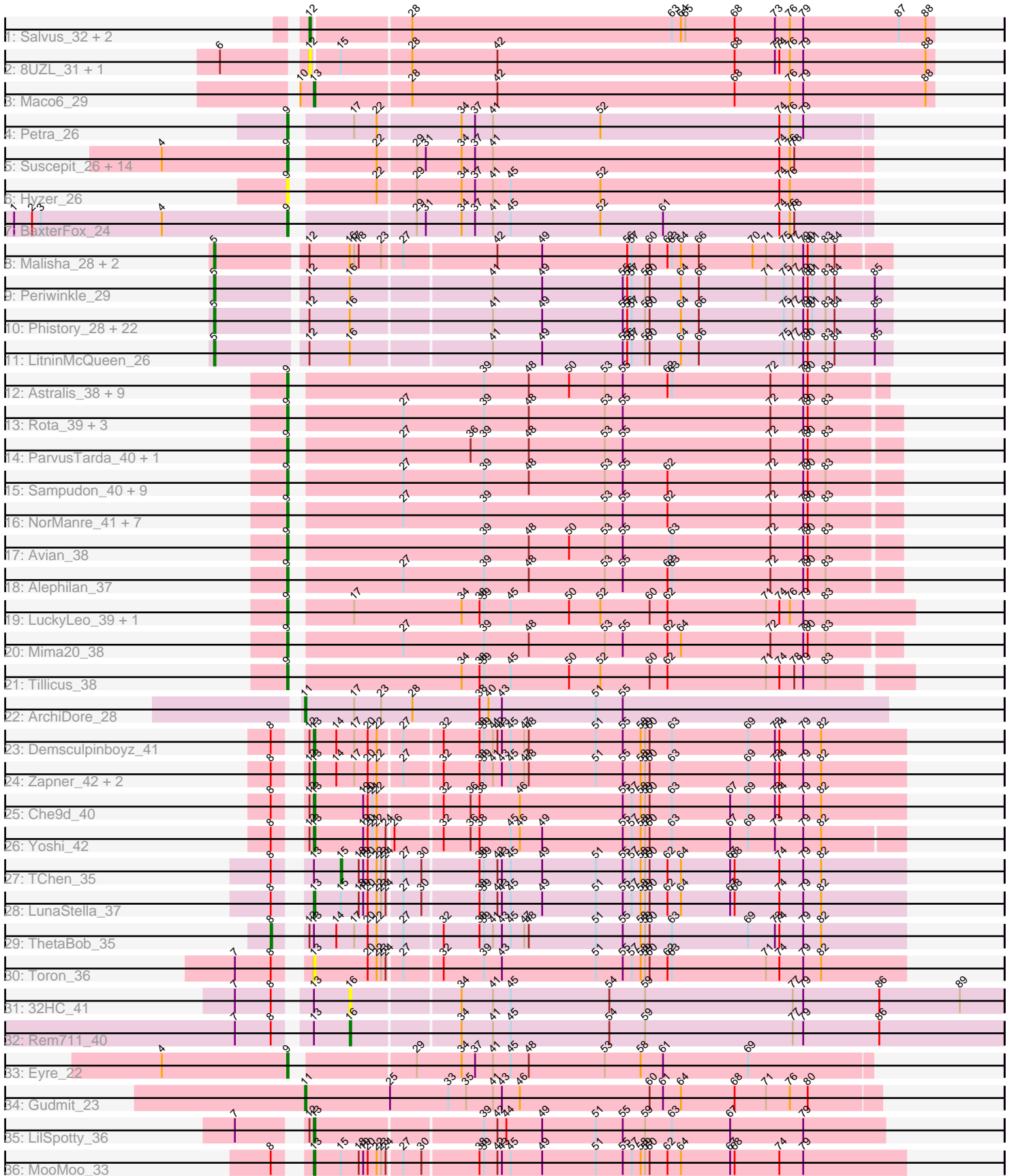


Pham 303232



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 303232 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303232 has 109 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Salvus_32, LongHai_32, Muddy_31
- Track 2 : 8UZL_31, FF47_31
- Track 3 : Maco6_29
- Track 4 : Petra_26
- Track 5 : Suscepit_26, Maridalia_25, Zameen_26, BoyNamedSue_25, AlumE_25, Neobush_26, Antonio_26, Agueybana_25, PantheRoc_25, Eudoria_26, Trumpet_26, Tayonia_26, Manasvini_26, Yeezy_26, Kita_26
- Track 6 : Hyzer_26
- Track 7 : BaxterFox_24
- Track 8 : Malisha_28, Squiddly_29, Spooky_27
- Track 9 : Periwinkle_29
- Track 10 : Phistory_28, Kamaru_27, Getalong_28, Horus_27, Phabuloso_26, ShawBrad_27, Lutum_27, CheeseTouch_27, Kenna_26, Birdsong_26, Crater_25, Holliday_27, Apricot_26, Budski_27, BENtherdunthat_27, Asapag_27, BearBQ_26, Leroy_27, Kuwabara_26, BotCity_27, MortyNRick_26, Whitney_28, Frickyeah_26
- Track 11 : LitninMcQueen_26
- Track 12 : Astralis_38, Rumi_40, NovaSharks_40, Riduram_38, Alyssamiracle_41, Jamemuya19_38, Stormer_40, RazorC_39, Charminar_38, Genamy16_41
- Track 13 : Rota_39, Lila22_39, Erutan_40, Wojtek_39
- Track 14 : ParvusTarda_40, BirthdayBoy_41
- Track 15 : Sampudon_40, MoiGyank_42, Yikes_41, OtterstedtS21_40, Ranch_40, Gretellyn_40, Jalebi_39, Sadboi_41, Lambo_40, Pywacket_39
- Track 16 : NorManre_41, GOATification_41, Fulcrum_41, Gibbin_41, DoobyDoo_39, DaviePasture_40, Patos_41, Zany_39
- Track 17 : Avian_38
- Track 18 : Alephilan_37
- Track 19 : LuckyLeo_39, Apeppi_37
- Track 20 : Mima20_38
- Track 21 : Tillicus_38
- Track 22 : ArchiDore_28
- Track 23 : Demsculpinboyz_41
- Track 24 : Zapner_42, Jabbawokkie_43, Avani_40
- Track 25 : Che9d_40
- Track 26 : Yoshi_42
- Track 27 : TChen_35
- Track 28 : LunaStella_37
- Track 29 : ThetaBob_35

- Track 30 : Toron_36
- Track 31 : 32HC_41
- Track 32 : Rem711_40
- Track 33 : Eyre_22
- Track 34 : Gudmit_23
- Track 35 : LilSpotty_36
- Track 36 : MooMoo_33

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

The start number called the most often in the published annotations is 9, it was called in 55 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agueybana_25, Alephilan_37, AlumE_25, Alyssamiracle_41, Antonio_26, Apeppi_37, Astralis_38, Avian_38, BaxterFox_24, BirthdayBoy_41, BoyNamedSue_25, Charminar_38, DaviePasture_40, DoobyDoo_39, Erutan_40, Eudoria_26, Eyre_22, Fulcrum_41, GOATification_41, Genamy16_41, Gibbin_41, GretelLyn_40, Hyzer_26, Jalebi_39, Jamemuya19_38, Kita_26, Lambo_40, Lila22_39, LuckyLeo_39, Manasvini_26, Maridalia_25, Mima20_38, MoiGyank_42, Neobush_26, NorManre_41, NovaSharks_40, OtterstedtS21_40, PantheRoc_25, ParvusTarda_40, Patos_41, Petra_26, Pywacket_39, Ranch_40, RazorC_39, Riduram_38, Rota_39, Rumi_40, Sadboi_41, Sampudon_40, Stormer_40, Suscepit_26, Tayonia_26, Tillicus_38, Trumpet_26, Wojtek_39, Yeezy_26, Yikes_41, Zameen_26, Zany_39,

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

-

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

- 32HC_41, 8UZL_31, Apricot_26, ArchiDore_28, Asapag_27, Avani_40, BENtherdunthat_27, BearBQ_26, Birdsong_26, BotCity_27, Budski_27, Che9d_40, CheeseTouch_27, Crater_25, Demsculpinboyz_41, FF47_31, Frickyeah_26, Getalong_28, Gudmit_23, Holliday_27, Horus_27, Jabbawokkie_43, Kamaru_27, Kenna_26, Kuwabara_26, Leroy_27, LilSpotty_36, LitninMcQueen_26, LongHai_32, LunaStella_37, Lutum_27, Maco6_29, Malisha_28, MooMoo_33, MortyNRick_26, Muddy_31, Periwinkle_29, Phabuloso_26, Phistory_28, Rem711_40, Salvus_32, ShawBrad_27, Spooky_27, Squiddly_29, TChen_35, ThetaBob_35, Toron_36, Whitney_28, Yoshi_42, Zapner_42,

Summary by start number:

Start 5:

- Found in 28 of 109 (25.7%) of genes in pham
- Manual Annotations of this start: 26 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Apricot_26 (DN3), Asapag_27 (DN1), BENtherdunthat_27 (DN1), BearBQ_26 (DN), Birdsong_26 (DN), BotCity_27 (DN), Budski_27 (DN), CheeseTouch_27 (DN1), Crater_25 (DN3), Frickyeah_26 (DN1), Getalong_28 (DN1), Holliday_27 (DN1), Horus_27 (DN1), Kamaru_27 (DN1),

Kenna_26 (DN1), Kuwabara_26 (DN4), Leroy_27 (DN1), LitninMcQueen_26 (DN1), Lutum_27 (DN1), Malisha_28 (DN), MortyNRick_26 (DN), Periwinkle_29 (DN1), Phabuloso_26 (DN1), Phistory_28 (DN1), ShawBrad_27 (DN1), Spooky_27 (DN2), Squiddly_29 (DN2), Whitney_28 (DN1),

Start 8:

- Found in 13 of 109 (11.9%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 7.7% of time when present
- Phage (with cluster) where this start called: ThetaBob_35 (F4),

Start 9:

- Found in 59 of 109 (54.1%) of genes in pham
- Manual Annotations of this start: 55 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agueybana_25 (CZ1), Alephilan_37 (DV), AlumE_25 (CZ1), Alyssmiracle_41 (DV), Antonio_26 (CZ1), Apeppi_37 (DV), Astralis_38 (DV), Avian_38 (DV), BaxterFox_24 (CZ3), BirthdayBoy_41 (DV), BoyNamedSue_25 (CZ1), Charminar_38 (DV), DaviePasture_40 (DV), DoobyDoo_39 (DV), Erutan_40 (DV), Eudoria_26 (CZ1), Eyre_22 (singleton), Fulcrum_41 (DV), GOATification_41 (DV), Genamy16_41 (DV), Gibbin_41 (DV), GretelLyn_40 (DV), Hyzer_26 (CZ1), Jalebi_39 (DV), Jamemuya19_38 (DV), Kita_26 (CZ1), Lambo_40 (DV), Lila22_39 (DV), LuckyLeo_39 (DV), Manasvini_26 (CZ1), Maridalia_25 (CZ1), Mima20_38 (DV), MoiGyank_42 (DV), Neobush_26 (CZ1), NorManre_41 (DV), NovaSharks_40 (DV), OtterstedtS21_40 (DV), PantheRoc_25 (CZ3), ParvusTarda_40 (DV), Patos_41 (DV), Petra_26 (CV), Pywacket_39 (DV), Ranch_40 (DV), RazorC_39 (DV), Riduram_38 (DV), Rota_39 (DV), Rumi_40 (DV), Sadboi_41 (DV), Sampudon_40 (DV), Stormer_40 (DV), Suscepit_26 (CZ1), Tayonia_26 (CZ1), Tillicus_38 (DV), Trumpet_26 (CZ1), Wojtek_39 (DV), Yeezy_26 (CZ3), Yikes_41 (DV), Zameen_26 (CZ1), Zany_39 (DV),

Start 11:

- Found in 2 of 109 (1.8%) of genes in pham
- Manual Annotations of this start: 2 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore_28 (DW), Gudmit_23 (singleton),

Start 12:

- Found in 41 of 109 (37.6%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 12.2% of time when present
- Phage (with cluster) where this start called: 8UZL_31 (AB), FF47_31 (AB), LongHai_32 (AB), Muddy_31 (AB), Salvus_32 (AB),

Start 13:

- Found in 15 of 109 (13.8%) of genes in pham
- Manual Annotations of this start: 10 of 97
- Called 73.3% of time when present
- Phage (with cluster) where this start called: Avani_40 (F2), Che9d_40 (F2), Demsculpinboyz_41 (F2), Jabbawokkie_43 (F2), LilSpotty_36 (singleton), LunaStella_37 (F4), Maco6_29 (AB), MooMoo_33 (singleton), Toron_36 (F6), Yoshi_42 (F2), Zapner_42 (F2),

Start 15:

- Found in 5 of 109 (4.6%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 20.0% of time when present
- Phage (with cluster) where this start called: TChen_35 (F4),

Start 16:

- Found in 30 of 109 (27.5%) of genes in pham
- Manual Annotations of this start: 1 of 97
- Called 6.7% of time when present
- Phage (with cluster) where this start called: 32HC_41 (Z), Rem711_40 (Z),

Summary by clusters:

There are 16 clusters represented in this pham: DN, F2, AB, F4, F6, CZ3, CZ1, singleton, DN4, DN1, DN3, DN2, DV, DW, Z, CV,

Info for manual annotations of cluster AB:

- Start number 12 was manually annotated 1 time for cluster AB.
- Start number 13 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster CV:

- Start number 9 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CZ1:

- Start number 9 was manually annotated 13 times for cluster CZ1.

Info for manual annotations of cluster CZ3:

- Start number 9 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster DN:

- Start number 5 was manually annotated 6 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 5 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 5 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 5 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 5 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DV:

- Start number 9 was manually annotated 37 times for cluster DV.

Info for manual annotations of cluster DW:

- Start number 11 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster F2:

- Start number 13 was manually annotated 6 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 8 was manually annotated 1 time for cluster F4.
- Start number 13 was manually annotated 1 time for cluster F4.
- Start number 15 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster Z:

- Start number 16 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_41 Start: 30730, Stop: 31161, Start Num: 16

Candidate Starts for 32HC_41:

(7, 30664), (Start: 8 @30688 has 1 MA's), (Start: 13 @30706 has 10 MA's), (Start: 16 @30730 has 1 MA's), (34, 30799), (41, 30820), (45, 30832), (54, 30898), (59, 30922), (77, 31021), (79, 31027), (86, 31078), (89, 31132),

Gene: 8UZL_31 Start: 24782, Stop: 25192, Start Num: 12

Candidate Starts for 8UZL_31:

(6, 24731), (Start: 12 @24782 has 1 MA's), (Start: 15 @24800 has 1 MA's), (28, 24845), (42, 24902), (68, 25061), (73, 25088), (74, 25091), (76, 25097), (79, 25106), (88, 25187),

Gene: Agueybana_25 Start: 21812, Stop: 22186, Start Num: 9

Candidate Starts for Agueybana_25:

(4, 21728), (Start: 9 @21812 has 55 MA's), (22, 21860), (29, 21884), (31, 21890), (34, 21914), (37, 21923), (41, 21935), (74, 22127), (76, 22133), (78, 22136),

Gene: Alephilan_37 Start: 32269, Stop: 32664, Start Num: 9

Candidate Starts for Alephilan_37:

(Start: 9 @32269 has 55 MA's), (27, 32335), (39, 32389), (48, 32419), (53, 32470), (55, 32482), (62, 32512), (63, 32515), (72, 32581), (79, 32602), (80, 32605), (83, 32617),

Gene: AlumE_25 Start: 21811, Stop: 22185, Start Num: 9

Candidate Starts for AlumE_25:

(4, 21727), (Start: 9 @21811 has 55 MA's), (22, 21859), (29, 21883), (31, 21889), (34, 21913), (37, 21922), (41, 21934), (74, 22126), (76, 22132), (78, 22135),

Gene: Alyssamiracle_41 Start: 31366, Stop: 31752, Start Num: 9

Candidate Starts for Alyssamiracle_41:

(Start: 9 @31366 has 55 MA's), (39, 31486), (48, 31516), (50, 31543), (53, 31567), (55, 31579), (62, 31609), (63, 31612), (72, 31678), (79, 31699), (80, 31702), (83, 31714),

Gene: Antonio_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Antonio_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Apeppi_37 Start: 32448, Stop: 32855, Start Num: 9

Candidate Starts for Apeppi_37:

(Start: 9 @32448 has 55 MA's), (17, 32481), (34, 32553), (38, 32565), (39, 32568), (45, 32586), (50, 32625), (52, 32646), (60, 32679), (62, 32691), (71, 32757), (74, 32766), (76, 32772), (79, 32781), (83, 32796),

Gene: Apricot_26 Start: 20622, Stop: 21062, Start Num: 5

Candidate Starts for Apricot_26:

(Start: 5 @20622 has 26 MA's), (Start: 12 @20679 has 1 MA's), (Start: 16 @20706 has 1 MA's), (41, 20796), (49, 20829), (55, 20883), (56, 20886), (57, 20889), (59, 20898), (60, 20901), (64, 20922), (66, 20934), (75, 20991), (77, 20997), (79, 21003), (80, 21006), (81, 21009), (83, 21018), (84, 21024), (85, 21051),

Gene: ArchiDore_28 Start: 24132, Stop: 24521, Start Num: 11

Candidate Starts for ArchiDore_28:

(Start: 11 @24132 has 2 MA's), (17, 24165), (23, 24183), (28, 24204), (38, 24249), (40, 24255), (43, 24264), (51, 24327), (55, 24345),

Gene: Asapag_27 Start: 21064, Stop: 21504, Start Num: 5

Candidate Starts for Asapag_27:

(Start: 5 @21064 has 26 MA's), (Start: 12 @21121 has 1 MA's), (Start: 16 @21148 has 1 MA's), (41, 21238), (49, 21271), (55, 21325), (56, 21328), (57, 21331), (59, 21340), (60, 21343), (64, 21364), (66, 21376), (75, 21433), (77, 21439), (79, 21445), (80, 21448), (81, 21451), (83, 21460), (84, 21466), (85, 21493),

Gene: Astralis_38 Start: 30956, Stop: 31342, Start Num: 9

Candidate Starts for Astralis_38:

(Start: 9 @30956 has 55 MA's), (39, 31076), (48, 31106), (50, 31133), (53, 31157), (55, 31169), (62, 31199), (63, 31202), (72, 31268), (79, 31289), (80, 31292), (83, 31304),

Gene: Avani_40 Start: 28789, Stop: 29178, Start Num: 13

Candidate Starts for Avani_40:

(Start: 8 @28774 has 1 MA's), (Start: 12 @28786 has 1 MA's), (Start: 13 @28789 has 10 MA's), (14, 28804), (17, 28816), (20, 28825), (22, 28831), (27, 28846), (32, 28870), (38, 28894), (39, 28897), (41, 28903), (43, 28909), (45, 28915), (47, 28924), (48, 28927), (51, 28972), (55, 28990), (58, 29002), (59, 29005), (60, 29008), (63, 29023), (69, 29074), (73, 29092), (74, 29095), (79, 29110), (82, 29122),

Gene: Avian_38 Start: 31348, Stop: 31743, Start Num: 9

Candidate Starts for Avian_38:

(Start: 9 @31348 has 55 MA's), (39, 31468), (48, 31498), (50, 31525), (53, 31549), (55, 31561), (63, 31594), (72, 31660), (79, 31681), (80, 31684), (83, 31696),

Gene: BENtherdunthat_27 Start: 21061, Stop: 21501, Start Num: 5

Candidate Starts for BENtherdunthat_27:

(Start: 5 @21061 has 26 MA's), (Start: 12 @21118 has 1 MA's), (Start: 16 @21145 has 1 MA's), (41, 21235), (49, 21268), (55, 21322), (56, 21325), (57, 21328), (59, 21337), (60, 21340), (64, 21361), (66, 21373), (75, 21430), (77, 21436), (79, 21442), (80, 21445), (81, 21448), (83, 21457), (84, 21463), (85, 21490),

Gene: BaxterFox_24 Start: 21132, Stop: 21506, Start Num: 9

Candidate Starts for BaxterFox_24:

(1, 20949), (2, 20961), (3, 20967), (4, 21048), (Start: 9 @21132 has 55 MA's), (29, 21204), (31, 21210), (34, 21234), (37, 21243), (41, 21255), (45, 21267), (52, 21327), (61, 21369), (74, 21447), (76, 21453), (78, 21456),

Gene: BearBQ_26 Start: 21901, Stop: 22341, Start Num: 5

Candidate Starts for BearBQ_26:

(Start: 5 @21901 has 26 MA's), (Start: 12 @21958 has 1 MA's), (Start: 16 @21985 has 1 MA's), (41, 22075), (49, 22108), (55, 22162), (56, 22165), (57, 22168), (59, 22177), (60, 22180), (64, 22201), (66, 22213), (75, 22270), (77, 22276), (79, 22282), (80, 22285), (81, 22288), (83, 22297), (84, 22303), (85, 22330),

Gene: Birdsong_26 Start: 20794, Stop: 21234, Start Num: 5

Candidate Starts for Birdsong_26:

(Start: 5 @20794 has 26 MA's), (Start: 12 @20851 has 1 MA's), (Start: 16 @20878 has 1 MA's), (41, 20968), (49, 21001), (55, 21055), (56, 21058), (57, 21061), (59, 21070), (60, 21073), (64, 21094), (66, 21106), (75, 21163), (77, 21169), (79, 21175), (80, 21178), (81, 21181), (83, 21190), (84, 21196), (85, 21223),

Gene: BirthdayBoy_41 Start: 33095, Stop: 33490, Start Num: 9

Candidate Starts for BirthdayBoy_41:

(Start: 9 @33095 has 55 MA's), (27, 33161), (36, 33206), (39, 33215), (48, 33245), (53, 33296), (55, 33308), (72, 33407), (79, 33428), (80, 33431), (83, 33443),

Gene: BotCity_27 Start: 21062, Stop: 21502, Start Num: 5

Candidate Starts for BotCity_27:

(Start: 5 @21062 has 26 MA's), (Start: 12 @21119 has 1 MA's), (Start: 16 @21146 has 1 MA's), (41, 21236), (49, 21269), (55, 21323), (56, 21326), (57, 21329), (59, 21338), (60, 21341), (64, 21362), (66, 21374), (75, 21431), (77, 21437), (79, 21443), (80, 21446), (81, 21449), (83, 21458), (84, 21464), (85, 21491),

Gene: BoyNamedSue_25 Start: 21811, Stop: 22185, Start Num: 9

Candidate Starts for BoyNamedSue_25:

(4, 21727), (Start: 9 @21811 has 55 MA's), (22, 21859), (29, 21883), (31, 21889), (34, 21913), (37, 21922), (41, 21934), (74, 22126), (76, 22132), (78, 22135),

Gene: Budski_27 Start: 21169, Stop: 21609, Start Num: 5

Candidate Starts for Budski_27:

(Start: 5 @21169 has 26 MA's), (Start: 12 @21226 has 1 MA's), (Start: 16 @21253 has 1 MA's), (41, 21343), (49, 21376), (55, 21430), (56, 21433), (57, 21436), (59, 21445), (60, 21448), (64, 21469), (66, 21481), (75, 21538), (77, 21544), (79, 21550), (80, 21553), (81, 21556), (83, 21565), (84, 21571), (85, 21598),

Gene: Charminar_38 Start: 30959, Stop: 31345, Start Num: 9

Candidate Starts for Charminar_38:

(Start: 9 @30959 has 55 MA's), (39, 31079), (48, 31109), (50, 31136), (53, 31160), (55, 31172), (62, 31202), (63, 31205), (72, 31271), (79, 31292), (80, 31295), (83, 31307),

Gene: Che9d_40 Start: 28798, Stop: 29187, Start Num: 13

Candidate Starts for Che9d_40:

(Start: 8 @28783 has 1 MA's), (Start: 12 @28795 has 1 MA's), (Start: 13 @28798 has 10 MA's), (19, 28831), (20, 28834), (21, 28837), (22, 28840), (32, 28879), (36, 28897), (38, 28903), (46, 28930), (55, 28999), (57, 29005), (58, 29011), (59, 29014), (60, 29017), (63, 29032), (67, 29071), (69, 29083), (73, 29101), (74, 29104), (79, 29119), (82, 29131),

Gene: CheeseTouch_27 Start: 21055, Stop: 21495, Start Num: 5

Candidate Starts for CheeseTouch_27:

(Start: 5 @21055 has 26 MA's), (Start: 12 @21112 has 1 MA's), (Start: 16 @21139 has 1 MA's), (41, 21229), (49, 21262), (55, 21316), (56, 21319), (57, 21322), (59, 21331), (60, 21334), (64, 21355), (66, 21367), (75, 21424), (77, 21430), (79, 21436), (80, 21439), (81, 21442), (83, 21451), (84, 21457), (85, 21484),

Gene: Crater_25 Start: 20622, Stop: 21062, Start Num: 5

Candidate Starts for Crater_25:

(Start: 5 @20622 has 26 MA's), (Start: 12 @20679 has 1 MA's), (Start: 16 @20706 has 1 MA's), (41, 20796), (49, 20829), (55, 20883), (56, 20886), (57, 20889), (59, 20898), (60, 20901), (64, 20922), (66, 20934), (75, 20991), (77, 20997), (79, 21003), (80, 21006), (81, 21009), (83, 21018), (84, 21024), (85, 21051),

Gene: DaviePasture_40 Start: 32896, Stop: 33291, Start Num: 9

Candidate Starts for DaviePasture_40:

(Start: 9 @32896 has 55 MA's), (27, 32962), (39, 33016), (53, 33097), (55, 33109), (62, 33139), (72, 33208), (79, 33229), (80, 33232), (83, 33244),

Gene: Demsculpinboyz_41 Start: 28731, Stop: 29120, Start Num: 13

Candidate Starts for Demsculpinboyz_41:

(Start: 8 @28716 has 1 MA's), (Start: 12 @28728 has 1 MA's), (Start: 13 @28731 has 10 MA's), (14, 28746), (17, 28758), (20, 28767), (22, 28773), (27, 28788), (32, 28812), (38, 28836), (39, 28839), (41, 28845), (42, 28848), (43, 28851), (45, 28857), (47, 28866), (48, 28869), (51, 28914), (55, 28932), (58, 28944), (59, 28947), (60, 28950), (63, 28965), (69, 29016), (73, 29034), (74, 29037), (79, 29052), (82, 29064),

Gene: DoobyDoo_39 Start: 32046, Stop: 32441, Start Num: 9

Candidate Starts for DoobyDoo_39:

(Start: 9 @32046 has 55 MA's), (27, 32112), (39, 32166), (53, 32247), (55, 32259), (62, 32289), (72, 32358), (79, 32379), (80, 32382), (83, 32394),

Gene: Erutan_40 Start: 32554, Stop: 32949, Start Num: 9

Candidate Starts for Erutan_40:

(Start: 9 @32554 has 55 MA's), (27, 32620), (39, 32674), (48, 32704), (53, 32755), (55, 32767), (72, 32866), (79, 32887), (80, 32890), (83, 32902),

Gene: Eudoria_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Eudoria_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Eyre_22 Start: 19166, Stop: 19540, Start Num: 9

Candidate Starts for Eyre_22:

(4, 19082), (Start: 9 @19166 has 55 MA's), (29, 19238), (34, 19268), (37, 19277), (41, 19289), (45, 19301), (48, 19313), (53, 19364), (58, 19388), (61, 19403), (69, 19460),

Gene: FF47_31 Start: 24709, Stop: 25119, Start Num: 12

Candidate Starts for FF47_31:

(6, 24658), (Start: 12 @24709 has 1 MA's), (Start: 15 @24727 has 1 MA's), (28, 24772), (42, 24829), (68, 24988), (73, 25015), (74, 25018), (76, 25024), (79, 25033), (88, 25114),

Gene: Frickyeah_26 Start: 20827, Stop: 21267, Start Num: 5

Candidate Starts for Frickyeah_26:

(Start: 5 @20827 has 26 MA's), (Start: 12 @20884 has 1 MA's), (Start: 16 @20911 has 1 MA's), (41, 21001), (49, 21034), (55, 21088), (56, 21091), (57, 21094), (59, 21103), (60, 21106), (64, 21127), (66, 21139), (75, 21196), (77, 21202), (79, 21208), (80, 21211), (81, 21214), (83, 21223), (84, 21229), (85, 21256),

Gene: Fulcrum_41 Start: 33075, Stop: 33470, Start Num: 9

Candidate Starts for Fulcrum_41:

(Start: 9 @33075 has 55 MA's), (27, 33141), (39, 33195), (53, 33276), (55, 33288), (62, 33318), (72, 33387), (79, 33408), (80, 33411), (83, 33423),

Gene: GOATification_41 Start: 33075, Stop: 33470, Start Num: 9

Candidate Starts for GOATification_41:

(Start: 9 @33075 has 55 MA's), (27, 33141), (39, 33195), (53, 33276), (55, 33288), (62, 33318), (72, 33387), (79, 33408), (80, 33411), (83, 33423),

Gene: Genamy16_41 Start: 31366, Stop: 31752, Start Num: 9

Candidate Starts for Genamy16_41:

(Start: 9 @31366 has 55 MA's), (39, 31486), (48, 31516), (50, 31543), (53, 31567), (55, 31579), (62, 31609), (63, 31612), (72, 31678), (79, 31699), (80, 31702), (83, 31714),

Gene: Getalong_28 Start: 21864, Stop: 22304, Start Num: 5

Candidate Starts for Getalong_28:

(Start: 5 @21864 has 26 MA's), (Start: 12 @21921 has 1 MA's), (Start: 16 @21948 has 1 MA's), (41, 22038), (49, 22071), (55, 22125), (56, 22128), (57, 22131), (59, 22140), (60, 22143), (64, 22164), (66, 22176), (75, 22233), (77, 22239), (79, 22245), (80, 22248), (81, 22251), (83, 22260), (84, 22266), (85, 22293),

Gene: Gibbin_41 Start: 33173, Stop: 33559, Start Num: 9

Candidate Starts for Gibbin_41:

(Start: 9 @33173 has 55 MA's), (27, 33239), (39, 33293), (53, 33374), (55, 33386), (62, 33416), (72, 33485), (79, 33506), (80, 33509), (83, 33521),

Gene: Gretellyn_40 Start: 33439, Stop: 33834, Start Num: 9

Candidate Starts for Gretellyn_40:

(Start: 9 @33439 has 55 MA's), (27, 33505), (39, 33559), (48, 33589), (53, 33640), (55, 33652), (62, 33682), (72, 33751), (79, 33772), (80, 33775), (83, 33787),

Gene: Gudmit_23 Start: 19228, Stop: 19611, Start Num: 11

Candidate Starts for Gudmit_23:

(Start: 11 @19228 has 2 MA's), (25, 19285), (33, 19324), (35, 19336), (41, 19354), (43, 19360), (46, 19372), (60, 19459), (61, 19468), (64, 19480), (68, 19516), (71, 19537), (76, 19552), (80, 19564),

Gene: Holliday_27 Start: 21169, Stop: 21609, Start Num: 5

Candidate Starts for Holliday_27:

(Start: 5 @21169 has 26 MA's), (Start: 12 @21226 has 1 MA's), (Start: 16 @21253 has 1 MA's), (41, 21343), (49, 21376), (55, 21430), (56, 21433), (57, 21436), (59, 21445), (60, 21448), (64, 21469), (66, 21481), (75, 21538), (77, 21544), (79, 21550), (80, 21553), (81, 21556), (83, 21565), (84, 21571), (85, 21598),

Gene: Horus_27 Start: 21086, Stop: 21526, Start Num: 5

Candidate Starts for Horus_27:

(Start: 5 @21086 has 26 MA's), (Start: 12 @21143 has 1 MA's), (Start: 16 @21170 has 1 MA's), (41, 21260), (49, 21293), (55, 21347), (56, 21350), (57, 21353), (59, 21362), (60, 21365), (64, 21386), (66,

21398), (75, 21455), (77, 21461), (79, 21467), (80, 21470), (81, 21473), (83, 21482), (84, 21488), (85, 21515),

Gene: Hyzer_26 Start: 22472, Stop: 22846, Start Num: 9

Candidate Starts for Hyzer_26:

(Start: 9 @22472 has 55 MA's), (22, 22520), (29, 22544), (34, 22574), (37, 22583), (41, 22595), (45, 22607), (52, 22667), (74, 22787), (76, 22793),

Gene: Jabbawokkie_43 Start: 30179, Stop: 30568, Start Num: 13

Candidate Starts for Jabbawokkie_43:

(Start: 8 @30164 has 1 MA's), (Start: 12 @30176 has 1 MA's), (Start: 13 @30179 has 10 MA's), (14, 30194), (17, 30206), (20, 30215), (22, 30221), (27, 30236), (32, 30260), (38, 30284), (39, 30287), (41, 30293), (43, 30299), (45, 30305), (47, 30314), (48, 30317), (51, 30362), (55, 30380), (58, 30392), (59, 30395), (60, 30398), (63, 30413), (69, 30464), (73, 30482), (74, 30485), (79, 30500), (82, 30512),

Gene: Jalebi_39 Start: 33608, Stop: 34003, Start Num: 9

Candidate Starts for Jalebi_39:

(Start: 9 @33608 has 55 MA's), (27, 33674), (39, 33728), (48, 33758), (53, 33809), (55, 33821), (62, 33851), (72, 33920), (79, 33941), (80, 33944), (83, 33956),

Gene: Jamemuya19_38 Start: 30956, Stop: 31342, Start Num: 9

Candidate Starts for Jamemuya19_38:

(Start: 9 @30956 has 55 MA's), (39, 31076), (48, 31106), (50, 31133), (53, 31157), (55, 31169), (62, 31199), (63, 31202), (72, 31268), (79, 31289), (80, 31292), (83, 31304),

Gene: Kamaru_27 Start: 21169, Stop: 21609, Start Num: 5

Candidate Starts for Kamaru_27:

(Start: 5 @21169 has 26 MA's), (Start: 12 @21226 has 1 MA's), (Start: 16 @21253 has 1 MA's), (41, 21343), (49, 21376), (55, 21430), (56, 21433), (57, 21436), (59, 21445), (60, 21448), (64, 21469), (66, 21481), (75, 21538), (77, 21544), (79, 21550), (80, 21553), (81, 21556), (83, 21565), (84, 21571), (85, 21598),

Gene: Kenna_26 Start: 21062, Stop: 21502, Start Num: 5

Candidate Starts for Kenna_26:

(Start: 5 @21062 has 26 MA's), (Start: 12 @21119 has 1 MA's), (Start: 16 @21146 has 1 MA's), (41, 21236), (49, 21269), (55, 21323), (56, 21326), (57, 21329), (59, 21338), (60, 21341), (64, 21362), (66, 21374), (75, 21431), (77, 21437), (79, 21443), (80, 21446), (81, 21449), (83, 21458), (84, 21464), (85, 21491),

Gene: Kita_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Kita_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Kuwabara_26 Start: 20488, Stop: 20928, Start Num: 5

Candidate Starts for Kuwabara_26:

(Start: 5 @20488 has 26 MA's), (Start: 12 @20545 has 1 MA's), (Start: 16 @20572 has 1 MA's), (41, 20662), (49, 20695), (55, 20749), (56, 20752), (57, 20755), (59, 20764), (60, 20767), (64, 20788), (66, 20800), (75, 20857), (77, 20863), (79, 20869), (80, 20872), (81, 20875), (83, 20884), (84, 20890), (85, 20917),

Gene: Lambo_40 Start: 33093, Stop: 33488, Start Num: 9

Candidate Starts for Lambo_40:

(Start: 9 @33093 has 55 MA's), (27, 33159), (39, 33213), (48, 33243), (53, 33294), (55, 33306), (62, 33336), (72, 33405), (79, 33426), (80, 33429), (83, 33441),

Gene: Leroy_27 Start: 21087, Stop: 21527, Start Num: 5

Candidate Starts for Leroy_27:

(Start: 5 @21087 has 26 MA's), (Start: 12 @21144 has 1 MA's), (Start: 16 @21171 has 1 MA's), (41, 21261), (49, 21294), (55, 21348), (56, 21351), (57, 21354), (59, 21363), (60, 21366), (64, 21387), (66, 21399), (75, 21456), (77, 21462), (79, 21468), (80, 21471), (81, 21474), (83, 21483), (84, 21489), (85, 21516),

Gene: LilSpotty_36 Start: 26778, Stop: 27152, Start Num: 13

Candidate Starts for LilSpotty_36:

(7, 26739), (Start: 12 @26775 has 1 MA's), (Start: 13 @26778 has 10 MA's), (39, 26886), (42, 26895), (44, 26901), (49, 26925), (51, 26961), (55, 26979), (59, 26994), (63, 27012), (67, 27051), (79, 27099),

Gene: Lila22_39 Start: 33048, Stop: 33443, Start Num: 9

Candidate Starts for Lila22_39:

(Start: 9 @33048 has 55 MA's), (27, 33114), (39, 33168), (48, 33198), (53, 33249), (55, 33261), (72, 33360), (79, 33381), (80, 33384), (83, 33396),

Gene: LitninMcQueen_26 Start: 20818, Stop: 21258, Start Num: 5

Candidate Starts for LitninMcQueen_26:

(Start: 5 @20818 has 26 MA's), (Start: 12 @20875 has 1 MA's), (Start: 16 @20902 has 1 MA's), (41, 20992), (49, 21025), (55, 21079), (56, 21082), (57, 21085), (59, 21094), (60, 21097), (64, 21118), (66, 21130), (75, 21187), (77, 21193), (79, 21199), (80, 21202), (83, 21214), (84, 21220), (85, 21247),

Gene: LongHai_32 Start: 25084, Stop: 25494, Start Num: 12

Candidate Starts for LongHai_32:

(Start: 12 @25084 has 1 MA's), (28, 25147), (63, 25321), (64, 25327), (65, 25330), (68, 25363), (73, 25390), (76, 25399), (79, 25408), (87, 25471), (88, 25489),

Gene: LuckyLeo_39 Start: 32448, Stop: 32855, Start Num: 9

Candidate Starts for LuckyLeo_39:

(Start: 9 @32448 has 55 MA's), (17, 32481), (34, 32553), (38, 32565), (39, 32568), (45, 32586), (50, 32625), (52, 32646), (60, 32679), (62, 32691), (71, 32757), (74, 32766), (76, 32772), (79, 32781), (83, 32796),

Gene: LunaStella_37 Start: 30071, Stop: 30460, Start Num: 13

Candidate Starts for LunaStella_37:

(Start: 8 @30056 has 1 MA's), (Start: 13 @30071 has 10 MA's), (Start: 15 @30089 has 1 MA's), (18, 30101), (19, 30104), (20, 30107), (22, 30113), (23, 30116), (24, 30119), (27, 30128), (30, 30140), (38, 30176), (39, 30179), (42, 30188), (43, 30191), (45, 30197), (49, 30218), (51, 30254), (55, 30272), (57, 30278), (58, 30284), (59, 30287), (60, 30290), (62, 30302), (64, 30311), (67, 30344), (68, 30347), (74, 30377), (79, 30392), (82, 30404),

Gene: Lutum_27 Start: 21062, Stop: 21502, Start Num: 5

Candidate Starts for Lutum_27:

(Start: 5 @21062 has 26 MA's), (Start: 12 @21119 has 1 MA's), (Start: 16 @21146 has 1 MA's), (41, 21236), (49, 21269), (55, 21323), (56, 21326), (57, 21329), (59, 21338), (60, 21341), (64, 21362), (66, 21374), (75, 21431), (77, 21437), (79, 21443), (80, 21446), (81, 21449), (83, 21458), (84, 21464), (85, 21491),

Gene: Maco6_29 Start: 24049, Stop: 24459, Start Num: 13

Candidate Starts for Maco6_29:

(10, 24040), (Start: 13 @24049 has 10 MA's), (28, 24112), (42, 24169), (68, 24328), (76, 24364), (79, 24373), (88, 24454),

Gene: Malisha_28 Start: 22947, Stop: 23384, Start Num: 5

Candidate Starts for Malisha_28:

(Start: 5 @22947 has 26 MA's), (Start: 12 @23004 has 1 MA's), (Start: 16 @23031 has 1 MA's), (17, 23034), (18, 23037), (23, 23052), (27, 23064), (42, 23124), (49, 23154), (56, 23211), (57, 23214), (60, 23226), (62, 23238), (63, 23241), (64, 23247), (66, 23259), (70, 23295), (71, 23304), (75, 23316), (77, 23322), (79, 23328), (80, 23331), (81, 23334), (83, 23343), (84, 23349),

Gene: Manasvini_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Manasvini_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Maridalia_25 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Maridalia_25:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Mima20_38 Start: 32797, Stop: 33192, Start Num: 9

Candidate Starts for Mima20_38:

(Start: 9 @32797 has 55 MA's), (27, 32863), (39, 32917), (48, 32947), (53, 32998), (55, 33010), (62, 33040), (64, 33049), (72, 33109), (79, 33130), (80, 33133), (83, 33145),

Gene: MoiGyank_42 Start: 33478, Stop: 33873, Start Num: 9

Candidate Starts for MoiGyank_42:

(Start: 9 @33478 has 55 MA's), (27, 33544), (39, 33598), (48, 33628), (53, 33679), (55, 33691), (62, 33721), (72, 33790), (79, 33811), (80, 33814), (83, 33826),

Gene: MooMoo_33 Start: 28618, Stop: 29007, Start Num: 13

Candidate Starts for MooMoo_33:

(Start: 8 @28603 has 1 MA's), (Start: 13 @28618 has 10 MA's), (Start: 15 @28636 has 1 MA's), (18, 28648), (19, 28651), (20, 28654), (22, 28660), (23, 28663), (24, 28666), (27, 28675), (30, 28687), (38, 28723), (39, 28726), (42, 28735), (43, 28738), (45, 28744), (49, 28765), (51, 28801), (55, 28819), (57, 28825), (58, 28831), (59, 28834), (60, 28837), (62, 28849), (64, 28858), (67, 28891), (68, 28894), (74, 28924), (79, 28939),

Gene: MortyNRick_26 Start: 20794, Stop: 21234, Start Num: 5

Candidate Starts for MortyNRick_26:

(Start: 5 @20794 has 26 MA's), (Start: 12 @20851 has 1 MA's), (Start: 16 @20878 has 1 MA's), (41, 20968), (49, 21001), (55, 21055), (56, 21058), (57, 21061), (59, 21070), (60, 21073), (64, 21094), (66, 21106), (75, 21163), (77, 21169), (79, 21175), (80, 21178), (81, 21181), (83, 21190), (84, 21196), (85, 21223),

Gene: Muddy_31 Start: 24990, Stop: 25400, Start Num: 12

Candidate Starts for Muddy_31:

(Start: 12 @24990 has 1 MA's), (28, 25053), (63, 25227), (64, 25233), (65, 25236), (68, 25269), (73, 25296), (76, 25305), (79, 25314), (87, 25377), (88, 25395),

Gene: Neobush_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Neobush_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: NorManre_41 Start: 32684, Stop: 33079, Start Num: 9

Candidate Starts for NorManre_41:

(Start: 9 @32684 has 55 MA's), (27, 32750), (39, 32804), (53, 32885), (55, 32897), (62, 32927), (72, 32996), (79, 33017), (80, 33020), (83, 33032),

Gene: NovaSharks_40 Start: 30956, Stop: 31342, Start Num: 9

Candidate Starts for NovaSharks_40:

(Start: 9 @30956 has 55 MA's), (39, 31076), (48, 31106), (50, 31133), (53, 31157), (55, 31169), (62, 31199), (63, 31202), (72, 31268), (79, 31289), (80, 31292), (83, 31304),

Gene: OtterstedtS21_40 Start: 32755, Stop: 33150, Start Num: 9

Candidate Starts for OtterstedtS21_40:

(Start: 9 @32755 has 55 MA's), (27, 32821), (39, 32875), (48, 32905), (53, 32956), (55, 32968), (62, 32998), (72, 33067), (79, 33088), (80, 33091), (83, 33103),

Gene: PantheRoc_25 Start: 21130, Stop: 21504, Start Num: 9

Candidate Starts for PantheRoc_25:

(4, 21046), (Start: 9 @21130 has 55 MA's), (22, 21178), (29, 21202), (31, 21208), (34, 21232), (37, 21241), (41, 21253), (74, 21445), (76, 21451), (78, 21454),

Gene: ParvusTarda_40 Start: 32223, Stop: 32618, Start Num: 9

Candidate Starts for ParvusTarda_40:

(Start: 9 @32223 has 55 MA's), (27, 32289), (36, 32334), (39, 32343), (48, 32373), (53, 32424), (55, 32436), (72, 32535), (79, 32556), (80, 32559), (83, 32571),

Gene: Patos_41 Start: 32684, Stop: 33079, Start Num: 9

Candidate Starts for Patos_41:

(Start: 9 @32684 has 55 MA's), (27, 32750), (39, 32804), (53, 32885), (55, 32897), (62, 32927), (72, 32996), (79, 33017), (80, 33020), (83, 33032),

Gene: Periwinkle_29 Start: 21531, Stop: 21971, Start Num: 5

Candidate Starts for Periwinkle_29:

(Start: 5 @21531 has 26 MA's), (Start: 12 @21588 has 1 MA's), (Start: 16 @21615 has 1 MA's), (41, 21705), (49, 21738), (55, 21792), (56, 21795), (57, 21798), (59, 21807), (60, 21810), (64, 21831), (66, 21843), (71, 21888), (75, 21900), (77, 21906), (79, 21912), (80, 21915), (81, 21918), (83, 21927), (84, 21933), (85, 21960),

Gene: Petra_26 Start: 20781, Stop: 21155, Start Num: 9

Candidate Starts for Petra_26:

(Start: 9 @20781 has 55 MA's), (17, 20814), (22, 20829), (34, 20883), (37, 20892), (41, 20904), (52, 20976), (74, 21096), (76, 21102), (79, 21111),

Gene: Phabuloso_26 Start: 20818, Stop: 21258, Start Num: 5

Candidate Starts for Phabuloso_26:

(Start: 5 @20818 has 26 MA's), (Start: 12 @20875 has 1 MA's), (Start: 16 @20902 has 1 MA's), (41, 20992), (49, 21025), (55, 21079), (56, 21082), (57, 21085), (59, 21094), (60, 21097), (64, 21118), (66, 21130), (75, 21187), (77, 21193), (79, 21199), (80, 21202), (81, 21205), (83, 21214), (84, 21220), (85, 21247),

Gene: Phistory_28 Start: 21852, Stop: 22292, Start Num: 5

Candidate Starts for Phistory_28:

(Start: 5 @21852 has 26 MA's), (Start: 12 @21909 has 1 MA's), (Start: 16 @21936 has 1 MA's), (41, 22026), (49, 22059), (55, 22113), (56, 22116), (57, 22119), (59, 22128), (60, 22131), (64, 22152), (66, 22164), (75, 22221), (77, 22227), (79, 22233), (80, 22236), (81, 22239), (83, 22248), (84, 22254), (85, 22281),

Gene: Pywacket_39 Start: 33569, Stop: 33964, Start Num: 9

Candidate Starts for Pywacket_39:

(Start: 9 @33569 has 55 MA's), (27, 33635), (39, 33689), (48, 33719), (53, 33770), (55, 33782), (62, 33812), (72, 33881), (79, 33902), (80, 33905), (83, 33917),

Gene: Ranch_40 Start: 31581, Stop: 31976, Start Num: 9

Candidate Starts for Ranch_40:

(Start: 9 @31581 has 55 MA's), (27, 31647), (39, 31701), (48, 31731), (53, 31782), (55, 31794), (62, 31824), (72, 31893), (79, 31914), (80, 31917), (83, 31929),

Gene: RazorC_39 Start: 31348, Stop: 31734, Start Num: 9

Candidate Starts for RazorC_39:

(Start: 9 @31348 has 55 MA's), (39, 31468), (48, 31498), (50, 31525), (53, 31549), (55, 31561), (62, 31591), (63, 31594), (72, 31660), (79, 31681), (80, 31684), (83, 31696),

Gene: Rem711_40 Start: 30711, Stop: 31142, Start Num: 16

Candidate Starts for Rem711_40:

(7, 30645), (Start: 8 @30669 has 1 MA's), (Start: 13 @30687 has 10 MA's), (Start: 16 @30711 has 1 MA's), (34, 30780), (41, 30801), (45, 30813), (54, 30879), (59, 30903), (77, 31002), (79, 31008), (86, 31059),

Gene: Riduram_38 Start: 30926, Stop: 31312, Start Num: 9

Candidate Starts for Riduram_38:

(Start: 9 @30926 has 55 MA's), (39, 31046), (48, 31076), (50, 31103), (53, 31127), (55, 31139), (62, 31169), (63, 31172), (72, 31238), (79, 31259), (80, 31262), (83, 31274),

Gene: Rota_39 Start: 32964, Stop: 33359, Start Num: 9

Candidate Starts for Rota_39:

(Start: 9 @32964 has 55 MA's), (27, 33030), (39, 33084), (48, 33114), (53, 33165), (55, 33177), (72, 33276), (79, 33297), (80, 33300), (83, 33312),

Gene: Rumi_40 Start: 30959, Stop: 31345, Start Num: 9

Candidate Starts for Rumi_40:

(Start: 9 @30959 has 55 MA's), (39, 31079), (48, 31109), (50, 31136), (53, 31160), (55, 31172), (62, 31202), (63, 31205), (72, 31271), (79, 31292), (80, 31295), (83, 31307),

Gene: Sadboi_41 Start: 33440, Stop: 33835, Start Num: 9

Candidate Starts for Sadboi_41:

(Start: 9 @33440 has 55 MA's), (27, 33506), (39, 33560), (48, 33590), (53, 33641), (55, 33653), (62, 33683), (72, 33752), (79, 33773), (80, 33776), (83, 33788),

Gene: Salvus_32 Start: 25084, Stop: 25494, Start Num: 12

Candidate Starts for Salvus_32:

(Start: 12 @25084 has 1 MA's), (28, 25147), (63, 25321), (64, 25327), (65, 25330), (68, 25363), (73, 25390), (76, 25399), (79, 25408), (87, 25471), (88, 25489),

Gene: Sampudon_40 Start: 33608, Stop: 34003, Start Num: 9

Candidate Starts for Sampudon_40:

(Start: 9 @33608 has 55 MA's), (27, 33674), (39, 33728), (48, 33758), (53, 33809), (55, 33821), (62, 33851), (72, 33920), (79, 33941), (80, 33944), (83, 33956),

Gene: ShawBrad_27 Start: 21074, Stop: 21514, Start Num: 5

Candidate Starts for ShawBrad_27:

(Start: 5 @21074 has 26 MA's), (Start: 12 @21131 has 1 MA's), (Start: 16 @21158 has 1 MA's), (41, 21248), (49, 21281), (55, 21335), (56, 21338), (57, 21341), (59, 21350), (60, 21353), (64, 21374), (66, 21386), (75, 21443), (77, 21449), (79, 21455), (80, 21458), (81, 21461), (83, 21470), (84, 21476), (85, 21503),

Gene: Spooky_27 Start: 21156, Stop: 21593, Start Num: 5

Candidate Starts for Spooky_27:

(Start: 5 @21156 has 26 MA's), (Start: 12 @21213 has 1 MA's), (Start: 16 @21240 has 1 MA's), (17, 21243), (18, 21246), (23, 21261), (27, 21273), (42, 21333), (49, 21363), (56, 21420), (57, 21423), (60, 21435), (62, 21447), (63, 21450), (64, 21456), (66, 21468), (70, 21504), (71, 21513), (75, 21525), (77, 21531), (79, 21537), (80, 21540), (81, 21543), (83, 21552), (84, 21558),

Gene: Squiddly_29 Start: 22568, Stop: 23005, Start Num: 5

Candidate Starts for Squiddly_29:

(Start: 5 @22568 has 26 MA's), (Start: 12 @22625 has 1 MA's), (Start: 16 @22652 has 1 MA's), (17, 22655), (18, 22658), (23, 22673), (27, 22685), (42, 22745), (49, 22775), (56, 22832), (57, 22835), (60, 22847), (62, 22859), (63, 22862), (64, 22868), (66, 22880), (70, 22916), (71, 22925), (75, 22937), (77, 22943), (79, 22949), (80, 22952), (81, 22955), (83, 22964), (84, 22970),

Gene: Stormer_40 Start: 30962, Stop: 31348, Start Num: 9

Candidate Starts for Stormer_40:

(Start: 9 @30962 has 55 MA's), (39, 31082), (48, 31112), (50, 31139), (53, 31163), (55, 31175), (62, 31205), (63, 31208), (72, 31274), (79, 31295), (80, 31298), (83, 31310),

Gene: Suscepit_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Suscepit_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: TChen_35 Start: 30090, Stop: 30461, Start Num: 15

Candidate Starts for TChen_35:

(Start: 8 @30057 has 1 MA's), (Start: 13 @30072 has 10 MA's), (Start: 15 @30090 has 1 MA's), (18, 30102), (19, 30105), (20, 30108), (22, 30114), (23, 30117), (24, 30120), (27, 30129), (30, 30141), (38, 30177), (39, 30180), (42, 30189), (43, 30192), (45, 30198), (49, 30219), (51, 30255), (55, 30273), (57, 30279), (58, 30285), (59, 30288), (60, 30291), (62, 30303), (64, 30312), (67, 30345), (68, 30348), (74, 30378), (79, 30393), (82, 30405),

Gene: Tayonia_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Tayonia_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: ThetaBob_35 Start: 29008, Stop: 29412, Start Num: 8

Candidate Starts for ThetaBob_35:

(Start: 8 @29008 has 1 MA's), (Start: 12 @29020 has 1 MA's), (Start: 13 @29023 has 10 MA's), (14, 29038), (17, 29050), (20, 29059), (22, 29065), (27, 29080), (32, 29104), (38, 29128), (39, 29131), (41, 29137), (43, 29143), (45, 29149), (47, 29158), (48, 29161), (51, 29206), (55, 29224), (58, 29236), (59,

29239), (60, 29242), (63, 29257), (69, 29308), (73, 29326), (74, 29329), (79, 29344), (82, 29356),

Gene: Tillicus_38 Start: 32042, Stop: 32440, Start Num: 9

Candidate Starts for Tillicus_38:

(Start: 9 @32042 has 55 MA's), (34, 32147), (38, 32159), (39, 32162), (45, 32180), (50, 32219), (52, 32240), (60, 32273), (62, 32285), (71, 32351), (74, 32360), (78, 32369), (79, 32375), (83, 32390),

Gene: Toron_36 Start: 29915, Stop: 30304, Start Num: 13

Candidate Starts for Toron_36:

(7, 29876), (Start: 8 @29900 has 1 MA's), (Start: 13 @29915 has 10 MA's), (20, 29951), (22, 29957), (23, 29960), (24, 29963), (27, 29972), (32, 29996), (39, 30023), (43, 30035), (51, 30098), (55, 30116), (57, 30122), (58, 30128), (59, 30131), (60, 30134), (62, 30146), (63, 30149), (71, 30212), (74, 30221), (79, 30236), (82, 30248),

Gene: Trumpet_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Trumpet_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Whitney_28 Start: 21973, Stop: 22413, Start Num: 5

Candidate Starts for Whitney_28:

(Start: 5 @21973 has 26 MA's), (Start: 12 @22030 has 1 MA's), (Start: 16 @22057 has 1 MA's), (41, 22147), (49, 22180), (55, 22234), (56, 22237), (57, 22240), (59, 22249), (60, 22252), (64, 22273), (66, 22285), (75, 22342), (77, 22348), (79, 22354), (80, 22357), (81, 22360), (83, 22369), (84, 22375), (85, 22402),

Gene: Wojtek_39 Start: 32308, Stop: 32703, Start Num: 9

Candidate Starts for Wojtek_39:

(Start: 9 @32308 has 55 MA's), (27, 32374), (39, 32428), (48, 32458), (53, 32509), (55, 32521), (72, 32620), (79, 32641), (80, 32644), (83, 32656),

Gene: Yeezy_26 Start: 21154, Stop: 21528, Start Num: 9

Candidate Starts for Yeezy_26:

(4, 21070), (Start: 9 @21154 has 55 MA's), (22, 21202), (29, 21226), (31, 21232), (34, 21256), (37, 21265), (41, 21277), (74, 21469), (76, 21475), (78, 21478),

Gene: Yikes_41 Start: 33687, Stop: 34082, Start Num: 9

Candidate Starts for Yikes_41:

(Start: 9 @33687 has 55 MA's), (27, 33753), (39, 33807), (48, 33837), (53, 33888), (55, 33900), (62, 33930), (72, 33999), (79, 34020), (80, 34023), (83, 34035),

Gene: Yoshi_42 Start: 29099, Stop: 29485, Start Num: 13

Candidate Starts for Yoshi_42:

(Start: 8 @29084 has 1 MA's), (Start: 12 @29096 has 1 MA's), (Start: 13 @29099 has 10 MA's), (19, 29132), (20, 29135), (21, 29138), (22, 29141), (24, 29147), (26, 29150), (32, 29180), (36, 29198), (38, 29204), (45, 29225), (46, 29231), (49, 29246), (55, 29300), (57, 29306), (58, 29312), (59, 29315), (60, 29318), (63, 29333), (67, 29372), (69, 29384), (73, 29402), (79, 29420), (82, 29432),

Gene: Zameen_26 Start: 21932, Stop: 22306, Start Num: 9

Candidate Starts for Zameen_26:

(4, 21848), (Start: 9 @21932 has 55 MA's), (22, 21980), (29, 22004), (31, 22010), (34, 22034), (37, 22043), (41, 22055), (74, 22247), (76, 22253), (78, 22256),

Gene: Zany_39 Start: 33212, Stop: 33607, Start Num: 9

Candidate Starts for Zany_39:

(Start: 9 @33212 has 55 MA's), (27, 33278), (39, 33332), (53, 33413), (55, 33425), (62, 33455), (72, 33524), (79, 33545), (80, 33548), (83, 33560),

Gene: Zapner_42 Start: 30180, Stop: 30569, Start Num: 13

Candidate Starts for Zapner_42:

(Start: 8 @30165 has 1 MA's), (Start: 12 @30177 has 1 MA's), (Start: 13 @30180 has 10 MA's), (14, 30195), (17, 30207), (20, 30216), (22, 30222), (27, 30237), (32, 30261), (38, 30285), (39, 30288), (41, 30294), (43, 30300), (45, 30306), (47, 30315), (48, 30318), (51, 30363), (55, 30381), (58, 30393), (59, 30396), (60, 30399), (63, 30414), (69, 30465), (73, 30483), (74, 30486), (79, 30501), (82, 30513),