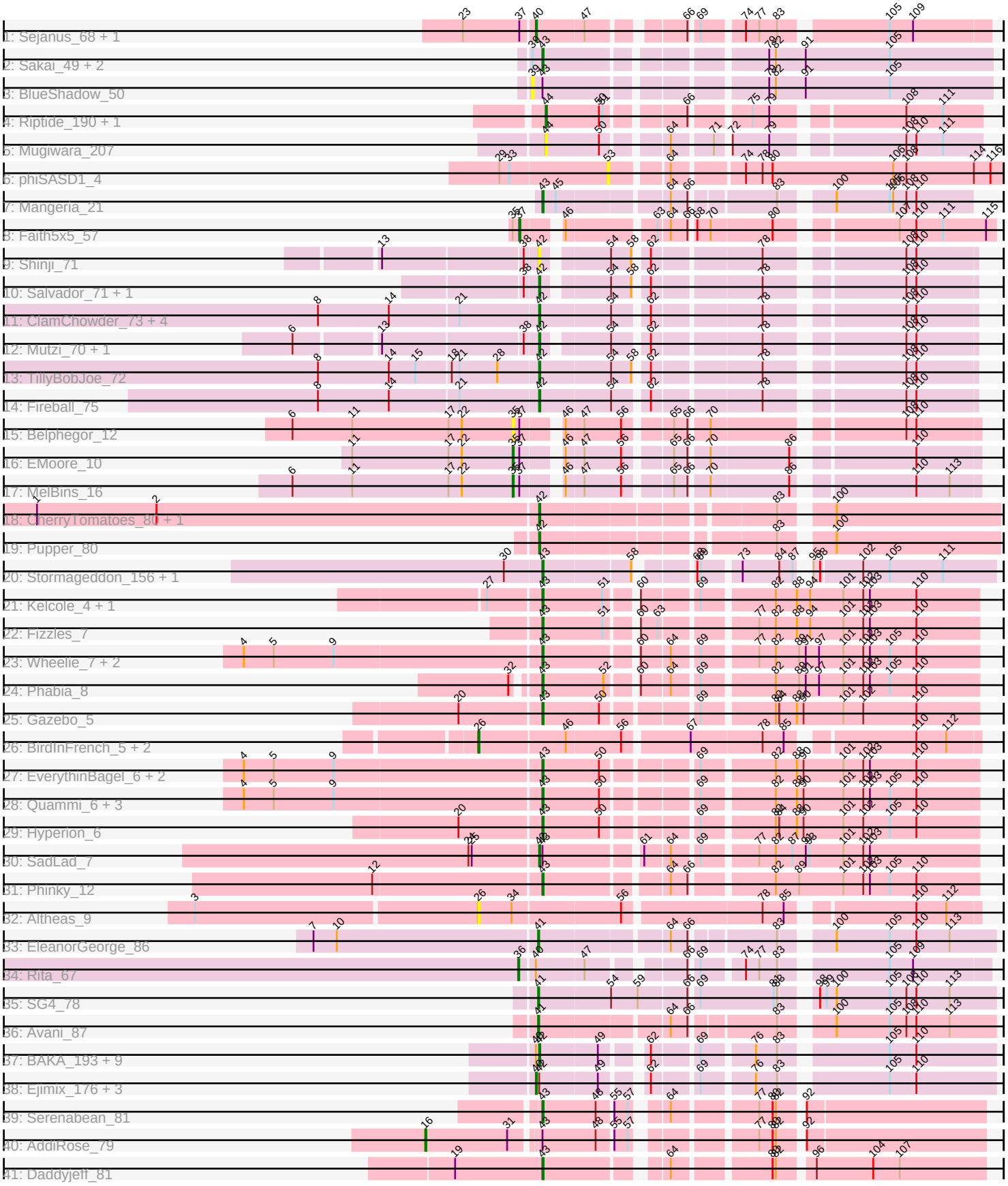
Pham 202898


1: Sejanus_68 + 1
2: Sakai_49 + 2
3: BlueShadow_50
4: Riptide_190 + 1
5: Mugiwara_207
6: phiSASD1_4
7: Mangeria_21
8: Faith5x5_57
9: Shinji_71
10: Salvador_71 + 1
11: ClamChowder_73 + 4
12: Mutzi_70 + 1
13: TillyBobJoe_72
14: Fireball_75
15: Belphegor_12
16: EMoore_10
17: MelBins_16
18: CherryTomatoes_80 + 1
19: Pupper_80
20: Stormageddon_156 + 1
21: Kelcole_4 + 1
22: Fizzles_7
23: Wheelie_7 + 2
24: Phabia_8
25: Gazebo_5
26: BirdInFrench_5 + 2
27: EverythinBagel_6 + 2
28: Quammi_6 + 3
29: Hyperion_6
30: SadLad_7
31: Phinky_12
32: Altheas_9
33: EleanorGeorge_86
34: Rita_67
35: SG4_78
36: Avani_87
37: BAKA_193 + 9
38: Ejimix_176 + 3
39: Serenabean_81
40: AddiRose_79
41: Daddyjeff_81

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 202898 Report

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

Pham number 202898 has 75 members, 14 are drafts.

Phages represented in each track:
- Track 1 : Sejanus_68, Mask_69
- Track 2 : Sakai_49, Richie_52, Gorpy_50
- Track 3 : BlueShadow_50
- Track 4 : Riptide_190, Anedea_194
- Track 5 : Mugiwara_207
- Track 6 : phiSASD1_4
- Track 7 : Mangeria_21
- Track 8 : Faith5x5_57
- Track 9 : Shinji_71
- Track 10 : Salvador_71, Evamon_71
- Track 11 : ClamChowder_73, Barb_73, Danyall_72, Fugax_74, PinkCoffee_73
- Track 12 : Mutzi_70, YungMoney_71
- Track 13 : TillyBobJoe_72
- Track 14 : Fireball_75
- Track 15 : Belphegor_12
- Track 16 : EMoore_10
- Track 17 : MelBins_16
- Track 18 : CherryTomatoes_80, SCentae_78
- Track 19 : Pupper_80
- Track 20 : Stormageddon_156, RedWattleHog_155
- Track 21 : Kelcole_4, Tempo_5
- Track 22 : Fizzles_7
- Track 23 : Wheelie_7, Llemily_8, DonaldDuck_8
- Track 24 : Phabia_8
- Track 25 : Gazebo_5
- Track 26 : BirdInFrench_5, Pepe25_4, Wilca_5
- Track 27 : EverythinBagel_6, Casend_7, Wayne3_7
- Track 28 : Quammi_6, Rudy_6, Sillytadpoles_8, Viceroy_7
- Track 29 : Hyperion_6
- Track 30 : SadLad_7
- Track 31 : Phinky_12
- Track 32 : Altheas_9
- Track 33 : EleanorGeorge_86
- Track 34 : Rita_67
- Track 35 : SG4_78
- Track 36 : Avani_87

• Track 37 : BAKA_193, Duke13_188, Minerva_187, Redno2_179, Wanda_184, Bagrid_194, Phoebus_187, Schatzie_181, Optimus_185, EricMillard_183
• Track 38 : Ejimix_176, HokkenD_180, Klein_191, Zelink_179
• Track 39 : Serenabean_81
• Track 40 : AddiRose_79
• Track 41 : Daddyjeff_81

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

The start number called the most often in the published annotations is 42, it was called in 24 of the 61 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• BAKA_193, Bagrid_194, Barb_73, CherryTomatoes_80, ClamChowder_73, Danyall_72, Duke13_188, EricMillard_183, Evamon_71, Fireball_75, Fugax_74, Minerva_187, Mutzi_70, Optimus_185, Phoebus_187, PinkCoffee_73, Pupper_80, Redno2_179, SCentae_78, SadLad_7, Salvador_71, Schatzie_181, Shinji_71, TillyBobJoe_72, Wanda_184, YungMoney_71,

Genes that have the "Most Annotated" start but do not call it:
• Ejimix_176, HokkenD_180, Klein_191, Zelink_179,

Genes that do not have the "Most Annotated" start:
• AddiRose_79, Altheas_9, Anedea_194, Avani_87, Belphegor_12, BirdInFrench_5, BlueShadow_50, Casend_7, Daddyjeff_81, DonaldDuck_8, EMoore_10, EleanorGeorge_86, EverythinBagel_6, Faith5x5_57, Fizzles_7, Gazebo_5, Gorpy_50, Hyperion_6, Kelcole_4, Llemily_8, Mangeria_21, Mask_69, MelBins_16, Mugiwara_207, Pepe25_4, Phabia_8, Phinky_12, Quammi_6, RedWattleHog_155, Richie_52, Riptide_190, Rita_67, Rudy_6, SG4_78, Sakai_49, Sejanus_68, Serenabean_81, Sillytadpoles_8, Stormageddon_156, Tempo_5, Viceroy_7, Wayne3_7, Wheelie_7, Wilca_5, phiSASD1_4,

Summary by start number:

Start 16:
• Found in 1 of 75 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AddiRose_79 (JA),

Start 26:
• Found in 4 of 75 (5.3%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Altheas_9 (EG), BirdInFrench_5 (EG), Pepe25_4 (EG), Wilca_5 (EG),

Start 35:
• Found in 4 of 75 (5.3%) of genes in pham
• Manual Annotations of this start: 2 of 61

• Called 75.0% of time when present
• Phage (with cluster) where this start called: Belphegor_12 (DE), EMoore_10 (DE2), MelBins_16 (DE2),

Start 36:
• Found in 1 of 75 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Rita_67 (F1),

Start 37:
• Found in 6 of 75 (8.0%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Faith5x5_57 (CZ6),

Start 39:
• Found in 4 of 75 (5.3%) of genes in pham
• No Manual Annotations of this start.
• Called 25.0% of time when present
• Phage (with cluster) where this start called: BlueShadow_50 (AY),

Start 40:
• Found in 17 of 75 (22.7%) of genes in pham
• Manual Annotations of this start: 6 of 61
• Called 35.3% of time when present
• Phage (with cluster) where this start called: Ejimix_176 (J), HokkenD_180 (J), Klein_191 (J), Mask_69 (AD), Sejanus_68 (AD), Zelink_179 (J),

Start 41:
• Found in 3 of 75 (4.0%) of genes in pham
• Manual Annotations of this start: 3 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Avani_87 (F2), EleanorGeorge_86 (F1), SG4_78 (F1),

Start 42:
• Found in 30 of 75 (40.0%) of genes in pham
• Manual Annotations of this start: 24 of 61
• Called 86.7% of time when present
• Phage (with cluster) where this start called: BAKA_193 (J), Bagrid_194 (J), Barb_73 (DC1), CherryTomatoes_80 (DO), ClamChowder_73 (DC1), Danyall_72 (DC1), Duke13_188 (J), EricMillard_183 (J), Evamon_71 (DC1), Fireball_75 (DC1), Fugax_74 (DC1), Minerva_187 (J), Mutzi_70 (DC1), Optimus_185 (J), Phoebus_187 (J), PinkCoffee_73 (DC1), Pupper_80 (DO), Redno2_179 (J), SCentae_78 (DO), SadLad_7 (EG), Salvador_71 (DC1), Schatzie_181 (J), Shinji_71 (DC1), TillyBobJoe_72 (DC1), Wanda_184 (J), YungMoney_71 (DC1),

Start 43:
• Found in 28 of 75 (37.3%) of genes in pham
• Manual Annotations of this start: 21 of 61
• Called 89.3% of time when present

• Phage (with cluster) where this start called: Casend_7 (EG), Daddyjeff_81 (JA), DonaldDuck_8 (EG), EverythinBagel_6 (EG), Fizzles_7 (EG), Gazebo_5 (EG), Gorpy_50 (AY), Hyperion_6 (EG), Kelcole_4 (EG), Llemily_8 (EG), Mangeria_21 (C1), Phabia_8 (EG), Phinky_12 (EG), Quammi_6 (EG), RedWattleHog_155 (DX), Richie_52 (AY), Rudy_6 (EG), Sakai_49 (AY), Serenabean_81 (JA), Sillytadpoles_8 (EG), Stormageddon_156 (DX), Tempo_5 (EG), Viceroy_7 (EG), Wayne3_7 (EG), Wheelie_7 (EG),

Start 44:
• Found in 3 of 75 (4.0%) of genes in pham
• Manual Annotations of this start: 1 of 61
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anedea_194 (BE1), Mugiwara_207 (BE2), Riptide_190 (BE1),

Start 53:
• Found in 1 of 75 (1.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: phiSASD1_4 (BJ),

Summary by clusters:

There are 17 clusters represented in this pham: F1, F2, DE, AD, DO, DE2, EG, J, CZ6, BJ, BE2, DX, AY, C1, BE1, JA, DC1,

Info for manual annotations of cluster AD:
•Start number 40 was manually annotated 2 times for cluster AD.

Info for manual annotations of cluster AY:
•Start number 43 was manually annotated 3 times for cluster AY.

Info for manual annotations of cluster BE1:
•Start number 44 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster C1:
•Start number 43 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster CZ6:
•Start number 37 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DC1:
•Start number 42 was manually annotated 11 times for cluster DC1.

Info for manual annotations of cluster DE2:
•Start number 35 was manually annotated 2 times for cluster DE2.

Info for manual annotations of cluster DO:
•Start number 42 was manually annotated 3 times for cluster DO.

Info for manual annotations of cluster DX:
•Start number 43 was manually annotated 2 times for cluster DX.

Info for manual annotations of cluster EG:
•Start number 26 was manually annotated 1 time for cluster EG.
•Start number 42 was manually annotated 1 time for cluster EG.
•Start number 43 was manually annotated 13 times for cluster EG.

Info for manual annotations of cluster F1:
•Start number 36 was manually annotated 1 time for cluster F1.
•Start number 41 was manually annotated 2 times for cluster F1.

Info for manual annotations of cluster F2:
•Start number 41 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster J:
•Start number 40 was manually annotated 4 times for cluster J.
•Start number 42 was manually annotated 9 times for cluster J.

Info for manual annotations of cluster JA:
•Start number 16 was manually annotated 1 time for cluster JA.
•Start number 43 was manually annotated 2 times for cluster JA.

Gene Information:

Gene: AddiRose_79 Start: 48807, Stop: 49250, Start Num: 16
Candidate Starts for AddiRose_79:
(Start: 16 @48807 has 1 MA's), (31, 48879), (Start: 43 @48900 has 21 MA's), (48, 48948), (55, 48960), (57, 48972), (77, 49059), (80, 49071), (82, 49074), (92, 49092),

Gene: Altheas_9 Start: 2820, Stop: 2407, Start Num: 26
Candidate Starts for Altheas_9:
(3, 3069), (Start: 26 @2820 has 1 MA's), (34, 2790), (56, 2697), (78, 2580), (85, 2562), (110, 2463), (112, 2436),

Gene: Anedea_194 Start: 99583, Stop: 99927, Start Num: 44
Candidate Starts for Anedea_194:
(Start: 44 @99583 has 1 MA's), (50, 99631), (51, 99634), (66, 99694), (75, 99739), (79, 99754), (108, 99859), (111, 99892),

Gene: Avani_87 Start: 46430, Stop: 46795, Start Num: 41
Candidate Starts for Avani_87:
(Start: 41 @46430 has 3 MA's), (64, 46535), (66, 46550), (83, 46616), (100, 46652), (105, 46700), (108, 46715), (110, 46724), (113, 46754),

Gene: BAKA_193 Start: 96785, Stop: 97141, Start Num: 42
Candidate Starts for BAKA_193:
(Start: 40 @96782 has 6 MA's), (Start: 42 @96785 has 24 MA's), (49, 96836), (62, 96866), (69, 96902), (76, 96944), (83, 96962), (105, 97046), (110, 97070),

Gene: Bagrid_194 Start: 97090, Stop: 97446, Start Num: 42

Candidate Starts for Bagrid_194:
(Start: 40 @97087 has 6 MA's), (Start: 42 @97090 has 24 MA's), (49, 97141), (62, 97171), (69, 97207), (76, 97249), (83, 97267), (105, 97351), (110, 97375),

Gene: Barb_73 Start: 50062, Stop: 50412, Start Num: 42
Candidate Starts for Barb_73:
(8, 49870), (14, 49933), (21, 49993), (Start: 42 @50062 has 24 MA's), (54, 50125), (62, 50152), (78, 50242), (108, 50350), (110, 50359),

Gene: Belphegor_12 Start: 9683, Stop: 10045, Start Num: 35
Candidate Starts for Belphegor_12:
(6, 9485), (11, 9539), (17, 9626), (22, 9638), (Start: 35 @9683 has 2 MA's), (Start: 37 @9689 has 1 MA's), (46, 9716), (47, 9731), (56, 9764), (65, 9800), (66, 9812), (70, 9827), (108, 9980), (110, 9989),

Gene: BirdInFrench_5 Start: 1900, Stop: 1487, Start Num: 26
Candidate Starts for BirdInFrench_5:
(Start: 26 @1900 has 1 MA's), (46, 1825), (56, 1777), (67, 1723), (78, 1660), (85, 1642), (110, 1543), (112, 1516),

Gene: BlueShadow_50 Start: 30663, Stop: 31046, Start Num: 39
Candidate Starts for BlueShadow_50:
(39, 30663), (Start: 43 @30672 has 21 MA's), (79, 30846), (82, 30852), (91, 30879), (105, 30954),

Gene: Casend_7 Start: 2333, Stop: 1968, Start Num: 43
Candidate Starts for Casend_7:
(4, 2597), (5, 2570), (9, 2516), (Start: 43 @2333 has 21 MA's), (50, 2282), (69, 2210), (82, 2150), (88, 2132), (90, 2126), (101, 2090), (102, 2072), (103, 2066), (110, 2024),

Gene: CherryTomatoes_80 Start: 30585, Stop: 30956, Start Num: 42
Candidate Starts for CherryTomatoes_80:
(1, 30135), (2, 30243), (Start: 42 @30585 has 24 MA's), (83, 30774), (100, 30810),

Gene: ClamChowder_73 Start: 50062, Stop: 50412, Start Num: 42
Candidate Starts for ClamChowder_73:
(8, 49870), (14, 49933), (21, 49993), (Start: 42 @50062 has 24 MA's), (54, 50125), (62, 50152), (78, 50242), (108, 50350), (110, 50359),

Gene: Daddyjeff_81 Start: 49245, Stop: 49598, Start Num: 43
Candidate Starts for Daddyjeff_81:
(19, 49167), (Start: 43 @49245 has 21 MA's), (64, 49338), (80, 49416), (82, 49419), (96, 49446), (104, 49497), (107, 49521),

Gene: Danyall_72 Start: 50043, Stop: 50393, Start Num: 42
Candidate Starts for Danyall_72:
(8, 49851), (14, 49914), (21, 49974), (Start: 42 @50043 has 24 MA's), (54, 50106), (62, 50133), (78, 50223), (108, 50331), (110, 50340),

Gene: DonaldDuck_8 Start: 2085, Stop: 1723, Start Num: 43
Candidate Starts for DonaldDuck_8:
(4, 2349), (5, 2322), (9, 2268), (Start: 43 @2085 has 21 MA's), (60, 2010), (64, 1986), (69, 1965), (77, 1920), (82, 1905), (89, 1884), (91, 1878), (97, 1866), (101, 1845), (102, 1827), (103, 1821), (105, 1803), (110, 1779),

Gene: Duke13_188 Start: 95119, Stop: 95475, Start Num: 42
Candidate Starts for Duke13_188:
(Start: 40 @95116 has 6 MA's), (Start: 42 @95119 has 24 MA's), (49, 95170), (62, 95200), (69, 95236), (76, 95278), (83, 95296), (105, 95380), (110, 95404),

Gene: EMoore_10 Start: 8765, Stop: 9127, Start Num: 35
Candidate Starts for EMoore_10:
(11, 8621), (17, 8708), (22, 8720), (Start: 35 @8765 has 2 MA's), (Start: 37 @8771 has 1 MA's), (46, 8798), (47, 8813), (56, 8846), (65, 8882), (66, 8894), (70, 8909), (86, 8978), (110, 9071),

Gene: Ejimix_176 Start: 94148, Stop: 94507, Start Num: 40
Candidate Starts for Ejimix_176:
(Start: 40 @94148 has 6 MA's), (Start: 42 @94151 has 24 MA's), (49, 94202), (62, 94232), (69, 94268), (76, 94310), (83, 94328), (105, 94412), (110, 94436),

Gene: EleanorGeorge_86 Start: 50747, Stop: 51112, Start Num: 41
Candidate Starts for EleanorGeorge_86:
(7, 50549), (10, 50570), (Start: 41 @50747 has 3 MA's), (64, 50852), (66, 50867), (83, 50933), (100, 50969), (105, 51017), (110, 51041), (113, 51071),

Gene: EricMillard_183 Start: 95861, Stop: 96217, Start Num: 42
Candidate Starts for EricMillard_183:
(Start: 40 @95858 has 6 MA's), (Start: 42 @95861 has 24 MA's), (49, 95912), (62, 95942), (69, 95978), (76, 96020), (83, 96038), (105, 96122), (110, 96146),

Gene: Evamon_71 Start: 49838, Stop: 50176, Start Num: 42
Candidate Starts for Evamon_71:
(38, 49826), (Start: 42 @49838 has 24 MA's), (54, 49889), (58, 49907), (62, 49916), (78, 50006), (108, 50114), (110, 50123),

Gene: EverythinBagel_6 Start: 2184, Stop: 1819, Start Num: 43
Candidate Starts for EverythinBagel_6:
(4, 2448), (5, 2421), (9, 2367), (Start: 43 @2184 has 21 MA's), (50, 2133), (69, 2061), (82, 2001), (88, 1983), (90, 1977), (101, 1941), (102, 1923), (103, 1917), (110, 1875),

Gene: Faith5x5_57 Start: 35656, Stop: 36027, Start Num: 37
Candidate Starts for Faith5x5_57:
(Start: 35 @35650 has 2 MA's), (Start: 37 @35656 has 1 MA's), (46, 35683), (63, 35755), (64, 35764), (66, 35779), (68, 35782), (70, 35794), (80, 35848), (107, 35941), (110, 35956), (111, 35980), (115, 36019),

Gene: Fireball_75 Start: 50740, Stop: 51090, Start Num: 42
Candidate Starts for Fireball_75:
(8, 50548), (14, 50611), (21, 50671), (Start: 42 @50740 has 24 MA's), (54, 50803), (62, 50830), (78, 50920), (108, 51028), (110, 51037),

Gene: Fizzles_7 Start: 2470, Stop: 2108, Start Num: 43
Candidate Starts for Fizzles_7:
(Start: 43 @2470 has 21 MA's), (51, 2416), (60, 2395), (63, 2380), (77, 2305), (82, 2290), (88, 2272), (94, 2260), (101, 2230), (102, 2212), (103, 2206), (110, 2164),

Gene: Fugax_74 Start: 50054, Stop: 50404, Start Num: 42
Candidate Starts for Fugax_74:

(8, 49862), (14, 49925), (21, 49985), (Start: 42 @50054 has 24 MA's), (54, 50117), (62, 50144), (78, 50234), (108, 50342), (110, 50351),

Gene: Gazebo_5 Start: 2065, Stop: 1700, Start Num: 43
Candidate Starts for Gazebo_5:
(20, 2137), (Start: 43 @2065 has 21 MA's), (50, 2014), (69, 1942), (82, 1882), (84, 1879), (88, 1864), (90, 1858), (101, 1822), (102, 1804), (110, 1756),

Gene: Gorpy_50 Start: 31667, Stop: 32041, Start Num: 43
Candidate Starts for Gorpy_50:
(39, 31658), (Start: 43 @31667 has 21 MA's), (79, 31841), (82, 31847), (91, 31874), (105, 31949),

Gene: HokkenD_180 Start: 96244, Stop: 96603, Start Num: 40
Candidate Starts for HokkenD_180:
(Start: 40 @96244 has 6 MA's), (Start: 42 @96247 has 24 MA's), (49, 96298), (62, 96328), (69, 96364), (76, 96406), (83, 96424), (105, 96508), (110, 96532),

Gene: Hyperion_6 Start: 2102, Stop: 1737, Start Num: 43
Candidate Starts for Hyperion_6:
(20, 2174), (Start: 43 @2102 has 21 MA's), (50, 2051), (69, 1979), (82, 1919), (84, 1916), (88, 1901), (90, 1895), (101, 1859), (102, 1841), (105, 1817), (110, 1793),

Gene: Kelcole_4 Start: 1820, Stop: 1458, Start Num: 43
Candidate Starts for Kelcole_4:
(27, 1865), (Start: 43 @1820 has 21 MA's), (51, 1766), (60, 1745), (69, 1700), (82, 1640), (88, 1622), (94, 1610), (101, 1580), (102, 1562), (103, 1556), (110, 1514),

Gene: Klein_191 Start: 94673, Stop: 95032, Start Num: 40
Candidate Starts for Klein_191:
(Start: 40 @94673 has 6 MA's), (Start: 42 @94676 has 24 MA's), (49, 94727), (62, 94757), (69, 94793), (76, 94835), (83, 94853), (105, 94937), (110, 94961),

Gene: Llemily_8 Start: 2086, Stop: 1724, Start Num: 43
Candidate Starts for Llemily_8:
(4, 2350), (5, 2323), (9, 2269), (Start: 43 @2086 has 21 MA's), (60, 2011), (64, 1987), (69, 1966), (77, 1921), (82, 1906), (89, 1885), (91, 1879), (97, 1867), (101, 1846), (102, 1828), (103, 1822), (105, 1804), (110, 1780),

Gene: Mangeria_21 Start: 6912, Stop: 7253, Start Num: 43
Candidate Starts for Mangeria_21:
(Start: 43 @6912 has 21 MA's), (45, 6924), (64, 7014), (66, 7029), (83, 7095), (100, 7131), (105, 7179), (106, 7182), (108, 7194), (110, 7203),

Gene: Mask_69 Start: 53936, Stop: 54289, Start Num: 40
Candidate Starts for Mask_69:
(23, 53876), (Start: 37 @53927 has 1 MA's), (Start: 40 @53936 has 6 MA's), (47, 53978), (66, 54050), (69, 54056), (74, 54089), (77, 54101), (83, 54116), (105, 54200), (109, 54221),

Gene: MelBins_16 Start: 11228, Stop: 11590, Start Num: 35
Candidate Starts for MelBins_16:
(6, 11030), (11, 11084), (17, 11171), (22, 11183), (Start: 35 @11228 has 2 MA's), (Start: 37 @11234 has 1 MA's), (46, 11261), (47, 11276), (56, 11309), (65, 11345), (66, 11357), (70, 11372), (86, 11441), (110, 11534), (113, 11564),

Gene: Minerva_187 Start: 94312, Stop: 94668, Start Num: 42
Candidate Starts for Minerva_187:
(Start: 40 @94309 has 6 MA's), (Start: 42 @94312 has 24 MA's), (49, 94363), (62, 94393), (69, 94429), (76, 94471), (83, 94489), (105, 94573), (110, 94597),

Gene: Mugiwara_207 Start: 101653, Stop: 101997, Start Num: 44
Candidate Starts for Mugiwara_207:
(Start: 44 @101653 has 1 MA's), (50, 101701), (64, 101749), (71, 101782), (72, 101791), (79, 101824), (108, 101929), (110, 101938), (111, 101962),

Gene: Mutzi_70 Start: 50930, Stop: 51268, Start Num: 42
Candidate Starts for Mutzi_70:
(6, 50729), (13, 50798), (38, 50918), (Start: 42 @50930 has 24 MA's), (54, 50981), (62, 51008), (78, 51098), (108, 51206), (110, 51215),

Gene: Optimus_185 Start: 95228, Stop: 95584, Start Num: 42
Candidate Starts for Optimus_185:
(Start: 40 @95225 has 6 MA's), (Start: 42 @95228 has 24 MA's), (49, 95279), (62, 95309), (69, 95345), (76, 95387), (83, 95405), (105, 95489), (110, 95513),

Gene: Pepe25_4 Start: 1900, Stop: 1487, Start Num: 26
Candidate Starts for Pepe25_4:
(Start: 26 @1900 has 1 MA's), (46, 1825), (56, 1777), (67, 1723), (78, 1660), (85, 1642), (110, 1543), (112, 1516),

Gene: Phabia_8 Start: 2516, Stop: 2154, Start Num: 43
Candidate Starts for Phabia_8:
(32, 2534), (Start: 43 @2516 has 21 MA's), (52, 2462), (60, 2441), (64, 2417), (69, 2396), (82, 2336), (89, 2315), (91, 2309), (97, 2297), (101, 2276), (102, 2258), (103, 2252), (105, 2234), (110, 2210),

Gene: Phinky_12 Start: 3235, Stop: 2873, Start Num: 43
Candidate Starts for Phinky_12:
(12, 3382), (Start: 43 @3235 has 21 MA's), (64, 3136), (66, 3121), (82, 3055), (89, 3034), (101, 2995), (102, 2977), (103, 2971), (105, 2953), (110, 2929),

Gene: Phoebus_187 Start: 97707, Stop: 98063, Start Num: 42
Candidate Starts for Phoebus_187:
(Start: 40 @97704 has 6 MA's), (Start: 42 @97707 has 24 MA's), (49, 97758), (62, 97788), (69, 97824), (76, 97866), (83, 97884), (105, 97968), (110, 97992),

Gene: PinkCoffee_73 Start: 50084, Stop: 50434, Start Num: 42
Candidate Starts for PinkCoffee_73:
(8, 49892), (14, 49955), (21, 50015), (Start: 42 @50084 has 24 MA's), (54, 50147), (62, 50174), (78, 50264), (108, 50372), (110, 50381),

Gene: Pupper_80 Start: 30770, Stop: 31141, Start Num: 42
Candidate Starts for Pupper_80:
(Start: 42 @30770 has 24 MA's), (83, 30959), (100, 30995),

Gene: Quammi_6 Start: 2093, Stop: 1728, Start Num: 43
Candidate Starts for Quammi_6:

(4, 2357), (5, 2330), (9, 2276), (Start: 43 @2093 has 21 MA's), (50, 2042), (69, 1970), (82, 1910), (88, 1892), (90, 1886), (101, 1850), (102, 1832), (103, 1826), (105, 1808), (110, 1784),

Gene: RedWattleHog_155 Start: 105039, Stop: 105395, Start Num: 43
Candidate Starts for RedWattleHog_155:
(30, 105006), (Start: 43 @105039 has 21 MA's), (58, 105114), (68, 105153), (69, 105156), (73, 105186), (84, 105219), (87, 105231), (95, 105234), (98, 105240), (102, 105276), (105, 105300), (111, 105348),

Gene: Redno2_179 Start: 91820, Stop: 92176, Start Num: 42
Candidate Starts for Redno2_179:
(Start: 40 @91817 has 6 MA's), (Start: 42 @91820 has 24 MA's), (49, 91871), (62, 91901), (69, 91937), (76, 91979), (83, 91997), (105, 92081), (110, 92105),

Gene: Richie_52 Start: 31345, Stop: 31719, Start Num: 43
Candidate Starts for Richie_52:
(39, 31336), (Start: 43 @31345 has 21 MA's), (79, 31519), (82, 31525), (91, 31552), (105, 31627),

Gene: Riptide_190 Start: 98222, Stop: 98566, Start Num: 44
Candidate Starts for Riptide_190:
(Start: 44 @98222 has 1 MA's), (50, 98270), (51, 98273), (66, 98333), (75, 98378), (79, 98393), (108, 98498), (111, 98531),

Gene: Rita_67 Start: 40872, Stop: 41237, Start Num: 36
Candidate Starts for Rita_67:
(Start: 36 @40872 has 1 MA's), (Start: 40 @40884 has 6 MA's), (47, 40926), (66, 40998), (69, 41004), (74, 41037), (77, 41049), (83, 41064), (105, 41148), (109, 41169),

Gene: Rudy_6 Start: 2093, Stop: 1728, Start Num: 43
Candidate Starts for Rudy_6:
(4, 2357), (5, 2330), (9, 2276), (Start: 43 @2093 has 21 MA's), (50, 2042), (69, 1970), (82, 1910), (88, 1892), (90, 1886), (101, 1850), (102, 1832), (103, 1826), (105, 1808), (110, 1784),

Gene: SCentae_78 Start: 30443, Stop: 30814, Start Num: 42
Candidate Starts for SCentae_78:
(1, 29993), (2, 30101), (Start: 42 @30443 has 24 MA's), (83, 30632), (100, 30668),

Gene: SG4_78 Start: 48359, Stop: 48742, Start Num: 41
Candidate Starts for SG4_78:
(Start: 41 @48359 has 3 MA's), (54, 48422), (59, 48446), (66, 48488), (69, 48494), (81, 48560), (83, 48563), (98, 48584), (99, 48590), (100, 48599), (105, 48647), (108, 48662), (110, 48671), (113, 48701),

Gene: SadLad_7 Start: 2504, Stop: 2139, Start Num: 42
Candidate Starts for SadLad_7:
(24, 2564), (25, 2561), (Start: 42 @2504 has 24 MA's), (Start: 43 @2501 has 21 MA's), (61, 2423), (64, 2402), (69, 2381), (77, 2336), (82, 2321), (87, 2306), (91, 2294), (93, 2291), (101, 2261), (102, 2243), (103, 2237),

Gene: Sakai_49 Start: 30378, Stop: 30752, Start Num: 43
Candidate Starts for Sakai_49:
(39, 30369), (Start: 43 @30378 has 21 MA's), (79, 30552), (82, 30558), (91, 30585), (105, 30660),

Gene: Salvador_71 Start: 49836, Stop: 50174, Start Num: 42
Candidate Starts for Salvador_71:
(38, 49824), (Start: 42 @49836 has 24 MA's), (54, 49887), (58, 49905), (62, 49914), (78, 50004), (108, 50112), (110, 50121),

Gene: Schatzie_181 Start: 94754, Stop: 95110, Start Num: 42
Candidate Starts for Schatzie_181:
(Start: 40 @94751 has 6 MA's), (Start: 42 @94754 has 24 MA's), (49, 94805), (62, 94835), (69, 94871), (76, 94913), (83, 94931), (105, 95015), (110, 95039),

Gene: Sejanus_68 Start: 52397, Stop: 52750, Start Num: 40
Candidate Starts for Sejanus_68:
(23, 52337), (Start: 37 @52388 has 1 MA's), (Start: 40 @52397 has 6 MA's), (47, 52439), (66, 52511), (69, 52517), (74, 52550), (77, 52562), (83, 52577), (105, 52661), (109, 52682),

Gene: Serenabean_81 Start: 49415, Stop: 49765, Start Num: 43
Candidate Starts for Serenabean_81:
(Start: 43 @49415 has 21 MA's), (48, 49463), (55, 49475), (57, 49487), (64, 49508), (77, 49574), (80, 49586), (82, 49589), (92, 49607),

Gene: Shinji_71 Start: 49826, Stop: 50164, Start Num: 42
Candidate Starts for Shinji_71:
(13, 49694), (38, 49814), (Start: 42 @49826 has 24 MA's), (54, 49877), (58, 49895), (62, 49904), (78, 49994), (108, 50102), (110, 50111),

Gene: Sillytadpoles_8 Start: 2091, Stop: 1726, Start Num: 43
Candidate Starts for Sillytadpoles_8:
(4, 2355), (5, 2328), (9, 2274), (Start: 43 @2091 has 21 MA's), (50, 2040), (69, 1968), (82, 1908), (88, 1890), (90, 1884), (101, 1848), (102, 1830), (103, 1824), (105, 1806), (110, 1782),

Gene: Stormageddon_156 Start: 106003, Stop: 106359, Start Num: 43
Candidate Starts for Stormageddon_156:
(30, 105970), (Start: 43 @106003 has 21 MA's), (58, 106078), (68, 106117), (69, 106120), (73, 106150), (84, 106183), (87, 106195), (95, 106198), (98, 106204), (102, 106240), (105, 106264), (111, 106312),

Gene: Tempo_5 Start: 1841, Stop: 1479, Start Num: 43
Candidate Starts for Tempo_5:
(27, 1886), (Start: 43 @1841 has 21 MA's), (51, 1787), (60, 1766), (69, 1721), (82, 1661), (88, 1643), (94, 1631), (101, 1601), (102, 1583), (103, 1577), (110, 1535),

Gene: TillyBobJoe_72 Start: 50340, Stop: 50690, Start Num: 42
Candidate Starts for TillyBobJoe_72:
(8, 50148), (14, 50211), (15, 50235), (18, 50265), (21, 50271), (28, 50304), (Start: 42 @50340 has 24 MA's), (54, 50403), (58, 50421), (62, 50430), (78, 50520), (108, 50628), (110, 50637),

Gene: Viceroy_7 Start: 2093, Stop: 1728, Start Num: 43
Candidate Starts for Viceroy_7:
(4, 2357), (5, 2330), (9, 2276), (Start: 43 @2093 has 21 MA's), (50, 2042), (69, 1970), (82, 1910), (88, 1892), (90, 1886), (101, 1850), (102, 1832), (103, 1826), (105, 1808), (110, 1784),

Gene: Wanda_184 Start: 92325, Stop: 92681, Start Num: 42
Candidate Starts for Wanda_184:

(Start: 40 @92322 has 6 MA's), (Start: 42 @92325 has 24 MA's), (49, 92376), (62, 92406), (69, 92442), (76, 92484), (83, 92502), (105, 92586), (110, 92610),

Gene: Wayne3_7 Start: 2328, Stop: 1963, Start Num: 43
Candidate Starts for Wayne3_7:
(4, 2592), (5, 2565), (9, 2511), (Start: 43 @2328 has 21 MA's), (50, 2277), (69, 2205), (82, 2145), (88, 2127), (90, 2121), (101, 2085), (102, 2067), (103, 2061), (110, 2019),

Gene: Wheelie_7 Start: 2085, Stop: 1723, Start Num: 43
Candidate Starts for Wheelie_7:
(4, 2349), (5, 2322), (9, 2268), (Start: 43 @2085 has 21 MA's), (60, 2010), (64, 1986), (69, 1965), (77, 1920), (82, 1905), (89, 1884), (91, 1878), (97, 1866), (101, 1845), (102, 1827), (103, 1821), (105, 1803), (110, 1779),

Gene: Wilca_5 Start: 1900, Stop: 1487, Start Num: 26
Candidate Starts for Wilca_5:
(Start: 26 @1900 has 1 MA's), (46, 1825), (56, 1777), (67, 1723), (78, 1660), (85, 1642), (110, 1543), (112, 1516),

Gene: YungMoney_71 Start: 51770, Stop: 52108, Start Num: 42
Candidate Starts for YungMoney_71:
(6, 51569), (13, 51638), (38, 51758), (Start: 42 @51770 has 24 MA's), (54, 51821), (62, 51848), (78, 51938), (108, 52046), (110, 52055),

Gene: Zelink_179 Start: 93941, Stop: 94300, Start Num: 40
Candidate Starts for Zelink_179:
(Start: 40 @93941 has 6 MA's), (Start: 42 @93944 has 24 MA's), (49, 93995), (62, 94025), (69, 94061), (76, 94103), (83, 94121), (105, 94205), (110, 94229),

Gene: phiSASD1_4 Start: 21332, Stop: 21664, Start Num: 53
Candidate Starts for phiSASD1_4:
(29, 21236), (33, 21245), (53, 21332), (64, 21377), (74, 21434), (78, 21449), (80, 21458), (106, 21566), (108, 21578), (114, 21638), (116, 21653),