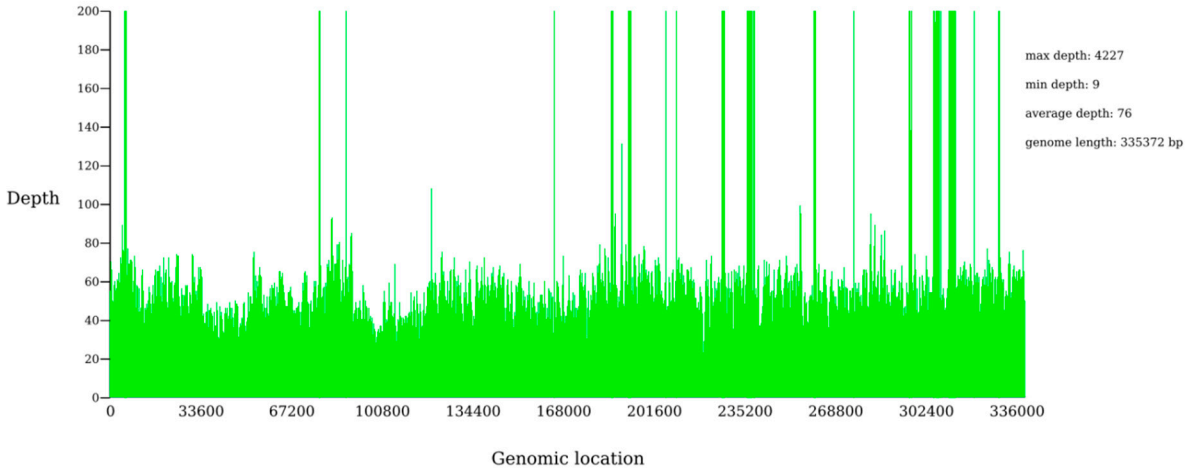



**Figure S1** Statistical depth map. Raw second-generation sequencing reads were aligned to the assembled genomes using bortie2 (2.3.5.1) and then sorted using Samtools (1.9) with statistical depth.

**Supplementary Table S1** Codon position, change of amino acids, and type of RNA editing infomation

| Gene | Nucleotide position | Amino acid position | Type of RNA editing |
|---|---|---|---|
| *atp1* | 1039 | 347 | CCT (P) => TCT (S) |
| *atp1* | 1064 | 355 | TCG (S) => TTG (L) |
| *atp1* | 1178 | 393 | TCA (S) => TTA (L) |
| *atp1* | 1216 | 406 | CTT (L) => TTT (F) |
| *atp1* | 1292 | 431 | CCG (P) => CTG (L) |
| *atp1* | 1490 | 497 | CCA (P) => CTA (L) |
| *atp1* | 1526 | 509 | ACA (T) => ATA (I) |
| *atp4* | 59 | 20 | TCT (S) => TTT (F) |
| *atp4* | 71 | 24 | TCA (S) => TTA (L) |
| *atp4* | 89 | 30 | TCA (S) => TTA (L) |
| *atp4* | 118 | 40 | CGT (R) => TGT (C) |
| *atp4* | 215 | 72 | TCA (S) => TTA (L) |
| *atp4* | 226 | 76 | CTC (L) => TTC (F) |
| *atp4* | 248 | 83 | CCT (P) => CTT (L) |
| *atp4* | 251 | 84 | CCG (P) => CTG (L) |
| *atp4* | 395 | 132 | TCA (S) => TTA (L) |
| *atp4* | 407 | 136 | CCA (P) => CTA (L) |
| *atp4* | 416 | 139 | ACT (T) => ATT (I) |
| *atp4* | 490 | 164 | CCC (P) => TCC (S) |
| *atp6* | 8 | 3 | ACG (T) => ATG (M) |

| | | | |
|---|---|---|---|
| *atp8* | 47 | 16 | TCA (S) => TTA (L) |
| *atp8* | 58 | 20 | CTC (L) => TTC (F) |
| *atp8* | 452 | 151 | CCA (P) => CTA (L) |
| *atp9* | 50 | 17 | TCA (S) => TTA (L) |
| *atp9* | 82 | 28 | CTT (L) => TTT (F) |
| *atp9* | 92 | 31 | TCG (S) => TTG (L) |
| *atp9* | 134 | 45 | TCA (S) => TTA (L) |
| *atp9* | 182 | 61 | TCG (S) => TTG (L) |
| *atp9* | 191 | 64 | CCA (P) => CTA (L) |
| *atp9* | 212 | 71 | TCA (S) => TTA (L) |
| *atp9* | 215 | 72 | TCC (S) => TTC (F) |
| *atp9* | 223 | 75 | CGA (R) => TGA (X) |
| *ccmB* | 38 | 13 | ACC (T) => ATC (I) |
| *ccmB* | 43 | 15 | CCC (P) => TCC (S) |
| *ccmB* | 71 | 24 | CCA (P) => CTA (L) |
| *ccmB* | 80 | 27 | TCA (S) => TTA (L) |
| *ccmB* | 137 | 46 | TCC (S) => TTC (F) |
| *ccmB* | 149 | 50 | CCG (P) => CTG (L) |
| *ccmB* | 154 | 52 | CGG (R) => TGG (W) |
| *ccmB* | 160 | 54 | CCC (P) => TCC (S) |
| *ccmB* | 164 | 55 | CCG (P) => CTG (L) |
| *ccmB* | 172 | 58 | CCT (P) => TCT (S) |
| *ccmB* | 179 | 60 | CCT (P) => CTT (L) |
| *ccmB* | 193 | 65 | CCT (P) => TTT (F) |
| *ccmB* | 194 | 65 | CCT (P) => TTT (F) |
| *ccmB* | 286 | 96 | CGG (R) => TGG (W) |
| *ccmB* | 304 | 102 | CGT (R) => TGT (C) |
| *ccmB* | 313 | 105 | CGT (R) => TGT (C) |
| *ccmB* | 338 | 113 | CCG (P) => CTG (L) |
| *ccmB* | 367 | 123 | CGG (R) => TGG (W) |
| *ccmB* | 380 | 127 | CCA (P) => CTA (L) |
| *ccmB* | 424 | 142 | CGT (R) => TGT (C) |
| *ccmB* | 428 | 143 | TCG (S) => TTG (L) |
| *ccmB* | 467 | 156 | TCG (S) => TTG (L) |
| *ccmB* | 476 | 159 | CCA (P) => CTA (L) |
| *ccmB* | 485 | 162 | TCA (S) => TTA (L) |
| *ccmB* | 494 | 165 | TCA (S) => TTA (L) |
| *ccmB* | 503 | 168 | CCA (P) => CTA (L) |
| *ccmB* | 512 | 171 | TCT (S) => TTT (F) |
| *ccmB* | 514 | 172 | CGT (R) => TGT (C) |
| *ccmB* | 551 | 184 | TCA (S) => TTA (L) |
| *ccmB* | 554 | 185 | TCG (S) => TTG (L) |
| *ccmB* | 566 | 189 | TCC (S) => TTC (F) |
| *ccmB* | 572 | 191 | CCG (P) => CTG (L) |
| *ccmB* | 587 | 196 | TCT (S) => TTT (F) |
| *ccmB* | 596 | 199 | TCG (S) => TTG (L) |
| *ccmB* | 611 | 204 | TCA (S) => TTA (L) |
| *ccmC* | 76 | 26 | CGG (R) => TGG (W) |
| *ccmC* | 103 | 35 | CAT (H) => TAT (Y) |

| | | | |
|---|---|---|---|
| *ccmC* | 115 | 39 | CGG (R) => TGG (W) |
| *ccmC* | 133 | 45 | CTT (L) => TTT (F) |
| *ccmC* | 161 | 54 | CCT (P) => CTT (L) |
| *ccmC* | 179 | 60 | GCG (A) => GTG (V) |
| *ccmC* | 184 | 62 | CGG (R) => TGG (W) |
| *ccmC* | 281 | 94 | ACA (T) => ATA (I) |
| *ccmC* | 299 | 100 | TCT (S) => TTT (F) |
| *ccmC* | 331 | 111 | CGG (R) => TGG (W) |
| *ccmC* | 395 | 132 | TCG (S) => TTG (L) |
| *ccmC* | 400 | 134 | CTT (L) => TTT (F) |
| *ccmC* | 421 | 141 | CGT (R) => TGT (C) |
| *ccmC* | 436 | 146 | CCT (P) => TCT (S) |
| *ccmC* | 446 | 149 | CCG (P) => CTG (L) |
| *ccmC* | 451 | 151 | CCT (P) => TCT (S) |
| *ccmC* | 458 | 153 | TCA (S) => TTA (L) |
| *ccmC* | 463 | 155 | CGT (R) => TGT (C) |
| *ccmC* | 467 | 156 | GCT (A) => GTT (V) |
| *ccmC* | 473 | 158 | CCG (P) => CTG (L) |
| *ccmC* | 497 | 166 | TCT (S) => TTT (F) |
| *ccmC* | 521 | 174 | TCG (S) => TTG (L) |
| *ccmC* | 568 | 190 | CCT (P) => TCT (S) |
| *ccmC* | 575 | 192 | CCC (P) => CTC (L) |
| *ccmC* | 605 | 202 | TCC (S) => TTC (F) |
| *ccmC* | 608 | 203 | CCC (P) => CTC (L) |
| *ccmC* | 614 | 205 | TCA (S) => TTA (L) |
| *ccmC* | 619 | 207 | CGT (R) => TGT (C) |
| *ccmC* | 656 | 219 | CCA (P) => CTA (L) |
| *ccmC* | 673 | 225 | CCT (P) => TCT (S) |
| *ccmFc* | 38 | 13 | TCC (S) => TTC (F) |
| *ccmFc* | 50 | 17 | CCT (P) => CTT (L) |
| *ccmFc* | 52 | 18 | CGT (R) => TGT (C) |
| *ccmFc* | 103 | 35 | CCC (P) => TCC (S) |
| *ccmFc* | 119 | 40 | TCT (S) => TTT (F) |
| *ccmFc* | 122 | 41 | TCT (S) => TTT (F) |
| *ccmFc* | 151 | 51 | CCT (P) => TCT (S) |
| *ccmFc* | 155 | 52 | TCA (S) => TTA (L) |
| *ccmFc* | 160 | 54 | CCT (P) => TCT (S) |
| *ccmFc* | 203 | 68 | ACG (T) => ATG (M) |
| *ccmFc* | 310 | 104 | CGT (R) => TGT (C) |
| *ccmFc* | 391 | 131 | CGT (R) => TGT (C) |
| *ccmFc* | 406 | 136 | CGT (R) => TGT (C) |
| *ccmFc* | 620 | 207 | GCG (A) => GTG (V) |
| *ccmFc* | 704 | 235 | GCT (A) => GTT (V) |
| *ccmFc* | 878 | 293 | TCT (S) => TTT (F) |
| *ccmFc* | 1139 | 380 | CCA (P) => CTA (L) |
| *ccmFc* | 1160 | 387 | CCG (P) => CTG (L) |
| *ccmFc* | 1234 | 412 | CGG (R) => TGG (W) |
| *ccmFc* | 1315 | 439 | CGA (R) => TGA (X) |
| *ccmFn* | 8 | 3 | ACG (T) => ATG (M) |

| | | | |
|---|---|---|---|
| *ccmFn* | 44 | 15 | CCG (P) => CTG (L) |
| *ccmFn* | 104 | 35 | CCT (P) => CTT (L) |
| *ccmFn* | 143 | 48 | CCG (P) => CTG (L) |
| *ccmFn* | 148 | 50 | CGT (R) => TGT (C) |
| *ccmFn* | 157 | 53 | CCT (P) => TCT (S) |
| *ccmFn* | 254 | 85 | TCA (S) => TTA (L) |
| *ccmFn* | 262 | 88 | CGG (R) => TGG (W) |
| *ccmFn* | 289 | 97 | CTT (L) => TTT (F) |
| *ccmFn* | 340 | 114 | CAT (H) => TAT (Y) |
| *ccmFn* | 362 | 121 | TCC (S) => TTC (F) |
| *ccmFn* | 371 | 124 | TCG (S) => TTG (L) |
| *ccmFn* | 484 | 162 | CGT (R) => TGT (C) |
| *ccmFn* | 556 | 186 | CCT (P) => TTT (F) |
| *ccmFn* | 557 | 186 | CCT (P) => TTT (F) |
| *ccmFn* | 703 | 235 | CCT (P) => TTT (F) |
| *ccmFn* | 704 | 235 | CCT (P) => TTT (F) |
| *ccmFn* | 713 | 238 | TCG (S) => TTG (L) |
| *ccmFn* | 751 | 251 | CGT (R) => TGT (C) |
| *ccmFn* | 773 | 258 | TCA (S) => TTA (L) |
| *ccmFn* | 785 | 262 | CCA (P) => CTA (L) |
| *ccmFn* | 800 | 267 | TCA (S) => TTA (L) |
| *ccmFn* | 949 | 317 | CGC (R) => TGC (C) |
| *ccmFn* | 1264 | 422 | CGG (R) => TGG (W) |
| *ccmFn* | 1292 | 431 | CCA (P) => CTA (L) |
| *ccmFn* | 1309 | 437 | CAT (H) => TAT (Y) |
| *ccmFn* | 1324 | 442 | CGG (R) => TGG (W) |
| *ccmFn* | 1342 | 448 | CGG (R) => TGG (W) |
| *ccmFn* | 1375 | 459 | CGG (R) => TGG (W) |
| *ccmFn* | 1393 | 465 | CGT (R) => TGT (C) |
| *ccmFn* | 1436 | 479 | TCG (S) => TTG (L) |
| *ccmFn* | 1456 | 486 | CTT (L) => TTT (F) |
| *ccmFn* | 1460 | 487 | CCA (P) => CTA (L) |
| *ccmFn* | 1472 | 491 | TCA (S) => TTA (L) |
| *ccmFn* | 1481 | 494 | TCT (S) => TTT (F) |
| *ccmFn* | 1507 | 503 | CCC (P) => TCC (S) |
| *cob* | 118 | 40 | CCG (P) => TCG (S) |
| *cob* | 286 | 96 | CTC (L) => TTC (F) |
| *cob* | 298 | 100 | CAC (H) => TAC (Y) |
| *cob* | 325 | 109 | CAT (H) => TAT (Y) |
| *cob* | 358 | 120 | CGG (R) => TGG (W) |
| *cob* | 419 | 140 | CCA (P) => CTA (L) |
| *cob* | 568 | 190 | CAT (H) => TAT (Y) |
| *cob* | 680 | 227 | TCT (S) => TTT (F) |
| *cob* | 737 | 246 | TCT (S) => TTT (F) |
| *cob* | 808 | 270 | CCC (P) => TCC (S) |
| *cob* | 853 | 285 | CAT (H) => TAT (Y) |
| *cob* | 908 | 303 | CCA (P) => CTA (L) |
| *cob* | 982 | 328 | CAC (H) => TAC (Y) |
| *cob* | 1015 | 339 | CGC (R) => TGC (C) |

| | | | |
|---|---|---|---|
| *cob* | 1084 | 362 | CCT (P) => TCT (S) |
| *cox1* | 11 | 4 | CCG (P) => CTG (L) |
| *cox1* | 242 | 81 | TCT (S) => TTT (F) |
| *cox1* | 254 | 85 | TCT (S) => TTT (F) |
| *cox1* | 352 | 118 | CCA (P) => TCA (S) |
| *cox1* | 443 | 148 | TCA (S) => TTA (L) |
| *cox1* | 452 | 151 | TCT (S) => TTT (F) |
| *cox1* | 458 | 153 | CCT (P) => CTT (L) |
| *cox1* | 515 | 172 | TCC (S) => TTC (F) |
| *cox1* | 551 | 184 | TCA (S) => TTA (L) |
| *cox1* | 590 | 197 | CCA (P) => CTA (L) |
| *cox1* | 668 | 223 | TCT (S) => TTT (F) |
| *cox1* | 715 | 239 | CGG (R) => TGG (W) |
| *cox1* | 746 | 249 | CCC (P) => CTC (L) |
| *cox1* | 761 | 254 | TCC (S) => TTC (F) |
| *cox1* | 854 | 285 | CCT (P) => CTT (L) |
| *cox1* | 860 | 287 | TCT (S) => TTT (F) |
| *cox1* | 1037 | 346 | TCC (S) => TTC (F) |
| *cox1* | 1079 | 360 | CCG (P) => CTG (L) |
| *cox1* | 1186 | 396 | CAC (H) => TAC (Y) |
| *cox1* | 1274 | 425 | CCG (P) => CTG (L) |
| *cox1* | 1373 | 458 | TCT (S) => TTT (F) |
| *cox1* | 1405 | 469 | CGT (R) => TGT (C) |
| *cox1* | 1433 | 478 | TCA (S) => TTA (L) |
| *cox1* | 1489 | 497 | CCA (P) => TCA (S) |
| *cox1* | 1499 | 500 | CCG (P) => CTG (L) |
| *cox2* | 71 | 24 | TCT (S) => TTT (F) |
| *cox2* | 161 | 54 | TCA (S) => TTA (L) |
| *cox2* | 163 | 55 | CGG (R) => TGG (W) |
| *cox2* | 253 | 85 | CGG (R) => TGG (W) |
| *cox2* | 278 | 93 | CCG (P) => CTG (L) |
| *cox2* | 379 | 127 | CGG (R) => TGG (W) |
| *cox2* | 443 | 148 | ACG (T) => ATG (M) |
| *cox2* | 581 | 194 | TCA (S) => TTA (L) |
| *cox2* | 632 | 211 | TCG (S) => TTG (L) |
| *cox2* | 790 | 264 | CAG (Q) => TAG (X) |
| *cox3* | 245 | 82 | CCT (P) => CTT (L) |
| *cox3* | 289 | 97 | CTT (L) => TTT (F) |
| *cox3* | 298 | 100 | CTT (L) => TTT (F) |
| *cox3* | 304 | 102 | CGG (R) => TGG (W) |
| *cox3* | 311 | 104 | TCT (S) => TTT (F) |
| *cox3* | 314 | 105 | TCT (S) => TTT (F) |
| *cox3* | 388 | 130 | CGG (R) => TGG (W) |
| *cox3* | 419 | 140 | CCC (P) => CTC (L) |
| *cox3* | 512 | 171 | TCA (S) => TTA (L) |
| *cox3* | 566 | 189 | TCC (S) => TTC (F) |
| *cox3* | 653 | 218 | TCG (S) => TTG (L) |
| *cox3* | 754 | 252 | CGG (R) => TGG (W) |
| *cox3* | 764 | 255 | CCA (P) => CTA (L) |

| | | | |
|---|---|---|---|
| *matR* | 32 | 11 | TCC (S) => TTC (F) |
| *matR* | 193 | 65 | CCC (P) => TCC (S) |
| *matR* | 235 | 79 | CCC (P) => TTC (F) |
| *matR* | 236 | 79 | CCC (P) => TTC (F) |
| *matR* | 275 | 92 | GCG (A) => GTG (V) |
| *matR* | 326 | 109 | CCA (P) => CTA (L) |
| *matR* | 506 | 169 | GCG (A) => GTG (V) |
| *matR* | 1679 | 560 | TCC (S) => TTC (F) |
| *matR* | 1700 | 567 | CCT (P) => CTT (L) |
| *matR* | 1720 | 574 | CGC (R) => TGC (C) |
| *matR* | 1756 | 586 | CAC (H) => TAC (Y) |
| *matR* | 1787 | 596 | CCG (P) => CTG (L) |
| *matR* | 1826 | 609 | CCA (P) => CTA (L) |
| *matR* | 1844 | 615 | TCA (S) => TTA (L) |
| *mttB* | 35 | 12 | CCG (P) => CTG (L) |
| *mttB* | 73 | 25 | CGG (R) => TGG (W) |
| *mttB* | 109 | 37 | CGT (R) => TGT (C) |
| *mttB* | 121 | 41 | CCG (P) => TCG (S) |
| *mttB* | 137 | 46 | TCT (S) => TTT (F) |
| *mttB* | 140 | 47 | CCA (P) => CTA (L) |
| *mttB* | 193 | 65 | CGT (R) => TGT (C) |
| *mttB* | 203 | 68 | TCA (S) => TTA (L) |
| *mttB* | 215 | 72 | TCC (S) => TTC (F) |
| *mttB* | 217 | 73 | CCG (P) => TCG (S) |
| *mttB* | 277 | 93 | CAT (H) => TAT (Y) |
| *mttB* | 343 | 115 | CTC (L) => TTC (F) |
| *mttB* | 346 | 116 | CAT (H) => TAT (Y) |
| *mttB* | 359 | 120 | TCT (S) => TTT (F) |
| *mttB* | 361 | 121 | CGC (R) => TGC (C) |
| *mttB* | 368 | 123 | TCC (S) => TTC (F) |
| *mttB* | 389 | 130 | CCT (P) => CTT (L) |
| *mttB* | 391 | 131 | CCC (P) => TCC (S) |
| *mttB* | 394 | 132 | CGG (R) => TGG (W) |
| *mttB* | 422 | 141 | CCA (P) => CTA (L) |
| *mttB* | 452 | 151 | TCG (S) => TTG (L) |
| *mttB* | 487 | 163 | CAT (H) => TAT (Y) |
| *mttB* | 512 | 171 | TCG (S) => TTG (L) |
| *mttB* | 520 | 174 | CCA (P) => TCA (S) |
| *mttB* | 556 | 186 | CGT (R) => TGT (C) |
| *mttB* | 563 | 188 | CCA (P) => CTA (L) |
| *mttB* | 569 | 190 | CCA (P) => CTA (L) |
| *mttB* | 593 | 198 | TCC (S) => TTC (F) |
| *mttB* | 625 | 209 | CCG (P) => TCG (S) |
| *mttB* | 698 | 233 | TCG (S) => TTG (L) |
| *mttB* | 719 | 240 | TCT (S) => TTT (F) |
| *mttB* | 728 | 243 | TCG (S) => TTG (L) |
| *nad1* | 215 | 72 | TCC (S) => TTC (F) |
| *nad1* | 265 | 89 | CGG (R) => TGG (W) |
| *nad1* | 308 | 103 | CCG (P) => CTG (L) |

| | | | |
|---|---|---|---|
| *nad1* | 376 | 126 | CGG (R) => TGG (W) |
| *nad1* | 436 | 146 | CCT (P) => TCT (S) |
| *nad1* | 490 | 164 | CCC (P) => TCC (S) |
| *nad1* | 493 | 165 | CGT (R) => TGT (C) |
| *nad1* | 500 | 167 | TCG (S) => TTG (L) |
| *nad1* | 536 | 179 | TCC (S) => TTC (F) |
| *nad1* | 635 | 212 | TCA (S) => TTA (L) |
| *nad1* | 674 | 225 | TCT (S) => TTT (F) |
| *nad1* | 683 | 228 | TCT (S) => TTT (F) |
| *nad1* | 725 | 242 | CCA (P) => CTA (L) |
| *nad1* | 734 | 245 | TCG (S) => TTG (L) |
| *nad1* | 740 | 247 | TCT (S) => TTT (F) |
| *nad1* | 743 | 248 | CCA (P) => CTA (L) |
| *nad1* | 755 | 252 | CCG (P) => CTG (L) |
| *nad1* | 802 | 268 | CGG (R) => TGG (W) |
| *nad1* | 823 | 275 | CTT (L) => TTT (F) |
| *nad1* | 898 | 300 | CGG (R) => TGG (W) |
| *nad1* | 928 | 310 | CGG (R) => TGG (W) |
| *nad1* | 937 | 313 | CCC (P) => TCC (S) |
| *nad2* | 26 | 9 | TCC (S) => TTC (F) |
| *nad2* | 262 | 88 | CTT (L) => TTT (F) |
| *nad2* | 308 | 103 | TCT (S) => TTT (F) |
| *nad2* | 311 | 104 | TCC (S) => TTC (F) |
| *nad2* | 335 | 112 | TCT (S) => TTT (F) |
| *nad2* | 341 | 114 | TCC (S) => TTC (F) |
| *nad2* | 356 | 119 | CCA (P) => CTA (L) |
| *nad2* | 361 | 121 | CCT (P) => TCT (S) |
| *nad2* | 367 | 123 | CGC (R) => TGC (C) |
| *nad2* | 401 | 134 | TCA (S) => TTA (L) |
| *nad2* | 428 | 143 | CCT (P) => CTT (L) |
| *nad2* | 497 | 166 | TCG (S) => TTG (L) |
| *nad2* | 662 | 221 | TCT (S) => TTT (F) |
| *nad2* | 677 | 226 | TCC (S) => TTC (F) |
| *nad2* | 788 | 263 | TCT (S) => TTT (F) |
| *nad2* | 800 | 267 | TCA (S) => TTA (L) |
| *nad2* | 809 | 270 | TCT (S) => TTT (F) |
| *nad2* | 928 | 310 | CAT (H) => TAT (Y) |
| *nad2* | 958 | 320 | CGT (R) => TGT (C) |
| *nad2* | 962 | 321 | ACT (T) => ATT (I) |
| *nad2* | 1028 | 343 | TCA (S) => TTA (L) |
| *nad2* | 1058 | 353 | TCA (S) => TTA (L) |
| *nad2* | 1127 | 376 | TCG (S) => TTG (L) |
| *nad2* | 1247 | 416 | CCA (P) => CTA (L) |
| *nad2* | 1276 | 426 | CGT (R) => TGT (C) |
| *nad2* | 1400 | 467 | TCA (S) => TTA (L) |
| *nad2* | 1409 | 470 | CCA (P) => CTA (L) |
| *nad2* | 1457 | 486 | TCA (S) => TTA (L) |
| *nad3* | 5 | 2 | TCA (S) => TTA (L) |
| *nad3* | 44 | 15 | CCG (P) => CTG (L) |

| | | | |
|---|---|---|---|
| *nad3* | 62 | 21 | CCA (P) => CTA (L) |
| *nad3* | 80 | 27 | CCA (P) => CTA (L) |
| *nad3* | 208 | 70 | CCT (P) => TTT (F) |
| *nad3* | 209 | 70 | CCT (P) => TTT (F) |
| *nad3* | 215 | 72 | CCG (P) => CTG (L) |
| *nad3* | 230 | 77 | TCC (S) => TTC (F) |
| *nad3* | 247 | 83 | CCT (P) => TCT (S) |
| *nad3* | 251 | 84 | CCC (P) => CTC (L) |
| *nad3* | 266 | 89 | CCC (P) => CTC (L) |
| *nad3* | 275 | 92 | TCT (S) => TTT (F) |
| *nad3* | 317 | 106 | TCT (S) => TTT (F) |
| *nad3* | 344 | 115 | TCG (S) => TTG (L) |
| *nad3* | 349 | 117 | CGG (R) => TGG (W) |
| *nad4* | 29 | 10 | TCT (S) => TTT (F) |
| *nad4* | 74 | 25 | ACT (T) => ATT (I) |
| *nad4* | 77 | 26 | CCT (P) => CTT (L) |
| *nad4* | 107 | 36 | CCG (P) => CTG (L) |
| *nad4* | 158 | 53 | CCT (P) => CTT (L) |
| *nad4* | 166 | 56 | CGG (R) => TGG (W) |
| *nad4* | 197 | 66 | TCT (S) => TTT (F) |
| *nad4* | 362 | 121 | ACA (T) => ATA (I) |
| *nad4* | 368 | 123 | TCT (S) => TTT (F) |
| *nad4* | 376 | 126 | CGT (R) => TGT (C) |
| *nad4* | 403 | 135 | CGC (R) => TGC (C) |
| *nad4* | 416 | 139 | CCT (P) => CTT (L) |
| *nad4* | 433 | 145 | CTT (L) => TTT (F) |
| *nad4* | 436 | 146 | CCC (P) => TTC (F) |
| *nad4* | 437 | 146 | CCC (P) => TTC (F) |
| *nad4* | 517 | 173 | CTT (L) => TTT (F) |
| *nad4* | 1433 | 478 | CCG (P) => CTG (L) |
| *nad4L* | 11 | 4 | TCT (S) => TTT (F) |
| *nad4L* | 17 | 6 | TCA (S) => TTA (L) |
| *nad4L* | 25 | 9 | CGG (R) => TGG (W) |
| *nad4L* | 56 | 19 | CCT (P) => CTT (L) |
| *nad4L* | 65 | 22 | TCA (S) => TTA (L) |
| *nad4L* | 70 | 24 | CCA (P) => TCA (S) |
| *nad4L* | 80 | 27 | TCA (S) => TTA (L) |
| *nad4L* | 101 | 34 | TCG (S) => TTG (L) |
| *nad4L* | 128 | 43 | TCG (S) => TTG (L) |
| *nad4L* | 149 | 50 | TCA (S) => TTA (L) |
| *nad4L* | 158 | 53 | TCA (S) => TTA (L) |
| *nad4L* | 167 | 56 | CCA (P) => CTA (L) |
| *nad4L* | 251 | 84 | TCT (S) => TTT (F) |
| *nad5* | 155 | 52 | CCG (P) => CTG (L) |
| *nad5* | 242 | 81 | CCG (P) => CTG (L) |
| *nad5* | 272 | 91 | TCC (S) => TTC (F) |
| *nad5* | 358 | 120 | CCT (P) => TTT (F) |
| *nad5* | 359 | 120 | CCT (P) => TTT (F) |
| *nad5* | 374 | 125 | CCA (P) => CTA (L) |

| | | | |
|---|---|---|---|
| *nad5* | 398 | 133 | TCT (S) => TTT (F) |
| *nad5* | 539 | 180 | CCT (P) => CTT (L) |
| *nad5* | 548 | 183 | TCG (S) => TTG (L) |
| *nad5* | 629 | 210 | TCT (S) => TTT (F) |
| *nad5* | 631 | 211 | CGC (R) => TGC (C) |
| *nad5* | 676 | 226 | CTT (L) => TTT (F) |
| *nad5* | 689 | 230 | GCT (A) => GTT (V) |
| *nad5* | 713 | 238 | TCG (S) => TTG (L) |
| *nad5* | 725 | 242 | TCA (S) => TTA (L) |
| *nad5* | 835 | 279 | CCA (P) => TCA (S) |
| *nad5* | 1184 | 395 | CCA (P) => CTA (L) |
| *nad5* | 1310 | 437 | TCA (S) => TTA (L) |
| *nad5* | 1490 | 497 | CCC (P) => CTC (L) |
| *nad5* | 1550 | 517 | ACC (T) => ATC (I) |
| *nad5* | 1568 | 523 | CCG (P) => CTG (L) |
| *nad5* | 1580 | 527 | TCA (S) => TTA (L) |
| *nad5* | 1589 | 530 | TCT (S) => TTT (F) |
| *nad5* | 1610 | 537 | CCA (P) => CTA (L) |
| *nad5* | 1895 | 632 | TCA (S) => TTA (L) |
| *nad5* | 1916 | 639 | TCT (S) => TTT (F) |
| *nad5* | 1918 | 640 | CGT (R) => TGT (C) |
| *nad5* | 1958 | 653 | TCG (S) => TTG (L) |
| *nad6* | 7 | 3 | CTT (L) => TTT (F) |
| *nad6* | 88 | 30 | CCC (P) => TTC (F) |
| *nad6* | 89 | 30 | CCC (P) => TTC (F) |
| *nad6* | 95 | 32 | CCA (P) => CTA (L) |
| *nad6* | 103 | 35 | CGC (R) => TGC (C) |
| *nad6* | 161 | 54 | CCA (P) => CTA (L) |
| *nad6* | 169 | 57 | CAT (H) => TAT (Y) |
| *nad6* | 191 | 64 | TCA (S) => TTA (L) |
| *nad6* | 446 | 149 | TCC (S) => TTC (F) |
| *nad6* | 463 | 155 | CCT (P) => TCT (S) |
| *nad6* | 569 | 190 | TCT (S) => TTT (F) |
| *nad7* | 38 | 13 | TCG (S) => TTG (L) |
| *nad7* | 77 | 26 | TCA (S) => TTA (L) |
| *nad7* | 83 | 28 | TCA (S) => TTA (L) |
| *nad7* | 137 | 46 | TCA (S) => TTA (L) |
| *nad7* | 200 | 67 | TCT (S) => TTT (F) |
| *nad7* | 209 | 70 | TCA (S) => TTA (L) |
| *nad7* | 224 | 75 | ACG (T) => ATG (M) |
| *nad7* | 244 | 82 | CAT (H) => TAT (Y) |
| *nad7* | 251 | 84 | TCA (S) => TTA (L) |
| *nad7* | 316 | 106 | CGT (R) => TGT (C) |
| *nad7* | 335 | 112 | TCA (S) => TTA (L) |
| *nad7* | 344 | 115 | TCA (S) => TTA (L) |
| *nad7* | 383 | 128 | TCA (S) => TTA (L) |
| *nad7* | 533 | 178 | TCC (S) => TTC (F) |
| *nad7* | 578 | 193 | TCA (S) => TTA (L) |
| *nad7* | 679 | 227 | CCA (P) => TCA (S) |

| | | | |
|---|---|---|---|
| *nad7* | 698 | 233 | TCG (S) => TTG (L) |
| *nad7* | 724 | 242 | CAT (H) => TAT (Y) |
| *nad7* | 734 | 245 | TCG (S) => TTG (L) |
| *nad7* | 739 | 247 | CCT (P) => TTT (F) |
| *nad7* | 740 | 247 | CCT (P) => TTT (F) |
| *nad7* | 769 | 257 | CGC (R) => TGC (C) |
| *nad7* | 836 | 279 | CCT (P) => CTT (L) |
| *nad7* | 926 | 309 | TCA (S) => TTA (L) |
| *nad7* | 944 | 315 | CCT (P) => CTT (L) |
| *nad7* | 973 | 325 | CCT (P) => TCT (S) |
| *nad7* | 1057 | 353 | CGT (R) => TGT (C) |
| *nad7* | 1079 | 360 | TCT (S) => TTT (F) |
| *nad7* | 1088 | 363 | TCA (S) => TTA (L) |
| *nad7* | 1103 | 368 | TCT (S) => TTT (F) |
| *nad7* | 1124 | 375 | CCA (P) => CTA (L) |
| *nad7* | 1166 | 389 | TCT (S) => TTT (F) |
| *nad9* | 113 | 38 | CCA (P) => CTA (L) |
| *nad9* | 167 | 56 | TCG (S) => TTG (L) |
| *nad9* | 190 | 64 | CAT (H) => TAT (Y) |
| *nad9* | 298 | 100 | CCG (P) => TCG (S) |
| *nad9* | 311 | 104 | CCA (P) => CTA (L) |
| *nad9* | 328 | 110 | CGG (R) => TGG (W) |
| *nad9* | 368 | 123 | TCC (S) => TTC (F) |
| *nad9* | 398 | 133 | TCA (S) => TTA (L) |
| *nad9* | 439 | 147 | CTT (L) => TTT (F) |
| *nad9* | 539 | 180 | TCT (S) => TTT (F) |
| *rpl10* | 101 | 34 | TCA (S) => TTA (L) |
| *rpl10* | 134 | 45 | CCA (P) => CTA (L) |
| *rpl10* | 239 | 80 | TCG (S) => TTG (L) |
| *rpl16* | 37 | 13 | CAG (Q) => TAG (X) |
| *rpl16* | 107 | 36 | TCT (S) => TTT (F) |
| *rpl16* | 185 | 62 | ACT (T) => ATT (I) |
| *rpl16* | 313 | 105 | CTC (L) => TTC (F) |
| *rpl5* | 35 | 12 | TCA (S) => TTA (L) |
| *rpl5* | 47 | 16 | CCG (P) => CTG (L) |
| *rpl5* | 59 | 20 | CCG (P) => CTG (L) |
| *rpl5* | 64 | 22 | CAC (H) => TAC (Y) |
| *rpl5* | 92 | 31 | TCG (S) => TTG (L) |
| *rpl5* | 170 | 57 | CCG (P) => CTG (L) |
| *rpl5* | 518 | 173 | CCA (P) => CTA (L) |
| *rpl5* | 521 | 174 | CCG (P) => CTG (L) |
| *rps12* | 71 | 24 | TCG (S) => TTG (L) |
| *rps12* | 100 | 34 | CGC (R) => TGC (C) |
| *rps12* | 104 | 35 | CCG (P) => CTG (L) |
| *rps12* | 112 | 38 | CCA (P) => TCA (S) |
| *rps12* | 146 | 49 | CCA (P) => CTA (L) |
| *rps12* | 196 | 66 | CAC (H) => TAC (Y) |
| *rps12* | 221 | 74 | TCG (S) => TTG (L) |
| *rps12* | 269 | 90 | TCG (S) => TTG (L) |

| | | | |
|---|---|---|---|
| *rps12* | 284 | 95 | TCC (S) => TTC (F) |
| *rps13* | 26 | 9 | TCA (S) => TTA (L) |
| *rps13* | 56 | 19 | TCA (S) => TTA (L) |
| *rps13* | 100 | 34 | CGT (R) => TGT (C) |
| *rps13* | 287 | 96 | TCA (S) => TTA (L) |
| *rps3* | 64 | 22 | CGG (R) => TGG (W) |
| *rps3* | 92 | 31 | TCA (S) => TTA (L) |
| *rps3* | 397 | 133 | CCG (P) => TCG (S) |
| *rps3* | 512 | 171 | TCA (S) => TTA (L) |
| *rps3* | 574 | 192 | CTC (L) => TTC (F) |
| *rps3* | 671 | 224 | CCA (P) => CTA (L) |
| *rps3* | 716 | 239 | TCG (S) => TTG (L) |
| *rps3* | 956 | 319 | CCT (P) => CTT (L) |
| *rps3* | 1025 | 342 | CCA (P) => CTA (L) |
| *rps3* | 1382 | 461 | CCG (P) => CTG (L) |
| *rps3* | 1409 | 470 | CCG (P) => CTG (L) |
| *rps3* | 1520 | 507 | TCA (S) => TTA (L) |
| *rps3* | 1606 | 536 | CCT (P) => TCT (S) |
| *rps3* | 1637 | 546 | TCA (S) => TTA (L) |
| *rps4* | 184 | 62 | CCC (P) => TCC (S) |
| *rps4* | 193 | 65 | CAT (H) => TAT (Y) |
| *rps4* | 257 | 86 | CCA (P) => CTA (L) |
| *rps4* | 266 | 89 | CCA (P) => CTA (L) |
| *rps4* | 278 | 93 | TCG (S) => TTG (L) |
| *rps4* | 290 | 97 | CCG (P) => CTG (L) |
| *rps4* | 335 | 112 | CCG (P) => CTG (L) |
| *rps4* | 479 | 160 | TCA (S) => TTA (L) |
| *rps4* | 947 | 316 | TCT (S) => TTT (F) |
| *rps4* | 995 | 332 | TCG (S) => TTG (L) |
| *rps4* | 1006 | 336 | CAT (H) => TAT (Y) |
| *rps4* | 1016 | 339 | CCA (P) => CTA (L) |
| *rps4* | 1031 | 344 | TCT (S) => TTT (F) |
| *sdh4* | 155 | 52 | CCA (P) => CTA (L) |
| *sdh4* | 203 | 68 | CCA (P) => CTA (L) |
| *sdh4* | 259 | 87 | CAT (H) => TAT (Y) |
| *sdh4* | 353 | 118 | TCT (S) => TTT (F) |