SUPPLIMENTARY MATERIAL IN SUPPORT OF COMPUTATIONAL RESULT

Table S1. Ligand Parameters used in MD simulations

```
REMARK   1 P2N generated by Ante_R.E.D. version 2.0
REMARK
REMARK TITLE MOLECULE
REMARK CHARGE-VALUE 0
REMARK MULTIPLICITY-VALUE 1
REMARK
REMARK REORIENT 1 2 3 | 3 2 1
REMARK
ATOM      1  O1  4A9     1     18.411   6.419  95.895                 O2
O
ATOM      2  C2  4A9     1     19.018   7.345  95.389                 C7
C
ATOM      3  C3  4A9     1     20.055   7.107  94.337                 C8
C
ATOM      4  C4  4A9     1     21.391   7.480  94.556                C14
C
ATOM      5  H4  4A9     1     21.708   7.835  95.533                H10
H
ATOM      6  C5  4A9     1     22.355   7.272  93.562                C13
C
ATOM      7  H5  4A9     1     23.379   7.615  93.705                 H9
H
ATOM      8  C6  4A9     1     22.002   6.639  92.370                C12
C
ATOM      9  H6  4A9     1     22.765   6.442  91.620                 H8
H
ATOM     10  C7  4A9     1     20.664   6.239  92.170                C10
C
ATOM     11  C8  4A9     1     20.340   5.460  90.911                C11
C
ATOM     12  F8  4A9     1     21.241   5.604  89.929                 F3
F
ATOM     13  F8  4A9     1     19.165   5.816  90.373                 F2
F
ATOM     14  F8  4A9     1     20.264   4.140  91.083                 F1
F
ATOM     15  C9  4A9     1     19.674   6.489  93.137                 C9
C
ATOM     16  H9  4A9     1     18.630   6.227  92.972                 H7
H
ATOM     17 N10  4A9     1     18.833   8.701  95.720                 N2
N
ATOM     18 H10  4A9     1     19.417   9.378  95.239                 H6
H
ATOM     19 C11  4A9     1     17.928   9.270  96.669                 C6
C
ATOM     20 C12  4A9     1     18.222  10.474  97.333                 C5
C
ATOM     21 H12  4A9     1     19.152  11.018  97.175                 H5
H
ATOM     22 C13  4A9     1     17.290  11.020  98.221                 C4
C
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ATOM     23 H13  4A9     1     17.521  11.953  98.732                H4
H
ATOM     24 C14  4A9     1     16.074  10.412  98.486                C3
C
ATOM     25 H14  4A9     1     15.389  10.862  99.203                H3
H
ATOM     26 C15  4A9     1     15.779   9.217  97.831                C2
C
ATOM     27 C16  4A9     1     16.680   8.632  96.923               C15
C
ATOM     28 H16  4A9     1     16.392   7.713  96.417               H11
H
ATOM     29 N17  4A9     1     14.561   8.559  98.053                N1
N
ATOM     30 H17  4A9     1     13.735   9.059  97.743                H2
H
ATOM     31 C18  4A9     1     14.457   7.329  98.708                C1
C
ATOM     32 O19  4A9     1     15.413   6.727  99.181                O1
O
ATOM     33 C20  4A9     1     13.092   6.825  98.812               C16
C
ATOM     34 C21  4A9     1     12.078   7.033  97.898               C17
C
ATOM     35 H21  4A9     1     12.141   7.607  96.975               H12
H
ATOM     36 N22  4A9     1     10.871   6.422  98.235                N3
N
ATOM     37 C23  4A9     1     11.044   5.758  99.404               C18
C
ATOM     38 S24  4A9     1     12.617   5.872 100.104                S
S
ATOM     39 N25  4A9     1      9.955   5.043  99.951                N4
N
ATOM     40 H25  4A9     1      9.094   5.082  99.414               H13
H
ATOM     41 C26  4A9     1      9.978   4.286 101.135               C19
C
ATOM     42 C27  4A9     1      8.779   3.644 101.555               C29
C
ATOM     43 H27  4A9     1      7.838   3.844 101.048               H30
H
ATOM     44 C28  4A9     1      8.894   2.780 102.674               C22
C
ATOM     45 N29  4A9     1     10.090   2.583 103.362                N6
N
ATOM     46 C30  4A9     1     11.174   3.273 102.899               C20
C
ATOM     47 CT31 4A9     1     12.445   3.102 103.685               C21
C
ATOM     48 H31  4A9     1     13.287   3.514 103.130               H15
H
ATOM     49 H31  4A9     1     12.660   2.050 103.862               H16
H
ATOM     50 H31  4A9     1     12.420   3.598 104.654               H14
H
ATOM     51 N32  4A9     1     11.187   4.109 101.816                N5
N
ATOM     52 N33  4A9     1      7.810   1.999 103.164                N7
N
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ATOM     53 CT34 4A9     1       6.569   1.749 102.416                C28
C
ATOM     54 H34  4A9     1       6.629   2.037 101.369                H29
H
ATOM     55 H34  4A9     1       6.328   0.688 102.368                H28
H
ATOM     56 CT35 4A9     1       5.477   2.474 103.188                C27
C
ATOM     57 H35  4A9     1       4.531   2.439 102.650                H27
H
ATOM     58 H35  4A9     1       5.703   3.537 103.253                H26
H
ATOM     59 N36  4A9     1       5.367   1.867 104.552                 N8
N
ATOM     60 H36  4A9     1       5.226   0.870 104.421                 H1
H
ATOM     61 CT35 4A9     1       6.663   2.012 105.284                C24
C
ATOM     62 H35  4A9     1       6.910   3.059 105.448                H19
H
ATOM     63 H35  4A9     1       6.589   1.614 106.295                H20
H
ATOM     64 CT34 4A9     1       7.765   1.344 104.476                C23
C
ATOM     65 H34  4A9     1       7.575   0.278 104.356                H18
H
ATOM     66 H34  4A9     1       8.707   1.400 105.020                H17
H
ATOM     67 CT37 4A9     1       4.177   2.346 105.345                C25
C
ATOM     68 H37  4A9     1       3.251   2.032 104.868                H22
H
ATOM     69 H37  4A9     1       4.185   1.825 106.302                H21
H
ATOM     70 CT38 4A9     1       4.140   3.845 105.564                C26
C
ATOM     71 H38  4A9     1       4.466   4.436 104.710                H23
H
ATOM     72 H38  4A9     1       3.104   4.135 105.729                H24
H
ATOM     73 O39  4A9     1       4.991   4.222 106.632                 O3
O
ATOM     74 H39  4A9     1       4.582   4.996 107.101                H25
H
CONECT    1    2
CONECT    2    1    3   17
CONECT    3    2    4   15
CONECT    4    3    5    6
CONECT    5    4
CONECT    6    4    7    8
CONECT    7    6
CONECT    8    6    9   10
CONECT    9    8
CONECT   10    8   11   15
CONECT   11   10   12   13   14
CONECT   12   11
CONECT   13   11
CONECT   14   11
CONECT   15    3   10   16
CONECT   16   15
CONECT   17    2   18   19
```

```
CONECT   18   17
CONECT   19   17   20   27
CONECT   20   19   21   22
CONECT   21   20
CONECT   22   20   23   24
CONECT   23   22
CONECT   24   22   25   26
CONECT   25   24
CONECT   26   24   27   29
CONECT   27   19   26   28
CONECT   28   27
CONECT   29   26   30   31
CONECT   30   29
CONECT   31   29   32   33
CONECT   32   31
CONECT   33   31   34   38
CONECT   34   33   35   36
CONECT   35   34
CONECT   36   34   37
CONECT   37   36   38   39
CONECT   38   33   37
CONECT   39   37   40   41
CONECT   40   39
CONECT   41   39   42   51
CONECT   42   41   43   44
CONECT   43   42
CONECT   44   42   45   52
CONECT   45   44   46
CONECT   46   45   47   51
CONECT   47   46   48   49   50
CONECT   48   47
CONECT   49   47
CONECT   50   47
CONECT   51   41   46
CONECT   52   44   53   64
CONECT   53   52   54   55   56
CONECT   54   53
CONECT   55   53
CONECT   56   53   57   58   59
CONECT   57   56
CONECT   58   56
CONECT   59   56   60   61   67
CONECT   60   59
CONECT   61   59   62   63   64
CONECT   62   61
CONECT   63   61
CONECT   64   52   61   65   66
CONECT   65   64
CONECT   66   64
CONECT   67   59   68   69   70
CONECT   68   67
CONECT   69   67
CONECT   70   67   71   72   73
CONECT   71   70
CONECT   72   70
CONECT   73   70   74
CONECT   74   73
END
```

GHMQTQGLAKDAWEIPRESLRLEVKLGQGCFGEVWMGTWNGTTRVAIKTLKPGTM
SPEAFLQEAQVMKKLRHEKLVQLYAVVSEEPIYIVMEYMSKGSLLDFLKGEMGKYL
RLPQLVDMAAQIASGMAYVERMNYVHRDLRAANILVGENLVCKVADFGLARLIED
NEYTARQGAKFPIKWTAPEAALYGRFTIKSDVWSFGILLTELTTKGRVPYPGMVNRE
VLDQVERGYRMPCPPECPESLHDLMCQCWRKDPEERPTFEYLQAFLEDYFTSTEPQY
QPGENL

Figure S1. The align sequence of mutant protein used in MD simulations