**Table S1. Summary of Miseq and Hiseq reads of striped catfish (*Pangasianodon hypophthalmus*) genome**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Used data | | | | | | |  | Initial assembly | |
| Sequencer |  | Method | | Total sequences (Gbp) | Number of reads (million) | Average read length (bp) |  | Contig | Scaffold |
|  |  | N50 | N50 |
| Illumina |  | Paired-end shotgun | |  |  |  |  | 6 kbp | 8206 kbp |
|  |  |  | (MiSeq) | 28.47 | 92.63 | 310 |  |
|  |  |  | (Hiseq 2500) | 101.38 | 697.06 | 145 |  |
|  | Subtotal | |  | 129.85 | 789.69 |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Mate pair (HiSeq 2500) | |  |  |  |  |
|  |  |  | 3kb | 50.35 | 176.71 | 295 |  |
|  |  |  | 7kb | 40.07 | 141.39 | 295 |  |
|  |  |  | 10kb | 86.98 | 304.19 | 295 |  |
|  |  |  | 15kb | 43.38 | 171.46 | 295 |  |
|  | Subtotal | |  | 220.78 | 793.75 |  |  |  |  |
|  | Total | |  | 350.63 | 1583.44 |  |  |  |  |

**Table S2. Numbers of putative transcriptional regulator genes**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Accession | ID | Description | *O. latipes* | *T. rubripes* | *D. rerio* | *P. hypophthalmus* | *Ictalurus punctatus*\* |
| PF00010 | HLH | Helix-loop-helix DNA-binding domain | 140 | 300 | 209 | 152 | 300 |
| PF00046 | Homeobox | Homeobox domain | 284 | 657 | 455 | 290 | 525 |
| PF00096 | zf-C2H2 | Zinc finger, C2H2 type | 377 | 831 | 1602 | 349 | 1128 |
| PF00104 | Hormone\_recep | Ligand-binding domain of nuclear hormone | 82 | 247 | 136 | 71 | 192 |
| PF00105 | zf-C4 | Zinc finger, C4 type (two domains) | 80 | 239 | 141 | 68 | 187 |
| PF00157 | Pou | Pou domain - N-terminal to homeobox domain | 18 | 55 | 23 | 19 | 37 |
| PF00170 | bZIP\_1 | bZIP transcription factor | 80 | 205 | 113 | 78 | 162 |
| PF00178 | Ets | Ets-domain | 35 | 91 | 48 | 34 | 89 |
| PF00250 | Fork\_head | Fork head domain | 50 | 137 | 95 | 62 | 111 |
| PF00292 | PAX | 'Paired box' domain | 27 | 54 | 40 | 11 | 46 |
| PF00319 | SRF-TF | SRF-type transcription factor | 9 | 41 | 19 | 7 | 29 |
| PF00320 | GATA | GATA zinc finger | 18 | 36 | 30 | 19 | 72 |
| PF00505 | HMG\_box | HMG (high mobility group) box | 72 | 173 | 103 | 62 | 200 |
| PF00554 | RHD | Rel homology domain (RHD) | 11 | 20 | 15 | 14 | 38 |
| PF00751 | DM | DM DNA binding domain | 10 | 13 | 12 | 7 | 8 |
| PF00853 | Runt | Runt domain | 6 | 24 | 13 | 4 | 15 |
| PF00870 | P53 | P53 DNA-binding domain | 8 | 12 | 10 | 3 | 8 |
| PF00907 | T-box | T-box | 23 | 49 | 40 | 27 | 56 |
| PF01388 | ARID | ARID/BRIGHT DNA-binding domain | 16 | 52 | 35 | 20 | 41 |
| PF01530 | zf-C2HC | Zinc finger, C2HC type | 12 | 43 | 20 | 10 | 34 |
| PF01586 | Basic | Myogenic Basic domain | 4 | 12 | 5 | 4 | 5 |
| PF02023 | SCAN | SCAN domain | 3 | 3 | 0 | 6 | 13 |
| PF02178 | AT\_hook | AT hook motif | 2 | 1 | 10 | 5 | 12 |
| PF02376 | CUT | CUT domain | 9 | 44 | 16 | 11 | 29 |
| PF03299 | TF\_AP-2 | Transcription factor AP-2 | 6 | 9 | 13 | 6 | 15 |
| PF03529 | TF\_Otx | Otx1 transcription factor | 6 | 7 | 6 | 6 | 9 |
| PF03615 | GCM | GCM motif protein | 1 | 2 | 3 | 1 | 1 |
| PF03826 | OAR | OAR domain | 22 | 32 | 29 | 20 | 32 |
| PF05044 | Prox1 | Homeo-prospero domain | 4 | 6 | 3 | 4 | 8 |
| PF06621 | SIM\_C | Single-minded protein C-terminus | 2 | 4 | 3 | 2 | 8 |
| PF07527 | Hairy\_orange | Hairy Orange | 16 | 33 | 26 | 31 | 33 |
| PF07710 | P53\_tetramer | P53 tetramerisation motif | 8 | 12 | 10 | 5 | 8 |
| PF07716 | bZIP\_2 | Basic region leucine zipper | 70 | 174 | 102 | 68 | 130 |
| PF12598 | TBX | T-box transcription factor | 2 | 4 | 4 | 7 | 8 |

\*Data were obtained via ftp://ftp.ncbi.nlm.nih.gov/genomes/all/GCF/001/660/625/GCF\_001660625.1\_IpCoco\_1.2/ and included 47974 proteins (GCF\_001660625.1\_IpCoco\_1.2\_protein.fa).

**Table S3. Numbers of genes encoding putative signaling molecules**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Accession | ID | Description | *O. latipes* | *T. rubripes* | *D. rerio* | *P. hypophthalmus* | *Ictalurus punctatus* |
| PF00008 | EGF | EGF-like domain | 204 | 652 | 325 | 208 | 417 |
| PF00015 | MCPsignal | Methyl-accepting chemotaxis protein (MCP) signalling | 2 | 0 | 2 | 5 | 9 |
| PF00019 | TGF\_beta | Transforming growth factor beta like | 51 | 101 | 57 | 49 | 67 |
| PF00049 | Insulin | Insulin/IGF/Relaxin family | 7 | 8 | 12 | 12 | 46 |
| PF00110 | wnt | wnt family | 29 | 55 | 42 | 27 | 59 |
| PF00167 | FGF | Fibroblast growth factor | 40 | 58 | 43 | 33 | 115 |
| PF00219 | IGFBP | Insulin-like growth factor binding protein | 34 | 115 | 37 | 35 | 0 |
| PF00341 | PDGF | PDGF/VEGF domain | 13 | 65 | 25 | 11 | 19 |
| PF00503 | G-alpha | G-protein alpha subunit | 77 | 103 | 94 | 71 | 115 |
| PF00615 | RGS | Regulator of G protein signaling | 62 | 175 | 71 | 43 | 99 |
| PF00631 | G-gamma | GGL domain | 15 | 36 | 28 | 18 | 28 |
| PF00672 | HAMP | HAMP domain | 0 | 1 | 1 | 0 | 46 |
| PF00688 | TGFb\_propeptide | TGF-beta propeptide | 40 | 86 | 50 | 36 | 20 |
| PF00715 | IL2 | Interleukin 2 | 0 | 1 | 1 | 0 | 0 |
| PF00727 | IL4 | Interleukin 4 | 0 | 0 | 2 | 2 | 0 |
| PF00778 | DIX | DIX domain | 11 | 30 | 13 | 11 | 20 |
| PF01017 | STAT\_alpha | STAT protein, all-alpha domain | 7 | 17 | 17 | 9 | 22 |
| PF01091 | PTN\_MK\_C | PTN/MK heparin-binding protein family, C-terminal | 6 | 8 | 4 | 3 | 5 |
| PF01415 | IL7 | Interleukin 7 | 0 | 1 | 0 | 1 | 0 |
| PF01534 | Frizzled | Frizzled/Smoothened family membrane region | 16 | 16 | 24 | 16 | 33 |
| PF01627 | Hpt | Hpt domain | 0 | 0 | 0 | 1 | 1 |
| PF02025 | IL5 | Interleukin 5 | 0 | 0 | 1 | 0 | 0 |
| PF02262 | Cbl\_N | CBL proto-oncogene N-terminal domain 1 | 3 | 15 | 4 | 4 | 5 |
| PF02377 | Dishevelled | Dishevelled specific domain | 3 | 10 | 9 | 5 | 8 |
| PF02761 | Cbl\_N2 | CBL proto-oncogene N-terminus, EF hand-like | 3 | 13 | 4 | 3 | 5 |
| PF02762 | Cbl\_N3 | CBL proto-oncogene N-terminus, SH2-like domain | 2 | 13 | 4 | 3 | 5 |
| PF02864 | STAT\_bind | STAT protein, DNA binding domain | 6 | 19 | 16 | 8 | 22 |
| PF02865 | STAT\_int | STAT protein, protein interaction domain | 7 | 17 | 17 | 8 | 22 |
| PF03039 | IL12 | Interleukin 12 | 1 | 5 | 1 | 4 | 3 |
| PF03528 | Rabaptin | Rabaptin | 4 | 2 | 4 | 2 | 4 |
| PF03623 | Focal\_AT | Focal adhesion targeting region | 4 | 22 | 7 | 4 | 29 |
| PF04692 | PDGF\_N | Platelet-derived growth factor, N terminal | 6 | 18 | 7 | 1 | 5 |
| PF04709 | AMH\_N | Anti-Mullerian hormone, N terminal region | 1 | 5 | 3 | 2 | 4 |
| PF05196 | PTN\_MK\_N | PTN/MK heparin-binding protein family, N-terminal | 5 | 6 | 4 | 3 | 5 |
| PF05337 | CSF-1 | Macrophage colony stimulating factor-1 | 0 | 0 | 2 | 2 | 3 |
| PF06554 | Olfactory\_mark | Olfactory marker protein | 2 | 2 | 3 | 1 | 1 |
| PF07400 | IL11 | Interleukin 11 | 2 | 4 | 2 | 1 | 5 |
| PF07714 | Pkinase\_Tyr | Tyrosine kinase | 716 | 2049 | 1385 | 635 | 0 |
| PF08916 | Phe\_ZIP | Phenylalanine zipper | 2 | 8 | 4 | 3 | 6 |
| PF09034 | TRADD\_N | TRADD, N-terminal domain | 1 | 1 | 1 | 1 | 2 |

No domains in *D. rerio* and *P. hypophthalmus* are omitted.

**Table S4. *Hox* genes in the striped catfish(*Pangasianodon hypophthalmus*) genome**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gene name | Query\* | Scaffold number | Gene model ID\*\*\* | Transcriptome ID | Amino acid sequences from gene models of 2017\*\*\*\* |
| A1a | AEE90147.1 | 18 | phy\_g9408.t1 | Not found |  |
| A2a | AEE90146.1 |  | Not found | Not found |  |
| A3a | AEE90145.1 | 18 | phy\_g9407.t1 | s09\_DN27450\_c2\_g2\_i5 | |
| A4a | AEE90154.1 | 18 | phy\_g9406.t1 | s02\_DN14676\_c0\_g2\_i1 | |
| A5a | AEE90153.1 |  | Not found | Not found |  |
| A7a | AEE90152.1 |  | Not found | Not found |  |
| A9a | AEE90151.1 | 18 | phy\_g9405.t1 | s09\_DN22659\_c1\_g4\_i1 | |
| A10a | AEE90150.1 |  | Not found | Not found |  |
| A11a | AEE90149.1 |  | Not found | Not found |  |
| A13a | AEE90155.1 | 18 | phy\_g9403.t1 | s01\_DN41770\_c0\_g1\_i1 | |
| A1b | AEE90162.1 |  | Not found | Not found |  |
| A2b | AEE90161.1 | 32 | phy\_g7429.t1 | s11\_DN24327\_c2\_g2\_i2 | |
| A3b | AEE90160.1 |  | Not found | Not found |  |
| A9b | AEE90159.1 | 32 | phy\_g7430.t1 | s08\_DN17613\_c0\_g3\_i1 | |
| A10b | AEE90158.1 | 32 | phy\_g7431.t1 | s02\_DN10581\_c0\_g1\_i1 | |
| A11b | AEE90157.1 | 32 | phy\_g7432.t1 | s10\_DN30150\_c1\_g1\_i1 | |
| A13b | AEE90156.1 | 32 | phy\_g7434.t1 | s13\_DN21122\_c0\_g1\_i1 | |
| A13a | AEE90148.1 |  | Not found | Not found |  |
| B1a | AEE90173.1 | 6 | phy\_g28212.t1 | s09\_DN4777\_c0\_g1\_i1 |  |
| B2a | AEE90172.1 | 6 | phy\_g28210.t1 | s09\_DN17140\_c0\_g1\_i1 | |
| B3a | AEE90171.1 | 6 | phy\_g28208.t1 | s10\_DN28456\_c0\_g2\_i3 | |
| B4a | AEE90170.1 | 6 | phy\_g28207.t1 | s10\_DN27504\_c0\_g1\_i1 | |
| B5a | AEE90169.1 | 6 | phy\_g28206.t1 | s02\_DN25185\_c1\_g1\_i1 | |
| B6a | AEE90168.1 | 6 | phy\_g28205.t1 | s09\_DN14259\_c0\_g1\_i1 | |
| B7a | AEE90167.1 | 6 | phy\_g28204.t1 | s09\_DN14250\_c0\_g1\_i1 | |
| B8a | AEE90166.1 | 6 | phy\_g28203.t1 | s10\_DN29156\_c0\_g1\_i1 | |
| B9a | AEE90165.1 | 6 | phy\_g28202.t1 | s09\_DN16785\_c0\_g1\_i5 | |
| B10a | AEE90164.1 |  | Not found | Not found |  |
| B13a | AEE90163.1 | 6 | phy\_g28200.t1 | s01\_DN20774\_c0\_g1\_i1 | |
| B1b | AEE90182.1 | 5 | phy\_g2717.t1 (g9435.t1) | s07\_DN23907\_c1\_g2\_i1 | g9435.t1 |
| B2b | AEE90181.1 |  | Not found | Not found |  |
| B3b | AEE90180.1 | 5 | phy\_g2717.t1 (g9436.t1) | s07\_DN23907\_c1\_g2\_i1 | g9436.t1 |
| B4b | AEE90179.1 |  | Not found | Not found |  |
| B5b | AEE90178.1 | 5 | phy\_g2718.t1 | s09\_DN28660\_c5\_g2 |  |
| B6b | AEE90177.1 | 5 | phy\_g2719.t1 | s09\_DN28660\_c5\_g2\_i3 | |
| B7b | AEE90176.1 |  | Not found | Not found |  |
| B8b | AEE90175.1 | 5 | phy\_g2720.t1 (g9439.t1) | s09\_DN21770\_c0\_g1 | g9439.t1 |
| B9b | AEE90174.1 |  | Not found | Not found |  |
| C1a | AEE90192.1 |  | phy\_g1619.t1 | s20\_DN23629\_c0\_g1\_i1 | |
| C3a | NP\_001128157.2\*\* | | phy\_g1620.t1 | s01\_DN25361\_c0\_g2\_i1 | |
| C4a | AEE90191.1 | 9 | phy\_g1621.t1 | s11\_DN27369\_c2\_g2\_i1 | |
| C5a | AEE90190.1 | 9 | phy\_g1622.t1 | s02\_DN35065\_c0\_g2\_i2 | |
| C6a | AEE90189.1 | 9 | phy\_g1623.t1 | s08\_DN23190\_c0\_g1\_i1 | |
| C8a | AEE90188.1 | 9 | phy\_g1624.t1 | s10\_DN27474\_c0\_g1\_i2 | |
| C9a | AEE90187.1 | 9 | phy\_g1625.t1 | s09\_DN21894\_c0\_g1\_i1 | |
| C10a | AEE90186.1 | 9 | phy\_g1626.t1 | s09\_DN37597\_c0\_g1\_i1 | |
| C11a | AEE90185.1 | 9 | phy\_g1627.t1 | s09\_DN8605\_c0\_g1\_i1 |  |
| C12a | AEE90184.1 | 9 | phy\_g1628.t1 | s02\_DN22413\_c0\_g1\_i1 | |
| C13a | AEE90183.1 | 9 | phy\_g1629.t1 | s02\_DN46628\_c0\_g1\_i1 | |
| C4b | AEE90201.1 | 22 | phy\_g27477.t1 | s12\_DN24044\_c0\_g2\_i1 | |
| C5b | AEE90200.1 | 22 | phy\_g27478.t1 (g6497.t1) | s13\_DN26449\_c0\_g1\_i1 | g6497.t1 |
| C6b | AEE90199.1 | 22 | phy\_g27478.t1 (g6498.t1) | s08\_DN25699\_c3\_g4\_i1 | g6498.t1 |
| C8b | AEE90198.1 |  | Not found | Not found |  |
| C9b | AEE90197.1 | 22 | phy\_g27479.t1 | s09\_DN330\_c0\_g2\_i1 |  |
| C10b | AEE90196.1 |  | Not found | Not found |  |
| C11b | AEE90195.1 | 22 | phy\_g27479.t2 | s10\_DN28993\_c0\_g2\_i5 | |
| C12b | AEE90194.1 | 22 | phy\_g27480.t1 | s10\_DN28993\_c0\_g3\_i1 | |
| C13b | AEE90193.1 | 22 | phy\_g27481.t1 | s11\_DN15363\_c1\_g1\_i1 | |
| D1a | AEE90210.1 | | phy\_g8302.t1 | s10\_DN24036\_c1\_g1\_i1 | |
| D3a | AEE90209.1 | 3 | phy\_g8303.t1 | s08\_DN25658\_c0\_g2\_i2 | |
| D4a | AEE90208.1 | 3 | phy\_g8304.t1 | s08\_DN25658\_c0\_g1\_i2 | |
| D8a | AEE90207.1 | | Not found | Not found |  |
| D9a | AEE90206.1 | 3 | phy\_g8305.t1 | s08\_DN21599\_c0\_g1\_i1 | |
| D10a | AEE90205.1 | 3 | phy\_g8306.t1 | s09\_DN38082\_c0\_g1\_i1 | |
| D11a | AEE90204.1 | 3 | phy\_g8307.t1 | s09\_DN22745\_c0\_g1\_i3 | |
| D12a | AEE90203.1 | 3 | (g19787.t1) | s10\_DN30150\_c0\_g2\_i1 | g19787.t1 |
| D13a | AEE90202.1 | 3 | phy\_g8308.t1 | s10\_DN20173\_c0\_g4\_i1 | |
| D4b | AEE90215.1 |  | Not found | Not found |  |
| D9b | AEE90214.1 | | Not found | Not found |  |
| D10b | AEE90213.1 | | Not found | Not found |  |
| D11b | AEE90212.1 | | Not found | Not found |  |
| D12b | AEE90211.1 | | Not found | Not found |  |
| \*From Henkel et al. (2012) for eel hox proteins | | | |  |  |
| \*\*From Molven et al. (1992) for zebrafish hox protein | | | |  |  |
| \*\*\*IDs in parenthesis are from gene models of 2017. | | | |  |  |
| \*\*\*\*The better predicted sequences than those of 2018 are also shown. | | | | |  |

**Table S5. *IGFBP* genes used in molecular phylogenetic analysis**

|  |  |
| --- | --- |
| **Taxon name (alphabetical sorted)** | **Accession number** |
| *Acanthochromis polyacanthus* igfbp7 | XM\_022218346.1 |
| *Amphiprion ocellaris* igfbp7 | XM\_023277861.1 |
| *Cynoglossus semilaevis* igfbp5 variant X1 | XM\_017038805.1 |
| *Cyprinodon variegatus* igfbp4 variant X1 | XM\_015375833.1 |
| *Danio rerio* igfbp1 | NM\_001098257.2 |
| *Danio rerio* igfbp1a | NM\_173283.3 |
| *Danio rerio* igfbp2a | NM\_131458.2 |
| *Danio rerio* igfbp3 | NM\_205751.2 |
| *Danio rerio* igfbp5b | NM\_001126463.1 |
| *Danio rerio* igfbp7 | NM\_212924.2 |
| *Esox lucius* igfbp2 | XM\_010893140.3 |
| *Esox lucius* igfbp4 variant X1 | XM\_010889164.3 |
| *Haplochromis burtoni* igfbp2 | XM\_005949761.2 |
| *Haplochromis burtoni* igfbp4 | XM\_005919251.2 |
| *Haplochromis burtoni* igfbp7 | XM\_005948654.2 |
| *Hippocampus comes* igfbp5 | XM\_019856608.1 |
| *Homo sapiens* igfbp1 | NM\_000596.3 |
| *Homo sapiens* IGFBP2 variant 1 | NM\_000597.2 |
| *Homo sapiens* IGFBP3 variant 1 | NM\_001013398.1 |
| *Homo sapiens* IGFBP4 | NM\_001552.2 |
| *Homo sapiens* IGFBP5 | NM\_000599.3 |
| *Homo sapiens* IGFBP6 | NM\_002178.2 |
| *Homo sapiens* IGFBP7 variant 1 | NM\_001553.2 |
| *Ictalurus punctatus* igfbp1 isoform X1 | XM\_017472660.1 |
| *Ictalurus punctatus* igfbp2-A | XM\_017482396.1 |
| *Ictalurus punctatus* igfbp2-B | XM\_017469925.1 |
| *Ictalurus punctatus* igfbp3 | XM\_017472659.1 |
| *Ictalurus punctatus* igfbp5 | XM\_017469924.1 |
| *Ictalurus punctatus* igfbp5 variant2 | XM\_017482450.1 |
| *Ictalurus punctatus* igfbp5 variant 3 | XM\_017450722.1 |
| *Ictalurus punctatus* igfbp6 | XM\_017487097.1 |
| *Ictalurus punctatus* igfbp7 | XM\_017492053.1 |
| *Labrus bergylta* igfbp5 | XM\_020636551.1 |
| *Labrus bergylta* igfbp6 | XM\_020654898.1 |
| *Larimichthys crocea* igfbp3 | XM\_019277499.1 |
| *Larimichthys crocea* igfbp4 | XM\_010732633.2 |
| *Larimichthys crocea* igfbp6 | XM\_010742620.2 |
| *Maylandia zebra* igfbp2 | XM\_004562553.3 |
| *Maylandia zebra* igfbp4 | XM\_004538727.4 |
| *Maylandia zebra* igfbp7 | XM\_004563632.1 |
| *Mus musculus* igfbp1 | NM\_008341.4 |
| *Mus musculus* Igfbp2 variant 1 | NM\_008342.3 |
| *Mus musculus* Igfbp3 | NM\_008343.2 |
| *Mus musculus* Igfbp4 | NM\_010517.4 |
| *Mus musculus* Igfbp5 | NM\_010518.2 |
| *Mus musculus* Igfbp6 | NM\_008344.3 |
| *Mus musculus* Igfbp7 variant 2 | NM\_008048.3 |
| *Nothobranchiusn furzeri* igfbp1 | KC306952.1 |
| *Nothobranchius furzeri* igfbp3 | KC306954.1 |
| *Nothobranchius furzeri* igfbp4 | KC306955.1 |
| *Nothobranchius furzeri* gfbp5 | KC306956.1 |
| *Nothobranchius furzeri* igfbp6 | KC306957.1 |
| *Oncorhynchus mykiss* igfbp1 | NM\_001124561.1 |
| *Oncorhynchus mykiss* igfbp2 | NM\_001124649.1 |
| *Oncorhynchus mykiss* igfbp3 | NM\_001124557.1 |
| *Oncorhynchus mykiss* igfbp5 | NM\_001124652.1 |
| *Oncorhynchus mykiss* igfbp6 | NM\_001124560.1 |
| *Oncorhynchus mykiss* igfbp7 | NM\_001124648.3 |
| *Oreochromis niloticus* igfbp2 variant X1 | XM\_003453175.4 |
| *Oreochromis niloticus* igfbp4 | XM\_003454633.4 |
| *Oreochromis niloticus* igfbp7 | XM\_003458662.4 |
| *Oryzias latipes* igfbp2 variant X1 | XM\_023964915.1 |
| *Oryzias latipes* igfbp4 variant X1 | XM\_023955145.1 |
| *Pangasianodon hypophthalmus* g11973.t1 | This study |
| *Pangasianodon hypophthalmus* g11974.t1 | This study |
| *Pangasianodon hypophthalmus* g1604.t1 | This study |
| *Pangasianodon hypophthalmus* g24144.t1 | This study |
| *Pangasianodon hypophthalmus* g24145.t1 | This study |
| *Pangasianodon hypophthalmus* g24954.t1 | This study |
| *Pangasianodon hypophthalmus* g27470.t1 | This study |
| *Pangasianodon hypophthalmus* g8120.t1 | This study |
| *Pangasianodon hypophthalmus* g8121.t1 | This study |
| *Pangasianodon hypophthalmus* g8121.t2 | This study |
| *Pangasianodon hypophthalmus* g8896.t1 | This study |
| *Pangasianodon hypophthalmus* g8897.t1 | This study |
| *Paralichthys olivaceus* IGFBP2 | KC914560.1 |
| *Paralichthys olivaceus* Igfbp2b | KC914561.1 |
| *Paralichthys olivaceus* igfbp5 | XM\_020099752.1 |
| *Poecilia formosa* igfbp1 | XM\_007559352.2 |
| *Poecilia formosa* igfbp2 variant X1 | XM\_007567581.2 |
| *Poecilia formosa* igfbp4 variant X1 | XM\_007567306.2 |
| *Poecilia latipinna* igfbp4 variant X1 | XM\_015039673.1 |
| *Poecilia mexicana* igfbp1 | XM\_015000519.1 |
| *Poecilia mexicana* igfbp2 variant X1 | XM\_014990518.1 |
| *Poecilia mexicana* igfbp4 variant X1 | XM\_014988182.1 |
| *Poecilia reticulata* igfbp2 variant X1 | XM\_008423480.2 |
| *Poecilia reticulata* igfbp3 | XM\_008406723.2 |
| *Poecilia reticulata* igfbp4 variant X1 | XM\_008406547.2 |
| *Poecilia reticulata* igfbp6 variant X1 | XM\_008414626.2 |
| *Pundamilia nyererei* igfbp2 | XM\_005753098.1 |
| *Pundamilia nyererei* igfbp4 | XM\_005746028.1 |
| *Pundamilia nyererei* igfbp7 | XM\_005719381.2 |
| *Pygocentrus nattereri* igfbp2 | XM\_017691593.1 |
| *Salmo salar* igfbp1 | EF432856.1 |
| *Salmo salar* igfbp2 | EF432858.1 |
| *Salmo salar* igfbp3 (igfbp-2b1) | NM\_001123648.1 |
| *Salmo salar* igfbp5 | EF432862.1 |
| *Salmo salar* igfbp6 | NM\_001123650.1 |
| *Salvelinus alpinus* igfbp1 | GU933433.1 |
| *Salvelinus alpinus* igfbp2b | GU933432.1 |
| *Seriola dumerili* igfbp4 variant X1 | XM\_022739957.1 |
| *Seriola dumerili* igfbp7 | XM\_022761348.1 |
| *Seriola lalandi dorsalis* igfbp4 | XM\_023413676.1 |
| *Seriola lalandi dorsalis* igfbp6 | XM\_023392914.1 |
| *Seriolan lalandi dorsalis* igfbp7 | XM\_023420689.1 |
| *Sinocyclocheilus grahami* igfbp2 | XM\_016273640.1 |
| *Tachysurus fulvidraco* igfbp3 | KT895993.1 |
| *Tachysurus fulvidraco* igfbp5 | KT895994.1 |
| *Takifugu rubripes* igfbp1 | XM\_011616123.1 |
| *Takifugu rubripes* igfbp2 | XM\_003966591.2 |
| *Takifugu rubripes* igfbp3 variant X1 | XM\_003975304.2 |
| *Takifugu rubripes* igfbp4 | NM\_001146062.1 |
| *Takifugu rubripes* igfbp6 | XM\_003976104.2 |
| *Xiphophorus maculatus* igfbp2 variant X1 | XM\_023329952.1 |
| *Xiphophorus maculatus* igfbp3 | XM\_005802306.3 |

**Table S6. The relationship between the striped catfish genome and channel catfish chromosomes**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Scaffold of striped catfish | Scaffold length of striped catfish (bp) | Gene number on scaffold of striped catfish | Maximum hits for a chromosome of channel catfish (gene number) | Best hit chromosome to channel catfish (NCBI\_ID) |
| sc0000001 | 37494740 | 2587 | 604 | NC\_030426.1 |
| sc0000002 | 23786125 | 1601 | 967 | NC\_030418.1 |
| sc0000003 | 23232829 | 1519 | 912 | NC\_030421.1 |
| sc0000004 | 23204775 | 1516 | 440 | NC\_030419.1 |
| sc0000005 | 20940362 | 1371 | 959 | NC\_030428.1 |
| sc0000006 | 20782094 | 1598 | 923 | NC\_030417.1 |
| sc0000007 | 19917768 | 1605 | 484 | NC\_030423.1 |
| sc0000008 | 21676741 | 1524 | 851 | NC\_030429.1 |
| sc0000009 | 18849081 | 1408 | 912 | NC\_030430.1 |
| sc0000010 | 17209216 | 1309 | 771 | NC\_030443.1 |
| sc0000011 | 23808341 | 1450 | 628 | NC\_030434.1 |
| sc0000012 | 16899263 | 1228 | 389 | NC\_030438.1 |
| sc0000013 | 15945287 | 1238 | 351 | NC\_030420.1 |
| sc0000014 | 15842060 | 1208 | 468 | NC\_030416.1 |
| sc0000015 | 16210006 | 1130 | 619 | NC\_030419.1 |
| sc0000016 | 14685745 | 1176 | 329 | NC\_030420.1 |
| sc0000017 | 14288580 | 988 | 399 | NC\_030433.1 |
| sc0000018 | 13895861 | 929 | 647 | NC\_030439.1 |
| sc0000019 | 12970507 | 907 | 622 | NC\_030425.1 |
| sc0000020 | 12363827 | 738 | 545 | NC\_030437.1 |
| sc0000021 | 12030981 | 906 | 566 | NC\_030441.1 |
| sc0000022 | 11696205 | 863 | 422 | NC\_030436.1 |
| sc0000023 | 11526600 | 816 | 431 | NC\_030427.1 |
| sc0000024 | 11033978 | 724 | 577 | NC\_030424.1 |
| sc0000025 | 10842290 | 789 | 426 | NC\_030432.1 |
| sc0000026 | 10743009 | 958 | 432 | NC\_030436.1 |
| sc0000027 | 21807806 | 1652 | 1037 | NC\_030422.1 |
| sc0000028 | 10517856 | 588 | 421 | NC\_030442.1 |
| sc0000029 | 10401864 | 789 | 441 | NC\_030438.1 |
| sc0000030 | 10126641 | 752 | 549 | NC\_030433.1 |
| sc0000031 | 9983477 | 733 | 379 | NC\_030418.1 |
| sc0000032 | 9596357 | 818 | 281 | NC\_030416.1 |
| sc0000033 | 8913854 | 713 | 319 | NC\_030423.1 |
| sc0000034 | 13330545 | 1027 | 436 | NC\_030435.1 |
| sc0000035 | 7783948 | 554 | 292 | NC\_030431.1 |
| sc0000036 | 7468867 | 444 | 300 | NC\_030427.1 |
| sc0000037 | 7623426 | 568 | 346 | NC\_030431.1 |
| sc0000038 | 6972118 | 627 | 256 | NC\_030444.1 |
| sc0000039 | 6787112 | 601 | 200 | NC\_030432.1 |
| sc0000040 | 6637728 | 549 | 336 | NC\_030431.1 |
| sc0000041 | 6100290 | 352 | 212 | NC\_030424.1 |
| sc0000042 | 6066629 | 368 | 258 | NC\_030440.1 |
| sc0000043 | 5969716 | 332 | 197 | NC\_030416.1 |
| sc0000044 | 5158973 | 400 | 224 | NC\_030430.1 |
| sc0000045 | 4873072 | 294 | 192 | NC\_030444.1 |
| sc0000046 | 4792111 | 467 | 213 | NC\_030426.1 |
| sc0000047 | 4049363 | 394 | 222 | NC\_030420.1 |
| sc0000048 | 3963117 | 372 | 235 | NC\_030439.1 |
| sc0000049 | 3575745 | 294 | 211 | NC\_030435.1 |
| sc0000050 | 3095902 | 207 | 136 | NC\_030423.1 |
| sc0000051 | 2789637 | 228 | 150 | NC\_030423.1 |
| sc0000052 | 2700707 | 272 | 101 | NC\_030442.1 |
| sc0000053 | 2621943 | 196 | 121 | NC\_030440.1 |
| sc0000054 | 2620060 | 218 | 159 | NC\_030417.1 |
| sc0000055 | 2548504 | 240 | 58 | NC\_030421.1 |
| sc0000056 | 2536578 | 174 | 99 | NC\_030429.1 |
| sc0000057 | 2374167 | 171 | 82 | NC\_030423.1 |
| sc0000058 | 2359716 | 251 | 130 | NC\_030422.1 |
| sc0000059 | 2181210 | 182 | 99 | NC\_030444.1 |
| sc0000060 | 1833706 | 157 | 72 | NC\_030442.1 |
| sc0000061 | 1753796 | 227 | 94 | NC\_030428.1 |
| sc0000062 | 1645754 | 118 | 61 | NC\_030416.1 |
| sc0000063 | 1614577 | 154 | 91 | NC\_030442.1 |
| sc0000064 | 1492446 | 148 | 85 | NC\_030440.1 |
| sc0000065 | 1369170 | 144 | 51 | NC\_030424.1 |
| sc0000066 | 1291818 | 134 | 62 | NC\_030427.1 |
| sc0000067 | 1277760 | 160 | 14 | NC\_030431.1 |
| sc0000068 | 1258165 | 123 | 75 | NC\_030417.1 |
| sc0000069 | 1249612 | 127 | 49 | NC\_030429.1 |
| sc0000070 | 1197254 | 109 | 39 | NC\_030434.1 |
| sc0000071 | 1392908 | 157 | 42 | NC\_030425.1 |
| sc0000072 | 1149405 | 130 | 41 | NC\_030427.1 |
| sc0000073 | 1135668 | 137 | 41 | NC\_030422.1 |
| sc0000074 | 1119071 | 166 | 65 | NC\_030427.1 |
| sc0000075 | 1094570 | 143 | 70 | NC\_030422.1 |
| sc0000076 | 1049178 | 106 | 79 | NC\_030431.1 |
| sc0000077 | 1032698 | 92 | 30 | NC\_030443.1 |
| sc0000078 | 1555068 | 155 | 87 | NC\_030442.1 |
| sc0000079 | 1022846 | 145 | 59 | NC\_030421.1 |
| sc0000080 | 963568 | 104 | 58 | NC\_030432.1 |
| sc0000081 | 896575 | 77 | 33 | NC\_030423.1 |
| sc0000082 | 823351 | 133 | 20 | NC\_030439.1 |
| sc0000083 | 768645 | 66 | 36 | NC\_030420.1 |
| sc0000084 | 755361 | 98 | 50 | NC\_030444.1 |
| sc0000085 | 716149 | 93 | 17 | NC\_030427.1 |
| sc0000086 | 608299 | 58 | 35 | NC\_030433.1 |
| sc0000087 | 591339 | 79 | 34 | NC\_030418.1 |
| sc0000088 | 574980 | 64 | 21 | NC\_030416.1 |
| sc0000089 | 554450 | 60 | 20 | NC\_030426.1 |
| sc0000090 | 541608 | 43 | 17 | NC\_030434.1 |
| sc0000091 | 641633 | 85 | 29 | NC\_030418.1 |
| sc0000092 | 484685 | 61 | 15 | NC\_030423.1 |
| sc0000093 | 761946 | 130 | 48 | NC\_030440.1 |
| sc0000094 | 438320 | 45 | 27 | NC\_030438.1 |
| sc0000095 | 434512 | 70 | 17 | NC\_030440.1 |
| sc0000096 | 431626 | 82 | 30 | NC\_030441.1 |
| sc0000097 | 402139 | 39 | 27 | NC\_030428.1 |
| sc0000098 | 495690 | 57 | 17 | NC\_030419.1 |
| sc0000099 | 391953 | 62 | 25 | NC\_030441.1 |
| sc0000100 | 390202 | 51 | 16 | NC\_030429.1 |
| sc0000101 | 381976 | 36 | 9 | NC\_030437.1 |
| sc0000102 | 366000 | 31 | 21 | NC\_030437.1 |
| sc0000103 | 356860 | 29 | 21 | NC\_030435.1 |
| sc0000104 | 347956 | 33 | 24 | NC\_030437.1 |
| sc0000105 | 417424 | 45 | 30 | NC\_030417.1 |
| sc0000106 | 322974 | 29 | 14 | NC\_030424.1 |
| sc0000107 | 336106 | 44 | 19 | NC\_030440.1 |
| sc0000108 | 309243 | 30 | 13 | NC\_030444.1 |
| sc0000109 | 308169 | 25 | 16 | NC\_030438.1 |
| sc0000110 | 293744 | 48 | 14 | NC\_030427.1 |
| sc0000111 | 285154 | 41 | 13 | NC\_030429.1 |
| sc0000112 | 303904 | 38 | 12 | NC\_030437.1 |
| sc0000113 | 356289 | 50 | 8 | NC\_030442.1 |
| sc0000114 | 256706 | 22 | 11 | NC\_030420.1 |
| sc0000115 | 253695 | 39 | 18 | NC\_030416.1 |
| sc0000116 | 252461 | 24 | 16 | NC\_030430.1 |
| sc0000117 | 245317 | 24 | 9 | NC\_030418.1 |
| sc0000118 | 250771 | 17 | 12 | NC\_030424.1 |
| sc0000119 | 235538 | 24 | 20 | NC\_030417.1 |
| sc0000120 | 230009 | 30 | 12 | NC\_030416.1 |
| sc0000121 | 217961 | 33 | 14 | NC\_030417.1 |
| sc0000122 | 222963 | 35 | 7 | NC\_030434.1 |
| sc0000123 | 211625 | 30 | 12 | NC\_030429.1 |
| sc0000124 | 208160 | 45 | 4 | NC\_030435.1 |
| sc0000125 | 198703 | 21 | 11 | NC\_030435.1 |
| sc0000126 | 199141 | 25 | 10 | NC\_030422.1 |
| sc0000127 | 195216 | 32 | 12 | NC\_030417.1 |
| sc0000128 | 189043 | 23 | 17 | NC\_030430.1 |
| sc0000129 | 180369 | 18 | 7 | NC\_030416.1 |
| sc0000130 | 178133 | 19 | 13 | NC\_030430.1 |
| sc0000131 | 171830 | 19 | 11 | NC\_030431.1 |
| sc0000132 | 180153 | 35 | 9 | NC\_030427.1 |
| sc0000133 | 169418 | 17 | 11 | NC\_030442.1 |
| sc0000134 | 171042 | 21 | 10 | NC\_030432.1 |
| sc0000135 | 169577 | 32 | 6 | NC\_030429.1 |
| sc0000136 | 166126 | 14 | 7 | NC\_030430.1 |
| sc0000137 | 180862 | 17 | 10 | NC\_030435.1 |
| sc0000138 | 151398 | 14 | 11 | NC\_030424.1 |
| sc0000139 | 154543 | 25 | 3 | NC\_030425.1 |
| sc0000140 | 147934 | 21 | 5 | NC\_030424.1 |
| sc0000141 | 136184 | 14 | 10 | NC\_030433.1 |
| sc0000142 | 135423 | 15 | 10 | NC\_030421.1 |
| sc0000143 | 132110 | 20 | 12 | NC\_030423.1 |
| sc0000144 | 133316 | 18 | 15 | NC\_030430.1 |
| sc0000145 | 131720 | 8 | 4 | NC\_030420.1 |
| sc0000146 | 124868 | 9 | 6 | NC\_030419.1 |
| sc0000147 | 119086 | 9 | 7 | NC\_030444.1 |
| sc0000148 | 122577 | 19 | 10 | NC\_030416.1 |
| sc0000149 | 212735 | 33 | 4 | NC\_030418.1 |
| sc0000150 | 122388 | 22 | 7 | NC\_030422.1 |
| sc0000151 | 120850 | 17 | 8 | NC\_030443.1 |
| sc0000152 | 108936 | 16 | 7 | NC\_030436.1 |
| sc0000153 | 108971 | 8 | 6 | NC\_030420.1 |
| sc0000154 | 99682 | 8 | 6 | NC\_030420.1 |
| sc0000155 | 99178 | 5 | 1 | NC\_030433.1 |
| sc0000156 | 99150 | 10 | 8 | NC\_030431.1 |
| sc0000157 | 96899 | 7 | 6 | NC\_030424.1 |
| sc0000158 | 96364 | 8 | 7 | NC\_030437.1 |
| sc0000159 | 104908 | 13 | 6 | NC\_030420.1 |
| sc0000160 | 94484 | 10 | 5 | NC\_030422.1 |
| sc0000161 | 91933 | 10 | 4 | NC\_030444.1 |
| sc0000162 | 84850 | 11 | 3 | NC\_030432.1 |
| sc0000163 | 94523 | 12 | 6 | NC\_030419.1 |
| sc0000164 | 84774 | 9 | 6 | NC\_030432.1 |
| sc0000165 | 84579 | 7 | 4 | NC\_030444.1 |
| sc0000166 | 83896 | 7 | 7 | NC\_030427.1 |
| sc0000167 | 79893 | 11 | 6 | NC\_030440.1 |
| sc0000168 | 77202 | 6 | 5 | NC\_030423.1 |
| sc0000169 | 75201 | 8 | 1 | NC\_030444.1 |
| sc0000170 | 75464 | 26 | 3 | NC\_030440.1 |
| sc0000171 | 70945 | 11 | 2 | NC\_030434.1 |
| sc0000172 | 70245 | 8 | 7 | NC\_030430.1 |
| sc0000173 | 69880 | 9 | 5 | NC\_030422.1 |
| sc0000174 | 70599 | 8 | 4 | NC\_030418.1 |
| sc0000175 | 66315 | 8 | 5 | NC\_030417.1 |
| sc0000176 | 65332 | 7 | 4 | NC\_030434.1 |
| sc0000177 | 72983 | 4 | 2 | NC\_030441.1 |
| sc0000178 | 58862 | 4 | 4 | NC\_030431.1 |
| sc0000179 | 56719 | 4 | 4 | NC\_030431.1 |
| sc0000180 | 94219 | 14 | 4 | NC\_030441.1 |
| sc0000181 | 56674 | 4 | 4 | NC\_030417.1 |
| sc0000182 | 57784 | 15 | 1 | NC\_030440.1 |
| sc0000183 | 58006 | 8 | 7 | NC\_030436.1 |
| sc0000184 | 55110 | 7 | 3 | NC\_030424.1 |
| sc0000185 | 53584 | 8 | 7 | NC\_030443.1 |
| sc0000186 | 47715 | 9 | 6 | NC\_030441.1 |
| sc0000187 | 47993 | 2 | 2 | NC\_030436.1 |
| sc0000188 | 48256 | 7 | 2 | NC\_030437.1 |
| sc0000189 | 47430 | 2 | 1 | NC\_030420.1 |
| sc0000190 | 43519 | 4 | 4 | NC\_030443.1 |
| sc0000191 | 49865 | 12 | 1 | NC\_030442.1 |
| sc0000192 | 39454 | 9 | 6 | NC\_030437.1 |
| sc0000193 | 39363 | 6 | 2 | NC\_030429.1 |
| sc0000194 | 38952 | 11 | 1 | NC\_030443.1 |
| sc0000195 | 38299 | 3 | 2 | NC\_030417.1 |
| sc0000196 | 62276 | 13 | 4 | NC\_030443.1 |
| sc0000197 | 33716 | 4 | 4 | NC\_030443.1 |
| sc0000198 | 33176 | 4 | 4 | NC\_030443.1 |
| sc0000199 | 34383 | 6 | 2 | NC\_030418.1 |
| sc0000200 | 33654 | 6 | 2 | NC\_030420.1 |
| sc0000201 | 32448 | 2 | 2 | NC\_030420.1 |
| sc0000202 | 31620 | 6 | 3 | NC\_030444.1 |
| sc0000203 | 32160 | 4 | 2 | NC\_030428.1 |
| sc0000204 | 31142 | 5 | 4 | NC\_030433.1 |
| sc0000205 | 31517 | 7 | 3 | NC\_030444.1 |
| sc0000206 | 29170 | 2 | 1 | NC\_030439.1 |
| sc0000207 | 27180 | 6 | 3 | NC\_030434.1 |
| sc0000208 | 28404 | 3 | 3 | NC\_030444.1 |
| sc0000209 | 41200 | 4 | 2 | NC\_030437.1 |
| sc0000210 | 28462 | 1 | 1 | NC\_030431.1 |
| sc0000211 | 28241 | 3 | 3 | NC\_030437.1 |
| sc0000212 | 26393 | 5 | 1 | NC\_030420.1 |
| sc0000213 | 25810 | 1 | 1 | NC\_030423.1 |
| sc0000215 | 20321 | 2 | 2 | NC\_030436.1 |
| sc0000216 | 20723 | 2 | 1 | NC\_030422.1 |
| sc0000217 | 29372 | 4 | 3 | NC\_030424.1 |
| sc0000218 | 37066 | 11 | 1 | NC\_030435.1 |
| sc0000219 | 19550 | 4 | 1 | NC\_030437.1 |
| sc0000220 | 17990 | 4 | 1 | NC\_030437.1 |
| sc0000221 | 33428 | 4 | 4 | NC\_030424.1 |
| sc0000222 | 17529 | 3 | 1 | NC\_030431.1 |
| sc0000224 | 16030 | 1 | 1 | NC\_030420.1 |
| sc0000225 | 16266 | 3 | 2 | NC\_030423.1 |
| sc0000226 | 15130 | 3 | 1 | NC\_030435.1 |
| sc0000227 | 14473 | 2 | 1 | NC\_030417.1 |
| sc0000228 | 14099 | 7 | 1 | NC\_030444.1 |
| sc0000229 | 14330 | 2 | 1 | NC\_030427.1 |
| sc0000231 | 12164 | 2 | 1 | NC\_030416.1 |
| sc0000232 | 12109 | 3 | 2 | NC\_030425.1 |
| sc0000234 | 11668 | 4 | 3 | NC\_030430.1 |
| sc0000235 | 10836 | 3 | 1 | NC\_030442.1 |
| sc0000237 | 10339 | 2 | 2 | NC\_030441.1 |
| sc0000238 | 10225 | 4 | 2 | NC\_030437.1 |
| sc0000239 | 9876 | 2 | 2 | NC\_030443.1 |
| sc0000240 | 9558 | 3 | 2 | NC\_030438.1 |
| sc0000241 | 8663 | 2 | 2 | NC\_030425.1 |
| sc0000243 | 7741 | 1 | 1 | NC\_030442.1 |
| sc0000244 | 6518 | 1 | 1 | NC\_030420.1 |
| sc0000246 | 7650 | 2 | 2 | NC\_030417.1 |
| sc0000248 | 7475 | 1 | 1 | NC\_030417.1 |
| sc0000250 | 6699 | 1 | 1 | NC\_030440.1 |
| sc0000256 | 5809 | 1 | 1 | NC\_030442.1 |
| sc0000257 | 5974 | 1 | 1 | NC\_030425.1 |
| sc0000258 | 5688 | 1 | 1 | NC\_030436.1 |
| sc0000259 | 5377 | 1 | 1 | NC\_030442.1 |
| sc0000260 | 5401 | 1 | 1 | NC\_030442.1 |
| sc0000262 | 5318 | 2 | 2 | NC\_030424.1 |
| sc0000263 | 5136 | 2 | 1 | NC\_030443.1 |
| sc0000266 | 4960 | 1 | 1 | NC\_030437.1 |
| sc0000267 | 5134 | 1 | 1 | NC\_030443.1 |
| sc0000268 | 4942 | 1 | 1 | NC\_030416.1 |
| sc0000273 | 4504 | 2 | 1 | NC\_030435.1 |
| sc0000274 | 4456 | 1 | 1 | NC\_030442.1 |
| sc0000279 | 4136 | 1 | 1 | NC\_030437.1 |
| sc0000285 | 4084 | 1 | 1 | NC\_030441.1 |
| sc0000287 | 4134 | 1 | 1 | NC\_030439.1 |
| sc0000288 | 4056 | 2 | 1 | NC\_030440.1 |
| sc0000289 | 3956 | 2 | 2 | NC\_030428.1 |
| sc0000291 | 4237 | 2 | 1 | NC\_030438.1 |
| sc0000292 | 3891 | 1 | 1 | NC\_030443.1 |
| sc0000296 | 3759 | 1 | 1 | NC\_030443.1 |
| sc0000297 | 3751 | 1 | 1 | NC\_030427.1 |
| sc0000301 | 3582 | 1 | 1 | NC\_030419.1 |
| sc0000302 | 3571 | 1 | 1 | NC\_030417.1 |
| sc0000303 | 3515 | 1 | 1 | NC\_030429.1 |
| sc0000305 | 3368 | 1 | 1 | NC\_030427.1 |
| sc0000306 | 3335 | 2 | 2 | NC\_030443.1 |
| sc0000307 | 19152 | 1 | 1 | NC\_030443.1 |
| sc0000308 | 3402 | 1 | 1 | NC\_030427.1 |
| sc0000311 | 3083 | 1 | 1 | NC\_030442.1 |
| sc0000312 | 3060 | 1 | 1 | NC\_030425.1 |
| sc0000314 | 3050 | 1 | 1 | NC\_030424.1 |
| sc0000315 | 3023 | 1 | 1 | NC\_030423.1 |
| sc0000317 | 2950 | 1 | 1 | NC\_030422.1 |
| sc0000319 | 2930 | 1 | 1 | NC\_030419.1 |
| sc0000323 | 2884 | 1 | 1 | NC\_030443.1 |
| sc0000325 | 2829 | 2 | 1 | NC\_030443.1 |
| sc0000326 | 17566 | 2 | 1 | NC\_030418.1 |
| sc0000328 | 2780 | 1 | 1 | NC\_030437.1 |
| sc0000331 | 2623 | 1 | 1 | NC\_030431.1 |
| sc0000333 | 2547 | 1 | 1 | NC\_030420.1 |
| sc0000334 | 2536 | 1 | 1 | NC\_030442.1 |
| sc0000335 | 2499 | 2 | 2 | NC\_030423.1 |
| sc0000336 | 2484 | 1 | 1 | NC\_030432.1 |
| sc0000338 | 2458 | 1 | 1 | NC\_030435.1 |
| sc0000344 | 2348 | 1 | 1 | NC\_030430.1 |
| sc0000346 | 2421 | 1 | 1 | NC\_030436.1 |
| sc0000347 | 2308 | 1 | 1 | NC\_030437.1 |
| sc0000348 | 2299 | 1 | 1 | NC\_030435.1 |
| sc0000350 | 2290 | 1 | 1 | NC\_030434.1 |
| sc0000352 | 2270 | 1 | 1 | NC\_030429.1 |
| sc0000353 | 2270 | 1 | 1 | NC\_030424.1 |
| sc0000357 | 2258 | 1 | 1 | NC\_030430.1 |
| sc0000359 | 2253 | 1 | 1 | NC\_030420.1 |
| sc0000361 | 2244 | 2 | 1 | NC\_030416.1 |
| sc0000362 | 2225 | 1 | 1 | NC\_030437.1 |
| sc0000366 | 2209 | 1 | 1 | NC\_030421.1 |
| sc0000367 | 2206 | 2 | 1 | NC\_030428.1 |
| sc0000368 | 2201 | 1 | 1 | NC\_030427.1 |
| sc0000369 | 2574 | 1 | 1 | NC\_030440.1 |
| sc0000372 | 2181 | 1 | 1 | NC\_030424.1 |
| sc0000373 | 2179 | 1 | 1 | NC\_030428.1 |
| sc0000376 | 2159 | 1 | 1 | NC\_030424.1 |
| sc0000377 | 2152 | 1 | 1 | NC\_030435.1 |
| sc0000378 | 2147 | 1 | 1 | NC\_030432.1 |
| sc0000379 | 2144 | 1 | 1 | NC\_030430.1 |
| sc0000382 | 2120 | 1 | 1 | NC\_030443.1 |
| sc0000387 | 2103 | 1 | 1 | NC\_030441.1 |
| sc0000388 | 2098 | 2 | 1 | NC\_030422.1 |
| sc0000390 | 2096 | 1 | 1 | NC\_030422.1 |
| sc0000391 | 2093 | 1 | 1 | NC\_030426.1 |
| sc0000395 | 2070 | 1 | 1 | NC\_030419.1 |
| sc0000396 | 2066 | 1 | 1 | NC\_030438.1 |
| sc0000398 | 2045 | 1 | 1 | NC\_030417.1 |
| sc0000407 | 2012 | 1 | 1 | NC\_030436.1 |
| sc0000408 | 2010 | 1 | 1 | NC\_030428.1 |
| sc0000417 | 1960 | 1 | 1 | NC\_030432.1 |
| sc0000420 | 1953 | 1 | 1 | NC\_030437.1 |
| sc0000422 | 1939 | 1 | 1 | NC\_030443.1 |
| sc0000424 | 1922 | 1 | 1 | NC\_030417.1 |
| sc0000425 | 1921 | 1 | 1 | NC\_030436.1 |
| sc0000426 | 1912 | 2 | 1 | NC\_030417.1 |
| sc0000428 | 1905 | 2 | 1 | NC\_030430.1 |
| sc0000431 | 1893 | 1 | 1 | NC\_030426.1 |
| sc0000432 | 1891 | 1 | 1 | NC\_030417.1 |
| sc0000436 | 1874 | 1 | 1 | NC\_030416.1 |
| sc0000437 | 1874 | 1 | 1 | NC\_030425.1 |
| sc0000440 | 1859 | 1 | 1 | NC\_030444.1 |
| sc0000443 | 1847 | 1 | 1 | NC\_030418.1 |
| sc0000444 | 1846 | 1 | 1 | NC\_030431.1 |
| sc0000450 | 1829 | 1 | 1 | NC\_030444.1 |
| sc0000452 | 1819 | 1 | 1 | NC\_030443.1 |
| sc0000453 | 1818 | 1 | 1 | NC\_030419.1 |
| sc0000454 | 1807 | 1 | 1 | NC\_030419.1 |
| sc0000456 | 1794 | 1 | 1 | NC\_030442.1 |
| sc0000458 | 1775 | 2 | 1 | NC\_030434.1 |
| sc0000460 | 1769 | 1 | 1 | NC\_030419.1 |
| sc0000463 | 1762 | 1 | 1 | NC\_030437.1 |
| sc0000469 | 1750 | 1 | 1 | NC\_030435.1 |
| sc0000471 | 1749 | 1 | 1 | NC\_030436.1 |
| sc0000472 | 1747 | 1 | 1 | NC\_030436.1 |
| sc0000486 | 1705 | 1 | 1 | NC\_030430.1 |
| sc0000492 | 1690 | 1 | 1 | NC\_030430.1 |
| sc0000496 | 1681 | 1 | 1 | NC\_030428.1 |
| sc0000500 | 1677 | 1 | 1 | NC\_030417.1 |
| sc0000501 | 1676 | 1 | 1 | NC\_030439.1 |
| sc0000502 | 1673 | 1 | 1 | NC\_030435.1 |
| sc0000504 | 1664 | 1 | 1 | NC\_030441.1 |
| sc0000505 | 1663 | 2 | 1 | NC\_030429.1 |
| sc0000507 | 1660 | 1 | 1 | NC\_030435.1 |
| sc0000508 | 1659 | 1 | 1 | NC\_030443.1 |
| sc0000519 | 1637 | 1 | 1 | NC\_030424.1 |
| sc0000524 | 1623 | 2 | 1 | NC\_030437.1 |
| sc0000527 | 1606 | 1 | 1 | NC\_030424.1 |
| sc0000528 | 1604 | 1 | 1 | NC\_030437.1 |
| sc0000529 | 1604 | 1 | 1 | NC\_030430.1 |
| sc0000532 | 1581 | 1 | 1 | NC\_030420.1 |
| sc0000534 | 1579 | 1 | 1 | NC\_030420.1 |
| sc0000537 | 1569 | 1 | 1 | NC\_030417.1 |
| sc0000542 | 1546 | 1 | 1 | NC\_030417.1 |
| sc0000543 | 1544 | 1 | 1 | NC\_030423.1 |
| sc0000546 | 1537 | 1 | 1 | NC\_030437.1 |
| sc0000547 | 1534 | 1 | 1 | NC\_030444.1 |
| sc0000550 | 1524 | 1 | 1 | NC\_030426.1 |
| sc0000560 | 1503 | 1 | 1 | NC\_030420.1 |
| sc0000566 | 750 | 1 | 1 | NC\_030418.1 |
| sc0000568 | 592 | 1 | 1 | NC\_030439.1 |
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