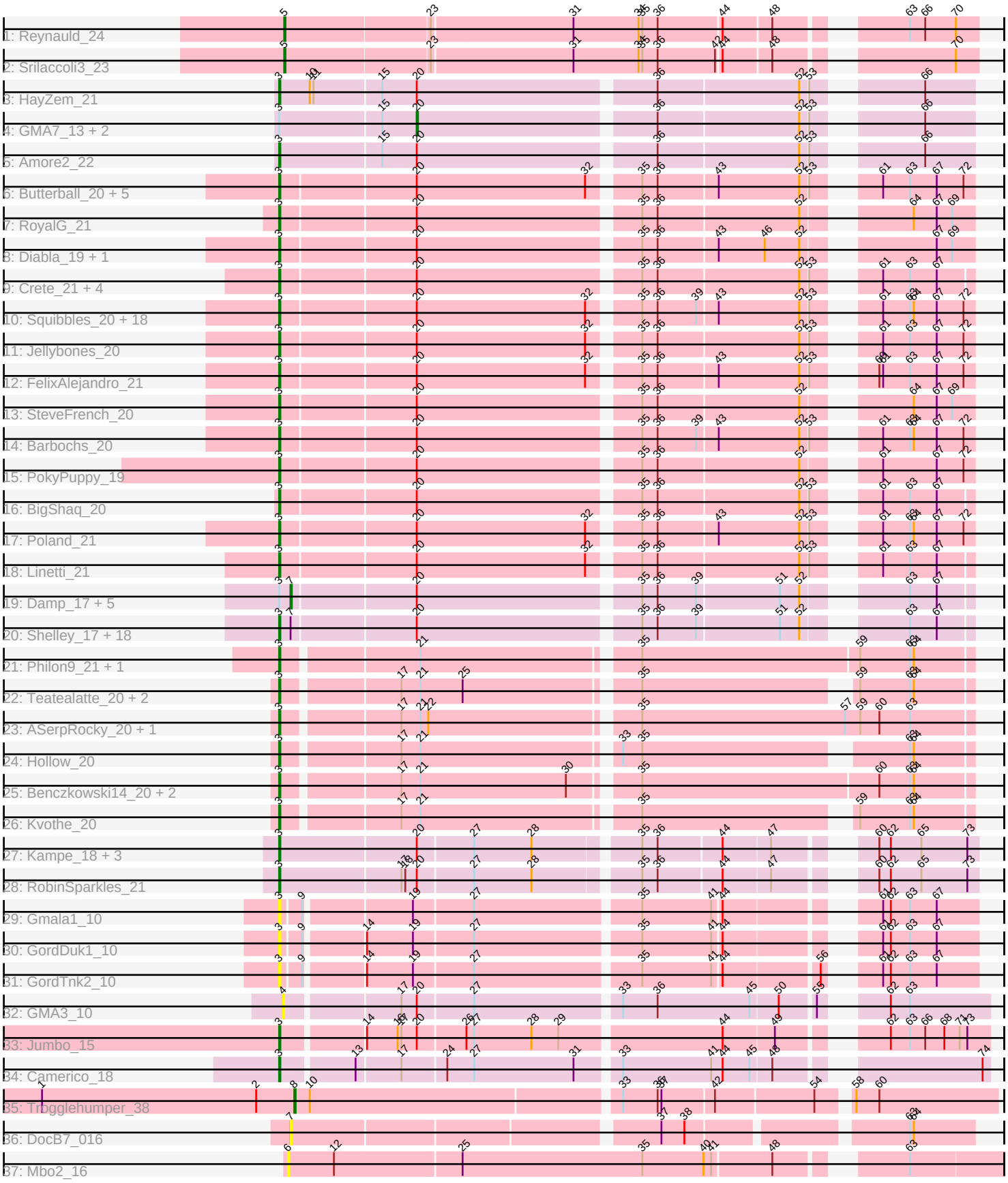
Pham 347461


1: Reynauld_24
2: Srilaccoli3_23
3: HayZem_21
4: GMA7_13 + 2
5: Amore2_22
6: Butterball_20 + 5
7: RoyalG_21
8: Diabla_19 + 1
9: Crete_21 + 4
10: Squibbles_20 + 18
11: Jellybones_20
12: FelixAlejandro_21
13: SteveFrench_20
14: Barbochs_20
15: PokyPuppy_19
16: BigShaq_20
17: Poland_21
18: Linetti_21
19: Damp_17 + 5
20: Shelley_17 + 18
21: Philon9_21 + 1
22: Teatealatte_20 + 2
23: ASerpRocky_20 + 1
24: Hollow_20
25: Benczkowski14_20 + 2
26: Kvothe_20
27: Kampe_18 + 3
28: RobinSparkles_21
29: Gmala1_10
30: GordDuk1_10
31: GordTnk2_10
32: GMA3_10
33: Jumbo_15
34: Camerico_18
35: Trogglehumper_38
36: DocB7_016
37: Mbo2_16

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 347461 Report

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

Pham number 347461 has 99 members, 11 are drafts.

Phages represented in each track:
• Track 1 : Reynauld_24
• Track 2 : Srilaccoli3_23
• Track 3 : HayZem_21
• Track 4 : GMA7_13, Austin_22, GTE7_13
• Track 5 : Amore2_22
• Track 6 : Butterball_20, Boneham_20, CinnamonToast_21, BillyBobJr_21, Msay19_21, BirksAndSocks_20
• Track 7 : RoyalG_21
• Track 8 : Diabla_19, Eggsie_20
• Track 9 : Crete_21, PierreThree_20, Chelms_20, BenoitCattle_20, Dakiti_20
• Track 10 : Squibbles_20, Exiguo_20, Flakey_20, Monty_19, John316_20, Ekhein_20, Beaver_20, Lizzo_20, Adgers_21, Worcestershire_20, Hotorobo_20, Breezic_20, GourdThymes_20, Sam12_20, Sombrero_20, Gorko_20, Kelzog_20, CathyBurgh_20, RemRem_21
• Track 11 : Jellybones_20
• Track 12 : FelixAlejandro_21
• Track 13 : SteveFrench_20
• Track 14 : Barbochs_20
• Track 15 : PokyPuppy_19
• Track 16 : BigShaq_20
• Track 17 : Poland_21
• Track 18 : Linetti_21
• Track 19 : Damp_17, Kaseim_17, Teal_17, Berries_17, GalacticEye_17, Charianelly_17
• Track 20 : Shelley_17, MrWormie_17, Anamika_17, Lahirium_17, Neoevie_17, Lidong_17, Guillaume_17, Hello_17, Woes_17, Bianmat_17, Jams_17, Jormungandr_17, Minos_17, Harambe_17, Luker_17, Newt_17, Hail2Pitt_17, Sticker17_17, Nimi13_17
• Track 21 : Philon9_21, Vitaenoii_21
• Track 22 : Teatealatte_20, Tredge_20, Teech_20
• Track 23 : ASerpRocky_20, Demosthenes_20
• Track 24 : Hollow_20
• Track 25 : Benczkowski14_20, Katyusha_20, Niagara_20
• Track 26 : Kvothe_20
• Track 27 : Kampe_18, Orchid_18, PatrickStar_18, Gibbles_17
• Track 28 : RobinSparkles_21
• Track 29 : Gmala1_10

• Track 30 : GordDuk1_10
• Track 31 : GordTnk2_10
• Track 32 : GMA3_10
• Track 33 : Jumbo_15
• Track 34 : Camerico_18
• Track 35 : Trogglehumper_38
• Track 36 : DocB7_016
• Track 37 : Mbo2_16

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

The start number called the most often in the published annotations is 3, it was called in 78 of the 88 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• ASerpRocky_20, Adgers_21, Amore2_22, Anamika_17, Barbochs_20, Beaver_20, Benczkowski14_20, BenoitCattle_20, Bianmat_17, BigShaq_20, BillyBobJr_21, BirksAndSocks_20, Boneham_20, Breezic_20, Butterball_20, Camerico_18, CathyBurgh_20, Chelms_20, CinnamonToast_21, Crete_21, Dakiti_20, Demosthenes_20, Diabla_19, Eggsie_20, Ekhein_20, Exiguo_20, FelixAlejandro_21, Flakey_20, Gibbles_17, Gmala1_10, GordDuk1_10, GordTnk2_10, Gorko_20, GourdThymes_20, Guillaume_17, Hail2Pitt_17, Harambe_17, HayZem_21, Hello_17, Hollow_20, Hotorobo_20, Jams_17, Jellybones_20, John316_20, Jormungandr_17, Jumbo_15, Kampe_18, Katyusha_20, Kelzog_20, Kvothe_20, Lahirium_17, Lidong_17, Linetti_21, Lizzo_20, Luker_17, Minos_17, Monty_19, MrWormie_17, Msay19_21, Neoevie_17, Newt_17, Niagara_20, Nimi13_17, Orchid_18, PatrickStar_18, Philon9_21, PierreThree_20, PokyPuppy_19, Poland_21, RemRem_21, RobinSparkles_21, RoyalG_21, Sam12_20, Shelley_17, Sombrero_20, Squibbles_20, SteveFrench_20, Sticker17_17, Teatealatte_20, Teech_20, Tredge_20, Vitaenoii_21, Woes_17, Worcestershire_20,

Genes that have the "Most Annotated" start but do not call it:
• Austin_22, Berries_17, Charianelly_17, Damp_17, GMA7_13, GTE7_13, GalacticEye_17, Kaseim_17, Teal_17,

Genes that do not have the "Most Annotated" start:
• DocB7_016, GMA3_10, Mbo2_16, Reynauld_24, Srilaccoli3_23, Trogglehumper_38,

Summary by start number:

Start 3:
• Found in 93 of 99 (93.9%) of genes in pham
• Manual Annotations of this start: 78 of 88
• Called 90.3% of time when present
• Phage (with cluster) where this start called: ASerpRocky_20 (CS4), Adgers_21 (CS2), Amore2_22 (CS1), Anamika_17 (CS3), Barbochs_20 (CS2), Beaver_20 (CS2), Benczkowski14_20 (CS4), BenoitCattle_20 (CS2), Bianmat_17 (CS3), BigShaq_20 (CS2), BillyBobJr_21 (CS2), BirksAndSocks_20 (CS2), Boneham_20 (CS2), Breezic_20 (CS2), Butterball_20 (CS2), Camerico_18 (DF4), CathyBurgh_20

(CS2), Chelms_20 (CS2), CinnamonToast_21 (CS2), Crete_21 (CS2), Dakiti_20 (CS2), Demosthenes_20 (CS4), Diabla_19 (CS2), Eggsie_20 (CS2), Ekhein_20 (CS2), Exiguo_20 (CS2), FelixAlejandro_21 (CS2), Flakey_20 (CS2), Gibbles_17 (CX), Gmala1_10 (DF1), GordDuk1_10 (DF1), GordTnk2_10 (DF1), Gorko_20 (CS2), GourdThymes_20 (CS2), Guillaume_17 (CS3), Hail2Pitt_17 (CS3), Harambe_17 (CS3), HayZem_21 (CS1), Hello_17 (CS3), Hollow_20 (CS4), Hotorobo_20 (CS2), Jams_17 (CS3), Jellybones_20 (CS2), John316_20 (CS2), Jormungandr_17 (CS3), Jumbo_15 (DF3), Kampe_18 (CX), Katyusha_20 (CS4), Kelzog_20 (CS2), Kvothe_20 (CS4), Lahirium_17 (CS3), Lidong_17 (CS3), Linetti_21 (CS2), Lizzo_20 (CS2), Luker_17 (CS3), Minos_17 (CS3), Monty_19 (CS2), MrWormie_17 (CS3), Msay19_21 (CS2), Neoevie_17 (CS3), Newt_17 (CS3), Niagara_20 (CS4), Nimi13_17 (CS3), Orchid_18 (CX), PatrickStar_18 (CX), Philon9_21 (CS4), PierreThree_20 (CS2), PokyPuppy_19 (CS2), Poland_21 (CS2), RemRem_21 (CS2), RobinSparkles_21 (CX), RoyalG_21 (CS2), Sam12_20 (CS2), Shelley_17 (CS3), Sombrero_20 (CS2), Squibbles_20 (CS2), SteveFrench_20 (CS2), Sticker17_17 (CS3), Teatealatte_20 (CS4), Teech_20 (CS4), Tredge_20 (CS4), Vitaenoii_21 (CS4), Woes_17 (CS3), Worcestershire_20 (CS2),

Start 4:
• Found in 1 of 99 (1.0%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: GMA3_10 (DF2),

Start 5:
• Found in 2 of 99 (2.0%) of genes in pham
• Manual Annotations of this start: 2 of 88
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Reynauld_24 (CH), Srilaccoli3_23 (CH),

Start 6:
• Found in 1 of 99 (1.0%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Mbo2_16 (singleton),

Start 7:
• Found in 26 of 99 (26.3%) of genes in pham
• Manual Annotations of this start: 6 of 88
• Called 26.9% of time when present
• Phage (with cluster) where this start called: Berries_17 (CS3), Charianelly_17 (CS3), Damp_17 (CS3), DocB7_016 (singleton), GalacticEye_17 (CS3), Kaseim_17 (CS3), Teal_17 (CS3),

Start 8:
• Found in 1 of 99 (1.0%) of genes in pham
• Manual Annotations of this start: 1 of 88
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Trogglehumper_38 (singleton),

Start 20:
• Found in 78 of 99 (78.8%) of genes in pham
• Manual Annotations of this start: 1 of 88

• Called 3.8% of time when present
• Phage (with cluster) where this start called: Austin_22 (CS1), GMA7_13 (CS1), GTE7_13 (CS1),

Summary by clusters:

There are 11 clusters represented in this pham: singleton, CH, DF4, DF1, DF3, DF2, CX, CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CH:
•Start number 5 was manually annotated 2 times for cluster CH.

Info for manual annotations of cluster CS1:
•Start number 3 was manually annotated 2 times for cluster CS1.
•Start number 20 was manually annotated 1 time for cluster CS1.

Info for manual annotations of cluster CS2:
•Start number 3 was manually annotated 38 times for cluster CS2.

Info for manual annotations of cluster CS3:
•Start number 3 was manually annotated 19 times for cluster CS3.
•Start number 7 was manually annotated 6 times for cluster CS3.

Info for manual annotations of cluster CS4:
•Start number 3 was manually annotated 12 times for cluster CS4.

Info for manual annotations of cluster CX:
•Start number 3 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster DF3:
•Start number 3 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DF4:
•Start number 3 was manually annotated 1 time for cluster DF4.

Gene Information:

Gene: ASerpRocky_20 Start: 19315, Stop: 19830, Start Num: 3
Candidate Starts for ASerpRocky_20:
(Start: 3 @19315 has 78 MA's), (17, 19399), (21, 19414), (22, 19420), (35, 19573), (57, 19732), (59, 19744), (60, 19759), (63, 19783),

Gene: Adgers_21 Start: 16983, Stop: 17480, Start Num: 3
Candidate Starts for Adgers_21:
(Start: 3 @16983 has 78 MA's), (Start: 20 @17085 has 1 MA's), (32, 17217), (35, 17250), (36, 17262), (39, 17292), (43, 17307), (52, 17370), (53, 17376), (61, 17409), (63, 17430), (64, 17433), (67, 17451), (72, 17472),

Gene: Amore2_22 Start: 16781, Stop: 17281, Start Num: 3

Candidate Starts for Amore2_22:
(Start: 3 @16781 has 78 MA's), (15, 16859), (Start: 20 @16886 has 1 MA's), (36, 17063), (52, 17171), (53, 17177), (66, 17243),

Gene: Anamika_17 Start: 17855, Stop: 18349, Start Num: 3
Candidate Starts for Anamika_17:
(Start: 3 @17855 has 78 MA's), (Start: 7 @17864 has 6 MA's), (Start: 20 @17957 has 1 MA's), (35, 18122), (36, 18134), (39, 18164), (51, 18227), (52, 18242), (63, 18302), (67, 18323),

Gene: Austin_22 Start: 16886, Stop: 17281, Start Num: 20
Candidate Starts for Austin_22:
(Start: 3 @16781 has 78 MA's), (15, 16859), (Start: 20 @16886 has 1 MA's), (36, 17063), (52, 17171), (53, 17177), (66, 17243),

Gene: Barbochs_20 Start: 16821, Stop: 17318, Start Num: 3
Candidate Starts for Barbochs_20:
(Start: 3 @16821 has 78 MA's), (Start: 20 @16923 has 1 MA's), (35, 17088), (36, 17100), (39, 17130), (43, 17145), (52, 17208), (53, 17214), (61, 17247), (63, 17268), (64, 17271), (67, 17289), (72, 17310),

Gene: Beaver_20 Start: 16829, Stop: 17326, Start Num: 3
Candidate Starts for Beaver_20:
(Start: 3 @16829 has 78 MA's), (Start: 20 @16931 has 1 MA's), (32, 17063), (35, 17096), (36, 17108), (39, 17138), (43, 17153), (52, 17216), (53, 17222), (61, 17255), (63, 17276), (64, 17279), (67, 17297), (72, 17318),

Gene: Benczkowski14_20 Start: 19397, Stop: 19909, Start Num: 3
Candidate Starts for Benczkowski14_20:
(Start: 3 @19397 has 78 MA's), (17, 19481), (21, 19496), (30, 19610), (35, 19655), (60, 19838), (63, 19862), (64, 19865),

Gene: BenoitCattle_20 Start: 16813, Stop: 17307, Start Num: 3
Candidate Starts for BenoitCattle_20:
(Start: 3 @16813 has 78 MA's), (Start: 20 @16915 has 1 MA's), (35, 17080), (36, 17092), (52, 17200), (53, 17206), (61, 17239), (63, 17260), (67, 17281),

Gene: Berries_17 Start: 17831, Stop: 18316, Start Num: 7
Candidate Starts for Berries_17:
(Start: 3 @17822 has 78 MA's), (Start: 7 @17831 has 6 MA's), (Start: 20 @17924 has 1 MA's), (35, 18089), (36, 18101), (39, 18131), (51, 18194), (52, 18209), (63, 18269), (67, 18290),

Gene: Bianmat_17 Start: 17862, Stop: 18356, Start Num: 3
Candidate Starts for Bianmat_17:
(Start: 3 @17862 has 78 MA's), (Start: 7 @17871 has 6 MA's), (Start: 20 @17964 has 1 MA's), (35, 18129), (36, 18141), (39, 18171), (51, 18234), (52, 18249), (63, 18309), (67, 18330),

Gene: BigShaq_20 Start: 16815, Stop: 17309, Start Num: 3
Candidate Starts for BigShaq_20:
(Start: 3 @16815 has 78 MA's), (Start: 20 @16917 has 1 MA's), (35, 17082), (36, 17094), (52, 17202), (53, 17208), (61, 17241), (63, 17262), (67, 17283),

Gene: BillyBobJr_21 Start: 16853, Stop: 17350, Start Num: 3
Candidate Starts for BillyBobJr_21:

(Start: 3 @16853 has 78 MA's), (Start: 20 @16955 has 1 MA's), (32, 17087), (35, 17120), (36, 17132), (43, 17177), (52, 17240), (53, 17246), (61, 17279), (63, 17300), (67, 17321), (72, 17342),

Gene: BirksAndSocks_20 Start: 16818, Stop: 17315, Start Num: 3
Candidate Starts for BirksAndSocks_20:
(Start: 3 @16818 has 78 MA's), (Start: 20 @16920 has 1 MA's), (32, 17052), (35, 17085), (36, 17097), (43, 17142), (52, 17205), (53, 17211), (61, 17244), (63, 17265), (67, 17286), (72, 17307),

Gene: Boneham_20 Start: 16817, Stop: 17314, Start Num: 3
Candidate Starts for Boneham_20:
(Start: 3 @16817 has 78 MA's), (Start: 20 @16919 has 1 MA's), (32, 17051), (35, 17084), (36, 17096), (43, 17141), (52, 17204), (53, 17210), (61, 17243), (63, 17264), (67, 17285), (72, 17306),

Gene: Breezic_20 Start: 16832, Stop: 17329, Start Num: 3
Candidate Starts for Breezic_20:
(Start: 3 @16832 has 78 MA's), (Start: 20 @16934 has 1 MA's), (32, 17066), (35, 17099), (36, 17111), (39, 17141), (43, 17156), (52, 17219), (53, 17225), (61, 17258), (63, 17279), (64, 17282), (67, 17300), (72, 17321),

Gene: Butterball_20 Start: 16817, Stop: 17314, Start Num: 3
Candidate Starts for Butterball_20:
(Start: 3 @16817 has 78 MA's), (Start: 20 @16919 has 1 MA's), (32, 17051), (35, 17084), (36, 17096), (43, 17141), (52, 17204), (53, 17210), (61, 17243), (63, 17264), (67, 17285), (72, 17306),

Gene: Camerico_18 Start: 16162, Stop: 16665, Start Num: 3
Candidate Starts for Camerico_18:
(Start: 3 @16162 has 78 MA's), (13, 16216), (17, 16249), (24, 16282), (27, 16303), (31, 16381), (33, 16411), (41, 16480), (44, 16489), (45, 16510), (48, 16525), (74, 16660),

Gene: CathyBurgh_20 Start: 17689, Stop: 18186, Start Num: 3
Candidate Starts for CathyBurgh_20:
(Start: 3 @17689 has 78 MA's), (Start: 20 @17791 has 1 MA's), (32, 17923), (35, 17956), (36, 17968), (39, 17998), (43, 18013), (52, 18076), (53, 18082), (61, 18115), (63, 18136), (64, 18139), (67, 18157), (72, 18178),

Gene: Charianelly_17 Start: 17581, Stop: 18066, Start Num: 7
Candidate Starts for Charianelly_17:
(Start: 3 @17572 has 78 MA's), (Start: 7 @17581 has 6 MA's), (Start: 20 @17674 has 1 MA's), (35, 17839), (36, 17851), (39, 17881), (51, 17944), (52, 17959), (63, 18019), (67, 18040),

Gene: Chelms_20 Start: 16815, Stop: 17309, Start Num: 3
Candidate Starts for Chelms_20:
(Start: 3 @16815 has 78 MA's), (Start: 20 @16917 has 1 MA's), (35, 17082), (36, 17094), (52, 17202), (53, 17208), (61, 17241), (63, 17262), (67, 17283),

Gene: CinnamonToast_21 Start: 16853, Stop: 17350, Start Num: 3
Candidate Starts for CinnamonToast_21:
(Start: 3 @16853 has 78 MA's), (Start: 20 @16955 has 1 MA's), (32, 17087), (35, 17120), (36, 17132), (43, 17177), (52, 17240), (53, 17246), (61, 17279), (63, 17300), (67, 17321), (72, 17342),

Gene: Crete_21 Start: 17066, Stop: 17560, Start Num: 3
Candidate Starts for Crete_21:

(Start: 3 @17066 has 78 MA's), (Start: 20 @17168 has 1 MA's), (35, 17333), (36, 17345), (52, 17453), (53, 17459), (61, 17492), (63, 17513), (67, 17534),

Gene: Dakiti_20 Start: 17683, Stop: 18177, Start Num: 3
Candidate Starts for Dakiti_20:
(Start: 3 @17683 has 78 MA's), (Start: 20 @17785 has 1 MA's), (35, 17950), (36, 17962), (52, 18070), (53, 18076), (61, 18109), (63, 18130), (67, 18151),

Gene: Damp_17 Start: 16745, Stop: 17230, Start Num: 7
Candidate Starts for Damp_17:
(Start: 3 @16736 has 78 MA's), (Start: 7 @16745 has 6 MA's), (Start: 20 @16838 has 1 MA's), (35, 17003), (36, 17015), (39, 17045), (51, 17108), (52, 17123), (63, 17183), (67, 17204),

Gene: Demosthenes_20 Start: 19288, Stop: 19803, Start Num: 3
Candidate Starts for Demosthenes_20:
(Start: 3 @19288 has 78 MA's), (17, 19372), (21, 19387), (22, 19393), (35, 19546), (57, 19705), (59, 19717), (60, 19732), (63, 19756),

Gene: Diabla_19 Start: 16631, Stop: 17128, Start Num: 3
Candidate Starts for Diabla_19:
(Start: 3 @16631 has 78 MA's), (Start: 20 @16733 has 1 MA's), (35, 16898), (36, 16910), (43, 16955), (46, 16991), (52, 17018), (67, 17099), (69, 17111),

Gene: DocB7_016 Start: 14520, Stop: 15011, Start Num: 7
Candidate Starts for DocB7_016:
(Start: 7 @14520 has 6 MA's), (37, 14790), (38, 14808), (63, 14961), (64, 14964),

Gene: Eggsie_20 Start: 16826, Stop: 17323, Start Num: 3
Candidate Starts for Eggsie_20:
(Start: 3 @16826 has 78 MA's), (Start: 20 @16928 has 1 MA's), (35, 17093), (36, 17105), (43, 17150), (46, 17186), (52, 17213), (67, 17294), (69, 17306),

Gene: Ekhein_20 Start: 16817, Stop: 17314, Start Num: 3
Candidate Starts for Ekhein_20:
(Start: 3 @16817 has 78 MA's), (Start: 20 @16919 has 1 MA's), (32, 17051), (35, 17084), (36, 17096), (39, 17126), (43, 17141), (52, 17204), (53, 17210), (61, 17243), (63, 17264), (64, 17267), (67, 17285), (72, 17306),

Gene: Exiguo_20 Start: 16829, Stop: 17326, Start Num: 3
Candidate Starts for Exiguo_20:
(Start: 3 @16829 has 78 MA's), (Start: 20 @16931 has 1 MA's), (32, 17063), (35, 17096), (36, 17108), (39, 17138), (43, 17153), (52, 17216), (53, 17222), (61, 17255), (63, 17276), (64, 17279), (67, 17297), (72, 17318),

Gene: FelixAlejandro_21 Start: 17015, Stop: 17512, Start Num: 3
Candidate Starts for FelixAlejandro_21:
(Start: 3 @17015 has 78 MA's), (Start: 20 @17117 has 1 MA's), (32, 17249), (35, 17282), (36, 17294), (43, 17339), (52, 17402), (53, 17408), (60, 17438), (61, 17441), (63, 17462), (67, 17483), (72, 17504),

Gene: Flakey_20 Start: 17690, Stop: 18187, Start Num: 3
Candidate Starts for Flakey_20:
(Start: 3 @17690 has 78 MA's), (Start: 20 @17792 has 1 MA's), (32, 17924), (35, 17957), (36, 17969), (39, 17999), (43, 18014), (52, 18077), (53, 18083), (61, 18116), (63, 18137), (64, 18140), (67, 18158),

(72, 18179),

Gene: GMA3_10 Start: 11406, Stop: 11906, Start Num: 4
Candidate Starts for GMA3_10:
(4, 11406), (17, 11490), (Start: 20 @11502 has 1 MA's), (27, 11544), (33, 11652), (36, 11679), (45, 11751), (50, 11772), (55, 11796), (62, 11829), (63, 11844),

Gene: GMA7_13 Start: 11072, Stop: 11467, Start Num: 20
Candidate Starts for GMA7_13:
(Start: 3 @10967 has 78 MA's), (15, 11045), (Start: 20 @11072 has 1 MA's), (36, 11249), (52, 11357), (53, 11363), (66, 11429),

Gene: GTE7_13 Start: 11131, Stop: 11526, Start Num: 20
Candidate Starts for GTE7_13:
(Start: 3 @11026 has 78 MA's), (15, 11104), (Start: 20 @11131 has 1 MA's), (36, 11308), (52, 11416), (53, 11422), (66, 11488),

Gene: GalacticEye_17 Start: 17552, Stop: 18037, Start Num: 7
Candidate Starts for GalacticEye_17:
(Start: 3 @17543 has 78 MA's), (Start: 7 @17552 has 6 MA's), (Start: 20 @17645 has 1 MA's), (35, 17810), (36, 17822), (39, 17852), (51, 17915), (52, 17930), (63, 17990), (67, 18011),

Gene: Gibbles_17 Start: 14844, Stop: 15338, Start Num: 3
Candidate Starts for Gibbles_17:
(Start: 3 @14844 has 78 MA's), (Start: 20 @14949 has 1 MA's), (27, 14991), (28, 15036), (35, 15111), (36, 15123), (44, 15171), (47, 15207), (60, 15261), (62, 15270), (65, 15294), (73, 15330),

Gene: Gmala1_10 Start: 11275, Stop: 11763, Start Num: 3
Candidate Starts for Gmala1_10:
(Start: 3 @11275 has 78 MA's), (9, 11290), (19, 11368), (27, 11413), (35, 11536), (41, 11590), (44, 11596), (61, 11689), (62, 11695), (63, 11710), (67, 11731),

Gene: GordDuk1_10 Start: 11215, Stop: 11703, Start Num: 3
Candidate Starts for GordDuk1_10:
(Start: 3 @11215 has 78 MA's), (9, 11230), (14, 11272), (19, 11308), (27, 11353), (35, 11476), (41, 11530), (44, 11536), (61, 11629), (62, 11635), (63, 11650), (67, 11671),

Gene: GordTnk2_10 Start: 11182, Stop: 11670, Start Num: 3
Candidate Starts for GordTnk2_10:
(Start: 3 @11182 has 78 MA's), (9, 11197), (14, 11239), (19, 11275), (27, 11320), (35, 11443), (41, 11497), (44, 11503), (56, 11572), (61, 11596), (62, 11602), (63, 11617), (67, 11638),

Gene: Gorko_20 Start: 16821, Stop: 17318, Start Num: 3
Candidate Starts for Gorko_20:
(Start: 3 @16821 has 78 MA's), (Start: 20 @16923 has 1 MA's), (32, 17055), (35, 17088), (36, 17100), (39, 17130), (43, 17145), (52, 17208), (53, 17214), (61, 17247), (63, 17268), (64, 17271), (67, 17289), (72, 17310),

Gene: GourdThymes_20 Start: 17689, Stop: 18186, Start Num: 3
Candidate Starts for GourdThymes_20:
(Start: 3 @17689 has 78 MA's), (Start: 20 @17791 has 1 MA's), (32, 17923), (35, 17956), (36, 17968), (39, 17998), (43, 18013), (52, 18076), (53, 18082), (61, 18115), (63, 18136), (64, 18139), (67, 18157), (72, 18178),

Gene: Guillaume_17 Start: 17593, Stop: 18087, Start Num: 3
Candidate Starts for Guillaume_17:
(Start: 3 @17593 has 78 MA's), (Start: 7 @17602 has 6 MA's), (Start: 20 @17695 has 1 MA's), (35, 17860), (36, 17872), (39, 17902), (51, 17965), (52, 17980), (63, 18040), (67, 18061),

Gene: Hail2Pitt_17 Start: 18070, Stop: 18564, Start Num: 3
Candidate Starts for Hail2Pitt_17:
(Start: 3 @18070 has 78 MA's), (Start: 7 @18079 has 6 MA's), (Start: 20 @18172 has 1 MA's), (35, 18337), (36, 18349), (39, 18379), (51, 18442), (52, 18457), (63, 18517), (67, 18538),

Gene: Harambe_17 Start: 17854, Stop: 18348, Start Num: 3
Candidate Starts for Harambe_17:
(Start: 3 @17854 has 78 MA's), (Start: 7 @17863 has 6 MA's), (Start: 20 @17956 has 1 MA's), (35, 18121), (36, 18133), (39, 18163), (51, 18226), (52, 18241), (63, 18301), (67, 18322),

Gene: HayZem_21 Start: 16778, Stop: 17278, Start Num: 3
Candidate Starts for HayZem_21:
(Start: 3 @16778 has 78 MA's), (10, 16802), (11, 16805), (15, 16856), (Start: 20 @16883 has 1 MA's), (36, 17060), (52, 17168), (53, 17174), (66, 17240),

Gene: Hello_17 Start: 17822, Stop: 18316, Start Num: 3
Candidate Starts for Hello_17:
(Start: 3 @17822 has 78 MA's), (Start: 7 @17831 has 6 MA's), (Start: 20 @17924 has 1 MA's), (35, 18089), (36, 18101), (39, 18131), (51, 18194), (52, 18209), (63, 18269), (67, 18290),

Gene: Hollow_20 Start: 18563, Stop: 19057, Start Num: 3
Candidate Starts for Hollow_20:
(Start: 3 @18563 has 78 MA's), (17, 18647), (21, 18662), (33, 18806), (35, 18821), (63, 19010), (64, 19013),

Gene: Hotorobo_20 Start: 17700, Stop: 18197, Start Num: 3
Candidate Starts for Hotorobo_20:
(Start: 3 @17700 has 78 MA's), (Start: 20 @17802 has 1 MA's), (32, 17934), (35, 17967), (36, 17979), (39, 18009), (43, 18024), (52, 18087), (53, 18093), (61, 18126), (63, 18147), (64, 18150), (67, 18168), (72, 18189),

Gene: Jams_17 Start: 17016, Stop: 17510, Start Num: 3
Candidate Starts for Jams_17:
(Start: 3 @17016 has 78 MA's), (Start: 7 @17025 has 6 MA's), (Start: 20 @17118 has 1 MA's), (35, 17283), (36, 17295), (39, 17325), (51, 17388), (52, 17403), (63, 17463), (67, 17484),

Gene: Jellybones_20 Start: 16852, Stop: 17349, Start Num: 3
Candidate Starts for Jellybones_20:
(Start: 3 @16852 has 78 MA's), (Start: 20 @16954 has 1 MA's), (32, 17086), (35, 17119), (36, 17131), (52, 17239), (53, 17245), (61, 17278), (63, 17299), (67, 17320), (72, 17341),

Gene: John316_20 Start: 16817, Stop: 17314, Start Num: 3
Candidate Starts for John316_20:
(Start: 3 @16817 has 78 MA's), (Start: 20 @16919 has 1 MA's), (32, 17051), (35, 17084), (36, 17096), (39, 17126), (43, 17141), (52, 17204), (53, 17210), (61, 17243), (63, 17264), (64, 17267), (67, 17285), (72, 17306),

Gene: Jormungandr_17 Start: 17575, Stop: 18069, Start Num: 3
Candidate Starts for Jormungandr_17:
(Start: 3 @17575 has 78 MA's), (Start: 7 @17584 has 6 MA's), (Start: 20 @17677 has 1 MA's), (35, 17842), (36, 17854), (39, 17884), (51, 17947), (52, 17962), (63, 18022), (67, 18043),

Gene: Jumbo_15 Start: 16052, Stop: 16555, Start Num: 3
Candidate Starts for Jumbo_15:
(Start: 3 @16052 has 78 MA's), (14, 16112), (16, 16136), (17, 16139), (Start: 20 @16151 has 1 MA's), (26, 16187), (27, 16193), (28, 16238), (29, 16259), (44, 16379), (49, 16418), (62, 16478), (63, 16493), (66, 16505), (68, 16520), (71, 16532), (73, 16538),

Gene: Kampe_18 Start: 14702, Stop: 15196, Start Num: 3
Candidate Starts for Kampe_18:
(Start: 3 @14702 has 78 MA's), (Start: 20 @14807 has 1 MA's), (27, 14849), (28, 14894), (35, 14969), (36, 14981), (44, 15029), (47, 15065), (60, 15119), (62, 15128), (65, 15152), (73, 15188),

Gene: Kaseim_17 Start: 17016, Stop: 17501, Start Num: 7
Candidate Starts for Kaseim_17:
(Start: 3 @17007 has 78 MA's), (Start: 7 @17016 has 6 MA's), (Start: 20 @17109 has 1 MA's), (35, 17274), (36, 17286), (39, 17316), (51, 17379), (52, 17394), (63, 17454), (67, 17475),

Gene: Katyusha_20 Start: 19397, Stop: 19909, Start Num: 3
Candidate Starts for Katyusha_20:
(Start: 3 @19397 has 78 MA's), (17, 19481), (21, 19496), (30, 19610), (35, 19655), (60, 19838), (63, 19862), (64, 19865),

Gene: Kelzog_20 Start: 17701, Stop: 18198, Start Num: 3
Candidate Starts for Kelzog_20:
(Start: 3 @17701 has 78 MA's), (Start: 20 @17803 has 1 MA's), (32, 17935), (35, 17968), (36, 17980), (39, 18010), (43, 18025), (52, 18088), (53, 18094), (61, 18127), (63, 18148), (64, 18151), (67, 18169), (72, 18190),

Gene: Kvothe_20 Start: 19335, Stop: 19829, Start Num: 3
Candidate Starts for Kvothe_20:
(Start: 3 @19335 has 78 MA's), (17, 19419), (21, 19434), (35, 19593), (59, 19743), (63, 19782), (64, 19785),

Gene: Lahirium_17 Start: 18091, Stop: 18585, Start Num: 3
Candidate Starts for Lahirium_17:
(Start: 3 @18091 has 78 MA's), (Start: 7 @18100 has 6 MA's), (Start: 20 @18193 has 1 MA's), (35, 18358), (36, 18370), (39, 18400), (51, 18463), (52, 18478), (63, 18538), (67, 18559),

Gene: Lidong_17 Start: 17822, Stop: 18316, Start Num: 3
Candidate Starts for Lidong_17:
(Start: 3 @17822 has 78 MA's), (Start: 7 @17831 has 6 MA's), (Start: 20 @17924 has 1 MA's), (35, 18089), (36, 18101), (39, 18131), (51, 18194), (52, 18209), (63, 18269), (67, 18290),

Gene: Linetti_21 Start: 17832, Stop: 18326, Start Num: 3
Candidate Starts for Linetti_21:
(Start: 3 @17832 has 78 MA's), (Start: 20 @17934 has 1 MA's), (32, 18066), (35, 18099), (36, 18111), (52, 18219), (53, 18225), (61, 18258), (63, 18279), (67, 18300),

Gene: Lizzo_20 Start: 17689, Stop: 18186, Start Num: 3

Candidate Starts for Lizzo_20:
(Start: 3 @17689 has 78 MA's), (Start: 20 @17791 has 1 MA's), (32, 17923), (35, 17956), (36, 17968), (39, 17998), (43, 18013), (52, 18076), (53, 18082), (61, 18115), (63, 18136), (64, 18139), (67, 18157), (72, 18178),

Gene: Luker_17 Start: 17555, Stop: 18049, Start Num: 3
Candidate Starts for Luker_17:
(Start: 3 @17555 has 78 MA's), (Start: 7 @17564 has 6 MA's), (Start: 20 @17657 has 1 MA's), (35, 17822), (36, 17834), (39, 17864), (51, 17927), (52, 17942), (63, 18002), (67, 18023),

Gene: Mbo2_16 Start: 10875, Stop: 11396, Start Num: 6
Candidate Starts for Mbo2_16:
(6, 10875), (12, 10911), (25, 11007), (35, 11148), (40, 11196), (41, 11202), (48, 11247), (63, 11325),

Gene: Minos_17 Start: 17561, Stop: 18055, Start Num: 3
Candidate Starts for Minos_17:
(Start: 3 @17561 has 78 MA's), (Start: 7 @17570 has 6 MA's), (Start: 20 @17663 has 1 MA's), (35, 17828), (36, 17840), (39, 17870), (51, 17933), (52, 17948), (63, 18008), (67, 18029),

Gene: Monty_19 Start: 16833, Stop: 17330, Start Num: 3
Candidate Starts for Monty_19:
(Start: 3 @16833 has 78 MA's), (Start: 20 @16935 has 1 MA's), (32, 17067), (35, 17100), (36, 17112), (39, 17142), (43, 17157), (52, 17220), (53, 17226), (61, 17259), (63, 17280), (64, 17283), (67, 17301), (72, 17322),

Gene: MrWormie_17 Start: 16725, Stop: 17219, Start Num: 3
Candidate Starts for MrWormie_17:
(Start: 3 @16725 has 78 MA's), (Start: 7 @16734 has 6 MA's), (Start: 20 @16827 has 1 MA's), (35, 16992), (36, 17004), (39, 17034), (51, 17097), (52, 17112), (63, 17172), (67, 17193),

Gene: Msay19_21 Start: 17007, Stop: 17504, Start Num: 3
Candidate Starts for Msay19_21:
(Start: 3 @17007 has 78 MA's), (Start: 20 @17109 has 1 MA's), (32, 17241), (35, 17274), (36, 17286), (43, 17331), (52, 17394), (53, 17400), (61, 17433), (63, 17454), (67, 17475), (72, 17496),

Gene: Neoevie_17 Start: 17831, Stop: 18325, Start Num: 3
Candidate Starts for Neoevie_17:
(Start: 3 @17831 has 78 MA's), (Start: 7 @17840 has 6 MA's), (Start: 20 @17933 has 1 MA's), (35, 18098), (36, 18110), (39, 18140), (51, 18203), (52, 18218), (63, 18278), (67, 18299),

Gene: Newt_17 Start: 17572, Stop: 18066, Start Num: 3
Candidate Starts for Newt_17:
(Start: 3 @17572 has 78 MA's), (Start: 7 @17581 has 6 MA's), (Start: 20 @17674 has 1 MA's), (35, 17839), (36, 17851), (39, 17881), (51, 17944), (52, 17959), (63, 18019), (67, 18040),

Gene: Niagara_20 Start: 19354, Stop: 19866, Start Num: 3
Candidate Starts for Niagara_20:
(Start: 3 @19354 has 78 MA's), (17, 19438), (21, 19453), (30, 19567), (35, 19612), (60, 19795), (63, 19819), (64, 19822),

Gene: Nimi13_17 Start: 17573, Stop: 18067, Start Num: 3
Candidate Starts for Nimi13_17:

(Start: 3 @17573 has 78 MA's), (Start: 7 @17582 has 6 MA's), (Start: 20 @17675 has 1 MA's), (35, 17840), (36, 17852), (39, 17882), (51, 17945), (52, 17960), (63, 18020), (67, 18041),

Gene: Orchid_18 Start: 14702, Stop: 15196, Start Num: 3
Candidate Starts for Orchid_18:
(Start: 3 @14702 has 78 MA's), (Start: 20 @14807 has 1 MA's), (27, 14849), (28, 14894), (35, 14969), (36, 14981), (44, 15029), (47, 15065), (60, 15119), (62, 15128), (65, 15152), (73, 15188),

Gene: PatrickStar_18 Start: 14702, Stop: 15196, Start Num: 3
Candidate Starts for PatrickStar_18:
(Start: 3 @14702 has 78 MA's), (Start: 20 @14807 has 1 MA's), (27, 14849), (28, 14894), (35, 14969), (36, 14981), (44, 15029), (47, 15065), (60, 15119), (62, 15128), (65, 15152), (73, 15188),

Gene: Philon9_21 Start: 21217, Stop: 21729, Start Num: 3
Candidate Starts for Philon9_21:
(Start: 3 @21217 has 78 MA's), (21, 21316), (35, 21475), (59, 21643), (63, 21682), (64, 21685),

Gene: PierreThree_20 Start: 17683, Stop: 18177, Start Num: 3
Candidate Starts for PierreThree_20:
(Start: 3 @17683 has 78 MA's), (Start: 20 @17785 has 1 MA's), (35, 17950), (36, 17962), (52, 18070), (53, 18076), (61, 18109), (63, 18130), (67, 18151),

Gene: PokyPuppy_19 Start: 17576, Stop: 18073, Start Num: 3
Candidate Starts for PokyPuppy_19:
(Start: 3 @17576 has 78 MA's), (Start: 20 @17678 has 1 MA's), (35, 17843), (36, 17855), (52, 17963), (61, 18002), (67, 18044), (72, 18065),

Gene: Poland_21 Start: 16983, Stop: 17480, Start Num: 3
Candidate Starts for Poland_21:
(Start: 3 @16983 has 78 MA's), (Start: 20 @17085 has 1 MA's), (32, 17217), (35, 17250), (36, 17262), (43, 17307), (52, 17370), (53, 17376), (61, 17409), (63, 17430), (64, 17433), (67, 17451), (72, 17472),

Gene: RemRem_21 Start: 16829, Stop: 17326, Start Num: 3
Candidate Starts for RemRem_21:
(Start: 3 @16829 has 78 MA's), (Start: 20 @16931 has 1 MA's), (32, 17063), (35, 17096), (36, 17108), (39, 17138), (43, 17153), (52, 17216), (53, 17222), (61, 17255), (63, 17276), (64, 17279), (67, 17297), (72, 17318),

Gene: Reynauld_24 Start: 17582, Stop: 18082, Start Num: 5
Candidate Starts for Reynauld_24:
(Start: 5 @17582 has 2 MA's), (23, 17693), (31, 17801), (34, 17852), (35, 17855), (36, 17867), (44, 17915), (48, 17951), (63, 18029), (66, 18041), (70, 18065),

Gene: RobinSparkles_21 Start: 15295, Stop: 15789, Start Num: 3
Candidate Starts for RobinSparkles_21:
(Start: 3 @15295 has 78 MA's), (17, 15388), (18, 15391), (Start: 20 @15400 has 1 MA's), (27, 15442), (28, 15487), (35, 15562), (36, 15574), (44, 15622), (47, 15658), (60, 15712), (62, 15721), (65, 15745), (73, 15781),

Gene: RoyalG_21 Start: 17308, Stop: 17805, Start Num: 3
Candidate Starts for RoyalG_21:
(Start: 3 @17308 has 78 MA's), (Start: 20 @17410 has 1 MA's), (35, 17575), (36, 17587), (52, 17695), (64, 17758), (67, 17776), (69, 17788),

Gene: Sam12_20 Start: 16829, Stop: 17326, Start Num: 3
Candidate Starts for Sam12_20:
(Start: 3 @16829 has 78 MA's), (Start: 20 @16931 has 1 MA's), (32, 17063), (35, 17096), (36, 17108), (39, 17138), (43, 17153), (52, 17216), (53, 17222), (61, 17255), (63, 17276), (64, 17279), (67, 17297), (72, 17318),

Gene: Shelley_17 Start: 17049, Stop: 17543, Start Num: 3
Candidate Starts for Shelley_17:
(Start: 3 @17049 has 78 MA's), (Start: 7 @17058 has 6 MA's), (Start: 20 @17151 has 1 MA's), (35, 17316), (36, 17328), (39, 17358), (51, 17421), (52, 17436), (63, 17496), (67, 17517),

Gene: Sombrero_20 Start: 16861, Stop: 17358, Start Num: 3
Candidate Starts for Sombrero_20:
(Start: 3 @16861 has 78 MA's), (Start: 20 @16963 has 1 MA's), (32, 17095), (35, 17128), (36, 17140), (39, 17170), (43, 17185), (52, 17248), (53, 17254), (61, 17287), (63, 17308), (64, 17311), (67, 17329), (72, 17350),

Gene: Squibbles_20 Start: 17689, Stop: 18186, Start Num: 3
Candidate Starts for Squibbles_20:
(Start: 3 @17689 has 78 MA's), (Start: 20 @17791 has 1 MA's), (32, 17923), (35, 17956), (36, 17968), (39, 17998), (43, 18013), (52, 18076), (53, 18082), (61, 18115), (63, 18136), (64, 18139), (67, 18157), (72, 18178),

Gene: Srilaccoli3_23 Start: 17339, Stop: 17839, Start Num: 5
Candidate Starts for Srilaccoli3_23:
(Start: 5 @17339 has 2 MA's), (23, 17450), (31, 17558), (34, 17609), (35, 17612), (36, 17624), (42, 17669), (44, 17672), (48, 17708), (70, 17822),

Gene: SteveFrench_20 Start: 17504, Stop: 18001, Start Num: 3
Candidate Starts for SteveFrench_20:
(Start: 3 @17504 has 78 MA's), (Start: 20 @17606 has 1 MA's), (35, 17771), (36, 17783), (52, 17891), (64, 17954), (67, 17972), (69, 17984),

Gene: Sticker17_17 Start: 17572, Stop: 18066, Start Num: 3
Candidate Starts for Sticker17_17:
(Start: 3 @17572 has 78 MA's), (Start: 7 @17581 has 6 MA's), (Start: 20 @17674 has 1 MA's), (35, 17839), (36, 17851), (39, 17881), (51, 17944), (52, 17959), (63, 18019), (67, 18040),

Gene: Teal_17 Start: 17558, Stop: 18043, Start Num: 7
Candidate Starts for Teal_17:
(Start: 3 @17549 has 78 MA's), (Start: 7 @17558 has 6 MA's), (Start: 20 @17651 has 1 MA's), (35, 17816), (36, 17828), (39, 17858), (51, 17921), (52, 17936), (63, 17996), (67, 18017),

Gene: Teatealatte_20 Start: 19317, Stop: 19811, Start Num: 3
Candidate Starts for Teatealatte_20:
(Start: 3 @19317 has 78 MA's), (17, 19401), (21, 19416), (25, 19449), (35, 19575), (59, 19725), (63, 19764), (64, 19767),

Gene: Teech_20 Start: 19118, Stop: 19612, Start Num: 3
Candidate Starts for Teech_20:
(Start: 3 @19118 has 78 MA's), (17, 19202), (21, 19217), (25, 19250), (35, 19376), (59, 19526), (63, 19565), (64, 19568),

Gene: Tredge_20 Start: 19317, Stop: 19811, Start Num: 3
Candidate Starts for Tredge_20:
(Start: 3 @19317 has 78 MA's), (17, 19401), (21, 19416), (25, 19449), (35, 19575), (59, 19725), (63, 19764), (64, 19767),

Gene: Trogglehumper_38 Start: 24086, Stop: 24607, Start Num: 8
Candidate Starts for Trogglehumper_38:
(1, 23888), (2, 24056), (Start: 8 @24086 has 1 MA's), (10, 24098), (33, 24332), (36, 24359), (37, 24362), (42, 24401), (54, 24476), (58, 24497), (60, 24515),

Gene: Vitaenoii_21 Start: 21216, Stop: 21728, Start Num: 3
Candidate Starts for Vitaenoii_21:
(Start: 3 @21216 has 78 MA's), (21, 21315), (35, 21474), (59, 21642), (63, 21681), (64, 21684),

Gene: Woes_17 Start: 18083, Stop: 18577, Start Num: 3
Candidate Starts for Woes_17:
(Start: 3 @18083 has 78 MA's), (Start: 7 @18092 has 6 MA's), (Start: 20 @18185 has 1 MA's), (35, 18350), (36, 18362), (39, 18392), (51, 18455), (52, 18470), (63, 18530), (67, 18551),

Gene: Worcestershire_20 Start: 16831, Stop: 17328, Start Num: 3
Candidate Starts for Worcestershire_20:
(Start: 3 @16831 has 78 MA's), (Start: 20 @16933 has 1 MA's), (32, 17065), (35, 17098), (36, 17110), (39, 17140), (43, 17155), (52, 17218), (53, 17224), (61, 17257), (63, 17278), (64, 17281), (67, 17299), (72, 17320),