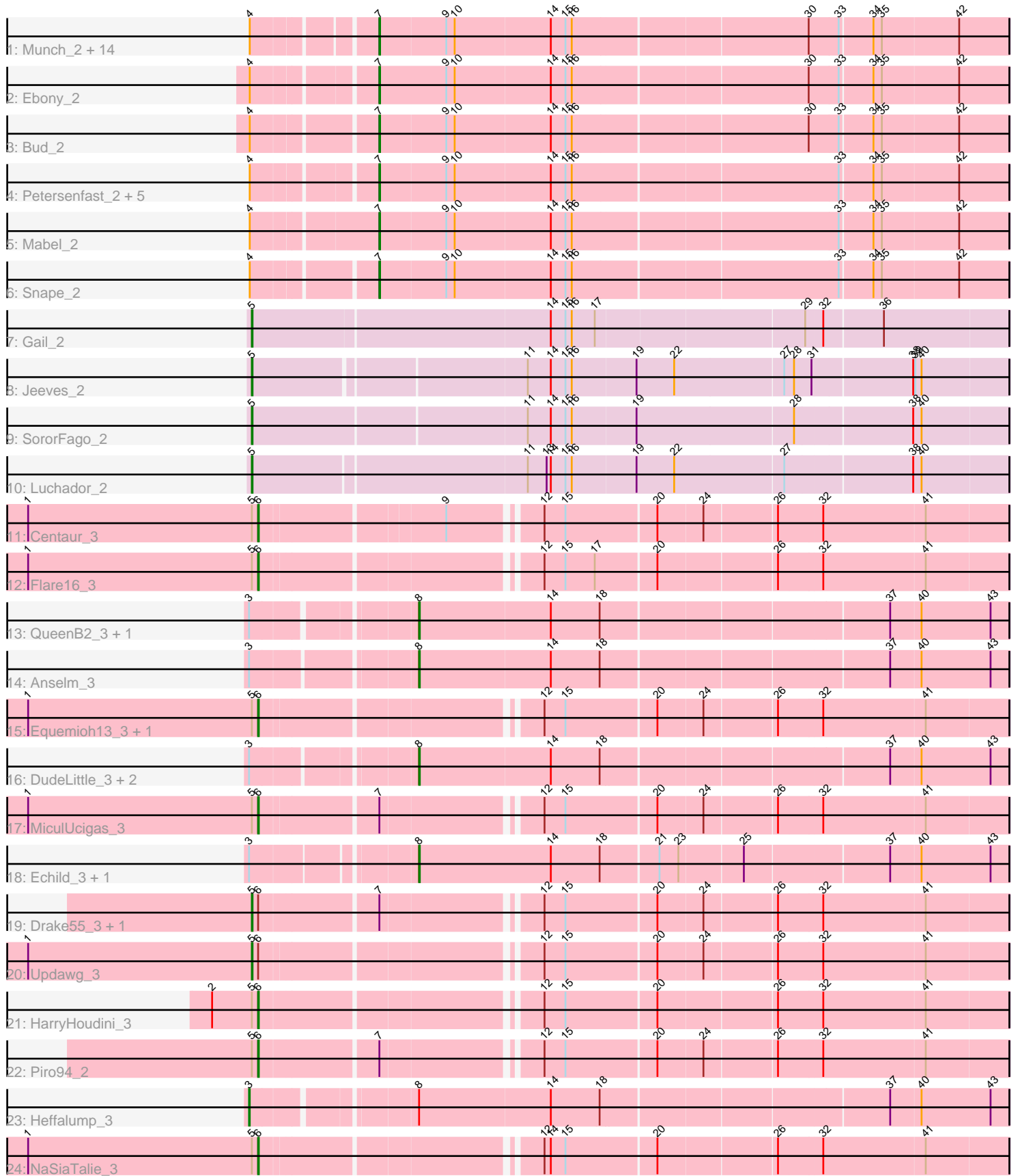


# Pham 106399



Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly with annotated starts, the track will be further scaled to only show that region of the ORF with annotated starts. This action will be indicated by adding "Zoomed" to the title. For starts, yellow indicates the location of called starts comprised solely of Glimmer/GeneMark auto-annotations, green indicates the location of called starts with at least 1 manual gene annotation.

## Pham 106399 Report

This analysis was run 04/28/24 on database version 559.

Pham number 106399 has 49 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Munch\_2, Jabith\_2, Joselito\_2, Aneem\_2, Gilberta\_2, Lucivia\_2, Timothy\_2, MaCh\_2, Flaverint\_2, Salz\_2, Bowtie\_2, Bachome\_2, TinyTimmy\_2, Insomnia\_2, Orange\_2
- Track 2 : Ebony\_2
- Track 3 : Bud\_2
- Track 4 : Petersenfast\_2, Et2Brutus\_2, Hutc2\_2, Sham4\_2, Fibonacci\_2, Mulciber\_2
- Track 5 : Mabel\_2
- Track 6 : Snape\_2
- Track 7 : Gail\_2
- Track 8 : Jeeves\_2
- Track 9 : SororFago\_2
- Track 10 : Luchador\_2
- Track 11 : Centaur\_3
- Track 12 : Flare16\_3
- Track 13 : QueenB2\_3, Fameo\_3
- Track 14 : Anselm\_3
- Track 15 : Equemioh13\_3, WideWale\_3
- Track 16 : DudeLittle\_3, Dalmatian\_3, Retro23\_3
- Track 17 : MiculUcigas\_3
- Track 18 : Echild\_3, Benvolio\_3
- Track 19 : Drake55\_3, Baehexic\_3
- Track 20 : Updawg\_3
- Track 21 : HarryHoudini\_3
- Track 22 : Piro94\_2
- Track 23 : Heffalump\_3
- Track 24 : NaSiaTalie\_3

### ***Summary of Final Annotations (See graph section above for start numbers):***

The start number called the most often in the published annotations is 7, it was called in 22 of the 46 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aneem\_2, Bachome\_2, Bowtie\_2, Bud\_2, Ebony\_2, Et2Brutus\_2, Fibonacci\_2, Flaverint\_2, Gilberta\_2, Hutc2\_2, Insomnia\_2, Jabith\_2, Joselito\_2, Lucivia\_2, MaCh\_2, Mabel\_2, Mulciber\_2, Munch\_2, Orange\_2, Petersenfast\_2, Salz\_2, Sham4\_2, Snape\_2, Timothy\_2, TinyTimmy\_2,

Genes that have the "Most Annotated" start but do not call it:

- Baehexic\_3, Drake55\_3, MiculUcigas\_3, Piro94\_2,

Genes that do not have the "Most Annotated" start:

- Anselm\_3, Benvolio\_3, Centaur\_3, Dalmatian\_3, DudeLittle\_3, Echild\_3, Equemioh13\_3, Fameo\_3, Flare16\_3, Gail\_2, HarryHoudini\_3, Heffalump\_3, Jeeves\_2, Luchador\_2, NaSiaTalie\_3, QueenB2\_3, Retro23\_3, SororFago\_2, Updawg\_3, WideWale\_3,

### **Summary by start number:**

Start 3:

- Found in 9 of 49 ( 18.4% ) of genes in pham
- Manual Annotations of this start: 1 of 46
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Heffalump\_3 (A2),

Start 5:

- Found in 15 of 49 ( 30.6% ) of genes in pham
- Manual Annotations of this start: 7 of 46
- Called 46.7% of time when present
- Phage (with cluster) where this start called: Baehexic\_3 (A2), Drake55\_3 (A2), Gail\_2 (A14), Jeeves\_2 (A14), Luchador\_2 (A14), SororFago\_2 (A14), Updawg\_3 (A2),

Start 6:

- Found in 11 of 49 ( 22.4% ) of genes in pham
- Manual Annotations of this start: 8 of 46
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Centaur\_3 (A2), Equemioh13\_3 (A2), Flare16\_3 (A2), HarryHoudini\_3 (A2), MiculUcigas\_3 (A2), NaSiaTalie\_3 (A2), Piro94\_2 (A2), WideWale\_3 (A2),

Start 7:

- Found in 29 of 49 ( 59.2% ) of genes in pham
- Manual Annotations of this start: 22 of 46
- Called 86.2% of time when present
- Phage (with cluster) where this start called: Aneem\_2 (A11), Bachome\_2 (A11), Bowtie\_2 (A11), Bud\_2 (A11), Ebony\_2 (A11), Et2Brutus\_2 (A11), Fibonacci\_2 (A11), Flaverint\_2 (A11), Gilberta\_2 (A11), Hutc2\_2 (A11), Insomnia\_2 (A11), Jabith\_2 (A11), Joselito\_2 (A11), Lucivia\_2 (A11), MaCh\_2 (A11), Mabel\_2 (A11), Mulciber\_2 (A11), Munch\_2 (A11), Orange\_2 (A11), Petersenfast\_2 (A11), Salz\_2 (A11), Sham4\_2 (A11), Snape\_2 (A11), Timothy\_2 (A11), TinyTimmy\_2 (A11),

Start 8:

- Found in 9 of 49 ( 18.4% ) of genes in pham
- Manual Annotations of this start: 8 of 46
- Called 88.9% of time when present

- Phage (with cluster) where this start called: Anselm\_3 (A2), Benvolio\_3 (A2), Dalmatian\_3 (A2), DudeLittle\_3 (A2), Echid\_3 (A2), Fameo\_3 (A2), QueenB2\_3 (A2), Retro23\_3 (A2),

### **Summary by clusters:**

There are 3 clusters represented in this pham: A14, A2, A11,

Info for manual annotations of cluster A11:

- Start number 7 was manually annotated 22 times for cluster A11.

Info for manual annotations of cluster A14:

- Start number 5 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A2:

- Start number 3 was manually annotated 1 time for cluster A2.
- Start number 5 was manually annotated 3 times for cluster A2.
- Start number 6 was manually annotated 8 times for cluster A2.
- Start number 8 was manually annotated 8 times for cluster A2.

### **Gene Information:**

Gene: Aneem\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Aneem\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Anselm\_3 Start: 1548, Stop: 2360, Start Num: 8

Candidate Starts for Anselm\_3:

(Start: 3 @1335 has 1 MA's), (Start: 8 @1548 has 8 MA's), (14, 1734), (18, 1803), (37, 2193), (40, 2235), (43, 2334),

Gene: Bachome\_2 Start: 1188, Stop: 2057, Start Num: 7

Candidate Starts for Bachome\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1278), (10, 1290), (14, 1425), (15, 1446), (16, 1455), (30, 1779), (33, 1821), (34, 1866), (35, 1878), (42, 1986),

Gene: Baehexic\_3 Start: 1304, Stop: 2314, Start Num: 5

Candidate Starts for Baehexic\_3:

(Start: 5 @1304 has 7 MA's), (Start: 6 @1313 has 8 MA's), (Start: 7 @1472 has 22 MA's), (12, 1676), (15, 1706), (20, 1832), (24, 1895), (26, 1994), (32, 2054), (41, 2198),

Gene: Benvolio\_3 Start: 1543, Stop: 2358, Start Num: 8

Candidate Starts for Benvolio\_3:

(Start: 3 @1333 has 1 MA's), (Start: 8 @1543 has 8 MA's), (14, 1732), (18, 1801), (21, 1879), (23, 1906), (25, 1993), (37, 2191), (40, 2233), (43, 2332),

Gene: Bowtie\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Bowtie\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Bud\_2 Start: 1194, Stop: 2066, Start Num: 7

Candidate Starts for Bud\_2:

(4, 1032), (Start: 7 @1194 has 22 MA's), (9, 1287), (10, 1299), (14, 1434), (15, 1455), (16, 1464), (30, 1788), (33, 1830), (34, 1875), (35, 1887), (42, 1995),

Gene: Centaur\_3 Start: 1312, Stop: 2310, Start Num: 6

Candidate Starts for Centaur\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (9, 1555), (12, 1672), (15, 1702), (20, 1828), (24, 1891), (26, 1990), (32, 2050), (41, 2194),

Gene: Dalmatian\_3 Start: 1545, Stop: 2357, Start Num: 8

Candidate Starts for Dalmatian\_3:

(Start: 3 @1335 has 1 MA's), (Start: 8 @1545 has 8 MA's), (14, 1731), (18, 1800), (37, 2190), (40, 2232), (43, 2331),

Gene: Drake55\_3 Start: 1303, Stop: 2316, Start Num: 5

Candidate Starts for Drake55\_3:

(Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (Start: 7 @1471 has 22 MA's), (12, 1678), (15, 1708), (20, 1834), (24, 1897), (26, 1996), (32, 2056), (41, 2200),

Gene: DudeLittle\_3 Start: 1545, Stop: 2357, Start Num: 8

Candidate Starts for DudeLittle\_3:

(Start: 3 @1335 has 1 MA's), (Start: 8 @1545 has 8 MA's), (14, 1731), (18, 1800), (37, 2190), (40, 2232), (43, 2331),

Gene: Ebony\_2 Start: 1191, Stop: 2066, Start Num: 7

Candidate Starts for Ebony\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1287), (10, 1299), (14, 1434), (15, 1455), (16, 1464), (30, 1788), (33, 1830), (34, 1875), (35, 1887), (42, 1995),

Gene: Echid\_3 Start: 1543, Stop: 2358, Start Num: 8

Candidate Starts for Echid\_3:

(Start: 3 @1333 has 1 MA's), (Start: 8 @1543 has 8 MA's), (14, 1732), (18, 1801), (21, 1879), (23, 1906), (25, 1993), (37, 2191), (40, 2233), (43, 2332),

Gene: Equemioh13\_3 Start: 1312, Stop: 2313, Start Num: 6

Candidate Starts for Equemioh13\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (12, 1675), (15, 1705), (20, 1831), (24, 1894), (26, 1993), (32, 2053), (41, 2197),

Gene: Et2Brutus\_2 Start: 1191, Stop: 2063, Start Num: 7

Candidate Starts for Et2Brutus\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1284), (10, 1296), (14, 1431), (15, 1452), (16, 1461), (33, 1827), (34, 1872), (35, 1884), (42, 1992),

Gene: Fameo\_3 Start: 1545, Stop: 2357, Start Num: 8

Candidate Starts for Fameo\_3:

(Start: 3 @1338 has 1 MA's), (Start: 8 @1545 has 8 MA's), (14, 1731), (18, 1800), (37, 2190), (40, 2232), (43, 2331),

Gene: Fibonacci\_2 Start: 1191, Stop: 2063, Start Num: 7

Candidate Starts for Fibonacci\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1284), (10, 1296), (14, 1431), (15, 1452), (16, 1461), (33, 1827), (34, 1872), (35, 1884), (42, 1992),

Gene: Flare16\_3 Start: 1312, Stop: 2313, Start Num: 6

Candidate Starts for Flare16\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (12, 1675), (15, 1705), (17, 1747), (20, 1831), (26, 1993), (32, 2053), (41, 2197),

Gene: Flaverint\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Flaverint\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Gail\_2 Start: 1039, Stop: 2085, Start Num: 5

Candidate Starts for Gail\_2:

(Start: 5 @1039 has 7 MA's), (14, 1456), (15, 1477), (16, 1486), (17, 1519), (29, 1804), (32, 1828), (36, 1909),

Gene: Gilberta\_2 Start: 1188, Stop: 2057, Start Num: 7

Candidate Starts for Gilberta\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1278), (10, 1290), (14, 1425), (15, 1446), (16, 1455), (30, 1779), (33, 1821), (34, 1866), (35, 1878), (42, 1986),

Gene: HarryHoudini\_3 Start: 1312, Stop: 2316, Start Num: 6

Candidate Starts for HarryHoudini\_3:

(2, 1246), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (12, 1678), (15, 1708), (20, 1834), (26, 1996), (32, 2056), (41, 2200),

Gene: Heffalump\_3 Start: 1338, Stop: 2357, Start Num: 3

Candidate Starts for Heffalump\_3:

(Start: 3 @1338 has 1 MA's), (Start: 8 @1545 has 8 MA's), (14, 1731), (18, 1800), (37, 2190), (40, 2232), (43, 2331),

Gene: Hutc2\_2 Start: 1191, Stop: 2063, Start Num: 7

Candidate Starts for Hutc2\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1284), (10, 1296), (14, 1431), (15, 1452), (16, 1461), (33, 1827), (34, 1872), (35, 1884), (42, 1992),

Gene: Insomnia\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Insomnia\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Jabith\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Jabith\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Jeeves\_2 Start: 1070, Stop: 2110, Start Num: 5

Candidate Starts for Jeeves\_2:

(Start: 5 @1070 has 7 MA's), (11, 1442), (14, 1475), (15, 1496), (16, 1505), (19, 1595), (22, 1649), (27, 1802), (28, 1814), (31, 1838), (38, 1976), (39, 1979), (40, 1988),

Gene: Joselito\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Joselito\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Luchador\_2 Start: 1039, Stop: 2088, Start Num: 5

Candidate Starts for Luchador\_2:

(Start: 5 @1039 has 7 MA's), (11, 1420), (13, 1447), (14, 1453), (15, 1474), (16, 1483), (19, 1573), (22, 1627), (27, 1780), (38, 1954), (40, 1966),

Gene: Lucivia\_2 Start: 1188, Stop: 2057, Start Num: 7

Candidate Starts for Lucivia\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1278), (10, 1290), (14, 1425), (15, 1446), (16, 1455), (30, 1779), (33, 1821), (34, 1866), (35, 1878), (42, 1986),

Gene: MaCh\_2 Start: 1188, Stop: 2057, Start Num: 7

Candidate Starts for MaCh\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1278), (10, 1290), (14, 1425), (15, 1446), (16, 1455), (30, 1779), (33, 1821), (34, 1866), (35, 1878), (42, 1986),

Gene: Mabel\_2 Start: 1200, Stop: 2072, Start Num: 7

Candidate Starts for Mabel\_2:

(4, 1032), (Start: 7 @1200 has 22 MA's), (9, 1293), (10, 1305), (14, 1440), (15, 1461), (16, 1470), (33, 1836), (34, 1881), (35, 1893), (42, 2001),

Gene: MiculUcigas\_3 Start: 1312, Stop: 2313, Start Num: 6

Candidate Starts for MiculUcigas\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (Start: 7 @1468 has 22 MA's), (12, 1675), (15, 1705), (20, 1831), (24, 1894), (26, 1993), (32, 2053), (41, 2197),

Gene: Mulciber\_2 Start: 1191, Stop: 2063, Start Num: 7

Candidate Starts for Mulciber\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1284), (10, 1296), (14, 1431), (15, 1452), (16, 1461), (33, 1827), (34, 1872), (35, 1884), (42, 1992),

Gene: Munch\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Munch\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: NaSiaTalie\_3 Start: 1312, Stop: 2313, Start Num: 6

Candidate Starts for NaSiaTalie\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (12, 1675), (14, 1684), (15, 1705), (20, 1831), (26, 1993), (32, 2053), (41, 2197),

Gene: Orange\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Orange\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Petersenfast\_2 Start: 1191, Stop: 2063, Start Num: 7

Candidate Starts for Petersenfast\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1284), (10, 1296), (14, 1431), (15, 1452), (16, 1461), (33, 1827), (34, 1872), (35, 1884), (42, 1992),

Gene: Piro94\_2 Start: 1313, Stop: 2317, Start Num: 6

Candidate Starts for Piro94\_2:

(Start: 5 @1304 has 7 MA's), (Start: 6 @1313 has 8 MA's), (Start: 7 @1472 has 22 MA's), (12, 1679), (15, 1709), (20, 1835), (24, 1898), (26, 1997), (32, 2057), (41, 2201),

Gene: QueenB2\_3 Start: 1545, Stop: 2357, Start Num: 8

Candidate Starts for QueenB2\_3:

(Start: 3 @1338 has 1 MA's), (Start: 8 @1545 has 8 MA's), (14, 1731), (18, 1800), (37, 2190), (40, 2232), (43, 2331),

Gene: Retro23\_3 Start: 1545, Stop: 2357, Start Num: 8

Candidate Starts for Retro23\_3:

(Start: 3 @1335 has 1 MA's), (Start: 8 @1545 has 8 MA's), (14, 1731), (18, 1800), (37, 2190), (40, 2232), (43, 2331),

Gene: Salz\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Salz\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Sham4\_2 Start: 1191, Stop: 2063, Start Num: 7

Candidate Starts for Sham4\_2:

(4, 1032), (Start: 7 @1191 has 22 MA's), (9, 1284), (10, 1296), (14, 1431), (15, 1452), (16, 1461), (33, 1827), (34, 1872), (35, 1884), (42, 1992),

Gene: Snape\_2 Start: 1194, Stop: 2066, Start Num: 7

Candidate Starts for Snape\_2:

(4, 1032), (Start: 7 @1194 has 22 MA's), (9, 1287), (10, 1299), (14, 1434), (15, 1455), (16, 1464), (33, 1830), (34, 1875), (35, 1887), (42, 1995),

Gene: SororFago\_2 Start: 1039, Stop: 2088, Start Num: 5

Candidate Starts for SororFago\_2:

(Start: 5 @1039 has 7 MA's), (11, 1420), (14, 1453), (15, 1474), (16, 1483), (19, 1573), (28, 1792), (38, 1954), (40, 1966),

Gene: Timothy\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for Timothy\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: TinyTimmy\_2 Start: 1188, Stop: 2060, Start Num: 7

Candidate Starts for TinyTimmy\_2:

(4, 1032), (Start: 7 @1188 has 22 MA's), (9, 1281), (10, 1293), (14, 1428), (15, 1449), (16, 1458), (30, 1782), (33, 1824), (34, 1869), (35, 1881), (42, 1989),

Gene: Updawg\_3 Start: 1303, Stop: 2313, Start Num: 5

Candidate Starts for Updawg\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (12, 1675), (15, 1705), (20, 1831), (24, 1894), (26, 1993), (32, 2053), (41, 2197),



Gene: WideWale\_3 Start: 1312, Stop: 2313, Start Num: 6

Candidate Starts for WideWale\_3:

(1, 982), (Start: 5 @1303 has 7 MA's), (Start: 6 @1312 has 8 MA's), (12, 1675), (15, 1705), (20, 1831),  
(24, 1894), (26, 1993), (32, 2053), (41, 2197),