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Preliminary Results On The Discovery Of Patterns Of Amino Acids Common To Sequences of Leghemoglobins

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Abstract

Pattern discovery (an NP-hard problem), in contrast to pattern matching (a problem solvable in polynomial time), is a challenging problem. Using *Teiresias*, a newly developed algorithm, we have explored (see [4]) a number of test cases in order to identify patterns of amino acids that appear across sequences (common motifs) as well as within individual sequences (internal repeats). In that work, only a small subset of the available results were presented in order to showcase the ability of the algorithm to: (a) validate the approach through the discovery of previously reported patterns; (b) demonstrate the capability to automatically identify highly selective patterns particular to the sequences under consideration; and (c) discover unidentified patterns in the well-studied example cases used. One of those example cases was the leghemoglobin family of proteins. In this report, we present the full range of results obtained for this particular protein family.

1. Introduction

We herein present preliminary results obtained with the *Teiresias* pattern-discovery algorithm using the amino acid sequences of the proteins known as plant hemoglobins.

Teiresias [1], is a novel pattern discovery algorithm that has the ability when given a set of event streams in any alphabet of N+1 characters (N letters + space) to discover *all* the patterns occurring at least twice in *any relative arrangement* within the set of event streams.[5,6] What this means is that the algorithm will discover *anything* that appears *at least* twice (or, any desired number of times greater than 2). By "anything" here we mean that we impose no restriction on the number of characters that will participate in the pattern; furthermore, we impose no restriction on the relative arrangement that the characters will have.

Let us illustrate the above with a specific example. Figure 1 shows an event stream of 2,000 characters from the English alphabet. In this stream, an adversary has hidden a phrase several times and has told us nothing as to the length or the composition of the phrase. The only thing that we have been told is that the phrase was hidden a minimum of two times.

A simple, straightforward approach would be to exhaustively generate first all strings of length l_{min} and check them against every possible location of the stream, then all strings of length l_{min}+1, all strings of length l_{min}+2, and so on. If the stream contained N=2000 characters, the minimum length was l_{min}=10, and $|\Sigma|$=27 (26 letters plus space), then ignoring boundary conditions, just the first iteration would require $N\,|\Sigma|^{l_{min}} \sim 5.4^{13}$ operations! For the shown stream, the embedded phrase has a length of 34, making such an approach prohibitive.

Teiresias can however determine the phase and the locations where it appears in a matter of seconds on an IBM Power-PC workstation using only a few Megabytes of main memory. The hidden phrase is

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[5] Note that there can also be a single event stream at the input, in which case *Teiresias* will identify what is typically referred to as *internal repeats*.

[6] A pattern is defined to be any combination of characters (here, amino acids) and "don't care" characters with any spatial extent, which appears at least twice in the input under consideration.

"F.A..S.T...AN.D..A.C...C.U.R..A.TE" (where the dots are occupied by characters of the otherwise random stream) and appears a total of five times in the shown stream.

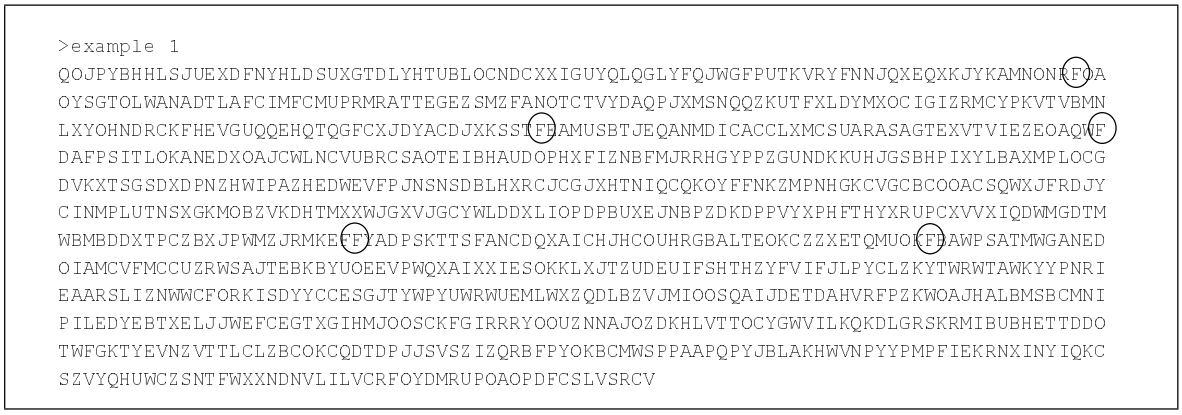

Figure 1. An event stream of 2,000 characters which contains a hidden phrase of unknown length and composition at least two times. Each circle denotes the beginning of an occurrence of the hidden phrase.

Even knowing that the hidden phrase begins at the locations marked with the circles (see Figure 1), it is not easy to discover what the phrase is or how long it is. Incidentally, "F.A..S.T...AN.D..A.C...C.U.R..A.TE" is the only collection of letters (and spaces), of *any* length that appears 4 or more times in the stream.

Although we have demonstrated the nature of the algorithm using a single stream of letters, the method directly extends to the case where the input is a collection of several sequences of letters. Also, the algorithm imposes no restriction on the size of the alphabet that the sequences can be built from. We fact in fact tried the algorithm on input sequences built from an alphabet of 90 characters with the same high efficiency.

One of the things contributing to the algorithm's strength is the loose definition of what a pattern is. There is no restriction on the symbol composition of the pattern, its spatial extent, minimum length, maximum length or minimum number of occurrences.

Moreover, the algorithm does not make use of any alignment to discover the patterns. Alignment is typically unable to handle domain interchanges. For example, if *a*, *b*, and *c* denote three patterns, it may happen that several of the input sequences will contain the patterns in the order *a*-*b*-*c*, a second set will contain the patterns in the order *b*-*a*-*c* and a third set will contain the patterns in the order *c*-*b*-*a*. Any approach that relies on alignment is bound to perform poorly on such a data set; and this will be particularly true if the three occurring patterns contain only a few amino acids while at the same time spanning a large portion of the sequence (=weak patterns).

Another characteristic of the algorithm is that, although it is deterministic, it does not require any search of the corresponding search space; although counterintuitive, such a thing is possible and contributes to the algorithm's speed. And, of course, in this manner, the algorithm requires no clustering or classification steps and thus avoids carrying out any statistical evaluation of the input sequences.

The rest of the presentation contains the full set of results obtained by applying Teiresias on the leghemoglobin protein family specified below.

2. Method

Leghemoglobins are plant hemoglobins that show sequence similarity to other members of the large globin superfamily, especially to myo- and hemo-globins from animals [2]. All globins contain a conserved-histidine signature that represents the heme binding pocket [2].

Table 1 below contains the SwissProt [5] labels of the leghemoglobin proteins that were presented as input to *Teiresias* with the intention to determine whether the algorithm could identify the heme-binding-pocket signature successfully, or any other important pattern that has escaped attention. The sequence labels were obtained from the respective PROSITE entry with accession number PS00208 (the *plant hemoglobin signature* entry). This entry lists the heme-binding motif as the family signature. This signature is descriptive of the family of leghemoglobins, i.e. it appears in all of these proteins (and in no other non-leghemoglobin sequences) contained in SwissProt. The motivation behind this particular experiment was to determine whether *Teiresias* would also identify the same motif.

BP1_CASGL	HBP2_CASGL	HBPL_PARAD	HBPL_TRETO	LGB1_LUPLU	LGB1_MEDSA
LGB1_MEDTR	LGB1_PEA	LGB1_SOYBN	LGB1_VICFA	LGB2_LUPLU	LGB2_MEDTR
LGB2_SESRO	LGB2_SOYBN	LGB3_MEDSA	LGB3_SESRO	LGB3_SOYBN	LGB4_MEDSA
LGBA_PHAVU	LGBA_SOYBN	LGB_PSOTE			

Table 1. The SwissProt labels of the 21 leghemoglobin sequences from Release 31 as they appear in the respective entry of PROSITE (Release 13).

Using *Teiresias* (and in the absence of any other field-specific knowledge), we were able not only to discover the family signature that is reported in the PROSITE database but also determine that it only partially corresponded to the actual pattern which is common to all plant hemoglobins: more specifically, the signature described in the aforementioned PROSITE entry corresponds to the heme-binding-pocket and is [SN]P.L..HA...F[7] whereas *Teiresias* revealed that the pattern can be extended to [SN]P.L..HA...F.....A..L...G while still maintaining its property of being descriptive of only the leghemoglobin family members.

Moreover, with the help of our algorithm, we identified several other distinct patterns that to the best of our knowledge have not been previously reported in the bibliography. The pattern A.L.T.K.....W.....AY..L....K, for example, not only is exactly descriptive for the family of proteins described in Table 1 but it also uniquely identifies all leghemoglobins from the Non-Redundant Database (containing in excess of 62M amino acids), without a single spurious hit.

3. Results

In this section, the full set of discovered patterns for the leghemoglobin family of Table 1 are presented. The set includes all those patterns which appear in at least 14 of the 21 input sequences.

In order to be able to assign a quantitative measure to the importance of the reported results we employed the following simple scheme. First, we determined for each of the 20 amino acids their probability of naturally appearing. Then, we assumed a model of independence and identical distribution for the random variable denoting the probability that a specific amino acid participates in a given pattern: a probability of appearance was assigned to each of the discovered patterns as the product of the respective probabilities.

Clearly, for a given set of input sequences, this scheme could favor a long pattern that appears 2 times in the entire data set over a much shorter pattern that appears 10 times. We chose to alleviate this problem by sorting in order of decreasing expected importance only those patterns which appear the same number of times in the input dataset: this modification will correctly classify a longer pattern as more important than a shorter one given that they both appear equaly frequently in the dataset.

Each pattern is represented by an entry in the table that follows. Every such entry has the following format:

<Multiplicity #> <# Of Sequences> <LogProb> <Pattern>

where

- *<Multiplicity #>*: the number of times that the given pattern appears in the input sequences (including internal repeats).
- *<# Of Sequences>:* the number of distinct sequences the given pattern appears in.

[7] The notation [SN] is used to indicate that the particular position can be occupied by *either* of the amino acids S, N.

- *<LogProb>:* the logarithm of the probability associated with the given pattern.
- *<Pattern>:* the pattern itself.

```
21 21 -26.369007 A.L.T.K.....W.........AY..L...K
21 21 -22.493222 P.L..HA..F.....A..L...G
28 21 -14.635229 T.K.....S.E.....Y
31 21 -12.620404 KEA.........W
29 21 -11.778228 T.K.....S.........Y
29 21 -11.752522 T.........S.E.....Y
22 21 -11.627884 T.K.................Y..L
34 21 -11.154802 T.K.....S.E
21 21 -11.121624 AP.....F..L
21 21 -10.980241 T..Q.AL
22 21 -10.271421 P.L.............A..L
22 21 -10.162915 L...A.........A.....G
35 21 -10.039602 KE.........W
35 21 -9.763403  K.A.........W
24 21 -9.748528  A...T.....W
23 21 -9.617408  H....F.....A
30 21 -9.230966  T.K.................Y
21 21 -9.153370  V.K.......................Y
21 21 -8.986829  K.....F....E
21 21 -8.918231  E.....AY
30 21 -8.895521  T.........S.........Y
22 21 -8.724706  P.....F.....A
37 21 -8.684924  F....EA
23 21 -8.540822  P.....F..L
22 21 -8.432316  A...F.........G
28 21 -8.408725  A...F.....A
22 21 -8.331341  T.K.............A
23 21 -8.331341  A...T.K
27 21 -8.320511  K.....E.....A
37 21 -8.297801  T.K.....S
35 21 -8.286970  K.....S.E
37 21 -8.272095  T.........S.E
24 21 -8.224841  A...F.....L
25 21 -8.164038  AL.........N
27 21 -8.162332  K.................L...K
24 21 -8.147457  T.K.................L
23 21 -8.054985  T.....LV
23 21 -8.044311  A.....K.............A
25 21 -8.044311  A.....K.A
24 21 -8.040956  L.....F.....L
22 21 -7.995896  T.....S.....A
26 21 -7.951840  V...A.....................A
32 21 -7.874503  P.............A..L
27 21 -7.860427  A...L....K
22 21 -7.845552  A.L.T
23 21 -7.845552  L.T.................A
27 21 -7.845552  L.T.............A
35 21 -7.834721  E...A.....L
31 21 -7.834721  L....E.........A
34 21 -7.834721  AL.....E
21 21 -7.708866  A.........S.....A
24 21 -7.676543  L....K.................L
24 21 -7.582113  L.............A.....G
23 21 -7.558522  L...A.....A
22 21 -7.558522  A.....A..L
22 21 -7.558522  A.....................A...L
22 21 -7.374638  L.................A...L
31 21 -7.374638  L.............A..L
20 20 -36.195848 H.....F.V...A.L.T.K.....W.........AY..L....K
20 20 -36.073164 A.L.T.K.....WS.E....W..AY..L....K
20 20 -28.949809 A.L.T.K.....W.....A...AY..L...K
20 20 -26.491055 A.L..K.....W.........AY..L..IK
20 20 -25.627912 P.L..HA..F.....A.QL...G
20 20 -16.949547 F.....AP.A...F..L
21 20 -14.617763 T.K.................Y..L...I
21 20 -14.175146 T.K.....S.....Y..L
20 20 -14.166559 T..Q.AL.....N
20 20 -14.004331 AP..K..F..L
20 20 -13.978625 E.AP.....F..L
20 20 -13.770477 T..Q.ALV
21 20 -13.735604 T.K.....S.E.....A
20 20 -13.668886 AP.....FS.L
20 20 -13.668886 S.....................AP.....F..L
22 20 -13.551720 T.K.....S.E.....L
20 20 -13.527503 T..Q.AL...S
20 20 -11.869537 K.....F....E.....K
24 20 -11.811768 T.K.....A....Y
21 20 -11.557440 H.....V...A.L
20 20 -11.499033 E...A...AY
20 20 -11.387443 A.....K.................D.....K
20 20 -11.243017 F.....T.....S.....A
23 20 -11.152212 K.....L...IK
20 20 -11.134337 V.E.....K...G
20 20 -10.937692 T.....LV.....K
21 20 -10.927019 A.....K.....A.....K
21 20 -10.912143 A...T.K.....A
21 20 -10.878603 A...T.K.....S
21 20 -10.867773 A.....S.E.....K
24 20 -10.702553 L.T..E.....A
23 20 -10.694719 T.K.....S.....L
22 20 -10.683888 L.....S.E.....K
21 20 -10.426354 L.T.....A...A
20 20 -10.257345 L....K.....A.....L
22 20 -9.763403  A.....K.....W
20 20 -9.640999  G..H.....F
21 20 -9.277614  AL.....W
21 20 -8.997660  F.....T.K
21 20 -8.986829  F....E.....K

15 15 -12.962785 AL.....E.....S.....A
17 15 -12.953151 V...A.L.....G.....A
16 15 -12.922310 K.....KE.....W
15 15 -12.896019 V.....S.....A.....L.A
15 15 -12.861738 A.LG.....K.....L
15 15 -12.838147 A.....L...K.....A.....L
15 15 -12.829838 KE.....W.....V
15 15 -12.745675 L.....V.....A.....A.....L
15 15 -12.712135 L.....V.....A....S.....L
16 15 -12.710177 S.....L.....A.G.....A
15 15 -12.686586 AL.....A.....S.....A
15 15 -12.686586 A.....S.....A.....L.A
15 15 -12.654263 L.....L.....L....K.A
15 15 -12.654263 L.....L.KA.....L
15 15 -12.620404 K.....E.....W.....A
18 15 -12.620404 A.....KE.....W
19 15 -12.527933 V.....A.....E.....W
15 15 -12.474409 H.E..F.....A
15 15 -12.451377 A.....W.....A..I
15 15 -12.352357 L.....L..A..A.....L
19 15 -12.330259 V.....H..K.....T
15 15 -12.318499 A.....E.....W.....A
15 15 -12.318499 W.....A.E.....A
15 15 -12.284959 WS.....E.....A
21 15 -12.054754 Q...V.....K.....F
16 15 -12.043229 HA.K.....V
19 15 -11.865280 F.....F.....V.....A
15 15 -11.863408 S...FK.N
17 15 -11.833796 H.....A..K.....A
18 15 -11.820236 L.....N.....I.....F
15 15 -11.782811 QK.....K.....K
15 15 -11.751857 K.....A...F....D
15 15 -11.690340 QK.....V.....K
16 15 -11.626371 I.E..P..K
16 15 -11.612295 IKE.....K
15 15 -11.530029 K....P....K....T
18 15 -11.516625 L.....K.....I.....F
15 15 -11.504948 T.....V.....I.E
16 15 -11.449952 A.....A...F....D
21 15 -11.449952 A...F....D.A
15 15 -11.437605 L.....P.....F.....P
15 15 -11.416412 F....DS.....A
15 15 -11.396159 D.....K.....T.....G
16 15 -11.372568 KT.....A.D
16 15 -11.345885 V.....K.....V.....K
15 15 -11.336499 HF.....W
16 15 -11.329189 E.....S..Q.....V
17 15 -11.320180 V.....K.....EV
15 15 -11.320180 V.....E.....V.....K
15 15 -11.315148 EL.....AY
16 15 -11.295963 Q.....V...A.....V
15 15 -11.291432 A.....F.....A...K
15 15 -11.265726 F....EA.....A
15 15 -11.261974 T.....S.....I.E
16 15 -11.253414 K....V.....VV
15 15 -11.243000 K.....P.AK
15 15 -11.228124 P.....K.....T.....A
17 15 -11.214048 T.K.....A.....K
15 15 -11.202500 D.....VV...A
15 15 -11.202500 V.....V.....D.....A
19 15 -11.202500 V.D.A.....V
15 15 -11.195209 T.....V..S.....I
17 15 -11.180508 T.K.....S.....K
15 15 -11.171383 S.E....N.....A
16 15 -11.169678 K.S.E.....K
22 15 -11.168960 V.DS.....V
16 15 -11.152212 L...IKK
16 15 -11.137336 L..TIK
16 15 -11.136452 V.....K.....K.....A
15 15 -11.121577 V....A...T.K
16 15 -11.121577 A...T.K.....V
15 15 -11.119462 G.....V..E....T
16 15 -11.111630 TI.E.....L
15 15 -11.111087 D.....K.....V....L
17 15 -11.111087 V.K..L.....D
16 15 -11.110746 V.....K.....A.....E
15 15 -11.107548 K..A.....FL
15 15 -11.095871 V....A...T..E
15 15 -11.088036 V.....T.K.....S
15 15 -11.083423 G.....E...D.....A
15 15 -11.081842 F.....E...A.....L
15 15 -11.081842 F.....LE....A
15 15 -11.081647 P.....G.V.....V
17 15 -11.074008 L...S.....E.....K
17 15 -11.062330 T.....V..S.....E
17 15 -11.059832 A.....E...D.....A
16 15 -11.059832 D.....A.....E.....A
15 15 -11.059115 K....P....K.....L
15 15 -11.052989 S...Q.....V...A
15 15 -11.051998 D.....K.....S.....A
15 15 -11.043980 VV...A..K
15 15 -11.043980 VVK.....A
15 15 -11.041865 G.....VV.E
15 15 -11.030164 T.K...L.....K
15 15 -11.029105 V....A...T.....V
19 15 -11.024516 P...VV.....S
15 15 -11.019333 K.....K.....EL
18 15 -11.015076 F.....AL.....V
```

24 20 -8.918231 E...A....Y	15 15 -11.004458 KT..E.....L
22 20 -8.867224 Y..L...I	16 15 -11.004458 T.....L.....K.....E
25 20 -8.792757 T..Q...V	16 15 -10.989527 F.....A.....A...A
23 20 -8.740418 T.K.....I	21 15 -10.952568 L.....K.....V.....K
22 20 -8.724706 P.A...F	15 15 -10.952568 L.....V.....K.....K
21 20 -8.717925 Q..L.....N	16 15 -10.950610 G.....K.....K.....A
23 20 -8.710630 A...K..F	15 15 -10.926862 V.....E..LK
23 20 -8.684924 E.A.....F	16 15 -10.924904 A.....K..G.....E
31 20 -8.684924 F.....A.....E	20 15 -10.901313 K.....E.A.....A
23 20 -8.651384 F....E.....S	20 15 -10.901313 E.A.A.K
21 20 -8.642031 A...AY	20 15 -10.901313 K.....E.....A....A
23 20 -8.636492 E..P..K	17 15 -10.901313 A.....K.....E.A
22 20 -8.555650 K.....V.....K	18 15 -10.878603 T.K..A....S
21 20 -8.526746 L.....F.....K	15 15 -10.875948 D.....AL.....E
20 20 -8.526746 L.....FK	18 15 -10.867773 K.....S.....E.A
20 20 -8.463178 VVK	15 15 -10.867773 EK..A.....S
22 20 -8.424607 S.....Y..L	21 15 -10.867773 S.....E.A...K
30 20 -8.375185 A...F.....S	15 15 -10.860096 L.....V.....V.....K
23 20 -8.375185 S.....A...F	18 15 -10.860096 K....V.....L.....V
22 20 -8.346217 K.....A.....K	15 15 -10.860096 L.....V.....K.....V
22 20 -8.346217 K.....A....K	15 15 -10.860096 V.V....LK
26 20 -8.331341 T.K.....A	17 15 -10.852897 T.....S.E.....A
26 20 -8.331341 T....A.....K	19 15 -10.850306 AL...IK
22 20 -8.301047 S.....E..P	19 15 -10.835431 L..TI.....A
24 20 -8.286970 S.E.....K	15 15 -10.834547 V.....K.....A.....A
24 20 -8.269504 K.....L...I	15 15 -10.834547 A.....V..A....K
35 20 -8.269504 L...IK	20 15 -10.834547 K.....A..V.....A
22 20 -8.253745 V.K.....A	15 15 -10.834547 V..A.....K.A
22 20 -8.253745 V.....K.....A	17 15 -10.834547 V.....K.A.....A
32 20 -8.253745 V.....K.A	18 15 -10.834547 A.....V.....K.A
26 20 -8.253745 V...A....K	15 15 -10.834390 V.V.E..L
21 20 -8.238869 T....A.V	15 15 -10.832432 G.....V...A.....E
24 20 -8.224841 F.....A.....L	16 15 -10.809182 V.....A.....L.....D
20 20 -8.176408 L...P..K	15 15 -10.809182 A.L.....V..D
25 20 -8.147457 T.....L.....K	16 15 -10.809182 V....L.....A.....D
22 20 -8.136626 E..LK	18 15 -10.801007 V.....A.....S.....K
26 20 -8.121751 L.T..E	23 15 -10.801007 K..A.V..S
21 20 -8.121751 L.T.....E	18 15 -10.801007 K....V..S.....A
27 20 -8.069860 LV.....K	18 15 -10.775301 E.....V..S.....A
20 20 -8.069860 K.....V....L	22 15 -10.767624 V.....VV....L
22 20 -8.044311 A.....K.....A	18 15 -10.765666 A.....G.V.....V
20 20 -8.044155 V.E..L	15 15 -10.765666 G.V...A.....V
21 20 -8.018605 A.....E.....A	16 15 -10.742075 V.....V...A.....A
28 20 -8.018605 E...A...A	16 15 -10.742075 VV...A.....A
37 20 -8.010771 K.....S.....A	15 15 -10.742075 A.....VV...A
22 20 -8.010771 A.....K.....S	17 15 -10.741019 L....K...G.....E
23 20 -7.995896 T....A....S	16 15 -10.741019 K.....L.....G.....E
20 20 -7.975431 V.....G.....A	15 15 -10.717428 AL.K...E
25 20 -7.975431 G.....V...A	16 15 -10.717428 K.....A.....EL
21 20 -7.975431 A.....G.V	16 15 -10.717428 E.....K.....A.....L
29 20 -7.918300 A.V..S	15 15 -10.717428 E.....K.....L..A
24 20 -7.860427 K.....A.....L	16 15 -10.711300 S.....N.....L.....A
24 20 -7.801181 S.E.....L	15 15 -10.709594 K.....K.....S.....L
22 20 -7.801181 E.....S.L	16 15 -10.708535 S.....V..A.....V
36 20 -7.767955 V...A.L	15 15 -10.695887 G.....G.....K.....G
23 20 -7.767955 ALV	26 15 -10.691722 EAL.....E
21 20 -7.767955 V.....L.....A	15 15 -10.650663 V....L.K.....A
22 20 -7.742406 A.....A...A	15 15 -10.650663 V..AL.K
23 20 -7.676543 L.....L....K	16 15 -10.631198 P.....V..S...L
21 20 -7.584071 L.....V.....L	15 15 -10.625298 L.....V.....D.....L
24 20 -7.558522 A..A.....L	16 15 -10.624957 V.....L.....E.....A
21 20 -7.558522 A.....A.....L	15 15 -10.622999 G.....E.....A...A
20 20 -7.548573 S...L...G	16 15 -10.615164 G.....K.....A.....S
21 20 -7.524982 A.....S.....L	15 15 -10.615164 K.....S.....A.G
27 20 -7.524982 S.....A.....L	16 15 -10.599749 L.....A.....D...A
23 20 -7.524982 A.....S.L	18 15 -10.591573 K..A...S.....A
22 20 -7.524982 A.L.....S	19 15 -10.581782 G.V.....V....L
22 20 -7.524982 AL...S	16 15 -10.581782 V.....V....L.....G
20 20 -7.374638 L..A.....L	15 15 -10.579824 A..G.....V.....G
23 20 -7.374638 L.....A.....L	16 15 -10.565867 S.....E...AA
21 20 -7.374638 L.....A.....L	17 15 -10.565867 EA.....S.....A
19 19 -45.900005 H.....F.V...A.L.T.K.....WS.E....W..AY..L....K	18 15 -10.558191 V.....L.....V...A
19 19 -39.185727 H.....F.V...A.L.T.K.....W.....AY..L...IK	17 15 -10.558191 A.....L.....VV
19 19 -39.078555 H.....F.V.K.A.L.T.K.....W.....AY..L....K	20 15 -10.558191 A.....V.....L
19 19 -39.063043 A.L.T.K.....WS.E....W..AY..L...IK	22 15 -10.558191 VV...A.L
19 19 -38.800241 G..H.....F.V...A.L.T.K.....W.....AY..L....K	17 15 -10.558191 V.....L.A....V
19 19 -38.776650 H.....F.V...A.L.T.K.....W.....A...AY..L....K	17 15 -10.558033 S.....A...K...S
19 19 -32.400113 A.L.T.K.....W.....AYD.L...IK	18 15 -10.532642 A.....A..V.....A
19 19 -28.476727 A.L.T.K.....S.E...AW..A.....K	16 15 -10.524651 V.....S.....V....L
19 19 -25.040484 P.L..HA...F.....SA..L...G	15 15 -10.514861 L...I.....S.....A
19 19 -23.440427 P.L..HA...F.....Q....G.V	15 15 -10.499102 A.V..S.....A
19 19 -22.360170 A.L.T.K.....A...AY.....I	16 15 -10.499102 A.....S.....V.....A
19 19 -21.583324 ALL.T.....AY..L....K	21 15 -10.466778 V.....K.....L.....L
19 19 -19.806548 F.....E.AP.A...F..L	16 15 -10.466778 L.....V....L....K
19 19 -19.496809 S.....F.....AP.A...F..L	23 15 -10.466778 L.....V....L....K
19 19 -19.496809 F.....AP.A...FS.L	18 15 -10.464820 K.....L.....G.....A
19 19 -17.251452 F.....P.AK..F..L	16 15 -10.464820 A.....K...G.....L
23 19 -17.216032 T.K.....S.E...A....Y	19 15 -10.464820 K.....L.....G.....A
20 19 -17.165025 T.K.....S.....Y..L...I	18 15 -10.464820 L.....A.G.....K
19 19 -16.956795 T..Q.ALV.....N	19 15 -10.464820 L.....G.....A.K
19 19 -16.916007 S.....AP.....F.FL	15 15 -10.441229 K.....L..A.....A
19 19 -16.861333 E.AP..K..F..L	15 15 -10.441229 KL...A.....A
19 19 -16.713821 T..Q.AL...S.....N	16 15 -10.441229 K.....L.....A....A
19 19 -16.551593 S.....AP..K..F..L	18 15 -10.439114 G.....E.L.....A
19 19 -16.551593 AP..K..FS.L	18 15 -10.431280 S....K.....L.....G
19 19 -16.525887 E.AP.....FS.L	16 15 -10.421765 P.....AL.....S
19 19 -16.525887 S.....E.AP.....F..L	19 15 -10.421765 P.....S.....A.....L
19 19 -16.317739 T..Q.ALV..S	18 15 -10.421765 P.....A.....S.....L
19 19 -16.216148 S.....AP.....FS.L	20 15 -10.415523 EL..A...A
19 19 -14.307942 N.....AP.....F..L	18 15 -10.407689 A.....S.LK
19 19 -14.266454 L.....K.....F....E.....K	17 15 -10.407689 K..AL..S
19 19 -14.177679 V...A.....K.....D.....K	15 15 -10.395940 G.V.....L...G
20 19 -14.161833 G..H.....V...A.L	15 15 -10.381983 E.....S.....L..A
21 19 -14.144682 T.K.....S.E.....I	16 15 -10.372349 G.....V....A.....L
20 19 -14.114894 F.....A.....S.E.....K	16 15 -10.372349 G.....V.....A.....L
19 19 -13.968245 A.....K.....A.....D.....K	18 15 -10.372349 V.....L.....G.....A
20 19 -13.717254 V...A.....K.....A.....K	16 15 -10.257345 L.....L....K.A

19 19 -13.585260 A.L.T..E.....K	15 15 -10.257345 L.....L.....A....K
20 19 -13.459405 A...T.K.....S.....A	16 15 -10.257345 L.....KA.....L
22 19 -12.631235 K.A...T.....W	17 15 -10.231639 A.....E..L.....L
19 19 -12.367796 G.....K.A.....W	18 15 -10.223805 L.....L....K.....S
22 19 -11.567632 E.A...K..F	15 15 -10.180633 L.....L.....L...I
21 19 -11.534091 F.....S.E.....K	18 15 -10.164873 L.....A.....V....L
21 19 -11.414486 S.....Y..L...I	18 15 -10.162915 L.....A.G.....A
20 19 -11.411159 F.....AL.....N	18 15 -10.129375 S.....L.....A.G
19 19 -11.383747 K.....F....E.....L	16 15 -10.105784 S.....A.....L..A
22 19 -11.287680 T.K.....S.....I	17 15 -10.105784 S.....L.....A.....A
23 19 -11.085538 A.....A.....D.....K	17 15 -9.955440 L.....AL.....A
19 19 -11.033410 LE..P..K	15 15 -9.955440 A.L.....AL
24 19 -10.955987 A...F.....SA	19 15 -9.955440 L.....L..A...A
20 19 -10.954273 ALV.....N	23 15 -9.947131 V.....E.....W
19 19 -10.926862 V.E..LK	15 15 -9.947131 WEV
19 19 -10.924904 K.....G.....E.....A	16 15 -9.921900 L.....AL.....S
25 19 -10.878603 T.K.....S.....A	15 15 -9.870575 W.....I..A
19 19 -10.858138 V.....K.....G.....A	15 15 -9.737697 A.....WE
19 19 -10.858138 K.....V.....G.....A	15 15 -9.670931 W.....V.....A
25 19 -10.852897 T.....S.E...A	18 15 -9.624332 Y.....P.....F
22 19 -10.772103 A...F.....S...L	16 15 -9.433523 H....F.L
19 19 -10.717428 E.....A...L....K	17 15 -9.423037 F....D...Q
20 19 -10.711300 AL...S.....N	25 15 -9.391025 F.....P.....F
20 19 -10.702553 L.T.....E...A	15 15 -9.284477 F.....V.....F
19 19 -10.702553 L.T..E.....A	20 15 -9.252994 HA.K
20 19 -10.599408 A.....E...A...A	15 15 -9.184113 G.V.....H
22 19 -10.559250 L....K.....L....K	16 15 -9.160522 V.....H.....A
19 19 -10.556233 V...A.....G.....A	15 15 -9.119708 F...I.....K
21 19 -10.441229 AL....K.A	20 15 -9.119708 K.....I.....F
25 19 -10.415523 AL.....E.....A	18 15 -9.104832 I.....F.....T
19 19 -10.372349 G.....V...A.L	16 15 -9.060898 V.....V.Y
23 19 -10.372349 G.....V...A.L	15 15 -9.041504 F.....S....F
21 19 -10.372349 L.....A.....G.V	16 15 -9.012535 K.....F...K
24 19 -10.315217 V.....S.....A.....L	15 15 -9.012535 FK.....K
21 19 -10.315217 ALV..S	17 15 -8.986829 K.....F.....E
20 19 -10.105784 A..A....S.L	15 15 -8.961124 E.F.....E
22 19 -9.921900 L.....SA..L	17 15 -8.934140 V.....P.....F
19 19 -9.921900 L..A.....S.L	23 15 -8.920064 V.....K.....F
23 19 -9.737697 A.....E.....W	17 15 -8.920064 F.....K.....V
29 19 -9.670931 V.....A.....W	16 15 -8.900104 Q.....K.....K
19 19 -9.433523 H.....F.....L	16 15 -8.885229 T.KQ
19 19 -9.433523 L...H.....F	16 15 -8.869150 F.....A.....D
20 19 -9.427958 WS.....A	16 15 -8.867224 L...I.....Y
20 19 -9.160522 HA.....V	17 15 -8.859261 V.....N.....K
24 19 -8.835610 F....DS	18 15 -8.859261 K....V.....N
24 19 -8.714169 V.....D.....K	20 15 -8.851465 V.Y.....A
20 19 -8.684924 E....A...F	17 15 -8.830357 N.....L.....F
20 19 -8.677090 F.....K.....S	16 15 -8.821709 Q.....P....V
21 19 -8.557355 A.V.....N	24 15 -8.821342 V..D.....I
19 19 -8.515069 V..E...T	16 15 -8.821342 V.....D.....I
19 19 -8.511870 T.....L.....F	15 15 -8.817803 I...A.....F
31 19 -8.504736 D.....K.A	15 15 -8.807633 KQ...V
20 19 -8.489860 T.....A.D	16 15 -8.807633 Q.....V.....K
20 19 -8.480019 N.....P.....L	20 15 -8.806641 K....K.....D
20 19 -8.437472 VV.E	15 15 -8.784262 F...I.....S
22 19 -8.375185 S.....F.....A	21 15 -8.781927 E.....Q.....V
22 19 -8.375185 F.....A.....S	15 15 -8.767204 L..H.....A
22 19 -8.373471 LV.....N	16 15 -8.740418 T.....K.....I
21 19 -8.346217 K.....K.....A	21 15 -8.729588 I.E.....K
19 19 -8.331341 K....T.....A	16 15 -8.724706 P.....A...F
19 19 -8.320852 D.....LK	17 15 -8.714712 TI.E
21 19 -8.320511 E.....K.A	15 15 -8.714169 V..D.....K
27 19 -8.320511 E.A...K	15 15 -8.714169 V.D.....K
31 19 -8.320511 K.....E.A	20 15 -8.714169 K.....V..D
21 19 -8.314382 S.....N.....A	16 15 -8.714169 D.....VK
22 19 -8.305635 A...T..E	15 15 -8.714169 V..D.....K
26 19 -8.305635 T.....E...A	19 15 -8.710630 KA.....F
21 19 -8.228039 EV.....A	17 15 -8.710630 A.....F.....K
27 19 -8.228039 V.....A.....E	15 15 -8.710630 F.....A.K
21 19 -8.228039 V.....E.....A	16 15 -8.699294 D.....V.....T
36 19 -8.224841 F.....AL	17 15 -8.684924 F.....E...A
21 19 -8.205329 T.....V..S	15 15 -8.684924 A.....F....E
24 19 -8.202831 A.....A.....D	15 15 -8.677090 F..K.....S
20 19 -8.194499 V.....S.E	16 15 -8.677090 K.....S.....F
20 19 -8.191301 F.....L.....S	17 15 -8.677090 S....K.....F
25 19 -8.184864 G.....VV	17 15 -8.662822 V.K.....I
19 19 -8.162332 K.....LK	15 15 -8.636492 E.....P..K
29 19 -8.161273 V...A.....V	15 15 -8.636492 P.....K...E
20 19 -8.150702 LE..P	15 15 -8.636492 E.....P.....K
20 19 -8.147457 L..T.K	15 15 -8.633918 L.....F...I
22 19 -8.130498 L...S.....N	19 15 -8.624121 E....N.....A
23 19 -8.121751 T...E.L	18 15 -8.622416 K.....EK
20 19 -8.069860 V....LK	17 15 -8.622416 K...E.....K
31 19 -8.069860 V.....K.....L	15 15 -8.621698 V.....D....V
27 19 -8.044311 K.....A.....A	25 15 -8.621698 V.D.....V
20 19 -8.044311 A..A.....K	15 15 -8.618159 V.....A.....F
25 19 -8.044155 V.....L.....E	15 15 -8.618159 A.....F.....V
20 19 -8.024847 S.....P.A	21 15 -8.618159 A.....F..V
25 19 -8.018946 A.L.....D	17 15 -8.616287 K.....S.....N
23 19 -8.018605 E.A..A	16 15 -8.611908 A.....D.....I
22 19 -8.010771 A...K...S	19 15 -8.608491 S.....Y.....A
20 19 -8.010771 S.....A...K	15 15 -8.596710 E.....E..K
19 19 -8.010771 K.A.....S	17 15 -8.555650 V.....K....K
27 19 -7.995896 T.....S....A	16 15 -8.544020 P.....E....V
21 19 -7.975431 G.....V.....A	15 15 -8.540822 LF.....P
22 19 -7.975431 GV.....A	16 15 -8.540774 K.V.....T
28 19 -7.975431 A.....G.V	17 15 -8.538953 E.....S..Q
30 19 -7.975431 V...A.....G	16 15 -8.529944 V.....E.....K
29 19 -7.967599 L...I..A	23 15 -8.529944 V...E.....K
27 19 -7.951840 A..V.....A	15 15 -8.529944 E.....K.....V
25 19 -7.951840 A.V.....A	18 15 -8.529944 V.E.....K
21 19 -7.951840 A.....A.....V	18 15 -8.526746 L.....K.F
24 19 -7.951840 V...A.....A	16 15 -8.526746 FLK
23 19 -7.934059 S.....L...I	16 15 -8.526746 L.K.....F
21 19 -7.918300 V...A.....S	15 15 -8.526746 K.....F.....L
19 19 -7.884018 G.....K.....L	19 15 -8.511870 L.....F.....T
24 19 -7.860427 AL.....K	15 15 -8.504736 DA.....K

19 19 -7.860427 K.....L..A	15 15 -8.504736 K.....D.....A
23 19 -7.860427 AL....K	15 15 -8.504736 A...K.....D
32 19 -7.860427 L....K.A	15 15 -8.504736 A.K.....D
23 19 -7.845552 L..T.....A	15 15 -8.501040 E....L.....F
20 19 -7.840963 P.....S...L	16 15 -8.501040 L.....F.....E
33 19 -7.834721 EAL	15 15 -8.479030 A.....E.....D
19 19 -7.834721 LE....A	20 15 -8.477254 P...VV
21 19 -7.834721 L.....E...A	21 15 -8.471196 K.....DS
20 19 -7.834721 A.L....E	17 15 -8.465943 K...L.....N
19 19 -7.801181 E..L.....S	23 15 -8.463178 V.....K.....V
25 19 -7.791546 L.....G.V	19 15 -8.463178 VV.....K
21 19 -7.791546 L...G.V	21 15 -8.463178 V.....V.....K
21 19 -7.791546 G.....V.....L	20 15 -8.463178 VV.....K
22 19 -7.767955 L.....A.....V	20 15 -8.463178 K....V.....V
22 19 -7.767955 L.....V...A	15 15 -8.463178 V.....K.....V
21 19 -7.767955 V....L.....A	16 15 -8.458147 L.....AY
21 19 -7.767955 A.....L.....V	19 15 -8.458147 L.....Y.....A
20 19 -7.767955 V.....L.....A	16 15 -8.458147 A.....L.....Y
24 19 -7.742406 A.....A.....A	15 15 -8.453389 K.....A..I
30 19 -7.734415 LV..S	19 15 -8.453389 A.....K.....I
25 19 -7.708866 A.....S.....A	18 15 -8.448303 V.....T.....V
23 19 -7.708866 A....S.....A	16 15 -8.448303 V.....V.....T
25 19 -7.708866 A.....SA	20 15 -8.437472 E.....VV
22 19 -7.708866 A.....S.....A	16 15 -8.435855 D....V.....G
19 19 -7.690619 L...P.....L	16 15 -8.435855 D....V.....G
19 19 -7.676543 L.....K.....L	15 15 -8.434274 VF.....L
28 19 -7.650837 L....E.....L	15 15 -8.433925 S.....P.....I
32 19 -7.558522 AL.....A	27 15 -8.427683 EA.....I
19 19 -7.558522 L.....A.....A	19 15 -8.414315 Q.....K..L
23 19 -7.558522 A.....A.....L	15 15 -8.414315 Q.....L....K
22 19 -7.548573 S.....L.....G	19 15 -8.412264 D.....V...A
22 19 -7.524982 L..A.....S	20 15 -8.412264 D.A.....V
20 19 -7.524982 L.....S.....A	16 15 -8.412264 V.....D.....A
21 19 -7.524982 L...A.....S	20 15 -8.412264 A.....V..D
20 19 -7.398229 LG.....L	19 15 -8.412264 V..DA
22 19 -7.374638 L.....A.....L	16 15 -8.412264 VA.D
22 19 -7.374638 L.....A.....L	16 15 -8.412264 V.D.....A
20 19 -7.374638 ALL	21 15 -8.412264 V.D.A
19 19 -7.374638 L.....A.....L	17 15 -8.408725 AA.....F
18 18 -48.889885 H.....F.V...A.L.T.K.....WS.E....W..AY..L...IK	18 15 -8.408725 A.....F.....A
18 18 -48.782712 H.....F.V.K.A.L.T.K.....WS.E....W..AY..L....K	15 15 -8.388609 E.L.....Q
18 18 -48.504398 G..H.....F.V...A.L.T.K.....WS.E....W..AY..L....K	16 15 -8.375185 S.....F.....A
18 18 -42.226954 H.....F.V...A.L.T.K.....W.....AYD.L...IK	15 15 -8.375185 S.....F.....A
18 18 -42.104270 A.L.T.K.....WS.E....W..AYD.L...IK	15 15 -8.375185 S...F.....A
18 18 -42.068435 H.....F.V.K.A.L.T.K.....W.....AY..L...IK	15 15 -8.370707 VV.....V
18 18 -41.790121 G..H.....F.V...A.L.T.K.....W.....AY..L...IK	15 15 -8.360917 A..V.....I
18 18 -41.682948 G..H.....F.V.K.A.L.T.K.....W.....AY..L....K	15 15 -8.360293 K...P.....A
18 18 -41.659357 H.....F.V.K.A.L.T.K.....W.....A...AY..L....K	15 15 -8.360293 P.....K.....A
18 18 -41.475473 L...H.....F.V.K.A.L.T.K.....W.....AY..L....K	16 15 -8.346217 K.....AK
18 18 -41.381043 G..H.....F.V...A.L.T.K.....W.....A...AY..L....K	15 15 -8.346217 K.....A.K
18 18 -38.930165 A.L.T.KE.....WS.E....W..AY..L....K	17 15 -8.346217 K..A.....K
18 18 -38.592766 H.....F.V...ALL.T.K.....W.....AY..L....K	16 15 -8.346217 K.....K.A
18 18 -38.303568 H.....F.V...A.L.T.K.....S.E...AW..A.....K	17 15 -8.346217 K.....A....K
18 18 -35.602250 ALL...K.....WS.E....W..AY..L....K	16 15 -8.346217 K..K.....A
18 18 -34.980915 A.L.T.K.....W.....A...AYD.L...IK	15 15 -8.334587 E...A.....P
18 18 -29.251714 K.....A.L.T.K.....W.....AY..L....K	18 15 -8.334587 P.....E.....A
18 18 -28.939890 H.....V...A.L.T.K.....A...AY.....I	15 15 -8.331341 A.....T.K
18 18 -28.478895 ALL...K.....W.....A...AY..L....K	20 15 -8.327377 V..S.....I
18 18 -28.175173 P.L..HA...F.....SA.QL...G	16 15 -8.326752 P.....K...S
18 18 -25.496448 A.L.T.....W.....AW...Y.....I	16 15 -8.320852 D.....K..L
18 18 -25.288183 T..Q.AL.....N.....AP.....F..L	16 15 -8.320511 A..K.....E
18 18 -24.573203 ALL.T.....AY..L...IK	19 15 -8.320511 A..K...E
18 18 -22.743930 S.....F.....AP.A...F.FL	21 15 -8.320511 E...A.K
18 18 -22.353810 S.....F.....E.AP.A...F..L	15 15 -8.320511 E..K.....A
18 18 -22.044071 S.....F.....AP.A...FS.L	25 15 -8.320511 EK..A
18 18 -20.135865 N.....F.....AP.A...F..L	18 15 -8.320511 A.....K.....E
18 18 -19.798714 S.....AP..K..F.FL	25 15 -8.320511 K.....E.....A
18 18 -19.504057 T..Q.ALV..S.....N	18 15 -8.320511 K...E...A
18 18 -19.463269 S.....AP.....FSFL	16 15 -8.320511 E.....K.A
18 18 -19.408595 S.....E.AP..K..F..L	15 15 -8.320511 K.....E.....A
18 18 -19.408595 E.AP..K..FS.L	15 15 -8.320511 K.....A.E
18 18 -19.098855 S.....AP..K..FS.L	18 15 -8.320511 E.....K.....A
18 18 -19.073149 S.....E.AP.....FS.L	15 15 -8.318396 E..G.....E
18 18 -17.190649 N.....AP..K..F..L	17 15 -8.312676 K.....S.....K
18 18 -17.164943 N.....E.AP.....F..L	19 15 -8.312676 K....K.....S
18 18 -17.049266 T..Q.AL.....K.N	15 15 -8.312676 K...S..K
18 18 -17.017598 FT..Q.ALV	15 15 -8.305635 TE...A
18 18 -16.855204 N.....AP.....FS.L	18 15 -8.301047 E.....S.....P
18 18 -16.855204 S.....N.....AP.....F..L	16 15 -8.301047 S.....E..P
18 18 -16.758481 V...A.....K.....A.....D.....K	15 15 -8.294805 E.....E.....A
18 18 -16.551593 P.AK..FS.L	23 15 -8.286970 EK.....S
20 18 -15.488236 KEA...T.....W	20 15 -8.286970 K.S.E
18 18 -15.224798 KEA.....G..W	16 15 -8.286970 S....K.....E
18 18 -14.293866 F.....AL.....K.N	18 15 -8.286970 E.....S..K
18 18 -14.266454 K.....F....E.....K.....L	15 15 -8.280842 S.....N....S
22 18 -13.875774 V...A.....A.....D.....K	17 15 -8.277336 K..G.V
18 18 -13.837243 T..QEAL	16 15 -8.277336 G.....V.....K
18 18 -13.813329 A...F....DS...L	16 15 -8.277336 GV.....K
18 18 -13.715139 K.....V.....G.....E.....A	16 15 -8.277336 K.....G.V
19 18 -13.501535 ALV..S.....N	16 15 -8.269504 I.....L....K
20 18 -13.448916 A.L.....S.....D.....K	20 15 -8.267821 A.....P....V
19 18 -13.441957 K.....L....K.....L....K	17 15 -8.262460 G.....V.....T
18 18 -13.438940 V...A..K.....G.....A	20 15 -8.254629 L..TI
18 18 -13.283355 L.T..E.....A...A	22 15 -8.253745 V.....K.A
20 18 -13.231465 V...AL....K.A	19 15 -8.253745 K.....A...V
18 18 -12.962785 E.A..A....S.L	20 15 -8.253745 K.....V.....A
20 18 -12.620404 A.....KE.....W	15 15 -8.253745 V.....A..K
28 18 -12.553639 V.....K.A.....W	15 15 -8.253745 A.K.....V
18 18 -12.344205 A.....K.A.....W	16 15 -8.253745 V.....K.....A
18 18 -12.037917 G..H.....F.....L	16 15 -8.253745 K.....A...V
18 18 -12.037917 LG..H.....F	20 15 -8.253745 V.....K..A
23 18 -11.416412 A...F....DS	15 15 -8.253745 V.....K...A
18 18 -11.305304 VV.E....T	16 15 -8.253745 V.....K.....A
19 18 -11.188342 A...T.KE	27 15 -8.253745 K.....V.....A
19 18 -11.159170 A.....S.....D.....I	18 15 -8.253745 V.....KA
18 18 -11.136452 K.....V..A.....K	16 15 -8.251630 G.....V.E
21 18 -11.110746 V.....K.....E.....A	20 15 -8.251630 G.V.....E

32 18 -11.081842 F....EAL	16 15 -8.238869 T.....VA
29 18 -11.081842 F.....AL.....E	15 15 -8.238869 A...T....V
20 18 -11.046745 AL.....K.N	15 15 -8.229214 Q.....S.....S
19 18 -11.021039 EAL.....N	16 15 -8.228380 V..D..L
19 18 -10.978752 L.T..E.....E	23 15 -8.228380 L.....V..D
18 18 -10.926862 VKE..L	19 15 -8.228380 D...V.....L
21 18 -10.920733 LV..S.....N	18 15 -8.228039 A.....E.....V
18 18 -10.912143 T.K.....A.....A	16 15 -8.228039 V....A.....E
18 18 -10.907555 S.....P.AK	16 15 -8.228039 V..E.....A
18 18 -10.901313 E.A..AK	27 15 -8.224841 L.....F.....A
18 18 -10.901313 K.....E.....A.....A	20 15 -8.224841 F.....A.....L
19 18 -10.876937 L.....N.....P.....L	16 15 -8.220205 V.....K.....S
27 18 -10.850306 L...IK.A	17 15 -8.220205 K.....S.....V
21 18 -10.834547 V...A.....K.A	19 15 -8.220205 K.....S.....V
18 18 -10.766725 G.....K.....LK	15 15 -8.220205 S.....V.K
18 18 -10.717428 E.....L....K.A	15 15 -8.205329 S.....V.....T
20 18 -10.717428 E.....A...L....K	22 15 -8.202831 D....A...A
22 18 -10.650663 V...AL....K	15 15 -8.194499 S.....V..E
30 18 -10.650663 V....L....K.A	15 15 -8.191301 S....F.....L
18 18 -10.624957 V.E..L.....A	15 15 -8.191301 S.....F.....L
19 18 -10.624957 V.....L.....E...A	17 15 -8.191301 S.....L.....F
18 18 -10.576698 T.....S.....A.....A	21 15 -8.184864 G.V.....V
18 18 -10.559250 L.....K.....LK	18 15 -8.177033 V....L..I
19 18 -10.559250 K.....L.....L....K	17 15 -8.176408 P.....LK
22 18 -10.499102 A.V..S.....A	15 15 -8.176408 L.....P.....K
21 18 -10.441229 L.....A.....A.K	19 15 -8.164038 N.....L.....A
24 18 -10.441072 V.....L....E.....L	16 15 -8.164038 N.....L..A
19 18 -10.441072 L....E.V.....L	19 15 -8.162332 K...L.....K
18 18 -10.372349 LG.....V...A	16 15 -8.162332 L.....K....K
20 18 -10.348757 V.....A.....A.....L	17 15 -8.162332 L.....K..K
18 18 -10.338808 S...L...G.V	15 15 -8.162332 K.....K.....L
18 18 -10.280936 LG.....K.....L	17 15 -8.162332 LK.....K
18 18 -10.257345 L.KA.....L	21 15 -8.161273 A.....VV
21 18 -10.105784 A.....S.....A.....L	19 15 -8.161273 V...A.....V
32 18 -9.972837 V.....K.....W	19 15 -8.161273 V.....A....V
18 18 -9.955440 L..A..A.....L	15 15 -8.161273 A..V.....V
18 18 -9.826841 H....V....F	16 15 -8.161273 V.V.....A
18 18 -9.737697 W.....E.....A	15 15 -8.161273 A....V.....V
24 18 -9.040688 P.....F.....P	17 15 -8.161273 V.....V...A
18 18 -8.986829 K.....F.....E	20 15 -8.150702 P.....E.L
18 18 -8.976638 H.....L.....V	17 15 -8.147457 T.K.....L
18 18 -8.971954 FT...E	16 15 -8.136626 K.....EL
18 18 -8.905188 V....F.....T	16 15 -8.136626 EK.....L
26 18 -8.869150 A...F....D	18 15 -8.136626 L....K.....E
18 18 -8.869150 D..F.....A	20 15 -8.136626 LK...E
28 18 -8.807633 Q...V.....K	16 15 -8.136626 K.....EL
20 18 -8.710630 A...K....F	17 15 -8.136626 K.....L....E
18 18 -8.691166 S.....P.....F	18 15 -8.130498 S.....N.....L
18 18 -8.684924 E.A.....F	15 15 -8.121751 T...E.....L
21 18 -8.677090 S.....F.....K	17 15 -8.117943 A.....S.....I
30 18 -8.662822 V.....IK	15 15 -8.083937 P....V...L
19 18 -8.651384 S.....F.....E	17 15 -8.069860 LK.....V
19 18 -8.649827 N.....A...K	22 15 -8.069860 V.....L.....K
18 18 -8.648122 K.....K.....K	16 15 -8.069860 L.....V.....K
18 18 -8.633246 K.....K.....T	15 15 -8.069860 V.....L.K
19 18 -8.622416 KE.....K	24 15 -8.069860 K...LV
20 18 -8.616287 S....K.N	19 15 -8.069860 V.....LK
18 18 -8.610786 E.....E..P	15 15 -8.067902 A..G.....K
22 18 -8.598199 Q.A.....K	27 15 -8.067902 K.....A.G
18 18 -8.564659 Q.....S....K	21 15 -8.067902 G.....A...K
19 18 -8.540822 P....LF	17 15 -8.058387 A.....P.....A
25 18 -8.529944 V.....K.....E	18 15 -8.058387 P.....AA
18 18 -8.529944 V..E...K	22 15 -8.054985 L..T.....V
20 18 -8.529944 K.....V.....E	16 15 -8.054985 L.T.....V
19 18 -8.529944 VKE	16 15 -8.053027 T.....G.....A
19 18 -8.526746 F.....K.....L	15 15 -8.044311 K.....A.....A
18 18 -8.511870 T....L.....F	21 15 -8.044311 A.....A...K
22 18 -8.479030 D.....A.....E	21 15 -8.044311 A.....K.A
21 18 -8.471196 S.....D.....K	15 15 -8.044311 A....KA
21 18 -8.465943 L.....K.N	16 15 -8.044311 A.....K.....A
19 18 -8.458147 L.....A....Y	18 15 -8.044311 K.....A...A
19 18 -8.427683 E...A.....I	15 15 -8.044311 K.....A.....A
26 18 -8.412264 A.....V.....D	16 15 -8.044311 K....A.....A
22 18 -8.408725 A..A.....F	15 15 -8.044311 A...K.....A
20 18 -8.375185 F.....A....S	18 15 -8.044311 K.A.....A
20 18 -8.375185 A.....SF	15 15 -8.044311 K..AA
18 18 -8.354932 K.....T.....G	16 15 -8.044311 KA.A
21 18 -8.331341 T...A.....K	16 15 -8.044311 AA.....K
18 18 -8.331341 T.....A...K	22 15 -8.044311 K.....A....A
21 18 -8.320511 A.....KE	15 15 -8.044155 L.....V...E
18 18 -8.320511 EA..K	21 15 -8.044155 E.....V.....L
28 18 -8.320511 K...E.....A	17 15 -8.044155 V.....E.....L
19 18 -8.286970 E.....K...S	15 15 -8.044155 V.....L.....E
31 18 -8.253745 V.....K.A	16 15 -8.042197 G.....E.....A
20 18 -8.253745 V...A..K	16 15 -8.029436 A.....A.....T
20 18 -8.253745 V..A.....K	17 15 -8.024847 P.....A....S
19 18 -8.253745 K.....V..A	16 15 -8.018946 L.....D..A
18 18 -8.253745 V.....K.....A	18 15 -8.018946 A.....L.....D
30 18 -8.253745 V.....K.....A	15 15 -8.018946 D.....A.L
19 18 -8.224841 L.....A.....F	21 15 -8.018946 D.L.....A
27 18 -8.194499 E.....V..S	15 15 -8.018946 L.....A.....D
21 18 -8.169291 A.....S.....D	15 15 -8.018605 E.....A.....A
19 18 -8.164038 L.....N.....A	16 15 -8.018605 EA.....A
24 18 -8.162332 L.....K.....K	21 15 -8.018605 E.A.A
31 18 -8.161273 VV...A	16 15 -8.018605 A.....E.....A
21 18 -8.136626 E.....L....K	15 15 -8.018605 E.....A.....A
19 18 -8.121751 T..E.....L	16 15 -8.010771 A..K.....S
19 18 -8.078869 S..QL	16 15 -8.010771 K..A.....S
18 18 -8.069860 L.....V.....K	17 15 -8.010771 K.....A....S
34 18 -8.069860 V....L....K	17 15 -8.010771 S.....K.A
23 18 -8.069860 V.....K.....L	16 15 -8.010771 K.....S.....A
21 18 -8.069860 K.....L.....V	25 15 -8.010771 S....K.....A
18 18 -8.067902 K...G.....A	19 15 -7.995896 T.....S.....A
26 18 -8.044311 A.....A.K	19 15 -7.995896 T....A...S
20 18 -8.044311 K.....A..A	21 15 -7.991190 L..I....G
19 18 -8.044311 K.....A.....A	15 15 -7.985406 L.....D..S
22 18 -8.044155 L....E.V	17 15 -7.985065 EA.....S

27 18 -8.044155 E....LV	15 15 -7.985065 E.....S.....A
20 18 -8.044155 V....L.....E	16 15 -7.985065 A.....S.....E
20 18 -8.029436 T.....A.....A	19 15 -7.985065 E...A.....S
19 18 -8.018946 A.....D.L	15 15 -7.985065 EA.....S
26 18 -8.018605 A.....EA	17 15 -7.985065 S.....E...A
18 18 -8.018605 E.....A...A	19 15 -7.985065 E...A.....S
20 18 -8.018605 E.....A.....A	16 15 -7.985065 E.....S.....A
25 18 -8.010771 K....A.....S	23 15 -7.977389 V.....V....L
35 18 -8.010771 S.....A...K	22 15 -7.977389 V.....V....L
22 18 -8.010771 K.....S.....A	20 15 -7.977389 V.....L.....V
20 18 -7.985065 S.....E...A	19 15 -7.977231 S.....K...S
19 18 -7.985065 A.....E.....S	22 15 -7.975431 G.....A.....V
27 18 -7.967599 A.L..I	17 15 -7.975431 A.....GV
21 18 -7.951840 V.....A.....A	20 15 -7.967599 L...I.....A
22 18 -7.951840 V...A.....A	15 15 -7.951840 A.....V.....A
23 18 -7.918300 S.....V...A	15 15 -7.951840 VA.....A
26 18 -7.918300 V.....A.....S	21 15 -7.951840 A.....V.....A
31 18 -7.918300 S.....V.....A	21 15 -7.951840 A.....A.....V
23 18 -7.884018 LG.....K	19 15 -7.951840 A.....A..V
20 18 -7.884018 G.....K...L	15 15 -7.951840 V.....AA
19 18 -7.874503 A.....P.....L	17 15 -7.951840 V...A.....A
25 18 -7.860427 K...L.....A	16 15 -7.937149 L.....A...R
19 18 -7.860427 L.KA	16 15 -7.937149 A..LR
28 18 -7.860427 K.....L.....A	15 15 -7.934059 S.....IL
22 18 -7.860427 KA.....L	15 15 -7.918300 V..S.....A
19 18 -7.860427 L.....K.A	17 15 -7.918300 V....A.....S
18 18 -7.840963 S.....P.....L	17 15 -7.918300 A.....S.....V
18 18 -7.840963 S.....L...P	15 15 -7.918300 S.....V....A
29 18 -7.834721 L....E.....A	21 15 -7.884018 K...G.....L
20 18 -7.834721 L.....E.....A	18 15 -7.884018 L....K...G
19 18 -7.834721 L.....E.....A	19 15 -7.874503 P.....L.....A
18 18 -7.834721 EA.L	15 15 -7.874503 PA.....L
32 18 -7.834721 E.L.....A	20 15 -7.869143 L..T.....G
20 18 -7.834721 L....E.....A	16 15 -7.860427 L.....A..K
20 18 -7.834721 EL.....A	17 15 -7.860427 L.....K.....A
20 18 -7.834721 L.....A.....E	23 15 -7.860427 LK.....A
21 18 -7.826887 L....K.....S	18 15 -7.860427 K.....L.A
19 18 -7.801181 L....E.....S	19 15 -7.860427 L....A.K
19 18 -7.791546 V.....L...G	18 15 -7.860427 A.....LK
33 18 -7.767955 V....L.....A	17 15 -7.860427 A.....L.....K
20 18 -7.767955 L.....V.....A	15 15 -7.860427 A.K.....L
28 18 -7.767955 V...AL	21 15 -7.860427 A.....LK
19 18 -7.767955 V.....A.L	15 15 -7.860427 L.....K.....A
21 18 -7.767955 L.....V.....A	18 15 -7.860427 K...L.....A
18 18 -7.734415 L.....S.....V	15 15 -7.860427 K.....L.....A
19 18 -7.734415 L.....V.....S	16 15 -7.860427 L.K.....A
27 18 -7.708866 S.....A.....A	19 15 -7.858312 E.L.....G
19 18 -7.676543 L.....LK	20 15 -7.858312 G.....E.L
26 18 -7.676543 K.....L.....L	22 15 -7.834721 L....E.....A
20 18 -7.676543 L.....K...L	16 15 -7.834721 L...AE
20 18 -7.661667 L.....L.T	17 15 -7.834721 E.....L....A
19 18 -7.582113 LG.....A	20 15 -7.834721 E.L.....A
21 18 -7.558522 L.....A...A	19 15 -7.834721 E.....LA
21 18 -7.558522 L..A..A	15 15 -7.826887 L.....S..K
21 18 -7.558522 A.....L.A	24 15 -7.826887 K...L...S
21 18 -7.558522 L.....A.....A	25 15 -7.826887 K...L.....S
18 18 -7.558522 A.....L.A	15 15 -7.826887 K.....S...L
19 18 -7.558522 AL.....A	25 15 -7.826887 S....K.....L
20 18 -7.558522 AL.....A	16 15 -7.826887 K.....L.....S
23 18 -7.558522 L....A.....A	16 15 -7.826887 S....K.....L
22 18 -7.524982 A.....S.....L	15 15 -7.826887 L.S.....K
20 18 -7.524982 L.....A....S	16 15 -7.813179 G.....G.....G
20 18 -7.524982 L.....S.....A	17 15 -7.812011 L..T.....S
21 18 -7.524982 AL.....S	16 15 -7.801181 L....E.....S
29 18 -7.524982 S.....L.....A	25 15 -7.791546 G.V.....L
26 18 -7.374638 L.....L..A	17 15 -7.791546 V.....L.....G
21 18 -7.374638 L.....L.....A	15 15 -7.791546 V.....LG
18 18 -7.374638 A.....L.....L	18 15 -7.791546 V....L.....G
18 18 -7.341097 S.....L.....L	17 15 -7.783715 L.....L...I
18 18 -7.190753 L.....L.....L	21 15 -7.767955 V.....L.....A
17 17 -51.931111 H.....F.V...A.L.T.K.....WS.E....W..AYD.L...IK	20 15 -7.767955 L.....A.....V
17 17 -51.823939 H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L....K	17 15 -7.767955 A.....LV
17 17 -51.772592 H.....F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	16 15 -7.767955 V.....AL
17 17 -51.494278 G..H.....F.V...A.L.T.K.....WS.E....W..AY..L...IK	17 15 -7.767955 V.....L.....A
17 17 -51.387105 G..H.....F.V.K.A.L.T.K.....WS.E....W..AY..L....K	16 15 -7.767955 L.....V...A
17 17 -51.179630 L...H.....F.V.K.A.L.T.K.....WS.E....W..AY..L....K	26 15 -7.767955 V.....L....A
17 17 -48.757006 H.....F.V...A.L.T.KE.....WS.E....W..AY..L....K	17 15 -7.767955 V...A.....L
17 17 -48.296923 H.....F.V...ALL.T.K.....WS.E....W..AY..L....K	16 15 -7.767955 V.....AL
17 17 -47.632090 H..K.....F.VVKEA.L.T.K..G..W.....Y..L....K	18 15 -7.767955 V.....A.....L
17 17 -45.109661 H.....F.V.K.A.L.T.K.....W.....AYD.L...IK	18 15 -7.767955 V.....L.....A
17 17 -44.831347 G..H.....F.V...A.L.T.K.....W.....AYD.L...IK	15 15 -7.767955 A.....V...L
17 17 -44.807756 H.....F.V...A.L.T.K.....W.....A...AYD.L...IK	19 15 -7.765997 A.....G.....A
17 17 -44.672828 G..H.....F.V.K.A.L.T.K.....W.....AY..L...IK	17 15 -7.765997 A.....G.....A
17 17 -44.465352 L...H.....F.V.K.A.L.T.K.....W.....AY..L...IK	16 15 -7.765997 G.....A.....A
17 17 -44.263750 G..H.....F.V.K.A.L.T.K.....W.....A...AY..L....K	19 15 -7.765997 G.....A....A
17 17 -44.079866 LG..H.....F.V.K.A.L.T.K.....W.....AY..L....K	17 15 -7.742406 A.....A.....A
17 17 -44.056275 L...H.....F.V.K.A.L.T.K.....W.....A...AY..L....K	21 15 -7.742406 A.AA
17 17 -42.052923 A.L.TIK.....WS.E....W..AY..L...IK	17 15 -7.742406 A.....AA
17 17 -41.582645 H.....F.V...ALL.T.K.....W.....AY..L...IK	15 15 -7.732457 G...S.....A
17 17 -41.475473 H.....F.V.K.ALL.T.K.....W.....AY..L....K	19 15 -7.732457 S.....A.G
17 17 -41.197159 G..H.....F.V...ALL.T.K.....W.....AY..L....K	16 15 -7.708866 A.....S.....A
17 17 -41.186276 H.....F.V.K.A.L.T.K.....S.E...AW...A.....K	19 15 -7.708866 A....S.....A
17 17 -41.173568 H.....F.V...ALL.T.K.....W.....A...AY..L....K	15 15 -7.708866 A.....S.....A
17 17 -40.907961 G..H.....F.V...A.L.T.K.....S.E...AW..A.....K	15 15 -7.708866 S.....A.....A
17 17 -40.385178 A.L.T.K.....WS.E...A...AYD.L...IK	15 15 -7.676543 K..L.....L
17 17 -38.986084 H....V....F.V...A.L.T.K.....W.....AY..L....K	15 15 -7.676543 LK.....L
17 17 -38.955871 K.....A.L.T.K.....WS.E....W..AY..L....K	19 15 -7.676543 L.....LK
17 17 -38.592129 ALL...K.....WS.E....W..AY..L...IK	15 15 -7.675326 S.....A....S
17 17 -35.635790 ALL...K.....W..E...AW..AY..L....K	22 15 -7.584071 V.....L.....L
17 17 -35.282820 K.....A.L.T.K.....W.....AYD.L...IK	24 15 -7.584071 L.....V....L
17 17 -33.906342 T..Q.ALV.....N.....F.....AP.A...F..L	23 15 -7.584071 L.....V....L
17 17 -32.076168 H.....V...A.L.T.....W.....AW...Y.....I	15 15 -7.582113 L...G.....A
17 17 -31.929199 ALL...K.....W.....AYD.L...IK	17 15 -7.582113 A.....G.....L
17 17 -31.832516 K.....A.L.T.K.....W.....A...AY..L....K	21 15 -7.582113 L.....A.G
17 17 -31.544283 G..H.....V...A.L.T.K.....A...AY.....I	24 15 -7.582113 L.....G.....A
17 17 -31.468775 ALL...K.....W.....A...AY..L...IK	18 15 -7.582113 G.....AL
17 17 -31.346727 ALL.T.K.....W.....AY..L..A.K	17 15 -7.582113 L.....G.....A

17 17 -31.346727 ALL.T.K.A....W.....AY..L...K	17 15 -7.558522 A.L.....A
17 17 -30.965409 P.L..HA...F.....SA.QL...G.V	15 15 -7.558522 A.A.....L
17 17 -28.924103 A.L.T..E.....W.....A...AY..L...K	16 15 -7.524982 S.....L.....A
17 17 -28.170891 T..Q.AL.....N.....AP..K..F..L	16 15 -7.524982 AL..S
17 17 -28.145185 T..Q.AL.....N.....E.AP.....F..L	15 15 -7.524982 S..L.....A
17 17 -28.023555 S.....F....L..AP.AK..F.FL	15 15 -7.524982 A.....S.....L
17 17 -27.835445 T..Q.AL...S.....N.....AP.....F..L	15 15 -7.524982 S.....L.....A
17 17 -27.835445 T..Q.AL.....N.....AP.....FS.L	16 15 -7.524982 A.....S.....L
17 17 -26.910557 A.L.T..E.....E....W..AY.....I	20 15 -7.524982 S.....L..A
17 17 -23.086623 FT..Q.ALV.....K.N	17 15 -7.491442 S.....S.....L
17 17 -22.992866 N.....F.....E.AP.A...F..L	16 15 -7.491442 L..S8
17 17 -22.702655 P.L..HA...F.....L...G..V	15 15 -7.374638 AL.....L
17 17 -22.683127 S.....N.....F.....AP.A...F..L	15 15 -7.374638 L.....L..A
17 17 -22.655716 S.....E.AP..K..F.FL	16 15 -7.374638 L.....L.A
17 17 -22.345976 S.....AP..K..FSFL	16 15 -7.374638 A.L.....L
17 17 -22.320270 S.....E.AP.....FSFL	20 15 -7.374638 A.....L.....L
17 17 -21.955857 S.....E.AP..K..FS.L	19 15 -7.374638 L.....L.A
17 17 -21.084624 K.A...T.....W.....A.....IK	17 15 -7.374638 A.L.....L
17 17 -20.047650 N.....E.AP..K..F..L	19 15 -7.374638 L.....L.....A
17 17 -19.906268 T..QEAL.....K.N	15 15 -7.341097 S.L.....L
17 17 -19.874599 FT..QEALV	14 14 -71.872089 H..K...D..F.VVKEA.LKT.K...G..WS.E...W..AYD.L...IK
17 17 -19.813607 S.....F.....A...FSFL	14 14 -71.227780 L...H..K.....F.VVKEA.L.T.K...G..WS.E....W..AYD.L...IKK
17 17 -19.737911 N.....AP..K..FS.L	14 14 -68.552549 G..H..K.....F.VVKEA.L.T.K...G..WS.E....W..AYD.L...IK
17 17 -19.737911 S.....N.....AP..K..F..L	14 14 -66.761783 V..D.....H..K.....F.VVKEALLKT.K...G..W.....E.AY..L....K.A
17 17 -19.712205 S.....N.....E.AP.....F..L	14 14 -66.660050 V.....F.VVKEALL.T.K...G..WS.E....WEVAY..L....K.A
17 17 -19.712205 N.....E.AP.....FS.L	14 14 -65.380559 H..K.....F.VVKEA.L.T.K...G..WS.E...AW..AY..L....KK
17 17 -19.596528 T..Q.AL...S....K.N	14 14 -64.239912 L...H..K...D..F.VVKEA.LKT.K...G..WS.E.....Y..L....KK
17 17 -19.564860 FT..Q.ALV..S	14 14 -64.229064 H..K.....F.VVKEA.L.T.K...G..WS.E...A...AYD.L...IK
17 17 -19.402466 S.....N.....AP.....FS.L	14 14 -64.104426 L...H..K.....F.VVKEA.L.T.K...G..W.....A...AYD.L...IKK
17 17 -19.098855 S.....P.AK..FS.L	14 14 -62.313967 H..K.....F.VVKEA.L.T.K...G..WS.EL...W..AY..L....K
17 17 -17.190649 K.N.....AP.....F..L	14 14 -61.707508 H..K.....F.VVKEA.LKT.K...G..W.....A...AYD.L...IK
17 17 -16.971895 F....EA.....S.E.....K	14 14 -61.564681 G..H..K...D..F.VVKEA.LKT.K...G..WS.E.....Y..L....K
18 17 -16.952069 H.....VV..A.L.....G	14 14 -61.429194 G..H..K.....F.VVKEA.L.T.K...G..W.....A...AYD.L...IK
17 17 -16.663372 L.....K.....F....E.....K.....L	14 14 -61.365104 L...H..K.....F.VVKEA.LKT.K...G..W.....AY..L...IKK
17 17 -16.384505 T..QEAL...S	14 14 -61.245309 LG..H..K.....F.VV.EA.L.T.K...G..W.....AYD.L...IKK
17 17 -16.384505 T..Q.AL...S.E	14 14 -60.712046 H.....D..F.V.K.A.L.T.KE.....WS.E....W..AYD.L...IK
17 17 -16.316406 T.K.....S.E.....A.....A	14 14 -60.459438 G..H.....D..F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK
18 17 -15.410640 VKEA.....W	14 14 -60.251963 L...H.....D..F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK
25 17 -15.410640 V.....KEA.....W	14 14 -60.196763 V.....F.VVKEALL.T.K...G..W.....E.AYD.L...IK.A
17 17 -15.224798 G.....KEA.....W	14 14 -59.815129 LG..H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L...IK
18 17 -14.391093 F....E.....S.E.....K	14 14 -59.815129 LG..H.....F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK
18 17 -14.268160 F....EAL.....N	14 14 -59.682251 LG..H.....D..F.V.K.A.L.T.KE.....WS.E....W..AY..L....K
17 17 -14.111504 I...AP.....F..L	14 14 -58.824801 H..K.....F.VVKEA.L.T.K...G..W...L.....AYD..A..IK
17 17 -14.025880 T.....S.E.....E..P	14 14 -57.889435 L...H..K.....F.VVKEA.L.T.K...G..W...L.....Y..LA...KK
18 17 -13.836980 ALV.....K.N	14 14 -57.803698 H.....F.V.K.A.L.TIK.....WS.E....W..AYD.L...IK
17 17 -13.809569 VKE..LK	14 14 -57.803698 H.....D..F.V.K.A.L.TIK.....WS.E....W..AY..L...IK
17 17 -13.707308 E.....L...IK.A	14 14 -57.604054 H....V....F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK
23 17 -13.662644 F.....AL.....E.....A	14 14 -57.525384 G..H.....F.V....A.L.TIK.....WS.E....W..AYD.L...IK
17 17 -13.595564 S.....F.....E.....S.L	14 14 -57.392506 G..H.....F.V....A.L.T.KE.....WS.E....W..AYD.L...IK
18 17 -13.594007 AL...S....K.N	14 14 -57.366864 G..H.....F.V.K.A.L.TIK.....WS.E....W..AY..L...IK
18 17 -13.559554 L.T..E.....E...A	14 14 -57.343273 H.....F.V.K.A.L.TIK.....WS.E...AW..AY..L...IK
17 17 -13.518494 T.....LV.....K.....A	14 14 -57.325740 G..H....V....F.V....A.L.T.K.....WS.E....W..AYD.L...IK
17 17 -13.507664 EV....L....K.A	14 14 -57.210736 H.....F.V.K.ALL.T.K.....WS.E....W..AYD.L...IK
17 17 -13.507664 V.E..LK.....A	14 14 -57.210736 H.....D..F.V.K.ALL.T.K.....WS.E....W..AY..L...IK
17 17 -13.163643 LG.....K.....LK	14 14 -57.159389 L...H.....F.V.K.A.L.TIK.....WS.E....W..AY..L...IK
17 17 -13.162584 G.....VV..A.L	14 14 -57.118264 H.....F.V....ALL.T.K.....WS.E....W.VAYD.L...IK
19 17 -13.162584 VV..A.L.....G	14 14 -57.117640 H.....DP.F.V.K.ALL.T.K.....WS.E....W..AY..L....K
17 17 -12.976742 G.....G.....V...A.L	14 14 -57.077858 H.....D..F.V.K.ALL.T.KE.....WS.E....W..AY..L....K
19 17 -12.896019 V.....A.....S.....A.....L	14 14 -57.066293 H.....P.F.V.K.ALL.T.K.....WS.E....W..AY..L...IK
18 17 -12.855544 K.....V.....K.....W	14 14 -57.064959 G..H.....F.V....A.L.TIK.....WS.E...AW..AY..L...IK
29 17 -12.829838 V.....KE.....W	14 14 -57.048364 V.....F.VVKEALL.T.K...G..W.....E.AY..L....KKA
17 17 -12.804607 L.KA.....S.L	14 14 -56.932422 G..H.....F.V....ALL.T.K.....WS.E....W..AYD.L...IK
21 17 -12.620404 K.A.....E.....W	14 14 -56.908831 H.....F.V....ALL.T.K.....WS.E....W..AYD.L..AIK
19 17 -12.538763 V.....A...T.....W	14 14 -56.908831 H.....F.V....ALL.T.K.....WS.E...AW..AYD.L...IK
17 17 -12.527933 V.....W.....E.....A	14 14 -56.825250 G..H.....D..F.V.K.ALL.T.K.....WS.E....W..AY..L....K
17 17 -12.502702 L..A..A....S.L	14 14 -56.801659 H.....D..F.V.K.ALL.T.K.....WS.E...AW..AY..L....K
17 17 -12.431234 G..H....V....F	14 14 -56.773903 G..H.....F.V.K.ALL.T.K.....WS.E....W..AY..L...IK
17 17 -11.830441 L...H.....F.....L	14 14 -56.750312 H.....F.V.K.ALL.T.K.....WS.E...AW..AY..L...IK
17 17 -11.546610 N.....P.AK	14 14 -56.746459 V.....F.VVKEALL.T.K...G..W.....A.E.AY..L....K.A
17 17 -11.534091 S.....F.....E.....K	14 14 -56.746459 V.....F.VVKEALL.T.K...G..W.....E.AY..L..A.K.A
17 17 -11.534091 F.....E.....K...S	14 14 -56.680806 G..H.....P.F.V.K.ALL.T.K.....WS.E....W..AY..L....K
17 17 -11.534091 F....E.....K.....S	14 14 -56.633890 H.....D.....VKEA.LK..K...G..WS.E...AW..AY..L....K
18 17 -11.475160 F..V.EA	14 14 -56.617774 L...H.....D..F.V.K.ALL.T.K.....WS.E....W..AY..L....K
17 17 -11.394578 T.....L.....FK	14 14 -56.566427 L...H.....F.V.K.ALL.T.K.....WS.E....W..AY..L...IK
18 17 -11.315023 F...K.....G.....A	14 14 -56.473331 L...H.....P.F.V.K.ALL.T.K.....WS.E....W..AY..L....K
18 17 -11.300148 F.....T.....G.....A	14 14 -56.471998 G..H.....F.V....ALL.T.K.....WS.E...AW..AY..L...IK
17 17 -11.271968 S.....P.A...F	14 14 -56.414017 V.....H.QK.....F.VVKEALL.T.K...G..W.....E..Y.....K
19 17 -11.269266 V.D.....A.....E	14 14 -56.364825 G..H.....F.V.K.ALL.T.K.....WS.E...AW..AY..L....K
17 17 -11.265726 E.A..A.....F	14 14 -56.180941 LG..H.....F.V.K.ALL.T.K.....WS.E....W..AY..L....K
17 17 -11.257892 S.....K...A.....F	14 14 -56.157350 L...H.....F.V.K.ALL.T.K.....WS.E...AW..AY..L....K
19 17 -11.256178 LV.....K.N	14 14 -56.151527 H..K.V....F.VV.EA.L.T.K...G..W.....AYD.L...IK
18 17 -11.232186 F.....A.....E.....S	14 14 -56.135953 H.....D..F.V.K.A.L.T.K.....WS.E...A...AYD.L...IK
19 17 -11.232186 F....EA.....S	14 14 -55.699120 G..H.....F.V.K.A.L.T.K.....WS.E...A...AYD.L...IK
17 17 -11.228924 K.....K.....K.....A	14 14 -55.491644 L...H.....F.V.K.A.L.T.K.....WS.E...A...AYD.L...IK
17 17 -11.214048 K.....K....T.....A	14 14 -55.283762 G..H.....HF.V....A.L.T.K.....WS.E....W..AY..L...IK
18 17 -11.203218 KE.....A.....K	14 14 -55.190612 H..K.....F.VVKEA.L.T.K...G..W...L..A...AY..L....K
17 17 -11.136452 K.....V.....K.....A	14 14 -54.736765 H.....F.V....A.L.TIKE.....WS.E....W..AY..L...IK
20 17 -11.129096 T.....S.E.....E	14 14 -54.614174 H....V.D..F.V.K.A.L.T.K.....WS.E....W..AY..L....K
18 17 -11.111087 L.....V.....D.....K	14 14 -54.276682 H.....F.V....ALL.TIK.....WS.E....W..AY..L...IK
20 17 -11.081842 L.....E.A.....F	14 14 -54.177341 G..H....V....F.V.K.A.L.T.K.....WS.E....W..AY..L....K
17 17 -11.043980 V.....K.....V...A	14 14 -54.143804 H.....F.V....ALL.T.KE.....WS.E....W..AY..L...IK
19 17 -11.013205 L...S....K.N	14 14 -53.969866 L...H....V....F.V.K.A.L.T.K.....WS.E....W..AY..L....K
17 17 -10.952568 K.....V.....K.....L	14 14 -53.899027 G..H...GV....F.V....A.L.T.K.....WS.E....W..AY..L....K
18 17 -10.927019 A.....K.A.....K	14 14 -53.879693 LG..H.....VKEA...T.K.....WS.E....W..AY..L....KK

17 17 -10.917969 V..S.....VV	14 14 -53.867604 H.....F.V...ALL.T.K.A....WS.E....W..AY..L...IK
17 17 -10.908788 T.....L.....F.....L	14 14 -53.760432 H.....F.V.K.ALL.T.K.....WS.E....W..AY..L..A.K
17 17 -10.901313 K.....E.A.....A	14 14 -53.760432 H.....F.V.K.ALL.T.K.A....WS.E....W..AY..L....K
18 17 -10.901313 K.....A.....E.....A	14 14 -53.758317 G..H.....F.V...ALL.T.KE.....WS.E....W..AY..L....K
19 17 -10.901313 K.....E.A..A	14 14 -53.734726 H.....F.V...ALL.T.KE.....WS.E...AW..AY..L....K
17 17 -10.867773 S.E.....A...K	14 14 -53.691552 G..H.....F.V...ALL.T.K.....WS.E....W.VAY..L....K
18 17 -10.858138 V...A.....K...G	14 14 -53.667960 H.....F.V...ALL.T.K.....WS.E...AW.VAY..L....K
20 17 -10.852897 T....A....S.E	14 14 -53.667960 H.....F.V...ALL.T.K.....WS.E....W.VAY..L..A.K
17 17 -10.852897 T...A.....S.E	14 14 -53.482118 G..H.....F.V...ALL.T.K.....WS.E....W..AY..L..A.K
18 17 -10.809182 V.....A.L.....D	14 14 -53.482118 G..H.....F.V...ALL.T.K.A....WS.E....W..AY..L....K
19 17 -10.772103 F.....AL.....S	14 14 -53.458527 H.....F.V...ALL.T.K.....WS.E...AW..AY..L..A.K
17 17 -10.765666 G.....V.....V...A	14 14 -53.458527 H.....F.V...ALL.T.K.A....WS.E...AW..AY..L....K
26 17 -10.757835 V...A.L..I	14 14 -53.201899 H.....F.V...A.L.TIK.....WS.E...A...AYD.L...IK
18 17 -10.743134 K.....L....K.A	14 14 -53.069021 H.....F.V...A.L.T.KE.....WS.E...A...AYD.L...IK
19 17 -10.742075 VV..A.....A	14 14 -53.002255 H....V....F.V...A.L.T.K.....WS.E...A...AYD.L...IK
18 17 -10.728259 L.....T...A.....K	14 14 -52.834119 L...H..K.V....F.VVKEA.L...K...G..W.....Y..L....KK
18 17 -10.728259 L.T...A.....K	14 14 -52.817286 G..H..K.....F.VVKEA.L.T.K...G..W.....Y..LA...K
21 17 -10.717428 K.....E.L.....A	14 14 -52.691774 LG..H.....F.V.K.A.L.T.K.....W.....A...AYD.L...IK
17 17 -10.717428 EA.LK	14 14 -51.678413 H..K.....F.VVKEA.LKT.K...G.....A....Y..L...KK
17 17 -10.717428 K.....E.L.....A	14 14 -51.547242 H....V....F.V...A.L.T.KE.....WS.E....W..AY..L....K
17 17 -10.697964 S.....LE..P	14 14 -51.180870 G..H.....VKEA...T.K.....WS.E...AW..AY..L....K
17 17 -10.683888 E..LK.....S	14 14 -50.590690 P.L..HAE..F..VRDSA.QL...G.VV.....V....L
19 17 -10.650663 ALV.....K	14 14 -50.535680 H..K...D..F.VVKEA.LKT.KE..G..W.....K
18 17 -10.640716 L....E.....L...I	14 14 -50.504290 G..H....V....F.V.K.A.L.T.K.....W.....AYD.L...IK
19 17 -10.624957 V....L.....E.....A	14 14 -50.480699 H....V....F.V.K.A.L.T.K.....W.....A...AYD.L...IK
28 17 -10.591573 S.....A.A.K	14 14 -50.421497 P.L..HAE..F..V.DSA.QL...G.VV.....VV....L
20 17 -10.581782 VV....L.....G	14 14 -50.296815 L...H....V....F.V.K.A.L.T.K.....W.....AYD.L...IK
24 17 -10.558191 VV..A.L	14 14 -50.225976 G..H...GV....F.V....A.L.T.K.....W.....AYD.L...IK
26 17 -10.466778 L.....V.....K.....L	14 14 -50.212063 P.L..HAE..F..V.DSA.QL...G.VV...A.....V....L
19 17 -10.464820 G.....K...L.....A	14 14 -50.202385 G..H....V....F.V...A.L.T.K.....W.....A...AYD.L...IK
17 17 -10.441072 L.....V.E..L	14 14 -50.158887 G..H..K.V....F.VVKEA.L...K...G..W.....Y..L....K
18 17 -10.407689 S.....L..A...K	14 14 -50.110972 G..H.....F.V.K.ALL.T.K.....W.....AYD.L...IK
19 17 -10.407689 AL...S....K	14 14 -50.087381 H.....F.V.K.ALL.T.K.....W.....AYD.L..AIK
18 17 -10.374307 V.....L.....V.....L	14 14 -50.087381 H.....F.V.K.ALL.T.K.....W.....A...AYD.L...IK
27 17 -10.372349 V...A.L.....G	14 14 -49.903497 L...H.....F.V.K.ALL.T.K.....W.....AYD.L...IK
20 17 -10.315217 V.....A.....S.....L	14 14 -49.809067 G..H.....F.V...ALL.T.K.....W.....A...AYD.L...IK
19 17 -10.280936 K.....L.....G.....L	14 14 -49.809067 G..H.....F.V...ALL.T.K.....W.....AYD.L..AIK
18 17 -10.257345 L.....A.....L....K	14 14 -49.785476 H.....F.V...ALL.T.K.....W.....A...AYD.L..AIK
17 17 -10.257345 L.....L.....A...K	14 14 -49.662792 ALL.T.K.....WS.E...AW..AYD.L..AIK
18 17 -10.242469 L.....L.T.....A	14 14 -49.650548 G..H.....F.V.K.ALL.T.K.....W.....A...AY..L...IK
17 17 -10.237881 S.....L...P.....L	14 14 -49.466663 LG..H.....F.V.K.ALL.T.K.....W.....A...AYD.L...IK
17 17 -10.231639 L.....EL.....A	14 14 -49.443072 L...H.....F.V.K.ALL.T.K.....W.....A...AY..L...IK
18 17 -10.164873 L.....V.....L..A	14 14 -49.057586 LG..H.....F.V.K.ALL.T.K.....W.....A...AY..L....K
17 17 -10.105784 S.....A.....L.A	14 14 -48.611821 H..K.....F.VVKEA.LKT.K...G.....L.....Y..L....K
17 17 -10.073460 L.....L.....L....K	14 14 -48.296923 H....V....F.....ALL.T.K.....WS.E....W..AY..L...K
25 17 -10.039602 K.....E....W	14 14 -48.227471 T..Q.ALV..S...F..N.....F....L..AP.AK..F.FL
17 17 -9.921900 L.....S..L.....A	14 14 -47.976857 K.....A.L.TIK.....WS.E...W..AYD.L...IK
17 17 -9.771555 L.....L..A.....L	14 14 -47.951151 A.L.TIKE.....WS.E....W..AYD.L...IK
17 17 -9.737697 E.....W.....A	14 14 -47.843979 K.....A.L.T.KE.....WS.E....W..AYD.L...IK
21 17 -9.540024 H..K.....T	14 14 -47.490726 A.L.TIKE.....WS.E...AW..AY..L...IK
17 17 -9.529193 H.....K.....E	14 14 -47.383895 K.....ALL.T.K.....WS.E....W..AYD.L...IK
24 17 -9.462427 V.....H..K	14 14 -47.204674 H.....F.V...ALL.T.K.A....W.....AYD.L..IK
21 17 -9.462427 H..K.....V	14 14 -47.081990 ALL.T.K.A....WS.E....W..AYD.L...IK
19 17 -9.316146 K.N.....F	14 14 -47.077577 G..H...GV....F.V.K.A.L.T.K.....W.....AY..L....K
23 17 -9.284477 F.....F.....V	14 14 -47.053986 G..H....V....F.V.K.A.L.T.K.....W.....A...AY..L....K
20 17 -9.227288 H.....A.....E	14 14 -47.046155 H.....F.V.K.ALL.T.K.A....W.....AY..L...IK
23 17 -9.172046 Q...V.....F	14 14 -46.870102 LG..H....V....F.V.K.A.L.T.K.....W.....AY..L....K
23 17 -9.119708 I.....F...K	14 14 -46.846511 L...H....V....F.V.K.A.L.T.K.....W.....A...AY..L....K
17 17 -9.026611 P.....F.....K	14 14 -46.775672 G..H...GV....F.V...A.L.T.K.....W.....A...AY..L....K
17 17 -9.014241 N.....A.....F	14 14 -46.767840 G..H.....F.V...ALL.T.K.A....W.....AY..L...IK
19 17 -9.012535 K.....F.....K	14 14 -46.756338 LG..H.....VKEA...T.K.....W.....A...AY..L....KK
19 17 -8.986829 F....E.....K	14 14 -46.744249 H.....F.V...ALL.T.K.A....W.....A...AY..L...IK
17 17 -8.980701 N.....F.....S	14 14 -46.660668 G..H.....F.V.K.ALL.T.K.A....W.....AY..L....K
17 17 -8.980701 S...F..N	14 14 -46.660668 G..H.....F.V.K.ALL.T.K.....W.....AY..L..A.K
19 17 -8.961124 F....E.....E	14 14 -46.637077 H.....F.V.K.ALL.T.K.A....W.....A...AY..L....K
19 17 -8.920064 F..V.....K	14 14 -46.637077 H.....F.V.K.ALL.T.K.....W.....A...AY..L..A.K
17 17 -8.918231 E.....A....Y	14 14 -46.621565 ALL.T.K.A....WS.E...AW..AY..L...IK
20 17 -8.894358 F..V.E	14 14 -46.453193 L...H.....F.V.K.ALL.T.K.A....W.....AY..L....K
20 17 -8.894358 F....E..V	14 14 -46.453193 L...H.....F.V.K.ALL.T.K.....W.....AY..L..A.K
17 17 -8.807633 Q.....V.K	14 14 -46.358763 G..H.....F.V...ALL.T.K.A....W.....A...AY..L....K
17 17 -8.780935 K.....E.....D	14 14 -46.358763 G..H.....F.V...ALL.T.K.....W.....A...AY..L..A.K
18 17 -8.755294 IK.....K	14 14 -44.623872 H....V....F.....ALL.T.K.....W.....AYD.L...IK
18 17 -8.740418 TIK	14 14 -44.623236 ALL..IK.....WS.E....W..AYD.L...IK
17 17 -8.734221 K.....F.....G	14 14 -44.490357 ALL...KE.....WS.E....W..AYD.L...IK
21 17 -8.719346 F.....T.....G	14 14 -44.265709 H....V....F.V.K.ALL.T.K.....W.....AY..L....K
18 17 -8.714169 D....V.K	14 14 -44.238045 G..H.....F.V.K.A.L.T..E.....W.....A...AY..L....K
17 17 -8.710630 K.F.....A	14 14 -44.162811 ALL..IK.....WS.E...AW..AY..L...IK
19 17 -8.710630 K.....A....F	14 14 -44.030569 L...H.....F.V.K.A.L.T.E.....W.....A...AY..L....K
17 17 -8.662198 K....P....K	14 14 -44.029933 ALL...KE....WS.E...AW..AY..L...IK
18 17 -8.641750 G.....F..V	14 14 -43.976511 H....V....F.V.K.A.L.T.K.....S.E...AW..A.....K
23 17 -8.624121 A.....N.....E	14 14 -43.933591 K.....ALL.T.K.....WS.E....W..AY..L..A.K
19 17 -8.624121 A.....E....N	14 14 -43.933591 K.....ALL.T.K.....WS.E...AW..AY..L....K
17 17 -8.622416 K.....K.....E	14 14 -43.907885 ALL.T.KEA....WS.E....W..AY..L....K
18 17 -8.618159 F..V...A	14 14 -43.754370 H.....F.V...ALL.T.K.A....W.....AY..L..A.K
20 17 -8.611908 D....AI	14 14 -43.698197 G..H....V....F.V...A.L.T.K.....S.E...AW..A.....K
18 17 -8.607540 T...E.....K	14 14 -43.228894 V.....G..H..K.....F.VVKEALL.....E..Y.....K
18 17 -8.557355 V.....N.....A	14 14 -43.026050 FT..Q.ALV.....K.N.....F....I...AP.A...F..L
17 17 -8.555650 V.....K.....K	14 14 -42.918877 FT..Q.ALV.....K.N.....F.....AP.AK..F..L
20 17 -8.540822 L.....F.....P	14 14 -42.894213 A.L.T.K.....WS.E....W..AY..L...IK..M
17 17 -8.526746 K.....FL	14 14 -42.893171 FT..QEALV.....K.N.....F.....AP.A...F..L
17 17 -8.504736 D....A.K	14 14 -42.893171 FT..Q.ALV.....K.N.....F....E.AP.A...F..L
17 17 -8.501040 L.....F.....E	14 14 -42.583432 FT..Q.ALV..S....K.N.....F.....AP.A...F..L
17 17 -8.501040 F.....E.....L	14 14 -42.583432 FT..Q.ALV.....K.N.....F.....AP.A...FS.L
18 17 -8.479030 D.....EA	14 14 -42.557726 T..Q.ALV..S.....N.....F.....E.AP.A...F.FL
24 17 -8.479030 E...D.....A	14 14 -42.247987 T..Q.ALV..S.....N.....F.....AP.A...FSFL
18 17 -8.477254 P.....V.....V	14 14 -42.193312 T..Q.ALV.....N.....F.....E.AP.AK..FS.L
18 17 -8.472187 S..Q.....V	14 14 -42.193312 T..Q.ALV..S.....N.....F.....E.AP.AK..F..L
19 17 -8.471196 D.....K.....S	14 14 -41.883573 T..Q.ALV..S.....N.....F.....AP.AK..FS.L
24 17 -8.463178 V.....K.....V	14 14 -41.857867 T..Q.ALV..S.....N.....F.....E.AP.A...FS.L
21 17 -8.453389 A....IK	14 14 -41.400001 G..H.....V....A.L.T.KE.....AW...Y..L...IK
17 17 -8.453389 AIK	14 14 -41.197159 G..H....V....F.....ALL.T.K.....W.....AY..L....K
17 17 -8.438513 T.....AI	14 14 -41.173568 H....V....F.....ALL.T.K.....W.....AY..L..A.K

21 17 -8.438513 TI.....A	14 14 -41.173568 H....V....F.....ALL.T.K.....W.....A...AY..L...K
24 17 -8.437472 VV.....E	14 14 -40.260540 K.....ALL.T.K.....W.....AYD.L..AIK
17 17 -8.437472 V.....E.....V	14 14 -40.260540 K.....ALL.T.K.....W.....A...AYD.L...IK
30 17 -8.437472 VV.....E	14 14 -39.958635 ALL.T.K.A....W.....A...AYD.L...IK
23 17 -8.434274 F..V.....L	14 14 -39.958635 ALL.T.K.A....W.....AYD.L..AIK
18 17 -8.434274 F.....L.....V	14 14 -39.790953 S.....S..FY...LEKAP.AK..F.FL
18 17 -8.434274 V.....FL	14 14 -39.724187 S.....SV.FY...L.KAP.AK..F.FL
19 17 -8.427683 I.E.A	14 14 -39.679276 T..Q.AL...S.E....N.....E.AP..K..F.FL
20 17 -8.427683 I.E.....A	14 14 -39.245887 V.....VKEA.....WS.E....W..AY..L....K
20 17 -8.412264 V.D.....A	14 14 -38.047350 D....V...A.L.T.KE.....AW...Y..L...IK
18 17 -8.394143 E.....S.....I	14 14 -37.084296 S.....S..FY.....KAP.AK..FSFL
17 17 -8.394143 S.....I.E	14 14 -37.004256 S...F..N.....F....L..AP.AK..FSFL
22 17 -8.375185 A....SF	14 14 -36.881325 P.L..HA.K.F..V...A.QL...G.VV
21 17 -8.370707 V.....VV	14 14 -36.810236 K.....ALL.T.K.....W.....A...AY..L..A.K
18 17 -8.369808 G.....K.....K	14 14 -36.512535 T..Q.AL...S.....N.....AP..K..FSFL
30 17 -8.360917 V...A....I	14 14 -36.486830 T..Q.AL...S.....N.....E.AP.....FSFL
17 17 -8.360293 P.....K.....A	14 14 -36.324602 S.....P.....F....LE.AP.AK..FSFL
17 17 -8.360293 P.....A.K	14 14 -36.122416 T..Q.AL...S.....N.....E.AP..K..FS.L
17 17 -8.346217 A..K..K	14 14 -34.911868 G.....KEA..K..K.....W.....A...AY..L....K
22 17 -8.346217 K.....A...K	14 14 -34.431288 S...F..N.....F....LE.AP.A...F.FL
19 17 -8.346217 K.....K.A	14 14 -34.362711 H....V....F...KEA.LKT.....G.....A.....K
18 17 -8.320852 D.....K...L	14 14 -34.229434 K.....ALL.T.K.A....W.....AY..L....K
17 17 -8.320511 E...K....A	14 14 -34.043477 T..Q.AL.....K.N.....I...AP..K..F..L
19 17 -8.320511 K.....A.....E	14 14 -34.017771 T..QEAL.....K.N.....I...AP.....F..L
21 17 -8.320511 E.....A.....K	14 14 -34.017771 T..Q.AL.....K.N.....I.E.AP.....F..L
21 17 -8.320511 K.....E....A	14 14 -33.965273 T..Q.AL...S....K.N.....AP.....F.FL
23 17 -8.320511 K.....E.A	14 14 -33.910599 T..QEAL.....K.N.....AP..K..F..L
19 17 -8.320511 K.....E.....A	14 14 -33.910599 T..Q.AL.....K.N.....E.AP..K..F..L
20 17 -8.320511 EA.....K	14 14 -33.884893 T..QEAL.....K.N.....E.AP.....F..L
18 17 -8.314382 S.....N.....A	14 14 -33.708032 T..Q.AL.....K.N.....I...AP.....FS.L
18 17 -8.312676 K.....K...S	14 14 -33.708032 T..Q.AL...S....K.N.....I...AP.....F..L
19 17 -8.305976 L..T.....D	14 14 -33.600860 T..Q.AL.....K.N.....AP..K..FS.L
21 17 -8.305635 T....A.....E	14 14 -33.600860 T..Q.AL...S....K.N.....AP..K..F..L
32 17 -8.294805 EA.....E	14 14 -33.575154 T..Q.AL...S....K.N.....E.AP.....F..L
18 17 -8.294805 E.....E.....A	14 14 -33.575154 T..Q.AL.....K.N.....E.AP.....FS.L
18 17 -8.286970 E...K.....S	14 14 -33.575154 T..QEAL...S....K.N.....AP.....F..L
24 17 -8.286970 S.....E.....K	14 14 -33.575154 T..QEAL.....K.N.....AP.....FS.L
22 17 -8.286970 E.....K.S	14 14 -33.461359 S.....F....LE.APAAK..F.FL
25 17 -8.277336 K.....V.....G	14 14 -33.265414 T..Q.AL...S....K.N.....AP.....FS.L
17 17 -8.272095 E....T.....S	14 14 -32.122532 V.....VKEA.....W.....A...AY..L....K
19 17 -8.261265 E.....S.E	14 14 -31.806810 K.....A.L.T..E....W.....A...AY..L....K
18 17 -8.254629 TI.....L	14 14 -31.134603 P.L..HA...F.....SA.QLR..G
17 17 -8.253745 V....A..K	14 14 -31.076295 P...V...A.L.T.....W.....AW...Y.....K
19 17 -8.253745 K.....V...A	14 14 -30.497759 LG.....A.L.T.....W.....AW...Y.....I
23 17 -8.253745 V.....K.....A	14 14 -30.216085 L...H.....F.V...A.L.T..E....W.....I
18 17 -8.253745 V.....A.....K	14 14 -30.130142 G.....KEA.LKT.....G.....A.....IK
20 17 -8.253745 V.....K.....A	14 14 -29.537181 LG.....KEA.LKT.....G.....A.....K
19 17 -8.253745 V.....A...K	14 14 -28.881006 FT..Q.ALV..S...FK.N
20 17 -8.253745 A.....V.....K	14 14 -28.753709 S.....N.....F.....E.AP.....FSFL
17 17 -8.253745 V.K.....A	14 14 -28.738817 S.....N.P.....E.AP..K..F.FL
18 17 -8.238869 V....A...T	14 14 -28.422836 S....K.N.....F.....E.AP.A...F..L
17 17 -8.228380 D....L.....V	14 14 -28.418147 P.L..HA..VF.....A.QL...G
19 17 -8.228380 L.....V.....D	14 14 -28.415001 S....K.N....S.....AP..K..F.FL
17 17 -8.228039 V.....E....A	14 14 -28.389295 S.....N.....E.AP..K..FSFL
17 17 -8.228039 E.....V...A	14 14 -28.099761 S.....P..S.....E.AP..K..F.FL
19 17 -8.228039 V.EA	14 14 -27.923191 PKL..HA...F.....SA..L...G
19 17 -8.224841 L.....F.....A	14 14 -27.750239 S.....S.....E.AP..K..FSFL
36 17 -8.220205 K....V..S	14 14 -25.795150 G.....F...K.A...T.KE.....IK
23 17 -8.202831 A.....D.A	14 14 -25.679135 F...I.E.AP.AK..F..L
21 17 -8.184864 VV.....G	14 14 -25.532294 S....K.N.....AP.....FSFL
26 17 -8.184864 VV.....G	14 14 -25.477620 S....K.N.....E.AP..K..F..L
19 17 -8.176408 K.....P.....L	14 14 -25.477620 K.N.....E.AP..K..FS.L
19 17 -8.164038 N.....A..L	14 14 -25.343690 S.....F...I.E.AP.A...F..L
17 17 -8.162332 L.K..K	14 14 -25.343690 F...I.E.AP.A...FS.L
18 17 -8.161273 VV.....A	14 14 -25.335856 S.....S.....I...AP..K..F.FL
22 17 -8.161273 V.....V...A	14 14 -25.298440 T..Q.ALV.SS...F..N
24 17 -8.161273 V...A.....V	14 14 -25.167880 S....K.N.....AP..K..FS.L
23 17 -8.161273 VV.....A	14 14 -25.142174 S....K.N.....E.AP.....FS.L
18 17 -8.161273 V.....V...A	14 14 -23.940802 G.....D.....L.....WS.....A....Y.....I
26 17 -8.161273 VV..A	14 14 -23.098738 NP.L..HA...F.....L...G
17 17 -8.151484 A.....AI	14 14 -22.620618 K.N.....P.AK..FS.L
17 17 -8.151484 I.....A...A	14 14 -22.601550 AL....K.A.....W.....L..A.K
21 17 -8.151484 A....I.....A	14 14 -22.479236 T.KQ.AL...S....K.N
17 17 -8.147457 KT.....L	14 14 -22.453530 T..Q.AL...S.E..K.N
23 17 -8.136626 K.....E.L	14 14 -22.453148 S.....I...AP.....FSFL
17 17 -8.136626 L....E.....K	14 14 -22.447567 FT.KQ.ALV..S
18 17 -8.136626 E.....K.....L	14 14 -22.421861 FT..Q.ALV..S.E
24 17 -8.127733 V..S.....V	14 14 -22.398474 I.E.AP..K..FS.L
18 17 -8.127733 S.....VV	14 14 -22.398474 S.....I.E.AP..K..F..L
22 17 -8.127733 VV.....S	14 14 -22.379516 F.....AP.A...FS.LK
23 17 -8.069860 V.....K.....L	14 14 -22.170486 V.....K.....EV....L...IK.A
18 17 -8.069860 L....K.....V	14 14 -22.088735 S.....I...AP..K..FS.L
19 17 -8.069860 V.K..L	14 14 -22.063029 S.....I.E.AP.....FS.L
28 17 -8.069860 L.....V.....K	14 14 -21.755542 T..Q.ALV..S.E.....A
19 17 -8.069860 V.....LK	14 14 -21.722002 T..Q.ALV.SS.E
23 17 -8.069860 K.....V.....L	14 14 -21.664063 AL....K.A.....A...AY.....A
17 17 -8.069860 K.....L.....V	15 14 -20.073981 ALV.....K.N.....I.....F
17 17 -8.067902 K.A.G	15 14 -19.831007 AL...S....K.N.....I.....F
19 17 -8.067902 A.....K...G	15 14 -19.631363 ALV..S....K.N.....F
23 17 -8.067902 G.....K.....A	14 14 -19.546601 D.....K.....V.V.....G.....E.....A
22 17 -8.054985 V....L.T	14 14 -19.434300 AP..K..FS.LK
34 17 -8.044311 A.A.K	14 14 -19.408595 E.AP.....FS.LK
17 17 -8.044311 KA..A	14 14 -19.339283 V...A.....K.A.....A.....D.....K
22 17 -8.044311 A.....A.K	14 14 -19.339283 V...A.....K.....A.....D.....K.A
27 17 -8.044311 A.....A..K	14 14 -19.267212 T.KQ.AL...S.E
18 17 -8.044311 A.....A.....K	14 14 -19.267212 T.KQEAL...S
17 17 -8.044311 A.....A..K	14 14 -19.241506 T..QEAL...S.E
22 17 -8.044311 K.....A.....A	14 14 -19.180607 V.....V.....K.....E.....L....K.A
17 17 -8.044155 V.....E..L	14 14 -19.098855 S.....AP.....FS.LK
17 17 -8.029436 T...A.....A	14 14 -19.000142 F....EAL.....S.....V.....A
25 17 -8.024847 P.....A.....S	14 14 -18.825112 G..H...GV...HF
22 17 -8.018946 D.L..A	15 14 -18.600387 L....E.....A.....G.V....A.....V
17 17 -8.018946 D.....AL	14 14 -18.549381 VV..A.L..I....G.....L
23 17 -8.018605 E.....A....A	14 14 -18.544315 L.....K.S.EL.....A...K
22 17 -8.018605 A.....E.....A	15 14 -18.442209 VV..A.L.....G.....L.....K
25 17 -8.018605 E.A.....A	14 14 -18.226581 V...A.....K.....V.....K.....W
30 17 -8.018605 E.....AA	15 14 -18.163895 G.....VV..A.L.....G.....L

20 17 -8.010771 K.....A.....S	14 14 -18.092066 ALL....E.....L..A.K
17 17 -8.010771 S.....A.....K	16 14 -17.493179 LV.....K.N.....I.....F
19 17 -8.010771 K..A.....S	14 14 -17.492231 T.K.....S.E.....Y.....E
31 17 -8.010771 S.....A.K	14 14 -17.432545 G..H...GV....F.....L
21 17 -8.010771 A....S....K	14 14 -17.432545 LG..H...GV....F
23 17 -8.010771 S.....K..A	14 14 -17.291836 LG..H.....F.....L.....E
19 17 -8.010771 KA.....S	16 14 -17.250205 L...S....K.N.....I.....F
19 17 -7.985065 A.....S.E	14 14 -17.150867 F.....AL.....E..K.N
23 17 -7.985065 S.....E...A	14 14 -17.056690 L.....K.....FV...E.....K
18 17 -7.985065 S.E.....A	16 14 -17.050561 LV..S....K.N.....F
21 17 -7.985065 EA.....S	14 14 -17.031141 F....EA.....K.....A...K
19 17 -7.985065 E.....S.....A	14 14 -17.023561 TE.Q.AL.....N
22 17 -7.977389 L.....VV	15 14 -17.014681 T.K.....L.....Y..L...I
17 17 -7.977389 L.....VV	14 14 -16.908587 T.K.....S.E.....E..P
17 17 -7.977389 L.....V.....V	14 14 -16.704860 N.....P.A..LF..L
38 17 -7.977389 VV....L	14 14 -16.696037 A.K.F....DS...L
19 17 -7.977389 V.....L.....V	16 14 -16.695696 S.....E.A.A.K..F
28 17 -7.977389 V.....L.....V	15 14 -16.646270 G.....K.....A.....S.....D.....I
20 17 -7.975431 A.....G..V	14 14 -16.638527 P.....V.....V....A.....VV
25 17 -7.975431 G.V...A	14 14 -16.622679 K.....A.....S.....D....AI
17 17 -7.967599 I.....A.....L	15 14 -16.572064 T.K.....S..L.....Y..L
17 17 -7.951840 A.....A....V	14 14 -16.530208 A.....S.....V..D....AI
17 17 -7.934059 L...I.....S	15 14 -16.523249 K.....V....L...IK.A
17 17 -7.918300 V.....A.....S	15 14 -16.476714 K..AL...S....K.N
19 17 -7.918300 A.....S.....V	18 14 -16.456576 V...A.....A.....D.....K.A
18 17 -7.884018 K...G.....L	14 14 -16.430153 K....P....K.....L....V.....A
23 17 -7.884018 K.....L.....G	14 14 -16.422797 T.....S.E.....LE..P
18 17 -7.884018 G.....L....K	15 14 -16.419340 F....EAL.....S.....V
17 17 -7.874503 P.....A.....L	14 14 -16.381478 K....V..S.....A...VV
18 17 -7.860427 AL.K	14 14 -16.346592 T.....L.....F.....LE....A
20 17 -7.860427 A.LK	15 14 -16.342112 A...T.K.....S.....A.....K
20 17 -7.860427 L..A.K	14 14 -16.321647 V...A..K.....G.K.....A
19 17 -7.860427 L.A...K	15 14 -16.298056 V...A....K.....A.....K.A
18 17 -7.860427 K.....A.....L	14 14 -16.297899 V.....K.....V.....EL.....A
20 17 -7.860427 A.....L....K	21 14 -16.243446 F.....AL.....EA.....A
21 17 -7.860427 A.....L.....K	19 14 -16.243446 F.....AL.....E.....AA
19 17 -7.860427 LK.....A	14 14 -16.229176 VV...A..K.....G.....A
17 17 -7.860427 L.....A.....K	16 14 -16.221344 V...AL...IK.A
17 17 -7.860427 K.....L..A	14 14 -16.220720 K....P....K.....L..A.....A
19 17 -7.845552 L.T...A	14 14 -16.209906 F.....AL.....E.....S.....A
18 17 -7.840963 P.....L.....S	15 14 -16.114172 K.A.....V....L....K.A
25 17 -7.834721 EA.....L	16 14 -16.114172 L.....K.....V....K.....A...A
25 17 -7.834721 L.....E.A	14 14 -16.103164 G.V..S.....A...VV
18 17 -7.834721 L.....E...A	15 14 -16.088466 K.....V..A.....EL.....A
27 17 -7.834721 E.....L..A	14 14 -16.088466 V.....K.....E.L.....A.....A
26 17 -7.826887 K.....S.....L	14 14 -16.021700 V.....K.....V..A.....L.....A
18 17 -7.826887 K.....S.L	15 14 -15.952820 V.....VV....L.....G.....A
17 17 -7.826887 S.....K.....L	14 14 -15.933707 F.....AL.....A.....S.....A
19 17 -7.826887 LK.....S	16 14 -15.904582 E..L.....V....L....K.A
22 17 -7.826887 K.....S.L	14 14 -15.879033 K.....A.....EL..A...A
21 17 -7.826887 L...S....K	14 14 -15.845492 K.....E.A..A....S.L
25 17 -7.801181 E....L...S	15 14 -15.835858 V...A.L.....G.....A..K
28 17 -7.791546 V.....L.....G	14 14 -15.835858 V...AL....K.A.G
18 17 -7.767955 V....L.....A	16 14 -15.835858 V.....L....A.G.....A.K
17 17 -7.767955 A.....V.....L	19 14 -15.746403 L.....V.....K.....L.....L.....K
23 17 -7.767955 A.....L.....V	14 14 -15.744445 A.LG.....K.....LK
19 17 -7.767955 A.....V....L	16 14 -15.743386 L.....A.....G.V....A.....V
17 17 -7.767955 L...A.....V	15 14 -15.712545 K.....V.....KE.....W
21 17 -7.767955 VA...L	15 14 -15.645779 V.....K.....V.....K.....W
19 17 -7.767955 L.....V...A	14 14 -15.608918 L.....P...V.....A....S.....L
21 17 -7.765997 A.....G.....A	15 14 -15.592884 S.....L.....A.G.....A.K
22 17 -7.742406 A.....A...A	18 14 -15.477406 KEA.....E.....W
17 17 -7.734415 L.....S.....V	14 14 -15.444498 L.....L....V....L....K.A
17 17 -7.734415 V....L.....S	16 14 -15.410640 V..A.....KE.....W
24 17 -7.708866 A.....S.....A	18 14 -15.410640 V.....K.A.....E.....W
19 17 -7.708866 S.....A.....A	14 14 -15.410640 KE.....W.....V.....A
25 17 -7.708866 S.....A.....A	14 14 -15.399485 A.L.....P.....AL.....S
18 17 -7.676543 L.....K..L	14 14 -15.292937 L.....V.....A....S.....A.....L
20 17 -7.650837 E..L.....L	14 14 -15.201525 L.....L.KA.....S.L
17 17 -7.605704 G.....L...G	16 14 -15.134441 V.....K.A.....W.....A
18 17 -7.584071 V....L.....L	16 14 -15.134441 A.....V.....K.A.....W
18 17 -7.584071 L....V....L	14 14 -15.134441 A.....V..A....K.....W
23 17 -7.582113 A.....G.....L	14 14 -15.134441 V..A....K.A.....W
17 17 -7.558522 A.....L.....A	14 14 -15.080760 H....V....F.....L.....E
17 17 -7.558522 A.....L.....A	14 14 -14.899619 L.....L..A..A....S.L
22 17 -7.558522 A.....A.....L	14 14 -14.871327 H.....F.....L.....E.....A
35 17 -7.558522 L..A...A	14 14 -14.865761 WS.....A.E.....A
19 17 -7.558522 A.....L..A	14 14 -14.835322 Q.....V.K.....S.....Y
19 17 -7.524982 S.....A.....L	14 14 -14.634564 F...K...K.....D.....A
17 17 -7.524982 L.S.....A	14 14 -14.620677 L...H....V....E.....L
19 17 -7.524982 L.....A.....S	17 14 -14.610472 LV.....N.....I.....F
19 17 -7.524982 L...S.....A	14 14 -14.439218 AL.....W.....A.....A
17 17 -7.374638 A.L.....L	14 14 -14.403955 Q.....V.D.....A.....E
17 17 -7.374638 L.....LA	16 14 -14.383573 V....F...K....K.....A
16 16 -59.917049 H..K.....F.VVKEA.L.T.K...G..WS.E....W..AY..L....K	17 14 -14.367498 L...S.....N.....I.....F
16 16 -55.492517 L...H..K.....F.VVKEA.L.T.K...G..W.....AY..L....KK	14 14 -14.363614 QK.....K.....K.....A
16 16 -54.813818 H.....F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK	17 14 -14.306861 LV.....K.....I.....F
16 16 -54.813818 H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	14 14 -14.277285 T.K...L.....FK
16 16 -54.680940 H.....D..F.V.K.A.L.T.KE.....WS.E....W..AY..L....K	14 14 -14.271142 QK.....V.....K.....A
16 16 -54.535504 G..H.....F.V...A.L.T.K.....WS.E....W..AYD.L...IK	15 14 -14.268160 F.....AL.....E....N
16 16 -54.428332 G..H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L....K	15 14 -14.193097 IKE.....A.....K
16 16 -54.376985 G..H.....F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	14 14 -14.140599 K.....S.....K...A...F
16 16 -54.220857 L...H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L....K	14 14 -14.123069 D..F....EAL
16 16 -54.169510 L...H.....F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	14 14 -14.114894 S....K.....E.A.....F
16 16 -53.784023 LG..H.....F.V.K.A.L.T.K.....WS.E....W..AY..L....K	14 14 -14.110831 K....P....K....T.....A
16 16 -53.361291 H..K.....F.VV.EA.L.T.K...G..W.....AYD.L...IK	15 14 -14.107217 K.F..V.....L.....V
16 16 -52.793695 H..K.....F.VVKEA.L.T.K...G..W.....A...AY..L....K	15 14 -14.089188 F....EA.....E.....S
16 16 -51.879764 H.....F.V...A.L.TIK.....WS.E....W..AY..L...IK	17 14 -14.063887 L...S....K.....I.....F
16 16 -51.361400 G..H.....F.V...A.L.T.KE....WS.E....W..AY..L....K	14 14 -14.060560 K.....K.....EL.....D
16 16 -51.286802 H.....F.V...ALL.T.K.....WS.E....W..AY..L...IK	14 14 -14.057451 VV.....I....G.....K
16 16 -51.179630 H.....F.V.K.ALL.T.K.....WS.E....W..AY..L....K	14 14 -14.052210 T.....V..S.....I.E
16 16 -50.901316 G..H.....F.V...ALL.T.K.....WS.E....W..AY..L....K	20 14 -14.051667 K....V.DS.....V

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16 16 -50.877725 H.........F.V...ALL.T.K.....WS.E...AW..AY..L....K
16 16 -50.236483 G..H..K......F.VVKEA.L.T.K...G..W...........Y..L....K
16 16 -50.212019 H.........F.V...A.L.T.K.....WS.E...A...AYD.L...IK
16 16 -48.690241 H....V....F.V...A.L.T.K.....WS.E....W..AY..L....K
16 16 -47.714054 G..H.........F.V.K.A.L.T.K.....W..........AYD.L...IK
16 16 -47.690463 H.........F.V.K.A.L.T.K.....W.....A...AYD.L...IK
16 16 -47.506579 L...H.........F.V.K.A.L.T.K.....W..........AYD.L...IK
16 16 -47.412149 G..H.........F.V...A.L.T.K.....W.....A...AYD.L...IK
16 16 -47.069746 LG..H.........F.V.K.A.L.T.K.....W..........AY..L...IK
16 16 -46.660668 LG..H.........F.V.K.A.L.T.K.....W.....A...AY..L....K
16 16 -45.315279 H..K......F.VVKEA.LKT.K...G............A...L....K
16 16 -45.094149 A.L.TIK......WS.E....W..AYD.L...IK
16 16 -45.017190 H....V....F.V...A.L.T.K.....W..........AYD.L...IK
16 16 -44.986977 K............A.L.T.K.....WS.E....W..AYD.L...IK
16 16 -44.961271 A.L.T.KE.....WS.E....W..AYD.L...IK
16 16 -44.633725 A.L.TIK......WS.E...AW..AY..L...IK
16 16 -44.623872 H.........F.V...ALL.T.K.....W..........AYD.L...IK
16 16 -44.465352 H.........F.V.K.ALL.T.K.....W..........AY..L...IK
16 16 -44.187038 G..H.........F.V...ALL.T.K.....W..........AY..L...IK
16 16 -44.163447 H.........F.V...ALL.T.K.....W.....A...AY..L...IK
16 16 -44.079866 G..H.........F.V.K.ALL.T.K.....W..........AY..L....K
16 16 -44.056275 H.........F.V.K.ALL.T.K.....W.....A...AY..L....K
16 16 -43.872391 L...H.........F.V.K.ALL.T.K.....W..........AY..L....K
16 16 -43.790669 G..H.........F.V.K.A.L.T.K.....S.E...AW..A.......K
16 16 -43.777961 G..H.........F.V...ALL.T.K.....W.....A...AY..L....K
16 16 -43.583193 L...H.........F.V.K.A.L.T.K.....S.E...AW..A.......K
16 16 -41.868791 H....V....F.V.K.A.L.T.K.....W..........AY..L....K
16 16 -41.633356 ALL...K......WS.E....W..AYD.L...IK
16 16 -41.590477 G..H....V....F.V...A.L.T.K.....W..........AY..L....K
16 16 -41.566886 H....V....F.V...A.L.T.K.....W.....A...AY..L....K
16 16 -41.173568 H.........F.V...ALL.T.K.A....W..........AY..L....K
16 16 -41.173568 H.........F.V...ALL.T.K.....W..........AY..L..A.K
16 16 -41.050884 ALL.T.K.A....WS.E....W..AY..L....K
16 16 -38.750944 H.........F.V...A.L.T.E.....W.....A...AY..L....K
16 16 -38.625670 ALL...K......W..E...AW..AY..L...IK
16 16 -38.459251 ALL...KE.....WS.E....W..AY..L....K
16 16 -37.863622 K............A.L.T.K.....W.....A...AYD.L...IK
16 16 -37.377833 ALL.T.K.....W..........AYD.L..AIK
16 16 -36.789049 T..Q.ALV.........N.......F.......AP.AK..F..L
16 16 -36.763343 T..Q.ALV.........N.......F.....E.AP.A...F..L
16 16 -36.453604 T..Q.ALV.........N.......F.......AP.A...FS.L
16 16 -36.453604 T..Q.ALV..S......N.......F.......AP.A...F..L
16 16 -34.765075 D..F.....A.L.T.K.......S.E...AW..A........K
16 16 -34.680561 G..H..........V...A.L.T........W.....AW...Y......I
16 16 -34.510001 ALL...K......W......A...AYD.L...IK
16 16 -34.336606 ALL.T.K.A....W.........AY..L...IK
16 16 -33.927529 ALL.T.K.A....W......A...AY..L....K
16 16 -33.490277 H..........V...A.L.T...E.....E....W..AY......I
16 16 -32.215888 A.L.T.KE............AW...Y..L...IK
16 16 -31.648632 K............ALL.T.K.....W..........AY..L....K
16 16 -31.359434 K............A.L.T.K.......S.E...AW..A........K
16 16 -31.082566 T..Q.AL...S.....N..............AP.....F.FL
16 16 -31.027892 T..Q.AL.........N..............E.AP..K..F..L
16 16 -30.718153 T..Q.AL.........N..............AP..K..FS.L
16 16 -30.718153 T..Q.AL...S.....N..............AP..K..F..L
16 16 -30.692447 T..Q.AL.........N..............E.AP.....FS.L
16 16 -30.692447 T..Q.AL...S.....N..............E.AP.....F..L
16 16 -30.570817 S.............F....L..AP.AK..FSFL
16 16 -30.382707 T..Q.AL...S.....N..............AP.....FS.L
16 16 -29.020898 P.L..HA...F..V....Q....G.VV
16 16 -28.170891 T..Q.AL.......K.N..............AP.....F..L
16 16 -27.997849 S.............F....LE.AP.A...F.FL
16 16 -27.830719 P.L..HA...F.....SA..L...G..V
16 16 -26.206616 AL....K.......S.E....W..AY.....A
16 16 -25.943624 FT..QEALV.......K.N
16 16 -25.633885 FT..Q.ALV..S....K.N
16 16 -25.567391 S.............F.....E.AP.....FSFL
16 16 -25.552499 S.........P..........E.AP..K..F.FL
16 16 -25.540128 S......N.......F.....E.AP.A...F..L
16 16 -25.202978 S.................E.AP..K..FSFL
16 16 -24.425011 F...K...L.........WS.....A....Y......I
16 16 -23.018572 K.N.......F........AP.A...F..L
16 16 -22.985032 S......N..............AP..K..F.FL
16 16 -22.751178 T..Q.ALV..S...F..N
16 16 -22.649587 S......N..............AP.....FSFL
16 16 -22.594912 N.............E.AP..K..FS.L
16 16 -22.594912 S......N.............E.AP..K..F..L
16 16 -22.453530 T..QEAL...S....K.N
16 16 -22.421861 FT..QEALV..S
16 16 -22.285173 S......N..............AP..K..FS.L
16 16 -22.259467 S......N.............E.AP.....FS.L
16 16 -20.821185 G..............K.A..........W.....A...........IK
16 16 -20.073356 K.N..............AP..K..F..L
16 16 -20.047650 K.N.............E.AP.....F..L
16 16 -19.939427 F...I...AP.A...F..L
16 16 -19.737911 N..............P.AK..FS.L
16 16 -19.737911 K.N..............AP.....FS.L
16 16 -19.737911 S....K.N..............AP.....F..L
16 16 -19.570822 T..Q.AL...S.E....N
16 16 -19.174740 T..Q.ALV..S.E
16 16 -19.098855 S..........S..........AP..K....FL
16 16 -19.083261 AL....K.............A...AY.....A
17 16 -17.181328 F..V.E.............S.E.................K
17 16 -17.159544 G..H..........VV..A........G
16 16 -16.994211 I...AP..K..F..L
16 16 -16.968505 I.E.AP.....F..L
16 16 -16.658766 S.................I...AP.....F..L
16 16 -16.658766 I...AP.....FS.L
16 16 -16.497543 EV....L...IK.A
16 16 -16.390371 V.........K..............E.....L....K.A
17 16 -16.384242 ALV..S....K.N
16 16 -15.838875 K.............L....K..........L.....L....K
18 16 -15.766977 G.............VV..A.L.......G
16 16 -15.661608 L...........S.EL...........A...K
18 16 -15.421470 V........K.A...T.........W
16 16 -15.201207 A.....KEA............W
16 16 -15.035627 G..H...GV....F

15 14 -13.997214 A.....................A...F....DS
15 14 -13.982946 A.....................V..D....AI
14 14 -13.970744 V........T.K.......S.................K
15 14 -13.949406 A.............S........V..D....I
25 14 -13.938843 F....EAL.....E
19 14 -13.926688 V.....K.........V.....K.................A
14 14 -13.916741 VKE..L..I
14 14 -13.911812 V....A...T.K.................V
14 14 -13.909697 G.......VV.E....T
15 14 -13.903746 AL.....E..K.N
14 14 -13.900982 V.................E.....V.......A..K
14 14 -13.897784 V........K..A......FL
14 14 -13.895951 EL..A...AY
16 14 -13.895912 K...L...S....K.N
14 14 -13.887165 KT..E.....................L.....K
15 14 -13.880950 F.........T.....G.............A......A
16 14 -13.872078 F.....AL.....E..............V
17 14 -13.872078 F....EAL.....................V
14 14 -13.784020 K..............E.A..AK
16 14 -13.761310 T.K.......S.....A.............K
14 14 -13.756879 L...........P....V........K................V
17 14 -13.735604 T.K..A....S.E
15 14 -13.735604 T.K.......S.E.....................A
14 14 -13.717097 V.V.E..LK
15 14 -13.691889 V.K..L.................A.....D
14 14 -13.691889 A.L.....V..............D.....K
17 14 -13.691548 V.....................K.........E.....A...A
15 14 -13.691548 V.............K.............A..............E.......A
14 14 -13.668838 V....A...T.K.......S
14 14 -13.668838 V........T.K.......S.....A
14 14 -13.664225 G..........E...D....A...A
23 14 -13.662644 F....EAL......A
14 14 -13.650332 VV.....L.....K.........V
18 14 -13.640542 V...AL...IK
14 14 -13.632800 D..............K.......S.....A........A
16 14 -13.629104 F....EAL............S
19 14 -13.624626 V.....................VV....L.............E
14 14 -13.606377 K.............K......S..........P........L
18 14 -13.605318 A..............P...VV..................S
15 14 -13.601841 AL.....E....N.................A
15 14 -13.595878 A.V.....F.....................A.........L
15 14 -13.585260 T.....L.......K..............E....A
16 14 -13.555902 A....G.V.............VV
15 14 -13.551720 T.K.......S.EL
15 14 -13.549129 K..........L..........L...IK
17 14 -13.548070 VV..A.L..I
14 14 -13.508839 KQ.....S.................S.L
16 14 -13.507664 K.........V.....................EL...........A
14 14 -13.507664 V.............K.............A..............EL
14 14 -13.507664 V.....................K.............L..............E...A
15 14 -13.507664 V....L..............E.............A...K
14 14 -13.507664 V....L.K..........E.......A
14 14 -13.482299 V.....L...E.......D.............L
14 14 -13.474124 V.........................E..LK..........S
15 14 -13.474124 V.....................K.............E.L.............S
15 14 -13.472166 A.....K...G...S.......E
20 14 -13.456658 L.....................V....L...IK
19 14 -13.448575 S........E.A.A.K
16 14 -13.440898 K....V......L.A....V
16 14 -13.440898 L.....................V........K...............V.......A
17 14 -13.415349 K.........A...........A..V.......A
14 14 -13.415192 V.V.E..L.....................A
14 14 -13.407358 V.................S.........V....L.....K
15 14 -13.389984 V....L.....................A.....D...A
17 14 -13.381809 K..A.V..S.....................A
14 14 -13.381809 K.............A.............S........V.......A
14 14 -13.362228 G.......V...A.L..I
20 14 -13.362228 V...A.L..I....G
14 14 -13.348426 VVV..A.L
17 14 -13.323936 K..............L.....A.....................A.K
17 14 -13.321821 G.............K.............E.L.....A
15 14 -13.321821 K.............L........G.............E........A
15 14 -13.321821 A........K..............L.......G...........E
16 14 -13.290396 K..AL...S....K
22 14 -13.290396 K...L.................S..........A...K
16 14 -13.288281 L....K...G...S.......E
14 14 -13.272866 D..........L....E.....................LA
17 14 -13.257014 L.....................V........K..........L.....V
17 14 -13.255056 V......L.......G.....................A.K
17 14 -13.255056 V......L.....A.G.....................K
16 14 -13.255056 V.....L.....G.....................A..K
17 14 -13.231465 V......L.....A.....................A.K
16 14 -13.231465 V.............A.............A.......L....K
15 14 -13.231308 VV....L....E.....................L
14 14 -13.206100 V.....L.............D.............L..A
14 14 -13.206100 L......V.....D.............L..A
16 14 -13.197925 K..ALV..S
15 14 -13.197925 S.............V....L....K.A
15 14 -13.162584 V...A.................V....L........G
21 14 -13.162584 VV...A.L.......G
14 14 -13.162584 V.....LG.............V...A
15 14 -13.162584 G.V....A.................V....L
16 14 -13.137937 L.....................L....K...G...........E
15 14 -13.125177 L.....................L.T...A.....................K
14 14 -13.114346 L.............EL..........A....K
14 14 -13.106512 K.............K......S.......L.............L
15 14 -13.105453 V.....................S.....A..V....L
15 14 -13.071171 G.......L.................V.........K..........L
20 14 -13.047580 L.....................V....L....K.A
15 14 -13.047580 L....V....L....K.A
16 14 -13.021874 A.....................E..L.....................V....L
15 14 -13.012082 A.....K...G...S..L
15 14 -13.012082 L.......G.......S.............A.K
19 14 -12.996325 AL.....EA.....................A
14 14 -12.988491 S.....................K..A.......L..............A
16 14 -12.988491 S.....................L.....A.....................A.K
15 14 -12.988491 A..A....S.LK
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16 16 -14.434834 LG..H.....F.....L	14 14 -12.962785 EA.....S.....L..A
17 16 -14.293866 AL.....K.N.....F	15 14 -12.962785 AL.....EA.....S
16 16 -14.081353 S.....F.....E.....K...S	15 14 -12.955109 V.....L.....V.....L..A
17 16 -14.041877 K.....A.....S.....D.....I	16 14 -12.955109 A.....L.....VV.....L
17 16 -14.011803 T.K.....S.E.....E	14 14 -12.929560 V.....A.....A.....L.A
16 16 -13.968245 A.....K.A.....D.....K	22 14 -12.896604 KE.....E.....W
19 16 -13.964549 L.....E.A...K..F	20 14 -12.863696 L.....V.....K.....L.....L
16 16 -13.900982 V.....K.....V...A.....E	22 14 -12.829838 V.....K.....E.....W
16 16 -13.899365 D.....K.....V.....G.....A	15 14 -12.829838 V.....KE.....W
17 16 -13.841736 VV.E.....S.E	15 14 -12.818683 L.....P.....AL.....S
16 16 -13.835275 K.....V.....K.....L.....K	15 14 -12.818683 L.....P.....A.....S.....L
16 16 -13.823819 F.....T.....S.....A.....A	14 14 -12.804607 L..A.....S.LK
18 16 -13.803440 LV..S....K.N	15 14 -12.803726 N.....H...F.....A
16 16 -13.739972 A.....S.....D...AI	15 14 -12.763072 V.....V.....K.....W
17 16 -13.733014 K.....L...IK.A	15 14 -12.646110 K.....K.A.....W
17 16 -13.717254 V...A.....K.A.....K	18 14 -12.553639 V.....K.....W.....A
16 16 -13.715139 V.E.....K.A.G	14 14 -12.538763 A...T....V...W
16 16 -13.715139 K.....V.....G.....E.....A	14 14 -12.527933 V.....E.....W.....A
25 16 -13.640542 V....L...IK.A	18 14 -12.503654 D.....H..K.....V
16 16 -13.591242 V.....K.....V...A.....S	14 14 -12.423403 IH.....F.....L
16 16 -13.574430 E.....E.....A...L...K	14 14 -12.319429 V.....H.....K...E
16 16 -13.533370 K.....V..A.....K.....L	14 14 -12.318817 S.L.....L.....A..L
17 16 -13.507821 A.....K.A.....A.....K	15 14 -12.198210 A.....H....F.....A
16 16 -13.507664 V.....K.....E.L.....A	14 14 -12.157517 S...F.....Y.....K
19 16 -13.507664 V.....K.....E.L.....A	21 14 -12.109995 H.....K...E.....A
17 16 -13.482115 K.....A.....E...A...A	15 14 -12.109995 H.....A..K.....E
17 16 -13.440898 VV..A.LK	16 14 -12.109995 H.....A..K...E
16 16 -13.433699 T...A.....S.E...A	15 14 -12.014325 H....F.L....A
18 16 -13.362228 G.....V...A.L..I	14 14 -11.924211 F..K.....S....F
18 16 -13.348426 A.....V.....L.....VV	14 14 -11.883613 E.....P.....F.....K
16 16 -13.323780 L.....V.E..LK	14 14 -11.883613 E.F.....P..K
18 16 -13.264690 L.....A.....S.E.....K	14 14 -11.881039 F...I.....FL
16 16 -13.232349 L.....L.T.....A.....I	14 14 -11.869537 F...E.....K.....K
18 16 -13.197925 ALV..S....K	14 14 -11.773867 F..K.....F.....L
20 16 -13.197925 V.....S.....A.....L.....K	15 14 -11.770815 K.....E...D....I
18 16 -13.163643 K.....L.....G.....L.....K	14 14 -11.741968 K....V.....N.....K
20 16 -13.162584 G.....VV..A.L	18 14 -11.704049 K.....V..D.....I
21 16 -12.996325 AL.....E.....AA	16 14 -11.681395 F.....F.....V.....L
16 16 -12.921568 L.....S.....VV.....L	14 14 -11.674804 I.E.A.....F
18 16 -12.896019 A.V..S.....A.....L	14 14 -11.666970 F...I.....K...S
16 16 -12.838147 L.KA..A.....L	15 14 -11.641700 V.....V.Y.....A
18 16 -12.553639 A.....V.....K.....W	16 14 -11.632350 S.E.....L.....M
18 16 -12.553639 V..A....K.....W	14 14 -11.561503 S...F..N.....A
17 16 -12.407643 H....F..V...A	14 14 -11.559797 FK.....K...S
16 16 -12.318817 L.....L..A.....S.L	14 14 -11.559797 S....K.....F.....K
16 16 -12.290525 H.....F.....L.....E	14 14 -11.557440 A.....L..H...V
16 16 -12.288060 Q.....V.K.....Y	15 14 -11.534091 S....K.....F.....E
16 16 -12.223759 L...H....V....F	14 14 -11.505123 E.....K.....K.....K
16 16 -12.223759 H....V....F.....L	14 14 -11.504405 V.....D....V.K
16 16 -12.109995 H.....K.....E.....A	14 14 -11.475501 D.....F..V.....L
17 16 -12.009689 H..K.....V.....S	15 14 -11.448027 L...I.....A....Y
18 16 -11.863408 S....K.N.....F	14 14 -11.437605 P....LF.....P
18 16 -11.808090 H.....A.....E.....A	14 14 -11.412651 V.....K....K.....E
17 16 -11.804476 A.V.....F..N	14 14 -11.409453 L.....FK.....K
18 16 -11.751359 F..V.E.....E	17 14 -11.402144 A.....V..D.....I
16 16 -11.726151 D..F....EA	17 14 -11.402144 V..D...AI
18 16 -11.713064 L.....K.N.....F	15 14 -11.388435 Q.....V...A....K
16 16 -11.687358 N.....E.....FL	15 14 -11.359962 P....V.....K.....V
16 16 -11.663642 K.....K.....E.....D	20 14 -11.345885 V.....K.....V....K
16 16 -11.607414 P.....K.F.....A	19 14 -11.345885 V.....V.....K...K
18 16 -11.593338 F...K....K.....A	14 14 -11.336096 K.....A..I.K
16 16 -11.591348 E.L.....E..Y	15 14 -11.320180 VV.E.....K
16 16 -11.561503 S.....N.....A.....F	19 14 -11.310731 K.....L.....D.....I
27 16 -11.541926 F....EA.....E	17 14 -11.310390 EA.....K.....I
17 16 -11.534091 F....E.....K.S	14 14 -11.295963 Q.....V...A.....V
16 16 -11.509581 V....F.....T.....G	19 14 -11.294971 V.....D.....K.A
16 16 -11.429835 L...E.....D...Q	14 14 -11.291432 K.....A..A....F
17 16 -11.414357 A.V.....N.....E	14 14 -11.290926 S.....E.....I.E
17 16 -11.336096 IK.....A.....K	15 14 -11.280096 T.....VA.D
16 16 -11.320180 V.....K.....V.....E	16 14 -11.269266 EV..D.....A
16 16 -11.316981 V.....K.....FL	19 14 -11.267215 V.....I....G.....K
20 16 -11.294971 A.....V.....D.....K	15 14 -11.257892 K.....S.....A...F
17 16 -11.294971 V.K.....A.....D	14 14 -11.257892 K.....A...F.....S
16 16 -11.294474 VV.E.....E	14 14 -11.256441 T...E.L.....Q
16 16 -11.266067 D..F.....AL	14 14 -11.252515 KG.....K.....K
19 16 -11.257892 S.....A...K..F	14 14 -11.243624 K.....V.....I.....A
16 16 -11.257892 S.....K...A...F	14 14 -11.232186 A.....F....E.....S
20 16 -11.243624 V...A....IK	14 14 -11.224352 S....K.....F.....S
16 16 -11.243000 K....P.....K.....A	14 14 -11.217294 E..K...P.....A
16 16 -11.227708 V.....VV.....E	14 14 -11.217294 A.....E..P..K
17 16 -11.224510 F..V.....L.....V	14 14 -11.214048 T.K.....K.....A
17 16 -11.198961 F..V.....A...A	14 14 -11.204550 L.....Q.....V.....K
17 16 -11.177853 L....E.....D.....K	14 14 -11.202500 VV.....A.....D
16 16 -11.177512 E.....E.....A.....K	18 14 -11.198961 V.....A..A.....F
19 16 -11.154802 T.K.....S.....E	14 14 -11.189293 S.....Y.....AA
21 16 -11.136452 K.....V.....K.....A	15 14 -11.188342 T....A.....E..K
22 16 -11.136452 V.....K....K.....A	14 14 -11.177512 E.....E.....K.A
16 16 -11.110746 V.....K.....E.....A	15 14 -11.174744 VV.....I....G
17 16 -11.110746 K.....V..A.....E	16 14 -11.137336 T.K.....L.....I
16 16 -11.107548 A.K.F.....L	15 14 -11.136452 K.....V.....K.A
16 16 -11.088036 T.K....V..S	16 14 -11.136452 V...A..K.....K
17 16 -11.077206 V.....K.....S.E	15 14 -11.134337 G.....V.....E.....K
28 16 -11.059740 V....L...IK	15 14 -11.110746 V.....K.....E.....A
18 16 -11.051998 D.....K.....S.....A	21 14 -11.110746 V.....K.....E.....A
18 16 -11.051500 V.E.....S.E	15 14 -11.110746 V..A..K...E
16 16 -11.043980 V.....K.....V..A	14 14 -11.110746 V..E...K....A
16 16 -11.030164 K.....K.....T.....L	14 14 -11.107548 FK.....L.....A
18 16 -11.021039 AL.....E....N	14 14 -11.102912 S....K.....V.....K
16 16 -11.018274 V.....E.....V.....A	15 14 -11.102912 V.....K....K.....S
22 16 -11.010440 K....V..S.....V	15 14 -11.096212 V..D.....L.T
18 16 -10.975100 G.V.....VV	15 14 -11.095871 A...T..E.....V
21 16 -10.952568 V.....K.....L.....K	14 14 -11.081842 A.....F.....E.....L
17 16 -10.952568 K.....V....L....K	14 14 -11.081842 E.....F.....A.....L
16 16 -10.951509 V.....V....A.....V	22 14 -11.077206 EK....V..S
19 16 -10.951509 A.....V.....VV	14 14 -11.077206 V..E...K.....S
16 16 -10.926862 V.....K.....L.....E	14 14 -11.062330 S.....V..E...T
21 16 -10.926862 V.....K.....E.L	14 14 -11.060173 D.....A.L.....D

17 16 -10.925245 G.....D.....K...L	15 14 -11.059832 D.....EA.....A
16 16 -10.924904 K...G.....E.A	16 14 -11.059832 E.A.D.....A
17 16 -10.901654 D.....K..L.....A	19 14 -11.058056 A.....P...VV
16 16 -10.867773 E...K....A.....S	16 14 -11.051998 S.....D.....K.A
16 16 -10.861644 S.....N.....A....S	14 14 -11.048302 S.....F....E.....L
22 16 -10.834390 VV....L.....E	14 14 -11.044240 P.....KT.....L
23 16 -10.815083 P...V.....A.....S	17 14 -11.043980 V.....K.....V.....A
27 16 -10.805643 F.....AL.....A	18 14 -11.043980 K....V.....A....V
18 16 -10.801007 K.....V...A.....S	14 14 -11.043980 V.....K.....VA
16 16 -10.801007 S.....V...A.....K	22 14 -11.041865 G.....VV.....E
16 16 -10.801007 V.....K.A.....S	15 14 -11.038949 L..A...AY
19 16 -10.789257 G.....VV.....G	15 14 -11.021039 E...AL.....N
17 16 -10.772103 L.....A...SF	14 14 -11.018615 V.....D...V....L
16 16 -10.767624 L.....VV.....V	14 14 -11.010440 S.....VVK
23 16 -10.765666 VV...A.....G	14 14 -11.000651 S.....I.....AK
16 16 -10.765666 VV.....G.....A	14 14 -10.984734 S.....VV.E
16 16 -10.757210 PK.....A..L	21 14 -10.965310 V...A....I....G
18 16 -10.742075 A.....V...A.....V	17 14 -10.961577 KQ.....S.....L
16 16 -10.728259 L.T.....A...K	14 14 -10.959526 V..S.....A.....D
16 16 -10.723670 K.....S.....P.....L	16 14 -10.955987 A.....A...F.....S
24 16 -10.717428 L.....E.A...K	14 14 -10.955987 S.....A...F.....A
16 16 -10.717428 L....E.....K.A	15 14 -10.954273 V.....N.....L..A
18 16 -10.692063 D.....L....E.....L	14 14 -10.952568 L....K.....V.....K
17 16 -10.650663 V.K..L.....A	14 14 -10.952568 K.....K.....L.....V
17 16 -10.650663 K.....V..A.....L	15 14 -10.951509 V....A.....VV
17 16 -10.650663 A.....V....L...K	14 14 -10.941719 A..V.....AI
19 16 -10.650663 V.....K.....L.....A	16 14 -10.927019 K....K.....A....A
16 16 -10.650663 V...A.L.....K	16 14 -10.926862 L.....V.....K.....E
16 16 -10.650663 L.....V.....K.....A	14 14 -10.926862 K.....V.....E.....L
18 16 -10.650663 V...A.LK	19 14 -10.926862 E.....V.....L.....K
18 16 -10.648705 G.....K.....A.....A	14 14 -10.926862 K.....V.....L.....E
16 16 -10.625298 V.....L.....D.....L	15 14 -10.926862 V.....K.....L....E
19 16 -10.625114 K.....A.....A.....A	19 14 -10.926862 E...LV.....K
17 16 -10.624957 L....E.....A.....V	14 14 -10.926236 Q..V.....L.....G
17 16 -10.624957 V.....L.....E.....A	14 14 -10.912143 T...A.....A...K
16 16 -10.621759 F.....L.....L.....A	14 14 -10.911986 TE....LV
20 16 -10.617122 LV..S....K	14 14 -10.901654 L.....D..A....K
17 16 -10.615164 A.....K...G...S	14 14 -10.899539 L....E...G...D
24 16 -10.591573 K.....S.....A.....A	14 14 -10.897958 L.....F.....E.....L
16 16 -10.591417 V.....E..L.....S	16 14 -10.893478 K.....S.....A...K
23 16 -10.591417 E....LV..S	20 14 -10.891364 K...G...S.....E
17 16 -10.581782 V.....L...G.V	14 14 -10.877729 VR.S.....A
22 16 -10.558191 A.....V.....L.....V	20 14 -10.875948 L....E.....D.....A
17 16 -10.558191 VV....L.....A	21 14 -10.875948 L....E...D.....A
17 16 -10.556233 A.....G.V...A	14 14 -10.875607 E.....E.....A.....A
16 16 -10.518669 L.....L.T..E	20 14 -10.867773 S.....E...A.K
17 16 -10.464820 K...G.....A.....L	15 14 -10.867773 K.....S.E.....A
16 16 -10.441229 K.....L.....A.....A	19 14 -10.860096 L.....V.....K.....V
27 16 -10.441229 L.....A.A.K	20 14 -10.860096 V.....L.....K.....V
16 16 -10.426354 T.....L.....A....A	20 14 -10.860096 V.....K.....L.....V
16 16 -10.421765 A.....P.....L.....S	19 14 -10.860096 K.....VV.....L
24 16 -10.415523 AL.....EA	14 14 -10.860096 K.....V.....L.....V
24 16 -10.415523 EA.....L..A	20 14 -10.858138 K.....V.....A.G
17 16 -10.381983 AL.....E.....S	18 14 -10.834547 K.....A.....A..V
16 16 -10.381983 EA.....S..L	18 14 -10.834547 K.....A.....V.....A
17 16 -10.364517 L.....A.....L...I	20 14 -10.834390 V.....V....L.....E
16 16 -10.348757 A.....VA...L	15 14 -10.834232 S.....E.....K...S
16 16 -10.257345 A.....L....K.....L	18 14 -10.832773 D...V.....L.....G
16 16 -10.257345 A.L.....K.....L	14 14 -10.830842 P.....L...I.....S
22 16 -10.231639 L....E.....L..A	18 14 -10.824601 EA....I.....L
17 16 -10.231639 ALL....E	22 14 -10.815083 A.....P...V.....S
16 16 -10.231639 EALL	16 14 -10.809182 V....A.L.....D
16 16 -10.223805 K.....S.....L.....L	15 14 -10.809182 A.L.....V.....D
16 16 -10.164873 V....L.....L..A	17 14 -10.805643 A.....F.....A.....L
17 16 -10.162915 A.....G.....A.....L	14 14 -10.801007 S.....V.....K..A
16 16 -10.139324 A.....A.....L.A	16 14 -10.801007 K.....S.....A..V
16 16 -10.139324 A.....L..A...A	16 14 -10.801007 V.....K.....A...S
17 16 -10.139324 A.....A.....A.....L	14 14 -10.801007 K.....S.....V.....A
17 16 -10.129375 A.....G...S.....L	15 14 -10.801007 V.....K.....S.....A
16 16 -10.127817 F.....A.....W	15 14 -10.801007 K.....A.....S.....V
18 16 -10.105784 L.....S.....A.....A	15 14 -10.786131 T.....V..S.....A
17 16 -10.105784 AL.....A.....S	15 14 -10.767624 L.....VV.....V
16 16 -10.105784 L.....A.....S.....A	20 14 -10.767624 V.....VV...L
16 16 -9.893607 H.E..F	17 14 -10.765666 G.V....A.....V
16 16 -9.771555 L.....L.....L.....A	19 14 -10.765666 A...G.....VV
16 16 -9.462427 V.....H.....K	15 14 -10.765666 V.....G.....V...A
16 16 -9.461498 A.....W.....A	18 14 -10.755095 P.....E.L.....G
16 16 -9.376949 F..K.....F	14 14 -10.743134 K.....L.....A.....K
16 16 -9.316146 N.....F...K	15 14 -10.743134 L....KKA
18 16 -9.252994 H.....A..K	14 14 -10.743134 L....K.....A..K
17 16 -9.172046 F..V.....Q	15 14 -10.743134 L.....K..K.....A
16 16 -9.119708 I..K.....F	15 14 -10.742075 A.....V...A.....V
16 16 -9.075044 F.....A.....F	19 14 -10.741019 G.....K.....E.L
17 16 -9.051109 I.....A....Y	14 14 -10.731504 E.....P.....A.....L
16 16 -9.026611 F.....P..K	18 14 -10.731504 P.....E.L.....A
23 16 -9.014241 A.....F..N	14 14 -10.717428 LK...E.....A
16 16 -9.012535 K.....K.....F	15 14 -10.717428 K.....L.....E...A
16 16 -8.986829 E.....F.....K	15 14 -10.717428 L.....EA.....K
19 16 -8.966433 V.....N.....I	15 14 -10.717428 EK..A.....L
17 16 -8.962613 Q.A.....F	18 14 -10.709594 K...L...S....K
18 16 -8.920064 V....F...K	14 14 -10.708535 A.V..S.....V
16 16 -8.910396 S.....Y.....K	16 14 -10.694719 T.K.....S..L
16 16 -8.900104 QK.....K	16 14 -10.692063 L....E.....D.....L
16 16 -8.891160 F.....LF	15 14 -10.683888 LK...E.....S
16 16 -8.884691 S.....Y.....E	17 14 -10.683888 L....K.....S.....E
16 16 -8.807633 V.....Q.....K	14 14 -10.683888 EK.....S...L
17 16 -8.769370 I....P..K	14 14 -10.683888 EK.....S.L
16 16 -8.755294 K.....I.K	15 14 -10.672296 G.....K.....A.G
20 16 -8.743664 I.E..P	16 14 -10.666422 K.....L.....L...I
21 16 -8.714169 D.....K.....V	15 14 -10.664739 P.....V.....A..L
16 16 -8.710630 F.....A...K	14 14 -10.664739 A.....P....V...L
23 16 -8.710630 K.....A...F	19 14 -10.659378 L..T....G.....V
16 16 -8.710630 K..A.....F	15 14 -10.650663 V.....AL.K
18 16 -8.703882 E.....E.....I	15 14 -10.650663 L....K.....V.....A
19 16 -8.699294 V.D.....T	16 14 -10.650663 V.....K..A.....L
17 16 -8.695755 T....A.....F	15 14 -10.650663 V.....KA.....L
16 16 -8.677090 F.....K.....S	15 14 -10.650663 V....K.....L.....A

16 16 -8.663903 NP.....A	16 14 -10.631198 L.....P...V.....S
16 16 -8.647947 T.....V.....I	14 14 -10.625114 KA.AA
16 16 -8.647322 P.....K.....T	14 14 -10.625114 A.AA.....K
17 16 -8.637116 EV.....I	16 14 -10.624957 L....EV.....A
16 16 -8.622416 E.....KK	16 14 -10.624957 V.....E..A.....L
16 16 -8.622416 K.....K.....E	17 14 -10.622999 E.....G.....A.....A
17 16 -8.622416 E.....K.....K	16 14 -10.621759 L.....F.....L.....A
16 16 -8.622416 K....K.....E	23 14 -10.617122 K...LV..S
23 16 -8.621698 V.D.....V	15 14 -10.615164 G.....A..K.....S
16 16 -8.621698 D.....VV	19 14 -10.599749 D.L..A...A
17 16 -8.621698 V.....V.....D	17 14 -10.591573 A.....S.....A.K
18 16 -8.618159 A.V.....F	15 14 -10.591573 K....A.....SA
20 16 -8.618159 F.....V.....A	14 14 -10.571992 L..I....G.....A
17 16 -8.618159 A...F..V	14 14 -10.566208 L.....D..S.....A
18 16 -8.590581 S.E....N	14 14 -10.565867 E.....S.....A.....A
17 16 -8.569726 P.....K....V	14 14 -10.559250 L.K..K.....L
20 16 -8.564659 KQ.....S	16 14 -10.558191 V.....L.....V.....A
16 16 -8.555650 K.....V.....K	15 14 -10.558191 V....A.L.....V
28 16 -8.555650 V.....K....K	14 14 -10.558191 VV....L.....A
20 16 -8.555650 V.....K.....K	19 14 -10.558191 VV...AL
22 16 -8.555650 K.....V.....K	20 14 -10.558191 V...A.....V....L
19 16 -8.555650 K.....K....V	18 14 -10.556233 A.....G.V....A
16 16 -8.540774 V.....T.K	16 14 -10.556233 A.....GV.....A
16 16 -8.540774 V.....KT	15 14 -10.548401 A.L..I.....A
18 16 -8.529944 V.....K.....E	17 14 -10.548401 A.L..I.....A
16 16 -8.526746 FK.....L	17 14 -10.533544 L.....L....K.....E
17 16 -8.526746 K.F.....L	14 14 -10.514861 L...I..A.....S
17 16 -8.505727 Q.....A.....V	19 14 -10.499102 V.....A.....S.....A
23 16 -8.505727 Q.....V...A	19 14 -10.464820 G.....K.....L.....A
20 16 -8.504736 K.....A.D	15 14 -10.464820 LG.....A..K
19 16 -8.504238 V.E.....E	15 14 -10.451903 V.....L.....L.T
18 16 -8.501040 F.....E.....L	18 14 -10.441229 L.....A.....A...K
23 16 -8.463178 K...V.....V	15 14 -10.441229 K..L....A.....A
16 16 -8.463178 VV.....K	18 14 -10.441229 K.....L.....A.....A
16 16 -8.463178 V.....K.....V	17 14 -10.441072 E..L.....V....L
16 16 -8.463178 V.....V.K	14 14 -10.441072 L.....L....EV
16 16 -8.463178 V.....K.....V	17 14 -10.439114 E.L.....G.....A
17 16 -8.463178 V.....V.....K	20 14 -10.431280 K...G...S..L
16 16 -8.463178 V.....V.....K	16 14 -10.431280 L.....G.....S.....K
23 16 -8.437472 VV.....E	14 14 -10.421765 P.....L.....A....S
16 16 -8.437472 E.....V.....V	16 14 -10.415864 L.....D.....L..A
17 16 -8.432316 A.....F.....G	16 14 -10.415523 L....E.A.....A
19 16 -8.419849 S....K.....I	17 14 -10.415523 E...A.....LA
16 16 -8.412264 V.....D.....A	14 14 -10.407689 A.....K.....S.....L
16 16 -8.412264 D.....V....A	15 14 -10.407689 L.....A..K.....S
20 16 -8.412264 A.....V.D	20 14 -10.407689 S.....K..A.....L
24 16 -8.408725 A.....A...F	26 14 -10.407689 L.....S.....A.K
16 16 -8.404973 T.....S.....I	27 14 -10.407689 L.....S.....A...K
17 16 -8.388609 L....E.....Q	16 14 -10.392814 L..T.....S.....A
19 16 -8.384508 G.....V.....I	15 14 -10.381983 L....E.....S.....A
21 16 -8.375185 F.....A....S	14 14 -10.381983 E...A....S.L
18 16 -8.370707 VV.....V	19 14 -10.374149 K.....S.....S.L
23 16 -8.370707 V.....VV	14 14 -10.372349 V...A.LG
18 16 -8.369808 K...G.....K	19 14 -10.372349 V.....L.....A.G
20 16 -8.360917 V.....AI	20 14 -10.372349 V.....L.....G.....A
16 16 -8.360917 V.....AI	14 14 -10.348757 L.....V.....A.....A
16 16 -8.360293 A.....K....P	15 14 -10.348757 V.....L....A.....A
18 16 -8.346217 K.....A...K	16 14 -10.348757 L.....V...A.....A
24 16 -8.346217 K....K.....A	16 14 -10.348757 V.....L..A...A
17 16 -8.346217 A.K.....K	14 14 -10.348757 L....A.....V.....A
17 16 -8.344102 G.....E.....K	16 14 -10.323208 A.....A...A.....A
22 16 -8.344102 K...G.....E	15 14 -10.315217 S.....V...A.....L
16 16 -8.334587 E.....P.....A	23 14 -10.315217 S.....V.....L.....A
17 16 -8.331341 KT.....A	14 14 -10.315217 S...L.A.....V
19 16 -8.321843 QL.....V	16 14 -10.257345 L.....A.....L.....K
22 16 -8.320852 K.....L.....D	16 14 -10.257345 K.....L.....A.....L
17 16 -8.320511 E.....A...K	15 14 -10.231639 L....EA.....L
16 16 -8.320511 A.....E.....K	14 14 -10.231639 L.....L....E.....A
20 16 -8.320511 K.....A.....E	18 14 -10.231639 L....E.....L.....A
21 16 -8.320511 K.....E.....A	14 14 -10.231639 L...E.....L.A
24 16 -8.320511 E.....A.K	14 14 -10.231639 A.....E.L.....L
16 16 -8.320511 E...K.....A	16 14 -10.222924 N.....H....F
18 16 -8.301047 S.....P.....E	17 14 -10.164873 L.....V....L.....A
16 16 -8.296927 VR.S	15 14 -10.164873 V...A.L.....L
22 16 -8.295146 L....E.....D	15 14 -10.139324 A.....L..A...A
17 16 -8.286970 K.....E.....S	21 14 -10.139324 AL.....A.....A
16 16 -8.286970 S.E..K	15 14 -10.129375 S.....L.....G.....A
16 16 -8.277336 K..G.....V	16 14 -10.105784 S.....L....AA
17 16 -8.277336 G.....V.....K	14 14 -10.073460 L.....K..L.....L
19 16 -8.277336 G.....V.....K	17 14 -10.072244 S.....L.....A.....S
16 16 -8.269504 K...L..I	14 14 -9.972837 V...W.....K
24 16 -8.267821 P...V.....A	14 14 -9.972837 W.V.....K
16 16 -8.253745 V...A.....K	15 14 -9.955440 L.....A..L.A
18 16 -8.253745 V..A..K	14 14 -9.955440 L.....LA.A
16 16 -8.253745 V.....A.K	14 14 -9.955440 L.....A.....L.....A
24 16 -8.253745 K..A.V	17 14 -9.955440 L.....A.....L.A
24 16 -8.253745 K.....A..V	14 14 -9.947131 E.....W.....V
23 16 -8.253745 K....V.....A	14 14 -9.919313 K.....HF
17 16 -8.251630 G.....V..E	16 14 -9.893607 HF.....E
16 16 -8.251630 E.....V.....G	17 14 -9.763403 W.....KA
17 16 -8.238869 A...T.....V	14 14 -9.763403 W.....A....K
26 16 -8.234281 P...V.....S	20 14 -9.713418 D.....H..K
17 16 -8.228380 D....V....L	16 14 -9.670931 A.....V...W
19 16 -8.228380 D...L.....V	15 14 -9.670931 AW.V
18 16 -8.228039 V.....E.....A	14 14 -9.670931 W.V.....A
19 16 -8.228039 A..E.....V	14 14 -9.670931 A.....W.V
17 16 -8.228039 E...A..V	16 14 -9.556605 N.....H.....A
17 16 -8.228039 V.....E.....A	16 14 -9.553813 WE.....L
17 16 -8.228039 V.....E.A	22 14 -9.529193 H.....K...E
19 16 -8.228039 A.V.....E	16 14 -9.529193 K.....H.....E
17 16 -8.228039 V...A.....E	14 14 -9.461498 AW.....A
16 16 -8.224841 A.....FL	14 14 -9.423318 N.....I.....F
16 16 -8.224841 A.....L.....F	14 14 -9.327308 E.....I.....Y
16 16 -8.224841 F.....L.....A	14 14 -9.316146 N.....F.....K
17 16 -8.224841 L....A.....F	20 14 -9.290440 F..N.....E
17 16 -8.220205 S.....V.....K	15 14 -9.284477 V.F.....F
18 16 -8.220205 S.....V.....K	15 14 -9.268972 E.....A.....M

18 16 -8.202831 D.....A.....A	16 14 -9.264518 Q.....F.....K
18 16 -8.194499 V..E.....S	18 14 -9.264518 Q.....F...K
16 16 -8.191301 S...F.....L	14 14 -9.264518 Q.....F.....K
18 16 -8.191301 L...S.....F	14 14 -9.250879 H.E...G
16 16 -8.190484 L.....P.....P	15 14 -9.160522 A.....H...V
20 16 -8.184864 G.V.....V	15 14 -9.153370 V..Y.....K
29 16 -8.184864 G.....VV	16 14 -9.078583 D.....F..V
20 16 -8.184864 G.V.....V	16 14 -9.075044 F.....A...F
24 16 -8.169291 D..S.....A	18 14 -9.014241 N.....F.....A
21 16 -8.162332 K.....L.....K	16 14 -9.014241 F..N.....A
16 16 -8.162332 K..K.....L	15 14 -8.980701 F..N.....S
17 16 -8.162332 L...KK	17 14 -8.976638 L..H...V
18 16 -8.161533 P.....L..T	15 14 -8.966152 Q.....V.D
17 16 -8.161273 A.....VV	18 14 -8.962613 A.....F.....Q
17 16 -8.161273 V....A.....V	14 14 -8.934140 P.....F.....V
28 16 -8.161273 A.....VV	14 14 -8.924473 S.....Y.....P
19 16 -8.161273 V....A.....V	14 14 -8.891160 F.....LF
16 16 -8.161273 V...A.....V	18 14 -8.872689 D.....V.D
16 16 -8.161273 V.....V.....A	14 14 -8.847591 I.....TI
21 16 -8.161273 A.....V.....V	14 14 -8.817925 V.....S.....Y
16 16 -8.161273 V.....VA	18 14 -8.807633 Q..V.....K
23 16 -8.161273 A.....V.....V	14 14 -8.806641 K.....K....D
20 16 -8.161273 A.....V.....V	17 14 -8.775349 S.....L.....M
16 16 -8.147457 T.K..L	16 14 -8.767204 H.....L....A
17 16 -8.147457 LKT	15 14 -8.729588 E.....I.K
16 16 -8.136626 E.....L.....K	15 14 -8.729588 K.....I.E
17 16 -8.136626 K.....L.....E	19 14 -8.714169 D.....V..K
16 16 -8.136626 E.....L.....K	17 14 -8.714169 V.D.....K
16 16 -8.136001 Q.....L.....G	15 14 -8.714169 D.....V.....K
16 16 -8.127733 V..S.....V	14 14 -8.710630 K.....F.....A
17 16 -8.117943 S.....AI	16 14 -8.710630 A...F...K
19 16 -8.112410 QL.A	16 14 -8.710630 A.....F.....K
19 16 -8.091493 G.....K.....G	17 14 -8.699294 D.....V.....T
20 16 -8.091493 G.....K.....G	15 14 -8.699294 D.....V.....T
16 16 -8.091493 G.....G.....K	18 14 -8.695755 F.....T.....A
22 16 -8.083937 P.....V.....L	17 14 -8.688463 EV..D
20 16 -8.078869 Q.....S.....L	15 14 -8.688463 V.D.....E
23 16 -8.069860 LK....V	20 14 -8.684924 A.....F.....E
17 16 -8.069860 K.....L.....V	15 14 -8.677090 S...F.....K
18 16 -8.069860 L.....V.....K	16 14 -8.677090 F.....K...S
22 16 -8.069860 L.....K.....V	18 14 -8.663903 N.F.....A
22 16 -8.069860 L.....V.....K	14 14 -8.662822 V.....K.I
25 16 -8.069860 K.....L.....V	14 14 -8.649827 K.N.....A
17 16 -8.067902 G.....A..K	17 14 -8.641750 VF.....G
27 16 -8.067902 A..G.....K	14 14 -8.633918 IL.....F
16 16 -8.067902 K...A.....G	21 14 -8.621790 G....Q.....K
20 16 -8.067902 G.....K.....A	15 14 -8.621698 D.....VV
18 16 -8.058387 A.....P.....A	15 14 -8.618159 V.....F.....A
17 16 -8.044311 A.....A.K	19 14 -8.618159 V.....A.....F
21 16 -8.044311 A...K.....A	14 14 -8.618159 V.....F.....A
16 16 -8.044311 A...A.....K	14 14 -8.616287 K.....N....S
16 16 -8.044311 A....A....K	15 14 -8.611908 D.....A....I
16 16 -8.044155 L.....EV	15 14 -8.607540 T.K.E
23 16 -8.044155 V....L.....E	17 14 -8.596710 E.....K...E
24 16 -8.044155 L....EV	14 14 -8.596710 E.....E.....K
19 16 -8.042197 E.....G.....A	16 14 -8.596710 E.....KE
16 16 -8.042197 G.....E.....A	15 14 -8.596084 Q.....E.....G
22 16 -8.034362 K...G...S	17 14 -8.590581 E.....S.....N
16 16 -8.034362 K.....S.....G	14 14 -8.584618 V.S.....F
17 16 -8.018946 L.....A.....D	18 14 -8.570350 VV.....I
20 16 -8.018605 E...A.....A	14 14 -8.555650 V..K.....K
16 16 -8.018605 E.....A.....A	20 14 -8.540822 F.....P....L
17 16 -8.018605 E...AA	16 14 -8.540774 V.....T.....K
21 16 -8.018605 E...A.....A	14 14 -8.529944 V..KE
26 16 -8.018605 EA.....A	21 14 -8.529944 E....V.....K
20 16 -8.010771 S.....A.K	14 14 -8.529944 E.....V.....K
22 16 -8.010771 S.....A.....K	14 14 -8.529944 V.....K.....E
27 16 -8.010771 K.....S.....A	19 14 -8.529944 V.....K.....E
27 16 -8.010771 K..A....S	16 14 -8.529944 K.V.....E
16 16 -8.010771 K.S.....A	16 14 -8.529944 K.....EV
21 16 -8.010771 A.....S.....K	14 14 -8.529944 K...E.....V
21 16 -7.999022 G.....V.....G	16 14 -8.529944 V..E.....K
16 16 -7.985065 S.....E.....A	15 14 -8.529944 V.....K..E
16 16 -7.985065 E.....S.....A	14 14 -8.526746 K.....F.....L
19 16 -7.985065 S.E.....A	15 14 -8.526746 K.....F.....L
18 16 -7.977389 V.V....L	15 14 -8.518812 DP.....A
28 16 -7.977389 VV.....L	14 14 -8.505727 Q.....A.....V
21 16 -7.977389 VV.....L	15 14 -8.504736 D..A....K
21 16 -7.977389 V.....V....L	15 14 -8.504736 D..A...K
20 16 -7.977389 V.....L.....V	15 14 -8.504736 K.....D.....A
16 16 -7.977389 L.....VV	15 14 -8.504736 D.....K.....A
19 16 -7.975431 V...A.....G	14 14 -8.504736 A.....D.....K
19 16 -7.975431 V.....G.....A	16 14 -8.504736 K.....D..A
21 16 -7.975431 G.V.....A	16 14 -8.504238 E.....E.....V
23 16 -7.951840 A.....V...A	15 14 -8.489860 T.....D..A
20 16 -7.951840 A.....V....A	17 14 -8.489860 A.....T.....D
23 16 -7.951840 A.....V...A	15 14 -8.476980 G.....K.....I
16 16 -7.951840 A.....V...A	16 14 -8.463178 VV.....K
22 16 -7.951840 V.....A...A	15 14 -8.463178 VV.....K
16 16 -7.951525 SS.E	15 14 -8.463178 K.....V.....V
16 16 -7.937149 A.....R.....L	14 14 -8.453389 AI.K
17 16 -7.918300 V..S.....A	17 14 -8.453389 A..I.K
21 16 -7.918300 V..S.....A	15 14 -8.448303 V.....T.....V
19 16 -7.884018 G.....K..L	18 14 -8.440237 E....L.....N
17 16 -7.874503 P.....L.....A	14 14 -8.437472 VV.....E
17 16 -7.860427 L.K.....A	14 14 -8.437472 V.....E.....V
18 16 -7.860427 K.....A...L	21 14 -8.435855 V.D.....G
16 16 -7.860427 K.....A..L	16 14 -8.434274 L.....F..V
21 16 -7.860427 A.....L.....K	16 14 -8.432316 F.....G.....A
28 16 -7.860427 K..A.....L	20 14 -8.427683 E.....I.....A
17 16 -7.860427 L.K...A	16 14 -8.427683 A.....E.....I
17 16 -7.860427 LK.....A	15 14 -8.414315 Q.....L...K
18 16 -7.860427 A.....LK	19 14 -8.414315 KQ.....L
17 16 -7.860427 A.....K.....L	20 14 -8.412264 A.....D.....V
16 16 -7.860427 KL...A	16 14 -8.412264 V.D.....A
18 16 -7.860427 LK....A	22 14 -8.384508 V.....I....G
17 16 -7.860427 A.....K.....L	14 14 -8.375185 F.....A...S

17 16 -7.860427 A.K.....L	17 14 -8.371513 N.....A.....G
18 16 -7.835062 L.....D.....L	17 14 -8.370707 VV.....V
17 16 -7.834721 LE.A	16 14 -8.370707 VVV
25 16 -7.834721 L.....EA	16 14 -8.370707 VV.....V
22 16 -7.834721 EL.....A	21 14 -8.370707 V.....VV
17 16 -7.834721 L.....E.....A	14 14 -8.370707 V.....VV
16 16 -7.834721 L.....E.....A	14 14 -8.360917 I...V.....A
17 16 -7.834721 E.....L.....A	14 14 -8.346217 K.....KA
17 16 -7.826887 K.....S.....L	14 14 -8.346217 K.....A..K
21 16 -7.826887 S.....L.....K	15 14 -8.346217 K.....A..K
17 16 -7.801181 S.EL	15 14 -8.346217 K.....A...K
16 16 -7.801181 E.....S...L	14 14 -8.346217 K..K.A
23 16 -7.767955 V...A.....L	18 14 -8.346217 K.....A.....K
17 16 -7.767955 A.L.....V	14 14 -8.346217 K.....K.....A
19 16 -7.767955 V....L.....A	16 14 -8.346217 A...K.....K
16 16 -7.767955 L.....V.....A	18 14 -8.344102 G.....E.....K
23 16 -7.767955 V.....L.....A	19 14 -8.344102 EK.....G
16 16 -7.767955 V..AL	15 14 -8.334587 A.....E..P
17 16 -7.767955 V.....L.....A	14 14 -8.331341 T.....K.....A
18 16 -7.767955 V..A.....L	14 14 -8.331341 A...T.....K
21 16 -7.767955 A.....L.....V	14 14 -8.331341 A.....KT
28 16 -7.767955 V....A.L	15 14 -8.330467 A.....VR
18 16 -7.767955 V.....L..A	18 14 -8.320852 L.....K.....D
23 16 -7.767955 V.....L.A	14 14 -8.320511 EA.....K
17 16 -7.767955 L.....V.....A	14 14 -8.320511 KE.....A
18 16 -7.767955 A.L.....V	15 14 -8.320511 E.....A..K
20 16 -7.767955 V.....A.....L	14 14 -8.320511 E.....A.....K
26 16 -7.767955 A.....V.....L	16 14 -8.320511 A.....E..K
22 16 -7.767955 L.A....V	14 14 -8.320511 E.....KA
18 16 -7.742406 A...A.....A	14 14 -8.320511 K.....E.....A
18 16 -7.742406 A.....A.....A	14 14 -8.312676 S....K.....K
18 16 -7.742406 A.....A.....A	14 14 -8.312676 K.....K.S
18 16 -7.732457 A.....G...S	21 14 -8.305976 L.T.....D
16 16 -7.732457 S.....A.G	14 14 -8.305635 T...E....A
17 16 -7.708866 A.....S.....A	15 14 -8.305635 T...E...A
16 16 -7.708866 SA.....A	23 14 -8.295146 L...E...D
19 16 -7.708866 S.....AA	15 14 -8.286970 S.....EK
17 16 -7.676543 L.....K.....L	21 14 -8.286970 K.....S.....E
21 16 -7.676543 L....K.....L	14 14 -8.286970 E.....S.....K
19 16 -7.676543 L.....L....K	14 14 -8.286970 K.E....S
20 16 -7.676543 L.....K.....L	17 14 -8.269504 K.....L.....I
22 16 -7.650837 L.....L....E	23 14 -8.267821 A.....P...V
17 16 -7.650837 E.L.....L	15 14 -8.253745 K.V.....A
16 16 -7.650837 L....E.....L	14 14 -8.253745 V.....K.....A
17 16 -7.584071 L.....L.....V	15 14 -8.253745 K.....A.....V
18 16 -7.582113 G.....A.....L	15 14 -8.253745 V.....K.....A
16 16 -7.582113 A.LG	15 14 -8.253745 K.....VA
20 16 -7.582113 L.....G.....A	18 14 -8.253745 K....V...A
20 16 -7.558522 L.....A.....A	15 14 -8.253745 K.....VA
16 16 -7.558522 A.....A.....L	21 14 -8.253745 K.....A.....V
26 16 -7.558522 A.....L..A	15 14 -8.253745 K.A.....V
33 16 -7.558522 L.....AA	14 14 -8.253745 A.....V.....K
30 16 -7.558522 L.....A.A	21 14 -8.253745 K.....V.....A
16 16 -7.558522 A...L.....A	14 14 -8.253745 K..A.....V
17 16 -7.558522 L.....A....A	14 14 -8.253745 A.....V..K
18 16 -7.524982 L.....S.....A	16 14 -8.251630 GV.....E
19 16 -7.524982 S.....L....A	14 14 -8.248432 L.....G.....F
16 16 -7.524982 S..L..A	20 14 -8.243798 E.....I.....L
17 16 -7.524982 A.....S..L	15 14 -8.228380 V.....D.....L
17 16 -7.524982 S.....L..A	14 14 -8.228039 V....E.....A
22 16 -7.491442 S.....S.L	15 14 -8.228039 E.....V.....A
20 16 -7.374638 L.....AL	14 14 -8.228039 V.....E.A
17 16 -7.374638 L.....L.....A	14 14 -8.228039 V.....E.A
17 16 -7.374638 L.....L..A	15 14 -8.228039 E....V.....A
15 15 -65.948156 H..K.....F.VVKEA.L.T.K...G..WS.E....W..AYD.L...IK	18 14 -8.228039 V..A.....E
15 15 -62.799757 H..K.....F.VVKEA.L.T.K...G..WS.E....W..AY..L....KK	18 14 -8.228039 V.....E..A
15 15 -62.497852 H..K.....F.VVKEA.L.T.K...G..WS.E...AW..AY..L....K	17 14 -8.228039 E.....A..V
15 15 -58.960287 H..K...D..F.VVKEA.LKT.K...G..WS.E.....Y..L....K	20 14 -8.224841 A..LF
15 15 -58.824801 H..K.....F.VVKEA.L.T.K...G..W.....A...AYD.L...IK	19 14 -8.224841 L.....A.....F
15 15 -58.640916 L...H..K.....F.VV.EA.L.T.K...G..W.....AYD.L...IKK	14 14 -8.224841 L.A.....F
15 15 -57.855045 H.....D..F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK	16 14 -8.224841 L.....F.....A
15 15 -57.418212 G..H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	14 14 -8.224841 F.L.....A
15 15 -57.418212 G..H.....F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK	17 14 -8.224841 F.....L.....A
15 15 -57.285333 G..H.....D..F.V.K.A.L.T.KE....WS.E....W..AY..L....K	16 14 -8.224841 A.....L.....F
15 15 -57.210736 L...H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	18 14 -8.224841 F.L....A
15 15 -57.210736 L...H.....F.V.K.A.L.T.K.....WS.E....W..AYD.L...IK	18 14 -8.220205 S.....V.....K
15 15 -57.077858 L...H.....D..F.V.K.A.L.T.KE....WS.E....W..AY..L....K	16 14 -8.220205 S.....K..V
15 15 -56.825250 LG..H.....D..F.V.K.A.L.T.K.....WS.E....W..AY..L....K	14 14 -8.220205 V.....K..S
15 15 -56.773903 LG..H.....F.V.K.A.L.T.K.....WS.E....W..AY..L...IK	15 14 -8.202831 A.....D.....A
15 15 -55.965684 G..H..K.....F.VV.EA.L.T.K...G..W.....AYD.L...IK	14 14 -8.202831 A.....A...D
15 15 -55.676402 H..K.....F.VVKEA.L.T.K...G..W.....A...AY..L....KK	20 14 -8.202831 A.....D.....A
15 15 -55.516108 LG..H..K.....F.VVKEA.L.T.K...G..W.....Y..L....KK	14 14 -8.191301 L..S.....F
15 15 -55.190612 H..K.....F.VVKEA.L.T.K...G..W...L.....AY..LA...K	15 14 -8.187629 N..L.....G
15 15 -54.920991 H.....F.V...A.L.TIK.....WS.E....W..AYD.L...IK	16 14 -8.184864 G.....V.V
15 15 -54.788112 H.....F.V...A.L.T.KE....WS.E....W..AYD.L...IK	18 14 -8.177033 LV.....I
15 15 -54.762471 H.....F.V.K.A.L.TIK.....WS.E....W..AY..L...IK	15 14 -8.175075 I....G.....A
15 15 -54.721347 H....V....F.V...A.L.T.K.....WS.E....W..AYD.L...IK	20 14 -8.169291 D..S.....A
15 15 -54.484157 G..H.....F.V...A.L.TIK.....WS.E....W..AY..L...IK	24 14 -8.164038 N.....L....A
15 15 -54.460566 H.....F.V...A.L.TIK.....WS.E...AW..AY..L...IK	15 14 -8.162332 K.....LK
15 15 -54.328029 H.....F.V...ALL.T.K.....WS.E....W..AYD.L...IK	14 14 -8.162332 K.....K....L
15 15 -54.220857 H.....D..F.V.K.ALL.T.K.....WS.E....W..AY..L....K	16 14 -8.162332 K.....L.K
15 15 -54.169510 H.....F.V.K.ALL.T.K.....WS.E....W..AY..L...IK	15 14 -8.162332 K.....K.....L
15 15 -54.165657 V.....F.VVKEALL.T.K...G..W.....E.AY..L....K.A	14 14 -8.162332 L.K.....K
15 15 -54.076413 H.....P.F.V.K.ALL.T.K.....WS.E....W..AY..L....K	17 14 -8.161273 V....A.....V
15 15 -53.891195 G..H.....F.V...ALL.T.K.....WS.E....W..AY..L...IK	20 14 -8.161273 A.....VV
15 15 -53.867604 H.....F.V...ALL.T.K.....WS.E...AW..AY..L...IK	21 14 -8.161273 V...A.....V
15 15 -53.784023 G..H.....F.V.K.ALL.T.K.....WS.E....W..AY..L....K	17 14 -8.161273 V.....V.....A
15 15 -53.760432 H.....F.V.K.ALL.T.K.....WS.E...AW..AY..L....K	14 14 -8.151484 A.....A.I
15 15 -53.576548 L...H.....F.V.K.ALL.T.K.....WS.E....W..AY..L....K	14 14 -8.151484 I..A.....A
15 15 -53.482118 G..H.....F.V...ALL.T.K.....WS.E...AW..AY..L....K	16 14 -8.151484 A.....AI
15 15 -53.094727 H.....F.V.K.A.L.T.K.....WS.E...A...AYD.L...IK	14 14 -8.136626 E.....L.....K
15 15 -52.816413 G..H.....F.V...A.L.T.K.....WS.E..A...AYD.L...IK	22 14 -8.136626 K.....L....E
15 15 -51.572948 H....V....F.V.K.A.L.T.K.....WS.E....W..AY..L....K	22 14 -8.136626 E...L.....K
15 15 -51.294634 G..H....V....F.V...A.L.T.K.....WS.E....W..AY..L....K	16 14 -8.130498 N.....L.....S

15 15 -51.153924 H.....F.V...ALL.T.KE.....WS.E....W..AY..L....K	14 14 -8.130498 L.....N....S
15 15 -51.087158 H.....F.V...ALL.T.K.....WS.E....W.VAY..L....K	14 14 -8.130498 S.....N.....L
15 15 -50.877725 H.....F.V...ALL.T.K.A....WS.E....W..AY..L....K	14 14 -8.127733 V.....SV
15 15 -50.877725 H.....F.V...ALL.T.K.....WS.E....W..AY..L..A.K	22 14 -8.127733 S.....VV
15 15 -50.294857 G..H.....F.V.K.A.L.T.K.....W.....A...AYD.L...IK	15 14 -8.121751 TE....L
15 15 -50.110972 LG..H.....F.V.K.A.L.T.K.....W.....AYD.L...IK	16 14 -8.112410 L.....Q..A
15 15 -50.087381 L...H.....F.V.K.A.L.T.K.....W.....A...AYD.L...IK	14 14 -8.110920 E.....E.....L
15 15 -48.795706 H..K.....F.VVKEA.LKT.K...G.....A....Y..L....K	15 14 -8.083937 V.....P.....L
15 15 -48.600068 G..H.....VKEA...T.K.....WS.E....W..AY..L....K	14 14 -8.078869 S...Q.....L
15 15 -48.197986 H..K.....F.VVKEA.LKT.K...G.....A...L....KK	22 14 -8.069860 K.....L.....V
15 15 -47.899897 H....V....F.V.K.A.L.T.K.....W.....AYD.L...IK	15 14 -8.069860 K...L.....V
15 15 -47.631261 P.L..HAE..F..V.D8A.QL...G.VV.....V....L	15 14 -8.069860 V....L.....K
15 15 -47.621583 G..H....V....F.V...A.L.T.K.....W.....AYD.L...IK	25 14 -8.069860 K.....V.....L
15 15 -47.597992 H....V....F.V...A.L.T.K.....W.....A...AYD.L...IK	15 14 -8.069860 V.....L.....K
15 15 -47.554494 H..K.V....F.VVKEA.L...K...G..W.....Y..L....K	15 14 -8.067902 G.....K.A
15 15 -47.506579 H.....F.V.K.ALL.T.K.....W.....AYD.L...IK	15 14 -8.044311 A.....A..K
15 15 -47.228265 G..H.....F.V...ALL.T.K.....W.....AYD.L...IK	17 14 -8.044311 K.....A....A
15 15 -47.204674 H.....F.V...ALL.T.K.....W.....AYD.L..AIK	20 14 -8.044311 K....A.....A
15 15 -47.204674 H.....F.V...ALL.T.K.....W.....A...AYD.L...IK	15 14 -8.044311 A.K.A
15 15 -47.081990 ALL.T.K.....WS.E....W..AYD.L..AIK	16 14 -8.044311 K.....A.....A
15 15 -47.069746 G..H.....F.V.K.ALL.T.K.....W.....AY..L...IK	19 14 -8.044311 K.....A.....A
15 15 -47.046155 H.....F.V.K.ALL.T.K.....W.....A...AY..L...IK	15 14 -8.044311 A.....KA
15 15 -46.862270 L...H.....F.V.K.ALL.T.K.....W.....AY..L...IK	18 14 -8.044311 A.....K.....A
15 15 -46.767840 G..H.....F.V...ALL.T.K.....W.....A...AY..L...IK	14 14 -8.044311 A..KA
15 15 -46.660668 G..H.....F.V.K.ALL.T.K.....W.....A...AY..L....K	16 14 -8.044311 A.A.....K
15 15 -46.476784 LG..H.....F.V.K.ALL.T.K.....W.....AY..L....K	14 14 -8.044311 A.K.....A
15 15 -46.453193 L...H.....F.V.K.ALL.T.K.....W.....A...AY..L....K	14 14 -8.044311 K.....A....A
15 15 -46.187586 LG..H.....F.V.K.A.L.T.K.....S.E...AW..A.....K	15 14 -8.044311 A..K.....A
15 15 -46.066760 H..K.....F.VVKEA.LKT.K...G.....A.D.....I	15 14 -8.044311 K.....A.....A
15 15 -44.909924 A.L.TIKE.....WS.E....W..AY..L...IK	14 14 -8.044311 A.....KA
15 15 -44.473184 G..H....V....F.V.K.A.L.T.K.....W.....AY..L....K	16 14 -8.044311 K....A.....A
15 15 -44.449593 H....V....F.V.K.A.L.T.K.....W.....A...AY..L....K	19 14 -8.044311 A.....KA
15 15 -44.265709 L...H....V....F.V.K.A.L.T.K.....W.....AY..L....K	14 14 -8.044155 V.....L....E
15 15 -44.194870 G..H...GV....F.V...A.L.T.K.....W.....AY..L....K	22 14 -8.044155 V.....L....E
15 15 -44.171279 G..H....V....F.V...A.L.T.K.....W.....A...AY..L....K	19 14 -8.042538 D.....L.....G
15 15 -44.163447 H.....F.V...ALL.T.K.A....W.....AY..L...IK	15 14 -8.042538 G...D....L
15 15 -44.056275 H.....F.V.K.ALL.T.K.....W.....AY..L..A.K	15 14 -8.040956 L..FL
15 15 -44.056275 H.....F.V.K.ALL.T.K.A....W.....AY..L....K	17 14 -8.034362 G.....S.....K
15 15 -44.040763 ALL.T.K.A....WS.E....W..AY..L...IK	14 14 -8.029436 T.....A..A
15 15 -43.777961 G..H.....F.V...ALL.T.K.A....W.....AY..L....K	16 14 -8.029436 T....A.....A
15 15 -43.777961 G..H.....F.V...ALL.T.K.....W.....AY..L..A.K	22 14 -8.018946 L.....D.....A
15 15 -43.754370 H.....F.V...ALL.T.K.....W.....A...AY..L..A.K	17 14 -8.018946 L.....A.D
15 15 -43.754370 H.....F.V...ALL.T.K.A....W.....A...AY..L....K	23 14 -8.018946 L.....D.....A
15 15 -43.631686 ALL.T.K.A....WS.E...AW..AY..L....K	15 14 -8.018946 L.....D.....A
15 15 -43.375058 A.L.TIK.....WS.E...A...AYD.L...IK	17 14 -8.018946 D.....L..A
15 15 -43.267886 K.....A.L.T.K.....WS.E...A...AYD.L...IK	15 14 -8.018605 E...A.....A
15 15 -43.242180 A.L.T.KE.....WS.E...A...AYD.L...IK	20 14 -8.018605 EA.....A
15 15 -41.812872 K.....A.L.T.KE.....WS.E....W..AY..L....K	14 14 -8.018605 A.....A..E
15 15 -41.666896 ALL...K.....W..E...AW..AYD.L...IK	14 14 -8.018605 A.....E.....A
15 15 -41.633651 H.....F.V.K.A.L.T..E.....W.....A...AY..L....K	18 14 -8.018605 EA.....A
15 15 -41.582009 ALL..IK.....WS.E....W..AY..L...IK	18 14 -8.018605 E.....A...A
15 15 -41.476713 G..H.....VKEA...T.K.....W.....A...AY..L....K	14 14 -8.018605 E.....A...A
15 15 -41.449131 ALL...KE.....WS.E....W..AY..L...IK	15 14 -8.018605 A.....A.E
15 15 -41.355337 G..H.....F.V...A.L.T..E.....W.....A...AY..L....K	16 14 -8.018605 E.....A.....A
15 15 -41.352789 K.....ALL.T.K.....WS.E....W..AY..L....K	16 14 -8.018605 A.....E.....A
15 15 -41.093804 H....V....F.V...A.L.T.K.....S.E...AW..A.....K	15 14 -8.010771 K.....S.A
15 15 -41.040053 ALL...KE.....WS.E...AW..AY..L....K	14 14 -8.010771 S.....A.K
15 15 -40.036170 FT..Q.ALV.....K.N.....F.....AP.A...F..L	17 14 -8.010771 K.....S.....A
15 15 -39.958635 ALL.T.K.....W.....A...AYD.L..AIK	14 14 -8.010771 A.....K.S
15 15 -39.700725 T..Q.ALV..S.....N.....F.....AP.A...F.FL	19 14 -8.010771 K.....S.....A
15 15 -39.646050 T..Q.ALV.....N.....F.....E.AP.AK...F..L	19 14 -8.010771 A.K...S
15 15 -39.336311 T..Q.ALV..S.....N.....F.....AP.AK...F..L	16 14 -8.010771 K.....S.....A
15 15 -39.336311 T..Q.ALV.....N.....F.....AP.AK...FS.L	14 14 -7.985406 S.....L.....D
15 15 -39.310605 T..Q.ALV..S.....N.....F.....E.AP.A...F..L	15 14 -7.985065 S..E.....A
15 15 -39.310605 T..Q.ALV.....N.....F.....E.AP.A...FS.L	14 14 -7.985065 S.....E.....A
15 15 -39.000866 T..Q.ALV..S.....N.....F.....AP.A...FS.L	14 14 -7.977389 V....L.....V
15 15 -38.795608 H.....V...A.L.T.KE.....AW...Y..L...IK	19 14 -7.977389 V....V....L
15 15 -38.592766 H....V....F.....ALL.T.K.....W.....AY..L....K	18 14 -7.977389 V.....L.....V
15 15 -37.679738 K.....ALL.T.K.....W.....AYD.L...IK	18 14 -7.977389 L....V.....V
15 15 -37.377833 ALL.T.K.A....W.....AYD.L...IK	22 14 -7.977389 V.....V.....L
15 15 -36.933952 S.....S..FY...L.KAP.AK..F.FL	14 14 -7.977231 SS....K
15 15 -36.917408 ALL.T.K.A....W.....A...AY..L...IK	15 14 -7.977231 S.....K.....S
15 15 -36.094670 G..H.....V...A.L.T..E.....E....W..AY.....I	19 14 -7.975431 A.G.....V
15 15 -34.456994 S...F..N.....F....L..AP.AK..F.FL	16 14 -7.975431 G.....A.....V
15 15 -34.229434 K.....ALL.T.K.....W.....AY..L..A.K	19 14 -7.975431 V.....A.....G
15 15 -34.229434 K.....ALL.T.K.....W.....A...AY..L....K	19 14 -7.975431 A.....G.....V
15 15 -33.965273 T..Q.AL...S.....N.....AP..K..F.FL	16 14 -7.975431 V...A..G
15 15 -33.939568 T..Q.AL...S.....N.....E.AP.....F.FL	23 14 -7.975431 G.V....A
15 15 -33.629828 T..Q.AL...S.....N.....AP.....FSFL	14 14 -7.975431 A.....GV
15 15 -33.575154 T..Q.AL.....N.....E.AP..K..FS.L	27 14 -7.975431 V.....A.G
15 15 -33.575154 T..Q.AL...S.....N.....E.AP..K..F..L	17 14 -7.975431 G.V.....A
15 15 -33.427818 S.....F....LE.AP.AK..FSFL	16 14 -7.967599 I.....L.....A
15 15 -33.265414 T..Q.AL...S.....N.....AP..K..FS.L	19 14 -7.967599 A....I.....L
15 15 -33.239709 T..Q.AL...S.....N.....E.AP.....FS.L	18 14 -7.967599 L..I.....A
15 15 -32.742019 D....V...A.L.T..E.....E....W..AY.....I	15 14 -7.951840 A.....V.....A
15 15 -31.327910 D....V...A.L.T.....W.....AW...Y.....I	23 14 -7.951840 V.....A.....A
15 15 -31.300854 P.L..HA.K.F.....A.QL...G.V	24 14 -7.951840 A.....V.....A
15 15 -31.160770 T..Q.AL.....K.N.....I...AP.....F..L	15 14 -7.951840 VA.....A
15 15 -31.053598 T..Q.AL.....K.N.....AP..K..F..L	15 14 -7.951840 V....A.....A
15 15 -31.027892 T..QEAL.....K.N.....AP.....F..L	14 14 -7.951840 A.....A..V
15 15 -31.027892 T..Q.AL.....K.N.....E.AP.....F..L	16 14 -7.951840 A.....V.....A
15 15 -30.894632 S.....P.....F....LE.AP.A...F.FL	14 14 -7.951840 A..V.....A
15 15 -30.718153 T..Q.AL...S....K.N.....AP.....F..L	14 14 -7.951840 A.....V.....A
15 15 -30.718153 T..Q.AL.....K.N.....AP.....FS.L	16 14 -7.951840 A.....A.....V
15 15 -28.490886 FT..QEALV..S....K.N	16 14 -7.951840 A.....V.....A
15 15 -28.099761 S.....P.....E.AP..K..FSFL	16 14 -7.951840 A.....A.....V
15 15 -27.999913 P.L..HA...F.....SA..LR..G	16 14 -7.951525 S.....E.....S
15 15 -27.361481 LG.....A.L.T.K.....A...AY.....I	16 14 -7.951525 E.....S....S
15 15 -27.140263 G.....KEA.LKT.....G.....A.....K	20 14 -7.941891 V.....G.....S
15 15 -27.029404 G.....F...K...L.....WS.....A....Y.....I	15 14 -7.941891 V.....G...S
15 15 -25.875574 K.N.....F.....E.AP.A...F..L	14 14 -7.941891 V.....G...S
15 15 -25.842033 S.....N.....E.AP..K..F.FL	15 14 -7.941891 G.....V.....S
15 15 -25.608179 T..Q.ALV..S.E.F..N	18 14 -7.934059 L...S.....I
15 15 -25.565834 S....K.N.....F.....AP.A...F..L	14 14 -7.918300 S.....A.....V
15 15 -25.532294 S.....N.....AP..K..FSFL	14 14 -7.918300 V.S.....A
15 15 -25.506588 S.....N.....E.AP.....FSFL	17 14 -7.918300 A.....V....S

15 15 -25.142174 S.....N.....E.AP..K..FS.L	17 14 -7.918300 S.....A..V
15 15 -25.087371 A.L.T.....W.....AW...Y.....A	16 14 -7.918300 S.....V.....A
15 15 -24.893238 S.....S.....AP..K..FSFL	14 14 -7.918300 V.....S.....A
15 15 -23.833630 G.....D.....L.....WS.....A...Y.....K	15 14 -7.918300 S.....V.....A
15 15 -22.999925 S.....N.....F.....A...FSFL	16 14 -7.918300 S.....V.....A
15 15 -22.930358 K.N.....E.AP..K..F..L	21 14 -7.884018 G.....K.....L
15 15 -22.796428 F...I.E.AP.A...F..L	15 14 -7.874503 P.A..L
15 15 -22.620618 S....K.N.....AP..K..F..L	14 14 -7.869143 G.....L..T
15 15 -22.620618 K.N.....AP..K..FS.L	18 14 -7.860427 L.....K..A
15 15 -22.594912 K.N.....E.AP.....FS.L	22 14 -7.860427 L.....K.....A
15 15 -22.594912 S....K.N.....E.AP.....F..L	14 14 -7.860427 L.....A.....K
15 15 -22.486689 S.....F...I...AP.A...F..L	20 14 -7.860427 L.K.....A
15 15 -22.285173 S....K.N.....AP.....FS.L	27 14 -7.860427 K.....L.....A
15 15 -22.285173 S.....N.....P.AK..FS.L	14 14 -7.860427 L.K..A
15 15 -21.955857 S.....S.....E.AP..K....FL	14 14 -7.860427 L.....A.K
15 15 -21.767208 ALL.T.K.A.....Y.....A	15 14 -7.860427 K.....LA
15 15 -19.851212 I.E.AP..K..F..L	14 14 -7.860427 L....A.....K
15 15 -19.552697 F....EA.....S.E.....A...K	14 14 -7.860427 A.....K.....L
15 15 -19.541473 S.....I...AP..K..F..L	14 14 -7.860427 L..A.....K
15 15 -19.541473 I...AP..K..FS.L	14 14 -7.860427 A.....K.....L
15 15 -19.515767 I.E.AP.....FS.L	14 14 -7.860427 K.....L.....A
15 15 -19.515767 S.....I.E.AP.....F..L	14 14 -7.860427 K.....A...L
15 15 -19.380251 V.....K.....E.....L...IK.A	14 14 -7.860427 K....L.....A
15 15 -19.206027 S.....I...AP.....FS.L	14 14 -7.860427 L.....K.....A
15 15 -19.180607 V.....K.....EV....L....K.A	16 14 -7.858312 L....E...G
15 15 -18.865001 T..Q.ALV.SS	16 14 -7.845552 L..T.....A
17 15 -18.278472 V.....KEA...T.....W	21 14 -7.835062 L.....D.....L
16 15 -18.200875 V.....VKEA.....W	15 14 -7.834721 L.....E.....A
16 15 -17.283745 AL.....K.N.....I.....F	17 14 -7.834721 E....L..A
15 15 -17.251452 K.....AP.....F.FL	17 14 -7.834721 L....E.....A
16 15 -17.084101 ALV.....K.N.....F	15 14 -7.834721 E.....L.A
16 15 -16.841128 AL...S....K.N.....F	15 14 -7.834721 L....E.....A
15 15 -16.765615 T.....LV.....K.....A.....F	18 14 -7.834721 E...AL
15 15 -16.758481 V...A.....K.A.....D.....K	14 14 -7.834721 L.....E.....A
15 15 -16.758481 V...A.....K.....D.....K.A	17 14 -7.834721 A..E....L
15 15 -16.756366 D.....K.....V.....G.....E.....A	16 14 -7.826887 KL.....S
15 15 -16.756366 D.....K.....V.....G.....E.....A	19 14 -7.826887 K.....L.S
15 15 -16.614037 K....P.....K.....A..V.....A	23 14 -7.826887 K.....S..L
15 15 -16.551593 AP.....FS.LK	14 14 -7.801181 E.....L.S
15 15 -16.549047 A.....K.A.....A.....D.....K	17 14 -7.801181 E.L.....S
15 15 -16.505375 K.....V.V.....G.....E.....A	15 14 -7.801181 S.E.....L
15 15 -16.448244 V.....K.....V...A.....S.....E	14 14 -7.791546 L.....G.....V
15 15 -16.416077 K.....V..A.....K.....L.....K	28 14 -7.791546 V.....L.....G
15 15 -16.410211 T.KQ.AL...S	21 14 -7.791546 V.....L.....G
16 15 -16.298056 V...A.....K.A.....A.....K	20 14 -7.791546 L.....G.....V
15 15 -16.297899 VV....L.....E...A.....K	21 14 -7.789588 G.....A.G
15 15 -16.143140 F.....AL.....S.....V.....A	19 14 -7.767955 L.....V.....A
16 15 -16.019585 L....E.....A.....G.V.....V	16 14 -7.767955 L.....V.....A
15 15 -15.952820 A.....G.V.....VV....L	19 14 -7.767955 V.....L.....A
16 15 -15.792803 P...V.....A.....S.....A.....L	16 14 -7.767955 L.A...V
15 15 -15.766977 G.....G.....VV..A.L	16 14 -7.767955 L...A..V
16 15 -15.559502 VV..A.L.....G.....L	16 14 -7.767955 A.....L.....V
16 15 -15.410640 A.....V.....KE.....W	16 14 -7.767955 V.....A..L
15 15 -15.385409 L.KA..A....S.L	15 14 -7.767955 L.....A..V
15 15 -14.894918 G..H.....F.....L.....E	16 14 -7.767955 A.L.....V
15 15 -14.828152 LG..H....V....F	14 14 -7.767955 V.....A.....L
15 15 -14.828152 G..H....V....F.....L	15 14 -7.767955 L.....V.....A
17 15 -14.702943 L.....K.N.....I.....F	15 14 -7.767955 L.A.....V
15 15 -14.687442 L...H.....F.....L.....E	16 14 -7.767955 A.....V.....L
15 15 -14.659772 K.....FV...E.....K	14 14 -7.767955 L.....V.....A
15 15 -14.609524 T.....S.E.....Y.....E	17 14 -7.767955 V.....L.....A
17 15 -14.503299 LV.....K.N.....F	15 14 -7.767955 L.....A.....V
17 15 -14.260326 L...S....K.N.....F	17 14 -7.767955 V.....L....A
15 15 -14.172150 E.L.....A.E..Y	20 14 -7.767955 V....AL
17 15 -14.148434 E.A.A.K..F	16 14 -7.767955 V.....L..A
18 15 -14.114894 S.....E.A...K..F	15 14 -7.767955 V...L.....A
16 15 -14.024802 T.K.....L.....Y..L	15 14 -7.767955 LV.....A
19 15 -13.997214 A...F....DSA	21 14 -7.767955 A.....V....L
15 15 -13.992735 V.D.....V....A.....V	14 14 -7.765997 A.G.....A
16 15 -13.942447 K.....V....L...IK	19 14 -7.765997 A.....A.G
15 15 -13.926688 V...A.....K.....V.....K	20 14 -7.765997 A..G.....A
15 15 -13.900982 V.....K.....V..A.....E	16 14 -7.742406 A.....A.....A
16 15 -13.895826 F...K.....G.....A....A	17 14 -7.742406 A.....A...A
15 15 -13.848292 P.....V.....V....A.....V	17 14 -7.742406 A.....A...A
15 15 -13.800676 K....V..S.....VV	19 14 -7.742406 A.....A.....A
16 15 -13.794850 A...T.K.....A.....K	14 14 -7.742406 A....A.....A
15 15 -13.791495 T.....L.....FK.....L	16 14 -7.734415 SV.....L
16 15 -13.761310 A...T.K.....S.....K	14 14 -7.734415 L.S.....V
15 15 -13.750480 K.S.E.....A...K	15 14 -7.734415 S.....V.....L
15 15 -13.740845 V.....K.....G.K.....A	15 14 -7.732457 G....S....A
17 15 -13.717254 K.....V....K.....A...A	15 14 -7.708866 S.....A....A
15 15 -13.715139 A.....V.E.....K..G	16 14 -7.708866 A.A.....S
15 15 -13.691889 V..DA.L.....K	17 14 -7.708866 SA....A
23 15 -13.662644 F.....AL.....EA	24 14 -7.708866 A.....S.....A
15 15 -13.648373 VV.....K.....G.....A	18 14 -7.708866 S.....A.....A
15 15 -13.633791 A.....S...Q.....V...A	15 14 -7.708866 A.....S.....A
16 15 -13.629104 F.....AL.....E.....S	17 14 -7.708866 S.....A.....A
15 15 -13.610966 K.....K.....T.....L..A	15 14 -7.708866 S.....A...A
15 15 -13.574430 EA.LK...E	19 14 -7.708866 A.....S.....A
16 15 -13.562338 F.....AL.....S.....V	15 14 -7.676543 L.K.....L
16 15 -13.533370 K.....V....L....K.A	14 14 -7.675326 S.....S.....A
20 15 -13.533370 L.....K.....V.....K.....A	17 14 -7.675326 SS.....A
15 15 -13.522362 G.V..S.....VV	14 14 -7.584071 L.....L.....V
16 15 -13.506047 G.....D.....K...L.....A	15 14 -7.584071 V.....L.....L
15 15 -13.498771 V..S.....A...VV	14 14 -7.582113 A.....L.....G
15 15 -13.489590 T.....L.....F.....L.....A	17 14 -7.582113 A.....L...G
15 15 -13.448575 K.....S.....E.A.....A	22 14 -7.582113 L.....G.....A
17 15 -13.431109 AL...IK.A	20 14 -7.582113 A.....G.....L
15 15 -13.430483 G..H.....HF	20 14 -7.582113 L.....G.....A
16 15 -13.415192 VV....L.....E...A	23 14 -7.558522 L.....A.....A
18 15 -13.372017 G.V.....VV....L	21 14 -7.558522 A.....L.....A
16 15 -13.372017 V.....VV....L.....G	16 14 -7.558522 L.A.....A
16 15 -13.352905 F.....AL.....A.....S	19 14 -7.558522 L.....A.....A
18 15 -13.347527 K.....L.....G.....A...K	16 14 -7.558522 L.....A....A
17 15 -13.347527 K.....L.....G.....A.K	19 14 -7.558522 L.....A.....A
15 15 -13.346468 VV...A.....G.....A	15 14 -7.558522 A.....A.L
15 15 -13.298230 K.....A.....EL.....A	16 14 -7.558522 A.....L..A

15 15 -13.298230 K..........E.L......A.............A	22 14 -7.558522 A.....A..L
15 15 -13.298230 K.........EL......A....A	24 14 -7.558522 L.....A.....A
16 15 -13.255056 V...AL....K...G	16 14 -7.558522 A.....L.....A
16 15 -13.231465 K.........V..A.............L..........A	18 14 -7.558522 A.......LA
16 15 -13.231465 A.....V....L...K.A	21 14 -7.558522 L....AA
16 15 -13.231308 V.....L....E.V.....L	20 14 -7.558522 A.....L.....A
16 15 -13.229507 G.....K.........A..........A..........A	17 14 -7.558522 L......A.....A
17 15 -13.212001 P...V..........A.....S.....L	16 14 -7.558522 L.....A....A
18 15 -13.212001 P...V.....S.....A.....L	20 14 -7.558522 L.....A.....A
15 15 -13.169021 F.....L.....S..L.....A	26 14 -7.558522 AL.....A
17 15 -13.162584 L.....A.....G.V.....V	19 14 -7.558522 L.....A.....A
16 15 -13.162584 A.....G.V.....V....L	14 14 -7.558522 A.....L.....A
15 15 -13.140052 L.....K....L.....A...K	14 14 -7.548573 G....S...L
15 15 -13.140052 A.L.....K.....LK	15 14 -7.548573 G.....L...S
16 15 -13.138993 VV..A.L.....A	17 14 -7.548573 L.....G.....S
15 15 -13.125177 L.....L.T.....A...K	15 14 -7.548573 L.....G....S
15 15 -13.120588 K.....S.....L...P.....L	18 14 -7.524982 L.....A.....S
15 15 -13.114346 EALLK	27 14 -7.524982 L.....S.....A
15 15 -13.099471 L.....L.T..E.....A	18 14 -7.524982 L...S.....A
16 15 -13.047580 V.....L.....A...L....K	17 14 -7.524982 L.....S.....A
17 15 -13.045622 L.....A.G.....A.K	19 14 -7.524982 A....S.....L
16 15 -13.021874 L....E.V.....L..A	16 14 -7.524982 L....A.....S
19 15 -13.021874 V.....L....E.....L..A	15 14 -7.374638 L.....L.....A
17 15 -13.002567 P.....A.....S.....A.....L	17 14 -7.374638 L.....L.....A
22 15 -12.996325 AL.....EA.....A	14 14 -7.374638 L.....A.....L
15 15 -12.988491 K.....A..A...S.L	14 14 -7.374638 L.....L.A
15 15 -12.962785 EA.....S..L..A	17 14 -7.374638 L.....L.....A

REFERENCES

[1] Rigoutsos, I. and A. Floratos, "*Teiresias*: An Algorithm For The Discovery Of Patterns In 1-Dimensional Event Streams." IBM Thomas J. Watson Research Center Technical Report. Spring 1997.

[2] Kapp O.H., L. Moens, J. Vanfleteren, C.N. Trotman, T. Suzuki, and S.N. Vinogradov, "Alignment of 700 Globin Sequences: Extent Of Amino Acid Substitution And Its Correlation With Variation In Volume," Protein Science, 4, 2179-2190, 1995.

[3] Bairoch A, P. Bucher, and K. Hofmann, "The PROSITE database: its status in 1995," Nucleic Acids Research, 24, 189-196, 1996.

[4] Rigoutsos I., A. Floratos and C. Ouzounis, "Case Studies in Pattern Discovery Without Alignment: Results Using the Teiresias Algorithm." IBM Thomas J. Watson Research Center Technical Report. Spring 1997.

[5] Bairoch A., and Boeckmann B. "The SWISS-PROT Protein Sequence Data Bank: Recent Developments." Nucleic Acids Res. 21:3093-3096(1993).