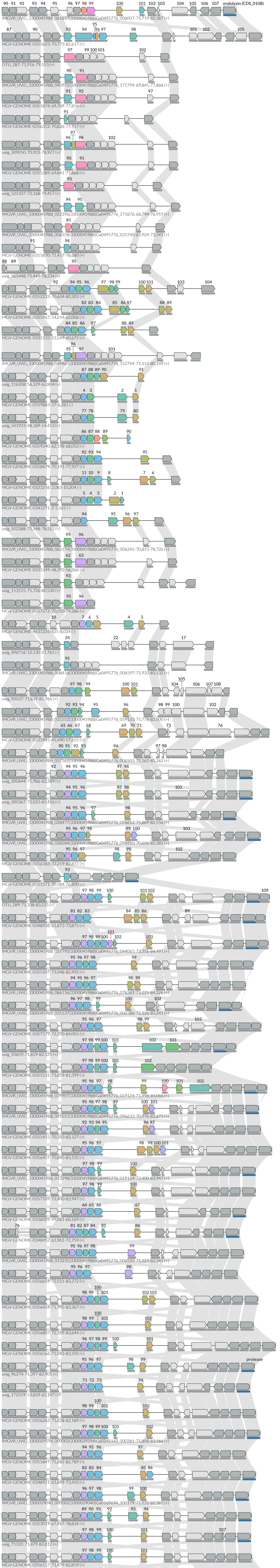
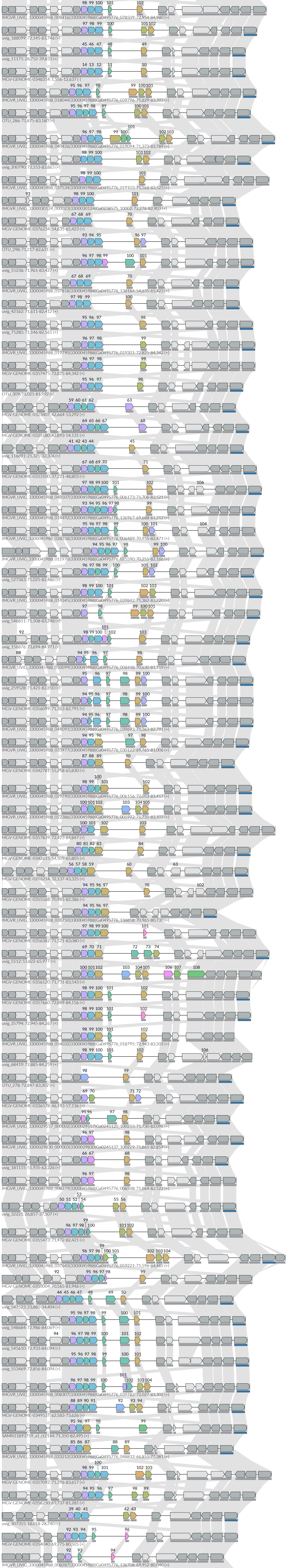

90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 endolysin (CDS_0108)
IMGVR_UViG_3300045988_061617|3300045988|Ga0495776_006007: 71,719-82,387 (+)
87 90 93 94 95 96 97 98 101 102 105
MGV-GENOME-0355623: 70,773-82,617 (+)
97 99 100 101 102
OTU_287: 71,916-79,553 (+)
90 91
IMGVR_UViG_3300045988_040972|3300045988|Ga0495776_171794: 69,841-77,868 (+)
91 92 97
MGV-GENOME-0355874: 69,789-77,854 (+)
91
MGV-GENOME-0356352: 70,826-77,717 (+)
96 97 98 102
uvig_309050: 70,933-78,927 (+)
90 91
MGV-GENOME-0355389: 69,841-77,868 (+)
93
uvig_521337: 72,168-79,457 (+)
94 95
IMGVR_UViG_3300045988_022396|3300045988|Ga0495776_171876: 68,794-76,919 (+)
81
IMGVR_UViG_3300045988_006358|3300045988|Ga0495776_031740: 65,924-73,341 (+)
91 94
MGV-GENOME-0355870: 71,417-78,680 (+)
88 89 95
uvig_565448: 71,449-78,234 (+)
92 94 95 96 97 98 99 100 101 103 104
MGV-GENOME-0352233: 70,604-80,302 (+)
82 83 84 85 86 87 88 89
MGV-GENOME-0335967: 54,254-62,006 (+)
84 85 86 87 88 89
MGV-GENOME-0335133: 53,549-60,672 (+)
95 96 97 101
IMGVR_UViG_3300045988_049467|3300045988|Ga0495776_152744: 71,112-80,149 (+)
87 88 89 90 91
uvig_116208: 56,329-62,804 (+)
4 3 2 1
MGV-GENOME-0319883: 57-6,281 (-)
77 78 79 80
uvig_541923: 48,189-54,413 (+)
86 87 88 89 90
MGV-GENOME-0359240: 62,198-68,052 (+)
92 93 94 95
MGV-GENOME-0358479: 70,191-77,927 (+)
11 10 9 8 7 6
MGV-GENOME-0323256: 2,083-10,204 (-)
5 4 3 2 1
MGV-GENOME-0341271: 2-5,565 (-)
94 95 96 97
uvig_502388: 71,148-78,522 (+)
95 96
IMGVR_UViG_3300045988_065174|3300045988|Ga0495776_006245: 70,815-78,726 (+)
62 63
MGV-GENOME-0335349: 48,392-56,366 (+)
93
uvig_153515: 71,726-80,530 (+)
95 96
MGV-GENOME-0357272: 70,050-74,286 (+)
10 7 6 5 4 3
MGV-GENOME-4431335: 425-8,024 (-)
24 22 17
uvig_496716: 12,130-21,765 (-)
95
IMGVR_UViG_3300045988_008418|3300045988|Ga0495776_006597: 71,933-81,532 (+)
97 98 99 100 101 104 105 106 107 108
uvig_92037: 71,619-81,966 (+)
92 93 94 95 96 98 99 100 102
IMGVR_UViG_3300045988_031553|3300045988|Ga0495776_059133: 71,778-82,500 (+)
65 66 67 68 69 70 71 73 76
MGV-GENOME-0333945: 45,490-57,655 (+)
90 91 92 93 94 97 98
IMGVR_UViG_3300045988_037562|3300045988|Ga0495776_006505: 71,162-81,262 (+)
92 94 95 96 97 98
uvig_300644: 71,986-83,389 (+)
94 95 96 97 98 101
uvig_300367: 72,023-83,426 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_028477|3300045988|Ga0495776_096612: 71,889-82,556 (+)
95 96 97 98 99 100 103
IMGVR_UViG_3300045988_028284|3300045988|Ga0495776_096510: 70,606-82,382 (+)
95 96 97 98 99 102
MGV-GENOME-0356183: 72,219-82,877 (+)
93
MGV-GENOME-0351571: 70,584-76,800 (+)
97 98 99 100 101 102 109
OTU_289: 71,338-83,525 (+)
81 82 83 84 85 86 89
MGV-GENOME-0348936: 61,873-73,875 (+)
97 98 99 100 101 102 103
IMGVR_UViG_3300045988_037792|3300045988|Ga0495776_044065: 72,356-84,491 (+)
95 96 97 98 99
MGV-GENOME-0355107: 71,048-82,492 (+)
94 95 96 97 98 99
IMGVR_UViG_3300045988_086136|3300045988|Ga0495776_078381: 73,225-84,326 (+)
96 97 98 99 100 102
IMGVR_UViG_3300045988_035537|3300045988|Ga0495776_006586: 72,326-83,241 (+)
95 96 97 98 99 103
MGV-GENOME-0357579: 72,200-84,005 (+)
97 98 99 100 101 102 103
uvig_10659: 71,859-82,521 (+)
97 98 99 100 101 102
MGV-GENOME-0355131: 71,859-81,399 (+)
95 96 97 98 99 100 101 102
IMGVR_UViG_3300045988_029907|3300045988|Ga0495776_019124: 71,998-84,066 (+)
95 96 97 98 99 100 101
IMGVR_UViG_3300045988_041015|3300045988|Ga0495776_096633: 70,976-82,675 (+)
92 93 94 95 96 97
MGV-GENOME-0355415: 70,343-82,127 (+)
95 96 97 98 99 100 101
MGV-GENOME-0356457: 70,845-83,135 (+)
97 98 99 100
IMGVR_UViG_3300045988_013298|3300045988|Ga0495776_019164: 72,400-83,947 (+)
97 98 99 100
MGV-GENOME-0357109: 72,400-83,947 (+)
64 65 66 67
MGV-GENOME-0336009: 49,061-60,169 (+)
76 81 82 83 84 85 86
MGV-GENOME-0348452: 61,961-72,759 (+)
95 96 97 98 99
IMGVR_UViG_3300045988_013235|3300045988|Ga0495776_006532: 71,323-82,341 (+)
95 96 97 98
MGV-GENOME-0356654: 72,551-83,272 (+)
98 99 100 101 102 103
MGV-GENOME-0356454: 71,705-83,367 (+)
98 99 100 101 102
MGV-GENOME-0356807: 72,189-83,644 (+)
96 97 98 99 100 101
MGV-GENOME-0356566: 71,043-83,505 (+)
95 96 97 98 99 protease
uvig_96274: 71,397-82,905 (+)
71 72 73 74
uvig_172559: 53,859-65,147 (+)
98 99 100 101 102
MGV-GENOME-0356262: 71,628-83,189 (+)
97 98 99 100 101 102
IMGVR_UViG_3300029594_000002|3300029594|Ga0245142_100281: 71,806-83,566 (+)
94 95 96 97
MGV-GENOME-0355847: 71,682-82,789 (+)
82 83 84 85 86
MGV-GENOME-0348921: 61,849-73,410 (+)
96 97 98 99 100
IMGVR_UViG_3300029040_000002|3300029040|Ga0169694_100179: 71,131-82,365 (+)
89 90 91 92 93 94
MGV-GENOME-0353019: 67,467-78,834 (+)
97 98 99 100 101 107
uvig_71331: 71,479-82,812 (+)
97 98 99 100 101
MGV-GENOME-0356157: 71,479-82,859 (+)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uvig_188099: 72,145-83,746 (+)
45 46 47 48 49
uvig_11171: 28,752-39,833 (+)
14 13 12 11 10
MGV-GENOME-0348314: 1,556-12,637 (-)
95 96 97 98 99 100 101
IMGVR_UViG_3300045988_018044|3300045988|Ga0495776_039796: 71,829-83,393 (+)
95 96 97 98 99 100 101
OTU_286: 71,875-83,180 (+)
96 97 98 99 100 101 102 103
IMGVR_UViG_3300045988_040426|3300045988|Ga0495776_019094: 71,373-83,789 (+)
98 99 100 101 102
uvig_200790: 72,553-83,865 (+)
98 99 100 101
IMGVR_UViG_3300045988_037534|3300045988|Ga0495776_019103: 71,368-83,523 (+)
93 98 99 100 101
IMGVR_UViG_3300030124_000023|3300030124|Ga0238575_10002: 72,276-82,903 (+)
67 68 69 70
MGV-GENOME-0376234: 54,635-65,423 (+)
93 94 95 96 97
OTU_298: 71,217-82,631 (+)
96 97 98 99 100 101
uvig_55236: 71,961-83,427 (+)
67 68 69 70
IMGVR_UViG_3300045988_037818|3300045988|Ga0495776_138164: 54,635-65,423 (+)
97 98 99 100
uvig_42162: 71,611-82,412 (+)
95 96 97 98
uvig_75285: 71,146-82,561 (+)
96 97 98 99
IMGVR_UViG_3300045988_019790|3300045988|Ga0495776_019301: 72,825-84,342 (+)
96 97 98 99
MGV-GENOME-0357475: 72,825-84,342 (+)
95 96 97 98
OTU_309: 71,025-81,992 (+)
59 60 61 62 63
MGV-GENOME-0323407: 42,664-53,292 (+)
64 65 66 67 68
MGV-GENOME-0325180: 42,893-54,131 (+)
41 42 43 44 45
uvig_116891: 21,325-32,306 (+)
67 68 69 70 71
MGV-GENOME-0313100: 37,221-48,803 (+)
97 98 99 100 101 102 106
IMGVR_UViG_3300045988_048507|3300045988|Ga0495776_006173: 71,706-83,521 (+)
93 94 95 96 97 98 99
IMGVR_UViG_3300045988_014492|3300045988|Ga0495776_136967: 69,688-81,212 (+)
95 96 97 98 99 100 101 104
IMGVR_UViG_3300045988_028358|3300045988|Ga0495776_006489: 70,955-82,471 (+)
94 95 96 97 98 99 100
IMGVR_UViG_3300045988_011970|3300045988|Ga0495776_025590: 70,255-82,166 (+)
96 97 98 99 100 101 102
uvig_527363: 71,025-82,486 (+)
98 99 100 101 102 103
IMGVR_UViG_3300045988_014345|3300045988|Ga0495776_039842: 71,382-83,220 (+)
97 98 99 100 101
uvig_548811: 71,508-83,248 (+)
92 98 99 100 101 102 103
uvig_158876: 73,694-84,971 (+)
88 94 95 96 97 98
IMGVR_UViG_3300045988_050099|3300045988|Ga0495776_008448: 70,630-81,719 (+)
95 96 97 98 99 100
uvig_259528: 71,421-82,850 (+)
94 95 96 97 98 99 100
MGV-GENOME-0356099: 71,363-82,791 (+)
94 95 96 97 98 99 100
IMGVR_UViG_3300045988_044091|3300045988|Ga0495776_039693: 71,363-82,791 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_033977|3300045988|Ga0495776_030122: 69,765-81,006 (+)
87 88 89 90
MGV-GENOME-0342781: 55,258-65,830 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_029790|3300045988|Ga0495776_006156: 72,053-83,417 (+)
100 101 102 103 104 105
IMGVR_UViG_3300045988_022386|3300045988|Ga0495776_005992: 71,731-83,103 (+)
100 101 102 103
MGV-GENOME-0357839: 72,423-84,847 (+)
80 81 82 83 84
MGV-GENOME-0342615: 54,509-65,805 (+)
56 57 58 59 60 63
MGV-GENOME-0296214: 32,137-43,335 (+)
94 95 96 97 98 102
MGV-GENOME-0355568: 70,965-82,386 (+)
94 95 96 97
IMGVR_UViG_3300045988_038750|3300045988|Ga0495776_136858: 70,965-80,730 (+)
97 98 99 100 101
MGV-GENOME-0356382: 71,521-83,080 (+)
69 70 71 72 73 74
uvig_5512: 53,822-65,977 (+)
100 101 102 103 104 105 106 107 108
MGV-GENOME-0356120: 71,731-83,543 (+)
98 99 100 101 102
MGV-GENOME-0357660: 72,889-84,156 (+)
98 99 100 101 102
uvig_35794: 72,945-84,267 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_054032|3300045988|Ga0495776_018795: 72,943-83,503 (+)
98 99 100 101 102 106
uvig_68419: 72,885-84,259 (+)
98 99
OTU_278: 72,847-83,302 (+)
69 70 71 72
MGV-GENOME-0336578: 46,143-57,136 (+)
95 96 97 98
IMGVR_UViG_3300029557_000002|3300029557|Ga0245120_100255: 71,730-82,096 (+)
96 97 98
IMGVR_UViG_3300029830_000003|3300029830|Ga0245137_100229: 71,861-82,859 (+)
66 67 68
uvig_181115: 51,935-62,226 (+)
96 97 98
IMGVR_UViG_3300045988_008279|3300045988|Ga0495776_006508: 71,864-82,522 (+)
50 51 52 53 54 55 56
uvig_32221: 26,857-37,507 (+)
96 97 98 99 100 101 102
MGV-GENOME-0355473: 71,472-82,421 (+)
96 97 98 99 100 101 102 103 104
IMGVR_UViG_3300045988_037643|3300045988|Ga0495776_059221: 71,596-84,485 (+)
92 95 96 97 98 99
MGV-GENOME-0355004: 70,565-81,946 (+)
44 45 46 47 48 49 50
uvig_547523: 23,885-34,404 (+)
95 96 97 98 99 100 101
uvig_548684: 72,986-84,069 (+)
94 96 97 98 99 100 101 102
uvig_545610: 72,933-84,094 (+)
95 96 97 98 99 100 101
uvig_553469: 72,856-84,094 (+)
96 97 98 99 100 101 102 103 104
IMGVR_UViG_3300045988_008307|3300045988|Ga0495776_039782: 72,027-83,302 (+)
88 89 90 91 92 93 94
MGV-GENOME-0349537: 62,583-73,626 (+)
95 96 97 98 99
SAMN11893759_a1_ct2144: 71,350-82,495 (+)
85 86 87 88 89
IMGVR_UViG_3300045988_033212|3300045988|Ga0495776_048832: 66,855-77,381 (+)
98 99 100 101 102 103
MGV-GENOME-0357092: 71,396-83,657 (+)
94 95 96 97 98 99
MGV-GENOME-0356250: 69,737-81,281 (+)
39 40 41 42 43
uvig_307355: 18,018-28,740 (+)
92 93 94 95 96
MGV-GENOME-0354040: 69,775-80,505 (+)
92 93 94
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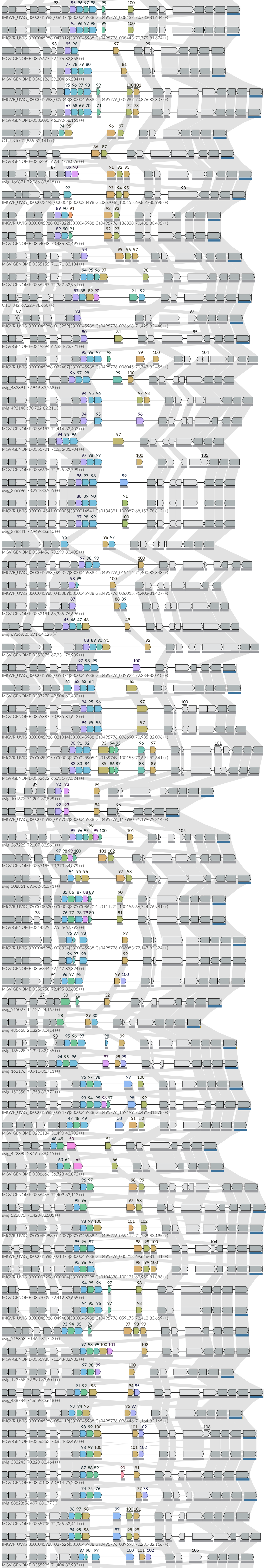
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93 95 96 97 99
MGV-GENOME-0355677: 72,176-82,368 (+)
77 78 79 80 81
MGV-GENOME-0346126: 59,304-69,534 (+)
95 96 97 98 99 100 101
IMGVR_UViG_3300045988_009343|3300045988|Ga0495776_005987: 70,876-82,807 (+)
67 68 69 70 71 72 73
MGV-GENOME-0333095: 46,292-58,161 (+)
94 95 96 97
OTU_310: 71,865-82,141 (+)
86 87
MGV-GENOME-0352295: 67,451-78,076 (+)
87 89 90 91 92 93
uvig_166871: 72,066-83,518 (+)
92 93 94 95 98
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89 90 91 92 93
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89 90 91 92 93
MGV-GENOME-0354043: 70,486-80,495 (+)
94 95 96 97
MGV-GENOME-0355155: 71,171-82,134 (+)
94 95 96 97 98
MGV-GENOME-0356287: 71,387-82,961 (+)
87 88 89 90 91 92
OTU_342: 67,229-78,650 (+)
87 93 97
IMGVR_UViG_3300045988_013259|3300045988|Ga0495776_096668: 71,425-82,448 (+)
80 81 85
MGV-GENOME-0349394: 62,384-73,721 (+)
95 96 97 98 99 100 104
IMGVR_UViG_3300045988_022487|3300045988|Ga0495776_006045: 70,743-82,455 (+)
96 97 98 99 100
uvig_483891: 72,949-83,568 (+)
94 95 96 97 98
uvig_492140_: 70,732-82,211 (+)
94 95 96
MGV-GENOME-0356187: 71,414-82,403 (+)
94 95 96 97
MGV-GENOME-0355701: 71,556-81,704 (+)
97 98 99 100 105
MGV-GENOME-0356635: 71,925-82,799 (+)
96 97 98 99
uvig_376996: 73,294-83,955 (+)
88 89 90 91
IMGVR_UViG_3300014541_000005|3300014541|Ga0134391_100087: 68,153-78,812 (+)
97 98 99 100
uvig_378341: 72,949-83,610 (+)
95 96 97
MGV-GENOME-0354456: 70,699-80,405 (+)
97 98 99 100
IMGVR_UViG_3300045988_022357|3300045988|Ga0495776_019114: 71,400-82,848 (+)
98 99 100
IMGVR_UViG_3300045988_045089|3300045988|Ga0495776_006015: 71,403-81,427 (+)
87 88 89
MGV-GENOME-0352181: 66,335-76,696 (+)
45 46 47 48 49
uvig_69369: 23,271-34,125 (+)
88 89 90 91 92
MGV-GENOME-0353875: 67,231-78,989 (+)
97 98 99 100
IMGVR_UViG_3300045988_039371|3300045988|Ga0495776_039922: 72,284-83,010 (+)
61 62 63 64 65
MGV-GENOME-0337270: 49,504-60,430 (+)
94 95 96 97 100
MGV-GENOME-0355887: 70,935-81,642 (+)
94 95 96 97
IMGVR_UViG_3300045988_031014|3300045988|Ga0495776_096690: 70,935-82,096 (+)
90 91 92 93 94 95 96 97 101
IMGVR_UViG_3300028905_000003|3300028905|Ga0169749_100155: 70,691-82,641 (+)
82 83 84 85 86 87 88 89
MGV-GENOME-0352602: 65,751-77,524 (+)
89 92 93 94
uvig_101673: 71,201-80,899 (+)
92 93 94 96
IMGVR_UViG_3300045988_016707|3300045988|Ga0495776_117980: 71,199-79,314 (+)
98
95 96 97 99 100 101 105
uvig_267225: 72,107-82,560 (+)
97 98 99 100 101 102
MGV-GENOME-0357185: 73,373-84,079 (+)
94 95 96 97 98
uvig_308861: 69,962-81,371 (+)
85 86 87 88 89 90
IMGVR_UViG_3300008620_000003|3300008620|Ga0111272_100156: 66,744-76,981 (+)
73 76 77 78 79 80 81
MGV-GENOME-0344329: 57,555-67,793 (+)
96 97 98 99
IMGVR_UViG_3300045988_008334|3300045988|Ga0495776_006083: 72,147-83,324 (+)
96 97 98 99
MGV-GENOME-0356344: 72,147-83,324 (+)
94 96 97 98 99 100
MGV-GENOME-0356758: 72,495-83,605 (+)
27 30 31 32
uvig_515027: 14,127-24,167 (+)
28 29 30
uvig_485660: 21,326-30,414 (+)
93 95 96 97 98 99
uvig_165928: 71,320-82,055 (+)
94 95 96 97 98 99
uvig_162176: 70,911-81,711 (+)
96 97 98 99 100
uvig_150358: 71,753-82,770 (+)
93 94 95 96 97 98 99
IMGVR_UViG_3300045988_039479|3300045988|Ga0495776_159499: 70,491-81,878 (+)
47 48 49 50 51 52
MGV-GENOME-0293184: 31,490-42,702 (+)
48 49 50 51
uvig_422890: 28,165-38,015 (+)
63 64 65 66
MGV-GENOME-0308666: 36,723-46,872 (+)
96 97 98 99
MGV-GENOME-0356465: 71,409-83,113 (+)
95 96 97 98
uvig_522875: 71,420-83,505 (+)
98 99 100 101 102
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95 96 97 98 99 100 104
IMGVR_UViG_3300045988_021075|3300045988|Ga0495776_030218: 69,616-81,541 (+)
95 96 97 98 99 100
IMGVR_UViG_3300007298_000004|3300007298|Ga0104838_100121: 69,959-81,886 (+)
94 95 96 97 98
MGV-GENOME-0357009: 72,412-83,669 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_049483|3300045988|Ga0495776_059175: 72,412-83,669 (+)
93 94 95 96 97 98 99
uvig_519853: 70,464-81,753 (+)
97 98 99 100 101 102
MGV-GENOME-0355980: 71,643-82,983 (+)
97 98 99 100
uvig_123558: 72,990-83,601 (+)
91 92 93 94 95
uvig_488784: 71,659-83,618 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_054119|3300045988|Ga0495776_096446: 71,164-82,165 (+)
98 99 100 101 102 106
MGV-GENOME-0356363: 70,854-82,497 (+)
98 99 100 101 102
uvig_332243: 70,820-82,464 (+)
87 88 89 90 91
MGV-GENOME-0350108: 63,914-75,232 (+)
74 75 76 77 78
uvig_88828: 56,497-68,177 (+)
96 97 98 99 100 101
MGV-GENOME-0355708: 71,085-82,411 (+)
94 95 96 97 98 99
IMGVR_UViG_3300045988_037626|3300045988|Ga0495776_039698: 70,280-82,116 (+)
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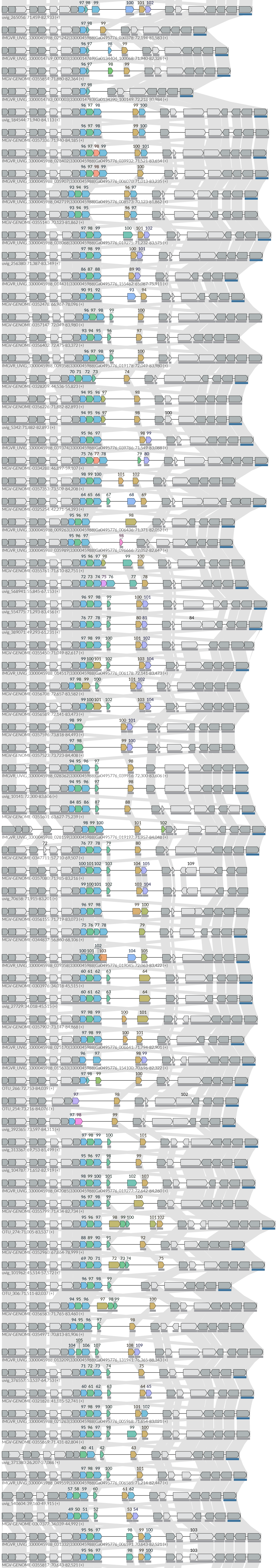
MGV-GENOME-0355995: 71,404-82,933 (+)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96 97 98 99
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96 97 98 99
MGV-GENOME-0355854: 71,880-82,364 (+)
97 98
IMGVR_UViG_3300014783_000003|3300014783|Ga0134390_100149: 72,218-80,984 (+)
96 97 98 99 100
uvig_184544: 71,940-84,113 (+)
96 97 98 99 100
MGV-GENOME-0357336: 71,940-84,185 (+)
96 97 98 99 100 101
IMGVR_UViG_3300045988_028402|3300045988|Ga0495776_039932: 71,521-83,654 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_035907|3300045988|Ga0495776_006070: 71,013-83,235 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_042719|3300045988|Ga0495776_008573: 70,123-81,862 (+)
93 94 95 96 97
MGV-GENOME-0355140: 70,123-81,862 (+)
97 98 99 100 101 102
IMGVR_UViG_3300045988_038068|3300045988|Ga0495776_019275: 71,232-83,575 (+)
97 98 99 100 101
uvig_256380: 71,387-83,349 (+)
86 87 88 89 90
IMGVR_UViG_3300045988_014431|3300045988|Ga0495776_155482: 65,087-75,911 (+)
90 91 92 93 94
MGV-GENOME-0352478: 66,967-78,096 (+)
96 97 98 99 100
MGV-GENOME-0357147: 72,049-83,980 (+)
93 94 95 96 97
MGV-GENOME-0356402: 72,475-83,372 (+)
96 97 98 99 100
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70 71 72 73 74
MGV-GENOME-0328209: 44,536-55,823 (+)
94 95 96 97 98
MGV-GENOME-0356226: 71,882-82,893 (+)
94 95 96 97 98 100
uvig_5342: 71,882-82,893 (+)
95 96 97 98 99
IMGVR_UViG_3300045988_039374|3300045988|Ga0495776_039786: 71,549-83,088 (+)
75 76 77 78 79 80
MGV-GENOME-0334288: 46,897-59,107 (+)
98 99 100 101 102
MGV-GENOME-0357353: 73,509-84,208 (+)
64 65 66 67 68 69
MGV-GENOME-0325254: 42,271-54,393 (+)
95 96 97 98
IMGVR_UViG_3300045988_009263|3300045988|Ga0495776_006436: 71,371-82,052 (+)
95 96 97 98
IMGVR_UViG_3300045988_035989|3300045988|Ga0495776_096666: 72,052-82,647 (+)
95 96 97 98 99 100
MGV-GENOME-0355761: 71,610-82,751 (+)
72 73 74 75 76 77 78
uvig_568941: 55,845-67,153 (+)
96 97 98 99 100 101
uvig_554775: 71,293-83,456 (+)
76 77 78 79 80 81 84
uvig_389071: 49,293-61,231 (+)
97 98 99 100 101 102
MGV-GENOME-0355450: 71,049-82,617 (+)
99 100 101 102 103 104
IMGVR_UViG_3300045988_014517|3300045988|Ga0495776_006178: 72,141-83,473 (+)
97 98 99 100 101 102
MGV-GENOME-0356708: 72,657-83,582 (+)
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98 99 100 101
MGV-GENOME-0357596: 73,818-84,493 (+)
97 98 99 100
MGV-GENOME-0357523: 73,723-84,408 (+)
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IMGVR_UViG_3300045988_028362|3300045988|Ga0495776_039916: 72,300-83,606 (+)
94 95 96 97 98
uvig_10141: 72,300-83,606 (+)
84 85 86 87 88
MGV-GENOME-0351601: 63,627-75,239 (+)
98 99 100 101 102
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72 76 77 78 79 80
MGV-GENOME-0347711: 57,710-69,507 (+)
100 101 102 103 104 105 109
MGV-GENOME-0357080: 71,985-83,216 (+)
99 100 101 102 103 104
uvig_70658: 71,915-83,201 (+)
96 97 98 99 100
MGV-GENOME-0356155: 71,719-83,073 (+)
75 76 77 78 79
MGV-GENOME-0344837: 56,860-68,106 (+)
102
100 101 103 104 105
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60 61 62 63 64
MGV-GENOME-0303976: 34,018-45,515 (+)
60 61 62 63 64
uvig_27729: 34,018-45,515 (+)
97 98 99 100 101
MGV-GENOME-0357902: 73,147-84,868 (+)
97 98 99 100 101
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96 97 98 99
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97 98 99 100
OTU_266: 72,753-84,039 (+)
97 98 102
OTU_254: 73,216-84,076 (+)
97 98 99
uvig_392365: 73,597-84,311 (+)
97 98 99 100 101
uvig_313367: 69,753-81,499 (+)
95 96 97 98 99
uvig_104787: 71,652-82,919 (+)
98 99 100 101 102 103
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96 97 98 99 100
MGV-GENOME-0355799: 71,434-82,734 (+)
95 96 97 98 99 100 101 102
OTU_274: 71,005-83,537 (+)
88 89 90 91 92
MGV-GENOME-0352960: 67,864-78,999 (+)
69 70 71 72 73 74 75
uvig_101962: 45,514-57,572 (+)
96 97 98 99
OTU_306: 71,511-82,037 (+)
94 95 96 97 98 99 100
MGV-GENOME-0356583: 71,765-83,460 (+)
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MGV-GENOME-0354971: 70,813-81,906 (+)
105
104 106 107 108 109
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71 72 73 74 75
uvig_376557: 53,537-64,753 (+)
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MGV-GENOME-0321828: 41,185-52,741 (+)
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95 96 97 98 99 100
MGV-GENOME-0355869: 71,431-82,804 (+)
40 41 42 43
uvig_371380: 26,207-37,086 (+)
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57 58 59 60 61 62
uvig_540604: 39,160-49,915 (+)
49 50 51 52 53 54
MGV-GENOME-0302377: 34,039-44,992 (+)
95 96 97 98 99 100 103
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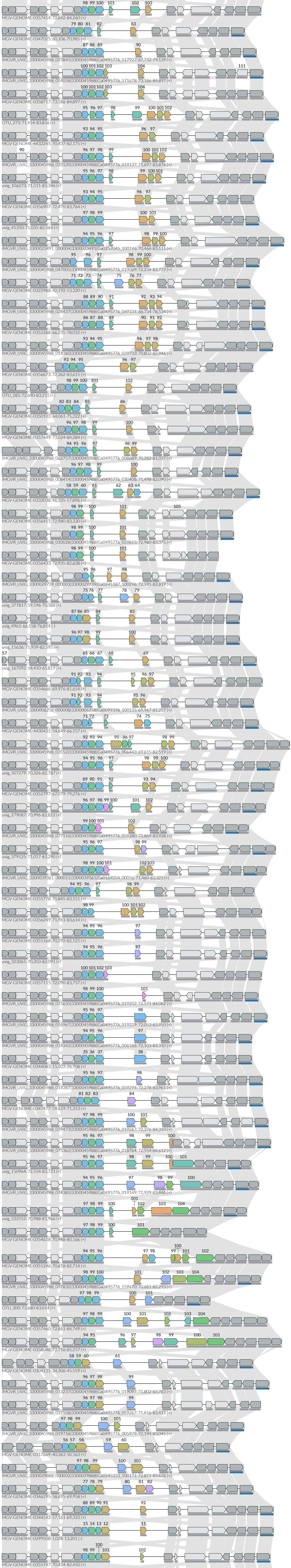
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95 96 97 98 99 100 101 102
OTU_273: 71,454-83,856 (+)
93 94 95 96 97
MGV-GENOME-4432245: 70,437-82,175 (+)
90 96 97 98 99 100 101 102
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uvig_106273: 71,511-83,346 (+)
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97 98 99 100 101
uvig_41350: 71,035-82,564 (+)
94 95 96 97 98 99 100
IMGVR_UViG_3300023491_000004|3300023491|Ga0257045_100146: 70,466-83,111 (+)
95 96 97 98 99 100
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71 72 73 74 75 76 77
MGV-GENOME-0322988: 42,192-53,320 (+)
88 89 90 91 92 93 94
IMGVR_UViG_3300045988_028437|3300045988|Ga0495776_049104: 66,734-78,534 (+)
86 87 88 89 90 91 92
MGV-GENOME-0352288: 66,235-78,032 (+)
93 94 95 96 97 98
IMGVR_UViG_3300045988_014360|3300045988|Ga0495776_039733: 70,802-82,946 (+)
93 94 95 96 97
MGV-GENOME-0356673: 72,362-83,615 (+)
98 99 100 101 102
OTU_285: 72,690-83,215 (+)
82 83 84 85 86
MGV-GENOME-0350103: 64,061-75,222 (+)
96 97 98 99 100
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MGV-GENOME-0332038: 46,335-57,896 (+)
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MGV-GENOME-0356411: 72,980-83,330 (+)
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87 86 85 84 83
uvig_4961: 66,158-76,814 (-)
96 97 98 99 100
uvig_15636: 71,939-82,595 (+)
57 65 66 67 68 69
uvig_167092: 54,410-65,819 (+)
91 92 93 94 95 96 97
MGV-GENOME-0354666: 69,976-81,654 (+)
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IMGVR_UViG_3300006258_000008|3300006258|Ga0099398_100135: 69,967-81,257 (+)
71 72 73 74 75
MGV-GENOME-4430431: 54,649-66,157 (+)
92 93 94 95 96 97 98 99
IMGVR_UViG_3300045988_035522|3300045988|Ga0495776_006443: 69,615-82,519 (+)
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uvig_507279: 70,326-82,787 (+)
89 90 91 92 93 94
MGV-GENOME-0352797: 67,079-79,276 (+)
96 97 98 99 100 101 102
uvig_279087: 70,996-82,822 (+)
99 100 101 102
IMGVR_UViG_3300045988_077116|3300045988|Ga0495776_059280: 72,869-83,928 (+)
95 96 97 98 99
uvig_379125: 71,017-83,290 (+)
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94 95 96 97 98 99
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94 95 96 97
IMGVR_UViG_3300045988_014342|3300045988|Ga0495776_006186: 72,103-83,310 (+)
35 36 37 38
MGV-GENOME-0344083: 15,503-26,708 (+)
95 96 97 98
IMGVR_UViG_3300045988_014387|3300045988|Ga0495776_059294: 72,278-83,961 (+)
81 82 83 84
MGV-GENOME-0347477: 59,619-71,313 (+)
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uvig_150964: 72,554-83,721 (+)
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101
97 98 99 100 102 103 104
uvig_532552: 70,988-81,966 (+)
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100
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MGV-GENOME-0355246: 70,618-82,714 (+)
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OTU_300: 73,680-83,014 (+)
97 98 99 100 101 102 103 104
MGV-GENOME-0357460: 72,861-84,749 (+)
94 95 96 97 98 99 100 101
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58 59 60 61
MGV-GENOME-0304131: 34,306-45,559 (+)
96 97 98 99
IMGVR_UViG_3300045988_013237|3300045988|Ga0495776_019097: 71,802-83,783 (+)
96 97 98 99
IMGVR_UViG_3300045988_037558|3300045988|Ga0495776_059267: 71,816-83,411 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_019718|3300045988|Ga0495776_005979: 72,194-83,045 (+)
56 57 58 59 60
MGV-GENOME-0317869: 40,363-50,563 (+)
97 98 99 100 101
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77 78 79 80 81 82
MGV-GENOME-0346295: 58,695-69,958 (+)
88 89 90 91 92
MGV-GENOME-0344543: 57,161-69,333 (+)
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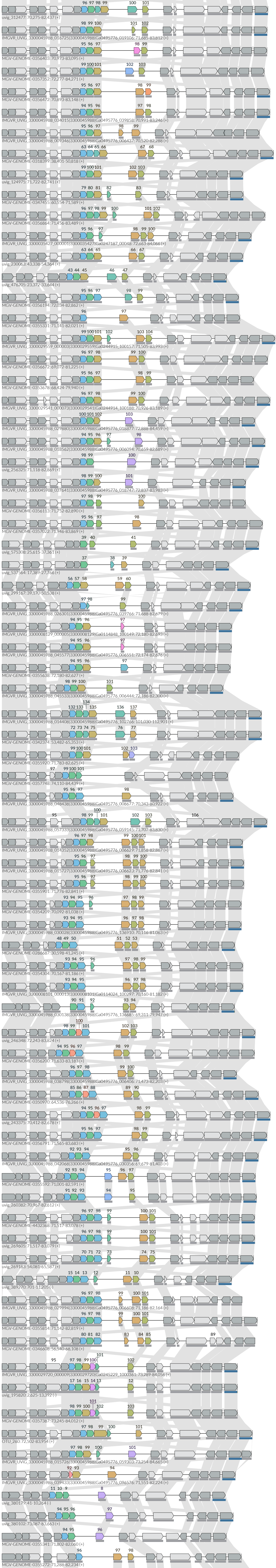
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99 100 101 102 103
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95 96 97 98 99
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MGV-GENOME-0318399: 38,401-50,818 (+)
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79 80 81 82 83
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96 97 98 99 100 101 102
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95 96 97 98 99 100
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43 44 45 46 47
uvig_476205: 23,372-33,644 (+)
95 96 97 98 99
MGV-GENOME-0356194: 72,034-82,862 (+)
96 97
MGV-GENOME-0355331: 71,141-82,021 (+)
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MGV-GENOME-0353678: 68,424-79,940 (+)
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98 99 100
uvig_256325: 71,118-82,869 (+)
98 99 100 101
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97 98 99 100
MGV-GENOME-0356113: 71,752-82,890 (+)
95 96 97 98
MGV-GENOME-0357022: 71,946-83,869 (+)
39 40 41
uvig_575308: 25,615-37,361 (+)
37 38 39
uvig_537564: 17,389-27,766 (+)
56 57 58 59 60
uvig_299167: 39,170-50,538 (+)
97 98 99
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94 95 96 97
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94 95 96 97
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94 95 96 97
MGV-GENOME-0355638: 72,180-82,627 (+)
98 99 100 101
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134
132 133 135 136 137
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72 73 74 75 76 77
MGV-GENOME-0342374: 53,482-65,353 (+)
99 100 101 102 103
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97 99 100 101
MGV-GENOME-0357748: 74,110-84,439 (+)
95 96 97 98
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100
95 98 99 101 102 103 106
IMGVR_UViG_3300045988_057333|3300045988|Ga0495776_059145: 71,707-83,830 (+)
96 97 98 99 100 101
IMGVR_UViG_3300045988_014352|3300045988|Ga0495776_006629: 71,858-82,867 (+)
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93 94 95 96 97 98 99
MGV-GENOME-0354209: 70,092-81,038 (+)
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MGV-GENOME-0286687: 30,598-41,245 (+)
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93 94 95 96 97 98
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98 99 101 102 103
uvig_246348: 72,243-83,824 (+)
94 95 96 97 98 99
MGV-GENOME-0356200: 71,633-83,183 (+)
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uvig_243375: 70,412-82,678 (+)
95 96 97 98 99
MGV-GENOME-0356791: 71,565-83,683 (+)
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IMGVR_UViG_3300045988_042068|3300045988|Ga0495776_030356: 69,679-81,403 (+)
92 93 94 95 96 97
MGV-GENOME-0355592: 71,001-82,591 (+)
91 92 93 94 95
uvig_260382: 70,967-82,612 (+)
96 97 98 99 100 101
MGV-GENOME-4432368: 71,517-83,078 (+)
96 97 98 99 100 101
uvig_269605: 71,517-83,079 (+)
70 71 72 73 74 75
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uvig_389270: 701-11,205 (-)
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96 97 98 99 100 101
MGV-GENOME-0355814: 71,142-82,819 (+)
80 81 82 83 84 85 89
MGV-GENOME-0346608: 56,540-68,108 (+)
101
95 97 98 99 100 102
IMGVR_UViG_3300029720_000009|3300029720|Ga0245229_1000361: 73,289-84,056 (+)
17 16 15 14 13 12
uvig_195820: 2,625-13,392 (-)
101
98 99 100 102 103
MGV-GENOME-0357387: 73,245-84,012 (+)
97 98 99 100 101
OTU_260: 72,502-83,954 (+)
97 98 99 100 101
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92 93 94
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uvig_380179: 41-10,264 (-)
94 95 96 97
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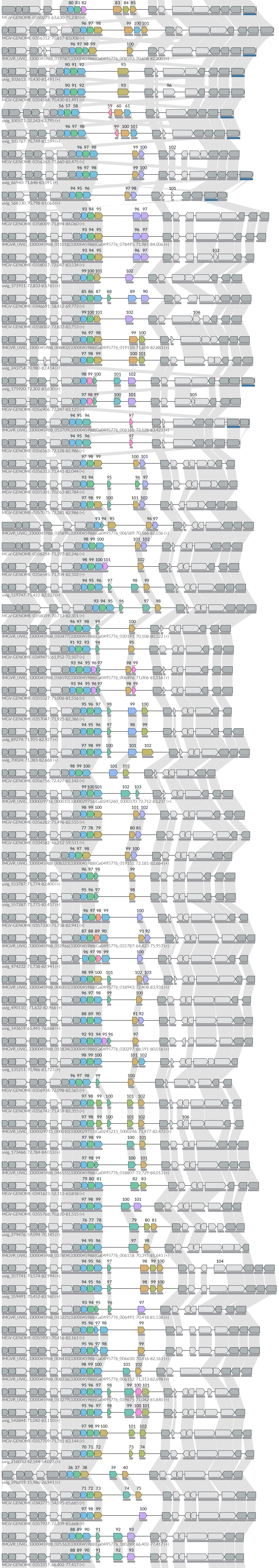
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MGV-GENOME-0350273: 63,630-75,230 (+)
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90 91 92 93
uvig_102613: 70,430-81,491 (+)
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MGV-GENOME-0354584: 70,430-81,491 (+)
56 57 58 59 60 61
uvig_100571: 32,243-42,795 (+)
96 97 98 99 100 101
uvig_103787: 70,749-81,599 (+)
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MGV-GENOME-0356263: 71,660-82,475 (+)
96 97 98 99 100
uvig_66940: 71,648-83,091 (+)
94 95 96 97 98 101
uvig_568330: 70,798-81,066 (+)
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MGV-GENOME-0358009: 71,894-84,060 (+)
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IMGVR_UViG_3300045988_011018|3300045988|Ga0495776_078495: 71,981-84,006 (+)
93 94 95 96 97 102
MGV-GENOME-0358017: 72,047-83,534 (+)
99 100 101 102
uvig_371911: 72,833-83,765 (+)
85 86 87 88 89 90
MGV-GENOME-0346691: 58,412-69,773 (+)
99 100 101 102 106
MGV-GENOME-0358002: 72,833-83,753 (+)
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97 98 99 100 101
uvig_243754: 70,980-82,414 (+)
98 99 100 101 102
uvig_175920: 72,302-83,830 (+)
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MGV-GENOME-0356906: 72,247-83,123 (+)
94 95 96 97
IMGVR_UViG_3300045988_053709|3300045988|Ga0495776_006168: 72,128-83,423 (+)
94 95 96 97
MGV-GENOME-0356563: 72,128-82,986 (+)
97 98 99 100 101
MGV-GENOME-0356313: 71,441-82,044 (+)
93 94 95 96 97
MGV-GENOME-0355301: 70,063-80,784 (+)
97 98 99 100 101 102
MGV-GENOME-0357075: 72,281-82,986 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_035898|3300045988|Ga0495776_006589: 70,566-82,036 (+)
98 99 100 101 102
MGV-GENOME-0356254: 71,297-82,246 (+)
98 99 100 101 102
MGV-GENOME-0356545: 71,704-82,502 (+)
94 95 96 97 98 99
uvig_519747: 71,422-82,532 (+)
93 94 95 96 97 98
MGV-GENOME-0356019: 70,713-82,301 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_010477|3300045988|Ga0495776_030191: 70,108-80,522 (+)
91 92 93 94 95
MGV-GENOME-0349475: 61,952-72,507 (+)
93 94 95 96 97 98 99
IMGVR_UViG_3300045988_018592|3300045988|Ga0495776_006496: 71,006-81,516 (+)
93 94 95 96 97 98 99
MGV-GENOME-0355527: 71,006-81,516 (+)
95 96 97 98 99 100
MGV-GENOME-0357047: 71,925-82,386 (+)
94 95 96 97 98 99
uvig_89274: 71,925-82,927 (+)
97 98 99 100 101 102
uvig_70024: 71,383-82,668 (+)
98 99 100 101 102
MGV-GENOME-0356756: 72,427-82,142 (+)
99 100 101 102 103
IMGVR_UViG_3300029716_000010|3300029716|Ga0245260_1000370: 72,712-83,237 (+)
98 99 100 101 102
MGV-GENOME-0356282: 71,496-82,555 (+)
77 78 79 80 81
MGV-GENOME-0334582: 48,212-59,511 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_008323|3300045988|Ga0495776_019151: 72,181-82,664 (+)
96 97 98 99
uvig_553787: 71,774-82,400 (+)
95 96 97 98
uvig_557287: 71,771-82,417 (+)
96 97 98 99 100
MGV-GENOME-0357330: 71,738-82,941 (+)
87 88 89 90 91 92
IMGVR_UViG_3300045988_032966|3300045988|Ga0495776_031787: 64,423-75,957 (+)
96 97 98 99 100
uvig_474232: 71,738-82,941 (+)
98 99 100 101 102 103
IMGVR_UViG_3300045988_008351|3300045988|Ga0495776_018943: 72,408-83,931 (+)
96 97 98 99 100
uvig_490110_: 71,632-82,966 (+)
88 89 90 91 92
uvig_143659: 65,441-76,868 (+)
92 93 94 95 96 97
IMGVR_UViG_3300045988_015834|3300045988|Ga0495776_030297: 68,591-80,016 (+)
98 99 100 101 102
uvig_135211: 70,986-81,723 (+)
96 97 98 99 100
MGV-GENOME-0356934: 72,098-82,565 (+)
97 98 99 100 101 102
MGV-GENOME-0356742: 71,459-82,355 (+)
97 98 99 100 101 102 106
IMGVR_UViG_3300029715_000010|3300029715|Ga0245215_1000246: 71,477-82,472 (+)
97 98 99 100 101
uvig_173466: 72,784-84,013 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_046555|3300045988|Ga0495776_018807: 72,729-84,013 (+)
79 80 81 82 83
MGV-GENOME-0341623: 52,113-63,818 (+)
97 98 99 100 101
MGV-GENOME-0355768: 70,620-81,515 (+)
76 77 78 79 80 81
uvig_279476: 59,094-70,145 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_037804|3300045988|Ga0495776_006158: 70,391-81,641 (+)
94 95 96 97 98 99 100 104
uvig_357741: 70,574-82,994 (+)
94 95 96 97 98 99 100
uvig_359491: 70,452-82,960 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_013225|3300045988|Ga0495776_006491: 70,418-81,538 (+)
95 96 97 98 99
MGV-GENOME-0355930: 70,416-82,161 (+)
95 96 97 98 99
IMGVR_UViG_3300045988_008410|3300045988|Ga0495776_006630: 70,416-82,161 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_008336|3300045988|Ga0495776_006152: 71,313-82,698 (+)
95 96 97 98 99 100 101
IMGVR_UViG_3300045988_013279|3300045988|Ga0495776_039875: 71,042-81,840 (+)
95 96 97 98 99 100 101
uvig_542844: 71,042-82,110 (+)
97 98 99 100 101 102
MGV-GENOME-0357709: 71,781-83,144 (+)
70 71 72 73 74
uvig_216030: 42,544-54,023 (+)
36 37 38 39 40
uvig_296819: 15,986-26,941 (+)
71 72 73 74 75
MGV-GENOME-0343775: 54,095-65,665 (+)
97 98 99 100
MGV-GENOME-0357937: 72,109-83,668 (+)
88 89 90 91 92 93
IMGVR_UViG_3300045988_025163|3300045988|Ga0495776_180289: 66,402-77,417 (+)
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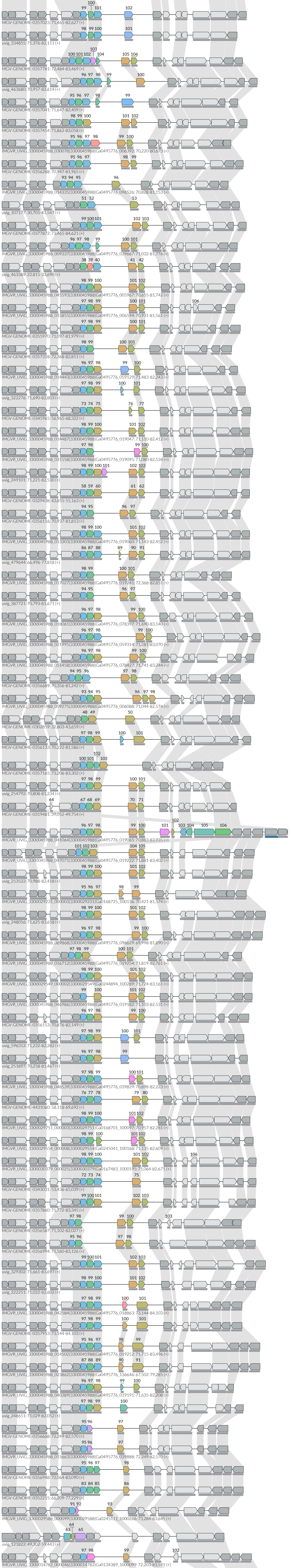
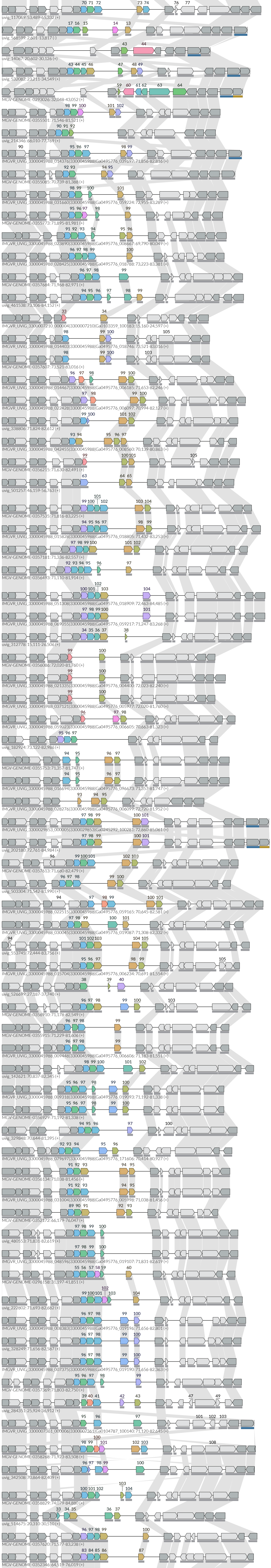
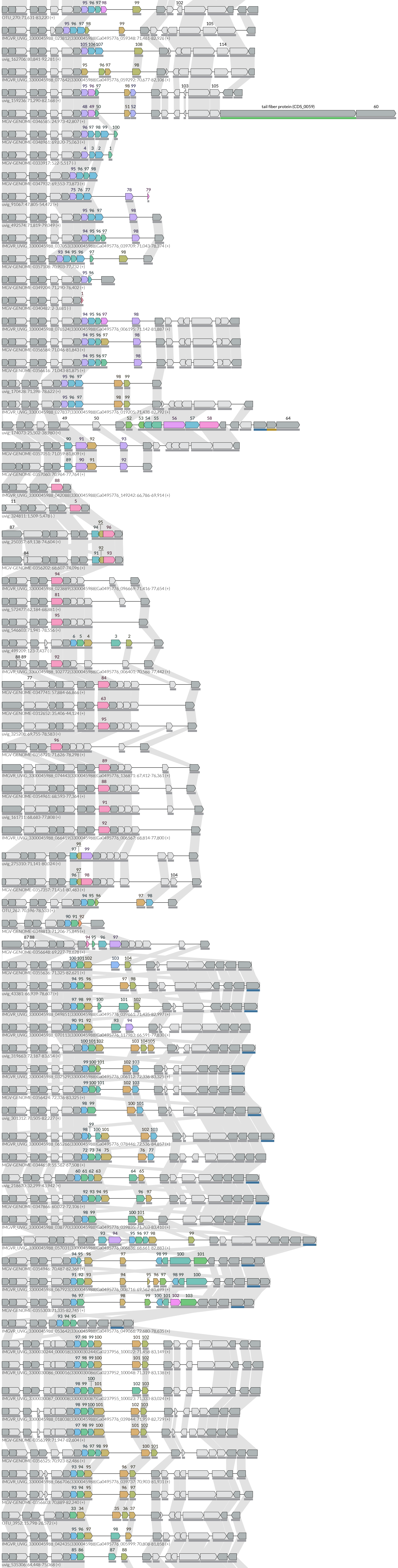
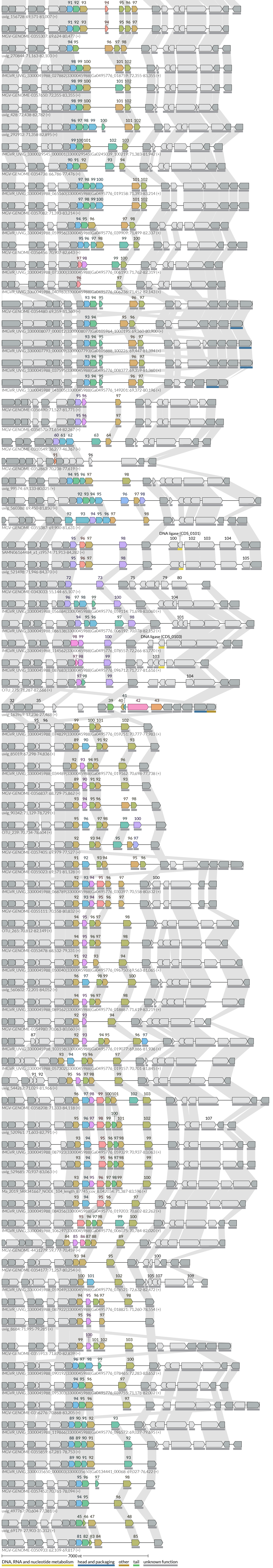
MGV-GENOME-0353317: 66,402-77,417 (+)


99 100 101 102
MGV-GENOME-0357023: 71,465-82,627 (+)
98 99 100 101
uvig_334855: 71,376-82,111 (+)
103
100 101 102 104 105 106
MGV-GENOME-0357781: 72,484-83,469 (+)
96 97 98 99 100
uvig_463680: 70,957-82,614 (+)
95 96 97 98 99
MGV-GENOME-0357041: 71,647-82,409 (+)
98 99 100 101 102
MGV-GENOME-0357454: 71,862-83,058 (+)
95 96 97 98 99 100
IMGVR_UViG_3300045988_030078|3300045988|Ga0495776_006392: 70,220-80,673 (+)
95 96 97 98 99
MGV-GENOME-0356288: 70,947-81,965 (+)
93 94 95 96
IMGVR_UViG_3300045988_014335|3300045988|Ga0495776_096526: 70,828-81,153 (+)
51 52 53
uvig_107177: 30,705-41,547 (+)
99 100 101 102 103
MGV-GENOME-0377872: 73,465-84,621 (+)
96 97 98 99 100 101
IMGVR_UViG_3300045988_009337|3300045988|Ga0495776_039667: 71,032-81,776 (+)
38 39 40 41 42
uvig_463369: 22,815-33,690 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_045593|3300045988|Ga0495776_005967: 70,655-81,742 (+)
97 98 99 100 101 106
IMGVR_UViG_3300045988_015855|3300045988|Ga0495776_006594: 70,931-81,561 (+)
97 98 99 100 101
MGV-GENOME-0355970: 71,097-81,979 (+)
98 99 100 101
MGV-GENOME-0357318: 72,368-82,851 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_014443|3300045988|Ga0495776_059129: 71,483-82,243 (+)
97 98 99 100 101
uvig_322276: 71,690-82,803 (+)
73 74 75 76 77
MGV-GENOME-0345965: 56,965-68,322 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_014487|3300045988|Ga0495776_019047: 71,110-82,412 (+)
97 98 99 100
IMGVR_UViG_3300045988_031558|3300045988|Ga0495776_019095: 71,080-82,534 (+)
98 99 100 101 102 103
uvig_249101: 71,221-82,530 (+)
58 59 60 61 62
MGV-GENOME-0329438: 43,855-55,163 (+)
94 95 96 97
MGV-GENOME-0356116: 70,937-81,813 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_013303|3300045988|Ga0495776_019060: 71,143-82,452 (+)
86 87 88 89 90 91
uvig_479644: 66,496-77,818 (+)
98 99 100 101
IMGVR_UViG_3300045988_017027|3300045988|Ga0495776_019241: 72,368-82,851 (+)
94 95 96 97
uvig_387721: 70,793-81,671 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_018061|3300045988|Ga0495776_078397: 71,690-83,140 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_021995|3300045988|Ga0495776_059314: 71,281-83,070 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_051458|3300045988|Ga0495776_078427: 71,741-83,244 (+)
94 95 96 97 98
MGV-GENOME-0356689: 70,356-81,242 (+)
93 94 95 96 97 98
IMGVR_UViG_3300045988_009275|3300045988|Ga0495776_006088: 71,044-82,574 (+)
48 49 50
MGV-GENOME-0302859: 32,803-43,659 (+)
97 98 99 100 101
MGV-GENOME-0356133: 70,222-81,586 (+)
102
100 101 103
MGV-GENOME-0357165: 73,206-83,302 (+)
97 98 99 100 101
uvig_254792: 70,808-81,234 (+)
67 68 69 70 71
MGV-GENOME-0319481: 39,052-49,754 (+)
64
102
96 97 98 99 100 101 103 104 105 106
IMGVR_UViG_3300045988_041064|3300045988|Ga0495776_019065: 70,883-83,935 (+)
101 102 103 104 105
IMGVR_UViG_3300045988_047071|3300045988|Ga0495776_019222: 71,881-83,402 (+)
98 99 100 101 102
uvig_253522: 70,988-82,418 (+)
95 96 97 98 99
IMGVR_UViG_3300029231_000003|3300029231|Ga0168725_100136: 70,421-81,574 (+)
98 99 100 101 102
uvig_248056: 71,625-83,658 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_069868|3300045988|Ga0495776_096629: 69,998-81,890 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_016712|3300045988|Ga0495776_019254: 71,819-82,761 (+)
98 99 100 101 102
IMGVR_UViG_3300029549_000002|3300029549|Ga0244894_100289: 71,724-83,161 (+)
99 100 101 102
IMGVR_UViG_3300045988_046986|3300045988|Ga0495776_019182: 71,103-82,531 (+)
96 97 98 99 100
MGV-GENOME-0356153: 70,876-82,149 (+)
97 98 99 100 101
uvig_596312: 71,232-82,282 (+)
96 97 98 99
uvig_251897: 70,258-81,467 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_048539|3300045988|Ga0495776_039829: 70,898-82,223 (+)
76 77 78 79 80
MGV-GENOME-4431060: 58,118-69,692 (+)
98 99 100 101 102
IMGVR_UViG_3300029751_000003|3300029751|Ga0168701_100097: 70,957-82,281 (+)
98 99 100 101 102
IMGVR_UViG_3300029554_000008|3300029554|Ga0245041_100168: 71,135-82,609 (+)
98 99 100 101 102 106
IMGVR_UViG_3300030379_000025|3300030379|Ga0167483_1000195: 71,064-82,671 (+)
72 73 74 75
MGV-GENOME-0343031: 53,436-65,039 (+)
99 100 101 102 103
MGV-GENOME-0357860: 71,772-83,345 (+)
97 98 99 100 103
MGV-GENOME-0356587: 71,102-82,027 (+)
95 96 97 98
MGV-GENOME-0356994: 71,560-83,126 (+)
99 100 101 102 103
uvig_329302: 71,661-83,697 (+)
98 99 100 101 102
uvig_222251: 71,022-82,602 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_042584|3300045988|Ga0495776_018863: 73,144-84,103 (+)
97 98 99 100 101
MGV-GENOME-0357953: 73,144-84,103 (+)
95 96 97 98 99
IMGVR_UViG_3300045988_014502|3300045988|Ga0495776_019252: 71,715-83,496 (+)
87 88 89 90 91
IMGVR_UViG_3300045988_023862|3300045988|Ga0495776_136646: 67,502-79,285 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_043089|3300045988|Ga0495776_019191: 71,635-82,208 (+)
97 98 99 100
uvig_248651: 71,029-82,052 (+)
95 96 97
MGV-GENOME-0356668: 72,249-82,570 (+)
95 96 97
IMGVR_UViG_3300045988_015663|3300045988|Ga0495776_039888: 72,249-82,570 (+)
95 96 97 98
MGV-GENOME-0356948: 72,064-83,090 (+)
83 84 85 86
MGV-GENOME-0352215: 66,209-77,229 (+)
91 92 93
IMGVR_UViG_3300029588_000099|3300029588|Ga0245111_10000266: 73,284-83,645 (+)
64
63 65
uvig_121822: 49,302-59,443 (+)
97 98 99 102
IMGVR_UViG_3300014782_000046|3300014782|Ga0134389_1000099: 72,203-83,591 (+)


70 71 72 73 74 76 77
uvig_117069: 53,489-65,332 (+)
17 16 15 14 13
uvig_568599: 2,601-13,817 (-)
43 44
uvig_14087: 20,602-30,126 (+)
43 44 45 46 47 48 49
uvig_532082: 23,211-34,549 (+)
59 60 61 62 63 64
MGV-GENOME-0293026: 32,048-43,052 (+)
98 99 100 101 102
MGV-GENOME-0355501: 71,546-81,521 (+)
90 91 92
uvig_214346: 68,010-77,769 (+)
90 95 96 97 98 99
IMGVR_UViG_3300045988_014376|3300045988|Ga0495776_039697: 71,856-82,816 (+)
92 93 94 95
MGV-GENOME-0355085: 70,739-81,388 (+)
98 99 100 101
IMGVR_UViG_3300045988_031660|3300045988|Ga0495776_059224: 72,955-83,289 (+)
95 96 97 98 99
MGV-GENOME-0355773: 71,895-81,981 (+)
91 92 93 94 95 96
IMGVR_UViG_3300045988_023890|3300045988|Ga0495776_008667: 69,790-80,049 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_028425|3300045988|Ga0495776_018788: 73,223-83,381 (+)
96 97 98 99
MGV-GENOME-0357684: 71,968-82,971 (+)
94 95 96 97 98 99
uvig_461538: 73,106-84,152 (+)
33 34
IMGVR_UViG_3300007210_000004|3300007210|Ga0103359_100183: 15,160-24,597 (+)
98 99 100 105
IMGVR_UViG_3300045988_014403|3300045988|Ga0495776_018746: 73,521-83,016 (+)
98 99 100 103
MGV-GENOME-0357607: 73,521-83,016 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_014467|3300045988|Ga0495776_006185: 71,653-82,246 (+)
97 98 99 100
IMGVR_UViG_3300045988_022428|3300045988|Ga0495776_006097: 70,994-82,127 (+)
99 100 101 102
uvig_338806: 71,824-82,612 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_042455|3300045988|Ga0495776_008560: 70,139-80,863 (+)
99 100 101 105
MGV-GENOME-0356215: 71,630-82,491 (+)
63 64 65
uvig_501257: 46,159-56,763 (+)
101
99 100 102 103 104
MGV-GENOME-0357535: 71,816-83,225 (+)
94 95 96 97 98 99
IMGVR_UViG_3300045988_015828|3300045988|Ga0495776_018805: 71,432-83,253 (+)
97 98 99 100 101 102
MGV-GENOME-0357181: 71,336-82,557 (+)
92 93 94 95 96 97
MGV-GENOME-0356493: 71,110-81,914 (+)
102
100 101 103 104
IMGVR_UViG_3300045988_051308|3300045988|Ga0495776_018909: 72,463-84,485 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_069055|3300045988|Ga0495776_059217: 71,247-83,268 (+)
34 35 36 37 38
uvig_312778: 15,111-26,506 (+)
99 100
MGV-GENOME-0356086: 72,020-81,760 (+)
99 100
IMGVR_UViG_3300045988_021335|3300045988|Ga0495776_004400: 72,023-82,240 (+)
99 100
IMGVR_UViG_3300045988_037121|3300045988|Ga0495776_005977: 72,020-81,760 (+)
96 97 98
IMGVR_UViG_3300045988_059023|3300045988|Ga0495776_006605: 70,663-81,323 (+)
95 96 97
uvig_182924: 73,122-82,986 (+)
94 95 96 97
MGV-GENOME-0355753: 71,357-81,747 (+)
94 95 96 97
IMGVR_UViG_3300045988_016694|3300045988|Ga0495776_096673: 71,357-81,747 (+)
93 94 95
IMGVR_UViG_3300045988_028276|3300045988|Ga0495776_006099: 72,720-81,952 (+)
97 98 99 100 101
IMGVR_UViG_3300029853_000005|3300029853|Ga0245292_100281: 72,860-85,061 (+)
97 98 99 100 101
uvig_202180: 72,761-84,984 (+)
96 99 100 101 102 103
MGV-GENOME-0357613: 71,680-82,479 (+)
96 97 98 99 100
uvig_503304: 71,542-81,990 (+)
94 97 98 99 100 101
IMGVR_UViG_3300045988_022515|3300045988|Ga0495776_059165: 70,645-82,581 (+)
97 98 99 100 101
IMGVR_UViG_3300045988_030045|3300045988|Ga0495776_019087: 71,308-82,332 (+)
94 101 102 103 104 105
uvig_553745: 72,444-83,756 (+)
95 96 97 98 99 105
IMGVR_UViG_3300045988_015704|3300045988|Ga0495776_006234: 70,691-81,554 (+)
38 39 40
uvig_526699: 27,187-37,740 (+)
96 97 98 99 100 103
MGV-GENOME-0356910: 71,178-82,549 (+)
96 97 98 99
MGV-GENOME-0355915: 71,229-81,606 (+)
96 97 98 99
IMGVR_UViG_3300045988_009448|3300045988|Ga0495776_006606: 71,183-81,551 (+)
98 99 100 101 102
uvig_142621: 70,837-82,345 (+)
95 96 97 98 99 100
IMGVR_UViG_3300045988_009318|3300045988|Ga0495776_019093: 71,192-81,338 (+)
95 96 97 98 99 100
MGV-GENOME-0356929: 71,192-81,338 (+)
94 95 96 97 100
uvig_329848: 70,644-81,395 (+)
92 93 94 95 96
IMGVR_UViG_3300045988_079697|3300045988|Ga0495776_171606: 70,414-80,927 (+)
91 92 93 94 95
MGV-GENOME-0356134: 71,038-81,456 (+)
91 92 93 94 95
IMGVR_UViG_3300045988_031004|3300045988|Ga0495776_005998: 71,038-81,456 (+)
89 90 91 92 93
MGV-GENOME-0352172: 66,179-76,047 (+)
97 98 99 100
uvig_480553: 71,831-82,619 (+)
97 98 99 100
IMGVR_UViG_3300045988_048596|3300045988|Ga0495776_019107: 71,831-82,619 (+)
55 56 57 58 59 60
MGV-GENOME-0296158: 31,197-41,851 (+)
102
99 100 101 103 104
uvig_222802: 71,693-82,682 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_008383|3300045988|Ga0495776_019196: 71,656-82,801 (+)
96 97 98 99 100
uvig_328249: 71,656-82,587 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_007375|3300045988|Ga0495776_019190: 71,656-82,363 (+)
95 96 97 98 99
MGV-GENOME-0357369: 71,803-82,750 (+)
39 40 41 42 43 47 49
uvig_284351: 25,924-36,912 (+)
95 96 97 101 102 103
IMGVR_UViG_3300007361_000006|3300007361|Ga0104787_100140: 71,120-82,645 (+)
100
98 99 101 102 103 108
MGV-GENOME-0358268: 71,923-83,508 (+)
96 97 98 99 100
uvig_342508: 70,864-82,409 (+)
103
100 101 102 104
MGV-GENOME-0358829: 74,079-84,880 (+)
33 34 35 36 37
uvig_514675: 20,310-30,510 (+)
96 97 98 99 100
MGV-GENOME-0357620: 71,577-83,238 (+)
83 84 85 86 87
MGV-GENOME-0352346: 64,519-76,019 (+)


95 96 97 98
99
102
OTU_270: 71,631-83,220 (+)
95 96 97 98
99
105
IMGVR_UViG_3300045988_023812|3300045988|Ga0495776_059348: 71,461-82,926 (+)
105 106 107
108
114
uvig_162706: 80,841-92,281 (+)
95
96 97
98
IMGVR_UViG_3300045988_077642|3300045988|Ga0495776_059292: 70,677-82,106 (+)
95 96 97
98 99
103
105
uvig_159236: 71,290-82,168 (+)
48 49 50
51 52
tail fiber protein (CDS_0059)
60
MGV-GENOME-0346585: 24,973-42,807 (+)
96 97 98 99
100
MGV-GENOME-0348961: 69,820-75,063 (+)
4 3 2
1
MGV-GENOME-0333917: 522-5,517 (-)
95 96 97 98
MGV-GENOME-0347932: 69,553-73,873 (+)
75 76 77
78
79
uvig_91067: 47,805-54,472 (+)
95 96 97
98
uvig_492574: 71,819-79,049 (+)
94 95 96 97
98
IMGVR_UViG_3300045988_037053|3300045988|Ga0495776_039709: 71,043-78,374 (+)
93 94 95 96
97
98
MGV-GENOME-0357108: 70,903-77,732 (+)
95 96
MGV-GENOME-0349204: 71,290-76,402 (+)
1
MGV-GENOME-0340482: 2-3,681 (-)
94 95 96 97
98
IMGVR_UViG_3300045988_076524|3300045988|Ga0495776_006195: 71,142-81,887 (+)
94 95 96 97
98
MGV-GENOME-0356584: 71,046-81,843 (+)
94 95 96 97
98
MGV-GENOME-0356616: 71,043-81,875 (+)
95 96 97
98 99
uvig_170428: 71,398-78,622 (+)
95 96 97
98 99
IMGVR_UViG_3300045988_027837|3300045988|Ga0495776_019205: 71,438-82,792 (+)
49
50
52
53 54 55
56
57
58
64
uvig_174073: 25,502-38,980 (+)
90
91
92
93
MGV-GENOME-0357051: 71,059-81,809 (+)
89
90
91
92
MGV-GENOME-0357060: 70,964-77,764 (+)
88
IMGVR_UViG_3300045988_042088|3300045988|Ga0495776_149242: 66,786-69,914 (+)
11
5
uvig_324811: 1,509-5,478 (-)
87
95
94
96
uvig_250357: 69,138-74,604 (+)
84
92
91
93
MGV-GENOME-0356202: 68,607-74,096 (+)
94
IMGVR_UViG_3300045988_023889|3300045988|Ga0495776_096669: 71,416-77,654 (+)
81
uvig_572477: 62,184-68,881 (+)
95
uvig_546603: 71,941-78,556 (+)
6 5 4
3
2
uvig_499209: 123-7,437 (-)
88 89
92
IMGVR_UViG_3300045988_102772|3300045988|Ga0495776_006401: 70,588-77,442 (+)
77
84
MGV-GENOME-0347741: 57,884-66,866 (+)
63
MGV-GENOME-0312652: 35,406-44,124 (+)
95
uvig_325208: 69,755-78,583 (+)
96
MGV-GENOME-0356721: 71,626-78,298 (+)
89
IMGVR_UViG_3300045988_074443|3300045988|Ga0495776_136871: 67,412-76,361 (+)
88
MGV-GENOME-0354961: 68,593-77,364 (+)
91
uvig_161711: 68,683-77,808 (+)
92
IMGVR_UViG_3300045988_066419|3300045988|Ga0495776_006567: 68,814-77,800 (+)
98
97
99
uvig_275310: 71,141-80,024 (+)
97
96
98
104
MGV-GENOME-0357357: 71,451-80,483 (+)
94 95 96
97
98
OTU_262: 70,596-78,533 (+)
90 91 92
MGV-GENOME-0348813: 71,206-75,845 (+)
87 88
94 95
96
97
MGV-GENOME-0356648: 69,227-78,628 (+)
100 101 102
103
104
MGV-GENOME-0355636: 71,325-82,621 (+)
94 95 96
97
98
uvig_43381: 66,939-78,607 (+)
97 98 99
100
101
102
IMGVR_UViG_3300045988_049851|3300045988|Ga0495776_037661: 71,435-82,997 (+)
90 91 92
93
94
IMGVR_UViG_3300045988_070113|3300045988|Ga0495776_117983: 66,591-77,830 (+)
100 101 102
103 104 105
uvig_319663: 72,187-83,654 (+)
99 100 101
102 103
IMGVR_UViG_3300045988_032529|3300045988|Ga0495776_006112: 72,336-83,325 (+)
99 100 101
102 103
MGV-GENOME-0356424: 72,336-83,325 (+)
98 99
100 101
uvig_301312: 70,505-82,227 (+)
99
98
100 101
102 103
IMGVR_UViG_3300045988_065266|3300045988|Ga0495776_078446: 72,536-84,857 (+)
72 73 74 75
76 77
MGV-GENOME-0344659: 55,567-67,508 (+)
60 61 62 63
64 65
uvig_21867: 32,299-43,942 (+)
92 93 94 95
96 97
MGV-GENOME-0347866: 60,072-72,106 (+)
98 99
100 101
IMGVR_UViG_3300045988_038770|3300045988|Ga0495776_039835: 71,703-83,410 (+)
93
94
95 96 97 98
99
IMGVR_UViG_3300045988_057031|3300045988|Ga0495776_006636: 68,661-82,883 (+)
94 95 96
97
98 99
100
101
MGV-GENOME-0354946: 70,487-82,368 (+)
91 92 93
94
95 96 97
98 99
100
IMGVR_UViG_3300045988_067923|3300045988|Ga0495776_008716: 69,562-81,699 (+)
96 97
98
99
100 101 102
103
MGV-GENOME-0355303: 71,335-82,745 (+)
93 94 95
IMGVR_UViG_3300045988_053642|3300045988|Ga0495776_049066: 72,680-78,635 (+)
97 98 99 100
101 102
IMGVR_UViG_3300030244_000018|3300030244|Ga0237956_100022: 71,458-83,149 (+)
97 98 99 100
101 102
IMGVR_UViG_3300030086_000016|3300030086|Ga0237952_100048: 71,319-83,138 (+)
100
98 99
101
102 103
IMGVR_UViG_3300030087_000008|3300030087|Ga0237955_100023: 71,333-83,024 (+)
98 99 100 101
102 103
IMGVR_UViG_3300045988_018038|3300045988|Ga0495776_039844: 71,959-82,729 (+)
97 98 99 100
101 102
MGV-GENOME-0356399: 71,947-82,604 (+)
96 97 98 99
100 101
MGV-GENOME-0356525: 70,923-82,486 (+)
93 94 95
96 97
IMGVR_UViG_3300045988_066706|3300045988|Ga0495776_039737: 70,903-81,931 (+)
93 94 95
96 97
MGV-GENOME-0356603: 70,889-82,240 (+)
33 34
35 36 37
OTU_3952: 15,798-26,572 (+)
95 96 97
98
99
IMGVR_UViG_3300045988_042435|3300045988|Ga0495776_005999: 70,808-81,858 (+)
85 86
87
88
uvig_535306: 64,448-75,068 (+)


91 92 93 94 95 96 97
uvig_156728: 69,571-81,007 (+)
91 92 93 94 95 96 97
MGV-GENOME-0355307: 69,624-80,477 (+)
94 95 96 97 98
uvig_270844: 71,163-82,103 (+)
98 99 100 101 102
IMGVR_UViG_3300045988_027882|3300045988|Ga0495776_018759: 72,355-83,355 (+)
98 99 100 101 102
MGV-GENOME-0357650: 72,355-83,355 (+)
98 99 100 101 102
uvig_428: 72,438-82,782 (+)
96 97 98 99 100 101 102
uvig_292912: 71,358-82,895 (+)
99 100 101 102 103
IMGVR_UViG_3300029545_000001|3300029545|Ga0245039_100219: 71,383-81,942 (+)
90 91 92 93 94
MGV-GENOME-0354736: 66,786-77,476 (+)
97 98 99 100 101 102
IMGVR_UViG_3300045988_065160|3300045988|Ga0495776_019158: 71,393-83,214 (+)
97 98 99 100 101 102
MGV-GENOME-0357082: 71,393-83,214 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_059956|3300045988|Ga0495776_039909: 71,499-82,337 (+)
95 96 97 98 99 100
MGV-GENOME-0356456: 70,907-82,643 (+)
97 98 99 100
IMGVR_UViG_3300045988_073300|3300045988|Ga0495776_006190: 71,762-82,319 (+)
96 97
IMGVR_UViG_3300045988_040983|3300045988|Ga0495776_006236: 71,452-82,143 (+)
93 94 95 96 97
MGV-GENOME-0354480: 69,359-81,360 (+)
93 94 95 96
IMGVR_UViG_3300008077_000012|3300008077|Ga0105964_1000195: 69,360-80,900 (+)
93 94 95 96 97
IMGVR_UViG_3300007793_000009|3300007793|Ga0105888_100226: 69,447-81,394 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_037595|3300045988|Ga0495776_008377: 69,359-81,360 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_041005|3300045988|Ga0495776_149201: 69,372-80,196 (+)
95 96 97
MGV-GENOME-0356490: 71,527-81,771 (+)
95 96 97
MGV-GENOME-0356570: 71,654-82,267 (+)
60 61 62 63 64
MGV-GENOME-0310549: 36,277-46,267 (+)
91 96
MGV-GENOME-0352863: 70,238-77,619 (+)
94 95 96 97 98
uvig_99574: 69,133-80,025 (+)
92 93 94 95 96 97 98
uvig_560388: 69,450-81,850 (+)
92 93 94 95 96 97 98
MGV-GENOME-0355387: 69,900-81,631 (+)
DNA ligase (CDS_0101)
95 96 97 98 100 102 103 104
SAMN06164484_a1_ct9574: 71,913-84,282 (+)
95 96 97 98 105
uvig_521498: 71,946-84,370 (+)
72 73 75 79 80
MGV-GENOME-0343033: 55,144-65,107 (+)
96 97 98 99 100 104
IMGVR_UViG_3300045988_056684|3300045988|Ga0495776_059114: 71,698-83,060 (+)
94 95 96 97 98 101
IMGVR_UViG_3300045988_086138|3300045988|Ga0495776_006192: 70,078-82,152 (+)
98 99 100
DNA ligase (CDS_0103)
IMGVR_UViG_3300045988_114562|3300045988|Ga0495776_078557: 72,266-83,770 (+)
97 98 99 103
IMGVR_UViG_3300045988_087683|3300045988|Ga0495776_096712: 71,727-81,616 (+)
97 98 99 104
OTU_275: 71,287-82,666 (+)
41
32 35 39 40 42 43
uvig_163969: 17,236-27,488 (+)
95 96 99 100 101 102
IMGVR_UViG_3300045988_074829|3300045988|Ga0495776_059251: 70,777-77,983 (+)
89 90 91 92 93
uvig_85019: 67,298-74,836 (+)
92 93 94 95 96
IMGVR_UViG_3300045988_034489|3300045988|Ga0495776_019162: 70,698-77,738 (+)
89 90 91 92 93
MGV-GENOME-0356837: 68,729-75,862 (+)
93 94 95 96 97 98
uvig_90342: 71,129-78,729 (+)
95 96 97 98 99 100
OTU_239: 70,734-78,604 (+)
92 93 94 95 96 97
MGV-GENOME-0357405: 69,979-77,527 (+)
91 92 93 94 95 96
MGV-GENOME-0355023: 69,571-81,128 (+)
92 93 94 95 96 97 100
IMGVR_UViG_3300045988_068789|3300045988|Ga0495776_030397: 70,558-80,832 (+)
92 93 94 95 96 97
MGV-GENOME-0355111: 70,558-80,832 (+)
94 95 96 97 98
OTU_265: 70,812-82,149 (+)
94 95 96 97 98
MGV-GENOME-0353478: 68,532-79,331 (+)
91 92 93 94
IMGVR_UViG_3300045988_050040|3300045988|Ga0495776_096750: 69,563-81,065 (+)
96 97 98 99 100
uvig_560602: 72,201-84,052 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_089162|3300045988|Ga0495776_018887: 71,619-83,219 (+)
92 93 94
MGV-GENOME-0354980: 70,063-80,060 (+)
87 92 93 94 95 96 97
IMGVR_UViG_3300045988_103158|3300045988|Ga0495776_019077: 69,886-81,936 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_057302|3300045988|Ga0495776_019157: 70,701-81,845 (+)
91 92 95 96 97 98 99
uvig_544262: 71,029-81,966 (+)
96 97 98 99 100 101 102 103
MGV-GENOME-0358208: 71,333-84,118 (+)
100
95 96 97 98 99 101 102 107
uvig_520961: 71,603-82,791 (+)
93 94 95 96 97 98 99
IMGVR_UViG_3300045988_087923|3300045988|Ga0495776_059329: 70,937-83,063 (+)
93 94 95 96 97 98 99
uvig_529685: 70,937-83,063 (+)
93 94 95 96 97 98 99 100
Ma_2019_SRR341667_NODE_104_length_87745_cov_8.042034: 71,387-83,596 (+)
93 94 95 96 97
IMGVR_UViG_3300045988_084356|3300045988|Ga0495776_019203: 70,602-82,262 (+)
95 96 97 98 99 100
IMGVR_UViG_3300045988_106297|3300045988|Ga0495776_006075: 70,784-82,020 (+)
84 85 86 87 88 89
MGV-GENOME-4431279: 59,777-70,459 (+)
93 94 95 100
MGV-GENOME-0354177: 71,257-80,254 (+)
100 101 102 105 107 109
IMGVR_UViG_3300045988_059049|3300045988|Ga0495776_078521: 72,632-82,472 (+)
94 95 96 97 98
IMGVR_UViG_3300045988_087922|3300045988|Ga0495776_018821: 71,260-78,554 (+)
95 96 97
uvig_8684: 71,995-79,285 (+)
100
99 101 102 103
MGV-GENOME-0355913: 71,870-82,839 (+)
96 97 98 99 100
IMGVR_UViG_3300045988_090192|3300045988|Ga0495776_078465: 72,283-83,652 (+)
94 95 96 97
IMGVR_UViG_3300045988_095303|3300045988|Ga0495776_039755: 71,178-82,002 (+)
94 95 96 97
MGV-GENOME-0356276: 70,868-83,205 (+)
89 90 91 92 93
IMGVR_UViG_3300045988_119866|3300045988|Ga0495776_096572: 69,027-79,695 (+)
88 89 90 91 92
MGV-GENOME-0355859: 67,281-78,753 (+)
89 90 91 92 93
IMGVR_UViG_3300035650_000003|3300035650|Ga0134441_00068: 69,027-76,422 (+)
95 96 97 98
MGV-GENOME-0357452: 70,761-78,094 (+)
94 95 96
uvig_497767: 70,604-77,381 (+)
45 46 47 48
uvig_69179: 27,903-35,312 (+)
81 82 83 84 85
MGV-GENOME-0350933: 62,109-69,817 (+)
7000 nt
DNA, RNA and nucleotide metabolism
head and packaging
other
tail
unknown function