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| **Supplemental Table S2** – jModelTest substitution models used with the two StarBeast2 | | | |
| datasets and fragment length of loci. Loci designation based on *Anolis carolinensis* | | | |
| genome and sequence size that was retrieved for all used samples for each locus. | | | |
| Loci | Best jmodelTest model | Sequence size | Dataset |
| ENSACAP00000000634\_exon4 | K80+G | 972 | StarBeast2 gene set1 |
| ENSACAP00000001488\_exon1 | K80 | 330 | StarBeast2 gene set1 |
| ENSACAP00000001542\_exon1 | K80 | 378 | StarBeast2 gene set1 |
| ENSACAP00000001948\_exon6 | HKY | 954 | StarBeast2 gene set1 |
| ENSACAP00000002281\_exon14 | HKY+G | 612 | StarBeast2 gene set1 |
| ENSACAP00000003365\_exon1 | K80+G | 684 | StarBeast2 gene set1 |
| ENSACAP00000003748\_exon1 | F81 | 624 | StarBeast2 gene set1 |
| ENSACAP00000003779\_exon1 | K80 | 672 | StarBeast2 gene set1 |
| ENSACAP00000004256\_exon6 | HKY | 534 | StarBeast2 gene set1 |
| ENSACAP00000005126\_exon23 | K80 | 456 | StarBeast2 gene set1 |
| ENSACAP00000005482\_exon1 | HKY+G | 432 | StarBeast2 gene set1 |
| ENSACAP00000006894\_exon1 | HKY | 900 | StarBeast2 gene set1 |
| ENSACAP00000008371\_exon1 | HKY | 318 | StarBeast2 gene set1 |
| ENSACAP00000012201\_exon13 | HKY+G | 930 | StarBeast2 gene set1 |
| ENSACAP00000013421\_exon9 | HKY | 354 | StarBeast2 gene set1 |
| ENSACAP00000014062\_exon1 | K80+G | 474 | StarBeast2 gene set1 |
| ENSACAP00000014986\_exon1 | JC | 588 | StarBeast2 gene set1 |
| ENSACAP00000016468\_exon2 | K80 | 516 | StarBeast2 gene set1 |
| ENSACAP00000016542\_exon10 | HKY | 360 | StarBeast2 gene set1 |
| ENSACAP00000016846\_exon5 | HKY+G | 945 | StarBeast2 gene set1 |
| ENSACAP00000000100\_exon1 | K80 | 534 | StarBeast2 gene set2 |
| ENSACAP00000001732\_exon2 | K80+G | 810 | StarBeast2 gene set2 |
| ENSACAP00000001814\_exon1 | K80 | 312 | StarBeast2 gene set2 |
| ENSACAP00000001953\_exon1 | K80 | 624 | StarBeast2 gene set2 |
| ENSACAP00000002002\_exon1 | HKY | 624 | StarBeast2 gene set2 |
| ENSACAP00000002448\_exon12 | K80+G | 378 | StarBeast2 gene set2 |
| ENSACAP00000002929\_exon1 | HKY+G | 480 | StarBeast2 gene set2 |
| ENSACAP00000003301\_exon2 | K80 | 366 | StarBeast2 gene set2 |
| ENSACAP00000003869\_exon1 | K80 | 528 | StarBeast2 gene set2 |
| ENSACAP00000004927\_exon21 | HKY+G | 702 | StarBeast2 gene set2 |
| ENSACAP00000005547\_exon1 | K80 | 438 | StarBeast2 gene set2 |
| ENSACAP00000008152\_exon1 | K80 | 396 | StarBeast2 gene set2 |
| ENSACAP00000008956\_exon1 | HKY | 576 | StarBeast2 gene set2 |
| ENSACAP00000009963\_exon1 | K80 | 522 | StarBeast2 gene set2 |
| ENSACAP00000011288\_exon1 | K80+G | 564 | StarBeast2 gene set2 |
| ENSACAP00000011827\_exon1 | K80 | 504 | StarBeast2 gene set2 |
| ENSACAP00000012422\_exon5 | K80+G | 588 | StarBeast2 gene set2 |
| ENSACAP00000012909\_exon8 | K80 | 300 | StarBeast2 gene set2 |
| ENSACAP00000019243\_exon1 | JC | 480 | StarBeast2 gene set2 |
| ENSACAP00000019346\_exon9 | K80 | 489 | StarBeast2 gene set2 |