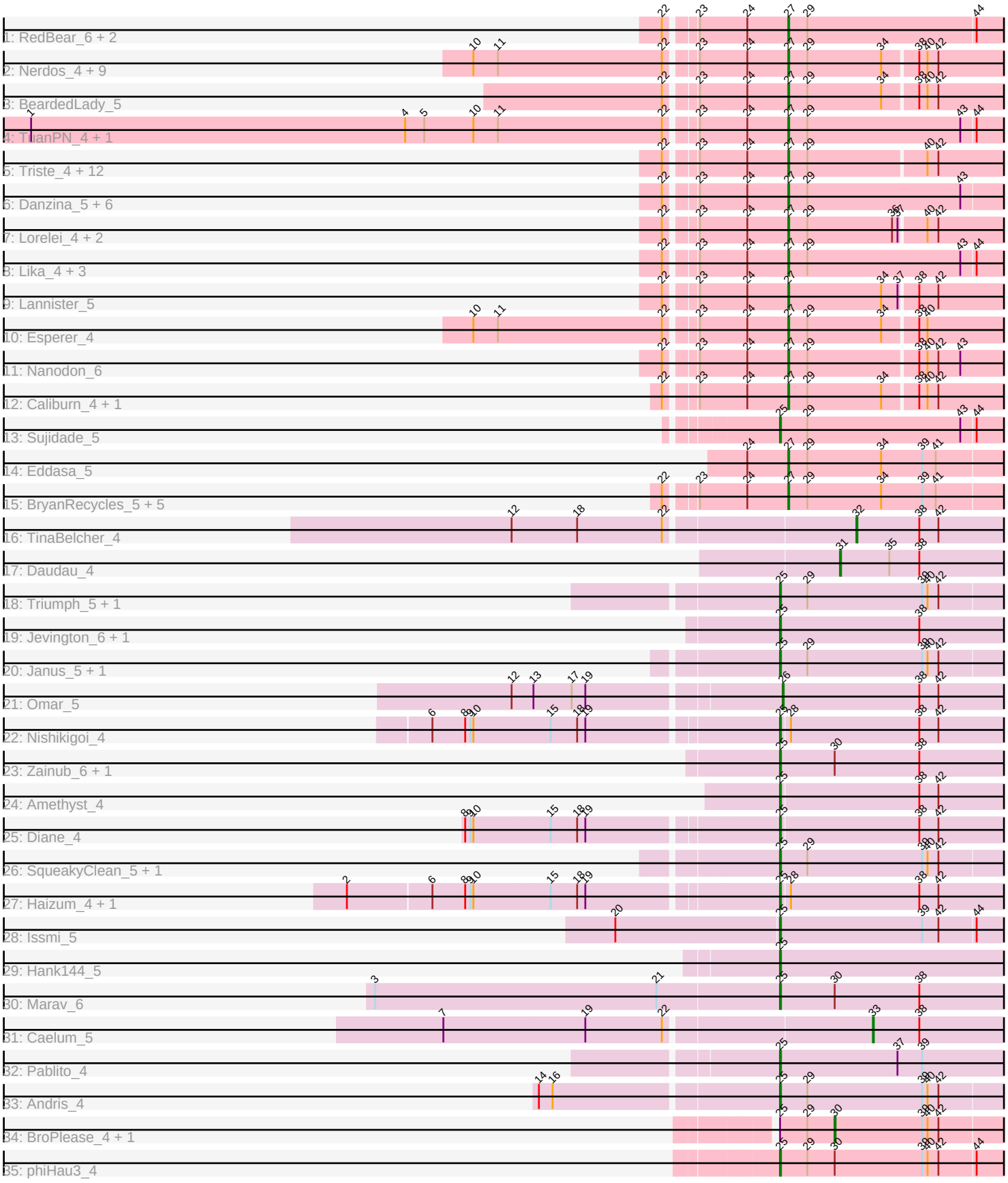
Pham 347517


1: RedBear_6 + 2
2: Nerdos_4 + 9
3: BeardedLady_5
4: TuanPN_4 + 1
5: Triste_4 + 12
6: Danzina_5 + 6
7: Lorelei_4 + 2
8: Lika_4 + 3
9: Lannister_5
10: Esperer_4
11: Nanodon_6
12: Caliburn_4 + 1
13: Sujidade_5
14: Eddasa_5
15: BryanRecycles_5 + 5
16: TinaBelcher_4
17: Daudau_4
18: Triumph_5 + 1
19: Jevington_6 + 1
20: Janus_5 + 1
21: Omar_5
22: Nishikigoi_4
23: Zainub_6 + 1
24: Amethyst_4
25: Diane_4
26: SqueakyClean_5 + 1
27: Haizum_4 + 1
28: Issmi_5
29: Hank144_5
30: Marav_6
31: Caelum_5
32: Pablito_4
33: Andris_4
34: BroPlease_4 + 1
35: phiHau3_4

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 347517 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347517 has 83 members, 1 are drafts.

Phages represented in each track:
• Track 1 : RedBear_6, Katalie_5, South40_5
• Track 2 : Nerdos_4, Indigo_4, Phettuccine_4, Leviticus_4, SunsetPointe_4, Bovely_4, Aaronocolus_4, Legacy_4, Unstoppable_4, Hydra_6
• Track 3 : BeardedLady_5
• Track 4 : TuanPN_4, Ejemplo_4
• Track 5 : Triste_4, BarryBee_6, Emaanora_6, Werner_4, Dwayne_4, Asten_4, SarahRose_4, Chucky_4, Hippo_4, OzzyJ_5, Whatever_4, Snorlax_4, TagePhighter_5
• Track 6 : Danzina_5, Goby_4, Dattran_5, Brataylor_5, Zemlya_5, Celeste_4, Toma_4
• Track 7 : Lorelei_4, Rana_4, Nabi_4
• Track 8 : Lika_4, Yasdnil_4, Godpower_5, Maneekul_4
• Track 9 : Lannister_5
• Track 10 : Esperer_4
• Track 11 : Nanodon_6
• Track 12 : Caliburn_4, Ozzie_4
• Track 13 : Sujidade_5
• Track 14 : Eddasa_5
• Track 15 : BryanRecycles_5, Oliynyk_5, Izzy_5, Rusticus_5, Jash_5, EnochSoames_5
• Track 16 : TinaBelcher_4
• Track 17 : Daudau_4
• Track 18 : Triumph_5, Axiom_5
• Track 19 : Jevington_6, Paolo_6
• Track 20 : Janus_5, GirlDinner_4
• Track 21 : Omar_5
• Track 22 : Nishikigoi_4
• Track 23 : Zainub_6, Puginator_6
• Track 24 : Amethyst_4
• Track 25 : Diane_4
• Track 26 : SqueakyClean_5, Animus_5
• Track 27 : Haizum_4, Tefunt_4
• Track 28 : Issmi_5
• Track 29 : Hank144_5
• Track 30 : Marav_6
• Track 31 : Caelum_5
• Track 32 : Pablito_4

• Track 33 : Andris_4
• Track 34 : BroPlease_4, GreenWeasel_4
• Track 35 : phiHau3_4

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

The start number called the most often in the published annotations is 27, it was called in 54 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aaronocolus_4, Asten_4, BarryBee_6, BeardedLady_5, Bovely_4, Brataylor_5, BryanRecycles_5, Caliburn_4, Celeste_4, Chucky_4, Danzina_5, Dattran_5, Dwayne_4, Eddasa_5, Ejemplo_4, Emaanora_6, EnochSoames_5, Esperer_4, Goby_4, Godpower_5, Hippo_4, Hydra_6, Indigo_4, Izzy_5, Jash_5, Katalie_5, Lannister_5, Legacy_4, Leviticus_4, Lika_4, Lorelei_4, Maneekul_4, Nabi_4, Nanodon_6, Nerdos_4, Oliynyk_5, Ozzie_4, OzzyJ_5, Phettuccine_4, Rana_4, RedBear_6, Rusticus_5, SarahRose_4, Snorlax_4, South40_5, SunsetPointe_4, TagePhighter_5, Toma_4, Triste_4, TuanPN_4, Unstoppable_4, Werner_4, Whatever_4, Yasdnil_4, Zemlya_5,

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

Genes that do not have the "Most Annotated" start:
• Amethyst_4, Andris_4, Animus_5, Axiom_5, BroPlease_4, Caelum_5, Daudau_4, Diane_4, GirlDinner_4, GreenWeasel_4, Haizum_4, Hank144_5, Issmi_5, Janus_5, Jevington_6, Marav_6, Nishikigoi_4, Omar_5, Pablito_4, Paolo_6, Puginator_6, SqueakyClean_5, Sujidade_5, Tefunt_4, TinaBelcher_4, Triumph_5, Zainub_6, phiHau3_4,

Summary by start number:

Start 25:
• Found in 24 of 83 (28.9%) of genes in pham
• Manual Annotations of this start: 22 of 82
• Called 91.7% of time when present
• Phage (with cluster) where this start called: Amethyst_4 (BD2), Andris_4 (BD2), Animus_5 (BD2), Axiom_5 (BD2), Diane_4 (BD2), GirlDinner_4 (BD2), Haizum_4 (BD2), Hank144_5 (BD2), Issmi_5 (BD2), Janus_5 (BD2), Jevington_6 (BD2), Marav_6 (BD2), Nishikigoi_4 (BD2), Pablito_4 (BD2), Paolo_6 (BD2), Puginator_6 (BD2), SqueakyClean_5 (BD2), Sujidade_5 (BD1), Tefunt_4 (BD2), Triumph_5 (BD2), Zainub_6 (BD2), phiHau3_4 (BD4),

Start 26:
• Found in 1 of 83 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Omar_5 (BD2),

Start 27:

• Found in 55 of 83 (66.3%) of genes in pham
• Manual Annotations of this start: 54 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aaronocolus_4 (BD1), Asten_4 (BD1), BarryBee_6 (BD1), BeardedLady_5 (BD1), Bovely_4 (BD1), Brataylor_5 (BD1), BryanRecycles_5 (BD1), Caliburn_4 (BD1), Celeste_4 (BD1), Chucky_4 (BD1), Danzina_5 (BD1), Dattran_5 (BD1), Dwayne_4 (BD1), Eddasa_5 (BD1), Ejemplo_4 (BD1), Emaanora_6 (BD1), EnochSoames_5 (BD1), Esperer_4 (BD1), Goby_4 (BD1), Godpower_5 (BD1), Hippo_4 (BD1), Hydra_6 (BD1), Indigo_4 (BD1), Izzy_5 (BD1), Jash_5 (BD1), Katalie_5 (BD1), Lannister_5 (BD1), Legacy_4 (BD1), Leviticus_4 (BD1), Lika_4 (BD1), Lorelei_4 (BD1), Maneekul_4 (BD1), Nabi_4 (BD1), Nanodon_6 (BD1), Nerdos_4 (BD1), Oliynyk_5 (BD1), Ozzie_4 (BD1), OzzyJ_5 (BD1), Phettuccine_4 (BD1), Rana_4 (BD1), RedBear_6 (BD1), Rusticus_5 (BD1), SarahRose_4 (BD1), Snorlax_4 (BD1), South40_5 (BD1), SunsetPointe_4 (BD1), TagePhighter_5 (BD1), Toma_4 (BD1), Triste_4 (BD1), TuanPN_4 (BD1), Unstoppable_4 (BD1), Werner_4 (BD1), Whatever_4 (BD1), Yasdnil_4 (BD1), Zemlya_5 (BD1),

Start 30:
• Found in 6 of 83 (7.2%) of genes in pham
• Manual Annotations of this start: 2 of 82
• Called 33.3% of time when present
• Phage (with cluster) where this start called: BroPlease_4 (BD4), GreenWeasel_4 (BD4),

Start 31:
• Found in 1 of 83 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Daudau_4 (BD2),

Start 32:
• Found in 1 of 83 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: TinaBelcher_4 (BD2),

Start 33:
• Found in 1 of 83 (1.2%) of genes in pham
• Manual Annotations of this start: 1 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Caelum_5 (BD2),

Summary by clusters:

There are 3 clusters represented in this pham: BD4, BD1, BD2,

Info for manual annotations of cluster BD1:
•Start number 25 was manually annotated 1 time for cluster BD1.
•Start number 27 was manually annotated 54 times for cluster BD1.

Info for manual annotations of cluster BD2:
•Start number 25 was manually annotated 20 times for cluster BD2.

•Start number 26 was manually annotated 1 time for cluster BD2.
•Start number 31 was manually annotated 1 time for cluster BD2.
•Start number 32 was manually annotated 1 time for cluster BD2.
•Start number 33 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster BD4:
•Start number 25 was manually annotated 1 time for cluster BD4.
•Start number 30 was manually annotated 2 times for cluster BD4.

Gene Information:

Gene: Aaronocolus_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Aaronocolus_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840), (42, 1852),

Gene: Amethyst_4 Start: 1422, Stop: 1682, Start Num: 25
Candidate Starts for Amethyst_4:
(Start: 25 @1422 has 22 MA's), (38, 1572), (42, 1593),

Gene: Andris_4 Start: 1453, Stop: 1713, Start Num: 25
Candidate Starts for Andris_4:
(14, 1204), (16, 1219), (Start: 25 @1453 has 22 MA's), (29, 1483), (39, 1609), (40, 1615), (42, 1627),

Gene: Animus_5 Start: 1800, Stop: 2060, Start Num: 25
Candidate Starts for Animus_5:
(Start: 25 @1800 has 22 MA's), (29, 1830), (39, 1956), (40, 1962), (42, 1974),

Gene: Asten_4 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for Asten_4:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: Axiom_5 Start: 1452, Stop: 1712, Start Num: 25
Candidate Starts for Axiom_5:
(Start: 25 @1452 has 22 MA's), (29, 1482), (39, 1608), (40, 1614), (42, 1626),

Gene: BarryBee_6 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for BarryBee_6:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: BeardedLady_5 Start: 1940, Stop: 2188, Start Num: 27
Candidate Starts for BeardedLady_5:
(22, 1817), (23, 1844), (24, 1895), (Start: 27 @1940 has 54 MA's), (29, 1961), (34, 2042), (38, 2078), (40, 2087), (42, 2099),

Gene: Bovely_4 Start: 1699, Stop: 1947, Start Num: 27
Candidate Starts for Bovely_4:
(10, 1369), (11, 1396), (22, 1576), (23, 1603), (24, 1654), (Start: 27 @1699 has 54 MA's), (29, 1720), (34, 1801), (38, 1837), (40, 1846), (42, 1858),

Gene: Brataylor_5 Start: 1666, Stop: 1914, Start Num: 27

Candidate Starts for Brataylor_5:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (43, 1855),

Gene: BroPlease_4 Start: 1727, Stop: 1927, Start Num: 30
Candidate Starts for BroPlease_4:
(Start: 25 @1667 has 22 MA's), (29, 1697), (Start: 30 @1727 has 2 MA's), (39, 1823), (40, 1829), (42, 1841),

Gene: BryanRecycles_5 Start: 1854, Stop: 2102, Start Num: 27
Candidate Starts for BryanRecycles_5:
(22, 1731), (23, 1758), (24, 1809), (Start: 27 @1854 has 54 MA's), (29, 1875), (34, 1956), (39, 2001), (41, 2016),

Gene: Caelum_5 Start: 1472, Stop: 1633, Start Num: 33
Candidate Starts for Caelum_5:
(7, 1019), (19, 1172), (22, 1256), (Start: 33 @1472 has 1 MA's), (38, 1523),

Gene: Caliburn_4 Start: 1673, Stop: 1921, Start Num: 27
Candidate Starts for Caliburn_4:
(22, 1550), (23, 1577), (24, 1628), (Start: 27 @1673 has 54 MA's), (29, 1694), (34, 1775), (38, 1811), (40, 1820), (42, 1832),

Gene: Celeste_4 Start: 1666, Stop: 1917, Start Num: 27
Candidate Starts for Celeste_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (43, 1855),

Gene: Chucky_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Chucky_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (40, 1813), (42, 1825),

Gene: Danzina_5 Start: 1865, Stop: 2116, Start Num: 27
Candidate Starts for Danzina_5:
(22, 1742), (23, 1769), (24, 1820), (Start: 27 @1865 has 54 MA's), (29, 1886), (43, 2054),

Gene: Dattran_5 Start: 1664, Stop: 1912, Start Num: 27
Candidate Starts for Dattran_5:
(22, 1541), (23, 1568), (24, 1619), (Start: 27 @1664 has 54 MA's), (29, 1685), (43, 1853),

Gene: Daudau_4 Start: 1493, Stop: 1690, Start Num: 31
Candidate Starts for Daudau_4:
(Start: 31 @1493 has 1 MA's), (35, 1547), (38, 1580),

Gene: Diane_4 Start: 1424, Stop: 1684, Start Num: 25
Candidate Starts for Diane_4:
(8, 1100), (9, 1106), (10, 1109), (15, 1190), (18, 1217), (19, 1226), (Start: 25 @1424 has 22 MA's), (38, 1574), (42, 1595),

Gene: Dwayne_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Dwayne_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (40, 1813), (42, 1825),

Gene: Eddasa_5 Start: 1854, Stop: 2102, Start Num: 27
Candidate Starts for Eddasa_5:

(24, 1809), (Start: 27 @1854 has 54 MA's), (29, 1875), (34, 1956), (39, 2001), (41, 2016),

Gene: Ejemplo_4 Start: 1667, Stop: 1915, Start Num: 27
Candidate Starts for Ejemplo_4:
(1, 851), (4, 1262), (5, 1283), (10, 1337), (11, 1364), (22, 1544), (23, 1571), (24, 1622), (Start: 27 @1667 has 54 MA's), (29, 1688), (43, 1856), (44, 1871),

Gene: Emaanora_6 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for Emaanora_6:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: EnochSoames_5 Start: 1850, Stop: 2098, Start Num: 27
Candidate Starts for EnochSoames_5:
(22, 1727), (23, 1754), (24, 1805), (Start: 27 @1850 has 54 MA's), (29, 1871), (34, 1952), (39, 1997), (41, 2012),

Gene: Esperer_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Esperer_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840),

Gene: GirlDinner_4 Start: 1463, Stop: 1723, Start Num: 25
Candidate Starts for GirlDinner_4:
(Start: 25 @1463 has 22 MA's), (29, 1493), (39, 1619), (40, 1625), (42, 1637),

Gene: Goby_4 Start: 1664, Stop: 1912, Start Num: 27
Candidate Starts for Goby_4:
(22, 1541), (23, 1568), (24, 1619), (Start: 27 @1664 has 54 MA's), (29, 1685), (43, 1853),

Gene: Godpower_5 Start: 1667, Stop: 1915, Start Num: 27
Candidate Starts for Godpower_5:
(22, 1544), (23, 1571), (24, 1622), (Start: 27 @1667 has 54 MA's), (29, 1688), (43, 1856), (44, 1871),

Gene: GreenWeasel_4 Start: 1727, Stop: 1927, Start Num: 30
Candidate Starts for GreenWeasel_4:
(Start: 25 @1667 has 22 MA's), (29, 1697), (Start: 30 @1727 has 2 MA's), (39, 1823), (40, 1829), (42, 1841),

Gene: Haizum_4 Start: 1453, Stop: 1713, Start Num: 25
Candidate Starts for Haizum_4:
(2, 1003), (6, 1093), (8, 1129), (9, 1135), (10, 1138), (15, 1219), (18, 1246), (19, 1255), (Start: 25 @1453 has 22 MA's), (28, 1462), (38, 1603), (42, 1624),

Gene: Hank144_5 Start: 1746, Stop: 2006, Start Num: 25
Candidate Starts for Hank144_5:
(Start: 25 @1746 has 22 MA's),

Gene: Hippo_4 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for Hippo_4:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: Hydra_6 Start: 2230, Stop: 2478, Start Num: 27
Candidate Starts for Hydra_6:

(10, 1900), (11, 1927), (22, 2107), (23, 2134), (24, 2185), (Start: 27 @2230 has 54 MA's), (29, 2251), (34, 2332), (38, 2368), (40, 2377), (42, 2389),

Gene: Indigo_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Indigo_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840), (42, 1852),

Gene: Issmi_5 Start: 1731, Stop: 1988, Start Num: 25
Candidate Starts for Issmi_5:
(20, 1554), (Start: 25 @1731 has 22 MA's), (39, 1887), (42, 1905), (44, 1944),

Gene: Izzy_5 Start: 1901, Stop: 2149, Start Num: 27
Candidate Starts for Izzy_5:
(22, 1778), (23, 1805), (24, 1856), (Start: 27 @1901 has 54 MA's), (29, 1922), (34, 2003), (39, 2048), (41, 2063),

Gene: Janus_5 Start: 1800, Stop: 2060, Start Num: 25
Candidate Starts for Janus_5:
(Start: 25 @1800 has 22 MA's), (29, 1830), (39, 1956), (40, 1962), (42, 1974),

Gene: Jash_5 Start: 1854, Stop: 2102, Start Num: 27
Candidate Starts for Jash_5:
(22, 1731), (23, 1758), (24, 1809), (Start: 27 @1854 has 54 MA's), (29, 1875), (34, 1956), (39, 2001), (41, 2016),

Gene: Jevington_6 Start: 2019, Stop: 2279, Start Num: 25
Candidate Starts for Jevington_6:
(Start: 25 @2019 has 22 MA's), (38, 2172),

Gene: Katalie_5 Start: 1935, Stop: 2183, Start Num: 27
Candidate Starts for Katalie_5:
(22, 1812), (23, 1839), (24, 1890), (Start: 27 @1935 has 54 MA's), (29, 1956), (44, 2139),

Gene: Lannister_5 Start: 1675, Stop: 1923, Start Num: 27
Candidate Starts for Lannister_5:
(22, 1552), (23, 1579), (24, 1630), (Start: 27 @1675 has 54 MA's), (34, 1777), (37, 1795), (38, 1813), (42, 1834),

Gene: Legacy_4 Start: 1673, Stop: 1921, Start Num: 27
Candidate Starts for Legacy_4:
(10, 1343), (11, 1370), (22, 1550), (23, 1577), (24, 1628), (Start: 27 @1673 has 54 MA's), (29, 1694), (34, 1775), (38, 1811), (40, 1820), (42, 1832),

Gene: Leviticus_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Leviticus_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840), (42, 1852),

Gene: Lika_4 Start: 1668, Stop: 1916, Start Num: 27
Candidate Starts for Lika_4:
(22, 1545), (23, 1572), (24, 1623), (Start: 27 @1668 has 54 MA's), (29, 1689), (43, 1857), (44, 1872),

Gene: Lorelei_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Lorelei_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (36, 1780), (37, 1786), (40, 1813), (42, 1825),

Gene: Maneekul_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Maneekul_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (43, 1855), (44, 1870),

Gene: Marav_6 Start: 2017, Stop: 2280, Start Num: 25
Candidate Starts for Marav_6:
(3, 1579), (21, 1885), (Start: 25 @2017 has 22 MA's), (Start: 30 @2077 has 2 MA's), (38, 2170),

Gene: Nabi_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Nabi_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (36, 1780), (37, 1786), (40, 1813), (42, 1825),

Gene: Nanodon_6 Start: 1865, Stop: 2113, Start Num: 27
Candidate Starts for Nanodon_6:
(22, 1742), (23, 1769), (24, 1820), (Start: 27 @1865 has 54 MA's), (29, 1886), (38, 2003), (40, 2012), (42, 2024), (43, 2048),

Gene: Nerdos_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Nerdos_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840), (42, 1852),

Gene: Nishikigoi_4 Start: 1453, Stop: 1713, Start Num: 25
Candidate Starts for Nishikigoi_4:
(6, 1093), (8, 1129), (9, 1135), (10, 1138), (15, 1219), (18, 1246), (19, 1255), (Start: 25 @1453 has 22 MA's), (28, 1462), (38, 1603), (42, 1624),

Gene: Oliynyk_5 Start: 1854, Stop: 2102, Start Num: 27
Candidate Starts for Oliynyk_5:
(22, 1731), (23, 1758), (24, 1809), (Start: 27 @1854 has 54 MA's), (29, 1875), (34, 1956), (39, 2001), (41, 2016),

Gene: Omar_5 Start: 1683, Stop: 1943, Start Num: 26
Candidate Starts for Omar_5:
(12, 1401), (13, 1425), (17, 1467), (19, 1482), (Start: 26 @1683 has 1 MA's), (38, 1833), (42, 1854),

Gene: Ozzie_4 Start: 1673, Stop: 1921, Start Num: 27
Candidate Starts for Ozzie_4:
(22, 1550), (23, 1577), (24, 1628), (Start: 27 @1673 has 54 MA's), (29, 1694), (34, 1775), (38, 1811), (40, 1820), (42, 1832),

Gene: OzzyJ_5 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for OzzyJ_5:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (40, 1813), (42, 1825),

Gene: Pablito_4 Start: 1489, Stop: 1749, Start Num: 25
Candidate Starts for Pablito_4:

(Start: 25 @1489 has 22 MA's), (37, 1618), (39, 1645),

Gene: Paolo_6 Start: 2073, Stop: 2333, Start Num: 25
Candidate Starts for Paolo_6:
(Start: 25 @2073 has 22 MA's), (38, 2226),

Gene: Phettuccine_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Phettuccine_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840), (42, 1852),

Gene: Puginator_6 Start: 2019, Stop: 2279, Start Num: 25
Candidate Starts for Puginator_6:
(Start: 25 @2019 has 22 MA's), (Start: 30 @2079 has 2 MA's), (38, 2172),

Gene: Rana_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Rana_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (36, 1780), (37, 1786), (40, 1813), (42, 1825),

Gene: RedBear_6 Start: 1935, Stop: 2183, Start Num: 27
Candidate Starts for RedBear_6:
(22, 1812), (23, 1839), (24, 1890), (Start: 27 @1935 has 54 MA's), (29, 1956), (44, 2139),

Gene: Rusticus_5 Start: 1854, Stop: 2102, Start Num: 27
Candidate Starts for Rusticus_5:
(22, 1731), (23, 1758), (24, 1809), (Start: 27 @1854 has 54 MA's), (29, 1875), (34, 1956), (39, 2001), (41, 2016),

Gene: SarahRose_4 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for SarahRose_4:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: Snorlax_4 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for Snorlax_4:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: South40_5 Start: 1935, Stop: 2183, Start Num: 27
Candidate Starts for South40_5:
(22, 1812), (23, 1839), (24, 1890), (Start: 27 @1935 has 54 MA's), (29, 1956), (44, 2139),

Gene: SqueakyClean_5 Start: 1726, Stop: 1986, Start Num: 25
Candidate Starts for SqueakyClean_5:
(Start: 25 @1726 has 22 MA's), (29, 1756), (39, 1882), (40, 1888), (42, 1900),

Gene: Sujidade_5 Start: 1950, Stop: 2207, Start Num: 25
Candidate Starts for Sujidade_5:
(Start: 25 @1950 has 22 MA's), (29, 1980), (43, 2148), (44, 2163),

Gene: SunsetPointe_4 Start: 1692, Stop: 1940, Start Num: 27
Candidate Starts for SunsetPointe_4:
(10, 1362), (11, 1389), (22, 1569), (23, 1596), (24, 1647), (Start: 27 @1692 has 54 MA's), (29, 1713), (34, 1794), (38, 1830), (40, 1839), (42, 1851),

Gene: TagePhighter_5 Start: 1665, Stop: 1913, Start Num: 27
Candidate Starts for TagePhighter_5:
(22, 1542), (23, 1569), (24, 1620), (Start: 27 @1665 has 54 MA's), (29, 1686), (40, 1812), (42, 1824),

Gene: Tefunt_4 Start: 1453, Stop: 1713, Start Num: 25
Candidate Starts for Tefunt_4:
(2, 1003), (6, 1093), (8, 1129), (9, 1135), (10, 1138), (15, 1219), (18, 1246), (19, 1255), (Start: 25 @1453 has 22 MA's), (28, 1462), (38, 1603), (42, 1624),

Gene: TinaBelcher_4 Start: 1557, Stop: 1736, Start Num: 32
Candidate Starts for TinaBelcher_4:
(12, 1194), (18, 1266), (22, 1359), (Start: 32 @1557 has 1 MA's), (38, 1626), (42, 1647),

Gene: Toma_4 Start: 1664, Stop: 1912, Start Num: 27
Candidate Starts for Toma_4:
(22, 1541), (23, 1568), (24, 1619), (Start: 27 @1664 has 54 MA's), (29, 1685), (43, 1853),

Gene: Triste_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Triste_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (40, 1813), (42, 1825),

Gene: Triumph_5 Start: 1452, Stop: 1712, Start Num: 25
Candidate Starts for Triumph_5:
(Start: 25 @1452 has 22 MA's), (29, 1482), (39, 1608), (40, 1614), (42, 1626),

Gene: TuanPN_4 Start: 1667, Stop: 1915, Start Num: 27
Candidate Starts for TuanPN_4:
(1, 851), (4, 1262), (5, 1283), (10, 1337), (11, 1364), (22, 1544), (23, 1571), (24, 1622), (Start: 27 @1667 has 54 MA's), (29, 1688), (43, 1856), (44, 1871),

Gene: Unstoppable_4 Start: 1693, Stop: 1941, Start Num: 27
Candidate Starts for Unstoppable_4:
(10, 1363), (11, 1390), (22, 1570), (23, 1597), (24, 1648), (Start: 27 @1693 has 54 MA's), (29, 1714), (34, 1795), (38, 1831), (40, 1840), (42, 1852),

Gene: Werner_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Werner_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (40, 1813), (42, 1825),

Gene: Whatever_4 Start: 1666, Stop: 1914, Start Num: 27
Candidate Starts for Whatever_4:
(22, 1543), (23, 1570), (24, 1621), (Start: 27 @1666 has 54 MA's), (29, 1687), (40, 1813), (42, 1825),

Gene: Yasdnil_4 Start: 1663, Stop: 1911, Start Num: 27
Candidate Starts for Yasdnil_4:
(22, 1540), (23, 1567), (24, 1618), (Start: 27 @1663 has 54 MA's), (29, 1684), (43, 1852), (44, 1867),

Gene: Zainub_6 Start: 2019, Stop: 2279, Start Num: 25
Candidate Starts for Zainub_6:
(Start: 25 @2019 has 22 MA's), (Start: 30 @2079 has 2 MA's), (38, 2172),

Gene: Zemlya_5 Start: 1664, Stop: 1915, Start Num: 27

Candidate Starts for Zemlya_5:
(22, 1541), (23, 1568), (24, 1619), (Start: 27 @1664 has 54 MA's), (29, 1685), (43, 1853),

Gene: phiHau3_4 Start: 1593, Stop: 1853, Start Num: 25
Candidate Starts for phiHau3_4:
(Start: 25 @1593 has 22 MA's), (29, 1623), (Start: 30 @1653 has 2 MA's), (39, 1749), (40, 1755), (42, 1767), (44, 1806),