

SUPPLEMENTARY MATERIAL  
 LSU-SSU rRNA alignment matrix

Character	31 (h)	62 (h)	93 (u)
1 (u)	32 (B7')	63 (B11')	94 (B15)
2 (A1)	33 (B8)	64 (u)	95 (b)
3 (b)	34 (b)	65 (B12)	96 (b)
4 (B1)	35 (b)	66 (b)	97 (b)
5 (b)	36 (b)	67 (h)	98 (u)
6 (u)	37 (b)	68 (B12')	99 (B16)
7 (B2)	38 (u)	69 (b)	100 (b)
8 (u)	39 (h)	70 (u)	101 (h)
9 (B3)	40 (B8')	71 (B13)	102 (B16')
10 (b)	41 (b)	72 (b)	103 (b)
11 (b)	42 (b)	73 (u)	104 (u)
12 (u)	43 (b)	74 (B13 1)	105 (B17)
13 (B4)	44 (u)	75 (b)	106 (h)
14 (B5)	45 (B9)	76 (b)	107 (B17')
15 (b)	46 (b)	77 (b)	108 (u)
16 (b)	47 (b)	78 (h)	109 (B15')
17 (h)	48 (h)	79 (B13 1')	110 (b)
18 (B5')	49 (B9')	80 (b)	111 (b)
19 (u)	50 (b)	81 (b)	112 (u)
20 (B6)	51 (b)	82 (b)	113 (B14')
21 (b)	52 (b)	83 (u)	114 (b)
22 (h)	53 (u)	84 (B14)	115 (b)
23 (B6')	54 (B10)	85 (b)	116 (u)
24 (b)	55 (b)	86 (b)	117 (B18)
25 (b)	56 (h E)	87 (u)	118 (b)
26 (b)	57 (B10')	88 (B14 1)	119 (h)
27 (u)	58 (b)	89 (b)	120 (B18')
28 (B4')	59 (b)	90 (h)	121 (b)
29 (u)	60 (u)	91 (B14 1')	122 (u)
30 (B7)	61 (B11)	92 (b)	123 (B19)

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124 (h)	155 (b)	186 (b)	217 (h)
125 (B19')	156 (h)	187 (u)	218 (D5')
126 (b)	157 (C1 1')	188 (C1')	219 (b)
127 (u)	158 (b)	189 (b)	220 (b)
128 (B13')	159 (u)	190 (b)	221 (u)
129 (u)	160 (C1 2)	191 (b)	222 (D5 1)
130 (B3')	161 (b)	192 (u)	223 (b)
131 (b)	162 (b)	193 (D1)	224 (b)
132 (b)	163 (b)	194 (u)	225 (h)
133 (u)	164 (b)	195 (D2)	226 (D5 1')
134 (B20)	165 (b)	196 (b)	227 (b)
135 (h)	166 (b)	197 (b)	228 (b)
136 (B20')	167 (b)	198 (b)	229 (b)
137 (u)	168 (b)	199 (u)	230 (u)
138 (B2')	169 (b)	200 (D3)	231 (D2')
139 (b)	170 (h)	201 (b)	232 (b)
140 (u)	171 (C1 2')	202 (h)	233 (b)
141 (B21)	172 (b)	203 (D3')	234 (b)
142 (h)	173 (b)	204 (b)	235 (u)
143 (B21')	174 (b)	205 (u)	236 (D6)
144 (u)	175 (b)	206 (D4)	237 (b)
145 (B1')	176 (b)	207 (h)	238 (u)
146 (b)	177 (b)	208 (D4')	239 (D7)
147 (u)	178 (b)	209 (u)	240 (b)
148 (C1)	179 (b)	210 (D4 1)	241 (b)
149 (b)	180 (b)	211 (h)	242 (u)
150 (b)	181 (u)	212 (D4 1')	243 (D8)
151 (b)	182 (C1 3)	213 (u)	244 (b)
152 (b)	183 (b)	214 (D5)	245 (b)
153 (u)	184 (h)	215 (b)	246 (h B4)
154 (C1 1)	185 (C1 3')	216 (b)	247 (D8')

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248 (b)	279 (b)	310 (b)	341 (b)
249 (b)	280 (b)	311 (u)	342 (b)
250 (u)	281 (u)	312 (D15)	343 (u)
251 (D9)	282 (D14 A)	313 (b)	344 (D19)
252 (b)	283 (b)	314 (h)	345 (b)
253 (b)	284 (b)	315 (D15')	346 (h)
254 (h)	285 (b)	316 (b)	347 (D19')
255 (D9')	286 (b)	317 (b)	348 (b)
256 (b)	287 (b)	318 (u)	349 (u)
257 (u)	288 (b)	319 (D16)	350 (D17')
258 (D7')	289 (h B1a)	320 (h)	351 (b)
259 (b)	290 (D14' A)	321 (D16')	352 (b)
260 (b)	291 (b)	322 (u)	353 (b)
261 (u)	292 (b A)	323 (D17)	354 (b)
262 (D10)	293 (b)	324 (b)	355 (b)
263 (h)	294 (b)	325 (b)	356 (b)
264 (D10')	295 (b)	326 (b)	357 (b)
265 (u)	296 (b)	327 (b)	358 (b)
266 (D6')	297 (u)	328 (b)	359 (b)
267 (b)	298 (D14 1)	329 (b)	360 (u)
268 (u)	299 (b)	330 (b)	361 (D20)
269 (D11)	300 (b)	331 (b)	362 (b)
270 (b)	301 (b)	332 (b)	363 (b)
271 (u)	302 (h)	333 (b)	364 (h)
272 (D12)	303 (D14 1')	334 (b)	365 (D20')
273 (b)	304 (b)	335 (u)	366 (b)
274 (h)	305 (b)	336 (D18)	367 (b)
275 (D12')	306 (b)	337 (b)	368 (u)
276 (b)	307 (u)	338 (b)	369 (D11')
277 (u)	308 (D13')	339 (h)	370 (b)
278 (D13)	309 (b)	340 (D18')	371 (u)

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372 (D21)	403 (u)	434 (u)	465 (E13)
373 (b)	404 (E4)	435 (E8')	466 (b)
374 (b)	405 (b)	436 (b)	467 (h)
375 (u)	406 (u)	437 (u)	468 (E13')
376 (D22)	407 (E5)	438 (E10)	469 (b)
377 (b)	408 (b)	439 (b)	470 (u)
378 (b)	409 (u)	440 (h)	471 (E14)
379 (b)	410 (E6)	441 (E10')	472 (b)
380 (h)	411 (b)	442 (b)	473 (b)
381 (D22')	412 (b)	443 (u)	474 (b)
382 (b)	413 (h)	444 (E11)	475 (b)
383 (b)	414 (E6')	445 (b)	476 (b)
384 (b)	415 (b)	446 (b)	477 (h)
385 (b)	416 (b)	447 (b)	478 (E14')
386 (u)	417 (u)	448 (u)	479 (b)
387 (D21')	418 (E7)	449 (E11 1)	480 (b)
388 (b)	419 (u)	450 (b)	481 (b)
389 (b)	420 (E8)	451 (b)	482 (b)
390 (u)	421 (b)	452 (h)	483 (b)
391 (D1')	422 (u)	453 (E11 1')	484 (u)
392 (b)	423 (E9)	454 (b)	485 (E15)
393 (u)	424 (h)	455 (b)	486 (b)
394 (E1)	425 (E9')	456 (u)	487 (h)
395 (u)	426 (u)	457 (E12)	488 (E15')
396 (E2)	427 (E9 1)	458 (b)	489 (b)
397 (b)	428 (b)	459 (b)	490 (u)
398 (h)	429 (b)	460 (b)	491 (E12')
399 (E2')	430 (h)	461 (b)	492 (b)
400 (b)	431 (E9 1')	462 (b)	493 (b)
401 (u)	432 (b)	463 (b)	494 (b)
402 (E3)	433 (b)	464 (u)	495 (b)

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496 (b)	527 (b)	558 (b)	589 (b)
497 (b)	528 (u)	559 (b)	590 (b)
498 (u)	529 (E19 B6)	560 (b)	591 (u)
499 (E11')	530 (b)	561 (u)	592 (E24 B2c)
500 (b)	531 (b)	562 (E20 2)	593 (u)
501 (b)	532 (b B5B6)	563 (h)	594 (E25 B2bB7)
502 (u)	533 (b)	564 (E20 2')	595 (b B2b)
503 (E7')	534 (h)	565 (u)	596 (b)
504 (u)	535 (E19' B6)	566 (E20')	597 (b)
505 (E5')	536 (b)	567 (b)	598 (b E)
506 (b)	537 (b)	568 (b)	599 (b)
507 (u)	538 (u)	569 (b)	600 (h)
508 (E16)	539 (E20)	570 (b)	601 (E25' B2bB7)
509 (h)	540 (b)	571 (b)	602 (b)
510 (E16')	541 (b)	572 (b)	603 (b)
511 (u)	542 (b)	573 (b)	604 (b)
512 (E4')	543 (b)	574 (u)	605 (b)
513 (u)	544 (b)	575 (E21 B5)	606 (E26 B2bP)
514 (E17)	545 (u)	576 (b)	607 (h B2aA)
515 (b)	546 (E20 1)	577 (u)	608 (E26' B2bP)
516 (h)	547 (b)	578 (E22 B5)	609 (u)
517 (E17')	548 (b)	579 (b)	610 (E27)
518 (b)	549 (b)	580 (h)	611 (b)
519 (u)	550 (b)	581 (E22')	612 (h B2b)
520 (E3')	551 (b)	582 (b)	613 (E27')
521 (u)	552 (b)	583 (u)	614 (b)
522 (E18)	553 (h)	584 (E23)	615 (E28 B3A)
523 (b)	554 (E20 1')	585 (b)	616 (h)
524 (b)	555 (b)	586 (b)	617 (E28' B3A)
525 (b)	556 (b)	587 (h B5)	618 (u)
526 (b)	557 (b)	588 (E23')	619 (E24' B2c)
			620 (u)

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621 (E21')	652 (G4)	683 (b)	714 (G11')
622 (b)	653 (b)	684 (u)	715 (b)
623 (b)	654 (b)	685 (G5')	716 (b)
624 (u B5)	655 (b)	686 (b)	717 (u)
625 (E18')	656 (b E)	687 (b)	718 (G12)
626 (b)	657 (b)	688 (u)	719 (h)
627 (b)	658 (b)	689 (G3' E)	720 (G12')
628 (b)	659 (b)	690 (b)	721 (u)
629 (b)	660 (b)	691 (b)	722 (G10')
630 (b)	661 (h)	692 (u)	723 (b)
631 (u)	662 (G4')	693 (G6 P)	724 (u)
632 (E1')	663 (b)	694 (h P)	725 (g13)
633 (u)	664 (b)	695 (G6' P)	726 (b)
634 (F1)	665 (b)	696 (u)	727 (h)
635 (b)	666 (b)	697 (G7)	728 (G13')
636 (h)	667 (b)	698 (b)	729 (b)
637 (F1')	668 (b)	699 (h)	730 (u)
638 (b)	669 (b)	700 (G7')	731 (G14)
639 (u)	670 (u)	701 (b)	732 (b)
640 (G1)	671 (G5)	702 (u)	733 (h)
641 (b)	672 (b)	703 (G8)	734 (G14')
642 (b)	673 (b)	704 (u)	735 (b)
643 (b)	674 (u)	705 (G9)	736 (u)
644 (u)	675 (G5 1)	706 (u)	737 (G9')
645 (G2 E)	676 (h)	707 (G10)	738 (u)
646 (b)	677 (G5 1')	708 (b)	739 (G15)
647 (u)	678 (u)	709 (u)	740 (b)
648 (G3 E)	679 (G5 2)	710 (G11)	741 (h)
649 (b)	680 (b)	711 (b)	742 (G15')
650 (b)	681 (h)	712 (b)	743 (b)
651 (u)	682 (G5 2')	713 (h)	744 (u)

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745 (G8')	776 (u)	807 (b)	838 (b)
746 (u E)	777 (G17')	808 (b)	839 (b)
747 (G2' E)	778 (b)	809 (h)	840 (h)
748 (b)	779 (b)	810 (H3')	841 (H1 3')
749 (b)	780 (u P)	811 (b)	842 (b)
750 (u)	781 (G20 P)	812 (b)	843 (b)
751 (G16 A)	782 (u)	813 (b)	844 (b)
752 (b A)	783 (G20' P)	814 (b)	845 (u)
753 (b)	784 (b P)	815 (u)	846 (H1 1')
754 (b A)	785 (u)	816 (H4)	847 (b)
755 (h)	786 (G1')	817 (b)	848 (b)
756 (G16' A)	787 (b)	818 (h)	849 (u)
757 (b A)	788 (b)	819 (H4')	850 (I1)
758 (b)	789 (b)	820 (b)	851 (b)
759 (b A)	790 (u)	821 (u)	852 (u)
760 (u)	791 (G1 1)	822 (H1')	853 (I2)
761 (G17)	792 (h)	823 (b)	854 (b)
762 (b)	793 (G1 1')	824 (b)	855 (h)
763 (u)	794 (H1)	825 (b)	856 (I2')
764 (G18)	795 (b)	826 (u)	857 (b)
765 (b)	796 (b)	827 (H1 1)	858 (u)
766 (h)	797 (b)	828 (b)	859 (I3)
767 (G18')	798 (u)	829 (b)	860 (b)
768 (b)	799 (H2)	830 (u)	861 (b)
769 (b)	800 (b)	831 (H1 2)	862 (b)
770 (u)	801 (h)	832 (h)	863 (b)
771 (G19)	802 (H2')	833 (H1 2')	864 (u)
772 (b)	803 (b)	834 (b)	865 (I3')
773 (h A)	804 (u)	835 (u)	866 (b)
774 (G19')	805 (H3)	836 (H1 3)	867 (b)
775 (b)	806 (b)	837 (b)	868 (b)

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869 (b)	900 (b)	931 (S9')	962 (b)
870 (b)	901 (b)	932 (b)	963 (h)
871 (b)	902 (b)	933 (b)	964 (S11')
872 (u)	903 (h)	934 (b)	965 (b)
873 (I1')	904 (S6')	935 (u)	966 (b)
874 (b)	905 (b)	936 (S10)	967 (b)
875 (u)	906 (b)	937 (b)	968 (b)
876 (A11')	907 (b)	938 (b)	969 (b)
877 (b)	908 (b)	939 (b)	970 (b)
878 (u)	909 (b)	940 (h)	971 (u)
879 (u)	910 (b)	941 (S10')	972 (S8')
880 (S1)	911 (b)	942 (b)	973 (b)
881 (u)	912 (u)	943 (b)	974 (b)
882 (S2)	913 (S7)	944 (u)	975 (b)
883 (u)	914 (u)	945 (S10 1)	976 (b)
884 (S1')	915 (S8)	946 (b)	977 (u)
885 (u)	916 (b)	947 (b)	978 (S12)
886 (S3)	917 (b)	948 (b)	979 (b)
887 (b)	918 (b)	949 (b)	980 (b)
888 (b)	919 (b)	950 (h)	981 (b)
889 (u)	920 (u)	951 (S10 1')	982 (b)
890 (S4)	921 (E8 1)	952 (b)	983 (b)
891 (b)	922 (h)	953 (b)	984 (b)
892 (u)	923 (E8 1')	954 (b)	985 (h)
893 (S5)	924 (u)	955 (b)	986 (S12')
894 (b)	925 (S9)	956 (u)	987 (b)
895 (u)	926 (b)	957 (S11)	988 (b)
896 (S6)	927 (b)	958 (b)	989 (b)
897 (b)	928 (b)	959 (b)	990 (b)
898 (b)	929 (b)	960 (b)	991 (b)
899 (b)	930 (h)	961 (b)	992 (b)

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993 (u)	1024 (b)	1055 (S19)	1086 (b)
994 (S13)	1025 (u)	1056 (u)	1087 (h)
995 (b)	1026 (S4')	1057 (S20)	1088 (P23 1')
996 (h)	1027 (b)	1058 (u)	1089 (b)
997 (S13')	1028 (b)	1059 (S21 A)	1090 (b)
998 (b)	1029 (u)	1060 (b A)	1091 (b)
999 (u)	1030 (S17)	1061 (b)	1092 (b)
1000 (S7')	1031 (b)	1062 (u A)	1093 (E23 1 2)
1001 (u)	1032 (b)	1063 (S20' A)	1094 (b)
1002 (S14)	1033 (b)	1064 (u A)	1095 (b)
1003 (b)	1034 (h)	1065 (S21' A)	1096 (b)
1004 (b)	1035 (S17')	1066 (u)	1097 (b)
1005 (h)	1036 (b)	1067 (S19')	1098 (h)
1006 (S14')	1037 (b)	1068 (u)	1099 (E23 1 2')
1007 (b)	1038 (b)	1069 (S3')	1100 (b)
1008 (b)	1039 (b)	1070 (b)	1101 (b)
1009 (u)	1040 (u)	1071 (b)	1102 (b)
1010 (S15 B8)	1041 (S18)	1072 (b)	1103 (b)
1011 (b)	1042 (b)	1073 (b)	1104 (b)
1012 (h B8)	1043 (b)	1074 (u)	1105 (u)
1013 (S15' B8)	1044 (b)	1075 (S22)	1106 (E23 4)
1014 (b B8)	1045 (b)	1076 (b)	1107 (b)
1015 (u)	1046 (b)	1077 (b)	1108 (u)
1016 (S5')	1047 (h)	1078 (u)	1109 (E23 5)
1017 (b)	1048 (S18')	1079 (S23 B4)	1110 (h)
1018 (u)	1049 (b)	1080 (b)	1111 (E23 5')
1019 (S16)	1050 (b)	1081 (b)	1112 (u)
1020 (b)	1051 (b)	1082 (u)	1113 (E23 6)
1021 (b)	1052 (b)	1083 (P23 1)	1114 (b)
1022 (h)	1053 (b)	1084 (b)	1115 (b)
1023 (S16')	1054 (u)	1085 (b)	1116 (b)

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1117 (h)	1148 (E23 9')	1179 (E23 12')	1210 (b)
1118 (E23 6')	1149 (u)	1180 (b)	1211 (b)
1119 (b)	1150 (E23 11')	1181 (b)	1212 (b)
1120 (b)	1151 (u)	1182 (b)	1213 (b)
1121 (u)	1152 (E23 8')	1183 (u)	1214 (u)
1122 (E23 7)	1153 (E23 13)	1184 (E23 10')	1215 (S23' B4)
1123 (b)	1154 (b)	1185 (b)	1216 (b)
1124 (b)	1155 (b)	1186 (b)	1217 (b)
1125 (h)	1156 (b)	1187 (S24)	1218 (u B2c)
1126 (E23 7')	1157 (b)	1188 (b)	1219 (S27 B2b)
1127 (b)	1158 (u)	1189 (b)	1220 (b B2b)
1128 (b)	1159 (E23 14)	1190 (b)	1221 (b B2b)
1129 (u)	1160 (b)	1191 (b)	1222 (b)
1130 (E23 4')	1161 (b)	1192 (u)	1223 (b)
1131 (b)	1162 (u)	1193 (S25 B7a)	1224 (h B2bP)
1132 (u)	1163 (E23 13')	1194 (b)	1225 (S27' B2b)
1133 (E23 8)	1164 (b)	1195 (b)	1226 (b)
1134 (u)	1165 (b)	1196 (b)	1227 (b)
1135 (E23 9)	1166 (u)	1197 (b)	1228 (u)
1136 (u)	1167 (E23 14')	1198 (h E)	1229 (S28)
1137 (E23 10)	1168 (b)	1199 (S25'B7a)	1230 (b)
1138 (u)	1169 (b)	1200 (b B7b)	1231 (u)
1139 (E23 11)	1170 (b)	1201 (b)	1232 (S29)
1140 (u)	1171 (u)	1202 (b B7b)	1233 (b)
1141 (E23 10')	1172 (E23 10)	1203 (b)	1234 (b)
1142 (u)	1173 (b)	1204 (u)	1235 (b)
1143 (E23 12)	1174 (u)	1205 (S26)	1236 (b)
1144 (h)	1175 (E23 12)	1206 (h)	1237 (b)
1145 (E23 12')	1176 (b)	1207 (S26')	1238 (b)
1146 (b)	1177 (b)	1208 (u)	1239 (b)
1147 (u)	1178 (h)	1209 (S24')	1240 (h)
			1241 (S29')

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1242 (b)	1273 (b P)	1304 (b)	1335 (b)
1243 (b)	1274 (b)	1305 (h)	1336 (u)
1244 (b)	1275 (u)	1306 (P37 2')	1337 (S39')
1245 (b)	1276 (S33 E)	1307 (b)	1338 (u)
1246 (b)	1277 (b)	1308 (u)	1339 (S42)
1247 (b)	1278 (u)	1309 (S37')	1340 (b)
1248 (u)	1279 (S34 P)	1310 (b)	1341 (b)
1249 (S30)	1280 (b)	1311 (b)	1342 (u)
1250 (h)	1281 (b)	1312 (b)	1343 (S43)
1251 (S30')	1282 (u)	1313 (b)	1344 (b)
1252 (u)	1283 (S35)	1314 (b)	1345 (b)
1253 (S28')	1284 (b)	1315 (u)	1346 (b)
1254 (b)	1285 (h PA)	1316 (S38)	1347 (b)
1255 (u)	1286 (S35')	1317 (b)	1348 (b)
1256 (S22')	1287 (b)	1318 (b A)	1349 (b)
1257 (b)	1288 (u)	1319 (b)	1350 (b)
1258 (b)	1289 (S36)	1320 (b)	1351 (b)
1259 (u)	1290 (b)	1321 (b)	1352 (b)
1260 (S31)	1291 (b)	1322 (u)	1353 (b)
1261 (b)	1292 (u)	1323 (S39)	1354 (h)
1262 (b)	1293 (S37)	1324 (u)	1355 (P43 1)
1263 (b)	1294 (b)	1325 (S40)	1356 (b)
1264 (h B2c)	1295 (b)	1326 (b)	1357 (b)
1265 (S31')	1296 (b)	1327 (h)	1358 (b)
1266 (b)	1297 (b)	1328 (S40')	1359 (b)
1267 (b)	1298 (u)	1329 (b)	1360 (h)
1268 (u)	1299 (P37 1)	1330 (u)	1361 (P43 1')
1269 (S2')	1300 (h)	1331 (S41)	1362 (b)
1270 (b)	1301 (P37 1')	1332 (b)	1363 (b)
1271 (u)	1302 (u)	1333 (h)	1364 (b)
1272 (S32 E)	1303 (P37 2)	1334 (S41')	1365 (b)

SUPPLEMENTARY MATERIAL  
LSU-SSU rRNA alignment matrix

1366 (b)	1397 (h)	1428 (u)	1459 (b)
1367 (u)	1398 (P43 3')	1429 (S42')	1460 (u)
1368 (P43 2)	1399 (b)	1430 (u)	1461 (S46)
1369 (b)	1400 (b)	1431 (S38')	1462 (b)
1370 (b)	1401 (b)	1432 (b)	1463 (b)
1371 (b)	1402 (b)	1433 (b)	1464 (h)
1372 (b)	1403 (b)	1434 (b)	1465 (S46')
1373 (b)	1404 (b)	1435 (b)	1466 (b)
1374 (b)	1405 (b)	1436 (b)	1467 (b)
1375 (b)	1406 (u)	1437 (b)	1468 (b)
1376 (b)	1407 (S43')	1438 (u)	1469 (u)
1377 (h)	1408 (b)	1439 (S36')	1470 (S45)
1378 (P43 2')	1409 (b)	1440 (b)	1471 (b)
1379 (b)	1410 (b)	1441 (u)	1472 (b)
1380 (b)	1411 (b)	1442 (S34' P)	1473 (b)
1381 (b)	1412 (b)	1443 (b P)	1474 (b)
1382 (b)	1413 (b)	1444 (b)	1475 (u)
1383 (b)	1414 (b)	1445 (u)	1476 (S47)
1384 (b)	1415 (b)	1446 (S45)	1477 (b)
1385 (b)	1416 (b)	1447 (b)	1478 (h)
1386 (b)	1417 (b)	1448 (b)	1479 (S47')
1387 (u)	1418 (b)	1449 (b)	1480 (b)
1388 (P43 3)	1419 (b)	1450 (b)	1481 (b)
1389 (b)	1420 (b)	1451 (u)	1482 (u PE)
1390 (b)	1421 (u)	1452 (E45 1)	1483 (S33' E)
1391 (b)	1422 (S44)	1453 (b)	1484 (b)
1392 (b)	1423 (b)	1454 (b)	1485 (u)
1393 (b)	1424 (h)	1455 (b)	1486 (S48)
1394 (b)	1425 (S44')	1456 (b)	1487 (b)
1395 (b)	1426 (b)	1457 (h)	1488 (h)
1396 (b)	1427 (b)	1458 (E45 1')	1489 (S48')

SUPPLEMENTARY MATERIAL  
LSU-SSU rRNA alignment matrix

1490 (b)	1522 (b)
1491 (u E)	1523 (b)
1492 (S32' E)	1524 (b)
1493 (b)	1525 (b B3)
1494 (b)	1526 (b)
1495 (u P)	1527 (b)
1496 (S49 B2aB5)	1528 (b)
1497 (b)	1529 (b B2aA)
1498 (b B2aA)	1530 (b B2aA)
1499 (b B2aA)	1531 (b B2aA)
1500 (b)	1532 (u)
1501 (b)	1533 (S50)
1502 (b)	1534 (b)
1503 (b)	1535 (b 50)
1504 (b)	1536 (h)
1505 (b B5)	1537 (S50')
1506 (b)	1538 (b)
1507 (b)	1539 (b)
1508 (b)	1540 (u)
1509 (b B6)	
1510 (b)	
1511 (b)	b: bulge or interior loop
1512 (b)	h: hairpin loop
	u: unpaired
1513 (b)	
1514 (h)	LSU rRNA: 1-878 SSU rRNA: 879-1540
1515 (S49'B2aB)	
1516 (b)	
1517 (b)	
1518 (b)	
1519 (b)	
1520 (b)	
1521 (b)	

SUPPLEMENTARY MATERIAL  
 LSU-SSU rRNA alignment matrix

	10	20	30	40	50	60	
	----- ----- ----- ----- ----- -----						
<i>Desulfurococcus mobilis</i>	17590442A00833008359379600334343900000390001940594006754760B						
<i>Sulfolobus solfataricus</i>	65590442A00833008359379600434313500000350000B005B0006754760B						
<i>Halobacterium halobium</i>	174A0442910833008359379600334333100001310000500550007754760B						
<i>Haloferax volcanii</i>	954A0442A00833008359379600334333000002300001500550007754760B						
<i>Methanobacterium thermophilum</i>	C00A0442A10833008359379600334343900000391001700371007754760B						
<i>Chlamydia sp.</i>	P86A0442B00833008359379600334343700000370001810980008754760B						
<i>Synechocystis sp.</i>	086A0442B0083300835A27A500334343000003300001810A82007754760B						
<i>Mycobacterium tuberculosis</i>	086A0442B0083300835A28A50033434370000137000190099007754760B						
<i>Bacillus subtilis</i>	086A0442B0083300835A27A500334343700001370001900991007754760B						
<i>Bradyrhizobium japonicum</i>	086A0442B0083400645A27A500334343P11N03PP151A009A0007754760B						
<i>Pseudomonas sp.</i>	086A0442B0083400645A27A500334343500001350001900991007754760B						
<i>Helicobacter pylori</i>	086A0442B0083400645A27A500334343500000380001400340007754760B						
<i>Escherichia coli</i>	086A0442B0083400645A27A600334343700000370001900990007754760B						
<i>Thermophilum thermophilum</i>	086A0442A0083400645A27A500334343800000380001600460007754760B						
<i>Borrelia burgdorferi</i>	086A0442A1083400645A27A500334343700001370001800480008764760B						
<i>Thermotoga maritima</i>	086A0442A0083400645A27A500334343800001380000600460007754760B						
<i>Aquifexaelicus</i>	086A0442A0083400645936A500334343700001370001700470007754760B						
<i>Xenopus laevis</i>	006A4312900934006475446900633353800000380002E108E1107754760B						
<i>Homo sapiens</i>	003A4312900934006475444900633343800000380002E117E1107754760B						
<i>Saccharomyces cerevisiae</i>	003A4312900934006476346900633353800000380002F018F1007754760B						
<i>Schizosaccharomyces pombe</i>	00BA4312900934006476346900633353700001370002F017F1007754760B						
<i>Oryza sativa</i>	007A4402900934006476346900633353710000372002F018F1007754760B						
<i>Arabidopsis thaliana</i>	007A4402900934006476346900633353620000363002F016F1007754760B						
<i>Tetrahymena thermophila</i>	00694402900934006475455800634253600001360001F016F0007754760B						
<i>Dictyostelium discoideum</i>	004A4402900934006474384800634151B000003B1001D215D2007754760B						
<i>Prorocentrum micans</i>	004A4402900934006485345900734252900001390002E015E1008754760B						
<i>Trepomonas agilis</i>	00973337611C34127486456511632262710000P70004953B921156666717						
<i>Entamoeba histolytica</i>	00390532900934006476366300634262910000390001E013E00067567619						
<i>Encephalitozoon cuniculi</i>	004A04429009330083560460003350000000000000006003600057567619						
		70	80	90	100	110	120
	----- ----- ----- ----- ----- -----						
<i>Desulfurococcus mobilis</i>	2423755742404D1005D0218A000505500I02135165083733I300A0067087						
<i>Sulfolobus solfataricus</i>	2423755742404C1015C1218A000503500I02135165083733I300A0067087						
<i>Halobacterium halobium</i>	242375574240471014702157106000000B05045165083734B60370267087						
<i>Haloferax volcanii</i>	252375574240471014702157205000000F01135165083733F11270367087						
<i>Methanobacterium thermophilum</i>	2524755742404C1024C2217C232000000E02136166083733E200C0277087						
<i>Chlamydia sp.</i>	242366565240480003800068115000001D02133363283733D322812570B7						
<i>Synechocystis sp.</i>	242375574240480004800069014000002A04134074083733A34291258098						
<i>Mycobacterium tuberculosis</i>	2423755742404D0056D3006A003708701H71135165083733H303A0258098						
<i>Bacillus subtilis</i>	242366565240480004800069002000003H70135165083733H30190258098						
<i>Bradyrhizobium japonicum</i>	242375574240400000000009000000007300035075083733300990088098						
<i>Pseudomonas sp.</i>	242375574240100000000007010000001F10134164183733F31470098098						
<i>Helicobacter pylori</i>	232375574240470004700067005000004E00135065083733E31570268198						
<i>Escherichia coli</i>	242375574240200000000006112000005G00135065083733G30061088098						
<i>Thermophilum thermophilum</i>	24237557424048000480006A001000008C01135065083733C324A0158098						
<i>Borrelia burgdorferi</i>	2323755742404C1045C2106900261461EC00144164183733C30790158098						
<i>Thermotoga maritima</i>	2423755742404D0055D2006A10171471DD00135065083733D307A0258098						
<i>Aquifexaelicus</i>	2423755742404C0055C3006A10180480DB01135075083733B319A0288098						
<i>Xenopus laevis</i>	2423665642402F0303F05038004000002H111351650C3736H01380087087						
<i>Homo sapiens</i>	2423755742402E0303E15039003000003D007351650C3735D01090087087						
<i>Saccharomyces cerevisiae</i>	2422755742402C1413C1513B010000001E01035165083734E305B0087087						
<i>Schizosaccharomyces pombe</i>	2423755742402A1417A1513A101000001E01035165083736E205A0187087						
<i>Oryza sativa</i>	2423575563304B0503B0506A010000001D01045165083735D305A0187087						
<i>Arabidopsis thaliana</i>	2423575562404B0503B0506A010000001D01045165083635D305A0187087						
<i>Tetrahymena thermophila</i>	24237557524049052592605802000003B03045165083737B40382187087						
<i>Dictyostelium discoideum</i>	2523755752402F0313F0503900100004E000341A4083734E20990187087						
<i>Prorocentrum micans</i>	24237557524049050391605911000009700035165083736700E90187087						
<i>Trepomonas agilis</i>	242366464330250306500544208000000200035165092625200942277087						
<i>Entamoeba histolytica</i>	242366565330290C07900L2A10P000000F00035085073733F109A0096086						
<i>Encephalitozoon cuniculi</i>	2423665653301B1105B2113410700000000000514509373E00004287087						



SUPPLEMENTARY MATERIAL  
 LSU-SSU rRNA alignment matrix

	250	260	270	280	290	300
Desulfurococcusmobilis	01B304B0446308622C10127268826045045029031P0340304P0102400000					
Sulfolobussolfataricus	01B304B0446308622C10127268826045045029031P0340004P0002400000					
Halobacteriumhalobium	01B304B0445508532C10127268826045045029031P0351204P0113400000					
Haloferaxvolcanii	01B304B0445508532C10127268826045045029031P0351204P0113400000					
Methanobacteriumtherm	01B304B0436408622C10127268826045045029031P0331304P0112400000					
Chlamydiasp	01A306A0436308622C10127268826045045029033H0B01504H071B000000					
Synechocystissp	01A306A0437208712C10127268826045045028043I0B00504I060B000000					
Mycobacteriumtub	01A306A0437208712C10127268826045045028031I0C01506I061B001000					
Bacillussubtilis	01A306A0437208712C10127268826045045028040K0B00505K060B000000					
Bradyrhizobiumjaponicum	01A306A0437208712C10127268826044144129040H0B01505H061B001000					
Pseudomonassp	01A306A0437208712C10127268826045045029030I0B01605I061B001000					
Helicobacterpylori	01A306A0437208712C10127268826045045028050H0B02505H062B000000					
Escherichiacoli	01A306A0437208712C10127268826045045029040I0B01505I061B001000					
Thermusthermophilus	01A306A0437208712C10127268826045045028050I0B00306I060B000000					
Borrelia burgdorferi	01A306A0437208712C10127268826045045029030I0B00505I060B000000					
Thermotogamaritima	01A306A0437208712C10127268826045045028060J0B00504J030B000000					
Aquifexaeolicus	01A306A0437208712C10127268826045045027000J0B00504J060B000000					
Xenopuslaevis	11A304A0446408622B1021717882604414413600D0034421401042403900					
Homosapiens	01B304B0436408622B1012726882604414413700P0034421301042404800					
Saccharomycescerevisiae	01B304B0436408622B1012726882604414412600B0034421300142403810					
Schizosaccharomycespom	01B304B0436408622B10127268826044144128009P0344203P0042403810					
Oryzasativa	01B304B0436408622B1012726882604414412701AP0344203P0042403900					
Arabidopsisthaliana	01B304B0436408622B1012726882604414412800B0034421300042403810					
Tetrahymenathermophila	01B304B0436408622C1012726882604414412700BN0344224N2042403910					
Dictyosteliumdiscoideum	02A404A0536408624B1012726882604414412500CN0344213N0142414B21					
Prorocentrummicans	01A404A0536408622C10127268826044144128007P0344203P0042403710					
Trepomonasagilis	04A404A05354185455300000J7726044144127006K0244303K1042703920					
Entamoebahistolytica	02A403A0536408624900327268853054044038008M1344314M1042413710					
Encephalitozooncniculi	01A404A0536408622A1032726882604504502600AG0330004G0002040000					

  

	310	320	330	340	350	360
Desulfurococcusmobilis	00000009605A15A0043633P02610G10070162096025426401P03000J0020					
Sulfolobussolfataricus	00000009605A05A0043633P02610I10070162096025426401P03000J0020					
Halobacteriumhalobium	00000009605A05A0043633P02610D10070162096025426401P03000I0020					
Haloferaxvolcanii	00000009605A05A0043633P02610D10070162096025426401P03000I0020					
Methanobacteriumtherm	00000009605A05A0043633P03610820070162096025426401P03001I0020					
Chlamydiasp	00000009205A06A0043633P12610A20070171097015426401P03001H0020					
Synechocystissp	00000008405A06A0043633P12610A20070171097015426401P03001H0020					
Mycobacteriumtub	00000018205A06A1043633P12610A20070171097015426401P03001J0020					
Bacillussubtilis	0000000830591691043633P12610A20070171097015426401P03001I0020					
Bradyrhizobiumjaponicum	00000009405A06A0043633P12610A22070171097015426401P03201I0020					
Pseudomonassp	00000009405A06A0043633P12600A22070171097015426401P03201I0020					
Helicobacterpylori	0000000850591691043633P12611A20070171097015426401P03001I0020					
Escherichiacoli	00000009405A06A0043633P12610A22070171097015426401P03201I0020					
Thermusthermophilus	0000000840591391043633P12610A20070171097015426401P03001J0020					
Borrelia burgdorferi	00000009405A06A0043633P12600A20070171097025426401P03001I0020					
Thermotogamaritima	0000000850591691053633P12610A20070171097015426401P03001J0020					
Aquifexaeolicus	00000007605A06A0043633P12610A20070171097015426401P03001J0020					
Xenopuslaevis	0990019620791590043633P03900G10070153095035426401P03000I0130					
Homosapiens	0980009700691590043633P03900G10070153095035426401P03000I0130					
Saccharomycescerevisiae	098001D600591590043633P03800G10070153095035426401P03000I0130					
Schizosaccharomycespom	098001A800591590043633P03800G10070153095035426401P03000I0130					
Oryzasativa	099000A710591590043633P13900G11070153095035426401P03100I0030					
Arabidopsisthaliana	098001A800591590043633P03900H11070153095035426401P03100I0030					
Tetrahymenathermophila	0A9000B700791590043633P04800G10070153095035426401P03000I0140					
Dictyosteliumdiscoideum	1DB115F500691590043633P04800F10070153095035426401P03000J0240					
Prorocentrummicans	0870029800591590043633P03800G10070153095035426401P03000H0130					
Trepomonasagilis	0990125710591590143633P03700D10070153095035336311P03000J0130					
Entamoebahistolytica	0J7000A800582580243633P04700I10070153095035426401P03000K0240					
Encephalitozooncniculi	00000096005A05A0043634P03500A10171153095035336311P13100J0032					

SUPPLEMENTARY MATERIAL  
 LSU-SSU rRNA alignment matrix

	370	380	390	400	410	420
Desulfurococcusmobilis	B003B2046027000B0604B003007007707266076004540232083058106318					
Sulfolobussolfataricus	B003B0046027000B0604B003007007707266076004440232083058106318					
Halobacteriumhalobium	700572046027000B0604B003007007707266076004440232083058106318					
Haloferaxvolcanii	800482046026100B0604B003006017707276076004440232083058106318					
Methanobacteriumtherm	800482046027000B0604B003007007707266076004440232083058106317					
Chlamydiasp	900490046027000A0614A103007007717256076004450132083058106325					
Synechocystissp	500450046027000916159103107007707256076004450132083058106325					
Mycobacteriumtub	4004A0046027000B0604B003007007707256076004450132083058106325					
Bacillussubtilis	700370046027001906149103017007707246076004450132083058106325					
Bradyrhizobiumjaponicum	900490046026011B0614B003016007707256076004450132083058106325					
Pseudomonassp	710370046026011B0604B003016007707256076004450132083058106325					
Helicobacterpylori	700370046027002906159103017007707256076004450132083058106325					
Escherichiacoli	900490046026011B0604B003016007707256076004450132083058106325					
Thermusthermophilus	800580046026011A0614A003016007707256076004450132083058106325					
Borrelia burgdorferi	800480046026011B0604B003016007707256076004450132083058106325					
Thermotogamaritima	C003C0046027001A1614A003117007708246076004450132083058106335					
Aquifexaeolicus	C004C0046027000A0624A103007007707266076004450132083058106335					
Xenopuslaevis	B11JB0146037101707147114007017707256076013540232083058106314					
Homosapiens	B11PB0046038001907149005008007707256076013540232083058106314					
Saccharomycescerevisiae	900990046028001907149004008007707256076004450132083058106314					
Schizosaccharomycespom	900C90046028001907149004008007707256076004540232083058106314					
Oryzasativa	801981046028000906149004008007707256076004540232083058106314					
Arabidopsisthaliana	900990046028000507555004008007707256076004540232083058106314					
Tetrahymenathermophila	900990046028000807148104008007707256076004540232083058106315					
Dictyosteliumdiscoideum	900B90046028000907049004008007707256096003630332083058106315					
Prorocentrummicans	801981046237010707347204007107707256076004540232083058106315					
Trepomonasagilis	700871046027001608256105017007707253163104440430083048106133					
Entamoebahistolytica	A004A00430D80069070490040080077072560E6004540232074057206314					
Encephalitozooncniculi	21032107602800080804800500800770723304300434023225414511A320					

  

	430	440	450	460	470	480
Desulfurococcusmobilis	303531000000008435085028000440044002N4102001A14A21D350506D50					
Sulfolobussolfataricus	303531000000008435085028000530043002N4102001604601D350506D50					
Halobacteriumhalobium	3035310000000084350850280007000000000F4103001604601D350406D50					
Haloferaxvolcanii	3125210000000084350850280007000000000E4103000404421C360406C50					
Methanobacteriumtherm	313534000000007435085028000530043006L4102001604601D350506D51					
Chlamydiasp	333433000000005335085024000F000000000F4203001608601G140216G05					
Synechocystissp	33343300000000533508502D0003000000000G420200050A500E160507E02					
Mycobacteriumtub	33343300000000533508502B1005BP14B1P6F420200150A501H250016H05					
Bacillussubtilis	33343300000000533508502B100B000000000G420210150A501I150016I04					
Bradyrhizobiumjaponicum	3334330000000053350850251102000000000D300420050A5000000000000					
Pseudomonassp	33343300000000533508502B0005000000000F410400150A501H150116H04					
Helicobacterpylori	33343300000000533508502A0007000000000G420200150A501F250036F11					
Escherichiacoli	33343300000000533508502B0005000000000G420200150A501J150016J02					
Thermusthermophilus	33343300000000533508502B0005000000000G420200230E301F170016F00					
Borrelia burgdorferi	33343300000000533508502B0005000000000F420300150A501I140516I02					
Thermotogamaritima	33343300000000533508502B000A000000000G4202001609600H150616H03					
Aquifexaeolicus	3335320000000053350850290009000000000G4202001608600K140016K03					
Xenopuslaevis	34343AB103B0064435085027100AF814F1L7G3103003604607A081406A50					
Homosapiens	34343AB103B0064435085027100A300N3007G3204001604607B070506B50					
Saccharomycescerevisiae	343439700371054435075028100830043007G3204001604607B060506B50					
Schizosaccharomycespom	34343B600361064435085027200830043007G3204001604607B0B0506B50					
Oryzasativa	3434394006400444350A5028100730043007G3204001604607B070506B50					
Arabidopsisthaliana	343439300430044435085028100730043007G3404001604607B070506B50					
Tetrahymenathermophila	33262B500450035435085028100630043007G3204001604607B060506B50					
Dictyosteliumdiscoideum	33262C00PC0035435085028000A20032007G3204001604607B0A0506B50					
Prorocentrummicans	333338200620055435085027200930043007G3204001417417B070506B50					
Trepomonasagilis	313435510G50053536166105201A200C200D8721401P0000000000000000					
Entamoebahistolytica	343439930590034535085029000A200P2008L3101001604607B850000B50					
Encephalitozooncniculi	0000000000000005085026200330043009B9000000000000PA200003A50					



SUPPLEMENTARY MATERIAL  
 LSU-SSU rRNA alignment matrix

	610	620	630	640	650	660
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<i>Desulfurococcus mobilis</i>	G0602676260660656A439102G1101002B508502D0115C11C202P000B2600					
<i>Sulfolobussolfataricus</i>	G0602676260660656A439102G1101002B508502D0115C11C202P000B2600					
<i>Halobacterium halobium</i>	G0602676260660656A439102G1101002B508502C0215C11C202P100B2910					
<i>Haloferax volcanii</i>	G0602676260660656A439102G1101002B509502C0215C11C202P100B2910					
<i>Methanobacterium thermophilum</i>	G0602676260660575A349102G1101002B508502D0115C11C202P100B2600					
<i>Chlamydia sp.</i>	K3912676251651656A439102G1101002B508502D0115C11C202P110B2600					
<i>Synechocystis sp.</i>	L3902676251651656A439102G1101002B508502C0125C11C202P100B2600					
<i>Mycobacterium tuberculosis</i>	L3902676251651656A439102G1101002B508502D0115C01B212P000B2600					
<i>Bacillus subtilis</i>	J3902676251651656A439102G1101002B508502D0115C11C202P100B2600					
<i>Bradyrhizobium japonicum</i>	H0902676251651656A438112G1101002B508502D0115C11B212P000B2600					
<i>Pseudomonas sp.</i>	H0902676251651656A439102G1101002B418412D0115C11B212P000B2600					
<i>Helicobacter pylori</i>	K3902676251651656A438112G1101002B508502D0115C11B212P000B2600					
<i>Escherichia coli</i>	J3902676251651656A439102G1101002B508502D0115C11B212P010B2600					
<i>Thermophilum thermophilum</i>	H0902676251651656A439102G1101002B508502D0115C11B212P000B2600					
<i>Borrelia burgdorferi</i>	J2802676251651656A439102G1101002B508502D0115912C202P000B2600					
<i>Thermotoga maritima</i>	N3902676251651656A439102G1101002B508502D0115C11C202P000B2600					
<i>Aquifexaelicus</i>	H0902676251651656A349102G1101002B508502D0115C11B212P000B2600					
<i>Xenopus laevis</i>	G05026763506506769439102F1102002A508504B0115C11B212P000A2000					
<i>Homo sapiens</i>	G05026763506506769439102F1102002A508504B0115C11B212P010A201I					
<i>Saccharomyces cerevisiae</i>	G05026763506506769439102F1102002A508504B0115C11B212P000A2000					
<i>Schizosaccharomyces pombe</i>	G05026763506506769439102F1102002A507504B0115C11B212P000A2000					
<i>Oryza sativa</i>	G05026763506506769439102F1102002A508504B0115C11A213P000A2000					
<i>Arabidopsis thaliana</i>	G05026763506506769439102F1102002A508504B0115C11A213000A2000					
<i>Tetrahymena thermophila</i>	G05026763506506769439102F1102002A508504B0115C11C202000A2000					
<i>Dictyostelium discoideum</i>	G07026763506506769439102B1123102A508504B0115C11B2120100A2000					
<i>Prorocentrum micans</i>	G08026763506506769439102E1103002A508504B0115C11A220000A2000					
<i>Trepomonas agilis</i>	F05126763506506769529102E1220002A508506B0115A22C212P000A2000					
<i>Entamoeba histolytica</i>	G05026763506506769439102F1120002A508504B0115B12B202M210A2000					
<i>Encephalitozoon cuniculi</i>	E04126763506506769259102C113002A508504A1115B12B212L10080000					
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	670	680	690	700	710	720
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<i>Desulfurococcus mobilis</i>	4P03C20004600400000000006006C033434250D500112280071097030262					
<i>Sulfolobussolfataricus</i>	4P03C20004600400000000006006C033434250D500112280071097030262					
<i>Halobacterium halobium</i>	4P23C2001430040000000003006C033434250D500112280071097030262					
<i>Haloferax volcanii</i>	4P23C2001430040000000003006C033434250D500112280071097030262					
<i>Methanobacterium thermophilum</i>	4P03C2001450040000000005006C033434250D500112280071097030262					
<i>Chlamydia sp.</i>	4P03C2001481060000000008006C032535060B600112280071097030262					
<i>Synechocystis sp.</i>	4P03C2001481050000000008006C032535060B600112280071097030262					
<i>Mycobacterium tuberculosis</i>	4P03C2000481060000000008006B132535060B600112280071097030262					
<i>Bacillus subtilis</i>	4P03C2001481050000000008006C032535060B600112280071097030262					
<i>Bradyrhizobium japonicum</i>	4P03C2000481050000000008006B132535060B600112280071097030262					
<i>Pseudomonas sp.</i>	4P03C2100481050000000008006B132535060B600112280071097030262					
<i>Helicobacter pylori</i>	4P03C2000481050000000008006B132535060B600112280071097030262					
<i>Escherichia coli</i>	4P03C2100481050000000008006B132535060B610112280071097030262					
<i>Thermophilum thermophilum</i>	4P03C2000440050000000004006B132535060B600112280071097030262					
<i>Borrelia burgdorferi</i>	4P03C2000450040000000005006C032535060B600112280071097030262					
<i>Thermotoga maritima</i>	4P03C2000491050000000009006C032535060B600112280071097030262					
<i>Aquifexaelicus</i>	4P03C2000481050000000008006C032535060B600112280071097030262					
<i>Xenopus laevis</i>	5P31C1101038153646G8068128215B133434260B6001122800711A7030262					
<i>Homo sapiens</i>	GP60C111039505636G7067029205C033434260B600112280081078030262					
<i>Saccharomyces cerevisiae</i>	4000C101039502555F6046029205C033434260B600112271081078030262					
<i>Schizosaccharomyces pombe</i>	4P00C101039502555E5065029205C033434260B600112280081078030262					
<i>Oryza sativa</i>	4P00C101039503535G8038029206A133434260B610112280081078030262					
<i>Arabidopsis thaliana</i>	4000C101039504535F7047029206A133434260B600112280081078030262					
<i>Tetrahymena thermophila</i>	4000C101048502545C5055028105C033434260B600112280081078030262					
<i>Dictyostelium discoideum</i>	4000C101138506565P30F3028305B033434260B600112280081078030262					
<i>Prorocentrum micans</i>	4000C101048513353C6166028125A033434260B600112280081078030262					
<i>Trepomonas agilis</i>	4P00C11004500P0000000005005C033343350B501112370161096031262					
<i>Entamoeba histolytica</i>	3M00C110357502555G3043027208B033434260B700112280171077031262					
<i>Encephalitozoon cuniculi</i>	EL000111060000000000000000B133434251B510112280161176131262					

	730	740	750	760	770	780
Desulfurococcusmobilis	48027287213043012AA18A0414C207D1037D3029C029069013405406C225					
Sulfolobussolfataricus	48027287213043012AA18A0414C207D1037D3029C029069013405406C225					
Halobacteriumhalobium	48027287222042012AA17A0414C207D1037D3019C029069013405406C225					
Haloferaxvolcanii	48027287213043012AA17A0414C207D1037D3029C029069013405406C225					
Methanobacteriumtherm	48027287213043012AA18A0414C207D1037D3029C029069013405406C225					
Chlamydiasp	48027267213043012A91890514C207D1037D3029C029069012505505C225					
Synechocystispp	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Mycobacteriumtub	48027267213043012A91890514C207C1137C3129C029069012505505C225					
Bacillusubtilis	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Bradyrhizobiumjaponicum	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Pseudomonassp	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Helicobacterpylori	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Escherichiacoli	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Thermusthermophilus	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Borrelia burgdorferi	48027267213043012A918905149207C1037C3029C029069012505505C225					
Thermotogamaritima	48027267213043012A91890514C207C1037C3029C029069012505505C225					
Aquifexaeolicus	48027267213043012A91890516C207C1037C3029C029069012505505C225					
Xenopuslaevis	48027277213053012A82A81414C219B1137B303AC028168211415415C225					
Homosapiens	48027277213043012A83981414C209B1037B303AC028168211415415C225					
Saccharomycescerevisiae	47027267213053012A93791414C209B1037B303AB128168211415415B505					
Schizosaccharomycespom	48027277213043012A93791414C209B1037B303AC028168211415415C225					
Oryzasativa	48027277213043012A93791414C209B1037B303AC029069021415415C225					
Arabidopsisthaliana	48027277213043012A92791414C209B1037B303AC029069021415415C225					
Tetrahymenathermophila	48027277212142112A92791414C209B1037B303AC029069031415415C225					
Dictyosteliumdiscoideum	480262A6213043012A93791414C209B1037B303AC029069011415415C225					
Prorocentrummicans	48026296213043012A93791414C209B1037B303AC028168121415415C225					
Trepomonasagilis	47129079013043012A93791415A219B1037B303AB129069021415415B235					
Entamoebahistolytica	48029079012062012A9P791415B209B1037B303AB128168031415415B235					
Encephalitozooncniculi	48024494413043012AA15A1415B209B1037B303AB128088021415415B235					

	790	800	810	820	830	840
Desulfurococcusmobilis	74714D2004000C020280F800F0A04F0208284B841C600290040000000000					
Sulfolobussolfataricus	74714D3004000C020270G700F0A04F0208284B841C600160050000000000					
Halobacteriumhalobium	74714C2105000C020280F800F0A04F0308284B841C600400000000000000					
Haloferaxvolcanii	74714C2106000B020280F800F0A04F0308284B841B600500000000000000					
Methanobacteriumtherm	74714D2005000C020280F800F0A04F0208366B661C600400000000000000					
Chlamydiasp	74714D2004000C020270F701G0A04G0208474B742C600600000000000000					
Synechocystispp	74714C3004000C020270F701G0A04G0308474B742C600240050000000000					
Mycobacteriumtub	74714D2004000B020370F701G0A04G0208384B842B600240050000000000					
Bacillusubtilis	74714D2004000C020270F701G0A04G0208384B841C600240040000000000					
Bradyrhizobiumjaponicum	74714D2004000C020270F701G0A04G0208384B841C600500000000000000					
Pseudomonassp	74714D2004000C020270F701G0A04G0208384B841C600250050000000000					
Helicobacterpylori	74714D2004000C020270F701F0A04F1207374B741C600500000000000000					
Escherichiacoli	74714D2004000C020270F701G0A04G0208383B841C600250050000000000					
Thermusthermophilus	74714D2004000C020270F701G0A04G0308383B841C600240050000000000					
Borrelia burgdorferi	74714D2004000C020270F701G0A04G0308383B841C600500000000000000					
Thermotogamaritima	74714D2004000C020270F701G0A04G0308383B841C600240050000000000					
Aquifexaeolicus	74714D2004000C020270F701G0A06G0208383B841C600500000000000000					
Xenopuslaevis	74713B2105000B020450H502D1B04D021A193B932B3006600PC4C09D3117					
Homosapiens	74713B2105000A120450H502D1B04D021A193B932A3006600P00000E4108					
Saccharomycescerevisiae	74713B2104000B120450H502F0B04F0208193B932B4007B11G6560FG2126					
Schizosaccharomycespom	74713B2105000B020450H502F0B04F0209184B842B4007C00F9591FI2006					
Oryzasativa	74713B2104000A020450H502F0B04F0209283B832A4004A10F3630ID3106					
Arabidopsisthaliana	74713B2104000A020450H502F0B04F0209193B932A3004B10H5450GC3206					
Tetrahymenathermophila	74713B2105000B020450H502F0B04F0209193B932B4003C00P00000B1306					
Dictyosteliumdiscoideum	74713B2105000B020450H502F0B04F0209193B932B400P00000000000000					
Prorocentrummicans	74713B2106000B020450H502E1B04E0309193B932B5004B13P00000090805					
Trepomonasagilis	74713B21040009040361F611E0A06E0208193B9329400160050000000000					
Entamoebahistolytica	74713B210C000E020360H601E0C04E020A293C932E200F00000000000000					
Encephalitozooncniculi	74713A2102000A010352F522C0A24C0108356B563A100100000000000000					

SUPPLEMENTARY MATERIAL  
 LSU-SSU rRNA alignment matrix

	850	860	870	880	890	900
Desulfurococcusmobilis	000009003400507504J00433J30311034037033534051A001906612C2000					
Sulfolobussolfataricus	000006003401407405L00424L20311034025053534051A001906612B2000					
Halobacteriumhalobium	000000000400507504T00424T20311034017133534051A00190661292000					
Haloferaxvolcanii	000000000400507504H10424H20312034015053534051A00190661292000					
Methanobacteriumtherm	000000000311507504L00423L223110231P0004534051A00190661292000					
Chlamydiasp	000000000400507504F02404F00311034058026534051A101805612F2100					
Synechocystissp	000004004400507503F02404F00311034048028534051A101805612B2100					
Mycobacteriumtub	000004004400407405F02404F00311034048023534051A101805612C2130					
Bacillussubtilis	000004004400507504F02404F003110340480295340519201805612D2140					
Bradyrhizobiumjaponicum	000000000400507504F02404F00311034058029534051A101805612B2100					
Pseudomonassp	000005005400507504F02404F00311034058023534051A101715612D2120					
Helicobacterpylori	000000000400507504F02404F00311034058028534051A101805612F2130					
Escherichiacoli	000005005202507504F02404F00311032058028534051A101805612H2120					
Thermusthermophilus	000004004400507504F02404F00311034048043534051A101805612G2100					
Borrelia burgdorferi	000000000400507504F02404F0031103404802C534051A101805612C2100					
Thermotogamaritima	000004004400507504F02404F00311034048038534051A101805612E2112					
Aquifexaeolicus	000000000400507504F02404F0031103405803A534051A101805612I2100					
Xenopuslaevis	D102P6001303227225J11546J30441053020003534051910040B61264040					
Homosapiens	E012P6001501227225J11546J30441135030003534051910040B61264040					
Saccharomycescerevisiae	G210DB112501227225K01546K30441015030003534051A10040B61264040					
Schizosaccharomycespom	I000DC201501227225K01546K30441035020003534051A10040B61264040					
Oryzasativa	D201HA111501227225K01546K30443035020003534051A10040B61264040					
Arabidopsisthaliana	C201GB011501227225K01546K30442035020003534051A10040B61264040					
Tetrahymenathermophila	B241DC100501227224H11553H40442035020003534052810040B61264030					
Dictyosteliumdiscoideum	000000000501227224H11553H40442035020003534051A10040B61274040					
Prorocentrummicans	9800EB130501227223H21557H40443035040003534051A10180561274047					
Trepomonasagilis	000006008000307306E10545E304800D0000009534051A101805612B2100					
Entamoebahistolytica	0000000003023063039A06078400D0043000009534051A101805612B2100					
Encephalitozooncniculi	000000000400407405F50304F30410094000003543051820420C62273400					

  

	910	920	930	940	950	960
Desulfurococcusmobilis	006C0000000637G023010000A05004A0604A0106A006000000000000A000					
Sulfolobussolfataricus	004B0000000637G023010000A05004A0604A0106A006000000000000A000					
Halobacteriumhalobium	00490000000637G023010000A05004A0604A0106A0050000000000002000					
Haloferaxvolcanii	00490000000637G023010000A05004A0604A0106A1060000000000002000					
Methanobacteriumtherm	00490000000637G023010000A05004A0604911069016000000000003000					
Chlamydiasp	004F0010000637F0230100009150049061531004A104000000000008200					
Synechocystissp	004B0010000637G023010000A05004A0604A00043004000000000002000					
Mycobacteriumtub	004C0220000637G023010000A05004A0605A0004A005000000000002000					
Bacillussubtilis	004D2010000637G023010000A05004A0605A0004A004000000000006000					
Bradyrhizobiumjaponicum	004B0010000637F023010000A05004A0605300043004000000000002000					
Pseudomonassp	004D1020000637E0231100008160048071530004300400000000008200					
Helicobacterpylori	004F1220000637G0230100009060049070530004200400000000002000					
Escherichiacoli	004H1020000637F02301000091500490615300043004000000000008200					
Thermusthermophilus	004G0010000637G023010000A05004A06058100480140000000000004000					
Borrelia burgdorferi	004C0010000637G02301000091500490615900049005000000000004300					
Thermotogamaritima	004E3110000637G023010000A05004A0605A0004A0050000000000005000					
Aquifexaeolicus	004I0110000637G023010000A05004A0605B0005B104000000000000B120					
Xenopuslaevis	00A6003000063792240I00006052056260A530045305E90306E0708B8100					
Homosapiens	00A6003000063793240K00006052056260AA3003A205P90304P1708B8100					
Saccharomycescerevisiae	00A60030000637A2240G000060520562608720047204C80304C050698100					
Schizosaccharomycespom	00960030000637A2240G000060520562608720047204C80304C050698100					
Oryzasativa	00A60030000637A2240E00006052056260A520035206D81403D071698100					
Arabidopsisthaliana	00A60030000637A2240E00006052056260A520035206E80404E040698100					
Tetrahymenathermophila	00860030000637A2240F000060520562609800038205AA1304A051896000					
Dictyosteliumdiscoideum	00770030000637A2240I000050521552609820048203AA0304A040987000					
Prorocentrummicans	62870030000637A2240F000060520562608720047204BA0413B0718A7100					
Trepomonasagilis	003B0100000637E123010000A05004A0604300043004000000000003000					
Entamoebahistolytica	003B0100000637E123010000A05004A0604300043004000000000003000					
Encephalitozooncniculi	0097013000063783350124245052075250AB3114B104000000000006000					

	970	980	990	1000	1010	1020
Desulfurococcusmobilis	009A0000001G02001H0022013H100400280483031500C500140440360791					
Sulfolobussolfataricus	008A0000001G02001F0123013F101410280483031500C500140440360791					
Halobacteriumhalobium	00420000001G02001H0022013H100400280483031600A600140440360791					
Haloferaxvolcanii	00420000001G02001H0022013H100400280483031600A600140440360791					
Methanobacteriumtherm	00530000001G02001H0022013H100400280483031600C600140440360791					
Chlamydiasp	00480000001G02001G0122013G100410280483031500C500140440360791					
Synechocystissp	00420000001F02101H0022013H100400280483031500C500140440360791					
Mycobacteriumtub	00620000001G02001G0122013G100410280483031500C500140440360791					
Bacillussubtilis	00460000001G02001H0022013H100400280483031500C500140440360791					
Bradyrhizobiumjaponicum	00420000001F02101H0022013H100400280483031500C500140440360791					
Pseudomonassp	00480000001E12101H0022013H100400280483031500C500140440360791					
Helicobacterpylori	00420000001G02001G0122013G100410280483031500C500140440360791					
Escherichiacoli	00480000001F02101H0022013H100400280483031500C500140440360791					
Thermusthermophilus	00340000001G02001G0122013G100410280483031500C500140440360791					
Borrelia burgdorferi	00440200001G02001G0022007G000400280483031500C500140440360791					
Thermotogamaritima	00450000001G02001G0122013G100410280483031500C500140440360791					
Aquifexaeolicus	003B1000001G02001G0122013G100400280483031500C500140440360791					
Xenopuslaevis	00580000004903021E0124205E020410380483031510A501131431360781					
Homosapiens	00680000004903031G0124103G010410380483031510A501131431360781					
Saccharomycescerevisiae	00580000004A03021G0124013G100410380483031510A501131431360781					
Schizosaccharomycespom	00580000004A03021G0124013G100410380483031510A501131431360781					
Oryzasativa	00680000004A03021G0124013G100410380483031510A501131431360781					
Arabidopsisthaliana	00680000004A03021G0124013G100410380483031510A501131431360781					
Tetrahymenathermophila	00460000004A03021G0124013G100410380483031510A501140441360781					
Dictyosteliumdiscoideum	00470000004A03021F0124113F110410380483031510A501140440360781					
Prorocentrummicans	00470000004A03021G0124013G100410380483031510A501131431360781					
Trepomonasagilis	00430000001E02111G0022007G0004002804830316018610140440360791					
Entamoebahistolytica	00430000001E02111G0022007G0004002804830316018610140440360791					
Encephalitozooncniculi	00460000005803131E0124113E111410280483031600A600230430460791					

  

	1030	1040	1050	1060	1070	1080
Desulfurococcusmobilis	34911900260004600001A000007A00000360344008394061A00007600770					
Sulfolobussolfataricus	34911900260004600001A000007A00000360344008394061A00007600770					
Halobacteriumhalobium	349119002800058000019001007900010360344008394061A00007600770					
Haloferaxvolcanii	34911900280005800001A000007A00000360344008394061A00007600770					
Methanobacteriumtherm	34911900280004800001A000007A00000360344008394061A00007600770					
Chlamydiasp	34911810286004800502E206027E03702540335008395042A00007600770					
Synechocystissp	34911810286004800502800000I800000540335008395042A00007600770					
Mycobacteriumtub	34911810286004800502E206004E00702540335008395042A00007600770					
Bacillussubtilis	34911810286004800502H207005H01702540335008395042910007600770					
Bradyrhizobiumjaponicum	34911810286004800502620000G600002540335008395042A00007600770					
Pseudomonassp	34911720286004800502F206107F02702540335008395042A00007600770					
Helicobacterpylori	34911810277004700602800000G800000540335008395042A00007600770					
Escherichiacoli	34911810286004800502G206007G01702540335008395042A00007600770					
Thermusthermophilus	349118102860048005029106165B02701540335008395042A00007600770					
Borrelia burgdorferi	34911810286004800502F009008F00A00540335008395042A00007600770					
Thermotogamaritima	34911810286004800502G009014G10A00540335008395042A00007600770					
Aquifexaeolicus	34911810286004800502J106005J00702540335008395042A00007600770					
Xenopuslaevis	358124008C0104C20016200000H200000960344008394061901007411761					
Homosapiens	358124008C0104C20016200000H200000960344008394061901007411761					
Saccharomycescerevisiae	358124008D0004D00016200000H200000960344008394061A00007411761					
Schizosaccharomycespom	358124008D0004D00016200000H200000960344008394061A00007510761					
Oryzasativa	358124008D0004D00016200000H200000960344008394061A00007411761					
Arabidopsisthaliana	358124008D0004D00016200000H200000960344008394061A00007411761					
Tetrahymenathermophila	358124008D0005D00116100000I100000960344108394061802007510761					
Dictyosteliumdiscoideum	35812400891106901116100000J100000860344008394061A00007411761					
Prorocentrummicans	358124008C0004C00016200000G200010960344008394061A00007510761					
Trepomonasagilis	33911810286004800502800000I800000540335008395042A00007600770					
Entamoebahistolytica	33911810286004800502800000I800000540335008395042A00007600770					
Encephalitozooncniculi	349112200A80005800016P308006P01403860254009294061802007510770					



	1210	1220	1230	1240	1250	1260
Desulfurococcusmobilis	01072421D401037304C33009C30A602E00000005E00000003242560160019					
Sulfolobussolfataricus	01072421D401037304C33009C30A602E00000005E00000003242560160019					
Halobacteriumhalobium	01072421D401037304C33009C30A602E00000005E00000003242560160019					
Haloferaxvolcanii	01072421D401037304C33009C30A602E00000005E00000003242560160019					
Methanobacteriumtherm	01072421D401037304C33009C30A602D001000005D10000003242560160019					
Chlamydiasp	03072421F101037304C33009C30A602B00000008B00000003242560160028					
Synechocystissp	03072421E202037304C33009C30A602B00000008B00000003242560160028					
Mycobacteriumtub	03072421F201037304C33009C30A602C00000007C00000003242560160027					
Bacillussubtilis	03072421F201037304C33009C30A602D00000004D00000003242560160027					
Bradyrhizobiumjaponicum	04072421F201037304C33009C30A602C00000004C00000003242560160027					
Pseudomonassp	03072421D203037304C33009C30A602B00000006B00000003242560160026					
Helicobacterpylori	03072421D401037404C33009C30A602C00000005C00000003242560160027					
Escherichiacoli	03072421F201037304C33009C30A602C00000005C00000003242560160027					
Thermusthermophilus	03072421F201037304C33009C30A602A00000003A00000003242560160028					
Borrelia burgdorferi	03072421F201037304C33009C30A602A00000003A00000003242560160028					
Thermotogamaritima	03072421F201037304C33009C30A602C00000003C00000003242560160028					
Aquifexaeolicus	03072421D221037304C33009C30A602B00000003B00000003242560160028					
Xenopuslaevis	02072423C501106314C33009C30A511D21300004D2120003242355141128					
Homosapiens	02072423C501106314C33009C30A511D21300004D2120003242355141128					
Saccharomycescerevisiae	02072423C501106314C33009C30A511E20100009E0020003242355141128					
Schizosaccharomycespom	02072423C501106314C33009C30A511D10100008D0020003242355150128					
Oryzasativa	02072423C501106314C33009C30A511E20100008E0020003242355141119					
Arabidopsisthaliana	02072423C501106314C33009C30A511E20100008E0020003242355141119					
Tetrahymenathermophila	02071424C501106314C33009C30A511C20000007C0020003242355151128					
Dictyosteliumdiscoideum	02072423B501106314C33009C30A511G20100003G0020003242455141127					
Prorocentrummicans	12072423C501106314C33009C30A511C30200008C2020003242355150128					
Trepomonasagilis	03072421E202037304C33009C30A602B00000008B00000003242560160028					
Entamoebahistolytica	03072421E202037304C33009C30A602B00000008B00000003242560160028					
Encephalitozooncniculi	02172423B511107304C33009C30A51291000000390010003242455150128					

	1270	1280	1290	1300	1310	1320
Desulfurococcusmobilis	10049022402C106502A0044084087003A810070000000000A160003F1200					
Sulfolobussolfataricus	10049022402C106502A0043183187003A810070000000000A160003F1200					
Halobacteriumhalobium	10049022402C106502A0044084087003A910070000000000A170003F1200					
Haloferaxvolcanii	10049022402C106502A0044084087003A910070000000000A180003F1200					
Methanobacteriumtherm	10049022402C106502A0044084087003A810070000000000A160003F1200					
Chlamydiasp	10048023402C105502A004408408700680000364623043008000002G1200					
Synechocystissp	10048023402C105502A004408408700670000274713143107010002G1200					
Mycobacteriumtub	20047033402C105502A004408408700680000274712052008000002G1200					
Bacillussubtilis	20047033402C105502A004408408700670000254543043007010002G1200					
Bradyrhizobiumjaponicum	20047033402C105502A004318318700680000374723043008010002G1200					
Pseudomonassp	20046033402C105402A004408408700670000274714144107010002G1200					
Helicobacterpylori	20047033402C105502A004408408700652000274726046005030002F1210					
Escherichiacoli	20047033402C105502A004408408700670000274713143107010002G1200					
Thermusthermophilus	10048023402C105502A004408408700680000274715145108000002G1200					
Borrelia burgdorferi	10048023402C105502A004408408700680000274714044008000002G1200					
Thermotogamaritima	10048023402C105502A004408408700670000474728048017000002G1200					
Aquifexaeolicus	10048023402C105502A004408408700680000274737047008000002G1210					
Xenopuslaevis	10048023402C10650291044084086104D50100PPPLAEP1P80000000000D					
Homosapiens	10048023402C10650291044084086104D501080000000000D120103G1200					
Saccharomycescerevisiae	10048023402C10750291044084086104D501080000000000D120103G1200					
Schizosaccharomycespom	10048023402C10650291034084086104D501080000000000D120103F1200					
Oryzasativa	10049022402C10650291044084086104D501080000000000D120103G1200					
Arabidopsisthaliana	10049022402C10650291044084086104D501080000000000D120103G1200					
Tetrahymenathermophila	10048023402B11550291044084086104D501080000000000D120103G1200					
Dictyosteliumdiscoideum	10147123402C10650291044084086104D501080000000000D120103G1200					
Prorocentrummicans	10048023402C10650291044084086104D501080000000000D120103G1200					
Trepomonasagilis	10048023402C105502A004408418700670000274713143107010002F1201					
Entamoebahistolytica	10048023402C105502A004408418700670000274713143107010002F1201					
Encephalitozooncniculi	1004802303C10650291043183175006C511080000000000C121103F1200					



	1450	1460	1470	1480	1490	1500
Desulfurococcusmobilis	3A105A00502000000000530450304A0500B708700A50580780BC01CP0120					
Sulfolobussolfataricus	3A105A00502000000000530450304A0400B708700A50580780BC01CP0120					
Halobacteriumhalobium	3A105A00502000000000530450304A0500B708700A50580780BC01CP0120					
Haloferaxvolcanii	3A105A00502000000000530450304A0500B708700A50580780BC01CP0120					
Methanobacteriumtherm	3A105A00502000000000530450304A0500B708700A50580780BC01CP0220					
Chlamydiasp	3A105A00502000000000530450304A0400B708700A50570A70BC01CP0120					
Synechocystissp	3A105A00502000000000530450304A0600B708700A50570970BC01CP0120					
Mycobacteriumtub	3A105A00502000000000530450304A0500B708700A50570A70BC01CP0120					
Bacillussubtilis	3A105A00502000000000530450304A0500B708700A50570970BC01CP0120					
Bradyrhizobiumjaponicum	3A105900602000000000530450304A0500B708700A50570970BC01CP0120					
Pseudomonassp	3A105A00502000000000530450304A0500B708700A41570970BC01CP0120					
Helicobacterpylori	3A105900702000000000530450304A0500B708700A50570A70BC01CP0120					
Escherichiacoli	3A105A00502000000000530450304A0500B708700A50570970BC01CP0120					
Thermusthermophilus	3A105A00502000000000530450304A0500B708700A50570A70BC01CP0120					
Borrelia burgdorferi	3A105A00502000000000530450304A0500B708700A50570970BC01CP0120					
Thermotogamaritima	3A105A00502000000000530450304A0400B708700A50570A70BC01CP0120					
Aquifexaeolicus	3A105A00502000000000530450304A0400B708700A50560C60BC01CP0120					
Xenopuslaevis	3911590051700000000080048000490700C50A500B50580780BC01DP0121					
Homosapiens	3911581051700000000071047010480701C50A500B50580780BC01DP0121					
Saccharomycescerevisiae	39115B00403810004802710470104B0500B50C500A50580780BC01DP0121					
Schizosaccharomycespom	39115B00405000000000620460204B0500B50C500A50580780BC01DP0121					
Oryzasativa	3911580160700000000071047100480710B60A600A50580780BC01DP0121					
Arabidopsisthaliana	3911580160600000000061046020480610B60A600A50580780BC01DP0121					
Tetrahymenathermophila	3911590060500000000080048010490700B51A510A50580780BB11DP0120					
Dictyosteliumdiscoideum	39115A00413000000000800480004A1500B50C500A50580780BC01DP0121					
Prorocentrummicans	39115900606000000000071047020490700B60A600A50580780BC01DP0121					
Trepomonasagilis	3A105A00502000000000530450304A0500B708700A50570A70BC01CP0120					
Entamoebahistolytica	3A105A00502000000000530450304A0500B708700A50660A60CC01CP0120					
Encephalitozooncniculi	39115B00213000000000611460114B1300B30A300A50760760BC01DP0122					

	1510	1520	1530	1540
Desulfurococcusmobilis	00002000000003P0000000002000201EA004A00B			
Sulfolobussolfataricus	100020000000005P0000000002001201EA004A00B			
Halobacteriumhalobium	00002000000004P0000000002000201EA004A00B			
Haloferaxvolcanii	00102000000004P0000000002000201EA004A00B			
Methanobacteriumtherm	00002000000003P0000000002000202EA004A00B			
Chlamydiasp	00004100220004P0000001113000201EA004A008			
Synechocystissp	00204100120004P0000001013020201EA004A00D			
Mycobacteriumtub	00204100220004P0000001113020201EA004A008			
Bacillussubtilis	00204100220003P0000001113020201EA004A00F			
Bradyrhizobiumjaponicum	00004100220004P0000001113000201EA004A00D			
Pseudomonassp	00004000220004P0000001103000201EA004A008			
Helicobacterpylori	00104103000003P0000000113010201EA004A008			
Escherichiacoli	00004000220004P0000001103000201EA004A00D			
Thermusthermophilus	00004100500004P0000000113000201EA004A008			
Borrelia burgdorferi	00104100220004P0000001113000201EA004A008			
Thermotogamaritima	00204000320004P0000001103010201EA004A00E			
Aquifexaeolicus	00004100220004P0000001113020201EA004A00E			
Xenopuslaevis	00022001310004P00000033102200210FA004A008			
Homosapiens	00022001300005P00000033102200210FA004A008			
Saccharomycescerevisiae	00022102300004P00000023212200210F91049108			
Schizosaccharomycespom	00022102301104P0001013212200210FA004A008			
Oryzasativa	00022002301004P0000103202200210FA004A008			
Arabidopsisthaliana	00022002301004P0000103202200210FA004A008			
Tetrahymenathermophila	00022012300004P0000003212200210FA004A008			
Dictyosteliumdiscoideum	00022010311004P0001003012200210FA004A009			
Prorocentrummicans	00022012310003P00000003113200210FA004A008			
Trepomonasagilis	10204100020004P0000001113021201EA004A00D			
Entamoebahistolytica	10104100020004P0000001113011201EA004A00D			
Encephalitozooncniculi	00022102300004P0000003212200210F91049108			