Supporting Information

Hydroxyl ketone-based histone deacetylase (HDAC) inhibitors to gain insights into class I HDAC selectivity versus HDAC6

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1. Supplementary Figure S1, S2, S3, S4, S5 , S6, S7, S8 and Table S1

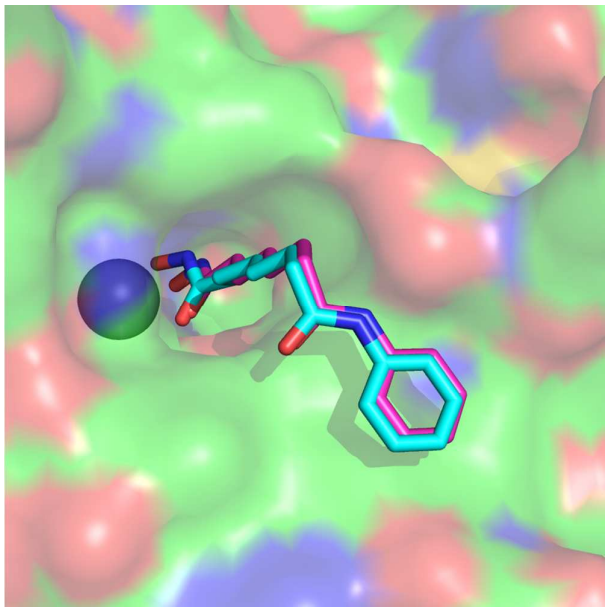

Figure S1: Superposition of the X-ray and docked structure of SAHA in complex with HDAC2. We used the three-dimensional (3D) structure of HDAC2 (PDB: 4LXZ) to validate our docking protocol. The choice of HDAC2 is justified by the great similarity between HDAC1 and HDAC2. They share 85% sequence identity and 93% sequence similarity, which confer very similar shapes for all the protein regions

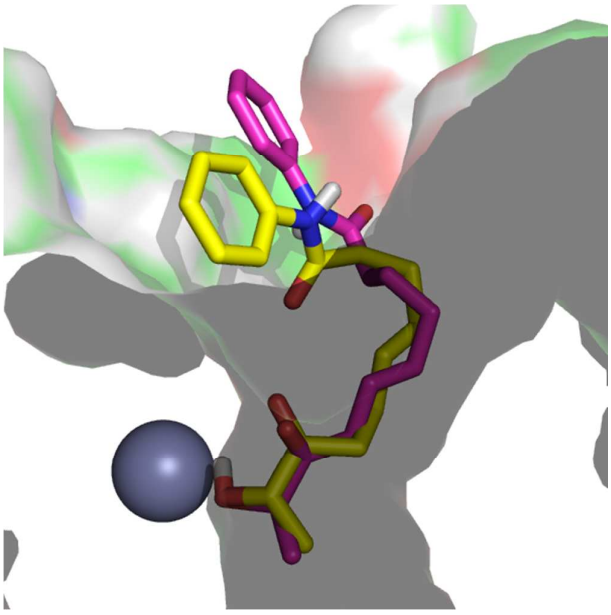

Figure S2: Comparison of the best-ranked docked positions obtained for 11b which a protonated (respectively deprotonated) ZBG group in HDAC6

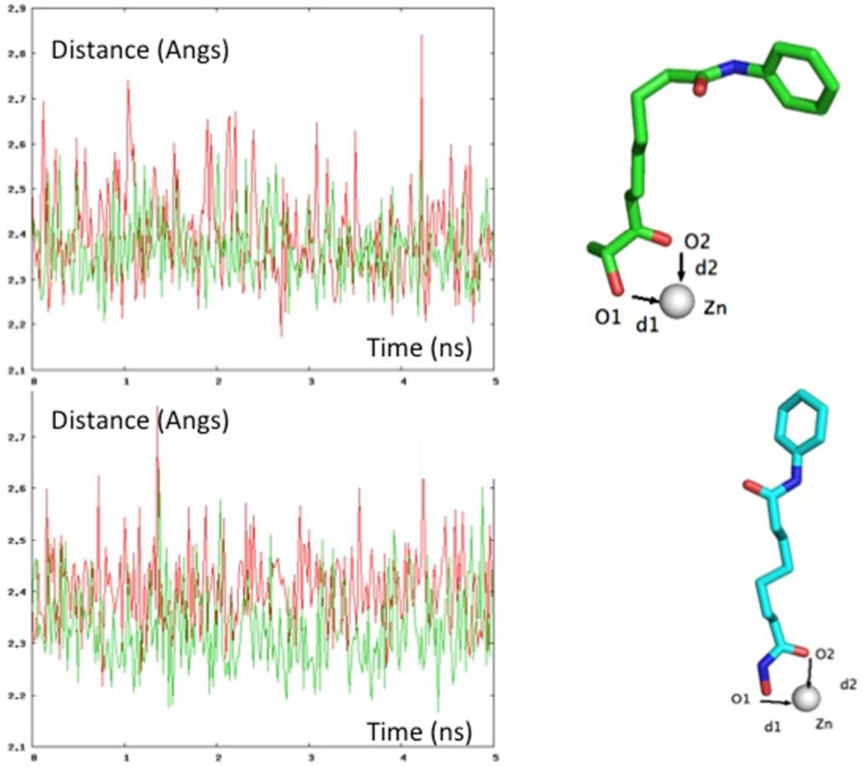

Figure S3: Distance (d1 in red, d2 in blue) vs Time plots for **11b** (at the top) and for SAHA (at the bottom) in HDAC1

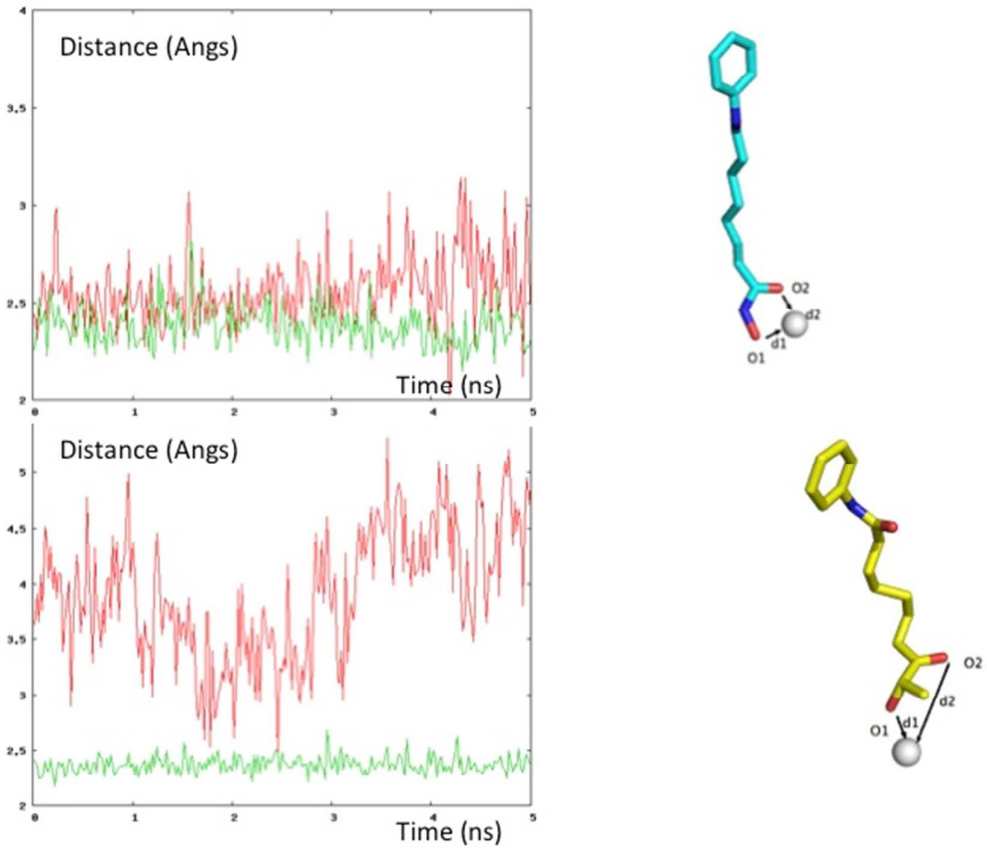

Figure S4: Distance (d1 in red, d2 in blue) vs Time plots for **11b** (at the bottom) and for SAHA (at the top) in HDAC6

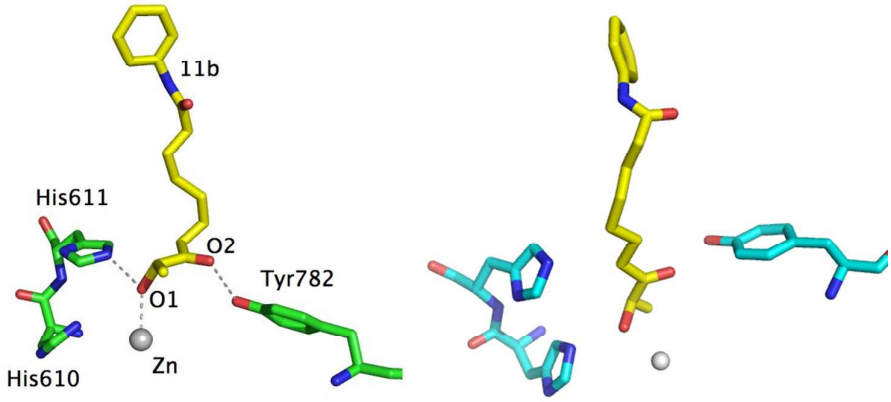

Figure S5: Main interactions of **11b** (yellow stick atoms) with the residues characterizing the zinc binding domain of HDAC6 after 20 ns of simulation (at the left with the model residues in green, at the right with X-ray structure (PDB: 5EDU) residues in blue)

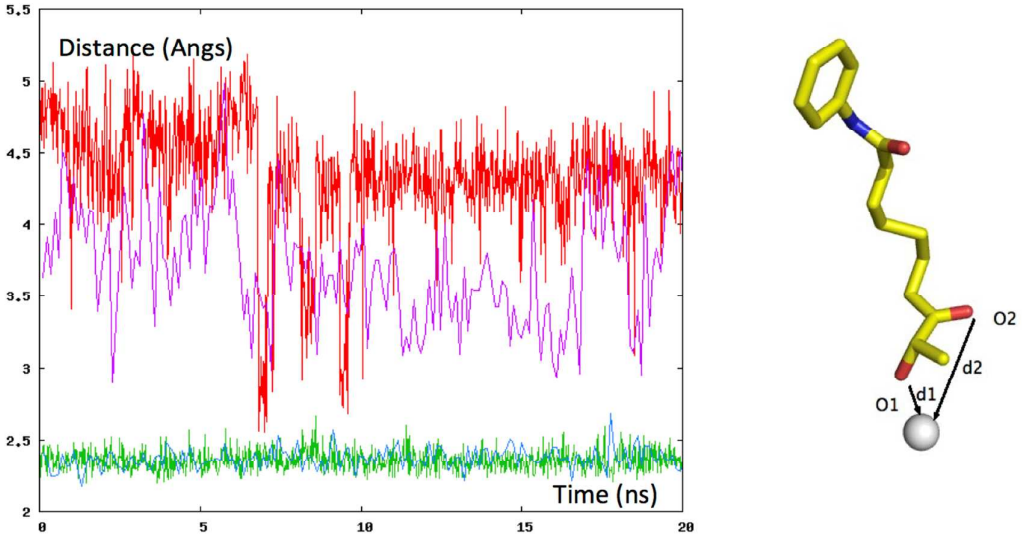

Figure S6 : Distance (d1 in green , d2 in red for the HDAC6 X-ray; d1 in blue , d2 in magenta for our HDAC6 model) vs Time plots

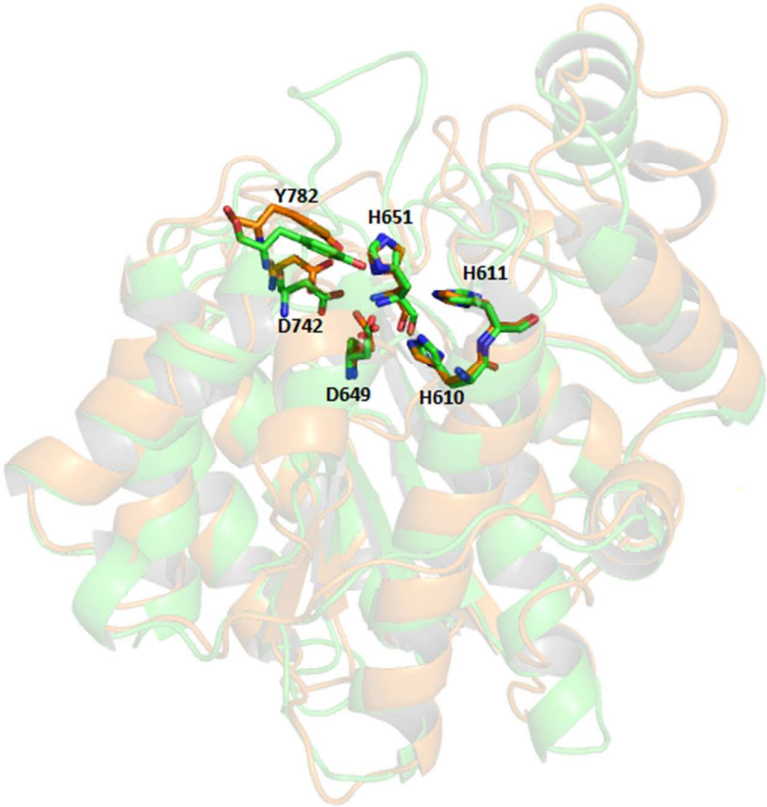

Figure S7: Superposition of the backbone of HDAC6 X-Ray structure (PDB: 5EDU, green) with the HDAC6 model (orange). A rmsd of 3,2 Å was obtained but positions of the residues involved in the catalytic mechanism (in sticks) are well conserved.

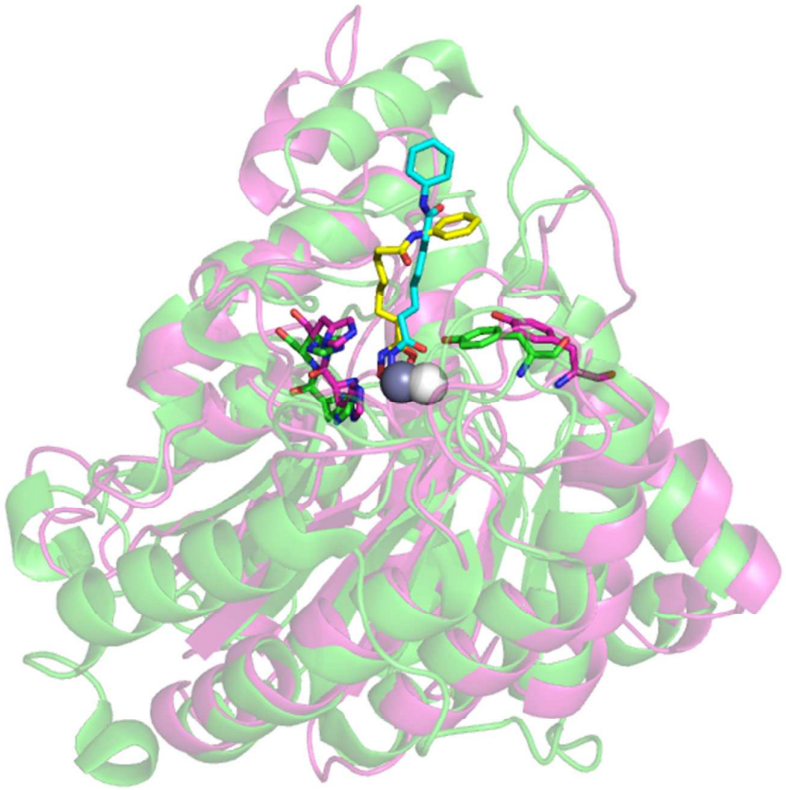

Figure S8: Superposition of the backbone of the complex between SAHA and the Danio Renio HDAC6 X-Ray structure (PDB : 5EEI, green) with the complex obtained after molecular dynamics between SAHA and the HDAC6 model (orange). A rmsd of 3.3 Å was found but same binding mode between SAHA and the zinc atom was obtained.

Ramachandran plot (backbone atoms)	MOE Protein Geometry module	Errat	Verify3D	QMEAN score
Allowed : 73+23.4% (96.4%) Generously allowed : 2.6% Outliers : 1.1% (Leu117;Cys11; Ala 212, not part of the catalytic area)	No atom clashes No BB bond outliers No rotamer outliers	Overall quality factor*: 94.194	95.28% of the residues had an averaged 3D-1D score >= 0.2**	0.64***

Table S1: Quality of HDAC6 model (*Expressed as the percentage of the protein for which the calculated error value falls below the 95% rejection limit. Good high resolution structures generally produce values around 95% or higher. For lower resolutions (2.5 to 3A) the average overall quality factor is around 91%; **At least 80% of the amino acids have scored >= 0.2 in the 3D/1D profile); *** Global score of the whole model reflecting the predicted model reliability ranging from 0 to 1.

2. Dose-response plots

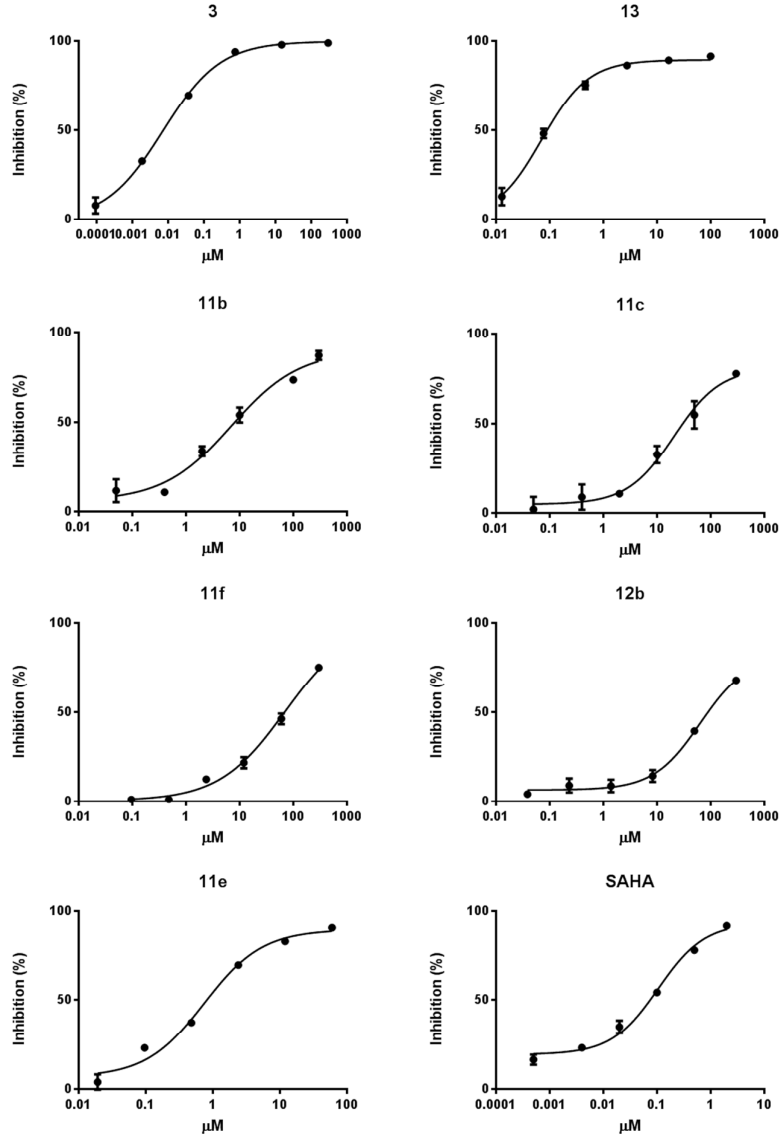

Figure S9: IC_{50} curves obtained for active compounds with HeLa nuclear extract as enzymatic source.

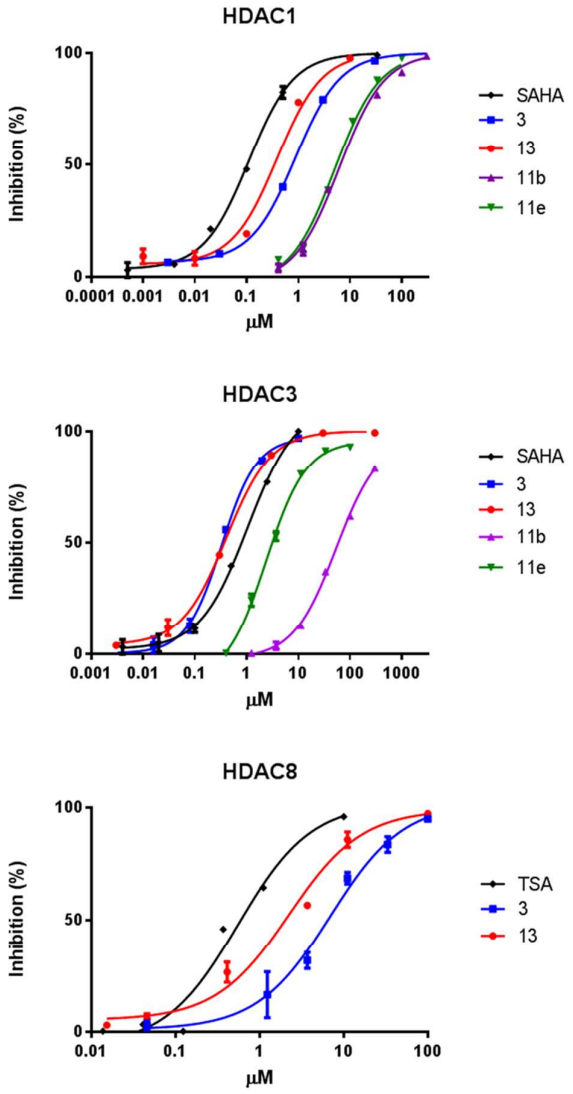

Figure S10: IC_{50} curves obtained for active compounds on HDAC1, HDAC3, and HDAC8.

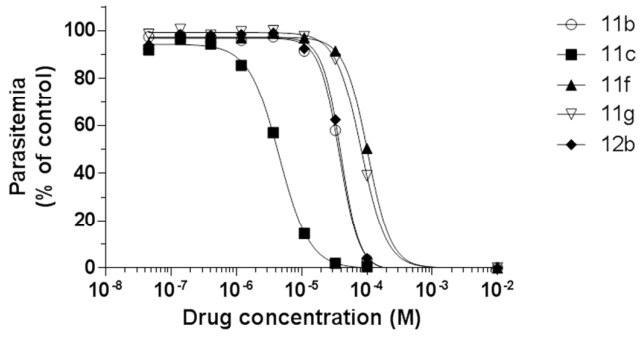

Figure S11: GI_{50} curves obtained for active compounds against *P. falciparum* 3D7.

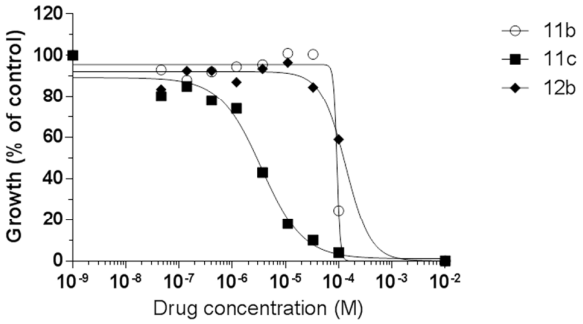

Figure S12: GI_{50} curves obtained for active compounds against lymphoblast (Jurkat).

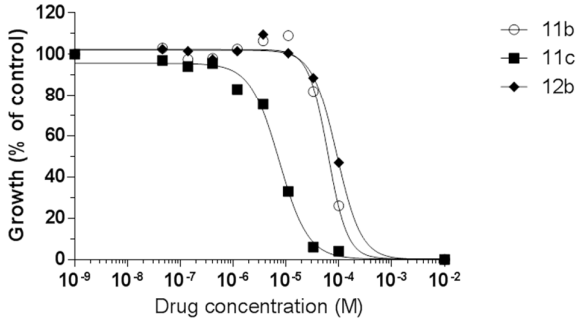

Figure S13: GI_{50} curves obtained for active compounds against erythroblast (K562).

3. Coordinates of HDAC6 model

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ATOM      1  N   AMN A   0      39.109   9.564   9.553  1.00  0.10           N
ATOM      2  CA  LEU A   1      39.398   9.481   8.114  1.00  0.01           C
ATOM      3  C   LEU A   1      40.767   8.835   7.927  1.00  0.61           C
ATOM      4  O   LEU A   1      41.763   9.411   8.362  1.00 -0.57           O
ATOM      5  CB  LEU A   1      39.292  10.887   7.487  1.00 -0.02           C
ATOM      6  CG  LEU A   1      39.634  10.976   5.986  1.00  0.34           C
ATOM      7  CD1 LEU A   1      38.769  10.056   5.116  1.00 -0.41           C
ATOM      8  CD2 LEU A   1      39.448  12.418   5.508  1.00 -0.41           C
ATOM      9  N   VAL A   2      40.838   7.640   7.326  1.00 -0.42           N
ATOM     10  CA  VAL A   2      42.154   7.019   7.048  1.00 -0.09           C
ATOM     11  C   VAL A   2      42.693   7.555   5.708  1.00  0.60           C
ATOM     12  O   VAL A   2      42.062   7.390   4.652  1.00 -0.57           O
ATOM     13  CB  VAL A   2      42.161   5.476   7.139  1.00  0.30           C
ATOM     14  CG1 VAL A   2      43.596   4.922   7.130  1.00 -0.32           C
ATOM     15  CG2 VAL A   2      41.548   4.979   8.458  1.00 -0.32           C
ATOM     16  N   TYR A   3      43.830   8.258   5.763  1.00 -0.42           N
ATOM     17  CA  TYR A   3      44.338   9.080   4.663  1.00 -0.00           C
ATOM     18  C   TYR A   3      45.865   9.271   4.752  1.00  0.60           C
ATOM     19  O   TYR A   3      46.425   9.559   5.810  1.00 -0.57           O
ATOM     20  CB  TYR A   3      43.571  10.420   4.675  1.00 -0.02           C
ATOM     21  CG  TYR A   3      43.837  11.447   3.579  1.00 -0.00           C
ATOM     22  CD1 TYR A   3      44.276  11.080   2.289  1.00 -0.19           C
ATOM     23  CD2 TYR A   3      43.581  12.808   3.852  1.00 -0.19           C
ATOM     24  CE1 TYR A   3      44.494  12.064   1.307  1.00 -0.23           C
ATOM     25  CE2 TYR A   3      43.786  13.787   2.863  1.00 -0.23           C
ATOM     26  CZ  TYR A   3      44.255  13.419   1.592  1.00  0.32           C
ATOM     27  OH  TYR A   3      44.480  14.363   0.634  1.00 -0.56           O
ATOM     28  N   ASP A   4      46.500   9.085   3.588  1.00 -0.52           N
ATOM     29  CA  ASP A   4      47.913   9.257   3.236  1.00  0.04           C
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ATOM     42  CD  GLN A   5      49.667  11.808  -2.606  1.00  0.70           C
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ATOM     57  CB  MET A   7      46.305   5.921   1.376  1.00  0.03           C
ATOM     58  CG  MET A   7      45.456   4.816   2.006  1.00  0.00           C
ATOM     59  SD  MET A   7      44.531   5.395   3.454  1.00 -0.27           S
ATOM     60  CE  MET A   7      43.744   3.834   3.908  1.00 -0.05           C
ATOM     61  N   MET A   8      46.690   6.888  -2.075  1.00 -0.42           N
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ATOM     88  CA  CYS A  11      44.206   2.353  -5.338  1.00  0.02           C
ATOM     89  C   CYS A  11      42.894   1.509  -5.264  1.00  0.60           C
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ATOM     93  N   ASN A  12      42.472   0.984  -4.099  1.00 -0.42           N
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ATOM    102  CA  LEU A  13      39.367   3.854  -4.687  1.00 -0.05           C
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ATOM    118  CE3 TRP A  14      36.934   0.728 -10.106  1.00 -0.24           C
ATOM    119  NE1 TRP A  14      35.987   1.978  -6.938  1.00 -0.34           N
ATOM    120  CZ2 TRP A  14      34.827   0.182  -8.306  1.00 -0.26           C
ATOM    121  CZ3 TRP A  14      35.952  -0.230 -10.420  1.00 -0.20           C
ATOM    122  CH2 TRP A  14      34.895  -0.493  -9.534  1.00 -0.11           C
ATOM    123  N   ASP A  15      42.045   5.052  -8.479  1.00 -0.52           N
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ATOM    125  C   ASP A  15      43.925   5.100 -10.147  1.00  0.54           C
ATOM    126  O   ASP A  15      44.096   5.503 -11.295  1.00 -0.58           O
ATOM    127  CB  ASP A  15      43.855   6.809  -8.301  1.00 -0.03           C
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ATOM    129  OD1 ASP A  15      44.289   9.103  -8.818  1.00 -0.80           O
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ATOM    133  C   SER A  16      45.141   1.533 -10.300  1.00  0.60           C
ATOM    134  O   SER A  16      45.431   0.776 -11.228  1.00 -0.57           O
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ATOM    139  C   HIS A  17      43.478  -1.216  -8.908  1.00  0.60           C
ATOM    140  O   HIS A  17      43.452  -2.380  -8.507  1.00 -0.57           O
ATOM    141  CB  HIS A  17      45.500  -0.685  -7.435  1.00 -0.01           C
ATOM    142  CG  HIS A  17      46.972  -0.358  -7.279  1.00  0.19           C
ATOM    143  CD2 HIS A  17      47.764   0.347  -8.141  1.00 -0.22           C
ATOM    144  ND1 HIS A  17      47.760  -0.778  -6.195  1.00 -0.54           N
ATOM    145  CE1 HIS A  17      48.999  -0.320  -6.445  1.00  0.16           C
ATOM    146  NE2 HIS A  17      49.027   0.363  -7.602  1.00 -0.28           N
ATOM    147  N   HIS A  18      42.413  -0.645  -9.495  1.00 -0.42           N
ATOM    148  CA  HIS A  18      41.183  -1.364  -9.917  1.00  0.02           C
ATOM    149  C   HIS A  18      41.054  -1.498 -11.467  1.00  0.60           C
ATOM    150  O   HIS A  18      40.006  -1.914 -11.963  1.00 -0.57           O
ATOM    151  CB  HIS A  18      39.925  -0.646  -9.371  1.00 -0.05           C
ATOM    152  CG  HIS A  18      39.454  -0.999  -7.979  1.00 -0.03           C
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ATOM    153  CD2 HIS A  18      39.388  -0.160  -6.902  1.00  0.13           C
ATOM    154  ND1 HIS A  18      38.807  -2.157  -7.605  1.00 -0.38           N
ATOM    155  CE1 HIS A  18      38.390  -2.014  -6.338  1.00  0.21           C
ATOM    156  NE2 HIS A  18      38.733  -0.816  -5.856  1.00 -0.57           N
ATOM    157  N   PRO A  19      42.094  -1.160 -12.253  1.00 -0.25           N
ATOM    158  CA  PRO A  19      42.166  -0.200 -13.367  1.00 -0.03           C
ATOM    159  C   PRO A  19      40.922   0.445 -14.014  1.00  0.59           C
ATOM    160  O   PRO A  19      41.060   1.557 -14.514  1.00 -0.57           O
ATOM    161  CB  PRO A  19      43.003  -0.927 -14.417  1.00 -0.01           C
ATOM    162  CG  PRO A  19      44.049  -1.642 -13.563  1.00  0.02           C
ATOM    163  CD  PRO A  19      43.300  -1.979 -12.269  1.00  0.02           C
ATOM    164  N   GLU A  20      39.745  -0.196 -14.017  1.00 -0.52           N
ATOM    165  CA  GLU A  20      38.534   0.121 -14.822  1.00  0.04           C
ATOM    166  C   GLU A  20      37.958   1.547 -14.732  1.00  0.54           C
ATOM    167  O   GLU A  20      37.191   1.952 -15.604  1.00 -0.58           O
ATOM    168  CB  GLU A  20      37.404  -0.846 -14.421  1.00  0.06           C
ATOM    169  CG  GLU A  20      37.654  -2.305 -14.808  1.00  0.01           C
ATOM    170  CD  GLU A  20      37.465  -2.534 -16.301  1.00  0.81           C
ATOM    171  OE1 GLU A  20      36.294  -2.638 -16.737  1.00 -0.82           O
ATOM    172  OE2 GLU A  20      38.496  -2.631 -17.000  1.00 -0.82           O
ATOM    173  N   VAL A  21      38.278   2.306 -13.678  1.00 -0.42           N
ATOM    174  CA  VAL A  21      37.644   3.602 -13.336  1.00 -0.09           C
ATOM    175  C   VAL A  21      38.700   4.577 -12.775  1.00  0.60           C
ATOM    176  O   VAL A  21      38.654   4.907 -11.588  1.00 -0.57           O
ATOM    177  CB  VAL A  21      36.445   3.438 -12.359  1.00  0.30           C
ATOM    178  CG1 VAL A  21      35.589   4.717 -12.280  1.00 -0.32           C
ATOM    179  CG2 VAL A  21      35.489   2.300 -12.746  1.00 -0.32           C
ATOM    180  N   PRO A  22      39.688   5.013 -13.581  1.00 -0.25           N
ATOM    181  CA  PRO A  22      40.837   5.791 -13.107  1.00 -0.03           C
ATOM    182  C   PRO A  22      40.437   7.155 -12.528  1.00  0.59           C
ATOM    183  O   PRO A  22      39.351   7.673 -12.782  1.00 -0.57           O
ATOM    184  CB  PRO A  22      41.769   5.914 -14.317  1.00 -0.01           C
ATOM    185  CG  PRO A  22      40.827   5.798 -15.514  1.00  0.02           C
ATOM    186  CD  PRO A  22      39.757   4.826 -15.022  1.00  0.02           C
ATOM    187  N   GLN A  23      41.348   7.778 -11.779  1.00 -0.42           N
ATOM    188  CA  GLN A  23      41.185   9.105 -11.158  1.00 -0.00           C
ATOM    189  C   GLN A  23      39.933   9.288 -10.269  1.00  0.60           C
ATOM    190  O   GLN A  23      39.288  10.341 -10.329  1.00 -0.57           O
ATOM    191  CB  GLN A  23      41.344  10.235 -12.208  1.00 -0.00           C
ATOM    192  CG  GLN A  23      42.549  10.100 -13.161  1.00 -0.06           C
ATOM    193  CD  GLN A  23      43.736   9.431 -12.491  1.00  0.70           C
ATOM    194  NE2 GLN A  23      44.352  10.071 -11.515  1.00 -0.94           N
ATOM    195  OE1 GLN A  23      44.056   8.293 -12.793  1.00 -0.61           O
ATOM    196  N   ARG A  24      39.604   8.292  -9.428  1.00 -0.35           N
ATOM    197  CA  ARG A  24      38.401   8.316  -8.580  1.00 -0.26           C
ATOM    198  C   ARG A  24      38.665   8.424  -7.058  1.00  0.73           C
ATOM    199  O   ARG A  24      37.694   8.536  -6.302  1.00 -0.59           O
ATOM    200  CB  ARG A  24      37.497   7.122  -8.931  1.00 -0.00           C
ATOM    201  CG  ARG A  24      36.003   7.446  -8.787  1.00  0.04           C
ATOM    202  CD  ARG A  24      35.162   6.170  -8.722  1.00  0.05           C
ATOM    203  NE  ARG A  24      35.115   5.658  -7.344  1.00 -0.53           N
ATOM    204  CZ  ARG A  24      34.152   4.911  -6.818  1.00  0.81           C
ATOM    205  NH1 ARG A  24      33.116   4.479  -7.493  1.00 -0.86           N
ATOM    206  NH2 ARG A  24      34.185   4.557  -5.558  1.00 -0.86           N
ATOM    207  N   ILE A  25      39.931   8.503  -6.606  1.00 -0.42           N
ATOM    208  CA  ILE A  25      40.274   8.935  -5.238  1.00 -0.06           C
ATOM    209  C   ILE A  25      40.786  10.368  -5.224  1.00  0.60           C
ATOM    210  O   ILE A  25      40.218  11.177  -4.485  1.00 -0.57           O
ATOM    211  CB  ILE A  25      41.233   7.990  -4.464  1.00  0.13           C
ATOM    212  CG1 ILE A  25      41.601   8.641  -3.114  1.00 -0.04           C
ATOM    213  CG2 ILE A  25      42.470   7.499  -5.217  1.00 -0.32           C
ATOM    214  CD1 ILE A  25      42.159   7.677  -2.076  1.00 -0.07           C
ATOM    215  N   LEU A  26      41.812  10.708  -6.013  1.00 -0.42           N
ATOM    216  CA  LEU A  26      42.434  12.033  -5.930  1.00 -0.05           C
ATOM    217  C   LEU A  26      41.397  13.150  -6.133  1.00  0.60           C
ATOM    218  O   LEU A  26      41.415  14.171  -5.449  1.00 -0.57           O
ATOM    219  CB  LEU A  26      43.592  12.096  -6.939  1.00 -0.11           C
ATOM    220  CG  LEU A  26      44.295  13.466  -7.004  1.00  0.35           C
ATOM    221  CD1 LEU A  26      44.882  13.904  -5.659  1.00 -0.41           C
ATOM    222  CD2 LEU A  26      45.425  13.408  -8.032  1.00 -0.41           C
ATOM    223  N   ARG A  27      40.437  12.894  -7.027  1.00 -0.35           N
ATOM    224  CA  ARG A  27      39.326  13.776  -7.377  1.00 -0.26           C
ATOM    225  C   ARG A  27      38.195  13.874  -6.318  1.00  0.73           C
ATOM    226  O   ARG A  27      37.305  14.716  -6.472  1.00 -0.59           O
ATOM    227  CB  ARG A  27      38.827  13.335  -8.763  1.00 -0.00           C
ATOM    228  CG  ARG A  27      37.946  14.387  -9.447  1.00  0.04           C
ATOM    229  CD  ARG A  27      37.808  14.086 -10.942  1.00  0.05           C
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ATOM    230  NE  ARG A  27      36.711  14.875 -11.523  1.00 -0.53           N
ATOM    231  CZ  ARG A  27      36.746  16.114 -11.998  1.00  0.81           C
ATOM    232  NH1 ARG A  27      35.617  16.698 -12.331  1.00 -0.86           N
ATOM    233  NH2 ARG A  27      37.861  16.804 -12.141  1.00 -0.86           N
ATOM    234  N   ILE A  28      38.236  13.104  -5.215  1.00 -0.42           N
ATOM    235  CA  ILE A  28      37.404  13.323  -4.007  1.00 -0.06           C
ATOM    236  C   ILE A  28      38.245  13.736  -2.790  1.00  0.60           C
ATOM    237  O   ILE A  28      37.821  14.621  -2.045  1.00 -0.57           O
ATOM    238  CB  ILE A  28      36.424  12.151  -3.718  1.00  0.13           C
ATOM    239  CG1 ILE A  28      35.645  12.285  -2.385  1.00 -0.04           C
ATOM    240  CG2 ILE A  28      37.101  10.771  -3.698  1.00 -0.32           C
ATOM    241  CD1 ILE A  28      34.818  13.567  -2.216  1.00 -0.07           C
ATOM    242  N   MET A  29      39.475  13.227  -2.633  1.00 -0.42           N
ATOM    243  CA  MET A  29      40.404  13.837  -1.673  1.00 -0.02           C
ATOM    244  C   MET A  29      40.575  15.339  -1.959  1.00  0.60           C
ATOM    245  O   MET A  29      40.457  16.132  -1.032  1.00 -0.57           O
ATOM    246  CB  MET A  29      41.745  13.102  -1.640  1.00  0.03           C
ATOM    247  CG  MET A  29      41.610  11.694  -1.044  1.00  0.00           C
ATOM    248  SD  MET A  29      40.954  11.600   0.650  1.00 -0.27           S
ATOM    249  CE  MET A  29      41.012   9.807   0.883  1.00 -0.05           C
ATOM    250  N   CYS A  30      40.664  15.751  -3.232  1.00 -0.42           N
ATOM    251  CA  CYS A  30      40.521  17.147  -3.639  1.00  0.02           C
ATOM    252  C   CYS A  30      39.266  17.811  -3.039  1.00  0.60           C
ATOM    253  O   CYS A  30      39.390  18.780  -2.303  1.00 -0.57           O
ATOM    254  CB  CYS A  30      40.499  17.211  -5.173  1.00 -0.12           C
ATOM    255  SG  CYS A  30      40.521  18.926  -5.765  1.00 -0.31           S
ATOM    256  N   ARG A  31      38.058  17.292  -3.300  1.00 -0.35           N
ATOM    257  CA  ARG A  31      36.803  17.968  -2.934  1.00 -0.26           C
ATOM    258  C   ARG A  31      36.534  17.984  -1.407  1.00  0.73           C
ATOM    259  O   ARG A  31      35.837  18.875  -0.917  1.00 -0.59           O
ATOM    260  CB  ARG A  31      35.640  17.354  -3.741  1.00 -0.00           C
ATOM    261  CG  ARG A  31      34.630  18.396  -4.259  1.00  0.04           C
ATOM    262  CD  ARG A  31      33.504  17.712  -5.065  1.00  0.05           C
ATOM    263  NE  ARG A  31      32.548  18.648  -5.703  1.00 -0.53           N
ATOM    264  CZ  ARG A  31      31.681  19.449  -5.092  1.00  0.81           C
ATOM    265  NH1 ARG A  31      30.881  20.239  -5.768  1.00 -0.86           N
ATOM    266  NH2 ARG A  31      31.583  19.464  -3.780  1.00 -0.86           N
ATOM    267  N   LEU A  32      37.099  17.035  -0.639  1.00 -0.42           N
ATOM    268  CA  LEU A  32      37.055  17.056   0.835  1.00 -0.05           C
ATOM    269  C   LEU A  32      38.061  18.049   1.466  1.00  0.60           C
ATOM    270  O   LEU A  32      37.799  18.571   2.556  1.00 -0.57           O
ATOM    271  CB  LEU A  32      37.315  15.645   1.403  1.00 -0.11           C
ATOM    272  CG  LEU A  32      36.322  14.541   0.986  1.00  0.35           C
ATOM    273  CD1 LEU A  32      36.673  13.230   1.699  1.00 -0.41           C
ATOM    274  CD2 LEU A  32      34.852  14.883   1.253  1.00 -0.41           C
ATOM    275  N   GLU A  33      39.192  18.292   0.790  1.00 -0.52           N
ATOM    276  CA  GLU A  33      40.295  19.185   1.192  1.00  0.04           C
ATOM    277  C   GLU A  33      40.015  20.636   0.759  1.00  0.54           C
ATOM    278  O   GLU A  33      40.110  21.549   1.577  1.00 -0.58           O
ATOM    279  CB  GLU A  33      41.585  18.582   0.586  1.00  0.06           C
ATOM    280  CG  GLU A  33      42.921  18.889   1.260  1.00  0.01           C
ATOM    281  CD  GLU A  33      43.963  17.864   0.791  1.00  0.81           C
ATOM    282  OE1 GLU A  33      43.946  16.724   1.317  1.00 -0.82           O
ATOM    283  OE2 GLU A  33      44.771  18.219  -0.093  1.00 -0.82           O
ATOM    284  N   GLU A  34      39.521  20.820  -0.474  1.00 -0.52           N
ATOM    285  CA  GLU A  34      38.975  22.051  -1.092  1.00  0.04           C
ATOM    286  C   GLU A  34      37.892  22.740  -0.259  1.00  0.54           C
ATOM    287  O   GLU A  34      37.866  23.966  -0.166  1.00 -0.58           O
ATOM    288  CB  GLU A  34      38.384  21.655  -2.461  1.00  0.06           C
ATOM    289  CG  GLU A  34      37.703  22.756  -3.277  1.00  0.01           C
ATOM    290  CD  GLU A  34      37.054  22.146  -4.516  1.00  0.81           C
ATOM    291  OE1 GLU A  34      35.914  21.646  -4.379  1.00 -0.82           O
ATOM    292  OE2 GLU A  34      37.707  22.180  -5.583  1.00 -0.82           O
ATOM    293  N   LEU A  35      36.997  21.951   0.347  1.00 -0.42           N
ATOM    294  CA  LEU A  35      35.808  22.446   1.054  1.00 -0.05           C
ATOM    295  C   LEU A  35      35.898  22.238   2.580  1.00  0.60           C
ATOM    296  O   LEU A  35      34.887  22.265   3.285  1.00 -0.57           O
ATOM    297  CB  LEU A  35      34.550  21.831   0.405  1.00 -0.11           C
ATOM    298  CG  LEU A  35      34.413  22.109  -1.111  1.00  0.35           C
ATOM    299  CD1 LEU A  35      33.172  21.401  -1.659  1.00 -0.41           C
ATOM    300  CD2 LEU A  35      34.284  23.604  -1.431  1.00 -0.41           C
ATOM    301  N   GLY A  36      37.116  22.020   3.098  1.00 -0.42           N
ATOM    302  CA  GLY A  36      37.409  21.948   4.531  1.00 -0.03           C
ATOM    303  C   GLY A  36      36.677  20.840   5.296  1.00  0.60           C
ATOM    304  O   GLY A  36      36.524  20.951   6.514  1.00 -0.57           O
ATOM    305  N   LEU A  37      36.228  19.777   4.619  1.00 -0.42           N
ATOM    306  CA  LEU A  37      35.631  18.621   5.287  1.00 -0.05           C
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ATOM    307  C   LEU A  37      36.738  17.788   5.951  1.00  0.60           C
ATOM    308  O   LEU A  37      36.616  17.422   7.120  1.00 -0.57           O
ATOM    309  CB  LEU A  37      34.777  17.801   4.300  1.00 -0.11           C
ATOM    310  CG  LEU A  37      33.629  18.591   3.629  1.00  0.35           C
ATOM    311  CD1 LEU A  37      32.643  17.644   2.947  1.00 -0.41           C
ATOM    312  CD2 LEU A  37      32.818  19.451   4.602  1.00 -0.41           C
ATOM    313  N   ALA A  38      37.870  17.595   5.261  1.00 -0.42           N
ATOM    314  CA  ALA A  38      39.100  17.048   5.847  1.00  0.03           C
ATOM    315  C   ALA A  38      39.573  17.876   7.064  1.00  0.60           C
ATOM    316  O   ALA A  38      39.961  17.312   8.088  1.00 -0.57           O
ATOM    317  CB  ALA A  38      40.180  16.971   4.762  1.00 -0.18           C
ATOM    318  N   GLY A  39      39.413  19.207   6.999  1.00 -0.42           N
ATOM    319  CA  GLY A  39      39.619  20.155   8.100  1.00 -0.03           C
ATOM    320  C   GLY A  39      38.688  19.970   9.308  1.00  0.60           C
ATOM    321  O   GLY A  39      38.825  20.694  10.288  1.00 -0.57           O
ATOM    322  N   ARG A  40      37.765  19.004   9.261  1.00 -0.35           N
ATOM    323  CA  ARG A  40      36.905  18.594  10.376  1.00 -0.26           C
ATOM    324  C   ARG A  40      36.932  17.063  10.586  1.00  0.73           C
ATOM    325  O   ARG A  40      36.065  16.506  11.254  1.00 -0.59           O
ATOM    326  CB  ARG A  40      35.487  19.152  10.149  1.00 -0.00           C
ATOM    327  CG  ARG A  40      35.441  20.680  10.323  1.00  0.04           C
ATOM    328  CD  ARG A  40      34.025  21.232  10.146  1.00  0.05           C
ATOM    329  NE  ARG A  40      33.611  21.232   8.733  1.00 -0.53           N
ATOM    330  CZ  ARG A  40      32.352  21.245   8.301  1.00  0.81           C
ATOM    331  NH1 ARG A  40      32.051  21.370   7.034  1.00 -0.86           N
ATOM    332  NH2 ARG A  40      31.302  21.125   9.073  1.00 -0.86           N
ATOM    333  N   CYS A  41      37.939  16.367  10.038  1.00 -0.42           N
ATOM    334  CA  CYS A  41      38.101  14.915  10.164  1.00  0.02           C
ATOM    335  C   CYS A  41      39.375  14.531  10.934  1.00  0.60           C
ATOM    336  O   CYS A  41      40.444  15.102  10.720  1.00 -0.57           O
ATOM    337  CB  CYS A  41      38.165  14.288   8.767  1.00 -0.12           C
ATOM    338  SG  CYS A  41      36.560  14.379   7.935  1.00 -0.31           S
ATOM    339  N   LEU A  42      39.283  13.500  11.790  1.00 -0.42           N
ATOM    340  CA  LEU A  42      40.446  12.872  12.423  1.00 -0.05           C
ATOM    341  C   LEU A  42      41.286  12.096  11.386  1.00  0.60           C
ATOM    342  O   LEU A  42      40.996  10.929  11.101  1.00 -0.57           O
ATOM    343  CB  LEU A  42      39.978  11.981  13.593  1.00 -0.11           C
ATOM    344  CG  LEU A  42      41.130  11.276  14.342  1.00  0.35           C
ATOM    345  CD1 LEU A  42      42.131  12.259  14.959  1.00 -0.41           C
ATOM    346  CD2 LEU A  42      40.586  10.406  15.469  1.00 -0.41           C
ATOM    347  N   THR A  43      42.295  12.747  10.800  1.00 -0.42           N
ATOM    348  CA  THR A  43      43.254  12.136   9.865  1.00 -0.04           C
ATOM    349  C   THR A  43      44.102  11.045  10.541  1.00  0.60           C
ATOM    350  O   THR A  43      44.807  11.310  11.516  1.00 -0.57           O
ATOM    351  CB  THR A  43      44.187  13.210   9.265  1.00  0.37           C
ATOM    352  CG2 THR A  43      45.198  12.650   8.259  1.00 -0.24           C
ATOM    353  OG1 THR A  43      43.431  14.185   8.585  1.00 -0.68           O
ATOM    354  N   LEU A  44      44.070   9.832   9.972  1.00 -0.42           N
ATOM    355  CA  LEU A  44      44.887   8.692  10.388  1.00 -0.05           C
ATOM    356  C   LEU A  44      45.720   8.155   9.210  1.00  0.60           C
ATOM    357  O   LEU A  44      45.167   7.722   8.197  1.00 -0.57           O
ATOM    358  CB  LEU A  44      43.981   7.569  10.936  1.00 -0.11           C
ATOM    359  CG  LEU A  44      43.056   7.939  12.110  1.00  0.35           C
ATOM    360  CD1 LEU A  44      42.205   6.721  12.478  1.00 -0.41           C
ATOM    361  CD2 LEU A  44      43.812   8.394  13.361  1.00 -0.41           C
ATOM    362  N   THR A  45      47.047   8.123   9.370  1.00 -0.42           N
ATOM    363  CA  THR A  45      47.937   7.328   8.512  1.00 -0.04           C
ATOM    364  C   THR A  45      47.548   5.828   8.595  1.00  0.60           C
ATOM    365  O   THR A  45      47.149   5.364   9.672  1.00 -0.57           O
ATOM    366  CB  THR A  45      49.406   7.543   8.936  1.00  0.37           C
ATOM    367  CG2 THR A  45      50.440   6.988   7.954  1.00 -0.24           C
ATOM    368  OG1 THR A  45      49.688   8.921   9.081  1.00 -0.68           O
ATOM    369  N   PRO A  46      47.622   5.052   7.487  1.00 -0.25           N
ATOM    370  CA  PRO A  46      47.284   3.619   7.406  1.00 -0.03           C
ATOM    371  C   PRO A  46      47.929   2.655   8.412  1.00  0.59           C
ATOM    372  O   PRO A  46      48.974   2.931   8.995  1.00 -0.57           O
ATOM    373  CB  PRO A  46      47.737   3.181   6.007  1.00 -0.01           C
ATOM    374  CG  PRO A  46      47.561   4.434   5.175  1.00  0.02           C
ATOM    375  CD  PRO A  46      47.901   5.556   6.148  1.00  0.02           C
ATOM    376  N   ARG A  47      47.373   1.436   8.437  1.00 -0.35           N
ATOM    377  CA  ARG A  47      48.171   0.208   8.433  1.00 -0.26           C
ATOM    378  C   ARG A  47      47.710  -0.654   7.241  1.00  0.73           C
ATOM    379  O   ARG A  47      46.563  -0.496   6.809  1.00 -0.59           O
ATOM    380  CB  ARG A  47      48.110  -0.565   9.770  1.00 -0.00           C
ATOM    381  CG  ARG A  47      46.862  -1.442  10.029  1.00  0.04           C
ATOM    382  CD  ARG A  47      47.186  -2.525  11.071  1.00  0.05           C
ATOM    383  NE  ARG A  47      46.072  -3.465  11.273  1.00 -0.53           N
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ATOM    384  CZ  ARG A  47      45.082  -3.358  12.150  1.00  0.81           C
ATOM    385  NH1 ARG A  47      44.235  -4.344  12.286  1.00 -0.86           N
ATOM    386  NH2 ARG A  47      44.881  -2.315  12.921  1.00 -0.86           N
ATOM    387  N   PRO A  48      48.560  -1.550   6.707  1.00 -0.25           N
ATOM    388  CA  PRO A  48      48.144  -2.618   5.798  1.00 -0.03           C
ATOM    389  C   PRO A  48      47.500  -3.781   6.569  1.00  0.59           C
ATOM    390  O   PRO A  48      47.695  -3.929   7.780  1.00 -0.57           O
ATOM    391  CB  PRO A  48      49.445  -3.080   5.131  1.00 -0.01           C
ATOM    392  CG  PRO A  48      50.500  -2.858   6.215  1.00  0.02           C
ATOM    393  CD  PRO A  48      50.000  -1.610   6.941  1.00  0.02           C
ATOM    394  N   ALA A  49      46.800  -4.666   5.851  1.00 -0.42           N
ATOM    395  CA  ALA A  49      46.440  -5.975   6.393  1.00  0.03           C
ATOM    396  C   ALA A  49      47.660  -6.915   6.442  1.00  0.60           C
ATOM    397  O   ALA A  49      48.279  -7.173   5.406  1.00 -0.57           O
ATOM    398  CB  ALA A  49      45.349  -6.577   5.516  1.00 -0.18           C
ATOM    399  N   THR A  50      47.982  -7.477   7.615  1.00 -0.42           N
ATOM    400  CA  THR A  50      48.855  -8.663   7.705  1.00 -0.04           C
ATOM    401  C   THR A  50      48.248  -9.799   6.868  1.00  0.60           C
ATOM    402  O   THR A  50      47.021  -9.913   6.803  1.00 -0.57           O
ATOM    403  CB  THR A  50      48.997  -9.203   9.154  1.00  0.37           C
ATOM    404  CG2 THR A  50      50.194 -10.145   9.332  1.00 -0.24           C
ATOM    405  OG1 THR A  50      49.172  -8.199  10.121  1.00 -0.68           O
ATOM    406  N   GLU A  51      49.069 -10.705   6.314  1.00 -0.52           N
ATOM    407  CA  GLU A  51      48.578 -11.956   5.697  1.00  0.04           C
ATOM    408  C   GLU A  51      47.607 -12.715   6.623  1.00  0.54           C
ATOM    409  O   GLU A  51      46.610 -13.279   6.173  1.00 -0.58           O
ATOM    410  CB  GLU A  51      49.761 -12.860   5.302  1.00  0.06           C
ATOM    411  CG  GLU A  51      49.533 -13.677   4.023  1.00  0.01           C
ATOM    412  CD  GLU A  51      49.634 -12.853   2.741  1.00  0.81           C
ATOM    413  OE1 GLU A  51      48.880 -13.178   1.794  1.00 -0.82           O
ATOM    414  OE2 GLU A  51      50.485 -11.937   2.675  1.00 -0.82           O
ATOM    415  N   ALA A  52      47.859 -12.661   7.938  1.00 -0.42           N
ATOM    416  CA  ALA A  52      46.986 -13.200   8.983  1.00  0.03           C
ATOM    417  C   ALA A  52      45.638 -12.461   9.129  1.00  0.60           C
ATOM    418  O   ALA A  52      44.620 -13.118   9.349  1.00 -0.57           O
ATOM    419  CB  ALA A  52      47.750 -13.172  10.311  1.00 -0.18           C
ATOM    420  N   GLU A  53      45.610 -11.126   8.981  1.00 -0.52           N
ATOM    421  CA  GLU A  53      44.371 -10.329   8.952  1.00  0.04           C
ATOM    422  C   GLU A  53      43.568 -10.646   7.688  1.00  0.54           C
ATOM    423  O   GLU A  53      42.359 -10.868   7.791  1.00 -0.58           O
ATOM    424  CB  GLU A  53      44.681  -8.825   9.009  1.00  0.06           C
ATOM    425  CG  GLU A  53      45.086  -8.352  10.406  1.00  0.01           C
ATOM    426  CD  GLU A  53      45.784  -7.007  10.304  1.00  0.81           C
ATOM    427  OE1 GLU A  53      47.022  -7.028  10.165  1.00 -0.82           O
ATOM    428  OE2 GLU A  53      45.102  -5.958  10.332  1.00 -0.82           O
ATOM    429  N   LEU A  54      44.228 -10.738   6.522  1.00 -0.42           N
ATOM    430  CA  LEU A  54      43.576 -11.192   5.284  1.00 -0.05           C
ATOM    431  C   LEU A  54      42.957 -12.596   5.441  1.00  0.60           C
ATOM    432  O   LEU A  54      41.778 -12.788   5.125  1.00 -0.57           O
ATOM    433  CB  LEU A  54      44.563 -11.173   4.095  1.00 -0.11           C
ATOM    434  CG  LEU A  54      45.061  -9.792   3.624  1.00  0.35           C
ATOM    435  CD1 LEU A  54      45.972  -9.961   2.408  1.00 -0.41           C
ATOM    436  CD2 LEU A  54      43.924  -8.847   3.227  1.00 -0.41           C
ATOM    437  N   LEU A  55      43.724 -13.578   5.940  1.00 -0.42           N
ATOM    438  CA  LEU A  55      43.285 -14.974   6.061  1.00 -0.05           C
ATOM    439  C   LEU A  55      42.039 -15.166   6.954  1.00  0.60           C
ATOM    440  O   LEU A  55      41.310 -16.141   6.783  1.00 -0.57           O
ATOM    441  CB  LEU A  55      44.479 -15.824   6.531  1.00 -0.11           C
ATOM    442  CG  LEU A  55      44.212 -17.342   6.634  1.00  0.35           C
ATOM    443  CD1 LEU A  55      43.696 -17.971   5.334  1.00 -0.41           C
ATOM    444  CD2 LEU A  55      45.505 -18.060   7.028  1.00 -0.41           C
ATOM    445  N   THR A  56      41.751 -14.222   7.862  1.00 -0.42           N
ATOM    446  CA  THR A  56      40.542 -14.255   8.712  1.00 -0.04           C
ATOM    447  C   THR A  56      39.222 -14.501   7.961  1.00  0.60           C
ATOM    448  O   THR A  56      38.277 -15.010   8.566  1.00 -0.57           O
ATOM    449  CB  THR A  56      40.346 -12.956   9.514  1.00  0.37           C
ATOM    450  CG2 THR A  56      41.468 -12.648  10.502  1.00 -0.24           C
ATOM    451  OG1 THR A  56      40.143 -11.848   8.658  1.00 -0.68           O
ATOM    452  N   CYS A  57      39.143 -14.145   6.665  1.00 -0.42           N
ATOM    453  CA  CYS A  57      37.895 -14.182   5.894  1.00  0.02           C
ATOM    454  C   CYS A  57      38.011 -14.689   4.442  1.00  0.60           C
ATOM    455  O   CYS A  57      36.988 -14.745   3.761  1.00 -0.57           O
ATOM    456  CB  CYS A  57      37.292 -12.772   5.877  1.00 -0.12           C
ATOM    457  SG  CYS A  57      37.106 -12.088   7.552  1.00 -0.31           S
ATOM    458  N   HIS A  58      39.203 -15.052   3.937  1.00 -0.42           N
ATOM    459  CA  HIS A  58      39.402 -15.527   2.547  1.00  0.02           C
ATOM    460  C   HIS A  58      40.527 -16.584   2.475  1.00  0.60           C
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ATOM    461  O   HIS A  58      41.422 -16.573   3.321  1.00 -0.57           O
ATOM    462  CB  HIS A  58      39.774 -14.355   1.620  1.00 -0.05           C
ATOM    463  CG  HIS A  58      38.738 -13.269   1.433  1.00 -0.03           C
ATOM    464  CD2 HIS A  58      37.999 -13.019   0.307  1.00  0.13           C
ATOM    465  ND1 HIS A  58      38.443 -12.268   2.328  1.00 -0.38           N
ATOM    466  CE1 HIS A  58      37.540 -11.453   1.762  1.00  0.21           C
ATOM    467  NE2 HIS A  58      37.249 -11.853   0.515  1.00 -0.57           N
ATOM    468  N   SER A  59      40.498 -17.491   1.488  1.00 -0.42           N
ATOM    469  CA  SER A  59      41.472 -18.592   1.391  1.00 -0.02           C
ATOM    470  C   SER A  59      42.935 -18.124   1.215  1.00  0.60           C
ATOM    471  O   SER A  59      43.210 -17.103   0.582  1.00 -0.57           O
ATOM    472  CB  SER A  59      41.085 -19.580   0.280  1.00  0.21           C
ATOM    473  OG  SER A  59      41.393 -19.079  -1.004  1.00 -0.65           O
ATOM    474  N   ALA A  60      43.894 -18.890   1.760  1.00 -0.42           N
ATOM    475  CA  ALA A  60      45.329 -18.595   1.654  1.00  0.03           C
ATOM    476  C   ALA A  60      45.837 -18.648   0.198  1.00  0.60           C
ATOM    477  O   ALA A  60      46.519 -17.726  -0.256  1.00 -0.57           O
ATOM    478  CB  ALA A  60      46.103 -19.577   2.542  1.00 -0.18           C
ATOM    479  N   GLU A  61      45.462 -19.700  -0.548  1.00 -0.52           N
ATOM    480  CA  GLU A  61      45.831 -19.892  -1.965  1.00  0.04           C
ATOM    481  C   GLU A  61      45.469 -18.686  -2.834  1.00  0.54           C
ATOM    482  O   GLU A  61      46.280 -18.246  -3.649  1.00 -0.58           O
ATOM    483  CB  GLU A  61      45.180 -21.146  -2.583  1.00  0.06           C
ATOM    484  CG  GLU A  61      44.948 -22.350  -1.663  1.00  0.01           C
ATOM    485  CD  GLU A  61      46.166 -22.749  -0.850  1.00  0.81           C
ATOM    486  OE1 GLU A  61      47.098 -23.331  -1.448  1.00 -0.82           O
ATOM    487  OE2 GLU A  61      46.122 -22.469   0.370  1.00 -0.82           O
ATOM    488  N   TYR A  62      44.274 -18.128  -2.601  1.00 -0.42           N
ATOM    489  CA  TYR A  62      43.746 -16.950  -3.290  1.00 -0.00           C
ATOM    490  C   TYR A  62      44.640 -15.715  -3.119  1.00  0.60           C
ATOM    491  O   TYR A  62      45.103 -15.145  -4.117  1.00 -0.57           O
ATOM    492  CB  TYR A  62      42.329 -16.679  -2.769  1.00 -0.02           C
ATOM    493  CG  TYR A  62      41.681 -15.425  -3.301  1.00 -0.00           C
ATOM    494  CD1 TYR A  62      41.485 -15.320  -4.683  1.00 -0.19           C
ATOM    495  CD2 TYR A  62      41.262 -14.388  -2.442  1.00 -0.19           C
ATOM    496  CE1 TYR A  62      40.873 -14.185  -5.227  1.00 -0.23           C
ATOM    497  CE2 TYR A  62      40.652 -13.243  -2.988  1.00 -0.23           C
ATOM    498  CZ  TYR A  62      40.468 -13.149  -4.380  1.00  0.32           C
ATOM    499  OH  TYR A  62      39.903 -12.051  -4.939  1.00 -0.56           O
ATOM    500  N   VAL A  63      44.960 -15.338  -1.868  1.00 -0.42           N
ATOM    501  CA  VAL A  63      45.939 -14.258  -1.637  1.00 -0.09           C
ATOM    502  C   VAL A  63      47.318 -14.624  -2.182  1.00  0.60           C
ATOM    503  O   VAL A  63      47.935 -13.790  -2.842  1.00 -0.57           O
ATOM    504  CB  VAL A  63      46.052 -13.771  -0.175  1.00  0.30           C
ATOM    505  CG1 VAL A  63      44.821 -12.939   0.180  1.00 -0.32           C
ATOM    506  CG2 VAL A  63      46.192 -14.868   0.884  1.00 -0.32           C
ATOM    507  N   GLY A  64      47.787 -15.865  -1.992  1.00 -0.42           N
ATOM    508  CA  GLY A  64      49.079 -16.322  -2.513  1.00 -0.03           C
ATOM    509  C   GLY A  64      49.218 -16.109  -4.019  1.00  0.60           C
ATOM    510  O   GLY A  64      50.155 -15.445  -4.473  1.00 -0.57           O
ATOM    511  N   HIS A  65      48.243 -16.613  -4.780  1.00 -0.42           N
ATOM    512  CA  HIS A  65      48.179 -16.422  -6.222  1.00 -0.06           C
ATOM    513  C   HIS A  65      48.117 -14.939  -6.622  1.00  0.60           C
ATOM    514  O   HIS A  65      48.876 -14.534  -7.507  1.00 -0.57           O
ATOM    515  CB  HIS A  65      46.981 -17.184  -6.800  1.00 -0.01           C
ATOM    516  CG  HIS A  65      46.720 -16.804  -8.237  1.00  0.19           C
ATOM    517  CD2 HIS A  65      45.824 -15.854  -8.644  1.00 -0.22           C
ATOM    518  ND1 HIS A  65      47.434 -17.278  -9.342  1.00 -0.54           N
ATOM    519  CE1 HIS A  65      46.937 -16.604 -10.390  1.00  0.16           C
ATOM    520  NE2 HIS A  65      45.974 -15.750 -10.004  1.00 -0.28           N
ATOM    521  N   LEU A  66      47.237 -14.128  -6.015  1.00 -0.42           N
ATOM    522  CA  LEU A  66      47.112 -12.706  -6.372  1.00 -0.05           C
ATOM    523  C   LEU A  66      48.426 -11.948  -6.092  1.00  0.60           C
ATOM    524  O   LEU A  66      48.931 -11.220  -6.954  1.00 -0.57           O
ATOM    525  CB  LEU A  66      45.916 -12.099  -5.610  1.00 -0.11           C
ATOM    526  CG  LEU A  66      45.470 -10.700  -6.093  1.00  0.35           C
ATOM    527  CD1 LEU A  66      44.845 -10.723  -7.489  1.00 -0.41           C
ATOM    528  CD2 LEU A  66      44.403 -10.157  -5.136  1.00 -0.41           C
ATOM    529  N   ARG A  67      49.024 -12.193  -4.919  1.00 -0.35           N
ATOM    530  CA  ARG A  67      50.329 -11.672  -4.504  1.00 -0.26           C
ATOM    531  C   ARG A  67      51.433 -12.071  -5.506  1.00  0.73           C
ATOM    532  O   ARG A  67      52.185 -11.221  -5.980  1.00 -0.59           O
ATOM    533  CB  ARG A  67      50.581 -12.194  -3.077  1.00 -0.00           C
ATOM    534  CG  ARG A  67      51.798 -11.606  -2.356  1.00  0.04           C
ATOM    535  CD  ARG A  67      51.861 -12.126  -0.906  1.00  0.05           C
ATOM    536  NE  ARG A  67      52.344 -13.519  -0.858  1.00 -0.53           N
ATOM    537  CZ  ARG A  67      51.725 -14.603  -0.392  1.00  0.81           C
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ATOM    538  NH1 ARG A  67      52.314 -15.775  -0.526  1.00 -0.86           N
ATOM    539  NH2 ARG A  67      50.550 -14.598   0.205  1.00 -0.86           N
ATOM    540  N   ALA A  68      51.470 -13.347  -5.913  1.00 -0.42           N
ATOM    541  CA  ALA A  68      52.368 -13.864  -6.945  1.00  0.03           C
ATOM    542  C   ALA A  68      52.067 -13.363  -8.378  1.00  0.60           C
ATOM    543  O   ALA A  68      52.845 -13.676  -9.294  1.00 -0.57           O
ATOM    544  CB  ALA A  68      52.325 -15.396  -6.890  1.00 -0.18           C
ATOM    545  N   THR A  69      50.986 -12.615  -8.614  1.00 -0.42           N
ATOM    546  CA  THR A  69      50.512 -12.237  -9.958  1.00 -0.04           C
ATOM    547  C   THR A  69      50.717 -10.753 -10.285  1.00  0.60           C
ATOM    548  O   THR A  69      51.084 -10.458 -11.424  1.00 -0.57           O
ATOM    549  CB  THR A  69      49.061 -12.703 -10.202  1.00  0.37           C
ATOM    550  CG2 THR A  69      48.565 -12.443 -11.629  1.00 -0.24           C
ATOM    551  OG1 THR A  69      48.992 -14.098 -10.018  1.00 -0.68           O
ATOM    552  N   GLU A  70      50.603  -9.842  -9.300  1.00 -0.52           N
ATOM    553  CA  GLU A  70      50.780  -8.376  -9.473  1.00  0.04           C
ATOM    554  C   GLU A  70      52.200  -7.899  -9.846  1.00  0.54           C
ATOM    555  O   GLU A  70      52.416  -6.705 -10.029  1.00 -0.58           O
ATOM    556  CB  GLU A  70      50.230  -7.589  -8.258  1.00  0.06           C
ATOM    557  CG  GLU A  70      51.154  -7.535  -7.033  1.00  0.01           C
ATOM    558  CD  GLU A  70      50.524  -6.804  -5.846  1.00  0.81           C
ATOM    559  OE1 GLU A  70      50.857  -7.184  -4.707  1.00 -0.82           O
ATOM    560  OE2 GLU A  70      49.687  -5.889  -6.031  1.00 -0.82           O
ATOM    561  N   LYS A  71      53.172  -8.811  -9.978  1.00 -0.35           N
ATOM    562  CA  LYS A  71      54.607  -8.588 -10.251  1.00 -0.24           C
ATOM    563  C   LYS A  71      54.936  -7.990 -11.655  1.00  0.73           C
ATOM    564  O   LYS A  71      55.874  -8.428 -12.323  1.00 -0.59           O
ATOM    565  CB  LYS A  71      55.345  -9.923  -9.982  1.00 -0.01           C
ATOM    566  CG  LYS A  71      56.852  -9.750  -9.705  1.00  0.02           C
ATOM    567  CD  LYS A  71      57.570 -11.102  -9.567  1.00 -0.05           C
ATOM    568  CE  LYS A  71      59.082 -10.866  -9.453  1.00 -0.01           C
ATOM    569  NZ  LYS A  71      59.845 -12.125  -9.325  1.00 -0.39           N
ATOM    570  N   MET A  72      54.148  -7.018 -12.133  1.00 -0.42           N
ATOM    571  CA  MET A  72      54.212  -6.317 -13.436  1.00 -0.02           C
ATOM    572  C   MET A  72      54.192  -7.191 -14.715  1.00  0.60           C
ATOM    573  O   MET A  72      53.995  -6.681 -15.814  1.00 -0.57           O
ATOM    574  CB  MET A  72      55.385  -5.314 -13.428  1.00  0.03           C
ATOM    575  CG  MET A  72      55.216  -4.141 -14.407  1.00  0.00           C
ATOM    576  SD  MET A  72      53.778  -3.083 -14.075  1.00 -0.27           S
ATOM    577  CE  MET A  72      53.949  -1.845 -15.385  1.00 -0.05           C
ATOM    578  N   LYS A  73      54.347  -8.512 -14.599  1.00 -0.35           N
ATOM    579  CA  LYS A  73      54.201  -9.485 -15.679  1.00 -0.24           C
ATOM    580  C   LYS A  73      52.859  -9.341 -16.434  1.00  0.73           C
ATOM    581  O   LYS A  73      51.774  -9.499 -15.865  1.00 -0.59           O
ATOM    582  CB  LYS A  73      54.450 -10.906 -15.124  1.00 -0.01           C
ATOM    583  CG  LYS A  73      53.339 -11.435 -14.201  1.00  0.02           C
ATOM    584  CD  LYS A  73      53.710 -12.729 -13.467  1.00 -0.05           C
ATOM    585  CE  LYS A  73      52.420 -13.290 -12.860  1.00 -0.01           C
ATOM    586  NZ  LYS A  73      52.655 -14.392 -11.907  1.00 -0.39           N
ATOM    587  N   THR A  74      52.950  -9.067 -17.739  1.00 -0.42           N
ATOM    588  CA  THR A  74      51.836  -9.097 -18.695  1.00 -0.04           C
ATOM    589  C   THR A  74      51.011 -10.382 -18.543  1.00  0.60           C
ATOM    590  O   THR A  74      51.563 -11.438 -18.222  1.00 -0.57           O
ATOM    591  CB  THR A  74      52.395  -8.998 -20.129  1.00  0.37           C
ATOM    592  CG2 THR A  74      51.340  -8.613 -21.168  1.00 -0.24           C
ATOM    593  OG1 THR A  74      53.423  -8.030 -20.188  1.00 -0.68           O
ATOM    594  N   ARG A  75      49.689 -10.302 -18.751  1.00 -0.35           N
ATOM    595  CA  ARG A  75      48.768 -11.439 -18.642  1.00 -0.26           C
ATOM    596  C   ARG A  75      47.889 -11.603 -19.891  1.00  0.73           C
ATOM    597  O   ARG A  75      46.661 -11.552 -19.826  1.00 -0.59           O
ATOM    598  CB  ARG A  75      47.939 -11.402 -17.341  1.00 -0.00           C
ATOM    599  CG  ARG A  75      48.706 -11.466 -16.005  1.00  0.04           C
ATOM    600  CD  ARG A  75      49.780 -12.556 -15.842  1.00  0.05           C
ATOM    601  NE  ARG A  75      49.486 -13.809 -16.570  1.00 -0.53           N
ATOM    602  CZ  ARG A  75      50.314 -14.484 -17.369  1.00  0.81           C
ATOM    603  NH1 ARG A  75      49.929 -15.601 -17.936  1.00 -0.86           N
ATOM    604  NH2 ARG A  75      51.526 -14.081 -17.666  1.00 -0.86           N
ATOM    605  N   GLU A  76      48.543 -11.853 -21.029  1.00 -0.52           N
ATOM    606  CA  GLU A  76      47.933 -12.258 -22.312  1.00  0.04           C
ATOM    607  C   GLU A  76      47.086 -13.538 -22.232  1.00  0.54           C
ATOM    608  O   GLU A  76      46.235 -13.749 -23.092  1.00 -0.58           O
ATOM    609  CB  GLU A  76      48.988 -12.400 -23.430  1.00  0.06           C
ATOM    610  CG  GLU A  76      50.277 -13.121 -23.033  1.00  0.01           C
ATOM    611  CD  GLU A  76      51.271 -12.162 -22.395  1.00  0.81           C
ATOM    612  OE1 GLU A  76      52.022 -11.525 -23.170  1.00 -0.82           O
ATOM    613  OE2 GLU A  76      51.252 -12.075 -21.147  1.00 -0.82           O
ATOM    614  N   LEU A  77      47.277 -14.372 -21.197  1.00 -0.42           N
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ATOM    615  CA  LEU A  77      46.437 -15.541 -20.915  1.00 -0.05           C
ATOM    616  C   LEU A  77      46.345 -15.844 -19.402  1.00  0.60           C
ATOM    617  O   LEU A  77      47.349 -15.884 -18.685  1.00 -0.57           O
ATOM    618  CB  LEU A  77      46.978 -16.740 -21.717  1.00 -0.11           C
ATOM    619  CG  LEU A  77      46.016 -17.941 -21.793  1.00  0.35           C
ATOM    620  CD1 LEU A  77      44.701 -17.608 -22.509  1.00 -0.41           C
ATOM    621  CD2 LEU A  77      46.687 -19.093 -22.547  1.00 -0.41           C
ATOM    622  N   HIS A  78      45.121 -16.076 -18.909  1.00 -0.42           N
ATOM    623  CA  HIS A  78      44.762 -16.064 -17.483  1.00 -0.06           C
ATOM    624  C   HIS A  78      44.878 -17.454 -16.792  1.00  0.60           C
ATOM    625  O   HIS A  78      44.063 -17.777 -15.927  1.00 -0.57           O
ATOM    626  CB  HIS A  78      43.368 -15.394 -17.346  1.00 -0.01           C
ATOM    627  CG  HIS A  78      43.382 -13.876 -17.313  1.00  0.19           C
ATOM    628  CD2 HIS A  78      44.096 -13.036 -18.124  1.00 -0.22           C
ATOM    629  ND1 HIS A  78      42.647 -13.098 -16.413  1.00 -0.54           N
ATOM    630  CE1 HIS A  78      42.942 -11.821 -16.692  1.00  0.16           C
ATOM    631  NE2 HIS A  78      43.803 -11.753 -17.721  1.00 -0.28           N
ATOM    632  N   ARG A  79      45.893 -18.263 -17.143  1.00 -0.35           N
ATOM    633  CA  ARG A  79      46.102 -19.673 -16.741  1.00 -0.26           C
ATOM    634  C   ARG A  79      45.641 -20.056 -15.317  1.00  0.73           C
ATOM    635  O   ARG A  79      44.917 -21.038 -15.188  1.00 -0.59           O
ATOM    636  CB  ARG A  79      47.580 -20.029 -17.006  1.00 -0.00           C
ATOM    637  CG  ARG A  79      48.084 -21.433 -16.605  1.00  0.04           C
ATOM    638  CD  ARG A  79      47.203 -22.612 -17.057  1.00  0.05           C
ATOM    639  NE  ARG A  79      47.994 -23.822 -17.368  1.00 -0.53           N
ATOM    640  CZ  ARG A  79      48.359 -24.801 -16.542  1.00  0.81           C
ATOM    641  NH1 ARG A  79      48.984 -25.852 -17.030  1.00 -0.86           N
ATOM    642  NH2 ARG A  79      48.141 -24.795 -15.249  1.00 -0.86           N
ATOM    643  N   GLU A  80      45.983 -19.261 -14.285  1.00 -0.52           N
ATOM    644  CA  GLU A  80      45.490 -19.446 -12.897  1.00  0.04           C
ATOM    645  C   GLU A  80      44.716 -18.244 -12.342  1.00  0.54           C
ATOM    646  O   GLU A  80      44.260 -18.265 -11.203  1.00 -0.58           O
ATOM    647  CB  GLU A  80      46.635 -19.813 -11.937  1.00  0.06           C
ATOM    648  CG  GLU A  80      47.509 -20.986 -12.392  1.00  0.01           C
ATOM    649  CD  GLU A  80      46.713 -22.243 -12.717  1.00  0.81           C
ATOM    650  OE1 GLU A  80      45.765 -22.552 -11.960  1.00 -0.82           O
ATOM    651  OE2 GLU A  80      47.083 -22.896 -13.722  1.00 -0.82           O
ATOM    652  N   SER A  81      44.540 -17.210 -13.172  1.00 -0.42           N
ATOM    653  CA  SER A  81      43.745 -16.033 -12.830  1.00 -0.02           C
ATOM    654  C   SER A  81      42.275 -16.446 -12.735  1.00  0.60           C
ATOM    655  O   SER A  81      41.644 -16.280 -11.689  1.00 -0.57           O
ATOM    656  CB  SER A  81      43.952 -14.940 -13.894  1.00  0.21           C
ATOM    657  OG  SER A  81      44.759 -13.883 -13.414  1.00 -0.65           O
ATOM    658  N   SER A  82      41.730 -17.073 -13.782  1.00 -0.42           N
ATOM    659  CA  SER A  82      40.303 -17.410 -13.798  1.00 -0.02           C
ATOM    660  C   SER A  82      39.946 -18.595 -12.889  1.00  0.60           C
ATOM    661  O   SER A  82      38.797 -18.708 -12.472  1.00 -0.57           O
ATOM    662  CB  SER A  82      39.827 -17.581 -15.238  1.00  0.21           C
ATOM    663  OG  SER A  82      40.176 -16.414 -15.970  1.00 -0.65           O
ATOM    664  N   ASN A  83      40.939 -19.398 -12.478  1.00 -0.42           N
ATOM    665  CA  ASN A  83      40.808 -20.384 -11.396  1.00  0.01           C
ATOM    666  C   ASN A  83      40.568 -19.746 -10.001  1.00  0.60           C
ATOM    667  O   ASN A  83      40.292 -20.466  -9.046  1.00 -0.57           O
ATOM    668  CB  ASN A  83      42.041 -21.312 -11.412  1.00 -0.20           C
ATOM    669  CG  ASN A  83      42.106 -22.213 -12.646  1.00  0.71           C
ATOM    670  ND2 ASN A  83      43.250 -22.805 -12.936  1.00 -0.92           N
ATOM    671  OD1 ASN A  83      41.137 -22.393 -13.374  1.00 -0.59           O
ATOM    672  N   PHE A  84      40.648 -18.411  -9.904  1.00 -0.42           N
ATOM    673  CA  PHE A  84      40.296 -17.568  -8.757  1.00 -0.00           C
ATOM    674  C   PHE A  84      39.408 -16.370  -9.199  1.00  0.60           C
ATOM    675  O   PHE A  84      39.425 -15.289  -8.594  1.00 -0.57           O
ATOM    676  CB  PHE A  84      41.600 -17.103  -8.088  1.00 -0.03           C
ATOM    677  CG  PHE A  84      42.448 -18.193  -7.442  1.00  0.01           C
ATOM    678  CD1 PHE A  84      42.011 -18.861  -6.284  1.00 -0.13           C
ATOM    679  CD2 PHE A  84      43.700 -18.529  -7.986  1.00 -0.13           C
ATOM    680  CE1 PHE A  84      42.816 -19.835  -5.669  1.00 -0.17           C
ATOM    681  CE2 PHE A  84      44.503 -19.517  -7.389  1.00 -0.17           C
ATOM    682  CZ  PHE A  84      44.064 -20.166  -6.222  1.00 -0.11           C
ATOM    683  N   ASP A  85      38.673 -16.545 -10.314  1.00 -0.52           N
ATOM    684  CA  ASP A  85      37.802 -15.558 -10.986  1.00  0.04           C
ATOM    685  C   ASP A  85      38.437 -14.190 -11.336  1.00  0.54           C
ATOM    686  O   ASP A  85      37.739 -13.207 -11.591  1.00 -0.58           O
ATOM    687  CB  ASP A  85      36.457 -15.454 -10.235  1.00 -0.03           C
ATOM    688  CG  ASP A  85      35.633 -16.750 -10.307  1.00  0.80           C
ATOM    689  OD1 ASP A  85      35.109 -17.038 -11.411  1.00 -0.80           O
ATOM    690  OD2 ASP A  85      35.539 -17.450  -9.271  1.00 -0.80           O
ATOM    691  N   SER A  86      39.771 -14.129 -11.452  1.00 -0.42           N
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ATOM    692  CA  SER A  86      40.446 -13.055 -12.194  1.00 -0.02           C
ATOM    693  C   SER A  86      40.179 -13.248 -13.706  1.00  0.60           C
ATOM    694  O   SER A  86      40.290 -14.347 -14.260  1.00 -0.57           O
ATOM    695  CB  SER A  86      41.935 -12.967 -11.807  1.00  0.21           C
ATOM    696  OG  SER A  86      42.734 -12.182 -12.684  1.00 -0.65           O
ATOM    697  N   ILE A  87      39.739 -12.169 -14.357  1.00 -0.42           N
ATOM    698  CA  ILE A  87      39.114 -12.135 -15.695  1.00 -0.06           C
ATOM    699  C   ILE A  87      38.945 -10.656 -16.118  1.00  0.60           C
ATOM    700  O   ILE A  87      39.276  -9.775 -15.327  1.00 -0.57           O
ATOM    701  CB  ILE A  87      37.758 -12.905 -15.644  1.00  0.13           C
ATOM    702  CG1 ILE A  87      37.115 -13.247 -17.007  1.00 -0.04           C
ATOM    703  CG2 ILE A  87      36.713 -12.174 -14.783  1.00 -0.32           C
ATOM    704  CD1 ILE A  87      38.047 -13.986 -17.975  1.00 -0.07           C
ATOM    705  N   TYR A  88      38.389 -10.342 -17.301  1.00 -0.42           N
ATOM    706  CA  TYR A  88      38.119  -8.948 -17.706  1.00 -0.00           C
ATOM    707  C   TYR A  88      37.560  -8.067 -16.561  1.00  0.60           C
ATOM    708  O   TYR A  88      38.187  -7.072 -16.206  1.00 -0.57           O
ATOM    709  CB  TYR A  88      37.206  -8.887 -18.952  1.00 -0.02           C
ATOM    710  CG  TYR A  88      36.511  -7.539 -19.068  1.00 -0.00           C
ATOM    711  CD1 TYR A  88      37.286  -6.362 -19.071  1.00 -0.19           C
ATOM    712  CD2 TYR A  88      35.107  -7.452 -18.963  1.00 -0.19           C
ATOM    713  CE1 TYR A  88      36.680  -5.120 -18.820  1.00 -0.23           C
ATOM    714  CE2 TYR A  88      34.500  -6.197 -18.753  1.00 -0.23           C
ATOM    715  CZ  TYR A  88      35.294  -5.046 -18.620  1.00  0.32           C
ATOM    716  OH  TYR A  88      34.728  -3.870 -18.241  1.00 -0.56           O
ATOM    717  N   ILE A  89      36.437  -8.450 -15.932  1.00 -0.42           N
ATOM    718  CA  ILE A  89      35.807  -7.663 -14.846  1.00 -0.06           C
ATOM    719  C   ILE A  89      36.606  -7.604 -13.525  1.00  0.60           C
ATOM    720  O   ILE A  89      36.156  -6.964 -12.576  1.00 -0.57           O
ATOM    721  CB  ILE A  89      34.356  -8.128 -14.569  1.00  0.13           C
ATOM    722  CG1 ILE A  89      34.267  -9.591 -14.079  1.00 -0.04           C
ATOM    723  CG2 ILE A  89      33.479  -7.892 -15.807  1.00 -0.32           C
ATOM    724  CD1 ILE A  89      32.911  -9.943 -13.456  1.00 -0.07           C
ATOM    725  N   CYS A  90      37.761  -8.272 -13.451  1.00 -0.42           N
ATOM    726  CA  CYS A  90      38.627  -8.396 -12.279  1.00  0.02           C
ATOM    727  C   CYS A  90      40.068  -8.727 -12.731  1.00  0.60           C
ATOM    728  O   CYS A  90      40.404  -9.911 -12.748  1.00 -0.57           O
ATOM    729  CB  CYS A  90      38.111  -9.538 -11.376  1.00 -0.12           C
ATOM    730  SG  CYS A  90      36.616  -9.092 -10.452  1.00 -0.31           S
ATOM    731  N   PRO A  91      40.926  -7.753 -13.116  1.00 -0.25           N
ATOM    732  CA  PRO A  91      42.326  -8.007 -13.494  1.00 -0.03           C
ATOM    733  C   PRO A  91      43.176  -8.534 -12.310  1.00  0.59           C
ATOM    734  O   PRO A  91      42.952  -9.659 -11.860  1.00 -0.57           O
ATOM    735  CB  PRO A  91      42.795  -6.717 -14.188  1.00 -0.01           C
ATOM    736  CG  PRO A  91      41.874  -5.625 -13.645  1.00  0.02           C
ATOM    737  CD  PRO A  91      40.569  -6.358 -13.328  1.00  0.02           C
ATOM    738  N   SER A  92      44.152  -7.780 -11.781  1.00 -0.42           N
ATOM    739  CA  SER A  92      44.934  -8.225 -10.610  1.00 -0.02           C
ATOM    740  C   SER A  92      45.761  -7.122  -9.932  1.00  0.60           C
ATOM    741  O   SER A  92      46.609  -6.515 -10.589  1.00 -0.57           O
ATOM    742  CB  SER A  92      45.930  -9.326 -11.019  1.00  0.21           C
ATOM    743  OG  SER A  92      46.895  -8.805 -11.916  1.00 -0.65           O
ATOM    744  N   THR A  93      45.595  -6.960  -8.615  1.00 -0.42           N
ATOM    745  CA  THR A  93      46.471  -6.203  -7.697  1.00 -0.04           C
ATOM    746  C   THR A  93      46.190  -6.663  -6.253  1.00  0.60           C
ATOM    747  O   THR A  93      45.034  -6.860  -5.868  1.00 -0.57           O
ATOM    748  CB  THR A  93      46.220  -4.679  -7.766  1.00  0.37           C
ATOM    749  CG2 THR A  93      46.937  -3.969  -8.915  1.00 -0.24           C
ATOM    750  OG1 THR A  93      44.835  -4.465  -7.904  1.00 -0.68           O
ATOM    751  N   PHE A  94      47.219  -6.833  -5.426  1.00 -0.42           N
ATOM    752  CA  PHE A  94      47.087  -7.381  -4.062  1.00 -0.00           C
ATOM    753  C   PHE A  94      47.732  -6.431  -3.004  1.00  0.60           C
ATOM    754  O   PHE A  94      47.268  -6.416  -1.862  1.00 -0.57           O
ATOM    755  CB  PHE A  94      47.908  -8.704  -3.975  1.00 -0.03           C
ATOM    756  CG  PHE A  94      48.309  -9.159  -2.577  1.00  0.01           C
ATOM    757  CD1 PHE A  94      47.422  -9.955  -1.829  1.00 -0.13           C
ATOM    758  CD2 PHE A  94      49.538  -8.771  -2.004  1.00 -0.13           C
ATOM    759  CE1 PHE A  94      47.758 -10.352  -0.525  1.00 -0.17           C
ATOM    760  CE2 PHE A  94      49.864  -9.157  -0.692  1.00 -0.17           C
ATOM    761  CZ  PHE A  94      48.976  -9.953   0.049  1.00 -0.11           C
ATOM    762  N   ALA A  95      48.626  -5.525  -3.421  1.00 -0.42           N
ATOM    763  CA  ALA A  95      48.746  -4.235  -2.745  1.00  0.03           C
ATOM    764  C   ALA A  95      47.337  -3.629  -2.546  1.00  0.60           C
ATOM    765  O   ALA A  95      46.997  -3.171  -1.456  1.00 -0.57           O
ATOM    766  CB  ALA A  95      49.665  -3.329  -3.569  1.00 -0.18           C
ATOM    767  N   CYS A  96      46.467  -3.770  -3.558  1.00 -0.42           N
ATOM    768  CA  CYS A  96      45.033  -3.471  -3.477  1.00  0.02           C
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ATOM    769  C   CYS A  96      44.262  -4.299  -2.416  1.00  0.60           C
ATOM    770  O   CYS A  96      43.464  -3.718  -1.687  1.00 -0.57           O
ATOM    771  CB  CYS A  96      44.446  -3.660  -4.879  1.00 -0.12           C
ATOM    772  SG  CYS A  96      42.833  -2.868  -5.100  1.00 -0.31           S
ATOM    773  N   ALA A  97      44.490  -5.613  -2.263  1.00 -0.42           N
ATOM    774  CA  ALA A  97      43.834  -6.415  -1.215  1.00  0.03           C
ATOM    775  C   ALA A  97      44.347  -6.061   0.202  1.00  0.60           C
ATOM    776  O   ALA A  97      43.562  -5.778   1.115  1.00 -0.57           O
ATOM    777  CB  ALA A  97      44.048  -7.903  -1.522  1.00 -0.18           C
ATOM    778  N   GLN A  98      45.675  -6.008   0.349  1.00 -0.42           N
ATOM    779  CA  GLN A  98      46.407  -5.598   1.543  1.00 -0.00           C
ATOM    780  C   GLN A  98      46.029  -4.179   2.013  1.00  0.60           C
ATOM    781  O   GLN A  98      45.885  -3.964   3.224  1.00 -0.57           O
ATOM    782  CB  GLN A  98      47.906  -5.765   1.230  1.00 -0.00           C
ATOM    783  CG  GLN A  98      48.826  -5.573   2.436  1.00 -0.06           C
ATOM    784  CD  GLN A  98      50.014  -6.521   2.381  1.00  0.70           C
ATOM    785  NE2 GLN A  98      50.107  -7.436   3.329  1.00 -0.94           N
ATOM    786  OE1 GLN A  98      50.849  -6.448   1.490  1.00 -0.61           O
ATOM    787  N   LEU A  99      45.783  -3.240   1.085  1.00 -0.42           N
ATOM    788  CA  LEU A  99      45.162  -1.955   1.413  1.00 -0.05           C
ATOM    789  C   LEU A  99      43.644  -2.018   1.600  1.00  0.60           C
ATOM    790  O   LEU A  99      43.153  -1.348   2.502  1.00 -0.57           O
ATOM    791  CB  LEU A  99      45.482  -0.893   0.353  1.00 -0.11           C
ATOM    792  CG  LEU A  99      46.936  -0.396   0.366  1.00  0.35           C
ATOM    793  CD1 LEU A  99      47.060   0.764  -0.620  1.00 -0.41           C
ATOM    794  CD2 LEU A  99      47.401   0.113   1.736  1.00 -0.41           C
ATOM    795  N   ALA A 100      42.875  -2.799   0.831  1.00 -0.42           N
ATOM    796  CA  ALA A 100      41.414  -2.864   0.977  1.00  0.03           C
ATOM    797  C   ALA A 100      40.977  -3.291   2.381  1.00  0.60           C
ATOM    798  O   ALA A 100      40.141  -2.617   2.988  1.00 -0.57           O
ATOM    799  CB  ALA A 100      40.792  -3.772  -0.091  1.00 -0.18           C
ATOM    800  N   THR A 101      41.576  -4.357   2.926  1.00 -0.42           N
ATOM    801  CA  THR A 101      41.350  -4.727   4.330  1.00 -0.04           C
ATOM    802  C   THR A 101      42.063  -3.738   5.279  1.00  0.60           C
ATOM    803  O   THR A 101      41.454  -3.244   6.232  1.00 -0.57           O
ATOM    804  CB  THR A 101      41.808  -6.178   4.584  1.00  0.37           C
ATOM    805  CG2 THR A 101      41.747  -6.555   6.068  1.00 -0.24           C
ATOM    806  OG1 THR A 101      41.006  -7.107   3.883  1.00 -0.68           O
ATOM    807  N   GLY A 102      43.343  -3.417   5.006  1.00 -0.42           N
ATOM    808  CA  GLY A 102      44.180  -2.538   5.843  1.00 -0.03           C
ATOM    809  C   GLY A 102      43.514  -1.199   6.182  1.00  0.60           C
ATOM    810  O   GLY A 102      43.431  -0.788   7.341  1.00 -0.57           O
ATOM    811  N   ALA A 103      42.982  -0.554   5.142  1.00 -0.42           N
ATOM    812  CA  ALA A 103      42.264   0.710   5.208  1.00  0.03           C
ATOM    813  C   ALA A 103      40.999   0.650   6.081  1.00  0.60           C
ATOM    814  O   ALA A 103      40.744   1.603   6.824  1.00 -0.57           O
ATOM    815  CB  ALA A 103      41.907   1.101   3.771  1.00 -0.18           C
ATOM    816  N   ALA A 104      40.232  -0.452   6.005  1.00 -0.42           N
ATOM    817  CA  ALA A 104      39.128  -0.707   6.922  1.00  0.03           C
ATOM    818  C   ALA A 104      39.637  -0.943   8.353  1.00  0.60           C
ATOM    819  O   ALA A 104      39.271  -0.175   9.244  1.00 -0.57           O
ATOM    820  CB  ALA A 104      38.289  -1.892   6.427  1.00 -0.18           C
ATOM    821  N   CYS A 105      40.527  -1.924   8.581  1.00 -0.42           N
ATOM    822  CA  CYS A 105      40.934  -2.295   9.939  1.00  0.02           C
ATOM    823  C   CYS A 105      41.597  -1.127  10.680  1.00  0.60           C
ATOM    824  O   CYS A 105      41.289  -0.888  11.850  1.00 -0.57           O
ATOM    825  CB  CYS A 105      41.772  -3.588   9.949  1.00 -0.12           C
ATOM    826  SG  CYS A 105      43.388  -3.431   9.145  1.00 -0.31           S
ATOM    827  N   ARG A 106      42.415  -0.320   9.981  1.00 -0.35           N
ATOM    828  CA  ARG A 106      42.959   0.905  10.560  1.00 -0.26           C
ATOM    829  C   ARG A 106      41.876   1.892  11.034  1.00  0.73           C
ATOM    830  O   ARG A 106      42.110   2.548  12.053  1.00 -0.59           O
ATOM    831  CB  ARG A 106      43.947   1.587   9.595  1.00 -0.00           C
ATOM    832  CG  ARG A 106      44.660   2.807  10.220  1.00  0.04           C
ATOM    833  CD  ARG A 106      45.590   2.428  11.386  1.00  0.05           C
ATOM    834  NE  ARG A 106      45.887   3.574  12.265  1.00 -0.53           N
ATOM    835  CZ  ARG A 106      45.241   3.889  13.392  1.00  0.81           C
ATOM    836  NH1 ARG A 106      45.722   4.831  14.182  1.00 -0.86           N
ATOM    837  NH2 ARG A 106      44.109   3.296  13.733  1.00 -0.86           N
ATOM    838  N   LEU A 107      40.711   2.002  10.376  1.00 -0.42           N
ATOM    839  CA  LEU A 107      39.618   2.835  10.884  1.00 -0.05           C
ATOM    840  C   LEU A 107      38.958   2.162  12.087  1.00  0.60           C
ATOM    841  O   LEU A 107      38.768   2.789  13.130  1.00 -0.57           O
ATOM    842  CB  LEU A 107      38.547   3.068   9.802  1.00 -0.11           C
ATOM    843  CG  LEU A 107      37.433   4.036  10.268  1.00  0.35           C
ATOM    844  CD1 LEU A 107      37.894   5.489  10.149  1.00 -0.41           C
ATOM    845  CD2 LEU A 107      36.138   3.866   9.476  1.00 -0.41           C
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ATOM    846  N   VAL A 108      38.567   0.892  11.951  1.00 -0.42           N
ATOM    847  CA  VAL A 108      37.721   0.277  12.983  1.00 -0.09           C
ATOM    848  C   VAL A 108      38.514  -0.052  14.256  1.00  0.60           C
ATOM    849  O   VAL A 108      37.920  -0.037  15.337  1.00 -0.57           O
ATOM    850  CB  VAL A 108      36.877  -0.894  12.450  1.00  0.30           C
ATOM    851  CG1 VAL A 108      35.739  -1.221  13.424  1.00 -0.32           C
ATOM    852  CG2 VAL A 108      36.235  -0.532  11.096  1.00 -0.32           C
ATOM    853  N   GLU A 109      39.850  -0.197  14.182  1.00 -0.52           N
ATOM    854  CA  GLU A 109      40.682  -0.175  15.397  1.00  0.04           C
ATOM    855  C   GLU A 109      40.670   1.192  16.069  1.00  0.54           C
ATOM    856  O   GLU A 109      40.727   1.231  17.292  1.00 -0.58           O
ATOM    857  CB  GLU A 109      42.144  -0.603  15.172  1.00  0.06           C
ATOM    858  CG  GLU A 109      42.525  -1.843  15.992  1.00  0.01           C
ATOM    859  CD  GLU A 109      42.112  -3.131  15.302  1.00  0.81           C
ATOM    860  OE1 GLU A 109      41.298  -3.892  15.883  1.00 -0.82           O
ATOM    861  OE2 GLU A 109      42.666  -3.335  14.197  1.00 -0.82           O
ATOM    862  N   ALA A 110      40.552   2.305  15.334  1.00 -0.42           N
ATOM    863  CA  ALA A 110      40.415   3.625  15.957  1.00  0.03           C
ATOM    864  C   ALA A 110      39.054   3.756  16.661  1.00  0.60           C
ATOM    865  O   ALA A 110      39.005   4.138  17.829  1.00 -0.57           O
ATOM    866  CB  ALA A 110      40.616   4.738  14.924  1.00 -0.18           C
ATOM    867  N   VAL A 111      37.958   3.371  15.992  1.00 -0.42           N
ATOM    868  CA  VAL A 111      36.628   3.396  16.628  1.00 -0.09           C
ATOM    869  C   VAL A 111      36.589   2.489  17.865  1.00  0.60           C
ATOM    870  O   VAL A 111      36.252   2.950  18.957  1.00 -0.57           O
ATOM    871  CB  VAL A 111      35.483   3.052  15.649  1.00  0.30           C
ATOM    872  CG1 VAL A 111      34.108   3.128  16.337  1.00 -0.32           C
ATOM    873  CG2 VAL A 111      35.471   4.005  14.443  1.00 -0.32           C
ATOM    874  N   LEU A 112      36.985   1.209  17.735  1.00 -0.42           N
ATOM    875  CA  LEU A 112      36.987   0.281  18.868  1.00 -0.05           C
ATOM    876  C   LEU A 112      38.004   0.678  19.956  1.00  0.60           C
ATOM    877  O   LEU A 112      37.720   0.457  21.131  1.00 -0.57           O
ATOM    878  CB  LEU A 112      37.194  -1.167  18.377  1.00 -0.11           C
ATOM    879  CG  LEU A 112      37.078  -2.232  19.494  1.00  0.35           C
ATOM    880  CD1 LEU A 112      35.696  -2.305  20.157  1.00 -0.41           C
ATOM    881  CD2 LEU A 112      37.374  -3.617  18.922  1.00 -0.41           C
ATOM    882  N   SER A 113      39.139   1.313  19.621  1.00 -0.42           N
ATOM    883  CA  SER A 113      40.022   1.908  20.644  1.00 -0.02           C
ATOM    884  C   SER A 113      39.395   3.134  21.356  1.00  0.60           C
ATOM    885  O   SER A 113      39.995   3.641  22.304  1.00 -0.57           O
ATOM    886  CB  SER A 113      41.424   2.249  20.095  1.00  0.21           C
ATOM    887  OG  SER A 113      42.035   1.131  19.469  1.00 -0.65           O
ATOM    888  N   GLY A 114      38.209   3.617  20.944  1.00 -0.42           N
ATOM    889  CA  GLY A 114      37.330   4.506  21.721  1.00 -0.03           C
ATOM    890  C   GLY A 114      37.750   5.977  21.796  1.00  0.60           C
ATOM    891  O   GLY A 114      36.930   6.861  21.552  1.00 -0.57           O
ATOM    892  N   GLU A 115      39.033   6.244  22.077  1.00 -0.52           N
ATOM    893  CA  GLU A 115      39.604   7.598  22.249  1.00  0.04           C
ATOM    894  C   GLU A 115      39.498   8.479  20.999  1.00  0.54           C
ATOM    895  O   GLU A 115      39.668   9.693  21.072  1.00 -0.58           O
ATOM    896  CB  GLU A 115      41.093   7.528  22.645  1.00  0.06           C
ATOM    897  CG  GLU A 115      41.433   6.701  23.888  1.00  0.01           C
ATOM    898  CD  GLU A 115      40.726   7.223  25.130  1.00  0.81           C
ATOM    899  OE1 GLU A 115      41.252   8.187  25.729  1.00 -0.82           O
ATOM    900  OE2 GLU A 115      39.670   6.639  25.455  1.00 -0.82           O
ATOM    901  N   VAL A 116      39.262   7.853  19.841  1.00 -0.42           N
ATOM    902  CA  VAL A 116      39.588   8.371  18.506  1.00 -0.09           C
ATOM    903  C   VAL A 116      38.515   8.049  17.439  1.00  0.60           C
ATOM    904  O   VAL A 116      38.849   7.623  16.334  1.00 -0.57           O
ATOM    905  CB  VAL A 116      41.036   7.961  18.105  1.00  0.30           C
ATOM    906  CG1 VAL A 116      42.077   8.860  18.791  1.00 -0.32           C
ATOM    907  CG2 VAL A 116      41.411   6.506  18.408  1.00 -0.32           C
ATOM    908  N   LEU A 117      37.238   8.317  17.780  1.00 -0.42           N
ATOM    909  CA  LEU A 117      36.069   8.681  16.931  1.00 -0.05           C
ATOM    910  C   LEU A 117      34.947   7.609  16.862  1.00  0.60           C
ATOM    911  O   LEU A 117      35.200   6.422  16.987  1.00 -0.57           O
ATOM    912  CB  LEU A 117      36.500   9.164  15.522  1.00 -0.11           C
ATOM    913  CG  LEU A 117      35.427   9.883  14.680  1.00  0.35           C
ATOM    914  CD1 LEU A 117      34.840  11.124  15.360  1.00 -0.41           C
ATOM    915  CD2 LEU A 117      36.019  10.311  13.335  1.00 -0.41           C
ATOM    916  N   ASN A 118      33.697   8.031  16.608  1.00 -0.42           N
ATOM    917  CA  ASN A 118      32.484   7.186  16.600  1.00  0.01           C
ATOM    918  C   ASN A 118      31.569   7.354  15.349  1.00  0.60           C
ATOM    919  O   ASN A 118      30.612   6.599  15.173  1.00 -0.57           O
ATOM    920  CB  ASN A 118      31.737   7.476  17.918  1.00 -0.20           C
ATOM    921  CG  ASN A 118      30.633   6.475  18.245  1.00  0.71           C
ATOM    922  ND2 ASN A 118      29.379   6.822  17.995  1.00 -0.92           N
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ATOM    923  OD1 ASN A 118      30.894   5.386  18.740  1.00 -0.59           O
ATOM    924  N   GLY A 119      31.866   8.307  14.454  1.00 -0.42           N
ATOM    925  CA  GLY A 119      31.147   8.562  13.196  1.00 -0.03           C
ATOM    926  C   GLY A 119      32.175   8.744  12.085  1.00  0.60           C
ATOM    927  O   GLY A 119      32.591   9.871  11.809  1.00 -0.57           O
ATOM    928  N   ALA A 120      32.676   7.614  11.567  1.00 -0.42           N
ATOM    929  CA  ALA A 120      34.047   7.549  11.060  1.00  0.03           C
ATOM    930  C   ALA A 120      34.153   6.864   9.686  1.00  0.60           C
ATOM    931  O   ALA A 120      33.432   5.909   9.400  1.00 -0.57           O
ATOM    932  CB  ALA A 120      34.890   6.842  12.132  1.00 -0.18           C
ATOM    933  N   ALA A 121      35.087   7.353   8.856  1.00 -0.42           N
ATOM    934  CA  ALA A 121      35.052   7.127   7.416  1.00  0.03           C
ATOM    935  C   ALA A 121      36.374   6.723   6.751  1.00  0.60           C
ATOM    936  O   ALA A 121      37.464   7.144   7.153  1.00 -0.57           O
ATOM    937  CB  ALA A 121      34.517   8.403   6.750  1.00 -0.18           C
ATOM    938  N   VAL A 122      36.212   5.956   5.666  1.00 -0.42           N
ATOM    939  CA  VAL A 122      37.229   5.703   4.642  1.00 -0.09           C
ATOM    940  C   VAL A 122      36.517   5.468   3.305  1.00  0.60           C
ATOM    941  O   VAL A 122      35.790   4.497   3.152  1.00 -0.57           O
ATOM    942  CB  VAL A 122      38.105   4.470   4.958  1.00  0.30           C
ATOM    943  CG1 VAL A 122      39.343   4.477   4.057  1.00 -0.32           C
ATOM    944  CG2 VAL A 122      38.648   4.394   6.379  1.00 -0.32           C
ATOM    945  N   VAL A 123      36.737   6.349   2.326  1.00 -0.42           N
ATOM    946  CA  VAL A 123      36.111   6.326   0.985  1.00 -0.09           C
ATOM    947  C   VAL A 123      36.556   5.169   0.048  1.00  0.60           C
ATOM    948  O   VAL A 123      36.090   5.105  -1.091  1.00 -0.57           O
ATOM    949  CB  VAL A 123      36.356   7.681   0.271  1.00  0.30           C
ATOM    950  CG1 VAL A 123      35.482   8.792   0.863  1.00 -0.32           C
ATOM    951  CG2 VAL A 123      37.826   8.129   0.370  1.00 -0.32           C
ATOM    952  N   ARG A 124      37.461   4.270   0.480  1.00 -0.35           N
ATOM    953  CA  ARG A 124      38.133   3.295  -0.402  1.00 -0.26           C
ATOM    954  C   ARG A 124      37.939   1.797  -0.131  1.00  0.73           C
ATOM    955  O   ARG A 124      38.019   1.038  -1.089  1.00 -0.59           O
ATOM    956  CB  ARG A 124      39.624   3.666  -0.552  1.00 -0.00           C
ATOM    957  CG  ARG A 124      40.536   3.362   0.636  1.00  0.04           C
ATOM    958  CD  ARG A 124      42.020   3.603   0.315  1.00  0.05           C
ATOM    959  NE  ARG A 124      42.430   5.010   0.118  1.00 -0.53           N
ATOM    960  CZ  ARG A 124      42.433   5.986   1.020  1.00  0.81           C
ATOM    961  NH1 ARG A 124      43.267   6.982   0.841  1.00 -0.86           N
ATOM    962  NH2 ARG A 124      41.671   5.989   2.101  1.00 -0.86           N
ATOM    963  N   PRO A 125      37.746   1.278   1.098  1.00 -0.25           N
ATOM    964  CA  PRO A 125      37.705  -0.161   1.344  1.00 -0.03           C
ATOM    965  C   PRO A 125      36.805  -0.986   0.416  1.00  0.59           C
ATOM    966  O   PRO A 125      37.316  -2.009  -0.042  1.00 -0.57           O
ATOM    967  CB  PRO A 125      37.344  -0.331   2.818  1.00 -0.01           C
ATOM    968  CG  PRO A 125      37.971   0.914   3.431  1.00  0.02           C
ATOM    969  CD  PRO A 125      37.693   1.968   2.364  1.00  0.02           C
ATOM    970  N   PRO A 126      35.529  -0.636   0.140  1.00 -0.25           N
ATOM    971  CA  PRO A 126      34.535  -1.559  -0.408  1.00 -0.03           C
ATOM    972  C   PRO A 126      34.881  -2.417  -1.629  1.00  0.59           C
ATOM    973  O   PRO A 126      34.830  -1.979  -2.781  1.00 -0.57           O
ATOM    974  CB  PRO A 126      33.284  -0.743  -0.656  1.00 -0.01           C
ATOM    975  CG  PRO A 126      33.344   0.294   0.443  1.00  0.02           C
ATOM    976  CD  PRO A 126      34.842   0.592   0.530  1.00  0.02           C
ATOM    977  N   GLY A 127      35.094  -3.708  -1.349  1.00 -0.42           N
ATOM    978  CA  GLY A 127      35.135  -4.787  -2.331  1.00 -0.03           C
ATOM    979  C   GLY A 127      33.931  -5.723  -2.178  1.00  0.60           C
ATOM    980  O   GLY A 127      34.097  -6.944  -2.196  1.00 -0.57           O
ATOM    981  N   HIS A 128      32.729  -5.160  -1.972  1.00 -0.42           N
ATOM    982  CA  HIS A 128      31.535  -5.876  -1.494  1.00 -0.06           C
ATOM    983  C   HIS A 128      31.097  -7.098  -2.320  1.00  0.60           C
ATOM    984  O   HIS A 128      30.525  -8.029  -1.751  1.00 -0.57           O
ATOM    985  CB  HIS A 128      30.366  -4.889  -1.264  1.00 -0.01           C
ATOM    986  CG  HIS A 128      29.582  -4.421  -2.474  1.00  0.19           C
ATOM    987  CD2 HIS A 128      29.768  -3.248  -3.152  1.00 -0.22           C
ATOM    988  ND1 HIS A 128      28.397  -5.007  -2.918  1.00 -0.54           N
ATOM    989  CE1 HIS A 128      27.884  -4.160  -3.821  1.00  0.16           C
ATOM    990  NE2 HIS A 128      28.692  -3.103  -4.003  1.00 -0.28           N
ATOM    991  N   HIS A 129      31.415  -7.138  -3.619  1.00 -0.42           N
ATOM    992  CA  HIS A 129      31.098  -8.297  -4.451  1.00 -0.06           C
ATOM    993  C   HIS A 129      32.075  -9.479  -4.279  1.00  0.60           C
ATOM    994  O   HIS A 129      31.716 -10.583  -4.675  1.00 -0.57           O
ATOM    995  CB  HIS A 129      31.014  -7.862  -5.931  1.00 -0.01           C
ATOM    996  CG  HIS A 129      29.878  -6.912  -6.241  1.00  0.19           C
ATOM    997  CD2 HIS A 129      29.982  -5.687  -6.840  1.00 -0.22           C
ATOM    998  ND1 HIS A 129      28.534  -7.168  -5.973  1.00 -0.54           N
ATOM    999  CE1 HIS A 129      27.861  -6.085  -6.379  1.00  0.16           C
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ATOM   1000  NE2 HIS A 129      28.701  -5.180  -6.916  1.00 -0.28           N
ATOM   1001  N   ALA A 130      33.299  -9.293  -3.748  1.00 -0.42           N
ATOM   1002  CA  ALA A 130      34.330 -10.348  -3.730  1.00  0.03           C
ATOM   1003  C   ALA A 130      33.933 -11.537  -2.832  1.00  0.60           C
ATOM   1004  O   ALA A 130      33.174 -11.346  -1.877  1.00 -0.57           O
ATOM   1005  CB  ALA A 130      35.660  -9.748  -3.271  1.00 -0.18           C
ATOM   1006  N   GLU A 131      34.460 -12.741  -3.095  1.00 -0.52           N
ATOM   1007  CA  GLU A 131      34.017 -13.998  -2.443  1.00  0.04           C
ATOM   1008  C   GLU A 131      35.229 -14.841  -2.025  1.00  0.54           C
ATOM   1009  O   GLU A 131      36.339 -14.575  -2.484  1.00 -0.58           O
ATOM   1010  CB  GLU A 131      33.055 -14.748  -3.387  1.00  0.06           C
ATOM   1011  CG  GLU A 131      31.740 -13.972  -3.538  1.00  0.01           C
ATOM   1012  CD  GLU A 131      30.857 -14.553  -4.620  1.00  0.81           C
ATOM   1013  OE1 GLU A 131      30.301 -15.637  -4.359  1.00 -0.82           O
ATOM   1014  OE2 GLU A 131      30.723 -13.914  -5.683  1.00 -0.82           O
ATOM   1015  N   GLN A 132      35.063 -15.799  -1.104  1.00 -0.42           N
ATOM   1016  CA  GLN A 132      36.148 -16.293  -0.231  1.00 -0.00           C
ATOM   1017  C   GLN A 132      37.436 -16.814  -0.923  1.00  0.60           C
ATOM   1018  O   GLN A 132      38.500 -16.778  -0.300  1.00 -0.57           O
ATOM   1019  CB  GLN A 132      35.611 -17.334   0.770  1.00 -0.00           C
ATOM   1020  CG  GLN A 132      34.723 -16.757   1.894  1.00 -0.06           C
ATOM   1021  CD  GLN A 132      33.247 -16.579   1.556  1.00  0.70           C
ATOM   1022  NE2 GLN A 132      32.415 -16.437   2.578  1.00 -0.94           N
ATOM   1023  OE1 GLN A 132      32.838 -16.569   0.400  1.00 -0.61           O
ATOM   1024  N   ASP A 133      37.385 -17.242  -2.188  1.00 -0.52           N
ATOM   1025  CA  ASP A 133      38.551 -17.565  -3.024  1.00  0.04           C
ATOM   1026  C   ASP A 133      38.422 -16.979  -4.451  1.00  0.54           C
ATOM   1027  O   ASP A 133      39.074 -17.465  -5.374  1.00 -0.58           O
ATOM   1028  CB  ASP A 133      38.781 -19.096  -3.008  1.00 -0.03           C
ATOM   1029  CG  ASP A 133      37.671 -19.961  -3.608  1.00  0.80           C
ATOM   1030  OD1 ASP A 133      37.784 -21.196  -3.444  1.00 -0.80           O
ATOM   1031  OD2 ASP A 133      36.709 -19.384  -4.177  1.00 -0.80           O
ATOM   1032  N   ALA A 134      37.605 -15.933  -4.638  1.00 -0.42           N
ATOM   1033  CA  ALA A 134      37.201 -15.436  -5.950  1.00  0.03           C
ATOM   1034  C   ALA A 134      37.091 -13.904  -6.006  1.00  0.60           C
ATOM   1035  O   ALA A 134      36.388 -13.270  -5.208  1.00 -0.57           O
ATOM   1036  CB  ALA A 134      35.859 -16.080  -6.309  1.00 -0.18           C
ATOM   1037  N   ALA A 135      37.731 -13.301  -7.010  1.00 -0.42           N
ATOM   1038  CA  ALA A 135      37.404 -11.919  -7.361  1.00  0.03           C
ATOM   1039  C   ALA A 135      35.966 -11.857  -7.930  1.00  0.60           C
ATOM   1040  O   ALA A 135      35.517 -12.826  -8.540  1.00 -0.57           O
ATOM   1041  CB  ALA A 135      38.455 -11.393  -8.339  1.00 -0.18           C
ATOM   1042  N   CYS A 136      35.257 -10.732  -7.783  1.00 -0.42           N
ATOM   1043  CA  CYS A 136      33.916 -10.576  -8.362  1.00  0.02           C
ATOM   1044  C   CYS A 136      33.558  -9.099  -8.557  1.00  0.60           C
ATOM   1045  O   CYS A 136      33.873  -8.274  -7.703  1.00 -0.57           O
ATOM   1046  CB  CYS A 136      32.883 -11.261  -7.446  1.00 -0.12           C
ATOM   1047  SG  CYS A 136      32.144 -12.699  -8.267  1.00 -0.31           S
ATOM   1048  N   GLY A 137      32.888  -8.763  -9.671  1.00 -0.42           N
ATOM   1049  CA  GLY A 137      32.423  -7.409 -10.012  1.00 -0.03           C
ATOM   1050  C   GLY A 137      33.369  -6.278  -9.591  1.00  0.60           C
ATOM   1051  O   GLY A 137      33.013  -5.460  -8.744  1.00 -0.57           O
ATOM   1052  N   PHE A 138      34.587  -6.248 -10.149  1.00 -0.42           N
ATOM   1053  CA  PHE A 138      35.627  -5.240  -9.874  1.00 -0.00           C
ATOM   1054  C   PHE A 138      36.186  -5.235  -8.432  1.00  0.60           C
ATOM   1055  O   PHE A 138      36.933  -4.321  -8.058  1.00 -0.57           O
ATOM   1056  CB  PHE A 138      35.152  -3.844 -10.317  1.00 -0.03           C
ATOM   1057  CG  PHE A 138      34.385  -3.796 -11.630  1.00  0.01           C
ATOM   1058  CD1 PHE A 138      35.021  -4.147 -12.835  1.00 -0.13           C
ATOM   1059  CD2 PHE A 138      33.028  -3.414 -11.647  1.00 -0.13           C
ATOM   1060  CE1 PHE A 138      34.310  -4.127 -14.048  1.00 -0.17           C
ATOM   1061  CE2 PHE A 138      32.315  -3.393 -12.860  1.00 -0.17           C
ATOM   1062  CZ  PHE A 138      32.954  -3.755 -14.059  1.00 -0.11           C
ATOM   1063  N   CYS A 139      35.855  -6.262  -7.636  1.00 -0.42           N
ATOM   1064  CA  CYS A 139      36.270  -6.416  -6.248  1.00  0.02           C
ATOM   1065  C   CYS A 139      37.230  -7.605  -6.103  1.00  0.60           C
ATOM   1066  O   CYS A 139      36.891  -8.751  -6.420  1.00 -0.57           O
ATOM   1067  CB  CYS A 139      35.045  -6.603  -5.348  1.00 -0.12           C
ATOM   1068  SG  CYS A 139      33.823  -5.277  -5.584  1.00 -0.31           S
ATOM   1069  N   PHE A 140      38.441  -7.305  -5.608  1.00 -0.42           N
ATOM   1070  CA  PHE A 140      39.539  -8.259  -5.399  1.00 -0.00           C
ATOM   1071  C   PHE A 140      39.605  -8.841  -3.979  1.00  0.60           C
ATOM   1072  O   PHE A 140      40.271  -9.856  -3.776  1.00 -0.57           O
ATOM   1073  CB  PHE A 140      40.885  -7.563  -5.670  1.00 -0.03           C
ATOM   1074  CG  PHE A 140      41.147  -7.182  -7.111  1.00  0.01           C
ATOM   1075  CD1 PHE A 140      41.035  -8.156  -8.119  1.00 -0.13           C
ATOM   1076  CD2 PHE A 140      41.545  -5.872  -7.444  1.00 -0.13           C
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ATOM   1077  CE1 PHE A 140      41.312  -7.826  -9.453  1.00 -0.17           C
ATOM   1078  CE2 PHE A 140      41.822  -5.541  -8.780  1.00 -0.17           C
ATOM   1079  CZ  PHE A 140      41.707  -6.519  -9.781  1.00 -0.11           C
ATOM   1080  N   PHE A 141      38.976  -8.199  -2.991  1.00 -0.42           N
ATOM   1081  CA  PHE A 141      38.957  -8.663  -1.607  1.00 -0.00           C
ATOM   1082  C   PHE A 141      37.778  -8.046  -0.848  1.00  0.60           C
ATOM   1083  O   PHE A 141      37.523  -6.848  -0.982  1.00 -0.57           O
ATOM   1084  CB  PHE A 141      40.281  -8.287  -0.924  1.00 -0.03           C
ATOM   1085  CG  PHE A 141      40.692  -9.300   0.116  1.00  0.01           C
ATOM   1086  CD1 PHE A 141      40.418  -9.087   1.479  1.00 -0.13           C
ATOM   1087  CD2 PHE A 141      41.323 -10.486  -0.300  1.00 -0.13           C
ATOM   1088  CE1 PHE A 141      40.806 -10.051   2.429  1.00 -0.17           C
ATOM   1089  CE2 PHE A 141      41.690 -11.452   0.648  1.00 -0.17           C
ATOM   1090  CZ  PHE A 141      41.451 -11.227   2.012  1.00 -0.11           C
ATOM   1091  N   ASN A 142      37.059  -8.845  -0.054  1.00 -0.42           N
ATOM   1092  CA  ASN A 142      35.837  -8.388   0.607  1.00  0.01           C
ATOM   1093  C   ASN A 142      36.107  -7.706   1.955  1.00  0.60           C
ATOM   1094  O   ASN A 142      35.816  -8.223   3.036  1.00 -0.57           O
ATOM   1095  CB  ASN A 142      34.777  -9.489   0.670  1.00 -0.20           C
ATOM   1096  CG  ASN A 142      33.395  -8.852   0.712  1.00  0.71           C
ATOM   1097  ND2 ASN A 142      32.506  -9.338  -0.127  1.00 -0.92           N
ATOM   1098  OD1 ASN A 142      33.140  -7.902   1.450  1.00 -0.59           O
ATOM   1099  N   SER A 143      36.674  -6.508   1.869  1.00 -0.42           N
ATOM   1100  CA  SER A 143      36.832  -5.572   2.984  1.00 -0.02           C
ATOM   1101  C   SER A 143      35.539  -5.332   3.795  1.00  0.60           C
ATOM   1102  O   SER A 143      35.591  -5.248   5.022  1.00 -0.57           O
ATOM   1103  CB  SER A 143      37.292  -4.251   2.378  1.00  0.21           C
ATOM   1104  OG  SER A 143      36.383  -3.895   1.350  1.00 -0.65           O
ATOM   1105  N   VAL A 144      34.380  -5.252   3.124  1.00 -0.42           N
ATOM   1106  CA  VAL A 144      33.079  -4.983   3.762  1.00 -0.09           C
ATOM   1107  C   VAL A 144      32.636  -6.175   4.621  1.00  0.60           C
ATOM   1108  O   VAL A 144      32.122  -5.992   5.722  1.00 -0.57           O
ATOM   1109  CB  VAL A 144      31.992  -4.644   2.718  1.00  0.30           C
ATOM   1110  CG1 VAL A 144      30.718  -4.124   3.392  1.00 -0.32           C
ATOM   1111  CG2 VAL A 144      32.451  -3.587   1.703  1.00 -0.32           C
ATOM   1112  N   ALA A 145      32.895  -7.401   4.152  1.00 -0.42           N
ATOM   1113  CA  ALA A 145      32.734  -8.621   4.933  1.00  0.03           C
ATOM   1114  C   ALA A 145      33.781  -8.700   6.048  1.00  0.60           C
ATOM   1115  O   ALA A 145      33.404  -8.876   7.202  1.00 -0.57           O
ATOM   1116  CB  ALA A 145      32.831  -9.848   4.026  1.00 -0.18           C
ATOM   1117  N   VAL A 146      35.075  -8.534   5.742  1.00 -0.42           N
ATOM   1118  CA  VAL A 146      36.142  -8.548   6.760  1.00 -0.09           C
ATOM   1119  C   VAL A 146      35.807  -7.585   7.913  1.00  0.60           C
ATOM   1120  O   VAL A 146      35.959  -7.930   9.091  1.00 -0.57           O
ATOM   1121  CB  VAL A 146      37.521  -8.223   6.139  1.00  0.30           C
ATOM   1122  CG1 VAL A 146      38.600  -8.101   7.219  1.00 -0.32           C
ATOM   1123  CG2 VAL A 146      38.017  -9.301   5.167  1.00 -0.32           C
ATOM   1124  N   ALA A 147      35.293  -6.396   7.569  1.00 -0.42           N
ATOM   1125  CA  ALA A 147      34.879  -5.361   8.508  1.00  0.03           C
ATOM   1126  C   ALA A 147      33.750  -5.762   9.481  1.00  0.60           C
ATOM   1127  O   ALA A 147      33.579  -5.118  10.518  1.00 -0.57           O
ATOM   1128  CB  ALA A 147      34.522  -4.075   7.751  1.00 -0.18           C
ATOM   1129  N   ALA A 148      33.011  -6.841   9.194  1.00 -0.42           N
ATOM   1130  CA  ALA A 148      31.994  -7.411  10.080  1.00  0.03           C
ATOM   1131  C   ALA A 148      32.428  -8.794  10.609  1.00  0.60           C
ATOM   1132  O   ALA A 148      31.603  -9.659  10.914  1.00 -0.57           O
ATOM   1133  CB  ALA A 148      30.651  -7.389   9.352  1.00 -0.18           C
ATOM   1134  N   ARG A 149      33.755  -8.976  10.713  1.00 -0.35           N
ATOM   1135  CA  ARG A 149      34.427 -10.147  11.264  1.00 -0.26           C
ATOM   1136  C   ARG A 149      35.579  -9.770  12.235  1.00  0.73           C
ATOM   1137  O   ARG A 149      35.366  -8.954  13.137  1.00 -0.59           O
ATOM   1138  CB  ARG A 149      34.797 -11.101  10.105  1.00 -0.00           C
ATOM   1139  CG  ARG A 149      34.538 -12.573  10.492  1.00  0.04           C
ATOM   1140  CD  ARG A 149      33.036 -12.859  10.556  1.00  0.05           C
ATOM   1141  NE  ARG A 149      32.755 -14.278  10.775  1.00 -0.53           N
ATOM   1142  CZ  ARG A 149      31.508 -14.752  10.930  1.00  0.81           C
ATOM   1143  NH1 ARG A 149      31.259 -16.074  10.852  1.00 -0.86           N
ATOM   1144  NH2 ARG A 149      30.485 -13.923  11.140  1.00 -0.86           N
ATOM   1145  N   HIS A 150      36.763 -10.403  12.132  1.00 -0.42           N
ATOM   1146  CA  HIS A 150      37.748 -10.466  13.229  1.00 -0.06           C
ATOM   1147  C   HIS A 150      39.134  -9.812  12.979  1.00  0.60           C
ATOM   1148  O   HIS A 150      39.818  -9.488  13.948  1.00 -0.57           O
ATOM   1149  CB  HIS A 150      37.877 -11.933  13.665  1.00 -0.01           C
ATOM   1150  CG  HIS A 150      38.637 -12.086  14.956  1.00  0.19           C
ATOM   1151  CD2 HIS A 150      39.892 -12.610  15.083  1.00 -0.22           C
ATOM   1152  ND1 HIS A 150      38.197 -11.623  16.194  1.00 -0.54           N
ATOM   1153  CE1 HIS A 150      39.211 -11.867  17.041  1.00  0.16           C
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ATOM   1154  NE2 HIS A 150      40.239 -12.461  16.406  1.00 -0.28           N
ATOM   1155  N   ALA A 151      39.526  -9.514  11.727  1.00 -0.42           N
ATOM   1156  CA  ALA A 151      40.777  -8.782  11.393  1.00  0.03           C
ATOM   1157  C   ALA A 151      40.950  -7.397  12.068  1.00  0.60           C
ATOM   1158  O   ALA A 151      42.020  -6.790  12.018  1.00 -0.57           O
ATOM   1159  CB  ALA A 151      40.830  -8.569   9.881  1.00 -0.18           C
ATOM   1160  N   GLN A 152      39.862  -6.910  12.662  1.00 -0.42           N
ATOM   1161  CA  GLN A 152      39.675  -5.614  13.306  1.00 -0.00           C
ATOM   1162  C   GLN A 152      38.788  -5.755  14.555  1.00  0.60           C
ATOM   1163  O   GLN A 152      38.043  -4.846  14.914  1.00 -0.57           O
ATOM   1164  CB  GLN A 152      39.087  -4.642  12.278  1.00 -0.00           C
ATOM   1165  CG  GLN A 152      37.792  -5.145  11.623  1.00 -0.06           C
ATOM   1166  CD  GLN A 152      37.197  -4.054  10.763  1.00  0.70           C
ATOM   1167  NE2 GLN A 152      35.954  -3.706  11.024  1.00 -0.94           N
ATOM   1168  OE1 GLN A 152      37.822  -3.526   9.853  1.00 -0.61           O
ATOM   1169  N   THR A 153      38.808  -6.945  15.170  1.00 -0.42           N
ATOM   1170  CA  THR A 153      38.269  -7.268  16.502  1.00 -0.04           C
ATOM   1171  C   THR A 153      36.737  -7.098  16.722  1.00  0.60           C
ATOM   1172  O   THR A 153      36.197  -7.588  17.716  1.00 -0.57           O
ATOM   1173  CB  THR A 153      39.116  -6.550  17.585  1.00  0.37           C
ATOM   1174  CG2 THR A 153      39.155  -7.352  18.891  1.00 -0.24           C
ATOM   1175  OG1 THR A 153      40.475  -6.344  17.207  1.00 -0.68           O
ATOM   1176  N   ILE A 154      35.998  -6.488  15.781  1.00 -0.42           N
ATOM   1177  CA  ILE A 154      34.526  -6.319  15.768  1.00 -0.06           C
ATOM   1178  C   ILE A 154      33.742  -7.560  16.227  1.00  0.60           C
ATOM   1179  O   ILE A 154      32.908  -7.461  17.135  1.00 -0.57           O
ATOM   1180  CB  ILE A 154      34.079  -5.854  14.353  1.00  0.13           C
ATOM   1181  CG1 ILE A 154      34.314  -4.342  14.154  1.00 -0.04           C
ATOM   1182  CG2 ILE A 154      32.623  -6.215  13.981  1.00 -0.32           C
ATOM   1183  CD1 ILE A 154      33.423  -3.421  15.000  1.00 -0.07           C
ATOM   1184  N   SER A 155      34.034  -8.728  15.639  1.00 -0.42           N
ATOM   1185  CA  SER A 155      33.396 -10.008  15.965  1.00 -0.02           C
ATOM   1186  C   SER A 155      33.653 -10.500  17.399  1.00  0.60           C
ATOM   1187  O   SER A 155      33.039 -11.488  17.806  1.00 -0.57           O
ATOM   1188  CB  SER A 155      33.867 -11.076  14.972  1.00  0.21           C
ATOM   1189  OG  SER A 155      33.234 -12.317  15.212  1.00 -0.65           O
ATOM   1190  N   GLY A 156      34.547  -9.846  18.156  1.00 -0.42           N
ATOM   1191  CA  GLY A 156      34.818 -10.121  19.568  1.00 -0.03           C
ATOM   1192  C   GLY A 156      34.335  -9.023  20.528  1.00  0.60           C
ATOM   1193  O   GLY A 156      34.534  -9.175  21.731  1.00 -0.57           O
ATOM   1194  N   HIS A 157      33.705  -7.947  20.026  1.00 -0.42           N
ATOM   1195  CA  HIS A 157      33.146  -6.880  20.872  1.00  0.02           C
ATOM   1196  C   HIS A 157      31.692  -6.497  20.526  1.00  0.60           C
ATOM   1197  O   HIS A 157      31.005  -5.944  21.385  1.00 -0.57           O
ATOM   1198  CB  HIS A 157      34.082  -5.659  20.842  1.00 -0.05           C
ATOM   1199  CG  HIS A 157      33.993  -4.758  22.057  1.00 -0.03           C
ATOM   1200  CD2 HIS A 157      33.087  -3.755  22.284  1.00  0.13           C
ATOM   1201  ND1 HIS A 157      34.882  -4.732  23.112  1.00 -0.38           N
ATOM   1202  CE1 HIS A 157      34.522  -3.734  23.941  1.00  0.21           C
ATOM   1203  NE2 HIS A 157      33.439  -3.100  23.469  1.00 -0.57           N
ATOM   1204  N   ALA A 158      31.175  -6.814  19.326  1.00 -0.42           N
ATOM   1205  CA  ALA A 158      29.772  -6.588  18.978  1.00  0.03           C
ATOM   1206  C   ALA A 158      28.983  -7.907  18.927  1.00  0.60           C
ATOM   1207  O   ALA A 158      29.171  -8.731  18.036  1.00 -0.57           O
ATOM   1208  CB  ALA A 158      29.699  -5.816  17.663  1.00 -0.18           C
ATOM   1209  N   LEU A 159      28.072  -8.091  19.888  1.00 -0.42           N
ATOM   1210  CA  LEU A 159      27.127  -9.211  19.936  1.00 -0.05           C
ATOM   1211  C   LEU A 159      26.091  -9.178  18.782  1.00  0.60           C
ATOM   1212  O   LEU A 159      25.536 -10.214  18.419  1.00 -0.57           O
ATOM   1213  CB  LEU A 159      26.460  -9.149  21.324  1.00 -0.11           C
ATOM   1214  CG  LEU A 159      25.513 -10.304  21.702  1.00  0.35           C
ATOM   1215  CD1 LEU A 159      26.219 -11.662  21.719  1.00 -0.41           C
ATOM   1216  CD2 LEU A 159      24.942 -10.045  23.100  1.00 -0.41           C
ATOM   1217  N   ARG A 160      25.840  -7.987  18.211  1.00 -0.35           N
ATOM   1218  CA  ARG A 160      24.874  -7.694  17.135  1.00 -0.26           C
ATOM   1219  C   ARG A 160      25.401  -6.552  16.235  1.00  0.73           C
ATOM   1220  O   ARG A 160      25.570  -5.435  16.729  1.00 -0.59           O
ATOM   1221  CB  ARG A 160      23.525  -7.239  17.746  1.00 -0.00           C
ATOM   1222  CG  ARG A 160      22.782  -8.317  18.554  1.00  0.04           C
ATOM   1223  CD  ARG A 160      21.424  -7.851  19.128  1.00  0.05           C
ATOM   1224  NE  ARG A 160      21.446  -6.556  19.850  1.00 -0.53           N
ATOM   1225  CZ  ARG A 160      22.243  -6.175  20.843  1.00  0.81           C
ATOM   1226  NH1 ARG A 160      22.181  -4.941  21.273  1.00 -0.86           N
ATOM   1227  NH2 ARG A 160      23.106  -6.998  21.392  1.00 -0.86           N
ATOM   1228  N   ILE A 161      25.638  -6.802  14.937  1.00 -0.42           N
ATOM   1229  CA  ILE A 161      26.185  -5.842  13.954  1.00 -0.06           C
ATOM   1230  C   ILE A 161      25.154  -5.571  12.847  1.00  0.60           C
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ATOM   1231  O   ILE A 161      24.609  -6.527  12.284  1.00 -0.57           O
ATOM   1232  CB  ILE A 161      27.484  -6.404  13.310  1.00  0.13           C
ATOM   1233  CG1 ILE A 161      28.610  -6.672  14.332  1.00 -0.04           C
ATOM   1234  CG2 ILE A 161      28.040  -5.433  12.246  1.00 -0.32           C
ATOM   1235  CD1 ILE A 161      28.584  -8.066  14.970  1.00 -0.07           C
ATOM   1236  N   LEU A 162      24.910  -4.296  12.499  1.00 -0.42           N
ATOM   1237  CA  LEU A 162      23.952  -3.932  11.446  1.00 -0.05           C
ATOM   1238  C   LEU A 162      24.650  -3.398  10.179  1.00  0.60           C
ATOM   1239  O   LEU A 162      25.164  -2.274  10.150  1.00 -0.57           O
ATOM   1240  CB  LEU A 162      22.895  -2.974  12.028  1.00 -0.11           C
ATOM   1241  CG  LEU A 162      21.754  -2.596  11.058  1.00  0.35           C
ATOM   1242  CD1 LEU A 162      20.996  -3.817  10.524  1.00 -0.41           C
ATOM   1243  CD2 LEU A 162      20.731  -1.701  11.766  1.00 -0.41           C
ATOM   1244  N   ILE A 163      24.624  -4.212   9.116  1.00 -0.42           N
ATOM   1245  CA  ILE A 163      25.136  -3.810   7.803  1.00 -0.06           C
ATOM   1246  C   ILE A 163      23.987  -3.220   6.972  1.00  0.60           C
ATOM   1247  O   ILE A 163      22.956  -3.873   6.763  1.00 -0.57           O
ATOM   1248  CB  ILE A 163      25.855  -4.967   7.071  1.00  0.13           C
ATOM   1249  CG1 ILE A 163      26.903  -5.637   7.994  1.00 -0.04           C
ATOM   1250  CG2 ILE A 163      26.505  -4.398   5.790  1.00 -0.32           C
ATOM   1251  CD1 ILE A 163      27.730  -6.750   7.341  1.00 -0.07           C
ATOM   1252  N   VAL A 164      24.183  -1.982   6.491  1.00 -0.42           N
ATOM   1253  CA  VAL A 164      23.209  -1.286   5.628  1.00 -0.09           C
ATOM   1254  C   VAL A 164      23.787  -1.028   4.227  1.00  0.60           C
ATOM   1255  O   VAL A 164      24.577  -0.102   4.008  1.00 -0.57           O
ATOM   1256  CB  VAL A 164      22.587  -0.015   6.262  1.00  0.30           C
ATOM   1257  CG1 VAL A 164      21.054  -0.144   6.261  1.00 -0.32           C
ATOM   1258  CG2 VAL A 164      23.012   0.266   7.716  1.00 -0.32           C
ATOM   1259  N   ASP A 165      23.356  -1.897   3.305  1.00 -0.52           N
ATOM   1260  CA  ASP A 165      23.741  -1.978   1.898  1.00  0.04           C
ATOM   1261  C   ASP A 165      22.830  -1.074   1.048  1.00  0.54           C
ATOM   1262  O   ASP A 165      21.611  -1.276   0.954  1.00 -0.58           O
ATOM   1263  CB  ASP A 165      23.727  -3.471   1.507  1.00 -0.03           C
ATOM   1264  CG  ASP A 165      23.725  -3.832   0.010  1.00  0.80           C
ATOM   1265  OD1 ASP A 165      22.889  -3.291  -0.748  1.00 -0.80           O
ATOM   1266  OD2 ASP A 165      24.520  -4.725  -0.359  1.00 -0.80           O
ATOM   1267  N   TRP A 166      23.463  -0.048   0.470  1.00 -0.42           N
ATOM   1268  CA  TRP A 166      22.857   0.993  -0.368  1.00 -0.03           C
ATOM   1269  C   TRP A 166      23.684   1.222  -1.662  1.00  0.60           C
ATOM   1270  O   TRP A 166      23.751   2.342  -2.184  1.00 -0.57           O
ATOM   1271  CB  TRP A 166      22.677   2.305   0.430  1.00 -0.01           C
ATOM   1272  CG  TRP A 166      22.028   2.300   1.794  1.00 -0.14           C
ATOM   1273  CD1 TRP A 166      21.045   1.493   2.255  1.00 -0.16           C
ATOM   1274  CD2 TRP A 166      22.266   3.241   2.883  1.00  0.12           C
ATOM   1275  CE2 TRP A 166      21.473   2.882   4.009  1.00  0.14           C
ATOM   1276  CE3 TRP A 166      23.070   4.387   3.012  1.00 -0.24           C
ATOM   1277  NE1 TRP A 166      20.753   1.788   3.570  1.00 -0.34           N
ATOM   1278  CZ2 TRP A 166      21.532   3.603   5.216  1.00 -0.26           C
ATOM   1279  CZ3 TRP A 166      23.058   5.178   4.175  1.00 -0.20           C
ATOM   1280  CH2 TRP A 166      22.292   4.783   5.281  1.00 -0.11           C
ATOM   1281  N   ASP A 167      24.353   0.167  -2.164  1.00 -0.52           N
ATOM   1282  CA  ASP A 167      24.744   0.089  -3.581  1.00  0.04           C
ATOM   1283  C   ASP A 167      23.470  -0.105  -4.425  1.00  0.54           C
ATOM   1284  O   ASP A 167      22.479  -0.652  -3.940  1.00 -0.58           O
ATOM   1285  CB  ASP A 167      25.823  -0.977  -3.908  1.00 -0.03           C
ATOM   1286  CG  ASP A 167      26.599  -0.761  -5.248  1.00  0.80           C
ATOM   1287  OD1 ASP A 167      27.812  -1.096  -5.240  1.00 -0.80           O
ATOM   1288  OD2 ASP A 167      26.007  -0.297  -6.261  1.00 -0.80           O
ATOM   1289  N   VAL A 168      23.464   0.372  -5.677  1.00 -0.42           N
ATOM   1290  CA  VAL A 168      22.353   0.144  -6.613  1.00 -0.09           C
ATOM   1291  C   VAL A 168      22.304  -1.329  -7.023  1.00  0.60           C
ATOM   1292  O   VAL A 168      21.216  -1.875  -7.227  1.00 -0.57           O
ATOM   1293  CB  VAL A 168      22.413   1.064  -7.859  1.00  0.30           C
ATOM   1294  CG1 VAL A 168      23.369   0.601  -8.972  1.00 -0.32           C
ATOM   1295  CG2 VAL A 168      21.011   1.257  -8.464  1.00 -0.32           C
ATOM   1296  N   HIS A 169      23.470  -1.994  -7.089  1.00 -0.42           N
ATOM   1297  CA  HIS A 169      23.585  -3.448  -7.246  1.00 -0.06           C
ATOM   1298  C   HIS A 169      23.108  -4.136  -5.949  1.00  0.60           C
ATOM   1299  O   HIS A 169      23.249  -3.578  -4.862  1.00 -0.57           O
ATOM   1300  CB  HIS A 169      25.049  -3.837  -7.543  1.00 -0.01           C
ATOM   1301  CG  HIS A 169      25.644  -3.196  -8.775  1.00  0.19           C
ATOM   1302  CD2 HIS A 169      25.914  -3.812  -9.966  1.00 -0.22           C
ATOM   1303  ND1 HIS A 169      26.035  -1.862  -8.853  1.00 -0.54           N
ATOM   1304  CE1 HIS A 169      26.524  -1.691 -10.083  1.00  0.16           C
ATOM   1305  NE2 HIS A 169      26.472  -2.845 -10.777  1.00 -0.28           N
ATOM   1306  N   HIS A 170      22.637  -5.386  -6.007  1.00 -0.42           N
ATOM   1307  CA  HIS A 170      22.641  -6.212  -4.790  1.00  0.02           C
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ATOM   1308  C   HIS A 170      24.098  -6.452  -4.344  1.00  0.60           C
ATOM   1309  O   HIS A 170      24.900  -6.888  -5.168  1.00 -0.57           O
ATOM   1310  CB  HIS A 170      21.934  -7.556  -5.041  1.00 -0.05           C
ATOM   1311  CG  HIS A 170      22.098  -8.516  -3.880  1.00 -0.03           C
ATOM   1312  CD2 HIS A 170      22.705  -9.734  -3.939  1.00  0.13           C
ATOM   1313  ND1 HIS A 170      21.797  -8.299  -2.550  1.00 -0.38           N
ATOM   1314  CE1 HIS A 170      22.227  -9.349  -1.836  1.00  0.21           C
ATOM   1315  NE2 HIS A 170      22.802 -10.248  -2.639  1.00 -0.57           N
ATOM   1316  N   GLY A 171      24.466  -6.222  -3.074  1.00 -0.42           N
ATOM   1317  CA  GLY A 171      25.747  -6.705  -2.531  1.00 -0.03           C
ATOM   1318  C   GLY A 171      25.702  -8.162  -2.043  1.00  0.60           C
ATOM   1319  O   GLY A 171      25.291  -8.434  -0.912  1.00 -0.57           O
ATOM   1320  N   ASN A 172      26.137  -9.110  -2.895  1.00 -0.42           N
ATOM   1321  CA  ASN A 172      26.094 -10.561  -2.624  1.00  0.01           C
ATOM   1322  C   ASN A 172      27.271 -11.109  -1.774  1.00  0.60           C
ATOM   1323  O   ASN A 172      27.066 -11.845  -0.809  1.00 -0.57           O
ATOM   1324  CB  ASN A 172      25.955 -11.319  -3.970  1.00 -0.20           C
ATOM   1325  CG  ASN A 172      27.172 -11.249  -4.890  1.00  0.71           C
ATOM   1326  ND2 ASN A 172      27.314 -12.175  -5.830  1.00 -0.92           N
ATOM   1327  OD1 ASN A 172      28.002 -10.354  -4.773  1.00 -0.59           O
ATOM   1328  N   GLY A 173      28.524 -10.758  -2.098  1.00 -0.42           N
ATOM   1329  CA  GLY A 173      29.740 -11.372  -1.524  1.00 -0.03           C
ATOM   1330  C   GLY A 173      29.913 -11.195  -0.008  1.00  0.60           C
ATOM   1331  O   GLY A 173      30.518 -12.018   0.684  1.00 -0.57           O
ATOM   1332  N   THR A 174      29.332 -10.114   0.511  1.00 -0.42           N
ATOM   1333  CA  THR A 174      29.130  -9.814   1.929  1.00 -0.04           C
ATOM   1334  C   THR A 174      28.149 -10.804   2.580  1.00  0.60           C
ATOM   1335  O   THR A 174      28.498 -11.501   3.535  1.00 -0.57           O
ATOM   1336  CB  THR A 174      28.543  -8.392   2.035  1.00  0.37           C
ATOM   1337  CG2 THR A 174      29.602  -7.298   1.924  1.00 -0.24           C
ATOM   1338  OG1 THR A 174      27.610  -8.200   0.985  1.00 -0.68           O
ATOM   1339  N   GLN A 175      26.923 -10.889   2.041  1.00 -0.42           N
ATOM   1340  CA  GLN A 175      25.867 -11.831   2.441  1.00 -0.00           C
ATOM   1341  C   GLN A 175      26.415 -13.271   2.524  1.00  0.60           C
ATOM   1342  O   GLN A 175      26.228 -13.953   3.537  1.00 -0.57           O
ATOM   1343  CB  GLN A 175      24.716 -11.713   1.422  1.00 -0.00           C
ATOM   1344  CG  GLN A 175      23.451 -12.481   1.796  1.00 -0.06           C
ATOM   1345  CD  GLN A 175      22.670 -12.804   0.564  1.00  0.70           C
ATOM   1346  NE2 GLN A 175      23.073 -13.891  -0.047  1.00 -0.94           N
ATOM   1347  OE1 GLN A 175      21.744 -12.105   0.160  1.00 -0.61           O
ATOM   1348  N   HIS A 176      27.182 -13.668   1.500  1.00 -0.42           N
ATOM   1349  CA  HIS A 176      27.897 -14.945   1.376  1.00 -0.06           C
ATOM   1350  C   HIS A 176      28.978 -15.215   2.461  1.00  0.60           C
ATOM   1351  O   HIS A 176      29.634 -16.261   2.433  1.00 -0.57           O
ATOM   1352  CB  HIS A 176      28.479 -15.041  -0.049  1.00 -0.01           C
ATOM   1353  CG  HIS A 176      27.456 -15.032  -1.171  1.00  0.19           C
ATOM   1354  CD2 HIS A 176      27.727 -14.776  -2.484  1.00 -0.22           C
ATOM   1355  ND1 HIS A 176      26.098 -15.351  -1.057  1.00 -0.54           N
ATOM   1356  CE1 HIS A 176      25.594 -15.288  -2.299  1.00  0.16           C
ATOM   1357  NE2 HIS A 176      26.553 -14.957  -3.178  1.00 -0.28           N
ATOM   1358  N   MET A 177      29.161 -14.322   3.446  1.00 -0.42           N
ATOM   1359  CA  MET A 177      30.008 -14.507   4.637  1.00 -0.02           C
ATOM   1360  C   MET A 177      29.194 -14.611   5.949  1.00  0.60           C
ATOM   1361  O   MET A 177      29.777 -14.892   6.998  1.00 -0.57           O
ATOM   1362  CB  MET A 177      31.024 -13.346   4.690  1.00  0.03           C
ATOM   1363  CG  MET A 177      32.117 -13.463   5.761  1.00  0.00           C
ATOM   1364  SD  MET A 177      33.213 -14.898   5.611  1.00 -0.27           S
ATOM   1365  CE  MET A 177      34.221 -14.598   7.085  1.00 -0.05           C
ATOM   1366  N   PHE A 178      27.871 -14.385   5.901  1.00 -0.42           N
ATOM   1367  CA  PHE A 178      27.033 -14.211   7.099  1.00 -0.00           C
ATOM   1368  C   PHE A 178      25.706 -14.973   7.089  1.00  0.60           C
ATOM   1369  O   PHE A 178      25.015 -14.992   8.109  1.00 -0.57           O
ATOM   1370  CB  PHE A 178      26.752 -12.713   7.284  1.00 -0.03           C
ATOM   1371  CG  PHE A 178      28.016 -11.898   7.439  1.00  0.01           C
ATOM   1372  CD1 PHE A 178      28.323 -10.861   6.539  1.00 -0.13           C
ATOM   1373  CD2 PHE A 178      28.908 -12.208   8.478  1.00 -0.13           C
ATOM   1374  CE1 PHE A 178      29.535 -10.159   6.664  1.00 -0.17           C
ATOM   1375  CE2 PHE A 178      30.106 -11.500   8.609  1.00 -0.17           C
ATOM   1376  CZ  PHE A 178      30.430 -10.491   7.694  1.00 -0.11           C
ATOM   1377  N   GLU A 179      25.344 -15.611   5.961  1.00 -0.52           N
ATOM   1378  CA  GLU A 179      24.073 -16.327   5.716  1.00  0.04           C
ATOM   1379  C   GLU A 179      23.644 -17.265   6.855  1.00  0.54           C
ATOM   1380  O   GLU A 179      22.445 -17.464   7.082  1.00 -0.58           O
ATOM   1381  CB  GLU A 179      24.172 -17.096   4.379  1.00  0.06           C
ATOM   1382  CG  GLU A 179      22.769 -17.416   3.878  1.00  0.01           C
ATOM   1383  CD  GLU A 179      22.696 -17.987   2.469  1.00  0.81           C
ATOM   1384  OE1 GLU A 179      22.931 -19.203   2.280  1.00 -0.82           O
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ATOM   1385  OE2 GLU A 179      22.340 -17.183   1.580  1.00 -0.82           O
ATOM   1386  N   ASP A 180      24.629 -17.823   7.561  1.00 -0.52           N
ATOM   1387  CA  ASP A 180      24.475 -18.682   8.726  1.00  0.04           C
ATOM   1388  C   ASP A 180      24.313 -17.979  10.084  1.00  0.54           C
ATOM   1389  O   ASP A 180      23.774 -18.633  10.982  1.00 -0.58           O
ATOM   1390  CB  ASP A 180      25.706 -19.606   8.773  1.00 -0.03           C
ATOM   1391  CG  ASP A 180      27.044 -18.845   8.645  1.00  0.80           C
ATOM   1392  OD1 ASP A 180      27.755 -18.727   9.679  1.00 -0.80           O
ATOM   1393  OD2 ASP A 180      27.352 -18.409   7.503  1.00 -0.80           O
ATOM   1394  N   ASP A 181      24.737 -16.717  10.279  1.00 -0.52           N
ATOM   1395  CA  ASP A 181      24.940 -16.208  11.647  1.00  0.04           C
ATOM   1396  C   ASP A 181      23.996 -15.058  12.092  1.00  0.54           C
ATOM   1397  O   ASP A 181      23.749 -14.098  11.354  1.00 -0.58           O
ATOM   1398  CB  ASP A 181      26.429 -15.963  11.953  1.00 -0.03           C
ATOM   1399  CG  ASP A 181      26.928 -14.524  11.771  1.00  0.80           C
ATOM   1400  OD1 ASP A 181      26.428 -13.646  12.520  1.00 -0.80           O
ATOM   1401  OD2 ASP A 181      27.862 -14.329  10.944  1.00 -0.80           O
ATOM   1402  N   PRO A 182      23.477 -15.159  13.341  1.00 -0.25           N
ATOM   1403  CA  PRO A 182      22.532 -14.216  13.943  1.00 -0.03           C
ATOM   1404  C   PRO A 182      23.200 -12.998  14.607  1.00  0.59           C
ATOM   1405  O   PRO A 182      22.542 -12.270  15.348  1.00 -0.57           O
ATOM   1406  CB  PRO A 182      21.771 -15.054  14.977  1.00 -0.01           C
ATOM   1407  CG  PRO A 182      22.861 -15.975  15.517  1.00  0.02           C
ATOM   1408  CD  PRO A 182      23.678 -16.277  14.265  1.00  0.02           C
ATOM   1409  N   SER A 183      24.497 -12.767  14.374  1.00 -0.42           N
ATOM   1410  CA  SER A 183      25.208 -11.572  14.844  1.00 -0.02           C
ATOM   1411  C   SER A 183      25.441 -10.555  13.717  1.00  0.60           C
ATOM   1412  O   SER A 183      25.808  -9.419  14.035  1.00 -0.57           O
ATOM   1413  CB  SER A 183      26.514 -11.926  15.570  1.00  0.21           C
ATOM   1414  OG  SER A 183      26.243 -12.347  16.899  1.00 -0.65           O
ATOM   1415  N   VAL A 184      25.135 -10.874  12.450  1.00 -0.42           N
ATOM   1416  CA  VAL A 184      25.346  -9.945  11.328  1.00 -0.09           C
ATOM   1417  C   VAL A 184      24.094  -9.784  10.464  1.00  0.60           C
ATOM   1418  O   VAL A 184      23.858 -10.550   9.526  1.00 -0.57           O
ATOM   1419  CB  VAL A 184      26.589 -10.337  10.507  1.00  0.30           C
ATOM   1420  CG1 VAL A 184      26.862  -9.268   9.442  1.00 -0.32           C
ATOM   1421  CG2 VAL A 184      27.844 -10.411  11.394  1.00 -0.32           C
ATOM   1422  N   LEU A 185      23.312  -8.744  10.774  1.00 -0.42           N
ATOM   1423  CA  LEU A 185      22.114  -8.443   9.998  1.00 -0.05           C
ATOM   1424  C   LEU A 185      22.480  -7.635   8.742  1.00  0.60           C
ATOM   1425  O   LEU A 185      23.161  -6.610   8.827  1.00 -0.57           O
ATOM   1426  CB  LEU A 185      21.074  -7.778  10.912  1.00 -0.11           C
ATOM   1427  CG  LEU A 185      19.633  -7.996  10.412  1.00  0.35           C
ATOM   1428  CD1 LEU A 185      18.640  -7.825  11.552  1.00 -0.41           C
ATOM   1429  CD2 LEU A 185      19.211  -7.043   9.296  1.00 -0.41           C
ATOM   1430  N   TYR A 186      22.011  -8.105   7.580  1.00 -0.42           N
ATOM   1431  CA  TYR A 186      22.378  -7.600   6.252  1.00 -0.00           C
ATOM   1432  C   TYR A 186      21.183  -7.006   5.487  1.00  0.60           C
ATOM   1433  O   TYR A 186      20.444  -7.730   4.807  1.00 -0.57           O
ATOM   1434  CB  TYR A 186      23.069  -8.707   5.437  1.00 -0.02           C
ATOM   1435  CG  TYR A 186      23.800  -8.129   4.245  1.00 -0.00           C
ATOM   1436  CD1 TYR A 186      23.176  -7.986   2.987  1.00 -0.19           C
ATOM   1437  CD2 TYR A 186      25.104  -7.647   4.438  1.00 -0.19           C
ATOM   1438  CE1 TYR A 186      23.852  -7.324   1.943  1.00 -0.23           C
ATOM   1439  CE2 TYR A 186      25.766  -6.979   3.402  1.00 -0.23           C
ATOM   1440  CZ  TYR A 186      25.140  -6.804   2.163  1.00  0.32           C
ATOM   1441  OH  TYR A 186      25.829  -6.142   1.194  1.00 -0.56           O
ATOM   1442  N   VAL A 187      20.996  -5.680   5.591  1.00 -0.42           N
ATOM   1443  CA  VAL A 187      19.855  -4.994   4.948  1.00 -0.09           C
ATOM   1444  C   VAL A 187      20.284  -4.333   3.642  1.00  0.60           C
ATOM   1445  O   VAL A 187      21.057  -3.380   3.682  1.00 -0.57           O
ATOM   1446  CB  VAL A 187      19.190  -3.934   5.856  1.00  0.30           C
ATOM   1447  CG1 VAL A 187      17.829  -3.517   5.271  1.00 -0.32           C
ATOM   1448  CG2 VAL A 187      18.943  -4.428   7.281  1.00 -0.32           C
ATOM   1449  N   SER A 188      19.752  -4.800   2.504  1.00 -0.42           N
ATOM   1450  CA  SER A 188      20.094  -4.294   1.169  1.00 -0.02           C
ATOM   1451  C   SER A 188      18.914  -3.647   0.427  1.00  0.60           C
ATOM   1452  O   SER A 188      17.835  -4.235   0.282  1.00 -0.57           O
ATOM   1453  CB  SER A 188      20.703  -5.417   0.329  1.00  0.21           C
ATOM   1454  OG  SER A 188      21.051  -4.936  -0.955  1.00 -0.65           O
ATOM   1455  N   LEU A 189      19.161  -2.422  -0.061  1.00 -0.42           N
ATOM   1456  CA  LEU A 189      18.203  -1.576  -0.780  1.00 -0.05           C
ATOM   1457  C   LEU A 189      18.691  -1.339  -2.221  1.00  0.60           C
ATOM   1458  O   LEU A 189      19.287  -0.300  -2.536  1.00 -0.57           O
ATOM   1459  CB  LEU A 189      17.988  -0.251  -0.033  1.00 -0.11           C
ATOM   1460  CG  LEU A 189      17.066  -0.267   1.193  1.00  0.35           C
ATOM   1461  CD1 LEU A 189      17.498  -1.185   2.343  1.00 -0.41           C
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ATOM   1462  CD2 LEU A 189      16.983   1.173   1.724  1.00 -0.41           C
ATOM   1463  N   HIS A 190      18.399  -2.329  -3.074  1.00 -0.42           N
ATOM   1464  CA  HIS A 190      18.993  -2.536  -4.391  1.00 -0.06           C
ATOM   1465  C   HIS A 190      17.949  -2.553  -5.525  1.00  0.60           C
ATOM   1466  O   HIS A 190      16.736  -2.484  -5.306  1.00 -0.57           O
ATOM   1467  CB  HIS A 190      19.779  -3.863  -4.343  1.00 -0.01           C
ATOM   1468  CG  HIS A 190      18.962  -5.106  -4.025  1.00  0.19           C
ATOM   1469  CD2 HIS A 190      19.362  -6.149  -3.245  1.00 -0.22           C
ATOM   1470  ND1 HIS A 190      17.690  -5.403  -4.507  1.00 -0.54           N
ATOM   1471  CE1 HIS A 190      17.365  -6.601  -3.995  1.00  0.16           C
ATOM   1472  NE2 HIS A 190      18.355  -7.087  -3.232  1.00 -0.28           N
ATOM   1473  N   ARG A 191      18.438  -2.662  -6.764  1.00 -0.35           N
ATOM   1474  CA  ARG A 191      17.663  -3.220  -7.867  1.00 -0.26           C
ATOM   1475  C   ARG A 191      17.882  -4.747  -7.949  1.00  0.73           C
ATOM   1476  O   ARG A 191      18.927  -5.256  -7.543  1.00 -0.59           O
ATOM   1477  CB  ARG A 191      18.066  -2.533  -9.181  1.00 -0.00           C
ATOM   1478  CG  ARG A 191      17.708  -1.037  -9.212  1.00  0.04           C
ATOM   1479  CD  ARG A 191      17.984  -0.402 -10.581  1.00  0.05           C
ATOM   1480  NE  ARG A 191      17.120  -0.984 -11.624  1.00 -0.53           N
ATOM   1481  CZ  ARG A 191      17.495  -1.593 -12.744  1.00  0.81           C
ATOM   1482  NH1 ARG A 191      16.609  -2.267 -13.440  1.00 -0.86           N
ATOM   1483  NH2 ARG A 191      18.734  -1.571 -13.183  1.00 -0.86           N
ATOM   1484  N   TYR A 192      16.894  -5.457  -8.520  1.00 -0.42           N
ATOM   1485  CA  TYR A 192      16.925  -6.904  -8.793  1.00 -0.00           C
ATOM   1486  C   TYR A 192      16.299  -7.230 -10.159  1.00  0.60           C
ATOM   1487  O   TYR A 192      15.083  -7.388 -10.289  1.00 -0.57           O
ATOM   1488  CB  TYR A 192      16.250  -7.694  -7.663  1.00 -0.02           C
ATOM   1489  CG  TYR A 192      16.235  -9.198  -7.899  1.00 -0.00           C
ATOM   1490  CD1 TYR A 192      15.025  -9.890  -8.104  1.00 -0.19           C
ATOM   1491  CD2 TYR A 192      17.448  -9.906  -7.950  1.00 -0.19           C
ATOM   1492  CE1 TYR A 192      15.042 -11.274  -8.369  1.00 -0.23           C
ATOM   1493  CE2 TYR A 192      17.467 -11.286  -8.220  1.00 -0.23           C
ATOM   1494  CZ  TYR A 192      16.261 -11.970  -8.433  1.00  0.32           C
ATOM   1495  OH  TYR A 192      16.269 -13.309  -8.698  1.00 -0.56           O
ATOM   1496  N   ASP A 193      17.150  -7.284 -11.188  1.00 -0.52           N
ATOM   1497  CA  ASP A 193      16.789  -7.610 -12.571  1.00  0.04           C
ATOM   1498  C   ASP A 193      17.888  -8.468 -13.208  1.00  0.54           C
ATOM   1499  O   ASP A 193      19.078  -8.249 -12.987  1.00 -0.58           O
ATOM   1500  CB  ASP A 193      16.553  -6.322 -13.384  1.00 -0.03           C
ATOM   1501  CG  ASP A 193      16.203  -6.625 -14.845  1.00  0.80           C
ATOM   1502  OD1 ASP A 193      17.158  -6.794 -15.641  1.00 -0.80           O
ATOM   1503  OD2 ASP A 193      14.992  -6.709 -15.142  1.00 -0.80           O
ATOM   1504  N   HIS A 194      17.476  -9.449 -14.010  1.00 -0.42           N
ATOM   1505  CA  HIS A 194      18.355 -10.474 -14.571  1.00 -0.06           C
ATOM   1506  C   HIS A 194      19.041 -10.074 -15.893  1.00  0.60           C
ATOM   1507  O   HIS A 194      19.866 -10.840 -16.394  1.00 -0.57           O
ATOM   1508  CB  HIS A 194      17.567 -11.791 -14.724  1.00 -0.01           C
ATOM   1509  CG  HIS A 194      16.667 -12.103 -13.549  1.00  0.19           C
ATOM   1510  CD2 HIS A 194      16.959 -12.897 -12.476  1.00 -0.22           C
ATOM   1511  ND1 HIS A 194      15.397 -11.549 -13.372  1.00 -0.54           N
ATOM   1512  CE1 HIS A 194      14.958 -12.016 -12.195  1.00  0.16           C
ATOM   1513  NE2 HIS A 194      15.868 -12.832 -11.638  1.00 -0.28           N
ATOM   1514  N   GLY A 195      18.743  -8.906 -16.479  1.00 -0.42           N
ATOM   1515  CA  GLY A 195      19.271  -8.439 -17.769  1.00 -0.03           C
ATOM   1516  C   GLY A 195      20.779  -8.160 -17.771  1.00  0.60           C
ATOM   1517  O   GLY A 195      21.191  -7.001 -17.743  1.00 -0.57           O
ATOM   1518  N   THR A 196      21.623  -9.200 -17.769  1.00 -0.42           N
ATOM   1519  CA  THR A 196      23.086  -9.108 -17.538  1.00 -0.04           C
ATOM   1520  C   THR A 196      23.425  -8.502 -16.159  1.00  0.60           C
ATOM   1521  O   THR A 196      24.440  -7.833 -15.963  1.00 -0.57           O
ATOM   1522  CB  THR A 196      23.838  -8.403 -18.695  1.00  0.37           C
ATOM   1523  CG2 THR A 196      23.548  -9.049 -20.052  1.00 -0.24           C
ATOM   1524  OG1 THR A 196      23.519  -7.030 -18.791  1.00 -0.68           O
ATOM   1525  N   PHE A 197      22.532  -8.708 -15.188  1.00 -0.42           N
ATOM   1526  CA  PHE A 197      22.394  -7.834 -14.029  1.00 -0.00           C
ATOM   1527  C   PHE A 197      23.354  -8.599 -13.058  1.00  0.60           C
ATOM   1528  O   PHE A 197      22.949  -9.534 -12.353  1.00 -0.57           O
ATOM   1529  CB  PHE A 197      21.480  -6.612 -14.137  1.00 -0.03           C
ATOM   1530  CG  PHE A 197      22.125  -5.242 -14.215  1.00  0.01           C
ATOM   1531  CD1 PHE A 197      21.649  -4.318 -15.167  1.00 -0.13           C
ATOM   1532  CD2 PHE A 197      23.089  -4.838 -13.270  1.00 -0.13           C
ATOM   1533  CE1 PHE A 197      22.099  -2.986 -15.145  1.00 -0.17           C
ATOM   1534  CE2 PHE A 197      23.543  -3.507 -13.251  1.00 -0.17           C
ATOM   1535  CZ  PHE A 197      23.030  -2.579 -14.175  1.00 -0.11           C
ATOM   1536  N   PHE A 198      24.654  -8.247 -13.027  1.00 -0.42           N
ATOM   1537  CA  PHE A 198      25.581  -8.744 -12.007  1.00 -0.00           C
ATOM   1538  C   PHE A 198      25.466  -7.947 -10.685  1.00  0.60           C
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ATOM   1539  O   PHE A 198      25.460  -6.715 -10.720  1.00 -0.57           O
ATOM   1540  CB  PHE A 198      27.033  -8.681 -12.504  1.00 -0.03           C
ATOM   1541  CG  PHE A 198      27.988  -9.226 -11.455  1.00  0.01           C
ATOM   1542  CD1 PHE A 198      28.540  -8.365 -10.487  1.00 -0.13           C
ATOM   1543  CD2 PHE A 198      28.216 -10.612 -11.365  1.00 -0.13           C
ATOM   1544  CE1 PHE A 198      29.269  -8.893  -9.409  1.00 -0.17           C
ATOM   1545  CE2 PHE A 198      28.965 -11.135 -10.295  1.00 -0.17           C
ATOM   1546  CZ  PHE A 198      29.480 -10.277  -9.309  1.00 -0.11           C
ATOM   1547  N   PRO A 199      25.413  -8.604  -9.509  1.00 -0.25           N
ATOM   1548  CA  PRO A 199      24.991  -9.983  -9.278  1.00 -0.03           C
ATOM   1549  C   PRO A 199      23.462 -10.080  -9.217  1.00  0.59           C
ATOM   1550  O   PRO A 199      22.935 -11.164  -9.028  1.00 -0.57           O
ATOM   1551  CB  PRO A 199      25.596 -10.345  -7.924  1.00 -0.01           C
ATOM   1552  CG  PRO A 199      25.443  -9.039  -7.155  1.00  0.02           C
ATOM   1553  CD  PRO A 199      25.668  -7.971  -8.227  1.00  0.02           C
ATOM   1554  N   MET A 200      22.754  -8.957  -9.390  1.00 -0.42           N
ATOM   1555  CA  MET A 200      21.312  -8.791  -9.218  1.00 -0.02           C
ATOM   1556  C   MET A 200      20.381  -9.637 -10.133  1.00  0.60           C
ATOM   1557  O   MET A 200      19.181  -9.385 -10.183  1.00 -0.57           O
ATOM   1558  CB  MET A 200      20.999  -7.295  -9.159  1.00  0.03           C
ATOM   1559  CG  MET A 200      21.023  -6.555 -10.492  1.00  0.00           C
ATOM   1560  SD  MET A 200      20.641  -4.796 -10.311  1.00 -0.27           S
ATOM   1561  CE  MET A 200      19.699  -4.497 -11.822  1.00 -0.05           C
ATOM   1562  N   GLY A 201      20.926 -10.626 -10.854  1.00 -0.42           N
ATOM   1563  CA  GLY A 201      20.241 -11.775 -11.459  1.00 -0.03           C
ATOM   1564  C   GLY A 201      20.826 -13.160 -11.101  1.00  0.60           C
ATOM   1565  O   GLY A 201      20.150 -14.163 -11.327  1.00 -0.57           O
ATOM   1566  N   ASP A 202      22.048 -13.224 -10.547  1.00 -0.52           N
ATOM   1567  CA  ASP A 202      22.677 -14.362  -9.840  1.00  0.04           C
ATOM   1568  C   ASP A 202      22.060 -14.540  -8.438  1.00  0.54           C
ATOM   1569  O   ASP A 202      21.769 -15.657  -8.016  1.00 -0.58           O
ATOM   1570  CB  ASP A 202      24.213 -14.095  -9.770  1.00 -0.03           C
ATOM   1571  CG  ASP A 202      25.003 -14.729  -8.601  1.00  0.80           C
ATOM   1572  OD1 ASP A 202      25.168 -15.969  -8.645  1.00 -0.80           O
ATOM   1573  OD2 ASP A 202      25.458 -13.960  -7.709  1.00 -0.80           O
ATOM   1574  N   GLU A 203      21.804 -13.414  -7.759  1.00 -0.52           N
ATOM   1575  CA  GLU A 203      21.306 -13.274  -6.383  1.00  0.04           C
ATOM   1576  C   GLU A 203      20.595 -11.911  -6.215  1.00  0.54           C
ATOM   1577  O   GLU A 203      21.009 -10.922  -6.812  1.00 -0.58           O
ATOM   1578  CB  GLU A 203      22.547 -13.374  -5.462  1.00  0.06           C
ATOM   1579  CG  GLU A 203      22.357 -12.981  -4.006  1.00  0.01           C
ATOM   1580  CD  GLU A 203      21.443 -13.947  -3.294  1.00  0.81           C
ATOM   1581  OE1 GLU A 203      21.910 -14.644  -2.379  1.00 -0.82           O
ATOM   1582  OE2 GLU A 203      20.246 -13.943  -3.630  1.00 -0.82           O
ATOM   1583  N   GLY A 204      19.531 -11.828  -5.394  1.00 -0.42           N
ATOM   1584  CA  GLY A 204      18.859 -10.549  -5.050  1.00 -0.03           C
ATOM   1585  C   GLY A 204      17.301 -10.529  -4.930  1.00  0.60           C
ATOM   1586  O   GLY A 204      16.701  -9.488  -4.631  1.00 -0.57           O
ATOM   1587  N   ALA A 205      16.652 -11.697  -5.129  1.00 -0.42           N
ATOM   1588  CA  ALA A 205      15.209 -11.799  -4.895  1.00  0.03           C
ATOM   1589  C   ALA A 205      14.796 -11.407  -3.457  1.00  0.60           C
ATOM   1590  O   ALA A 205      15.447 -11.829  -2.503  1.00 -0.57           O
ATOM   1591  CB  ALA A 205      14.766 -13.241  -5.168  1.00 -0.18           C
ATOM   1592  N   SER A 206      13.666 -10.703  -3.265  1.00 -0.42           N
ATOM   1593  CA  SER A 206      13.167 -10.307  -1.925  1.00 -0.02           C
ATOM   1594  C   SER A 206      12.725 -11.484  -1.010  1.00  0.60           C
ATOM   1595  O   SER A 206      12.237 -11.295   0.103  1.00 -0.57           O
ATOM   1596  CB  SER A 206      12.067  -9.245  -2.077  1.00  0.21           C
ATOM   1597  OG  SER A 206      11.919  -8.464  -0.905  1.00 -0.65           O
ATOM   1598  N   SER A 207      12.912 -12.719  -1.481  1.00 -0.42           N
ATOM   1599  CA  SER A 207      12.734 -13.970  -0.744  1.00 -0.02           C
ATOM   1600  C   SER A 207      14.033 -14.476  -0.082  1.00  0.60           C
ATOM   1601  O   SER A 207      13.962 -15.280   0.849  1.00 -0.57           O
ATOM   1602  CB  SER A 207      12.241 -15.032  -1.733  1.00  0.21           C
ATOM   1603  OG  SER A 207      13.098 -15.104  -2.862  1.00 -0.65           O
ATOM   1604  N   GLN A 208      15.215 -14.034  -0.547  1.00 -0.42           N
ATOM   1605  CA  GLN A 208      16.500 -14.417   0.048  1.00 -0.00           C
ATOM   1606  C   GLN A 208      16.647 -13.750   1.423  1.00  0.60           C
ATOM   1607  O   GLN A 208      16.709 -12.519   1.523  1.00 -0.57           O
ATOM   1608  CB  GLN A 208      17.649 -14.078  -0.918  1.00 -0.00           C
ATOM   1609  CG  GLN A 208      19.062 -14.074  -0.316  1.00 -0.06           C
ATOM   1610  CD  GLN A 208      19.554 -15.385   0.266  1.00  0.70           C
ATOM   1611  NE2 GLN A 208      20.709 -15.856  -0.188  1.00 -0.94           N
ATOM   1612  OE1 GLN A 208      18.928 -15.982   1.147  1.00 -0.61           O
ATOM   1613  N   ILE A 209      16.699 -14.586   2.464  1.00 -0.42           N
ATOM   1614  CA  ILE A 209      16.546 -14.188   3.863  1.00 -0.06           C
ATOM   1615  C   ILE A 209      17.558 -14.856   4.827  1.00  0.60           C
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ATOM   1616  O   ILE A 209      17.641 -14.486   6.001  1.00 -0.57           O
ATOM   1617  CB  ILE A 209      15.063 -14.428   4.241  1.00  0.13           C
ATOM   1618  CG1 ILE A 209      14.622 -13.496   5.386  1.00 -0.04           C
ATOM   1619  CG2 ILE A 209      14.785 -15.921   4.510  1.00 -0.32           C
ATOM   1620  CD1 ILE A 209      13.133 -13.603   5.739  1.00 -0.07           C
ATOM   1621  N   GLY A 210      18.357 -15.816   4.340  1.00 -0.42           N
ATOM   1622  CA  GLY A 210      19.374 -16.534   5.126  1.00 -0.03           C
ATOM   1623  C   GLY A 210      19.088 -18.022   5.387  1.00  0.60           C
ATOM   1624  O   GLY A 210      18.047 -18.556   4.978  1.00 -0.57           O
ATOM   1625  N   ARG A 211      20.009 -18.691   6.093  1.00 -0.35           N
ATOM   1626  CA  ARG A 211      19.971 -20.125   6.446  1.00 -0.26           C
ATOM   1627  C   ARG A 211      20.375 -20.342   7.924  1.00  0.73           C
ATOM   1628  O   ARG A 211      20.534 -19.375   8.665  1.00 -0.59           O
ATOM   1629  CB  ARG A 211      20.908 -20.946   5.533  1.00 -0.00           C
ATOM   1630  CG  ARG A 211      20.821 -20.677   4.029  1.00  0.04           C
ATOM   1631  CD  ARG A 211      19.529 -21.052   3.302  1.00  0.05           C
ATOM   1632  NE  ARG A 211      19.638 -20.551   1.923  1.00 -0.53           N
ATOM   1633  CZ  ARG A 211      19.435 -19.295   1.536  1.00  0.81           C
ATOM   1634  NH1 ARG A 211      20.019 -18.843   0.453  1.00 -0.86           N
ATOM   1635  NH2 ARG A 211      18.679 -18.456   2.200  1.00 -0.86           N
ATOM   1636  N   ALA A 212      20.544 -21.602   8.352  1.00 -0.42           N
ATOM   1637  CA  ALA A 212      20.919 -22.045   9.705  1.00  0.03           C
ATOM   1638  C   ALA A 212      20.261 -21.259  10.865  1.00  0.60           C
ATOM   1639  O   ALA A 212      19.184 -21.650  11.314  1.00 -0.57           O
ATOM   1640  CB  ALA A 212      22.451 -22.122   9.807  1.00 -0.18           C
ATOM   1641  N   ALA A 213      20.886 -20.166  11.333  1.00 -0.42           N
ATOM   1642  CA  ALA A 213      20.348 -19.246  12.347  1.00  0.03           C
ATOM   1643  C   ALA A 213      20.334 -17.763  11.903  1.00  0.60           C
ATOM   1644  O   ALA A 213      19.727 -16.933  12.577  1.00 -0.57           O
ATOM   1645  CB  ALA A 213      21.151 -19.431  13.639  1.00 -0.18           C
ATOM   1646  N   GLY A 214      20.940 -17.443  10.749  1.00 -0.42           N
ATOM   1647  CA  GLY A 214      20.887 -16.138  10.080  1.00 -0.03           C
ATOM   1648  C   GLY A 214      19.660 -15.988   9.164  1.00  0.60           C
ATOM   1649  O   GLY A 214      19.386 -14.896   8.667  1.00 -0.57           O
ATOM   1650  N   THR A 215      18.879 -17.058   8.969  1.00 -0.42           N
ATOM   1651  CA  THR A 215      17.553 -17.027   8.334  1.00 -0.04           C
ATOM   1652  C   THR A 215      16.582 -16.065   9.059  1.00  0.60           C
ATOM   1653  O   THR A 215      16.135 -16.309  10.180  1.00 -0.57           O
ATOM   1654  CB  THR A 215      17.017 -18.457   8.115  1.00  0.37           C
ATOM   1655  CG2 THR A 215      16.310 -19.136   9.288  1.00 -0.24           C
ATOM   1656  OG1 THR A 215      16.182 -18.493   6.981  1.00 -0.68           O
ATOM   1657  N   GLY A 216      16.341 -14.908   8.429  1.00 -0.42           N
ATOM   1658  CA  GLY A 216      15.660 -13.739   9.012  1.00 -0.03           C
ATOM   1659  C   GLY A 216      16.530 -12.468   9.043  1.00  0.60           C
ATOM   1660  O   GLY A 216      16.002 -11.366   9.162  1.00 -0.57           O
ATOM   1661  N   PHE A 217      17.855 -12.630   8.941  1.00 -0.42           N
ATOM   1662  CA  PHE A 217      18.853 -11.582   9.129  1.00 -0.00           C
ATOM   1663  C   PHE A 217      19.462 -11.096   7.800  1.00  0.60           C
ATOM   1664  O   PHE A 217      19.942  -9.964   7.750  1.00 -0.57           O
ATOM   1665  CB  PHE A 217      19.952 -12.044  10.111  1.00 -0.03           C
ATOM   1666  CG  PHE A 217      19.504 -12.387  11.529  1.00  0.01           C
ATOM   1667  CD1 PHE A 217      19.856 -11.547  12.607  1.00 -0.13           C
ATOM   1668  CD2 PHE A 217      18.782 -13.569  11.794  1.00 -0.13           C
ATOM   1669  CE1 PHE A 217      19.488 -11.886  13.924  1.00 -0.17           C
ATOM   1670  CE2 PHE A 217      18.423 -13.911  13.108  1.00 -0.17           C
ATOM   1671  CZ  PHE A 217      18.773 -13.069  14.176  1.00 -0.11           C
ATOM   1672  N   THR A 218      19.400 -11.857   6.694  1.00 -0.42           N
ATOM   1673  CA  THR A 218      19.538 -11.219   5.369  1.00 -0.04           C
ATOM   1674  C   THR A 218      18.200 -10.584   4.971  1.00  0.60           C
ATOM   1675  O   THR A 218      17.153 -11.212   5.101  1.00 -0.57           O
ATOM   1676  CB  THR A 218      20.002 -12.215   4.299  1.00  0.37           C
ATOM   1677  CG2 THR A 218      19.953 -11.661   2.879  1.00 -0.24           C
ATOM   1678  OG1 THR A 218      21.341 -12.580   4.540  1.00 -0.68           O
ATOM   1679  N   VAL A 219      18.228  -9.347   4.465  1.00 -0.42           N
ATOM   1680  CA  VAL A 219      17.031  -8.619   4.038  1.00 -0.09           C
ATOM   1681  C   VAL A 219      17.274  -8.003   2.653  1.00  0.60           C
ATOM   1682  O   VAL A 219      18.037  -7.045   2.500  1.00 -0.57           O
ATOM   1683  CB  VAL A 219      16.610  -7.574   5.101  1.00  0.30           C
ATOM   1684  CG1 VAL A 219      15.250  -6.956   4.760  1.00 -0.32           C
ATOM   1685  CG2 VAL A 219      16.508  -8.162   6.521  1.00 -0.32           C
ATOM   1686  N   ASN A 220      16.600  -8.568   1.642  1.00 -0.42           N
ATOM   1687  CA  ASN A 220      16.646  -8.132   0.242  1.00  0.01           C
ATOM   1688  C   ASN A 220      15.421  -7.250  -0.095  1.00  0.60           C
ATOM   1689  O   ASN A 220      14.286  -7.742  -0.069  1.00 -0.57           O
ATOM   1690  CB  ASN A 220      16.668  -9.387  -0.664  1.00 -0.20           C
ATOM   1691  CG  ASN A 220      18.053  -9.979  -0.869  1.00  0.71           C
ATOM   1692  ND2 ASN A 220      18.482 -10.892  -0.015  1.00 -0.92           N
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ATOM   1693  OD1 ASN A 220      18.740  -9.596  -1.811  1.00 -0.59           O
ATOM   1694  N   VAL A 221      15.633  -5.975  -0.465  1.00 -0.42           N
ATOM   1695  CA  VAL A 221      14.566  -5.065  -0.926  1.00 -0.09           C
ATOM   1696  C   VAL A 221      14.773  -4.683  -2.394  1.00  0.60           C
ATOM   1697  O   VAL A 221      15.665  -3.897  -2.715  1.00 -0.57           O
ATOM   1698  CB  VAL A 221      14.467  -3.791  -0.067  1.00  0.30           C
ATOM   1699  CG1 VAL A 221      13.136  -3.080  -0.350  1.00 -0.32           C
ATOM   1700  CG2 VAL A 221      14.521  -4.086   1.433  1.00 -0.32           C
ATOM   1701  N   ALA A 222      13.921  -5.250  -3.260  1.00 -0.42           N
ATOM   1702  CA  ALA A 222      14.068  -5.327  -4.721  1.00  0.03           C
ATOM   1703  C   ALA A 222      13.362  -4.207  -5.528  1.00  0.60           C
ATOM   1704  O   ALA A 222      12.329  -4.431  -6.164  1.00 -0.57           O
ATOM   1705  CB  ALA A 222      13.579  -6.722  -5.141  1.00 -0.18           C
ATOM   1706  N   TRP A 223      13.935  -2.999  -5.548  1.00 -0.42           N
ATOM   1707  CA  TRP A 223      13.397  -1.831  -6.274  1.00 -0.03           C
ATOM   1708  C   TRP A 223      13.723  -1.855  -7.783  1.00  0.60           C
ATOM   1709  O   TRP A 223      14.250  -0.886  -8.327  1.00 -0.57           O
ATOM   1710  CB  TRP A 223      13.885  -0.538  -5.596  1.00 -0.01           C
ATOM   1711  CG  TRP A 223      13.239  -0.277  -4.276  1.00 -0.14           C
ATOM   1712  CD1 TRP A 223      13.752  -0.568  -3.060  1.00 -0.16           C
ATOM   1713  CD2 TRP A 223      11.905   0.263  -4.035  1.00  0.12           C
ATOM   1714  CE2 TRP A 223      11.649   0.216  -2.634  1.00  0.14           C
ATOM   1715  CE3 TRP A 223      10.876   0.764  -4.866  1.00 -0.24           C
ATOM   1716  NE1 TRP A 223      12.829  -0.249  -2.085  1.00 -0.34           N
ATOM   1717  CZ2 TRP A 223      10.412   0.596  -2.089  1.00 -0.26           C
ATOM   1718  CZ3 TRP A 223       9.652   1.193  -4.322  1.00 -0.20           C
ATOM   1719  CH2 TRP A 223       9.415   1.103  -2.939  1.00 -0.11           C
ATOM   1720  N   ASN A 224      13.485  -2.974  -8.478  1.00 -0.42           N
ATOM   1721  CA  ASN A 224      14.059  -3.200  -9.814  1.00  0.01           C
ATOM   1722  C   ASN A 224      13.658  -2.193 -10.925  1.00  0.60           C
ATOM   1723  O   ASN A 224      14.494  -1.861 -11.771  1.00 -0.57           O
ATOM   1724  CB  ASN A 224      13.829  -4.655 -10.236  1.00 -0.20           C
ATOM   1725  CG  ASN A 224      12.497  -4.928 -10.923  1.00  0.71           C
ATOM   1726  ND2 ASN A 224      12.516  -5.794 -11.922  1.00 -0.92           N
ATOM   1727  OD1 ASN A 224      11.469  -4.355 -10.582  1.00 -0.59           O
ATOM   1728  N   GLY A 225      12.417  -1.689 -10.934  1.00 -0.42           N
ATOM   1729  CA  GLY A 225      11.963  -0.614 -11.827  1.00 -0.03           C
ATOM   1730  C   GLY A 225      12.920   0.599 -11.861  1.00  0.60           C
ATOM   1731  O   GLY A 225      13.254   1.116 -10.796  1.00 -0.57           O
ATOM   1732  N   PRO A 226      13.384   1.063 -13.041  1.00 -0.25           N
ATOM   1733  CA  PRO A 226      14.149   2.311 -13.182  1.00 -0.03           C
ATOM   1734  C   PRO A 226      13.433   3.572 -12.659  1.00  0.59           C
ATOM   1735  O   PRO A 226      12.299   3.520 -12.188  1.00 -0.57           O
ATOM   1736  CB  PRO A 226      14.475   2.431 -14.678  1.00 -0.01           C
ATOM   1737  CG  PRO A 226      14.424   0.988 -15.173  1.00  0.02           C
ATOM   1738  CD  PRO A 226      13.313   0.376 -14.322  1.00  0.02           C
ATOM   1739  N   ARG A 227      14.091   4.730 -12.760  1.00 -0.35           N
ATOM   1740  CA  ARG A 227      13.568   6.083 -12.481  1.00 -0.26           C
ATOM   1741  C   ARG A 227      13.253   6.397 -10.995  1.00  0.73           C
ATOM   1742  O   ARG A 227      13.178   7.581 -10.646  1.00 -0.59           O
ATOM   1743  CB  ARG A 227      12.389   6.387 -13.443  1.00 -0.00           C
ATOM   1744  CG  ARG A 227      11.805   7.809 -13.398  1.00  0.04           C
ATOM   1745  CD  ARG A 227      12.851   8.892 -13.695  1.00  0.05           C
ATOM   1746  NE  ARG A 227      12.341  10.252 -13.453  1.00 -0.53           N
ATOM   1747  CZ  ARG A 227      12.189  10.843 -12.267  1.00  0.81           C
ATOM   1748  NH1 ARG A 227      11.841  12.113 -12.194  1.00 -0.86           N
ATOM   1749  NH2 ARG A 227      12.379  10.225 -11.117  1.00 -0.86           N
ATOM   1750  N   MET A 228      13.144   5.366 -10.141  1.00 -0.42           N
ATOM   1751  CA  MET A 228      13.014   5.425  -8.676  1.00 -0.02           C
ATOM   1752  C   MET A 228      14.113   6.275  -8.015  1.00  0.60           C
ATOM   1753  O   MET A 228      15.266   6.275  -8.464  1.00 -0.57           O
ATOM   1754  CB  MET A 228      13.073   4.002  -8.094  1.00  0.03           C
ATOM   1755  CG  MET A 228      11.997   3.037  -8.610  1.00  0.00           C
ATOM   1756  SD  MET A 228      10.274   3.463  -8.248  1.00 -0.27           S
ATOM   1757  CE  MET A 228       9.798   4.275  -9.798  1.00 -0.05           C
ATOM   1758  N   GLY A 229      13.751   7.021  -6.960  1.00 -0.42           N
ATOM   1759  CA  GLY A 229      14.579   8.121  -6.464  1.00 -0.03           C
ATOM   1760  C   GLY A 229      14.245   8.682  -5.078  1.00  0.60           C
ATOM   1761  O   GLY A 229      13.508   8.068  -4.307  1.00 -0.57           O
ATOM   1762  N   ASP A 230      14.825   9.862  -4.795  1.00 -0.52           N
ATOM   1763  CA  ASP A 230      15.043  10.454  -3.457  1.00  0.04           C
ATOM   1764  C   ASP A 230      13.949  10.167  -2.426  1.00  0.54           C
ATOM   1765  O   ASP A 230      14.169   9.380  -1.510  1.00 -0.58           O
ATOM   1766  CB  ASP A 230      15.273  11.980  -3.531  1.00 -0.03           C
ATOM   1767  CG  ASP A 230      16.187  12.415  -4.663  1.00  0.80           C
ATOM   1768  OD1 ASP A 230      15.661  12.588  -5.781  1.00 -0.80           O
ATOM   1769  OD2 ASP A 230      17.409  12.557  -4.433  1.00 -0.80           O
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ATOM   1770  N   ALA A 231      12.784  10.812  -2.555  1.00 -0.42           N
ATOM   1771  CA  ALA A 231      11.714  10.755  -1.558  1.00  0.03           C
ATOM   1772  C   ALA A 231      11.172   9.332  -1.347  1.00  0.60           C
ATOM   1773  O   ALA A 231      10.952   8.919  -0.208  1.00 -0.57           O
ATOM   1774  CB  ALA A 231      10.592  11.707  -1.985  1.00 -0.18           C
ATOM   1775  N   ASP A 232      10.993   8.582  -2.441  1.00 -0.52           N
ATOM   1776  CA  ASP A 232      10.538   7.194  -2.429  1.00  0.04           C
ATOM   1777  C   ASP A 232      11.565   6.294  -1.733  1.00  0.54           C
ATOM   1778  O   ASP A 232      11.247   5.634  -0.742  1.00 -0.58           O
ATOM   1779  CB  ASP A 232      10.254   6.753  -3.880  1.00 -0.03           C
ATOM   1780  CG  ASP A 232       9.664   5.340  -4.014  1.00  0.80           C
ATOM   1781  OD1 ASP A 232       8.983   4.902  -3.059  1.00 -0.80           O
ATOM   1782  OD2 ASP A 232       9.896   4.731  -5.082  1.00 -0.80           O
ATOM   1783  N   TYR A 233      12.825   6.337  -2.188  1.00 -0.42           N
ATOM   1784  CA  TYR A 233      13.919   5.562  -1.593  1.00 -0.00           C
ATOM   1785  C   TYR A 233      14.124   5.911  -0.106  1.00  0.60           C
ATOM   1786  O   TYR A 233      14.304   5.013   0.717  1.00 -0.57           O
ATOM   1787  CB  TYR A 233      15.203   5.762  -2.414  1.00 -0.02           C
ATOM   1788  CG  TYR A 233      16.315   4.764  -2.121  1.00 -0.00           C
ATOM   1789  CD1 TYR A 233      17.265   5.026  -1.116  1.00 -0.19           C
ATOM   1790  CD2 TYR A 233      16.420   3.577  -2.880  1.00 -0.19           C
ATOM   1791  CE1 TYR A 233      18.327   4.129  -0.894  1.00 -0.23           C
ATOM   1792  CE2 TYR A 233      17.482   2.680  -2.652  1.00 -0.23           C
ATOM   1793  CZ  TYR A 233      18.444   2.961  -1.668  1.00  0.32           C
ATOM   1794  OH  TYR A 233      19.505   2.128  -1.456  1.00 -0.56           O
ATOM   1795  N   LEU A 234      14.031   7.195   0.265  1.00 -0.42           N
ATOM   1796  CA  LEU A 234      14.059   7.662   1.654  1.00 -0.05           C
ATOM   1797  C   LEU A 234      12.882   7.108   2.483  1.00  0.60           C
ATOM   1798  O   LEU A 234      13.091   6.578   3.579  1.00 -0.57           O
ATOM   1799  CB  LEU A 234      14.042   9.200   1.620  1.00 -0.11           C
ATOM   1800  CG  LEU A 234      14.108   9.890   2.991  1.00  0.35           C
ATOM   1801  CD1 LEU A 234      15.507   9.786   3.604  1.00 -0.41           C
ATOM   1802  CD2 LEU A 234      13.755  11.367   2.824  1.00 -0.41           C
ATOM   1803  N   ALA A 235      11.648   7.210   1.971  1.00 -0.42           N
ATOM   1804  CA  ALA A 235      10.467   6.658   2.636  1.00  0.03           C
ATOM   1805  C   ALA A 235      10.570   5.131   2.802  1.00  0.60           C
ATOM   1806  O   ALA A 235      10.335   4.610   3.894  1.00 -0.57           O
ATOM   1807  CB  ALA A 235       9.216   7.053   1.843  1.00 -0.18           C
ATOM   1808  N   ALA A 236      10.988   4.430   1.741  1.00 -0.42           N
ATOM   1809  CA  ALA A 236      11.243   2.994   1.735  1.00  0.03           C
ATOM   1810  C   ALA A 236      12.291   2.586   2.780  1.00  0.60           C
ATOM   1811  O   ALA A 236      12.052   1.642   3.533  1.00 -0.57           O
ATOM   1812  CB  ALA A 236      11.685   2.577   0.332  1.00 -0.18           C
ATOM   1813  N   TRP A 237      13.404   3.328   2.883  1.00 -0.42           N
ATOM   1814  CA  TRP A 237      14.367   3.148   3.967  1.00 -0.03           C
ATOM   1815  C   TRP A 237      13.696   3.272   5.340  1.00  0.60           C
ATOM   1816  O   TRP A 237      13.762   2.339   6.147  1.00 -0.57           O
ATOM   1817  CB  TRP A 237      15.508   4.163   3.825  1.00 -0.01           C
ATOM   1818  CG  TRP A 237      16.587   4.037   4.860  1.00 -0.14           C
ATOM   1819  CD1 TRP A 237      17.736   3.357   4.681  1.00 -0.16           C
ATOM   1820  CD2 TRP A 237      16.641   4.546   6.236  1.00  0.12           C
ATOM   1821  CE2 TRP A 237      17.832   4.061   6.851  1.00  0.14           C
ATOM   1822  CE3 TRP A 237      15.810   5.352   7.043  1.00 -0.24           C
ATOM   1823  NE1 TRP A 237      18.451   3.350   5.853  1.00 -0.34           N
ATOM   1824  CZ2 TRP A 237      18.156   4.301   8.196  1.00 -0.26           C
ATOM   1825  CZ3 TRP A 237      16.100   5.569   8.403  1.00 -0.20           C
ATOM   1826  CH2 TRP A 237      17.268   5.046   8.986  1.00 -0.11           C
ATOM   1827  N   HIS A 238      12.992   4.384   5.586  1.00 -0.42           N
ATOM   1828  CA  HIS A 238      12.384   4.644   6.892  1.00 -0.06           C
ATOM   1829  C   HIS A 238      11.299   3.613   7.265  1.00  0.60           C
ATOM   1830  O   HIS A 238      11.160   3.248   8.431  1.00 -0.57           O
ATOM   1831  CB  HIS A 238      11.863   6.085   6.928  1.00 -0.01           C
ATOM   1832  CG  HIS A 238      11.781   6.616   8.336  1.00  0.19           C
ATOM   1833  CD2 HIS A 238      10.647   6.704   9.099  1.00 -0.22           C
ATOM   1834  ND1 HIS A 238      12.879   7.069   9.079  1.00 -0.54           N
ATOM   1835  CE1 HIS A 238      12.378   7.417  10.272  1.00  0.16           C
ATOM   1836  NE2 HIS A 238      11.043   7.211  10.316  1.00 -0.28           N
ATOM   1837  N   ARG A 239      10.579   3.088   6.262  1.00 -0.35           N
ATOM   1838  CA  ARG A 239       9.595   2.010   6.397  1.00 -0.26           C
ATOM   1839  C   ARG A 239      10.196   0.675   6.892  1.00  0.73           C
ATOM   1840  O   ARG A 239       9.436  -0.145   7.404  1.00 -0.59           O
ATOM   1841  CB  ARG A 239       8.857   1.827   5.049  1.00 -0.00           C
ATOM   1842  CG  ARG A 239       7.605   0.929   5.133  1.00  0.04           C
ATOM   1843  CD  ARG A 239       6.967   0.629   3.769  1.00  0.05           C
ATOM   1844  NE  ARG A 239       6.268   1.786   3.183  1.00 -0.53           N
ATOM   1845  CZ  ARG A 239       4.973   2.080   3.298  1.00  0.81           C
ATOM   1846  NH1 ARG A 239       4.479   3.059   2.568  1.00 -0.86           N
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ATOM   1847  NH2 ARG A 239       4.158   1.427   4.106  1.00 -0.86           N
ATOM   1848  N   LEU A 240      11.517   0.445   6.779  1.00 -0.42           N
ATOM   1849  CA  LEU A 240      12.129  -0.855   7.101  1.00 -0.05           C
ATOM   1850  C   LEU A 240      13.361  -0.778   8.013  1.00  0.60           C
ATOM   1851  O   LEU A 240      13.472  -1.565   8.956  1.00 -0.57           O
ATOM   1852  CB  LEU A 240      12.493  -1.552   5.779  1.00 -0.11           C
ATOM   1853  CG  LEU A 240      13.226  -2.899   5.961  1.00  0.35           C
ATOM   1854  CD1 LEU A 240      12.362  -3.963   6.642  1.00 -0.41           C
ATOM   1855  CD2 LEU A 240      13.665  -3.398   4.593  1.00 -0.41           C
ATOM   1856  N   VAL A 241      14.297   0.140   7.763  1.00 -0.42           N
ATOM   1857  CA  VAL A 241      15.555   0.151   8.527  1.00 -0.09           C
ATOM   1858  C   VAL A 241      15.316   0.635   9.966  1.00  0.60           C
ATOM   1859  O   VAL A 241      15.969   0.149  10.887  1.00 -0.57           O
ATOM   1860  CB  VAL A 241      16.668   0.931   7.800  1.00  0.30           C
ATOM   1861  CG1 VAL A 241      18.034   0.754   8.486  1.00 -0.32           C
ATOM   1862  CG2 VAL A 241      16.809   0.435   6.347  1.00 -0.32           C
ATOM   1863  N   LEU A 242      14.327   1.513  10.199  1.00 -0.42           N
ATOM   1864  CA  LEU A 242      13.883   1.861  11.552  1.00 -0.05           C
ATOM   1865  C   LEU A 242      13.275   0.646  12.305  1.00  0.60           C
ATOM   1866  O   LEU A 242      13.787   0.331  13.383  1.00 -0.57           O
ATOM   1867  CB  LEU A 242      12.979   3.107  11.495  1.00 -0.11           C
ATOM   1868  CG  LEU A 242      12.313   3.470  12.836  1.00  0.35           C
ATOM   1869  CD1 LEU A 242      13.332   3.779  13.936  1.00 -0.41           C
ATOM   1870  CD2 LEU A 242      11.437   4.708  12.659  1.00 -0.41           C
ATOM   1871  N   PRO A 243      12.263  -0.084  11.780  1.00 -0.25           N
ATOM   1872  CA  PRO A 243      11.857  -1.390  12.312  1.00 -0.03           C
ATOM   1873  C   PRO A 243      13.018  -2.345  12.593  1.00  0.59           C
ATOM   1874  O   PRO A 243      13.096  -2.872  13.698  1.00 -0.57           O
ATOM   1875  CB  PRO A 243      10.882  -1.980  11.293  1.00 -0.01           C
ATOM   1876  CG  PRO A 243      10.232  -0.737  10.700  1.00  0.02           C
ATOM   1877  CD  PRO A 243      11.340   0.318  10.725  1.00  0.02           C
ATOM   1878  N   ILE A 244      13.949  -2.530  11.646  1.00 -0.42           N
ATOM   1879  CA  ILE A 244      15.154  -3.343  11.882  1.00 -0.06           C
ATOM   1880  C   ILE A 244      16.011  -2.786  13.037  1.00  0.60           C
ATOM   1881  O   ILE A 244      16.406  -3.552  13.920  1.00 -0.57           O
ATOM   1882  CB  ILE A 244      15.965  -3.511  10.576  1.00  0.13           C
ATOM   1883  CG1 ILE A 244      15.223  -4.363   9.514  1.00 -0.04           C
ATOM   1884  CG2 ILE A 244      17.359  -4.102  10.850  1.00 -0.32           C
ATOM   1885  CD1 ILE A 244      15.002  -5.843   9.864  1.00 -0.07           C
ATOM   1886  N   ALA A 245      16.269  -1.474  13.095  1.00 -0.42           N
ATOM   1887  CA  ALA A 245      17.003  -0.854  14.203  1.00  0.03           C
ATOM   1888  C   ALA A 245      16.309  -1.031  15.570  1.00  0.60           C
ATOM   1889  O   ALA A 245      16.985  -1.079  16.596  1.00 -0.57           O
ATOM   1890  CB  ALA A 245      17.234   0.628  13.896  1.00 -0.18           C
ATOM   1891  N   TYR A 246      14.975  -1.158  15.596  1.00 -0.42           N
ATOM   1892  CA  TYR A 246      14.224  -1.555  16.792  1.00 -0.00           C
ATOM   1893  C   TYR A 246      14.319  -3.066  17.074  1.00  0.60           C
ATOM   1894  O   TYR A 246      14.754  -3.438  18.162  1.00 -0.57           O
ATOM   1895  CB  TYR A 246      12.757  -1.119  16.663  1.00 -0.02           C
ATOM   1896  CG  TYR A 246      11.878  -1.644  17.786  1.00 -0.00           C
ATOM   1897  CD1 TYR A 246      11.897  -1.026  19.051  1.00 -0.19           C
ATOM   1898  CD2 TYR A 246      11.080  -2.788  17.582  1.00 -0.19           C
ATOM   1899  CE1 TYR A 246      11.114  -1.544  20.100  1.00 -0.23           C
ATOM   1900  CE2 TYR A 246      10.304  -3.307  18.632  1.00 -0.23           C
ATOM   1901  CZ  TYR A 246      10.316  -2.682  19.890  1.00  0.32           C
ATOM   1902  OH  TYR A 246       9.558  -3.179  20.907  1.00 -0.56           O
ATOM   1903  N   GLU A 247      13.946  -3.924  16.108  1.00 -0.52           N
ATOM   1904  CA  GLU A 247      13.863  -5.392  16.272  1.00  0.04           C
ATOM   1905  C   GLU A 247      15.211  -6.029  16.596  1.00  0.54           C
ATOM   1906  O   GLU A 247      15.298  -6.879  17.478  1.00 -0.58           O
ATOM   1907  CB  GLU A 247      13.328  -6.077  15.000  1.00  0.06           C
ATOM   1908  CG  GLU A 247      11.839  -5.867  14.713  1.00  0.01           C
ATOM   1909  CD  GLU A 247      10.956  -6.638  15.686  1.00  0.81           C
ATOM   1910  OE1 GLU A 247      10.654  -7.818  15.401  1.00 -0.82           O
ATOM   1911  OE2 GLU A 247      10.574  -6.023  16.704  1.00 -0.82           O
ATOM   1912  N   PHE A 248      16.266  -5.600  15.898  1.00 -0.42           N
ATOM   1913  CA  PHE A 248      17.616  -6.153  16.045  1.00 -0.00           C
ATOM   1914  C   PHE A 248      18.524  -5.295  16.945  1.00  0.60           C
ATOM   1915  O   PHE A 248      19.588  -5.762  17.356  1.00 -0.57           O
ATOM   1916  CB  PHE A 248      18.208  -6.344  14.647  1.00 -0.03           C
ATOM   1917  CG  PHE A 248      19.613  -6.911  14.616  1.00  0.01           C
ATOM   1918  CD1 PHE A 248      19.861  -8.245  14.996  1.00 -0.13           C
ATOM   1919  CD2 PHE A 248      20.678  -6.090  14.204  1.00 -0.13           C
ATOM   1920  CE1 PHE A 248      21.173  -8.757  14.950  1.00 -0.17           C
ATOM   1921  CE2 PHE A 248      21.982  -6.603  14.164  1.00 -0.17           C
ATOM   1922  CZ  PHE A 248      22.232  -7.939  14.521  1.00 -0.11           C
ATOM   1923  N   ASN A 249      18.093  -4.065  17.270  1.00 -0.42           N
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ATOM   1924  CA  ASN A 249      18.656  -3.202  18.310  1.00  0.01           C
ATOM   1925  C   ASN A 249      20.193  -3.294  18.456  1.00  0.60           C
ATOM   1926  O   ASN A 249      20.655  -3.774  19.488  1.00 -0.57           O
ATOM   1927  CB  ASN A 249      17.883  -3.523  19.603  1.00 -0.20           C
ATOM   1928  CG  ASN A 249      17.876  -2.362  20.570  1.00  0.71           C
ATOM   1929  ND2 ASN A 249      17.191  -1.287  20.214  1.00 -0.92           N
ATOM   1930  OD1 ASN A 249      18.466  -2.411  21.639  1.00 -0.59           O
ATOM   1931  N   PRO A 250      20.991  -2.967  17.419  1.00 -0.25           N
ATOM   1932  CA  PRO A 250      22.383  -3.421  17.264  1.00 -0.03           C
ATOM   1933  C   PRO A 250      23.391  -2.717  18.178  1.00  0.59           C
ATOM   1934  O   PRO A 250      23.120  -1.623  18.671  1.00 -0.57           O
ATOM   1935  CB  PRO A 250      22.719  -3.118  15.802  1.00 -0.01           C
ATOM   1936  CG  PRO A 250      21.873  -1.881  15.508  1.00  0.02           C
ATOM   1937  CD  PRO A 250      20.580  -2.195  16.257  1.00  0.02           C
ATOM   1938  N   GLU A 251      24.593  -3.305  18.302  1.00 -0.52           N
ATOM   1939  CA  GLU A 251      25.728  -2.657  18.989  1.00  0.04           C
ATOM   1940  C   GLU A 251      26.483  -1.673  18.073  1.00  0.54           C
ATOM   1941  O   GLU A 251      26.908  -0.616  18.537  1.00 -0.58           O
ATOM   1942  CB  GLU A 251      26.736  -3.670  19.576  1.00  0.06           C
ATOM   1943  CG  GLU A 251      26.216  -4.978  20.200  1.00  0.01           C
ATOM   1944  CD  GLU A 251      25.349  -4.856  21.449  1.00  0.81           C
ATOM   1945  OE1 GLU A 251      24.620  -3.858  21.609  1.00 -0.82           O
ATOM   1946  OE2 GLU A 251      25.340  -5.828  22.236  1.00 -0.82           O
ATOM   1947  N   LEU A 252      26.632  -1.986  16.770  1.00 -0.42           N
ATOM   1948  CA  LEU A 252      27.427  -1.195  15.804  1.00 -0.05           C
ATOM   1949  C   LEU A 252      26.867  -1.230  14.363  1.00  0.60           C
ATOM   1950  O   LEU A 252      26.112  -2.142  13.996  1.00 -0.57           O
ATOM   1951  CB  LEU A 252      28.890  -1.703  15.798  1.00 -0.11           C
ATOM   1952  CG  LEU A 252      29.752  -1.328  17.024  1.00  0.35           C
ATOM   1953  CD1 LEU A 252      31.131  -1.980  16.913  1.00 -0.41           C
ATOM   1954  CD2 LEU A 252      29.980   0.185  17.138  1.00 -0.41           C
ATOM   1955  N   VAL A 253      27.273  -0.238  13.545  1.00 -0.42           N
ATOM   1956  CA  VAL A 253      26.758  -0.026  12.176  1.00 -0.09           C
ATOM   1957  C   VAL A 253      27.869   0.100  11.117  1.00  0.60           C
ATOM   1958  O   VAL A 253      28.749   0.965  11.213  1.00 -0.57           O
ATOM   1959  CB  VAL A 253      25.859   1.230  12.155  1.00  0.30           C
ATOM   1960  CG1 VAL A 253      25.458   1.701  10.750  1.00 -0.32           C
ATOM   1961  CG2 VAL A 253      24.547   0.992  12.915  1.00 -0.32           C
ATOM   1962  N   LEU A 254      27.734  -0.707  10.057  1.00 -0.42           N
ATOM   1963  CA  LEU A 254      28.545  -0.639   8.839  1.00 -0.05           C
ATOM   1964  C   LEU A 254      27.627  -0.205   7.682  1.00  0.60           C
ATOM   1965  O   LEU A 254      26.568  -0.807   7.492  1.00 -0.57           O
ATOM   1966  CB  LEU A 254      29.175  -2.030   8.623  1.00 -0.11           C
ATOM   1967  CG  LEU A 254      30.383  -2.105   7.667  1.00  0.35           C
ATOM   1968  CD1 LEU A 254      30.796  -3.573   7.527  1.00 -0.41           C
ATOM   1969  CD2 LEU A 254      30.116  -1.560   6.263  1.00 -0.41           C
ATOM   1970  N   VAL A 255      27.991   0.838   6.929  1.00 -0.42           N
ATOM   1971  CA  VAL A 255      27.122   1.378   5.866  1.00 -0.09           C
ATOM   1972  C   VAL A 255      27.860   1.572   4.532  1.00  0.60           C
ATOM   1973  O   VAL A 255      29.093   1.685   4.506  1.00 -0.57           O
ATOM   1974  CB  VAL A 255      26.407   2.642   6.385  1.00  0.30           C
ATOM   1975  CG1 VAL A 255      27.387   3.777   6.697  1.00 -0.32           C
ATOM   1976  CG2 VAL A 255      25.306   3.148   5.449  1.00 -0.32           C
ATOM   1977  N   SER A 256      27.072   1.591   3.444  1.00 -0.42           N
ATOM   1978  CA  SER A 256      27.496   1.494   2.039  1.00 -0.02           C
ATOM   1979  C   SER A 256      26.898   2.623   1.134  1.00  0.60           C
ATOM   1980  O   SER A 256      26.123   3.449   1.636  1.00 -0.57           O
ATOM   1981  CB  SER A 256      27.148   0.049   1.624  1.00  0.21           C
ATOM   1982  OG  SER A 256      26.343  -0.047   0.474  1.00 -0.65           O
ATOM   1983  N   ALA A 257      27.281   2.715  -0.156  1.00 -0.42           N
ATOM   1984  CA  ALA A 257      26.790   3.689  -1.158  1.00  0.03           C
ATOM   1985  C   ALA A 257      27.269   3.429  -2.609  1.00  0.60           C
ATOM   1986  O   ALA A 257      28.427   3.687  -2.955  1.00 -0.57           O
ATOM   1987  CB  ALA A 257      27.222   5.118  -0.808  1.00 -0.18           C
ATOM   1988  N   GLY A 258      26.345   3.032  -3.489  1.00 -0.42           N
ATOM   1989  CA  GLY A 258      26.566   2.918  -4.937  1.00 -0.03           C
ATOM   1990  C   GLY A 258      25.928   4.092  -5.668  1.00  0.60           C
ATOM   1991  O   GLY A 258      24.712   4.159  -5.835  1.00 -0.57           O
ATOM   1992  N   PHE A 259      26.775   5.015  -6.113  1.00 -0.42           N
ATOM   1993  CA  PHE A 259      26.425   6.292  -6.721  1.00 -0.00           C
ATOM   1994  C   PHE A 259      25.846   6.147  -8.131  1.00  0.60           C
ATOM   1995  O   PHE A 259      25.290   7.105  -8.647  1.00 -0.57           O
ATOM   1996  CB  PHE A 259      27.642   7.239  -6.667  1.00 -0.03           C
ATOM   1997  CG  PHE A 259      28.047   7.568  -5.236  1.00  0.01           C
ATOM   1998  CD1 PHE A 259      27.585   8.750  -4.611  1.00 -0.13           C
ATOM   1999  CD2 PHE A 259      28.777   6.622  -4.481  1.00 -0.13           C
ATOM   2000  CE1 PHE A 259      27.834   8.968  -3.235  1.00 -0.17           C
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ATOM   2001  CE2 PHE A 259      28.995   6.832  -3.109  1.00 -0.17           C
ATOM   2002  CZ  PHE A 259      28.521   8.000  -2.481  1.00 -0.11           C
ATOM   2003  N   ASP A 260      25.852   4.953  -8.724  1.00 -0.52           N
ATOM   2004  CA  ASP A 260      24.978   4.567  -9.839  1.00  0.04           C
ATOM   2005  C   ASP A 260      23.481   4.467  -9.441  1.00  0.54           C
ATOM   2006  O   ASP A 260      22.606   4.429 -10.310  1.00 -0.58           O
ATOM   2007  CB  ASP A 260      25.576   3.216 -10.374  1.00 -0.03           C
ATOM   2008  CG  ASP A 260      26.285   2.215  -9.378  1.00  0.80           C
ATOM   2009  OD1 ASP A 260      26.484   2.573  -8.195  1.00 -0.80           O
ATOM   2010  OD2 ASP A 260      26.734   1.122  -9.815  1.00 -0.80           O
ATOM   2011  N   ALA A 261      23.156   4.517  -8.137  1.00 -0.42           N
ATOM   2012  CA  ALA A 261      21.812   4.845  -7.627  1.00  0.03           C
ATOM   2013  C   ALA A 261      21.477   6.349  -7.769  1.00  0.60           C
ATOM   2014  O   ALA A 261      20.341   6.779  -7.516  1.00 -0.57           O
ATOM   2015  CB  ALA A 261      21.680   4.445  -6.149  1.00 -0.18           C
ATOM   2016  N   ALA A 262      22.478   7.152  -8.167  1.00 -0.42           N
ATOM   2017  CA  ALA A 262      22.444   8.597  -8.082  1.00  0.03           C
ATOM   2018  C   ALA A 262      22.813   9.345  -9.377  1.00  0.60           C
ATOM   2019  O   ALA A 262      23.564   8.903 -10.252  1.00 -0.57           O
ATOM   2020  CB  ALA A 262      23.301   9.053  -6.892  1.00 -0.18           C
ATOM   2021  N   ARG A 263      22.201  10.531  -9.461  1.00 -0.35           N
ATOM   2022  CA  ARG A 263      22.128  11.350 -10.666  1.00 -0.26           C
ATOM   2023  C   ARG A 263      23.505  11.706 -11.269  1.00  0.73           C
ATOM   2024  O   ARG A 263      24.453  12.117 -10.590  1.00 -0.59           O
ATOM   2025  CB  ARG A 263      21.261  12.599 -10.405  1.00 -0.00           C
ATOM   2026  CG  ARG A 263      19.777  12.239 -10.170  1.00  0.04           C
ATOM   2027  CD  ARG A 263      18.857  13.471 -10.173  1.00  0.05           C
ATOM   2028  NE  ARG A 263      17.462  13.139  -9.819  1.00 -0.53           N
ATOM   2029  CZ  ARG A 263      16.948  13.057  -8.593  1.00  0.81           C
ATOM   2030  NH1 ARG A 263      15.663  12.865  -8.403  1.00 -0.86           N
ATOM   2031  NH2 ARG A 263      17.667  13.153  -7.500  1.00 -0.86           N
ATOM   2032  N   GLY A 264      23.575  11.546 -12.602  1.00 -0.42           N
ATOM   2033  CA  GLY A 264      24.701  11.927 -13.468  1.00 -0.03           C
ATOM   2034  C   GLY A 264      25.416  10.743 -14.142  1.00  0.60           C
ATOM   2035  O   GLY A 264      26.178  10.945 -15.091  1.00 -0.57           O
ATOM   2036  N   ASP A 265      25.224   9.524 -13.628  1.00 -0.52           N
ATOM   2037  CA  ASP A 265      26.058   8.354 -13.925  1.00  0.04           C
ATOM   2038  C   ASP A 265      25.634   7.542 -15.177  1.00  0.54           C
ATOM   2039  O   ASP A 265      24.433   7.367 -15.403  1.00 -0.58           O
ATOM   2040  CB  ASP A 265      26.071   7.477 -12.662  1.00 -0.03           C
ATOM   2041  CG  ASP A 265      27.100   6.359 -12.782  1.00  0.80           C
ATOM   2042  OD1 ASP A 265      28.251   6.564 -12.317  1.00 -0.80           O
ATOM   2043  OD2 ASP A 265      26.732   5.337 -13.405  1.00 -0.80           O
ATOM   2044  N   PRO A 266      26.582   6.991 -15.974  1.00 -0.25           N
ATOM   2045  CA  PRO A 266      26.286   6.160 -17.152  1.00 -0.03           C
ATOM   2046  C   PRO A 266      25.513   4.852 -16.890  1.00  0.59           C
ATOM   2047  O   PRO A 266      24.949   4.310 -17.841  1.00 -0.57           O
ATOM   2048  CB  PRO A 266      27.639   5.891 -17.827  1.00 -0.01           C
ATOM   2049  CG  PRO A 266      28.657   6.071 -16.704  1.00  0.02           C
ATOM   2050  CD  PRO A 266      28.026   7.178 -15.866  1.00  0.02           C
ATOM   2051  N   LEU A 267      25.434   4.355 -15.645  1.00 -0.42           N
ATOM   2052  CA  LEU A 267      24.583   3.200 -15.318  1.00 -0.05           C
ATOM   2053  C   LEU A 267      23.101   3.589 -15.083  1.00  0.60           C
ATOM   2054  O   LEU A 267      22.265   2.698 -14.963  1.00 -0.57           O
ATOM   2055  CB  LEU A 267      25.222   2.417 -14.141  1.00 -0.11           C
ATOM   2056  CG  LEU A 267      24.918   0.898 -14.117  1.00  0.35           C
ATOM   2057  CD1 LEU A 267      25.558   0.154 -15.306  1.00 -0.41           C
ATOM   2058  CD2 LEU A 267      25.437   0.248 -12.825  1.00 -0.41           C
ATOM   2059  N   GLY A 268      22.794   4.898 -15.059  1.00 -0.42           N
ATOM   2060  CA  GLY A 268      21.509   5.622 -15.169  1.00 -0.03           C
ATOM   2061  C   GLY A 268      20.175   5.061 -14.635  1.00  0.60           C
ATOM   2062  O   GLY A 268      19.139   5.669 -14.899  1.00 -0.57           O
ATOM   2063  N   GLY A 269      20.135   3.937 -13.915  1.00 -0.42           N
ATOM   2064  CA  GLY A 269      18.887   3.279 -13.511  1.00 -0.03           C
ATOM   2065  C   GLY A 269      18.001   4.082 -12.551  1.00  0.60           C
ATOM   2066  O   GLY A 269      16.773   3.978 -12.637  1.00 -0.57           O
ATOM   2067  N   CYS A 270      18.590   4.897 -11.663  1.00 -0.42           N
ATOM   2068  CA  CYS A 270      17.899   5.498 -10.517  1.00  0.02           C
ATOM   2069  C   CYS A 270      18.070   7.027 -10.449  1.00  0.60           C
ATOM   2070  O   CYS A 270      18.668   7.655 -11.327  1.00 -0.57           O
ATOM   2071  CB  CYS A 270      18.408   4.827  -9.233  1.00 -0.12           C
ATOM   2072  SG  CYS A 270      17.974   3.067  -9.166  1.00 -0.31           S
ATOM   2073  N   GLN A 271      17.485   7.635  -9.413  1.00 -0.42           N
ATOM   2074  CA  GLN A 271      17.331   9.078  -9.214  1.00 -0.00           C
ATOM   2075  C   GLN A 271      17.479   9.490  -7.735  1.00  0.60           C
ATOM   2076  O   GLN A 271      16.616  10.181  -7.193  1.00 -0.57           O
ATOM   2077  CB  GLN A 271      15.974   9.514  -9.804  1.00 -0.00           C
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ATOM   2078  CG  GLN A 271      15.896   9.511 -11.335  1.00 -0.06           C
ATOM   2079  CD  GLN A 271      16.801  10.532 -11.994  1.00  0.70           C
ATOM   2080  NE2 GLN A 271      17.926  10.096 -12.531  1.00 -0.94           N
ATOM   2081  OE1 GLN A 271      16.491  11.717 -12.022  1.00 -0.61           O
ATOM   2082  N   VAL A 272      18.556   9.078  -7.054  1.00 -0.42           N
ATOM   2083  CA  VAL A 272      18.965   9.732  -5.794  1.00 -0.09           C
ATOM   2084  C   VAL A 272      19.938  10.895  -6.108  1.00  0.60           C
ATOM   2085  O   VAL A 272      20.703  10.860  -7.074  1.00 -0.57           O
ATOM   2086  CB  VAL A 272      19.541   8.700  -4.790  1.00  0.30           C
ATOM   2087  CG1 VAL A 272      19.865   9.321  -3.419  1.00 -0.32           C
ATOM   2088  CG2 VAL A 272      18.525   7.566  -4.527  1.00 -0.32           C
ATOM   2089  N   SER A 273      19.912  11.950  -5.295  1.00 -0.42           N
ATOM   2090  CA  SER A 273      20.826  13.097  -5.354  1.00 -0.02           C
ATOM   2091  C   SER A 273      21.586  13.300  -4.026  1.00  0.60           C
ATOM   2092  O   SER A 273      21.157  12.775  -2.994  1.00 -0.57           O
ATOM   2093  CB  SER A 273      20.034  14.368  -5.724  1.00  0.21           C
ATOM   2094  OG  SER A 273      20.045  14.563  -7.128  1.00 -0.65           O
ATOM   2095  N   PRO A 274      22.696  14.077  -4.028  1.00 -0.25           N
ATOM   2096  CA  PRO A 274      23.585  14.301  -2.880  1.00 -0.03           C
ATOM   2097  C   PRO A 274      22.891  14.502  -1.526  1.00  0.59           C
ATOM   2098  O   PRO A 274      23.294  13.908  -0.519  1.00 -0.57           O
ATOM   2099  CB  PRO A 274      24.428  15.516  -3.285  1.00 -0.01           C
ATOM   2100  CG  PRO A 274      24.579  15.352  -4.793  1.00  0.02           C
ATOM   2101  CD  PRO A 274      23.234  14.766  -5.201  1.00  0.02           C
ATOM   2102  N   GLU A 275      21.808  15.292  -1.504  1.00 -0.52           N
ATOM   2103  CA  GLU A 275      21.104  15.604  -0.249  1.00  0.04           C
ATOM   2104  C   GLU A 275      20.146  14.498   0.225  1.00  0.54           C
ATOM   2105  O   GLU A 275      19.805  14.442   1.405  1.00 -0.58           O
ATOM   2106  CB  GLU A 275      20.398  16.967  -0.342  1.00  0.06           C
ATOM   2107  CG  GLU A 275      20.509  17.763   0.964  1.00  0.01           C
ATOM   2108  CD  GLU A 275      21.949  18.177   1.263  1.00  0.81           C
ATOM   2109  OE1 GLU A 275      22.538  17.619   2.215  1.00 -0.82           O
ATOM   2110  OE2 GLU A 275      22.469  19.078   0.564  1.00 -0.82           O
ATOM   2111  N   GLY A 276      19.766  13.562  -0.655  1.00 -0.42           N
ATOM   2112  CA  GLY A 276      18.908  12.422  -0.302  1.00 -0.03           C
ATOM   2113  C   GLY A 276      19.681  11.375   0.499  1.00  0.60           C
ATOM   2114  O   GLY A 276      19.247  10.938   1.569  1.00 -0.57           O
ATOM   2115  N   TYR A 277      20.890  11.055   0.018  1.00 -0.42           N
ATOM   2116  CA  TYR A 277      21.846  10.238   0.769  1.00 -0.00           C
ATOM   2117  C   TYR A 277      22.292  10.943   2.065  1.00  0.60           C
ATOM   2118  O   TYR A 277      22.545  10.293   3.086  1.00 -0.57           O
ATOM   2119  CB  TYR A 277      23.046   9.891  -0.124  1.00 -0.02           C
ATOM   2120  CG  TYR A 277      23.930   8.819   0.484  1.00 -0.00           C
ATOM   2121  CD1 TYR A 277      23.855   7.487   0.036  1.00 -0.19           C
ATOM   2122  CD2 TYR A 277      24.799   9.147   1.540  1.00 -0.19           C
ATOM   2123  CE1 TYR A 277      24.616   6.489   0.671  1.00 -0.23           C
ATOM   2124  CE2 TYR A 277      25.532   8.147   2.191  1.00 -0.23           C
ATOM   2125  CZ  TYR A 277      25.421   6.817   1.779  1.00  0.32           C
ATOM   2126  OH  TYR A 277      26.100   5.872   2.484  1.00 -0.56           O
ATOM   2127  N   ALA A 278      22.362  12.284   2.052  1.00 -0.42           N
ATOM   2128  CA  ALA A 278      22.590  13.065   3.268  1.00  0.03           C
ATOM   2129  C   ALA A 278      21.462  12.877   4.300  1.00  0.60           C
ATOM   2130  O   ALA A 278      21.774  12.535   5.444  1.00 -0.57           O
ATOM   2131  CB  ALA A 278      22.807  14.544   2.937  1.00 -0.18           C
ATOM   2132  N   HIS A 279      20.180  13.024   3.922  1.00 -0.42           N
ATOM   2133  CA  HIS A 279      19.048  12.659   4.793  1.00 -0.06           C
ATOM   2134  C   HIS A 279      19.162  11.207   5.302  1.00  0.60           C
ATOM   2135  O   HIS A 279      18.970  10.941   6.490  1.00 -0.57           O
ATOM   2136  CB  HIS A 279      17.701  12.829   4.067  1.00 -0.01           C
ATOM   2137  CG  HIS A 279      17.316  14.241   3.701  1.00  0.19           C
ATOM   2138  CD2 HIS A 279      16.881  14.650   2.472  1.00 -0.22           C
ATOM   2139  ND1 HIS A 279      17.279  15.328   4.575  1.00 -0.54           N
ATOM   2140  CE1 HIS A 279      16.860  16.370   3.839  1.00  0.16           C
ATOM   2141  NE2 HIS A 279      16.608  15.994   2.573  1.00 -0.28           N
ATOM   2142  N   LEU A 280      19.511  10.264   4.418  1.00 -0.42           N
ATOM   2143  CA  LEU A 280      19.691   8.851   4.778  1.00 -0.05           C
ATOM   2144  C   LEU A 280      20.796   8.645   5.835  1.00  0.60           C
ATOM   2145  O   LEU A 280      20.596   8.005   6.873  1.00 -0.57           O
ATOM   2146  CB  LEU A 280      20.012   8.074   3.488  1.00 -0.11           C
ATOM   2147  CG  LEU A 280      19.378   6.680   3.458  1.00  0.35           C
ATOM   2148  CD1 LEU A 280      17.857   6.785   3.327  1.00 -0.41           C
ATOM   2149  CD2 LEU A 280      19.896   5.920   2.238  1.00 -0.41           C
ATOM   2150  N   THR A 281      21.953   9.264   5.582  1.00 -0.42           N
ATOM   2151  CA  THR A 281      23.099   9.316   6.491  1.00 -0.04           C
ATOM   2152  C   THR A 281      22.671   9.872   7.846  1.00  0.60           C
ATOM   2153  O   THR A 281      22.932   9.238   8.868  1.00 -0.57           O
ATOM   2154  CB  THR A 281      24.230  10.192   5.917  1.00  0.37           C
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ATOM   2155  CG2 THR A 281      25.498  10.144   6.768  1.00 -0.24           C
ATOM   2156  OG1 THR A 281      24.595   9.757   4.635  1.00 -0.68           O
ATOM   2157  N   HIS A 282      21.966  11.010   7.848  1.00 -0.42           N
ATOM   2158  CA  HIS A 282      21.465  11.657   9.052  1.00 -0.06           C
ATOM   2159  C   HIS A 282      20.500  10.745   9.823  1.00  0.60           C
ATOM   2160  O   HIS A 282      20.677  10.554  11.023  1.00 -0.57           O
ATOM   2161  CB  HIS A 282      20.802  12.990   8.675  1.00 -0.01           C
ATOM   2162  CG  HIS A 282      20.257  13.719   9.876  1.00  0.19           C
ATOM   2163  CD2 HIS A 282      18.995  13.599  10.385  1.00 -0.22           C
ATOM   2164  ND1 HIS A 282      20.994  14.586  10.685  1.00 -0.54           N
ATOM   2165  CE1 HIS A 282      20.163  14.962  11.663  1.00  0.16           C
ATOM   2166  NE2 HIS A 282      18.959  14.386  11.513  1.00 -0.28           N
ATOM   2167  N   LEU A 283      19.513  10.131   9.159  1.00 -0.42           N
ATOM   2168  CA  LEU A 283      18.572   9.226   9.822  1.00 -0.05           C
ATOM   2169  C   LEU A 283      19.266   7.995  10.424  1.00  0.60           C
ATOM   2170  O   LEU A 283      18.994   7.663  11.579  1.00 -0.57           O
ATOM   2171  CB  LEU A 283      17.469   8.791   8.852  1.00 -0.11           C
ATOM   2172  CG  LEU A 283      16.466   9.892   8.469  1.00  0.35           C
ATOM   2173  CD1 LEU A 283      15.509   9.324   7.423  1.00 -0.41           C
ATOM   2174  CD2 LEU A 283      15.640  10.394   9.660  1.00 -0.41           C
ATOM   2175  N   LEU A 284      20.194   7.354   9.699  1.00 -0.42           N
ATOM   2176  CA  LEU A 284      21.005   6.286  10.289  1.00 -0.05           C
ATOM   2177  C   LEU A 284      21.896   6.810  11.434  1.00  0.60           C
ATOM   2178  O   LEU A 284      22.061   6.125  12.440  1.00 -0.57           O
ATOM   2179  CB  LEU A 284      21.815   5.584   9.188  1.00 -0.11           C
ATOM   2180  CG  LEU A 284      22.651   4.385   9.685  1.00  0.35           C
ATOM   2181  CD1 LEU A 284      21.823   3.300  10.390  1.00 -0.41           C
ATOM   2182  CD2 LEU A 284      23.380   3.780   8.490  1.00 -0.41           C
ATOM   2183  N   MET A 285      22.451   8.026  11.317  1.00 -0.42           N
ATOM   2184  CA  MET A 285      23.194   8.696  12.398  1.00 -0.02           C
ATOM   2185  C   MET A 285      22.321   9.005  13.620  1.00  0.60           C
ATOM   2186  O   MET A 285      22.815   8.963  14.743  1.00 -0.57           O
ATOM   2187  CB  MET A 285      23.884   9.969  11.881  1.00  0.03           C
ATOM   2188  CG  MET A 285      24.924  10.490  12.877  1.00  0.00           C
ATOM   2189  SD  MET A 285      26.167  11.594  12.157  1.00 -0.27           S
ATOM   2190  CE  MET A 285      25.122  13.019  11.751  1.00 -0.05           C
ATOM   2191  N   GLY A 286      21.021   9.223  13.399  1.00 -0.42           N
ATOM   2192  CA  GLY A 286      19.953   9.276  14.394  1.00 -0.03           C
ATOM   2193  C   GLY A 286      19.814   8.017  15.256  1.00  0.60           C
ATOM   2194  O   GLY A 286      19.175   8.090  16.295  1.00 -0.57           O
ATOM   2195  N   LEU A 287      20.453   6.895  14.892  1.00 -0.42           N
ATOM   2196  CA  LEU A 287      20.629   5.760  15.803  1.00 -0.05           C
ATOM   2197  C   LEU A 287      21.727   6.005  16.867  1.00  0.60           C
ATOM   2198  O   LEU A 287      21.824   5.233  17.818  1.00 -0.57           O
ATOM   2199  CB  LEU A 287      20.891   4.499  14.957  1.00 -0.11           C
ATOM   2200  CG  LEU A 287      20.956   3.160  15.720  1.00  0.35           C
ATOM   2201  CD1 LEU A 287      19.776   2.923  16.669  1.00 -0.41           C
ATOM   2202  CD2 LEU A 287      20.968   2.012  14.706  1.00 -0.41           C
ATOM   2203  N   ALA A 288      22.560   7.047  16.729  1.00 -0.42           N
ATOM   2204  CA  ALA A 288      23.674   7.451  17.610  1.00  0.03           C
ATOM   2205  C   ALA A 288      24.807   6.422  17.858  1.00  0.60           C
ATOM   2206  O   ALA A 288      25.882   6.807  18.325  1.00 -0.57           O
ATOM   2207  CB  ALA A 288      23.110   8.008  18.924  1.00 -0.18           C
ATOM   2208  N   SER A 289      24.598   5.138  17.540  1.00 -0.42           N
ATOM   2209  CA  SER A 289      25.589   4.055  17.601  1.00 -0.02           C
ATOM   2210  C   SER A 289      26.907   4.339  16.845  1.00  0.60           C
ATOM   2211  O   SER A 289      27.017   5.277  16.056  1.00 -0.57           O
ATOM   2212  CB  SER A 289      24.946   2.752  17.092  1.00  0.21           C
ATOM   2213  OG  SER A 289      24.633   2.818  15.710  1.00 -0.65           O
ATOM   2214  N   GLY A 290      27.931   3.502  17.064  1.00 -0.42           N
ATOM   2215  CA  GLY A 290      29.215   3.595  16.356  1.00 -0.03           C
ATOM   2216  C   GLY A 290      29.083   3.261  14.865  1.00  0.60           C
ATOM   2217  O   GLY A 290      28.554   2.205  14.503  1.00 -0.57           O
ATOM   2218  N   ARG A 291      29.546   4.174  14.001  1.00 -0.35           N
ATOM   2219  CA  ARG A 291      29.230   4.162  12.568  1.00 -0.26           C
ATOM   2220  C   ARG A 291      30.477   4.167  11.671  1.00  0.73           C
ATOM   2221  O   ARG A 291      31.287   5.099  11.676  1.00 -0.59           O
ATOM   2222  CB  ARG A 291      28.266   5.315  12.245  1.00 -0.00           C
ATOM   2223  CG  ARG A 291      26.834   4.924  12.648  1.00  0.04           C
ATOM   2224  CD  ARG A 291      25.845   6.085  12.601  1.00  0.05           C
ATOM   2225  NE  ARG A 291      25.521   6.463  11.215  1.00 -0.53           N
ATOM   2226  CZ  ARG A 291      25.955   7.515  10.536  1.00  0.81           C
ATOM   2227  NH1 ARG A 291      25.461   7.756   9.344  1.00 -0.86           N
ATOM   2228  NH2 ARG A 291      26.873   8.332  11.010  1.00 -0.86           N
ATOM   2229  N   ILE A 292      30.579   3.084  10.893  1.00 -0.42           N
ATOM   2230  CA  ILE A 292      31.671   2.731   9.981  1.00 -0.06           C
ATOM   2231  C   ILE A 292      31.255   3.062   8.533  1.00  0.60           C
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ATOM   2232  O   ILE A 292      30.545   2.306   7.856  1.00 -0.57           O
ATOM   2233  CB  ILE A 292      32.058   1.241  10.184  1.00  0.13           C
ATOM   2234  CG1 ILE A 292      32.321   0.851  11.662  1.00 -0.04           C
ATOM   2235  CG2 ILE A 292      33.262   0.852   9.309  1.00 -0.32           C
ATOM   2236  CD1 ILE A 292      33.279   1.770  12.435  1.00 -0.07           C
ATOM   2237  N   ILE A 293      31.686   4.250   8.095  1.00 -0.42           N
ATOM   2238  CA  ILE A 293      31.376   4.898   6.817  1.00 -0.06           C
ATOM   2239  C   ILE A 293      32.428   4.484   5.762  1.00  0.60           C
ATOM   2240  O   ILE A 293      33.342   5.238   5.410  1.00 -0.57           O
ATOM   2241  CB  ILE A 293      31.274   6.441   7.001  1.00  0.13           C
ATOM   2242  CG1 ILE A 293      30.453   6.920   8.225  1.00 -0.04           C
ATOM   2243  CG2 ILE A 293      30.774   7.142   5.723  1.00 -0.32           C
ATOM   2244  CD1 ILE A 293      28.988   6.479   8.273  1.00 -0.07           C
ATOM   2245  N   LEU A 294      32.304   3.254   5.254  1.00 -0.42           N
ATOM   2246  CA  LEU A 294      33.147   2.718   4.168  1.00 -0.05           C
ATOM   2247  C   LEU A 294      32.885   3.355   2.775  1.00  0.60           C
ATOM   2248  O   LEU A 294      33.549   3.038   1.793  1.00 -0.57           O
ATOM   2249  CB  LEU A 294      32.905   1.204   4.076  1.00 -0.11           C
ATOM   2250  CG  LEU A 294      33.347   0.328   5.248  1.00  0.35           C
ATOM   2251  CD1 LEU A 294      33.548  -1.117   4.790  1.00 -0.41           C
ATOM   2252  CD2 LEU A 294      34.638   0.792   5.928  1.00 -0.41           C
ATOM   2253  N   ILE A 295      31.870   4.212   2.678  1.00 -0.42           N
ATOM   2254  CA  ILE A 295      30.762   4.075   1.721  1.00 -0.06           C
ATOM   2255  C   ILE A 295      31.016   4.022   0.195  1.00  0.60           C
ATOM   2256  O   ILE A 295      30.110   3.584  -0.504  1.00 -0.57           O
ATOM   2257  CB  ILE A 295      29.689   5.144   2.032  1.00  0.13           C
ATOM   2258  CG1 ILE A 295      30.182   6.597   1.866  1.00 -0.04           C
ATOM   2259  CG2 ILE A 295      29.088   4.908   3.420  1.00 -0.32           C
ATOM   2260  CD1 ILE A 295      29.029   7.606   1.785  1.00 -0.07           C
ATOM   2261  N   LEU A 296      32.154   4.473  -0.350  1.00 -0.42           N
ATOM   2262  CA  LEU A 296      32.276   4.754  -1.798  1.00 -0.05           C
ATOM   2263  C   LEU A 296      32.446   3.513  -2.711  1.00  0.60           C
ATOM   2264  O   LEU A 296      33.530   3.242  -3.234  1.00 -0.57           O
ATOM   2265  CB  LEU A 296      33.265   5.915  -2.069  1.00 -0.11           C
ATOM   2266  CG  LEU A 296      32.549   7.166  -2.617  1.00  0.35           C
ATOM   2267  CD1 LEU A 296      31.696   7.813  -1.528  1.00 -0.41           C
ATOM   2268  CD2 LEU A 296      33.535   8.226  -3.110  1.00 -0.41           C
ATOM   2269  N   GLU A 297      31.340   2.788  -2.915  1.00 -0.52           N
ATOM   2270  CA  GLU A 297      31.185   1.643  -3.835  1.00  0.04           C
ATOM   2271  C   GLU A 297      30.922   2.103  -5.287  1.00  0.54           C
ATOM   2272  O   GLU A 297      31.634   2.998  -5.762  1.00 -0.58           O
ATOM   2273  CB  GLU A 297      30.057   0.732  -3.272  1.00  0.06           C
ATOM   2274  CG  GLU A 297      30.354   0.174  -1.872  1.00  0.01           C
ATOM   2275  CD  GLU A 297      29.135  -0.330  -1.093  1.00  0.81           C
ATOM   2276  OE1 GLU A 297      28.065   0.328  -1.141  1.00 -0.82           O
ATOM   2277  OE2 GLU A 297      29.302  -1.312  -0.338  1.00 -0.82           O
ATOM   2278  N   GLY A 298      29.981   1.467  -6.015  1.00 -0.42           N
ATOM   2279  CA  GLY A 298      29.716   1.697  -7.443  1.00 -0.03           C
ATOM   2280  C   GLY A 298      29.553   3.173  -7.828  1.00  0.60           C
ATOM   2281  O   GLY A 298      29.072   3.982  -7.039  1.00 -0.57           O
ATOM   2282  N   GLY A 299      29.972   3.556  -9.036  1.00 -0.42           N
ATOM   2283  CA  GLY A 299      29.884   4.930  -9.543  1.00 -0.03           C
ATOM   2284  C   GLY A 299      31.084   5.321 -10.410  1.00  0.60           C
ATOM   2285  O   GLY A 299      32.240   5.033 -10.067  1.00 -0.57           O
ATOM   2286  N   TYR A 300      30.786   5.968 -11.539  1.00 -0.42           N
ATOM   2287  CA  TYR A 300      31.702   6.147 -12.670  1.00 -0.00           C
ATOM   2288  C   TYR A 300      31.628   7.563 -13.274  1.00  0.60           C
ATOM   2289  O   TYR A 300      32.595   7.986 -13.912  1.00 -0.57           O
ATOM   2290  CB  TYR A 300      31.408   5.005 -13.702  1.00 -0.02           C
ATOM   2291  CG  TYR A 300      30.817   3.700 -13.120  1.00 -0.00           C
ATOM   2292  CD1 TYR A 300      29.414   3.508 -13.118  1.00 -0.19           C
ATOM   2293  CD2 TYR A 300      31.624   2.799 -12.384  1.00 -0.19           C
ATOM   2294  CE1 TYR A 300      28.816   2.500 -12.325  1.00 -0.23           C
ATOM   2295  CE2 TYR A 300      31.033   1.768 -11.608  1.00 -0.23           C
ATOM   2296  CZ  TYR A 300      29.619   1.641 -11.537  1.00  0.32           C
ATOM   2297  OH  TYR A 300      29.065   0.769 -10.639  1.00 -0.56           O
ATOM   2298  N   ASN A 301      30.548   8.332 -13.046  1.00 -0.42           N
ATOM   2299  CA  ASN A 301      30.598   9.791 -13.206  1.00  0.01           C
ATOM   2300  C   ASN A 301      31.595  10.414 -12.193  1.00  0.60           C
ATOM   2301  O   ASN A 301      31.262  10.651 -11.026  1.00 -0.57           O
ATOM   2302  CB  ASN A 301      29.173  10.374 -13.157  1.00 -0.20           C
ATOM   2303  CG  ASN A 301      29.101  11.898 -13.231  1.00  0.71           C
ATOM   2304  ND2 ASN A 301      28.151  12.457 -13.955  1.00 -0.92           N
ATOM   2305  OD1 ASN A 301      29.898  12.616 -12.642  1.00 -0.59           O
ATOM   2306  N   LEU A 302      32.823  10.673 -12.675  1.00 -0.42           N
ATOM   2307  CA  LEU A 302      33.957  11.258 -11.944  1.00 -0.05           C
ATOM   2308  C   LEU A 302      33.720  12.669 -11.353  1.00  0.60           C
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ATOM   2309  O   LEU A 302      34.631  13.217 -10.732  1.00 -0.57           O
ATOM   2310  CB  LEU A 302      35.236  11.252 -12.818  1.00 -0.11           C
ATOM   2311  CG  LEU A 302      35.737   9.891 -13.349  1.00  0.35           C
ATOM   2312  CD1 LEU A 302      37.167  10.038 -13.877  1.00 -0.41           C
ATOM   2313  CD2 LEU A 302      35.745   8.790 -12.292  1.00 -0.41           C
ATOM   2314  N   THR A 303      32.533  13.267 -11.486  1.00 -0.42           N
ATOM   2315  CA  THR A 303      32.191  14.498 -10.756  1.00 -0.04           C
ATOM   2316  C   THR A 303      31.140  14.184  -9.687  1.00  0.60           C
ATOM   2317  O   THR A 303      31.367  14.474  -8.511  1.00 -0.57           O
ATOM   2318  CB  THR A 303      31.761  15.622 -11.720  1.00  0.37           C
ATOM   2319  CG2 THR A 303      31.382  16.912 -10.987  1.00 -0.24           C
ATOM   2320  OG1 THR A 303      32.825  15.944 -12.603  1.00 -0.68           O
ATOM   2321  N   SER A 304      30.038  13.518 -10.051  1.00 -0.42           N
ATOM   2322  CA  SER A 304      28.967  13.166  -9.120  1.00 -0.02           C
ATOM   2323  C   SER A 304      29.451  12.263  -7.966  1.00  0.60           C
ATOM   2324  O   SER A 304      29.056  12.480  -6.819  1.00 -0.57           O
ATOM   2325  CB  SER A 304      27.803  12.544  -9.896  1.00  0.21           C
ATOM   2326  OG  SER A 304      26.642  12.534  -9.090  1.00 -0.65           O
ATOM   2327  N   ILE A 305      30.379  11.321  -8.228  1.00 -0.42           N
ATOM   2328  CA  ILE A 305      31.000  10.476  -7.184  1.00 -0.06           C
ATOM   2329  C   ILE A 305      31.632  11.293  -6.034  1.00  0.60           C
ATOM   2330  O   ILE A 305      31.603  10.881  -4.872  1.00 -0.57           O
ATOM   2331  CB  ILE A 305      32.028   9.513  -7.839  1.00  0.13           C
ATOM   2332  CG1 ILE A 305      32.570   8.432  -6.884  1.00 -0.04           C
ATOM   2333  CG2 ILE A 305      33.253  10.237  -8.433  1.00 -0.32           C
ATOM   2334  CD1 ILE A 305      31.489   7.512  -6.320  1.00 -0.07           C
ATOM   2335  N   SER A 306      32.165  12.468  -6.382  1.00 -0.42           N
ATOM   2336  CA  SER A 306      32.891  13.375  -5.504  1.00 -0.02           C
ATOM   2337  C   SER A 306      31.961  14.464  -4.919  1.00  0.60           C
ATOM   2338  O   SER A 306      31.894  14.687  -3.706  1.00 -0.57           O
ATOM   2339  CB  SER A 306      34.032  13.954  -6.358  1.00  0.21           C
ATOM   2340  OG  SER A 306      34.876  14.803  -5.625  1.00 -0.65           O
ATOM   2341  N   GLU A 307      31.172  15.101  -5.792  1.00 -0.52           N
ATOM   2342  CA  GLU A 307      30.116  16.080  -5.497  1.00  0.04           C
ATOM   2343  C   GLU A 307      29.039  15.529  -4.551  1.00  0.54           C
ATOM   2344  O   GLU A 307      28.612  16.231  -3.631  1.00 -0.58           O
ATOM   2345  CB  GLU A 307      29.569  16.542  -6.858  1.00  0.06           C
ATOM   2346  CG  GLU A 307      28.664  17.770  -6.883  1.00  0.01           C
ATOM   2347  CD  GLU A 307      28.974  18.547  -8.163  1.00  0.81           C
ATOM   2348  OE1 GLU A 307      29.832  19.457  -8.072  1.00 -0.82           O
ATOM   2349  OE2 GLU A 307      28.385  18.211  -9.219  1.00 -0.82           O
ATOM   2350  N   SER A 308      28.658  14.251  -4.699  1.00 -0.42           N
ATOM   2351  CA  SER A 308      27.802  13.576  -3.724  1.00 -0.02           C
ATOM   2352  C   SER A 308      28.538  13.205  -2.428  1.00  0.60           C
ATOM   2353  O   SER A 308      28.010  13.466  -1.346  1.00 -0.57           O
ATOM   2354  CB  SER A 308      27.157  12.333  -4.334  1.00  0.21           C
ATOM   2355  OG  SER A 308      26.192  11.837  -3.424  1.00 -0.65           O
ATOM   2356  N   MET A 309      29.768  12.666  -2.480  1.00 -0.42           N
ATOM   2357  CA  MET A 309      30.511  12.349  -1.252  1.00 -0.02           C
ATOM   2358  C   MET A 309      30.791  13.591  -0.387  1.00  0.60           C
ATOM   2359  O   MET A 309      30.819  13.495   0.843  1.00 -0.57           O
ATOM   2360  CB  MET A 309      31.802  11.580  -1.561  1.00  0.03           C
ATOM   2361  CG  MET A 309      32.532  11.094  -0.293  1.00  0.00           C
ATOM   2362  SD  MET A 309      31.463  10.292   0.940  1.00 -0.27           S
ATOM   2363  CE  MET A 309      32.562  10.030   2.352  1.00 -0.05           C
ATOM   2364  N   ALA A 310      30.929  14.772  -1.000  1.00 -0.42           N
ATOM   2365  CA  ALA A 310      30.903  16.039  -0.269  1.00  0.03           C
ATOM   2366  C   ALA A 310      29.609  16.225   0.562  1.00  0.60           C
ATOM   2367  O   ALA A 310      29.700  16.517   1.752  1.00 -0.57           O
ATOM   2368  CB  ALA A 310      31.123  17.195  -1.250  1.00 -0.18           C
ATOM   2369  N   ALA A 311      28.412  15.994  -0.004  1.00 -0.42           N
ATOM   2370  CA  ALA A 311      27.152  16.061   0.758  1.00  0.03           C
ATOM   2371  C   ALA A 311      27.006  14.915   1.778  1.00  0.60           C
ATOM   2372  O   ALA A 311      26.595  15.150   2.916  1.00 -0.57           O
ATOM   2373  CB  ALA A 311      25.957  16.051  -0.198  1.00 -0.18           C
ATOM   2374  N   CYS A 312      27.404  13.691   1.410  1.00 -0.42           N
ATOM   2375  CA  CYS A 312      27.422  12.544   2.322  1.00  0.02           C
ATOM   2376  C   CYS A 312      28.324  12.819   3.544  1.00  0.60           C
ATOM   2377  O   CYS A 312      27.939  12.539   4.679  1.00 -0.57           O
ATOM   2378  CB  CYS A 312      27.920  11.297   1.579  1.00 -0.12           C
ATOM   2379  SG  CYS A 312      26.958  10.933   0.080  1.00 -0.31           S
ATOM   2380  N   THR A 313      29.500  13.417   3.308  1.00 -0.42           N
ATOM   2381  CA  THR A 313      30.445  13.807   4.363  1.00 -0.04           C
ATOM   2382  C   THR A 313      29.943  15.032   5.133  1.00  0.60           C
ATOM   2383  O   THR A 313      30.073  15.081   6.354  1.00 -0.57           O
ATOM   2384  CB  THR A 313      31.838  14.111   3.784  1.00  0.37           C
ATOM   2385  CG2 THR A 313      32.908  14.280   4.859  1.00 -0.24           C
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ATOM   2386  OG1 THR A 313      32.273  13.091   2.927  1.00 -0.68           O
ATOM   2387  N   ARG A 314      29.304  16.000   4.461  1.00 -0.35           N
ATOM   2388  CA  ARG A 314      28.658  17.140   5.110  1.00 -0.26           C
ATOM   2389  C   ARG A 314      27.607  16.660   6.129  1.00  0.73           C
ATOM   2390  O   ARG A 314      27.609  17.119   7.274  1.00 -0.59           O
ATOM   2391  CB  ARG A 314      28.041  18.056   4.039  1.00 -0.00           C
ATOM   2392  CG  ARG A 314      27.594  19.379   4.659  1.00  0.04           C
ATOM   2393  CD  ARG A 314      26.574  20.159   3.820  1.00  0.05           C
ATOM   2394  NE  ARG A 314      25.252  19.502   3.775  1.00 -0.53           N
ATOM   2395  CZ  ARG A 314      24.393  19.367   4.779  1.00  0.81           C
ATOM   2396  NH1 ARG A 314      23.239  18.765   4.565  1.00 -0.86           N
ATOM   2397  NH2 ARG A 314      24.644  19.808   6.002  1.00 -0.86           N
ATOM   2398  N   SER A 315      26.791  15.662   5.759  1.00 -0.42           N
ATOM   2399  CA  SER A 315      25.844  14.995   6.665  1.00 -0.02           C
ATOM   2400  C   SER A 315      26.484  14.318   7.901  1.00  0.60           C
ATOM   2401  O   SER A 315      25.772  13.852   8.791  1.00 -0.57           O
ATOM   2402  CB  SER A 315      25.002  13.979   5.884  1.00  0.21           C
ATOM   2403  OG  SER A 315      23.772  13.786   6.561  1.00 -0.65           O
ATOM   2404  N   LEU A 316      27.823  14.282   8.000  1.00 -0.42           N
ATOM   2405  CA  LEU A 316      28.564  13.776   9.161  1.00 -0.05           C
ATOM   2406  C   LEU A 316      29.350  14.881   9.901  1.00  0.60           C
ATOM   2407  O   LEU A 316      30.019  14.575  10.887  1.00 -0.57           O
ATOM   2408  CB  LEU A 316      29.524  12.666   8.689  1.00 -0.11           C
ATOM   2409  CG  LEU A 316      28.831  11.457   8.037  1.00  0.35           C
ATOM   2410  CD1 LEU A 316      29.877  10.593   7.337  1.00 -0.41           C
ATOM   2411  CD2 LEU A 316      28.078  10.582   9.044  1.00 -0.41           C
ATOM   2412  N   LEU A 317      29.318  16.142   9.434  1.00 -0.42           N
ATOM   2413  CA  LEU A 317      30.215  17.204   9.929  1.00 -0.05           C
ATOM   2414  C   LEU A 317      29.576  18.600  10.052  1.00  0.60           C
ATOM   2415  O   LEU A 317      30.025  19.389  10.890  1.00 -0.57           O
ATOM   2416  CB  LEU A 317      31.430  17.323   8.988  1.00 -0.11           C
ATOM   2417  CG  LEU A 317      32.329  16.079   8.845  1.00  0.35           C
ATOM   2418  CD1 LEU A 317      33.401  16.390   7.802  1.00 -0.41           C
ATOM   2419  CD2 LEU A 317      33.050  15.692  10.137  1.00 -0.41           C
ATOM   2420  N   GLY A 318      28.583  18.930   9.209  1.00 -0.46           N
ATOM   2421  CA  GLY A 318      27.923  20.242   9.148  1.00  0.04           C
ATOM   2422  C   GLY A 318      28.023  20.861   7.757  1.00  0.79           C
ATOM   2423  O   GLY A 318      26.945  21.017   7.129  1.00 -0.46           O
ATOM   2424  OXT GLY A 318      29.186  21.151   7.365  1.00 -0.57           O
TER    2425      GLY A 318
HETATM 2426 ZN   ZN  A 378      26.343  -0.007  -8.207  1.00  0.00          ZN
END
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4. ^{1}H (400 MHz) and ^{13}C NMR (100 MHz) spectra for new products in $CDCl_3$

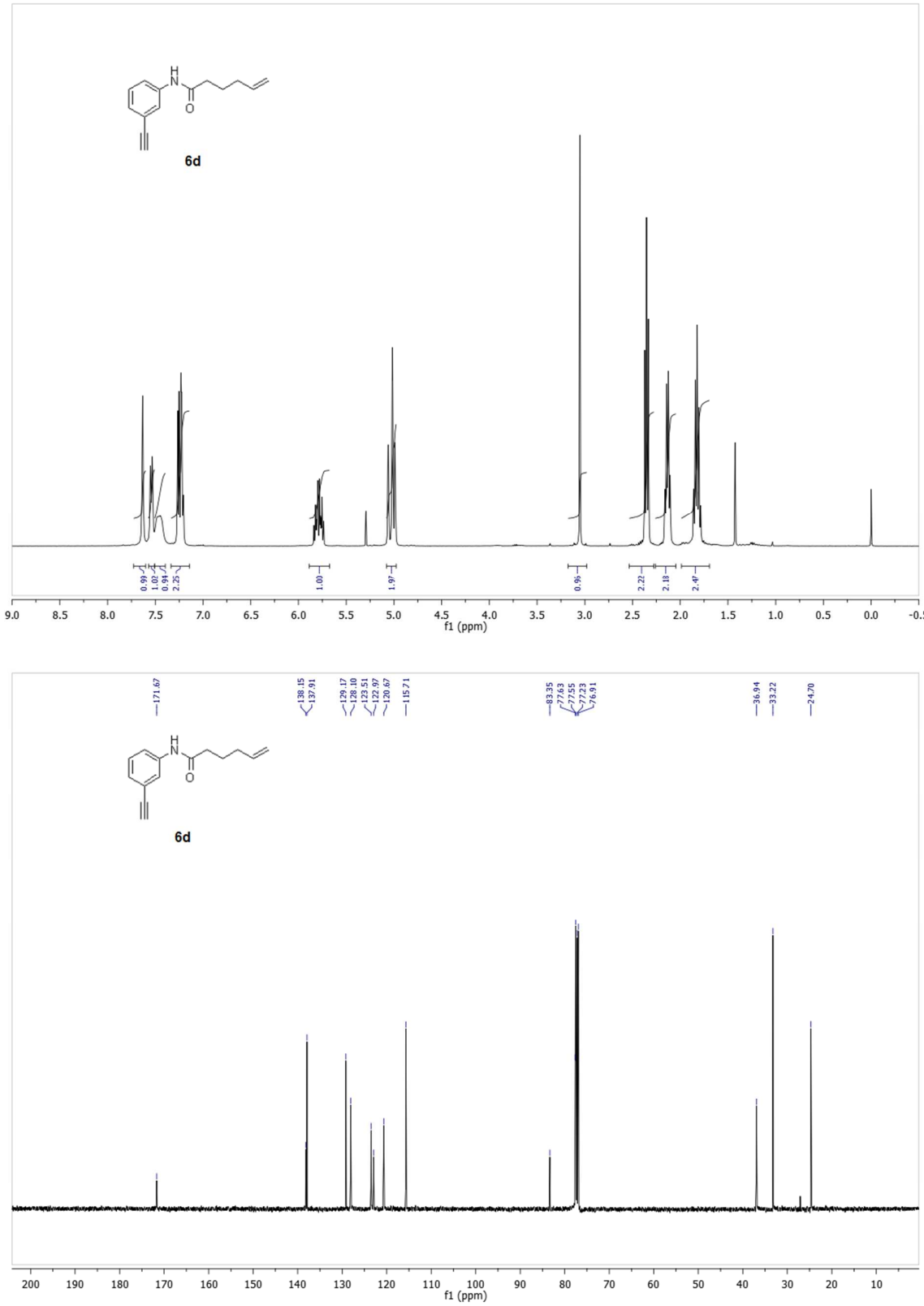


Figure S14: ^{1}H and ^{13}C NMR of product **6d**

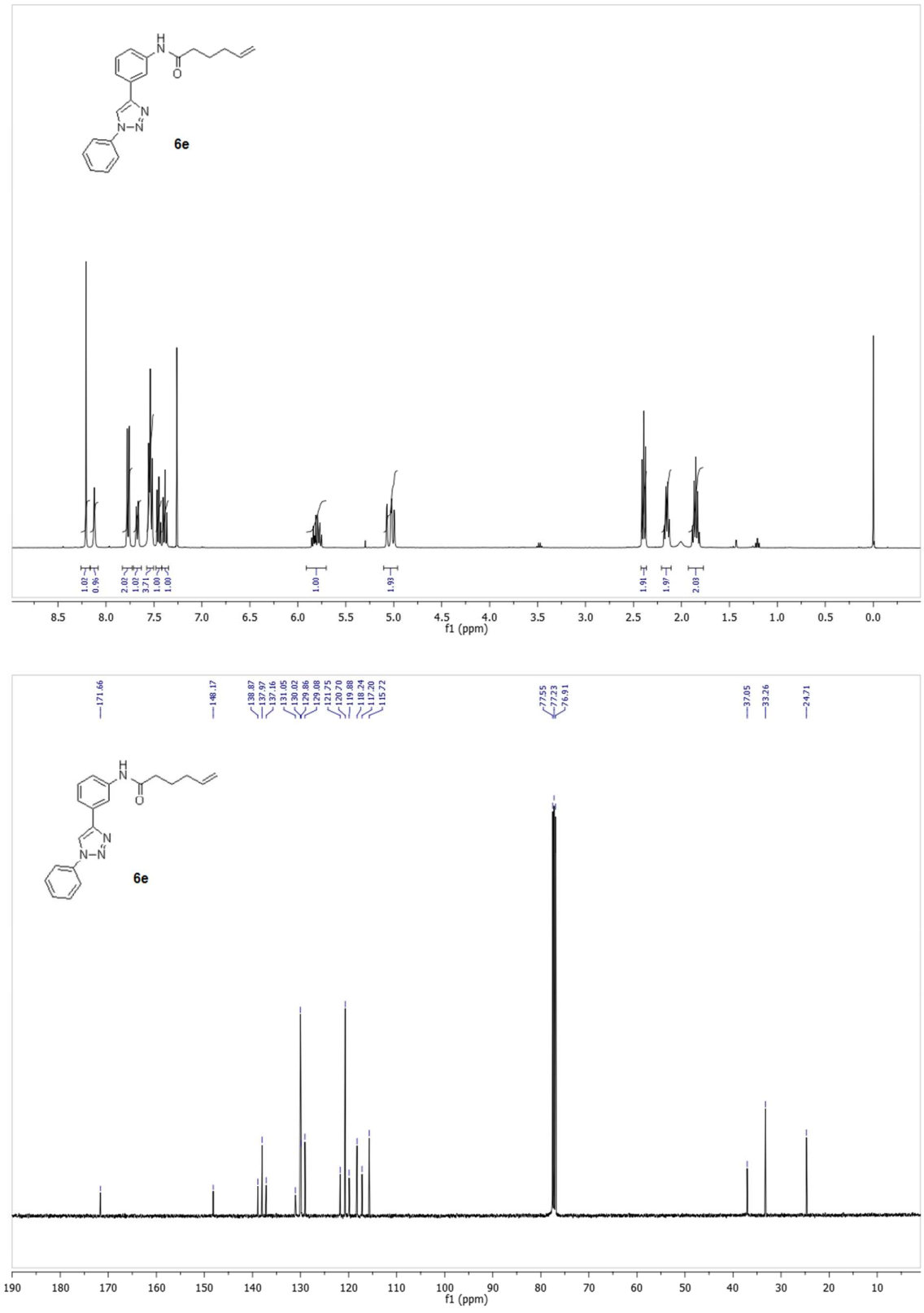


Figure S15: ^{1}H and ^{13}C NMR of product **6e**

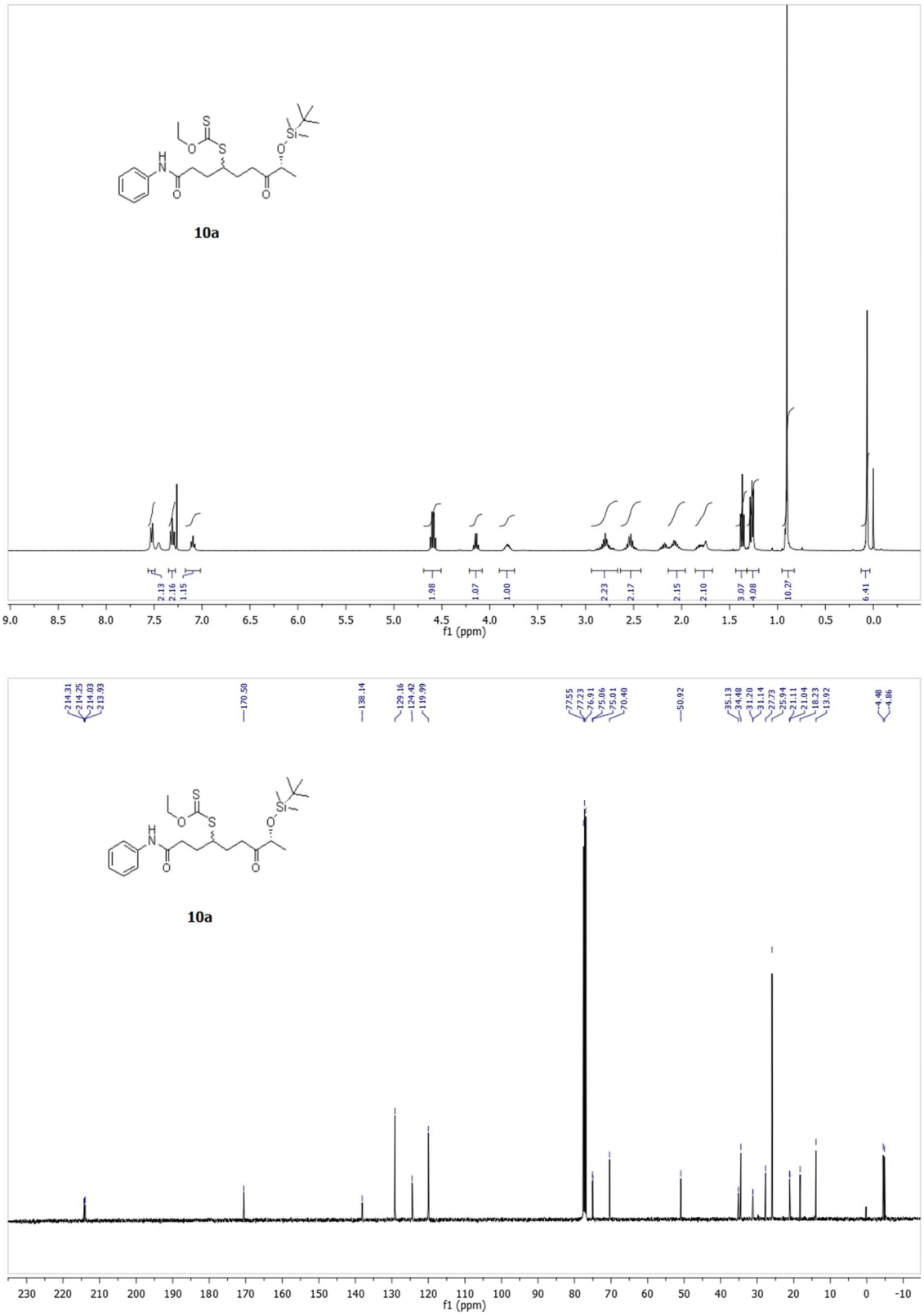
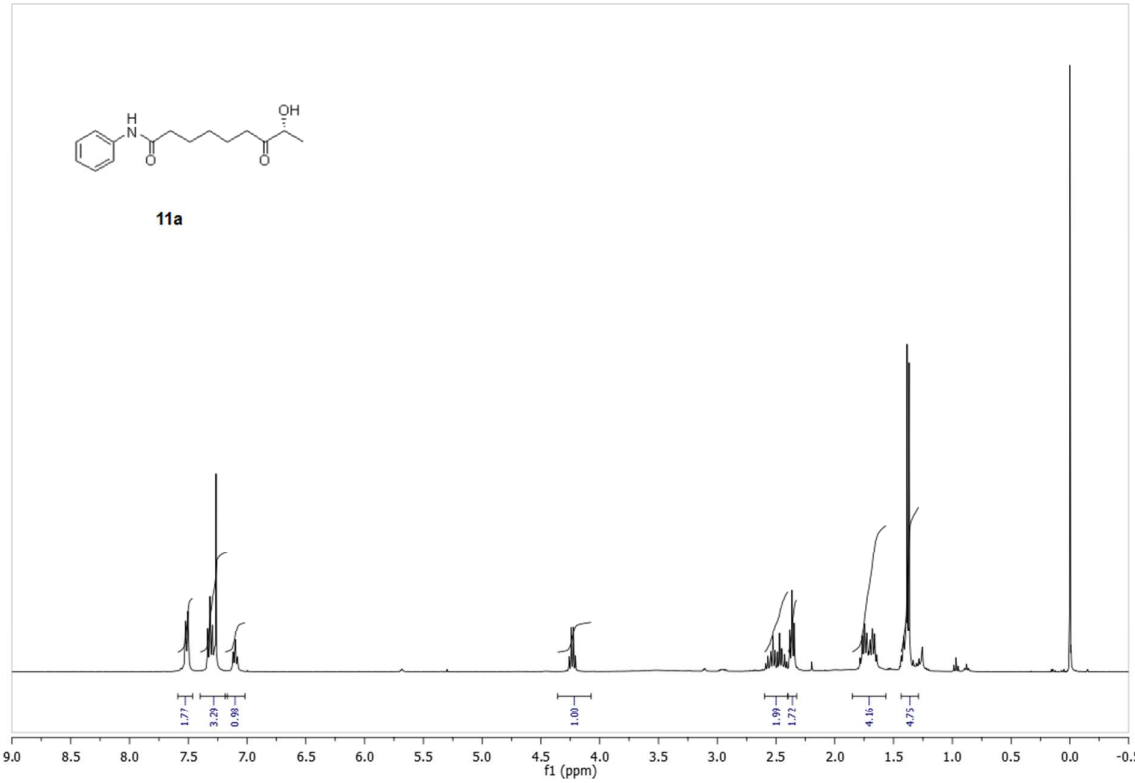


Figure S16: ^{1}H and ^{13}C NMR of product **10a**



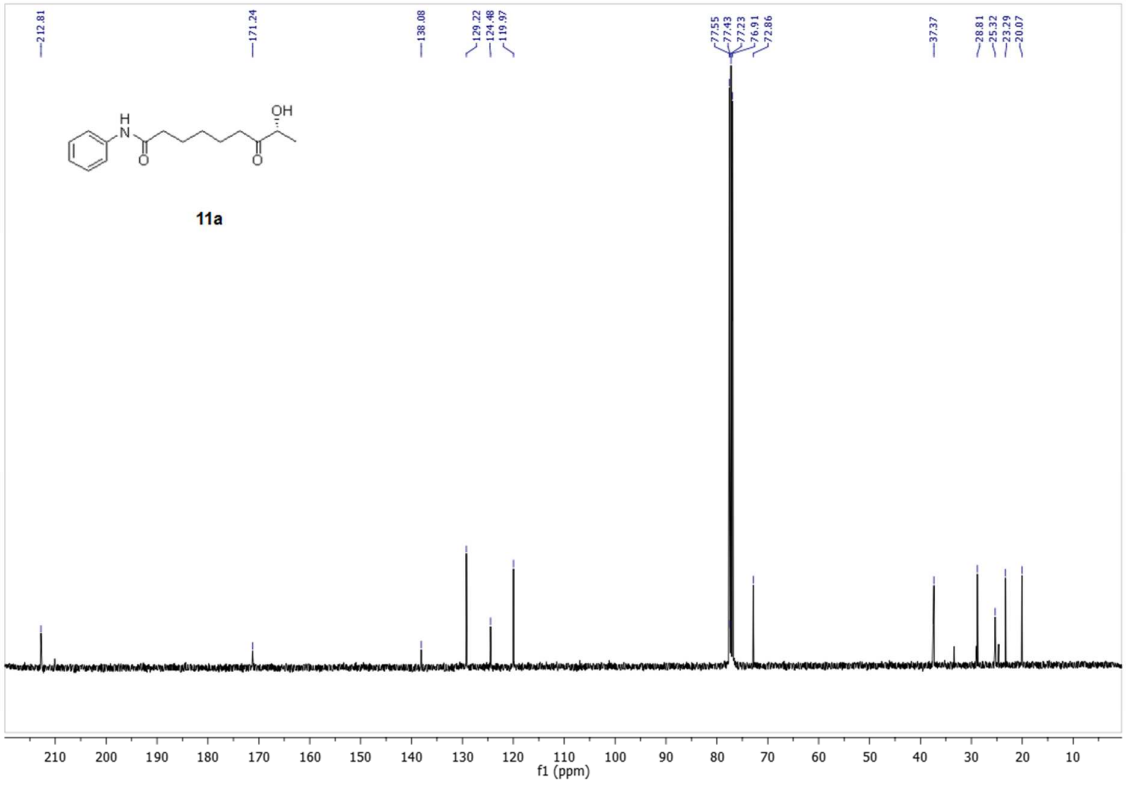


Figure S17: ^{1}H and ^{13}C NMR of product **11a**

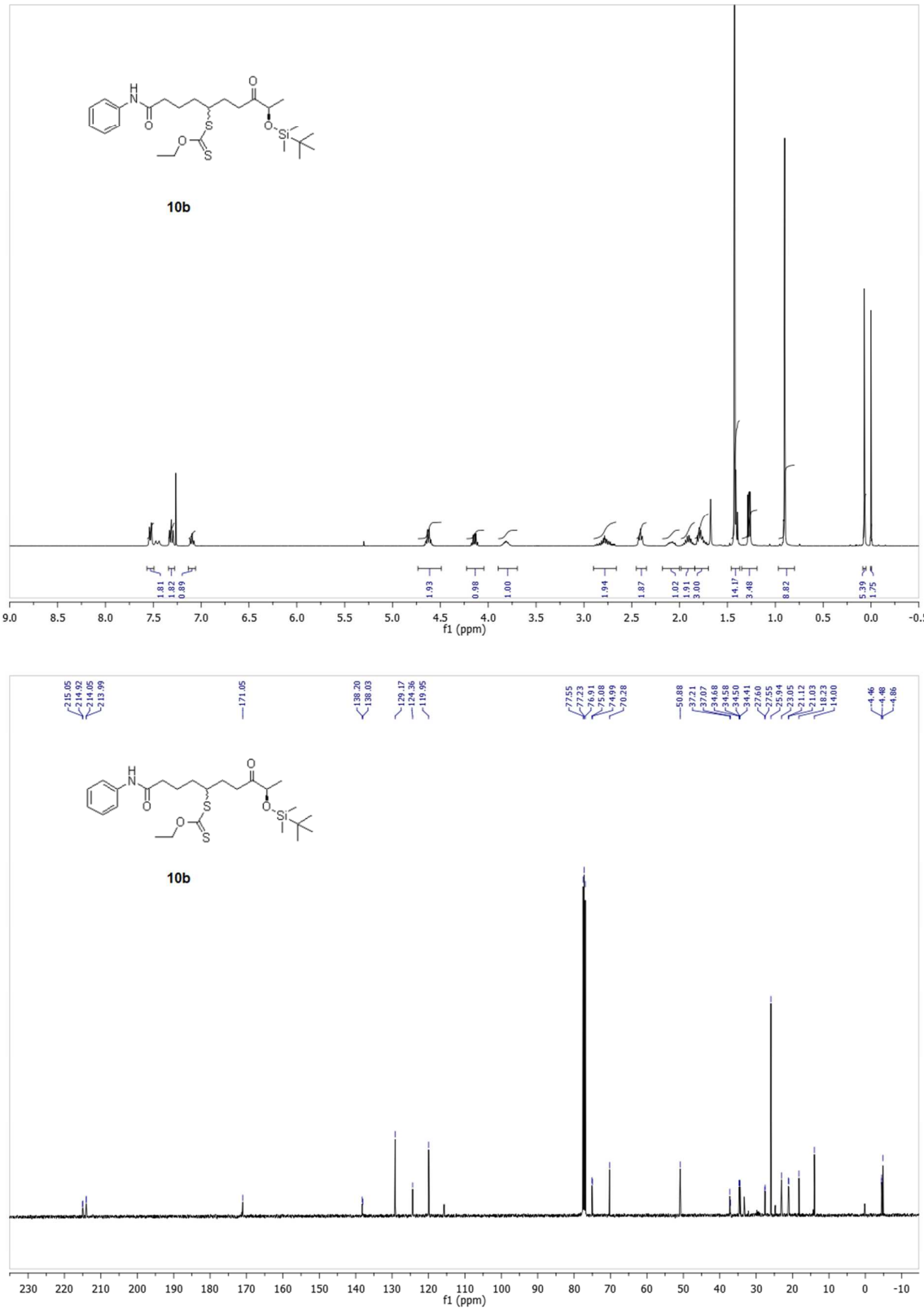


Figure S18: ^{1}H and ^{13}C NMR of product **10b**

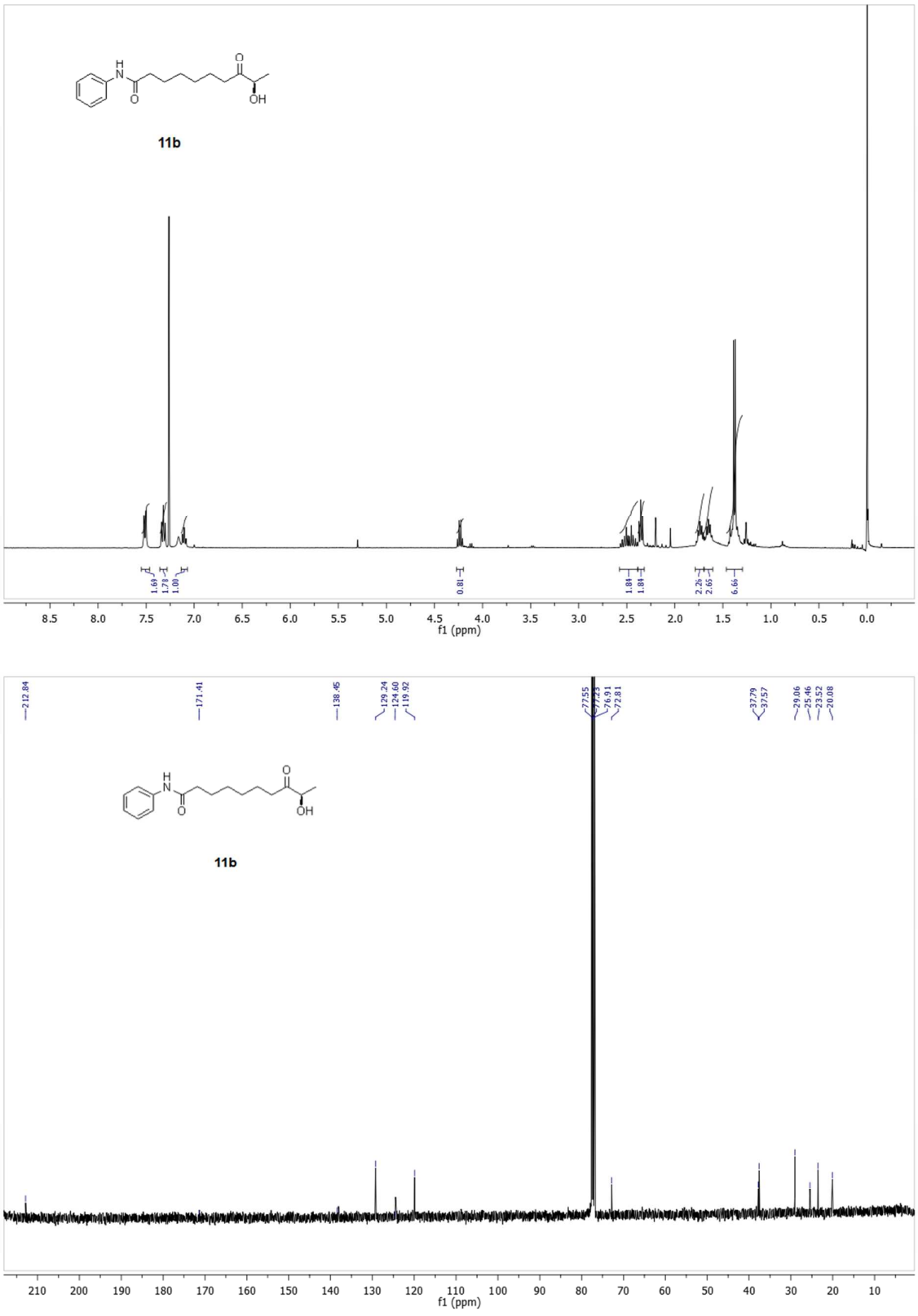


Figure S19: ^{1}H and ^{13}C NMR of product **11b**

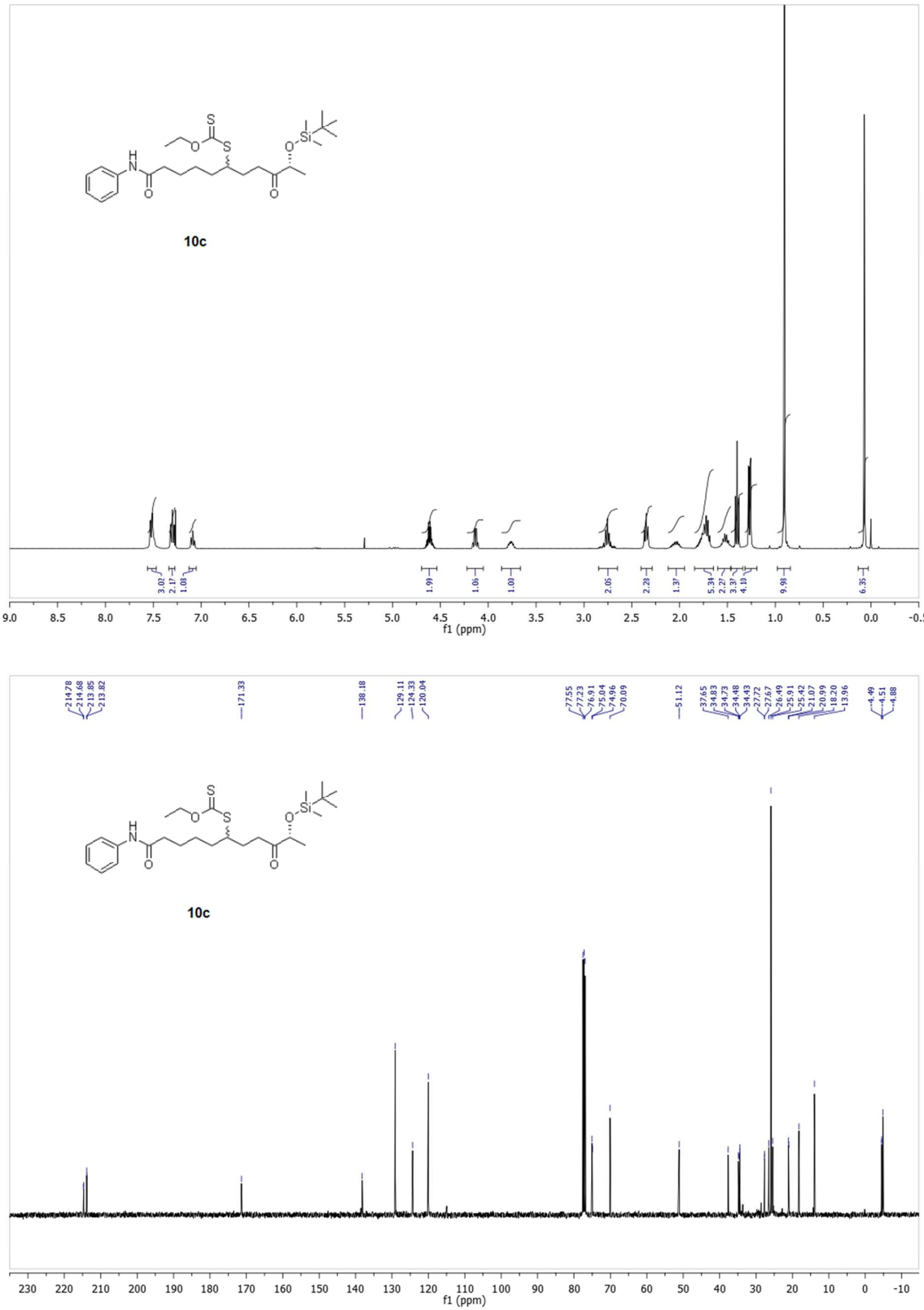


Figure S20: ^{1}H and ^{13}C NMR of product **10c**

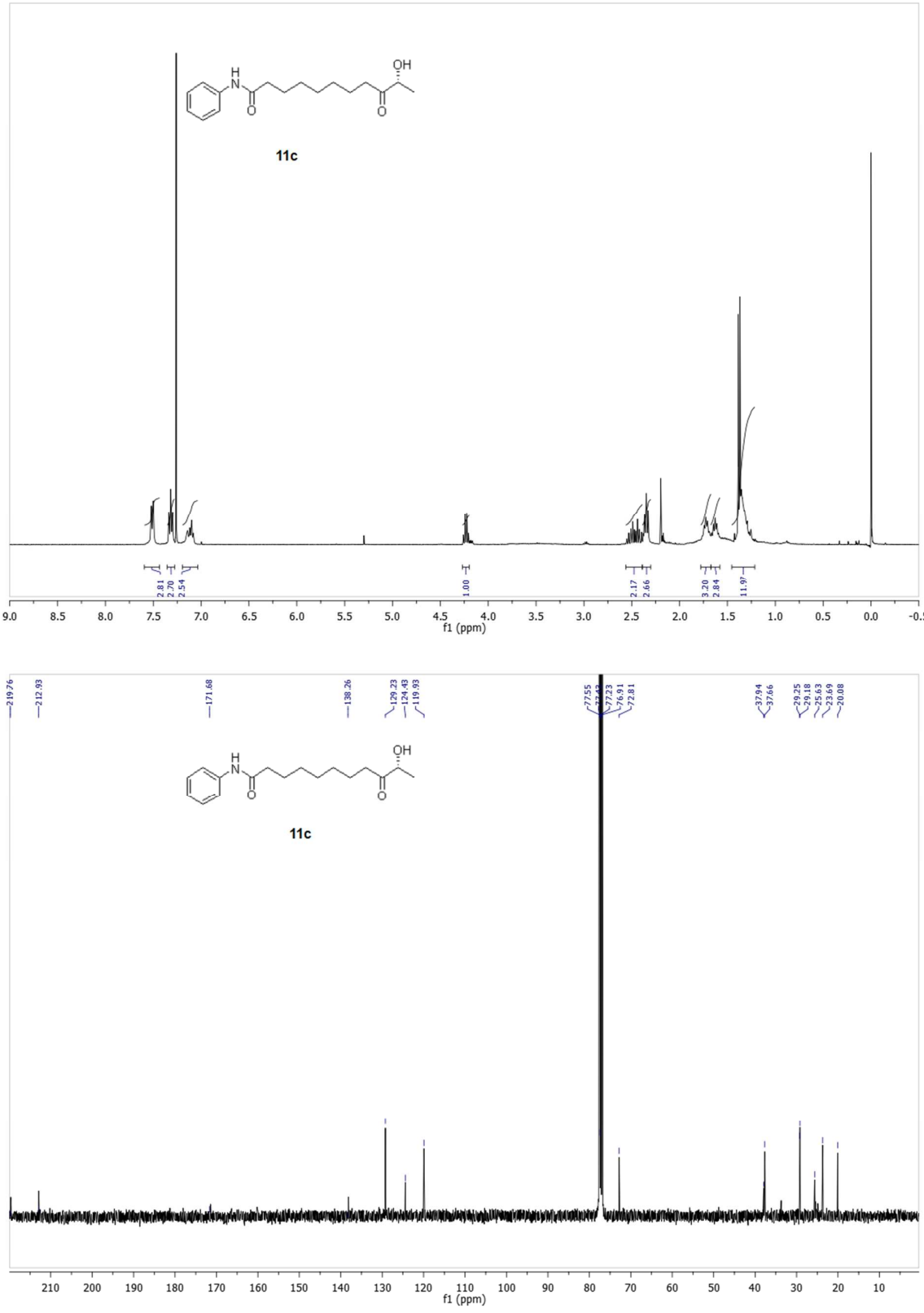


Figure S21: ^{1}H and ^{13}C NMR of product **11c**

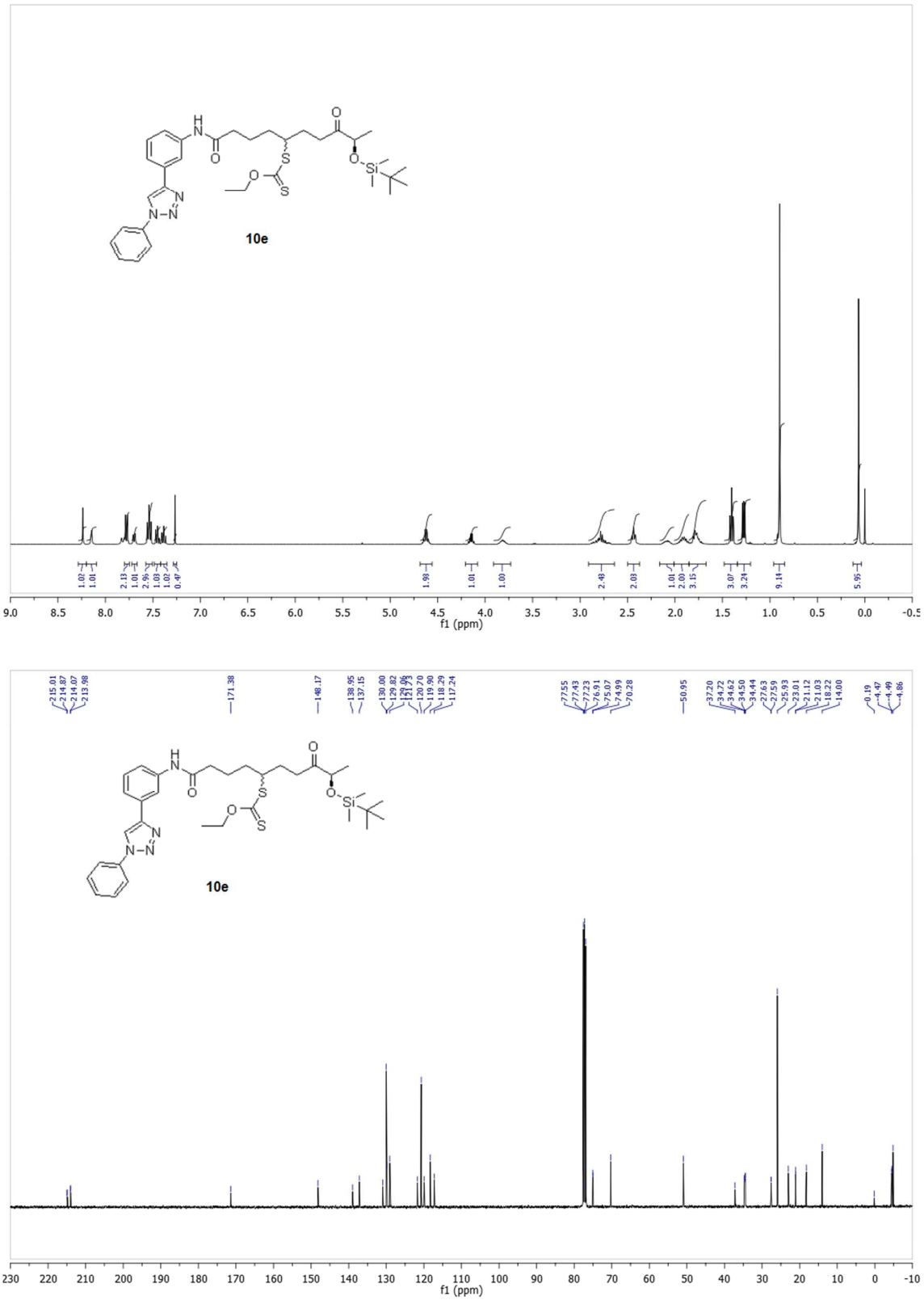


Figure S22: ^{1}H and ^{13}C NMR of product **10e**

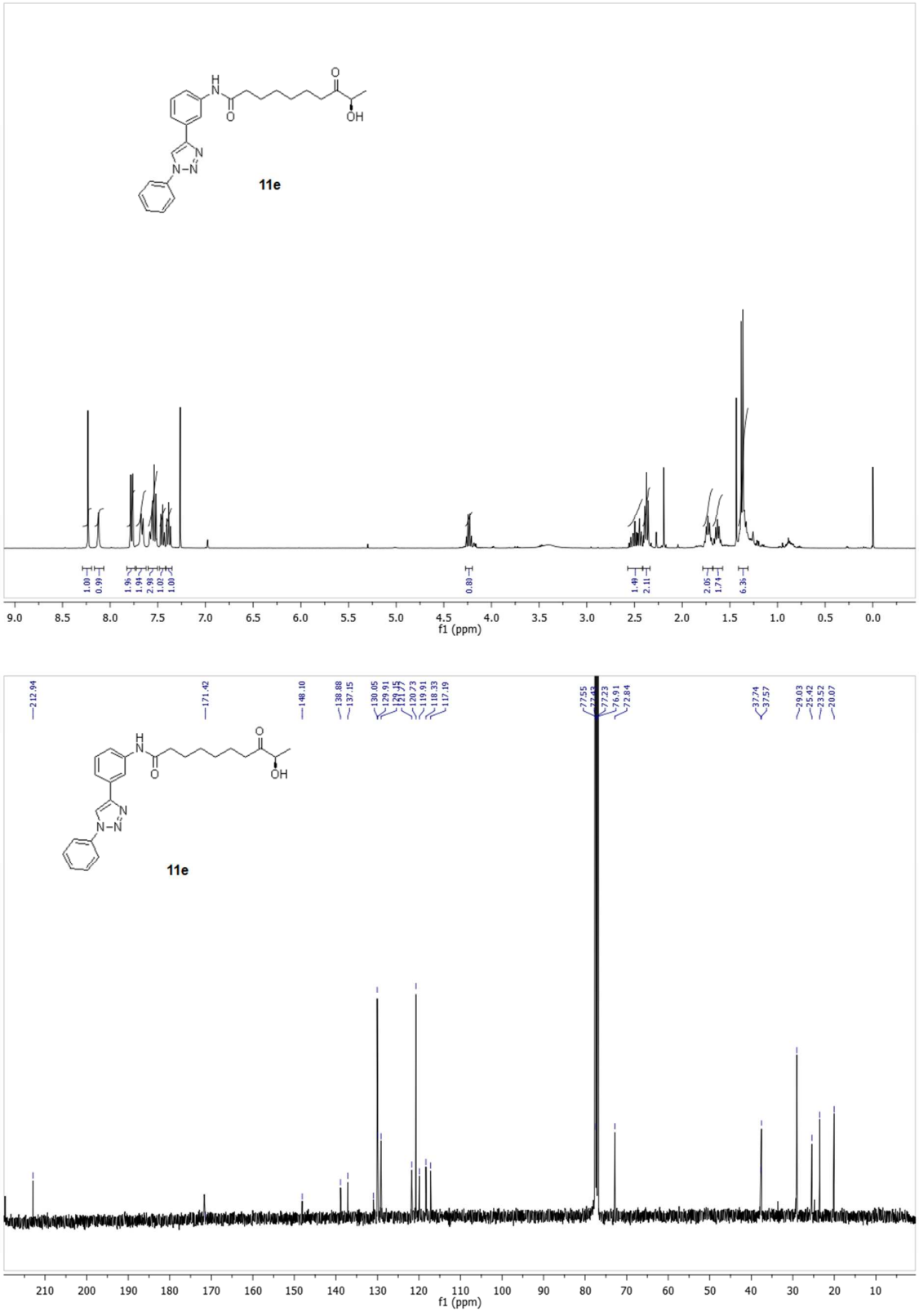


Figure S23: ^{1}H and ^{13}C NMR of product **11e**

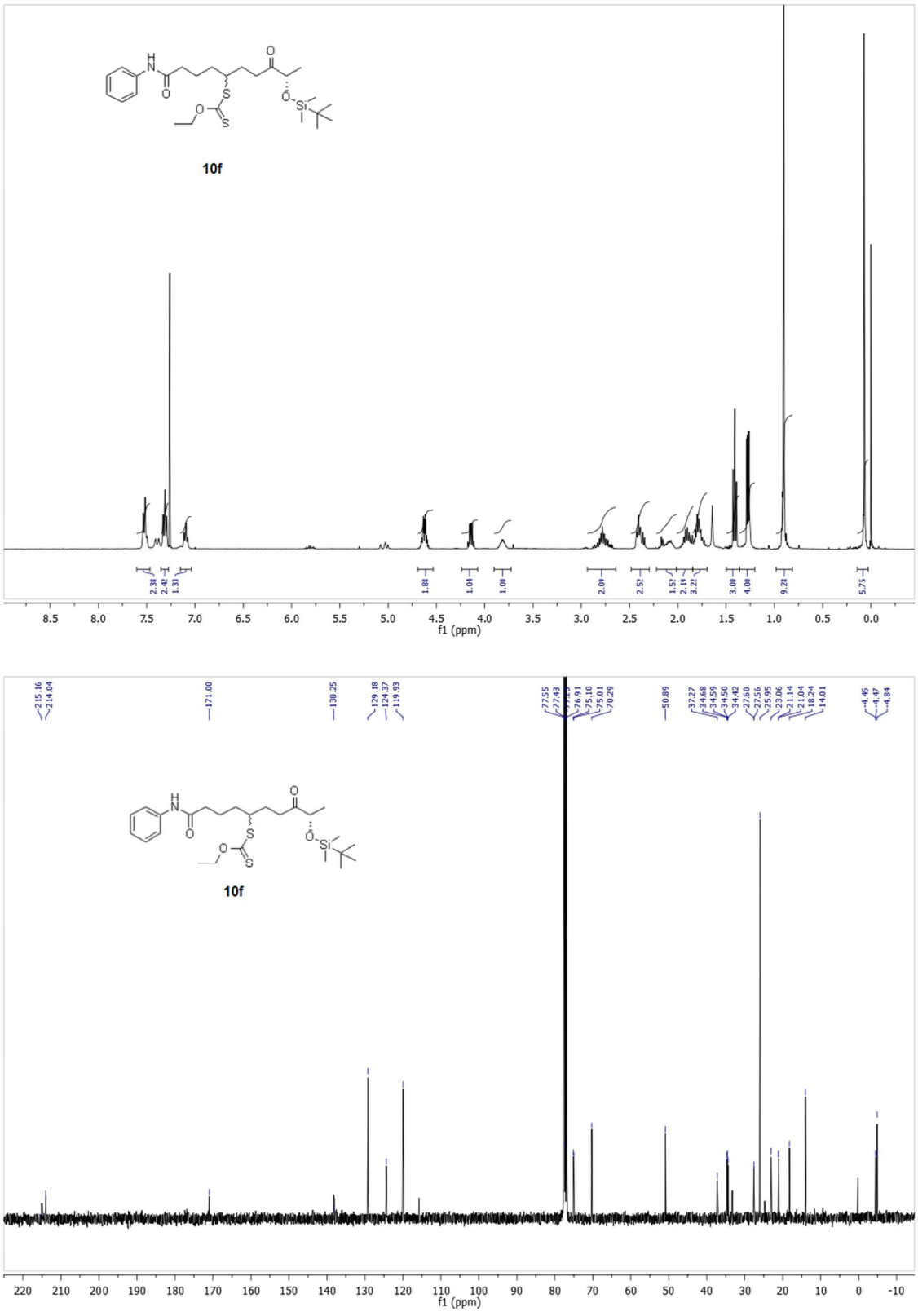


Figure S24: ^{1}H and ^{13}C NMR of product **10f**

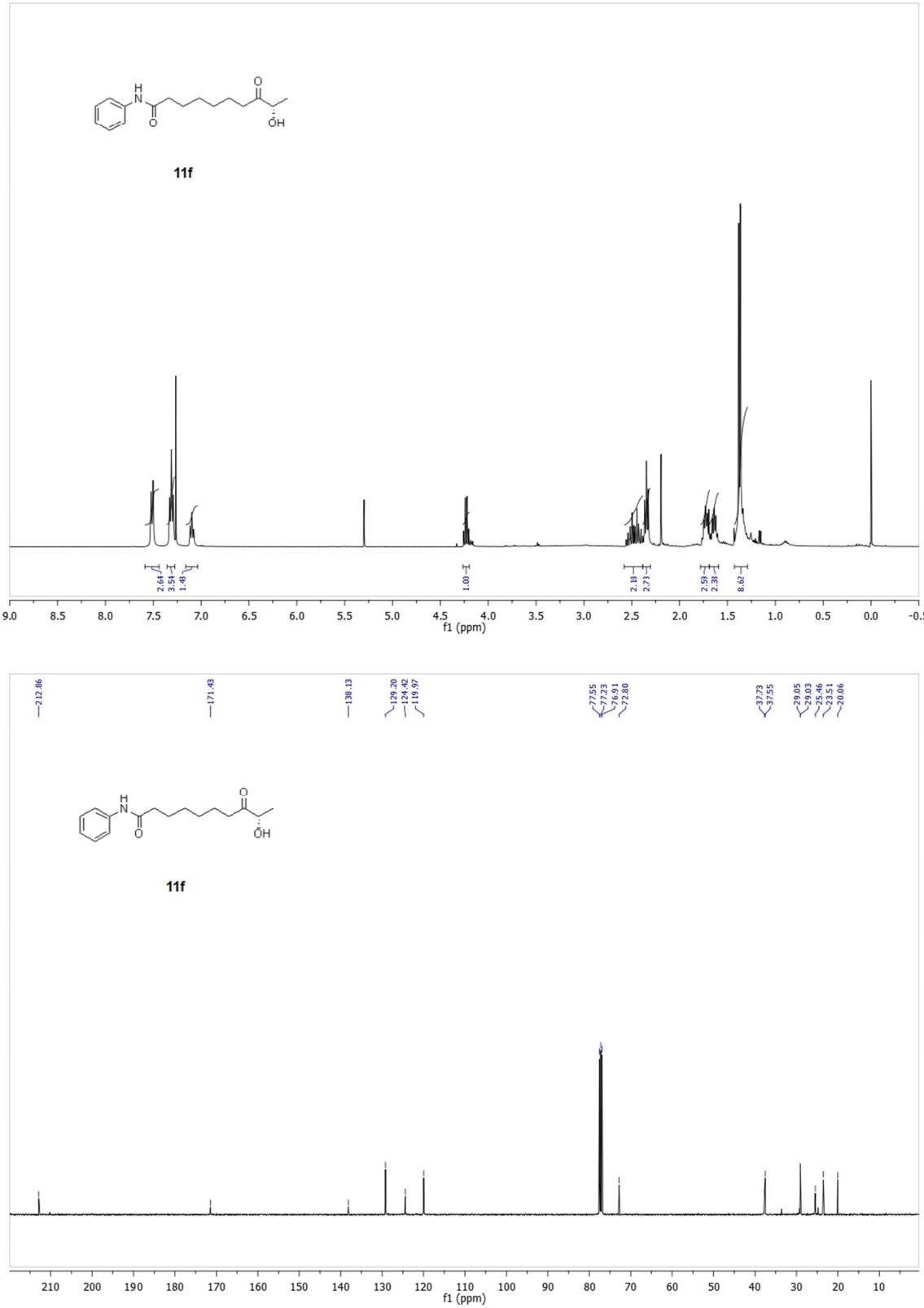
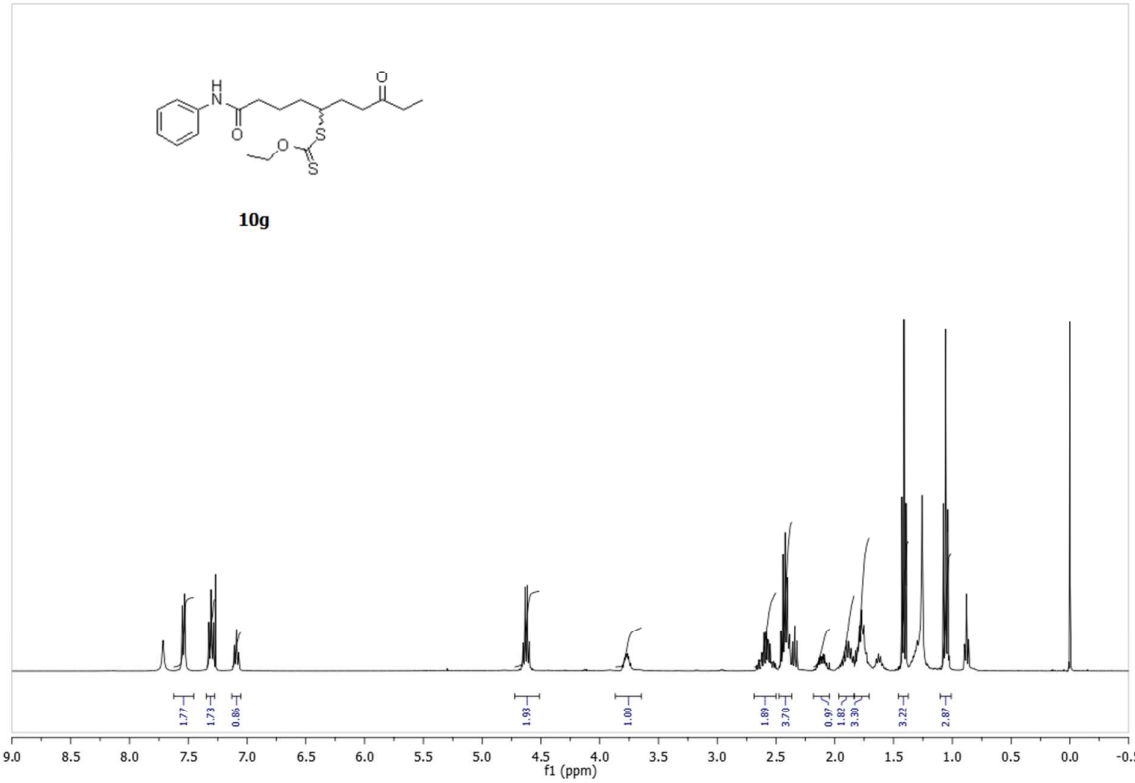


Figure S25: ^{1}H and ^{13}C NMR of product **11f**



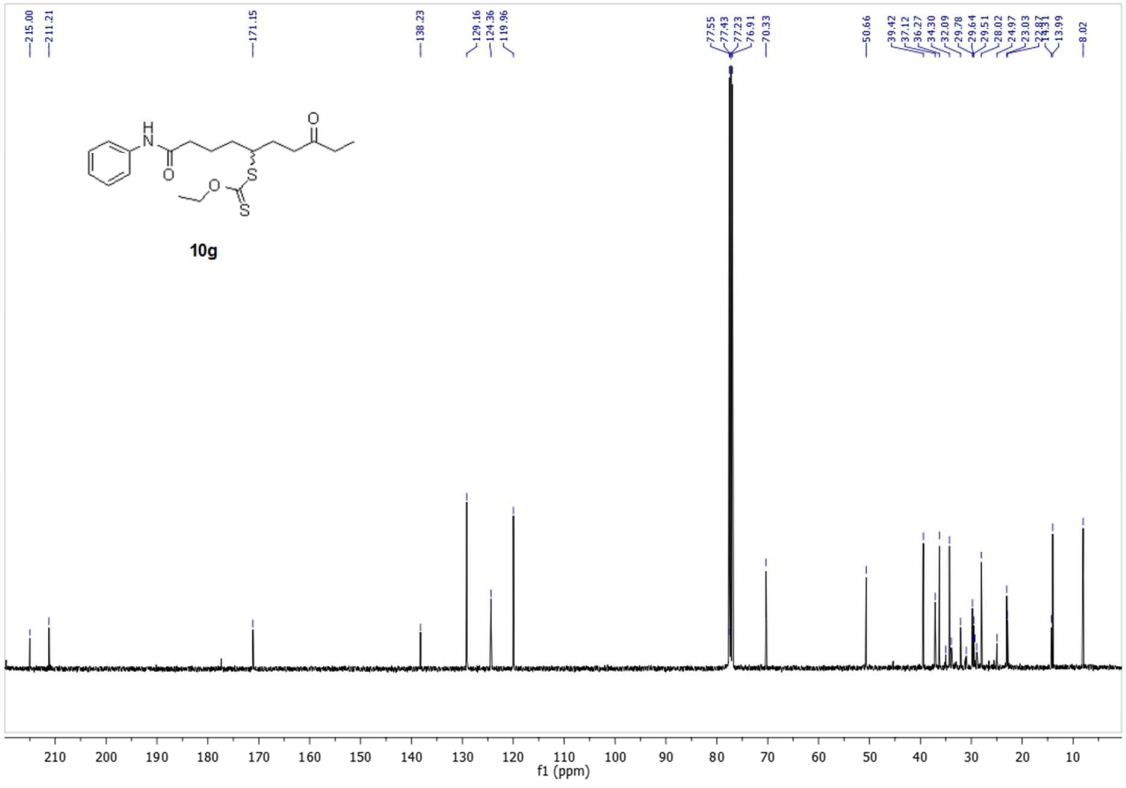
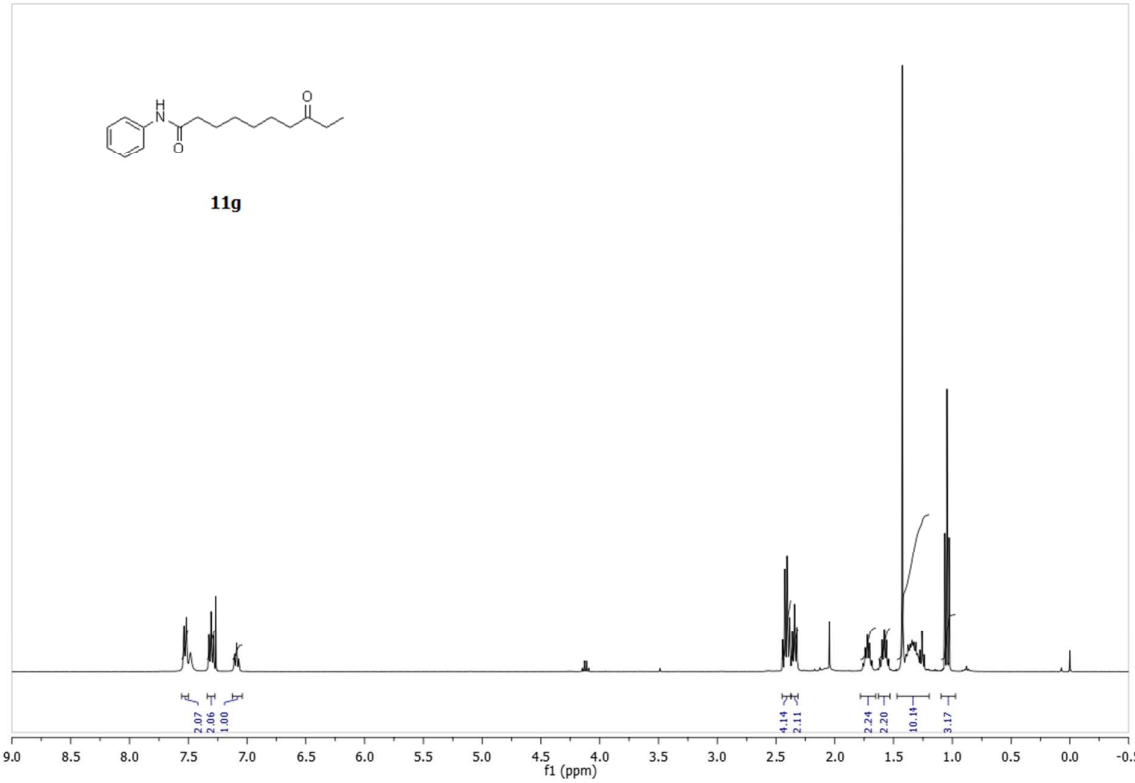


Figure S26: ^{1}H and ^{13}C NMR of product **10g**



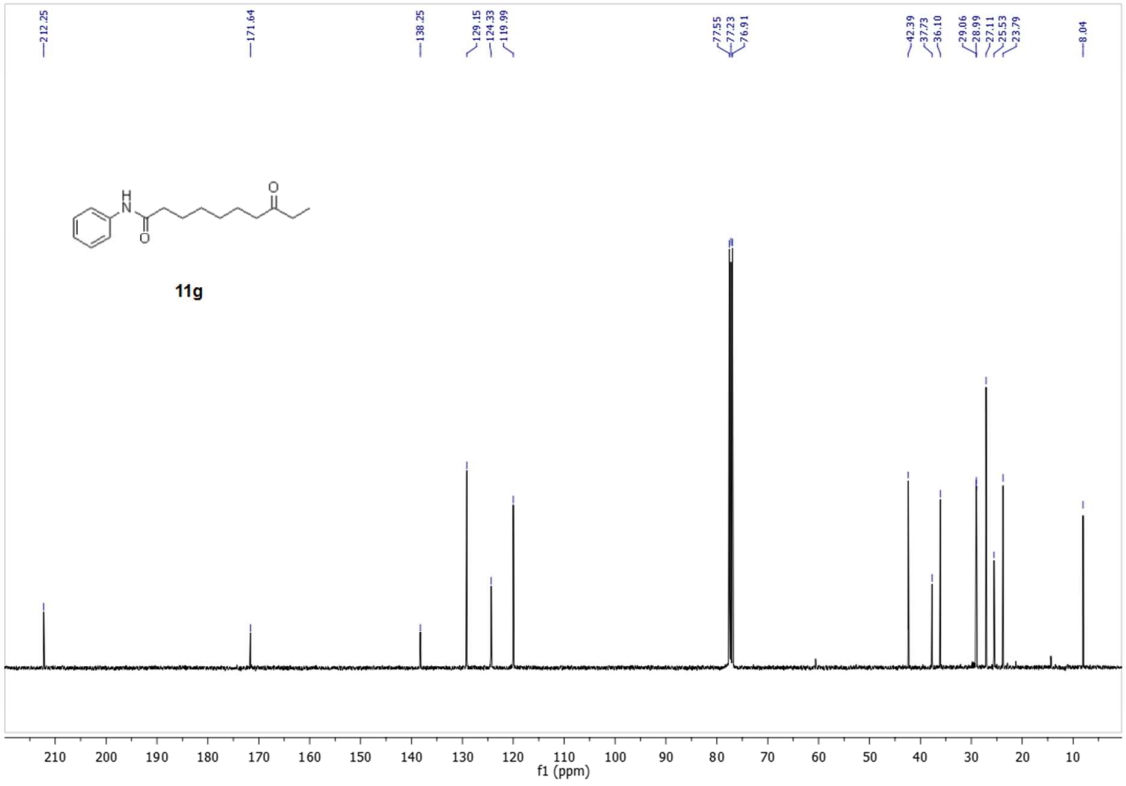


Figure S27: ^{1}H and ^{13}C NMR of product **11g**

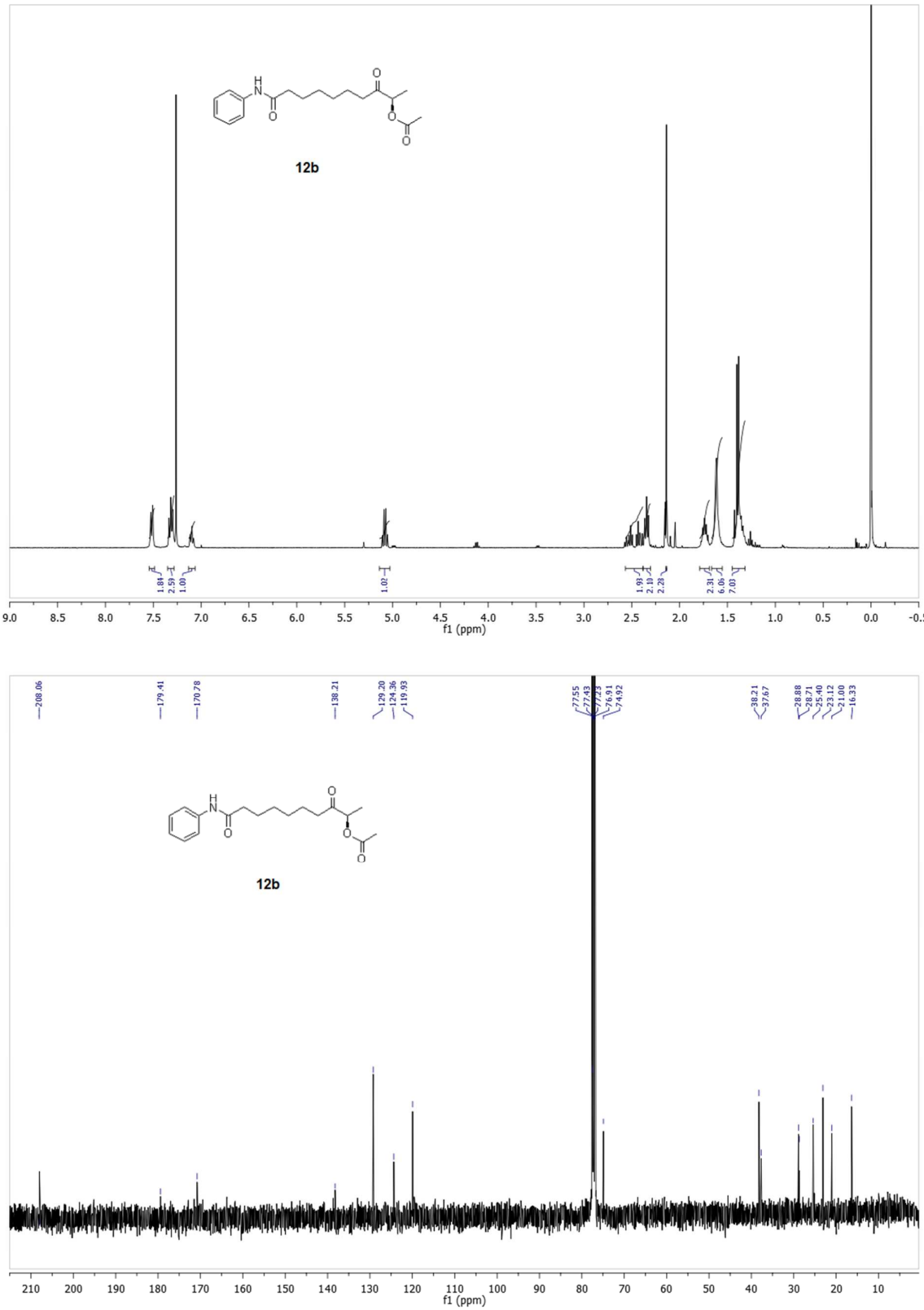


Figure S28: ^{1}H and ^{13}C NMR of product **12b**