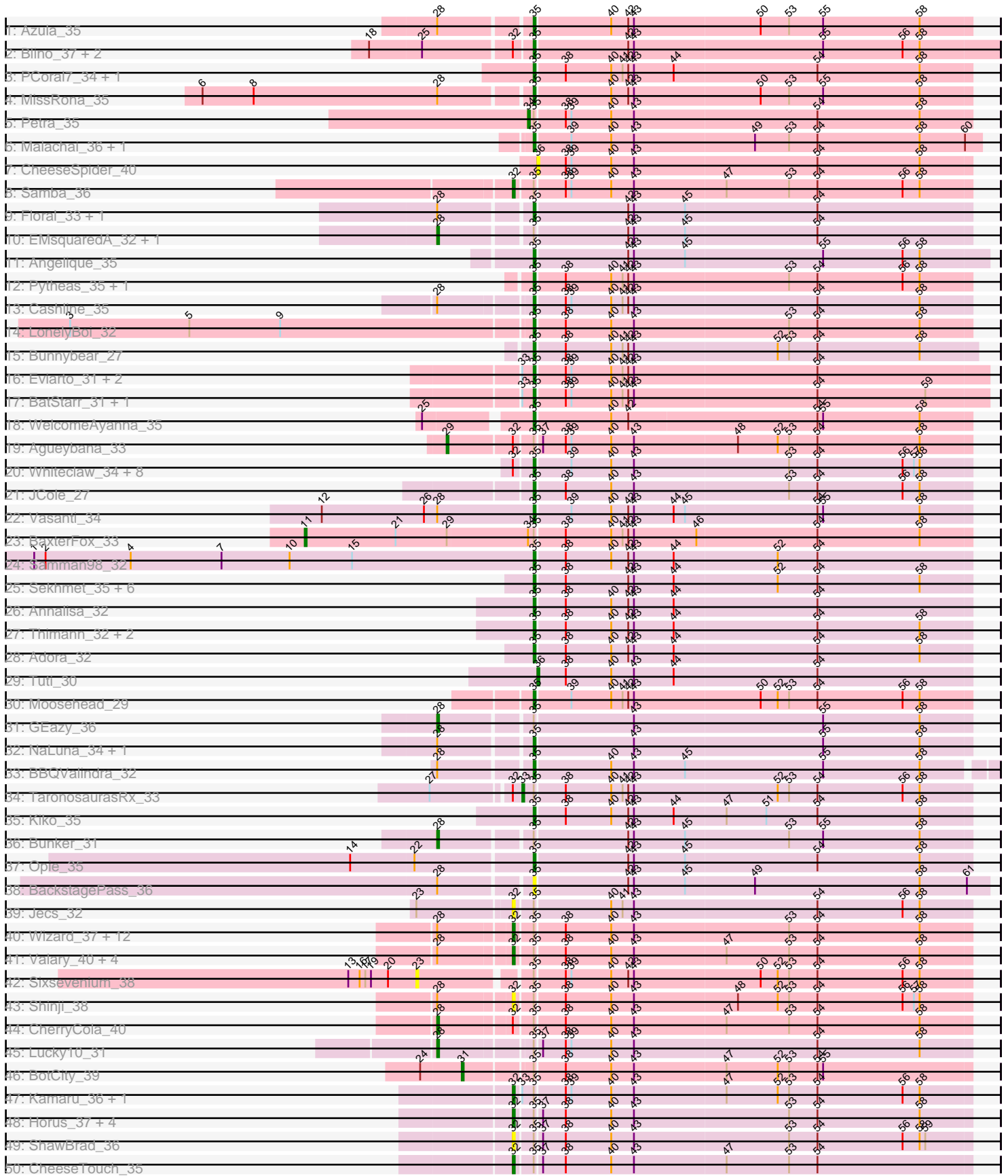
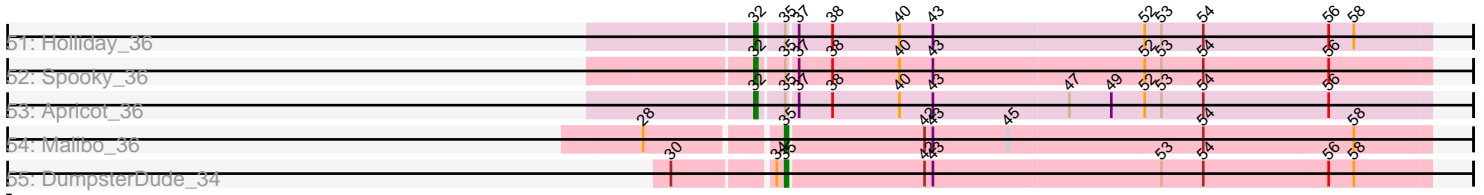


Pham 311420



Pham 311420



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 311420 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311420 has 103 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Azula_35
- Track 2 : Blino_37, Soilmate_38, CarolAnn_37
- Track 3 : PCoral7_34, Toast_34
- Track 4 : MissRona_35
- Track 5 : Petra_35
- Track 6 : Malachai_36, Begonia_36
- Track 7 : CheeseSpider_40
- Track 8 : Samba_36
- Track 9 : Floral_33, Pollux_34
- Track 10 : EMSquaredA_32, Marteena_32
- Track 11 : Angelique_35
- Track 12 : Pytheas_35, Jablanski_35
- Track 13 : Cashline_35
- Track 14 : LonelyBoi_32
- Track 15 : Bunnybear_27
- Track 16 : Eviarto_31, Nymphadora_31, TimTam_31
- Track 17 : BatStarr_31, Bosnia_31
- Track 18 : WelcomeAyanna_35
- Track 19 : Agueybana_33
- Track 20 : Whiteclaw_34, Clap_34, Mocha12_34, Jalleen_33, Haley23_34, GemG_34, Cynthia_34, TuertoX_34, Gizermo_34
- Track 21 : JCole_27
- Track 22 : Vasanti_34
- Track 23 : BaxterFox_33
- Track 24 : Samman98_32
- Track 25 : Sekhmet_35, Rizz_34, Dorito_30, MichaelScott_33, DobbysSock_28, Clark_33, Beenie_28
- Track 26 : Annalisa_32
- Track 27 : Thimann_32, PhriskyACE_33, Mcklovin_32
- Track 28 : Adora_32
- Track 29 : Tuti_30
- Track 30 : Moosehead_29
- Track 31 : GEazy_36
- Track 32 : NaLuna_34, HannahD_34
- Track 33 : BBQValindra_32
- Track 34 : TaronosaurusRx_33
- Track 35 : Kiko_35

- Track 36 : Bunker_31
- Track 37 : Opie_35
- Track 38 : BackstagePass_36
- Track 39 : Jecs_32
- Track 40 : Wizard_37, TillyBobJoe_37, SmokingBunny_37, Gezellig_37, Halo3_38, JohnPork_38, KimmyK_39, Nubi_38, Danyall_40, Twister6_40, Salvador_37, Evamon_37, Sendy_38
- Track 41 : Valary_40, Barb_40, PinkCoffee_40, ClamChowder_40, RogerDodger_41
- Track 42 : Sixsevenium_38
- Track 43 : Shinji_38
- Track 44 : CherryCola_40
- Track 45 : Lucky10_31
- Track 46 : BotCity_39
- Track 47 : Kamaru_36, LitninMcQueen_35
- Track 48 : Horus_37, Phistory_37, Asapag_37, Leroy_37, Periwinkle_40
- Track 49 : ShawBrad_36
- Track 50 : CheeseTouch_35
- Track 51 : Holliday_36
- Track 52 : Spooky_36
- Track 53 : Apricot_36
- Track 54 : Malibo_36
- Track 55 : DumpsterDude_34

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

The start number called the most often in the published annotations is 35, it was called in 51 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora_32, Angelique_35, Annalisa_32, Azula_35, BBQValindra_32, BackstagePass_36, BatStarr_31, Beenie_28, Begonia_36, Blino_37, Bosnia_31, Bunnybear_27, CarolAnn_37, Cashline_35, Clap_34, Clark_33, Cynthia_34, DobbysSock_28, Dorito_30, DumpsterDude_34, Eviarto_31, Floral_33, GemG_34, Gizermo_34, Haley23_34, HannahD_34, JCole_27, Jablanski_35, Jalleen_33, Kiko_35, LonelyBoi_32, Malachai_36, Malibo_36, Mcklovin_32, MichaelScott_33, MissRona_35, Mocha12_34, Moosehead_29, NaLuna_34, Nymphadora_31, Opie_35, PCoral7_34, PhriskyACE_33, Pollux_34, Pytheas_35, Rizz_34, Samman98_32, Sekhmet_35, Soilmate_38, Thimann_32, TimTam_31, Toast_34, TuertoX_34, Vasanti_34, WelcomeAyanna_35, Whiteclaw_34,

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

- Agueybana_33, Apricot_36, Asapag_37, Barb_40, BaxterFox_33, BotCity_39, Bunker_31, CheeseTouch_35, CherryCola_40, ClamChowder_40, Danyall_40, EMSquaredA_32, Evamon_37, GEazy_36, Gezellig_37, Halo3_38, Holliday_36, Horus_37, Jecs_32, JohnPork_38, Kamaru_36, KimmyK_39, Leroy_37, LitninMcQueen_35, Lucky10_31, Marteena_32, Nubi_38, Periwinkle_40, Petra_35, Phistory_37, PinkCoffee_40, RogerDodger_41, Salvador_37, Samba_36, Sendy_38, ShawBrad_36, Shinji_38, Sixsevenium_38, SmokingBunny_37, Spooky_36, TaronosaurusRx_33, TillyBobJoe_37, Twister6_40, Valary_40, Wizard_37,

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

- CheeseSpider_40, Tuti_30,

Summary by start number:

Start 11:

- Found in 1 of 103 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaxterFox_33 (CZ3),

Start 23:

- Found in 2 of 103 (1.9%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Sixsevenium_38 (DC1),

Start 28:

- Found in 36 of 103 (35.0%) of genes in pham
- Manual Annotations of this start: 6 of 91
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Bunker_31 (DB), CherryCola_40 (DC1), EMSquaredA_32 (CY1), GEazy_36 (DB), Lucky10_31 (DH), Marteena_32 (CY1),

Start 29:

- Found in 2 of 103 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Agueybana_33 (CZ1),

Start 31:

- Found in 1 of 103 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BotCity_39 (DN),

Start 32:

- Found in 48 of 103 (46.6%) of genes in pham
- Manual Annotations of this start: 28 of 91
- Called 68.8% of time when present
- Phage (with cluster) where this start called: Apricot_36 (DN3), Asapag_37 (DN1), Barb_40 (DC1), CheeseTouch_35 (DN1), ClamChowder_40 (DC1), Danyall_40 (DC1), Evamon_37 (DC1), Gezellig_37 (DC1), Halo3_38 (DC1), Holliday_36 (DN1), Horus_37 (DN1), Jecs_32 (DB), JohnPork_38 (DC1), Kamaru_36 (DN1), KimmyK_39 (DC1), Leroy_37 (DN1), LitninMcQueen_35 (DN1), Nubi_38 (DC1), Periwinkle_40 (DN1), Phistory_37 (DN1), PinkCoffee_40 (DC1), RogerDodger_41 (DC1), Salvador_37 (DC1), Samba_36 (CV), Sendy_38 (DC1), ShawBrad_36 (DN1), Shinji_38 (DC1), SmokingBunny_37 (DC1), Spooky_36 (DN2), TillyBobJoe_37 (DC1), Twister6_40 (DC1), Valary_40 (DC1), Wizard_37 (DC1),

Start 33:

- Found in 8 of 103 (7.8%) of genes in pham
- Manual Annotations of this start: 1 of 91

- Called 12.5% of time when present
- Phage (with cluster) where this start called: TaronosaurusRx_33 (DB),

Start 34:

- Found in 3 of 103 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Petra_35 (CV),

Start 35:

- Found in 101 of 103 (98.1%) of genes in pham
- Manual Annotations of this start: 51 of 91
- Called 55.4% of time when present
- Phage (with cluster) where this start called: Adora_32 (CZ4), Angelique_35 (CY1), Annalisa_32 (CZ4), Azula_35 (CV), BBQValindra_32 (DB), BackstagePass_36 (DB), BatStarr_31 (CZ1), Beenie_28 (CZ4), Begonia_36 (CV), Blino_37 (CV), Bosnia_31 (CZ1), Bunnybear_27 (CZ), CarolAnn_37 (CV), Cashline_35 (CY6), Clap_34 (CZ2), Clark_33 (CZ4), Cynthia_34 (CZ2), DobbysSock_28 (CZ4), Dorito_30 (CZ4), DumpsterDude_34 (DW), Eviarto_31 (CZ1), Floral_33 (CY1), GemG_34 (CZ2), Gizermo_34 (CZ2), Haley23_34 (CZ2), HannahD_34 (DB), JCole_27 (CZ2), Jablanski_35 (CY3), Jalleen_33 (CZ2), Kiko_35 (DB), LonelyBoi_32 (CY7), Malachai_36 (CV), Malibo_36 (DW), Mcklovin_32 (CZ4), MichaelScott_33 (CZ4), MissRona_35 (CV), Mocha12_34 (CZ2), Moosehead_29 (CZ6), NaLuna_34 (DB), Nymphadora_31 (CZ1), Opie_35 (DB), PCoral7_34 (CV), PhriskyACE_33 (CZ4), Pollux_34 (CY1), Pytheas_35 (CY3), Rizz_34 (CZ4), Samman98_32 (CZ4), Sekhmet_35 (CZ4), Soilmate_38 (CV), Thimann_32 (CZ4), TimTam_31 (CZ1), Toast_34 (CV), TuertoX_34 (CZ2), Vasanti_34 (CZ2), WelcomeAyanna_35 (CZ1), Whiteclaw_34 (CZ2),

Start 36:

- Found in 2 of 103 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 91
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CheeseSpider_40 (CV), Tuti_30 (CZ4),

Summary by clusters:

There are 19 clusters represented in this pham: CY3, DN, CY1, CY7, CY6, DH, CZ2, CZ3, CZ1, DB, CZ6, CZ4, CZ, DN1, DN3, DN2, DW, CV, DC1,

Info for manual annotations of cluster CV:

- Start number 32 was manually annotated 1 time for cluster CV.
- Start number 34 was manually annotated 1 time for cluster CV.
- Start number 35 was manually annotated 8 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 28 was manually annotated 2 times for cluster CY1.
- Start number 35 was manually annotated 3 times for cluster CY1.

Info for manual annotations of cluster CY3:

- Start number 35 was manually annotated 2 times for cluster CY3.

Info for manual annotations of cluster CY6:

- Start number 35 was manually annotated 1 time for cluster CY6.

Info for manual annotations of cluster CY7:

- Start number 35 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster CZ:

- Start number 35 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 29 was manually annotated 1 time for cluster CZ1.
- Start number 35 was manually annotated 6 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 35 was manually annotated 10 times for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 11 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 35 was manually annotated 12 times for cluster CZ4.
- Start number 36 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 35 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DB:

- Start number 28 was manually annotated 2 times for cluster DB.
- Start number 33 was manually annotated 1 time for cluster DB.
- Start number 35 was manually annotated 4 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 28 was manually annotated 1 time for cluster DC1.
- Start number 32 was manually annotated 16 times for cluster DC1.

Info for manual annotations of cluster DH:

- Start number 28 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN:

- Start number 31 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 32 was manually annotated 9 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 32 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 32 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DW:

- Start number 35 was manually annotated 2 times for cluster DW.

Gene Information:

Gene: Adora_32 Start: 28689, Stop: 28462, Start Num: 35

Candidate Starts for Adora_32:

(Start: 35 @28689 has 51 MA's), (38, 28674), (40, 28650), (42, 28641), (43, 28638), (44, 28617), (54, 28542), (58, 28488),

Gene: Agueybana_33 Start: 28613, Stop: 28344, Start Num: 29

Candidate Starts for Agueybana_33:

(Start: 29 @28613 has 1 MA's), (Start: 32 @28580 has 28 MA's), (Start: 35 @28571 has 51 MA's), (37, 28568), (38, 28556), (39, 28553), (40, 28532), (43, 28520), (48, 28466), (52, 28445), (53, 28439), (54, 28424), (58, 28370),

Gene: Angelique_35 Start: 28945, Stop: 28709, Start Num: 35

Candidate Starts for Angelique_35:

(Start: 35 @28945 has 51 MA's), (42, 28897), (43, 28894), (45, 28867), (55, 28795), (56, 28753), (58, 28744),

Gene: Annalisa_32 Start: 26879, Stop: 26652, Start Num: 35

Candidate Starts for Annalisa_32:

(Start: 35 @26879 has 51 MA's), (38, 26864), (40, 26840), (42, 26831), (43, 26828), (44, 26807), (54, 26732),

Gene: Apricot_36 Start: 28503, Stop: 28267, Start Num: 32

Candidate Starts for Apricot_36:

(Start: 32 @28503 has 28 MA's), (Start: 35 @28494 has 51 MA's), (37, 28491), (38, 28479), (40, 28455), (43, 28443), (47, 28395), (49, 28380), (52, 28368), (53, 28362), (54, 28347), (56, 28302),

Gene: Asapag_37 Start: 30095, Stop: 29859, Start Num: 32

Candidate Starts for Asapag_37:

(Start: 32 @30095 has 28 MA's), (Start: 35 @30086 has 51 MA's), (37, 30083), (38, 30071), (40, 30047), (43, 30035), (53, 29954), (54, 29939), (58, 29885),

Gene: Azula_35 Start: 29026, Stop: 28799, Start Num: 35

Candidate Starts for Azula_35:

(Start: 28 @29071 has 6 MA's), (Start: 35 @29026 has 51 MA's), (40, 28987), (42, 28978), (43, 28975), (50, 28909), (53, 28894), (55, 28876), (58, 28825),

Gene: BBQValindra_32 Start: 27582, Stop: 27346, Start Num: 35

Candidate Starts for BBQValindra_32:

(Start: 28 @27627 has 6 MA's), (Start: 35 @27582 has 51 MA's), (40, 27543), (43, 27531), (45, 27504), (55, 27432), (58, 27381),

Gene: BackstagePass_36 Start: 29151, Stop: 28915, Start Num: 35

Candidate Starts for BackstagePass_36:

(Start: 28 @29196 has 6 MA's), (Start: 35 @29151 has 51 MA's), (42, 29103), (43, 29100), (45, 29073), (49, 29037), (58, 28950), (61, 28926),

Gene: Barb_40 Start: 33752, Stop: 33516, Start Num: 32

Candidate Starts for Barb_40:

(Start: 28 @33788 has 6 MA's), (Start: 32 @33752 has 28 MA's), (Start: 35 @33743 has 51 MA's), (38, 33728), (40, 33704), (43, 33692), (47, 33644), (53, 33611), (54, 33596), (58, 33542),

Gene: BatStarr_31 Start: 28844, Stop: 28608, Start Num: 35

Candidate Starts for BatStarr_31:

(Start: 33 @28850 has 1 MA's), (Start: 35 @28844 has 51 MA's), (38, 28829), (39, 28826), (40, 28805), (41, 28799), (42, 28796), (43, 28793), (54, 28697), (59, 28640),

Gene: BaxterFox_33 Start: 29026, Stop: 28679, Start Num: 11

Candidate Starts for BaxterFox_33:

(Start: 11 @29026 has 1 MA's), (21, 28978), (Start: 29 @28951 has 1 MA's), (Start: 34 @28909 has 1 MA's), (Start: 35 @28906 has 51 MA's), (38, 28891), (40, 28867), (41, 28861), (42, 28858), (43, 28855), (46, 28822), (54, 28759), (58, 28705),

Gene: Beenie_28 Start: 26674, Stop: 26447, Start Num: 35

Candidate Starts for Beenie_28:

(Start: 35 @26674 has 51 MA's), (38, 26659), (42, 26626), (43, 26623), (44, 26602), (52, 26548), (54, 26527), (58, 26473),

Gene: Begonia_36 Start: 30625, Stop: 30392, Start Num: 35

Candidate Starts for Begonia_36:

(Start: 35 @30625 has 51 MA's), (39, 30607), (40, 30586), (43, 30574), (49, 30511), (53, 30493), (54, 30478), (58, 30424), (60, 30400),

Gene: Blino_37 Start: 31465, Stop: 31223, Start Num: 35

Candidate Starts for Blino_37:

(18, 31546), (25, 31519), (Start: 32 @31474 has 28 MA's), (Start: 35 @31465 has 51 MA's), (42, 31417), (43, 31414), (55, 31315), (56, 31273), (58, 31264),

Gene: Bosnia_31 Start: 28844, Stop: 28608, Start Num: 35

Candidate Starts for Bosnia_31:

(Start: 33 @28850 has 1 MA's), (Start: 35 @28844 has 51 MA's), (38, 28829), (39, 28826), (40, 28805), (41, 28799), (42, 28796), (43, 28793), (54, 28697), (59, 28640),

Gene: BotCity_39 Start: 29685, Stop: 29425, Start Num: 31

Candidate Starts for BotCity_39:

(24, 29706), (Start: 31 @29685 has 1 MA's), (Start: 35 @29652 has 51 MA's), (38, 29637), (40, 29613), (43, 29601), (47, 29553), (52, 29526), (53, 29520), (54, 29505), (55, 29502),

Gene: Bunker_31 Start: 27927, Stop: 27655, Start Num: 28

Candidate Starts for Bunker_31:

(Start: 28 @27927 has 6 MA's), (Start: 35 @27882 has 51 MA's), (42, 27834), (43, 27831), (45, 27804), (53, 27750), (55, 27732), (58, 27681),

Gene: Bunnybear_27 Start: 27053, Stop: 26823, Start Num: 35

Candidate Starts for Bunnybear_27:

(Start: 35 @27053 has 51 MA's), (38, 27038), (40, 27014), (41, 27008), (42, 27005), (43, 27002), (52, 26927), (53, 26921), (54, 26906), (58, 26852),

Gene: CarolAnn_37 Start: 31464, Stop: 31222, Start Num: 35

Candidate Starts for CarolAnn_37:

(18, 31545), (25, 31518), (Start: 32 @31473 has 28 MA's), (Start: 35 @31464 has 51 MA's), (42, 31416), (43, 31413), (55, 31314), (56, 31272), (58, 31263),

Gene: Cashline_35 Start: 29499, Stop: 29272, Start Num: 35

Candidate Starts for Cashline_35:

(Start: 28 @29544 has 6 MA's), (Start: 35 @29499 has 51 MA's), (38, 29484), (39, 29481), (40, 29460), (41, 29454), (42, 29451), (43, 29448), (54, 29352), (58, 29298),

Gene: CheeseSpider_40 Start: 28731, Stop: 28504, Start Num: 36

Candidate Starts for CheeseSpider_40:

(Start: 36 @28731 has 1 MA's), (38, 28716), (39, 28713), (40, 28692), (43, 28680), (54, 28584), (58, 28530),

Gene: CheeseTouch_35 Start: 26657, Stop: 26421, Start Num: 32

Candidate Starts for CheeseTouch_35:

(Start: 32 @26657 has 28 MA's), (Start: 35 @26648 has 51 MA's), (37, 26645), (38, 26633), (40, 26609), (43, 26597), (47, 26549), (53, 26516), (54, 26501),

Gene: CherryCola_40 Start: 34544, Stop: 34272, Start Num: 28

Candidate Starts for CherryCola_40:

(Start: 28 @34544 has 6 MA's), (Start: 32 @34508 has 28 MA's), (Start: 35 @34499 has 51 MA's), (38, 34484), (40, 34460), (43, 34448), (47, 34400), (53, 34367), (54, 34352), (58, 34298),

Gene: ClamChowder_40 Start: 33752, Stop: 33516, Start Num: 32

Candidate Starts for ClamChowder_40:

(Start: 28 @33788 has 6 MA's), (Start: 32 @33752 has 28 MA's), (Start: 35 @33743 has 51 MA's), (38, 33728), (40, 33704), (43, 33692), (47, 33644), (53, 33611), (54, 33596), (58, 33542),

Gene: Clap_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for Clap_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Clark_33 Start: 26491, Stop: 26264, Start Num: 35

Candidate Starts for Clark_33:

(Start: 35 @26491 has 51 MA's), (38, 26476), (42, 26443), (43, 26440), (44, 26419), (52, 26365), (54, 26344), (58, 26290),

Gene: Cynthia_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for Cynthia_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Danyall_40 Start: 33554, Stop: 33318, Start Num: 32

Candidate Starts for Danyall_40:

(Start: 28 @33590 has 6 MA's), (Start: 32 @33554 has 28 MA's), (Start: 35 @33545 has 51 MA's), (38, 33530), (40, 33506), (43, 33494), (53, 33413), (54, 33398), (58, 33344),

Gene: DobbysSock_28 Start: 25413, Stop: 25186, Start Num: 35

Candidate Starts for DobbysSock_28:

(Start: 35 @25413 has 51 MA's), (38, 25398), (42, 25365), (43, 25362), (44, 25341), (52, 25287), (54, 25266), (58, 25212),

Gene: Dorito_30 Start: 25057, Stop: 24830, Start Num: 35

Candidate Starts for Dorito_30:

(Start: 35 @25057 has 51 MA's), (38, 25042), (42, 25009), (43, 25006), (44, 24985), (52, 24931), (54, 24910), (58, 24856),

Gene: DumpsterDude_34 Start: 31000, Stop: 30773, Start Num: 35

Candidate Starts for DumpsterDude_34:

(30, 31036), (Start: 34 @31003 has 1 MA's), (Start: 35 @31000 has 51 MA's), (42, 30952), (43, 30949), (53, 30868), (54, 30853), (56, 30808), (58, 30799),

Gene: EMSquaredA_32 Start: 27060, Stop: 26788, Start Num: 28

Candidate Starts for EMSquaredA_32:

(Start: 28 @27060 has 6 MA's), (Start: 35 @27015 has 51 MA's), (42, 26967), (43, 26964), (45, 26937), (54, 26868),

Gene: Evamon_37 Start: 33573, Stop: 33337, Start Num: 32

Candidate Starts for Evamon_37:

(Start: 28 @33609 has 6 MA's), (Start: 32 @33573 has 28 MA's), (Start: 35 @33564 has 51 MA's), (38, 33549), (40, 33525), (43, 33513), (53, 33432), (54, 33417), (58, 33363),

Gene: Eviarto_31 Start: 28820, Stop: 28584, Start Num: 35

Candidate Starts for Eviarto_31:

(Start: 33 @28826 has 1 MA's), (Start: 35 @28820 has 51 MA's), (38, 28805), (39, 28802), (40, 28781), (41, 28775), (42, 28772), (43, 28769), (54, 28673),

Gene: Floral_33 Start: 29088, Stop: 28861, Start Num: 35

Candidate Starts for Floral_33:

(Start: 28 @29133 has 6 MA's), (Start: 35 @29088 has 51 MA's), (42, 29040), (43, 29037), (45, 29010), (54, 28941),

Gene: GEazy_36 Start: 28931, Stop: 28659, Start Num: 28

Candidate Starts for GEazy_36:

(Start: 28 @28931 has 6 MA's), (Start: 35 @28886 has 51 MA's), (43, 28835), (55, 28736), (58, 28685),

Gene: GemG_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for GemG_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Gezellig_37 Start: 33705, Stop: 33469, Start Num: 32

Candidate Starts for Gezellig_37:

(Start: 28 @33741 has 6 MA's), (Start: 32 @33705 has 28 MA's), (Start: 35 @33696 has 51 MA's), (38, 33681), (40, 33657), (43, 33645), (53, 33564), (54, 33549), (58, 33495),

Gene: Gizermo_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for Gizermo_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Haley23_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for Haley23_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Halo3_38 Start: 33998, Stop: 33762, Start Num: 32

Candidate Starts for Halo3_38:

(Start: 28 @34034 has 6 MA's), (Start: 32 @33998 has 28 MA's), (Start: 35 @33989 has 51 MA's), (38, 33974), (40, 33950), (43, 33938), (53, 33857), (54, 33842), (58, 33788),

Gene: HannahD_34 Start: 28251, Stop: 28024, Start Num: 35

Candidate Starts for HannahD_34:

(Start: 28 @28296 has 6 MA's), (Start: 35 @28251 has 51 MA's), (43, 28200), (55, 28101), (58, 28050),

Gene: Holliday_36 Start: 28771, Stop: 28535, Start Num: 32

Candidate Starts for Holliday_36:

(Start: 32 @28771 has 28 MA's), (Start: 35 @28762 has 51 MA's), (37, 28759), (38, 28747), (40, 28723), (43, 28711), (52, 28636), (53, 28630), (54, 28615), (56, 28570), (58, 28561),

Gene: Horus_37 Start: 30117, Stop: 29881, Start Num: 32

Candidate Starts for Horus_37:

(Start: 32 @30117 has 28 MA's), (Start: 35 @30108 has 51 MA's), (37, 30105), (38, 30093), (40, 30069), (43, 30057), (53, 29976), (54, 29961), (58, 29907),

Gene: JCole_27 Start: 23464, Stop: 23237, Start Num: 35

Candidate Starts for JCole_27:

(Start: 35 @23464 has 51 MA's), (38, 23449), (40, 23425), (43, 23413), (53, 23332), (54, 23317), (56, 23272), (58, 23263),

Gene: Jablanski_35 Start: 30024, Stop: 29797, Start Num: 35

Candidate Starts for Jablanski_35:

(Start: 35 @30024 has 51 MA's), (38, 30009), (40, 29985), (41, 29979), (42, 29976), (43, 29973), (53, 29892), (54, 29877), (56, 29832), (58, 29823),

Gene: Jalleen_33 Start: 26187, Stop: 25960, Start Num: 35

Candidate Starts for Jalleen_33:

(Start: 32 @26196 has 28 MA's), (Start: 35 @26187 has 51 MA's), (39, 26169), (40, 26148), (43, 26136), (53, 26055), (54, 26040), (56, 25995), (57, 25989), (58, 25986),

Gene: Jecs_32 Start: 27371, Stop: 27135, Start Num: 32

Candidate Starts for Jecs_32:

(23, 27419), (Start: 32 @27371 has 28 MA's), (Start: 35 @27362 has 51 MA's), (40, 27323), (41, 27317), (43, 27311), (54, 27215), (56, 27170), (58, 27161),

Gene: JohnPork_38 Start: 33073, Stop: 32837, Start Num: 32

Candidate Starts for JohnPork_38:

(Start: 28 @33109 has 6 MA's), (Start: 32 @33073 has 28 MA's), (Start: 35 @33064 has 51 MA's), (38, 33049), (40, 33025), (43, 33013), (53, 32932), (54, 32917), (58, 32863),

Gene: Kamaru_36 Start: 28771, Stop: 28535, Start Num: 32

Candidate Starts for Kamaru_36:

(Start: 32 @28771 has 28 MA's), (Start: 33 @28768 has 1 MA's), (Start: 35 @28762 has 51 MA's), (38, 28747), (39, 28744), (40, 28723), (43, 28711), (47, 28663), (52, 28636), (53, 28630), (54, 28615), (56, 28570), (58, 28561),

Gene: Kiko_35 Start: 27318, Stop: 27091, Start Num: 35

Candidate Starts for Kiko_35:

(Start: 35 @27318 has 51 MA's), (38, 27303), (40, 27279), (42, 27270), (43, 27267), (44, 27246), (47, 27219), (51, 27198), (54, 27171), (58, 27117),

Gene: KimmyK_39 Start: 34287, Stop: 34051, Start Num: 32

Candidate Starts for KimmyK_39:

(Start: 28 @34323 has 6 MA's), (Start: 32 @34287 has 28 MA's), (Start: 35 @34278 has 51 MA's), (38, 34263), (40, 34239), (43, 34227), (53, 34146), (54, 34131), (58, 34077),

Gene: Leroy_37 Start: 30118, Stop: 29882, Start Num: 32

Candidate Starts for Leroy_37:

(Start: 32 @30118 has 28 MA's), (Start: 35 @30109 has 51 MA's), (37, 30106), (38, 30094), (40, 30070), (43, 30058), (53, 29977), (54, 29962), (58, 29908),

Gene: LitninMcQueen_35 Start: 28514, Stop: 28278, Start Num: 32

Candidate Starts for LitninMcQueen_35:

(Start: 32 @28514 has 28 MA's), (Start: 33 @28511 has 1 MA's), (Start: 35 @28505 has 51 MA's), (38, 28490), (39, 28487), (40, 28466), (43, 28454), (47, 28406), (52, 28379), (53, 28373), (54, 28358), (56, 28313), (58, 28304),

Gene: LonelyBoi_32 Start: 30030, Stop: 29803, Start Num: 35

Candidate Starts for LonelyBoi_32:

(3, 30270), (5, 30207), (9, 30159), (Start: 35 @30030 has 51 MA's), (38, 30015), (40, 29991), (43, 29979), (53, 29898), (54, 29883), (58, 29829),

Gene: Lucky10_31 Start: 26592, Stop: 26320, Start Num: 28

Candidate Starts for Lucky10_31:

(Start: 28 @26592 has 6 MA's), (Start: 35 @26547 has 51 MA's), (37, 26544), (38, 26532), (39, 26529), (40, 26508), (43, 26496), (54, 26400), (58, 26346),

Gene: Malachai_36 Start: 30625, Stop: 30392, Start Num: 35

Candidate Starts for Malachai_36:

(Start: 35 @30625 has 51 MA's), (39, 30607), (40, 30586), (43, 30574), (49, 30511), (53, 30493), (54, 30478), (58, 30424), (60, 30400),

Gene: Malibo_36 Start: 29104, Stop: 28877, Start Num: 35

Candidate Starts for Malibo_36:

(Start: 28 @29149 has 6 MA's), (Start: 35 @29104 has 51 MA's), (42, 29056), (43, 29053), (45, 29026), (54, 28957), (58, 28903),

Gene: Marteena_32 Start: 27060, Stop: 26788, Start Num: 28

Candidate Starts for Marteena_32:

(Start: 28 @27060 has 6 MA's), (Start: 35 @27015 has 51 MA's), (42, 26967), (43, 26964), (45, 26937), (54, 26868),

Gene: Mcklovin_32 Start: 30905, Stop: 30678, Start Num: 35

Candidate Starts for Mcklovin_32:

(Start: 35 @30905 has 51 MA's), (38, 30890), (40, 30866), (42, 30857), (43, 30854), (44, 30833), (54, 30758), (58, 30704),

Gene: MichaelScott_33 Start: 27967, Stop: 27740, Start Num: 35

Candidate Starts for MichaelScott_33:

(Start: 35 @27967 has 51 MA's), (38, 27952), (42, 27919), (43, 27916), (44, 27895), (52, 27841), (54, 27820), (58, 27766),

Gene: MissRona_35 Start: 29026, Stop: 28799, Start Num: 35

Candidate Starts for MissRona_35:

(6, 29194), (8, 29167), (Start: 28 @29071 has 6 MA's), (Start: 35 @29026 has 51 MA's), (40, 28987), (42, 28978), (43, 28975), (50, 28909), (53, 28894), (55, 28876), (58, 28825),

Gene: Mocha12_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for Mocha12_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Moosehead_29 Start: 23632, Stop: 23405, Start Num: 35

Candidate Starts for Moosehead_29:

(Start: 35 @23632 has 51 MA's), (39, 23614), (40, 23593), (41, 23587), (42, 23584), (43, 23581), (50, 23515), (52, 23506), (53, 23500), (54, 23485), (56, 23440), (58, 23431),

Gene: NaLuna_34 Start: 28251, Stop: 28024, Start Num: 35

Candidate Starts for NaLuna_34:

(Start: 28 @28296 has 6 MA's), (Start: 35 @28251 has 51 MA's), (43, 28200), (55, 28101), (58, 28050),

Gene: Nubi_38 Start: 33576, Stop: 33340, Start Num: 32

Candidate Starts for Nubi_38:

(Start: 28 @33612 has 6 MA's), (Start: 32 @33576 has 28 MA's), (Start: 35 @33567 has 51 MA's), (38, 33552), (40, 33528), (43, 33516), (53, 33435), (54, 33420), (58, 33366),

Gene: Nymphadora_31 Start: 28844, Stop: 28608, Start Num: 35

Candidate Starts for Nymphadora_31:

(Start: 33 @28850 has 1 MA's), (Start: 35 @28844 has 51 MA's), (38, 28829), (39, 28826), (40, 28805), (41, 28799), (42, 28796), (43, 28793), (54, 28697),

Gene: Opie_35 Start: 29554, Stop: 29327, Start Num: 35

Candidate Starts for Opie_35:

(14, 29647), (22, 29614), (Start: 35 @29554 has 51 MA's), (42, 29506), (43, 29503), (45, 29476), (54, 29407), (58, 29353),

Gene: PCoral7_34 Start: 28574, Stop: 28347, Start Num: 35

Candidate Starts for PCoral7_34:

(Start: 35 @28574 has 51 MA's), (38, 28559), (40, 28535), (41, 28529), (42, 28526), (43, 28523), (44, 28502), (54, 28427), (58, 28373),

Gene: Periwinkle_40 Start: 30562, Stop: 30326, Start Num: 32

Candidate Starts for Periwinkle_40:

(Start: 32 @30562 has 28 MA's), (Start: 35 @30553 has 51 MA's), (37, 30550), (38, 30538), (40, 30514), (43, 30502), (53, 30421), (54, 30406), (58, 30352),

Gene: Petra_35 Start: 29575, Stop: 29345, Start Num: 34

Candidate Starts for Petra_35:

(Start: 34 @29575 has 1 MA's), (Start: 35 @29572 has 51 MA's), (38, 29557), (39, 29554), (40, 29533), (43, 29521), (54, 29425), (58, 29371),

Gene: Phistory_37 Start: 29459, Stop: 29223, Start Num: 32

Candidate Starts for Phistory_37:

(Start: 32 @29459 has 28 MA's), (Start: 35 @29450 has 51 MA's), (37, 29447), (38, 29435), (40, 29411), (43, 29399), (53, 29318), (54, 29303), (58, 29249),

Gene: PhriskyACE_33 Start: 27013, Stop: 26786, Start Num: 35

Candidate Starts for PhriskyACE_33:

(Start: 35 @27013 has 51 MA's), (38, 26998), (40, 26974), (42, 26965), (43, 26962), (44, 26941), (54, 26866), (58, 26812),

Gene: PinkCoffee_40 Start: 33761, Stop: 33525, Start Num: 32

Candidate Starts for PinkCoffee_40:

(Start: 28 @33797 has 6 MA's), (Start: 32 @33761 has 28 MA's), (Start: 35 @33752 has 51 MA's), (38, 33737), (40, 33713), (43, 33701), (47, 33653), (53, 33620), (54, 33605), (58, 33551),

Gene: Pollux_34 Start: 29088, Stop: 28861, Start Num: 35

Candidate Starts for Pollux_34:

(Start: 28 @29133 has 6 MA's), (Start: 35 @29088 has 51 MA's), (42, 29040), (43, 29037), (45, 29010), (54, 28941),

Gene: Pytheas_35 Start: 30023, Stop: 29796, Start Num: 35

Candidate Starts for Pytheas_35:

(Start: 35 @30023 has 51 MA's), (38, 30008), (40, 29984), (41, 29978), (42, 29975), (43, 29972), (53, 29891), (54, 29876), (56, 29831), (58, 29822),

Gene: Rizz_34 Start: 27277, Stop: 27050, Start Num: 35

Candidate Starts for Rizz_34:

(Start: 35 @27277 has 51 MA's), (38, 27262), (42, 27229), (43, 27226), (44, 27205), (52, 27151), (54, 27130), (58, 27076),

Gene: RogerDodger_41 Start: 33903, Stop: 33667, Start Num: 32

Candidate Starts for RogerDodger_41:

(Start: 28 @33939 has 6 MA's), (Start: 32 @33903 has 28 MA's), (Start: 35 @33894 has 51 MA's), (38, 33879), (40, 33855), (43, 33843), (47, 33795), (53, 33762), (54, 33747), (58, 33693),

Gene: Salvador_37 Start: 33571, Stop: 33335, Start Num: 32

Candidate Starts for Salvador_37:

(Start: 28 @33607 has 6 MA's), (Start: 32 @33571 has 28 MA's), (Start: 35 @33562 has 51 MA's), (38, 33547), (40, 33523), (43, 33511), (53, 33430), (54, 33415), (58, 33361),

Gene: Samba_36 Start: 30626, Stop: 30390, Start Num: 32

Candidate Starts for Samba_36:

(Start: 32 @30626 has 28 MA's), (Start: 35 @30617 has 51 MA's), (38, 30602), (39, 30599), (40, 30578), (43, 30566), (47, 30518), (53, 30485), (54, 30470), (56, 30425), (58, 30416),

Gene: Samman98_32 Start: 26076, Stop: 25849, Start Num: 35

Candidate Starts for Samman98_32:

(1, 26340), (2, 26334), (4, 26289), (7, 26241), (10, 26205), (15, 26172), (Start: 35 @26076 has 51 MA's), (38, 26061), (40, 26037), (42, 26028), (43, 26025), (44, 26004), (52, 25950), (54, 25929),

Gene: Sekhmet_35 Start: 27809, Stop: 27582, Start Num: 35

Candidate Starts for Sekhmet_35:

(Start: 35 @27809 has 51 MA's), (38, 27794), (42, 27761), (43, 27758), (44, 27737), (52, 27683), (54, 27662), (58, 27608),

Gene: Sendy_38 Start: 33777, Stop: 33541, Start Num: 32

Candidate Starts for Sendy_38:

(Start: 28 @33813 has 6 MA's), (Start: 32 @33777 has 28 MA's), (Start: 35 @33768 has 51 MA's), (38, 33753), (40, 33729), (43, 33717), (53, 33636), (54, 33621), (58, 33567),

Gene: ShawBrad_36 Start: 28681, Stop: 28445, Start Num: 32

Candidate Starts for ShawBrad_36:

(Start: 32 @28681 has 28 MA's), (Start: 35 @28672 has 51 MA's), (37, 28669), (38, 28657), (40, 28633), (43, 28621), (53, 28540), (54, 28525), (56, 28480), (58, 28471), (59, 28468),

Gene: Shinji_38 Start: 33014, Stop: 32778, Start Num: 32

Candidate Starts for Shinji_38:

(Start: 28 @33050 has 6 MA's), (Start: 32 @33014 has 28 MA's), (Start: 35 @33005 has 51 MA's), (38, 32990), (40, 32966), (43, 32954), (48, 32900), (52, 32879), (53, 32873), (54, 32858), (56, 32813), (57, 32807), (58, 32804),

Gene: Sixsevenium_38 Start: 32514, Stop: 32233, Start Num: 23

Candidate Starts for Sixsevenium_38:

(13, 32550), (16, 32544), (17, 32541), (19, 32538), (20, 32529), (23, 32514), (Start: 35 @32460 has 51 MA's), (38, 32445), (39, 32442), (40, 32421), (42, 32412), (43, 32409), (50, 32343), (52, 32334), (53, 32328), (54, 32313), (56, 32268), (58, 32259),

Gene: SmokingBunny_37 Start: 33562, Stop: 33326, Start Num: 32

Candidate Starts for SmokingBunny_37:

(Start: 28 @33598 has 6 MA's), (Start: 32 @33562 has 28 MA's), (Start: 35 @33553 has 51 MA's), (38, 33538), (40, 33514), (43, 33502), (53, 33421), (54, 33406), (58, 33352),

Gene: Soilmate_38 Start: 31464, Stop: 31222, Start Num: 35

Candidate Starts for Soilmate_38:

(18, 31545), (25, 31518), (Start: 32 @31473 has 28 MA's), (Start: 35 @31464 has 51 MA's), (42, 31416), (43, 31413), (55, 31314), (56, 31272), (58, 31263),

Gene: Spooky_36 Start: 28938, Stop: 28702, Start Num: 32

Candidate Starts for Spooky_36:

(Start: 32 @28938 has 28 MA's), (Start: 35 @28929 has 51 MA's), (37, 28926), (38, 28914), (40, 28890), (43, 28878), (52, 28803), (53, 28797), (54, 28782), (56, 28737),

Gene: TaronosaurusRx_33 Start: 28265, Stop: 28032, Start Num: 33

Candidate Starts for TaronosaurusRx_33:

(27, 28307), (Start: 32 @28268 has 28 MA's), (Start: 33 @28265 has 1 MA's), (Start: 35 @28259 has 51 MA's), (38, 28244), (40, 28220), (41, 28214), (42, 28211), (43, 28208), (52, 28133), (53, 28127), (54, 28112), (56, 28067), (58, 28058),

Gene: Thimann_32 Start: 26356, Stop: 26129, Start Num: 35

Candidate Starts for Thimann_32:

(Start: 35 @26356 has 51 MA's), (38, 26341), (40, 26317), (42, 26308), (43, 26305), (44, 26284), (54, 26209), (58, 26155),

Gene: TillyBobJoe_37 Start: 33366, Stop: 33130, Start Num: 32

Candidate Starts for TillyBobJoe_37:

(Start: 28 @33402 has 6 MA's), (Start: 32 @33366 has 28 MA's), (Start: 35 @33357 has 51 MA's), (38, 33342), (40, 33318), (43, 33306), (53, 33225), (54, 33210), (58, 33156),

Gene: TimTam_31 Start: 28844, Stop: 28608, Start Num: 35

Candidate Starts for TimTam_31:

(Start: 33 @28850 has 1 MA's), (Start: 35 @28844 has 51 MA's), (38, 28829), (39, 28826), (40, 28805), (41, 28799), (42, 28796), (43, 28793), (54, 28697),

Gene: Toast_34 Start: 28574, Stop: 28347, Start Num: 35

Candidate Starts for Toast_34:

(Start: 35 @28574 has 51 MA's), (38, 28559), (40, 28535), (41, 28529), (42, 28526), (43, 28523), (44, 28502), (54, 28427), (58, 28373),

Gene: TuertoX_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for TuertoX_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Tuti_30 Start: 27599, Stop: 27372, Start Num: 36

Candidate Starts for Tuti_30:

(Start: 36 @27599 has 1 MA's), (38, 27584), (40, 27560), (43, 27548), (44, 27527), (54, 27452),

Gene: Twister6_40 Start: 33465, Stop: 33229, Start Num: 32

Candidate Starts for Twister6_40:

(Start: 28 @33501 has 6 MA's), (Start: 32 @33465 has 28 MA's), (Start: 35 @33456 has 51 MA's), (38, 33441), (40, 33417), (43, 33405), (53, 33324), (54, 33309), (58, 33255),

Gene: Valary_40 Start: 34508, Stop: 34272, Start Num: 32

Candidate Starts for Valary_40:

(Start: 28 @34544 has 6 MA's), (Start: 32 @34508 has 28 MA's), (Start: 35 @34499 has 51 MA's), (38, 34484), (40, 34460), (43, 34448), (47, 34400), (53, 34367), (54, 34352), (58, 34298),

Gene: Vasanti_34 Start: 26861, Stop: 26634, Start Num: 35

Candidate Starts for Vasanti_34:

(12, 26972), (26, 26918), (Start: 28 @26912 has 6 MA's), (Start: 35 @26861 has 51 MA's), (39, 26843), (40, 26822), (42, 26813), (43, 26810), (44, 26789), (45, 26783), (54, 26714), (55, 26711), (58, 26660),

Gene: WelcomeAyanna_35 Start: 30384, Stop: 30157, Start Num: 35

Candidate Starts for WelcomeAyanna_35:

(25, 30435), (Start: 35 @30384 has 51 MA's), (40, 30345), (42, 30336), (54, 30237), (55, 30234), (58, 30183),

Gene: Whiteclaw_34 Start: 26548, Stop: 26321, Start Num: 35

Candidate Starts for Whiteclaw_34:

(Start: 32 @26557 has 28 MA's), (Start: 35 @26548 has 51 MA's), (39, 26530), (40, 26509), (43, 26497), (53, 26416), (54, 26401), (56, 26356), (57, 26350), (58, 26347),

Gene: Wizard_37 Start: 33705, Stop: 33469, Start Num: 32

Candidate Starts for Wizard_37:

(Start: 28 @33741 has 6 MA's), (Start: 32 @33705 has 28 MA's), (Start: 35 @33696 has 51 MA's), (38, 33681), (40, 33657), (43, 33645), (53, 33564), (54, 33549), (58, 33495),