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Rosa, Leonardo T., Springthorpe, Victoria Jayne, Bianconi, Matheus E. et al. (2 more authors) (2018) Massive over-representation of solute-binding proteins (SBPs) from the tripartite tricarboxylate transporter (TTT) family in the genome of the α -proteobacterium Rhodoplanes sp. Z2-YC6860. *Microbial Genomics*. pp. 1-7.

<https://doi.org/10.1099/mgen.0.000176>

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Microbial Genomics

Massive overrepresentation of solute-binding proteins (SBPs) from the tripartite tricarboxylate transporter (TTT) family in the genome of the α -proteobacterium *Rhodoplanes* sp. Z2-YC6860 --Manuscript Draft--

Manuscript Number:	
Full Title:	Massive overrepresentation of solute-binding proteins (SBPs) from the tripartite tricarboxylate transporter (TTT) family in the genome of the α -proteobacterium <i>Rhodoplanes</i> sp. Z2-YC6860
Article Type:	Short Paper
Section/Category:	Microbial evolution and epidemiology: Mechanisms of evolution
Keywords:	Solute transporter; periplasmic-binding protein; Gene duplication; gene overrepresentation; lineage specific expansion.
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Manuscript Region of Origin:	UNITED KINGDOM
Abstract:	<p>Lineage specific expansion (LSE) of protein families is a widespread property of many eukaryotic genomes, but is generally more limited in bacterial genomes. Here, we have discovered the presence of 434 genes encoding solute-binding proteins (SBPs) from the Tripartite Tricarboxylate Transporter (TTT) family, within the 8.2 Mb genome of the α-proteobacterium <i>Rhodoplanes</i> sp. Z2-YC6860, a gene family overrepresentation of unprecedented abundance in prokaryotes. Representing over 6 % of the total number of coding sequences, the SBP genes are distributed across the whole genome, but found rarely in low-GC islands, where the gene density for this family is 10-fold lower. This observation, and the much higher sequence identity between the 434 <i>Rhodoplanes</i> TTT SBPs compared to the average identity between homologues from different species, suggests a key role for LSE in the expansion. The TTT SBP genes were found in the vicinity of genes encoding membrane components of transport systems from different families, as well as regulatory proteins such as histidine-kinases and transcription factors, suggesting a broad range of functions around the sensing, response and transport of organic compounds. A smaller expansion of TTT SBPs is known in some species of the β-proteobacteria <i>Bordetella</i> and we observed similar expansions in other β-proteobacterial lineages including <i>Comamonas</i> sp., and the industrial biotechnology organism <i>Cupriavidus necator</i> suggesting that strong environmental selection can drive SBP duplication and specialisation from multiple evolutionary starting points.</p>

MICROBIAL GENOMICS

1 Massive overrepresentation of solute-binding proteins
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4 sp. Z2-YC6860

5

6

7 **Key words:** Solute transporter; periplasmic-binding protein; Gene duplication; gene
8 overrepresentation; lineage specific expansion.

9 **Word count:** 2203

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13 Abstract

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17 (SBPs) from the Tripartite Tricarboxylate Transporter (TTT) family, within the 8.2 Mb
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30 proteobacteria *Bordetella* and we observed similar expansions in other β -
31 proteobacterial lineages including *Comamonas* sp., and the industrial biotechnology
32 organism *Cupriavidus necator* suggesting that strong environmental selection can
33 drive SBP duplication and specialisation from multiple evolutionary starting points.

34

35 Impact Statement

36 Intraspecific gene homology is a common evolutionary feature among prokaryotes,
37 helping to build metabolic versatility and adaptability, but is mostly restricted in terms
38 of gene numbers. Here, the overrepresentation of a gene family of unprecedented
39 magnitude in a prokaryotic genome is described, with 434 genes belonging to the
40 TTT SBP family in the α -proteobacterium *Rhodoplanes sp. Z2-YC6860* genome.
41 Although an overrepresentation of smaller scale has been characterised for this
42 family in some β -proteobacteria, we provide evidence that LSE, rather than HGT, is
43 likely the major driving mechanism for this expansion, suggesting that environmental
44 selection can drive the expansion of binding proteins independently in multiple
45 organisms.

46

47 Introduction

48 Gene family expansions result from events of gene duplication and horizontal gene
49 transfer (HGT), and are major drivers for metabolic versatility and adaptation in
50 prokaryotes and eukaryotes [1, 2]. High-throughput analyses of prokaryotic genomes
51 suggest that the number of homologous genes correlates positively with genome
52 size, possibly reflecting the versatility required from the complex environments
53 bacteria with large genome sizes often inhabit [1, 3-5], and that species showing
54 similar families of homologues usually show similar metabolic features [1]. However,
55 although the sum of genes encoding proteins that form members of gene families is
56 significant, the number of members of individual families is usually low, with only 2%
57 of such families showing three or more copies [5, 6], and there are very few cases
58 where an overrepresentation of a single gene family is observed in a prokaryotic
59 genome that is not related to transposon and phage insertions [5].

60 One of the few exceptions is the observed overrepresentation of histidine kinases
61 (HPKs), reaching over 100 gene copies and representing 2.5% of the coding
62 sequences in some genomes [7, 8]. Although HGT seems to have played an
63 important role in the expansion of this gene family, the largest overrepresentations
64 are a consequence of gene duplication leading to lineage-specific expansions (LSE),
65 which then results in the occurrence of “orphan” HPKs (*i.e.* not encoded next to their
66 cognate response regulators), that subsequently diverge through rearrangements in
67 their N-terminal signalling domain to sense different environmental conditions [7]. In
68 genomes where the expansion is driven by HGT, the HPK and the response
69 regulators are duplicated together, undergoing a rapid selective pressure to co-
70 evolve and cease “cross-talk” with other systems [9].

71 A second example is the genome of the subsurface α -proteobacterium *Geobacter*
72 *sulfurreducens*, which contains 111 genes encoding for proteins of the cytochrome *c*
73 family, representing 3% of the total theoretical proteome [10]. This
74 overrepresentation correlates with the versatile bioenergetics of this organism, which
75 uses metal ion-mediated electron transport to oxidize its substrates [10], although
76 the actual function of the vast majority of these cytochromes is unknown.

77 A third example is the genome of the gut symbiotic *Bacteroides thetaiotaomicron*,
78 which revealed the existence of 106 homologous genes to *susC* and 57 homologous
79 genes to *susD*, encoding components of outer membrane uptake systems. In
80 addition, 71 genes encoding glycosyltransferases are present, being involved in
81 capsular polysaccharide biosynthesis. The overrepresentation of these two families
82 is believed to relate both to the versatile uptake and utilisation of otherwise non-
83 digestible sugars and evasion of the human immune system [8].

84 A final example of a large gene overrepresentation in bacterial genomes, relates to
85 solute-binding proteins (SBPs) of the Tripartite tricarboxylate Transporters (TTT)
86 family [11]. The TTT family are secondary transporters that use a periplasmic SBP
87 for initial substrate recognition and binding. The TctCBA citrate uptake system from
88 *Salmonella typhimurium* is the prototypical transporter of this family [12]. Each
89 complete system is composed of three subunits: a 12-helix transmembrane protein,
90 homologous to TctA and thought to be the solute carrier itself, a poorly-conserved 4
91 TM domain accessory protein, homologous to TctB and of unknown function, and a
92 periplasmic SBP, homologous to TctC and responsible for substrate specificity and
93 initial high-affinity binding.

94 Genomic studies in the whooping-cough causing agent *Bordetella pertussis* revealed
95 the existence of 79 genes encoding TTT SBPs [13], and further analysis showed this
96 overrepresentation was found in many *Bordetella* species, reaching 181 genes in
97 *Bordetella bronchiseptica*, and in a closely related bacterium, *Cupriavidus*
98 *metallidurans* [14]. Intriguingly, the number of genes for the membrane components
99 did not follow the same pattern, showing no more than 4 representatives in
100 *Bordetella*, leaving the majority of the SBPs as “orphans”. Later genome releases
101 showed this overrepresentation was found also in other β -proteobacteria of the
102 genus *Advenella* [15]. In this study, we further analyse the distribution of TTT SBPs
103 in bacteria and discover a group of α -proteobacteria that have independently
104 expanded their use of these proteins to unprecedented levels for any gene family in
105 any currently known bacterial genome.

106

107 Results and Discussion

108 While studying the function and diversity of TTT transporters [11, 16], we analysed
109 the number of TTT SBP homologues encoded amongst 2323 different bacterial
110 genomes. These data were mapped onto a 16S rRNA tree to determine how the
111 frequency of the SBPs was associated with the phylogenetic position of the
112 organisms (**Fig. 1**). The known expansions of the TTT SBPs in the *Bordetellae* [14]
113 can be clearly identified in the tree, as well as other expansions within the β -
114 proteobacteria. However, examples of genomes enriched in TTT SBPs can also be
115 seen in the α -proteobacteria, and most strikingly in the genome of *Rhodoplanes sp.*
116 Z2-YC6860 (Assembly: GCA_001579845.1), where 434 TctC homologs were found
117 encoded in its 8.2 Mbp genome, representing 6.2% of the total coding sequences

118 (CDS) (**Fig 1**). Other closely related α -proteobacteria show similar but smaller
119 enrichments, including *Pseudorhodoplanes sinuspersici* RIPI110, with 99 TTT SBPs,
120 and *Bradyrhizobium icense* LMTR13, with 43 TTT SBPs.

121

122 We examined the genome of *Rhodoplanes* sp. Z2-YC6860 in more detail to check
123 the quality of the assembly and to investigate where the genes for the 434 TTT SBPs
124 were located (**Fig 2**). To check the assembly we plotted the GC skew (innermost ring
125 in Fig. 2) and observed the typical skew reversal from the likely origin of replication
126 until the likely termination site [17]. We also plotted the GC content (next innermost
127 ring in Fig.2) and could identify likely regions of DNA with atypically low GC, which
128 were also predicted to be genomic islands using IslandViewer4 [18]. Interestingly,
129 although the TTT SBP genes are distributed across the whole genome, the number
130 of such genes in these low GC regions, which comprise 24% of genome length and
131 with a GC content of 57.8%, is only 13, which gives a 'density' of TTT SBP genes in
132 these regions of 6.6 genes/Mb. The rest of the genome, in contrast, has a GC
133 content of 63.5%, and contains 421 TTT SBP genes, so has a 'density' 67.6 TTT
134 SBP genes/Mb. This striking 10-fold difference in density suggests that recent
135 detectable HGT is not the primary route by which these genes have been acquired
136 as these regions in effect dilute the density of the TTT SBPs found in the rest of the
137 genome.

138

139 Examination of the arrangement of the TTT SBPs on the genome reveals that there
140 are 48 sets of these genes arranged in tandem arrays, while others are present in
141 longer arrays of 3,4 and 5 genes (**Table 1**). Remarkably, there is a single array

142 containing 9 TTT SBPs adjacent to each other. The closely related
143 *Pseudorhodoplanes sinuspersici* RIPI110 and *Bradyrhizobium icense* LMTR13 also
144 show evidence of tandem arrays, but not of this complexity. However, we cannot
145 exclude the presence of similar organisations in closely related bacteria where
146 genomic information is not available.

147 Given these arrays of genes might have arisen by LSE, and not by transference of
148 whole arrays through HGT, we then assessed the level of sequence identity between
149 the 434 TTT SBPs of *Rhodoplanes sp.* Z2-YC6860 by comparing all against each
150 other using pairwise BLAST analysis (**Table S1**). The highest identity for any given
151 pair of proteins was 79.7% with 145 sequences having over 50% identity to another
152 TTT SBP in *Rhodoplanes sp.* Z2-YC6860, of which 25 were above 60% identity.
153 Given that the average identity between TTT SBPs homologs from different species
154 range from 25% to 40% [11], these data reinforce LSE as the major mechanism
155 driving this overrepresentation, although a comprehensive phylogenetic analysis of
156 the TTT SBP protein sequences across the Proteobacteria would be necessary to
157 show the exact extent of the contribution of LSE. Within the unusual 9 gene array,
158 we examined the relationships between the proteins encoded by genes in the cluster
159 compared to the remaining TTT SBP homologues encoded in the genome (**Fig. 3**).
160 Interestingly, with a single exception, the proteins are not more than 50% identical to
161 each other and 5 of the 9 proteins have the greatest similarity to proteins outside the
162 cluster with RHPLAN_29570 being the closest match for 4 of them. Even this limited
163 analysis suggests a complex pattern of gene gain and movement of genes around
164 the chromosome.

165

166 Finally we considered what the functions of this expansion might be and noted that it
167 appears to have occurred multiple times in different bacteria. From the genome
168 context of the TTT SBPs we could see that many were genetically linked to known
169 transporters. However, only 9 form part of standard operons for a full TTT
170 transporter, along with genes encoding TctA and TctB-like membrane proteins.
171 Perhaps more surprisingly, some are linked to genes encoding subunits of *other*
172 SBP-dependent transporters, with 8 linked to Tripartite ATP-Independent
173 Periplasmic (TRAP) transporters and 41 to ATP-Binding Cassette (ABC)
174 transporters. One of the proposed explanations for the overrepresentation of TTT
175 SBPs in *Bordetella* was that these SBPs would interact with different transport
176 systems, and that one membrane component would be capable of interacting with
177 different SBPs under diverse circumstances, which could also be the case in
178 *Rhodoplanes sp.* [14, 19]. Another possibility would be that these orphan proteins
179 are required for processes other than transport, where the binding protein function is
180 related to chemical sensing and signalling rather than transport directly, in systems
181 such as two-component systems and the chemosensory apparatus that regulates
182 chemotaxis. For example, this sensory role has been demonstrated for the
183 BctDECBA system of *Bordetella pertussis* [20, 21]. Our searches in *Rhodoplanes*
184 revealed that 14 out of the 22 identified histidine kinase genes, as well as 5 genes
185 encoding proteins related to flagella motility had genes encoding TTT SBPs nearby.
186 In addition, 70 *tctC* genes (16%) had a transcription factor encoded in their
187 immediate vicinity. The abundance of transcription factor genes around TTT SBP
188 genes has been previously observed in the genome of *Ralstonia eutropha*, where
189 64.1% of the 154 homologs exhibited this characteristic [22]. From the 434 TctC
190 sequences in *Rhodoplanes sp.*, 355 (82%) were predicted to have a signal for

191 periplasmic export, identified by SignalP software [23], showing that regardless of
192 their function, they are mostly located in the periplasm.

193 The proteobacterial groups we have observed to show a TTT SBP expansion all
194 inhabit complex soil and water environments, with the exception of some *Bordetella*
195 species, known for their pathogenicity, but it has been speculated whether in the
196 latter case this overrepresentation was inherited from a free-living ancestor and that
197 these genes are gradually being lost [14]. The *Rhodoplanes* genus was first
198 proposed by Hiraishi and Ueda [24] to comprise pink-coloured non-sulphur purple
199 bacteria, closely related to the *Rhodopseudomonas* genus, but forming an exclusive
200 cluster in 16S rRNA phylogenetic analyses. Inhabiting a wide range of complex soil
201 and water environments, they are known to have a diverse and versatile metabolism
202 [25-28]. We speculate that this vast array of TTT SBPs could enhance this versatility
203 by providing an evolutionary advantage in terms of sensing, response and uptake in
204 a complex environment in a more tailored fashion. The polyphyletic origins of TTT
205 expansion supports the hypothesis that LSE played a major role in the mechanism of
206 the expansion, potentially following ancient small events of HGT, suggesting that
207 environmental pressure can independently drive SBP duplication and adaptation
208 from multiple starting points given the right environmental conditions.

209

210

211

212 Conclusion

213 The present study describes a vast overrepresentation of TTT SBPs in the genome
214 of the soil bacterium *Rhodoplanes* sp. Z2-YC6860, with 434 representatives.

215 Although we cannot totally exclude that this gene family overrepresentation was
216 partially driven by HGT, our findings indicate a major role of LSE in the origin of such
217 an astonishing number of homologous genes, which may be linked to an enhanced
218 metabolic versatility in this organism. Furthermore, we speculate that environmental
219 pressure can drive SBP proliferation from multiple starting points. To the best of our
220 knowledge, this is the most abundant gene family so far described in a prokaryotic
221 genome.

222

223

224 **Conflicts of interest**

225 The research was conducted in the absence of any commercial or financial
226 relationships that could be construed as a potential conflict of interest.

227 **Non-standard abbreviations:**

228 TTT, Tripartite Tricarboxylate Transporters; SBP, Soluble Binding Proteins; HGT,
229 Horizontal Gene Transfer; LSE, Lineage-Specific Expansion; HPK, Histidine Kinase;
230 CDS, Coding DNA Sequence.

231

232

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234 References

- 235 1. **Bratlie MS, Johansen J, Sherman BT, Huang da W, Lempicki RA et al.**
236 Gene duplications in prokaryotes can be associated with environmental adaptation.
237 *BMC genomics* 2010;11:588.
- 238 2. **Turkarlan S, Reiss DJ, Gibbins G, Su WL, Pan M et al.** Niche adaptation
239 by expansion and reprogramming of general transcription factors. *Molecular systems*
240 *biology* 2011;7:554.
- 241 3. **Treangen TJ, Rocha EPC.** Horizontal Transfer, Not Duplication, Drives the
242 Expansion of Protein Families in Prokaryotes. *PLOS Genetics* 2011;7(1):e1001284.
- 243 4. **Cordero OX, Hogeweg P.** The impact of long-distance horizontal gene
244 transfer on prokaryotic genome size. *Proceedings of the National Academy of*
245 *Sciences* 2009;106(51):21748-21753.
- 246 5. **Larsson J, Nylander JA, Bergman B.** Genome fluctuations in cyanobacteria
247 reflect evolutionary, developmental and adaptive traits. *BMC evolutionary biology*
248 2011;11:187.
- 249 6. **Lerat E, Daubin V, Ochman H, Moran NA.** Evolutionary Origins of Genomic
250 Repertoires in Bacteria. *PLOS Biology* 2005;3(5):e130.
- 251 7. **Alm E, Huang K, Arkin A.** The Evolution of Two-Component Systems in
252 Bacteria Reveals Different Strategies for Niche Adaptation. *PLOS Computational*
253 *Biology* 2006;2(11):e143.
- 254 8. **Xu J, Bjursell MK, Himrod J, Deng S, Carmichael LK et al.** A genomic view
255 of the human-*Bacteroides thetaiotaomicron* symbiosis. *Science (New York, NY)*
256 2003;299(5615):2074-2076.
- 257 9. **Salazar ME, Laub MT.** Temporal and evolutionary dynamics of two-
258 component signaling pathways. *Current opinion in microbiology* 2015;24:7-14.
- 259 10. **Methé BA, Nelson KE, Eisen JA, Paulsen IT, Nelson W et al.** Genome of
260 *Geobacter sulfurreducens*: Metal Reduction in Subsurface Environments. *Science*
261 *(New York, NY)* 2003;302(5652):1967-1969.
- 262 11. **Rosa LT, Bianconi ME, Thomas GH, Kelly DJ.** Tripartite ATP-independent
263 periplasmic (TRAP) transporters and tripartite tricarboxylate transporters (TTT):
264 From uptake to pathogenicity. *Frontiers in Cellular and Infection Microbiology*
265 2018;In review.
- 266 12. **Widenhorn KA, Somers JM, Kay WW.** Expression of the divergent
267 tricarboxylate transport operon (*tctI*) of *Salmonella typhimurium*. *J Bacteriol*
268 1988;170(7):3223-3227.
- 269 13. **Antoine R, Raze D, Loch C.** Genomics of *Bordetella pertussis* toxins.
270 *International journal of medical microbiology : IJMM* 2000;290(4-5):301-305.
- 271 14. **Antoine R, Jacob-Dubuisson F, Drobecq H, Willery E, Lesjean S et al.**
272 Overrepresentation of a gene family encoding extracytoplasmic solute receptors in
273 *Bordetella*. *J Bacteriol* 2003;185(4):1470-1474.
- 274 15. **Wubbeler JH, Hiessl S, Schuldes J, Thurmer A, Daniel R et al.** Unravelling
275 the complete genome sequence of *Advenella mimigardefordensis* strain DPN7T and
276 novel insights in the catabolism of the xenobiotic polythioester precursor 3,3'-
277 dithiodipropionate. *Microbiology* 2014;160(Pt 7):1401-1416.
- 278 16. **Rosa LT, Dix SR, Rafferty JB, Kelly DJ.** Structural basis for high-affinity
279 adipate binding to AdpC (RPA4515), an orphan periplasmic-binding protein from the
280 tripartite tricarboxylate transporter (TTT) family in *Rhodopseudomonas palustris*. *The*
281 *FEBS Journal* 2017: 284:4262-4277.

- 282 17. **McLean MJ, Wolfe KH, Devine KM.** Base composition skews, replication
283 orientation, and gene orientation in 12 prokaryote genomes. *Journal of Molecular*
284 *Evolution* 1998;47(6):691-696.
- 285 18. **Bertelli C, Laird MR, Williams KP, Lau BY, Hoad G et al.** IslandViewer 4:
286 expanded prediction of genomic islands for larger-scale datasets. *Nucleic acids*
287 *research* 2017.
- 288 19. **Hosaka M, Kamimura N, Toribami S, Mori K, Kasai D et al.** Novel tripartite
289 aromatic acid transporter essential for terephthalate uptake in *Comamonas sp.* strain
290 E6. *Appl Environ Microbiol* 2013;79(19):6148-6155.
- 291 20. **Antoine R, Huvent I, Chemlal K, Deray I, Raze D et al.** The periplasmic
292 binding protein of a tripartite tricarboxylate transporter is involved in signal
293 transduction. *J Mol Biol* 2005;351(4):799-809.
- 294 21. **Piepenbreier H, Fritz G, Gebhard S.** Transporters as information processors
295 in bacterial signalling pathways. *Molecular Microbiology* 2017;104(1):1-15.
- 296 22. **Pohlmann A, Fricke WF, Reinecke F, Kusian B, Liesegang H et al.**
297 Genome sequence of the bioplastic-producing "Knallgas" bacterium *Ralstonia*
298 *eutropha* H16. *Nature biotechnology* 2006;24(10):1257-1262.
- 299 23. **Petersen TN, Brunak S, von Heijne G, Nielsen H.** SignalP 4.0:
300 discriminating signal peptides from transmembrane regions. *Nature Methods*,
301 Correspondence 2011;8:785.
- 302 24. **Hiraishi A, Ueda Y.** *Rhodoplanes* gen. nov., a New Genus of Phototrophic
303 Bacteria Including *Rhodopseudomonas rosea* as *Rhodoplanes roseus* comb. nov.
304 and *Rhodoplanes elegans* sp. nov. *International Journal of Systematic and*
305 *Evolutionary Microbiology* 1994;44(4):665-673.
- 306 25. **Takaichi S, Sasikala C, Ramana Ch V, Okamura K, Hiraishi A.** Carotenoids
307 in *Rhodoplanes* species: variation of compositions and substrate specificity of
308 predicted carotenogenesis enzymes. *Current microbiology* 2012;65(2):150-155.
- 309 26. **Srinivas A, Sasikala C, Ramana Ch V.** *Rhodoplanes oryzae* sp. nov., a
310 phototrophic alphaproteobacterium isolated from the rhizosphere soil of paddy. *Int J*
311 *Syst Evol Microbiol* 2014;64(Pt 7):2198-2203.
- 312 27. **Lodha TD, Srinivas A, Sasikala C, Ramana CV.** Hopanoid inventory of
313 *Rhodoplanes* spp. *Archives of microbiology* 2015;197(6):861-867.
- 314 28. **Hiraishi A.** Characterization of thermotolerant phototrophic bacteria,
315 *Rhodoplanes tepidicaeni* sp. nov. and *Rhodoplanes azumiensis* sp. nov., isolated
316 from a geothermal spring. *Int J Syst Evol Microbiol* 2017.
- 317 29. **Katoh K, Standley DM.** MAFFT multiple sequence alignment software
318 version 7: improvements in performance and usability. *Molecular biology and*
319 *evolution* 2013;30(4):772-780.
- 320 30. **Stamatakis A.** RAxML version 8: a tool for phylogenetic analysis and post-
321 analysis of large phylogenies. *Bioinformatics (Oxford, England)* 2014;30(9):1312-
322 1313.

323

324

325 Table 1

326

327

328 **Table 1.** Occurrence of TTT SBP genes as single genes or in larger arrays of genes,

329 in the genome of *Rhodoplanes sp* Z2-YC6860 and two closely related bacteria .

Array Size (number of genes)	Frequency		
	<i>Rhodoplanes sp</i> Z2-YC6860	<i>Pseudorhodoplanes</i> <i>sinuspersici</i> RIPI110	<i>Bradyrhizobium</i> <i>icense</i> LMTR 13
1	294	93	39
2	48	3	2
3	6	-	-
4	3	-	-
5	1	-	-
6	-	-	-
7	-	-	-
8	-	-	-
9	1	-	-

330

331

332 Figure legends

333

334 **Figure 1. Distribution of TTT SBPs in the genomes of bacteria.** The outer circle
335 represents the number of TTT SBPs present in each genome, using a log₂ scale.
336 The tree was inferred using 16S rRNA sequences retrieved from the genome of each
337 organism, and aligned using MAFFT v7 [29]. A maximum likelihood tree was inferred
338 using RAxML v8.2.11 [30] under the GTRCAT model, with 100 bootstrap
339 pseudoreplicates. Bootstrap support values are indicated on nodes of major lineages
340 when higher than 50% (closed circles) or lower than 50% (open circle). Major
341 branches are coloured as indicated in the key. Non-coloured branches are minor
342 lineages of Bacteria.

343

344 **Figure 2. Circular genome plot of the 8.163 Mb *Rhodoplanes sp. Z2-YC6860***
345 **genome.** The outer two tracks represent CDS on the forward strand (blue) and
346 reverse strand (green), with black arrows indicating the location of TTT SBP genes.
347 Orange blocks indicate genomic islands predicted by IslandViewer software [18].
348 The next inner circular plot represents % GC content calculated over a 10kb sliding
349 window with a range of 52.4% to 63.4% and mean of 63.4%. The innermost circular
350 plot represents GC skew calculated as $(G-C)/(G+C)$ over a 10kb sliding window. The
351 characteristic GC skew reversal at the origin and terminus of replication is indicated
352 by dashed lines.

353

354 **Figure 3. Similarity matrix for amino acid sequences of 9 TTT family proteins**
355 **located in the largest tandem array found in *Rhodoplanes sp. Z2-YC6860*.**

356 Pairwise comparisons between all TTT substrate binding proteins in *Rhodoplanes sp*
357 *Z2-YC6860* were made using blastp. The 9 proteins encoded by genes located in the
358 largest tandem array found in the *Rhodoplanes* genome were used for the
359 comparison shown. Of these 9 proteins 4 members shared highest amino acid
360 identity with other members of the same array, while 5 members (indicated by
361 asterisks) did not. With the exception of RHPLAN_16830, which shared highest
362 identity with RHPLAN_10480 (53.1%), the remaining 4 shared highest identity with
363 RHPLAN_29570 (identity values ranging from 48.1 to 52.0%).

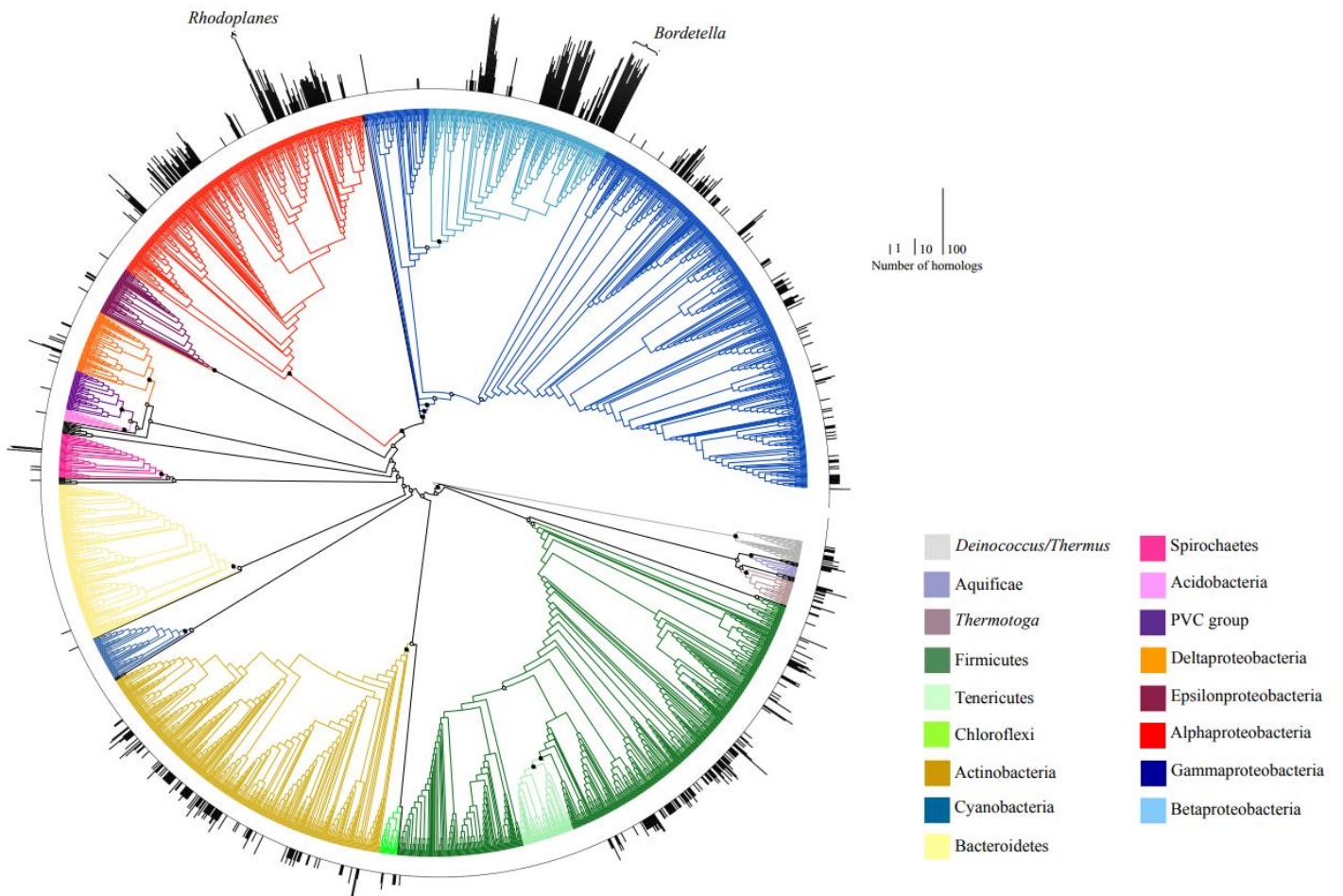
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367 Fig. 1

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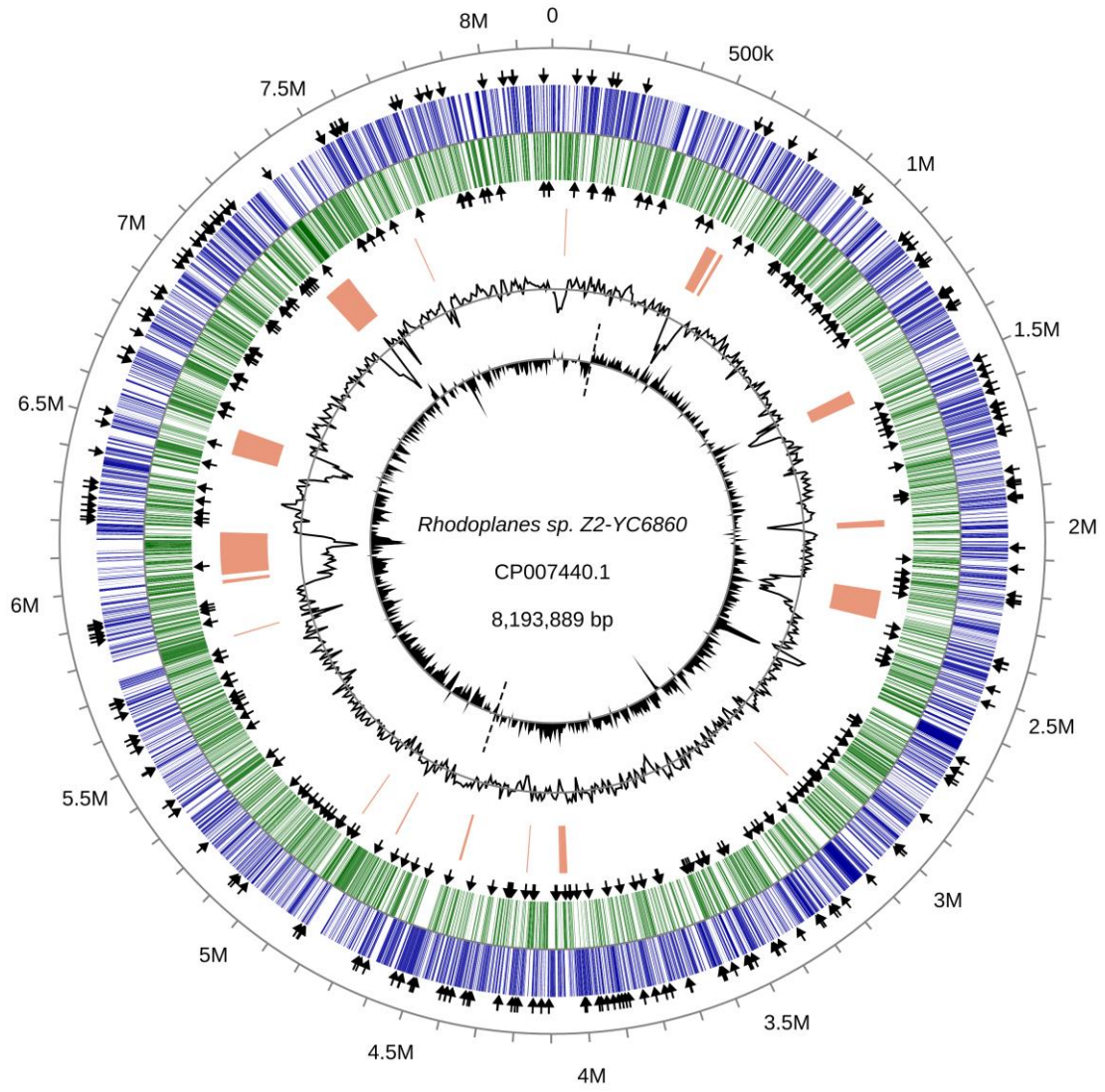


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371 Fig. 2

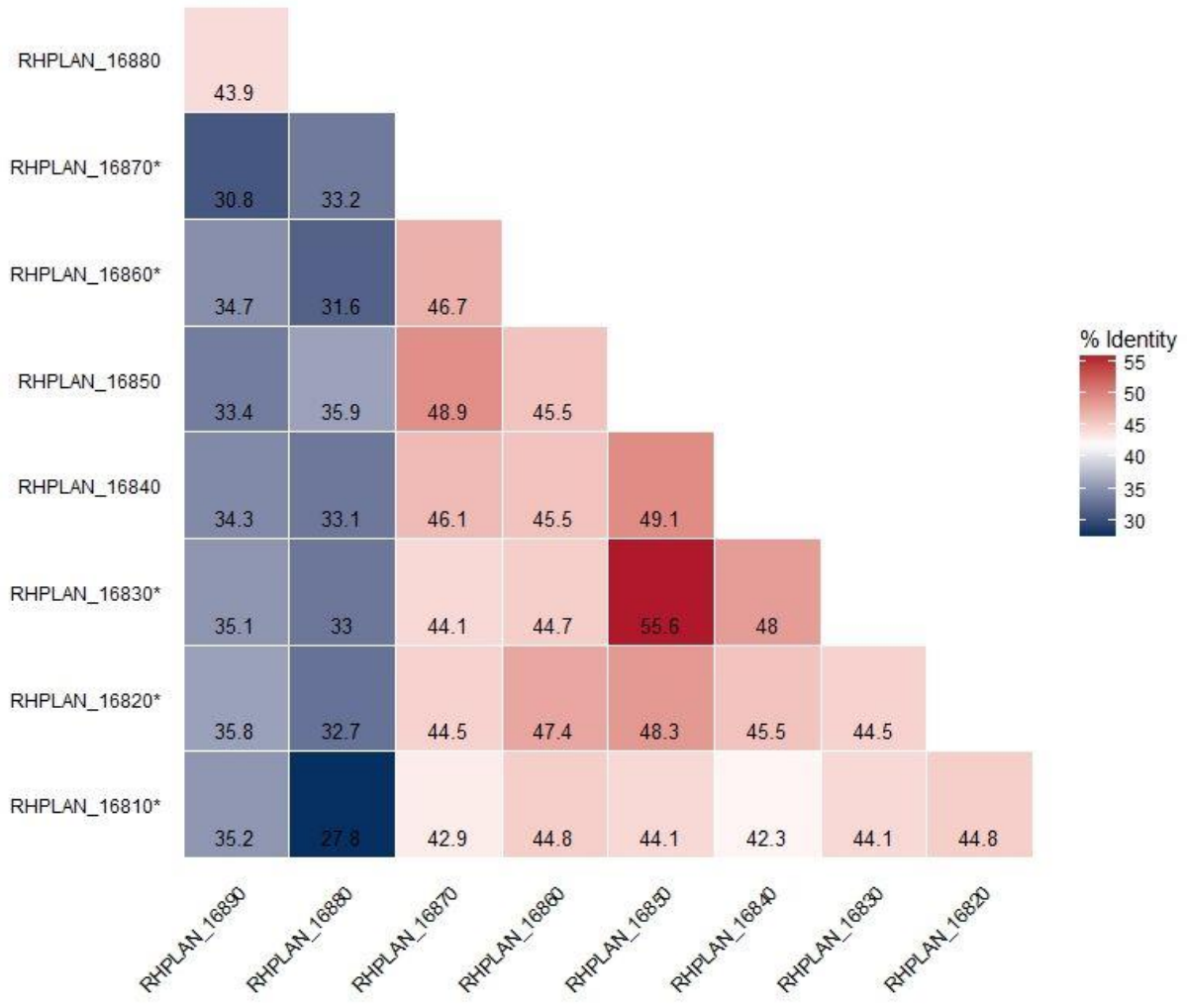
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375 Fig. 3

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Supplementary Table 1 for the manuscript "Massive overrepresentation of solute binding proteins (SBPs) from t

Supplementary Table 1: Pairwise comparison using BASTP of the 434 TctC homologs from *Rhodoplanes sp.* Z2-Y

Query Sequence	Top hit (match = self)			Top 10 non self hits		
Locus_tag	hit0 locus	eval	ident	hit1 locus	eval	% identity
RHPLAN_26680	RHPLAN_26680	0	100	RHPLAN_62490	0	79.70149254
RHPLAN_62680	RHPLAN_62680	0	100	RHPLAN_64470	0	78.11550152
RHPLAN_64470	RHPLAN_64470	0	100	RHPLAN_62680	0	78.11550152
RHPLAN_70120	RHPLAN_70120	0	100	RHPLAN_70110	0	74.15384615
RHPLAN_70110	RHPLAN_70110	0	100	RHPLAN_70120	0	74.15384615
RHPLAN_70920	RHPLAN_70920	0	100	RHPLAN_70930	0	73.6196319
RHPLAN_70930	RHPLAN_70930	0	100	RHPLAN_70920	0	73.6196319
RHPLAN_62490	RHPLAN_62490	0	100	RHPLAN_26680	0	67.71653543
RHPLAN_54810	RHPLAN_54810	0	100	RHPLAN_59580	2.00E-157	66.25766871
RHPLAN_59580	RHPLAN_59580	0	100	RHPLAN_54810	2.00E-157	66.25766871
RHPLAN_48400	RHPLAN_48400	0	100	RHPLAN_36560	6.00E-160	65.625
RHPLAN_61410	RHPLAN_61410	0	100	RHPLAN_59760	1.00E-157	65.45454545
RHPLAN_06190	RHPLAN_06190	0	100	RHPLAN_51420	6.00E-154	65.44342508
RHPLAN_59760	RHPLAN_59760	0	100	RHPLAN_61410	8.00E-156	65.25679758
RHPLAN_51420	RHPLAN_51420	0	100	RHPLAN_06190	2.00E-152	65.23076923
RHPLAN_28550	RHPLAN_28550	0	100	RHPLAN_41890	5.00E-155	65.2173913
RHPLAN_41890	RHPLAN_41890	0	100	RHPLAN_28550	5.00E-155	64.41717791
RHPLAN_36560	RHPLAN_36560	0	100	RHPLAN_48400	1.00E-159	64.28571429
RHPLAN_36500	RHPLAN_36500	0	100	RHPLAN_36510	1.00E-147	63.15789474
RHPLAN_07700	RHPLAN_07700	0	100	RHPLAN_28550	3.00E-159	63.06306306
RHPLAN_36510	RHPLAN_36510	0	100	RHPLAN_36500	3.00E-142	62.84829721
RHPLAN_43730	RHPLAN_43730	0	100	RHPLAN_33880	2.00E-148	61.96319018
RHPLAN_08370	RHPLAN_08370	0	100	RHPLAN_08360	5.00E-142	60.68111455
RHPLAN_65600	RHPLAN_65600	0	100	RHPLAN_70860	7.00E-151	60.30769231
RHPLAN_08360	RHPLAN_08360	0	100	RHPLAN_08370	8.00E-143	60.0619195
RHPLAN_33880	RHPLAN_33880	0	100	RHPLAN_43730	2.00E-148	59.94065282
RHPLAN_70860	RHPLAN_70860	0	100	RHPLAN_65600	7.00E-151	59.75609756
RHPLAN_30210	RHPLAN_30210	0	100	RHPLAN_38600	8.00E-143	59.39393939
RHPLAN_27530	RHPLAN_27530	0	100	RHPLAN_43730	7.00E-144	59.20245399
RHPLAN_19290	RHPLAN_19290	0	100	RHPLAN_23740	7.00E-141	58.75
RHPLAN_14020	RHPLAN_14020	0	100	RHPLAN_14030	5.00E-137	58.71559633
RHPLAN_38600	RHPLAN_38600	0	100	RHPLAN_30210	8.00E-143	58.50746269
RHPLAN_08750	RHPLAN_08750	0	100	RHPLAN_54360	3.00E-141	58.28220859
RHPLAN_26930	RHPLAN_26930	0	100	RHPLAN_10350	2.00E-136	58.02469136
RHPLAN_10350	RHPLAN_10350	0	100	RHPLAN_26930	8.00E-129	58.02469136
RHPLAN_06670	RHPLAN_06670	0	100	RHPLAN_33880	2.00E-137	57.97546012
RHPLAN_39790	RHPLAN_39790	0	100	RHPLAN_43730	8.00E-138	57.97546012
RHPLAN_14030	RHPLAN_14030	0	100	RHPLAN_14020	2.00E-134	57.53012048

RHPLAN_54360	RHPLAN_54360	0	100	RHPLAN_08750	2.00E-130	57.32087227
RHPLAN_16850	RHPLAN_16850	0	100	RHPLAN_16830	2.00E-137	57.2755418
RHPLAN_25890	RHPLAN_25890	0	100	RHPLAN_43730	8.00E-138	57.23076923
RHPLAN_14330	RHPLAN_14330	0	100	RHPLAN_64470	5.00E-131	57.09876543
RHPLAN_30190	RHPLAN_30190	0	100	RHPLAN_11610	5.00E-140	56.875
RHPLAN_10480	RHPLAN_10480	0	100	RHPLAN_16830	1.00E-139	56.65634675
RHPLAN_43970	RHPLAN_43970	0	100	RHPLAN_69040	5.00E-147	56.57492355
RHPLAN_11610	RHPLAN_11610	0	100	RHPLAN_30190	3.00E-140	55.82822086
RHPLAN_30520	RHPLAN_30520	0	100	RHPLAN_16450	4.00E-137	55.52050473
RHPLAN_10320	RHPLAN_10320	0	100	RHPLAN_33880	2.00E-125	55.48780488
RHPLAN_40150	RHPLAN_40150	0	100	RHPLAN_43730	6.00E-134	55.45454545
RHPLAN_29610	RHPLAN_29610	0	100	RHPLAN_61410	3.00E-127	55.42168675
RHPLAN_69040	RHPLAN_69040	0	100	RHPLAN_43970	9.00E-147	55.38922156
RHPLAN_19330	RHPLAN_19330	0	100	RHPLAN_19130	3.00E-131	55.38461538
RHPLAN_18490	RHPLAN_18490	0	100	RHPLAN_43730	2.00E-133	55.38461538
RHPLAN_65160	RHPLAN_65160	0	100	RHPLAN_65150	1.00E-130	55.3125
RHPLAN_48130	RHPLAN_48130	0	100	RHPLAN_50910	3.00E-119	54.9689441
RHPLAN_19130	RHPLAN_19130	0	100	RHPLAN_33880	1.00E-132	54.90797546
RHPLAN_01280	RHPLAN_01280	0	100	RHPLAN_01270	2.00E-135	54.81927711
RHPLAN_23740	RHPLAN_23740	0	100	RHPLAN_19290	7.00E-141	54.81049563
RHPLAN_29570	RHPLAN_29570	0	100	RHPLAN_26030	1.00E-133	54.76923077
RHPLAN_53940	RHPLAN_53940	0	100	RHPLAN_13540	5.00E-125	54.76923077
RHPLAN_59350	RHPLAN_59350	0	100	RHPLAN_23210	3.00E-126	54.51713396
RHPLAN_27920	RHPLAN_27920	0	100	RHPLAN_34510	4.00E-123	54.49101796
RHPLAN_32090	RHPLAN_32090	0	100	RHPLAN_33880	8.00E-128	54.29447853
RHPLAN_29590	RHPLAN_29590	0	100	RHPLAN_69040	2.00E-130	54.10334347
RHPLAN_28880	RHPLAN_28880	0	100	RHPLAN_06670	4.00E-123	53.98773006
RHPLAN_09680	RHPLAN_09680	3.00E-164	100	RHPLAN_26020	1.00E-90	53.88127854
RHPLAN_21700	RHPLAN_21700	0	100	RHPLAN_62680	9.00E-125	53.86996904
RHPLAN_24240	RHPLAN_24240	0	100	RHPLAN_21000	1.00E-128	53.86996904
RHPLAN_16450	RHPLAN_16450	0	100	RHPLAN_30520	3.00E-137	53.82262997
RHPLAN_26030	RHPLAN_26030	0	100	RHPLAN_29570	2.00E-138	53.77643505
RHPLAN_33930	RHPLAN_33930	0	100	RHPLAN_32270	9.00E-119	53.7414966
RHPLAN_50910	RHPLAN_50910	0	100	RHPLAN_43730	2.00E-128	53.7037037
RHPLAN_13540	RHPLAN_13540	0	100	RHPLAN_53940	1.00E-116	53.51681957
RHPLAN_47610	RHPLAN_47610	0	100	RHPLAN_17990	4.00E-124	53.41614907
RHPLAN_56560	RHPLAN_56560	0	100	RHPLAN_54070	5.00E-117	53.39506173
RHPLAN_34510	RHPLAN_34510	0	100	RHPLAN_27920	2.00E-121	53.35365854
RHPLAN_16590	RHPLAN_16590	0	100	RHPLAN_23520	8.00E-122	53.23076923
RHPLAN_16830	RHPLAN_16830	0	100	RHPLAN_10480	1.00E-137	53.15315315
RHPLAN_13810	RHPLAN_13810	0	100	RHPLAN_31510	4.00E-118	53.01204819
RHPLAN_01270	RHPLAN_01270	0	100	RHPLAN_01280	4.00E-134	53.01204819
RHPLAN_33390	RHPLAN_33390	0	100	RHPLAN_26020	1.00E-126	52.94117647
RHPLAN_65150	RHPLAN_65150	0	100	RHPLAN_65160	6.00E-128	52.63157895
RHPLAN_61770	RHPLAN_61770	0	100	RHPLAN_57520	4.00E-126	52.63157895
RHPLAN_17980	RHPLAN_17980	0	100	RHPLAN_08380	2.00E-120	52.63157895
RHPLAN_59450	RHPLAN_59450	0	100	RHPLAN_32270	6.00E-127	52.63157895

RHPLAN_05710	RHPLAN_05710	0	100	RHPLAN_47590	6.00E-122	52.61538462
RHPLAN_69840	RHPLAN_69840	0	100	RHPLAN_33880	5.00E-123	52.45398773
RHPLAN_57910	RHPLAN_57910	0	100	RHPLAN_45780	2.00E-118	52.35109718
RHPLAN_01790	RHPLAN_01790	0	100	RHPLAN_54230	5.00E-118	52.32198142
RHPLAN_60850	RHPLAN_60850	0	100	RHPLAN_32270	8.00E-123	52.30769231
RHPLAN_51130	RHPLAN_51130	0	100	RHPLAN_10720	1.00E-105	52.29357798
RHPLAN_05720	RHPLAN_05720	0	100	RHPLAN_39290	5.00E-128	52.29357798
RHPLAN_19340	RHPLAN_19340	0	100	RHPLAN_16830	3.00E-126	52.26586103
RHPLAN_17970	RHPLAN_17970	0	100	RHPLAN_17990	1.00E-124	52.25225225
RHPLAN_26020	RHPLAN_26020	0	100	RHPLAN_33390	7.00E-128	52.25225225
RHPLAN_32270	RHPLAN_32270	0	100	RHPLAN_59450	6.00E-127	52.14723926
RHPLAN_31510	RHPLAN_31510	0	100	RHPLAN_13810	2.00E-126	52.14723926
RHPLAN_32940	RHPLAN_32940	0	100	RHPLAN_61980	4.00E-126	52.13414634
RHPLAN_47590	RHPLAN_47590	0	100	RHPLAN_05710	1.00E-114	52.13414634
RHPLAN_23520	RHPLAN_23520	0	100	RHPLAN_23510	3.00E-116	52.0123839
RHPLAN_16860	RHPLAN_16860	0	100	RHPLAN_29570	1.00E-123	52.0123839
RHPLAN_11700	RHPLAN_11700	0	100	RHPLAN_62680	2.00E-128	51.98776758
RHPLAN_57520	RHPLAN_57520	0	100	RHPLAN_61770	5.00E-121	51.97568389
RHPLAN_23210	RHPLAN_23210	0	100	RHPLAN_59350	3.00E-126	51.92878338
RHPLAN_49660	RHPLAN_49660	0	100	RHPLAN_49650	4.00E-122	51.92878338
RHPLAN_33340	RHPLAN_33340	0	100	RHPLAN_29590	2.00E-99	51.87969925
RHPLAN_36420	RHPLAN_36420	0	100	RHPLAN_10480	9.00E-129	51.85185185
RHPLAN_39290	RHPLAN_39290	0	100	RHPLAN_05720	3.00E-127	51.82926829
RHPLAN_42150	RHPLAN_42150	0	100	RHPLAN_07810	3.00E-116	51.70278638
RHPLAN_01290	RHPLAN_01290	0	100	RHPLAN_34250	4.00E-123	51.68195719
RHPLAN_17990	RHPLAN_17990	0	100	RHPLAN_47610	3.00E-123	51.67173252
RHPLAN_70100	RHPLAN_70100	0	100	RHPLAN_28300	5.00E-125	51.67173252
RHPLAN_49650	RHPLAN_49650	0	100	RHPLAN_49660	1.00E-121	51.67173252
RHPLAN_48520	RHPLAN_48520	0	100	RHPLAN_33390	7.00E-125	51.61290323
RHPLAN_34220	RHPLAN_34220	0	100	RHPLAN_34250	2.00E-126	51.55279503
RHPLAN_21000	RHPLAN_21000	0	100	RHPLAN_24240	3.00E-117	51.54320988
RHPLAN_29420	RHPLAN_29420	0	100	RHPLAN_32270	7.00E-119	51.53374233
RHPLAN_23510	RHPLAN_23510	0	100	RHPLAN_23520	3.00E-117	51.52439024
RHPLAN_44320	RHPLAN_44320	0	100	RHPLAN_65460	8.00E-120	51.38461538
RHPLAN_65460	RHPLAN_65460	0	100	RHPLAN_44320	8.00E-120	51.22699387
RHPLAN_41990	RHPLAN_41990	0	100	RHPLAN_16450	2.00E-128	51.22699387
RHPLAN_58110	RHPLAN_58110	0	100	RHPLAN_16870	6.00E-122	51.07692308
RHPLAN_26230	RHPLAN_26230	0	100	RHPLAN_51230	3.00E-111	51.07692308
RHPLAN_45780	RHPLAN_45780	0	100	RHPLAN_57910	2.00E-118	51.07033639
RHPLAN_10720	RHPLAN_10720	0	100	RHPLAN_51130	2.00E-108	51.04477612
RHPLAN_18390	RHPLAN_18390	0	100	RHPLAN_38600	6.00E-116	50.91463415
RHPLAN_19140	RHPLAN_19140	0	100	RHPLAN_10480	8.00E-123	50.90909091
RHPLAN_41870	RHPLAN_41870	0	100	RHPLAN_54070	7.00E-117	50.76452599
RHPLAN_54230	RHPLAN_54230	0	100	RHPLAN_01790	3.00E-116	50.61349693
RHPLAN_28300	RHPLAN_28300	0	100	RHPLAN_70100	3.00E-122	50.5952381
RHPLAN_61980	RHPLAN_61980	0	100	RHPLAN_32940	4.00E-120	50.59171598
RHPLAN_16820	RHPLAN_16820	0	100	RHPLAN_29570	7.00E-116	50.46728972

RHPLAN_19090	RHPLAN_19090	0	100	RHPLAN_49400	5.00E-110	50.46439628
RHPLAN_54070	RHPLAN_54070	0	100	RHPLAN_41870	7.00E-110	50.45592705
RHPLAN_23690	RHPLAN_23690	0	100	RHPLAN_34220	7.00E-118	50.30674847
RHPLAN_58540	RHPLAN_58540	0	100	RHPLAN_59450	1.00E-114	50.15384615
RHPLAN_51230	RHPLAN_51230	0	100	RHPLAN_26230	3.00E-111	50.1510574
RHPLAN_39920	RHPLAN_39920	0	100	RHPLAN_63280	2.00E-118	50.15015015
RHPLAN_64850	RHPLAN_64850	0	100	RHPLAN_47590	2.00E-114	50
RHPLAN_09560	RHPLAN_09560	0	100	RHPLAN_41140	1.00E-115	50
RHPLAN_54250	RHPLAN_54250	0	100	RHPLAN_19360	5.00E-114	50
RHPLAN_07690	RHPLAN_07690	0	100	RHPLAN_49400	8.00E-105	50
RHPLAN_48160	RHPLAN_48160	0	100	RHPLAN_44480	2.00E-115	50
RHPLAN_44480	RHPLAN_44480	0	100	RHPLAN_48160	8.00E-119	50
RHPLAN_51450	RHPLAN_51450	0	100	RHPLAN_51440	8.00E-120	50
RHPLAN_34250	RHPLAN_34250	0	100	RHPLAN_34220	3.00E-126	49.84984985
RHPLAN_38680	RHPLAN_38680	0	100	RHPLAN_25970	1.00E-121	49.84802432
RHPLAN_49470	RHPLAN_49470	0	100	RHPLAN_02340	1.00E-104	49.84615385
RHPLAN_08380	RHPLAN_08380	0	100	RHPLAN_08370	1.00E-123	49.71751412
RHPLAN_01260	RHPLAN_01260	0	100	RHPLAN_01270	2.00E-118	49.54954955
RHPLAN_08460	RHPLAN_08460	0	100	RHPLAN_70120	9.00E-114	49.54407295
RHPLAN_41140	RHPLAN_41140	0	100	RHPLAN_09560	5.00E-115	49.54407295
RHPLAN_35610	RHPLAN_35610	0	100	RHPLAN_32270	3.00E-124	49.53846154
RHPLAN_56300	RHPLAN_56300	0	100	RHPLAN_08370	2.00E-113	49.52978056
RHPLAN_19360	RHPLAN_19360	0	100	RHPLAN_54250	5.00E-114	49.38650307
RHPLAN_27740	RHPLAN_27740	0	100	RHPLAN_18490	2.00E-114	49.38650307
RHPLAN_62120	RHPLAN_62120	0	100	RHPLAN_54810	3.00E-116	49.38271605
RHPLAN_30090	RHPLAN_30090	0	100	RHPLAN_34260	2.00E-114	49.37888199
RHPLAN_25970	RHPLAN_25970	0	100	RHPLAN_38680	1.00E-121	49.24924925
RHPLAN_02340	RHPLAN_02340	0	100	RHPLAN_13540	6.00E-110	49.08536585
RHPLAN_42730	RHPLAN_42730	0	100	RHPLAN_19300	1.00E-121	49.0797546
RHPLAN_49400	RHPLAN_49400	0	100	RHPLAN_26010	7.00E-112	49.06832298
RHPLAN_24970	RHPLAN_24970	0	100	RHPLAN_59350	6.00E-122	49.0625
RHPLAN_08440	RHPLAN_08440	0	100	RHPLAN_10480	7.00E-120	48.93617021
RHPLAN_34240	RHPLAN_34240	0	100	RHPLAN_03230	8.00E-109	48.92307692
RHPLAN_03230	RHPLAN_03230	0	100	RHPLAN_34240	1.00E-107	48.92307692
RHPLAN_40460	RHPLAN_40460	0	100	RHPLAN_30520	4.00E-123	48.8372093
RHPLAN_26010	RHPLAN_26010	0	100	RHPLAN_49400	7.00E-112	48.7654321
RHPLAN_11360	RHPLAN_11360	0	100	RHPLAN_33930	5.00E-116	48.62385321
RHPLAN_70780	RHPLAN_70780	0	100	RHPLAN_33880	5.00E-126	48.61538462
RHPLAN_11350	RHPLAN_11350	0	100	RHPLAN_19300	3.00E-118	48.59813084
RHPLAN_21570	RHPLAN_21570	0	100	RHPLAN_08860	2.00E-108	48.58934169
RHPLAN_19300	RHPLAN_19300	0	100	RHPLAN_42730	5.00E-122	48.4939759
RHPLAN_60770	RHPLAN_60770	0	100	RHPLAN_08210	9.00E-117	48.45679012
RHPLAN_08210	RHPLAN_08210	0	100	RHPLAN_60770	9.00E-117	48.30769231
RHPLAN_16870	RHPLAN_16870	0	100	RHPLAN_29570	4.00E-122	48.30769231
RHPLAN_05420	RHPLAN_05420	0	100	RHPLAN_68190	1.00E-101	48.29721362
RHPLAN_37150	RHPLAN_37150	0	100	RHPLAN_15110	4.00E-104	48.29721362
RHPLAN_53850	RHPLAN_53850	0	100	RHPLAN_65150	4.00E-122	48.22485207

RHPLAN_16840	RHPLAN_16840	0	100	RHPLAN_16830	1.00E-118	48.19277108
RHPLAN_05740	RHPLAN_05740	0	100	RHPLAN_58720	5.00E-105	48.18181818
RHPLAN_05730	RHPLAN_05730	0	100	RHPLAN_47590	9.00E-112	48.17073171
RHPLAN_36040	RHPLAN_36040	0	100	RHPLAN_08380	9.00E-94	48.1595092
RHPLAN_10060	RHPLAN_10060	0	100	RHPLAN_51130	4.00E-97	48.1595092
RHPLAN_16810	RHPLAN_16810	0	100	RHPLAN_29570	8.00E-114	48.14814815
RHPLAN_10980	RHPLAN_10980	0	100	RHPLAN_65030	5.00E-113	47.9876161
RHPLAN_15110	RHPLAN_15110	0	100	RHPLAN_37150	8.00E-113	47.85276074
RHPLAN_28330	RHPLAN_28330	0	100	RHPLAN_45780	2.00E-104	47.83950617
RHPLAN_63280	RHPLAN_63280	0	100	RHPLAN_39920	1.00E-115	47.72036474
RHPLAN_40180	RHPLAN_40180	0	100	RHPLAN_11300	2.00E-114	47.56097561
RHPLAN_65030	RHPLAN_65030	0	100	RHPLAN_10980	2.00E-106	47.54601227
RHPLAN_68190	RHPLAN_68190	0	100	RHPLAN_05420	2.00E-108	47.41641337
RHPLAN_34260	RHPLAN_34260	0	100	RHPLAN_30090	6.00E-114	47.40061162
RHPLAN_61800	RHPLAN_61800	0	100	RHPLAN_30190	4.00E-104	47.02194357
RHPLAN_08860	RHPLAN_08860	0	100	RHPLAN_65610	1.00E-103	46.95121951
RHPLAN_65610	RHPLAN_65610	0	100	RHPLAN_08860	5.00E-100	46.80851064
RHPLAN_31580	RHPLAN_31580	0	100	RHPLAN_36510	5.00E-114	46.78899083
RHPLAN_61720	RHPLAN_61720	0	100	RHPLAN_43730	2.00E-105	46.78899083
RHPLAN_15440	RHPLAN_15440	0	100	RHPLAN_32270	2.00E-118	46.78362573
RHPLAN_43980	RHPLAN_43980	0	100	RHPLAN_16450	1.00E-104	46.74556213
RHPLAN_39010	RHPLAN_39010	0	100	RHPLAN_39000	5.00E-101	46.70846395
RHPLAN_11590	RHPLAN_11590	0	100	RHPLAN_51130	1.00E-97	46.66666667
RHPLAN_54090	RHPLAN_54090	0	100	RHPLAN_13310	1.00E-94	46.58385093
RHPLAN_51440	RHPLAN_51440	0	100	RHPLAN_51450	2.00E-116	46.55647383
RHPLAN_56600	RHPLAN_56600	0	100	RHPLAN_54070	2.00E-106	46.52567976
RHPLAN_10090	RHPLAN_10090	0	100	RHPLAN_45780	8.00E-101	46.46153846
RHPLAN_55850	RHPLAN_55850	0	100	RHPLAN_42150	5.00E-106	46.40718563
RHPLAN_14170	RHPLAN_14170	0	100	RHPLAN_58720	7.00E-103	46.34146341
RHPLAN_39000	RHPLAN_39000	0	100	RHPLAN_39010	4.00E-102	46.2962963
RHPLAN_33260	RHPLAN_33260	0	100	RHPLAN_01790	6.00E-112	46.27329193
RHPLAN_43540	RHPLAN_43540	0	100	RHPLAN_42150	8.00E-114	46.26038781
RHPLAN_07810	RHPLAN_07810	0	100	RHPLAN_42150	3.00E-116	46.26038781
RHPLAN_37230	RHPLAN_37230	0	100	RHPLAN_34220	4.00E-112	46.10778443
RHPLAN_44120	RHPLAN_44120	0	100	RHPLAN_30810	6.00E-103	46.105919
RHPLAN_15450	RHPLAN_15450	0	100	RHPLAN_32270	1.00E-108	46.08433735
RHPLAN_31600	RHPLAN_31600	0	100	RHPLAN_24530	2.00E-104	45.96273292
RHPLAN_24530	RHPLAN_24530	0	100	RHPLAN_36510	3.00E-114	45.90643275
RHPLAN_19370	RHPLAN_19370	0	100	RHPLAN_54250	8.00E-110	45.87155963
RHPLAN_46130	RHPLAN_46130	0	100	RHPLAN_08860	1.00E-101	45.82043344
RHPLAN_13800	RHPLAN_13800	0	100	RHPLAN_32270	3.00E-117	45.78313253
RHPLAN_68390	RHPLAN_68390	0	100	RHPLAN_06330	2.00E-104	45.65217391
RHPLAN_68890	RHPLAN_68890	0	100	RHPLAN_08380	5.00E-93	45.59270517
RHPLAN_48810	RHPLAN_48810	0	100	RHPLAN_10460	2.00E-100	45.56574924
RHPLAN_35030	RHPLAN_35030	0	100	RHPLAN_02340	6.00E-98	45.51083591
RHPLAN_48240	RHPLAN_48240	0	100	RHPLAN_48220	5.00E-115	45.42682927
RHPLAN_55530	RHPLAN_55530	0	100	RHPLAN_51420	4.00E-111	45.37313433

RHPLAN_58720	RHPLAN_58720	0	100	RHPLAN_39290	9.00E-113	45.34534535
RHPLAN_60760	RHPLAN_60760	0	100	RHPLAN_60770	3.00E-99	45.34161491
RHPLAN_46680	RHPLAN_46680	0	100	RHPLAN_24530	7.00E-105	45.2887538
RHPLAN_30810	RHPLAN_30810	0	100	RHPLAN_24970	1.00E-115	45.18950437
RHPLAN_68450	RHPLAN_68450	0	100	RHPLAN_14980	7.00E-89	45.17133956
RHPLAN_67150	RHPLAN_67150	0	100	RHPLAN_21460	1.00E-90	45.14106583
RHPLAN_65040	RHPLAN_65040	0	100	RHPLAN_24970	3.00E-109	45.12195122
RHPLAN_44880	RHPLAN_44880	0	100	RHPLAN_05720	2.00E-107	45.09202454
RHPLAN_30180	RHPLAN_30180	0	100	RHPLAN_30190	6.00E-106	45.0617284
RHPLAN_10460	RHPLAN_10460	0	100	RHPLAN_48810	2.00E-100	45.01510574
RHPLAN_54660	RHPLAN_54660	0	100	RHPLAN_16830	7.00E-101	44.98480243
RHPLAN_48220	RHPLAN_48220	0	100	RHPLAN_48240	3.00E-113	44.95412844
RHPLAN_13210	RHPLAN_13210	0	100	RHPLAN_57520	2.00E-105	44.84848485
RHPLAN_21850	RHPLAN_21850	0	100	RHPLAN_67770	3.00E-90	44.82758621
RHPLAN_47960	RHPLAN_47960	0	100	RHPLAN_47590	5.00E-105	44.75308642
RHPLAN_25530	RHPLAN_25530	0	100	RHPLAN_65150	5.00E-92	44.72049689
RHPLAN_61440	RHPLAN_61440	0	100	RHPLAN_13310	1.00E-106	44.44444444
RHPLAN_59110	RHPLAN_59110	0	100	RHPLAN_03630	2.00E-95	44.44444444
RHPLAN_01300	RHPLAN_01300	0	100	RHPLAN_34220	7.00E-101	44.41087613
RHPLAN_16130	RHPLAN_16130	0	100	RHPLAN_49650	4.00E-92	44.3452381
RHPLAN_63500	RHPLAN_63500	0	100	RHPLAN_23870	6.00E-92	44.32989691
RHPLAN_51540	RHPLAN_51540	0	100	RHPLAN_01280	2.00E-110	44.27710843
RHPLAN_36000	RHPLAN_36000	0	100	RHPLAN_19140	2.00E-101	44.24242424
RHPLAN_25000	RHPLAN_25000	0	100	RHPLAN_54810	1.00E-96	44.23676012
RHPLAN_16460	RHPLAN_16460	0	100	RHPLAN_13310	5.00E-97	43.9628483
RHPLAN_16880	RHPLAN_16880	0	100	RHPLAN_16890	1.00E-102	43.93939394
RHPLAN_16890	RHPLAN_16890	0	100	RHPLAN_16880	7.00E-102	43.92523364
RHPLAN_20930	RHPLAN_20930	0	100	RHPLAN_33770	2.00E-91	43.92523364
RHPLAN_55100	RHPLAN_55100	0	100	RHPLAN_43540	3.00E-92	43.86503067
RHPLAN_30100	RHPLAN_30100	0	100	RHPLAN_08860	2.00E-103	43.73088685
RHPLAN_37730	RHPLAN_37730	0	100	RHPLAN_62680	1.00E-112	43.69501466
RHPLAN_58670	RHPLAN_58670	0	100	RHPLAN_36450	1.00E-98	43.69230769
RHPLAN_25260	RHPLAN_25260	0	100	RHPLAN_21990	3.00E-92	43.55828221
RHPLAN_08870	RHPLAN_08870	0	100	RHPLAN_08860	2.00E-98	43.50453172
RHPLAN_03630	RHPLAN_03630	0	100	RHPLAN_59110	2.00E-95	43.50453172
RHPLAN_62600	RHPLAN_62600	0	100	RHPLAN_02340	4.00E-93	43.41317365
RHPLAN_31560	RHPLAN_31560	0	100	RHPLAN_24580	2.00E-98	43.37349398
RHPLAN_13310	RHPLAN_13310	0	100	RHPLAN_61440	1.00E-106	43.37349398
RHPLAN_11300	RHPLAN_11300	0	100	RHPLAN_40180	2.00E-114	43.2132964
RHPLAN_10710	RHPLAN_10710	0	100	RHPLAN_62490	5.00E-101	43.16770186
RHPLAN_35410	RHPLAN_35410	0	100	RHPLAN_62120	5.00E-97	43.16109422
RHPLAN_49090	RHPLAN_49090	0	100	RHPLAN_08400	3.00E-94	43.07692308
RHPLAN_14620	RHPLAN_14620	0	100	RHPLAN_46420	2.00E-91	43.07692308
RHPLAN_06330	RHPLAN_06330	0	100	RHPLAN_68390	3.00E-96	43.03030303
RHPLAN_58960	RHPLAN_58960	0	100	RHPLAN_70110	8.00E-102	42.98780488
RHPLAN_10530	RHPLAN_10530	0	100	RHPLAN_65150	1.00E-88	42.94478528
RHPLAN_30130	RHPLAN_30130	0	100	RHPLAN_30090	1.00E-102	42.85714286

RHPLAN_25520	RHPLAN_25520	0	100	RHPLAN_09560	4.00E-94	42.85714286
RHPLAN_16410	RHPLAN_16410	0	100	RHPLAN_59110	1.00E-92	42.8125
RHPLAN_24580	RHPLAN_24580	0	100	RHPLAN_31560	1.00E-88	42.72997033
RHPLAN_33770	RHPLAN_33770	0	100	RHPLAN_20930	2.00E-91	42.72727273
RHPLAN_67770	RHPLAN_67770	0	100	RHPLAN_00600	1.00E-92	42.7244582
RHPLAN_68400	RHPLAN_68400	0	100	RHPLAN_51130	1.00E-92	42.68656716
RHPLAN_39180	RHPLAN_39180	0	100	RHPLAN_48240	3.00E-103	42.63803681
RHPLAN_20870	RHPLAN_20870	0	100	RHPLAN_55850	8.00E-96	42.60869565
RHPLAN_66640	RHPLAN_66640	0	100	RHPLAN_65150	1.00E-90	42.59259259
RHPLAN_69350	RHPLAN_69350	0	100	RHPLAN_13810	3.00E-94	42.54658385
RHPLAN_01890	RHPLAN_01890	0	100	RHPLAN_21460	4.00E-96	42.50764526
RHPLAN_34980	RHPLAN_34980	0	100	RHPLAN_08400	3.00E-93	42.41486068
RHPLAN_01490	RHPLAN_01490	0	100	RHPLAN_08400	6.00E-99	42.41486068
RHPLAN_45260	RHPLAN_45260	0	100	RHPLAN_68450	5.00E-81	42.36760125
RHPLAN_61650	RHPLAN_61650	0	100	RHPLAN_08460	2.00E-88	42.34234234
RHPLAN_43740	RHPLAN_43740	0	100	RHPLAN_08370	5.00E-83	42.33128834
RHPLAN_35020	RHPLAN_35020	0	100	RHPLAN_35030	1.00E-96	42.23602484
RHPLAN_21460	RHPLAN_21460	0	100	RHPLAN_47590	4.00E-97	42.20183486
RHPLAN_60700	RHPLAN_60700	0	100	RHPLAN_62380	2.00E-91	42.1875
RHPLAN_49080	RHPLAN_49080	0	100	RHPLAN_01490	2.00E-96	42.15384615
RHPLAN_21990	RHPLAN_21990	0	100	RHPLAN_09560	9.00E-95	42.10526316
RHPLAN_32540	RHPLAN_32540	0	100	RHPLAN_10080	3.00E-96	42.10526316
RHPLAN_10080	RHPLAN_10080	0	100	RHPLAN_32540	1.00E-98	42.10526316
RHPLAN_14980	RHPLAN_14980	0	100	RHPLAN_05720	1.00E-95	42.02453988
RHPLAN_60790	RHPLAN_60790	0	100	RHPLAN_05720	1.00E-101	42.02453988
RHPLAN_27760	RHPLAN_27760	0	100	RHPLAN_63280	3.00E-92	41.92546584
RHPLAN_32100	RHPLAN_32100	0	100	RHPLAN_65150	2.00E-77	41.92546584
RHPLAN_49500	RHPLAN_49500	0	100	RHPLAN_57520	2.00E-93	41.89602446
RHPLAN_16550	RHPLAN_16550	0	100	RHPLAN_25890	8.00E-89	41.84615385
RHPLAN_36440	RHPLAN_36440	0	100	RHPLAN_11300	7.00E-94	41.79566563
RHPLAN_51520	RHPLAN_51520	0	100	RHPLAN_08360	5.00E-86	41.79566563
RHPLAN_30510	RHPLAN_30510	0	100	RHPLAN_30840	7.00E-94	41.66666667
RHPLAN_36450	RHPLAN_36450	0	100	RHPLAN_58670	2.00E-93	41.64222874
RHPLAN_19600	RHPLAN_19600	0	100	RHPLAN_34220	3.00E-89	41.61490683
RHPLAN_35730	RHPLAN_35730	0	100	RHPLAN_63280	2.00E-81	41.59021407
RHPLAN_27720	RHPLAN_27720	0	100	RHPLAN_01790	3.00E-93	41.56626506
RHPLAN_09860	RHPLAN_09860	0	100	RHPLAN_32540	2.00E-86	41.5625
RHPLAN_11400	RHPLAN_11400	0	100	RHPLAN_10350	1.00E-83	41.43302181
RHPLAN_34540	RHPLAN_34540	0	100	RHPLAN_65150	8.00E-89	41.35802469
RHPLAN_65050	RHPLAN_65050	0	100	RHPLAN_00600	5.00E-89	41.35802469
RHPLAN_42310	RHPLAN_42310	0	100	RHPLAN_13310	6.00E-95	41.27906977
RHPLAN_49480	RHPLAN_49480	0	100	RHPLAN_35030	7.00E-97	41.19318182
RHPLAN_30600	RHPLAN_30600	0	100	RHPLAN_33880	6.00E-85	41.15853659
RHPLAN_05100	RHPLAN_05100	0	100	RHPLAN_67770	3.00E-82	41.15853659
RHPLAN_02900	RHPLAN_02900	0	100	RHPLAN_13810	3.00E-94	41.12149533
RHPLAN_42140	RHPLAN_42140	0	100	RHPLAN_01790	5.00E-89	41.04938272
RHPLAN_00980	RHPLAN_00980	0	100	RHPLAN_05730	2.00E-90	41.04938272

RHPLAN_25880	RHPLAN_25880	0	100	RHPLAN_30600	7.00E-87	41.04938272
RHPLAN_60930	RHPLAN_60930	0	100	RHPLAN_53850	9.00E-93	40.85365854
RHPLAN_11410	RHPLAN_11410	0	100	RHPLAN_08400	2.00E-93	40.72948328
RHPLAN_46420	RHPLAN_46420	0	100	RHPLAN_14620	2.00E-90	40.71856287
RHPLAN_65430	RHPLAN_65430	0	100	RHPLAN_08400	1.00E-93	40.7079646
RHPLAN_08400	RHPLAN_08400	0	100	RHPLAN_01490	3.00E-97	40.68322981
RHPLAN_30840	RHPLAN_30840	0	100	RHPLAN_30510	2.00E-88	40.6626506
RHPLAN_06680	RHPLAN_06680	0	100	RHPLAN_08890	7.00E-95	40.56603774
RHPLAN_23780	RHPLAN_23780	0	100	RHPLAN_67770	1.00E-81	40.54878049
RHPLAN_47240	RHPLAN_47240	0	100	RHPLAN_54250	3.00E-95	40.54878049
RHPLAN_65670	RHPLAN_65670	0	100	RHPLAN_05720	9.00E-91	40.49844237
RHPLAN_20660	RHPLAN_20660	0	100	RHPLAN_05420	7.00E-88	40.30769231
RHPLAN_48390	RHPLAN_48390	0	100	RHPLAN_54810	2.00E-80	40.24767802
RHPLAN_62300	RHPLAN_62300	0	100	RHPLAN_49470	1.00E-86	40.24767802
RHPLAN_00600	RHPLAN_00600	0	100	RHPLAN_67770	1.00E-92	40.23323615
RHPLAN_54630	RHPLAN_54630	0	100	RHPLAN_14980	9.00E-86	40.18404908
RHPLAN_38620	RHPLAN_38620	0	100	RHPLAN_57730	4.00E-84	40.12345679
RHPLAN_37850	RHPLAN_37850	0	100	RHPLAN_47590	9.00E-88	40.0621118
RHPLAN_07740	RHPLAN_07740	0	100	RHPLAN_45780	8.00E-87	39.93902439
RHPLAN_37840	RHPLAN_37840	0	100	RHPLAN_08860	1.00E-86	39.87730061
RHPLAN_69310	RHPLAN_69310	0	100	RHPLAN_65150	9.00E-74	39.87538941
RHPLAN_57730	RHPLAN_57730	0	100	RHPLAN_43540	1.00E-82	39.87538941
RHPLAN_51250	RHPLAN_51250	0	100	RHPLAN_34510	7.00E-78	39.81481481
RHPLAN_51320	RHPLAN_51320	0	100	RHPLAN_01890	1.00E-86	39.75903614
RHPLAN_23870	RHPLAN_23870	0	100	RHPLAN_63500	6.00E-92	39.69230769
RHPLAN_43360	RHPLAN_43360	0	100	RHPLAN_37150	7.00E-91	39.5480226
RHPLAN_29460	RHPLAN_29460	0	100	RHPLAN_21460	1.00E-81	39.50617284
RHPLAN_36150	RHPLAN_36150	0	100	RHPLAN_30840	1.00E-90	39.50617284
RHPLAN_27200	RHPLAN_27200	0	100	RHPLAN_27760	4.00E-71	39.4984326
RHPLAN_08890	RHPLAN_08890	0	100	RHPLAN_06680	2.00E-84	39.44954128
RHPLAN_59730	RHPLAN_59730	0	100	RHPLAN_47590	4.00E-79	39.38461538
RHPLAN_43230	RHPLAN_43230	0	100	RHPLAN_09560	2.00E-77	39.38461538
RHPLAN_62380	RHPLAN_62380	0	100	RHPLAN_60700	2.00E-91	39.35860058
RHPLAN_19180	RHPLAN_19180	0	100	RHPLAN_39290	3.00E-81	39.31888545
RHPLAN_52610	RHPLAN_52610	0	100	RHPLAN_01490	1.00E-87	39.27492447
RHPLAN_33430	RHPLAN_33430	0	100	RHPLAN_14980	1.00E-85	39.19753086
RHPLAN_37310	RHPLAN_37310	0	100	RHPLAN_00600	2.00E-69	39.14373089
RHPLAN_01620	RHPLAN_01620	0	100	RHPLAN_23520	9.00E-86	39.09090909
RHPLAN_35690	RHPLAN_35690	0	100	RHPLAN_19130	5.00E-84	38.94080997
RHPLAN_61660	RHPLAN_61660	0	100	RHPLAN_14030	1.00E-86	38.88888889
RHPLAN_64510	RHPLAN_64510	0	100	RHPLAN_39920	4.00E-85	38.6996904
RHPLAN_05450	RHPLAN_05450	0	100	RHPLAN_42140	2.00E-79	38.65030675
RHPLAN_13990	RHPLAN_13990	0	100	RHPLAN_15110	1.00E-86	38.65030675
RHPLAN_34720	RHPLAN_34720	0	100	RHPLAN_30510	2.00E-75	38.39009288
RHPLAN_37870	RHPLAN_37870	0	100	RHPLAN_60700	4.00E-66	38.24701195
RHPLAN_14300	RHPLAN_14300	0	100	RHPLAN_37850	1.00E-77	38.22629969
RHPLAN_21900	RHPLAN_21900	0	100	RHPLAN_01890	2.00E-81	38.19875776

RHPLAN_37970	RHPLAN_37970	0	100	RHPLAN_26980	4.00E-84	38.19875776
RHPLAN_28370	RHPLAN_28370	0	100	RHPLAN_08370	2.00E-74	38.125
RHPLAN_35220	RHPLAN_35220	0	100	RHPLAN_08370	4.00E-78	38.08049536
RHPLAN_23880	RHPLAN_23880	0	100	RHPLAN_25890	4.00E-75	37.99392097
RHPLAN_62500	RHPLAN_62500	0	100	RHPLAN_39290	1.00E-63	37.9204893
RHPLAN_16380	RHPLAN_16380	0	100	RHPLAN_01490	1.00E-76	37.84615385
RHPLAN_58750	RHPLAN_58750	0	100	RHPLAN_65150	5.00E-77	37.84615385
RHPLAN_13610	RHPLAN_13610	0	100	RHPLAN_09720	4.00E-67	37.8125
RHPLAN_49190	RHPLAN_49190	0	100	RHPLAN_47960	8.00E-83	37.79761905
RHPLAN_09220	RHPLAN_09220	0	100	RHPLAN_09560	2.00E-83	37.76435045
RHPLAN_26980	RHPLAN_26980	0	100	RHPLAN_37970	4.00E-84	37.73006135
RHPLAN_33470	RHPLAN_33470	0	100	RHPLAN_19330	2.00E-76	37.73006135
RHPLAN_51480	RHPLAN_51480	0	100	RHPLAN_23520	1.00E-70	37.6899696
RHPLAN_61330	RHPLAN_61330	0	100	RHPLAN_47960	1.00E-78	37.6146789
RHPLAN_59100	RHPLAN_59100	0	100	RHPLAN_00600	1.00E-75	37.53943218
RHPLAN_67270	RHPLAN_67270	0	100	RHPLAN_39790	6.00E-72	37.53846154
RHPLAN_60590	RHPLAN_60590	0	100	RHPLAN_39180	1.00E-83	37.5
RHPLAN_57770	RHPLAN_57770	0	100	RHPLAN_11350	6.00E-77	37.42331288
RHPLAN_36470	RHPLAN_36470	0	100	RHPLAN_23520	1.00E-82	37.16012085
RHPLAN_14570	RHPLAN_14570	0	100	RHPLAN_09560	3.00E-77	37.15170279
RHPLAN_68150	RHPLAN_68150	0	100	RHPLAN_49500	5.00E-92	37.15170279
RHPLAN_51330	RHPLAN_51330	0	100	RHPLAN_49080	1.00E-73	37.11656442
RHPLAN_38640	RHPLAN_38640	0	100	RHPLAN_21000	8.00E-83	37.0030581
RHPLAN_49850	RHPLAN_49850	0	100	RHPLAN_00600	4.00E-70	36.98224852
RHPLAN_42820	RHPLAN_42820	0	100	RHPLAN_21460	1.00E-69	36.92307692
RHPLAN_27850	RHPLAN_27850	0	100	RHPLAN_10530	6.00E-75	36.875
RHPLAN_35970	RHPLAN_35970	0	100	RHPLAN_31600	4.00E-59	36.70886076
RHPLAN_51560	RHPLAN_51560	0	100	RHPLAN_53850	1.00E-86	36.61538462
RHPLAN_53930	RHPLAN_53930	0	100	RHPLAN_05720	3.00E-71	36.55589124
RHPLAN_08140	RHPLAN_08140	0	100	RHPLAN_27760	1.00E-71	36.44578313
RHPLAN_25950	RHPLAN_25950	0	100	RHPLAN_01890	4.00E-78	36.36363636
RHPLAN_25900	RHPLAN_25900	0	100	RHPLAN_10320	1.00E-66	36.33633634
RHPLAN_68030	RHPLAN_68030	0	100	RHPLAN_66640	9.00E-73	36.22291022
RHPLAN_28180	RHPLAN_28180	0	100	RHPLAN_05450	5.00E-68	36.01190476
RHPLAN_20840	RHPLAN_20840	0	100	RHPLAN_34540	1.00E-73	35.96491228
RHPLAN_58410	RHPLAN_58410	0	100	RHPLAN_13310	1.00E-74	35.92814371
RHPLAN_47630	RHPLAN_47630	0	100	RHPLAN_21460	4.00E-73	35.77981651
RHPLAN_40110	RHPLAN_40110	0	100	RHPLAN_30840	5.00E-75	35.67073171
RHPLAN_25870	RHPLAN_25870	0	100	RHPLAN_67770	4.00E-67	35.51401869
RHPLAN_62280	RHPLAN_62280	0	100	RHPLAN_51560	2.00E-76	35.39325843
RHPLAN_34270	RHPLAN_34270	0	100	RHPLAN_27530	3.00E-61	35.36585366
RHPLAN_37070	RHPLAN_37070	0	100	RHPLAN_30230	5.00E-69	35.27607362
RHPLAN_00700	RHPLAN_00700	0	100	RHPLAN_06190	2.00E-73	35.0931677
RHPLAN_48210	RHPLAN_48210	0	100	RHPLAN_21990	4.00E-87	34.94623656
RHPLAN_30860	RHPLAN_30860	0	100	RHPLAN_47590	2.00E-75	34.93975904
RHPLAN_09720	RHPLAN_09720	0	100	RHPLAN_13610	8.00E-65	34.89096573
RHPLAN_59410	RHPLAN_59410	0	100	RHPLAN_08460	3.00E-58	34.75609756

RHPLAN_57890	RHPLAN_57890	0	100	RHPLAN_54250	7.00E-73	34.65045593
RHPLAN_26490	RHPLAN_26490	0	100	RHPLAN_43730	1.00E-63	34.56790123
RHPLAN_32860	RHPLAN_32860	0	100	RHPLAN_25260	4.00E-71	34.15384615
RHPLAN_14440	RHPLAN_14440	0	100	RHPLAN_14980	5.00E-63	34.03614458
RHPLAN_26950	RHPLAN_26950	0	100	RHPLAN_19180	4.00E-57	33.53658537
RHPLAN_30690	RHPLAN_30690	0	100	RHPLAN_13310	7.00E-90	33.41708543
RHPLAN_33940	RHPLAN_33940	0	100	RHPLAN_53850	4.00E-77	33.33333333
RHPLAN_30730	RHPLAN_30730	0	100	RHPLAN_65670	6.00E-64	33.33333333
RHPLAN_65400	RHPLAN_65400	0	100	RHPLAN_02900	3.00E-68	33.33333333
RHPLAN_57900	RHPLAN_57900	0	100	RHPLAN_30090	1.00E-63	33.33333333
RHPLAN_33610	RHPLAN_33610	0	100	RHPLAN_09720	2.00E-56	33.2278481
RHPLAN_08230	RHPLAN_08230	0	100	RHPLAN_37850	1.00E-61	32.11009174
RHPLAN_32410	RHPLAN_32410	0	100	RHPLAN_23520	2.00E-58	31.70731707
RHPLAN_30230	RHPLAN_30230	0	100	RHPLAN_23870	9.00E-72	31.14754098
RHPLAN_18900	RHPLAN_18900	0	100	RHPLAN_30260	2.00E-33	30.18292683
RHPLAN_61230	RHPLAN_61230	0	100	RHPLAN_59660	5.00E-43	29.75460123
RHPLAN_30260	RHPLAN_30260	0	100	RHPLAN_18900	6.00E-34	29.73760933
RHPLAN_59670	RHPLAN_59670	0	100	RHPLAN_34260	5.00E-45	29.02208202
RHPLAN_13080	RHPLAN_13080	0	100	RHPLAN_59660	6.00E-39	26.48809524
RHPLAN_59660	RHPLAN_59660	0	100	RHPLAN_61230	2.00E-41	25.51928783

the tripartite tricarboxylate transporter (TTT) family in the genome of the α -proteobacterium *Rhodoplanes* s

C6860. The top 10 hits for each protein are shown, with their respective e-values.

hit2 locus	eval	% identity	hit3 locus	eval	% identity	hit4 locus
RHPLAN_10710	2.00E-98	40.59701493	RHPLAN_53850	4.00E-86	37.31343284	RHPLAN_02340
RHPLAN_10480	6.00E-132	51.06382979	RHPLAN_29570	4.00E-131	52.27963526	RHPLAN_14330
RHPLAN_14330	3.00E-134	55.6231003	RHPLAN_29570	1.00E-130	51.06382979	RHPLAN_10480
RHPLAN_08460	9.00E-114	50.15384615	RHPLAN_70100	6.00E-108	46.15384615	RHPLAN_28300
RHPLAN_08460	5.00E-108	46.15384615	RHPLAN_70100	3.00E-101	45.53846154	RHPLAN_58960
RHPLAN_34980	8.00E-72	38.65030675	RHPLAN_54070	1.00E-71	35.27607362	RHPLAN_08370
RHPLAN_54070	1.00E-67	35.27607362	RHPLAN_34980	3.00E-63	35.27607362	RHPLAN_08370
RHPLAN_10710	5.00E-101	36.48293963	RHPLAN_53850	2.00E-85	32.80839895	RHPLAN_02340
RHPLAN_62120	7.00E-107	46.93251534	RHPLAN_25000	2.00E-95	43.55828221	RHPLAN_35410
RHPLAN_62120	2.00E-95	43.55828221	RHPLAN_25000	9.00E-89	42.02453988	RHPLAN_35410
RHPLAN_30600	5.00E-61	34.6875	RHPLAN_00980	2.00E-60	32.8125	RHPLAN_05720
RHPLAN_29610	5.00E-123	53.63636364	RHPLAN_05720	6.00E-66	36.06060606	RHPLAN_10460
RHPLAN_55530	2.00E-111	45.25993884	RHPLAN_42140	2.00E-87	39.44954128	RHPLAN_08400
RHPLAN_29610	4.00E-111	49.8489426	RHPLAN_05720	2.00E-61	34.44108761	RHPLAN_65670
RHPLAN_55530	6.00E-114	46.76923077	RHPLAN_67770	2.00E-95	40.92307692	RHPLAN_00600
RHPLAN_07700	2.00E-153	65.2173913	RHPLAN_45780	3.00E-101	44.40993789	RHPLAN_10090
RHPLAN_07700	2.00E-147	64.72392638	RHPLAN_45780	2.00E-101	45.39877301	RHPLAN_28330
RHPLAN_08370	2.00E-65	36.64596273	RHPLAN_05720	2.00E-64	36.64596273	RHPLAN_47590
RHPLAN_24530	4.00E-112	46.43962848	RHPLAN_31580	4.00E-110	48.29721362	RHPLAN_31600
RHPLAN_41890	7.00E-157	64.26426426	RHPLAN_45780	4.00E-103	45.04504505	RHPLAN_28330
RHPLAN_31580	4.00E-115	48.29721362	RHPLAN_24530	4.00E-114	48.29721362	RHPLAN_31600
RHPLAN_27530	7.00E-144	59.20245399	RHPLAN_25890	8.00E-138	57.05521472	RHPLAN_39790
RHPLAN_08380	1.00E-130	55.10835913	RHPLAN_17980	1.00E-125	56.0371517	RHPLAN_56300
RHPLAN_33880	8.00E-125	52.30769231	RHPLAN_43730	8.00E-119	50.46153846	RHPLAN_40150
RHPLAN_17980	2.00E-119	53.86996904	RHPLAN_56300	2.00E-119	51.39318885	RHPLAN_08380
RHPLAN_27530	8.00E-138	56.37982196	RHPLAN_06670	1.00E-134	54.00593472	RHPLAN_19130
RHPLAN_43730	3.00E-123	50	RHPLAN_33880	4.00E-121	50.6097561	RHPLAN_39790
RHPLAN_18390	5.00E-112	49.39393939	RHPLAN_05720	3.00E-92	40	RHPLAN_05730
RHPLAN_33880	8.00E-138	58.28220859	RHPLAN_25890	1.00E-131	55.21472393	RHPLAN_32090
RHPLAN_19370	1.00E-101	43.125	RHPLAN_54250	2.00E-101	44.375	RHPLAN_19360
RHPLAN_61660	7.00E-83	38.53211009	RHPLAN_29570	8.00E-82	40.06116208	RHPLAN_26030
RHPLAN_18390	8.00E-116	49.85074627	RHPLAN_05720	1.00E-86	40	RHPLAN_39290
RHPLAN_01490	7.00E-77	37.42331288	RHPLAN_27760	3.00E-76	39.87730061	RHPLAN_41990
RHPLAN_14980	1.00E-86	41.35802469	RHPLAN_25890	8.00E-86	41.35802469	RHPLAN_05720
RHPLAN_67770	1.00E-86	39.50617284	RHPLAN_64850	3.00E-86	39.50617284	RHPLAN_14980
RHPLAN_43730	2.00E-133	56.74846626	RHPLAN_40150	4.00E-129	55.52147239	RHPLAN_25890
RHPLAN_33880	1.00E-129	55.21472393	RHPLAN_18490	7.00E-127	54.60122699	RHPLAN_27530
RHPLAN_61660	4.00E-85	37.34939759	RHPLAN_29570	1.00E-84	38.55421687	RHPLAN_16870

RHPLAN_01490	1.00E-90	41.43302181	RHPLAN_51420	2.00E-82	39.87538941	RHPLAN_49090
RHPLAN_10480	1.00E-123	50.46439628	RHPLAN_36420	3.00E-121	49.53560372	RHPLAN_64470
RHPLAN_27530	1.00E-131	55.38461538	RHPLAN_33880	7.00E-130	55.07692308	RHPLAN_06670
RHPLAN_62680	6.00E-130	54.32098765	RHPLAN_29570	1.00E-127	51.2345679	RHPLAN_26030
RHPLAN_30180	7.00E-106	45.625	RHPLAN_61800	9.00E-106	48.75	RHPLAN_39920
RHPLAN_62680	5.00E-132	52.0123839	RHPLAN_36420	2.00E-131	53.56037152	RHPLAN_29570
RHPLAN_29590	3.00E-122	51.68195719	RHPLAN_32270	1.00E-102	43.42507645	RHPLAN_15440
RHPLAN_30180	3.00E-100	42.33128834	RHPLAN_61800	3.00E-94	43.25153374	RHPLAN_39920
RHPLAN_41990	2.00E-128	54.88958991	RHPLAN_40460	8.00E-123	51.41955836	RHPLAN_43980
RHPLAN_39790	9.00E-123	55.18292683	RHPLAN_19130	5.00E-121	53.04878049	RHPLAN_06670
RHPLAN_33880	2.00E-128	54.24242424	RHPLAN_06670	8.00E-128	54.84848485	RHPLAN_19130
RHPLAN_59760	9.00E-118	50.30120482	RHPLAN_01890	5.00E-67	36.44578313	RHPLAN_51320
RHPLAN_29590	2.00E-130	53.29341317	RHPLAN_60850	4.00E-109	44.61077844	RHPLAN_32270
RHPLAN_32090	9.00E-126	51.38461538	RHPLAN_43730	7.00E-124	50.46153846	RHPLAN_25890
RHPLAN_33880	9.00E-131	56.61538462	RHPLAN_39790	2.00E-127	54.76923077	RHPLAN_27530
RHPLAN_53850	1.00E-105	44.6875	RHPLAN_23510	3.00E-83	39.0625	RHPLAN_70860
RHPLAN_25890	2.00E-113	52.79503106	RHPLAN_33880	1.00E-112	52.79503106	RHPLAN_06670
RHPLAN_43730	3.00E-129	54.90797546	RHPLAN_19330	4.00E-126	55.21472393	RHPLAN_40150
RHPLAN_01260	1.00E-115	49.69879518	RHPLAN_51540	3.00E-111	46.38554217	RHPLAN_23520
RHPLAN_54250	5.00E-102	40.23323615	RHPLAN_19370	1.00E-100	40.52478134	RHPLAN_19360
RHPLAN_62680	4.00E-131	52.92307692	RHPLAN_10480	3.00E-129	48.92307692	RHPLAN_14330
RHPLAN_02340	1.00E-111	49.84615385	RHPLAN_49470	2.00E-99	45.84615385	RHPLAN_62300
RHPLAN_24970	7.00E-118	46.105919	RHPLAN_30810	1.00E-103	44.5482866	RHPLAN_65040
RHPLAN_51230	4.00E-100	46.70658683	RHPLAN_26230	1.00E-79	39.22155689	RHPLAN_51250
RHPLAN_27530	3.00E-127	52.14723926	RHPLAN_40150	8.00E-125	48.77300614	RHPLAN_18490
RHPLAN_43970	6.00E-122	50.15197568	RHPLAN_32270	2.00E-109	47.11246201	RHPLAN_29420
RHPLAN_43730	3.00E-120	51.8404908	RHPLAN_40150	7.00E-118	49.38650307	RHPLAN_27530
RHPLAN_48520	2.00E-72	47.48858447	RHPLAN_33390	1.00E-71	44.74885845	RHPLAN_39180
RHPLAN_64470	3.00E-121	55.10835913	RHPLAN_16830	5.00E-121	52.0123839	RHPLAN_16850
RHPLAN_51560	3.00E-82	38.08049536	RHPLAN_67770	3.00E-81	42.10526316	RHPLAN_60760
RHPLAN_41990	9.00E-130	53.82262997	RHPLAN_40460	1.00E-115	48.31804281	RHPLAN_43980
RHPLAN_10480	4.00E-124	48.64048338	RHPLAN_14330	1.00E-119	50.1510574	RHPLAN_62680
RHPLAN_11360	5.00E-116	54.08163265	RHPLAN_60850	4.00E-115	53.06122449	RHPLAN_59450
RHPLAN_48130	3.00E-123	54.62962963	RHPLAN_39790	5.00E-121	54.32098765	RHPLAN_33880
RHPLAN_02340	9.00E-110	49.23547401	RHPLAN_49470	1.00E-87	41.89602446	RHPLAN_26010
RHPLAN_17970	7.00E-102	45.0310559	RHPLAN_08360	3.00E-93	43.47826087	RHPLAN_17980
RHPLAN_08860	1.00E-110	50	RHPLAN_41870	1.00E-110	54.9382716	RHPLAN_30100
RHPLAN_51230	9.00E-109	49.69512195	RHPLAN_26230	1.00E-94	44.81707317	RHPLAN_51250
RHPLAN_23510	8.00E-108	46.46153846	RHPLAN_01620	3.00E-87	39.07692308	RHPLAN_08370
RHPLAN_16850	2.00E-137	55.55555556	RHPLAN_62680	5.00E-125	47.74774775	RHPLAN_64470
RHPLAN_69350	8.00E-95	43.37349398	RHPLAN_02900	2.00E-94	39.75903614	RHPLAN_02340
RHPLAN_01260	3.00E-116	47.59036145	RHPLAN_51540	4.00E-106	44.87951807	RHPLAN_56300
RHPLAN_48520	2.00E-120	54.48916409	RHPLAN_48240	2.00E-89	39.31888545	RHPLAN_48220
RHPLAN_53850	4.00E-119	47.36842105	RHPLAN_19130	6.00E-93	43.65325077	RHPLAN_27530
RHPLAN_59450	7.00E-99	47.36842105	RHPLAN_58540	3.00E-94	43.34365325	RHPLAN_32270
RHPLAN_08370	9.00E-120	53.56037152	RHPLAN_56300	8.00E-113	49.22600619	RHPLAN_08360
RHPLAN_60850	4.00E-115	50.77399381	RHPLAN_33930	6.00E-115	49.53560372	RHPLAN_13800

RHPLAN_05720	3.00E-109	46.15384615	RHPLAN_64850	8.00E-108	52	RHPLAN_39290
RHPLAN_18490	6.00E-115	50.9202454	RHPLAN_27530	3.00E-114	49.69325153	RHPLAN_06670
RHPLAN_10090	6.00E-100	46.70846395	RHPLAN_28330	5.00E-98	43.26018809	RHPLAN_41890
RHPLAN_33260	4.00E-112	46.43962848	RHPLAN_27720	2.00E-89	42.41486068	RHPLAN_42140
RHPLAN_59450	4.00E-117	52.30769231	RHPLAN_33930	2.00E-115	48	RHPLAN_69040
RHPLAN_11590	6.00E-100	47.09480122	RHPLAN_10060	1.00E-91	47.70642202	RHPLAN_68400
RHPLAN_47590	1.00E-113	48.92966361	RHPLAN_58720	5.00E-112	46.78899083	RHPLAN_05730
RHPLAN_19140	1.00E-125	54.07854985	RHPLAN_36420	3.00E-123	51.96374622	RHPLAN_10480
RHPLAN_08370	3.00E-105	42.94294294	RHPLAN_08380	2.00E-104	43.54354354	RHPLAN_17980
RHPLAN_48520	2.00E-120	54.05405405	RHPLAN_48240	9.00E-94	42.34234234	RHPLAN_09680
RHPLAN_60850	5.00E-121	50.61349693	RHPLAN_35610	1.00E-120	49.38650307	RHPLAN_33930
RHPLAN_02900	3.00E-87	39.57055215	RHPLAN_69350	2.00E-75	36.19631902	RHPLAN_41140
RHPLAN_63280	2.00E-116	50.91463415	RHPLAN_39920	2.00E-101	46.64634146	RHPLAN_14980
RHPLAN_05720	2.00E-112	46.34146341	RHPLAN_05730	9.00E-112	48.17073171	RHPLAN_39290
RHPLAN_16590	2.00E-112	53.56037152	RHPLAN_09560	5.00E-91	39.9380805	RHPLAN_21460
RHPLAN_16870	2.00E-113	46.74922601	RHPLAN_08440	4.00E-109	45.20123839	RHPLAN_16830
RHPLAN_64470	6.00E-125	52.59938838	RHPLAN_10480	9.00E-117	46.17737003	RHPLAN_16830
RHPLAN_16830	8.00E-105	46.50455927	RHPLAN_13210	1.00E-101	45.2887538	RHPLAN_19140
RHPLAN_24970	1.00E-94	40.35608309	RHPLAN_30810	1.00E-94	43.32344214	RHPLAN_65040
RHPLAN_16130	3.00E-88	40.65281899	RHPLAN_21990	6.00E-87	38.27893175	RHPLAN_08380
RHPLAN_43970	1.00E-94	51.87969925	RHPLAN_33930	2.00E-94	50.7518797	RHPLAN_59450
RHPLAN_16830	3.00E-123	49.69135802	RHPLAN_16850	3.00E-121	49.38271605	RHPLAN_19140
RHPLAN_58720	4.00E-113	47.56097561	RHPLAN_05730	3.00E-112	47.25609756	RHPLAN_47590
RHPLAN_43540	1.00E-106	51.70278638	RHPLAN_55850	1.00E-100	47.9876161	RHPLAN_55100
RHPLAN_34220	4.00E-108	46.78899083	RHPLAN_37230	6.00E-98	44.34250765	RHPLAN_01300
RHPLAN_17970	5.00E-122	50.75987842	RHPLAN_17980	6.00E-105	44.3768997	RHPLAN_08370
RHPLAN_70120	9.00E-112	45.59270517	RHPLAN_70110	2.00E-103	44.98480243	RHPLAN_58960
RHPLAN_16130	4.00E-92	45.2887538	RHPLAN_60700	1.00E-75	38.29787234	RHPLAN_08380
RHPLAN_26020	2.00E-122	50.73313783	RHPLAN_48240	2.00E-91	39.58944282	RHPLAN_39180
RHPLAN_37230	8.00E-113	49.37888199	RHPLAN_23690	2.00E-106	52.48447205	RHPLAN_01300
RHPLAN_38640	7.00E-80	37.34567901	RHPLAN_21460	3.00E-68	38.27160494	RHPLAN_01490
RHPLAN_33930	3.00E-118	50	RHPLAN_29590	7.00E-116	49.69325153	RHPLAN_59450
RHPLAN_16590	1.00E-99	47.25609756	RHPLAN_65150	6.00E-90	41.76829268	RHPLAN_09560
RHPLAN_47590	5.00E-79	38.46153846	RHPLAN_05720	1.00E-74	36	RHPLAN_21460
RHPLAN_01490	3.00E-76	35.58282209	RHPLAN_65670	7.00E-74	37.73006135	RHPLAN_01890
RHPLAN_30520	2.00E-128	53.37423313	RHPLAN_40460	5.00E-107	44.78527607	RHPLAN_43980
RHPLAN_29570	2.00E-117	47.69230769	RHPLAN_16850	6.00E-110	48	RHPLAN_16830
RHPLAN_34510	1.00E-94	45.23076923	RHPLAN_27920	4.00E-79	38.46153846	RHPLAN_02340
RHPLAN_28330	1.00E-103	46.48318043	RHPLAN_41890	2.00E-101	45.25993884	RHPLAN_28550
RHPLAN_11590	4.00E-97	44.47761194	RHPLAN_10060	2.00E-90	43.58208955	RHPLAN_68400
RHPLAN_30210	1.00E-114	52.13414634	RHPLAN_05730	2.00E-91	39.63414634	RHPLAN_39290
RHPLAN_36420	7.00E-119	50.3030303	RHPLAN_16830	1.00E-117	49.39393939	RHPLAN_64470
RHPLAN_56560	7.00E-114	54.43425076	RHPLAN_08860	7.00E-109	48.62385321	RHPLAN_30100
RHPLAN_33260	2.00E-96	41.41104294	RHPLAN_27720	8.00E-73	34.66257669	RHPLAN_11400
RHPLAN_70120	2.00E-99	44.3452381	RHPLAN_70110	3.00E-93	39.88095238	RHPLAN_58960
RHPLAN_63280	1.00E-114	48.52071006	RHPLAN_39920	3.00E-104	43.49112426	RHPLAN_32090
RHPLAN_36420	7.00E-107	47.6635514	RHPLAN_16850	8.00E-107	48.28660436	RHPLAN_10480

RHPLAN_26010	6.00E-102	45.20123839	RHPLAN_07690	1.00E-85	42.10526316	RHPLAN_02340
RHPLAN_56560	9.00E-107	52.58358663	RHPLAN_08860	2.00E-104	44.68085106	RHPLAN_56600
RHPLAN_34250	1.00E-117	48.1595092	RHPLAN_37230	9.00E-102	45.09202454	RHPLAN_01290
RHPLAN_33930	2.00E-114	47.69230769	RHPLAN_13800	3.00E-113	47.69230769	RHPLAN_32270
RHPLAN_34510	9.00E-109	49.24471299	RHPLAN_27920	3.00E-97	44.10876133	RHPLAN_16450
RHPLAN_61980	3.00E-107	46.54654655	RHPLAN_32940	3.00E-100	45.94594595	RHPLAN_09560
RHPLAN_39290	2.00E-109	49.68944099	RHPLAN_05720	8.00E-108	46.89440994	RHPLAN_05710
RHPLAN_58720	7.00E-98	42.72727273	RHPLAN_08370	3.00E-96	42.72727273	RHPLAN_40150
RHPLAN_19370	8.00E-110	46.58385093	RHPLAN_23740	5.00E-102	42.85714286	RHPLAN_19290
RHPLAN_26010	1.00E-98	44.75308642	RHPLAN_19090	1.00E-84	44.44444444	RHPLAN_02340
RHPLAN_16890	8.00E-77	35.36585366	RHPLAN_16880	1.00E-74	34.45121951	RHPLAN_17980
RHPLAN_47960	7.00E-71	35.20710059	RHPLAN_51520	5.00E-70	33.43195266	RHPLAN_16880
RHPLAN_21990	5.00E-68	35.75757576	RHPLAN_48210	1.00E-65	35.15151515	RHPLAN_02340
RHPLAN_01290	5.00E-113	50.75075075	RHPLAN_37230	7.00E-112	43.84384384	RHPLAN_23690
RHPLAN_02340	3.00E-63	34.04255319	RHPLAN_34980	2.00E-61	35.8662614	RHPLAN_30510
RHPLAN_53940	2.00E-92	45.84615385	RHPLAN_26010	2.00E-91	43.38461538	RHPLAN_65150
RHPLAN_17980	2.00E-120	48.02259887	RHPLAN_08360	1.00E-112	45.19774011	RHPLAN_56300
RHPLAN_01280	1.00E-115	49.54954955	RHPLAN_51540	5.00E-96	40.54054054	RHPLAN_21990
RHPLAN_70110	5.00E-108	45.59270517	RHPLAN_58960	3.00E-98	43.46504559	RHPLAN_61650
RHPLAN_08370	5.00E-91	40.72948328	RHPLAN_08860	2.00E-90	38.60182371	RHPLAN_47960
RHPLAN_59450	6.00E-111	49.23076923	RHPLAN_13800	2.00E-109	47.07692308	RHPLAN_33930
RHPLAN_08360	6.00E-113	50.47021944	RHPLAN_17980	8.00E-113	49.84326019	RHPLAN_08380
RHPLAN_19370	1.00E-109	46.62576687	RHPLAN_23740	6.00E-95	40.18404908	RHPLAN_19290
RHPLAN_39790	3.00E-112	50	RHPLAN_10320	2.00E-110	49.0797546	RHPLAN_33880
RHPLAN_35410	2.00E-106	46.60493827	RHPLAN_59580	6.00E-104	45.67901235	RHPLAN_21460
RHPLAN_30130	6.00E-101	47.20496894	RHPLAN_55850	5.00E-96	46.27329193	RHPLAN_08370
RHPLAN_34980	1.00E-65	36.63663664	RHPLAN_01890	7.00E-63	34.23423423	RHPLAN_25260
RHPLAN_49470	3.00E-106	49.3902439	RHPLAN_53940	1.00E-103	49.3902439	RHPLAN_35030
RHPLAN_11350	1.00E-115	48.1595092	RHPLAN_10350	6.00E-75	38.03680982	RHPLAN_21460
RHPLAN_19090	3.00E-105	50.62111801	RHPLAN_07690	5.00E-101	47.51552795	RHPLAN_49480
RHPLAN_30810	1.00E-118	50.9375	RHPLAN_65040	2.00E-106	47.5	RHPLAN_44120
RHPLAN_29570	6.00E-118	48.02431611	RHPLAN_64470	7.00E-115	49.84802432	RHPLAN_62680
RHPLAN_63500	3.00E-89	40	RHPLAN_23870	2.00E-80	37.84615385	RHPLAN_20930
RHPLAN_23870	5.00E-71	33.84615385	RHPLAN_05720	2.00E-69	38.15384615	RHPLAN_33770
RHPLAN_16450	2.00E-115	45.93023256	RHPLAN_41990	6.00E-108	44.76744186	RHPLAN_43980
RHPLAN_07690	2.00E-98	44.75308642	RHPLAN_19090	1.00E-97	45.0617284	RHPLAN_49470
RHPLAN_32270	6.00E-116	49.23547401	RHPLAN_13800	7.00E-115	46.78899083	RHPLAN_59450
RHPLAN_25890	6.00E-116	48.92307692	RHPLAN_18490	1.00E-110	45.84615385	RHPLAN_06670
RHPLAN_42730	2.00E-115	48.90965732	RHPLAN_57770	4.00E-77	38.00623053	RHPLAN_07810
RHPLAN_41870	4.00E-99	48.27586207	RHPLAN_54070	5.00E-99	45.76802508	RHPLAN_30100
RHPLAN_11350	1.00E-119	47.59036145	RHPLAN_42150	9.00E-74	33.73493976	RHPLAN_57770
RHPLAN_60760	3.00E-99	45.0617284	RHPLAN_21460	2.00E-86	38.58024691	RHPLAN_34540
RHPLAN_60760	4.00E-97	44	RHPLAN_21460	1.00E-82	39.38461538	RHPLAN_34540
RHPLAN_58110	6.00E-122	51.07692308	RHPLAN_10480	5.00E-114	46.76923077	RHPLAN_16850
RHPLAN_20660	7.00E-88	40.55727554	RHPLAN_68890	2.00E-69	35.29411765	RHPLAN_35020
RHPLAN_43360	4.00E-90	40.55727554	RHPLAN_13990	6.00E-86	38.6996904	RHPLAN_14980
RHPLAN_65160	5.00E-107	43.19526627	RHPLAN_08370	3.00E-97	41.71597633	RHPLAN_60930

RHPLAN_10480	3.00E-113	46.38554217	RHPLAN_29570	1.00E-110	45.18072289	RHPLAN_37730
RHPLAN_39290	6.00E-94	41.21212121	RHPLAN_05730	1.00E-93	43.93939394	RHPLAN_05720
RHPLAN_39290	1.00E-111	46.64634146	RHPLAN_05720	5.00E-106	45.12195122	RHPLAN_47960
RHPLAN_21460	1.00E-86	42.33128834	RHPLAN_01490	6.00E-86	38.95705521	RHPLAN_65150
RHPLAN_10720	9.00E-95	48.1595092	RHPLAN_11590	2.00E-86	41.10429448	RHPLAN_68400
RHPLAN_10480	9.00E-113	45.67901235	RHPLAN_19140	2.00E-110	47.83950617	RHPLAN_16830
RHPLAN_32540	1.00E-91	40.86687307	RHPLAN_09860	5.00E-78	38.08049536	RHPLAN_10080
RHPLAN_13990	3.00E-93	38.65030675	RHPLAN_43360	2.00E-91	38.34355828	RHPLAN_68450
RHPLAN_28550	2.00E-100	46.2962963	RHPLAN_41890	8.00E-100	45.37037037	RHPLAN_57910
RHPLAN_61980	1.00E-114	49.84802432	RHPLAN_32940	3.00E-110	50.75987842	RHPLAN_27760
RHPLAN_36440	1.00E-82	35.36585366	RHPLAN_23510	1.00E-61	33.84146341	RHPLAN_51420
RHPLAN_32540	5.00E-94	41.10429448	RHPLAN_10080	3.00E-82	37.73006135	RHPLAN_09860
RHPLAN_20660	4.00E-81	40.12158055	RHPLAN_68890	4.00E-66	34.95440729	RHPLAN_65150
RHPLAN_43540	2.00E-89	44.03669725	RHPLAN_09560	1.00E-88	41.89602446	RHPLAN_34540
RHPLAN_11610	4.00E-92	43.26018809	RHPLAN_30180	6.00E-83	40.43887147	RHPLAN_21990
RHPLAN_54070	1.00E-101	46.64634146	RHPLAN_41870	2.00E-101	48.47560976	RHPLAN_30100
RHPLAN_30100	7.00E-90	43.16109422	RHPLAN_08870	3.00E-89	39.51367781	RHPLAN_41870
RHPLAN_24530	8.00E-109	43.11926606	RHPLAN_36500	6.00E-102	47.70642202	RHPLAN_31600
RHPLAN_33880	4.00E-104	48.01223242	RHPLAN_06670	1.00E-103	45.56574924	RHPLAN_39790
RHPLAN_58540	1.00E-105	42.98245614	RHPLAN_11360	8.00E-105	42.10526316	RHPLAN_59450
RHPLAN_41990	9.00E-100	43.78698225	RHPLAN_30520	9.00E-91	40.82840237	RHPLAN_40460
RHPLAN_30090	5.00E-70	37.30407524	RHPLAN_34260	1.00E-66	36.67711599	RHPLAN_42150
RHPLAN_10720	8.00E-93	45.15151515	RHPLAN_10060	1.00E-77	38.48484848	RHPLAN_68400
RHPLAN_61440	5.00E-88	41.61490683	RHPLAN_08870	5.00E-82	41.30434783	RHPLAN_30690
RHPLAN_05720	3.00E-75	34.15977961	RHPLAN_47960	2.00E-72	33.05785124	RHPLAN_60700
RHPLAN_41870	3.00E-99	47.12990937	RHPLAN_30100	6.00E-99	43.50453172	RHPLAN_08860
RHPLAN_28550	1.00E-100	43.38461538	RHPLAN_57910	6.00E-100	45.84615385	RHPLAN_07700
RHPLAN_43540	5.00E-106	48.20359281	RHPLAN_30090	5.00E-100	41.61676647	RHPLAN_20870
RHPLAN_39290	4.00E-94	44.20731707	RHPLAN_05720	4.00E-93	42.37804878	RHPLAN_47590
RHPLAN_30090	4.00E-87	40.43209877	RHPLAN_34260	3.00E-83	39.50617284	RHPLAN_42150
RHPLAN_54230	1.00E-97	42.85714286	RHPLAN_27720	3.00E-87	40.68322981	RHPLAN_42140
RHPLAN_07810	6.00E-113	45.42936288	RHPLAN_55850	4.00E-106	44.59833795	RHPLAN_55100
RHPLAN_43540	1.00E-105	45.42936288	RHPLAN_55100	5.00E-92	36.56509695	RHPLAN_55850
RHPLAN_34250	7.00E-112	43.71257485	RHPLAN_01300	6.00E-95	42.21556886	RHPLAN_23690
RHPLAN_24970	9.00E-95	42.05607477	RHPLAN_59350	7.00E-87	39.25233645	RHPLAN_65040
RHPLAN_33930	1.00E-106	44.57831325	RHPLAN_13800	5.00E-106	43.37349398	RHPLAN_11360
RHPLAN_31580	9.00E-97	43.16770186	RHPLAN_36510	6.00E-96	41.61490683	RHPLAN_36500
RHPLAN_31580	5.00E-112	42.98245614	RHPLAN_36500	6.00E-110	43.85964912	RHPLAN_31600
RHPLAN_19360	1.00E-109	46.48318043	RHPLAN_19290	1.00E-101	42.20183486	RHPLAN_23740
RHPLAN_30100	1.00E-87	42.41486068	RHPLAN_41870	8.00E-84	42.41486068	RHPLAN_13310
RHPLAN_11360	7.00E-115	46.08433735	RHPLAN_33930	1.00E-114	46.38554217	RHPLAN_59450
RHPLAN_65150	2.00E-95	44.09937888	RHPLAN_25000	8.00E-93	42.23602484	RHPLAN_10350
RHPLAN_01890	3.00E-88	40.42553191	RHPLAN_42140	1.00E-85	38.90577508	RHPLAN_09560
RHPLAN_14980	1.00E-89	42.50764526	RHPLAN_67770	6.00E-89	40.36697248	RHPLAN_01490
RHPLAN_49480	7.00E-97	44.89164087	RHPLAN_35020	1.00E-96	42.10526316	RHPLAN_09560
RHPLAN_39180	4.00E-100	42.98780488	RHPLAN_26020	2.00E-94	43.29268293	RHPLAN_33390
RHPLAN_06190	2.00E-106	43.88059701	RHPLAN_06330	5.00E-84	37.01492537	RHPLAN_65670

RHPLAN_05720	1.00E-109	44.74474474	RHPLAN_05740	5.00E-105	47.74774775	RHPLAN_47590
RHPLAN_08210	4.00E-97	44.40993789	RHPLAN_00600	1.00E-86	40.68322981	RHPLAN_01790
RHPLAN_36510	2.00E-94	40.12158055	RHPLAN_31600	8.00E-92	38.60182371	RHPLAN_31580
RHPLAN_59350	1.00E-103	41.6909621	RHPLAN_44120	6.00E-103	43.14868805	RHPLAN_65040
RHPLAN_65150	8.00E-86	42.05607477	RHPLAN_25890	5.00E-85	40.49844237	RHPLAN_02340
RHPLAN_06330	1.00E-89	42.94670846	RHPLAN_08380	2.00E-88	44.20062696	RHPLAN_61980
RHPLAN_30810	3.00E-105	46.03658537	RHPLAN_59350	1.00E-103	43.59756098	RHPLAN_44120
RHPLAN_39290	2.00E-99	44.47852761	RHPLAN_47590	2.00E-93	43.25153374	RHPLAN_05710
RHPLAN_11610	6.00E-100	42.59259259	RHPLAN_61800	8.00E-84	41.66666667	RHPLAN_34220
RHPLAN_05720	9.00E-95	41.9939577	RHPLAN_21460	1.00E-93	44.10876133	RHPLAN_01490
RHPLAN_57520	3.00E-89	42.85714286	RHPLAN_10480	3.00E-88	38.90577508	RHPLAN_19140
RHPLAN_33390	1.00E-87	39.14373089	RHPLAN_39180	5.00E-87	40.06116208	RHPLAN_26020
RHPLAN_62680	1.00E-88	40.90909091	RHPLAN_61770	1.00E-87	42.12121212	RHPLAN_58110
RHPLAN_19130	3.00E-81	39.18495298	RHPLAN_47590	3.00E-81	40.12539185	RHPLAN_33880
RHPLAN_05730	1.00E-97	45.0617284	RHPLAN_05720	7.00E-95	40.74074074	RHPLAN_05710
RHPLAN_65050	1.00E-87	40.99378882	RHPLAN_21990	7.00E-84	38.50931677	RHPLAN_01890
RHPLAN_08860	3.00E-92	40.74074074	RHPLAN_42310	1.00E-87	42.28395062	RHPLAN_54090
RHPLAN_16410	1.00E-92	42.28395062	RHPLAN_67770	8.00E-78	40.43209877	RHPLAN_21990
RHPLAN_34250	2.00E-100	42.90030211	RHPLAN_37230	6.00E-95	42.59818731	RHPLAN_01290
RHPLAN_49660	2.00E-87	38.98809524	RHPLAN_09560	1.00E-72	35.11904762	RHPLAN_08380
RHPLAN_34240	5.00E-86	44.67353952	RHPLAN_23520	1.00E-76	40.20618557	RHPLAN_00980
RHPLAN_01270	4.00E-106	44.87951807	RHPLAN_01260	1.00E-95	40.6626506	RHPLAN_00980
RHPLAN_62680	5.00E-101	44.54545455	RHPLAN_36420	7.00E-101	45.15151515	RHPLAN_64470
RHPLAN_65150	7.00E-91	42.99065421	RHPLAN_59580	1.00E-90	42.67912773	RHPLAN_53850
RHPLAN_42310	3.00E-96	44.27244582	RHPLAN_30690	1.00E-94	43.65325077	RHPLAN_61440
RHPLAN_63280	1.00E-83	40	RHPLAN_10530	3.00E-83	39.6969697	RHPLAN_09560
RHPLAN_27760	2.00E-90	43.92523364	RHPLAN_09560	1.00E-88	39.25233645	RHPLAN_39920
RHPLAN_30600	2.00E-83	38.62928349	RHPLAN_65670	1.00E-82	40.18691589	RHPLAN_19330
RHPLAN_07810	5.00E-92	40.49079755	RHPLAN_42150	2.00E-87	40.49079755	RHPLAN_55850
RHPLAN_41870	4.00E-96	47.09480122	RHPLAN_56560	5.00E-96	48.31804281	RHPLAN_56600
RHPLAN_16830	4.00E-112	46.33431085	RHPLAN_36420	2.00E-111	45.74780059	RHPLAN_16850
RHPLAN_39920	1.00E-87	40	RHPLAN_09560	4.00E-81	40.61538462	RHPLAN_23870
RHPLAN_67770	3.00E-89	39.87730061	RHPLAN_01890	4.00E-88	40.79754601	RHPLAN_58960
RHPLAN_65610	3.00E-89	39.27492447	RHPLAN_30100	2.00E-82	39.87915408	RHPLAN_65150
RHPLAN_16410	2.00E-81	36.25377644	RHPLAN_67770	2.00E-73	35.95166163	RHPLAN_01490
RHPLAN_49470	3.00E-89	42.21556886	RHPLAN_49480	1.00E-87	41.61676647	RHPLAN_65150
RHPLAN_51420	9.00E-67	36.74698795	RHPLAN_06190	2.00E-66	34.63855422	RHPLAN_07690
RHPLAN_42310	6.00E-95	42.77108434	RHPLAN_54090	2.00E-93	42.1686747	RHPLAN_16460
RHPLAN_36440	7.00E-92	36.01108033	RHPLAN_19130	1.00E-61	31.30193906	RHPLAN_02340
RHPLAN_26680	3.00E-97	40.37267081	RHPLAN_34540	1.00E-77	36.95652174	RHPLAN_30090
RHPLAN_54810	8.00E-95	40.72948328	RHPLAN_59580	1.00E-86	40.12158055	RHPLAN_60930
RHPLAN_49080	6.00E-85	39.69230769	RHPLAN_01490	5.00E-82	36.92307692	RHPLAN_09560
RHPLAN_00600	2.00E-85	41.23076923	RHPLAN_14980	7.00E-83	40.61538462	RHPLAN_39920
RHPLAN_43730	1.00E-91	42.42424242	RHPLAN_65150	1.00E-90	40.90909091	RHPLAN_60930
RHPLAN_08460	5.00E-101	45.42682927	RHPLAN_70120	8.00E-99	42.37804878	RHPLAN_70100
RHPLAN_63280	2.00E-86	41.71779141	RHPLAN_39920	2.00E-82	37.42331288	RHPLAN_16880
RHPLAN_34260	5.00E-84	39.88095238	RHPLAN_54810	3.00E-76	40.17857143	RHPLAN_42150

RHPLAN_21460	5.00E-94	40.77380952	RHPLAN_08360	2.00E-87	39.28571429	RHPLAN_17980
RHPLAN_03630	3.00E-81	37.5	RHPLAN_67770	1.00E-78	37.1875	RHPLAN_51420
RHPLAN_60790	3.00E-72	34.42136499	RHPLAN_08360	3.00E-71	35.0148368	RHPLAN_08370
RHPLAN_30600	1.00E-73	35.45454545	RHPLAN_65150	2.00E-73	37.27272727	RHPLAN_25000
RHPLAN_51420	7.00E-92	41.17647059	RHPLAN_01890	4.00E-90	40.86687307	RHPLAN_48810
RHPLAN_11590	1.00E-79	38.20895522	RHPLAN_10720	6.00E-78	40.29850746	RHPLAN_10060
RHPLAN_26020	6.00E-92	40.79754601	RHPLAN_33390	6.00E-90	40.18404908	RHPLAN_48220
RHPLAN_43540	1.00E-93	42.89855072	RHPLAN_34260	6.00E-89	38.26086957	RHPLAN_55100
RHPLAN_06330	2.00E-86	41.35802469	RHPLAN_39290	2.00E-84	40.12345679	RHPLAN_27530
RHPLAN_02900	1.00E-90	40.0621118	RHPLAN_05720	3.00E-77	39.13043478	RHPLAN_14980
RHPLAN_25890	8.00E-92	40.67278287	RHPLAN_21990	4.00E-91	40.67278287	RHPLAN_39290
RHPLAN_14980	2.00E-89	43.65325077	RHPLAN_26010	2.00E-88	42.7244582	RHPLAN_49480
RHPLAN_49080	2.00E-96	42.41486068	RHPLAN_54360	7.00E-94	43.03405573	RHPLAN_27530
RHPLAN_09560	5.00E-76	39.87538941	RHPLAN_21990	2.00E-75	39.25233645	RHPLAN_08380
RHPLAN_70120	1.00E-85	40.54054054	RHPLAN_70110	1.00E-83	39.03903904	RHPLAN_28300
RHPLAN_27530	1.00E-81	42.02453988	RHPLAN_08360	6.00E-79	41.10429448	RHPLAN_10350
RHPLAN_49480	8.00E-94	45.65217391	RHPLAN_02340	3.00E-81	41.92546584	RHPLAN_07690
RHPLAN_01890	3.00E-95	40.67278287	RHPLAN_05720	2.00E-94	42.20183486	RHPLAN_10460
RHPLAN_49650	1.00E-75	39.375	RHPLAN_09560	1.00E-72	36.25	RHPLAN_23520
RHPLAN_11410	2.00E-94	43.38461538	RHPLAN_65430	2.00E-94	40.30769231	RHPLAN_19330
RHPLAN_05720	3.00E-92	39.31888545	RHPLAN_25260	1.00E-91	42.41486068	RHPLAN_08380
RHPLAN_65030	1.00E-93	40.24767802	RHPLAN_09860	2.00E-86	41.17647059	RHPLAN_10980
RHPLAN_09860	2.00E-85	37.77089783	RHPLAN_65030	3.00E-85	38.08049536	RHPLAN_10980
RHPLAN_08370	2.00E-95	42.94478528	RHPLAN_39290	2.00E-91	42.33128834	RHPLAN_19330
RHPLAN_39290	4.00E-92	40.79754601	RHPLAN_05730	5.00E-91	42.63803681	RHPLAN_47590
RHPLAN_05720	1.00E-90	42.54658385	RHPLAN_16890	2.00E-90	43.78881988	RHPLAN_21990
RHPLAN_25000	2.00E-73	39.7515528	RHPLAN_08380	3.00E-72	40.0621118	RHPLAN_27530
RHPLAN_68150	5.00E-88	36.69724771	RHPLAN_59450	1.00E-84	39.14373089	RHPLAN_61770
RHPLAN_43730	7.00E-88	41.84615385	RHPLAN_53850	9.00E-85	38.76923077	RHPLAN_49080
RHPLAN_40180	1.00E-83	36.84210526	RHPLAN_63280	4.00E-56	33.74613003	RHPLAN_08210
RHPLAN_65150	2.00E-83	39.62848297	RHPLAN_41140	3.00E-83	39.62848297	RHPLAN_21460
RHPLAN_00600	1.00E-78	38.88888889	RHPLAN_27760	1.00E-78	40.74074074	RHPLAN_34720
RHPLAN_39920	2.00E-74	34.8973607	RHPLAN_21460	3.00E-69	34.60410557	RHPLAN_61980
RHPLAN_34250	3.00E-88	40.37267081	RHPLAN_37230	2.00E-83	39.7515528	RHPLAN_23690
RHPLAN_08370	6.00E-77	38.53211009	RHPLAN_43730	8.00E-75	40.67278287	RHPLAN_39920
RHPLAN_33260	1.00E-92	40.6626506	RHPLAN_54230	5.00E-75	34.93975904	RHPLAN_42140
RHPLAN_10080	6.00E-82	38.125	RHPLAN_65030	9.00E-78	37.8125	RHPLAN_00980
RHPLAN_37850	2.00E-78	39.25233645	RHPLAN_08360	5.00E-78	43.61370717	RHPLAN_06670
RHPLAN_33880	4.00E-88	44.13580247	RHPLAN_34260	5.00E-88	39.50617284	RHPLAN_53850
RHPLAN_25530	3.00E-87	40.43209877	RHPLAN_25890	5.00E-87	40.74074074	RHPLAN_27530
RHPLAN_16460	6.00E-90	41.56976744	RHPLAN_30690	3.00E-88	40.11627907	RHPLAN_61440
RHPLAN_02340	4.00E-94	39.48863636	RHPLAN_35020	8.00E-94	41.76136364	RHPLAN_49400
RHPLAN_25880	1.00E-83	40.54878049	RHPLAN_20930	2.00E-83	37.80487805	RHPLAN_14980
RHPLAN_27760	2.00E-74	38.1097561	RHPLAN_39920	8.00E-74	36.2804878	RHPLAN_63280
RHPLAN_69350	1.00E-90	40.18691589	RHPLAN_09560	4.00E-89	40.18691589	RHPLAN_41140
RHPLAN_68890	7.00E-86	41.66666667	RHPLAN_09560	7.00E-85	41.66666667	RHPLAN_33260
RHPLAN_05720	4.00E-87	38.88888889	RHPLAN_14980	5.00E-87	42.90123457	RHPLAN_09560

RHPLAN_20930	1.00E-77	37.96296296	RHPLAN_33770	2.00E-74	40.12345679	RHPLAN_39920
RHPLAN_27740	2.00E-90	43.59756098	RHPLAN_06330	3.00E-90	44.81707317	RHPLAN_65150
RHPLAN_49080	5.00E-93	41.33738602	RHPLAN_65430	1.00E-92	39.20972644	RHPLAN_01490
RHPLAN_14980	7.00E-75	36.22754491	RHPLAN_65050	8.00E-75	36.22754491	RHPLAN_68890
RHPLAN_01490	6.00E-93	38.64306785	RHPLAN_11410	1.00E-92	38.05309735	RHPLAN_49080
RHPLAN_49090	3.00E-94	43.47826087	RHPLAN_65430	1.00E-93	42.85714286	RHPLAN_11410
RHPLAN_36150	5.00E-83	38.55421687	RHPLAN_27760	6.00E-78	37.34939759	RHPLAN_21460
RHPLAN_09560	8.00E-85	44.02515723	RHPLAN_08370	6.00E-82	44.33962264	RHPLAN_08360
RHPLAN_48810	1.00E-71	36.2804878	RHPLAN_14620	5.00E-71	37.19512195	RHPLAN_51520
RHPLAN_19360	8.00E-94	42.98780488	RHPLAN_23740	1.00E-90	40.24390244	RHPLAN_19370
RHPLAN_67770	7.00E-87	40.80996885	RHPLAN_20930	8.00E-85	41.12149533	RHPLAN_39290
RHPLAN_68190	4.00E-76	40.61538462	RHPLAN_68890	1.00E-65	35.38461538	RHPLAN_60790
RHPLAN_67770	2.00E-79	39.62848297	RHPLAN_65150	6.00E-79	39.62848297	RHPLAN_05720
RHPLAN_02340	8.00E-85	40.24767802	RHPLAN_41140	3.00E-82	40.55727554	RHPLAN_53940
RHPLAN_65050	5.00E-89	39.06705539	RHPLAN_47960	7.00E-89	39.35860058	RHPLAN_17980
RHPLAN_21460	7.00E-85	38.65030675	RHPLAN_56300	3.00E-83	39.26380368	RHPLAN_05720
RHPLAN_55850	6.00E-83	41.04938272	RHPLAN_30090	8.00E-81	36.41975309	RHPLAN_34260
RHPLAN_00980	2.00E-86	40.99378882	RHPLAN_21460	4.00E-83	38.81987578	RHPLAN_01890
RHPLAN_28330	7.00E-86	38.7195122	RHPLAN_57910	1.00E-85	38.41463415	RHPLAN_41890
RHPLAN_65150	7.00E-83	41.71779141	RHPLAN_56560	7.00E-81	42.02453988	RHPLAN_30100
RHPLAN_64850	4.00E-69	38.00623053	RHPLAN_34980	7.00E-68	37.38317757	RHPLAN_08210
RHPLAN_42150	5.00E-81	37.38317757	RHPLAN_55850	1.00E-78	38.62928349	RHPLAN_38620
RHPLAN_47590	1.00E-77	40.43209877	RHPLAN_10350	1.00E-75	37.96296296	RHPLAN_53850
RHPLAN_65150	1.00E-83	38.25301205	RHPLAN_34540	6.00E-81	37.95180723	RHPLAN_34260
RHPLAN_01490	1.00E-80	39.38461538	RHPLAN_02340	4.00E-80	37.23076923	RHPLAN_20930
RHPLAN_15110	2.00E-85	35.59322034	RHPLAN_13990	6.00E-73	30.50847458	RHPLAN_02900
RHPLAN_30510	4.00E-79	39.81481481	RHPLAN_56300	1.00E-77	35.18518519	RHPLAN_02900
RHPLAN_30510	3.00E-82	39.19753086	RHPLAN_34720	9.00E-74	37.65432099	RHPLAN_01890
RHPLAN_21460	3.00E-70	36.36363636	RHPLAN_65150	3.00E-70	36.67711599	RHPLAN_00600
RHPLAN_10320	5.00E-70	36.08562691	RHPLAN_05730	1.00E-69	38.83792049	RHPLAN_27740
RHPLAN_60930	6.00E-75	38.15384615	RHPLAN_00600	7.00E-75	38.15384615	RHPLAN_65150
RHPLAN_19130	6.00E-77	38.76923077	RHPLAN_00980	6.00E-76	38.15384615	RHPLAN_01890
RHPLAN_05720	9.00E-75	34.69387755	RHPLAN_54810	2.00E-70	32.06997085	RHPLAN_05730
RHPLAN_67770	4.00E-77	39.00928793	RHPLAN_05720	8.00E-77	39.31888545	RHPLAN_47590
RHPLAN_49080	6.00E-84	38.67069486	RHPLAN_67770	2.00E-78	39.57703927	RHPLAN_39920
RHPLAN_05720	3.00E-77	38.27160494	RHPLAN_61330	3.00E-75	35.49382716	RHPLAN_21460
RHPLAN_47590	2.00E-67	39.75535168	RHPLAN_05720	4.00E-67	35.47400612	RHPLAN_25000
RHPLAN_09560	1.00E-80	39.09090909	RHPLAN_23510	2.00E-79	35.75757576	RHPLAN_16590
RHPLAN_60930	6.00E-82	41.74454829	RHPLAN_33880	3.00E-80	41.43302181	RHPLAN_01490
RHPLAN_14020	1.00E-83	39.81481481	RHPLAN_16870	2.00E-76	37.96296296	RHPLAN_16830
RHPLAN_65150	3.00E-84	41.79566563	RHPLAN_21460	2.00E-83	39.31888545	RHPLAN_01890
RHPLAN_58960	3.00E-79	36.50306748	RHPLAN_21460	9.00E-78	36.19631902	RHPLAN_08460
RHPLAN_37150	6.00E-86	38.34355828	RHPLAN_14980	3.00E-76	37.73006135	RHPLAN_65670
RHPLAN_54090	2.00E-72	36.22291022	RHPLAN_00600	6.00E-72	38.6996904	RHPLAN_67770
RHPLAN_19090	7.00E-57	35.85657371	RHPLAN_23520	5.00E-56	35.85657371	RHPLAN_62380
RHPLAN_67770	1.00E-72	37.6146789	RHPLAN_55530	2.00E-69	34.55657492	RHPLAN_68890
RHPLAN_21990	2.00E-78	40.0621118	RHPLAN_34250	2.00E-73	36.95652174	RHPLAN_09560

RHPLAN_23520	2.00E-72	36.64596273	RHPLAN_61800	8.00E-68	35.71428571	RHPLAN_54810
RHPLAN_27760	3.00E-73	38.75	RHPLAN_51420	2.00E-72	36.875	RHPLAN_67770
RHPLAN_30090	6.00E-78	36.53250774	RHPLAN_23510	2.00E-77	41.48606811	RHPLAN_25000
RHPLAN_23510	1.00E-72	36.7781155	RHPLAN_61980	2.00E-72	40.12158055	RHPLAN_08370
RHPLAN_64850	1.00E-62	35.16819572	RHPLAN_05720	9.00E-60	33.94495413	RHPLAN_65670
RHPLAN_33880	3.00E-76	39.07692308	RHPLAN_35220	4.00E-75	37.23076923	RHPLAN_49470
RHPLAN_05720	3.00E-76	40.61538462	RHPLAN_25000	3.00E-74	36.61538462	RHPLAN_23520
RHPLAN_01300	1.00E-49	34.6875	RHPLAN_34980	4.00E-49	34.375	RHPLAN_51520
RHPLAN_01890	1.00E-81	36.60714286	RHPLAN_09560	5.00E-76	36.9047619	RHPLAN_21460
RHPLAN_08370	7.00E-81	38.06646526	RHPLAN_39290	1.00E-79	39.57703927	RHPLAN_68890
RHPLAN_14980	1.00E-71	39.26380368	RHPLAN_01290	2.00E-70	41.10429448	RHPLAN_05720
RHPLAN_67770	1.00E-72	34.96932515	RHPLAN_30230	2.00E-72	36.19631902	RHPLAN_20930
RHPLAN_65150	1.00E-65	36.47416413	RHPLAN_34260	4.00E-65	35.56231003	RHPLAN_00980
RHPLAN_14980	4.00E-77	37.6146789	RHPLAN_47590	6.00E-72	34.55657492	RHPLAN_16880
RHPLAN_55530	8.00E-74	36.59305994	RHPLAN_08370	1.00E-73	41.32492114	RHPLAN_27720
RHPLAN_09560	1.00E-71	37.53846154	RHPLAN_40150	1.00E-71	36.30769231	RHPLAN_37850
RHPLAN_48520	7.00E-81	38.7195122	RHPLAN_48240	3.00E-77	34.75609756	RHPLAN_33390
RHPLAN_19300	1.00E-72	35.27607362	RHPLAN_48160	1.00E-71	30.67484663	RHPLAN_09560
RHPLAN_65150	7.00E-79	37.16012085	RHPLAN_14980	2.00E-77	37.16012085	RHPLAN_65050
RHPLAN_01890	9.00E-76	35.29411765	RHPLAN_65150	7.00E-75	39.9380805	RHPLAN_00600
RHPLAN_32270	2.00E-89	39.62848297	RHPLAN_15440	2.00E-87	38.39009288	RHPLAN_16830
RHPLAN_01490	4.00E-73	33.74233129	RHPLAN_65430	2.00E-72	37.11656442	RHPLAN_08400
RHPLAN_08370	1.00E-82	40.67278287	RHPLAN_25000	2.00E-82	40.06116208	RHPLAN_23520
RHPLAN_27760	1.00E-67	37.5739645	RHPLAN_02340	8.00E-65	34.61538462	RHPLAN_14980
RHPLAN_13310	5.00E-64	34.76923077	RHPLAN_59580	1.00E-63	36.30769231	RHPLAN_34980
RHPLAN_63280	4.00E-74	35.9375	RHPLAN_39920	8.00E-72	35.9375	RHPLAN_34260
RHPLAN_67150	6.00E-52	32.27848101	RHPLAN_62490	2.00E-51	33.86075949	RHPLAN_32100
RHPLAN_32090	3.00E-83	41.23076923	RHPLAN_51420	2.00E-82	36	RHPLAN_21990
RHPLAN_01490	2.00E-68	34.74320242	RHPLAN_36470	1.00E-67	35.64954683	RHPLAN_23520
RHPLAN_16890	4.00E-71	34.03614458	RHPLAN_00600	5.00E-68	35.84337349	RHPLAN_21990
RHPLAN_23520	3.00E-77	36.06060606	RHPLAN_34540	5.00E-77	35.15151515	RHPLAN_00600
RHPLAN_19330	1.00E-65	38.73873874	RHPLAN_19130	2.00E-64	36.63663664	RHPLAN_65150
RHPLAN_65150	2.00E-72	35.29411765	RHPLAN_54810	1.00E-71	37.46130031	RHPLAN_26010
RHPLAN_25000	4.00E-65	32.73809524	RHPLAN_39920	4.00E-65	32.44047619	RHPLAN_65150
RHPLAN_30090	3.00E-69	34.50292398	RHPLAN_25890	2.00E-67	33.33333333	RHPLAN_47960
RHPLAN_23520	5.00E-74	38.62275449	RHPLAN_30510	5.00E-73	37.7245509	RHPLAN_34220
RHPLAN_47590	9.00E-72	33.63914373	RHPLAN_32090	3.00E-70	37.3088685	RHPLAN_06670
RHPLAN_30510	4.00E-71	36.58536585	RHPLAN_39920	7.00E-64	32.31707317	RHPLAN_70120
RHPLAN_27760	5.00E-66	36.13707165	RHPLAN_05720	8.00E-66	34.57943925	RHPLAN_47590
RHPLAN_39290	1.00E-75	34.83146067	RHPLAN_30510	3.00E-74	36.51685393	RHPLAN_51420
RHPLAN_39290	7.00E-61	31.70731707	RHPLAN_02340	1.00E-60	33.84146341	RHPLAN_34260
RHPLAN_37850	3.00E-67	34.04907975	RHPLAN_00600	3.00E-65	35.88957055	RHPLAN_33470
RHPLAN_23520	1.00E-71	35.71428571	RHPLAN_00980	3.00E-70	39.13043478	RHPLAN_68890
RHPLAN_25890	5.00E-86	36.02150538	RHPLAN_56300	6.00E-84	33.87096774	RHPLAN_01890
RHPLAN_05720	4.00E-75	35.54216867	RHPLAN_14980	6.00E-74	38.55421687	RHPLAN_05730
RHPLAN_33610	6.00E-53	32.71028037	RHPLAN_38680	1.00E-49	31.15264798	RHPLAN_67770
RHPLAN_05730	9.00E-58	31.70731707	RHPLAN_65150	2.00E-56	34.75609756	RHPLAN_08870

RHPLAN_70120	2.00E-71	35.8662614	RHPLAN_19370	5.00E-71	33.43465046	RHPLAN_19360
RHPLAN_25260	3.00E-62	32.40740741	RHPLAN_49470	2.00E-61	36.72839506	RHPLAN_17990
RHPLAN_54810	1.00E-69	36.61538462	RHPLAN_21990	7.00E-69	34.46153846	RHPLAN_59580
RHPLAN_27740	2.00E-61	36.14457831	RHPLAN_34980	7.00E-58	35.24096386	RHPLAN_34260
RHPLAN_39920	7.00E-57	28.96341463	RHPLAN_08210	2.00E-55	32.01219512	RHPLAN_27760
RHPLAN_16460	1.00E-89	35.42713568	RHPLAN_42310	3.00E-88	34.67336683	RHPLAN_61440
RHPLAN_60760	4.00E-77	36.28318584	RHPLAN_34220	1.00E-75	36.57817109	RHPLAN_34250
RHPLAN_23520	8.00E-63	36.11111111	RHPLAN_08380	2.00E-61	36.11111111	RHPLAN_34220
RHPLAN_47960	2.00E-67	34.25076453	RHPLAN_05720	4.00E-67	33.63914373	RHPLAN_64510
RHPLAN_08400	3.00E-60	33.33333333	RHPLAN_41140	4.00E-60	34.87654321	RHPLAN_08370
RHPLAN_32100	2.00E-55	34.17721519	RHPLAN_21990	9.00E-51	33.86075949	RHPLAN_34980
RHPLAN_47590	2.00E-60	32.72171254	RHPLAN_39920	1.00E-58	30.58103976	RHPLAN_31600
RHPLAN_41140	4.00E-58	34.14634146	RHPLAN_34260	1.00E-56	30.79268293	RHPLAN_65150
RHPLAN_33470	2.00E-71	31.14754098	RHPLAN_35030	5.00E-69	32.24043716	RHPLAN_37070
RHPLAN_08400	9.00E-27	23.7804878	RHPLAN_11360	5.00E-24	23.7804878	RHPLAN_51440
RHPLAN_13080	7.00E-39	28.52760736	RHPLAN_38680	3.00E-38	28.2208589	RHPLAN_02340
RHPLAN_24970	3.00E-19	22.44897959	RHPLAN_08400	2.00E-18	23.61516035	RHPLAN_59350
RHPLAN_06330	2.00E-44	30.28391167	RHPLAN_31600	3.00E-44	28.07570978	RHPLAN_08400
RHPLAN_61230	8.00E-39	27.67857143	RHPLAN_30100	7.00E-33	28.57142857	RHPLAN_59670
RHPLAN_13080	3.00E-36	26.40949555	RHPLAN_65150	1.00E-32	28.18991098	RHPLAN_21990

eval	% identity	hit5 locus	eval	% identity	hit6 locus	eval
8.00E-81	35.82089552	RHPLAN_42150	3.00E-80	35.52238806	RHPLAN_34260	5.00E-79
6.00E-129	53.19148936	RHPLAN_16830	5.00E-125	48.32826748	RHPLAN_21700	2.00E-121
2.00E-129	50.45592705	RHPLAN_16830	2.00E-128	51.67173252	RHPLAN_16850	6.00E-125
2.00E-99	45.84615385	RHPLAN_58960	2.00E-96	41.53846154	RHPLAN_47590	1.00E-91
5.00E-100	42.15384615	RHPLAN_28300	3.00E-93	41.23076923	RHPLAN_47590	2.00E-88
1.00E-67	34.66257669	RHPLAN_49480	1.00E-67	36.19631902	RHPLAN_26010	7.00E-67
1.00E-61	32.51533742	RHPLAN_26010	3.00E-61	33.43558282	RHPLAN_54630	2.00E-60
8.00E-82	33.59580052	RHPLAN_34260	6.00E-80	31.75853018	RHPLAN_30090	2.00E-78
8.00E-95	41.10429448	RHPLAN_65150	4.00E-90	44.47852761	RHPLAN_08370	2.00E-89
1.00E-86	40.49079755	RHPLAN_21460	3.00E-83	38.34355828	RHPLAN_08370	2.00E-82
4.00E-60	35.9375	RHPLAN_08370	7.00E-60	34.6875	RHPLAN_08210	8.00E-60
2.00E-63	36.66666667	RHPLAN_47590	2.00E-63	37.27272727	RHPLAN_32270	1.00E-60
7.00E-86	38.83792049	RHPLAN_14980	8.00E-86	40.06116208	RHPLAN_47590	2.00E-85
4.00E-61	37.76435045	RHPLAN_01890	7.00E-61	36.25377644	RHPLAN_47590	8.00E-60
4.00E-91	40.61538462	RHPLAN_08370	5.00E-91	38.76923077	RHPLAN_39920	3.00E-89
1.00E-100	43.78881988	RHPLAN_28330	4.00E-98	44.40993789	RHPLAN_57910	8.00E-97
1.00E-98	44.47852761	RHPLAN_57910	5.00E-98	43.25153374	RHPLAN_10090	4.00E-93
6.00E-63	36.33540373	RHPLAN_39290	7.00E-62	37.26708075	RHPLAN_08210	8.00E-61
1.00E-95	42.41486068	RHPLAN_46680	1.00E-86	40.86687307	RHPLAN_26680	2.00E-70
2.00E-101	45.94594595	RHPLAN_10090	3.00E-101	44.44444444	RHPLAN_57910	2.00E-98
5.00E-96	41.48606811	RHPLAN_46680	7.00E-92	42.10526316	RHPLAN_67770	4.00E-75
6.00E-136	57.97546012	RHPLAN_40150	2.00E-131	56.13496933	RHPLAN_18490	6.00E-131
2.00E-120	49.84520124	RHPLAN_17970	1.00E-108	43.65325077	RHPLAN_17990	2.00E-106
1.00E-117	48.30769231	RHPLAN_25890	7.00E-116	49.53846154	RHPLAN_27530	8.00E-115
1.00E-116	51.70278638	RHPLAN_17990	2.00E-103	45.82043344	RHPLAN_09560	4.00E-102
1.00E-132	53.115727	RHPLAN_25890	7.00E-130	53.115727	RHPLAN_18490	3.00E-129
7.00E-114	49.08536585	RHPLAN_25890	2.00E-112	47.25609756	RHPLAN_27530	2.00E-111
2.00E-85	40.90909091	RHPLAN_39290	2.00E-85	38.78787879	RHPLAN_47590	9.00E-80
3.00E-127	52.14723926	RHPLAN_40150	1.00E-124	54.60122699	RHPLAN_06670	9.00E-124
4.00E-94	41.875	RHPLAN_47240	2.00E-77	39.0625	RHPLAN_57890	1.00E-69
4.00E-81	40.67278287	RHPLAN_16870	3.00E-79	38.53211009	RHPLAN_32270	2.00E-75
1.00E-84	40	RHPLAN_47590	1.00E-82	41.49253731	RHPLAN_05730	3.00E-81
2.00E-74	36.50306748	RHPLAN_42140	2.00E-73	36.80981595	RHPLAN_65150	2.00E-72
9.00E-85	40.74074074	RHPLAN_48130	2.00E-83	41.35802469	RHPLAN_01890	8.00E-83
3.00E-85	42.59259259	RHPLAN_68390	5.00E-85	42.28395062	RHPLAN_11400	1.00E-83
1.00E-128	51.53374233	RHPLAN_27530	1.00E-127	54.29447853	RHPLAN_28880	1.00E-127
2.00E-125	53.37423313	RHPLAN_10320	1.00E-124	55.52147239	RHPLAN_32090	1.00E-124
2.00E-83	38.55421687	RHPLAN_26030	2.00E-82	39.75903614	RHPLAN_16850	3.00E-82

3.00E-81	41.74454829	RHPLAN_08460	3.00E-80	38.62928349	RHPLAN_06670	7.00E-80
5.00E-119	52.94117647	RHPLAN_29570	5.00E-118	48.91640867	RHPLAN_62680	4.00E-115
2.00E-126	50.46153846	RHPLAN_19130	1.00E-123	54.15384615	RHPLAN_40150	8.00E-123
3.00E-117	52.16049383	RHPLAN_16830	1.00E-116	52.4691358	RHPLAN_10480	3.00E-114
1.00E-79	36.875	RHPLAN_34540	4.00E-78	36.5625	RHPLAN_06330	1.00E-77
1.00E-130	51.08359133	RHPLAN_16850	9.00E-127	52.0123839	RHPLAN_64470	6.00E-125
2.00E-99	40.97859327	RHPLAN_11360	1.00E-98	43.42507645	RHPLAN_29420	2.00E-97
4.00E-78	36.19631902	RHPLAN_10530	2.00E-76	36.19631902	RHPLAN_43980	2.00E-76
9.00E-91	43.53312303	RHPLAN_27760	7.00E-80	37.85488959	RHPLAN_00600	2.00E-79
3.00E-118	54.87804878	RHPLAN_43730	2.00E-117	52.74390244	RHPLAN_18490	5.00E-117
5.00E-127	53.03030303	RHPLAN_27530	3.00E-126	53.93939394	RHPLAN_25890	3.00E-125
8.00E-67	37.65060241	RHPLAN_47590	9.00E-65	33.13253012	RHPLAN_65150	3.00E-63
1.00E-105	44.31137725	RHPLAN_13800	4.00E-103	42.51497006	RHPLAN_11360	1.00E-102
2.00E-123	52	RHPLAN_33880	3.00E-123	53.53846154	RHPLAN_40150	1.00E-122
4.00E-125	55.69230769	RHPLAN_32090	7.00E-122	53.23076923	RHPLAN_40150	4.00E-120
8.00E-82	38.4375	RHPLAN_33880	3.00E-79	38.125	RHPLAN_43730	3.00E-79
4.00E-111	49.06832298	RHPLAN_27530	7.00E-111	50.31055901	RHPLAN_39790	3.00E-110
3.00E-124	53.6809816	RHPLAN_25890	1.00E-123	53.98773006	RHPLAN_10320	5.00E-121
3.00E-71	37.95180723	RHPLAN_25000	1.00E-67	35.24096386	RHPLAN_47590	7.00E-67
6.00E-95	38.19241983	RHPLAN_47240	2.00E-84	37.60932945	RHPLAN_67770	1.00E-64
1.00E-126	50.76923077	RHPLAN_64470	3.00E-125	51.07692308	RHPLAN_16870	4.00E-122
2.00E-88	40.92307692	RHPLAN_34980	5.00E-85	44.30769231	RHPLAN_26010	3.00E-83
2.00E-98	43.30218069	RHPLAN_44120	1.00E-84	37.69470405	RHPLAN_21990	3.00E-72
2.00E-72	37.4251497	RHPLAN_47590	1.00E-64	35.32934132	RHPLAN_01490	1.00E-62
1.00E-121	53.06748466	RHPLAN_39790	1.00E-121	51.22699387	RHPLAN_43730	6.00E-121
5.00E-109	49.24012158	RHPLAN_11360	5.00E-108	46.80851064	RHPLAN_59450	1.00E-107
4.00E-117	51.8404908	RHPLAN_18490	2.00E-109	48.1595092	RHPLAN_33880	5.00E-109
9.00E-61	39.26940639	RHPLAN_48240	4.00E-56	37.44292237	RHPLAN_60590	5.00E-53
1.00E-119	51.08359133	RHPLAN_10480	1.00E-118	49.22600619	RHPLAN_37730	4.00E-114
7.00E-81	41.48606811	RHPLAN_21460	9.00E-81	38.08049536	RHPLAN_38640	4.00E-78
7.00E-105	48.31804281	RHPLAN_47590	1.00E-79	37.9204893	RHPLAN_14980	5.00E-78
1.00E-118	45.31722054	RHPLAN_64470	2.00E-117	47.12990937	RHPLAN_36420	2.00E-116
6.00E-115	54.42176871	RHPLAN_13800	1.00E-114	52.38095238	RHPLAN_58540	2.00E-114
3.00E-119	54.9382716	RHPLAN_27530	8.00E-119	53.08641975	RHPLAN_32090	3.00E-116
2.00E-78	37.0030581	RHPLAN_34980	1.00E-77	38.22629969	RHPLAN_27740	3.00E-77
3.00E-92	43.47826087	RHPLAN_08370	1.00E-91	43.78881988	RHPLAN_56300	8.00E-90
2.00E-101	48.7654321	RHPLAN_56600	3.00E-99	49.38271605	RHPLAN_21570	2.00E-89
7.00E-78	39.32926829	RHPLAN_30520	7.00E-73	38.1097561	RHPLAN_27760	3.00E-72
7.00E-87	41.53846154	RHPLAN_21460	6.00E-85	40.61538462	RHPLAN_09560	1.00E-84
2.00E-123	49.24924925	RHPLAN_36420	3.00E-123	48.34834835	RHPLAN_19140	1.00E-117
1.00E-79	39.15662651	RHPLAN_14980	2.00E-76	38.25301205	RHPLAN_26010	2.00E-75
8.00E-63	34.03614458	RHPLAN_00980	3.00E-61	32.8313253	RHPLAN_16380	3.00E-61
1.00E-87	39.62848297	RHPLAN_39180	2.00E-87	40.55727554	RHPLAN_09680	1.00E-71
1.00E-91	44.89164087	RHPLAN_43730	2.00E-91	43.03405573	RHPLAN_05730	5.00E-91
2.00E-93	43.65325077	RHPLAN_13210	3.00E-87	43.03405573	RHPLAN_16830	5.00E-85
1.00E-112	51.39318885	RHPLAN_17990	1.00E-104	45.20123839	RHPLAN_17970	2.00E-101
1.00E-114	48.91640867	RHPLAN_58540	1.00E-114	50.46439628	RHPLAN_11360	8.00E-112

5.00E-104	47.38461538	RHPLAN_58720	1.00E-100	44.61538462	RHPLAN_47960	3.00E-100
3.00E-113	50.30674847	RHPLAN_43730	6.00E-113	47.85276074	RHPLAN_25890	1.00E-112
5.00E-98	44.20062696	RHPLAN_28550	8.00E-97	42.63322884	RHPLAN_07700	8.00E-95
6.00E-89	41.17647059	RHPLAN_60760	9.00E-87	42.41486068	RHPLAN_08370	3.00E-81
1.00E-109	46.76923077	RHPLAN_13800	9.00E-108	43.69230769	RHPLAN_29420	2.00E-107
3.00E-87	42.50764526	RHPLAN_08370	4.00E-70	36.69724771	RHPLAN_54630	2.00E-69
2.00E-107	46.48318043	RHPLAN_44880	2.00E-107	44.95412844	RHPLAN_05710	8.00E-106
4.00E-123	50.75528701	RHPLAN_64470	9.00E-118	50.1510574	RHPLAN_29570	1.00E-117
1.00E-103	42.64264264	RHPLAN_47610	5.00E-102	43.54354354	RHPLAN_08360	5.00E-100
7.00E-91	35.43543544	RHPLAN_39180	3.00E-89	39.93993994	RHPLAN_48220	1.00E-83
9.00E-119	48.46625767	RHPLAN_13800	3.00E-117	46.62576687	RHPLAN_11360	6.00E-116
5.00E-72	34.35582822	RHPLAN_09560	1.00E-69	35.88957055	RHPLAN_47590	3.00E-69
3.00E-86	41.46341463	RHPLAN_32090	3.00E-86	41.15853659	RHPLAN_21460	2.00E-85
5.00E-110	45.12195122	RHPLAN_64850	4.00E-109	49.08536585	RHPLAN_47960	5.00E-105
7.00E-86	40.24767802	RHPLAN_01620	3.00E-84	38.6996904	RHPLAN_25000	7.00E-84
2.00E-107	46.13003096	RHPLAN_26030	4.00E-106	46.13003096	RHPLAN_16820	7.00E-106
1.00E-115	47.09480122	RHPLAN_29570	1.00E-115	47.70642202	RHPLAN_08440	1.00E-111
2.00E-101	44.98480243	RHPLAN_32270	3.00E-101	44.07294833	RHPLAN_59450	2.00E-95
2.00E-78	35.60830861	RHPLAN_44120	4.00E-67	31.75074184	RHPLAN_21990	3.00E-61
3.00E-83	38.87240356	RHPLAN_05720	7.00E-81	34.71810089	RHPLAN_67770	7.00E-79
1.00E-87	48.12030075	RHPLAN_32270	5.00E-87	48.12030075	RHPLAN_69040	2.00E-86
7.00E-119	51.2345679	RHPLAN_62680	3.00E-116	48.45679012	RHPLAN_29570	3.00E-115
9.00E-111	47.25609756	RHPLAN_64850	2.00E-106	49.69512195	RHPLAN_44880	8.00E-99
2.00E-86	39.00928793	RHPLAN_09560	1.00E-83	39.31888545	RHPLAN_30090	4.00E-82
1.00E-97	45.25993884	RHPLAN_23690	1.00E-95	48.31804281	RHPLAN_19600	3.00E-85
3.00E-102	43.76899696	RHPLAN_08360	1.00E-100	44.3768997	RHPLAN_08380	6.00E-99
4.00E-89	39.81762918	RHPLAN_08460	8.00E-83	37.08206687	RHPLAN_47590	4.00E-78
1.00E-74	38.60182371	RHPLAN_14980	3.00E-74	36.17021277	RHPLAN_56300	6.00E-73
2.00E-85	38.70967742	RHPLAN_48220	1.00E-78	38.12316716	RHPLAN_09680	2.00E-72
3.00E-101	45.65217391	RHPLAN_01290	2.00E-97	48.44720497	RHPLAN_19600	2.00E-90
4.00E-68	34.56790123	RHPLAN_41140	8.00E-68	36.11111111	RHPLAN_08370	2.00E-65
2.00E-115	49.38650307	RHPLAN_60850	6.00E-114	48.46625767	RHPLAN_13800	3.00E-110
8.00E-89	41.46341463	RHPLAN_08380	4.00E-86	41.76829268	RHPLAN_00600	6.00E-86
8.00E-69	37.23076923	RHPLAN_65670	5.00E-68	35.38461538	RHPLAN_54810	3.00E-65
5.00E-73	36.19631902	RHPLAN_05720	5.00E-72	33.74233129	RHPLAN_17980	7.00E-72
9.00E-100	45.39877301	RHPLAN_27760	1.00E-82	39.26380368	RHPLAN_65150	8.00E-81
2.00E-109	45.53846154	RHPLAN_10480	8.00E-109	44.30769231	RHPLAN_64470	9.00E-104
2.00E-65	35.38461538	RHPLAN_63280	3.00E-65	37.23076923	RHPLAN_21990	6.00E-63
3.00E-101	43.73088685	RHPLAN_10090	8.00E-101	46.17737003	RHPLAN_07700	5.00E-98
2.00E-76	37.6119403	RHPLAN_10460	7.00E-66	35.2238806	RHPLAN_08380	8.00E-65
3.00E-89	39.93902439	RHPLAN_05740	1.00E-82	39.32926829	RHPLAN_05710	6.00E-82
6.00E-114	50.90909091	RHPLAN_29570	6.00E-112	45.75757576	RHPLAN_62680	6.00E-111
5.00E-102	47.09480122	RHPLAN_56600	5.00E-100	48.31804281	RHPLAN_21570	2.00E-98
6.00E-67	38.65030675	RHPLAN_10530	3.00E-66	37.73006135	RHPLAN_51420	4.00E-66
4.00E-87	37.5	RHPLAN_08460	3.00E-82	39.28571429	RHPLAN_61650	2.00E-75
2.00E-86	42.30769231	RHPLAN_08360	5.00E-84	39.64497041	RHPLAN_02900	1.00E-83
2.00E-106	44.5482866	RHPLAN_26030	4.00E-105	48.90965732	RHPLAN_37730	3.00E-104

4.00E-83	41.17647059	RHPLAN_34980	1.00E-82	42.7244582	RHPLAN_35020	4.00E-82
2.00E-102	46.80851064	RHPLAN_21570	4.00E-97	44.3768997	RHPLAN_30100	6.00E-90
1.00E-96	48.46625767	RHPLAN_01300	8.00E-94	42.33128834	RHPLAN_19600	1.00E-89
4.00E-113	47.07692308	RHPLAN_11360	3.00E-105	45.53846154	RHPLAN_15440	3.00E-105
5.00E-75	39.57703927	RHPLAN_27760	9.00E-72	39.87915408	RHPLAN_25260	2.00E-70
5.00E-91	39.93993994	RHPLAN_14980	3.00E-89	39.63963964	RHPLAN_27760	8.00E-89
1.00E-107	52.48447205	RHPLAN_05740	3.00E-97	45.96273292	RHPLAN_44880	7.00E-94
5.00E-96	43.93939394	RHPLAN_21990	5.00E-95	41.21212121	RHPLAN_05720	1.00E-94
2.00E-101	44.09937888	RHPLAN_47240	5.00E-88	40.37267081	RHPLAN_57890	6.00E-70
4.00E-83	41.66666667	RHPLAN_49480	3.00E-82	41.35802469	RHPLAN_35020	1.00E-80
1.00E-74	37.5	RHPLAN_09560	1.00E-73	35.36585366	RHPLAN_57770	3.00E-72
6.00E-70	32.24852071	RHPLAN_27760	6.00E-70	36.39053254	RHPLAN_51420	1.00E-69
6.00E-64	36.36363636	RHPLAN_53850	4.00E-63	32.42424242	RHPLAN_21460	4.00E-62
6.00E-105	47.14714715	RHPLAN_01300	2.00E-100	42.64264264	RHPLAN_19600	3.00E-88
3.00E-61	34.65045593	RHPLAN_65150	2.00E-60	35.8662614	RHPLAN_31600	4.00E-60
2.00E-88	41.53846154	RHPLAN_13540	1.00E-87	42.15384615	RHPLAN_62300	1.00E-86
1.00E-110	44.06779661	RHPLAN_17970	2.00E-101	38.70056497	RHPLAN_17990	1.00E-98
1.00E-59	34.53453453	RHPLAN_56300	9.00E-57	32.13213213	RHPLAN_27760	1.00E-56
2.00E-86	39.20972644	RHPLAN_47590	5.00E-85	39.81762918	RHPLAN_28300	3.00E-82
8.00E-90	41.03343465	RHPLAN_02900	2.00E-88	39.20972644	RHPLAN_17980	1.00E-87
1.00E-105	47.69230769	RHPLAN_60850	4.00E-101	45.84615385	RHPLAN_11360	1.00E-100
1.00E-110	48.90282132	RHPLAN_17970	5.00E-92	40.43887147	RHPLAN_17990	1.00E-91
4.00E-94	41.10429448	RHPLAN_47240	2.00E-87	40.79754601	RHPLAN_57890	9.00E-69
9.00E-109	48.1595092	RHPLAN_43730	1.00E-107	47.2392638	RHPLAN_32090	5.00E-107
2.00E-88	40.43209877	RHPLAN_47960	3.00E-87	39.81481481	RHPLAN_54630	1.00E-84
3.00E-89	40.37267081	RHPLAN_06330	2.00E-88	43.47826087	RHPLAN_65150	1.00E-87
3.00E-62	31.83183183	RHPLAN_30510	1.00E-61	33.93393393	RHPLAN_58410	5.00E-60
2.00E-98	46.03658537	RHPLAN_08370	3.00E-95	45.12195122	RHPLAN_49480	4.00E-95
1.00E-74	38.03680982	RHPLAN_51420	5.00E-74	34.66257669	RHPLAN_54360	2.00E-73
2.00E-93	45.65217391	RHPLAN_02340	6.00E-90	41.92546584	RHPLAN_35030	6.00E-87
7.00E-99	44.0625	RHPLAN_23210	8.00E-97	44.0625	RHPLAN_65150	2.00E-73
1.00E-112	46.2006079	RHPLAN_16830	1.00E-111	48.93617021	RHPLAN_14330	4.00E-109
1.00E-78	37.84615385	RHPLAN_16890	6.00E-75	39.38461538	RHPLAN_25890	1.00E-73
4.00E-68	33.53846154	RHPLAN_20930	2.00E-67	34.15384615	RHPLAN_18490	7.00E-67
1.00E-90	41.86046512	RHPLAN_27760	3.00E-81	38.08139535	RHPLAN_65150	7.00E-77
2.00E-91	43.51851852	RHPLAN_49480	3.00E-90	41.35802469	RHPLAN_35030	4.00E-89
8.00E-112	47.40061162	RHPLAN_29590	5.00E-108	47.09480122	RHPLAN_60850	2.00E-105
1.00E-106	43.38461538	RHPLAN_69840	4.00E-106	44.61538462	RHPLAN_19130	2.00E-104
4.00E-74	37.38317757	RHPLAN_10350	7.00E-73	36.76012461	RHPLAN_27760	4.00E-71
4.00E-97	46.0815047	RHPLAN_65610	2.00E-93	45.76802508	RHPLAN_53850	2.00E-88
9.00E-74	35.84337349	RHPLAN_08370	3.00E-70	34.3373494	RHPLAN_54360	8.00E-70
4.00E-81	35.49382716	RHPLAN_09560	3.00E-80	34.87654321	RHPLAN_08870	8.00E-79
1.00E-80	36.61538462	RHPLAN_09560	1.00E-76	37.53846154	RHPLAN_05720	2.00E-76
3.00E-107	48.61538462	RHPLAN_19140	9.00E-107	47.38461538	RHPLAN_16860	1.00E-106
1.00E-68	37.15170279	RHPLAN_17990	2.00E-65	35.29411765	RHPLAN_35030	7.00E-63
1.00E-74	37.46130031	RHPLAN_39920	2.00E-74	37.46130031	RHPLAN_05720	8.00E-74
3.00E-96	43.19526627	RHPLAN_19330	1.00E-95	41.71597633	RHPLAN_08380	3.00E-93

2.00E-110	47.89156627	RHPLAN_64470	4.00E-110	46.68674699	RHPLAN_08440	7.00E-110
6.00E-93	41.21212121	RHPLAN_64850	7.00E-93	44.84848485	RHPLAN_47590	9.00E-93
1.00E-97	44.51219512	RHPLAN_58720	4.00E-95	42.98780488	RHPLAN_05740	1.00E-93
7.00E-86	41.41104294	RHPLAN_48810	2.00E-85	39.57055215	RHPLAN_08370	4.00E-85
1.00E-73	39.57055215	RHPLAN_54630	1.00E-65	36.50306748	RHPLAN_08380	2.00E-65
6.00E-104	44.13580247	RHPLAN_64470	2.00E-103	46.2962963	RHPLAN_14330	3.00E-103
1.00E-77	35.29411765	RHPLAN_56300	2.00E-77	38.39009288	RHPLAN_08370	8.00E-71
7.00E-78	39.57055215	RHPLAN_02340	1.00E-74	36.80981595	RHPLAN_34540	3.00E-74
1.00E-98	44.13580247	RHPLAN_07700	4.00E-97	44.75308642	RHPLAN_10090	7.00E-92
3.00E-92	41.03343465	RHPLAN_49080	2.00E-90	40.42553191	RHPLAN_25890	3.00E-90
4.00E-61	35.97560976	RHPLAN_08210	1.00E-60	34.75609756	RHPLAN_34540	2.00E-60
1.00E-78	38.34355828	RHPLAN_54810	3.00E-70	36.50306748	RHPLAN_34540	6.00E-69
2.00E-61	35.56231003	RHPLAN_34260	3.00E-61	32.82674772	RHPLAN_70120	6.00E-59
6.00E-88	39.14373089	RHPLAN_55850	4.00E-85	42.20183486	RHPLAN_20870	7.00E-85
7.00E-77	40.43887147	RHPLAN_39920	4.00E-72	39.4984326	RHPLAN_16890	1.00E-69
3.00E-100	46.34146341	RHPLAN_21570	2.00E-99	47.25609756	RHPLAN_08870	2.00E-98
6.00E-87	43.16109422	RHPLAN_21570	5.00E-85	44.3768997	RHPLAN_13310	9.00E-85
9.00E-97	42.50764526	RHPLAN_34980	2.00E-82	41.28440367	RHPLAN_46680	2.00E-80
8.00E-101	46.17737003	RHPLAN_40150	4.00E-99	44.95412844	RHPLAN_25890	8.00E-99
1.00E-104	45.32163743	RHPLAN_33930	2.00E-102	40.35087719	RHPLAN_29420	9.00E-102
2.00E-88	39.9408284	RHPLAN_65150	8.00E-81	39.9408284	RHPLAN_27760	1.00E-79
5.00E-66	32.9153605	RHPLAN_01490	1.00E-64	36.05015674	RHPLAN_28880	8.00E-64
1.00E-72	38.78787879	RHPLAN_17980	7.00E-65	36.06060606	RHPLAN_34980	1.00E-64
8.00E-78	40.0621118	RHPLAN_08860	6.00E-77	37.57763975	RHPLAN_63280	4.00E-76
3.00E-71	32.50688705	RHPLAN_65050	3.00E-71	32.23140496	RHPLAN_02340	8.00E-70
4.00E-98	42.29607251	RHPLAN_56560	1.00E-96	48.33836858	RHPLAN_65150	2.00E-86
4.00E-93	43.69230769	RHPLAN_41890	4.00E-93	41.84615385	RHPLAN_28330	1.00E-91
8.00E-96	44.01197605	RHPLAN_34260	3.00E-89	40.11976048	RHPLAN_55100	4.00E-89
5.00E-87	39.63414634	RHPLAN_05710	4.00E-83	41.76829268	RHPLAN_05730	4.00E-79
5.00E-83	39.19753086	RHPLAN_55850	1.00E-78	39.19753086	RHPLAN_43540	1.00E-74
1.00E-84	40.37267081	RHPLAN_54360	4.00E-79	41.61490683	RHPLAN_39290	9.00E-79
1.00E-96	37.9501385	RHPLAN_20870	4.00E-94	40.99722992	RHPLAN_34260	2.00E-93
7.00E-83	36.56509695	RHPLAN_20870	7.00E-76	35.45706371	RHPLAN_30090	3.00E-75
3.00E-94	44.01197605	RHPLAN_01290	2.00E-90	43.41317365	RHPLAN_19600	2.00E-83
7.00E-82	39.87538941	RHPLAN_23210	3.00E-68	35.51401869	RHPLAN_21990	8.00E-67
5.00E-102	43.6746988	RHPLAN_59450	7.00E-101	46.08433735	RHPLAN_15440	1.00E-100
2.00E-91	41.92546584	RHPLAN_46680	4.00E-88	39.44099379	RHPLAN_02340	2.00E-76
2.00E-105	44.73684211	RHPLAN_46680	2.00E-101	44.73684211	RHPLAN_34260	1.00E-79
1.00E-100	42.50764526	RHPLAN_47240	3.00E-80	37.6146789	RHPLAN_57890	7.00E-70
1.00E-82	39.9380805	RHPLAN_65610	2.00E-82	41.17647059	RHPLAN_56560	3.00E-81
1.00E-114	47.59036145	RHPLAN_58540	3.00E-113	46.68674699	RHPLAN_60850	1.00E-106
3.00E-91	42.54658385	RHPLAN_33880	5.00E-91	45.34161491	RHPLAN_25890	5.00E-90
3.00E-84	40.42553191	RHPLAN_21460	6.00E-84	39.51367781	RHPLAN_08370	9.00E-84
3.00E-87	39.44954128	RHPLAN_36040	2.00E-83	39.44954128	RHPLAN_05720	4.00E-83
5.00E-91	40.86687307	RHPLAN_26010	4.00E-89	41.17647059	RHPLAN_49400	6.00E-87
1.00E-90	39.32926829	RHPLAN_48520	2.00E-89	41.76829268	RHPLAN_60590	8.00E-72
2.00E-82	37.31343284	RHPLAN_08370	5.00E-82	35.52238806	RHPLAN_65050	2.00E-80

9.00E-103	41.74174174	RHPLAN_05710	6.00E-97	43.54354354	RHPLAN_09560	1.00E-96
2.00E-85	40.99378882	RHPLAN_47590	1.00E-82	39.13043478	RHPLAN_34540	3.00E-82
1.00E-86	38.60182371	RHPLAN_36500	3.00E-86	38.90577508	RHPLAN_55530	2.00E-69
1.00E-101	44.02332362	RHPLAN_23210	1.00E-94	42.56559767	RHPLAN_34540	8.00E-75
3.00E-83	41.43302181	RHPLAN_21990	5.00E-83	41.12149533	RHPLAN_09560	9.00E-83
2.00E-88	42.00626959	RHPLAN_01890	3.00E-87	42.00626959	RHPLAN_08370	3.00E-87
2.00E-86	39.02439024	RHPLAN_23210	7.00E-82	38.1097561	RHPLAN_21990	3.00E-74
1.00E-90	42.02453988	RHPLAN_05730	1.00E-88	41.71779141	RHPLAN_64850	3.00E-88
2.00E-68	35.18518519	RHPLAN_63500	5.00E-68	34.25925926	RHPLAN_23870	9.00E-68
7.00E-93	41.6918429	RHPLAN_08380	4.00E-91	43.80664653	RHPLAN_19130	9.00E-91
3.00E-88	42.55319149	RHPLAN_29570	2.00E-87	41.33738602	RHPLAN_58110	2.00E-87
9.00E-83	40.36697248	RHPLAN_48520	9.00E-77	39.75535168	RHPLAN_60590	8.00E-67
1.00E-85	40.90909091	RHPLAN_59450	6.00E-84	39.6969697	RHPLAN_29570	8.00E-82
9.00E-81	39.18495298	RHPLAN_21460	2.00E-80	36.05015674	RHPLAN_40150	3.00E-80
2.00E-93	44.13580247	RHPLAN_39290	2.00E-92	41.04938272	RHPLAN_21460	5.00E-90
3.00E-83	39.13043478	RHPLAN_10460	1.00E-80	37.57763975	RHPLAN_27530	4.00E-80
2.00E-87	40.43209877	RHPLAN_16460	2.00E-85	44.75308642	RHPLAN_30690	3.00E-85
5.00E-76	38.58024691	RHPLAN_40150	1.00E-72	37.96296296	RHPLAN_14980	2.00E-69
3.00E-87	44.41087613	RHPLAN_23690	7.00E-85	41.6918429	RHPLAN_34540	1.00E-74
7.00E-71	36.01190476	RHPLAN_49480	2.00E-69	38.0952381	RHPLAN_01890	6.00E-69
3.00E-74	40.54982818	RHPLAN_05720	9.00E-74	40.54982818	RHPLAN_02340	9.00E-73
4.00E-69	36.74698795	RHPLAN_65050	5.00E-69	34.3373494	RHPLAN_25000	2.00E-65
7.00E-99	45.45454545	RHPLAN_29570	3.00E-97	43.03030303	RHPLAN_10480	1.00E-96
4.00E-90	38.00623053	RHPLAN_01890	5.00E-90	42.05607477	RHPLAN_21990	4.00E-89
2.00E-94	44.89164087	RHPLAN_54090	1.00E-80	39.9380805	RHPLAN_65610	1.00E-74
8.00E-83	36.96969697	RHPLAN_27760	5.00E-81	38.78787879	RHPLAN_39920	1.00E-80
1.00E-87	39.87538941	RHPLAN_21460	2.00E-86	40.80996885	RHPLAN_21990	2.00E-85
2.00E-78	40.18691589	RHPLAN_23870	2.00E-76	38.62928349	RHPLAN_25880	4.00E-76
3.00E-85	40.79754601	RHPLAN_20870	2.00E-83	40.18404908	RHPLAN_10350	2.00E-75
5.00E-95	44.03669725	RHPLAN_65610	6.00E-93	43.42507645	RHPLAN_21570	1.00E-90
7.00E-111	47.21407625	RHPLAN_21700	4.00E-109	48.97360704	RHPLAN_10480	1.00E-108
2.00E-79	37.23076923	RHPLAN_67770	2.00E-76	36	RHPLAN_21570	4.00E-76
2.00E-81	38.34355828	RHPLAN_02340	1.00E-80	38.34355828	RHPLAN_21460	3.00E-80
2.00E-82	39.87915408	RHPLAN_68390	2.00E-82	38.97280967	RHPLAN_41870	6.00E-81
2.00E-72	34.13897281	RHPLAN_65150	3.00E-72	36.55589124	RHPLAN_25890	1.00E-71
5.00E-87	40.71856287	RHPLAN_41140	2.00E-85	41.61676647	RHPLAN_08370	3.00E-85
2.00E-66	36.14457831	RHPLAN_08360	2.00E-66	35.84337349	RHPLAN_08370	6.00E-66
3.00E-92	42.77108434	RHPLAN_08860	4.00E-91	40.96385542	RHPLAN_30690	7.00E-90
2.00E-61	31.30193906	RHPLAN_23510	6.00E-61	29.91689751	RHPLAN_18490	1.00E-59
2.00E-76	35.71428571	RHPLAN_34260	6.00E-72	35.0931677	RHPLAN_02340	1.00E-71
3.00E-72	38.60182371	RHPLAN_21460	2.00E-71	34.34650456	RHPLAN_47590	4.00E-71
6.00E-82	40	RHPLAN_65430	6.00E-82	40.30769231	RHPLAN_54360	3.00E-81
1.00E-81	39.07692308	RHPLAN_27760	1.00E-80	38.76923077	RHPLAN_67770	4.00E-80
3.00E-90	44.54545455	RHPLAN_25000	4.00E-88	38.48484848	RHPLAN_53850	1.00E-86
6.00E-89	42.37804878	RHPLAN_28300	3.00E-87	38.7195122	RHPLAN_00980	7.00E-86
3.00E-82	38.03680982	RHPLAN_66640	1.00E-81	39.57055215	RHPLAN_06670	6.00E-81
3.00E-75	37.20238095	RHPLAN_25000	4.00E-75	37.5	RHPLAN_00600	3.00E-74

4.00E-86	38.98809524	RHPLAN_21990	1.00E-85	36.30952381	RHPLAN_67770	2.00E-85
5.00E-75	36.25	RHPLAN_54810	8.00E-75	37.8125	RHPLAN_68890	2.00E-74
1.00E-67	36.20178042	RHPLAN_68890	3.00E-66	37.98219585	RHPLAN_35030	6.00E-66
5.00E-73	34.54545455	RHPLAN_25880	9.00E-73	39.39393939	RHPLAN_19130	3.00E-72
7.00E-89	40.86687307	RHPLAN_25260	2.00E-88	38.6996904	RHPLAN_27760	2.00E-88
4.00E-76	38.50746269	RHPLAN_19140	2.00E-62	35.82089552	RHPLAN_26010	3.00E-62
1.00E-89	41.71779141	RHPLAN_48520	4.00E-86	42.02453988	RHPLAN_60590	1.00E-77
2.00E-87	37.97101449	RHPLAN_42150	4.00E-85	34.20289855	RHPLAN_30090	8.00E-85
3.00E-84	40.12345679	RHPLAN_09560	7.00E-83	41.04938272	RHPLAN_10530	1.00E-81
9.00E-77	38.50931677	RHPLAN_47590	2.00E-75	41.61490683	RHPLAN_54630	3.00E-75
4.00E-91	43.11926606	RHPLAN_08370	1.00E-90	41.59021407	RHPLAN_67770	4.00E-90
1.00E-87	44.27244582	RHPLAN_21460	4.00E-87	40.55727554	RHPLAN_49400	2.00E-86
1.00E-93	42.41486068	RHPLAN_10460	2.00E-93	43.34365325	RHPLAN_65430	5.00E-93
6.00E-75	39.25233645	RHPLAN_34220	9.00E-75	37.38317757	RHPLAN_67770	2.00E-74
3.00E-76	36.93693694	RHPLAN_70100	8.00E-76	35.13513514	RHPLAN_58960	3.00E-73
1.00E-78	38.03680982	RHPLAN_60930	2.00E-78	41.10429448	RHPLAN_14980	5.00E-78
3.00E-79	40.0621118	RHPLAN_19090	7.00E-79	40.68322981	RHPLAN_49400	1.00E-77
2.00E-92	41.89602446	RHPLAN_08360	3.00E-92	41.59021407	RHPLAN_09560	3.00E-91
1.00E-72	35.9375	RHPLAN_05720	3.00E-72	35.9375	RHPLAN_00600	5.00E-72
7.00E-93	44.61538462	RHPLAN_63280	1.00E-90	42.15384615	RHPLAN_06670	8.00E-90
3.00E-91	41.48606811	RHPLAN_58720	3.00E-91	39.00928793	RHPLAN_01890	6.00E-91
4.00E-82	38.39009288	RHPLAN_34540	2.00E-77	37.46130031	RHPLAN_34260	1.00E-75
9.00E-75	34.98452012	RHPLAN_00980	1.00E-72	35.91331269	RHPLAN_53850	2.00E-72
5.00E-91	45.09202454	RHPLAN_27530	2.00E-90	42.94478528	RHPLAN_34980	2.00E-89
5.00E-91	41.41104294	RHPLAN_47960	2.00E-89	38.65030675	RHPLAN_58720	2.00E-87
2.00E-89	41.30434783	RHPLAN_06670	7.00E-89	45.34161491	RHPLAN_09560	7.00E-89
1.00E-70	40.0621118	RHPLAN_34720	8.00E-70	37.26708075	RHPLAN_68450	1.00E-68
2.00E-79	39.14373089	RHPLAN_16830	8.00E-79	42.50764526	RHPLAN_32270	1.00E-78
7.00E-83	38.15384615	RHPLAN_63280	7.00E-83	40	RHPLAN_08360	5.00E-82
2.00E-54	33.12693498	RHPLAN_33770	2.00E-54	29.10216718	RHPLAN_18490	1.00E-53
3.00E-82	38.08049536	RHPLAN_53850	3.00E-82	39.00928793	RHPLAN_08370	2.00E-81
1.00E-78	38.27160494	RHPLAN_70120	5.00E-78	39.19753086	RHPLAN_01890	6.00E-78
4.00E-69	36.07038123	RHPLAN_63280	7.00E-68	34.31085044	RHPLAN_05720	1.00E-67
3.00E-80	42.54658385	RHPLAN_14980	9.00E-78	40.37267081	RHPLAN_01290	2.00E-75
2.00E-72	39.14373089	RHPLAN_25000	3.00E-72	36.39143731	RHPLAN_27530	3.00E-72
8.00E-74	36.74698795	RHPLAN_59100	3.00E-69	36.14457831	RHPLAN_27760	4.00E-69
5.00E-71	38.75	RHPLAN_10980	3.00E-67	35.625	RHPLAN_17980	4.00E-67
1.00E-77	40.18691589	RHPLAN_08370	1.00E-77	40.18691589	RHPLAN_09560	7.00E-76
9.00E-88	38.58024691	RHPLAN_32090	2.00E-85	41.04938272	RHPLAN_02340	3.00E-85
2.00E-86	39.19753086	RHPLAN_01890	2.00E-85	39.50617284	RHPLAN_08370	1.00E-84
1.00E-87	39.8255814	RHPLAN_54090	3.00E-74	34.88372093	RHPLAN_65610	2.00E-67
2.00E-93	41.76136364	RHPLAN_26010	3.00E-90	38.06818182	RHPLAN_34980	1.00E-87
2.00E-81	39.02439024	RHPLAN_05720	8.00E-81	38.41463415	RHPLAN_10350	3.00E-80
1.00E-73	38.7195122	RHPLAN_25890	2.00E-73	39.93902439	RHPLAN_10350	1.00E-72
2.00E-88	40.18691589	RHPLAN_08370	6.00E-88	41.12149533	RHPLAN_01890	2.00E-84
1.00E-84	40.12345679	RHPLAN_21460	1.00E-83	41.35802469	RHPLAN_51420	6.00E-83
2.00E-86	41.97530864	RHPLAN_64850	7.00E-86	39.19753086	RHPLAN_39290	8.00E-86

7.00E-70	35.80246914	RHPLAN_60930	1.00E-68	36.72839506	RHPLAN_63280	3.00E-68
2.00E-89	42.98780488	RHPLAN_39790	9.00E-89	43.29268293	RHPLAN_21990	2.00E-88
1.00E-86	36.7781155	RHPLAN_05720	3.00E-82	36.7781155	RHPLAN_39920	8.00E-81
2.00E-74	35.92814371	RHPLAN_10460	7.00E-73	36.22754491	RHPLAN_67770	9.00E-73
2.00E-92	37.46312684	RHPLAN_25890	3.00E-82	40.1179941	RHPLAN_33880	6.00E-82
2.00E-93	41.61490683	RHPLAN_34980	3.00E-93	42.54658385	RHPLAN_05720	6.00E-90
2.00E-73	35.84337349	RHPLAN_23520	7.00E-72	37.34939759	RHPLAN_56300	1.00E-71
8.00E-80	43.08176101	RHPLAN_19130	1.00E-79	41.50943396	RHPLAN_65150	2.00E-79
2.00E-69	36.58536585	RHPLAN_30510	4.00E-69	38.41463415	RHPLAN_48210	6.00E-69
2.00E-89	41.15853659	RHPLAN_19290	1.00E-85	40.85365854	RHPLAN_57890	5.00E-65
9.00E-83	40.18691589	RHPLAN_55530	1.00E-82	38.94080997	RHPLAN_51420	3.00E-82
2.00E-58	33.84615385	RHPLAN_68030	6.00E-57	35.69230769	RHPLAN_14980	5.00E-56
2.00E-78	37.77089783	RHPLAN_30090	5.00E-78	36.84210526	RHPLAN_00980	2.00E-77
8.00E-82	41.17647059	RHPLAN_34980	1.00E-81	36.84210526	RHPLAN_08380	3.00E-79
5.00E-88	40.23323615	RHPLAN_51420	6.00E-88	38.48396501	RHPLAN_27760	9.00E-87
4.00E-82	39.26380368	RHPLAN_21990	7.00E-82	38.65030675	RHPLAN_70120	1.00E-81
1.00E-79	36.72839506	RHPLAN_42150	4.00E-79	37.34567901	RHPLAN_55100	5.00E-78
5.00E-82	36.95652174	RHPLAN_02900	7.00E-82	40.0621118	RHPLAN_14980	8.00E-81
9.00E-85	39.63414634	RHPLAN_28550	8.00E-79	35.97560976	RHPLAN_07700	1.00E-78
8.00E-80	39.87730061	RHPLAN_46130	2.00E-79	41.41104294	RHPLAN_56600	7.00E-79
2.00E-67	35.20249221	RHPLAN_47590	2.00E-67	38.00623053	RHPLAN_05710	4.00E-67
3.00E-77	40.49844237	RHPLAN_55100	1.00E-74	36.76012461	RHPLAN_07810	8.00E-71
2.00E-74	36.11111111	RHPLAN_39290	2.00E-72	36.41975309	RHPLAN_70120	2.00E-72
4.00E-79	37.65060241	RHPLAN_21990	1.00E-78	36.44578313	RHPLAN_66640	9.00E-78
6.00E-80	38.15384615	RHPLAN_34240	9.00E-80	40.92307692	RHPLAN_19330	1.00E-79
4.00E-67	32.20338983	RHPLAN_29460	1.00E-66	29.66101695	RHPLAN_49480	1.00E-66
4.00E-76	34.56790123	RHPLAN_09560	1.00E-75	36.72839506	RHPLAN_39920	1.00E-75
9.00E-73	35.80246914	RHPLAN_60760	2.00E-72	38.58024691	RHPLAN_00600	3.00E-72
8.00E-70	37.93103448	RHPLAN_34260	9.00E-70	38.24451411	RHPLAN_49470	1.00E-69
1.00E-69	36.08562691	RHPLAN_34540	1.00E-69	32.72171254	RHPLAN_23520	2.00E-68
1.00E-74	36.92307692	RHPLAN_70120	1.00E-74	39.07692308	RHPLAN_00980	8.00E-74
6.00E-75	36	RHPLAN_39920	2.00E-74	35.69230769	RHPLAN_16890	5.00E-74
1.00E-69	33.2361516	RHPLAN_39290	2.00E-69	32.65306122	RHPLAN_23520	1.00E-68
4.00E-76	36.22291022	RHPLAN_39920	3.00E-75	35.29411765	RHPLAN_10460	3.00E-74
3.00E-76	36.55589124	RHPLAN_11410	3.00E-75	35.95166163	RHPLAN_34980	2.00E-74
1.00E-74	37.34567901	RHPLAN_39920	2.00E-72	35.18518519	RHPLAN_67770	9.00E-71
1.00E-66	36.08562691	RHPLAN_06330	5.00E-64	33.33333333	RHPLAN_44880	7.00E-64
4.00E-79	38.48484848	RHPLAN_47590	7.00E-77	38.18181818	RHPLAN_65050	2.00E-76
1.00E-79	36.76012461	RHPLAN_43730	3.00E-79	41.12149533	RHPLAN_10350	1.00E-78
7.00E-74	35.80246914	RHPLAN_47590	7.00E-73	37.65432099	RHPLAN_64470	3.00E-71
9.00E-82	38.39009288	RHPLAN_47960	3.00E-80	39.31888545	RHPLAN_05730	4.00E-80
1.00E-74	37.11656442	RHPLAN_49480	2.00E-74	38.65030675	RHPLAN_51420	3.00E-74
2.00E-72	36.80981595	RHPLAN_05720	2.00E-71	34.66257669	RHPLAN_05730	8.00E-71
4.00E-69	37.15170279	RHPLAN_13310	7.00E-69	35.91331269	RHPLAN_32100	1.00E-68
6.00E-56	33.46613546	RHPLAN_14980	2.00E-55	33.46613546	RHPLAN_27760	6.00E-55
2.00E-69	36.08562691	RHPLAN_47590	2.00E-68	33.94495413	RHPLAN_23510	3.00E-68
4.00E-73	37.26708075	RHPLAN_23520	4.00E-73	39.13043478	RHPLAN_30090	3.00E-72

1.00E-67	38.50931677	RHPLAN_30180	2.00E-65	32.91925466	RHPLAN_30190	7.00E-65
3.00E-72	39.375	RHPLAN_14980	4.00E-72	41.5625	RHPLAN_34260	3.00E-69
2.00E-77	38.08049536	RHPLAN_21990	3.00E-77	37.15170279	RHPLAN_16380	3.00E-76
3.00E-70	34.95440729	RHPLAN_17980	4.00E-70	36.7781155	RHPLAN_54630	8.00E-70
1.00E-57	32.72171254	RHPLAN_05730	9.00E-57	37.0030581	RHPLAN_18390	1.00E-56
4.00E-75	37.23076923	RHPLAN_08370	1.00E-74	36.30769231	RHPLAN_08400	2.00E-74
1.00E-72	36.92307692	RHPLAN_37850	2.00E-71	36	RHPLAN_39920	3.00E-70
6.00E-49	30.625	RHPLAN_32100	5.00E-48	30	RHPLAN_34220	3.00E-47
7.00E-76	37.20238095	RHPLAN_00600	4.00E-74	38.39285714	RHPLAN_25000	1.00E-73
3.00E-78	38.97280967	RHPLAN_39920	7.00E-78	36.55589124	RHPLAN_05720	1.00E-76
1.00E-69	36.80981595	RHPLAN_34220	3.00E-69	33.43558282	RHPLAN_53850	6.00E-68
6.00E-71	35.88957055	RHPLAN_05720	3.00E-70	35.58282209	RHPLAN_06670	4.00E-70
5.00E-64	36.17021277	RHPLAN_23510	7.00E-64	36.7781155	RHPLAN_51320	1.00E-63
6.00E-71	32.41590214	RHPLAN_63280	2.00E-69	35.16819572	RHPLAN_33430	4.00E-69
2.00E-72	37.53943218	RHPLAN_65670	2.00E-72	35.6466877	RHPLAN_05720	4.00E-72
2.00E-71	35.69230769	RHPLAN_55530	2.00E-68	34.46153846	RHPLAN_56300	2.00E-68
7.00E-77	36.8902439	RHPLAN_26020	2.00E-76	36.8902439	RHPLAN_48220	1.00E-73
3.00E-67	34.35582822	RHPLAN_42730	3.00E-67	32.20858896	RHPLAN_16450	1.00E-66
2.00E-76	33.5347432	RHPLAN_59580	1.00E-75	37.16012085	RHPLAN_08370	6.00E-75
9.00E-70	37.15170279	RHPLAN_51420	6.00E-69	34.36532508	RHPLAN_39920	2.00E-68
5.00E-87	41.79566563	RHPLAN_57520	2.00E-86	40.24767802	RHPLAN_60850	1.00E-84
4.00E-71	36.80981595	RHPLAN_08370	3.00E-69	34.66257669	RHPLAN_00980	2.00E-68
2.00E-79	36.08562691	RHPLAN_25890	4.00E-79	37.9204893	RHPLAN_59580	6.00E-79
3.00E-64	34.9112426	RHPLAN_27740	1.00E-63	34.9112426	RHPLAN_13540	5.00E-63
2.00E-63	36	RHPLAN_54810	4.00E-63	35.69230769	RHPLAN_61440	4.00E-62
3.00E-69	35.9375	RHPLAN_34540	6.00E-68	33.4375	RHPLAN_10460	2.00E-67
8.00E-51	30.69620253	RHPLAN_61440	1.00E-50	33.2278481	RHPLAN_49660	3.00E-50
3.00E-82	36.61538462	RHPLAN_06670	4.00E-80	38.15384615	RHPLAN_47590	1.00E-79
6.00E-67	34.44108761	RHPLAN_67770	2.00E-66	33.83685801	RHPLAN_38640	3.00E-66
2.00E-67	33.13253012	RHPLAN_39920	7.00E-67	33.13253012	RHPLAN_09560	8.00E-66
2.00E-76	35.45454545	RHPLAN_67770	5.00E-75	34.24242424	RHPLAN_23510	2.00E-74
2.00E-62	35.73573574	RHPLAN_30510	3.00E-62	35.43543544	RHPLAN_05720	1.00E-60
6.00E-71	35.29411765	RHPLAN_51320	2.00E-69	36.53250774	RHPLAN_47960	5.00E-68
4.00E-65	35.11904762	RHPLAN_65030	2.00E-63	31.54761905	RHPLAN_21460	4.00E-63
7.00E-66	33.62573099	RHPLAN_06330	9.00E-66	34.79532164	RHPLAN_08400	1.00E-65
2.00E-72	38.62275449	RHPLAN_65610	9.00E-72	37.7245509	RHPLAN_01890	3.00E-71
5.00E-69	35.77981651	RHPLAN_51420	6.00E-69	35.16819572	RHPLAN_65670	8.00E-68
7.00E-62	34.14634146	RHPLAN_23520	2.00E-61	35.97560976	RHPLAN_27740	5.00E-61
5.00E-64	36.13707165	RHPLAN_00600	6.00E-64	35.82554517	RHPLAN_59580	7.00E-64
6.00E-70	32.86516854	RHPLAN_47960	1.00E-69	33.14606742	RHPLAN_47590	2.00E-69
2.00E-60	34.45121951	RHPLAN_09560	4.00E-60	32.62195122	RHPLAN_54810	1.00E-58
3.00E-65	30.67484663	RHPLAN_33880	5.00E-64	35.88957055	RHPLAN_13810	5.00E-63
2.00E-68	35.0931677	RHPLAN_51420	3.00E-68	35.71428571	RHPLAN_65150	3.00E-68
1.00E-82	33.87096774	RHPLAN_08380	3.00E-82	34.67741935	RHPLAN_19330	1.00E-81
2.00E-71	36.44578313	RHPLAN_48810	2.00E-71	34.03614458	RHPLAN_10350	1.00E-70
2.00E-49	32.08722741	RHPLAN_01300	2.00E-47	33.64485981	RHPLAN_35970	2.00E-46
5.00E-54	30.48780488	RHPLAN_47590	6.00E-53	29.87804878	RHPLAN_58960	7.00E-53

3.00E-70	35.8662614	RHPLAN_19290	5.00E-70	35.25835866	RHPLAN_47590	9.00E-68
1.00E-60	34.56790123	RHPLAN_60790	2.00E-60	35.49382716	RHPLAN_14980	3.00E-60
2.00E-68	33.53846154	RHPLAN_67770	8.00E-68	35.69230769	RHPLAN_01490	3.00E-67
6.00E-57	31.92771084	RHPLAN_21460	8.00E-57	32.53012048	RHPLAN_47960	1.00E-56
8.00E-55	31.70731707	RHPLAN_43980	3.00E-53	29.57317073	RHPLAN_48160	1.00E-52
3.00E-85	34.17085427	RHPLAN_54090	3.00E-77	30.65326633	RHPLAN_02340	3.00E-73
2.00E-74	34.21828909	RHPLAN_08370	3.00E-73	35.39823009	RHPLAN_01490	8.00E-73
6.00E-59	31.79012346	RHPLAN_56300	2.00E-58	31.79012346	RHPLAN_33390	3.00E-58
6.00E-67	35.16819572	RHPLAN_19130	7.00E-67	36.69724771	RHPLAN_14980	1.00E-66
3.00E-58	31.17283951	RHPLAN_49480	3.00E-58	36.11111111	RHPLAN_34260	5.00E-58
2.00E-50	35.12658228	RHPLAN_61440	5.00E-50	32.91139241	RHPLAN_08380	1.00E-48
4.00E-56	31.49847095	RHPLAN_54810	1.00E-55	33.02752294	RHPLAN_26030	3.00E-55
2.00E-56	31.70731707	RHPLAN_16890	3.00E-56	33.53658537	RHPLAN_68890	6.00E-55
3.00E-66	29.23497268	RHPLAN_39920	1.00E-65	28.68852459	RHPLAN_46420	1.00E-64
5.00E-23	25.30487805	RHPLAN_06330	4.00E-22	24.69512195	RHPLAN_09560	8.00E-22
2.00E-32	28.2208589	RHPLAN_68450	4.00E-31	26.3803681	RHPLAN_09860	7.00E-31
5.00E-18	26.82215743	RHPLAN_25260	2.00E-16	22.44897959	RHPLAN_24530	7.00E-16
2.00E-43	27.12933754	RHPLAN_25000	2.00E-43	26.1829653	RHPLAN_05720	4.00E-43
5.00E-31	22.02380952	RHPLAN_38680	1.00E-30	26.19047619	RHPLAN_25970	2.00E-30
6.00E-31	25.81602374	RHPLAN_59670	6.00E-31	26.11275964	RHPLAN_43980	1.00E-29

% identity	hit7 locus	eval	% identity	hit8 locus	eval	% identity
35.2238806	RHPLAN_10350	4.00E-78	37.31343284	RHPLAN_30090	5.00E-78	31.94029851
52.88753799	RHPLAN_11700	6.00E-118	49.54407295	RHPLAN_36420	3.00E-116	47.72036474
51.97568389	RHPLAN_21700	2.00E-122	54.10334347	RHPLAN_11700	4.00E-121	52.27963526
43.07692308	RHPLAN_67770	6.00E-88	42.15384615	RHPLAN_14980	2.00E-86	40.61538462
41.84615385	RHPLAN_61650	7.00E-83	38.46153846	RHPLAN_51420	3.00E-82	40.92307692
37.11656442	RHPLAN_25530	6.00E-66	35.58282209	RHPLAN_05720	8.00E-66	37.11656442
36.19631902	RHPLAN_56560	6.00E-60	36.50306748	RHPLAN_27740	8.00E-60	33.12883436
29.92125984	RHPLAN_08370	4.00E-76	30.18372703	RHPLAN_55850	8.00E-76	31.75853018
40.49079755	RHPLAN_39290	4.00E-89	42.02453988	RHPLAN_26010	7.00E-89	42.02453988
38.95705521	RHPLAN_26010	9.00E-82	37.42331288	RHPLAN_09560	2.00E-79	37.11656442
38.4375	RHPLAN_19130	6.00E-58	35.9375	RHPLAN_14980	7.00E-58	36.875
34.54545455	RHPLAN_42150	2.00E-60	35.45454545	RHPLAN_39290	4.00E-60	34.54545455
40.36697248	RHPLAN_00600	7.00E-85	40.06116208	RHPLAN_05720	3.00E-84	38.53211009
35.64954683	RHPLAN_08400	2.00E-59	34.44108761	RHPLAN_65150	6.00E-59	35.04531722
39.69230769	RHPLAN_25000	8.00E-89	42.76923077	RHPLAN_01890	1.00E-88	38.76923077
42.23602484	RHPLAN_07740	3.00E-68	36.64596273	RHPLAN_41990	1.00E-50	30.74534161
41.71779141	RHPLAN_07740	7.00E-75	39.87730061	RHPLAN_30520	1.00E-50	29.44785276
36.02484472	RHPLAN_05710	3.00E-60	38.81987578	RHPLAN_09560	8.00E-60	36.64596273
31.88854489	RHPLAN_34980	2.00E-70	35.29411765	RHPLAN_67770	2.00E-69	38.08049536
41.44144144	RHPLAN_07740	9.00E-75	39.03903904	RHPLAN_26010	7.00E-47	27.32732733
39.62848297	RHPLAN_34980	2.00E-73	38.39009288	RHPLAN_05730	8.00E-73	39.31888545
55.21472393	RHPLAN_19130	3.00E-129	54.90797546	RHPLAN_06670	8.00E-128	56.74846626
45.20123839	RHPLAN_14980	1.00E-100	44.89164087	RHPLAN_09560	2.00E-100	43.65325077
49.53846154	RHPLAN_06670	3.00E-113	48	RHPLAN_19130	5.00E-110	47.38461538
46.43962848	RHPLAN_17970	5.00E-102	43.65325077	RHPLAN_21460	2.00E-99	43.03405573
54.59940653	RHPLAN_39790	4.00E-128	53.41246291	RHPLAN_32090	8.00E-128	52.52225519
45.42682927	RHPLAN_18490	5.00E-108	46.95121951	RHPLAN_32090	5.00E-106	44.81707317
38.48484848	RHPLAN_51420	4.00E-79	42.12121212	RHPLAN_05710	8.00E-78	37.27272727
51.53374233	RHPLAN_18490	1.00E-122	55.52147239	RHPLAN_39790	2.00E-122	53.37423313
35.3125	RHPLAN_34510	1.00E-66	36.25	RHPLAN_65670	7.00E-64	32.1875
37.3088685	RHPLAN_19140	3.00E-75	39.14373089	RHPLAN_16810	4.00E-75	37.3088685
40.29850746	RHPLAN_05710	4.00E-80	38.80597015	RHPLAN_05740	2.00E-78	39.40298507
35.88957055	RHPLAN_30520	4.00E-72	36.19631902	RHPLAN_16450	1.00E-71	35.58282209
38.27160494	RHPLAN_21460	8.00E-80	39.19753086	RHPLAN_60930	1.00E-79	39.50617284
41.04938272	RHPLAN_27760	1.00E-83	39.50617284	RHPLAN_60930	4.00E-83	42.28395062
53.98773006	RHPLAN_10320	5.00E-123	55.21472393	RHPLAN_18490	1.00E-122	52.7607362
51.22699387	RHPLAN_19130	6.00E-120	50.30674847	RHPLAN_25890	3.00E-119	52.7607362
42.46987952	RHPLAN_58110	6.00E-82	40.06024096	RHPLAN_16810	6.00E-80	37.95180723

39.87538941	RHPLAN_58960	1.00E-78	38.00623053	RHPLAN_70120	1.00E-77	39.25233645
47.05882353	RHPLAN_21700	7.00E-114	51.08359133	RHPLAN_37730	7.00E-111	49.84520124
50.15384615	RHPLAN_19330	1.00E-117	52	RHPLAN_32090	3.00E-117	48.61538462
47.22222222	RHPLAN_19140	8.00E-111	48.14814815	RHPLAN_08440	2.00E-109	46.91358025
40	RHPLAN_66640	1.00E-77	40.625	RHPLAN_27760	1.00E-75	38.4375
51.08359133	RHPLAN_19140	5.00E-123	52.0123839	RHPLAN_08440	7.00E-120	49.84520124
46.17737003	RHPLAN_60850	3.00E-97	42.20183486	RHPLAN_13800	3.00E-96	42.20183486
41.41104294	RHPLAN_06330	4.00E-76	39.26380368	RHPLAN_16890	4.00E-75	39.87730061
38.170347	RHPLAN_16890	8.00E-77	38.170347	RHPLAN_63280	8.00E-77	37.22397476
54.26829268	RHPLAN_25890	3.00E-114	49.69512195	RHPLAN_27530	2.00E-113	51.2195122
52.12121212	RHPLAN_32090	9.00E-125	48.18181818	RHPLAN_18490	4.00E-121	50
35.54216867	RHPLAN_32270	6.00E-63	37.04819277	RHPLAN_05730	1.00E-62	34.63855422
44.31137725	RHPLAN_33930	5.00E-101	42.51497006	RHPLAN_59450	9.00E-101	46.40718563
46.46153846	RHPLAN_06670	3.00E-122	48.92307692	RHPLAN_39790	6.00E-121	52.30769231
50.46153846	RHPLAN_06670	6.00E-120	52.92307692	RHPLAN_10320	2.00E-119	54.76923077
39.375	RHPLAN_19130	4.00E-79	39.375	RHPLAN_39290	6.00E-78	40
51.55279503	RHPLAN_43730	1.00E-108	50.31055901	RHPLAN_10320	2.00E-107	51.24223602
53.37423313	RHPLAN_06670	2.00E-119	50.30674847	RHPLAN_27530	8.00E-119	52.14723926
36.14457831	RHPLAN_00980	9.00E-67	35.24096386	RHPLAN_56300	9.00E-67	36.14457831
33.52769679	RHPLAN_34510	2.00E-64	33.2361516	RHPLAN_65670	3.00E-64	30.02915452
48.30769231	RHPLAN_16860	9.00E-119	51.69230769	RHPLAN_16850	5.00E-118	48.61538462
39.69230769	RHPLAN_49480	8.00E-82	40.92307692	RHPLAN_23870	6.00E-80	38.76923077
36.76012461	RHPLAN_25260	1.00E-70	34.89096573	RHPLAN_51320	3.00E-68	35.82554517
33.23353293	RHPLAN_21460	3.00E-62	36.52694611	RHPLAN_49480	1.00E-60	35.32934132
50.30674847	RHPLAN_19330	2.00E-119	51.22699387	RHPLAN_06670	1.00E-117	48.1595092
47.72036474	RHPLAN_33930	8.00E-107	45.2887538	RHPLAN_60850	1.00E-104	45.89665654
48.46625767	RHPLAN_39790	3.00E-108	49.0797546	RHPLAN_19330	1.00E-107	47.85276074
35.15981735	RHPLAN_48220	4.00E-48	34.24657534	RHPLAN_51560	2.00E-42	31.96347032
51.70278638	RHPLAN_08440	1.00E-113	48.91640867	RHPLAN_29570	1.00E-112	48.29721362
40.24767802	RHPLAN_08370	3.00E-76	39.00928793	RHPLAN_32090	9.00E-76	35.91331269
37.0030581	RHPLAN_53850	3.00E-77	37.3088685	RHPLAN_63280	5.00E-77	37.9204893
48.03625378	RHPLAN_16850	1.00E-113	47.12990937	RHPLAN_16830	4.00E-112	48.33836858
52.72108844	RHPLAN_29420	3.00E-111	55.44217687	RHPLAN_29590	8.00E-107	50.68027211
52.4691358	RHPLAN_18490	5.00E-116	52.77777778	RHPLAN_19330	5.00E-115	54.32098765
41.28440367	RHPLAN_49400	3.00E-77	39.75535168	RHPLAN_08370	2.00E-76	37.6146789
44.40993789	RHPLAN_08380	3.00E-84	41.30434783	RHPLAN_21460	3.00E-81	38.81987578
45.67901235	RHPLAN_08870	6.00E-87	41.35802469	RHPLAN_65150	8.00E-85	42.90123457
38.1097561	RHPLAN_67770	3.00E-72	39.02439024	RHPLAN_63280	1.00E-71	38.7195122
38.46153846	RHPLAN_25890	4.00E-82	40.30769231	RHPLAN_08380	9.00E-82	39.38461538
48.94894895	RHPLAN_21700	2.00E-116	50.45045045	RHPLAN_29570	5.00E-116	46.84684685
34.63855422	RHPLAN_47590	5.00E-75	36.74698795	RHPLAN_54360	5.00E-75	38.55421687
34.03614458	RHPLAN_25000	4.00E-61	32.53012048	RHPLAN_68890	4.00E-61	32.22891566
30.34055728	RHPLAN_60590	4.00E-68	34.98452012	RHPLAN_23520	3.00E-63	36.22291022
41.48606811	RHPLAN_06330	1.00E-90	41.79566563	RHPLAN_66640	1.00E-90	42.7244582
40.24767802	RHPLAN_33930	5.00E-85	39.31888545	RHPLAN_19140	4.00E-84	41.48606811
43.03405573	RHPLAN_47610	2.00E-90	42.41486068	RHPLAN_43730	7.00E-89	40.55727554
47.9876161	RHPLAN_29420	4.00E-110	49.84520124	RHPLAN_29590	1.00E-107	48.60681115

44	RHPLAN_44880	1.00E-94	39.69230769	RHPLAN_05730	3.00E-93	43.07692308
50	RHPLAN_19130	3.00E-110	49.0797546	RHPLAN_39790	5.00E-109	49.69325153
41.69278997	RHPLAN_07740	4.00E-78	35.73667712	RHPLAN_27760	6.00E-54	34.169279
42.7244582	RHPLAN_40150	2.00E-80	39.9380805	RHPLAN_67770	9.00E-80	40.55727554
49.23076923	RHPLAN_11360	5.00E-107	45.23076923	RHPLAN_29590	1.00E-105	47.38461538
34.25076453	RHPLAN_05720	4.00E-69	36.08562691	RHPLAN_37730	6.00E-67	37.0030581
48.31804281	RHPLAN_64850	4.00E-105	47.40061162	RHPLAN_60790	6.00E-102	41.89602446
48.94259819	RHPLAN_62680	1.00E-113	48.33836858	RHPLAN_16850	9.00E-112	49.54682779
42.34234234	RHPLAN_56300	1.00E-93	39.63963964	RHPLAN_54810	2.00E-79	36.93693694
40.84084084	RHPLAN_60590	8.00E-69	35.73573574	RHPLAN_23520	3.00E-67	37.23723724
49.38650307	RHPLAN_15440	8.00E-116	47.54601227	RHPLAN_29420	2.00E-113	51.53374233
35.58282209	RHPLAN_65670	7.00E-69	36.80981595	RHPLAN_30600	9.00E-69	33.12883436
42.37804878	RHPLAN_01490	7.00E-85	41.76829268	RHPLAN_05720	1.00E-84	38.7195122
44.20731707	RHPLAN_58720	9.00E-103	42.37804878	RHPLAN_21460	4.00E-97	42.07317073
38.08049536	RHPLAN_21990	2.00E-83	39.31888545	RHPLAN_36470	1.00E-82	38.08049536
47.36842105	RHPLAN_10480	1.00E-103	42.41486068	RHPLAN_36420	2.00E-102	45.20123839
47.09480122	RHPLAN_19140	1.00E-111	48.62385321	RHPLAN_16810	2.00E-111	46.78899083
42.24924012	RHPLAN_58540	3.00E-94	42.85714286	RHPLAN_29570	4.00E-94	43.16109422
31.75074184	RHPLAN_25260	2.00E-58	28.78338279	RHPLAN_34540	5.00E-57	30.26706231
38.27893175	RHPLAN_47590	7.00E-77	35.60830861	RHPLAN_60790	1.00E-76	36.49851632
48.4962406	RHPLAN_60850	3.00E-85	48.12030075	RHPLAN_11360	1.00E-83	46.61654135
47.5308642	RHPLAN_64470	1.00E-113	49.07407407	RHPLAN_26030	2.00E-111	49.07407407
43.90243902	RHPLAN_05710	2.00E-98	48.17073171	RHPLAN_05740	7.00E-94	41.46341463
38.39009288	RHPLAN_39000	4.00E-81	39.31888545	RHPLAN_57730	5.00E-81	37.15170279
41.59021407	RHPLAN_14980	8.00E-75	37.9204893	RHPLAN_48210	1.00E-74	40.97859327
42.55319149	RHPLAN_56300	4.00E-92	40.12158055	RHPLAN_43730	5.00E-84	42.24924012
37.38601824	RHPLAN_61650	2.00E-75	34.34650456	RHPLAN_21460	4.00E-71	39.81762918
35.8662614	RHPLAN_67770	2.00E-72	37.38601824	RHPLAN_21990	3.00E-71	37.38601824
30.49853372	RHPLAN_60590	1.00E-71	34.31085044	RHPLAN_23520	3.00E-66	36.07038123
43.47826087	RHPLAN_08370	1.00E-88	42.23602484	RHPLAN_65150	1.00E-85	44.40993789
33.95061728	RHPLAN_32090	7.00E-65	33.95061728	RHPLAN_25000	1.00E-64	32.09876543
46.01226994	RHPLAN_11360	7.00E-110	48.1595092	RHPLAN_15440	2.00E-106	45.39877301
42.07317073	RHPLAN_17980	6.00E-85	41.15853659	RHPLAN_08370	2.00E-84	41.46341463
36.92307692	RHPLAN_39290	2.00E-64	33.84615385	RHPLAN_00600	3.00E-64	36.61538462
37.42331288	RHPLAN_02900	1.00E-70	39.87730061	RHPLAN_47590	1.00E-69	32.20858896
40.79754601	RHPLAN_65430	4.00E-79	38.95705521	RHPLAN_47590	1.00E-76	38.34355828
48.61538462	RHPLAN_62680	3.00E-101	43.69230769	RHPLAN_26030	2.00E-100	44.61538462
34.76923077	RHPLAN_27760	6.00E-63	36	RHPLAN_39920	9.00E-63	36
43.73088685	RHPLAN_07740	2.00E-78	38.53211009	RHPLAN_19290	1.00E-51	34.25076453
36.71641791	RHPLAN_65050	3.00E-63	36.11940299	RHPLAN_08370	5.00E-63	36.41791045
39.02439024	RHPLAN_05720	3.00E-81	36.58536585	RHPLAN_58720	7.00E-80	35.97560976
45.45454545	RHPLAN_16810	2.00E-110	46.96969697	RHPLAN_19340	7.00E-110	54.24242424
49.5412844	RHPLAN_65150	4.00E-93	45.87155963	RHPLAN_65610	2.00E-92	44.34250765
36.50306748	RHPLAN_67770	7.00E-66	37.42331288	RHPLAN_10350	1.00E-65	34.96932515
34.82142857	RHPLAN_43730	6.00E-70	37.5	RHPLAN_47590	6.00E-70	37.20238095
36.68639053	RHPLAN_08370	4.00E-83	38.46153846	RHPLAN_05720	3.00E-82	37.86982249
47.6635514	RHPLAN_16870	2.00E-103	44.5482866	RHPLAN_19140	2.00E-103	47.04049844

40.55727554	RHPLAN_49480	6.00E-82	42.41486068	RHPLAN_10460	4.00E-81	40.55727554
41.33738602	RHPLAN_19130	8.00E-84	38.90577508	RHPLAN_61440	7.00E-82	36.7781155
42.02453988	RHPLAN_14980	2.00E-73	38.95705521	RHPLAN_37850	6.00E-72	35.58282209
44.92307692	RHPLAN_29420	2.00E-99	45.53846154	RHPLAN_29590	3.00E-97	45.84615385
35.04531722	RHPLAN_51420	7.00E-70	34.74320242	RHPLAN_51250	3.00E-69	37.16012085
40.24024024	RHPLAN_05720	1.00E-88	38.73873874	RHPLAN_16890	7.00E-88	38.43843844
42.54658385	RHPLAN_58720	1.00E-93	40.99378882	RHPLAN_05730	1.00E-92	43.16770186
41.81818182	RHPLAN_08360	1.00E-94	44.24242424	RHPLAN_19330	1.00E-92	41.81818182
35.40372671	RHPLAN_65670	4.00E-66	36.02484472	RHPLAN_37850	7.00E-65	33.54037267
41.66666667	RHPLAN_34980	1.00E-78	39.19753086	RHPLAN_62600	3.00E-77	41.97530864
31.40243902	RHPLAN_34260	4.00E-72	34.45121951	RHPLAN_42140	4.00E-72	36.58536585
34.61538462	RHPLAN_09560	2.00E-69	32.5443787	RHPLAN_39920	2.00E-69	34.61538462
31.81818182	RHPLAN_30510	4.00E-62	37.27272727	RHPLAN_27760	6.00E-62	35.15151515
39.03903904	RHPLAN_60760	1.00E-75	35.73573574	RHPLAN_65150	1.00E-75	35.43543544
32.52279635	RHPLAN_01890	5.00E-59	33.13069909	RHPLAN_27760	5.00E-59	35.8662614
40	RHPLAN_33880	1.00E-85	45.23076923	RHPLAN_49400	1.00E-85	44.92307692
39.5480226	RHPLAN_68890	5.00E-93	42.37288136	RHPLAN_53850	1.00E-92	42.65536723
34.23423423	RHPLAN_34220	5.00E-56	33.03303303	RHPLAN_05720	1.00E-55	31.83183183
40.12158055	RHPLAN_51420	5.00E-81	37.6899696	RHPLAN_70100	5.00E-81	37.08206687
41.64133739	RHPLAN_05730	8.00E-87	41.94528875	RHPLAN_05720	9.00E-87	38.60182371
44.30769231	RHPLAN_29420	7.00E-98	46.46153846	RHPLAN_29590	2.00E-97	43.69230769
40.12539185	RHPLAN_47610	4.00E-88	42.94670846	RHPLAN_05720	2.00E-87	39.18495298
33.12883436	RHPLAN_65670	2.00E-61	34.04907975	RHPLAN_37850	2.00E-58	27.91411043
45.70552147	RHPLAN_50910	2.00E-104	47.2392638	RHPLAN_27530	3.00E-103	44.17177914
40.74074074	RHPLAN_01890	1.00E-83	38.88888889	RHPLAN_25000	2.00E-83	39.50617284
41.30434783	RHPLAN_42150	2.00E-87	41.92546584	RHPLAN_43540	3.00E-87	41.30434783
32.13213213	RHPLAN_60770	7.00E-59	33.63363363	RHPLAN_14980	1.00E-58	33.93393393
44.51219512	RHPLAN_08380	7.00E-95	43.59756098	RHPLAN_49400	3.00E-91	42.68292683
34.04907975	RHPLAN_42140	1.00E-71	35.58282209	RHPLAN_53850	5.00E-71	32.82208589
42.23602484	RHPLAN_34980	2.00E-86	45.0310559	RHPLAN_49470	1.00E-85	45.34161491
37.5	RHPLAN_25260	8.00E-72	36.25	RHPLAN_21990	6.00E-71	35
47.11246201	RHPLAN_37730	4.00E-109	47.72036474	RHPLAN_21700	6.00E-109	49.54407295
36	RHPLAN_65150	3.00E-73	39.07692308	RHPLAN_05720	8.00E-73	36.61538462
36	RHPLAN_33470	7.00E-67	34.15384615	RHPLAN_60790	2.00E-66	33.84615385
37.79069767	RHPLAN_67770	4.00E-76	37.20930233	RHPLAN_33880	1.00E-72	37.79069767
41.04938272	RHPLAN_54810	7.00E-89	42.28395062	RHPLAN_34980	2.00E-88	42.59259259
44.34250765	RHPLAN_58540	3.00E-105	45.25993884	RHPLAN_15440	1.00E-104	44.03669725
45.23076923	RHPLAN_27530	2.00E-103	42.76923077	RHPLAN_32090	6.00E-103	45.53846154
35.20249221	RHPLAN_30840	8.00E-71	38.94080997	RHPLAN_39290	2.00E-70	35.82554517
43.26018809	RHPLAN_65150	5.00E-85	43.26018809	RHPLAN_56560	2.00E-84	45.76802508
33.73493976	RHPLAN_07810	2.00E-69	34.93975904	RHPLAN_10350	2.00E-69	35.54216867
37.96296296	RHPLAN_00600	6.00E-78	35.49382716	RHPLAN_47590	2.00E-76	36.72839506
37.84615385	RHPLAN_10530	1.00E-75	37.84615385	RHPLAN_16890	6.00E-75	39.38461538
46.46153846	RHPLAN_16830	1.00E-105	45.23076923	RHPLAN_26030	1.00E-104	46.15384615
34.05572755	RHPLAN_16380	8.00E-62	33.12693498	RHPLAN_19330	1.00E-61	39.00928793
36.84210526	RHPLAN_17980	1.00E-72	38.39009288	RHPLAN_40150	5.00E-72	39.9380805
45.26627219	RHPLAN_50910	4.00E-93	41.12426036	RHPLAN_43730	1.00E-92	39.64497041

45.18072289	RHPLAN_62680	6.00E-109	47.59036145	RHPLAN_16850	1.00E-107	49.09638554
40.60606061	RHPLAN_05710	5.00E-89	42.12121212	RHPLAN_18390	2.00E-82	39.09090909
44.20731707	RHPLAN_18390	2.00E-91	39.63414634	RHPLAN_60790	5.00E-91	42.37804878
41.10429448	RHPLAN_47590	7.00E-85	40.18404908	RHPLAN_10460	9.00E-85	39.87730061
38.03680982	RHPLAN_08370	4.00E-65	39.57055215	RHPLAN_05720	9.00E-65	34.66257669
46.91358025	RHPLAN_62680	2.00E-102	41.97530864	RHPLAN_11700	4.00E-101	45.37037037
35.29411765	RHPLAN_26010	2.00E-69	34.98452012	RHPLAN_40150	3.00E-69	36.53250774
38.34355828	RHPLAN_51420	3.00E-73	36.50306748	RHPLAN_00600	7.00E-73	35.58282209
43.20987654	RHPLAN_07740	5.00E-77	37.65432099	RHPLAN_11410	8.00E-50	33.95061728
43.76899696	RHPLAN_05720	1.00E-89	38.60182371	RHPLAN_14980	7.00E-88	41.94528875
30.48780488	RHPLAN_21460	3.00E-59	32.31707317	RHPLAN_10530	3.00E-56	29.57317073
34.96932515	RHPLAN_39290	1.00E-66	34.96932515	RHPLAN_56300	1.00E-66	33.74233129
31.91489362	RHPLAN_32940	1.00E-58	35.8662614	RHPLAN_34220	1.00E-58	33.43465046
42.20183486	RHPLAN_39000	4.00E-83	39.14373089	RHPLAN_08370	5.00E-83	37.9204893
39.81191223	RHPLAN_23520	1.00E-69	36.36363636	RHPLAN_37850	2.00E-68	34.79623824
43.90243902	RHPLAN_56560	2.00E-97	49.3902439	RHPLAN_46130	8.00E-95	45.12195122
38.60182371	RHPLAN_65150	5.00E-82	38.60182371	RHPLAN_61440	4.00E-80	37.99392097
38.83792049	RHPLAN_65050	4.00E-79	38.22629969	RHPLAN_08370	5.00E-79	39.75535168
44.95412844	RHPLAN_27530	2.00E-98	44.03669725	RHPLAN_32090	9.00E-98	44.34250765
44.15204678	RHPLAN_13800	1.00E-101	40.64327485	RHPLAN_29590	1.00E-100	40.64327485
36.98224852	RHPLAN_34540	1.00E-79	36.98224852	RHPLAN_21460	1.00E-78	36.68639053
35.73667712	RHPLAN_32270	1.00E-63	35.73667712	RHPLAN_48130	5.00E-63	34.79623824
38.48484848	RHPLAN_08370	2.00E-64	34.54545455	RHPLAN_25530	7.00E-64	34.84848485
38.50931677	RHPLAN_42310	9.00E-76	38.19875776	RHPLAN_09560	3.00E-75	39.13043478
35.26170799	RHPLAN_41140	2.00E-69	33.60881543	RHPLAN_08380	4.00E-69	34.98622259
41.08761329	RHPLAN_65610	6.00E-84	37.76435045	RHPLAN_08370	4.00E-83	38.06646526
42.76923077	RHPLAN_07740	1.00E-71	33.84615385	RHPLAN_36470	1.00E-51	31.69230769
39.82035928	RHPLAN_07810	4.00E-87	39.22155689	RHPLAN_57730	5.00E-84	37.1257485
40.85365854	RHPLAN_60790	4.00E-79	37.19512195	RHPLAN_14980	1.00E-78	39.63414634
38.27160494	RHPLAN_62490	1.00E-74	36.41975309	RHPLAN_07810	2.00E-73	36.11111111
37.26708075	RHPLAN_00980	3.00E-77	36.64596273	RHPLAN_60760	1.00E-76	39.13043478
38.50415512	RHPLAN_30090	2.00E-91	36.01108033	RHPLAN_57730	4.00E-88	35.45706371
33.51800554	RHPLAN_34260	1.00E-74	33.24099723	RHPLAN_01490	2.00E-73	32.13296399
38.32335329	RHPLAN_65050	4.00E-76	34.43113772	RHPLAN_62600	2.00E-73	36.82634731
40.80996885	RHPLAN_34540	2.00E-65	31.46417445	RHPLAN_43730	3.00E-62	36.13707165
43.07228916	RHPLAN_29420	6.00E-100	46.38554217	RHPLAN_58540	4.00E-99	45.48192771
38.50931677	RHPLAN_47590	2.00E-76	36.95652174	RHPLAN_39290	2.00E-74	38.19875776
36.5497076	RHPLAN_25260	2.00E-78	34.50292398	RHPLAN_43980	3.00E-77	36.5497076
31.49847095	RHPLAN_43980	8.00E-68	36.69724771	RHPLAN_05450	4.00E-66	34.55657492
42.41486068	RHPLAN_37840	1.00E-80	40.24767802	RHPLAN_61440	3.00E-80	39.00928793
42.1686747	RHPLAN_29420	2.00E-104	45.18072289	RHPLAN_35610	5.00E-104	46.08433735
43.47826087	RHPLAN_47590	2.00E-89	42.23602484	RHPLAN_09560	4.00E-89	41.61490683
41.03343465	RHPLAN_56300	7.00E-83	37.08206687	RHPLAN_47590	7.00E-82	40.72948328
37.6146789	RHPLAN_47960	4.00E-82	37.0030581	RHPLAN_56300	4.00E-82	38.53211009
42.10526316	RHPLAN_21460	4.00E-81	39.9380805	RHPLAN_34980	3.00E-80	41.79566563
34.75609756	RHPLAN_48130	4.00E-68	37.80487805	RHPLAN_00980	6.00E-67	33.23170732
34.92537313	RHPLAN_65150	2.00E-80	35.52238806	RHPLAN_01490	1.00E-79	35.52238806

41.14114114	RHPLAN_05730	4.00E-95	42.34234234	RHPLAN_14170	2.00E-91	42.94294294
39.44099379	RHPLAN_67770	3.00E-82	41.61490683	RHPLAN_39290	1.00E-81	41.30434783
34.34650456	RHPLAN_65150	3.00E-69	35.56231003	RHPLAN_65050	1.00E-67	33.73860182
33.2361516	RHPLAN_67770	1.00E-73	36.73469388	RHPLAN_21990	3.00E-73	34.40233236
39.56386293	RHPLAN_63280	2.00E-82	42.67912773	RHPLAN_27530	7.00E-82	41.12149533
44.20062696	RHPLAN_14980	2.00E-86	41.06583072	RHPLAN_47590	3.00E-86	41.37931034
35.36585366	RHPLAN_64510	5.00E-71	34.75609756	RHPLAN_16890	2.00E-70	38.41463415
44.17177914	RHPLAN_58720	7.00E-86	40.79754601	RHPLAN_00980	6.00E-83	39.87730061
33.64197531	RHPLAN_23520	2.00E-67	36.11111111	RHPLAN_27760	4.00E-67	35.80246914
42.90030211	RHPLAN_09560	2.00E-90	42.59818731	RHPLAN_25890	5.00E-90	39.57703927
39.81762918	RHPLAN_16850	5.00E-87	41.64133739	RHPLAN_64470	3.00E-83	41.03343465
33.02752294	RHPLAN_60930	3.00E-63	33.02752294	RHPLAN_70120	3.00E-61	34.55657492
39.6969697	RHPLAN_26030	3.00E-80	38.48484848	RHPLAN_16830	2.00E-79	36.36363636
39.81191223	RHPLAN_05720	2.00E-78	37.93103448	RHPLAN_34540	4.00E-78	37.61755486
40.12345679	RHPLAN_41140	8.00E-90	41.66666667	RHPLAN_09560	9.00E-90	40.74074074
40.99378882	RHPLAN_27760	2.00E-79	40.0621118	RHPLAN_43730	2.00E-78	40.37267081
41.97530864	RHPLAN_41140	7.00E-81	41.97530864	RHPLAN_65610	4.00E-80	38.58024691
34.56790123	RHPLAN_39290	1.00E-68	37.96296296	RHPLAN_25000	2.00E-68	38.27160494
34.44108761	RHPLAN_05720	1.00E-73	36.55589124	RHPLAN_60770	2.00E-72	35.34743202
37.5	RHPLAN_58720	2.00E-67	33.63095238	RHPLAN_47960	6.00E-67	33.33333333
39.86254296	RHPLAN_21460	1.00E-72	38.1443299	RHPLAN_34540	6.00E-72	39.17525773
35.54216867	RHPLAN_56300	5.00E-65	35.54216867	RHPLAN_67770	6.00E-65	35.54216867
41.21212121	RHPLAN_37730	1.00E-96	43.63636364	RHPLAN_16850	8.00E-95	41.51515152
41.74454829	RHPLAN_47590	3.00E-88	41.43302181	RHPLAN_51420	4.00E-88	43.30218069
38.08049536	RHPLAN_08870	2.00E-74	40.24767802	RHPLAN_08860	2.00E-71	36.84210526
36.96969697	RHPLAN_00600	5.00E-79	36.66666667	RHPLAN_19330	2.00E-78	37.57575758
40.80996885	RHPLAN_00600	4.00E-83	38.31775701	RHPLAN_19330	4.00E-83	41.74454829
38.31775701	RHPLAN_32090	8.00E-76	36.44859813	RHPLAN_39920	1.00E-75	36.13707165
34.66257669	RHPLAN_57730	6.00E-75	36.80981595	RHPLAN_30090	3.00E-74	32.20858896
44.95412844	RHPLAN_54070	4.00E-90	41.59021407	RHPLAN_09560	7.00E-90	40.97859327
42.228739	RHPLAN_29570	2.00E-108	45.16129032	RHPLAN_19140	6.00E-108	45.45454545
36.92307692	RHPLAN_08370	6.00E-76	36.30769231	RHPLAN_21460	4.00E-75	36.92307692
38.03680982	RHPLAN_23520	4.00E-80	37.42331288	RHPLAN_68890	5.00E-80	37.73006135
40.18126888	RHPLAN_09560	9.00E-81	36.55589124	RHPLAN_54090	7.00E-80	38.36858006
38.97280967	RHPLAN_27760	2.00E-71	36.25377644	RHPLAN_47590	6.00E-70	32.02416918
38.0239521	RHPLAN_21460	5.00E-85	39.52095808	RHPLAN_48210	5.00E-85	40.71856287
34.63855422	RHPLAN_05720	1.00E-65	34.3373494	RHPLAN_08380	6.00E-65	35.24096386
40.06024096	RHPLAN_65610	9.00E-85	38.25301205	RHPLAN_00600	5.00E-83	40.06024096
30.19390582	RHPLAN_40150	1.00E-59	28.53185596	RHPLAN_35030	3.00E-58	30.74792244
35.0931677	RHPLAN_24530	1.00E-71	34.16149068	RHPLAN_21990	1.00E-70	37.57763975
34.65045593	RHPLAN_58720	5.00E-71	34.95440729	RHPLAN_23520	1.00E-70	36.7781155
41.23076923	RHPLAN_14980	2.00E-80	40.92307692	RHPLAN_27760	2.00E-80	41.23076923
40	RHPLAN_08380	4.00E-79	40.30769231	RHPLAN_01490	2.00E-78	36.92307692
37.27272727	RHPLAN_65600	2.00E-86	40.60606061	RHPLAN_66640	2.00E-86	40.60606061
39.32926829	RHPLAN_63280	2.00E-84	41.76829268	RHPLAN_05730	3.00E-83	39.02439024
38.65030675	RHPLAN_53850	9.00E-81	37.42331288	RHPLAN_34540	4.00E-80	37.11656442
36.60714286	RHPLAN_55850	8.00E-74	38.69047619	RHPLAN_65150	2.00E-73	38.0952381

39.88095238	RHPLAN_08380	8.00E-85	40.17857143	RHPLAN_10460	9.00E-84	38.69047619
37.8125	RHPLAN_05720	2.00E-73	34.375	RHPLAN_51520	2.00E-73	35.625
35.60830861	RHPLAN_67770	8.00E-66	35.0148368	RHPLAN_47960	9.00E-66	34.12462908
38.78787879	RHPLAN_23870	7.00E-72	36.06060606	RHPLAN_00980	1.00E-69	35.45454545
40.55727554	RHPLAN_65150	3.00E-88	41.79566563	RHPLAN_70120	6.00E-88	42.41486068
32.8358209	RHPLAN_17980	4.00E-62	34.32835821	RHPLAN_25530	1.00E-61	32.53731343
36.80981595	RHPLAN_65460	3.00E-70	36.80981595	RHPLAN_16550	9.00E-69	35.27607362
36.23188406	RHPLAN_07810	1.00E-79	37.10144928	RHPLAN_39000	2.00E-77	35.07246377
39.81481481	RHPLAN_49470	2.00E-81	41.97530864	RHPLAN_54810	9.00E-81	38.88888889
40.0621118	RHPLAN_37850	3.00E-74	36.33540373	RHPLAN_47960	7.00E-74	35.0931677
41.28440367	RHPLAN_68890	7.00E-89	42.20183486	RHPLAN_09560	1.00E-88	40.06116208
44.89164087	RHPLAN_02340	2.00E-84	40.86687307	RHPLAN_32090	4.00E-84	41.17647059
40.55727554	RHPLAN_11410	7.00E-90	40.55727554	RHPLAN_33880	1.00E-89	41.48606811
38.00623053	RHPLAN_39920	2.00E-71	35.51401869	RHPLAN_21460	4.00E-71	38.00623053
35.73573574	RHPLAN_47590	4.00E-70	36.93693694	RHPLAN_21460	2.00E-68	35.43543544
38.65030675	RHPLAN_16890	6.00E-78	41.10429448	RHPLAN_67770	6.00E-78	40.18404908
41.30434783	RHPLAN_34980	2.00E-77	40.99378882	RHPLAN_19330	2.00E-76	39.13043478
41.28440367	RHPLAN_47960	5.00E-90	39.75535168	RHPLAN_08380	2.00E-89	42.81345566
34.6875	RHPLAN_05730	3.00E-71	36.5625	RHPLAN_21990	3.00E-71	33.75
42.76923077	RHPLAN_08400	2.00E-89	40.92307692	RHPLAN_43730	6.00E-89	40.61538462
41.17647059	RHPLAN_27760	2.00E-89	41.17647059	RHPLAN_53850	8.00E-89	39.62848297
36.84210526	RHPLAN_37850	6.00E-74	34.6749226	RHPLAN_65150	2.00E-72	35.91331269
35.29411765	RHPLAN_47960	2.00E-70	33.43653251	RHPLAN_30090	5.00E-70	32.50773994
43.25153374	RHPLAN_48810	2.00E-89	40.79754601	RHPLAN_39920	3.00E-89	40.49079755
38.03680982	RHPLAN_05710	9.00E-85	41.71779141	RHPLAN_21460	2.00E-83	38.95705521
42.23602484	RHPLAN_39920	1.00E-88	41.61490683	RHPLAN_67770	2.00E-88	40.68322981
40.0621118	RHPLAN_30520	2.00E-68	38.81987578	RHPLAN_31600	2.00E-68	33.54037267
37.6146789	RHPLAN_19140	4.00E-76	39.44954128	RHPLAN_15440	8.00E-75	37.3088685
39.69230769	RHPLAN_61980	7.00E-82	38.76923077	RHPLAN_09560	1.00E-80	36.30769231
32.50773994	RHPLAN_32090	3.00E-53	32.81733746	RHPLAN_65150	4.00E-53	31.26934985
37.46130031	RHPLAN_47960	2.00E-80	37.77089783	RHPLAN_08380	3.00E-80	39.00928793
37.03703704	RHPLAN_29460	6.00E-78	37.34567901	RHPLAN_36150	1.00E-77	39.19753086
33.13782991	RHPLAN_37850	5.00E-67	32.25806452	RHPLAN_23510	2.00E-66	33.13782991
42.23602484	RHPLAN_65150	9.00E-70	40.68322981	RHPLAN_01300	2.00E-69	38.19875776
38.53211009	RHPLAN_09560	7.00E-72	35.16819572	RHPLAN_01890	2.00E-71	36.39143731
37.65060241	RHPLAN_21460	4.00E-68	36.14457831	RHPLAN_43980	2.00E-67	34.3373494
38.4375	RHPLAN_23520	2.00E-64	37.1875	RHPLAN_37850	4.00E-63	35.9375
40.18691589	RHPLAN_05710	1.00E-75	38.94080997	RHPLAN_00600	1.00E-74	37.38317757
40.74074074	RHPLAN_08210	3.00E-84	39.19753086	RHPLAN_05720	1.00E-83	39.81481481
39.19753086	RHPLAN_33880	8.00E-83	38.27160494	RHPLAN_56300	2.00E-81	37.34567901
32.84883721	RHPLAN_00600	5.00E-67	32.84883721	RHPLAN_27760	1.00E-65	32.26744186
40.625	RHPLAN_49470	8.00E-85	40.34090909	RHPLAN_62600	4.00E-83	38.63636364
37.5	RHPLAN_19130	2.00E-78	39.93902439	RHPLAN_08370	7.00E-77	38.41463415
36.58536585	RHPLAN_62490	5.00E-72	35.36585366	RHPLAN_34540	9.00E-72	35.67073171
42.05607477	RHPLAN_61980	1.00E-83	38.62928349	RHPLAN_14980	4.00E-83	38.62928349
39.81481481	RHPLAN_06190	1.00E-81	39.81481481	RHPLAN_08370	7.00E-81	41.35802469
39.19753086	RHPLAN_47590	7.00E-85	37.34567901	RHPLAN_37850	2.00E-84	39.81481481

37.34567901	RHPLAN_19130	9.00E-68	37.96296296	RHPLAN_34240	2.00E-65	37.34567901
41.15853659	RHPLAN_19130	2.00E-87	42.37804878	RHPLAN_48130	4.00E-87	42.68292683
35.8662614	RHPLAN_10460	2.00E-77	35.8662614	RHPLAN_63280	4.00E-77	38.60182371
35.62874252	RHPLAN_00600	3.00E-72	37.4251497	RHPLAN_63280	3.00E-72	38.32335329
37.75811209	RHPLAN_49090	6.00E-82	38.64306785	RHPLAN_05720	3.00E-80	37.75811209
40.37267081	RHPLAN_49080	8.00E-88	40.37267081	RHPLAN_09560	4.00E-87	40.0621118
32.53012048	RHPLAN_51520	3.00E-71	33.13253012	RHPLAN_39920	5.00E-71	33.73493976
38.67924528	RHPLAN_23510	5.00E-79	40.25157233	RHPLAN_25000	2.00E-77	40.88050314
36.8902439	RHPLAN_10350	2.00E-68	38.1097561	RHPLAN_49470	4.00E-68	36.58536585
30.79268293	RHPLAN_01790	8.00E-59	32.31707317	RHPLAN_02340	2.00E-57	31.09756098
40.80996885	RHPLAN_09560	4.00E-81	38.31775701	RHPLAN_42140	3.00E-80	38.62928349
33.53846154	RHPLAN_39920	5.00E-56	31.07692308	RHPLAN_13310	2.00E-55	34.46153846
38.08049536	RHPLAN_23520	2.00E-77	37.77089783	RHPLAN_39290	6.00E-75	38.39009288
39.9380805	RHPLAN_01890	9.00E-79	39.31888545	RHPLAN_26010	1.00E-78	38.6996904
37.31778426	RHPLAN_60760	1.00E-86	38.19241983	RHPLAN_23510	6.00E-86	40.23323615
40.49079755	RHPLAN_00980	3.00E-81	38.03680982	RHPLAN_39290	3.00E-80	40.18404908
34.25925926	RHPLAN_43540	2.00E-77	40.12345679	RHPLAN_20870	4.00E-77	38.88888889
37.26708075	RHPLAN_08370	2.00E-80	36.95652174	RHPLAN_39290	2.00E-80	37.88819876
37.80487805	RHPLAN_10090	7.00E-77	36.58536585	RHPLAN_30510	2.00E-46	31.09756098
37.11656442	RHPLAN_41870	4.00E-78	41.10429448	RHPLAN_08870	1.00E-77	38.65030675
38.31775701	RHPLAN_68450	9.00E-67	37.38317757	RHPLAN_05720	3.00E-66	35.51401869
35.82554517	RHPLAN_09560	5.00E-70	36.13707165	RHPLAN_10710	1.00E-69	37.07165109
38.88888889	RHPLAN_60760	4.00E-72	42.59259259	RHPLAN_27920	8.00E-72	38.27160494
38.85542169	RHPLAN_30090	1.00E-76	37.04819277	RHPLAN_09560	2.00E-76	39.15662651
39.07692308	RHPLAN_39920	3.00E-78	36	RHPLAN_32090	1.00E-77	37.53846154
35.02824859	RHPLAN_17980	8.00E-66	34.18079096	RHPLAN_08370	2.00E-64	33.89830508
35.80246914	RHPLAN_17980	6.00E-75	37.96296296	RHPLAN_33880	9.00E-75	36.72839506
36.72839506	RHPLAN_13310	3.00E-71	37.34567901	RHPLAN_51250	2.00E-69	36.41975309
36.67711599	RHPLAN_37850	6.00E-69	36.05015674	RHPLAN_21850	3.00E-68	38.55799373
36.08562691	RHPLAN_09560	3.00E-68	35.77981651	RHPLAN_02900	4.00E-67	33.94495413
35.69230769	RHPLAN_08370	9.00E-74	38.46153846	RHPLAN_51420	1.00E-73	37.53846154
39.07692308	RHPLAN_53850	6.00E-74	36.30769231	RHPLAN_63280	6.00E-74	39.38461538
34.98542274	RHPLAN_59580	2.00E-67	32.06997085	RHPLAN_10350	4.00E-66	31.19533528
36.84210526	RHPLAN_47960	7.00E-74	37.77089783	RHPLAN_60760	8.00E-74	39.00928793
35.64954683	RHPLAN_47590	7.00E-74	34.44108761	RHPLAN_54360	1.00E-73	34.13897281
37.96296296	RHPLAN_60930	2.00E-70	37.96296296	RHPLAN_30090	4.00E-69	35.49382716
36.39143731	RHPLAN_49080	3.00E-63	38.83792049	RHPLAN_39920	4.00E-63	33.63914373
37.57575758	RHPLAN_53850	5.00E-76	34.54545455	RHPLAN_08370	9.00E-76	36.96969697
39.25233645	RHPLAN_32090	4.00E-78	40.80996885	RHPLAN_70780	1.00E-77	36.44859813
37.03703704	RHPLAN_05730	3.00E-70	36.72839506	RHPLAN_29570	1.00E-69	34.25925926
39.31888545	RHPLAN_47590	9.00E-80	38.08049536	RHPLAN_39290	3.00E-79	38.08049536
38.03680982	RHPLAN_08210	5.00E-74	37.73006135	RHPLAN_67770	1.00E-73	36.19631902
37.73006135	RHPLAN_43360	8.00E-71	31.90184049	RHPLAN_39290	1.00E-70	38.03680982
34.98452012	RHPLAN_36150	2.00E-67	37.77089783	RHPLAN_27760	7.00E-67	35.60371517
33.46613546	RHPLAN_34540	5.00E-54	36.65338645	RHPLAN_63280	6.00E-54	36.65338645
34.25076453	RHPLAN_60760	1.00E-67	33.63914373	RHPLAN_01890	8.00E-67	34.25076453
37.26708075	RHPLAN_05720	1.00E-71	36.33540373	RHPLAN_08370	2.00E-71	38.81987578

32.91925466	RHPLAN_08380	1.00E-64	36.02484472	RHPLAN_23510	2.00E-64	36.64596273
38.125	RHPLAN_01790	6.00E-69	37.5	RHPLAN_14620	6.00E-69	40.9375
40.24767802	RHPLAN_25530	6.00E-76	36.84210526	RHPLAN_47590	1.00E-75	38.39009288
35.25835866	RHPLAN_27530	1.00E-69	37.38601824	RHPLAN_08400	2.00E-69	35.56231003
37.0030581	RHPLAN_13990	3.00E-55	35.16819572	RHPLAN_65460	6.00E-55	37.6146789
39.38461538	RHPLAN_05720	8.00E-74	36.30769231	RHPLAN_67770	1.00E-73	37.53846154
34.15384615	RHPLAN_34980	7.00E-70	36.92307692	RHPLAN_14980	3.00E-69	36.92307692
33.125	RHPLAN_08380	2.00E-46	31.875	RHPLAN_33610	2.00E-46	30.3125
36.9047619	RHPLAN_25890	5.00E-73	35.11904762	RHPLAN_54810	2.00E-72	36.30952381
35.64954683	RHPLAN_00980	3.00E-76	39.27492447	RHPLAN_61980	3.00E-76	39.57703927
34.35582822	RHPLAN_65150	1.00E-67	38.03680982	RHPLAN_21460	8.00E-67	37.73006135
32.20858896	RHPLAN_18490	7.00E-70	35.88957055	RHPLAN_19130	2.00E-69	34.66257669
34.04255319	RHPLAN_08360	2.00E-63	35.8662614	RHPLAN_05730	5.00E-63	37.38601824
35.16819572	RHPLAN_21460	5.00E-68	33.63914373	RHPLAN_32940	1.00E-67	34.86238532
35.96214511	RHPLAN_08460	1.00E-71	35.96214511	RHPLAN_70120	9.00E-71	38.48580442
35.38461538	RHPLAN_21460	8.00E-68	37.23076923	RHPLAN_59450	2.00E-66	35.38461538
35.67073171	RHPLAN_60930	2.00E-62	34.14634146	RHPLAN_70120	2.00E-60	32.92682927
32.51533742	RHPLAN_39920	2.00E-66	35.27607362	RHPLAN_29460	5.00E-66	33.74233129
36.55589124	RHPLAN_25000	2.00E-74	36.55589124	RHPLAN_54810	4.00E-74	34.74320242
35.60371517	RHPLAN_60930	5.00E-68	37.77089783	RHPLAN_08400	1.00E-67	34.05572755
39.62848297	RHPLAN_59450	5.00E-84	39.9380805	RHPLAN_62680	2.00E-83	39.9380805
36.19631902	RHPLAN_58960	3.00E-68	36.80981595	RHPLAN_70110	5.00E-68	37.73006135
39.75535168	RHPLAN_43730	1.00E-77	38.53211009	RHPLAN_63280	5.00E-77	40.97859327
36.09467456	RHPLAN_67770	6.00E-63	34.02366864	RHPLAN_17980	2.00E-61	33.43195266
35.69230769	RHPLAN_28880	6.00E-62	34.76923077	RHPLAN_47960	1.00E-61	32.61538462
36.5625	RHPLAN_05720	3.00E-67	36.25	RHPLAN_53850	2.00E-66	35.625
31.32911392	RHPLAN_05720	5.00E-50	33.5443038	RHPLAN_14980	7.00E-50	32.59493671
39.07692308	RHPLAN_05720	1.00E-78	37.53846154	RHPLAN_05710	3.00E-78	38.46153846
35.95166163	RHPLAN_24530	1.00E-65	33.5347432	RHPLAN_36510	2.00E-65	32.02416918
33.73493976	RHPLAN_25260	4.00E-65	30.72289157	RHPLAN_67770	3.00E-64	33.13253012
36.06060606	RHPLAN_65150	2.00E-73	37.87878788	RHPLAN_00980	2.00E-72	40
30.93093093	RHPLAN_67770	2.00E-60	33.93393393	RHPLAN_08380	1.00E-59	35.73573574
35.29411765	RHPLAN_23870	8.00E-68	32.50773994	RHPLAN_67770	1.00E-67	36.22291022
31.8452381	RHPLAN_68890	4.00E-63	35.11904762	RHPLAN_01490	9.00E-63	30.35714286
32.45614035	RHPLAN_06670	2.00E-65	35.38011696	RHPLAN_54810	2.00E-65	33.91812866
34.43113772	RHPLAN_47590	1.00E-70	33.53293413	RHPLAN_34980	2.00E-70	35.92814371
35.47400612	RHPLAN_05720	9.00E-68	35.47400612	RHPLAN_08370	1.00E-67	33.94495413
32.62195122	RHPLAN_36150	2.00E-60	35.97560976	RHPLAN_70110	4.00E-60	35.36585366
35.51401869	RHPLAN_60930	1.00E-63	36.76012461	RHPLAN_13310	4.00E-63	36.44859813
32.86516854	RHPLAN_13310	5.00E-69	33.98876404	RHPLAN_05720	2.00E-68	31.46067416
36.58536585	RHPLAN_34540	3.00E-58	32.31707317	RHPLAN_10350	4.00E-58	32.92682927
32.20858896	RHPLAN_16890	7.00E-63	33.74233129	RHPLAN_47590	8.00E-63	34.35582822
36.64596273	RHPLAN_26010	9.00E-68	37.57763975	RHPLAN_42140	2.00E-67	36.64596273
35.21505376	RHPLAN_67770	2.00E-81	36.02150538	RHPLAN_27760	4.00E-81	33.06451613
35.54216867	RHPLAN_60760	1.00E-70	37.95180723	RHPLAN_21460	3.00E-70	34.03614458
30.21806854	RHPLAN_56300	4.00E-46	30.8411215	RHPLAN_34980	1.00E-45	30.52959502
32.31707317	RHPLAN_23520	4.00E-52	29.26829268	RHPLAN_63280	7.00E-52	32.62195122

34.95440729	RHPLAN_70110	1.00E-64	36.17021277	RHPLAN_01890	1.00E-63	31.91489362
32.40740741	RHPLAN_27760	3.00E-60	36.72839506	RHPLAN_10350	9.00E-60	35.49382716
35.38461538	RHPLAN_48810	3.00E-65	35.38461538	RHPLAN_09560	8.00E-65	32.61538462
31.92771084	RHPLAN_08380	2.00E-56	36.44578313	RHPLAN_09560	2.00E-56	32.22891566
32.01219512	RHPLAN_19130	2.00E-51	30.48780488	RHPLAN_69350	2.00E-51	29.26829268
31.65829146	RHPLAN_37850	1.00E-70	29.39698492	RHPLAN_23520	2.00E-69	30.40201005
35.69321534	RHPLAN_27740	1.00E-71	33.62831858	RHPLAN_43730	3.00E-71	33.62831858
32.09876543	RHPLAN_48220	3.00E-58	30.86419753	RHPLAN_42730	6.00E-58	30.55555556
34.86238532	RHPLAN_21460	2.00E-66	33.63914373	RHPLAN_00600	4.00E-66	37.0030581
32.09876543	RHPLAN_25260	9.00E-58	30.86419753	RHPLAN_26010	1.00E-57	31.48148148
34.17721519	RHPLAN_34260	2.00E-48	32.59493671	RHPLAN_68450	1.00E-47	32.59493671
34.55657492	RHPLAN_67770	4.00E-54	31.49847095	RHPLAN_16880	1.00E-53	32.11009174
32.01219512	RHPLAN_06670	2.00E-54	30.48780488	RHPLAN_65670	2.00E-54	31.70731707
28.96174863	RHPLAN_30190	5.00E-64	32.24043716	RHPLAN_08400	5.00E-63	30.32786885
25.91463415	RHPLAN_23870	8.00E-22	22.56097561	RHPLAN_35220	1.00E-21	20.12195122
27.60736196	RHPLAN_01490	2.00E-30	25.76687117	RHPLAN_16380	3.00E-30	26.68711656
22.44897959	RHPLAN_05420	2.00E-15	19.5335277	RHPLAN_51320	4.00E-15	19.82507289
31.86119874	RHPLAN_33470	4.00E-43	28.70662461	RHPLAN_07690	2.00E-42	27.12933754
27.97619048	RHPLAN_39000	2.00E-30	25.29761905	RHPLAN_43980	6.00E-30	25.89285714
24.03560831	RHPLAN_30810	5.00E-29	28.48664688	RHPLAN_19180	9.00E-29	26.70623145

hit9 locus	eval	% identity	hit10 locus	eval	% identity
RHPLAN_65150	2.00E-77	34.92537313	RHPLAN_25000	1.00E-76	33.13432836
RHPLAN_16850	4.00E-115	46.2006079	RHPLAN_37730	1.00E-112	45.2887538
RHPLAN_19140	7.00E-120	51.06382979	RHPLAN_36420	8.00E-120	49.84802432
RHPLAN_61650	3.00E-84	39.69230769	RHPLAN_65150	4.00E-84	39.07692308
RHPLAN_14980	1.00E-80	40.61538462	RHPLAN_17980	4.00E-78	40
RHPLAN_31580	2.00E-65	36.19631902	RHPLAN_09560	3.00E-65	36.50306748
RHPLAN_25530	2.00E-58	32.51533742	RHPLAN_49480	2.00E-58	33.43558282
RHPLAN_34540	1.00E-74	29.13385827	RHPLAN_39920	2.00E-74	29.65879265
RHPLAN_05720	3.00E-85	37.42331288	RHPLAN_08360	5.00E-85	40.18404908
RHPLAN_60760	1.00E-78	41.71779141	RHPLAN_60850	3.00E-78	38.03680982
RHPLAN_08360	1.00E-57	34.375	RHPLAN_19330	2.00E-57	32.8125
RHPLAN_19330	5.00E-58	35.75757576	RHPLAN_40150	6.00E-58	33.63636364
RHPLAN_67770	3.00E-84	39.44954128	RHPLAN_09560	2.00E-81	38.53211009
RHPLAN_34540	7.00E-59	32.02416918	RHPLAN_51320	1.00E-58	34.74320242
RHPLAN_14980	2.00E-88	40.30769231	RHPLAN_70120	5.00E-88	40.92307692
RHPLAN_30520	7.00E-50	30.43478261	RHPLAN_26010	5.00E-48	28.88198758
RHPLAN_41990	2.00E-50	31.59509202	RHPLAN_16450	5.00E-50	29.44785276
RHPLAN_00980	9.00E-60	33.22981366	RHPLAN_08360	1.00E-59	36.02484472
RHPLAN_27530	6.00E-69	36.22291022	RHPLAN_32090	8.00E-69	38.6996904
RHPLAN_41990	7.00E-47	29.42942943	RHPLAN_05730	6.00E-46	29.72972973
RHPLAN_34260	1.00E-72	35.29411765	RHPLAN_47590	7.00E-72	34.36532508
RHPLAN_70860	3.00E-123	50.30674847	RHPLAN_50910	8.00E-122	53.37423313
RHPLAN_02340	1.00E-99	45.82043344	RHPLAN_53850	3.00E-99	46.43962848
RHPLAN_10320	1.00E-105	47.07692308	RHPLAN_32090	1.00E-103	45.23076923
RHPLAN_53850	8.00E-98	41.79566563	RHPLAN_47610	2.00E-96	43.34365325
RHPLAN_40150	6.00E-127	50.44510386	RHPLAN_70780	5.00E-126	46.884273
RHPLAN_40150	7.00E-106	46.34146341	RHPLAN_19130	2.00E-105	44.51219512
RHPLAN_08370	4.00E-77	39.6969697	RHPLAN_47960	2.00E-76	37.87878788
RHPLAN_19130	8.00E-119	52.14723926	RHPLAN_28880	4.00E-117	51.8404908
RHPLAN_67770	2.00E-62	34.6875	RHPLAN_60760	3.00E-62	34.0625
RHPLAN_15450	1.00E-74	38.83792049	RHPLAN_36420	1.00E-74	40.06116208
RHPLAN_64850	1.00E-76	39.10447761	RHPLAN_47960	2.00E-73	36.11940299
RHPLAN_55530	1.00E-71	34.66257669	RHPLAN_51420	2.00E-71	36.19631902
RHPLAN_00600	9.00E-79	38.88888889	RHPLAN_64850	1.00E-78	40.74074074
RHPLAN_47590	7.00E-82	36.11111111	RHPLAN_53850	1.00E-81	37.65432099
RHPLAN_19130	4.00E-122	52.45398773	RHPLAN_32090	2.00E-118	48.77300614
RHPLAN_50910	7.00E-117	53.98773006	RHPLAN_70860	7.00E-117	49.38650307
RHPLAN_54660	4.00E-77	36.44578313	RHPLAN_19140	2.00E-76	37.04819277

RHPLAN_33880	2.00E-77	40.80996885	RHPLAN_27760	1.00E-76	40.18691589
RHPLAN_58110	6.00E-110	48.29721362	RHPLAN_26030	5.00E-109	48.29721362
RHPLAN_70780	6.00E-116	48.92307692	RHPLAN_65600	7.00E-116	49.53846154
RHPLAN_36420	1.00E-108	48.45679012	RHPLAN_16850	2.00E-106	46.91358025
RHPLAN_60930	3.00E-75	39.6875	RHPLAN_68450	2.00E-74	37.1875
RHPLAN_26030	7.00E-120	50.77399381	RHPLAN_21700	1.00E-116	50.46439628
RHPLAN_33340	1.00E-94	42.20183486	RHPLAN_58540	1.00E-94	43.42507645
RHPLAN_34220	3.00E-74	35.88957055	RHPLAN_27760	5.00E-74	36.19631902
RHPLAN_14980	6.00E-76	36.90851735	RHPLAN_65150	6.00E-76	38.80126183
RHPLAN_32090	2.00E-111	48.47560976	RHPLAN_27740	2.00E-110	48.7804878
RHPLAN_28880	1.00E-119	48.78787879	RHPLAN_65600	5.00E-118	49.39393939
RHPLAN_34540	1.00E-62	34.03614458	RHPLAN_02340	2.00E-62	34.93975904
RHPLAN_29420	6.00E-100	44.61077844	RHPLAN_15440	6.00E-99	40.41916168
RHPLAN_27530	2.00E-120	51.07692308	RHPLAN_18490	4.00E-118	49.23076923
RHPLAN_19130	6.00E-118	50.15384615	RHPLAN_27740	7.00E-116	49.53846154
RHPLAN_47590	1.00E-77	37.1875	RHPLAN_68390	2.00E-76	36.875
RHPLAN_19130	3.00E-107	50.62111801	RHPLAN_40150	9.00E-106	50.62111801
RHPLAN_32090	5.00E-117	49.38650307	RHPLAN_39790	2.00E-116	50.30674847
RHPLAN_09560	1.00E-64	32.8313253	RHPLAN_47960	5.00E-64	33.43373494
RHPLAN_58960	3.00E-62	30.32069971	RHPLAN_06330	4.00E-62	33.81924198
RHPLAN_58110	2.00E-117	47.69230769	RHPLAN_16830	5.00E-116	48
RHPLAN_35030	2.00E-79	39.69230769	RHPLAN_08370	8.00E-79	39.07692308
RHPLAN_53850	2.00E-65	33.02180685	RHPLAN_34540	1.00E-63	32.08722741
RHPLAN_54360	2.00E-60	34.73053892	RHPLAN_16450	3.00E-60	34.13173653
RHPLAN_25890	3.00E-117	48.46625767	RHPLAN_19130	5.00E-117	49.38650307
RHPLAN_13800	3.00E-102	44.07294833	RHPLAN_33340	2.00E-99	41.94528875
RHPLAN_32090	1.00E-107	46.01226994	RHPLAN_10320	4.00E-106	49.38650307
RHPLAN_20930	4.00E-42	34.24657534	RHPLAN_47590	9.00E-40	32.42009132
RHPLAN_16820	1.00E-107	48.29721362	RHPLAN_36420	5.00E-106	48.29721362
RHPLAN_14980	1.00E-75	37.77089783	RHPLAN_06330	2.00E-75	35.91331269
RHPLAN_21460	1.00E-76	37.0030581	RHPLAN_27760	1.00E-76	35.16819572
RHPLAN_19140	2.00E-111	47.43202417	RHPLAN_16870	2.00E-110	45.31722054
RHPLAN_15440	3.00E-102	46.93877551	RHPLAN_35610	5.00E-101	52.72108844
RHPLAN_25890	7.00E-115	51.2345679	RHPLAN_19130	4.00E-114	51.85185185
RHPLAN_21460	8.00E-75	36.08562691	RHPLAN_49480	1.00E-73	39.75535168
RHPLAN_53850	6.00E-79	38.19875776	RHPLAN_21990	2.00E-78	38.19875776
RHPLAN_37840	4.00E-83	41.66666667	RHPLAN_46130	6.00E-83	42.28395062
RHPLAN_05720	6.00E-71	35.67073171	RHPLAN_47590	6.00E-71	34.75609756
RHPLAN_65150	1.00E-81	37.84615385	RHPLAN_08360	5.00E-81	38.46153846
RHPLAN_16840	8.00E-116	48.04804805	RHPLAN_14330	1.00E-113	49.84984985
RHPLAN_64850	4.00E-74	39.75903614	RHPLAN_47960	7.00E-74	37.65060241
RHPLAN_05720	8.00E-61	32.53012048	RHPLAN_60700	8.00E-61	34.93975904
RHPLAN_37850	2.00E-62	32.81733746	RHPLAN_27740	8.00E-62	31.57894737
RHPLAN_25000	2.00E-90	42.7244582	RHPLAN_54810	4.00E-90	44.89164087
RHPLAN_49500	2.00E-83	39.62848297	RHPLAN_11360	5.00E-83	37.15170279
RHPLAN_00600	5.00E-88	42.7244582	RHPLAN_21990	1.00E-87	39.9380805
RHPLAN_35610	4.00E-106	49.53560372	RHPLAN_15440	4.00E-103	46.43962848

RHPLAN_05740	2.00E-92	42.76923077	RHPLAN_21460	1.00E-91	42.15384615
RHPLAN_32090	3.00E-108	47.54601227	RHPLAN_70780	8.00E-107	46.01226994
RHPLAN_30840	7.00E-54	31.97492163	RHPLAN_39920	7.00E-54	35.10971787
RHPLAN_10350	1.00E-79	37.15170279	RHPLAN_01890	2.00E-78	38.6996904
RHPLAN_15440	5.00E-99	42.15384615	RHPLAN_35610	3.00E-97	47.07692308
RHPLAN_62380	6.00E-67	37.9204893	RHPLAN_21460	7.00E-67	35.77981651
RHPLAN_14980	2.00E-99	44.34250765	RHPLAN_47960	4.00E-98	41.89602446
RHPLAN_37730	6.00E-111	46.82779456	RHPLAN_14330	7.00E-111	48.33836858
RHPLAN_14980	1.00E-78	36.33633634	RHPLAN_21460	1.00E-78	35.73573574
RHPLAN_56300	1.00E-60	33.63363363	RHPLAN_16890	2.00E-60	34.83483483
RHPLAN_58540	4.00E-113	46.93251534	RHPLAN_29590	2.00E-109	47.54601227
RHPLAN_05730	2.00E-68	37.73006135	RHPLAN_28880	8.00E-68	36.19631902
RHPLAN_27530	2.00E-84	42.07317073	RHPLAN_08370	1.00E-81	38.41463415
RHPLAN_05740	9.00E-93	40.85365854	RHPLAN_70120	1.00E-91	42.68292683
RHPLAN_53850	1.00E-82	36.53250774	RHPLAN_10320	1.00E-81	41.48606811
RHPLAN_58110	3.00E-102	44.58204334	RHPLAN_14330	9.00E-102	45.82043344
RHPLAN_36420	1.00E-110	49.5412844	RHPLAN_14330	4.00E-110	45.87155963
RHPLAN_62680	9.00E-94	41.94528875	RHPLAN_49500	2.00E-93	41.64133739
RHPLAN_34260	2.00E-54	29.97032641	RHPLAN_51320	2.00E-54	32.34421365
RHPLAN_58720	6.00E-76	33.82789318	RHPLAN_08370	1.00E-75	36.79525223
RHPLAN_29420	1.00E-79	45.4887218	RHPLAN_35610	4.00E-79	47.36842105
RHPLAN_37730	2.00E-111	48.14814815	RHPLAN_19340	1.00E-107	51.2345679
RHPLAN_47960	4.00E-93	41.76829268	RHPLAN_14980	2.00E-92	42.98780488
RHPLAN_20870	2.00E-80	36.53250774	RHPLAN_34260	4.00E-80	39.00928793
RHPLAN_26980	2.00E-74	38.53211009	RHPLAN_23520	4.00E-74	37.9204893
RHPLAN_19330	2.00E-81	42.55319149	RHPLAN_21990	3.00E-81	38.60182371
RHPLAN_65150	3.00E-70	38.90577508	RHPLAN_00980	1.00E-69	34.95440729
RHPLAN_25890	1.00E-70	35.56231003	RHPLAN_59580	2.00E-70	36.47416413
RHPLAN_62300	2.00E-62	32.55131965	RHPLAN_49080	3.00E-62	34.60410557
RHPLAN_14980	3.00E-84	42.54658385	RHPLAN_34980	2.00E-81	44.72049689
RHPLAN_34220	5.00E-64	33.02469136	RHPLAN_11350	6.00E-64	34.25925926
RHPLAN_69040	7.00E-106	45.70552147	RHPLAN_58540	3.00E-104	45.39877301
RHPLAN_53850	2.00E-83	37.80487805	RHPLAN_25000	5.00E-83	40.24390244
RHPLAN_27760	6.00E-64	35.69230769	RHPLAN_37850	3.00E-63	32.61538462
RHPLAN_51420	1.00E-68	36.19631902	RHPLAN_14980	3.00E-68	36.80981595
RHPLAN_63280	6.00E-76	36.50306748	RHPLAN_42140	2.00E-74	37.42331288
RHPLAN_21700	1.00E-99	45.53846154	RHPLAN_16820	2.00E-98	42.15384615
RHPLAN_49470	6.00E-62	34.76923077	RHPLAN_51250	7.00E-62	32.30769231
RHPLAN_65430	2.00E-51	33.33333333	RHPLAN_16450	1.00E-49	31.80428135
RHPLAN_15440	7.00E-62	34.32835821	RHPLAN_08400	9.00E-61	35.82089552
RHPLAN_47590	2.00E-79	37.80487805	RHPLAN_34260	4.00E-77	35.97560976
RHPLAN_14330	4.00E-109	46.66666667	RHPLAN_16850	1.00E-108	46.96969697
RHPLAN_08870	1.00E-88	42.81345566	RHPLAN_53850	1.00E-83	37.6146789
RHPLAN_27740	1.00E-65	34.66257669	RHPLAN_16410	7.00E-65	35.27607362
RHPLAN_49080	1.00E-69	37.20238095	RHPLAN_00980	3.00E-69	38.0952381
RHPLAN_67150	3.00E-82	39.64497041	RHPLAN_00600	5.00E-82	37.86982249
RHPLAN_64470	5.00E-102	49.53271028	RHPLAN_16830	7.00E-102	44.5482866

RHPLAN_14980	3.00E-80	40.86687307	RHPLAN_05720	2.00E-79	39.00928793
RHPLAN_08870	2.00E-81	37.6899696	RHPLAN_65150	4.00E-81	39.81762918
RHPLAN_01890	2.00E-70	35.88957055	RHPLAN_39920	2.00E-70	37.42331288
RHPLAN_60850	5.00E-96	42.76923077	RHPLAN_15450	1.00E-93	45.23076923
RHPLAN_54360	5.00E-69	37.46223565	RHPLAN_49480	6.00E-69	35.95166163
RHPLAN_49080	2.00E-87	38.43843844	RHPLAN_51420	4.00E-87	40.54054054
RHPLAN_00980	3.00E-91	39.44099379	RHPLAN_10350	1.00E-88	39.7515528
RHPLAN_21460	6.00E-92	41.51515152	RHPLAN_47960	7.00E-92	40.60606061
RHPLAN_60760	1.00E-63	36.02484472	RHPLAN_16450	3.00E-63	31.36645963
RHPLAN_43730	1.00E-75	39.19753086	RHPLAN_19330	3.00E-75	38.88888889
RHPLAN_39920	3.00E-71	32.62195122	RHPLAN_56300	3.00E-70	34.45121951
RHPLAN_65150	5.00E-69	36.68639053	RHPLAN_01890	4.00E-68	33.13609467
RHPLAN_19330	9.00E-62	36.36363636	RHPLAN_65050	1.00E-61	34.24242424
RHPLAN_34540	2.00E-75	35.13513514	RHPLAN_02340	2.00E-74	36.33633634
RHPLAN_05720	8.00E-59	33.13069909	RHPLAN_33260	2.00E-58	35.8662614
RHPLAN_49480	8.00E-85	43.69230769	RHPLAN_62600	2.00E-83	43.07692308
RHPLAN_21990	3.00E-91	37.85310734	RHPLAN_02340	2.00E-90	37.85310734
RHPLAN_30510	2.00E-55	33.63363363	RHPLAN_65050	2.00E-55	32.73273273
RHPLAN_54360	3.00E-80	37.6899696	RHPLAN_01490	3.00E-79	37.08206687
RHPLAN_08380	2.00E-84	39.20972644	RHPLAN_01490	1.00E-83	37.6899696
RHPLAN_69040	3.00E-94	44.92307692	RHPLAN_15440	9.00E-94	41.53846154
RHPLAN_21460	3.00E-87	40.7523511	RHPLAN_02340	2.00E-84	38.24451411
RHPLAN_16450	3.00E-58	30.36809816	RHPLAN_49090	6.00E-58	32.51533742
RHPLAN_06670	3.00E-101	47.2392638	RHPLAN_70780	3.00E-100	43.86503067
RHPLAN_56300	2.00E-83	41.35802469	RHPLAN_00600	3.00E-83	41.04938272
RHPLAN_39000	4.00E-87	40.68322981	RHPLAN_14980	4.00E-86	39.7515528
RHPLAN_62490	1.00E-58	34.53453453	RHPLAN_65150	1.00E-58	33.93393393
RHPLAN_62600	3.00E-89	44.81707317	RHPLAN_09560	2.00E-87	40.54878049
RHPLAN_39290	2.00E-70	36.80981595	RHPLAN_16450	5.00E-70	34.04907975
RHPLAN_09560	3.00E-80	40.99378882	RHPLAN_10530	1.00E-79	40.37267081
RHPLAN_34540	2.00E-70	34.375	RHPLAN_51320	1.00E-69	34.375
RHPLAN_19140	2.00E-108	48.63221885	RHPLAN_16840	5.00E-108	45.59270517
RHPLAN_54810	1.00E-72	38.15384615	RHPLAN_14980	3.00E-72	38.46153846
RHPLAN_19180	2.00E-65	36.92307692	RHPLAN_01300	3.00E-65	33.23076923
RHPLAN_51520	6.00E-72	34.59302326	RHPLAN_32090	6.00E-70	34.01162791
RHPLAN_02340	2.00E-86	40.12345679	RHPLAN_19330	2.00E-82	40.74074074
RHPLAN_29420	1.00E-104	48.01223242	RHPLAN_69040	1.00E-102	45.25993884
RHPLAN_43730	1.00E-102	42.15384615	RHPLAN_39790	9.00E-101	44.61538462
RHPLAN_43980	2.00E-70	35.82554517	RHPLAN_01490	5.00E-70	34.89096573
RHPLAN_08870	5.00E-84	39.4984326	RHPLAN_46130	1.00E-81	44.82758621
RHPLAN_16450	3.00E-69	34.03614458	RHPLAN_21460	3.00E-68	33.43373494
RHPLAN_67150	2.00E-76	38.27160494	RHPLAN_05720	2.00E-75	35.80246914
RHPLAN_60790	9.00E-75	34.15384615	RHPLAN_51420	2.00E-74	37.53846154
RHPLAN_16820	2.00E-103	44	RHPLAN_62680	6.00E-102	42.76923077
RHPLAN_08370	5.00E-61	35.91331269	RHPLAN_08400	2.00E-60	34.05572755
RHPLAN_47590	1.00E-71	36.53250774	RHPLAN_21990	3.00E-71	36.53250774
RHPLAN_08360	2.00E-91	39.9408284	RHPLAN_33880	5.00E-91	39.64497041

RHPLAN_19140	2.00E-107	47.28915663	RHPLAN_36420	2.00E-104	43.37349398
RHPLAN_47960	4.00E-79	38.78787879	RHPLAN_09560	5.00E-79	37.27272727
RHPLAN_65150	5.00E-91	40.85365854	RHPLAN_00980	2.00E-90	40.54878049
RHPLAN_01890	2.00E-84	38.65030675	RHPLAN_25890	3.00E-84	41.41104294
RHPLAN_30100	2.00E-64	37.42331288	RHPLAN_53850	8.00E-64	35.27607362
RHPLAN_16850	6.00E-101	44.13580247	RHPLAN_16820	3.00E-98	44.75308642
RHPLAN_09560	2.00E-68	35.91331269	RHPLAN_00980	5.00E-68	35.91331269
RHPLAN_30090	9.00E-72	34.66257669	RHPLAN_10710	5.00E-71	37.11656442
RHPLAN_13810	3.00E-49	30.24691358	RHPLAN_65460	3.00E-49	34.56790123
RHPLAN_09560	6.00E-87	38.90577508	RHPLAN_47590	8.00E-87	37.99392097
RHPLAN_23520	7.00E-55	30.79268293	RHPLAN_47590	2.00E-54	29.87804878
RHPLAN_00600	2.00E-66	35.58282209	RHPLAN_26010	3.00E-66	33.74233129
RHPLAN_39920	1.00E-58	30.69908815	RHPLAN_56300	1.00E-58	31.91489362
RHPLAN_34980	4.00E-82	38.53211009	RHPLAN_06330	1.00E-81	40.36697248
RHPLAN_27760	2.00E-67	36.05015674	RHPLAN_54810	3.00E-67	34.48275862
RHPLAN_61440	9.00E-93	41.76829268	RHPLAN_56600	3.00E-92	40.85365854
RHPLAN_68390	1.00E-79	40.72948328	RHPLAN_53850	2.00E-77	36.17021277
RHPLAN_21990	6.00E-78	38.22629969	RHPLAN_01890	1.00E-77	37.9204893
RHPLAN_18490	7.00E-97	46.48318043	RHPLAN_27740	2.00E-95	42.81345566
RHPLAN_69040	1.00E-100	41.22807018	RHPLAN_43970	3.00E-99	39.18128655
RHPLAN_00600	7.00E-77	38.46153846	RHPLAN_16890	3.00E-76	37.86982249
RHPLAN_67770	2.00E-62	34.79623824	RHPLAN_09560	1.00E-61	34.169279
RHPLAN_08380	3.00E-63	34.24242424	RHPLAN_65150	3.00E-63	37.57575758
RHPLAN_08400	5.00E-75	40.0621118	RHPLAN_00980	1.00E-74	39.13043478
RHPLAN_23520	8.00E-69	36.08815427	RHPLAN_00600	1.00E-68	34.7107438
RHPLAN_33880	6.00E-83	39.87915408	RHPLAN_43730	4.00E-82	38.36858006
RHPLAN_00600	3.00E-49	29.84615385	RHPLAN_14980	9.00E-49	33.53846154
RHPLAN_39000	8.00E-84	38.0239521	RHPLAN_38620	2.00E-81	39.52095808
RHPLAN_00980	5.00E-78	37.80487805	RHPLAN_63280	2.00E-76	39.32926829
RHPLAN_53850	6.00E-73	35.18518519	RHPLAN_20870	2.00E-72	37.34567901
RHPLAN_14980	5.00E-76	39.13043478	RHPLAN_39790	3.00E-74	36.64596273
RHPLAN_39000	3.00E-80	33.24099723	RHPLAN_26680	9.00E-79	31.85595568
RHPLAN_49080	2.00E-73	35.1800554	RHPLAN_39000	3.00E-72	32.4099723
RHPLAN_67150	8.00E-73	36.22754491	RHPLAN_41870	2.00E-72	37.1257485
RHPLAN_64510	8.00E-62	33.33333333	RHPLAN_65150	9.00E-62	34.57943925
RHPLAN_69040	9.00E-99	44.57831325	RHPLAN_43970	1.00E-92	41.26506024
RHPLAN_67150	4.00E-74	38.50931677	RHPLAN_62490	7.00E-74	34.16149068
RHPLAN_49470	1.00E-76	34.21052632	RHPLAN_40150	4.00E-76	34.21052632
RHPLAN_65670	2.00E-65	34.86238532	RHPLAN_16450	7.00E-65	34.55657492
RHPLAN_21570	1.00E-79	44.27244582	RHPLAN_08870	8.00E-79	36.22291022
RHPLAN_69040	4.00E-103	42.77108434	RHPLAN_29590	3.00E-102	43.6746988
RHPLAN_08870	6.00E-89	40.99378882	RHPLAN_53850	3.00E-88	38.19875776
RHPLAN_17980	6.00E-81	39.51367781	RHPLAN_67770	7.00E-81	37.6899696
RHPLAN_21990	1.00E-81	37.3088685	RHPLAN_63280	2.00E-81	39.14373089
RHPLAN_17980	7.00E-80	38.08049536	RHPLAN_47590	9.00E-80	38.39009288
RHPLAN_60930	4.00E-65	33.84146341	RHPLAN_40150	7.00E-64	33.23170732
RHPLAN_08380	2.00E-79	37.01492537	RHPLAN_54630	5.00E-79	36.11940299

RHPLAN_21990	3.00E-91	37.83783784	RHPLAN_64850	1.00E-88	39.63963964
RHPLAN_60790	2.00E-81	40.37267081	RHPLAN_27530	1.00E-80	39.13043478
RHPLAN_53850	3.00E-67	33.43465046	RHPLAN_67770	1.00E-66	35.56231003
RHPLAN_25260	8.00E-72	33.2361516	RHPLAN_65150	8.00E-70	33.81924198
RHPLAN_43730	3.00E-81	38.94080997	RHPLAN_18490	4.00E-81	38.94080997
RHPLAN_08360	3.00E-85	42.94670846	RHPLAN_27530	3.00E-85	42.00626959
RHPLAN_39920	6.00E-70	33.84146341	RHPLAN_65150	1.00E-69	33.23170732
RHPLAN_05740	2.00E-80	39.26380368	RHPLAN_47960	4.00E-80	39.26380368
RHPLAN_37230	1.00E-66	36.41975309	RHPLAN_37970	3.00E-65	32.71604938
RHPLAN_01890	3.00E-87	37.46223565	RHPLAN_47590	1.00E-86	38.67069486
RHPLAN_16870	4.00E-82	37.38601824	RHPLAN_62680	6.00E-82	38.29787234
RHPLAN_17980	4.00E-61	33.02752294	RHPLAN_44320	1.00E-60	32.41590214
RHPLAN_32270	2.00E-79	36.96969697	RHPLAN_15440	2.00E-78	37.57575758
RHPLAN_10460	1.00E-77	37.93103448	RHPLAN_25890	1.00E-77	36.99059561
RHPLAN_60790	2.00E-89	38.88888889	RHPLAN_00600	7.00E-89	41.66666667
RHPLAN_61720	8.00E-78	39.13043478	RHPLAN_34540	6.00E-77	37.88819876
RHPLAN_54070	1.00E-78	37.65432099	RHPLAN_60760	6.00E-77	38.58024691
RHPLAN_27740	2.00E-68	38.88888889	RHPLAN_01490	4.00E-68	34.25925926
RHPLAN_61440	2.00E-71	36.85800604	RHPLAN_08210	4.00E-70	34.13897281
RHPLAN_41140	3.00E-66	33.92857143	RHPLAN_30090	9.00E-66	30.35714286
RHPLAN_64510	7.00E-71	38.83161512	RHPLAN_60790	4.00E-70	37.11340206
RHPLAN_01620	8.00E-65	34.93975904	RHPLAN_21990	9.00E-65	33.73493976
RHPLAN_16830	5.00E-94	40	RHPLAN_11700	2.00E-93	43.33333333
RHPLAN_06330	9.00E-88	39.56386293	RHPLAN_08370	2.00E-87	43.30218069
RHPLAN_41870	1.00E-67	37.77089783	RHPLAN_21570	1.00E-66	41.17647059
RHPLAN_23520	1.00E-77	39.09090909	RHPLAN_65150	2.00E-77	40.3030303
RHPLAN_67770	8.00E-83	39.25233645	RHPLAN_49470	9.00E-83	40.18691589
RHPLAN_61980	2.00E-75	36.76012461	RHPLAN_63280	4.00E-75	38.31775701
RHPLAN_65670	6.00E-72	34.04907975	RHPLAN_27530	1.00E-70	34.96932515
RHPLAN_33880	1.00E-86	43.11926606	RHPLAN_13310	1.00E-85	41.89602446
RHPLAN_64470	9.00E-107	44.57478006	RHPLAN_08440	2.00E-106	43.69501466
RHPLAN_53850	6.00E-75	36.61538462	RHPLAN_34980	1.00E-74	39.07692308
RHPLAN_54630	1.00E-79	38.34355828	RHPLAN_09560	3.00E-79	37.73006135
RHPLAN_13310	4.00E-79	38.67069486	RHPLAN_60770	8.00E-79	37.16012085
RHPLAN_21990	9.00E-70	34.44108761	RHPLAN_05720	1.00E-69	34.74320242
RHPLAN_34980	4.00E-84	40.11976048	RHPLAN_08380	1.00E-82	39.52095808
RHPLAN_23510	1.00E-64	35.24096386	RHPLAN_27760	2.00E-64	35.54216867
RHPLAN_30100	5.00E-82	41.26506024	RHPLAN_34980	5.00E-82	40.96385542
RHPLAN_63500	4.00E-58	29.6398892	RHPLAN_59450	5.00E-58	31.57894737
RHPLAN_51520	1.00E-70	36.02484472	RHPLAN_54630	1.00E-70	35.71428571
RHPLAN_05720	3.00E-70	33.73860182	RHPLAN_34540	3.00E-70	33.73860182
RHPLAN_70120	5.00E-75	40.92307692	RHPLAN_08370	6.00E-74	37.23076923
RHPLAN_10460	2.00E-78	38.76923077	RHPLAN_39290	6.00E-78	40.61538462
RHPLAN_30090	5.00E-86	39.6969697	RHPLAN_58720	1.00E-85	38.78787879
RHPLAN_25260	1.00E-81	38.1097561	RHPLAN_47590	2.00E-81	38.41463415
RHPLAN_05730	1.00E-79	41.10429448	RHPLAN_49400	1.00E-79	39.87730061
RHPLAN_08380	3.00E-72	37.20238095	RHPLAN_10710	6.00E-72	37.20238095

RHPLAN_14980	4.00E-83	40.17857143	RHPLAN_39920	8.00E-83	37.5
RHPLAN_01490	3.00E-73	35.9375	RHPLAN_10530	1.00E-72	38.125
RHPLAN_61980	7.00E-65	31.15727003	RHPLAN_65150	1.00E-64	37.38872404
RHPLAN_34240	5.00E-69	36.06060606	RHPLAN_63280	5.00E-69	34.54545455
RHPLAN_10350	1.00E-86	39.62848297	RHPLAN_25000	1.00E-85	43.34365325
RHPLAN_10320	3.00E-61	34.32835821	RHPLAN_08370	4.00E-61	34.02985075
RHPLAN_27760	7.00E-67	35.58282209	RHPLAN_39920	2.00E-65	33.43558282
RHPLAN_62490	5.00E-76	34.7826087	RHPLAN_38620	2.00E-75	36.52173913
RHPLAN_05730	4.00E-80	39.19753086	RHPLAN_01890	1.00E-79	38.27160494
RHPLAN_02340	1.00E-73	34.16149068	RHPLAN_21460	6.00E-73	37.88819876
RHPLAN_25000	2.00E-88	43.42507645	RHPLAN_10460	3.00E-87	37.9204893
RHPLAN_10460	1.00E-83	40.24767802	RHPLAN_25890	1.00E-83	43.9628483
RHPLAN_05720	3.00E-89	38.39009288	RHPLAN_43730	5.00E-89	42.41486068
RHPLAN_00600	7.00E-71	37.69470405	RHPLAN_47590	1.00E-70	37.07165109
RHPLAN_49080	2.00E-68	34.83483483	RHPLAN_60930	2.00E-67	37.53753754
RHPLAN_59580	1.00E-77	38.65030675	RHPLAN_53850	1.00E-76	36.80981595
RHPLAN_30090	2.00E-76	36.64596273	RHPLAN_09560	3.00E-75	36.64596273
RHPLAN_56300	3.00E-87	39.75535168	RHPLAN_34980	4.00E-87	40.06116208
RHPLAN_47960	3.00E-71	35.3125	RHPLAN_51440	5.00E-71	35.3125
RHPLAN_05720	8.00E-88	41.23076923	RHPLAN_39920	2.00E-87	39.38461538
RHPLAN_60930	2.00E-88	41.79566563	RHPLAN_08370	3.00E-88	40.55727554
RHPLAN_00980	4.00E-70	35.60371517	RHPLAN_66640	4.00E-70	34.05572755
RHPLAN_34260	1.00E-69	33.74613003	RHPLAN_30690	1.00E-67	34.05572755
RHPLAN_09560	6.00E-89	41.71779141	RHPLAN_68450	7.00E-89	44.47852761
RHPLAN_56300	3.00E-82	38.34355828	RHPLAN_60760	2.00E-81	39.87730061
RHPLAN_47590	1.00E-87	41.30434783	RHPLAN_65150	2.00E-87	42.23602484
RHPLAN_13310	5.00E-68	39.7515528	RHPLAN_34980	7.00E-68	36.95652174
RHPLAN_60850	1.00E-73	34.86238532	RHPLAN_67770	1.00E-73	34.25076453
RHPLAN_28880	2.00E-80	39.38461538	RHPLAN_19330	7.00E-80	38.15384615
RHPLAN_25260	9.00E-53	29.72136223	RHPLAN_06190	2.00E-51	30.95975232
RHPLAN_49470	4.00E-79	38.08049536	RHPLAN_13310	2.00E-78	41.17647059
RHPLAN_02340	2.00E-77	39.81481481	RHPLAN_39920	3.00E-77	37.65432099
RHPLAN_05730	5.00E-66	35.7771261	RHPLAN_43980	3.00E-63	33.43108504
RHPLAN_05720	5.00E-67	36.02484472	RHPLAN_47590	6.00E-67	36.33540373
RHPLAN_13310	2.00E-70	37.6146789	RHPLAN_34260	2.00E-70	35.47400612
RHPLAN_00600	1.00E-66	35.54216867	RHPLAN_51420	1.00E-64	33.43373494
RHPLAN_68890	2.00E-62	35.9375	RHPLAN_34540	3.00E-62	35.625
RHPLAN_40150	1.00E-74	35.82554517	RHPLAN_27760	3.00E-74	38.31775701
RHPLAN_06330	4.00E-83	41.35802469	RHPLAN_63280	4.00E-83	38.88888889
RHPLAN_55530	2.00E-80	36.11111111	RHPLAN_02340	3.00E-80	37.65432099
RHPLAN_39920	3.00E-65	31.10465116	RHPLAN_63280	3.00E-64	30.52325581
RHPLAN_07690	6.00E-81	36.64772727	RHPLAN_21990	1.00E-80	33.52272727
RHPLAN_27530	8.00E-77	36.8902439	RHPLAN_65050	1.00E-76	34.45121951
RHPLAN_49480	1.00E-71	37.19512195	RHPLAN_26680	2.00E-71	32.92682927
RHPLAN_27760	5.00E-83	39.56386293	RHPLAN_39920	6.00E-83	39.25233645
RHPLAN_41140	1.00E-80	39.19753086	RHPLAN_34260	3.00E-80	39.50617284
RHPLAN_47960	3.00E-82	38.58024691	RHPLAN_30090	6.00E-82	37.96296296

RHPLAN_33880	1.00E-64	37.65432099	RHPLAN_53850	9.00E-64	30.24691358
RHPLAN_27530	9.00E-87	41.15853659	RHPLAN_10320	2.00E-85	42.07317073
RHPLAN_14980	2.00E-76	37.99392097	RHPLAN_47960	2.00E-75	36.17021277
RHPLAN_05720	4.00E-72	33.23353293	RHPLAN_65670	3.00E-70	35.62874252
RHPLAN_39790	4.00E-80	35.98820059	RHPLAN_14980	5.00E-80	37.75811209
RHPLAN_40150	3.00E-85	38.50931677	RHPLAN_63280	6.00E-85	37.88819876
RHPLAN_37850	1.00E-70	31.62650602	RHPLAN_06330	6.00E-70	36.44578313
RHPLAN_53850	5.00E-76	37.10691824	RHPLAN_10320	8.00E-75	38.05031447
RHPLAN_08400	1.00E-67	33.84146341	RHPLAN_53850	3.00E-67	34.75609756
RHPLAN_34510	1.00E-56	35.67073171	RHPLAN_00600	2.00E-56	32.01219512
RHPLAN_30100	6.00E-80	41.12149533	RHPLAN_08400	7.00E-80	40.18691589
RHPLAN_34220	2.00E-55	31.69230769	RHPLAN_05730	4.00E-55	34.15384615
RHPLAN_21990	2.00E-74	33.74613003	RHPLAN_54630	4.00E-74	38.39009288
RHPLAN_08370	1.00E-77	42.10526316	RHPLAN_49480	2.00E-76	37.77089783
RHPLAN_14620	3.00E-85	37.90087464	RHPLAN_05720	1.00E-83	36.73469388
RHPLAN_08370	1.00E-79	37.73006135	RHPLAN_27760	3.00E-79	39.57055215
RHPLAN_62490	1.00E-73	36.72839506	RHPLAN_07810	1.00E-71	33.64197531
RHPLAN_54810	5.00E-80	36.02484472	RHPLAN_27760	8.00E-80	36.64596273
RHPLAN_05730	3.00E-45	27.43902439	RHPLAN_29460	6.00E-45	28.96341463
RHPLAN_21570	3.00E-74	41.10429448	RHPLAN_54070	3.00E-73	38.34355828
RHPLAN_27760	7.00E-66	38.00623053	RHPLAN_37850	2.00E-65	34.89096573
RHPLAN_26680	2.00E-69	33.33333333	RHPLAN_34260	2.00E-69	37.07165109
RHPLAN_17990	4.00E-71	37.03703704	RHPLAN_41870	9.00E-70	38.58024691
RHPLAN_70120	2.00E-76	38.55421687	RHPLAN_70860	2.00E-76	37.04819277
RHPLAN_67150	1.00E-77	37.84615385	RHPLAN_34540	3.00E-77	37.53846154
RHPLAN_23520	2.00E-64	32.76836158	RHPLAN_68890	4.00E-63	35.59322034
RHPLAN_08360	2.00E-74	37.96296296	RHPLAN_16890	3.00E-74	36.11111111
RHPLAN_65150	4.00E-69	35.80246914	RHPLAN_67770	4.00E-69	33.02469136
RHPLAN_60760	3.00E-68	39.18495298	RHPLAN_67770	3.00E-68	37.30407524
RHPLAN_32090	8.00E-67	35.16819572	RHPLAN_21990	9.00E-67	37.0030581
RHPLAN_55530	1.00E-73	35.69230769	RHPLAN_67770	5.00E-73	39.38461538
RHPLAN_14980	2.00E-73	37.23076923	RHPLAN_08210	4.00E-72	38.76923077
RHPLAN_00600	5.00E-66	33.2361516	RHPLAN_47960	5.00E-66	31.77842566
RHPLAN_16890	1.00E-73	38.08049536	RHPLAN_34540	2.00E-73	34.98452012
RHPLAN_65430	3.00E-73	35.95166163	RHPLAN_27760	1.00E-72	38.67069486
RHPLAN_63280	6.00E-69	35.49382716	RHPLAN_02900	7.00E-69	35.80246914
RHPLAN_27760	2.00E-62	37.0030581	RHPLAN_60790	2.00E-62	35.77981651
RHPLAN_21990	3.00E-74	35.45454545	RHPLAN_06670	1.00E-73	35.75757576
RHPLAN_06670	2.00E-77	39.25233645	RHPLAN_49080	2.00E-77	37.69470405
RHPLAN_54660	1.00E-69	33.64197531	RHPLAN_62680	2.00E-69	36.11111111
RHPLAN_53850	4.00E-79	38.6996904	RHPLAN_05720	2.00E-78	37.46130031
RHPLAN_06190	1.00E-72	36.19631902	RHPLAN_01490	5.00E-72	34.35582822
RHPLAN_47590	2.00E-70	36.19631902	RHPLAN_29460	7.00E-70	34.66257669
RHPLAN_34510	3.00E-66	39.00928793	RHPLAN_21460	9.00E-66	34.6749226
RHPLAN_01890	9.00E-54	35.45816733	RHPLAN_08370	1.00E-53	35.45816733
RHPLAN_65050	1.00E-66	33.94495413	RHPLAN_16890	3.00E-66	32.72171254
RHPLAN_09220	4.00E-71	38.81987578	RHPLAN_26010	5.00E-71	36.02484472

RHPLAN_53850	2.00E-64	32.91925466	RHPLAN_26010	1.00E-63	37.26708075
RHPLAN_09220	8.00E-69	38.125	RHPLAN_39920	9.00E-69	35.3125
RHPLAN_09560	2.00E-75	38.08049536	RHPLAN_51420	2.00E-75	38.6996904
RHPLAN_63280	2.00E-69	39.20972644	RHPLAN_43730	4.00E-69	35.8662614
RHPLAN_38600	2.00E-54	35.16819572	RHPLAN_63280	3.00E-54	32.41590214
RHPLAN_30090	1.00E-72	35.69230769	RHPLAN_17990	9.00E-72	36.61538462
RHPLAN_06330	4.00E-69	36.92307692	RHPLAN_23510	9.00E-69	33.84615385
RHPLAN_58410	4.00E-46	28.75	RHPLAN_67770	4.00E-46	31.25
RHPLAN_21990	5.00E-72	33.33333333	RHPLAN_23510	1.00E-70	34.82142857
RHPLAN_47590	1.00E-75	35.95166163	RHPLAN_08360	3.00E-75	38.36858006
RHPLAN_54810	4.00E-66	36.50306748	RHPLAN_51420	1.00E-65	33.74233129
RHPLAN_61720	2.00E-69	33.43558282	RHPLAN_33880	4.00E-69	34.04907975
RHPLAN_67770	5.00E-63	35.25835866	RHPLAN_19180	6.00E-63	34.04255319
RHPLAN_51420	2.00E-67	35.16819572	RHPLAN_67770	2.00E-67	35.77981651
RHPLAN_60760	1.00E-70	38.80126183	RHPLAN_34220	2.00E-70	38.170347
RHPLAN_23520	4.00E-66	35.07692308	RHPLAN_65050	5.00E-66	32.30769231
RHPLAN_09560	8.00E-60	33.84146341	RHPLAN_08460	1.00E-57	32.92682927
RHPLAN_21990	9.00E-66	34.96932515	RHPLAN_25520	9.00E-66	34.96932515
RHPLAN_01890	2.00E-73	34.44108761	RHPLAN_05720	5.00E-73	35.34743202
RHPLAN_05720	2.00E-66	32.19814241	RHPLAN_67770	7.00E-66	34.05572755
RHPLAN_05720	3.00E-83	39.31888545	RHPLAN_58540	1.00E-82	36.53250774
RHPLAN_08460	6.00E-68	36.80981595	RHPLAN_19130	2.00E-66	35.88957055
RHPLAN_53850	1.00E-76	36.08562691	RHPLAN_21990	1.00E-75	36.08562691
RHPLAN_08370	1.00E-60	32.5443787	RHPLAN_48210	2.00E-60	34.02366864
RHPLAN_09560	2.00E-61	33.84615385	RHPLAN_08400	3.00E-61	33.84615385
RHPLAN_47960	4.00E-66	36.25	RHPLAN_11410	2.00E-65	35
RHPLAN_05730	2.00E-49	29.43037975	RHPLAN_27200	2.00E-49	34.17721519
RHPLAN_60930	5.00E-78	36.61538462	RHPLAN_68390	5.00E-78	40
RHPLAN_55530	2.00E-65	33.5347432	RHPLAN_08400	3.00E-65	34.44108761
RHPLAN_63280	8.00E-64	38.25301205	RHPLAN_68390	1.00E-63	37.34939759
RHPLAN_25260	2.00E-72	34.54545455	RHPLAN_47960	2.00E-72	35.75757576
RHPLAN_08210	3.00E-59	34.53453453	RHPLAN_32090	4.00E-59	34.53453453
RHPLAN_19180	6.00E-67	34.36532508	RHPLAN_09560	1.00E-66	32.19814241
RHPLAN_32540	2.00E-62	33.92857143	RHPLAN_58410	2.00E-62	34.52380952
RHPLAN_05740	7.00E-65	33.33333333	RHPLAN_21460	1.00E-64	33.91812866
RHPLAN_66640	3.00E-70	36.22754491	RHPLAN_68890	3.00E-70	38.0239521
RHPLAN_08210	2.00E-67	34.25076453	RHPLAN_27530	5.00E-67	34.86238532
RHPLAN_16450	3.00E-58	32.31707317	RHPLAN_34540	7.00E-58	32.62195122
RHPLAN_21460	4.00E-62	36.13707165	RHPLAN_02340	3.00E-61	34.26791277
RHPLAN_51520	4.00E-68	32.58426966	RHPLAN_63280	7.00E-68	32.86516854
RHPLAN_48160	4.00E-58	34.75609756	RHPLAN_13810	5.00E-58	33.23170732
RHPLAN_60770	3.00E-62	33.12883436	RHPLAN_32940	1.00E-61	34.04907975
RHPLAN_60700	3.00E-67	34.47204969	RHPLAN_05730	1.00E-66	38.50931677
RHPLAN_33880	4.00E-81	36.02150538	RHPLAN_08370	5.00E-80	31.72043011
RHPLAN_70120	5.00E-70	35.54216867	RHPLAN_39290	1.00E-69	37.04819277
RHPLAN_33770	4.00E-45	32.39875389	RHPLAN_51520	1.00E-43	31.46417445
RHPLAN_13310	8.00E-52	32.62195122	RHPLAN_16380	2.00E-51	30.48780488

RHPLAN_00600	3.00E-61	32.21884498	RHPLAN_47240	7.00E-61	30.39513678
RHPLAN_08380	1.00E-59	33.64197531	RHPLAN_16890	2.00E-59	34.25925926
RHPLAN_34260	1.00E-64	36	RHPLAN_30090	5.00E-64	35.38461538
RHPLAN_49470	4.00E-56	34.93975904	RHPLAN_18390	6.00E-56	30.42168675
RHPLAN_51320	3.00E-51	32.62195122	RHPLAN_65150	4.00E-51	33.23170732
RHPLAN_62300	6.00E-68	30.40201005	RHPLAN_41140	1.00E-67	31.65829146
RHPLAN_00600	1.00E-70	33.33333333	RHPLAN_41140	2.00E-70	34.51327434
RHPLAN_20870	3.00E-57	33.02469136	RHPLAN_01890	4.00E-57	31.17283951
RHPLAN_30090	5.00E-66	34.86238532	RHPLAN_69350	5.00E-66	36.69724771
RHPLAN_68890	2.00E-57	31.79012346	RHPLAN_01490	5.00E-57	31.17283951
RHPLAN_13610	5.00E-47	29.43037975	RHPLAN_27760	5.00E-47	31.96202532
RHPLAN_19180	2.00E-53	32.41590214	RHPLAN_27850	2.00E-53	32.11009174
RHPLAN_55530	8.00E-54	28.35365854	RHPLAN_61440	8.00E-53	31.70731707
RHPLAN_63280	6.00E-63	27.59562842	RHPLAN_34240	4.00E-62	31.42076503
RHPLAN_60930	1.00E-21	24.3902439	RHPLAN_16380	5.00E-21	23.7804878
RHPLAN_34540	9.00E-30	26.68711656	RHPLAN_60700	2.00E-29	25.76687117
RHPLAN_68890	4.00E-15	26.82215743	RHPLAN_51480	5.00E-15	21.28279883
RHPLAN_51560	2.00E-42	27.76025237	RHPLAN_61440	2.00E-42	28.07570978
RHPLAN_14980	1.00E-29	30.05952381	RHPLAN_59730	2.00E-29	25.5952381
RHPLAN_11410	3.00E-28	22.25519288	RHPLAN_05730	4.00E-28	24.92581602