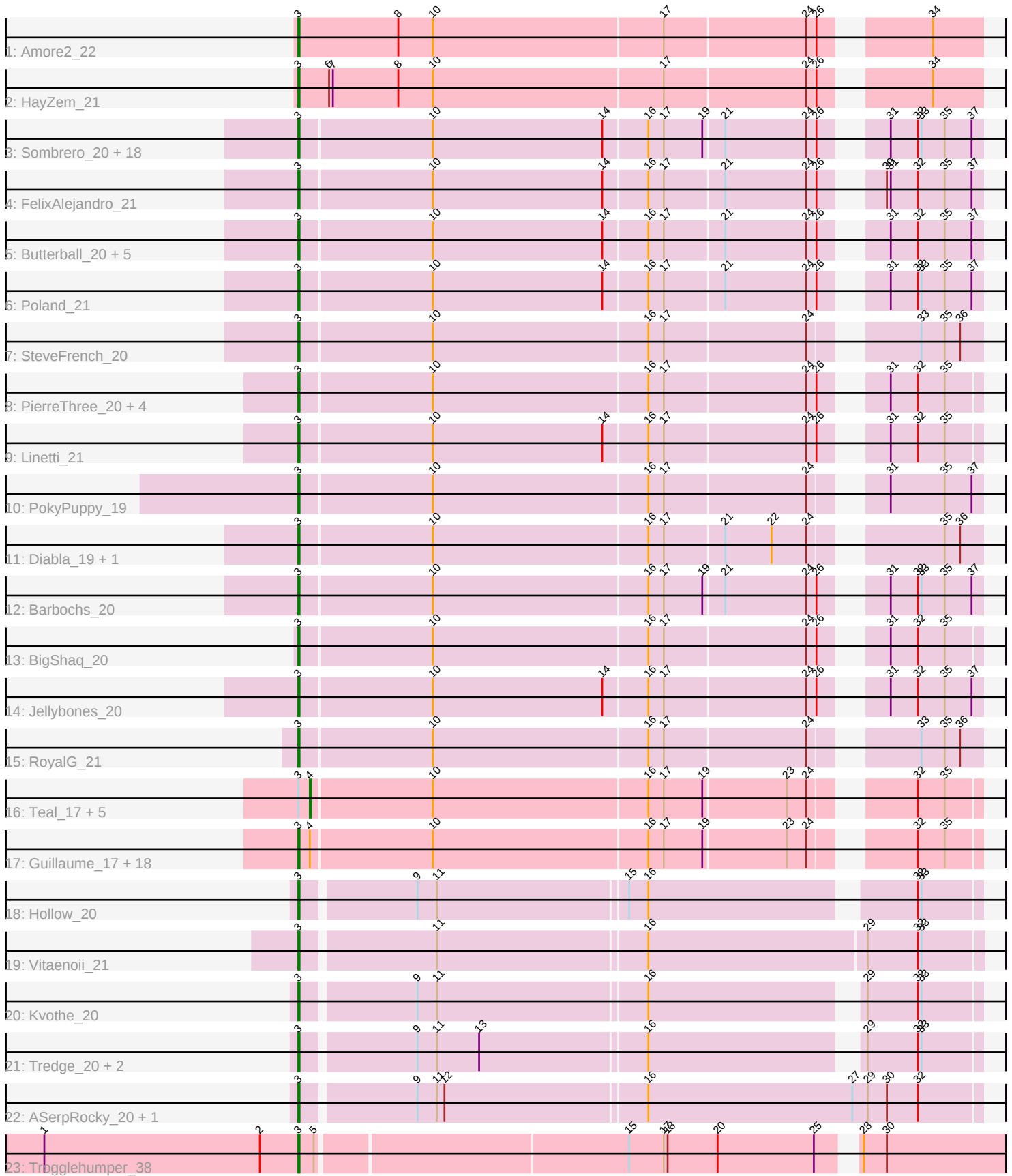


Pham 330773



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 330773 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330773 has 77 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Amore2_22
- Track 2 : HayZem_21
- Track 3 : Sombrero_20, John316_20, Kelzog_20, Sam12_20, RemRem_21, Ekhein_20, Beaver_20, Lizzo_20, GourdThymes_20, Hotorobo_20, Adgers_21, Squibbles_20, Exiguo_20, CathyBurgh_20, Flakey_20, Worcestershire_20, Breezic_20, Gorko_20, Monty_19
- Track 4 : FelixAlejandro_21
- Track 5 : Butterball_20, Msay19_21, BirksAndSocks_20, Boneham_20, CinnamonToast_21, BillyBobJr_21
- Track 6 : Poland_21
- Track 7 : SteveFrench_20
- Track 8 : PierreThree_20, Crete_21, Dakiti_20, BenoitCattle_20, Chelms_20
- Track 9 : Linetti_21
- Track 10 : PokyPuppy_19
- Track 11 : Diabla_19, Eggsie_20
- Track 12 : Barbochs_20
- Track 13 : BigShaq_20
- Track 14 : Jellybones_20
- Track 15 : RoyalG_21
- Track 16 : Teal_17, Damp_17, Berries_17, GalacticEye_17, Kaseim_17, Charianelly_17
- Track 17 : Guillaume_17, Bianmat_17, Minos_17, Sticker17_17, Hello_17, MrWormie_17, Shelley_17, Jams_17, Harambe_17, Hail2Pitt_17, Woes_17, Anamika_17, Luker_17, Newt_17, Lahirium_17, Neoevie_17, Lidong_17, Nimi13_17, Jormungandr_17
- Track 18 : Hollow_20
- Track 19 : Vitaenoi_21
- Track 20 : Kvothe_20
- Track 21 : Tredge_20, Teatealatte_20, Teech_20
- Track 22 : ASerpRocky_20, Demosthenes_20
- Track 23 : Trogglehumper_38

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 68 of the 74 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, BenoitCattle_20, Bianmat_17, BigShaq_20, BillyBobJr_21, BirksAndSocks_20, Boneham_20, Breezic_20, Butterball_20, CathyBurgh_20, Chelms_20, CinnamonToast_21, Crete_21, Dakiti_20, Demosthenes_20, Diabla_19, Eggsie_20, Ekhein_20, Exiguo_20, FelixAlejandro_21, Flakey_20, 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, 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, Nimi13_17, PierreThree_20, PokyPuppy_19, Poland_21, RemRem_21, RoyalG_21, Sam12_20, Shelley_17, Sombrero_20, Squibbles_20, SteveFrench_20, Sticker17_17, Teatealatte_20, Teech_20, Tredge_20, Trogglehumper_38, Vitaenoi_21, Woes_17, Worcestershire_20,

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

- Berries_17, Charianelly_17, Damp_17, GalacticEye_17, Kaseim_17, Teal_17,

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

-

Summary by start number:

Start 3:

- Found in 77 of 77 (100.0%) of genes in pham
- Manual Annotations of this start: 68 of 74
- Called 92.2% 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), BenoitCattle_20 (CS2), Bianmat_17 (CS3), BigShaq_20 (CS2), BillyBobJr_21 (CS2), BirksAndSocks_20 (CS2), Boneham_20 (CS2), Breezic_20 (CS2), Butterball_20 (CS2), 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), 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), 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), Nimi13_17 (CS3), PierreThree_20 (CS2), PokyPuppy_19 (CS2), Poland_21 (CS2), RemRem_21 (CS2), 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), Trogglehumper_38 (singleton), Vitaenoi_21 (CS4), Woes_17 (CS3), Worcestershire_20 (CS2),

Start 4:

- Found in 25 of 77 (32.5%) of genes in pham
- Manual Annotations of this start: 6 of 74

- Called 24.0% of time when present
- Phage (with cluster) where this start called: Berries_17 (CS3), Charianelly_17 (CS3), Damp_17 (CS3), GalacticEye_17 (CS3), Kaseim_17 (CS3), Teal_17 (CS3),

Summary by clusters:

There are 5 clusters represented in this pham: CS4, singleton, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 3 was manually annotated 2 times 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 4 was manually annotated 6 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 3 was manually annotated 8 times for cluster CS4.

Gene Information:

Gene: ASerpRocky_20 Start: 19315, Stop: 19830, Start Num: 3

Candidate Starts for ASerpRocky_20:

(Start: 3 @19315 has 68 MA's), (9, 19399), (11, 19414), (12, 19420), (16, 19573), (27, 19732), (29, 19744), (30, 19759), (32, 19783),

Gene: Adgers_21 Start: 16983, Stop: 17480, Start Num: 3

Candidate Starts for Adgers_21:

(Start: 3 @16983 has 68 MA's), (10, 17085), (14, 17217), (16, 17250), (17, 17262), (19, 17292), (21, 17307), (24, 17370), (26, 17376), (31, 17409), (32, 17430), (33, 17433), (35, 17451), (37, 17472),

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

Candidate Starts for Amore2_22:

(Start: 3 @16781 has 68 MA's), (8, 16859), (10, 16886), (17, 17063), (24, 17171), (26, 17177), (34, 17243),

Gene: Anamika_17 Start: 17855, Stop: 18349, Start Num: 3

Candidate Starts for Anamika_17:

(Start: 3 @17855 has 68 MA's), (Start: 4 @17864 has 6 MA's), (10, 17957), (16, 18122), (17, 18134), (19, 18164), (23, 18227), (24, 18242), (32, 18302), (35, 18323),

Gene: Barbochs_20 Start: 16821, Stop: 17318, Start Num: 3

Candidate Starts for Barbochs_20:

(Start: 3 @16821 has 68 MA's), (10, 16923), (16, 17088), (17, 17100), (19, 17130), (21, 17145), (24, 17208), (26, 17214), (31, 17247), (32, 17268), (33, 17271), (35, 17289), (37, 17310),

Gene: Beaver_20 Start: 16829, Stop: 17326, Start Num: 3

Candidate Starts for Beaver_20:

(Start: 3 @16829 has 68 MA's), (10, 16931), (14, 17063), (16, 17096), (17, 17108), (19, 17138), (21, 17153), (24, 17216), (26, 17222), (31, 17255), (32, 17276), (33, 17279), (35, 17297), (37, 17318),

Gene: BenoitCattle_20 Start: 16813, Stop: 17307, Start Num: 3

Candidate Starts for BenoitCattle_20:

(Start: 3 @16813 has 68 MA's), (10, 16915), (16, 17080), (17, 17092), (24, 17200), (26, 17206), (31, 17239), (32, 17260), (35, 17281),

Gene: Berries_17 Start: 17831, Stop: 18316, Start Num: 4

Candidate Starts for Berries_17:

(Start: 3 @17822 has 68 MA's), (Start: 4 @17831 has 6 MA's), (10, 17924), (16, 18089), (17, 18101), (19, 18131), (23, 18194), (24, 18209), (32, 18269), (35, 18290),

Gene: Bianmat_17 Start: 17862, Stop: 18356, Start Num: 3

Candidate Starts for Bianmat_17:

(Start: 3 @17862 has 68 MA's), (Start: 4 @17871 has 6 MA's), (10, 17964), (16, 18129), (17, 18141), (19, 18171), (23, 18234), (24, 18249), (32, 18309), (35, 18330),

Gene: BigShaq_20 Start: 16815, Stop: 17309, Start Num: 3

Candidate Starts for BigShaq_20:

(Start: 3 @16815 has 68 MA's), (10, 16917), (16, 17082), (17, 17094), (24, 17202), (26, 17208), (31, 17241), (32, 17262), (35, 17283),

Gene: BillyBobJr_21 Start: 16853, Stop: 17350, Start Num: 3

Candidate Starts for BillyBobJr_21:

(Start: 3 @16853 has 68 MA's), (10, 16955), (14, 17087), (16, 17120), (17, 17132), (21, 17177), (24, 17240), (26, 17246), (31, 17279), (32, 17300), (35, 17321), (37, 17342),

Gene: BirksAndSocks_20 Start: 16818, Stop: 17315, Start Num: 3

Candidate Starts for BirksAndSocks_20:

(Start: 3 @16818 has 68 MA's), (10, 16920), (14, 17052), (16, 17085), (17, 17097), (21, 17142), (24, 17205), (26, 17211), (31, 17244), (32, 17265), (35, 17286), (37, 17307),

Gene: Boneham_20 Start: 16817, Stop: 17314, Start Num: 3

Candidate Starts for Boneham_20:

(Start: 3 @16817 has 68 MA's), (10, 16919), (14, 17051), (16, 17084), (17, 17096), (21, 17141), (24, 17204), (26, 17210), (31, 17243), (32, 17264), (35, 17285), (37, 17306),

Gene: Breezic_20 Start: 16832, Stop: 17329, Start Num: 3

Candidate Starts for Breezic_20:

(Start: 3 @16832 has 68 MA's), (10, 16934), (14, 17066), (16, 17099), (17, 17111), (19, 17141), (21, 17156), (24, 17219), (26, 17225), (31, 17258), (32, 17279), (33, 17282), (35, 17300), (37, 17321),

Gene: Butterball_20 Start: 16817, Stop: 17314, Start Num: 3

Candidate Starts for Butterball_20:

(Start: 3 @16817 has 68 MA's), (10, 16919), (14, 17051), (16, 17084), (17, 17096), (21, 17141), (24, 17204), (26, 17210), (31, 17243), (32, 17264), (35, 17285), (37, 17306),

Gene: CathyBurgh_20 Start: 17689, Stop: 18186, Start Num: 3

Candidate Starts for CathyBurgh_20:

(Start: 3 @17689 has 68 MA's), (10, 17791), (14, 17923), (16, 17956), (17, 17968), (19, 17998), (21, 18013), (24, 18076), (26, 18082), (31, 18115), (32, 18136), (33, 18139), (35, 18157), (37, 18178),

Gene: Charianelly_17 Start: 17581, Stop: 18066, Start Num: 4

Candidate Starts for Charianelly_17:

(Start: 3 @17572 has 68 MA's), (Start: 4 @17581 has 6 MA's), (10, 17674), (16, 17839), (17, 17851), (19, 17881), (23, 17944), (24, 17959), (32, 18019), (35, 18040),

Gene: Chelms_20 Start: 16815, Stop: 17309, Start Num: 3

Candidate Starts for Chelms_20:

(Start: 3 @16815 has 68 MA's), (10, 16917), (16, 17082), (17, 17094), (24, 17202), (26, 17208), (31, 17241), (32, 17262), (35, 17283),

Gene: CinnamonToast_21 Start: 16853, Stop: 17350, Start Num: 3

Candidate Starts for CinnamonToast_21:

(Start: 3 @16853 has 68 MA's), (10, 16955), (14, 17087), (16, 17120), (17, 17132), (21, 17177), (24, 17240), (26, 17246), (31, 17279), (32, 17300), (35, 17321), (37, 17342),

Gene: Crete_21 Start: 17066, Stop: 17560, Start Num: 3

Candidate Starts for Crete_21:

(Start: 3 @17066 has 68 MA's), (10, 17168), (16, 17333), (17, 17345), (24, 17453), (26, 17459), (31, 17492), (32, 17513), (35, 17534),

Gene: Dakiti_20 Start: 17683, Stop: 18177, Start Num: 3

Candidate Starts for Dakiti_20:

(Start: 3 @17683 has 68 MA's), (10, 17785), (16, 17950), (17, 17962), (24, 18070), (26, 18076), (31, 18109), (32, 18130), (35, 18151),

Gene: Damp_17 Start: 16745, Stop: 17230, Start Num: 4

Candidate Starts for Damp_17:

(Start: 3 @16736 has 68 MA's), (Start: 4 @16745 has 6 MA's), (10, 16838), (16, 17003), (17, 17015), (19, 17045), (23, 17108), (24, 17123), (32, 17183), (35, 17204),

Gene: Demosthenes_20 Start: 19288, Stop: 19803, Start Num: 3

Candidate Starts for Demosthenes_20:

(Start: 3 @19288 has 68 MA's), (9, 19372), (11, 19387), (12, 19393), (16, 19546), (27, 19705), (29, 19717), (30, 19732), (32, 19756),

Gene: Diabla_19 Start: 16631, Stop: 17128, Start Num: 3

Candidate Starts for Diabla_19:

(Start: 3 @16631 has 68 MA's), (10, 16733), (16, 16898), (17, 16910), (21, 16955), (22, 16991), (24, 17018), (35, 17099), (36, 17111),

Gene: Eggsie_20 Start: 16826, Stop: 17323, Start Num: 3

Candidate Starts for Eggsie_20:

(Start: 3 @16826 has 68 MA's), (10, 16928), (16, 17093), (17, 17105), (21, 17150), (22, 17186), (24, 17213), (35, 17294), (36, 17306),

Gene: Ekhein_20 Start: 16817, Stop: 17314, Start Num: 3

Candidate Starts for Ekhein_20:

(Start: 3 @16817 has 68 MA's), (10, 16919), (14, 17051), (16, 17084), (17, 17096), (19, 17126), (21, 17141), (24, 17204), (26, 17210), (31, 17243), (32, 17264), (33, 17267), (35, 17285), (37, 17306),

Gene: Exiguo_20 Start: 16829, Stop: 17326, Start Num: 3

Candidate Starts for Exiguo_20:

(Start: 3 @16829 has 68 MA's), (10, 16931), (14, 17063), (16, 17096), (17, 17108), (19, 17138), (21, 17153), (24, 17216), (26, 17222), (31, 17255), (32, 17276), (33, 17279), (35, 17297), (37, 17318),

Gene: FelixAlejandro_21 Start: 17015, Stop: 17512, Start Num: 3

Candidate Starts for FelixAlejandro_21:

(Start: 3 @17015 has 68 MA's), (10, 17117), (14, 17249), (16, 17282), (17, 17294), (21, 17339), (24, 17402), (26, 17408), (30, 17438), (31, 17441), (32, 17462), (35, 17483), (37, 17504),

Gene: Flakey_20 Start: 17690, Stop: 18187, Start Num: 3

Candidate Starts for Flakey_20:

(Start: 3 @17690 has 68 MA's), (10, 17792), (14, 17924), (16, 17957), (17, 17969), (19, 17999), (21, 18014), (24, 18077), (26, 18083), (31, 18116), (32, 18137), (33, 18140), (35, 18158), (37, 18179),

Gene: GalacticEye_17 Start: 17552, Stop: 18037, Start Num: 4

Candidate Starts for GalacticEye_17:

(Start: 3 @17543 has 68 MA's), (Start: 4 @17552 has 6 MA's), (10, 17645), (16, 17810), (17, 17822), (19, 17852), (23, 17915), (24, 17930), (32, 17990), (35, 18011),

Gene: Gorko_20 Start: 16821, Stop: 17318, Start Num: 3

Candidate Starts for Gorko_20:

(Start: 3 @16821 has 68 MA's), (10, 16923), (14, 17055), (16, 17088), (17, 17100), (19, 17130), (21, 17145), (24, 17208), (26, 17214), (31, 17247), (32, 17268), (33, 17271), (35, 17289), (37, 17310),

Gene: GourdThymes_20 Start: 17689, Stop: 18186, Start Num: 3

Candidate Starts for GourdThymes_20:

(Start: 3 @17689 has 68 MA's), (10, 17791), (14, 17923), (16, 17956), (17, 17968), (19, 17998), (21, 18013), (24, 18076), (26, 18082), (31, 18115), (32, 18136), (33, 18139), (35, 18157), (37, 18178),

Gene: Guillaume_17 Start: 17593, Stop: 18087, Start Num: 3

Candidate Starts for Guillaume_17:

(Start: 3 @17593 has 68 MA's), (Start: 4 @17602 has 6 MA's), (10, 17695), (16, 17860), (17, 17872), (19, 17902), (23, 17965), (24, 17980), (32, 18040), (35, 18061),

Gene: Hail2Pitt_17 Start: 18070, Stop: 18564, Start Num: 3

Candidate Starts for Hail2Pitt_17:

(Start: 3 @18070 has 68 MA's), (Start: 4 @18079 has 6 MA's), (10, 18172), (16, 18337), (17, 18349), (19, 18379), (23, 18442), (24, 18457), (32, 18517), (35, 18538),

Gene: Harambe_17 Start: 17854, Stop: 18348, Start Num: 3

Candidate Starts for Harambe_17:

(Start: 3 @17854 has 68 MA's), (Start: 4 @17863 has 6 MA's), (10, 17956), (16, 18121), (17, 18133), (19, 18163), (23, 18226), (24, 18241), (32, 18301), (35, 18322),

Gene: HayZem_21 Start: 16778, Stop: 17278, Start Num: 3

Candidate Starts for HayZem_21:

(Start: 3 @16778 has 68 MA's), (6, 16802), (7, 16805), (8, 16856), (10, 16883), (17, 17060), (24, 17168), (26, 17174), (34, 17240),

Gene: Hello_17 Start: 17822, Stop: 18316, Start Num: 3

Candidate Starts for Hello_17:

(Start: 3 @17822 has 68 MA's), (Start: 4 @17831 has 6 MA's), (10, 17924), (16, 18089), (17, 18101), (19, 18131), (23, 18194), (24, 18209), (32, 18269), (35, 18290),

Gene: Hollow_20 Start: 18563, Stop: 19057, Start Num: 3

Candidate Starts for Hollow_20:

(Start: 3 @18563 has 68 MA's), (9, 18647), (11, 18662), (15, 18806), (16, 18821), (32, 19010), (33, 19013),

Gene: Hotorobo_20 Start: 17700, Stop: 18197, Start Num: 3

Candidate Starts for Hotorobo_20:

(Start: 3 @17700 has 68 MA's), (10, 17802), (14, 17934), (16, 17967), (17, 17979), (19, 18009), (21, 18024), (24, 18087), (26, 18093), (31, 18126), (32, 18147), (33, 18150), (35, 18168), (37, 18189),

Gene: Jams_17 Start: 17016, Stop: 17510, Start Num: 3

Candidate Starts for Jams_17:

(Start: 3 @17016 has 68 MA's), (Start: 4 @17025 has 6 MA's), (10, 17118), (16, 17283), (17, 17295), (19, 17325), (23, 17388), (24, 17403), (32, 17463), (35, 17484),

Gene: Jellybones_20 Start: 16852, Stop: 17349, Start Num: 3

Candidate Starts for Jellybones_20:

(Start: 3 @16852 has 68 MA's), (10, 16954), (14, 17086), (16, 17119), (17, 17131), (24, 17239), (26, 17245), (31, 17278), (32, 17299), (35, 17320), (37, 17341),

Gene: John316_20 Start: 16817, Stop: 17314, Start Num: 3

Candidate Starts for John316_20:

(Start: 3 @16817 has 68 MA's), (10, 16919), (14, 17051), (16, 17084), (17, 17096), (19, 17126), (21, 17141), (24, 17204), (26, 17210), (31, 17243), (32, 17264), (33, 17267), (35, 17285), (37, 17306),

Gene: Jormungandr_17 Start: 17575, Stop: 18069, Start Num: 3

Candidate Starts for Jormungandr_17:

(Start: 3 @17575 has 68 MA's), (Start: 4 @17584 has 6 MA's), (10, 17677), (16, 17842), (17, 17854), (19, 17884), (23, 17947), (24, 17962), (32, 18022), (35, 18043),

Gene: Kaseim_17 Start: 17016, Stop: 17501, Start Num: 4

Candidate Starts for Kaseim_17:

(Start: 3 @17007 has 68 MA's), (Start: 4 @17016 has 6 MA's), (10, 17109), (16, 17274), (17, 17286), (19, 17316), (23, 17379), (24, 17394), (32, 17454), (35, 17475),

Gene: Kelzog_20 Start: 17701, Stop: 18198, Start Num: 3

Candidate Starts for Kelzog_20:

(Start: 3 @17701 has 68 MA's), (10, 17803), (14, 17935), (16, 17968), (17, 17980), (19, 18010), (21, 18025), (24, 18088), (26, 18094), (31, 18127), (32, 18148), (33, 18151), (35, 18169), (37, 18190),

Gene: Kvothe_20 Start: 19335, Stop: 19829, Start Num: 3

Candidate Starts for Kvothe_20:

(Start: 3 @19335 has 68 MA's), (9, 19419), (11, 19434), (16, 19593), (29, 19743), (32, 19782), (33, 19785),

Gene: Lahirium_17 Start: 18091, Stop: 18585, Start Num: 3

Candidate Starts for Lahirium_17:

(Start: 3 @18091 has 68 MA's), (Start: 4 @18100 has 6 MA's), (10, 18193), (16, 18358), (17, 18370), (19, 18400), (23, 18463), (24, 18478), (32, 18538), (35, 18559),

Gene: Lidong_17 Start: 17822, Stop: 18316, Start Num: 3

Candidate Starts for Lidong_17:

(Start: 3 @17822 has 68 MA's), (Start: 4 @17831 has 6 MA's), (10, 17924), (16, 18089), (17, 18101), (19, 18131), (23, 18194), (24, 18209), (32, 18269), (35, 18290),

Gene: Linetti_21 Start: 17832, Stop: 18326, Start Num: 3

Candidate Starts for Linetti_21:

(Start: 3 @17832 has 68 MA's), (10, 17934), (14, 18066), (16, 18099), (17, 18111), (24, 18219), (26, 18225), (31, 18258), (32, 18279), (35, 18300),

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

Candidate Starts for Lizzo_20:

(Start: 3 @17689 has 68 MA's), (10, 17791), (14, 17923), (16, 17956), (17, 17968), (19, 17998), (21, 18013), (24, 18076), (26, 18082), (31, 18115), (32, 18136), (33, 18139), (35, 18157), (37, 18178),

Gene: Luker_17 Start: 17555, Stop: 18049, Start Num: 3

Candidate Starts for Luker_17:

(Start: 3 @17555 has 68 MA's), (Start: 4 @17564 has 6 MA's), (10, 17657), (16, 17822), (17, 17834), (19, 17864), (23, 17927), (24, 17942), (32, 18002), (35, 18023),

Gene: Minos_17 Start: 17561, Stop: 18055, Start Num: 3

Candidate Starts for Minos_17:

(Start: 3 @17561 has 68 MA's), (Start: 4 @17570 has 6 MA's), (10, 17663), (16, 17828), (17, 17840), (19, 17870), (23, 17933), (24, 17948), (32, 18008), (35, 18029),

Gene: Monty_19 Start: 16833, Stop: 17330, Start Num: 3

Candidate Starts for Monty_19:

(Start: 3 @16833 has 68 MA's), (10, 16935), (14, 17067), (16, 17100), (17, 17112), (19, 17142), (21, 17157), (24, 17220), (26, 17226), (31, 17259), (32, 17280), (33, 17283), (35, 17301), (37, 17322),

Gene: MrWormie_17 Start: 16725, Stop: 17219, Start Num: 3

Candidate Starts for MrWormie_17:

(Start: 3 @16725 has 68 MA's), (Start: 4 @16734 has 6 MA's), (10, 16827), (16, 16992), (17, 17004), (19, 17034), (23, 17097), (24, 17112), (32, 17172), (35, 17193),

Gene: Msay19_21 Start: 17007, Stop: 17504, Start Num: 3

Candidate Starts for Msay19_21:

(Start: 3 @17007 has 68 MA's), (10, 17109), (14, 17241), (16, 17274), (17, 17286), (21, 17331), (24, 17394), (26, 17400), (31, 17433), (32, 17454), (35, 17475), (37, 17496),

Gene: Neoevie_17 Start: 17831, Stop: 18325, Start Num: 3

Candidate Starts for Neoevie_17:

(Start: 3 @17831 has 68 MA's), (Start: 4 @17840 has 6 MA's), (10, 17933), (16, 18098), (17, 18110), (19, 18140), (23, 18203), (24, 18218), (32, 18278), (35, 18299),

Gene: Newt_17 Start: 17572, Stop: 18066, Start Num: 3

Candidate Starts for Newt_17:

(Start: 3 @17572 has 68 MA's), (Start: 4 @17581 has 6 MA's), (10, 17674), (16, 17839), (17, 17851), (19, 17881), (23, 17944), (24, 17959), (32, 18019), (35, 18040),

Gene: Nimi13_17 Start: 17573, Stop: 18067, Start Num: 3

Candidate Starts for Nimi13_17:

(Start: 3 @17573 has 68 MA's), (Start: 4 @17582 has 6 MA's), (10, 17675), (16, 17840), (17, 17852), (19, 17882), (23, 17945), (24, 17960), (32, 18020), (35, 18041),

Gene: PierreThree_20 Start: 17683, Stop: 18177, Start Num: 3

Candidate Starts for PierreThree_20:

(Start: 3 @17683 has 68 MA's), (10, 17785), (16, 17950), (17, 17962), (24, 18070), (26, 18076), (31, 18109), (32, 18130), (35, 18151),

Gene: PokyPuppy_19 Start: 17576, Stop: 18073, Start Num: 3

Candidate Starts for PokyPuppy_19:

(Start: 3 @17576 has 68 MA's), (10, 17678), (16, 17843), (17, 17855), (24, 17963), (31, 18002), (35, 18044), (37, 18065),

Gene: Poland_21 Start: 16983, Stop: 17480, Start Num: 3

Candidate Starts for Poland_21:

(Start: 3 @16983 has 68 MA's), (10, 17085), (14, 17217), (16, 17250), (17, 17262), (21, 17307), (24, 17370), (26, 17376), (31, 17409), (32, 17430), (33, 17433), (35, 17451), (37, 17472),

Gene: RemRem_21 Start: 16829, Stop: 17326, Start Num: 3

Candidate Starts for RemRem_21:

(Start: 3 @16829 has 68 MA's), (10, 16931), (14, 17063), (16, 17096), (17, 17108), (19, 17138), (21, 17153), (24, 17216), (26, 17222), (31, 17255), (32, 17276), (33, 17279), (35, 17297), (37, 17318),

Gene: RoyalG_21 Start: 17308, Stop: 17805, Start Num: 3

Candidate Starts for RoyalG_21:

(Start: 3 @17308 has 68 MA's), (10, 17410), (16, 17575), (17, 17587), (24, 17695), (33, 17758), (35, 17776), (36, 17788),

Gene: Sam12_20 Start: 16829, Stop: 17326, Start Num: 3

Candidate Starts for Sam12_20:

(Start: 3 @16829 has 68 MA's), (10, 16931), (14, 17063), (16, 17096), (17, 17108), (19, 17138), (21, 17153), (24, 17216), (26, 17222), (31, 17255), (32, 17276), (33, 17279), (35, 17297), (37, 17318),

Gene: Shelley_17 Start: 17049, Stop: 17543, Start Num: 3

Candidate Starts for Shelley_17:

(Start: 3 @17049 has 68 MA's), (Start: 4 @17058 has 6 MA's), (10, 17151), (16, 17316), (17, 17328), (19, 17358), (23, 17421), (24, 17436), (32, 17496), (35, 17517),

Gene: Sombrero_20 Start: 16861, Stop: 17358, Start Num: 3

Candidate Starts for Sombrero_20:

(Start: 3 @16861 has 68 MA's), (10, 16963), (14, 17095), (16, 17128), (17, 17140), (19, 17170), (21, 17185), (24, 17248), (26, 17254), (31, 17287), (32, 17308), (33, 17311), (35, 17329), (37, 17350),

Gene: Squibbles_20 Start: 17689, Stop: 18186, Start Num: 3

Candidate Starts for Squibbles_20:

(Start: 3 @17689 has 68 MA's), (10, 17791), (14, 17923), (16, 17956), (17, 17968), (19, 17998), (21, 18013), (24, 18076), (26, 18082), (31, 18115), (32, 18136), (33, 18139), (35, 18157), (37, 18178),

Gene: SteveFrench_20 Start: 17504, Stop: 18001, Start Num: 3

Candidate Starts for SteveFrench_20:

(Start: 3 @17504 has 68 MA's), (10, 17606), (16, 17771), (17, 17783), (24, 17891), (33, 17954), (35, 17972), (36, 17984),

Gene: Sticker17_17 Start: 17572, Stop: 18066, Start Num: 3

Candidate Starts for Sticker17_17:

(Start: 3 @17572 has 68 MA's), (Start: 4 @17581 has 6 MA's), (10, 17674), (16, 17839), (17, 17851), (19, 17881), (23, 17944), (24, 17959), (32, 18019), (35, 18040),

Gene: Teal_17 Start: 17558, Stop: 18043, Start Num: 4

Candidate Starts for Teal_17:

(Start: 3 @17549 has 68 MA's), (Start: 4 @17558 has 6 MA's), (10, 17651), (16, 17816), (17, 17828), (19, 17858), (23, 17921), (24, 17936), (32, 17996), (35, 18017),

Gene: Teatealatte_20 Start: 19317, Stop: 19811, Start Num: 3

Candidate Starts for Teatealatte_20:

(Start: 3 @19317 has 68 MA's), (9, 19401), (11, 19416), (13, 19449), (16, 19575), (29, 19725), (32, 19764), (33, 19767),

Gene: Teech_20 Start: 19118, Stop: 19612, Start Num: 3

Candidate Starts for Teech_20:

(Start: 3 @19118 has 68 MA's), (9, 19202), (11, 19217), (13, 19250), (16, 19376), (29, 19526), (32, 19565), (33, 19568),

Gene: Tredge_20 Start: 19317, Stop: 19811, Start Num: 3

Candidate Starts for Tredge_20:

(Start: 3 @19317 has 68 MA's), (9, 19401), (11, 19416), (13, 19449), (16, 19575), (29, 19725), (32, 19764), (33, 19767),

Gene: Trogglehumper_38 Start: 24086, Stop: 24607, Start Num: 3

Candidate Starts for Trogglehumper_38:

(1, 23888), (2, 24056), (Start: 3 @24086 has 68 MA's), (5, 24098), (15, 24332), (17, 24359), (18, 24362), (20, 24401), (25, 24476), (28, 24497), (30, 24515),

Gene: Vitaenoi_21 Start: 21216, Stop: 21728, Start Num: 3

Candidate Starts for Vitaenoi_21:

(Start: 3 @21216 has 68 MA's), (11, 21315), (16, 21474), (29, 21642), (32, 21681), (33, 21684),

Gene: Woes_17 Start: 18083, Stop: 18577, Start Num: 3

Candidate Starts for Woes_17:

(Start: 3 @18083 has 68 MA's), (Start: 4 @18092 has 6 MA's), (10, 18185), (16, 18350), (17, 18362), (19, 18392), (23, 18455), (24, 18470), (32, 18530), (35, 18551),

Gene: Worcestershire_20 Start: 16831, Stop: 17328, Start Num: 3

Candidate Starts for Worcestershire_20:

(Start: 3 @16831 has 68 MA's), (10, 16933), (14, 17065), (16, 17098), (17, 17110), (19, 17140), (21, 17155), (24, 17218), (26, 17224), (31, 17257), (32, 17278), (33, 17281), (35, 17299), (37, 17320),