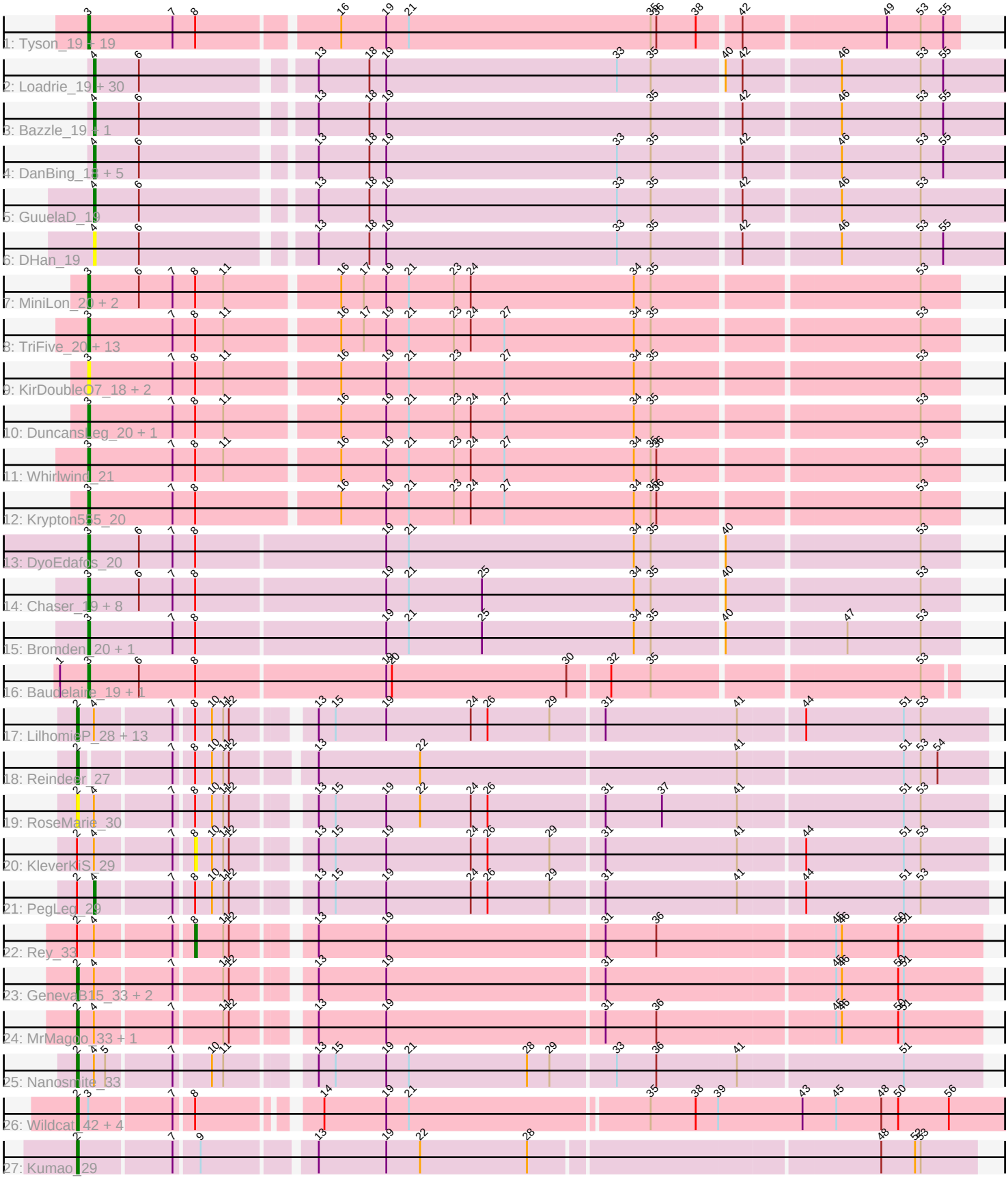
Pham 280195


1: Tyson_19 + 19
2: Loadrie_19 + 30
3: Bazzle_19 + 1
4: DanBing_19 + 5
5: GuuelaD_19
6: DHan_19
7: MiniLon_20 + 2
8: TriFive_20 + 13
9: KirDoubleO7_18 + 2
10: DuncansLeg_20 + 1
11: Whirlwind_21
12: Krypton535_20
13: DyoEdafos_20
14: Chaser_19 + 8
15: Bromden_20 + 1
16: Baudelaire_19 + 1
17: LilhomieP_28 + 13
18: Reindeer_27
19: RoseMarie_30
20: KleverKiS_29
21: PegLeg_29
22: Rey_33
23: Geneva315_33 + 2
24: MrMagoo_33 + 1
25: Nanosmite_33
26: Wildcat_42 + 4
27: Kumao_29

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 280195 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280195 has 130 members, 28 are drafts.

Phages represented in each track:
• Track 1 : Tyson_19, Silverleaf_19, Appletree2_19, AvadaKedavra_19, Acquire49_19, Rose5_19, JoeDirt_19, LeBron_19, UPIE_19, CicholasNage_19, Enceladus_19, MAckerman_19, Poochiewood_19, Halena_19, DirkDirk_19, OhShagHennessy_19, Calm_19, Wamburgrxpress_19, Wyatt2_19, Zaria_19
• Track 2 : Loadrie_19, Underpass_19, OverPar_19, BigCheese_19, LilDestine_19, Faith1_19, BobsGarage_19, DrSeegs_19, Lewan_19, Sarshaun_19, MkaliMitinis3_19, Zakai_19, Kahlid_19, Hafay_19, Miley16_19, Vetrix_19, Gabriela_19, Nicholasp3_19, Soap141_19, Crossroads_19, Wigglewiggle_19, SoJulia_19, Winky_19, Itos_19, Breezona_19, Finemlucis_19, Rumpelstiltskin_19, Gardann_19, Lynnae_19, Wilder_19, Netyap_19
• Track 3 : Bazzle_19, Archie_19
• Track 4 : DanBing_18, Baoshan_18, Tourach_19, Rossetti_19, ZhongYanYuan_18, Claus_19
• Track 5 : GuuelaD_19
• Track 6 : DHan_19
• Track 7 : MiniLon_20, MiniMac_20, Lolly9_20
• Track 8 : TriFive_20, Samty_20, Lumos_20, Nicholas_20, Red305_20, Kingsolomon_20, Snenia_20, Jubie_20, Finnry_20, Moostard_20, Bellis_20, Clautastrophe_20, MsGreen_20, Jobypre_20
• Track 9 : KirDoubleO7_18, BourbonZero_19, LiyuLake_20
• Track 10 : DuncansLeg_20, Ellson_20
• Track 11 : Whirlwind_21
• Track 12 : Krypton555_20
• Track 13 : DyoEdafos_20
• Track 14 : Chaser_19, FarmResident_19, ChutneyChips_18, Quby_19, Douzhi_19, Douge_19, Sheng711_19, PYPDinur_19, BrainDrainer_20
• Track 15 : Bromden_20, Kropertea_19
• Track 16 : Baudelaire_19, Aegeus_19
• Track 17 : LilhomieP_28, Auspice_29, Dulcita_30, TyDawg_29, Izel_30, TpudiCK_30, IPhane7_29, Diminimus_30, Skinny_30, Bongo_29, Glaske16_30, SlimJimmy_28, FreakyGoo_30, Bricole_29
• Track 18 : Reindeer_27
• Track 19 : RoseMarie_30
• Track 20 : KleverKiS_29
• Track 21 : PegLeg_29
• Track 22 : Rey_33
• Track 23 : GenevaB15_33, Aziz_33, Estes_34

• Track 24 : MrMagoo_33, GardenSalsa_33
• Track 25 : Nanosmite_33
• Track 26 : Wildcat_42, MaryV_42, Cosmo_42, EniyanLRS_39, Azrael100_41
• Track 27 : Kumao_29

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 44 of the 102 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acquire49_19, Aegeus_19, Appletree2_19, AvadaKedavra_19, Baudelaire_19, Bellis_20, BourbonZero_19, BrainDrainer_20, Bromden_20, Calm_19, Chaser_19, ChutneyChips_18, CicholasNage_19, Clautastrophe_20, DirkDirk_19, Douge_19, Douzhi_19, DuncansLeg_20, DyoEdafos_20, Ellson_20, Enceladus_19, FarmResident_19, Finnry_20, Halena_19, Jobypre_20, JoeDirt_19, Jubie_20, Kingsolomon_20, KirDoubleO7_18, Kropertea_19, Krypton555_20, LeBron_19, LiyuLake_20, Lolly9_20, Lumos_20, MAckerman_19, MiniLon_20, MiniMac_20, Moostard_20, MsGreen_20, Nicholas_20, OhShagHennessy_19, PYPDinur_19, Poochiewood_19, Quby_19, Red305_20, Rose5_19, Samty_20, Sheng711_19, Silverleaf_19, Snenia_20, TriFive_20, Tyson_19, UPIE_19, Wamburgrxpress_19, Whirlwind_21, Wyatt2_19, Zaria_19,

Genes that have the "Most Annotated" start but do not call it:
• Azrael100_41, Cosmo_42, EniyanLRS_39, MaryV_42, Wildcat_42,

Genes that do not have the "Most Annotated" start:
• Archie_19, Auspice_29, Aziz_33, Baoshan_18, Bazzle_19, BigCheese_19, BobsGarage_19, Bongo_29, Breezona_19, Bricole_29, Claus_19, Crossroads_19, DHan_19, DanBing_18, Diminimus_30, DrSeegs_19, Dulcita_30, Estes_34, Faith1_19, Finemlucis_19, FreakyGoo_30, Gabriela_19, Gardann_19, GardenSalsa_33, GenevaB15_33, Glaske16_30, GuuelaD_19, Hafay_19, IPhane7_29, Itos_19, Izel_30, Kahlid_19, KleverKiS_29, Kumao_29, Lewan_19, LilDestine_19, LilhomieP_28, Loadrie_19, Lynnae_19, Miley16_19, MkaliMitinis3_19, MrMagoo_33, Nanosmite_33, Netyap_19, Nicholasp3_19, OverPar_19, PegLeg_29, Reindeer_27, Rey_33, RoseMarie_30, Rossetti_19, Rumpelstiltskin_19, Sarshaun_19, Skinny_30, SlimJimmy_28, SoJulia_19, Soap141_19, Tourach_19, TpudiCK_30, TyDawg_29, Underpass_19, Vetrix_19, Wigglewiggle_19, Wilder_19, Winky_19, Zakai_19, ZhongYanYuan_18,

Summary by start number:

Start 2:
• Found in 31 of 130 (23.8%) of genes in pham
• Manual Annotations of this start: 26 of 102
• Called 90.3% of time when present
• Phage (with cluster) where this start called: Auspice_29 (M1), Aziz_33 (M2), Azrael100_41 (V), Bongo_29 (M1), Bricole_29 (M1), Cosmo_42 (V), Diminimus_30 (M1), Dulcita_30 (M1), EniyanLRS_39 (V), Estes_34 (M2), FreakyGoo_30 (M1), GardenSalsa_33 (M2), GenevaB15_33 (M2), Glaske16_30 (M1), IPhane7_29 (M1),

Izel_30 (M1), Kumao_29 (singleton), LilhomieP_28 (M1), MaryV_42 (V), MrMagoo_33 (M2), Nanosmite_33 (M3), Reindeer_27 (M1), RoseMarie_30 (M1), Skinny_30 (M1), SlimJimmy_28 (M1), TpudiCK_30 (M1), TyDawg_29 (M1), Wildcat_42 (V),

Start 3:
• Found in 63 of 130 (48.5%) of genes in pham
• Manual Annotations of this start: 44 of 102
• Called 92.1% of time when present
• Phage (with cluster) where this start called: Acquire49_19 (L1), Aegeus_19 (L5), Appletree2_19 (L1), AvadaKedavra_19 (L1), Baudelaire_19 (L5), Bellis_20 (L3), BourbonZero_19 (L3), BrainDrainer_20 (L4), Bromden_20 (L4), Calm_19 (L1), Chaser_19 (L4), ChutneyChips_18 (L4), CicholasNage_19 (L1), Clautastrophe_20 (L3), DirkDirk_19 (L1), Douge_19 (L4), Douzhi_19 (L4), DuncansLeg_20 (L3), DyoEdafos_20 (L4), Ellson_20 (L3), Enceladus_19 (L1), FarmResident_19 (L4), Finnry_20 (L3), Halena_19 (L1), Jobypre_20 (L3), JoeDirt_19 (L1), Jubie_20 (L3), Kingsolomon_20 (L3), KirDoubleO7_18 (L3), Kropertea_19 (L4), Krypton555_20 (L3), LeBron_19 (L1), LiyuLake_20 (L3), Lolly9_20 (L3), Lumos_20 (L3), MAckerman_19 (L1), MiniLon_20 (L3), MiniMac_20 (L3), Moostard_20 (L3), MsGreen_20 (L3), Nicholas_20 (L3), OhShagHennessy_19 (L1), PYPDinur_19 (L4), Poochiewood_19 (L1), Quby_19 (L4), Red305_20 (L3), Rose5_19 (L1), Samty_20 (L3), Sheng711_19 (L4), Silverleaf_19 (L1), Snenia_20 (L3), TriFive_20 (L3), Tyson_19 (L1), UPIE_19 (L1), Wamburgrxpress_19 (L1), Whirlwind_21 (L3), Wyatt2_19 (L1), Zaria_19 (L1),

Start 4:
• Found in 65 of 130 (50.0%) of genes in pham
• Manual Annotations of this start: 31 of 102
• Called 64.6% of time when present
• Phage (with cluster) where this start called: Archie_19 (L2), Baoshan_18 (L2), Bazzle_19 (L2), BigCheese_19 (L2), BobsGarage_19 (L2), Breezona_19 (L2), Claus_19 (L2), Crossroads_19 (L2), DHan_19 (L2), DanBing_18 (L2), DrSeegs_19 (L2), Faith1_19 (L2), Finemlucis_19 (L2), Gabriela_19 (L2), Gardann_19 (L2), GuuelaD_19 (L2), Hafay_19 (L2), Itos_19 (L2), Kahlid_19 (L2), Lewan_19 (L2), LilDestine_19 (L2), Loadrie_19 (L2), Lynnae_19 (L2), Miley16_19 (L2), MkaliMitinis3_19 (L2), Netyap_19 (L2), Nicholasp3_19 (L2), OverPar_19 (L2), PegLeg_29 (M1), Rossetti_19 (L2), Rumpelstiltskin_19 (L2), Sarshaun_19 (L2), SoJulia_19 (L2), Soap141_19 (L2), Tourach_19 (L2), Underpass_19 (L2), Vetrix_19 (L2), Wigglewiggle_19 (L2), Wilder_19 (L2), Winky_19 (L2), Zakai_19 (L2), ZhongYanYuan_18 (L2),

Start 8:
• Found in 82 of 130 (63.1%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 2.4% of time when present
• Phage (with cluster) where this start called: KleverKiS_29 (M1), Rey_33 (M2),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, L1, L4, L5, M1, L3, M3, V, L2, M2,

Info for manual annotations of cluster L1:
•Start number 3 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:
•Start number 4 was manually annotated 30 times for cluster L2.

Info for manual annotations of cluster L3:
•Start number 3 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:
•Start number 3 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:
•Start number 3 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster M1:
•Start number 2 was manually annotated 14 times for cluster M1.
•Start number 4 was manually annotated 1 time for cluster M1.

Info for manual annotations of cluster M2:
•Start number 2 was manually annotated 5 times for cluster M2.
•Start number 8 was manually annotated 1 time for cluster M2.

Info for manual annotations of cluster M3:
•Start number 2 was manually annotated 1 time for cluster M3.

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

Gene Information:

Gene: Acquire49_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for Acquire49_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: Aegeus_19 Start: 18088, Stop: 18534, Start Num: 3
Candidate Starts for Aegeus_19:
(1, 18073), (Start: 3 @18088 has 44 MA's), (6, 18115), (Start: 8 @18145 has 1 MA's), (19, 18244), (20, 18247), (30, 18340), (32, 18361), (35, 18382), (53, 18517),

Gene: Appletree2_19 Start: 18493, Stop: 18939, Start Num: 3
Candidate Starts for Appletree2_19:
(Start: 3 @18493 has 44 MA's), (7, 18538), (Start: 8 @18550 has 1 MA's), (16, 18619), (19, 18643), (21, 18655), (35, 18784), (36, 18787), (38, 18808), (42, 18829), (49, 18901), (53, 18919), (55, 18931),

Gene: Archie_19 Start: 18963, Stop: 19460, Start Num: 4
Candidate Starts for Archie_19:
(Start: 4 @18963 has 31 MA's), (6, 18987), (13, 19071), (18, 19098), (19, 19107), (35, 19248), (42, 19293), (46, 19341), (53, 19383), (55, 19395),

Gene: Auspice_29 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for Auspice_29:

(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: AvadaKedavra_19 Start: 18560, Stop: 19006, Start Num: 3
Candidate Starts for AvadaKedavra_19:
(Start: 3 @18560 has 44 MA's), (7, 18605), (Start: 8 @18617 has 1 MA's), (16, 18686), (19, 18710), (21, 18722), (35, 18851), (36, 18854), (38, 18875), (42, 18896), (49, 18968), (53, 18986), (55, 18998),

Gene: Aziz_33 Start: 24749, Stop: 25204, Start Num: 2
Candidate Starts for Aziz_33:
(Start: 2 @24749 has 26 MA's), (Start: 4 @24758 has 31 MA's), (7, 24797), (11, 24821), (12, 24824), (13, 24860), (19, 24896), (31, 25010), (45, 25127), (46, 25130), (50, 25160), (51, 25163),

Gene: Azrael100_41 Start: 27872, Stop: 28339, Start Num: 2
Candidate Starts for Azrael100_41:
(Start: 2 @27872 has 26 MA's), (Start: 3 @27878 has 44 MA's), (7, 27920), (Start: 8 @27929 has 1 MA's), (14, 27983), (19, 28016), (21, 28028), (35, 28151), (38, 28175), (39, 28187), (43, 28232), (45, 28250), (48, 28274), (50, 28283), (56, 28310),

Gene: Baoshan_18 Start: 18572, Stop: 19069, Start Num: 4
Candidate Starts for Baoshan_18:
(Start: 4 @18572 has 31 MA's), (6, 18596), (13, 18680), (18, 18707), (19, 18716), (33, 18839), (35, 18857), (42, 18902), (46, 18950), (53, 18992), (55, 19004),

Gene: Baudelaire_19 Start: 18088, Stop: 18534, Start Num: 3
Candidate Starts for Baudelaire_19:
(1, 18073), (Start: 3 @18088 has 44 MA's), (6, 18115), (Start: 8 @18145 has 1 MA's), (19, 18244), (20, 18247), (30, 18340), (32, 18361), (35, 18382), (53, 18517),

Gene: Bazzle_19 Start: 18712, Stop: 19209, Start Num: 4
Candidate Starts for Bazzle_19:
(Start: 4 @18712 has 31 MA's), (6, 18736), (13, 18820), (18, 18847), (19, 18856), (35, 18997), (42, 19042), (46, 19090), (53, 19132), (55, 19144),

Gene: Bellis_20 Start: 19277, Stop: 19726, Start Num: 3
Candidate Starts for Bellis_20:
(Start: 3 @19277 has 44 MA's), (7, 19322), (Start: 8 @19334 has 1 MA's), (11, 19349), (16, 19406), (17, 19418), (19, 19430), (21, 19442), (23, 19466), (24, 19475), (27, 19493), (34, 19562), (35, 19571), (53, 19706),

Gene: BigCheese_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for BigCheese_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: BobsGarage_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for BobsGarage_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Bongo_29 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for Bongo_29:

(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: BourbonZero_19 Start: 19258, Stop: 19707, Start Num: 3
Candidate Starts for BourbonZero_19:
(Start: 3 @19258 has 44 MA's), (7, 19303), (Start: 8 @19315 has 1 MA's), (11, 19330), (16, 19387), (19, 19411), (21, 19423), (23, 19447), (27, 19474), (34, 19543), (35, 19552), (53, 19687),

Gene: BrainDrainer_20 Start: 18499, Stop: 18951, Start Num: 3
Candidate Starts for BrainDrainer_20:
(Start: 3 @18499 has 44 MA's), (6, 18526), (7, 18544), (Start: 8 @18556 has 1 MA's), (19, 18655), (21, 18667), (25, 18706), (34, 18787), (35, 18796), (40, 18832), (53, 18931),

Gene: Breezona_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Breezona_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Bricole_29 Start: 24144, Stop: 24602, Start Num: 2
Candidate Starts for Bricole_29:
(Start: 2 @24144 has 26 MA's), (Start: 4 @24153 has 31 MA's), (7, 24192), (Start: 8 @24201 has 1 MA's), (10, 24210), (11, 24216), (12, 24219), (13, 24255), (15, 24264), (19, 24291), (24, 24336), (26, 24345), (29, 24378), (31, 24405), (41, 24474), (44, 24507), (51, 24558), (53, 24567),

Gene: Bromden_20 Start: 18828, Stop: 19280, Start Num: 3
Candidate Starts for Bromden_20:
(Start: 3 @18828 has 44 MA's), (7, 18873), (Start: 8 @18885 has 1 MA's), (19, 18984), (21, 18996), (25, 19035), (34, 19116), (35, 19125), (40, 19161), (47, 19221), (53, 19260),

Gene: Calm_19 Start: 18564, Stop: 19010, Start Num: 3
Candidate Starts for Calm_19:
(Start: 3 @18564 has 44 MA's), (7, 18609), (Start: 8 @18621 has 1 MA's), (16, 18690), (19, 18714), (21, 18726), (35, 18855), (36, 18858), (38, 18879), (42, 18900), (49, 18972), (53, 18990), (55, 19002),

Gene: Chaser_19 Start: 18428, Stop: 18880, Start Num: 3
Candidate Starts for Chaser_19:
(Start: 3 @18428 has 44 MA's), (6, 18455), (7, 18473), (Start: 8 @18485 has 1 MA's), (19, 18584), (21, 18596), (25, 18635), (34, 18716), (35, 18725), (40, 18761), (53, 18860),

Gene: ChutneyChips_18 Start: 18421, Stop: 18873, Start Num: 3
Candidate Starts for ChutneyChips_18:
(Start: 3 @18421 has 44 MA's), (6, 18448), (7, 18466), (Start: 8 @18478 has 1 MA's), (19, 18577), (21, 18589), (25, 18628), (34, 18709), (35, 18718), (40, 18754), (53, 18853),

Gene: CicholasNage_19 Start: 18552, Stop: 18998, Start Num: 3
Candidate Starts for CicholasNage_19:
(Start: 3 @18552 has 44 MA's), (7, 18597), (Start: 8 @18609 has 1 MA's), (16, 18678), (19, 18702), (21, 18714), (35, 18843), (36, 18846), (38, 18867), (42, 18888), (49, 18960), (53, 18978), (55, 18990),

Gene: Claus_19 Start: 18728, Stop: 19225, Start Num: 4
Candidate Starts for Claus_19:

(Start: 4 @18728 has 31 MA's), (6, 18752), (13, 18836), (18, 18863), (19, 18872), (33, 18995), (35, 19013), (42, 19058), (46, 19106), (53, 19148), (55, 19160),

Gene: Clautastrophe_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for Clautastrophe_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: Cosmo_42 Start: 27879, Stop: 28346, Start Num: 2
Candidate Starts for Cosmo_42:
(Start: 2 @27879 has 26 MA's), (Start: 3 @27885 has 44 MA's), (7, 27927), (Start: 8 @27936 has 1 MA's), (14, 27990), (19, 28023), (21, 28035), (35, 28158), (38, 28182), (39, 28194), (43, 28239), (45, 28257), (48, 28281), (50, 28290), (56, 28317),

Gene: Crossroads_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Crossroads_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: DHan_19 Start: 18664, Stop: 19161, Start Num: 4
Candidate Starts for DHan_19:
(Start: 4 @18664 has 31 MA's), (6, 18688), (13, 18772), (18, 18799), (19, 18808), (33, 18931), (35, 18949), (42, 18994), (46, 19042), (53, 19084), (55, 19096),

Gene: DanBing_18 Start: 18568, Stop: 19065, Start Num: 4
Candidate Starts for DanBing_18:
(Start: 4 @18568 has 31 MA's), (6, 18592), (13, 18676), (18, 18703), (19, 18712), (33, 18835), (35, 18853), (42, 18898), (46, 18946), (53, 18988), (55, 19000),

Gene: Diminimus_30 Start: 24157, Stop: 24615, Start Num: 2
Candidate Starts for Diminimus_30:
(Start: 2 @24157 has 26 MA's), (Start: 4 @24166 has 31 MA's), (7, 24205), (Start: 8 @24214 has 1 MA's), (10, 24223), (11, 24229), (12, 24232), (13, 24268), (15, 24277), (19, 24304), (24, 24349), (26, 24358), (29, 24391), (31, 24418), (41, 24487), (44, 24520), (51, 24571), (53, 24580),

Gene: DirkDirk_19 Start: 18533, Stop: 18979, Start Num: 3
Candidate Starts for DirkDirk_19:
(Start: 3 @18533 has 44 MA's), (7, 18578), (Start: 8 @18590 has 1 MA's), (16, 18659), (19, 18683), (21, 18695), (35, 18824), (36, 18827), (38, 18848), (42, 18869), (49, 18941), (53, 18959), (55, 18971),

Gene: Douge_19 Start: 18369, Stop: 18821, Start Num: 3
Candidate Starts for Douge_19:
(Start: 3 @18369 has 44 MA's), (6, 18396), (7, 18414), (Start: 8 @18426 has 1 MA's), (19, 18525), (21, 18537), (25, 18576), (34, 18657), (35, 18666), (40, 18702), (53, 18801),

Gene: Douzhi_19 Start: 18360, Stop: 18812, Start Num: 3
Candidate Starts for Douzhi_19:
(Start: 3 @18360 has 44 MA's), (6, 18387), (7, 18405), (Start: 8 @18417 has 1 MA's), (19, 18516), (21, 18528), (25, 18567), (34, 18648), (35, 18657), (40, 18693), (53, 18792),

Gene: DrSeegs_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for DrSeegs_19:

(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Dulcita_30 Start: 24157, Stop: 24615, Start Num: 2
Candidate Starts for Dulcita_30:
(Start: 2 @24157 has 26 MA's), (Start: 4 @24166 has 31 MA's), (7, 24205), (Start: 8 @24214 has 1 MA's), (10, 24223), (11, 24229), (12, 24232), (13, 24268), (15, 24277), (19, 24304), (24, 24349), (26, 24358), (29, 24391), (31, 24418), (41, 24487), (44, 24520), (51, 24571), (53, 24580),

Gene: DuncansLeg_20 Start: 19260, Stop: 19709, Start Num: 3
Candidate Starts for DuncansLeg_20:
(Start: 3 @19260 has 44 MA's), (7, 19305), (Start: 8 @19317 has 1 MA's), (11, 19332), (16, 19389), (19, 19413), (21, 19425), (23, 19449), (24, 19458), (27, 19476), (34, 19545), (35, 19554), (53, 19689),

Gene: DyoEdafos_20 Start: 18576, Stop: 19028, Start Num: 3
Candidate Starts for DyoEdafos_20:
(Start: 3 @18576 has 44 MA's), (6, 18603), (7, 18621), (Start: 8 @18633 has 1 MA's), (19, 18732), (21, 18744), (34, 18864), (35, 18873), (40, 18909), (53, 19008),

Gene: Ellson_20 Start: 19268, Stop: 19717, Start Num: 3
Candidate Starts for Ellson_20:
(Start: 3 @19268 has 44 MA's), (7, 19313), (Start: 8 @19325 has 1 MA's), (11, 19340), (16, 19397), (19, 19421), (21, 19433), (23, 19457), (24, 19466), (27, 19484), (34, 19553), (35, 19562), (53, 19697),

Gene: Enceladus_19 Start: 18534, Stop: 18980, Start Num: 3
Candidate Starts for Enceladus_19:
(Start: 3 @18534 has 44 MA's), (7, 18579), (Start: 8 @18591 has 1 MA's), (16, 18660), (19, 18684), (21, 18696), (35, 18825), (36, 18828), (38, 18849), (42, 18870), (49, 18942), (53, 18960), (55, 18972),

Gene: EniyanLRS_39 Start: 27577, Stop: 28044, Start Num: 2
Candidate Starts for EniyanLRS_39:
(Start: 2 @27577 has 26 MA's), (Start: 3 @27583 has 44 MA's), (7, 27625), (Start: 8 @27634 has 1 MA's), (14, 27688), (19, 27721), (21, 27733), (35, 27856), (38, 27880), (39, 27892), (43, 27937), (45, 27955), (48, 27979), (50, 27988), (56, 28015),

Gene: Estes_34 Start: 24880, Stop: 25335, Start Num: 2
Candidate Starts for Estes_34:
(Start: 2 @24880 has 26 MA's), (Start: 4 @24889 has 31 MA's), (7, 24928), (11, 24952), (12, 24955), (13, 24991), (19, 25027), (31, 25141), (45, 25258), (46, 25261), (50, 25291), (51, 25294),

Gene: Faith1_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Faith1_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: FarmResident_19 Start: 18413, Stop: 18865, Start Num: 3
Candidate Starts for FarmResident_19:
(Start: 3 @18413 has 44 MA's), (6, 18440), (7, 18458), (Start: 8 @18470 has 1 MA's), (19, 18569), (21, 18581), (25, 18620), (34, 18701), (35, 18710), (40, 18746), (53, 18845),

Gene: Finemlucis_19 Start: 18755, Stop: 19252, Start Num: 4
Candidate Starts for Finemlucis_19:

(Start: 4 @18755 has 31 MA's), (6, 18779), (13, 18863), (18, 18890), (19, 18899), (33, 19022), (35, 19040), (40, 19076), (42, 19085), (46, 19133), (53, 19175), (55, 19187),

Gene: Finnry_20 Start: 19279, Stop: 19728, Start Num: 3
Candidate Starts for Finnry_20:
(Start: 3 @19279 has 44 MA's), (7, 19324), (Start: 8 @19336 has 1 MA's), (11, 19351), (16, 19408), (17, 19420), (19, 19432), (21, 19444), (23, 19468), (24, 19477), (27, 19495), (34, 19564), (35, 19573), (53, 19708),

Gene: FreakyGoo_30 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for FreakyGoo_30:
(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: Gabriela_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Gabriela_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Gardann_19 Start: 18752, Stop: 19249, Start Num: 4
Candidate Starts for Gardann_19:
(Start: 4 @18752 has 31 MA's), (6, 18776), (13, 18860), (18, 18887), (19, 18896), (33, 19019), (35, 19037), (40, 19073), (42, 19082), (46, 19130), (53, 19172), (55, 19184),

Gene: GardenSalsa_33 Start: 24704, Stop: 25159, Start Num: 2
Candidate Starts for GardenSalsa_33:
(Start: 2 @24704 has 26 MA's), (Start: 4 @24713 has 31 MA's), (7, 24752), (11, 24776), (12, 24779), (13, 24815), (19, 24851), (31, 24965), (36, 24992), (45, 25082), (46, 25085), (50, 25115), (51, 25118),

Gene: GenevaB15_33 Start: 24749, Stop: 25204, Start Num: 2
Candidate Starts for GenevaB15_33:
(Start: 2 @24749 has 26 MA's), (Start: 4 @24758 has 31 MA's), (7, 24797), (11, 24821), (12, 24824), (13, 24860), (19, 24896), (31, 25010), (45, 25127), (46, 25130), (50, 25160), (51, 25163),

Gene: Glaske16_30 Start: 24157, Stop: 24615, Start Num: 2
Candidate Starts for Glaske16_30:
(Start: 2 @24157 has 26 MA's), (Start: 4 @24166 has 31 MA's), (7, 24205), (Start: 8 @24214 has 1 MA's), (10, 24223), (11, 24229), (12, 24232), (13, 24268), (15, 24277), (19, 24304), (24, 24349), (26, 24358), (29, 24391), (31, 24418), (41, 24487), (44, 24520), (51, 24571), (53, 24580),

Gene: GuuelaD_19 Start: 18781, Stop: 19278, Start Num: 4
Candidate Starts for GuuelaD_19:
(Start: 4 @18781 has 31 MA's), (6, 18805), (13, 18889), (18, 18916), (19, 18925), (33, 19048), (35, 19066), (42, 19111), (46, 19159), (53, 19201),

Gene: Hafay_19 Start: 18780, Stop: 19277, Start Num: 4
Candidate Starts for Hafay_19:
(Start: 4 @18780 has 31 MA's), (6, 18804), (13, 18888), (18, 18915), (19, 18924), (33, 19047), (35, 19065), (40, 19101), (42, 19110), (46, 19158), (53, 19200), (55, 19212),

Gene: Halena_19 Start: 18561, Stop: 19007, Start Num: 3
Candidate Starts for Halena_19:

(Start: 3 @18561 has 44 MA's), (7, 18606), (Start: 8 @18618 has 1 MA's), (16, 18687), (19, 18711), (21, 18723), (35, 18852), (36, 18855), (38, 18876), (42, 18897), (49, 18969), (53, 18987), (55, 18999),

Gene: IPhane7_29 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for IPhane7_29:
(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: Itos_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Itos_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Izel_30 Start: 24157, Stop: 24615, Start Num: 2
Candidate Starts for Izel_30:
(Start: 2 @24157 has 26 MA's), (Start: 4 @24166 has 31 MA's), (7, 24205), (Start: 8 @24214 has 1 MA's), (10, 24223), (11, 24229), (12, 24232), (13, 24268), (15, 24277), (19, 24304), (24, 24349), (26, 24358), (29, 24391), (31, 24418), (41, 24487), (44, 24520), (51, 24571), (53, 24580),

Gene: Jobypre_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for Jobypre_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: JoeDirt_19 Start: 18532, Stop: 18978, Start Num: 3
Candidate Starts for JoeDirt_19:
(Start: 3 @18532 has 44 MA's), (7, 18577), (Start: 8 @18589 has 1 MA's), (16, 18658), (19, 18682), (21, 18694), (35, 18823), (36, 18826), (38, 18847), (42, 18868), (49, 18940), (53, 18958), (55, 18970),

Gene: Jubie_20 Start: 19276, Stop: 19725, Start Num: 3
Candidate Starts for Jubie_20:
(Start: 3 @19276 has 44 MA's), (7, 19321), (Start: 8 @19333 has 1 MA's), (11, 19348), (16, 19405), (17, 19417), (19, 19429), (21, 19441), (23, 19465), (24, 19474), (27, 19492), (34, 19561), (35, 19570), (53, 19705),

Gene: Kahlid_19 Start: 18752, Stop: 19249, Start Num: 4
Candidate Starts for Kahlid_19:
(Start: 4 @18752 has 31 MA's), (6, 18776), (13, 18860), (18, 18887), (19, 18896), (33, 19019), (35, 19037), (40, 19073), (42, 19082), (46, 19130), (53, 19172), (55, 19184),

Gene: Kingsolomon_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for Kingsolomon_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: KirDoubleO7_18 Start: 19269, Stop: 19718, Start Num: 3
Candidate Starts for KirDoubleO7_18:
(Start: 3 @19269 has 44 MA's), (7, 19314), (Start: 8 @19326 has 1 MA's), (11, 19341), (16, 19398), (19, 19422), (21, 19434), (23, 19458), (27, 19485), (34, 19554), (35, 19563), (53, 19698),

Gene: KleverKiS_29 Start: 24198, Stop: 24599, Start Num: 8
Candidate Starts for KleverKiS_29:
(Start: 2 @24141 has 26 MA's), (Start: 4 @24150 has 31 MA's), (7, 24189), (Start: 8 @24198 has 1 MA's), (10, 24207), (11, 24213), (12, 24216), (13, 24252), (15, 24261), (19, 24288), (24, 24333), (26, 24342), (29, 24375), (31, 24402), (41, 24471), (44, 24504), (51, 24555), (53, 24564),

Gene: Kropertea_19 Start: 18383, Stop: 18835, Start Num: 3
Candidate Starts for Kropertea_19:
(Start: 3 @18383 has 44 MA's), (7, 18428), (Start: 8 @18440 has 1 MA's), (19, 18539), (21, 18551), (25, 18590), (34, 18671), (35, 18680), (40, 18716), (47, 18776), (53, 18815),

Gene: Krypton555_20 Start: 19198, Stop: 19647, Start Num: 3
Candidate Starts for Krypton555_20:
(Start: 3 @19198 has 44 MA's), (7, 19243), (Start: 8 @19255 has 1 MA's), (16, 19327), (19, 19351), (21, 19363), (23, 19387), (24, 19396), (27, 19414), (34, 19483), (35, 19492), (36, 19495), (53, 19627),

Gene: Kumao_29 Start: 23245, Stop: 23697, Start Num: 2
Candidate Starts for Kumao_29:
(Start: 2 @23245 has 26 MA's), (7, 23293), (9, 23305), (13, 23359), (19, 23395), (22, 23413), (28, 23470), (48, 23647), (52, 23665), (53, 23668),

Gene: LeBron_19 Start: 18576, Stop: 19022, Start Num: 3
Candidate Starts for LeBron_19:
(Start: 3 @18576 has 44 MA's), (7, 18621), (Start: 8 @18633 has 1 MA's), (16, 18702), (19, 18726), (21, 18738), (35, 18867), (36, 18870), (38, 18891), (42, 18912), (49, 18984), (53, 19002), (55, 19014),

Gene: Lewan_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Lewan_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: LilDestine_19 Start: 18746, Stop: 19243, Start Num: 4
Candidate Starts for LilDestine_19:
(Start: 4 @18746 has 31 MA's), (6, 18770), (13, 18854), (18, 18881), (19, 18890), (33, 19013), (35, 19031), (40, 19067), (42, 19076), (46, 19124), (53, 19166), (55, 19178),

Gene: LilhomieP_28 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for LilhomieP_28:
(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: LiyuLake_20 Start: 19260, Stop: 19709, Start Num: 3
Candidate Starts for LiyuLake_20:
(Start: 3 @19260 has 44 MA's), (7, 19305), (Start: 8 @19317 has 1 MA's), (11, 19332), (16, 19389), (19, 19413), (21, 19425), (23, 19449), (27, 19476), (34, 19545), (35, 19554), (53, 19689),

Gene: Loadrie_19 Start: 18779, Stop: 19276, Start Num: 4
Candidate Starts for Loadrie_19:
(Start: 4 @18779 has 31 MA's), (6, 18803), (13, 18887), (18, 18914), (19, 18923), (33, 19046), (35, 19064), (40, 19100), (42, 19109), (46, 19157), (53, 19199), (55, 19211),

Gene: Lolly9_20 Start: 19079, Stop: 19528, Start Num: 3

Candidate Starts for Lolly9_20:
(Start: 3 @19079 has 44 MA's), (6, 19106), (7, 19124), (Start: 8 @19136 has 1 MA's), (11, 19151), (16, 19208), (17, 19220), (19, 19232), (21, 19244), (23, 19268), (24, 19277), (34, 19364), (35, 19373), (53, 19508),

Gene: Lumos_20 Start: 19272, Stop: 19721, Start Num: 3
Candidate Starts for Lumos_20:
(Start: 3 @19272 has 44 MA's), (7, 19317), (Start: 8 @19329 has 1 MA's), (11, 19344), (16, 19401), (17, 19413), (19, 19425), (21, 19437), (23, 19461), (24, 19470), (27, 19488), (34, 19557), (35, 19566), (53, 19701),

Gene: Lynnae_19 Start: 18735, Stop: 19232, Start Num: 4
Candidate Starts for Lynnae_19:
(Start: 4 @18735 has 31 MA's), (6, 18759), (13, 18843), (18, 18870), (19, 18879), (33, 19002), (35, 19020), (40, 19056), (42, 19065), (46, 19113), (53, 19155), (55, 19167),

Gene: MAckerman_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for MAckerman_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: MaryV_42 Start: 27864, Stop: 28331, Start Num: 2
Candidate Starts for MaryV_42:
(Start: 2 @27864 has 26 MA's), (Start: 3 @27870 has 44 MA's), (7, 27912), (Start: 8 @27921 has 1 MA's), (14, 27975), (19, 28008), (21, 28020), (35, 28143), (38, 28167), (39, 28179), (43, 28224), (45, 28242), (48, 28266), (50, 28275), (56, 28302),

Gene: Miley16_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Miley16_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: MiniLon_20 Start: 19079, Stop: 19528, Start Num: 3
Candidate Starts for MiniLon_20:
(Start: 3 @19079 has 44 MA's), (6, 19106), (7, 19124), (Start: 8 @19136 has 1 MA's), (11, 19151), (16, 19208), (17, 19220), (19, 19232), (21, 19244), (23, 19268), (24, 19277), (34, 19364), (35, 19373), (53, 19508),

Gene: MiniMac_20 Start: 19080, Stop: 19529, Start Num: 3
Candidate Starts for MiniMac_20:
(Start: 3 @19080 has 44 MA's), (6, 19107), (7, 19125), (Start: 8 @19137 has 1 MA's), (11, 19152), (16, 19209), (17, 19221), (19, 19233), (21, 19245), (23, 19269), (24, 19278), (34, 19365), (35, 19374), (53, 19509),

Gene: MkaliMitinis3_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for MkaliMitinis3_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Moostard_20 Start: 19278, Stop: 19727, Start Num: 3
Candidate Starts for Moostard_20:
(Start: 3 @19278 has 44 MA's), (7, 19323), (Start: 8 @19335 has 1 MA's), (11, 19350), (16, 19407), (17, 19419), (19, 19431), (21, 19443), (23, 19467), (24, 19476), (27, 19494), (34, 19563), (35, 19572),

(53, 19707),

Gene: MrMagoo_33 Start: 24704, Stop: 25159, Start Num: 2
Candidate Starts for MrMagoo_33:
(Start: 2 @24704 has 26 MA's), (Start: 4 @24713 has 31 MA's), (7, 24752), (11, 24776), (12, 24779), (13, 24815), (19, 24851), (31, 24965), (36, 24992), (45, 25082), (46, 25085), (50, 25115), (51, 25118),

Gene: MsGreen_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for MsGreen_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: Nanosmite_33 Start: 24574, Stop: 25029, Start Num: 2
Candidate Starts for Nanosmite_33:
(Start: 2 @24574 has 26 MA's), (Start: 4 @24583 has 31 MA's), (5, 24589), (7, 24622), (10, 24640), (11, 24646), (13, 24685), (15, 24694), (19, 24721), (21, 24733), (28, 24796), (29, 24808), (33, 24841), (36, 24862), (41, 24904), (51, 24988),

Gene: Netyap_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Netyap_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Nicholas_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for Nicholas_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: Nicholasp3_19 Start: 18752, Stop: 19249, Start Num: 4
Candidate Starts for Nicholasp3_19:
(Start: 4 @18752 has 31 MA's), (6, 18776), (13, 18860), (18, 18887), (19, 18896), (33, 19019), (35, 19037), (40, 19073), (42, 19082), (46, 19130), (53, 19172), (55, 19184),

Gene: OhShagHennessy_19 Start: 18515, Stop: 18961, Start Num: 3
Candidate Starts for OhShagHennessy_19:
(Start: 3 @18515 has 44 MA's), (7, 18560), (Start: 8 @18572 has 1 MA's), (16, 18641), (19, 18665), (21, 18677), (35, 18806), (36, 18809), (38, 18830), (42, 18851), (49, 18923), (53, 18941), (55, 18953),

Gene: OverPar_19 Start: 18779, Stop: 19276, Start Num: 4
Candidate Starts for OverPar_19:
(Start: 4 @18779 has 31 MA's), (6, 18803), (13, 18887), (18, 18914), (19, 18923), (33, 19046), (35, 19064), (40, 19100), (42, 19109), (46, 19157), (53, 19199), (55, 19211),

Gene: PYPDinur_19 Start: 18360, Stop: 18812, Start Num: 3
Candidate Starts for PYPDinur_19:
(Start: 3 @18360 has 44 MA's), (6, 18387), (7, 18405), (Start: 8 @18417 has 1 MA's), (19, 18516), (21, 18528), (25, 18567), (34, 18648), (35, 18657), (40, 18693), (53, 18792),

Gene: PegLeg_29 Start: 24166, Stop: 24615, Start Num: 4
Candidate Starts for PegLeg_29:

(Start: 2 @24157 has 26 MA's), (Start: 4 @24166 has 31 MA's), (7, 24205), (Start: 8 @24214 has 1 MA's), (10, 24223), (11, 24229), (12, 24232), (13, 24268), (15, 24277), (19, 24304), (24, 24349), (26, 24358), (29, 24391), (31, 24418), (41, 24487), (44, 24520), (51, 24571), (53, 24580),

Gene: Poochiewood_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for Poochiewood_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: Quby_19 Start: 18368, Stop: 18820, Start Num: 3
Candidate Starts for Quby_19:
(Start: 3 @18368 has 44 MA's), (6, 18395), (7, 18413), (Start: 8 @18425 has 1 MA's), (19, 18524), (21, 18536), (25, 18575), (34, 18656), (35, 18665), (40, 18701), (53, 18800),

Gene: Red305_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for Red305_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: Reindeer_27 Start: 23982, Stop: 24440, Start Num: 2
Candidate Starts for Reindeer_27:
(Start: 2 @23982 has 26 MA's), (7, 24027), (Start: 8 @24036 has 1 MA's), (10, 24045), (11, 24051), (12, 24054), (13, 24093), (22, 24147), (41, 24312), (51, 24396), (53, 24405), (54, 24414),

Gene: Rey_33 Start: 24993, Stop: 25391, Start Num: 8
Candidate Starts for Rey_33:
(Start: 2 @24936 has 26 MA's), (Start: 4 @24945 has 31 MA's), (7, 24984), (Start: 8 @24993 has 1 MA's), (11, 25008), (12, 25011), (13, 25047), (19, 25083), (31, 25197), (36, 25224), (45, 25314), (46, 25317), (50, 25347), (51, 25350),

Gene: Rose5_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for Rose5_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: RoseMarie_30 Start: 26020, Stop: 26478, Start Num: 2
Candidate Starts for RoseMarie_30:
(Start: 2 @26020 has 26 MA's), (Start: 4 @26029 has 31 MA's), (7, 26068), (Start: 8 @26077 has 1 MA's), (10, 26086), (11, 26092), (12, 26095), (13, 26131), (15, 26140), (19, 26167), (22, 26185), (24, 26212), (26, 26221), (31, 26281), (37, 26311), (41, 26350), (51, 26434), (53, 26443),

Gene: Rossetti_19 Start: 18766, Stop: 19263, Start Num: 4
Candidate Starts for Rossetti_19:
(Start: 4 @18766 has 31 MA's), (6, 18790), (13, 18874), (18, 18901), (19, 18910), (33, 19033), (35, 19051), (42, 19096), (46, 19144), (53, 19186), (55, 19198),

Gene: Rumpelstiltskin_19 Start: 18753, Stop: 19250, Start Num: 4
Candidate Starts for Rumpelstiltskin_19:
(Start: 4 @18753 has 31 MA's), (6, 18777), (13, 18861), (18, 18888), (19, 18897), (33, 19020), (35, 19038), (40, 19074), (42, 19083), (46, 19131), (53, 19173), (55, 19185),

Gene: Samty_20 Start: 19278, Stop: 19727, Start Num: 3

Candidate Starts for Samty_20:
(Start: 3 @19278 has 44 MA's), (7, 19323), (Start: 8 @19335 has 1 MA's), (11, 19350), (16, 19407), (17, 19419), (19, 19431), (21, 19443), (23, 19467), (24, 19476), (27, 19494), (34, 19563), (35, 19572), (53, 19707),

Gene: Sarshaun_19 Start: 18780, Stop: 19277, Start Num: 4
Candidate Starts for Sarshaun_19:
(Start: 4 @18780 has 31 MA's), (6, 18804), (13, 18888), (18, 18915), (19, 18924), (33, 19047), (35, 19065), (40, 19101), (42, 19110), (46, 19158), (53, 19200), (55, 19212),

Gene: Sheng711_19 Start: 18360, Stop: 18812, Start Num: 3
Candidate Starts for Sheng711_19:
(Start: 3 @18360 has 44 MA's), (6, 18387), (7, 18405), (Start: 8 @18417 has 1 MA's), (19, 18516), (21, 18528), (25, 18567), (34, 18648), (35, 18657), (40, 18693), (53, 18792),

Gene: Silverleaf_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for Silverleaf_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: Skinny_30 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for Skinny_30:
(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: SlimJimmy_28 Start: 24144, Stop: 24602, Start Num: 2
Candidate Starts for SlimJimmy_28:
(Start: 2 @24144 has 26 MA's), (Start: 4 @24153 has 31 MA's), (7, 24192), (Start: 8 @24201 has 1 MA's), (10, 24210), (11, 24216), (12, 24219), (13, 24255), (15, 24264), (19, 24291), (24, 24336), (26, 24345), (29, 24378), (31, 24405), (41, 24474), (44, 24507), (51, 24558), (53, 24567),

Gene: Snenia_20 Start: 19276, Stop: 19725, Start Num: 3
Candidate Starts for Snenia_20:
(Start: 3 @19276 has 44 MA's), (7, 19321), (Start: 8 @19333 has 1 MA's), (11, 19348), (16, 19405), (17, 19417), (19, 19429), (21, 19441), (23, 19465), (24, 19474), (27, 19492), (34, 19561), (35, 19570), (53, 19705),

Gene: SoJulia_19 Start: 18746, Stop: 19243, Start Num: 4
Candidate Starts for SoJulia_19:
(Start: 4 @18746 has 31 MA's), (6, 18770), (13, 18854), (18, 18881), (19, 18890), (33, 19013), (35, 19031), (40, 19067), (42, 19076), (46, 19124), (53, 19166), (55, 19178),

Gene: Soap141_19 Start: 18780, Stop: 19277, Start Num: 4
Candidate Starts for Soap141_19:
(Start: 4 @18780 has 31 MA's), (6, 18804), (13, 18888), (18, 18915), (19, 18924), (33, 19047), (35, 19065), (40, 19101), (42, 19110), (46, 19158), (53, 19200), (55, 19212),

Gene: Tourach_19 Start: 18745, Stop: 19242, Start Num: 4
Candidate Starts for Tourach_19:
(Start: 4 @18745 has 31 MA's), (6, 18769), (13, 18853), (18, 18880), (19, 18889), (33, 19012), (35, 19030), (42, 19075), (46, 19123), (53, 19165), (55, 19177),

Gene: TpudiCK_30 Start: 24157, Stop: 24615, Start Num: 2
Candidate Starts for TpudiCK_30:
(Start: 2 @24157 has 26 MA's), (Start: 4 @24166 has 31 MA's), (7, 24205), (Start: 8 @24214 has 1 MA's), (10, 24223), (11, 24229), (12, 24232), (13, 24268), (15, 24277), (19, 24304), (24, 24349), (26, 24358), (29, 24391), (31, 24418), (41, 24487), (44, 24520), (51, 24571), (53, 24580),

Gene: TriFive_20 Start: 19275, Stop: 19724, Start Num: 3
Candidate Starts for TriFive_20:
(Start: 3 @19275 has 44 MA's), (7, 19320), (Start: 8 @19332 has 1 MA's), (11, 19347), (16, 19404), (17, 19416), (19, 19428), (21, 19440), (23, 19464), (24, 19473), (27, 19491), (34, 19560), (35, 19569), (53, 19704),

Gene: TyDawg_29 Start: 24158, Stop: 24616, Start Num: 2
Candidate Starts for TyDawg_29:
(Start: 2 @24158 has 26 MA's), (Start: 4 @24167 has 31 MA's), (7, 24206), (Start: 8 @24215 has 1 MA's), (10, 24224), (11, 24230), (12, 24233), (13, 24269), (15, 24278), (19, 24305), (24, 24350), (26, 24359), (29, 24392), (31, 24419), (41, 24488), (44, 24521), (51, 24572), (53, 24581),

Gene: Tyson_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for Tyson_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: UPIE_19 Start: 18548, Stop: 18994, Start Num: 3
Candidate Starts for UPIE_19:
(Start: 3 @18548 has 44 MA's), (7, 18593), (Start: 8 @18605 has 1 MA's), (16, 18674), (19, 18698), (21, 18710), (35, 18839), (36, 18842), (38, 18863), (42, 18884), (49, 18956), (53, 18974), (55, 18986),

Gene: Underpass_19 Start: 18752, Stop: 19249, Start Num: 4
Candidate Starts for Underpass_19:
(Start: 4 @18752 has 31 MA's), (6, 18776), (13, 18860), (18, 18887), (19, 18896), (33, 19019), (35, 19037), (40, 19073), (42, 19082), (46, 19130), (53, 19172), (55, 19184),

Gene: Vetrix_19 Start: 18753, Stop: 19250, Start Num: 4
Candidate Starts for Vetrix_19:
(Start: 4 @18753 has 31 MA's), (6, 18777), (13, 18861), (18, 18888), (19, 18897), (33, 19020), (35, 19038), (40, 19074), (42, 19083), (46, 19131), (53, 19173), (55, 19185),

Gene: Wamburgrxpress_19 Start: 18563, Stop: 19009, Start Num: 3
Candidate Starts for Wamburgrxpress_19:
(Start: 3 @18563 has 44 MA's), (7, 18608), (Start: 8 @18620 has 1 MA's), (16, 18689), (19, 18713), (21, 18725), (35, 18854), (36, 18857), (38, 18878), (42, 18899), (49, 18971), (53, 18989), (55, 19001),

Gene: Whirlwind_21 Start: 19032, Stop: 19481, Start Num: 3
Candidate Starts for Whirlwind_21:
(Start: 3 @19032 has 44 MA's), (7, 19077), (Start: 8 @19089 has 1 MA's), (11, 19104), (16, 19161), (19, 19185), (21, 19197), (23, 19221), (24, 19230), (27, 19248), (34, 19317), (35, 19326), (36, 19329), (53, 19461),

Gene: Wigglewiggle_19 Start: 18779, Stop: 19276, Start Num: 4
Candidate Starts for Wigglewiggle_19:
(Start: 4 @18779 has 31 MA's), (6, 18803), (13, 18887), (18, 18914), (19, 18923), (33, 19046), (35, 19064), (40, 19100), (42, 19109), (46, 19157), (53, 19199), (55, 19211),

Gene: Wildcat_42 Start: 27874, Stop: 28341, Start Num: 2
Candidate Starts for Wildcat_42:
(Start: 2 @27874 has 26 MA's), (Start: 3 @27880 has 44 MA's), (7, 27922), (Start: 8 @27931 has 1 MA's), (14, 27985), (19, 28018), (21, 28030), (35, 28153), (38, 28177), (39, 28189), (43, 28234), (45, 28252), (48, 28276), (50, 28285), (56, 28312),

Gene: Wilder_19 Start: 18752, Stop: 19249, Start Num: 4
Candidate Starts for Wilder_19:
(Start: 4 @18752 has 31 MA's), (6, 18776), (13, 18860), (18, 18887), (19, 18896), (33, 19019), (35, 19037), (40, 19073), (42, 19082), (46, 19130), (53, 19172), (55, 19184),

Gene: Winky_19 Start: 18747, Stop: 19244, Start Num: 4
Candidate Starts for Winky_19:
(Start: 4 @18747 has 31 MA's), (6, 18771), (13, 18855), (18, 18882), (19, 18891), (33, 19014), (35, 19032), (40, 19068), (42, 19077), (46, 19125), (53, 19167), (55, 19179),

Gene: Wyatt2_19 Start: 18550, Stop: 18996, Start Num: 3
Candidate Starts for Wyatt2_19:
(Start: 3 @18550 has 44 MA's), (7, 18595), (Start: 8 @18607 has 1 MA's), (16, 18676), (19, 18700), (21, 18712), (35, 18841), (36, 18844), (38, 18865), (42, 18886), (49, 18958), (53, 18976), (55, 18988),

Gene: Zakai_19 Start: 18741, Stop: 19238, Start Num: 4
Candidate Starts for Zakai_19:
(Start: 4 @18741 has 31 MA's), (6, 18765), (13, 18849), (18, 18876), (19, 18885), (33, 19008), (35, 19026), (40, 19062), (42, 19071), (46, 19119), (53, 19161), (55, 19173),

Gene: Zaria_19 Start: 18564, Stop: 19010, Start Num: 3
Candidate Starts for Zaria_19:
(Start: 3 @18564 has 44 MA's), (7, 18609), (Start: 8 @18621 has 1 MA's), (16, 18690), (19, 18714), (21, 18726), (35, 18855), (36, 18858), (38, 18879), (42, 18900), (49, 18972), (53, 18990), (55, 19002),

Gene: ZhongYanYuan_18 Start: 18572, Stop: 19069, Start Num: 4
Candidate Starts for ZhongYanYuan_18:
(Start: 4 @18572 has 31 MA's), (6, 18596), (13, 18680), (18, 18707), (19, 18716), (33, 18839), (35, 18857), (42, 18902), (46, 18950), (53, 18992), (55, 19004),