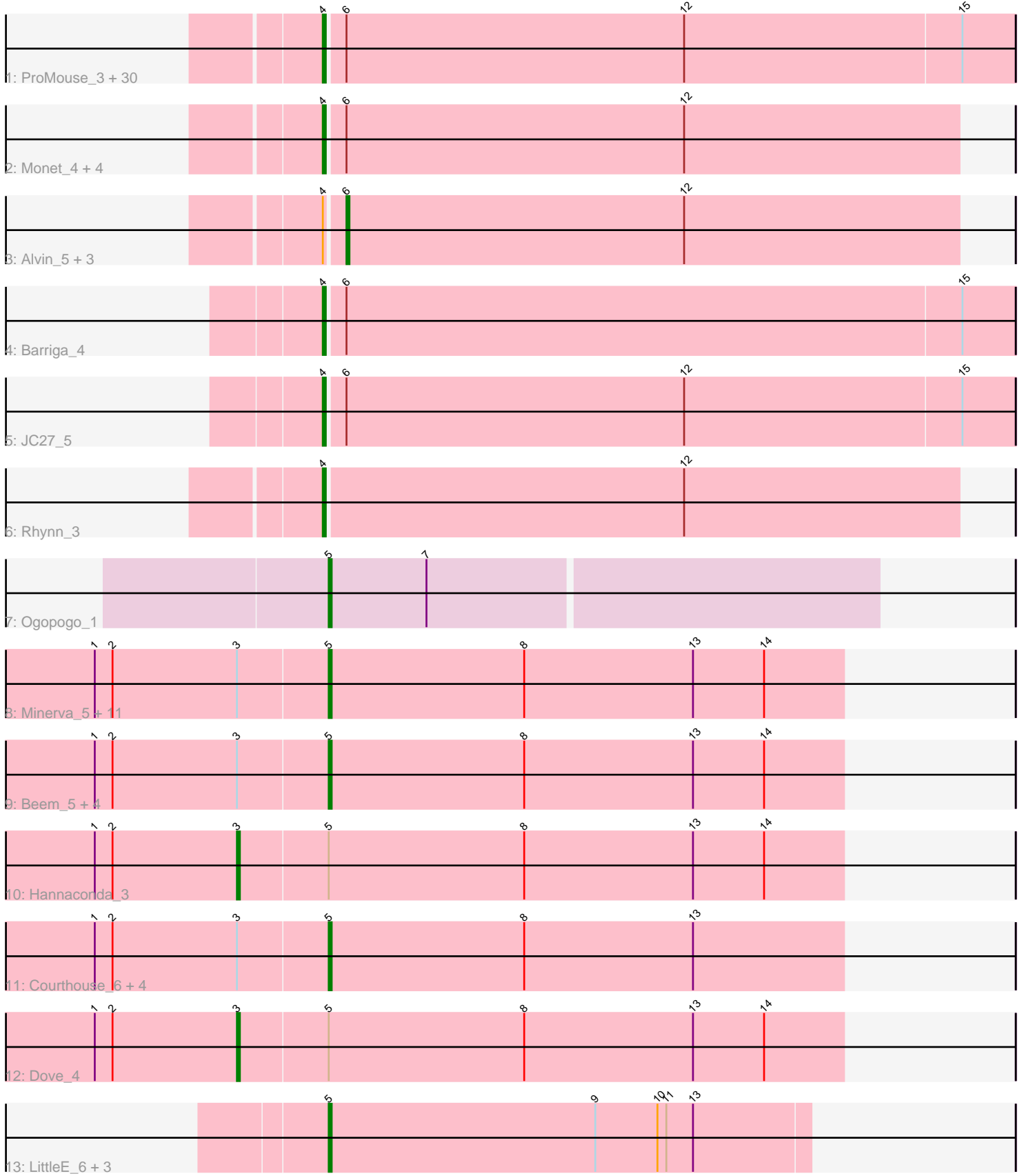


Pham 200217



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 200217 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200217 has 72 members, 2 are drafts.

Phages represented in each track:

- Track 1 : ProMouse\_3, Trouble\_3, CactusRose\_3, HarryOW\_5, Beatrix\_3, Carlyle\_5, BaconJack\_4, DD5\_4, Bigfoot\_3, StrongArm\_3, Maroc7\_3, Nhonho\_4, Marsha\_4, Dulcie\_3, Bexan\_3, SkiPole\_5, LilBib\_3, GrecoEtereo\_5, Pinto\_5, Ciao\_4, Mryolo\_3, Lockley\_4, Dexes\_5, Nerujay\_4, Paraselene\_3, Target\_4, Applejack\_4, Zeuska\_3, Michley\_4, Fascinus\_3, Peterson\_4
- Track 2 : Monet\_4, Licorice\_6, Turj99\_3, TheloniousMonk\_4, Zeeculate\_3
- Track 3 : Alvin\_5, Treddle\_4, Edtherson\_4, Lesedi\_3
- Track 4 : Barriga\_4
- Track 5 : JC27\_5
- Track 6 : Rhynn\_3
- Track 7 : Ogopogo\_1
- Track 8 : Minerva\_5, Bombitas\_4, Kalah2\_6, Odette\_4, Pound\_5, ThreeRngTarjay\_5, Phoebus\_5, EricMillard\_5, Schatzie\_4, Yeet\_4, NihilNomen\_5, Dallas\_4
- Track 9 : Beem\_5, Redno2\_5, Halley\_5, Bobby\_6, Ejimix\_6
- Track 10 : Hannaconda\_3
- Track 11 : Courthouse\_6, Ariel\_5, JuicyJay\_6, Zelink\_5, Superphikiman\_6
- Track 12 : Dove\_4
- Track 13 : LittleE\_6, Wanda\_6, Omega\_8, Klein\_6

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

The start number called the most often in the published annotations is 4, it was called in 38 of the 70 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Applejack\_4, BaconJack\_4, Barriga\_4, Beatrix\_3, Bexan\_3, Bigfoot\_3, CactusRose\_3, Carlyle\_5, Ciao\_4, DD5\_4, Dexes\_5, Dulcie\_3, Fascinus\_3, GrecoEtereo\_5, HarryOW\_5, JC27\_5, Licorice\_6, LilBib\_3, Lockley\_4, Maroc7\_3, Marsha\_4, Michley\_4, Monet\_4, Mryolo\_3, Nerujay\_4, Nhonho\_4, Paraselene\_3, Peterson\_4, Pinto\_5, ProMouse\_3, Rhynn\_3, SkiPole\_5, StrongArm\_3, Target\_4, TheloniousMonk\_4, Trouble\_3, Turj99\_3, Zeeculate\_3, Zeuska\_3,

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

- Alvin\_5, Edtherson\_4, Lesedi\_3, Treddle\_4,

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

- Ariel\_5, Beem\_5, Bobby\_6, Bombitas\_4, Courthouse\_6, Dallas\_4, Dove\_4, Ejimix\_6, EricMillard\_5, Halley\_5, Hannaconda\_3, JuicyJay\_6, Kalah2\_6, Klein\_6, LittleE\_6, Minerva\_5, NihilNomen\_5, Odette\_4, Ogopogo\_1, Omega\_8, Phoebus\_5, Pound\_5, Redno2\_5, Schatzie\_4, Superphikiman\_6, ThreeRngTarjay\_5, Wanda\_6, Yeet\_4, Zelink\_5,

### Summary by start number:

Start 3:

- Found in 24 of 72 ( 33.3% ) of genes in pham
- Manual Annotations of this start: 2 of 70
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Dove\_4 (J), Hannaconda\_3 (J),

Start 4:

- Found in 43 of 72 ( 59.7% ) of genes in pham
- Manual Annotations of this start: 38 of 70
- Called 90.7% of time when present
- Phage (with cluster) where this start called: Applejack\_4 (A1), BaconJack\_4 (A1), Barriga\_4 (A1), Beatrix\_3 (A1), Bexan\_3 (A1), Bigfoot\_3 (A1), CactusRose\_3 (A1), Carlyle\_5 (A1), Ciao\_4 (A1), DD5\_4 (A1), Dexes\_5 (A1), Dulcie\_3 (A1), Fascinus\_3 (A1), GrecoEtereo\_5 (A1), HarryOW\_5 (A1), JC27\_5 (A1), Licorice\_6 (A1), LilBib\_3 (A1), Lockley\_4 (A1), Maroc7\_3 (A1), Marsha\_4 (A1), Michley\_4 (A1), Monet\_4 (A1), Mryolo\_3 (A1), Nerujay\_4 (A1), Nhonho\_4 (A1), Paraselene\_3 (A1), Peterson\_4 (A1), Pinto\_5 (A1), ProMouse\_3 (A1), Rhynn\_3 (A1), SkiPole\_5 (A1), StrongArm\_3 (A1), Target\_4 (A1), TheloniousMonk\_4 (A1), Trouble\_3 (A1), Turj99\_3 (A1), Zeeculate\_3 (A1), Zeuska\_3 (A1),

Start 5:

- Found in 29 of 72 ( 40.3% ) of genes in pham
- Manual Annotations of this start: 26 of 70
- Called 93.1% of time when present
- Phage (with cluster) where this start called: Ariel\_5 (J), Beem\_5 (J), Bobby\_6 (J), Bombitas\_4 (J), Courthouse\_6 (J), Dallas\_4 (J), Ejimix\_6 (J), EricMillard\_5 (J), Halley\_5 (J), JuicyJay\_6 (J), Kalah2\_6 (J), Klein\_6 (J), LittleE\_6 (J), Minerva\_5 (J), NihilNomen\_5 (J), Odette\_4 (J), Ogopogo\_1 (F1), Omega\_8 (J), Phoebus\_5 (J), Pound\_5 (J), Redno2\_5 (J), Schatzie\_4 (J), Superphikiman\_6 (J), ThreeRngTarjay\_5 (J), Wanda\_6 (J), Yeet\_4 (J), Zelink\_5 (J),

Start 6:

- Found in 42 of 72 ( 58.3% ) of genes in pham
- Manual Annotations of this start: 4 of 70
- Called 9.5% of time when present
- Phage (with cluster) where this start called: Alvin\_5 (A1), Edtherson\_4 (A1), Lesedi\_3 (A1), Treddle\_4 (A1),

### Summary by clusters:

There are 3 clusters represented in this pham: A1, F1, J,

Info for manual annotations of cluster A1:

- Start number 4 was manually annotated 38 times for cluster A1.
- Start number 6 was manually annotated 4 times for cluster A1.

Info for manual annotations of cluster F1:

- Start number 5 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster J:

- Start number 3 was manually annotated 2 times for cluster J.
- Start number 5 was manually annotated 25 times for cluster J.

### **Gene Information:**

Gene: Alvin\_5 Start: 2099, Stop: 2305, Start Num: 6

Candidate Starts for Alvin\_5:

(Start: 4 @2093 has 38 MA's), (Start: 6 @2099 has 4 MA's), (12, 2213),

Gene: Applejack\_4 Start: 1684, Stop: 1914, Start Num: 4

Candidate Starts for Applejack\_4:

(Start: 4 @1684 has 38 MA's), (Start: 6 @1690 has 4 MA's), (12, 1804), (15, 1897),

Gene: Ariel\_5 Start: 2046, Stop: 2219, Start Num: 5

Candidate Starts for Ariel\_5:

(1, 1968), (2, 1974), (Start: 3 @2016 has 2 MA's), (Start: 5 @2046 has 26 MA's), (8, 2112), (13, 2169),

Gene: BaconJack\_4 Start: 1630, Stop: 1860, Start Num: 4

Candidate Starts for BaconJack\_4:

(Start: 4 @1630 has 38 MA's), (Start: 6 @1636 has 4 MA's), (12, 1750), (15, 1843),

Gene: Barriga\_4 Start: 1643, Stop: 1873, Start Num: 4

Candidate Starts for Barriga\_4:

(Start: 4 @1643 has 38 MA's), (Start: 6 @1649 has 4 MA's), (15, 1856),

Gene: Beatrix\_3 Start: 1483, Stop: 1713, Start Num: 4

Candidate Starts for Beatrix\_3:

(Start: 4 @1483 has 38 MA's), (Start: 6 @1489 has 4 MA's), (12, 1603), (15, 1696),

Gene: Beem\_5 Start: 2011, Stop: 2184, Start Num: 5

Candidate Starts for Beem\_5:

(1, 1933), (2, 1939), (Start: 3 @1981 has 2 MA's), (Start: 5 @2011 has 26 MA's), (8, 2077), (13, 2134), (14, 2158),

Gene: Bexan\_3 Start: 1483, Stop: 1713, Start Num: 4

Candidate Starts for Bexan\_3:

(Start: 4 @1483 has 38 MA's), (Start: 6 @1489 has 4 MA's), (12, 1603), (15, 1696),

Gene: Bigfoot\_3 Start: 1542, Stop: 1772, Start Num: 4

Candidate Starts for Bigfoot\_3:

(Start: 4 @1542 has 38 MA's), (Start: 6 @1548 has 4 MA's), (12, 1662), (15, 1755),

Gene: Bobby\_6 Start: 2746, Stop: 2919, Start Num: 5

Candidate Starts for Bobby\_6:

(1, 2668), (2, 2674), (Start: 3 @2716 has 2 MA's), (Start: 5 @2746 has 26 MA's), (8, 2812), (13, 2869), (14, 2893),

Gene: Bombitas\_4 Start: 1550, Stop: 1723, Start Num: 5

Candidate Starts for Bombitas\_4:

(1, 1472), (2, 1478), (Start: 3 @1520 has 2 MA's), (Start: 5 @1550 has 26 MA's), (8, 1616), (13, 1673), (14, 1697),

Gene: CactusRose\_3 Start: 1541, Stop: 1771, Start Num: 4

Candidate Starts for CactusRose\_3:

(Start: 4 @1541 has 38 MA's), (Start: 6 @1547 has 4 MA's), (12, 1661), (15, 1754),

Gene: Carlyle\_5 Start: 1922, Stop: 2152, Start Num: 4

Candidate Starts for Carlyle\_5:

(Start: 4 @1922 has 38 MA's), (Start: 6 @1928 has 4 MA's), (12, 2042), (15, 2135),

Gene: Ciao\_4 Start: 1773, Stop: 2003, Start Num: 4

Candidate Starts for Ciao\_4:

(Start: 4 @1773 has 38 MA's), (Start: 6 @1779 has 4 MA's), (12, 1893), (15, 1986),

Gene: Courthouse\_6 Start: 2845, Stop: 3018, Start Num: 5

Candidate Starts for Courthouse\_6:

(1, 2767), (2, 2773), (Start: 3 @2815 has 2 MA's), (Start: 5 @2845 has 26 MA's), (8, 2911), (13, 2968),

Gene: DD5\_4 Start: 1675, Stop: 1905, Start Num: 4

Candidate Starts for DD5\_4:

(Start: 4 @1675 has 38 MA's), (Start: 6 @1681 has 4 MA's), (12, 1795), (15, 1888),

Gene: Dallas\_4 Start: 1550, Stop: 1723, Start Num: 5

Candidate Starts for Dallas\_4:

(1, 1472), (2, 1478), (Start: 3 @1520 has 2 MA's), (Start: 5 @1550 has 26 MA's), (8, 1616), (13, 1673), (14, 1697),

Gene: Dexes\_5 Start: 2353, Stop: 2583, Start Num: 4

Candidate Starts for Dexes\_5:

(Start: 4 @2353 has 38 MA's), (Start: 6 @2359 has 4 MA's), (12, 2473), (15, 2566),

Gene: Dove\_4 Start: 1519, Stop: 1722, Start Num: 3

Candidate Starts for Dove\_4:

(1, 1471), (2, 1477), (Start: 3 @1519 has 2 MA's), (Start: 5 @1549 has 26 MA's), (8, 1615), (13, 1672), (14, 1696),

Gene: Dulcie\_3 Start: 1476, Stop: 1706, Start Num: 4

Candidate Starts for Dulcie\_3:

(Start: 4 @1476 has 38 MA's), (Start: 6 @1482 has 4 MA's), (12, 1596), (15, 1689),

Gene: Edtherson\_4 Start: 1699, Stop: 1905, Start Num: 6

Candidate Starts for Edtherson\_4:

(Start: 4 @1693 has 38 MA's), (Start: 6 @1699 has 4 MA's), (12, 1813),

Gene: Ejimix\_6 Start: 2761, Stop: 2934, Start Num: 5

Candidate Starts for Ejimix\_6:

(1, 2683), (2, 2689), (Start: 3 @2731 has 2 MA's), (Start: 5 @2761 has 26 MA's), (8, 2827), (13, 2884), (14, 2908),

Gene: EricMillard\_5 Start: 2296, Stop: 2469, Start Num: 5

Candidate Starts for EricMillard\_5:

(1, 2218), (2, 2224), (Start: 3 @2266 has 2 MA's), (Start: 5 @2296 has 26 MA's), (8, 2362), (13, 2419), (14, 2443),

Gene: Fascinus\_3 Start: 1543, Stop: 1773, Start Num: 4

Candidate Starts for Fascinus\_3:

(Start: 4 @1543 has 38 MA's), (Start: 6 @1549 has 4 MA's), (12, 1663), (15, 1756),

Gene: GrecoEtereo\_5 Start: 2002, Stop: 2232, Start Num: 4

Candidate Starts for GrecoEtereo\_5:

(Start: 4 @2002 has 38 MA's), (Start: 6 @2008 has 4 MA's), (12, 2122), (15, 2215),

Gene: Halley\_5 Start: 2011, Stop: 2184, Start Num: 5

Candidate Starts for Halley\_5:

(1, 1933), (2, 1939), (Start: 3 @1981 has 2 MA's), (Start: 5 @2011 has 26 MA's), (8, 2077), (13, 2134), (14, 2158),

Gene: Hannaconda\_3 Start: 1495, Stop: 1698, Start Num: 3

Candidate Starts for Hannaconda\_3:

(1, 1447), (2, 1453), (Start: 3 @1495 has 2 MA's), (Start: 5 @1525 has 26 MA's), (8, 1591), (13, 1648), (14, 1672),

Gene: HarryOW\_5 Start: 2002, Stop: 2232, Start Num: 4

Candidate Starts for HarryOW\_5:

(Start: 4 @2002 has 38 MA's), (Start: 6 @2008 has 4 MA's), (12, 2122), (15, 2215),

Gene: JC27\_5 Start: 2189, Stop: 2419, Start Num: 4

Candidate Starts for JC27\_5:

(Start: 4 @2189 has 38 MA's), (Start: 6 @2195 has 4 MA's), (12, 2309), (15, 2402),

Gene: JuicyJay\_6 Start: 2844, Stop: 3017, Start Num: 5

Candidate Starts for JuicyJay\_6:

(1, 2766), (2, 2772), (Start: 3 @2814 has 2 MA's), (Start: 5 @2844 has 26 MA's), (8, 2910), (13, 2967),

Gene: Kalah2\_6 Start: 2840, Stop: 3013, Start Num: 5

Candidate Starts for Kalah2\_6:

(1, 2762), (2, 2768), (Start: 3 @2810 has 2 MA's), (Start: 5 @2840 has 26 MA's), (8, 2906), (13, 2963), (14, 2987),

Gene: Klein\_6 Start: 2837, Stop: 2998, Start Num: 5

Candidate Starts for Klein\_6:

(Start: 5 @2837 has 26 MA's), (9, 2927), (10, 2948), (11, 2951), (13, 2960),

Gene: Lesedi\_3 Start: 1548, Stop: 1754, Start Num: 6

Candidate Starts for Lesedi\_3:

(Start: 4 @1542 has 38 MA's), (Start: 6 @1548 has 4 MA's), (12, 1662),

Gene: Licorice\_6 Start: 2404, Stop: 2616, Start Num: 4

Candidate Starts for Licorice\_6:

(Start: 4 @2404 has 38 MA's), (Start: 6 @2410 has 4 MA's), (12, 2524),

Gene: LilBib\_3 Start: 1543, Stop: 1773, Start Num: 4

Candidate Starts for LilBib\_3:

(Start: 4 @1543 has 38 MA's), (Start: 6 @1549 has 4 MA's), (12, 1663), (15, 1756),

Gene: LittleE\_6 Start: 2404, Stop: 2565, Start Num: 5

Candidate Starts for LittleE\_6:

(Start: 5 @2404 has 26 MA's), (9, 2494), (10, 2515), (11, 2518), (13, 2527),

Gene: Lockley\_4 Start: 1675, Stop: 1905, Start Num: 4

Candidate Starts for Lockley\_4:

(Start: 4 @1675 has 38 MA's), (Start: 6 @1681 has 4 MA's), (12, 1795), (15, 1888),

Gene: Maroc7\_3 Start: 1544, Stop: 1774, Start Num: 4

Candidate Starts for Maroc7\_3:

(Start: 4 @1544 has 38 MA's), (Start: 6 @1550 has 4 MA's), (12, 1664), (15, 1757),

Gene: Marsha\_4 Start: 1997, Stop: 2227, Start Num: 4

Candidate Starts for Marsha\_4:

(Start: 4 @1997 has 38 MA's), (Start: 6 @2003 has 4 MA's), (12, 2117), (15, 2210),

Gene: Michley\_4 Start: 1706, Stop: 1936, Start Num: 4

Candidate Starts for Michley\_4:

(Start: 4 @1706 has 38 MA's), (Start: 6 @1712 has 4 MA's), (12, 1826), (15, 1919),

Gene: Minerva\_5 Start: 2300, Stop: 2473, Start Num: 5

Candidate Starts for Minerva\_5:

(1, 2222), (2, 2228), (Start: 3 @2270 has 2 MA's), (Start: 5 @2300 has 26 MA's), (8, 2366), (13, 2423), (14, 2447),

Gene: Monet\_4 Start: 1693, Stop: 1905, Start Num: 4

Candidate Starts for Monet\_4:

(Start: 4 @1693 has 38 MA's), (Start: 6 @1699 has 4 MA's), (12, 1813),

Gene: Mryolo\_3 Start: 1543, Stop: 1773, Start Num: 4

Candidate Starts for Mryolo\_3:

(Start: 4 @1543 has 38 MA's), (Start: 6 @1549 has 4 MA's), (12, 1663), (15, 1756),

Gene: Nerujay\_4 Start: 1618, Stop: 1848, Start Num: 4

Candidate Starts for Nerujay\_4:

(Start: 4 @1618 has 38 MA's), (Start: 6 @1624 has 4 MA's), (12, 1738), (15, 1831),

Gene: Nhonho\_4 Start: 1631, Stop: 1861, Start Num: 4

Candidate Starts for Nhonho\_4:

(Start: 4 @1631 has 38 MA's), (Start: 6 @1637 has 4 MA's), (12, 1751), (15, 1844),

Gene: NihilNomen\_5 Start: 2300, Stop: 2473, Start Num: 5

Candidate Starts for NihilNomen\_5:

(1, 2222), (2, 2228), (Start: 3 @2270 has 2 MA's), (Start: 5 @2300 has 26 MA's), (8, 2366), (13, 2423), (14, 2447),

Gene: Odette\_4 Start: 1549, Stop: 1722, Start Num: 5

Candidate Starts for Odette\_4:

(1, 1471), (2, 1477), (Start: 3 @1519 has 2 MA's), (Start: 5 @1549 has 26 MA's), (8, 1615), (13, 1672), (14, 1696),

Gene: Ogotogo\_1 Start: 107, Stop: 289, Start Num: 5

Candidate Starts for Ogotogo\_1:

(Start: 5 @107 has 26 MA's), (7, 140),

Gene: Omega\_8 Start: 3749, Stop: 3910, Start Num: 5

Candidate Starts for Omega\_8:

(Start: 5 @3749 has 26 MA's), (9, 3839), (10, 3860), (11, 3863), (13, 3872),

Gene: Paraselene\_3 Start: 1534, Stop: 1764, Start Num: 4

Candidate Starts for Paraselene\_3:

(Start: 4 @1534 has 38 MA's), (Start: 6 @1540 has 4 MA's), (12, 1654), (15, 1747),

Gene: Peterson\_4 Start: 2039, Stop: 2269, Start Num: 4

Candidate Starts for Peterson\_4:

(Start: 4 @2039 has 38 MA's), (Start: 6 @2045 has 4 MA's), (12, 2159), (15, 2252),

Gene: Phoebus\_5 Start: 2296, Stop: 2469, Start Num: 5

Candidate Starts for Phoebus\_5:

(1, 2218), (2, 2224), (Start: 3 @2266 has 2 MA's), (Start: 5 @2296 has 26 MA's), (8, 2362), (13, 2419), (14, 2443),

Gene: Pinto\_5 Start: 1918, Stop: 2148, Start Num: 4

Candidate Starts for Pinto\_5:

(Start: 4 @1918 has 38 MA's), (Start: 6 @1924 has 4 MA's), (12, 2038), (15, 2131),

Gene: Pound\_5 Start: 2296, Stop: 2469, Start Num: 5

Candidate Starts for Pound\_5:

(1, 2218), (2, 2224), (Start: 3 @2266 has 2 MA's), (Start: 5 @2296 has 26 MA's), (8, 2362), (13, 2419), (14, 2443),

Gene: ProMouse\_3 Start: 1531, Stop: 1761, Start Num: 4

Candidate Starts for ProMouse\_3:

(Start: 4 @1531 has 38 MA's), (Start: 6 @1537 has 4 MA's), (12, 1651), (15, 1744),

Gene: Redno2\_5 Start: 2011, Stop: 2184, Start Num: 5

Candidate Starts for Redno2\_5:

(1, 1933), (2, 1939), (Start: 3 @1981 has 2 MA's), (Start: 5 @2011 has 26 MA's), (8, 2077), (13, 2134), (14, 2158),

Gene: Rhynn\_3 Start: 1690, Stop: 1902, Start Num: 4

Candidate Starts for Rhynn\_3:

(Start: 4 @1690 has 38 MA's), (12, 1810),

Gene: Schatzie\_4 Start: 1550, Stop: 1723, Start Num: 5

Candidate Starts for Schatzie\_4:

(1, 1472), (2, 1478), (Start: 3 @1520 has 2 MA's), (Start: 5 @1550 has 26 MA's), (8, 1616), (13, 1673), (14, 1697),

Gene: SkiPole\_5 Start: 1957, Stop: 2187, Start Num: 4



Candidate Starts for SkiPole\_5:

(Start: 4 @1957 has 38 MA's), (Start: 6 @1963 has 4 MA's), (12, 2077), (15, 2170),

Gene: StrongArm\_3 Start: 1483, Stop: 1713, Start Num: 4

Candidate Starts for StrongArm\_3:

(Start: 4 @1483 has 38 MA's), (Start: 6 @1489 has 4 MA's), (12, 1603), (15, 1696),

Gene: Superphikiman\_6 Start: 2845, Stop: 3018, Start Num: 5

Candidate Starts for Superphikiman\_6:

(1, 2767), (2, 2773), (Start: 3 @2815 has 2 MA's), (Start: 5 @2845 has 26 MA's), (8, 2911), (13, 2968),

Gene: Target\_4 Start: 1788, Stop: 2018, Start Num: 4

Candidate Starts for Target\_4:

(Start: 4 @1788 has 38 MA's), (Start: 6 @1794 has 4 MA's), (12, 1908), (15, 2001),

Gene: TheloniousMonk\_4 Start: 1691, Stop: 1903, Start Num: 4

Candidate Starts for TheloniousMonk\_4:

(Start: 4 @1691 has 38 MA's), (Start: 6 @1697 has 4 MA's), (12, 1811),

Gene: ThreeRngTarjay\_5 Start: 2296, Stop: 2469, Start Num: 5

Candidate Starts for ThreeRngTarjay\_5:

(1, 2218), (2, 2224), (Start: 3 @2266 has 2 MA's), (Start: 5 @2296 has 26 MA's), (8, 2362), (13, 2419), (14, 2443),

Gene: Treddle\_4 Start: 1700, Stop: 1906, Start Num: 6

Candidate Starts for Treddle\_4:

(Start: 4 @1694 has 38 MA's), (Start: 6 @1700 has 4 MA's), (12, 1814),

Gene: Trouble\_3 Start: 1535, Stop: 1765, Start Num: 4

Candidate Starts for Trouble\_3:

(Start: 4 @1535 has 38 MA's), (Start: 6 @1541 has 4 MA's), (12, 1655), (15, 1748),

Gene: Turj99\_3 Start: 1541, Stop: 1753, Start Num: 4

Candidate Starts for Turj99\_3:

(Start: 4 @1541 has 38 MA's), (Start: 6 @1547 has 4 MA's), (12, 1661),

Gene: Wanda\_6 Start: 2837, Stop: 2998, Start Num: 5

Candidate Starts for Wanda\_6:

(Start: 5 @2837 has 26 MA's), (9, 2927), (10, 2948), (11, 2951), (13, 2960),

Gene: Yeet\_4 Start: 1550, Stop: 1723, Start Num: 5

Candidate Starts for Yeet\_4:

(1, 1472), (2, 1478), (Start: 3 @1520 has 2 MA's), (Start: 5 @1550 has 26 MA's), (8, 1616), (13, 1673), (14, 1697),

Gene: Zeeculate\_3 Start: 1475, Stop: 1687, Start Num: 4

Candidate Starts for Zeeculate\_3:

(Start: 4 @1475 has 38 MA's), (Start: 6 @1481 has 4 MA's), (12, 1595),

Gene: Zelink\_5 Start: 2094, Stop: 2267, Start Num: 5

Candidate Starts for Zelink\_5:

(1, 2016), (2, 2022), (Start: 3 @2064 has 2 MA's), (Start: 5 @2094 has 26 MA's), (8, 2160), (13, 2217),

Gene: Zeuska\_3 Start: 1542, Stop: 1772, Start Num: 4

Candidate Starts for Zeuska\_3:

(Start: 4 @1542 has 38 MA's), (Start: 6 @1548 has 4 MA's), (12, 1662), (15, 1755),