 46.9 | 26.37 | 73.3 |
| SER | 72 | 51.38 | 44.1 | 51.17 | **65.5** | 0.21 | 0.6 | 41.01 | 84.5 | 10.37 | 15.3 |
| GLU | 73 | 104.79 | 60.8 | 78.73 | **58.4** | 26.06 | 69.5 | 31.21 | 51.8 | 73.58 | 65.7 |
| LEU | 74 | 50.67 | 28.4 | 39.34 | **27.9** | 11.33 | 30.2 | 41.78 | 29.4 | 8.89 | 24.5 |
| GLY | 75 | 22.28 | 27.8 | 21.11 | **65.3** | 1.17 | 2.4 | 22.04 | 58.7 | 0.24 | 0.6 |
| ALA | 76 | 84.94 | 78.7 | 48.38 | **69.7** | 36.56 | 94.9 | 49.28 | 69 | 35.66 | 97.5 |
| GLY | 77 | 30.04 | 37.5 | 14.69 | **45.4** | 15.35 | 32.1 | 17.3 | 46.1 | 12.74 | 29.9 |
| ASN | 78 | 143.37 | 99.6 | 109.14 | **102.7** | 34.23 | 90.8 | 36.03 | 77.9 1 | 7.34 | 109.8 |
| GLY | 79 | 27.62 | 34.5 | 15.35 | **47.5** | 12.27 | 25.7 | 19.72 | 52.5 | 7.9 | 18.6 |
| GLY | 80 | 14.41 | 18 | 11.25 | **34.8** | 3.16 | 6.6 | 11.35 | 30.2 | 3.06 | 7.2 |
| VAL | 81 | 40.22 | 26.6 | 39.8 | **34.8** | 0.42 | 1.1 | 39.8 | 34.5 | 0.42 | 1.2 |
| VAL | 82 | 22.19 | 14.7 | 22.19 | **19.4** | 0 | 0 | 22.19 | 19.2 | 0 | 0 |
| PHE | 83 | 25.7 | 12.9 | 25.7 | **15.7** | 0 | 0 | 25.7 | 15.6 | 0 | 0 |
| LYS | 84 | 53.51 | 26.6 | 53.51 | **32.8** | 0 | 0 | 12.26 | 10.5 | 41.25 | 49 |
| VAL | 85 | 2.96 | 2 | 2.96 | **2.6** | 0 | 0 | 2.96 | 2.6 | 0 | 0 |
| SER | 86 | 20.65 | 17.7 | 20.65 | **26.4** | 0 | 0 | 14.6 | 30.1 | 6.05 | 8.9 |
| HIS | 87 | 0.98 | 0.5 | 0.98 | **0.7** | 0 | 0 | 0.16 | 0.2 | 0.82 | 1 |
| LYS | 88 | 123.65 | 61.6 | 105.97 | **64.9** | 17.69 | 47.1 | 61.32 | 52.6 | 62.33 | 74 |
| PRO | 89 | 87.28 | 64.1 | 58.19 | **48.5** | 29.1 | 179.3 | 60.51 | 50 | 26.77 | 176.3 |
| SER | 90 | 50.75 | 43.6 | 22.71 | **29.1** | 28.04 | 73 | 22.08 | 45.5 | 28.67 | 42.2 |
| GLY | 91 | 50.54 | 63.1 | 28.29 | **87.5** | 22.24 | 46.6 | 31.58 | 84.1 | 18.96 | 44.5 |
| LEU | 92 | 43.57 | 24.4 | 43.46 | **30.8** | 0.11 | 0.3 | 43.46 | 30.5 | 0.11 | 0.3 |
| VAL | 93 | 63.55 | 42 | 51.34 | **44.9** | 12.21 | 32.9 | 51.34 | 44.5 | 12.21 | 33.9 |
| MET | 94 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ALA | 95 | 7.33 | 6.8 | 7.33 | **10.6** | 0 | 0 | 7.33 | 10.3 | 0 | 0 |
| ARG | 96 | 17.09 | 7.2 | 17.09 | **8.5** | 0 | 0 | 1.96 | 2.5 | 15.13 | 9.4 |
| LYS | 97 | 22.47 | 11.2 | 22.47 | **13.8** | 0 | 0 | 18.2 | 15.6 | 4.28 | 5.1 |
| LEU | 98 | 26.19 | 14.7 | 26.19 | **18.6** | 0 | 0 | 26.19 | 18.4 | 0 | 0 |
| ILE | 99 | 3.7 | 2.1 | 3.7 | **2.7** | 0 | 0 | 3.7 | 2.7 | 0 | 0 |
| HIS | 100 | 118.16 | 64.6 | 96.44 | **65.6** | 21.72 | 60.7 | 68.5 | 70.5 | 49.66 | 57.9 |
| LEU | 101 | 38.83 | 21.7 | 36.4 | **25.8** | 2.42 | 6.5 | 36.98 | 26 | 1.85 | 5.1 |
| GLU | 102 | 102.03 | 59.2 | 95.7 | **71** | 6.33 | 16.9 | 71.6 | 118.8 | 30.43 | 27.2 |
| ILE | 103 | 2.49 | 1.4 | 2.49 | **1.8** | 0 | 0 | 2.49 | 1.8 | 0 | 0 |
| LYS | 104 | 112.07 | 55.8 | 112.07 | **68.6** | 0 | 0 | 89.54 | 76.8 | 22.53 | 26.7 |
| PRO | 105 | 98.44 | 72.3 | 84.56 | **70.5** | 13.88 | 85.5 | 86.74 | 71.7 | 11.7 | 77 |
| ALA | 106 | 79.71 | 73.8 | 64.41 | **92.8** | 15.3 | 39.7 | 64.45 | 90.3 | 15.26 | 41.7 |
| ILE | 107 | 22.72 | 13 | 22.72 | **16.5** | 0 | 0 | 22.72 | 16.3 | 0 | 0 |
| ARG | 108 | 74.35 | 31.1 | 74.35 | **36.9** | 0 | 0 | 25.33 | 32.6 | 49.02 | 30.5 |
| ASN | 109 | 84.7 | 58.8 | 84.7 | **79.7** | 0 | 0 | 22.82 | 49.4 | 61.88 | 63.3 |
| GLN | 110 | 81.35 | 45.6 | 71.1 | **50.4** | 10.25 | 27.3 | 35.9 | 68.8 | 45.45 | 36 |
| ILE | 111 | 7.07 | 4 | 7.01 | **5.1** | 0.05 | 0.1 | 7.01 | 5 | 0.05 | 0.2 |
| ILE | 112 | 42.23 | 24.1 | 42.23 | **30.6** | 0 | 0 | 42.23 | 30.3 | 0 | 0 |
| ARG | 113 | 149.62 | 62.7 | 148.82 | **73.9** | 0.81 | 2.1 | 67.73 | 87.1 | 81.89 | 50.9 |
| GLU | 114 | 54.77 | 31.8 | 54.77 | **40.7** | 0 | 0 | 26.69 | 44.3 | 28.09 | 25.1 |
| LEU | 115 | 1.53 | 0.9 | 1.53 | **1.1** | 0 | 0 | 1.53 | 1.1 | 0 | 0 |
| GLN | 116 | 77.22 | 43.3 | 77.22 | **54.8** | 0 | 0 | 34.31 | 65.7 | 42.9 | 34 |
| VAL | 117 | 88.8 | 58.6 | 85.43 | **74.8** | 3.38 | 9.1 | 85.43 | 74 | 3.38 | 9.4 |
| LEU | 118 | 58.46 | 32.7 | 47.82 | **33.9** | 10.65 | 28.4 | 47.82 | 33.6 | 10.65 | 29.3 |
| HIS | 119 | 16.65 | 9.1 | 12.73 | **8.7** | 3.92 | 10.9 | 9.76 | 10 | 6.89 | 8 |
| GLU | 120 | 44.82 | 26 | 35.01 | **26** | 9.81 | 26.2 | 19.02 | 31.5 | 25.8 | 23 |
| CYS | 121 | 22.71 | 16.9 | 5.3 | **5.5** | 17.41 | 46.4 | 8.52 | 8.7 | 14.2 | 39.1 |
| ASN | 122 | 59.82 | 41.6 | 52.23 | **49.2** | 7.59 | 20.1 | 32.35 | 70 | 27.47 | 28.1 |
| SER | 123 | 6.04 | 5.2 | 3.11 | **4** | 2.93 | 7.6 | 1.94 | 4 | 4.11 | 6 |
| PRO | 124 | 17.43 | 12.8 | 15.39 | **12.8** | 2.04 | 12.6 | 15.39 | 12.7 | 2.04 | 13.4 |
| TYR | 125 | 34.12 | 16 | 34.03 | **19.2** | 0.08 | 0.2 | 26.31 | 19.3 | 7.8 | 10.2 |
| ILE | 126 | 10.17 | 5.8 | 6.07 | **4.4** | 4.1 | 11 | 6.07 | 4.4 | 4.1 | 11.4 |
| VAL | 127 | 4.19 | 2.8 | 1.03 | **0.9** | 3.16 | 8.5 | 1.03 | 0.9 | 3.16 | 8.8 |
| GLY | 128 | 9.95 | 12.4 | 9.86 | **30.5** | 0.08 | 0.2 | 9.92 | 26.4 | 0.03 | 0.1 |
| PHE | 129 | 2.79 | 1.4 | 2.06 | **1.3** | 0.73 | 2.1 | 2.06 | 1.2 | 0.73 | 2.1 |
| TYR | 130 | 18.35 | 8.6 | 7.18 | **4** | 11.17 | 31.6 | 0.6 | 0.4 | 17.75 | 23.3 |
| GLY | 131 | 9.43 | 11.8 | 9.43 | **29.2** | 0 | 0 | 9.43 | 25.1 | 0 | 0 |
| ALA | 132 | 19.29 | 17.9 | 0.67 | **1** | 18.62 | 48.3 | 0.88 | 1.2 | 18.41 | 50.3 |
| PHE | 133 | 27.4 | 13.7 | 26.35 | **16.1** | 1.05 | 3 | 27.3 | 16.5 | 0.1 | 0.3 |
| TYR | 134 | 32.32 | 15.2 | 10.19 | **5.7** | 22.13 | 62.5 | 10.04 | 7.4 | 22.28 | 29.2 |
| SER | 135 | 32.27 | 27.7 | 31.5 | **40.3** | 0.77 | 2 | 29.45 | 60.7 | 2.82 | 4.1 |
| ASP | 136 | 131.43 | 93.6 | 109.13 | **106.3** | 22.3 | 59.2 | 51.89 | 105.4 | 79.54 | 87.3 |
| GLY | 137 | 19.81 | 24.7 | 11.81 | **36.5** | 8 | 16.8 | 11.81 | 31.5 | 8 | 18.8 |
| GLU | 138 | 38.32 | 22.2 | 37.99 | **28.2** | 0.33 | 0.9 | 3.09 | 5.1 | 35.23 | 31.5 |
| ILE | 139 | 3.07 | 1.8 | 3.07 | **2.2** | 0 | 0 | 3.07 | 2.2 | 0 | 0 |
| SER | 140 | 0.68 | 0.6 | 0.68 | **0.9** | 0 | 0 | 0.31 | 0.6 | 0.37 | 0.5 |
| ILE | 141 | 0.06 | 0 | 0.06 | **0** | 0 | 0 | 0.06 | 0 | 0 | 0 |
| CYS | 142 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| MET | 143 | 10.62 | 5.5 | 10.62 | **6.8** | 0 | 0 | 10.62 | 6.7 | 0 | 0 |
| GLU | 144 | 32.31 | 18.8 | 30.89 | **22.9** | 1.42 | 3.8 | 12.22 | 20.3 | 20.08 | 17.9 |
| HIS | 145 | 40.21 | 22 | 23.31 | **15.9** | 16.89 | 47.2 | 10.98 | 11.3 | 29.23 | 34.1 |
| MET | 146 | 7.45 | 3.8 | 0.65 | **0.4** | 6.8 | 18.1 | 0.65 | 0.4 | 6.8 | 18.7 |
| ASP | 147 | 54.18 | 38.6 | 39.69 | **38.7** | 14.49 | 38.4 | 21.45 | 43.6 | 32.73 | 35.9 |
| GLY | 148 | 5.25 | 6.6 | 0 | **0** | 5.25 | 11 | 1.81 | 4.8 | 3.45 | 8.1 |
| GLY | 149 | 15.94 | 19.9 | 15.03 | **46.5** | 0.91 | 1.9 | 15.03 | 40 | 0.91 | 2.1 |
| SER | 150 | 12.49 | 10.7 | 11.79 | **15.1** | 0.69 | 1.8 | 2.91 | 6 | 9.58 | 14.1 |
| LEU | 151 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASP | 152 | 43.9 | 31.3 | 41.73 | **40.6** | 2.17 | 5.7 | 19.74 | 40.1 | 24.15 | 26.5 |
| GLN | 153 | 62.88 | 35.2 | 59.53 | **42.2** | 3.35 | 8.9 | 34.59 | 66.2 | 28.3 | 22.4 |
| VAL | 154 | 1.67 | 1.1 | 1.64 | **1.4** | 0.02 | 0.1 | 1.64 | 1.4 | 0.02 | 0.1 |
| LEU | 155 | 17.7 | 9.9 | 16.57 | **11.7** | 1.13 | 3 | 16.67 | 11.7 | 1.03 | 2.8 |
| LYS | 156 | 155.43 | 77.4 | 131.65 | **80.6** | 23.78 | 63.4 | 108.22 | 92.8 | 47.2 | 56 |
| LYS | 157 | 131.72 | 65.6 | 107.43 | **65.8** | 24.29 | 64.7 | 66.61 | 57.1 | 65.11 | 77.3 |
| ALA | 158 | 37.72 | 34.9 | 11.19 | **16.1** | 26.54 | 68.9 | 14.52 | 20.3 | 23.2 | 63.4 |
| GLY | 159 | 43.59 | 54.4 | 36.52 | **112.9** | 7.08 | 14.8 | 37.69 | 100.4 | 5.91 | 13.9 |
| ARG | 160 | 91.67 | 38.4 | 82.28 | **40.9** | 9.39 | 25 | 19.26 | 24.8 | 72.41 | 45 |
| ILE | 161 | 0.86 | 0.5 | 0 | **0** | 0.86 | 2.3 | 0.09 | 0.1 | 0.77 | 2.1 |
| PRO | 162 | 60.02 | 44.1 | 59.94 | **50** | 0.08 | 0.5 | 59.94 | 49.6 | 0.08 | 0.5 |
| GLU | 163 | 25.86 | 15 | 22.89 | **17** | 2.98 | 7.9 | 17.19 | 28.5 | 8.67 | 7.7 |
| GLN | 164 | 87.24 | 48.9 | 85.81 | **60.9** | 1.42 | 3.8 | 28.91 | 55.4 | 58.33 | 46.2 |
| ILE | 165 | 5.74 | 3.3 | 5.74 | **4.2** | 0 | 0 | 5.74 | 4.1 | 0 | 0 |
| LEU | 166 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLY | 167 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LYS | 168 | 38.79 | 19.3 | 37.01 | **22.7** | 1.77 | 4.7 | 25.95 | 22.3 | 12.83 | 15.2 |
| VAL | 169 | 0.46 | 0.3 | 0.46 | **0.4** | 0 | 0 | 0.46 | 0.4 | 0 | 0 |
| SER | 170 | 0.2 | 0.2 | 0.2 | **0.2** | 0 | 0 | 0.2 | 0.4 | 0 | 0 |
| ILE | 171 | 14.07 | 8 | 14.07 | **10.2** | 0 | 0 | 14.07 | 10.1 | 0 | 0 |
| ALA | 172 | 4.86 | 4.5 | 3.75 | **5.4** | 1.11 | 2.9 | 4.67 | 6.5 | 0.19 | 0.5 |
| VAL | 173 | 1.92 | 1.3 | 1.92 | **1.7** | 0 | 0 | 1.92 | 1.7 | 0 | 0 |
| ILE | 174 | 0.15 | 0.1 | 0.15 | **0.1** | 0 | 0 | 0.15 | 0.1 | 0 | 0 |
| LYS | 175 | 37.8 | 18.8 | 34.15 | **20.9** | 3.65 | 9.7 | 14.29 | 12.3 | 23.51 | 27.9 |
| GLY | 176 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 177 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| THR | 178 | 46.19 | 33.2 | 46.19 | **45.4** | 0 | 0 | 41.1 | 54.3 | 5.09 | 8 |
| TYR | 179 | 40.07 | 18.8 | 40 | **22.6** | 0.07 | 0.2 | 31.95 | 23.4 | 8.12 | 10.6 |
| LEU | 180 | 6.62 | 3.7 | 6.62 | **4.7** | 0 | 0 | 6.62 | 4.7 | 0 | 0 |
| ARG | 181 | 67.12 | 28.1 | 48.75 | **24.2** | 18.37 | 49 | 14 | 18 | 53.12 | 33 |
| GLU | 182 | 121.16 | 70.3 | 92.07 | **68.3** | 29.09 | 77.6 | 39.33 | 65.2 | 81.84 | 73.1 |
| LYS | 183 | 139.64 | 69.5 | 111.97 | **68.6** | 27.67 | 73.8 | 68.12 | 58.4 | 71.52 | 84.9 |
| HIS | 184 | 58.79 | 32.1 | 27.93 | **19** | 30.86 | 86.2 | 21.67 | 22.3 | 37.12 | 43.3 |
| LYS | 185 | 42.48 | 21.2 | 17.63 | **10.8** | 24.85 | 66.2 | 15.07 | 12.9 | 27.41 | 32.5 |
| ILE | 186 | 55.44 | 31.7 | 31.74 | **23** | 23.7 | 63.8 | 31.74 | 22.8 | 23.7 | 65.9 |
| MET | 187 | 61.44 | 31.6 | 61.26 | **39.1** | 0.18 | 0.5 | 61.26 | 38.8 | 0.18 | 0.5 |
| HIS | 188 | 106.6 | 58.3 | 93.39 | **63.5** | 13.22 | 36.9 | 73.77 | 75.9 | 32.83 | 38.3 |
| ARG | 189 | 16.6 | 7 | 16.6 | **8.2** | 0 | 0 | 4.01 | 5.1 | 12.59 | 7.8 |
| ASP | 190 | 53.06 | 37.8 | 47.94 | **46.7** | 5.13 | 13.6 | 28.05 | 57 | 25.02 | 27.4 |
| VAL | 191 | 0.28 | 0.2 | 0.2 | **0.2** | 0.08 | 0.2 | 0.2 | 0.2 | 0.08 | 0.2 |
| LYS | 192 | 109.79 | 54.7 | 109.79 | **67.2** | 0 | 0 | 87.2 | 74.8 | 22.59 | 26.8 |
| PRO | 193 | 8.22 | 6 | 8.22 | **6.9** | 0 | 0 | 8.22 | 6.8 | 0 | 0 |
| SER | 194 | 49.01 | 42.1 | 38.76 | **49.6** | 10.24 | 26.7 | 26.13 | 53.8 | 22.87 | 33.7 |
| ASN | 195 | 10.2 | 7.1 | 10.2 | **9.6** | 0 | 0 | 0 | 0 | 10.2 | 10.4 |
| ILE | 196 | 2.63 | 1.5 | 2.63 | **1.9** | 0 | 0 | 2.63 | 1.9 | 0 | 0 |
| LEU | 197 | 26.11 | 14.6 | 26.11 | **18.5** | 0 | 0 | 26.11 | 18.3 | 0 | 0 |
| VAL | 198 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASN | 199 | 9.4 | 6.5 | 9.4 | **8.8** | 0 | 0 | 3.55 | 7.7 | 5.85 | 6 |
| SER | 200 | 37.75 | 32.4 | 25.2 | **32.3** | 12.54 | 32.7 | 7.95 | 16.4 | 29.8 | 43.9 |
| ARG | 201 | 150.63 | 63.1 | 130.5 | **64.8** | 20.12 | 53.6 | 51.16 | 65.8 | 99.47 | 61.8 |
| GLY | 202 | 19.78 | 24.7 | 2.98 | **9.2** | 16.8 | 35.2 | 4.55 | 12.1 | 15.23 | 35.8 |
| GLU | 203 | 31.71 | 18.4 | 31.71 | **23.5** | 0 | 0 | 20.25 | 33.6 | 11.46 | 10.2 |
| ILE | 204 | 17.55 | 10 | 11.97 | **8.7** | 5.59 | 15 | 11.97 | 8.6 | 5.59 | 15.5 |
| LYS | 205 | 16.3 | 8.1 | 15.88 | **9.7** | 0.42 | 1.1 | 1.58 | 1.4 | 14.72 | 17.5 |
| LEU | 206 | 1.23 | 0.7 | 0.82 | **0.6** | 0.41 | 1.1 | 0.82 | 0.6 | 0.41 | 1.1 |
| CYS | 207 | 22.17 | 16.5 | 21.67 | **22.4** | 0.5 | 1.3 | 21.67 | 22.1 | 0.5 | 1.4 |
| ASP | 208 | 11.51 | 8.2 | 11.04 | **10.7** | 0.47 | 1.3 | 4.8 | 9.7 | 6.71 | 7.4 |
| PHE | 209 | 23.71 | 11.9 | 19.6 | **11.9** | 4.11 | 11.6 | 19.6 | 11.9 | 4.11 | 12 |
| GLY | 210 | 40.29 | 50.3 | 27.86 | **86.2** | 12.43 | 26 | 28.62 | 76.2 | 11.67 | 27.4 |
| VAL | 211 | 2.89 | 1.9 | 0.89 | **0.8** | 2 | 5.4 | 0.89 | 0.8 | 2 | 5.6 |
| SER | 212 | 15.83 | 13.6 | 13.1 | **16.8** | 2.73 | 7.1 | 12.37 | 25.5 | 3.46 | 5.1 |
| GLY | 213 | 47.77 | 59.6 | 37.75 | **116.8** | 10.02 | 21 | 42.35 | 112.8 | 5.42 | 12.7 |
| GLN | 214 | 22.21 | 12.4 | 21.18 | **15** | 1.03 | 2.8 | 14.32 | 27.4 | 7.89 | 6.3 |
| LEU | 215 | 0.35 | 0.2 | 0.35 | **0.2** | 0 | 0 | 0.35 | 0.2 | 0 | 0 |
| ILE | 216 | 90.02 | 51.4 | 89.88 | **65.1** | 0.14 | 0.4 | 89.88 | 64.6 | 0.14 | 0.4 |
| ASP | 217 | 73.19 | 52.1 | 72.83 | **70.9** | 0.36 | 1 | 25.45 | 51.7 | 47.74 | 52.4 |
| SER | 218 | 9.53 | 8.2 | 6.95 | **8.9** | 2.59 | 6.7 | 6.58 | 13.6 | 2.96 | 4.4 |
| MET | 219 | 27.24 | 14 | 16.73 | **10.7** | 10.52 | 28 | 18.51 | 11.7 | 8.74 | 24.1 |
| ALA | 220 | 68.87 | 63.8 | 49.65 | **71.5** | 19.22 | 49.9 | 50.15 | 70.3 | 18.72 | 51.2 |
| ASN | 221 | 60.73 | 42.2 | 46.26 | **43.5** | 14.47 | 38.4 | 23.9 | 51.7 | 36.82 | 37.7 |
| SER | 222 | 43.35 | 37.2 | 30 | **38.4** | 13.34 | 34.7 | 29.51 | 60.8 | 13.84 | 20.4 |
| PHE | 223 | 87.48 | 43.9 | 63.65 | **38.8** | 23.84 | 67.4 | 66.11 | 40 | 21.38 | 62.5 |
| VAL | 224 | 136.18 | 89.9 | 125.99 | **110.2** | 10.19 | 27.4 | 126.36 | 109.4 | 9.82 | 27.3 |
| GLY | 225 | 50.11 | 62.6 | 39.22 | **121.3** | 10.89 | 22.8 | 39.54 | 105.3 | 10.57 | 24.8 |
| THR | 226 | 144.07 | 103.4 | 115.08 | **113.2** | 28.99 | 77.2 | 86.8 | 114.6 | 57.27 | 90.1 |
| ARG | 227 | 144.91 | 60.7 | 129.03 | **64.1** | 15.87 | 42.3 | 37.83 | 48.6 1 | 7.08 | 66.5 |
| SER | 228 | 72.39 | 62.1 | 40.59 | **52** | 31.8 | 82.8 | 36.62 | 75.4 | 35.77 | 52.6 |
| TYR | 229 | 169.08 | 79.5 | 137.19 | **77.3** | 31.89 | 90.1 | 122.79 | 90 | 46.29 | 60.7 |
| MET | 230 | 48.51 | 25 | 34.09 | **21.8** | 14.42 | 38.5 | 35.26 | 22.3 | 13.25 | 36.5 |
| SER | 231 | 37.74 | 32.4 | 35.67 | **45.7** | 2.07 | 5.4 | 16.07 | 33.1 | 21.67 | 31.9 |
| PRO | 232 | 98.95 | 72.7 | 98.24 | **81.9** | 0.71 | 4.4 | 98.24 | 81.2 | 0.71 | 4.7 |
| GLU | 233 | 100 | 58.1 | 92.67 | **68.8** | 7.33 | 19.5 | 44.27 | 73.4 | 55.73 | 49.8 |
| ARG | 234 | 97.03 | 40.6 | 92.39 | **45.9** | 4.64 | 12.4 | 19.27 | 24.8 | 77.76 | 48.3 |
| LEU | 235 | 104.42 | 58.5 | 74.68 | **52.9** | 29.74 | 79.3 | 75.41 | 53 | 29.01 | 79.9 |
| GLN | 236 | 140.26 | 78.6 | 128.83 | **91.4** | 11.43 | 30.5 | 55.36 | 106 | 84.9 | 67.2 |
| GLY | 237 | 4.82 | 6 | 0.06 | **0.2** | 4.76 | 10 | 0.27 | 0.7 | 4.55 | 10.7 |
| THR | 238 | 102.51 | 73.6 | 90.86 | **89.3** | 11.65 | 31 | 72.18 | 95.3 | 30.33 | 47.7 |
| HIS | 239 | 123.97 | 67.8 | 96.43 | **65.6** | 27.54 | 76.9 | 63.23 | 65.1 | 60.74 | 70.8 |
| TYR | 240 | 36.6 | 17.2 | 36.31 | **20.5** | 0.29 | 0.8 | 29.97 | 22 | 6.63 | 8.7 |
| SER | 241 | 41.04 | 35.2 | 39.12 | **50.1** | 1.92 | 5 | 25.95 | 53.4 | 15.1 | 22.2 |
| VAL | 242 | 18.78 | 12.4 | 17.95 | **15.7** | 0.83 | 2.2 | 17.95 | 15.5 | 0.83 | 2.3 |
| GLN | 243 | 31.56 | 17.7 | 31.56 | **22.4** | 0 | 0 | 6.03 | 11.6 | 25.52 | 20.2 |
| SER | 244 | 37.75 | 32.4 | 36.52 | **46.7** | 1.24 | 3.2 | 24.38 | 50.2 | 13.38 | 19.7 |
| ASP | 245 | 0.23 | 0.2 | 0.23 | **0.2** | 0 | 0 | 0 | 0 | 0.23 | 0.2 |
| ILE | 246 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| TRP | 247 | 36.54 | 14.7 | 36.54 | **17.3** | 0 | 0 | 25.98 | 13.7 | 10.56 | 17.7 |
| SER | 248 | 12.98 | 11.1 | 12.09 | **15.5** | 0.89 | 2.3 | 4.19 | 8.6 | 8.8 | 12.9 |
| MET | 249 | 3.18 | 1.6 | 3.18 | **2** | 0 | 0 | 3.18 | 2 | 0 | 0 |
| GLY | 250 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 251 | 21.46 | 12 | 21.46 | **15.2** | 0 | 0 | 21.46 | 15.1 | 0 | 0 |
| SER | 252 | 5.77 | 5 | 5.74 | **7.4** | 0.03 | 0.1 | 1.66 | 3.4 | 4.11 | 6.1 |
| LEU | 253 | 2.21 | 1.2 | 2.21 | **1.6** | 0 | 0 | 2.21 | 1.6 | 0 | 0 |
| VAL | 254 | 1.99 | 1.3 | 1.99 | **1.7** | 0 | 0 | 1.99 | 1.7 | 0 | 0 |
| GLU | 255 | 36.43 | 21.1 | 36.43 | **27** | 0 | 0 | 0.43 | 0.7 | 36 | 32.2 |
| MET | 256 | 0.6 | 0.3 | 0.6 | **0.4** | 0 | 0 | 0.6 | 0.4 | 0 | 0 |
| ALA | 257 | 0.85 | 0.8 | 0 | **0** | 0.85 | 2.2 | 0 | 0 | 0.85 | 2.3 |
| VAL | 258 | 5.54 | 3.7 | 3.64 | **3.2** | 1.89 | 5.1 | 3.64 | 3.2 | 1.89 | 5.3 |
| GLY | 259 | 28.69 | 35.8 | 2.13 | **6.6** | 26.56 | 55.6 | 4.17 | 11.1 | 24.52 | 57.6 |
| ARG | 260 | 63.79 | 26.7 | 63.79 | **31.7** | 0 | 0 | 40.73 | 52.4 | 23.06 | 14.3 |
| TYR | 261 | 88.79 | 41.7 | 80.06 | **45.1** | 8.72 | 24.7 | 71.4 | 52.3 | 17.39 | 22.8 |
| PRO | 262 | 3.14 | 2.3 | 2.76 | **2.3** | 0.38 | 2.3 | 2.76 | 2.3 | 0.38 | 2.5 |
| ILE | 263 | 6.68 | 3.8 | 1.93 | **1.4** | 4.76 | 12.8 | 1.93 | 1.4 | 4.76 | 13.2 |
| PRO | 264 | 62.24 | 45.7 | 62.24 | **51.9** | 0 | 0 | 62.24 | 51.5 | 0 | 0 |
| PRO | 265 | 59.38 | 43.6 | 46.08 | **38.4** | 13.31 | 82 | 46.13 | 38.1 | 13.25 | 87.2 |
| PRO | 266 | 24.72 | 18.2 | 16.3 | **13.6** | 8.41 | 51.8 | 16.53 | 13.7 | 8.19 | 53.9 |
| ASP | 267 | 90.74 | 64.6 | 89.26 | **86.9** | 1.48 | 3.9 | 53.93 | 109.5 | 36.81 | 40.4 |
| ALA | 268 | 77.74 | 72 | 68.23 | **98.3** | 9.5 | 24.7 | 68.82 | 96.4 | 8.91 | 24.4 |
| LYS | 269 | 131.68 | 65.6 | 127.19 | **77.9** | 4.49 | 12 | 81.33 | 69.8 | 50.36 | 59.8 |
| GLU | 270 | 62.23 | 36.1 | 62.23 | **46.2** | 0 | 0 | 38.63 | 64.1 | 23.61 | 21.1 |
| LEU | 271 | 28.04 | 15.7 | 28.04 | **19.9** | 0 | 0 | 28.04 | 19.7 | 0 | 0 |
| GLU | 272 | 82.2 | 47.7 | 78.48 | **58.2** | 3.72 | 9.9 | 24.16 | 40.1 | 58.04 | 51.8 |
| LEU | 273 | 119.72 | 67 | 95.89 | **67.9** | 23.83 | 63.5 | 97.7 | 68.7 | 22.02 | 60.6 |
| MET | 274 | 47.43 | 24.4 | 35.63 | **22.7** | 11.8 | 31.5 | 35.63 | 22.6 | 11.8 | 32.5 |
| PHE | 275 | 32.36 | 16.2 | 8.25 | **5** | 24.11 | 68.2 | 12.81 | 7.8 | 19.55 | 57.1 |
| GLY | 276 | 55.54 | 69.3 | 36.01 | **111.4** | 19.53 | 40.9 | 37.77 | 100.6 | 17.77 | 41.8 |
| CYS | 277 | 107.05 | 79.7 | 90.47 | **93.5** | 16.58 | 44.2 | 92.77 | 94.7 | 14.28 | 39.3 |
| GLN | 278 | 94.78 | 53.1 | 62.44 | **44.3** | 32.34 | 86.2 | 33.12 | 63.4 | 61.67 | 48.8 |
| ARG | 305 | 139.42 | 58.4 | 80.11 | **39.8** | 59.31 | 158.1 | 81.34 | 104.5 | 58.08 | 36.1 |
| PRO | 306 | 123.08 | 90.4 | 106.37 | **88.7** | 16.71 | 103 | 107.97 | 89.3 | 15.11 | 99.5 |
| PRO | 307 | 120.04 | 88.2 | 105.85 | **88.3** | 14.2 | 87.5 | 105.85 | 87.5 | 14.19 | 93.4 |
| MET | 308 | 56.42 | 29.1 | 34.27 | **21.9** | 22.15 | 59.1 | 34.27 | 21.7 | 22.15 | 61 |
| ALA | 309 | 61.65 | 57.1 | 60.47 | **87.1** | 1.18 | 3 | 61.32 | 85.9 | 0.33 | 0.9 |
| ILE | 310 | 113.49 | 64.8 | 110.18 | **79.9** | 3.32 | 8.9 | 110.18 | 79.2 | 3.32 | 9.2 |
| PHE | 311 | 159.67 | 80 | 158.98 | **96.9** | 0.69 | 1.9 | 158.98 | 96.2 | 0.69 | 2 |
| GLU | 312 | 84.56 | 49.1 | 82.41 | **61.2** | 2.15 | 5.7 | 37.27 | 61.8 | 47.29 | 42.2 |
| LEU | 313 | 35.39 | 19.8 | 35.39 | **25.1** | 0 | 0 | 35.39 | 24.9 | 0 | 0 |
| LEU | 314 | 94.25 | 52.8 | 92.21 | **65.3** | 2.04 | 5.4 | 93.19 | 65.5 | 1.06 | 2.9 |
| ASP | 315 | 59.5 | 42.4 | 58.55 | **57** | 0.95 | 2.5 | 25.49 | 51.8 | 34.02 | 37.3 |
| TYR | 316 | 50.27 | 23.6 | 49.1 | **27.7** | 1.18 | 3.3 | 34.78 | 25.5 | 15.49 | 20.3 |
| ILE | 317 | 48.09 | 27.5 | 45.44 | **32.9** | 2.65 | 7.1 | 45.44 | 32.7 | 2.65 | 7.4 |
| VAL | 318 | 105.78 | 69.8 | 96.78 | **84.7** | 9 | 24.2 | 96.78 | 83.8 | 9 | 25 |
| ASN | 319 | 96.39 | 67 | 71.41 | **67.2** | 24.98 | 66.3 | 24.58 | 53.2 | 71.81 | 73.5 |
| GLU | 320 | 69.04 | 40.1 | 66.46 | **49.3** | 2.59 | 6.9 | 13.53 | 22.4 | 55.52 | 49.6 |
| PRO | 321 | 95.49 | 70.1 | 91.65 | **76.4** | 3.84 | 23.6 | 91.65 | 75.8 | 3.84 | 25.3 |
| PRO | 322 | 47 | 34.5 | 41.91 | **35** | 5.09 | 31.4 | 42.04 | 34.8 | 4.96 | 32.6 |
| PRO | 323 | 8.94 | 6.6 | 7.63 | **6.4** | 1.31 | 8.1 | 7.63 | 6.3 | 1.31 | 8.6 |
| LYS | 324 | 138.04 | 68.7 | 120.13 | **73.6** | 17.91 | 47.8 | 78.49 | 67.3 | 59.54 | 70.7 |
| LEU | 325 | 8.36 | 4.7 | 0 | **0** | 8.36 | 22.3 | 0.49 | 0.3 | 7.87 | 21.7 |
| PRO | 326 | 12.52 | 9.2 | 12.41 | **10.4** | 0.1 | 0.6 | 12.41 | 10.3 | 0.1 | 0.7 |
| SER | 327 | 58.19 | 50 | 56.87 | **72.8** | 1.32 | 3.4 | 38.52 | 79.3 | 19.67 | 28.9 |
| GLY | 328 | 68.08 | 85 | 34.1 | **105.5** | 33.98 | 71.1 | 37.04 | 98.6 | 31.04 | 73 |
| VAL | 329 | 52.33 | 34.6 | 31.77 | **27.8** | 20.55 | 55.3 | 33.16 | 28.7 | 19.16 | 53.3 |
| PHE | 330 | 18.18 | 9.1 | 14.25 | **8.7** | 3.93 | 11.1 | 15.08 | 9.1 | 3.1 | 9 |
| SER | 331 | 33.37 | 28.6 | 30.01 | **38.4** | 3.36 | 8.8 | 30.01 | 61.8 | 3.36 | 5 |
| LEU | 332 | 137.91 | 77.2 | 130.41 | **92.4** | 7.51 | 20 | 131.54 | 92.4 | 6.37 | 17.5 |
| GLU | 333 | 58.49 | 34 | 58.49 | **43.4** | 0 | 0 | 33.7 | 55.9 | 24.78 | 22.1 |
| PHE | 334 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLN | 335 | 24.65 | 13.8 | 24.58 | **17.4** | 0.07 | 0.2 | 7 | 13.4 | 17.65 | 14 |
| ASP | 336 | 54.15 | 38.6 | 53.91 | **52.5** | 0.24 | 0.6 | 19.64 | 39.9 | 34.5 | 37.9 |
| PHE | 337 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 338 | 0.08 | 0.1 | 0.08 | **0.1** | 0 | 0 | 0.08 | 0.1 | 0 | 0 |
| ASN | 339 | 62.3 | 43.3 | 59.75 | **56.2** | 2.56 | 6.8 | 22.32 | 48.3 | 39.98 | 40.9 |
| LYS | 340 | 62.43 | 31.1 | 62.43 | **38.2** | 0 | 0 | 24.77 | 21.2 | 37.66 | 44.7 |
| CYS | 341 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 342 | 1.05 | 0.6 | 0.83 | **0.6** | 0.22 | 0.6 | 1.05 | 0.7 | 0 | 0 |
| ILE | 343 | 49.11 | 28 | 49.11 | **35.6** | 0 | 0 | 49.11 | 35.3 | 0 | 0 |
| LYS | 344 | 74.86 | 37.3 | 53.38 | **32.7** | 21.47 | 57.2 | 50.96 | 43.7 | 23.89 | 28.4 |
| ASN | 345 | 72.14 | 50.1 | 71.37 | **67.2** | 0.77 | 2 | 29.45 | 63.7 | 42.69 | 43.7 |
| PRO | 346 | 69.45 | 51 | 67.62 | **56.4** | 1.84 | 11.3 | 68.67 | 56.8 | 0.78 | 5.2 |
| ALA | 347 | 90.39 | 83.7 | 61.52 | **88.6** | 28.87 | 74.9 | 61.87 | 86.7 | 28.52 | 78 |
| GLU | 348 | 120.5 | 70 | 106.08 | **78.7** | 14.41 | 38.4 | 42.76 | 70.9 | 77.74 | 69.4 |
| ARG | 349 | 22.57 | 9.5 | 17.66 | **8.8** | 4.92 | 13.1 | 0.05 | 0.1 | 22.52 | 14 |
| ALA | 350 | 0.49 | 0.5 | 0 | **0** | 0.49 | 1.3 | 0 | 0 | 0.49 | 1.3 |
| ASP | 351 | 35.87 | 25.6 | 35.43 | **34.5** | 0.45 | 1.2 | 17.07 | 34.7 | 18.81 | 20.6 |
| LEU | 352 | 16.3 | 9.1 | 14.59 | **10.3** | 1.71 | 4.5 | 15.29 | 10.7 | 1.02 | 2.8 |
| LYS | 353 | 158.23 | 78.8 | 154.42 | **94.6** | 3.81 | 10.2 | 115.07 | 98.7 | 43.15 | 51.2 |
| GLN | 354 | 74.77 | 41.9 | 73.26 | **52** | 1.51 | 4 | 32.16 | 61.6 | 42.62 | 33.7 |
| LEU | 355 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| MET | 356 | 25.39 | 13.1 | 25.36 | **16.2** | 0.03 | 0.1 | 25.36 | 16.1 | 0.03 | 0.1 |
| VAL | 357 | 81.29 | 53.7 | 75.67 | **66.2** | 5.62 | 15.1 | 75.7 | 65.6 | 5.6 | 15.6 |
| HIS | 358 | 20.2 | 11 | 20.2 | **13.7** | 0 | 0 | 18.43 | 19 | 1.77 | 2.1 |
| ALA | 359 | 50.17 | 46.5 | 42.84 | **61.7** | 7.33 | 19 | 43.13 | 60.4 | 7.03 | 19.2 |
| PHE | 360 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ILE | 361 | 0.66 | 0.4 | 0.66 | **0.5** | 0 | 0 | 0.66 | 0.5 | 0 | 0 |
| LYS | 362 | 117.24 | 58.4 | 109.78 | **67.2** | 7.46 | 19.9 | 91.71 | 78.7 | 25.53 | 30.3 |
| ARG | 363 | 70.67 | 29.6 | 69.81 | **34.7** | 0.86 | 2.3 | 61.01 | 78.4 | 9.66 | 6 |
| SER | 364 | 0.03 | 0 | 0.03 | **0** | 0 | 0 | 0.03 | 0.1 | 0 | 0 |
| ASP | 365 | 67.02 | 47.7 | 47.97 | **46.7** | 19.06 | 50.5 | 14.15 | 28.7 | 52.87 | 58 |
| ALA | 366 | 83.57 | 77.4 | 64.96 | **93.6** | 18.61 | 48.3 | 65.84 | 92.2 | 17.73 | 48.5 |
| GLU | 367 | 39.5 | 22.9 | 35.55 | **26.4** | 3.94 | 10.5 | 27.26 | 45.2 | 12.24 | 10.9 |
| GLU | 368 | 178.48 | 103.6 | 147.1 | **109.2** | 31.37 | 83.6 | 69.97 | 116.1 1 | 8.5 | 96.9 |
| VAL | 369 | 33.24 | 21.9 | 9.29 | **8.1** | 23.95 | 64.4 | 10.75 | 9.3 | 22.49 | 62.5 |
| ASP | 370 | 102.81 | 73.2 | 90.65 | **88.3** | 12.16 | 32.2 | 47.94 | 97.4 | 54.87 | 60.2 |
| PHE | 371 | 13.67 | 6.9 | 12.25 | **7.5** | 1.42 | 4 | 12.25 | 7.4 | 1.42 | 4.2 |
| ALA | 372 | 30.08 | 27.9 | 27.65 | **39.8** | 2.42 | 6.3 | 28.55 | 40 | 1.52 | 4.2 |
| GLY | 373 | 32.46 | 40.5 | 26.09 | **80.7** | 6.37 | 13.3 | 30.99 | 82.5 | 1.47 | 3.4 |
| TRP | 374 | 54.56 | 21.9 | 52.19 | **24.7** | 2.38 | 6.2 | 39 | 20.6 | 15.56 | 26.1 |
| LEU | 375 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| CYS | 376 | 23.4 | 17.4 | 21.18 | **21.9** | 2.22 | 5.9 | 22.54 | 23 | 0.86 | 2.4 |
| SER | 377 | 94.6 | 81.2 | 72.86 | **93.3** | 21.74 | 56.6 | 42.26 | 87.1 | 52.34 | 77 |
| THR | 378 | 29.74 | 21.4 | 20.25 | **19.9** | 9.49 | 25.3 | 13.93 | 18.4 | 15.81 | 24.9 |
| ILE | 379 | 37.47 | 21.4 | 19.47 | **14.1** | 18 | 48.4 | 19.93 | 14.3 | 17.54 | 48.7 |
| GLY | 380 | 57.68 | 72 | 32.38 | **100.1** | 25.31 | 53 | 33.17 | 88.3 | 24.51 | 57.6 |
| LEU | 381 | 60.46 | 33.8 | 47.32 | **33.5** | 13.14 | 35 | 47.77 | 33.6 | 12.69 | 34.9 |
| ASN | 382 | 183.48 | 127.5 | 123.43 | **116.2** | 60.05 | 159.3 | 73.68 | 159.4 1 | 9.79 | 112.4 |
| Absolute sums overall chain | | | | | | | | | | | |
| Total |  | 16468.7 |  | 4023.1 |  | 2445.6 |  | 80.8 |  | 87.9 |  |

MEK1+ATP (3W8Q)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Residues | Number | All | | Total side chain | | Main chain | | Non polar | | All polar | |
|  |  | ABS | REL | ABS | **REL** | ABS | REL | ABS | REL | ABS | REL |
| GLU | 39 | 116.56 | 67.7 | 70.15 | **52.1** | 46.41 | 123.7 | 39.79 | 66 | 76.77 | 68.6 |
| LEU | 40 | 147.04 | 82.3 | 126.21 | **89.4** | 20.83 | 55.5 | 126.6 | 89 | 20.44 | 56.3 |
| GLU | 41 | 150.95 | 87.6 | 132.04 | **98** | 18.91 | 50.4 | 73.52 | 121.9 | 77.43 | 69.2 |
| LEU | 42 | 61.52 | 34.4 | 35.08 | **24.9** | 26.44 | 70.5 | 37.18 | 26.1 | 24.34 | 67 |
| ASP | 43 | 80.89 | 57.6 | 79.18 | **77.1** | 1.71 | 4.5 | 51.66 | 104.9 | 29.23 | 32.1 |
| GLU | 44 | 109.4 | 63.5 | 102.05 | **75.7** | 7.35 | 19.6 | 72.34 | 120 | 37.06 | 33.1 |
| GLN | 45 | 105.8 | 59.3 | 101.48 | **72** | 4.32 | 11.5 | 45.44 | 87 | 60.36 | 47.8 |
| GLN | 46 | 41.84 | 23.4 | 41.41 | **29.4** | 0.43 | 1.2 | 16.05 | 30.7 | 25.79 | 20.4 |
| ARG | 47 | 75.47 | 31.6 | 75.47 | **37.5** | 0 | 0 | 39.56 | 50.8 | 35.92 | 22.3 |
| LYS | 48 | 117.98 | 58.8 | 116 | **71** | 1.97 | 5.3 | 69.43 | 59.6 | 48.55 | 57.6 |
| ARG | 49 | 78.14 | 32.7 | 70.5 | **35** | 7.63 | 20.4 | 30.75 | 39.5 | 47.39 | 29.4 |
| LEU | 50 | 21.56 | 12.1 | 20.38 | **14.4** | 1.19 | 3.2 | 20.38 | 14.3 | 1.19 | 3.3 |
| GLU | 51 | 83.86 | 48.7 | 82.91 | **61.5** | 0.95 | 2.5 | 41.02 | 68 | 42.84 | 38.3 |
| ALA | 52 | 49.25 | 45.6 | 46.94 | **67.6** | 2.32 | 6 | 46.94 | 65.8 | 2.32 | 6.3 |
| PHE | 53 | 28.88 | 14.5 | 28.39 | **17.3** | 0.49 | 1.4 | 28.39 | 17.2 | 0.49 | 1.4 |
| LEU | 54 | 65.6 | 36.7 | 65.41 | **46.4** | 0.19 | 0.5 | 65.41 | 46 | 0.19 | 0.5 |
| THR | 55 | 71.96 | 51.7 | 69.33 | **68.2** | 2.63 | 7 | 47.11 | 62.2 | 24.85 | 39.1 |
| GLN | 56 | 64.33 | 36 | 63.7 | **45.2** | 0.62 | 1.7 | 33.62 | 64.4 | 30.7 | 24.3 |
| LYS | 57 | 26.25 | 13.1 | 20.34 | **12.5** | 5.91 | 15.8 | 16.68 | 14.3 | 9.57 | 11.4 |
| GLN | 58 | 132.8 | 74.4 | 107.54 | **76.3** | 25.26 | 67.3 | 54.78 | 104.9 | 78.01 | 61.8 |
| LYS | 59 | 157.06 | 78.2 | 137.22 | **84** | 19.84 | 52.9 | 105.99 | 90.9 | 51.06 | 60.6 |
| VAL | 60 | 12.73 | 8.4 | 3.08 | **2.7** | 9.65 | 26 | 3.91 | 3.4 | 8.81 | 24.5 |
| GLY | 61 | 54.85 | 68.5 | 36.99 | **114.4** | 17.86 | 37.4 | 40.86 | 108.8 | 13.99 | 32.9 |
| GLU | 62 | 150.53 | 87.4 | 135.6 | **100.6** | 14.93 | 39.8 | 61.4 | 101.8 | 89.13 | 79.6 |
| LEU | 63 | 20.94 | 11.7 | 12.36 | **8.8** | 8.58 | 22.9 | 12.36 | 8.7 | 8.58 | 23.6 |
| LYS | 64 | 98.22 | 48.9 | 98.22 | **60.1** | 0 | 0 | 73.52 | 63.1 | 24.7 | 29.3 |
| ASP | 65 | 65.51 | 46.7 | 62.36 | **60.7** | 3.15 | 8.4 | 16.99 | 34.5 | 48.51 | 53.2 |
| ASP | 66 | 118.53 | 84.4 | 97.4 | **94.8** | 21.13 | 56 | 49.28 | 100.1 | 69.24 | 76 |
| ASP | 67 | 22.22 | 15.8 | 22.15 | **21.6** | 0.07 | 0.2 | 0.64 | 1.3 | 21.58 | 23.7 |
| PHE | 68 | 23.27 | 11.7 | 1.13 | **0.7** | 22.15 | 62.6 | 1.62 | 1 | 21.66 | 63.3 |
| GLU | 69 | 76.88 | 44.6 | 76.88 | **57.1** | 0 | 0 | 38.67 | 64.1 | 38.21 | 34.1 |
| LYS | 70 | 136.59 | 68 | 103.46 | **63.4** | 33.13 | 88.3 | 65.1 | 55.8 | 71.49 | 84.9 |
| ILE | 71 | 91.6 | 52.3 | 64.38 | **46.7** | 27.22 | 73.3 | 65.22 | 46.9 | 26.37 | 73.3 |
| SER | 72 | 51.38 | 44.1 | 51.17 | **65.5** | 0.21 | 0.6 | 41.01 | 84.5 | 10.37 | 15.3 |
| GLU | 73 | 104.79 | 60.8 | 78.73 | **58.4** | 26.06 | 69.5 | 31.21 | 51.8 | 73.58 | 65.7 |
| LEU | 74 | 32.07 | 18 | 23.2 | **16.4** | 8.87 | 23.7 | 24.17 | 17 | 7.9 | 21.7 |
| GLY | 75 | 11.91 | 14.9 | 11.91 | **36.8** | 0 | 0 | 11.91 | 31.7 | 0 | 0 |
| ALA | 76 | 71.4 | 66.1 | 48.38 | **69.7** | 23.02 | 59.7 | 48.38 | 67.8 | 23.02 | 62.9 |
| GLY | 77 | 14.76 | 18.4 | 0 | **0** | 14.76 | 30.9 | 2.02 | 5.4 | 12.74 | 29.9 |
| ASN | 78 | 121.76 | 84.6 | 97.3 | **91.6** | 24.47 | 64.9 | 24.19 | 52.3 | 97.57 | 99.9 |
| GLY | 79 | 25.41 | 31.7 | 15.35 | **47.5** | 10.06 | 21.1 | 19.72 | 52.5 | 5.7 | 13.4 |
| GLY | 80 | 13.83 | 17.3 | 11.25 | **34.8** | 2.58 | 5.4 | 11.34 | 30.2 | 2.49 | 5.9 |
| VAL | 81 | 40.22 | 26.6 | 39.8 | **34.8** | 0.42 | 1.1 | 39.8 | 34.5 | 0.42 | 1.2 |
| VAL | 82 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| PHE | 83 | 25.7 | 12.9 | 25.7 | **15.7** | 0 | 0 | 25.7 | 15.6 | 0 | 0 |
| LYS | 84 | 53.51 | 26.6 | 53.51 | **32.8** | 0 | 0 | 12.26 | 10.5 | 41.25 | 49 |
| VAL | 85 | 2.96 | 2 | 2.96 | **2.6** | 0 | 0 | 2.96 | 2.6 | 0 | 0 |
| SER | 86 | 20.65 | 17.7 | 20.65 | **26.4** | 0 | 0 | 14.6 | 30.1 | 6.05 | 8.9 |
| HIS | 87 | 0.98 | 0.5 | 0.98 | **0.7** | 0 | 0 | 0.16 | 0.2 | 0.82 | 1 |
| LYS | 88 | 123.65 | 61.6 | 105.97 | **64.9** | 17.69 | 47.1 | 61.32 | 52.6 | 62.33 | 74 |
| PRO | 89 | 87.28 | 64.1 | 58.19 | **48.5** | 29.1 | 179.3 | 60.51 | 50 | 26.77 | 176.3 |
| SER | 90 | 50.75 | 43.6 | 22.71 | **29.1** | 28.04 | 73 | 22.08 | 45.5 | 28.67 | 42.2 |
| GLY | 91 | 50.54 | 63.1 | 28.29 | **87.5** | 22.24 | 46.6 | 31.58 | 84.1 | 18.96 | 44.5 |
| LEU | 92 | 43.57 | 24.4 | 43.46 | **30.8** | 0.11 | 0.3 | 43.46 | 30.5 | 0.11 | 0.3 |
| VAL | 93 | 63.55 | 42 | 51.34 | **44.9** | 12.21 | 32.9 | 51.34 | 44.5 | 12.21 | 33.9 |
| MET | 94 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ALA | 95 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ARG | 96 | 17.09 | 7.2 | 17.09 | **8.5** | 0 | 0 | 1.96 | 2.5 | 15.13 | 9.4 |
| LYS | 97 | 0.09 | 0 | 0.09 | **0.1** | 0 | 0 | 0.03 | 0 | 0.06 | 0.1 |
| LEU | 98 | 26.19 | 14.7 | 26.19 | **18.6** | 0 | 0 | 26.19 | 18.4 | 0 | 0 |
| ILE | 99 | 1.33 | 0.8 | 1.33 | **1** | 0 | 0 | 1.33 | 1 | 0 | 0 |
| HIS | 100 | 118.16 | 64.6 | 96.44 | **65.6** | 21.72 | 60.7 | 68.5 | 70.5 | 49.66 | 57.9 |
| LEU | 101 | 38.83 | 21.7 | 36.4 | **25.8** | 2.42 | 6.5 | 36.98 | 26 | 1.85 | 5.1 |
| GLU | 102 | 102.03 | 59.2 | 95.7 | **71** | 6.33 | 16.9 | 71.6 | 118.8 | 30.43 | 27.2 |
| ILE | 103 | 2.49 | 1.4 | 2.49 | **1.8** | 0 | 0 | 2.49 | 1.8 | 0 | 0 |
| LYS | 104 | 112.07 | 55.8 | 112.07 | **68.6** | 0 | 0 | 89.54 | 76.8 | 22.53 | 26.7 |
| PRO | 105 | 98.44 | 72.3 | 84.56 | **70.5** | 13.88 | 85.5 | 86.74 | 71.7 | 11.7 | 77 |
| ALA | 106 | 79.71 | 73.8 | 64.41 | **92.8** | 15.3 | 39.7 | 64.45 | 90.3 | 15.26 | 41.7 |
| ILE | 107 | 22.72 | 13 | 22.72 | **16.5** | 0 | 0 | 22.72 | 16.3 | 0 | 0 |
| ARG | 108 | 74.35 | 31.1 | 74.35 | **36.9** | 0 | 0 | 25.33 | 32.6 | 49.02 | 30.5 |
| ASN | 109 | 84.7 | 58.8 | 84.7 | **79.7** | 0 | 0 | 22.82 | 49.4 | 61.88 | 63.3 |
| GLN | 110 | 81.35 | 45.6 | 71.1 | **50.4** | 10.25 | 27.3 | 35.9 | 68.8 | 45.45 | 36 |
| ILE | 111 | 7.07 | 4 | 7.01 | **5.1** | 0.05 | 0.1 | 7.01 | 5 | 0.05 | 0.2 |
| ILE | 112 | 42.23 | 24.1 | 42.23 | **30.6** | 0 | 0 | 42.23 | 30.3 | 0 | 0 |
| ARG | 113 | 149.62 | 62.7 | 148.82 | **73.9** | 0.81 | 2.1 | 67.73 | 87.1 | 81.89 | 50.9 |
| GLU | 114 | 54.77 | 31.8 | 54.77 | **40.7** | 0 | 0 | 26.69 | 44.3 | 28.09 | 25.1 |
| LEU | 115 | 1.53 | 0.9 | 1.53 | **1.1** | 0 | 0 | 1.53 | 1.1 | 0 | 0 |
| GLN | 116 | 77.22 | 43.3 | 77.22 | **54.8** | 0 | 0 | 34.31 | 65.7 | 42.9 | 34 |
| VAL | 117 | 88.8 | 58.6 | 85.43 | **74.8** | 3.38 | 9.1 | 85.43 | 74 | 3.38 | 9.4 |
| LEU | 118 | 58.46 | 32.7 | 47.82 | **33.9** | 10.65 | 28.4 | 47.82 | 33.6 | 10.65 | 29.3 |
| HIS | 119 | 16.65 | 9.1 | 12.73 | **8.7** | 3.92 | 10.9 | 9.76 | 10 | 6.89 | 8 |
| GLU | 120 | 44.82 | 26 | 35.01 | **26** | 9.81 | 26.2 | 19.02 | 31.5 | 25.8 | 23 |
| CYS | 121 | 22.71 | 16.9 | 5.3 | **5.5** | 17.41 | 46.4 | 8.52 | 8.7 | 14.2 | 39.1 |
| ASN | 122 | 59.82 | 41.6 | 52.23 | **49.2** | 7.59 | 20.1 | 32.35 | 70 | 27.47 | 28.1 |
| SER | 123 | 6.04 | 5.2 | 3.11 | **4** | 2.93 | 7.6 | 1.94 | 4 | 4.11 | 6 |
| PRO | 124 | 17.43 | 12.8 | 15.39 | **12.8** | 2.04 | 12.6 | 15.39 | 12.7 | 2.04 | 13.4 |
| TYR | 125 | 34.12 | 16 | 34.03 | **19.2** | 0.08 | 0.2 | 26.31 | 19.3 | 7.8 | 10.2 |
| ILE | 126 | 10.17 | 5.8 | 6.07 | **4.4** | 4.1 | 11 | 6.07 | 4.4 | 4.1 | 11.4 |
| VAL | 127 | 3.84 | 2.5 | 0.68 | **0.6** | 3.16 | 8.5 | 0.68 | 0.6 | 3.16 | 8.8 |
| GLY | 128 | 9.95 | 12.4 | 9.86 | **30.5** | 0.08 | 0.2 | 9.92 | 26.4 | 0.03 | 0.1 |
| PHE | 129 | 2.79 | 1.4 | 2.06 | **1.3** | 0.73 | 2.1 | 2.06 | 1.2 | 0.73 | 2.1 |
| TYR | 130 | 18.35 | 8.6 | 7.18 | **4** | 11.17 | 31.6 | 0.6 | 0.4 | 17.75 | 23.3 |
| GLY | 131 | 9.43 | 11.8 | 9.43 | **29.2** | 0 | 0 | 9.43 | 25.1 | 0 | 0 |
| ALA | 132 | 19.29 | 17.9 | 0.67 | **1** | 18.62 | 48.3 | 0.88 | 1.2 | 18.41 | 50.3 |
| PHE | 133 | 27.4 | 13.7 | 26.35 | **16.1** | 1.05 | 3 | 27.3 | 16.5 | 0.1 | 0.3 |
| TYR | 134 | 32.32 | 15.2 | 10.19 | **5.7** | 22.13 | 62.5 | 10.04 | 7.4 | 22.28 | 29.2 |
| SER | 135 | 32.27 | 27.7 | 31.5 | **40.3** | 0.77 | 2 | 29.45 | 60.7 | 2.82 | 4.1 |
| ASP | 136 | 131.43 | 93.6 | 109.13 | **106.3** | 22.3 | 59.2 | 51.89 | 105.4 | 79.54 | 87.3 |
| GLY | 137 | 19.81 | 24.7 | 11.81 | **36.5** | 8 | 16.8 | 11.81 | 31.5 | 8 | 18.8 |
| GLU | 138 | 38.32 | 22.2 | 37.99 | **28.2** | 0.33 | 0.9 | 3.09 | 5.1 | 35.23 | 31.5 |
| ILE | 139 | 3.07 | 1.8 | 3.07 | **2.2** | 0 | 0 | 3.07 | 2.2 | 0 | 0 |
| SER | 140 | 0.68 | 0.6 | 0.68 | **0.9** | 0 | 0 | 0.31 | 0.6 | 0.37 | 0.5 |
| ILE | 141 | 0.06 | 0 | 0.06 | **0** | 0 | 0 | 0.06 | 0 | 0 | 0 |
| CYS | 142 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| MET | 143 | 0.87 | 0.4 | 0.87 | **0.6** | 0 | 0 | 0.87 | 0.6 | 0 | 0 |
| GLU | 144 | 30.89 | 17.9 | 30.89 | **22.9** | 0 | 0 | 12.22 | 20.3 | 18.67 | 16.7 |
| HIS | 145 | 39.79 | 21.8 | 22.9 | **15.6** | 16.89 | 47.2 | 10.56 | 10.9 | 29.23 | 34.1 |
| MET | 146 | 0.46 | 0.2 | 0.01 | **0** | 0.45 | 1.2 | 0.01 | 0 | 0.45 | 1.2 |
| ASP | 147 | 54.18 | 38.6 | 39.69 | **38.7** | 14.49 | 38.4 | 21.45 | 43.6 | 32.73 | 35.9 |
| GLY | 148 | 5.25 | 6.6 | 0 | **0** | 5.25 | 11 | 1.81 | 4.8 | 3.45 | 8.1 |
| GLY | 149 | 11.77 | 14.7 | 10.85 | **33.6** | 0.91 | 1.9 | 10.85 | 28.9 | 0.91 | 2.1 |
| SER | 150 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 151 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASP | 152 | 42.6 | 30.3 | 40.43 | **39.4** | 2.17 | 5.7 | 19.74 | 40.1 | 22.86 | 25.1 |
| GLN | 153 | 59.28 | 33.2 | 55.93 | **39.7** | 3.35 | 8.9 | 34.59 | 66.2 | 24.69 | 19.6 |
| VAL | 154 | 1.67 | 1.1 | 1.64 | **1.4** | 0.02 | 0.1 | 1.64 | 1.4 | 0.02 | 0.1 |
| LEU | 155 | 17.7 | 9.9 | 16.57 | **11.7** | 1.13 | 3 | 16.67 | 11.7 | 1.03 | 2.8 |
| LYS | 156 | 155.43 | 77.4 | 131.65 | **80.6** | 23.78 | 63.4 | 108.22 | 92.8 | 47.2 | 56 |
| LYS | 157 | 131.72 | 65.6 | 107.43 | **65.8** | 24.29 | 64.7 | 66.61 | 57.1 | 65.11 | 77.3 |
| ALA | 158 | 37.72 | 34.9 | 11.19 | **16.1** | 26.54 | 68.9 | 14.52 | 20.3 | 23.2 | 63.4 |
| GLY | 159 | 43.59 | 54.4 | 36.52 | **112.9** | 7.08 | 14.8 | 37.69 | 100.4 | 5.91 | 13.9 |
| ARG | 160 | 91.67 | 38.4 | 82.28 | **40.9** | 9.39 | 25 | 19.26 | 24.8 | 72.41 | 45 |
| ILE | 161 | 0.86 | 0.5 | 0 | **0** | 0.86 | 2.3 | 0.09 | 0.1 | 0.77 | 2.1 |
| PRO | 162 | 60.02 | 44.1 | 59.94 | **50** | 0.08 | 0.5 | 59.94 | 49.6 | 0.08 | 0.5 |
| GLU | 163 | 25.86 | 15 | 22.89 | **17** | 2.98 | 7.9 | 17.19 | 28.5 | 8.67 | 7.7 |
| GLN | 164 | 87.24 | 48.9 | 85.81 | **60.9** | 1.42 | 3.8 | 28.91 | 55.4 | 58.33 | 46.2 |
| ILE | 165 | 5.74 | 3.3 | 5.74 | **4.2** | 0 | 0 | 5.74 | 4.1 | 0 | 0 |
| LEU | 166 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLY | 167 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LYS | 168 | 38.79 | 19.3 | 37.01 | **22.7** | 1.77 | 4.7 | 25.95 | 22.3 | 12.83 | 15.2 |
| VAL | 169 | 0.46 | 0.3 | 0.46 | **0.4** | 0 | 0 | 0.46 | 0.4 | 0 | 0 |
| SER | 170 | 0.2 | 0.2 | 0.2 | **0.2** | 0 | 0 | 0.2 | 0.4 | 0 | 0 |
| ILE | 171 | 14.07 | 8 | 14.07 | **10.2** | 0 | 0 | 14.07 | 10.1 | 0 | 0 |
| ALA | 172 | 4.86 | 4.5 | 3.75 | **5.4** | 1.11 | 2.9 | 4.67 | 6.5 | 0.19 | 0.5 |
| VAL | 173 | 1.92 | 1.3 | 1.92 | **1.7** | 0 | 0 | 1.92 | 1.7 | 0 | 0 |
| ILE | 174 | 0.15 | 0.1 | 0.15 | **0.1** | 0 | 0 | 0.15 | 0.1 | 0 | 0 |
| LYS | 175 | 37.8 | 18.8 | 34.15 | **20.9** | 3.65 | 9.7 | 14.29 | 12.3 | 23.51 | 27.9 |
| GLY | 176 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 177 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| THR | 178 | 46.19 | 33.2 | 46.19 | **45.4** | 0 | 0 | 41.1 | 54.3 | 5.09 | 8 |
| TYR | 179 | 40.07 | 18.8 | 40 | **22.6** | 0.07 | 0.2 | 31.95 | 23.4 | 8.12 | 10.6 |
| LEU | 180 | 6.62 | 3.7 | 6.62 | **4.7** | 0 | 0 | 6.62 | 4.7 | 0 | 0 |
| ARG | 181 | 67.12 | 28.1 | 48.75 | **24.2** | 18.37 | 49 | 14 | 18 | 53.12 | 33 |
| GLU | 182 | 121.16 | 70.3 | 92.07 | **68.3** | 29.09 | 77.6 | 39.33 | 65.2 | 81.84 | 73.1 |
| LYS | 183 | 139.64 | 69.5 | 111.97 | **68.6** | 27.67 | 73.8 | 68.12 | 58.4 | 71.52 | 84.9 |
| HIS | 184 | 58.79 | 32.1 | 27.93 | **19** | 30.86 | 86.2 | 21.67 | 22.3 | 37.12 | 43.3 |
| LYS | 185 | 42.48 | 21.2 | 17.63 | **10.8** | 24.85 | 66.2 | 15.07 | 12.9 | 27.41 | 32.5 |
| ILE | 186 | 55.44 | 31.7 | 31.74 | **23** | 23.7 | 63.8 | 31.74 | 22.8 | 23.7 | 65.9 |
| MET | 187 | 61.44 | 31.6 | 61.26 | **39.1** | 0.18 | 0.5 | 61.26 | 38.8 | 0.18 | 0.5 |
| HIS | 188 | 106.6 | 58.3 | 93.39 | **63.5** | 13.22 | 36.9 | 73.77 | 75.9 | 32.83 | 38.3 |
| ARG | 189 | 16.6 | 7 | 16.6 | **8.2** | 0 | 0 | 4.01 | 5.1 | 12.59 | 7.8 |
| ASP | 190 | 53.06 | 37.8 | 47.94 | **46.7** | 5.13 | 13.6 | 28.05 | 57 | 25.02 | 27.4 |
| VAL | 191 | 0.28 | 0.2 | 0.2 | **0.2** | 0.08 | 0.2 | 0.2 | 0.2 | 0.08 | 0.2 |
| LYS | 192 | 109.79 | 54.7 | 109.79 | **67.2** | 0 | 0 | 87.2 | 74.8 | 22.59 | 26.8 |
| PRO | 193 | 8.22 | 6 | 8.22 | **6.9** | 0 | 0 | 8.22 | 6.8 | 0 | 0 |
| SER | 194 | 29.6 | 25.4 | 29.33 | **37.5** | 0.27 | 0.7 | 19.48 | 40.1 | 10.12 | 14.9 |
| ASN | 195 | 0.93 | 0.6 | 0.93 | **0.9** | 0 | 0 | 0 | 0 | 0.93 | 0.9 |
| ILE | 196 | 2.63 | 1.5 | 2.63 | **1.9** | 0 | 0 | 2.63 | 1.9 | 0 | 0 |
| LEU | 197 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 198 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASN | 199 | 9.4 | 6.5 | 9.4 | **8.8** | 0 | 0 | 3.55 | 7.7 | 5.85 | 6 |
| SER | 200 | 37.75 | 32.4 | 25.2 | **32.3** | 12.54 | 32.7 | 7.95 | 16.4 | 29.8 | 43.9 |
| ARG | 201 | 150.63 | 63.1 | 130.5 | **64.8** | 20.12 | 53.6 | 51.16 | 65.8 | 99.47 | 61.8 |
| GLY | 202 | 19.78 | 24.7 | 2.98 | **9.2** | 16.8 | 35.2 | 4.55 | 12.1 | 15.23 | 35.8 |
| GLU | 203 | 31.71 | 18.4 | 31.71 | **23.5** | 0 | 0 | 20.25 | 33.6 | 11.46 | 10.2 |
| ILE | 204 | 17.55 | 10 | 11.97 | **8.7** | 5.59 | 15 | 11.97 | 8.6 | 5.59 | 15.5 |
| LYS | 205 | 16.3 | 8.1 | 15.88 | **9.7** | 0.42 | 1.1 | 1.58 | 1.4 | 14.72 | 17.5 |
| LEU | 206 | 1.23 | 0.7 | 0.82 | **0.6** | 0.41 | 1.1 | 0.82 | 0.6 | 0.41 | 1.1 |
| CYS | 207 | 0.5 | 0.4 | 0 | **0** | 0.5 | 1.3 | 0 | 0 | 0.5 | 1.4 |
| ASP | 208 | 11.04 | 7.9 | 11.04 | **10.7** | 0 | 0 | 4.8 | 9.7 | 6.24 | 6.8 |
| PHE | 209 | 13.24 | 6.6 | 9.13 | **5.6** | 4.11 | 11.6 | 9.13 | 5.5 | 4.11 | 12 |
| GLY | 210 | 26.76 | 33.4 | 23.63 | **73.1** | 3.13 | 6.6 | 24.39 | 65 | 2.37 | 5.6 |
| VAL | 211 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| SER | 212 | 11.82 | 10.1 | 10.87 | **13.9** | 0.95 | 2.5 | 11.17 | 23 | 0.64 | 0.9 |
| GLY | 213 | 47.77 | 59.6 | 37.75 | **116.8** | 10.02 | 21 | 42.35 | 112.8 | 5.42 | 12.7 |
| GLN | 214 | 22.21 | 12.4 | 21.18 | **15** | 1.03 | 2.8 | 14.32 | 27.4 | 7.89 | 6.3 |
| LEU | 215 | 0.35 | 0.2 | 0.35 | **0.2** | 0 | 0 | 0.35 | 0.2 | 0 | 0 |
| ILE | 216 | 90.02 | 51.4 | 89.88 | **65.1** | 0.14 | 0.4 | 89.88 | 64.6 | 0.14 | 0.4 |
| ASP | 217 | 73.19 | 52.1 | 72.83 | **70.9** | 0.36 | 1 | 25.45 | 51.7 | 47.74 | 52.4 |
| SER | 218 | 9.53 | 8.2 | 6.95 | **8.9** | 2.59 | 6.7 | 6.58 | 13.6 | 2.96 | 4.4 |
| MET | 219 | 27.24 | 14 | 16.73 | **10.7** | 10.52 | 28 | 18.51 | 11.7 | 8.74 | 24.1 |
| ALA | 220 | 68.87 | 63.8 | 49.65 | **71.5** | 19.22 | 49.9 | 50.15 | 70.3 | 18.72 | 51.2 |
| ASN | 221 | 60.73 | 42.2 | 46.26 | **43.5** | 14.47 | 38.4 | 23.9 | 51.7 | 36.82 | 37.7 |
| SER | 222 | 43.35 | 37.2 | 30 | **38.4** | 13.34 | 34.7 | 29.51 | 60.8 | 13.84 | 20.4 |
| PHE | 223 | 87.48 | 43.9 | 63.65 | **38.8** | 23.84 | 67.4 | 66.11 | 40 | 21.38 | 62.5 |
| VAL | 224 | 136.18 | 89.9 | 125.99 | **110.2** | 10.19 | 27.4 | 126.36 | 109.4 | 9.82 | 27.3 |
| GLY | 225 | 50.11 | 62.6 | 39.22 | **121.3** | 10.89 | 22.8 | 39.54 | 105.3 | 10.57 | 24.8 |
| THR | 226 | 144.07 | 103.4 | 115.08 | **113.2** | 28.99 | 77.2 | 86.8 | 114.6 | 57.27 | 90.1 |
| ARG | 227 | 144.91 | 60.7 | 129.03 | **64.1** | 15.87 | 42.3 | 37.83 | 48.6 | 107.08 | 66.5 |
| SER | 228 | 72.39 | 62.1 | 40.59 | **52** | 31.8 | 82.8 | 36.62 | 75.4 | 35.77 | 52.6 |
| TYR | 229 | 169.08 | 79.5 | 137.19 | **77.3** | 31.89 | 90.1 | 122.79 | 90 | 46.29 | 60.7 |
| MET | 230 | 48.51 | 25 | 34.09 | **21.8** | 14.42 | 38.5 | 35.26 | 22.3 | 13.25 | 36.5 |
| SER | 231 | 37.74 | 32.4 | 35.67 | **45.7** | 2.07 | 5.4 | 16.07 | 33.1 | 21.67 | 31.9 |
| PRO | 232 | 98.95 | 72.7 | 98.24 | **81.9** | 0.71 | 4.4 | 98.24 | 81.2 | 0.71 | 4.7 |
| GLU | 233 | 100 | 58.1 | 92.67 | **68.8** | 7.33 | 19.5 | 44.27 | 73.4 | 55.73 | 49.8 |
| ARG | 234 | 97.03 | 40.6 | 92.39 | **45.9** | 4.64 | 12.4 | 19.27 | 24.8 | 77.76 | 48.3 |
| LEU | 235 | 104.42 | 58.5 | 74.68 | **52.9** | 29.74 | 79.3 | 75.41 | 53 | 29.01 | 79.9 |
| GLN | 236 | 140.26 | 78.6 | 128.83 | **91.4** | 11.43 | 30.5 | 55.36 | 106 | 84.9 | 67.2 |
| GLY | 237 | 4.82 | 6 | 0.06 | **0.2** | 4.76 | 10 | 0.27 | 0.7 | 4.55 | 10.7 |
| THR | 238 | 102.51 | 73.6 | 90.86 | **89.3** | 11.65 | 31 | 72.18 | 95.3 | 30.33 | 47.7 |
| HIS | 239 | 123.97 | 67.8 | 96.43 | **65.6** | 27.54 | 76.9 | 63.23 | 65.1 | 60.74 | 70.8 |
| TYR | 240 | 36.6 | 17.2 | 36.31 | **20.5** | 0.29 | 0.8 | 29.97 | 22 | 6.63 | 8.7 |
| SER | 241 | 41.04 | 35.2 | 39.12 | **50.1** | 1.92 | 5 | 25.95 | 53.4 | 15.1 | 22.2 |
| VAL | 242 | 18.78 | 12.4 | 17.95 | **15.7** | 0.83 | 2.2 | 17.95 | 15.5 | 0.83 | 2.3 |
| GLN | 243 | 31.56 | 17.7 | 31.56 | **22.4** | 0 | 0 | 6.03 | 11.6 | 25.52 | 20.2 |
| SER | 244 | 37.75 | 32.4 | 36.52 | **46.7** | 1.24 | 3.2 | 24.38 | 50.2 | 13.38 | 19.7 |
| ASP | 245 | 0.23 | 0.2 | 0.23 | **0.2** | 0 | 0 | 0 | 0 | 0.23 | 0.2 |
| ILE | 246 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| TRP | 247 | 36.54 | 14.7 | 36.54 | **17.3** | 0 | 0 | 25.98 | 13.7 | 10.56 | 17.7 |
| SER | 248 | 12.98 | 11.1 | 12.09 | **15.5** | 0.89 | 2.3 | 4.19 | 8.6 | 8.8 | 12.9 |
| MET | 249 | 3.18 | 1.6 | 3.18 | **2** | 0 | 0 | 3.18 | 2 | 0 | 0 |
| GLY | 250 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 251 | 21.46 | 12 | 21.46 | **15.2** | 0 | 0 | 21.46 | 15.1 | 0 | 0 |
| SER | 252 | 5.77 | 5 | 5.74 | **7.4** | 0.03 | 0.1 | 1.66 | 3.4 | 4.11 | 6.1 |
| LEU | 253 | 2.21 | 1.2 | 2.21 | **1.6** | 0 | 0 | 2.21 | 1.6 | 0 | 0 |
| VAL | 254 | 1.99 | 1.3 | 1.99 | **1.7** | 0 | 0 | 1.99 | 1.7 | 0 | 0 |
| GLU | 255 | 36.43 | 21.1 | 36.43 | **27** | 0 | 0 | 0.43 | 0.7 | 36 | 32.2 |
| MET | 256 | 0.6 | 0.3 | 0.6 | **0.4** | 0 | 0 | 0.6 | 0.4 | 0 | 0 |
| ALA | 257 | 0.85 | 0.8 | 0 | **0** | 0.85 | 2.2 | 0 | 0 | 0.85 | 2.3 |
| VAL | 258 | 5.54 | 3.7 | 3.64 | **3.2** | 1.89 | 5.1 | 3.64 | 3.2 | 1.89 | 5.3 |
| GLY | 259 | 28.69 | 35.8 | 2.13 | **6.6** | 26.56 | 55.6 | 4.17 | 11.1 | 24.52 | 57.6 |
| ARG | 260 | 63.79 | 26.7 | 63.79 | **31.7** | 0 | 0 | 40.73 | 52.4 | 23.06 | 14.3 |
| TYR | 261 | 88.79 | 41.7 | 80.06 | **45.1** | 8.72 | 24.7 | 71.4 | 52.3 | 17.39 | 22.8 |
| PRO | 262 | 3.14 | 2.3 | 2.76 | **2.3** | 0.38 | 2.3 | 2.76 | 2.3 | 0.38 | 2.5 |
| ILE | 263 | 6.68 | 3.8 | 1.93 | **1.4** | 4.76 | 12.8 | 1.93 | 1.4 | 4.76 | 13.2 |
| PRO | 264 | 62.24 | 45.7 | 62.24 | **51.9** | 0 | 0 | 62.24 | 51.5 | 0 | 0 |
| PRO | 265 | 59.38 | 43.6 | 46.08 | **38.4** | 13.31 | 82 | 46.13 | 38.1 | 13.25 | 87.2 |
| PRO | 266 | 24.72 | 18.2 | 16.3 | **13.6** | 8.41 | 51.8 | 16.53 | 13.7 | 8.19 | 53.9 |
| ASP | 267 | 90.74 | 64.6 | 89.26 | **86.9** | 1.48 | 3.9 | 53.93 | 109.5 | 36.81 | 40.4 |
| ALA | 268 | 77.74 | 72 | 68.23 | **98.3** | 9.5 | 24.7 | 68.82 | 96.4 | 8.91 | 24.4 |
| LYS | 269 | 131.68 | 65.6 | 127.19 | **77.9** | 4.49 | 12 | 81.33 | 69.8 | 50.36 | 59.8 |
| GLU | 270 | 62.23 | 36.1 | 62.23 | **46.2** | 0 | 0 | 38.63 | 64.1 | 23.61 | 21.1 |
| LEU | 271 | 28.04 | 15.7 | 28.04 | **19.9** | 0 | 0 | 28.04 | 19.7 | 0 | 0 |
| GLU | 272 | 82.2 | 47.7 | 78.48 | **58.2** | 3.72 | 9.9 | 24.16 | 40.1 | 58.04 | 51.8 |
| LEU | 273 | 119.72 | 67 | 95.89 | **67.9** | 23.83 | 63.5 | 97.7 | 68.7 | 22.02 | 60.6 |
| MET | 274 | 47.43 | 24.4 | 35.63 | **22.7** | 11.8 | 31.5 | 35.63 | 22.6 | 11.8 | 32.5 |
| PHE | 275 | 32.36 | 16.2 | 8.25 | **5** | 24.11 | 68.2 | 12.81 | 7.8 | 19.55 | 57.1 |
| GLY | 276 | 55.54 | 69.3 | 36.01 | **111.4** | 19.53 | 40.9 | 37.77 | 100.6 | 17.77 | 41.8 |
| CYS | 277 | 107.05 | 79.7 | 90.47 | **93.5** | 16.58 | 44.2 | 92.77 | 94.7 | 14.28 | 39.3 |
| GLN | 278 | 94.78 | 53.1 | 62.44 | **44.3** | 32.34 | 86.2 | 33.12 | 63.4 | 61.67 | 48.8 |
| ARG | 305 | 139.42 | 58.4 | 80.11 | **39.8** | 59.31 | 158.1 | 81.34 | 104.5 | 58.08 | 36.1 |
| PRO | 306 | 123.08 | 90.4 | 106.37 | **88.7** | 16.71 | 103 | 107.97 | 89.3 | 15.11 | 99.5 |
| PRO | 307 | 120.04 | 88.2 | 105.85 | **88.3** | 14.2 | 87.5 | 105.85 | 87.5 | 14.19 | 93.4 |
| MET | 308 | 56.42 | 29.1 | 34.27 | **21.9** | 22.15 | 59.1 | 34.27 | 21.7 | 22.15 | 61 |
| ALA | 309 | 61.65 | 57.1 | 60.47 | **87.1** | 1.18 | 3 | 61.32 | 85.9 | 0.33 | 0.9 |
| ILE | 310 | 113.49 | 64.8 | 110.18 | **79.9** | 3.32 | 8.9 | 110.18 | 79.2 | 3.32 | 9.2 |
| PHE | 311 | 159.67 | 80 | 158.98 | **96.9** | 0.69 | 1.9 | 158.98 | 96.2 | 0.69 | 2 |
| GLU | 312 | 84.56 | 49.1 | 82.41 | **61.2** | 2.15 | 5.7 | 37.27 | 61.8 | 47.29 | 42.2 |
| LEU | 313 | 35.39 | 19.8 | 35.39 | **25.1** | 0 | 0 | 35.39 | 24.9 | 0 | 0 |
| LEU | 314 | 94.25 | 52.8 | 92.21 | **65.3** | 2.04 | 5.4 | 93.19 | 65.5 | 1.06 | 2.9 |
| ASP | 315 | 59.5 | 42.4 | 58.55 | **57** | 0.95 | 2.5 | 25.49 | 51.8 | 34.02 | 37.3 |
| TYR | 316 | 50.27 | 23.6 | 49.1 | **27.7** | 1.18 | 3.3 | 34.78 | 25.5 | 15.49 | 20.3 |
| ILE | 317 | 48.09 | 27.5 | 45.44 | **32.9** | 2.65 | 7.1 | 45.44 | 32.7 | 2.65 | 7.4 |
| VAL | 318 | 105.78 | 69.8 | 96.78 | **84.7** | 9 | 24.2 | 96.78 | 83.8 | 9 | 25 |
| ASN | 319 | 96.39 | 67 | 71.41 | **67.2** | 24.98 | 66.3 | 24.58 | 53.2 | 71.81 | 73.5 |
| GLU | 320 | 69.04 | 40.1 | 66.46 | **49.3** | 2.59 | 6.9 | 13.53 | 22.4 | 55.52 | 49.6 |
| PRO | 321 | 95.49 | 70.1 | 91.65 | **76.4** | 3.84 | 23.6 | 91.65 | 75.8 | 3.84 | 25.3 |
| PRO | 322 | 47 | 34.5 | 41.91 | **35** | 5.09 | 31.4 | 42.04 | 34.8 | 4.96 | 32.6 |
| PRO | 323 | 8.94 | 6.6 | 7.63 | **6.4** | 1.31 | 8.1 | 7.63 | 6.3 | 1.31 | 8.6 |
| LYS | 324 | 138.04 | 68.7 | 120.13 | **73.6** | 17.91 | 47.8 | 78.49 | 67.3 | 59.54 | 70.7 |
| LEU | 325 | 8.36 | 4.7 | 0 | **0** | 8.36 | 22.3 | 0.49 | 0.3 | 7.87 | 21.7 |
| PRO | 326 | 12.52 | 9.2 | 12.41 | **10.4** | 0.1 | 0.6 | 12.41 | 10.3 | 0.1 | 0.7 |
| SER | 327 | 58.19 | 50 | 56.87 | **72.8** | 1.32 | 3.4 | 38.52 | 79.3 | 19.67 | 28.9 |
| GLY | 328 | 68.08 | 85 | 34.1 | **105.5** | 33.98 | 71.1 | 37.04 | 98.6 | 31.04 | 73 |
| VAL | 329 | 52.33 | 34.6 | 31.77 | **27.8** | 20.55 | 55.3 | 33.16 | 28.7 | 19.16 | 53.3 |
| PHE | 330 | 18.18 | 9.1 | 14.25 | **8.7** | 3.93 | 11.1 | 15.08 | 9.1 | 3.1 | 9 |
| SER | 331 | 33.37 | 28.6 | 30.01 | **38.4** | 3.36 | 8.8 | 30.01 | 61.8 | 3.36 | 5 |
| LEU | 332 | 137.91 | 77.2 | 130.41 | **92.4** | 7.51 | 20 | 131.54 | 92.4 | 6.37 | 17.5 |
| GLU | 333 | 58.49 | 34 | 58.49 | **43.4** | 0 | 0 | 33.7 | 55.9 | 24.78 | 22.1 |
| PHE | 334 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLN | 335 | 24.65 | 13.8 | 24.58 | **17.4** | 0.07 | 0.2 | 7 | 13.4 | 17.65 | 14 |
| ASP | 336 | 54.15 | 38.6 | 53.91 | **52.5** | 0.24 | 0.6 | 19.64 | 39.9 | 34.5 | 37.9 |
| PHE | 337 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 338 | 0.08 | 0.1 | 0.08 | **0.1** | 0 | 0 | 0.08 | 0.1 | 0 | 0 |
| ASN | 339 | 62.3 | 43.3 | 59.75 | **56.2** | 2.56 | 6.8 | 22.32 | 48.3 | 39.98 | 40.9 |
| LYS | 340 | 62.43 | 31.1 | 62.43 | **38.2** | 0 | 0 | 24.77 | 21.2 | 37.66 | 44.7 |
| CYS | 341 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 342 | 1.05 | 0.6 | 0.83 | **0.6** | 0.22 | 0.6 | 1.05 | 0.7 | 0 | 0 |
| ILE | 343 | 49.11 | 28 | 49.11 | **35.6** | 0 | 0 | 49.11 | 35.3 | 0 | 0 |
| LYS | 344 | 74.86 | 37.3 | 53.38 | **32.7** | 21.47 | 57.2 | 50.96 | 43.7 | 23.89 | 28.4 |
| ASN | 345 | 72.14 | 50.1 | 71.37 | **67.2** | 0.77 | 2 | 29.45 | 63.7 | 42.69 | 43.7 |
| PRO | 346 | 69.45 | 51 | 67.62 | **56.4** | 1.84 | 11.3 | 68.67 | 56.8 | 0.78 | 5.2 |
| ALA | 347 | 90.39 | 83.7 | 61.52 | **88.6** | 28.87 | 74.9 | 61.87 | 86.7 | 28.52 | 78 |
| GLU | 348 | 120.5 | 70 | 106.08 | **78.7** | 14.41 | 38.4 | 42.76 | 70.9 | 77.74 | 69.4 |
| ARG | 349 | 22.57 | 9.5 | 17.66 | **8.8** | 4.92 | 13.1 | 0.05 | 0.1 | 22.52 | 14 |
| ALA | 350 | 0.49 | 0.5 | 0 | **0** | 0.49 | 1.3 | 0 | 0 | 0.49 | 1.3 |
| ASP | 351 | 35.87 | 25.6 | 35.43 | **34.5** | 0.45 | 1.2 | 17.07 | 34.7 | 18.81 | 20.6 |
| LEU | 352 | 16.3 | 9.1 | 14.59 | **10.3** | 1.71 | 4.5 | 15.29 | 10.7 | 1.02 | 2.8 |
| LYS | 353 | 158.23 | 78.8 | 154.42 | **94.6** | 3.81 | 10.2 | 115.07 | 98.7 | 43.15 | 51.2 |
| GLN | 354 | 74.77 | 41.9 | 73.26 | **52** | 1.51 | 4 | 32.16 | 61.6 | 42.62 | 33.7 |
| LEU | 355 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| MET | 356 | 25.39 | 13.1 | 25.36 | **16.2** | 0.03 | 0.1 | 25.36 | 16.1 | 0.03 | 0.1 |
| VAL | 357 | 81.29 | 53.7 | 75.67 | **66.2** | 5.62 | 15.1 | 75.7 | 65.6 | 5.6 | 15.6 |
| HIS | 358 | 20.2 | 11 | 20.2 | **13.7** | 0 | 0 | 18.43 | 19 | 1.77 | 2.1 |
| ALA | 359 | 50.17 | 46.5 | 42.84 | **61.7** | 7.33 | 19 | 43.13 | 60.4 | 7.03 | 19.2 |
| PHE | 360 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ILE | 361 | 0.66 | 0.4 | 0.66 | **0.5** | 0 | 0 | 0.66 | 0.5 | 0 | 0 |
| LYS | 362 | 117.24 | 58.4 | 109.78 | **67.2** | 7.46 | 19.9 | 91.71 | 78.7 | 25.53 | 30.3 |
| ARG | 363 | 70.67 | 29.6 | 69.81 | **34.7** | 0.86 | 2.3 | 61.01 | 78.4 | 9.66 | 6 |
| SER | 364 | 0.03 | 0 | 0.03 | **0** | 0 | 0 | 0.03 | 0.1 | 0 | 0 |
| ASP | 365 | 67.02 | 47.7 | 47.97 | **46.7** | 19.06 | 50.5 | 14.15 | 28.7 | 52.87 | 58 |
| ALA | 366 | 83.57 | 77.4 | 64.96 | **93.6** | 18.61 | 48.3 | 65.84 | 92.2 | 17.73 | 48.5 |
| GLU | 367 | 39.5 | 22.9 | 35.55 | **26.4** | 3.94 | 10.5 | 27.26 | 45.2 | 12.24 | 10.9 |
| GLU | 368 | 178.48 | 103.6 | 147.1 | **109.2** | 31.37 | 83.6 | 69.97 | 116.1 | 108.5 | 96.9 |
| VAL | 369 | 33.24 | 21.9 | 9.29 | **8.1** | 23.95 | 64.4 | 10.75 | 9.3 | 22.49 | 62.5 |
| ASP | 370 | 102.81 | 73.2 | 90.65 | **88.3** | 12.16 | 32.2 | 47.94 | 97.4 | 54.87 | 60.2 |
| PHE | 371 | 13.67 | 6.9 | 12.25 | **7.5** | 1.42 | 4 | 12.25 | 7.4 | 1.42 | 4.2 |
| ALA | 372 | 30.08 | 27.9 | 27.65 | **39.8** | 2.42 | 6.3 | 28.55 | 40 | 1.52 | 4.2 |
| GLY | 373 | 32.46 | 40.5 | 26.09 | **80.7** | 6.37 | 13.3 | 30.99 | 82.5 | 1.47 | 3.4 |
| TRP | 374 | 54.56 | 21.9 | 52.19 | **24.7** | 2.38 | 6.2 | 39 | 20.6 | 15.56 | 26.1 |
| LEU | 375 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| CYS | 376 | 23.4 | 17.4 | 21.18 | **21.9** | 2.22 | 5.9 | 22.54 | 23 | 0.86 | 2.4 |
| SER | 377 | 94.6 | 81.2 | 72.86 | **93.3** | 21.74 | 56.6 | 42.26 | 87.1 | 52.34 | 77 |
| THR | 378 | 29.74 | 21.4 | 20.25 | **19.9** | 9.49 | 25.3 | 13.93 | 18.4 | 15.81 | 24.9 |
| ILE | 379 | 37.47 | 21.4 | 19.47 | **14.1** | 18 | 48.4 | 19.93 | 14.3 | 17.54 | 48.7 |
| GLY | 380 | 57.68 | 72 | 32.38 | **100.1** | 25.31 | 53 | 33.17 | 88.3 | 24.51 | 57.6 |
| LEU | 381 | 60.46 | 33.8 | 47.32 | **33.5** | 13.14 | 35 | 47.77 | 33.6 | 12.69 | 34.9 |
| ASN | 382 | 183.48 | 127.5 | 123.43 | **116.2** | 60.05 | 159.3 | 73.68 | 159.4 | 109.79 | 112.4 |
| AGS | 401 | 32.17 | -99.9 | 32.17 | **-99.9** | 0 | -99.9 | 4.19 | -99.9 | 27.98 | -99.9 |
| Absolute sums overall chain | | | | | | | | | | | |
| Total |  | 16216.1 | 1 | 3832.8 |  | 2383.3 |  | 9889.7 |  | 6326.4 |  |

MEK1+ATP-Mg (3EQD)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Residues | Number | All | | Total side chain | | Main chain | | Non polar | | All polar | |
|  |  | ABS | REL | ABS | **REL** | ABS | REL | ABS | REL | ABS | REL |
| GLU | 39 | 90.33 | 52.4 | 63.16 | **46.9** | 27.17 | 72.4 | 23.5 | 39 | 66.84 | 59.7 |
| LEU | 40 | 47.72 | 26.7 | 35.54 | **25.2** | 12.17 | 32.5 | 37.85 | 26.6 | 9.86 | 27.2 |
| GLU | 41 | 161.27 | 93.6 | 145.82 | **108.2** | 15.45 | 41.2 | 69.73 | 115.7 | 91.54 | 81.8 |
| LEU | 42 | 72.88 | 40.8 | 41.52 | **29.4** | 31.37 | 83.6 | 42.39 | 29.8 | 30.49 | 84 |
| ASP | 43 | 91.54 | 65.2 | 90.18 | **87.8** | 1.36 | 3.6 | 21.04 | 42.7 | 70.5 | 77.3 |
| GLU | 44 | 160.56 | 93.2 | 150.77 | **111.9** | 9.78 | 26.1 | 71.46 | 118.5 | 89.09 | 79.6 |
| GLN | 45 | 88.49 | 49.6 | 86.48 | **61.3** | 2.01 | 5.4 | 21.97 | 42.1 | 66.52 | 52.7 |
| GLN | 46 | 35.15 | 19.7 | 33.91 | **24.1** | 1.24 | 3.3 | 13.21 | 25.3 | 21.94 | 17.4 |
| ARG | 47 | 158.55 | 66.4 | 157.44 | **78.2** | 1.11 | 3 | 41.02 | 52.7 | 117.53 | 73 |
| LYS | 48 | 115.97 | 57.7 | 113.55 | **69.5** | 2.42 | 6.4 | 84.76 | 72.7 | 31.21 | 37 |
| ARG | 49 | 47.95 | 20.1 | 41.66 | **20.7** | 6.29 | 16.8 | 14.57 | 18.7 | 33.38 | 20.7 |
| LEU | 50 | 31.17 | 17.4 | 30.33 | **21.5** | 0.83 | 2.2 | 30.33 | 21.3 | 0.83 | 2.3 |
| GLU | 51 | 96.2 | 55.8 | 94.76 | **70.3** | 1.43 | 3.8 | 47.19 | 78.3 | 49 | 43.8 |
| ALA | 52 | 50.66 | 46.9 | 49.9 | **71.9** | 0.75 | 2 | 49.9 | 69.9 | 0.75 | 2.1 |
| PHE | 53 | 26.35 | 13.2 | 25.78 | **15.7** | 0.57 | 1.6 | 25.78 | 15.6 | 0.57 | 1.7 |
| LEU | 54 | 66.42 | 37.2 | 65.39 | **46.3** | 1.03 | 2.8 | 65.39 | 45.9 | 1.03 | 2.8 |
| THR | 55 | 64.84 | 46.6 | 64.37 | **63.3** | 0.47 | 1.3 | 46.09 | 60.9 | 18.75 | 29.5 |
| GLN | 56 | 80.22 | 44.9 | 79.77 | **56.6** | 0.45 | 1.2 | 19.74 | 37.8 | 60.48 | 47.9 |
| LYS | 57 | 31.92 | 15.9 | 24.35 | **14.9** | 7.58 | 20.2 | 19.32 | 16.6 | 12.61 | 15 |
| GLN | 58 | 143.92 | 80.6 | 117.57 | **83.4** | 26.35 | 70.2 | 52.27 | 100.1 | 91.65 | 72.6 |
| LYS | 59 | 158.53 | 78.9 | 135.47 | **83** | 23.06 | 61.5 | 89.34 | 76.6 | 69.19 | 82.1 |
| VAL | 60 | 16.68 | 11 | 2.46 | **2.2** | 14.22 | 38.3 | 2.58 | 2.2 | 14.1 | 39.2 |
| GLY | 61 | 57.4 | 71.7 | 37.22 | **115.1** | 20.18 | 42.2 | 41.94 | 111.7 | 15.46 | 36.3 |
| GLU | 62 | 135.8 | 78.8 | 119.09 | **88.4** | 16.71 | 44.6 | 60.83 | 100.9 | 74.98 | 67 |
| LEU | 63 | 19.01 | 10.6 | 5.12 | **3.6** | 13.89 | 37 | 5.12 | 3.6 | 13.89 | 38.2 |
| LYS | 64 | 108.63 | 54.1 | 108.63 | **66.5** | 0 | 0 | 82.73 | 71 | 25.9 | 30.7 |
| ASP | 65 | 11.21 | 8 | 4.65 | **4.5** | 6.55 | 17.4 | 4.65 | 9.4 | 6.55 | 7.2 |
| ASP | 66 | 90.4 | 64.4 | 82.53 | **80.4** | 7.88 | 20.9 | 42.43 | 86.2 | 47.98 | 52.6 |
| ASP | 67 | 37.12 | 26.4 | 37.12 | **36.1** | 0 | 0 | 1.22 | 2.5 | 35.9 | 39.4 |
| PHE | 68 | 20.73 | 10.4 | 1.17 | **0.7** | 19.55 | 55.3 | 1.52 | 0.9 | 19.21 | 56.1 |
| GLU | 69 | 90.25 | 52.4 | 90.25 | **67** | 0 | 0 | 36.15 | 60 | 54.1 | 48.3 |
| LYS | 70 | 124.24 | 61.9 | 95.96 | **58.8** | 28.28 | 75.4 | 64.8 | 55.6 | 59.44 | 70.6 |
| ILE | 71 | 76.63 | 43.8 | 51.66 | **37.4** | 24.97 | 67.2 | 52.49 | 37.7 | 24.13 | 67.1 |
| SER | 72 | 48 | 41.2 | 48 | **61.4** | 0 | 0 | 37.59 | 77.4 | 10.41 | 15.3 |
| GLU | 73 | 97.06 | 56.3 | 68.99 | **51.2** | 28.07 | 74.8 | 26.27 | 43.6 | 70.79 | 63.2 |
| LEU | 74 | 39.01 | 21.8 | 29.17 | **20.7** | 9.83 | 26.2 | 30.82 | 21.7 | 8.19 | 22.5 |
| GLY | 75 | 18.4 | 23 | 18.33 | **56.7** | 0.08 | 0.2 | 18.33 | 48.8 | 0.08 | 0.2 |
| ALA | 76 | 60.85 | 56.4 | 33.44 | **48.2** | 27.41 | 71.1 | 35 | 49 | 25.85 | 70.7 |
| GLY | 77 | 34.08 | 42.5 | 11.53 | **35.6** | 22.56 | 47.2 | 14.98 | 39.9 | 19.1 | 44.9 |
| ASN | 78 | 76.69 | 53.3 | 67.07 | **63.1** | 9.61 | 25.5 | 6.13 | 13.3 | 70.55 | 72.2 |
| GLY | 79 | 16.03 | 20 | 1.53 | **4.7** | 14.49 | 30.3 | 5.19 | 13.8 | 10.84 | 25.5 |
| GLY | 80 | 9.56 | 11.9 | 5.47 | **16.9** | 4.08 | 8.6 | 6.01 | 16 | 3.55 | 8.3 |
| VAL | 81 | 46.92 | 31 | 46.92 | **41.1** | 0 | 0 | 46.92 | 40.6 | 0 | 0 |
| VAL | 82 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| PHE | 83 | 30.79 | 15.4 | 30.79 | **18.8** | 0 | 0 | 30.79 | 18.6 | 0 | 0 |
| LYS | 84 | 55.17 | 27.5 | 55.17 | **33.8** | 0 | 0 | 11.69 | 10 | 43.47 | 51.6 |
| VAL | 85 | 3.57 | 2.4 | 3.57 | **3.1** | 0 | 0 | 3.57 | 3.1 | 0 | 0 |
| SER | 86 | 19.11 | 16.4 | 19.11 | **24.5** | 0 | 0 | 6.11 | 12.6 | 13 | 19.1 |
| HIS | 87 | 2.23 | 1.2 | 2.23 | **1.5** | 0 | 0 | 1.94 | 2 | 0.29 | 0.3 |
| LYS | 88 | 110.23 | 54.9 | 90.95 | **55.7** | 19.28 | 51.4 | 67.15 | 57.6 | 43.08 | 51.1 |
| PRO | 89 | 88.74 | 65.2 | 56.99 | **47.5** | 31.75 | 195.6 | 59.3 | 49 | 29.44 | 193.8 |
| SER | 90 | 43.42 | 37.3 | 18 | **23** | 25.42 | 66.2 | 20.08 | 41.4 | 23.34 | 34.3 |
| GLY | 91 | 54.1 | 67.5 | 28.23 | **87.3** | 25.87 | 54.2 | 30.95 | 82.4 | 23.16 | 54.4 |
| LEU | 92 | 33 | 18.5 | 33 | **23.4** | 0 | 0 | 33 | 23.2 | 0 | 0 |
| VAL | 93 | 64.09 | 42.3 | 49.31 | **43.1** | 14.78 | 39.8 | 49.31 | 42.7 | 14.78 | 41.1 |
| MET | 94 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ALA | 95 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ARG | 96 | 15.63 | 6.5 | 15.63 | **7.8** | 0 | 0 | 1.11 | 1.4 | 14.52 | 9 |
| LYS | 97 | 20.42 | 10.2 | 20.42 | **12.5** | 0 | 0 | 7.75 | 6.6 | 12.67 | 15 |
| LEU | 98 | 26.89 | 15.1 | 24.26 | **17.2** | 2.63 | 7 | 24.28 | 17.1 | 2.62 | 7.2 |
| ILE | 99 | 2.8 | 1.6 | 2.8 | **2** | 0 | 0 | 2.8 | 2 | 0 | 0 |
| HIS | 100 | 100.83 | 55.1 | 96.88 | **65.9** | 3.95 | 11 | 74.24 | 76.4 | 26.59 | 31 |
| LEU | 101 | 7.39 | 4.1 | 6.96 | **4.9** | 0.43 | 1.1 | 6.96 | 4.9 | 0.43 | 1.2 |
| GLU | 102 | 133.32 | 77.4 | 107.04 | **79.4** | 26.29 | 70.1 | 60.87 | 101 | 72.45 | 64.7 |
| ILE | 103 | 33.96 | 19.4 | 21.47 | **15.6** | 12.49 | 33.6 | 26.08 | 18.7 | 7.88 | 21.9 |
| LYS | 104 | 125.28 | 62.4 | 124.12 | **76** | 1.16 | 3.1 | 75.04 | 64.4 | 50.23 | 59.6 |
| PRO | 105 | 74.99 | 55.1 | 74.96 | **62.5** | 0.03 | 0.2 | 74.99 | 62 | 0 | 0 |
| ALA | 106 | 74.37 | 68.9 | 66.32 | **95.6** | 8.04 | 20.9 | 68.47 | 95.9 | 5.9 | 16.1 |
| ILE | 107 | 36.47 | 20.8 | 36.26 | **26.3** | 0.2 | 0.5 | 36.26 | 26.1 | 0.2 | 0.6 |
| ARG | 108 | 48.02 | 20.1 | 48.02 | **23.9** | 0 | 0 | 7.76 | 10 | 40.26 | 25 |
| ASN | 109 | 76.56 | 53.2 | 73.84 | **69.5** | 2.72 | 7.2 | 20.33 | 44 | 56.23 | 57.5 |
| GLN | 110 | 58.82 | 33 | 58.82 | **41.7** | 0 | 0 | 23.4 | 44.8 | 35.42 | 28.1 |
| ILE | 111 | 0.59 | 0.3 | 0.59 | **0.4** | 0 | 0 | 0.59 | 0.4 | 0 | 0 |
| ILE | 112 | 32.92 | 18.8 | 32.92 | **23.9** | 0 | 0 | 32.92 | 23.7 | 0 | 0 |
| ARG | 113 | 150.01 | 62.8 | 138.6 | **68.9** | 11.41 | 30.4 | 74.03 | 95.2 | 75.98 | 47.2 |
| GLU | 114 | 46.81 | 27.2 | 45.1 | **33.5** | 1.7 | 4.5 | 18.74 | 31.1 | 28.07 | 25.1 |
| LEU | 115 | 5.84 | 3.3 | 5.84 | **4.1** | 0 | 0 | 5.84 | 4.1 | 0 | 0 |
| GLN | 116 | 66.58 | 37.3 | 63.47 | **45** | 3.1 | 8.3 | 42.68 | 81.7 | 23.89 | 18.9 |
| VAL | 117 | 41.61 | 27.5 | 39.81 | **34.8** | 1.8 | 4.9 | 39.81 | 34.5 | 1.8 | 5 |
| LEU | 118 | 24.23 | 13.6 | 23.06 | **16.3** | 1.18 | 3.1 | 23.06 | 16.2 | 1.18 | 3.2 |
| HIS | 119 | 62.54 | 34.2 | 53.1 | **36.1** | 9.44 | 26.4 | 40.94 | 42.1 | 21.6 | 25.2 |
| GLU | 120 | 105.17 | 61.1 | 97.29 | **72.2** | 7.88 | 21 | 44.21 | 73.3 | 60.96 | 54.4 |
| CYS | 121 | 5.23 | 3.9 | 0.71 | **0.7** | 4.52 | 12.1 | 0.71 | 0.7 | 4.52 | 12.4 |
| ASN | 122 | 48.68 | 33.8 | 38.7 | **36.4** | 9.99 | 26.5 | 10.54 | 22.8 | 38.15 | 39 |
| SER | 123 | 7.77 | 6.7 | 3.02 | **3.9** | 4.75 | 12.4 | 2.59 | 5.3 | 5.18 | 7.6 |
| PRO | 124 | 17.32 | 12.7 | 14.82 | **12.4** | 2.49 | 15.4 | 14.82 | 12.3 | 2.49 | 16.4 |
| TYR | 125 | 31.41 | 14.8 | 31.41 | **17.7** | 0 | 0 | 21.03 | 15.4 | 10.38 | 13.6 |
| ILE | 126 | 5.7 | 3.3 | 2.27 | **1.6** | 3.43 | 9.2 | 2.27 | 1.6 | 3.43 | 9.5 |
| VAL | 127 | 10.54 | 7 | 2.54 | **2.2** | 7.99 | 21.5 | 2.56 | 2.2 | 7.98 | 22.2 |
| GLY | 128 | 9.59 | 12 | 9.26 | **28.7** | 0.33 | 0.7 | 9.3 | 24.8 | 0.29 | 0.7 |
| PHE | 129 | 11.17 | 5.6 | 8.11 | **4.9** | 3.06 | 8.6 | 8.11 | 4.9 | 3.06 | 8.9 |
| TYR | 130 | 17.88 | 8.4 | 10.04 | **5.7** | 7.84 | 22.2 | 0.2 | 0.1 | 17.67 | 23.2 |
| GLY | 131 | 5.77 | 7.2 | 5.77 | **17.8** | 0 | 0 | 5.77 | 15.4 | 0 | 0 |
| ALA | 132 | 12.39 | 11.5 | 0 | **0** | 12.39 | 32.1 | 0 | 0 | 12.39 | 33.9 |
| PHE | 133 | 22.46 | 11.3 | 22.46 | **13.7** | 0 | 0 | 22.46 | 13.6 | 0 | 0 |
| TYR | 134 | 54.57 | 25.6 | 31.74 | **17.9** | 22.83 | 64.5 | 22.51 | 16.5 | 32.06 | 42 |
| SER | 135 | 19.6 | 16.8 | 19.48 | **24.9** | 0.12 | 0.3 | 14.08 | 29 | 5.52 | 8.1 |
| ASP | 136 | 113.03 | 80.5 | 91.28 | **88.9** | 21.75 | 57.7 | 37.45 | 76.1 | 75.58 | 82.9 |
| GLY | 137 | 8.69 | 10.8 | 5.73 | **17.7** | 2.95 | 6.2 | 5.73 | 15.3 | 2.95 | 6.9 |
| GLU | 138 | 36.93 | 21.4 | 35.7 | **26.5** | 1.23 | 3.3 | 8.01 | 13.3 | 28.92 | 25.8 |
| ILE | 139 | 2.16 | 1.2 | 2.16 | **1.6** | 0 | 0 | 2.16 | 1.5 | 0 | 0 |
| SER | 140 | 0.13 | 0.1 | 0.13 | **0.2** | 0 | 0 | 0 | 0 | 0.13 | 0.2 |
| ILE | 141 | 19.21 | 11 | 19.21 | **13.9** | 0 | 0 | 19.21 | 13.8 | 0 | 0 |
| CYS | 142 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| MET | 143 | 13.13 | 6.8 | 13.13 | **8.4** | 0 | 0 | 13.13 | 8.3 | 0 | 0 |
| GLU | 144 | 29.36 | 17 | 29.36 | **21.8** | 0 | 0 | 13.14 | 21.8 | 16.22 | 14.5 |
| HIS | 145 | 39.71 | 21.7 | 23.38 | **15.9** | 16.33 | 45.6 | 10.4 | 10.7 | 29.31 | 34.2 |
| MET | 146 | 1.01 | 0.5 | 0 | **0** | 1.01 | 2.7 | 0 | 0 | 1.01 | 2.8 |
| ASP | 147 | 55.51 | 39.5 | 39.54 | **38.5** | 15.98 | 42.4 | 25.17 | 51.1 | 30.35 | 33.3 |
| GLY | 148 | 5.76 | 7.2 | 0 | **0** | 5.76 | 12.1 | 2.19 | 5.8 | 3.57 | 8.4 |
| GLY | 149 | 11.32 | 14.1 | 10.55 | **32.6** | 0.78 | 1.6 | 10.55 | 28.1 | 0.78 | 1.8 |
| SER | 150 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 151 | 0.92 | 0.5 | 0.92 | **0.7** | 0 | 0 | 0.92 | 0.6 | 0 | 0 |
| ASP | 152 | 40.82 | 29.1 | 39.16 | **38.1** | 1.67 | 4.4 | 18.57 | 37.7 | 22.25 | 24.4 |
| GLN | 153 | 68.93 | 38.6 | 62.07 | **44** | 6.86 | 18.3 | 35.84 | 68.6 | 33.09 | 26.2 |
| VAL | 154 | 0.49 | 0.3 | 0.49 | **0.4** | 0 | 0 | 0.49 | 0.4 | 0 | 0 |
| LEU | 155 | 14.69 | 8.2 | 14.09 | **10** | 0.6 | 1.6 | 14.09 | 9.9 | 0.6 | 1.7 |
| LYS | 156 | 171.7 | 85.5 | 144.93 | **88.8** | 26.77 | 71.4 | 117.51 | 100.8 | 54.19 | 64.3 |
| LYS | 157 | 127.52 | 63.5 | 103.78 | **63.6** | 23.74 | 63.3 | 74.08 | 63.6 | 53.44 | 63.4 |
| ALA | 158 | 33.89 | 31.4 | 7.11 | **10.2** | 26.78 | 69.5 | 8.37 | 11.7 | 25.52 | 69.8 |
| GLY | 159 | 44.9 | 56.1 | 36.6 | **113.2** | 8.3 | 17.4 | 39.55 | 105.3 | 5.35 | 12.6 |
| ARG | 160 | 101.33 | 42.4 | 91.71 | **45.6** | 9.61 | 25.6 | 22.65 | 29.1 | 78.68 | 48.9 |
| ILE | 161 | 2.26 | 1.3 | 0.51 | **0.4** | 1.75 | 4.7 | 0.94 | 0.7 | 1.32 | 3.7 |
| PRO | 162 | 58.18 | 42.7 | 57.62 | **48.1** | 0.56 | 3.5 | 57.62 | 47.6 | 0.56 | 3.7 |
| GLU | 163 | 27.88 | 16.2 | 22.38 | **16.6** | 5.5 | 14.7 | 17.39 | 28.8 | 10.49 | 9.4 |
| GLN | 164 | 91.69 | 51.4 | 90.55 | **64.2** | 1.15 | 3.1 | 24.39 | 46.7 | 67.3 | 53.3 |
| ILE | 165 | 6.48 | 3.7 | 6.48 | **4.7** | 0 | 0 | 6.48 | 4.7 | 0 | 0 |
| LEU | 166 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLY | 167 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LYS | 168 | 37.02 | 18.4 | 34.6 | **21.2** | 2.42 | 6.4 | 24.55 | 21.1 | 12.46 | 14.8 |
| VAL | 169 | 0.58 | 0.4 | 0.58 | **0.5** | 0 | 0 | 0.58 | 0.5 | 0 | 0 |
| SER | 170 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ILE | 171 | 12.55 | 7.2 | 12.55 | **9.1** | 0 | 0 | 12.55 | 9 | 0 | 0 |
| ALA | 172 | 4.59 | 4.3 | 3.87 | **5.6** | 0.72 | 1.9 | 4.3 | 6 | 0.29 | 0.8 |
| VAL | 173 | 0.68 | 0.5 | 0.68 | **0.6** | 0 | 0 | 0.68 | 0.6 | 0 | 0 |
| ILE | 174 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LYS | 175 | 29.59 | 14.7 | 29.59 | **18.1** | 0 | 0 | 1.52 | 1.3 | 28.07 | 33.3 |
| GLY | 176 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 177 | 1.48 | 0.8 | 0.68 | **0.5** | 0.8 | 2.1 | 0.68 | 0.5 | 0.8 | 2.2 |
| THR | 178 | 4.42 | 3.2 | 4.42 | **4.4** | 0 | 0 | 4.17 | 5.5 | 0.25 | 0.4 |
| TYR | 179 | 11.38 | 5.3 | 11.38 | **6.4** | 0 | 0 | 6.01 | 4.4 | 5.37 | 7 |
| LEU | 180 | 0.11 | 0.1 | 0.11 | **0.1** | 0 | 0 | 0.11 | 0.1 | 0 | 0 |
| ARG | 181 | 93.12 | 39 | 87.96 | **43.7** | 5.16 | 13.8 | 30.15 | 38.8 | 62.97 | 39.1 |
| GLU | 182 | 95.67 | 55.5 | 73.17 | **54.3** | 22.5 | 60 | 24.89 | 41.3 | 70.78 | 63.2 |
| LYS | 183 | 125.87 | 62.7 | 101.18 | **62** | 24.7 | 65.8 | 58.22 | 49.9 | 67.65 | 80.3 |
| HIS | 184 | 38.71 | 21.2 | 24.22 | **16.5** | 14.49 | 40.5 | 18.68 | 19.2 | 20.03 | 23.4 |
| LYS | 185 | 188.34 | 93.8 | 159.44 | **97.6** | 28.89 | 77 | 113 | 96.9 | 75.33 | 89.4 |
| ILE | 186 | 20.91 | 11.9 | 19.91 | **14.4** | 1 | 2.7 | 20.85 | 15 | 0.06 | 0.2 |
| MET | 187 | 18.58 | 9.6 | 17.38 | **11.1** | 1.2 | 3.2 | 17.38 | 11 | 1.2 | 3.3 |
| HIS | 188 | 0.05 | 0 | 0.03 | **0** | 0.02 | 0.1 | 0 | 0 | 0.05 | 0.1 |
| ARG | 189 | 91.44 | 38.3 | 83.57 | **41.5** | 7.87 | 21 | 28.47 | 36.6 | 62.96 | 39.1 |
| ASP | 190 | 46.18 | 32.9 | 46.18 | **45** | 0 | 0 | 22.56 | 45.8 | 23.62 | 25.9 |
| VAL | 191 | 1.98 | 1.3 | 0.38 | **0.3** | 1.6 | 4.3 | 0.38 | 0.3 | 1.6 | 4.4 |
| LYS | 192 | 7.27 | 3.6 | 7.27 | **4.5** | 0 | 0 | 4.47 | 3.8 | 2.8 | 3.3 |
| PRO | 193 | 3.81 | 2.8 | 3.81 | **3.2** | 0 | 0 | 3.81 | 3.1 | 0 | 0 |
| SER | 194 | 11.52 | 9.9 | 10.89 | **13.9** | 0.63 | 1.6 | 9.74 | 20.1 | 1.78 | 2.6 |
| ASN | 195 | 0.31 | 0.2 | 0.31 | **0.3** | 0 | 0 | 0.31 | 0.7 | 0 | 0 |
| ILE | 196 | 1.44 | 0.8 | 1.44 | **1** | 0 | 0 | 1.44 | 1 | 0 | 0 |
| LEU | 197 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 198 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASN | 199 | 9.01 | 6.3 | 9.01 | **8.5** | 0 | 0 | 3.43 | 7.4 | 5.59 | 5.7 |
| SER | 200 | 44.67 | 38.3 | 31.48 | **40.3** | 13.2 | 34.4 | 16.82 | 34.7 | 27.85 | 41 |
| ARG | 201 | 140.26 | 58.7 | 125.64 | **62.4** | 14.62 | 39 | 51.68 | 66.4 | 88.58 | 55 |
| GLY | 202 | 23.77 | 29.7 | 4.97 | **15.4** | 18.8 | 39.3 | 6.72 | 17.9 | 17.05 | 40.1 |
| GLU | 203 | 26.19 | 15.2 | 26.19 | **19.4** | 0 | 0 | 14.98 | 24.9 | 11.21 | 10 |
| ILE | 204 | 12.9 | 7.4 | 8.79 | **6.4** | 4.11 | 11.1 | 8.79 | 6.3 | 4.11 | 11.4 |
| LYS | 205 | 15.83 | 7.9 | 15.73 | **9.6** | 0.1 | 0.3 | 0.6 | 0.5 | 15.23 | 18.1 |
| LEU | 206 | 1.97 | 1.1 | 1.91 | **1.4** | 0.06 | 0.2 | 1.91 | 1.3 | 0.06 | 0.2 |
| CYS | 207 | 4.24 | 3.2 | 4.24 | **4.4** | 0 | 0 | 4.24 | 4.3 | 0 | 0 |
| ASP | 208 | 47.3 | 33.7 | 33.47 | **32.6** | 13.83 | 36.7 | 23.43 | 47.6 | 23.87 | 26.2 |
| PHE | 209 | 14.86 | 7.5 | 7.07 | **4.3** | 7.79 | 22 | 7.95 | 4.8 | 6.91 | 20.2 |
| GLY | 210 | 26.78 | 33.4 | 17.21 | **53.2** | 9.57 | 20 | 20.2 | 53.8 | 6.58 | 15.5 |
| VAL | 211 | 37.1 | 24.5 | 11.65 | **10.2** | 25.45 | 68.5 | 15.12 | 13.1 | 21.98 | 61.1 |
| SER | 212 | 3.36 | 2.9 | 0.62 | **0.8** | 2.74 | 7.1 | 0.62 | 1.3 | 2.74 | 4 |
| GLY | 213 | 43.19 | 53.9 | 33.34 | **103.1** | 9.86 | 20.6 | 34.74 | 92.5 | 8.45 | 19.9 |
| GLN | 214 | 37.08 | 20.8 | 34.37 | **24.4** | 2.71 | 7.2 | 1.48 | 2.8 | 35.6 | 28.2 |
| LEU | 215 | 13.61 | 7.6 | 13.61 | **9.6** | 0 | 0 | 13.61 | 9.6 | 0 | 0 |
| ILE | 216 | 86.77 | 49.5 | 85.66 | **62.1** | 1.11 | 3 | 85.66 | 61.6 | 1.11 | 3.1 |
| ASP | 217 | 90.93 | 64.8 | 83.05 | **80.9** | 7.89 | 20.9 | 27.43 | 55.7 | 63.5 | 69.7 |
| SER | 218 | 12.08 | 10.4 | 11.86 | **15.2** | 0.22 | 0.6 | 7.38 | 15.2 | 4.7 | 6.9 |
| MET | 219 | 37.78 | 19.5 | 37.55 | **24** | 0.23 | 0.6 | 37.78 | 23.9 | 0 | 0 |
| ALA | 220 | 64.55 | 59.8 | 43.41 | **62.5** | 21.14 | 54.9 | 44.31 | 62.1 | 20.24 | 55.3 |
| ASN | 221 | 108.78 | 75.6 | 84.17 | **79.2** | 24.62 | 65.3 | 32.93 | 71.2 | 75.86 | 77.6 |
| SER | 222 | 95.19 | 81.7 | 77.79 | **99.6** | 17.4 | 45.3 | 46.58 | 95.9 | 48.61 | 71.5 |
| PHE | 223 | 34.56 | 17.3 | 27.14 | **16.5** | 7.42 | 21 | 27.93 | 16.9 | 6.63 | 19.4 |
| VAL | 224 | 99.69 | 65.8 | 94.55 | **82.7** | 5.14 | 13.8 | 94.55 | 81.9 | 5.14 | 14.3 |
| GLY | 225 | 33.05 | 41.3 | 12.2 | **37.7** | 20.85 | 43.7 | 14.67 | 39.1 | 18.38 | 43.2 |
| THR | 226 | 54.85 | 39.4 | 47.29 | **46.5** | 7.56 | 20.1 | 37.64 | 49.7 | 17.22 | 27.1 |
| ARG | 227 | 102.43 | 42.9 | 101.54 | **50.5** | 0.89 | 2.4 | 33.01 | 42.4 | 69.42 | 43.1 |
| SER | 228 | 11.61 | 10 | 11.61 | **14.9** | 0 | 0 | 5.74 | 11.8 | 5.87 | 8.6 |
| TYR | 229 | 29.87 | 14 | 28.76 | **16.2** | 1.11 | 3.1 | 15.63 | 11.4 | 14.25 | 18.7 |
| MET | 230 | 31.74 | 16.3 | 31.63 | **20.2** | 0.1 | 0.3 | 31.63 | 20 | 0.1 | 0.3 |
| SER | 231 | 0.41 | 0.3 | 0 | **0** | 0.41 | 1.1 | 0 | 0 | 0.41 | 0.6 |
| PRO | 232 | 6.37 | 4.7 | 6.32 | **5.3** | 0.05 | 0.3 | 6.37 | 5.3 | 0 | 0 |
| GLU | 233 | 6 | 3.5 | 5.56 | **4.1** | 0.44 | 1.2 | 5.56 | 9.2 | 0.44 | 0.4 |
| ARG | 234 | 44.7 | 18.7 | 33.8 | **16.8** | 10.9 | 29 | 3.48 | 4.5 | 41.21 | 25.6 |
| LEU | 235 | 33.21 | 18.6 | 4.68 | **3.3** | 28.53 | 76.1 | 5.84 | 4.1 | 27.37 | 75.4 |
| GLN | 236 | 107.48 | 60.2 | 85.85 | **60.9** | 21.63 | 57.7 | 31.15 | 59.6 | 76.34 | 60.5 |
| GLY | 237 | 77.26 | 96.5 | 39.04 | **120.8** | 38.21 | 80 | 41.2 | 109.7 | 36.05 | 84.7 |
| THR | 238 | 78.15 | 56.1 | 67.59 | **66.5** | 10.56 | 28.1 | 49 | 64.7 | 29.15 | 45.9 |
| HIS | 239 | 83.48 | 45.6 | 78.6 | **53.4** | 4.88 | 13.6 | 53.83 | 55.4 | 29.64 | 34.6 |
| TYR | 240 | 85.81 | 40.3 | 59.3 | **33.4** | 26.51 | 74.9 | 51.75 | 37.9 | 34.07 | 44.7 |
| SER | 241 | 41.39 | 35.5 | 41.39 | **53** | 0 | 0 | 38.7 | 79.7 | 2.7 | 4 |
| VAL | 242 | 17.95 | 11.9 | 15.93 | **13.9** | 2.01 | 5.4 | 15.93 | 13.8 | 2.01 | 5.6 |
| GLN | 243 | 18.65 | 10.4 | 18.65 | **13.2** | 0 | 0 | 14.49 | 27.7 | 4.16 | 3.3 |
| SER | 244 | 2.5 | 2.1 | 0.87 | **1.1** | 1.63 | 4.3 | 1.95 | 4 | 0.55 | 0.8 |
| ASP | 245 | 1.44 | 1 | 1.44 | **1.4** | 0 | 0 | 0 | 0 | 1.44 | 1.6 |
| ILE | 246 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| TRP | 247 | 1.09 | 0.4 | 1.09 | **0.5** | 0 | 0 | 1.09 | 0.6 | 0 | 0 |
| SER | 248 | 8.62 | 7.4 | 8.62 | **11** | 0 | 0 | 0 | 0 | 8.62 | 12.7 |
| MET | 249 | 1.57 | 0.8 | 1.57 | **1** | 0 | 0 | 1.57 | 1 | 0 | 0 |
| GLY | 250 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 251 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| SER | 252 | 0.7 | 0.6 | 0.7 | **0.9** | 0 | 0 | 0.7 | 1.4 | 0 | 0 |
| LEU | 253 | 1.55 | 0.9 | 1.55 | **1.1** | 0 | 0 | 1.55 | 1.1 | 0 | 0 |
| VAL | 254 | 1.05 | 0.7 | 1.05 | **0.9** | 0 | 0 | 1.05 | 0.9 | 0 | 0 |
| GLU | 255 | 22.21 | 12.9 | 22.21 | **16.5** | 0 | 0 | 0 | 0 | 22.21 | 19.8 |
| MET | 256 | 0.39 | 0.2 | 0.39 | **0.3** | 0 | 0 | 0.39 | 0.2 | 0 | 0 |
| ALA | 257 | 0.52 | 0.5 | 0 | **0** | 0.52 | 1.3 | 0 | 0 | 0.52 | 1.4 |
| VAL | 258 | 7.4 | 4.9 | 3.25 | **2.8** | 4.15 | 11.2 | 3.25 | 2.8 | 4.15 | 11.5 |
| GLY | 259 | 30.49 | 38.1 | 2.49 | **7.7** | 27.99 | 58.6 | 3.21 | 8.6 | 27.27 | 64.1 |
| ARG | 260 | 62.01 | 26 | 62.01 | **30.8** | 0 | 0 | 32.3 | 41.5 | 29.71 | 18.5 |
| TYR | 261 | 45.7 | 21.5 | 37.69 | **21.2** | 8.02 | 22.7 | 37.69 | 27.6 | 8.02 | 10.5 |
| PRO | 262 | 2.86 | 2.1 | 2.61 | **2.2** | 0.25 | 1.5 | 2.61 | 2.2 | 0.25 | 1.6 |
| ILE | 263 | 9.7 | 5.5 | 1.84 | **1.3** | 7.86 | 21.1 | 1.84 | 1.3 | 7.86 | 21.8 |
| PRO | 264 | 49.1 | 36.1 | 49.1 | **41** | 0 | 0 | 49.1 | 40.6 | 0 | 0 |
| PRO | 265 | 65.02 | 47.8 | 55.79 | **46.5** | 9.23 | 56.9 | 55.79 | 46.1 | 9.23 | 60.8 |
| PRO | 266 | 28.53 | 21 | 15.56 | **13** | 12.97 | 79.9 | 15.56 | 12.9 | 12.97 | 85.4 |
| ASP | 267 | 85.72 | 61.1 | 85.72 | **83.5** | 0 | 0 | 24.59 | 49.9 | 61.13 | 67.1 |
| ALA | 268 | 86.73 | 80.3 | 68.9 | **99.3** | 17.82 | 46.2 | 69.87 | 97.9 | 16.86 | 46.1 |
| LYS | 269 | 154.65 | 77 | 154.6 | **94.7** | 0.05 | 0.1 | 106.15 | 91.1 | 48.49 | 57.6 |
| GLU | 270 | 53.97 | 31.3 | 53.97 | **40.1** | 0 | 0 | 24.96 | 41.4 | 29.01 | 25.9 |
| LEU | 271 | 48.43 | 27.1 | 47.52 | **33.7** | 0.91 | 2.4 | 47.75 | 33.6 | 0.68 | 1.9 |
| GLU | 272 | 100.41 | 58.3 | 96.15 | **71.4** | 4.26 | 11.3 | 29.15 | 48.3 | 71.26 | 63.7 |
| LEU | 273 | 145.87 | 81.7 | 117.68 | **83.4** | 28.19 | 75.2 | 118.41 | 83.2 | 27.46 | 75.6 |
| MET | 274 | 42.87 | 22.1 | 36.23 | **23.1** | 6.64 | 17.7 | 36.49 | 23.1 | 6.38 | 17.6 |
| PHE | 275 | 43.28 | 21.7 | 13.88 | **8.5** | 29.39 | 83.1 | 18.7 | 11.3 | 24.57 | 71.8 |
| GLY | 276 | 65.52 | 81.8 | 31.2 | **96.5** | 34.32 | 71.8 | 34.2 | 91.1 | 31.32 | 73.6 |
| CYS | 277 | 60.31 | 44.9 | 60.31 | **62.3** | 0 | 0 | 60.31 | 61.6 | 0 | 0 |
| PRO | 307 | 186.67 | 137.1 | 142.04 | **118.5** | 44.63 | 275 | 144.32 | 119.3 | 42.35 | 278.8 |
| MET | 308 | 76.93 | 39.6 | 45.46 | **29** | 31.47 | 83.9 | 45.57 | 28.9 | 31.36 | 86.3 |
| ALA | 309 | 31.54 | 29.2 | 31.42 | **45.3** | 0.12 | 0.3 | 31.42 | 44 | 0.12 | 0.3 |
| ILE | 310 | 90.74 | 51.8 | 85.38 | **61.9** | 5.36 | 14.4 | 85.38 | 61.4 | 5.36 | 14.9 |
| PHE | 311 | 143.43 | 71.9 | 137.08 | **83.5** | 6.35 | 18 | 138.15 | 83.6 | 5.28 | 15.4 |
| GLU | 312 | 75.62 | 43.9 | 75.11 | **55.7** | 0.51 | 1.4 | 31.51 | 52.3 | 44.1 | 39.4 |
| LEU | 313 | 19.56 | 10.9 | 19.56 | **13.9** | 0 | 0 | 19.56 | 13.7 | 0 | 0 |
| LEU | 314 | 32.87 | 18.4 | 31.63 | **22.4** | 1.23 | 3.3 | 32.87 | 23.1 | 0 | 0 |
| ASP | 315 | 82.84 | 59 | 82.27 | **80.1** | 0.57 | 1.5 | 27.06 | 55 | 55.78 | 61.2 |
| TYR | 316 | 49.4 | 23.2 | 49.09 | **27.7** | 0.31 | 0.9 | 35.06 | 25.7 | 14.33 | 18.8 |
| ILE | 317 | 4.39 | 2.5 | 3.25 | **2.4** | 1.14 | 3.1 | 3.25 | 2.3 | 1.14 | 3.2 |
| VAL | 318 | 27.7 | 18.3 | 17.23 | **15.1** | 10.47 | 28.2 | 17.23 | 14.9 | 10.47 | 29.1 |
| ASN | 319 | 91.95 | 63.9 | 67.03 | **63.1** | 24.92 | 66.1 | 25.89 | 56 | 66.05 | 67.6 |
| GLU | 320 | 68.17 | 39.6 | 65.79 | **48.8** | 2.38 | 6.3 | 14.53 | 24.1 | 53.64 | 47.9 |
| PRO | 321 | 94.9 | 69.7 | 89.46 | **74.6** | 5.44 | 33.5 | 89.49 | 74 | 5.41 | 35.6 |
| PRO | 322 | 44.7 | 32.8 | 34.46 | **28.7** | 10.24 | 63.1 | 34.46 | 28.5 | 10.24 | 67.4 |
| PRO | 323 | 10.17 | 7.5 | 8.65 | **7.2** | 1.52 | 9.3 | 8.65 | 7.2 | 1.52 | 10 |
| LYS | 324 | 143.97 | 71.7 | 128.42 | **78.6** | 15.56 | 41.5 | 85.41 | 73.3 | 58.56 | 69.5 |
| LEU | 325 | 6.29 | 3.5 | 0 | **0** | 6.29 | 16.8 | 0.15 | 0.1 | 6.14 | 16.9 |
| PRO | 326 | 22.34 | 16.4 | 22.34 | **18.6** | 0.01 | 0 | 22.34 | 18.5 | 0.01 | 0 |
| SER | 327 | 89.97 | 77.2 | 68 | **87.1** | 21.97 | 57.2 | 34.01 | 70 | 55.97 | 82.4 |
| GLY | 328 | 79.73 | 99.5 | 40.53 | **125.4** | 39.2 | 82.1 | 43.34 | 115.4 | 36.39 | 85.5 |
| VAL | 329 | 68.73 | 45.4 | 40.39 | **35.3** | 28.34 | 76.3 | 41.39 | 35.8 | 27.34 | 76 |
| PHE | 330 | 22.34 | 11.2 | 13.17 | **8** | 9.17 | 25.9 | 16.51 | 10 | 5.84 | 17 |
| SER | 331 | 38.3 | 32.9 | 35.18 | **45** | 3.12 | 8.1 | 35.18 | 72.5 | 3.12 | 4.6 |
| LEU | 332 | 141.45 | 79.2 | 132.26 | **93.7** | 9.19 | 24.5 | 133.54 | 93.8 | 7.91 | 21.8 |
| GLU | 333 | 64.59 | 37.5 | 64.45 | **47.8** | 0.13 | 0.4 | 29.47 | 48.9 | 35.11 | 31.4 |
| PHE | 334 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLN | 335 | 23.31 | 13.1 | 23.31 | **16.5** | 0 | 0 | 7.46 | 14.3 | 15.85 | 12.6 |
| ASP | 336 | 54.64 | 38.9 | 54.19 | **52.8** | 0.46 | 1.2 | 23.1 | 46.9 | 31.54 | 34.6 |
| PHE | 337 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 338 | 0.05 | 0 | 0.05 | **0** | 0 | 0 | 0.05 | 0 | 0 | 0 |
| ASN | 339 | 67.83 | 47.1 | 65.4 | **61.6** | 2.42 | 6.4 | 21.84 | 47.2 | 45.99 | 47.1 |
| LYS | 340 | 80.39 | 40 | 80.39 | **49.2** | 0 | 0 | 50.14 | 43 | 30.25 | 35.9 |
| CYS | 341 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 342 | 1.25 | 0.7 | 1.09 | **0.8** | 0.16 | 0.4 | 1.25 | 0.9 | 0 | 0 |
| ILE | 343 | 55.85 | 31.9 | 55.85 | **40.5** | 0 | 0 | 55.85 | 40.1 | 0 | 0 |
| LYS | 344 | 55.45 | 27.6 | 48.5 | **29.7** | 6.95 | 18.5 | 46.21 | 39.6 | 9.24 | 11 |
| ASN | 345 | 64.28 | 44.7 | 62.36 | **58.7** | 1.92 | 5.1 | 23.65 | 51.2 | 40.63 | 41.6 |
| PRO | 346 | 22.17 | 16.3 | 19.91 | **16.6** | 2.27 | 14 | 20.18 | 16.7 | 1.99 | 13.1 |
| ALA | 347 | 92.41 | 85.6 | 63.46 | **91.4** | 28.95 | 75.1 | 65 | 91.1 | 27.41 | 74.9 |
| GLU | 348 | 119.55 | 69.4 | 101.34 | **75.2** | 18.22 | 48.6 | 46.59 | 77.3 | 72.96 | 65.2 |
| ARG | 349 | 4.39 | 1.8 | 0 | **0** | 4.39 | 11.7 | 0 | 0 | 4.39 | 2.7 |
| ALA | 350 | 5.96 | 5.5 | 5.4 | **7.8** | 0.56 | 1.5 | 5.4 | 7.6 | 0.56 | 1.5 |
| ASP | 351 | 54.1 | 38.5 | 54.09 | **52.7** | 0.02 | 0 | 18.47 | 37.5 | 35.64 | 39.1 |
| LEU | 352 | 3.54 | 2 | 2.74 | **1.9** | 0.8 | 2.1 | 2.82 | 2 | 0.72 | 2 |
| LYS | 353 | 156.29 | 77.8 | 153.6 | **94.1** | 2.69 | 7.2 | 105.24 | 90.3 | 51.05 | 60.6 |
| GLN | 354 | 102.68 | 57.5 | 97.93 | **69.5** | 4.76 | 12.7 | 34.1 | 65.3 | 68.58 | 54.3 |
| LEU | 355 | 0.86 | 0.5 | 0.86 | **0.6** | 0 | 0 | 0.86 | 0.6 | 0 | 0 |
| MET | 356 | 24.38 | 12.6 | 18.94 | **12.1** | 5.45 | 14.5 | 18.94 | 12 | 5.45 | 15 |
| VAL | 357 | 92.15 | 60.9 | 86.81 | **76** | 5.35 | 14.4 | 87.07 | 75.4 | 5.08 | 14.1 |
| HIS | 358 | 18.94 | 10.4 | 18.94 | **12.9** | 0 | 0 | 17.48 | 18 | 1.47 | 1.7 |
| ALA | 359 | 43.83 | 40.6 | 37.26 | **53.7** | 6.58 | 17.1 | 37.26 | 52.2 | 6.58 | 18 |
| PHE | 360 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ILE | 361 | 1.52 | 0.9 | 1.52 | **1.1** | 0 | 0 | 1.52 | 1.1 | 0 | 0 |
| LYS | 362 | 117.17 | 58.3 | 110.84 | **67.9** | 6.33 | 16.9 | 88.84 | 76.2 | 28.33 | 33.6 |
| ARG | 363 | 69.99 | 29.3 | 68.88 | **34.2** | 1.11 | 3 | 58.44 | 75.1 | 11.55 | 7.2 |
| SER | 364 | 0.04 | 0 | 0.04 | **0.1** | 0 | 0 | 0 | 0 | 0.04 | 0.1 |
| ASP | 365 | 76.79 | 54.7 | 59.73 | **58.2** | 17.05 | 45.2 | 14.77 | 30 | 62.01 | 68 |
| ALA | 366 | 85.02 | 78.8 | 63.69 | **91.8** | 21.33 | 55.3 | 65.35 | 91.6 | 19.67 | 53.8 |
| GLU | 367 | 33.69 | 19.6 | 31.54 | **23.4** | 2.16 | 5.8 | 25 | 41.5 | 8.7 | 7.8 |
| GLU | 368 | 172.81 | 100.3 | 137.17 | **101.8** | 35.64 | 95 | 73.05 | 121.2 | 99.76 | 89.1 |
| VAL | 369 | 34.29 | 22.6 | 13.32 | **11.7** | 20.97 | 56.4 | 15.22 | 13.2 | 19.06 | 53 |
| ASP | 370 | 100.3 | 71.4 | 90.77 | **88.4** | 9.54 | 25.3 | 48.8 | 99.1 | 51.51 | 56.5 |
| PHE | 371 | 10.66 | 5.3 | 8.03 | **4.9** | 2.63 | 7.4 | 8.03 | 4.9 | 2.63 | 7.7 |
| ALA | 372 | 23.92 | 22.2 | 21.93 | **31.6** | 1.99 | 5.2 | 22.41 | 31.4 | 1.52 | 4.1 |
| GLY | 373 | 30.26 | 37.8 | 22.02 | **68.1** | 8.24 | 17.3 | 26.47 | 70.5 | 3.8 | 8.9 |
| TRP | 374 | 49.75 | 20 | 47.63 | **22.5** | 2.12 | 5.6 | 37.62 | 19.8 | 12.13 | 20.3 |
| LEU | 375 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| CYS | 376 | 33.48 | 24.9 | 31.91 | **33** | 1.57 | 4.2 | 32.79 | 33.5 | 0.69 | 1.9 |
| SER | 377 | 92.16 | 79.1 | 68.02 | **87.1** | 24.15 | 62.9 | 57.08 | 117.6 | 35.08 | 51.6 |
| THR | 378 | 32.41 | 23.3 | 21.4 | **21** | 11.01 | 29.3 | 13.53 | 17.9 | 18.88 | 29.7 |
| ILE | 379 | 27.95 | 16 | 19.02 | **13.8** | 8.93 | 24 | 19.24 | 13.8 | 8.71 | 24.2 |
| GLY | 380 | 62.97 | 78.6 | 31.48 | **97.4** | 31.49 | 65.9 | 34.08 | 90.8 | 28.88 | 67.9 |
| LEU | 381 | 62.19 | 34.8 | 43.49 | **30.8** | 18.7 | 49.9 | 45.31 | 31.8 | 16.89 | 46.5 |
| ASN | 382 | 90.2 | 62.7 | 80.34 | **75.6** | 9.85 | 26.1 | 80.34 | 173.8 | 9.85 | 10.1 |
| AGS | 2 | 46.88 | -99.9 | 46.88 | **-99.9** | 0 | -99.9 | 15.04 | -99.9 | 31.85 | -99.9 |
| MG | 3 | 1.04 | -99.9 | 1.04 | **-99.9** | 0 | -99.9 | 1.04 | -99.9 | 0 | -99.9 |
| CA | 5 | 52.76 | -99.9 | 52.76 | **-99.9** | 0 | -99.9 | 0 | -99.9 | 52.76 | -99.9 |
| NA | 6 | 48.55 | -99.9 | 48.55 | **-99.9** | 0 | -99.9 | 0 | -99.9 | 48.55 | -99.9 |
| Absolute sums overall chain | | | | | | | | | | | |
| Total |  | 14724.6 |  | 2517.7 |  | 2206.9 |  | 8355.5 |  | 6369.1 |  |

MEK1+ADP-Mg (3EQI)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Residues | Number | All | | Total side chain | | Main chain | | Non polar | | All polar | |
|  |  | ABS | REL | ABS | **REL** | ABS | REL | ABS | REL | ABS | REL |
| GLU | 39 | 99.63 | 57.8 | 70.96 | **52.7** | 28.66 | 76.4 | 29.37 | 48.7 | 70.26 | 62.8 |
| LEU | 40 | 44.05 | 24.7 | 32.5 | **23** | 11.55 | 30.8 | 35 | 24.6 | 9.05 | 24.9 |
| GLU | 41 | 164.35 | 95.4 | 147.62 | **109.6** | 16.74 | 44.6 | 71.6 | 118.8 | 92.75 | 82.8 |
| LEU | 42 | 76.07 | 42.6 | 44.25 | **31.4** | 31.81 | 84.8 | 45.63 | 32.1 | 30.44 | 83.8 |
| ASP | 43 | 92.46 | 65.9 | 89.48 | **87.1** | 2.99 | 7.9 | 19.96 | 40.5 | 72.5 | 79.5 |
| GLU | 44 | 158.55 | 92 | 149.93 | **111.3** | 8.62 | 23 | 70.67 | 117.2 | 87.88 | 78.5 |
| GLN | 45 | 87.9 | 49.2 | 86.19 | **61.1** | 1.71 | 4.6 | 18.29 | 35 | 69.61 | 55.1 |
| GLN | 46 | 38.05 | 21.3 | 37.09 | **26.3** | 0.96 | 2.6 | 17.97 | 34.4 | 20.09 | 15.9 |
| ARG | 47 | 128.65 | 53.9 | 128.65 | **63.9** | 0 | 0 | 51.91 | 66.7 | 76.74 | 47.7 |
| LYS | 48 | 117.83 | 58.7 | 115.25 | **70.6** | 2.59 | 6.9 | 84.97 | 72.9 | 32.87 | 39 |
| ARG | 49 | 54.42 | 22.8 | 47.66 | **23.7** | 6.75 | 18 | 16.04 | 20.6 | 38.38 | 23.8 |
| LEU | 50 | 26.68 | 14.9 | 26.08 | **18.5** | 0.6 | 1.6 | 26.08 | 18.3 | 0.6 | 1.7 |
| GLU | 51 | 90.72 | 52.7 | 89.73 | **66.6** | 0.99 | 2.6 | 30.22 | 50.1 | 60.5 | 54 |
| ALA | 52 | 49.03 | 45.4 | 48.33 | **69.6** | 0.7 | 1.8 | 48.33 | 67.7 | 0.7 | 1.9 |
| PHE | 53 | 24.88 | 12.5 | 24.5 | **14.9** | 0.39 | 1.1 | 24.5 | 14.8 | 0.39 | 1.1 |
| LEU | 54 | 59.65 | 33.4 | 58.94 | **41.8** | 0.7 | 1.9 | 59.65 | 41.9 | 0 | 0 |
| THR | 55 | 77.68 | 55.8 | 76.5 | **75.2** | 1.18 | 3.1 | 56.42 | 74.5 | 21.27 | 33.5 |
| GLN | 56 | 74.75 | 41.9 | 74.14 | **52.6** | 0.61 | 1.6 | 25.27 | 48.4 | 49.48 | 39.2 |
| LYS | 57 | 24.27 | 12.1 | 18.98 | **11.6** | 5.29 | 14.1 | 18.49 | 15.9 | 5.78 | 6.9 |
| GLN | 58 | 138.89 | 77.8 | 113.32 | **80.4** | 25.58 | 68.2 | 58.72 | 112.4 | 80.18 | 63.5 |
| LYS | 59 | 159.59 | 79.5 | 134.66 | **82.5** | 24.93 | 66.5 | 86.9 | 74.5 | 72.69 | 86.3 |
| VAL | 60 | 17.44 | 11.5 | 3.42 | **3** | 14.01 | 37.7 | 3.69 | 3.2 | 13.75 | 38.2 |
| GLY | 61 | 56.2 | 70.2 | 38.87 | **120.2** | 17.33 | 36.3 | 43.54 | 116 | 12.66 | 29.8 |
| GLU | 62 | 134.89 | 78.3 | 113.93 | **84.6** | 20.96 | 55.9 | 53.99 | 89.5 | 80.9 | 72.3 |
| LEU | 63 | 13.17 | 7.4 | 6.01 | **4.3** | 7.16 | 19.1 | 6.01 | 4.2 | 7.16 | 19.7 |
| LYS | 64 | 106.48 | 53 | 106.48 | **65.2** | 0 | 0 | 77.15 | 66.2 | 29.33 | 34.8 |
| ASP | 65 | 11.79 | 8.4 | 5.16 | **5** | 6.63 | 17.6 | 4.91 | 10 | 6.88 | 7.5 |
| ASP | 66 | 93.43 | 66.6 | 83.49 | **81.3** | 9.94 | 26.4 | 40.86 | 83 | 52.57 | 57.7 |
| ASP | 67 | 39.93 | 28.4 | 39.93 | **38.9** | 0 | 0 | 2 | 4.1 | 37.93 | 41.6 |
| PHE | 68 | 19.18 | 9.6 | 0.49 | **0.3** | 18.69 | 52.8 | 1.34 | 0.8 | 17.83 | 52.1 |
| GLU | 69 | 92.43 | 53.7 | 92.38 | **68.6** | 0.05 | 0.1 | 32.8 | 54.4 | 59.62 | 53.3 |
| LYS | 70 | 121.96 | 60.7 | 89.95 | **55.1** | 32.01 | 85.3 | 64.96 | 55.7 | 57 | 67.7 |
| ILE | 71 | 85.12 | 48.6 | 60.1 | **43.6** | 25.02 | 67.3 | 60.73 | 43.6 | 24.39 | 67.8 |
| SER | 72 | 46.83 | 40.2 | 46.83 | **60** | 0 | 0 | 36.9 | 76 | 9.92 | 14.6 |
| GLU | 73 | 106.01 | 61.5 | 79.48 | **59** | 26.53 | 70.7 | 27.24 | 45.2 | 78.76 | 70.4 |
| LEU | 74 | 37.65 | 21.1 | 25.66 | **18.2** | 11.98 | 32 | 27.61 | 19.4 | 10.03 | 27.6 |
| GLY | 75 | 18.8 | 23.5 | 17.94 | **55.5** | 0.87 | 1.8 | 18.7 | 49.8 | 0.1 | 0.2 |
| ALA | 76 | 62.39 | 57.8 | 43.39 | **62.5** | 19 | 49.3 | 46.53 | 65.2 | 15.87 | 43.4 |
| GLY | 77 | 34.28 | 42.8 | 18.16 | **56.2** | 16.12 | 33.7 | 22.1 | 58.9 | 12.18 | 28.6 |
| ASN | 78 | 126.09 | 87.6 | 109.81 | **103.4** | 16.28 | 43.2 | 28.84 | 62.4 | 97.25 | 99.5 |
| GLY | 79 | 20.28 | 25.3 | 14.76 | **45.6** | 5.52 | 11.6 | 17.72 | 47.2 | 2.56 | 6 |
| GLY | 80 | 9.73 | 12.1 | 8.58 | **26.5** | 1.14 | 2.4 | 8.58 | 22.9 | 1.14 | 2.7 |
| VAL | 81 | 48.99 | 32.3 | 48.94 | **42.8** | 0.04 | 0.1 | 48.94 | 42.4 | 0.04 | 0.1 |
| VAL | 82 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| PHE | 83 | 30.81 | 15.4 | 30.81 | **18.8** | 0 | 0 | 30.81 | 18.6 | 0 | 0 |
| LYS | 84 | 56.49 | 28.1 | 56.49 | **34.6** | 0 | 0 | 12.71 | 10.9 | 43.78 | 52 |
| VAL | 85 | 3.69 | 2.4 | 3.69 | **3.2** | 0 | 0 | 3.69 | 3.2 | 0 | 0 |
| SER | 86 | 22.7 | 19.5 | 22.7 | **29.1** | 0 | 0 | 9.57 | 19.7 | 13.13 | 19.3 |
| HIS | 87 | 2.25 | 1.2 | 2.25 | **1.5** | 0 | 0 | 1.64 | 1.7 | 0.61 | 0.7 |
| LYS | 88 | 103.77 | 51.7 | 83.49 | **51.1** | 20.28 | 54.1 | 54.77 | 47 | 49 | 58.2 |
| PRO | 89 | 87.82 | 64.5 | 57.32 | **47.8** | 30.5 | 187.9 | 59.33 | 49.1 | 28.48 | 187.5 |
| SER | 90 | 44.52 | 38.2 | 16.82 | **21.5** | 27.7 | 72.1 | 17.8 | 36.7 | 26.72 | 39.3 |
| GLY | 91 | 52.42 | 65.4 | 27.23 | **84.2** | 25.19 | 52.7 | 29.86 | 79.5 | 22.57 | 53 |
| LEU | 92 | 31.33 | 17.5 | 31.33 | **22.2** | 0 | 0 | 31.33 | 22 | 0 | 0 |
| VAL | 93 | 61.86 | 40.8 | 48.8 | **42.7** | 13.06 | 35.2 | 48.8 | 42.3 | 13.06 | 36.3 |
| MET | 94 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ALA | 95 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ARG | 96 | 16.68 | 7 | 16.68 | **8.3** | 0 | 0 | 0.9 | 1.2 | 15.78 | 9.8 |
| LYS | 97 | 23.03 | 11.5 | 23.03 | **14.1** | 0 | 0 | 7.51 | 6.4 | 15.51 | 18.4 |
| LEU | 98 | 26.56 | 14.9 | 23.64 | **16.8** | 2.92 | 7.8 | 23.66 | 16.6 | 2.9 | 8 |
| ILE | 99 | 2.48 | 1.4 | 2.48 | **1.8** | 0 | 0 | 2.48 | 1.8 | 0 | 0 |
| HIS | 100 | 103.49 | 56.6 | 97.92 | **66.6** | 5.57 | 15.6 | 76.96 | 79.2 | 26.54 | 31 |
| LEU | 101 | 8.89 | 5 | 8.89 | **6.3** | 0 | 0 | 8.89 | 6.3 | 0 | 0 |
| GLU | 102 | 135.32 | 78.6 | 105.75 | **78.5** | 29.56 | 78.8 | 63.96 | 106.1 | 71.36 | 63.7 |
| ILE | 103 | 31.3 | 17.9 | 21.96 | **15.9** | 9.34 | 25.1 | 26.2 | 18.8 | 5.1 | 14.2 |
| LYS | 104 | 129.97 | 64.7 | 127.14 | **77.9** | 2.83 | 7.5 | 78.43 | 67.3 | 51.54 | 61.2 |
| PRO | 105 | 82.49 | 60.6 | 81.98 | **68.4** | 0.51 | 3.1 | 82.49 | 68.2 | 0 | 0 |
| ALA | 106 | 70.8 | 65.6 | 63.43 | **91.4** | 7.37 | 19.1 | 65.1 | 91.2 | 5.69 | 15.6 |
| ILE | 107 | 41.29 | 23.6 | 41.22 | **29.9** | 0.07 | 0.2 | 41.22 | 29.6 | 0.07 | 0.2 |
| ARG | 108 | 49.73 | 20.8 | 49.73 | **24.7** | 0 | 0 | 5.37 | 6.9 | 44.35 | 27.6 |
| ASN | 109 | 70.65 | 49.1 | 67.55 | **63.6** | 3.1 | 8.2 | 11.17 | 24.2 | 59.47 | 60.9 |
| GLN | 110 | 72.41 | 40.6 | 72.41 | **51.4** | 0 | 0 | 25.77 | 49.3 | 46.64 | 36.9 |
| ILE | 111 | 0.4 | 0.2 | 0.4 | **0.3** | 0 | 0 | 0.4 | 0.3 | 0 | 0 |
| ILE | 112 | 32.08 | 18.3 | 32.08 | **23.3** | 0 | 0 | 32.08 | 23.1 | 0 | 0 |
| ARG | 113 | 150.84 | 63.2 | 141.02 | **70.1** | 9.83 | 26.2 | 74.95 | 96.3 | 75.9 | 47.2 |
| GLU | 114 | 41.21 | 23.9 | 41.21 | **30.6** | 0 | 0 | 15.14 | 25.1 | 26.06 | 23.3 |
| LEU | 115 | 7.99 | 4.5 | 7.99 | **5.7** | 0 | 0 | 7.99 | 5.6 | 0 | 0 |
| GLN | 116 | 72.51 | 40.6 | 67.01 | **47.5** | 5.5 | 14.7 | 40.86 | 78.2 | 31.65 | 25.1 |
| VAL | 117 | 53.62 | 35.4 | 53.43 | **46.7** | 0.19 | 0.5 | 53.43 | 46.3 | 0.19 | 0.5 |
| LEU | 118 | 24.21 | 13.6 | 23.55 | **16.7** | 0.66 | 1.8 | 23.55 | 16.5 | 0.66 | 1.8 |
| HIS | 119 | 61.54 | 33.7 | 51.4 | **34.9** | 10.14 | 28.3 | 39.13 | 40.3 | 22.41 | 26.1 |
| GLU | 120 | 117.36 | 68.1 | 109.49 | **81.3** | 7.87 | 21 | 40.61 | 67.4 | 76.75 | 68.5 |
| CYS | 121 | 3.87 | 2.9 | 1.08 | **1.1** | 2.79 | 7.4 | 1.08 | 1.1 | 2.79 | 7.7 |
| ASN | 122 | 48.17 | 33.5 | 34.93 | **32.9** | 13.24 | 35.1 | 11.23 | 24.3 | 36.93 | 37.8 |
| SER | 123 | 8.04 | 6.9 | 3.28 | **4.2** | 4.76 | 12.4 | 2.47 | 5.1 | 5.57 | 8.2 |
| PRO | 124 | 16.52 | 12.1 | 13.76 | **11.5** | 2.76 | 17 | 13.76 | 11.4 | 2.76 | 18.2 |
| TYR | 125 | 33.05 | 15.5 | 33 | **18.6** | 0.05 | 0.1 | 21.96 | 16.1 | 11.09 | 14.5 |
| ILE | 126 | 6.12 | 3.5 | 2.33 | **1.7** | 3.79 | 10.2 | 2.33 | 1.7 | 3.79 | 10.5 |
| VAL | 127 | 10.73 | 7.1 | 2.76 | **2.4** | 7.97 | 21.4 | 2.76 | 2.4 | 7.97 | 22.2 |
| GLY | 128 | 8.47 | 10.6 | 8.21 | **25.4** | 0.26 | 0.5 | 8.31 | 22.1 | 0.16 | 0.4 |
| PHE | 129 | 8.5 | 4.3 | 7.01 | **4.3** | 1.49 | 4.2 | 7.01 | 4.2 | 1.49 | 4.3 |
| TYR | 130 | 17.84 | 8.4 | 9.91 | **5.6** | 7.92 | 22.4 | 0.09 | 0.1 | 17.75 | 23.3 |
| GLY | 131 | 5.44 | 6.8 | 5.44 | **16.8** | 0 | 0 | 5.44 | 14.5 | 0 | 0 |
| ALA | 132 | 11.33 | 10.5 | 0 | **0** | 11.33 | 29.4 | 0 | 0 | 11.33 | 31 |
| PHE | 133 | 21.85 | 11 | 21.85 | **13.3** | 0 | 0 | 21.85 | 13.2 | 0 | 0 |
| TYR | 134 | 51.79 | 24.3 | 26.79 | **15.1** | 25 | 70.7 | 19.56 | 14.3 | 32.23 | 42.3 |
| SER | 135 | 18.63 | 16 | 18.2 | **23.3** | 0.44 | 1.1 | 12.03 | 24.8 | 6.6 | 9.7 |
| ASP | 136 | 129.6 | 92.3 | 105.17 | **102.4** | 24.43 | 64.8 | 45.05 | 91.5 | 84.55 | 92.8 |
| GLY | 137 | 8.85 | 11 | 5.91 | **18.3** | 2.93 | 6.1 | 5.91 | 15.7 | 2.93 | 6.9 |
| GLU | 138 | 47.95 | 27.8 | 47.45 | **35.2** | 0.49 | 1.3 | 8.84 | 14.7 | 39.11 | 34.9 |
| ILE | 139 | 0.89 | 0.5 | 0.89 | **0.6** | 0 | 0 | 0.89 | 0.6 | 0 | 0 |
| SER | 140 | 0.38 | 0.3 | 0.38 | **0.5** | 0 | 0 | 0 | 0 | 0.38 | 0.6 |
| ILE | 141 | 17.39 | 9.9 | 17.39 | **12.6** | 0 | 0 | 17.39 | 12.5 | 0 | 0 |
| CYS | 142 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| MET | 143 | 13.41 | 6.9 | 13.41 | **8.6** | 0 | 0 | 13.41 | 8.5 | 0 | 0 |
| GLU | 144 | 28.16 | 16.3 | 28.16 | **20.9** | 0 | 0 | 9.57 | 15.9 | 18.59 | 16.6 |
| HIS | 145 | 41.93 | 22.9 | 24.13 | **16.4** | 17.8 | 49.7 | 9.54 | 9.8 | 32.39 | 37.8 |
| MET | 146 | 0.87 | 0.5 | 0 | **0** | 0.87 | 2.3 | 0 | 0 | 0.87 | 2.4 |
| ASP | 147 | 57.02 | 40.6 | 39.62 | **38.6** | 17.39 | 46.1 | 24.34 | 49.4 | 32.68 | 35.8 |
| GLY | 148 | 6.2 | 7.7 | 0 | **0** | 6.2 | 13 | 2.45 | 6.5 | 3.75 | 8.8 |
| GLY | 149 | 12.33 | 15.4 | 11.39 | **35.2** | 0.94 | 2 | 11.39 | 30.3 | 0.94 | 2.2 |
| SER | 150 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 151 | 0.82 | 0.5 | 0.82 | **0.6** | 0 | 0 | 0.82 | 0.6 | 0 | 0 |
| ASP | 152 | 37.72 | 26.9 | 36.5 | **35.5** | 1.23 | 3.3 | 15.45 | 31.4 | 22.27 | 24.4 |
| GLN | 153 | 66.11 | 37 | 60.55 | **42.9** | 5.56 | 14.8 | 33.59 | 64.3 | 32.52 | 25.8 |
| VAL | 154 | 0.29 | 0.2 | 0.17 | **0.2** | 0.12 | 0.3 | 0.17 | 0.1 | 0.12 | 0.3 |
| LEU | 155 | 15.84 | 8.9 | 14.87 | **10.5** | 0.98 | 2.6 | 14.87 | 10.4 | 0.97 | 2.7 |
| LYS | 156 | 168.52 | 83.9 | 142.91 | **87.5** | 25.61 | 68.3 | 114.03 | 97.8 | 54.49 | 64.7 |
| LYS | 157 | 134.34 | 66.9 | 109.69 | **67.2** | 24.65 | 65.7 | 69.14 | 59.3 | 65.19 | 77.4 |
| ALA | 158 | 33.93 | 31.4 | 7.09 | **10.2** | 26.84 | 69.6 | 9.53 | 13.4 | 24.4 | 66.7 |
| GLY | 159 | 46.88 | 58.5 | 37.9 | **117.2** | 8.98 | 18.8 | 40.92 | 109 | 5.95 | 14 |
| ARG | 160 | 97.5 | 40.8 | 88.64 | **44** | 8.86 | 23.6 | 24.34 | 31.3 | 73.16 | 45.5 |
| ILE | 161 | 1.81 | 1 | 0.35 | **0.3** | 1.46 | 3.9 | 0.5 | 0.4 | 1.31 | 3.6 |
| PRO | 162 | 58.96 | 43.3 | 58.54 | **48.8** | 0.42 | 2.6 | 58.54 | 48.4 | 0.42 | 2.8 |
| GLU | 163 | 26.3 | 15.3 | 21.43 | **15.9** | 4.87 | 13 | 16.06 | 26.6 | 10.24 | 9.1 |
| GLN | 164 | 89.74 | 50.3 | 88.6 | **62.8** | 1.13 | 3 | 26.42 | 50.6 | 63.31 | 50.1 |
| ILE | 165 | 7.09 | 4.1 | 7.09 | **5.1** | 0 | 0 | 7.09 | 5.1 | 0 | 0 |
| LEU | 166 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLY | 167 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LYS | 168 | 40.04 | 19.9 | 37.74 | **23.1** | 2.3 | 6.1 | 22.49 | 19.3 | 17.54 | 20.8 |
| VAL | 169 | 0.8 | 0.5 | 0.8 | **0.7** | 0 | 0 | 0.8 | 0.7 | 0 | 0 |
| SER | 170 | 0.11 | 0.1 | 0.11 | **0.1** | 0 | 0 | 0.11 | 0.2 | 0 | 0 |
| ILE | 171 | 15 | 8.6 | 15 | **10.9** | 0 | 0 | 15 | 10.8 | 0 | 0 |
| ALA | 172 | 4.3 | 4 | 3.73 | **5.4** | 0.57 | 1.5 | 4.05 | 5.7 | 0.25 | 0.7 |
| VAL | 173 | 1.06 | 0.7 | 1.06 | **0.9** | 0 | 0 | 1.06 | 0.9 | 0 | 0 |
| ILE | 174 | 0.14 | 0.1 | 0.14 | **0.1** | 0 | 0 | 0.14 | 0.1 | 0 | 0 |
| LYS | 175 | 33.1 | 16.5 | 33.1 | **20.3** | 0 | 0 | 4.03 | 3.5 | 29.06 | 34.5 |
| GLY | 176 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 177 | 2.7 | 1.5 | 1.57 | **1.1** | 1.13 | 3 | 1.57 | 1.1 | 1.13 | 3.1 |
| THR | 178 | 12.47 | 9 | 12.47 | **12.3** | 0 | 0 | 11.41 | 15.1 | 1.06 | 1.7 |
| TYR | 179 | 12.14 | 5.7 | 12.14 | **6.8** | 0 | 0 | 7.15 | 5.2 | 4.99 | 6.5 |
| LEU | 180 | 0.16 | 0.1 | 0.16 | **0.1** | 0 | 0 | 0.16 | 0.1 | 0 | 0 |
| ARG | 181 | 122.3 | 51.2 | 117 | **58.1** | 5.31 | 14.1 | 17.75 | 22.8 1 | 4.56 | 65 |
| GLU | 182 | 115.66 | 67.1 | 91.69 | **68.1** | 23.96 | 63.9 | 26.56 | 44.1 | 89.09 | 79.6 |
| LYS | 183 | 124.68 | 62.1 | 99.94 | **61.2** | 24.74 | 66 | 58.5 | 50.2 | 66.18 | 78.6 |
| HIS | 184 | 43.86 | 24 | 29.51 | **20.1** | 14.35 | 40.1 | 20.98 | 21.6 | 22.89 | 26.7 |
| LYS | 185 | 186.47 | 92.9 | 158.26 | **96.9** | 28.2 | 75.2 | 111.36 | 95.5 | 75.1 | 89.2 |
| ILE | 186 | 21.5 | 12.3 | 20.31 | **14.7** | 1.19 | 3.2 | 21.14 | 15.2 | 0.36 | 1 |
| MET | 187 | 25.26 | 13 | 23.44 | **15** | 1.82 | 4.8 | 23.44 | 14.9 | 1.82 | 5 |
| HIS | 188 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ARG | 189 | 65.22 | 27.3 | 57.17 | **28.4** | 8.05 | 21.5 | 25.14 | 32.3 | 40.08 | 24.9 |
| ASP | 190 | 49.32 | 35.1 | 49.32 | **48** | 0 | 0 | 22.48 | 45.6 | 26.85 | 29.5 |
| VAL | 191 | 1.65 | 1.1 | 0.12 | **0.1** | 1.52 | 4.1 | 0.12 | 0.1 | 1.52 | 4.2 |
| LYS | 192 | 15.27 | 7.6 | 15.27 | **9.4** | 0 | 0 | 5.46 | 4.7 | 9.81 | 11.6 |
| PRO | 193 | 3.46 | 2.5 | 3.46 | **2.9** | 0 | 0 | 3.46 | 2.9 | 0 | 0 |
| SER | 194 | 11.74 | 10.1 | 11.18 | **14.3** | 0.56 | 1.5 | 10.32 | 21.3 | 1.42 | 2.1 |
| ASN | 195 | 0.23 | 0.2 | 0.23 | **0.2** | 0 | 0 | 0.14 | 0.3 | 0.09 | 0.1 |
| ILE | 196 | 1.54 | 0.9 | 1.54 | **1.1** | 0 | 0 | 1.54 | 1.1 | 0 | 0 |
| LEU | 197 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 198 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASN | 199 | 7.58 | 5.3 | 7.58 | **7.1** | 0 | 0 | 3.07 | 6.6 | 4.52 | 4.6 |
| SER | 200 | 43.37 | 37.2 | 29.8 | **38.2** | 13.57 | 35.3 | 17.2 | 35.4 | 26.17 | 38.5 |
| ARG | 201 | 129.82 | 54.4 | 113.64 | **56.5** | 16.17 | 43.1 | 52.59 | 67.6 | 77.22 | 48 |
| GLY | 202 | 24.15 | 30.2 | 6.03 | **18.7** | 18.12 | 37.9 | 8.47 | 22.6 | 15.68 | 36.9 |
| GLU | 203 | 23.75 | 13.8 | 23.75 | **17.6** | 0 | 0 | 14.17 | 23.5 | 9.58 | 8.6 |
| ILE | 204 | 13.13 | 7.5 | 9.22 | **6.7** | 3.91 | 10.5 | 9.22 | 6.6 | 3.91 | 10.9 |
| LYS | 205 | 14.91 | 7.4 | 14.65 | **9** | 0.25 | 0.7 | 0.89 | 0.8 | 14.02 | 16.6 |
| LEU | 206 | 1.62 | 0.9 | 1.62 | **1.1** | 0 | 0 | 1.62 | 1.1 | 0 | 0 |
| CYS | 207 | 3.4 | 2.5 | 3.4 | **3.5** | 0 | 0 | 3.4 | 3.5 | 0 | 0 |
| ASP | 208 | 46.72 | 33.3 | 31.41 | **30.6** | 15.31 | 40.6 | 21.19 | 43 | 25.53 | 28 |
| PHE | 209 | 17.95 | 9 | 8.34 | **5.1** | 9.62 | 27.2 | 8.87 | 5.4 | 9.08 | 26.5 |
| GLY | 210 | 23.93 | 29.9 | 17.72 | **54.8** | 6.22 | 13 | 19.58 | 52.1 | 4.36 | 10.2 |
| VAL | 211 | 34.37 | 22.7 | 11.86 | **10.4** | 22.51 | 60.6 | 15.01 | 13 | 19.36 | 53.8 |
| SER | 212 | 3.25 | 2.8 | 0.63 | **0.8** | 2.62 | 6.8 | 0.63 | 1.3 | 2.62 | 3.9 |
| GLY | 213 | 41.95 | 52.4 | 32.35 | **100.1** | 9.6 | 20.1 | 34.72 | 92.5 | 7.24 | 17 |
| GLN | 214 | 42.58 | 23.9 | 39.2 | **27.8** | 3.38 | 9 | 1.74 | 3.3 | 40.84 | 32.3 |
| LEU | 215 | 13.72 | 7.7 | 13.72 | **9.7** | 0 | 0 | 13.72 | 9.6 | 0 | 0 |
| ILE | 216 | 81.83 | 46.7 | 80.58 | **58.4** | 1.25 | 3.4 | 80.58 | 57.9 | 1.25 | 3.5 |
| ASP | 217 | 84.71 | 60.3 | 77.58 | **75.5** | 7.13 | 18.9 | 33.03 | 67.1 | 51.68 | 56.7 |
| SER | 218 | 10.05 | 8.6 | 9.7 | **12.4** | 0.34 | 0.9 | 7.7 | 15.9 | 2.35 | 3.5 |
| MET | 219 | 42.12 | 21.7 | 42.02 | **26.8** | 0.09 | 0.3 | 42.12 | 26.7 | 0 | 0 |
| ALA | 220 | 60.88 | 56.4 | 47.9 | **69** | 12.98 | 33.7 | 49 | 68.6 | 11.88 | 32.5 |
| ASN | 221 | 117.8 | 81.8 | 97.59 | **91.9** | 20.21 | 53.6 | 32.08 | 69.4 | 85.73 | 87.7 |
| SER | 222 | 93.08 | 79.9 | 73.18 | **93.7** | 19.9 | 51.8 | 59.78 | 123.1 | 33.3 | 49 |
| PHE | 223 | 27.04 | 13.6 | 24.27 | **14.8** | 2.77 | 7.8 | 25.27 | 15.3 | 1.77 | 5.2 |
| VAL | 224 | 109.96 | 72.6 | 88.43 | **77.4** | 21.54 | 58 | 89.83 | 77.8 | 20.14 | 56 |
| GLY | 225 | 52.55 | 65.6 | 31.99 | **98.9** | 20.57 | 43.1 | 33.66 | 89.6 | 18.89 | 44.4 |
| THR | 226 | 61.03 | 43.8 | 49.03 | **48.2** | 12 | 31.9 | 36.32 | 48 | 24.71 | 38.9 |
| ARG | 227 | 100.72 | 42.2 | 98.89 | **49.1** | 1.83 | 4.9 | 28.27 | 36.3 | 72.44 | 45 |
| SER | 228 | 11.09 | 9.5 | 11.09 | **14.2** | 0 | 0 | 5.85 | 12.1 | 5.23 | 7.7 |
| TYR | 229 | 29.42 | 13.8 | 28.4 | **16** | 1.02 | 2.9 | 14.95 | 11 | 14.47 | 19 |
| MET | 230 | 31.22 | 16.1 | 31.22 | **19.9** | 0 | 0 | 31.22 | 19.8 | 0 | 0 |
| SER | 231 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| PRO | 232 | 6.69 | 4.9 | 6.45 | **5.4** | 0.24 | 1.5 | 6.69 | 5.5 | 0 | 0 |
| GLU | 233 | 6.92 | 4 | 6.41 | **4.8** | 0.5 | 1.3 | 6.41 | 10.6 | 0.5 | 0.4 |
| ARG | 234 | 46 | 19.3 | 34.78 | **17.3** | 11.21 | 29.9 | 4.76 | 6.1 | 41.24 | 25.6 |
| LEU | 235 | 34.98 | 19.6 | 5.59 | **4** | 29.39 | 78.3 | 6.59 | 4.6 | 28.38 | 78.2 |
| GLN | 236 | 114.02 | 63.9 | 88.44 | **62.7** | 25.58 | 68.2 | 29.53 | 56.5 | 84.5 | 66.9 |
| GLY | 237 | 73.74 | 92.1 | 37.08 | **114.7** | 36.66 | 76.7 | 40.16 | 107 | 33.57 | 78.9 |
| THR | 238 | 87.31 | 62.7 | 74.15 | **72.9** | 13.16 | 35 | 66.02 | 87.2 | 21.29 | 33.5 |
| HIS | 239 | 56.25 | 30.8 | 55.94 | **38** | 0.32 | 0.9 | 35.01 | 36 | 21.25 | 24.8 |
| TYR | 240 | 118.72 | 55.8 | 90.15 | **50.8** | 28.57 | 80.7 | 81.53 | 59.7 | 37.19 | 48.8 |
| SER | 241 | 29.69 | 25.5 | 29.69 | **38** | 0 | 0 | 27.27 | 56.2 | 2.42 | 3.6 |
| VAL | 242 | 10.31 | 6.8 | 7.96 | **7** | 2.35 | 6.3 | 7.96 | 6.9 | 2.35 | 6.5 |
| GLN | 243 | 17.67 | 9.9 | 17.67 | **12.5** | 0 | 0 | 14.42 | 27.6 | 3.26 | 2.6 |
| SER | 244 | 2.65 | 2.3 | 1.97 | **2.5** | 0.68 | 1.8 | 0.68 | 1.4 | 1.97 | 2.9 |
| ASP | 245 | 1.83 | 1.3 | 1.83 | **1.8** | 0 | 0 | 0 | 0 | 1.83 | 2 |
| ILE | 246 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| TRP | 247 | 1.12 | 0.4 | 1.12 | **0.5** | 0 | 0 | 1.12 | 0.6 | 0 | 0 |
| SER | 248 | 7.74 | 6.6 | 7.74 | **9.9** | 0 | 0 | 0 | 0 | 7.74 | 11.4 |
| MET | 249 | 2.04 | 1.1 | 2.04 | **1.3** | 0 | 0 | 2.04 | 1.3 | 0 | 0 |
| GLY | 250 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 251 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| SER | 252 | 0.69 | 0.6 | 0.69 | **0.9** | 0 | 0 | 0.69 | 1.4 | 0 | 0 |
| LEU | 253 | 1.58 | 0.9 | 1.58 | **1.1** | 0 | 0 | 1.58 | 1.1 | 0 | 0 |
| VAL | 254 | 1.25 | 0.8 | 1.25 | **1.1** | 0 | 0 | 1.25 | 1.1 | 0 | 0 |
| GLU | 255 | 21.81 | 12.7 | 21.81 | **16.2** | 0 | 0 | 0 | 0 | 21.81 | 19.5 |
| MET | 256 | 0.46 | 0.2 | 0.46 | **0.3** | 0 | 0 | 0.46 | 0.3 | 0 | 0 |
| ALA | 257 | 0.56 | 0.5 | 0 | **0** | 0.56 | 1.4 | 0 | 0 | 0.56 | 1.5 |
| VAL | 258 | 7.2 | 4.8 | 3.49 | **3.1** | 3.7 | 10 | 3.49 | 3 | 3.7 | 10.3 |
| GLY | 259 | 29.12 | 36.4 | 1.86 | **5.8** | 27.26 | 57.1 | 1.97 | 5.2 | 27.15 | 63.8 |
| ARG | 260 | 58.34 | 24.4 | 58.34 | **29** | 0 | 0 | 30.89 | 39.7 | 27.46 | 17.1 |
| TYR | 261 | 45.46 | 21.4 | 35.94 | **20.3** | 9.53 | 26.9 | 35.94 | 26.3 | 9.53 | 12.5 |
| PRO | 262 | 2.94 | 2.2 | 2.63 | **2.2** | 0.31 | 1.9 | 2.63 | 2.2 | 0.31 | 2 |
| ILE | 263 | 11.23 | 6.4 | 3.5 | **2.5** | 7.72 | 20.8 | 3.5 | 2.5 | 7.72 | 21.5 |
| PRO | 264 | 49.47 | 36.3 | 49.47 | **41.3** | 0 | 0 | 49.47 | 40.9 | 0 | 0 |
| PRO | 265 | 68.64 | 50.4 | 59.47 | **49.6** | 9.17 | 56.5 | 59.57 | 49.2 | 9.08 | 59.8 |
| PRO | 266 | 27.65 | 20.3 | 16.45 | **13.7** | 11.2 | 69 | 17.03 | 14.1 | 10.62 | 69.9 |
| ASP | 267 | 93.38 | 66.5 | 92.49 | **90.1** | 0.89 | 2.4 | 27.92 | 56.7 | 65.46 | 71.8 |
| ALA | 268 | 86.83 | 80.4 | 72.49 | **104.4** | 14.34 | 37.2 | 73.53 | 103 | 13.3 | 36.4 |
| LYS | 269 | 154.5 | 76.9 | 152.41 | **93.3** | 2.09 | 5.6 | 103.56 | 88.8 | 50.94 | 60.5 |
| GLU | 270 | 58.19 | 33.8 | 57.99 | **43** | 0.2 | 0.5 | 29.08 | 48.2 | 29.11 | 26 |
| LEU | 271 | 50.74 | 28.4 | 49.7 | **35.2** | 1.04 | 2.8 | 50 | 35.1 | 0.74 | 2 |
| GLU | 272 | 94.99 | 55.1 | 92.39 | **68.6** | 2.6 | 6.9 | 36.98 | 61.3 | 58.01 | 51.8 |
| LEU | 273 | 141.82 | 79.4 | 111.74 | **79.2** | 30.08 | 80.2 | 112.85 | 79.3 | 28.96 | 79.7 |
| MET | 274 | 43.27 | 22.3 | 35.24 | **22.5** | 8.03 | 21.4 | 35.51 | 22.5 | 7.76 | 21.4 |
| PHE | 275 | 41.29 | 20.7 | 14.91 | **9.1** | 26.37 | 74.6 | 19.57 | 11.8 | 21.72 | 63.4 |
| GLY | 276 | 65.93 | 82.3 | 31.05 | **96** | 34.89 | 73 | 33.56 | 89.4 | 32.37 | 76.1 |
| CYS | 277 | 59.19 | 44.1 | 59.19 | **61.2** | 0 | 0 | 59.19 | 60.4 | 0 | 0 |
| PRO | 307 | 190.59 | 140 | 143.21 | **119.4** | 47.38 | 292 | 146.3 | 121 | 44.29 | 291.6 |
| MET | 308 | 70.23 | 36.2 | 41.96 | **26.8** | 28.27 | 75.4 | 42.39 | 26.9 | 27.84 | 76.6 |
| ALA | 309 | 32.3 | 29.9 | 32.01 | **46.1** | 0.29 | 0.7 | 32.01 | 44.8 | 0.29 | 0.8 |
| ILE | 310 | 88.3 | 50.4 | 82.83 | **60** | 5.47 | 14.7 | 82.83 | 59.5 | 5.47 | 15.2 |
| PHE | 311 | 144.19 | 72.3 | 137.14 | **83.6** | 7.04 | 19.9 | 138 | 83.5 | 6.19 | 18.1 |
| GLU | 312 | 76.54 | 44.4 | 75.77 | **56.2** | 0.77 | 2 | 31.17 | 51.7 | 45.37 | 40.5 |
| LEU | 313 | 20.19 | 11.3 | 20.19 | **14.3** | 0 | 0 | 20.19 | 14.2 | 0 | 0 |
| LEU | 314 | 33.76 | 18.9 | 32.72 | **23.2** | 1.05 | 2.8 | 33.76 | 23.7 | 0 | 0 |
| ASP | 315 | 81.74 | 58.2 | 81.08 | **79** | 0.66 | 1.7 | 27.49 | 55.8 | 54.24 | 59.5 |
| TYR | 316 | 59.28 | 27.9 | 58.97 | **33.2** | 0.31 | 0.9 | 37.89 | 27.8 | 21.39 | 28 |
| ILE | 317 | 4.53 | 2.6 | 3.63 | **2.6** | 0.9 | 2.4 | 3.63 | 2.6 | 0.9 | 2.5 |
| VAL | 318 | 29.34 | 19.4 | 18.51 | **16.2** | 10.83 | 29.2 | 18.51 | 16 | 10.83 | 30.1 |
| ASN | 319 | 92.59 | 64.3 | 67.23 | **63.3** | 25.36 | 67.3 | 24.76 | 53.6 | 67.84 | 69.4 |
| GLU | 320 | 68.22 | 39.6 | 65.68 | **48.7** | 2.55 | 6.8 | 13.75 | 22.8 | 54.47 | 48.7 |
| PRO | 321 | 99.98 | 73.4 | 92.21 | **76.9** | 7.76 | 47.8 | 92.21 | 76.2 | 7.76 | 51.1 |
| PRO | 322 | 45.04 | 33.1 | 33.85 | **28.2** | 11.19 | 68.9 | 33.86 | 28 | 11.18 | 73.6 |
| PRO | 323 | 10.37 | 7.6 | 8.52 | **7.1** | 1.85 | 11.4 | 8.52 | 7 | 1.85 | 12.1 |
| LYS | 324 | 138.86 | 69.2 | 122.94 | **75.3** | 15.92 | 42.4 | 94.8 | 81.3 | 44.06 | 52.3 |
| LEU | 325 | 4.58 | 2.6 | 0 | **0** | 4.58 | 12.2 | 0.06 | 0 | 4.51 | 12.4 |
| PRO | 326 | 17.71 | 13 | 17.68 | **14.7** | 0.03 | 0.2 | 17.68 | 14.6 | 0.03 | 0.2 |
| SER | 327 | 90.11 | 77.3 | 69.33 | **88.8** | 20.78 | 54.1 | 35.6 | 73.3 | 54.51 | 80.2 |
| GLY | 328 | 78.42 | 97.9 | 39.39 | **121.8** | 39.04 | 81.7 | 41.5 | 110.5 | 36.92 | 86.8 |
| VAL | 329 | 77.88 | 51.4 | 50.42 | **44.1** | 27.46 | 73.9 | 52 | 45 | 25.88 | 71.9 |
| PHE | 330 | 21.98 | 11 | 13.26 | **8.1** | 8.73 | 24.7 | 16.13 | 9.8 | 5.86 | 17.1 |
| SER | 331 | 38.91 | 33.4 | 35.97 | **46.1** | 2.94 | 7.7 | 35.97 | 74.1 | 2.94 | 4.3 |
| LEU | 332 | 142.32 | 79.7 | 133.27 | **94.4** | 9.06 | 24.1 | 134.44 | 94.5 | 7.89 | 21.7 |
| GLU | 333 | 65.24 | 37.9 | 64.98 | **48.2** | 0.26 | 0.7 | 30.06 | 49.9 | 35.18 | 31.4 |
| PHE | 334 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| GLN | 335 | 22.6 | 12.7 | 22.6 | **16** | 0 | 0 | 6.23 | 11.9 | 16.37 | 13 |
| ASP | 336 | 55.17 | 39.3 | 54.68 | **53.2** | 0.49 | 1.3 | 22.94 | 46.6 | 32.23 | 35.4 |
| PHE | 337 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| VAL | 338 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| ASN | 339 | 69.09 | 48 | 66.49 | **62.6** | 2.6 | 6.9 | 21.96 | 47.5 | 47.13 | 48.2 |
| LYS | 340 | 79.04 | 39.4 | 79.04 | **48.4** | 0 | 0 | 55.39 | 47.5 | 23.65 | 28.1 |
| CYS | 341 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| LEU | 342 | 1.45 | 0.8 | 1.23 | **0.9** | 0.22 | 0.6 | 1.45 | 1 | 0 | 0 |
| ILE | 343 | 52.34 | 29.9 | 52.34 | **37.9** | 0 | 0 | 52.34 | 37.6 | 0 | 0 |
| LYS | 344 | 53.43 | 26.6 | 47.53 | **29.1** | 5.9 | 15.7 | 44.69 | 38.3 | 8.74 | 10.4 |
| ASN | 345 | 65.82 | 45.7 | 64.13 | **60.4** | 1.68 | 4.5 | 26.24 | 56.8 | 39.58 | 40.5 |
| PRO | 346 | 24.29 | 17.8 | 21.57 | **18** | 2.72 | 16.7 | 22.1 | 18.3 | 2.19 | 14.4 |
| ALA | 347 | 89.93 | 83.3 | 62.48 | **90** | 27.45 | 71.2 | 64.04 | 89.7 | 25.89 | 70.8 |
| GLU | 348 | 119.62 | 69.4 | 102.38 | **76** | 17.24 | 46 | 47.44 | 78.7 | 72.18 | 64.5 |
| ARG | 349 | 5 | 2.1 | 0 | **0** | 5 | 13.3 | 0 | 0 | 5 | 3.1 |
| ALA | 350 | 5.76 | 5.3 | 5.25 | **7.6** | 0.51 | 1.3 | 5.25 | 7.4 | 0.51 | 1.4 |
| ASP | 351 | 54.21 | 38.6 | 54.04 | **52.6** | 0.17 | 0.4 | 20 | 40.6 | 34.21 | 37.5 |
| LEU | 352 | 15.85 | 8.9 | 13.77 | **9.8** | 2.07 | 5.5 | 14.39 | 10.1 | 1.45 | 4 |
| LYS | 353 | 158.31 | 78.8 | 155.05 | **94.9** | 3.26 | 8.7 | 106.37 | 91.2 | 51.94 | 61.7 |
| GLN | 354 | 103.59 | 58 | 98.9 | **70.1** | 4.69 | 12.5 | 36.18 | 69.3 | 67.41 | 53.4 |
| LEU | 355 | 0.79 | 0.4 | 0.79 | **0.6** | 0 | 0 | 0.79 | 0.6 | 0 | 0 |
| MET | 356 | 23.34 | 12 | 16.89 | **10.8** | 6.45 | 17.2 | 16.89 | 10.7 | 6.45 | 17.8 |
| VAL | 357 | 91.83 | 60.6 | 87.36 | **76.4** | 4.47 | 12 | 87.55 | 75.8 | 4.28 | 11.9 |
| HIS | 358 | 19.98 | 10.9 | 19.98 | **13.6** | 0 | 0 | 18.3 | 18.8 | 1.68 | 2 |
| ALA | 359 | 43.76 | 40.5 | 36.94 | **53.2** | 6.82 | 17.7 | 36.94 | 51.7 | 6.82 | 18.6 |
| PHE | 360 | 0.08 | 0 | 0.08 | **0.1** | 0 | 0 | 0.08 | 0.1 | 0 | 0 |
| ILE | 361 | 1.41 | 0.8 | 1.41 | **1** | 0 | 0 | 1.41 | 1 | 0 | 0 |
| LYS | 362 | 118.53 | 59 | 112.19 | **68.7** | 6.33 | 16.9 | 88.77 | 76.1 | 29.76 | 35.3 |
| ARG | 363 | 68.71 | 28.8 | 67.78 | **33.7** | 0.93 | 2.5 | 55.97 | 71.9 | 12.75 | 7.9 |
| SER | 364 | 0.16 | 0.1 | 0.16 | **0.2** | 0 | 0 | 0 | 0 | 0.16 | 0.2 |
| ASP | 365 | 74.68 | 53.2 | 60.02 | **58.4** | 14.66 | 38.9 | 16.68 | 33.9 | 58 | 63.6 |
| ALA | 366 | 78.79 | 73 | 60.67 | **87.4** | 18.12 | 47 | 62.27 | 87.2 | 16.52 | 45.2 |
| GLU | 367 | 34.14 | 19.8 | 31.53 | **23.4** | 2.61 | 6.9 | 25.25 | 41.9 | 8.88 | 7.9 |
| GLU | 368 | 171.64 | 99.6 | 138.78 | **103** | 32.86 | 87.6 | 71.84 | 119.2 | 99.8 | 89.1 |
| VAL | 369 | 37.49 | 24.8 | 14.21 | **12.4** | 23.28 | 62.6 | 16.29 | 14.1 | 21.2 | 58.9 |
| ASP | 370 | 99.96 | 71.2 | 91.3 | **88.9** | 8.66 | 23 | 47.88 | 97.2 | 52.08 | 57.1 |
| PHE | 371 | 9.62 | 4.8 | 7.56 | **4.6** | 2.06 | 5.8 | 7.56 | 4.6 | 2.06 | 6 |
| ALA | 372 | 23.77 | 22 | 21.71 | **31.3** | 2.06 | 5.3 | 22.32 | 31.3 | 1.45 | 4 |
| GLY | 373 | 28.44 | 35.5 | 22.34 | **69.1** | 6.1 | 12.8 | 27.03 | 72 | 1.41 | 3.3 |
| TRP | 374 | 52.18 | 20.9 | 49.92 | **23.6** | 2.26 | 5.9 | 39.37 | 20.8 | 12.8 | 21.5 |
| LEU | 375 | 0 | 0 | 0 | **0** | 0 | 0 | 0 | 0 | 0 | 0 |
| CYS | 376 | 26.52 | 19.7 | 26.24 | **27.1** | 0.27 | 0.7 | 26.35 | 26.9 | 0.17 | 0.5 |
| SER | 377 | 96.13 | 82.5 | 71.67 | **91.8** | 24.46 | 63.7 | 43.13 | 88.8 | 53 | 78 |
| THR | 378 | 32.49 | 23.3 | 21.28 | **20.9** | 11.21 | 29.8 | 13.16 | 17.4 | 19.33 | 30.4 |
| ILE | 379 | 28.62 | 16.3 | 17.99 | **13** | 10.63 | 28.6 | 18.8 | 13.5 | 9.82 | 27.3 |
| GLY | 380 | 64.73 | 80.8 | 30.58 | **94.6** | 34.15 | 71.5 | 32.63 | 86.9 | 32.09 | 75.4 |
| LEU | 381 | 84.77 | 47.5 | 53.17 | **37.7** | 31.61 | 84.3 | 55.23 | 38.8 | 29.54 | 81.3 |
| ASN | 382 | 70.81 | 49.2 | 70.37 | **66.2** | 0.44 | 1.2 | 70.37 | 152.2 | 0.44 | 0.4 |
| ADP | 2 | 48.42 | -99.9 | 48.42 | -99.9 | 0 | -99.9 | 8.81 | -99.9 | 39.62 | -99.9 |
| MG | 3 | 4.28 | -99.9 | 4.28 | -99.9 | 0 | -99.9 | 4.28 | -99.9 | 0 | -99.9 |
| CA | 5 | 52.96 | -99.9 | 52.96 | -99.9 | 0 | -99.9 | 0 | -99.9 | 52.96 | -99.9 |
| NA | 6 | 56.16 | -99.9 | 56.16 | -99.9 | 0 | -99.9 | 0 | -99.9 | 56.16 | -99.9 |
| Absolute sums overall chain | | | | | | | | | | | |
| Total |  | 14924.8 | 1 | 2726.2 |  | 2198.6 |  | 8470.8 | 64 | 54 |  |