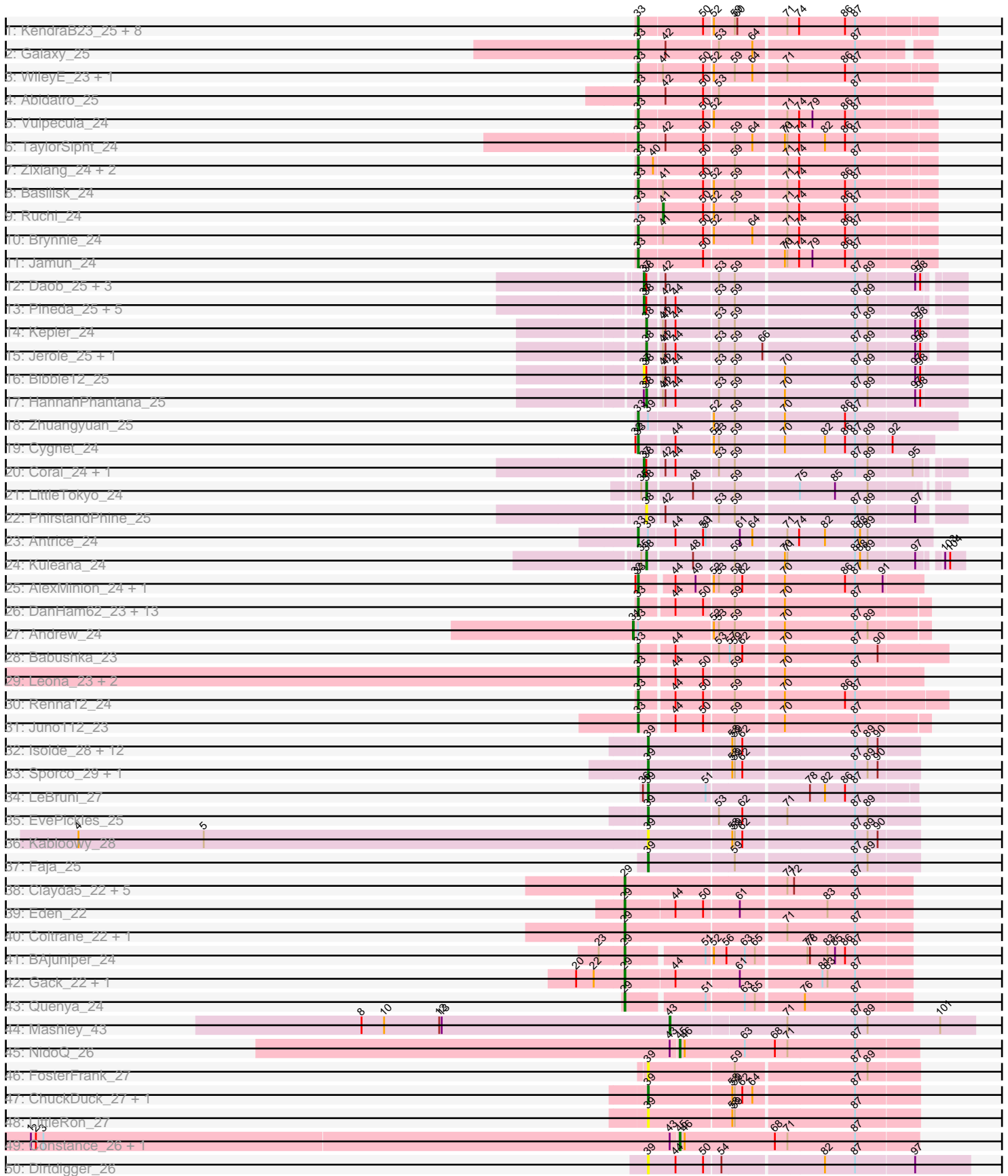


Pham 308268



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 308268 Report

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

Pham number 308268 has 126 members, 26 are drafts.

Phages represented in each track:

- Track 1 : KendraB23_25, Amanises_25, Toad24_25, Pelletreau_25, Orcanus_24, Westrich_25, Shen_25, Eesa_24, Gravel_25
- Track 2 : Galaxy_25
- Track 3 : WileyE_23, Chickaboom_23
- Track 4 : Abidatro_25
- Track 5 : Vulpecula_24
- Track 6 : TaylorSipht_24
- Track 7 : Zixiang_24, Niblet_24, Chicken_24
- Track 8 : Basilisk_24
- Track 9 : Ruchi_24
- Track 10 : Brynnie_24
- Track 11 : Jamun_24
- Track 12 : Daob_25, Melons_25, Cote_25, Lunar_25
- Track 13 : Pineda_25, Bedetta_25, Colusalem_24, Damocles_25, OtsoOtso_24, Polka_24
- Track 14 : Kepler_24
- Track 15 : Jerole_25, GramZayde_24
- Track 16 : Bibble12_25
- Track 17 : HannahPhantana_25
- Track 18 : Zhuangyuan_25
- Track 19 : Cygnet_24
- Track 20 : Coral_24, Amelia_25
- Track 21 : LittleTokyo_24
- Track 22 : PhirstandPhine_25
- Track 23 : Antrice_24
- Track 24 : Kuleana_24
- Track 25 : AlexMinion_24, StuartMinion_23
- Track 26 : DanHam62_23, AdoptaAdorbs_23, Atlantica_23, Oppalora_23, KHumphrey_23, AmiCi24_23, HamCheese_23, Camara_23, Glotell_23, Laphuphu24k_22, Fingolfin_23, PhluffyCoco_23, Amphitrite_23, RedFox_23
- Track 27 : Andrew_24
- Track 28 : Babushka_23
- Track 29 : Leona_23, Rattail_23, Azaz_23
- Track 30 : Renna12_24
- Track 31 : Juno112_23
- Track 32 : Isolde_28, Vopal_29, Phrank15_27, MUWow_27, JellyBread_28, Sakai_28, NewKitty_29, BillyTP_28, Mapleville_27, SonDevVon_27, Lawnathon_28,

- Gorpy_28, AdaS_28
- Track 33 : Sporco_29, Raphaella_28
 - Track 34 : LeBruni_27
 - Track 35 : EvePickles_25
 - Track 36 : Kabloowy_28
 - Track 37 : Faja_25
 - Track 38 : Clayda5_22, Skylord_22, Rollins_22, Armstrong_22, Bernstein_22, Vitas_22
 - Track 39 : Eden_22
 - Track 40 : Coltrane_22, Brahms_22
 - Track 41 : BAjuniper_24
 - Track 42 : Gack_22, Franklin22_23
 - Track 43 : Quenya_24
 - Track 44 : Mashley_43
 - Track 45 : NidoQ_26
 - Track 46 : FosterFrank_27
 - Track 47 : ChuckDuck_27, KayMoney_27
 - Track 48 : LittleRon_27
 - Track 49 : Constance_26, PeggyLeg03_26
 - Track 50 : Dirdigger_26
 - Track 51 : QuinnAvery_26, BigSherm_26, Halloweekend_24
 - Track 52 : Ichiang_24
 - Track 53 : Kukla_23
 - Track 54 : BellaJr_27
 - Track 55 : Skitty_23, MrSmee_23
 - Track 56 : Merpity_25
 - Track 57 : Wrackline_37
 - Track 58 : Doedicurus_31
 - Track 59 : Isperia_29
 - Track 60 : Wyvern_31
 - Track 61 : MisoSoup_36
 - Track 62 : Kithara_63
 - Track 63 : Barebow_16
 - Track 64 : Yappy_73

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

The start number called the most often in the published annotations is 33, it was called in 36 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro_25, AdoptaAdorbs_23, AlexMinion_24, Amanises_25, AmiCi24_23, Amphitrite_23, Antrice_24, Atlantica_23, Azaz_23, Babushka_23, Basilisk_24, Brynnie_24, Camara_23, Chickaboom_23, Chicken_24, Cygnet_24, DanHam62_23, Eesa_24, Fingolfin_23, Galaxy_25, Glotell_23, Gravel_25, HamCheese_23, Jamun_24, Juno112_23, KHumphrey_23, KendraB23_25, Laphuphu24k_22, Leona_23, Niblet_24, Oppalora_23, Orcanus_24, Pelletreau_25, PhluffyCoco_23, Rattail_23, RedFox_23, Renna12_24, Shen_25, StuartMinion_23, TaylorSipht_24, Toad24_25, Vulpecula_24, Westrich_25, WileyE_23, Zhuangyuan_25, Zixiang_24,

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

- Andrew_24, Ruchi_24,

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

- AdaS_28, Amelia_25, Armstrong_22, BAjuniper_24, Barebow_16, Bedetta_25, BellaJr_27, Bernstein_22, Bibble12_25, BigSherm_26, BillyTP_28, Brahms_22, ChuckDuck_27, Clayda5_22, Coltrane_22, Colusalem_24, Constance_26, Coral_24, Cote_25, Damocles_25, Daob_25, Dirdigger_26, Doedicurus_31, Eden_22, EvePickles_25, Faja_25, FosterFrank_27, Franklin22_23, Gack_22, Gorpy_28, GramZayde_24, Halloween_24, HannahPhantana_25, Ichiang_24, Isolde_28, Isperia_29, JellyBread_28, Jerole_25, Kabloowy_28, KayMoney_27, Kepler_24, Kithara_63, Kukla_23, Kuleana_24, Lawnathon_28, LeBruni_27, LittleRon_27, LittleTokyo_24, Lunar_25, MUWow_27, Mapleville_27, Mashley_43, Melons_25, Merpity_25, MisoSoup_36, MrSme_23, NewKitty_29, NidoQ_26, OtsoOtso_24, PeggyLeg03_26, PhirstandPhine_25, Phrank15_27, Pineda_25, Polka_24, Quenya_24, QuinnAvery_26, Raphaella_28, Rollins_22, Sakai_28, Skitty_23, Skylord_22, SonDevVon_27, Sporco_29, Vitas_22, Vopal_29, Wrackline_37, Wyvern_31, Yappy_73,

Summary by start number:

Start 25:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wyvern_31 (GJ),

Start 27:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kithara_63 (singleton),

Start 28:

- Found in 4 of 126 (3.2%) of genes in pham
- Manual Annotations of this start: 3 of 100
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Barebow_16 (singleton), Doedicurus_31 (GJ), Isperia_29 (GJ),

Start 29:

- Found in 14 of 126 (11.1%) of genes in pham
- Manual Annotations of this start: 13 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Armstrong_22 (EB), BAjuniper_24 (EB), Bernstein_22 (EB), Brahms_22 (EB), Clayda5_22 (EB), Coltrane_22 (EB), Eden_22 (EB), Franklin22_23 (EB), Gack_22 (EB), MisoSoup_36 (GM), Quenya_24 (EB), Rollins_22 (EB), Skylord_22 (EB), Vitas_22 (EB),

Start 30:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Yappy_73 (singleton),

Start 31:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andrew_24 (AS3),

Start 32:

- Found in 4 of 126 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Wrackline_37 (GF),

Start 33:

- Found in 48 of 126 (38.1%) of genes in pham
- Manual Annotations of this start: 36 of 100
- Called 95.8% of time when present
- Phage (with cluster) where this start called: Abidatro_25 (AS1), AdoptaAdorbs_23 (AS3), AlexMinion_24 (AS3), Amanises_25 (AS1), AmiCi24_23 (AS3), Amphitrite_23 (AS3), Antrice_24 (AS2), Atlantica_23 (AS3), Azaz_23 (AS3), Babushka_23 (AS3), Basilisk_24 (AS1), Brynnie_24 (AS1), Camara_23 (AS3), Chickaboom_23 (AS1), Chicken_24 (AS1), Cygnet_24 (AS2), DanHam62_23 (AS3), Eesa_24 (AS1), Fingolfin_23 (AS3), Galaxy_25 (AS1), Glotell_23 (AS3), Gravel_25 (AS1), HamCheese_23 (AS3), Jamun_24 (AS1), Juno112_23 (AS3), KHumphrey_23 (AS3), KendraB23_25 (AS1), Laphuphu24k_22 (AS3), Leona_23 (AS3), Niblet_24 (AS1), Oppalora_23 (AS3), Orcanus_24 (AS1), Pelletreau_25 (AS1), PhluffyCoco_23 (AS3), Rattail_23 (AS3), RedFox_23 (AS3), Renna12_24 (AS3), Shen_25 (AS1), StuartMinion_23 (AS3), TaylorSipht_24 (AS1), Toad24_25 (AS1), Vulpecula_24 (AS1), Westrich_25 (AS1), WileyE_23 (AS1), Zhuangyuan_25 (AS2), Zixiang_24 (AS1),

Start 37:

- Found in 14 of 126 (11.1%) of genes in pham
- Manual Annotations of this start: 10 of 100
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Amelia_25 (AS2), Bedetta_25 (AS2), Bible12_25 (AS2), Colusalem_24 (AS2), Coral_24 (AS2), Cote_25 (AS2), Damocles_25 (AS2), Daob_25 (AS2), Lunar_25 (AS2), Melons_25 (AS2), OtsoOtso_24 (AS2), Pineda_25 (AS2), Polka_24 (AS2),

Start 38:

- Found in 21 of 126 (16.7%) of genes in pham
- Manual Annotations of this start: 5 of 100
- Called 33.3% of time when present
- Phage (with cluster) where this start called: GramZayde_24 (AS2), HannahPhantana_25 (AS2), Jerole_25 (AS2), Kepler_24 (AS2), Kuleana_24 (AS2), LittleTokyo_24 (AS2), PhirstandPhine_25 (AS2),

Start 39:

- Found in 31 of 126 (24.6%) of genes in pham
- Manual Annotations of this start: 21 of 100
- Called 93.5% of time when present

- Phage (with cluster) where this start called: AdaS_28 (AY), BigSherm_26 (FF), BillyTP_28 (AY), ChuckDuck_27 (FA), Dirtdigger_26 (FF), EvePickles_25 (AY), Faja_25 (AY), FosterFrank_27 (FA), Gorpy_28 (AY), Halloweekend_24 (FF), Ichiang_24 (FF), Isolde_28 (AY), JellyBread_28 (AY), Kabloowy_28 (AY), KayMoney_27 (FA), Kukla_23 (FJ), Lawnathon_28 (AY), LeBruni_27 (AY), LittleRon_27 (FA), MUWow_27 (AY), Mapleville_27 (AY), NewKitty_29 (AY), Phrank15_27 (AY), QuinnAvery_26 (FF), Raphaella_28 (AY), Sakai_28 (AY), SonDevVon_27 (AY), Sporco_29 (AY), Vopal_29 (AY),

Start 41:

- Found in 10 of 126 (7.9%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Ruchi_24 (AS1),

Start 43:

- Found in 8 of 126 (6.3%) of genes in pham
- Manual Annotations of this start: 1 of 100
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Mashley_43 (EG), Merpity_25 (FQ1),

Start 45:

- Found in 3 of 126 (2.4%) of genes in pham
- Manual Annotations of this start: 3 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Constance_26 (FA), NidoQ_26 (FA), PeggyLeg03_26 (FA),

Start 46:

- Found in 7 of 126 (5.6%) of genes in pham
- Manual Annotations of this start: 2 of 100
- Called 42.9% of time when present
- Phage (with cluster) where this start called: BellaJr_27 (FN), MrSmee_23 (FQ1), Skitty_23 (FQ1),

Summary by clusters:

There are 15 clusters represented in this pham: AS3, AS2, AS1, FA, EG, singleton, GJ, EB, GF, FF, AY, FJ, FQ1, GM, FN,

Info for manual annotations of cluster AS1:

- Start number 33 was manually annotated 16 times for cluster AS1.
- Start number 41 was manually annotated 1 time for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 33 was manually annotated 3 times for cluster AS2.
- Start number 37 was manually annotated 10 times for cluster AS2.
- Start number 38 was manually annotated 5 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 31 was manually annotated 1 time for cluster AS3.
- Start number 33 was manually annotated 17 times for cluster AS3.

Info for manual annotations of cluster AY:

- Start number 39 was manually annotated 14 times for cluster AY.

Info for manual annotations of cluster EB:

- Start number 29 was manually annotated 13 times for cluster EB.

Info for manual annotations of cluster EG:

- Start number 43 was manually annotated 1 time for cluster EG.

Info for manual annotations of cluster FA:

- Start number 39 was manually annotated 2 times for cluster FA.
- Start number 45 was manually annotated 3 times for cluster FA.

Info for manual annotations of cluster FF:

- Start number 39 was manually annotated 4 times for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 39 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FQ1:

- Start number 46 was manually annotated 2 times for cluster FQ1.

Info for manual annotations of cluster GF:

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

Info for manual annotations of cluster GJ:

- Start number 25 was manually annotated 1 time for cluster GJ.
- Start number 28 was manually annotated 2 times for cluster GJ.

Gene Information:

Gene: Abidatro_25 Start: 18908, Stop: 19243, Start Num: 33

Candidate Starts for Abidatro_25:

(Start: 33 @18908 has 36 MA's), (42, 18941), (50, 18986), (53, 19001), (87, 19154),

Gene: AdaS_28 Start: 20360, Stop: 20668, Start Num: 39

Candidate Starts for AdaS_28:

(Start: 39 @20360 has 21 MA's), (58, 20456), (59, 20459), (62, 20468), (87, 20594), (89, 20609), (90, 20621),

Gene: AdoptaAdorbs_23 Start: 17622, Stop: 17945, Start Num: 33

Candidate Starts for AdoptaAdorbs_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: AlexMinion_24 Start: 17655, Stop: 17969, Start Num: 33

Candidate Starts for AlexMinion_24:

(Start: 32 @17652 has 1 MA's), (Start: 33 @17655 has 36 MA's), (44, 17691), (49, 17715), (52, 17733), (53, 17739), (59, 17757), (62, 17766), (70, 17811), (86, 17880), (87, 17892), (91, 17925),

Gene: Amanises_25 Start: 19185, Stop: 19517, Start Num: 33

Candidate Starts for Amanises_25:

(Start: 33 @19185 has 36 MA's), (50, 19260), (52, 19269), (59, 19293), (60, 19296), (71, 19350), (74, 19362), (86, 19416), (87, 19428),

Gene: Amelia_25 Start: 18043, Stop: 18393, Start Num: 37

Candidate Starts for Amelia_25:

(Start: 37 @18043 has 10 MA's), (Start: 38 @18046 has 5 MA's), (42, 18064), (44, 18076), (53, 18124), (59, 18142), (87, 18277), (89, 18292), (95, 18343),

Gene: AmiCi24_23 Start: 17621, Stop: 17944, Start Num: 33

Candidate Starts for AmiCi24_23:

(Start: 33 @17621 has 36 MA's), (44, 17660), (50, 17693), (59, 17726), (70, 17780), (87, 17861),

Gene: Amphitrite_23 Start: 17620, Stop: 17943, Start Num: 33

Candidate Starts for Amphitrite_23:

(Start: 33 @17620 has 36 MA's), (44, 17659), (50, 17692), (59, 17725), (70, 17779), (87, 17860),

Gene: Andrew_24 Start: 18042, Stop: 18377, Start Num: 31

Candidate Starts for Andrew_24:

(Start: 31 @18042 has 1 MA's), (Start: 33 @18048 has 36 MA's), (52, 18135), (53, 18141), (59, 18159), (70, 18213), (87, 18294), (89, 18309),

Gene: Antrice_24 Start: 18536, Stop: 18868, Start Num: 33

Candidate Starts for Antrice_24:

(Start: 33 @18536 has 36 MA's), (Start: 39 @18548 has 21 MA's), (44, 18578), (50, 18611), (51, 18614), (61, 18650), (64, 18665), (71, 18701), (74, 18713), (82, 18743), (87, 18779), (88, 18785), (89, 18794),

Gene: Armstrong_22 Start: 17107, Stop: 17433, Start Num: 29

Candidate Starts for Armstrong_22:

(Start: 29 @17107 has 13 MA's), (71, 17290), (72, 17296), (87, 17368),

Gene: Atlantica_23 Start: 17622, Stop: 17945, Start Num: 33

Candidate Starts for Atlantica_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: Azaz_23 Start: 17683, Stop: 18000, Start Num: 33

Candidate Starts for Azaz_23:

(Start: 33 @17683 has 36 MA's), (44, 17722), (50, 17755), (59, 17788), (70, 17842), (87, 17923),

Gene: BAjuniper_24 Start: 20341, Stop: 20658, Start Num: 29

Candidate Starts for BAjuniper_24:

(23, 20311), (Start: 29 @20341 has 13 MA's), (51, 20428), (52, 20434), (56, 20449), (63, 20470), (65, 20482), (77, 20536), (78, 20539), (83, 20560), (85, 20569), (86, 20581), (87, 20593),

Gene: Babushka_23 Start: 17682, Stop: 18029, Start Num: 33

Candidate Starts for Babushka_23:

(Start: 33 @17682 has 36 MA's), (44, 17721), (53, 17769), (57, 17781), (59, 17787), (62, 17796), (70, 17841), (87, 17922), (90, 17949),

Gene: Barebow_16 Start: 13052, Stop: 13462, Start Num: 28

Candidate Starts for Barebow_16:

(6, 12599), (19, 12971), (Start: 28 @13052 has 3 MA's), (35, 13073), (Start: 38 @13079 has 5 MA's), (47, 13124), (58, 13172), (64, 13196), (83, 13265), (87, 13298), (92, 13340), (96, 13364),

Gene: Basilisk_24 Start: 19320, Stop: 19652, Start Num: 33

Candidate Starts for Basilisk_24:

(Start: 33 @19320 has 36 MA's), (Start: 41 @19347 has 1 MA's), (50, 19395), (52, 19404), (59, 19428), (71, 19485), (74, 19497), (86, 19551), (87, 19563),

Gene: Bedetta_25 Start: 18047, Stop: 18397, Start Num: 37

Candidate Starts for Bedetta_25:

(Start: 37 @18047 has 10 MA's), (Start: 38 @18050 has 5 MA's), (42, 18068), (44, 18080), (53, 18128), (59, 18146), (87, 18281), (89, 18296),

Gene: BellaJr_27 Start: 21288, Stop: 21566, Start Num: 46

Candidate Starts for BellaJr_27:

(26, 21204), (Start: 43 @21270 has 1 MA's), (Start: 46 @21288 has 2 MA's), (67, 21381), (68, 21393), (71, 21408), (82, 21450), (84, 21456), (87, 21486),

Gene: Bernstein_22 Start: 17162, Stop: 17488, Start Num: 29

Candidate Starts for Bernstein_22:

(Start: 29 @17162 has 13 MA's), (71, 17345), (72, 17351), (87, 17423),

Gene: Bible12_25 Start: 18034, Stop: 18396, Start Num: 37

Candidate Starts for Bible12_25:

(Start: 37 @18034 has 10 MA's), (Start: 38 @18037 has 5 MA's), (Start: 41 @18052 has 1 MA's), (42, 18055), (44, 18067), (53, 18115), (59, 18133), (70, 18187), (87, 18268), (89, 18283), (97, 18337), (98, 18343),

Gene: BigSherm_26 Start: 19724, Stop: 20032, Start Num: 39

Candidate Starts for BigSherm_26:

(Start: 39 @19724 has 21 MA's), (52, 19799), (58, 19820), (62, 19832), (71, 19880), (80, 19913), (87, 19958), (92, 20000),

Gene: BillyTP_28 Start: 20144, Stop: 20452, Start Num: 39

Candidate Starts for BillyTP_28:

(Start: 39 @20144 has 21 MA's), (58, 20240), (59, 20243), (62, 20252), (87, 20378), (89, 20393), (90, 20405),

Gene: Brahms_22 Start: 17110, Stop: 17436, Start Num: 29

Candidate Starts for Brahms_22:

(Start: 29 @17110 has 13 MA's), (71, 17293), (87, 17371),

Gene: Brynnie_24 Start: 19128, Stop: 19460, Start Num: 33

Candidate Starts for Brynnie_24:

(Start: 33 @19128 has 36 MA's), (Start: 41 @19155 has 1 MA's), (50, 19203), (52, 19212), (64, 19257), (71, 19293), (74, 19305), (86, 19359), (87, 19371),

Gene: Camara_23 Start: 17623, Stop: 17946, Start Num: 33

Candidate Starts for Camara_23:

(Start: 33 @17623 has 36 MA's), (44, 17662), (50, 17695), (59, 17728), (70, 17782), (87, 17863),

Gene: Chickaboom_23 Start: 18049, Stop: 18381, Start Num: 33

Candidate Starts for Chickaboom_23:

(Start: 33 @18049 has 36 MA's), (Start: 41 @18076 has 1 MA's), (50, 18124), (52, 18133), (59, 18157), (64, 18178), (71, 18214), (86, 18280), (87, 18292),

Gene: Chicken_24 Start: 19054, Stop: 19386, Start Num: 33

Candidate Starts for Chicken_24:

(Start: 33 @19054 has 36 MA's), (40, 19072), (50, 19129), (59, 19162), (71, 19219), (74, 19231), (87, 19297),

Gene: ChuckDuck_27 Start: 20261, Stop: 20569, Start Num: 39

Candidate Starts for ChuckDuck_27:

(Start: 39 @20261 has 21 MA's), (58, 20357), (59, 20360), (62, 20369), (64, 20381), (87, 20495),

Gene: Clayda5_22 Start: 17113, Stop: 17439, Start Num: 29

Candidate Starts for Clayda5_22:

(Start: 29 @17113 has 13 MA's), (71, 17296), (72, 17302), (87, 17374),

Gene: Coltrane_22 Start: 17110, Stop: 17436, Start Num: 29

Candidate Starts for Coltrane_22:

(Start: 29 @17110 has 13 MA's), (71, 17293), (87, 17371),

Gene: Colusalem_24 Start: 17886, Stop: 18236, Start Num: 37

Candidate Starts for Colusalem_24:

(Start: 37 @17886 has 10 MA's), (Start: 38 @17889 has 5 MA's), (42, 17907), (44, 17919), (53, 17967), (59, 17985), (87, 18120), (89, 18135),

Gene: Constance_26 Start: 20763, Stop: 21041, Start Num: 45

Candidate Starts for Constance_26:

(1, 19992), (2, 19998), (3, 20007), (Start: 43 @20754 has 1 MA's), (Start: 45 @20763 has 3 MA's), (Start: 46 @20769 has 2 MA's), (68, 20877), (71, 20892), (87, 20970),

Gene: Coral_24 Start: 17882, Stop: 18232, Start Num: 37

Candidate Starts for Coral_24:

(Start: 37 @17882 has 10 MA's), (Start: 38 @17885 has 5 MA's), (42, 17903), (44, 17915), (53, 17963), (59, 17981), (87, 18116), (89, 18131), (95, 18182),

Gene: Cote_25 Start: 18034, Stop: 18384, Start Num: 37

Candidate Starts for Cote_25:

(Start: 37 @18034 has 10 MA's), (Start: 38 @18037 has 5 MA's), (42, 18055), (53, 18115), (59, 18133), (87, 18268), (89, 18283), (97, 18337), (98, 18343),

Gene: Cygnet_24 Start: 18687, Stop: 19016, Start Num: 33

Candidate Starts for Cygnet_24:

(Start: 32 @18684 has 1 MA's), (Start: 33 @18687 has 36 MA's), (44, 18726), (52, 18768), (53, 18774), (59, 18792), (70, 18846), (82, 18891), (86, 18915), (87, 18927), (89, 18942), (92, 18969),

Gene: Damocles_25 Start: 18045, Stop: 18395, Start Num: 37

Candidate Starts for Damocles_25:

(Start: 37 @18045 has 10 MA's), (Start: 38 @18048 has 5 MA's), (42, 18066), (44, 18078), (53, 18126), (59, 18144), (87, 18279), (89, 18294),

Gene: DanHam62_23 Start: 17622, Stop: 17945, Start Num: 33

Candidate Starts for DanHam62_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: Daob_25 Start: 18039, Stop: 18389, Start Num: 37

Candidate Starts for Daob_25:

(Start: 37 @18039 has 10 MA's), (Start: 38 @18042 has 5 MA's), (42, 18060), (53, 18120), (59, 18138), (87, 18273), (89, 18288), (97, 18342), (98, 18348),

Gene: Dirdigger_26 Start: 19487, Stop: 19855, Start Num: 39

Candidate Starts for Dirdigger_26:

(Start: 39 @19487 has 21 MA's), (44, 19520), (50, 19553), (54, 19571), (82, 19685), (87, 19721), (97, 19790),

Gene: Doedicurus_31 Start: 20880, Stop: 21266, Start Num: 28

Candidate Starts for Doedicurus_31:

(11, 20634), (15, 20730), (18, 20787), (24, 20853), (Start: 28 @20880 has 3 MA's), (53, 20991), (55, 20997), (69, 21057), (76, 21081), (86, 21129), (87, 21141), (100, 21234), (101, 21240),

Gene: Eden_22 Start: 17389, Stop: 17712, Start Num: 29

Candidate Starts for Eden_22:

(Start: 29 @17389 has 13 MA's), (44, 17446), (50, 17479), (61, 17518), (83, 17614), (87, 17647),

Gene: Eesa_24 Start: 19277, Stop: 19609, Start Num: 33

Candidate Starts for Eesa_24:

(Start: 33 @19277 has 36 MA's), (50, 19352), (52, 19361), (59, 19385), (60, 19388), (71, 19442), (74, 19454), (86, 19508), (87, 19520),

Gene: EvePickles_25 Start: 18992, Stop: 19300, Start Num: 39

Candidate Starts for EvePickles_25:

(Start: 39 @18992 has 21 MA's), (53, 19073), (62, 19100), (71, 19148), (87, 19226), (89, 19241),

Gene: Faja_25 Start: 18886, Stop: 19194, Start Num: 39

Candidate Starts for Faja_25:

(Start: 39 @18886 has 21 MA's), (59, 18985), (87, 19120), (89, 19135),

Gene: Fingolfin_23 Start: 17623, Stop: 17946, Start Num: 33

Candidate Starts for Fingolfin_23:

(Start: 33 @17623 has 36 MA's), (44, 17662), (50, 17695), (59, 17728), (70, 17782), (87, 17863),

Gene: FosterFrank_27 Start: 20334, Stop: 20642, Start Num: 39

Candidate Starts for FosterFrank_27:

(Start: 39 @20334 has 21 MA's), (59, 20433), (87, 20568), (89, 20583),

Gene: Franklin22_23 Start: 17574, Stop: 17897, Start Num: 29

Candidate Starts for Franklin22_23:

(20, 17517), (22, 17538), (Start: 29 @17574 has 13 MA's), (44, 17631), (61, 17703), (81, 17793), (83, 17799), (87, 17832),

Gene: Gack_22 Start: 17460, Stop: 17783, Start Num: 29

Candidate Starts for Gack_22:

(20, 17403), (22, 17424), (Start: 29 @17460 has 13 MA's), (44, 17517), (61, 17589), (81, 17679), (83, 17685), (87, 17718),

Gene: Galaxy_25 Start: 19013, Stop: 19336, Start Num: 33

Candidate Starts for Galaxy_25:

(Start: 33 @19013 has 36 MA's), (42, 19046), (53, 19106), (64, 19145), (87, 19259),

Gene: Glotell_23 Start: 17620, Stop: 17943, Start Num: 33

Candidate Starts for Glotell_23:

(Start: 33 @17620 has 36 MA's), (44, 17659), (50, 17692), (59, 17725), (70, 17779), (87, 17860),

Gene: Gorpy_28 Start: 20369, Stop: 20677, Start Num: 39

Candidate Starts for Gorpy_28:

(Start: 39 @20369 has 21 MA's), (58, 20465), (59, 20468), (62, 20477), (87, 20603), (89, 20618), (90, 20630),

Gene: GramZayde_24 Start: 17873, Stop: 18220, Start Num: 38

Candidate Starts for GramZayde_24:

(Start: 38 @17873 has 5 MA's), (Start: 41 @17888 has 1 MA's), (42, 17891), (44, 17903), (53, 17951), (59, 17969), (66, 18002), (87, 18104), (89, 18119), (97, 18173), (98, 18179),

Gene: Gravel_25 Start: 19183, Stop: 19515, Start Num: 33

Candidate Starts for Gravel_25:

(Start: 33 @19183 has 36 MA's), (50, 19258), (52, 19267), (59, 19291), (60, 19294), (71, 19348), (74, 19360), (86, 19414), (87, 19426),

Gene: Halloweekend_24 Start: 19350, Stop: 19658, Start Num: 39

Candidate Starts for Halloweekend_24:

(Start: 39 @19350 has 21 MA's), (52, 19425), (58, 19446), (62, 19458), (71, 19506), (80, 19539), (87, 19584), (92, 19626),

Gene: HamCheese_23 Start: 17622, Stop: 17930, Start Num: 33

Candidate Starts for HamCheese_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: HannahPhantana_25 Start: 18037, Stop: 18396, Start Num: 38

Candidate Starts for HannahPhantana_25:

(Start: 37 @18034 has 10 MA's), (Start: 38 @18037 has 5 MA's), (Start: 41 @18052 has 1 MA's), (42, 18055), (44, 18067), (53, 18115), (59, 18133), (70, 18187), (87, 18268), (89, 18283), (97, 18337), (98, 18343),

Gene: Ichiang_24 Start: 19369, Stop: 19677, Start Num: 39

Candidate Starts for Ichiang_24:

(Start: 39 @19369 has 21 MA's), (52, 19444), (58, 19465), (62, 19477), (71, 19525), (80, 19558), (87, 19603), (92, 19645),

Gene: Isolde_28 Start: 20195, Stop: 20503, Start Num: 39

Candidate Starts for Isolde_28:

(Start: 39 @20195 has 21 MA's), (58, 20291), (59, 20294), (62, 20303), (87, 20429), (89, 20444), (90, 20456),

Gene: Isperia_29 Start: 20187, Stop: 20573, Start Num: 28

Candidate Starts for Isperia_29:

(11, 19941), (Start: 28 @20187 has 3 MA's), (53, 20298), (55, 20304), (69, 20364), (76, 20388), (86, 20436), (87, 20448), (100, 20541), (101, 20547),

Gene: Jamun_24 Start: 18726, Stop: 19058, Start Num: 33

Candidate Starts for Jamun_24:

(Start: 33 @18726 has 36 MA's), (50, 18801), (70, 18888), (71, 18891), (74, 18903), (79, 18918), (86, 18957), (87, 18969),

Gene: JellyBread_28 Start: 20353, Stop: 20661, Start Num: 39

Candidate Starts for JellyBread_28:

(Start: 39 @20353 has 21 MA's), (58, 20449), (59, 20452), (62, 20461), (87, 20587), (89, 20602), (90, 20614),

Gene: Jerole_25 Start: 18034, Stop: 18381, Start Num: 38

Candidate Starts for Jerole_25:

(Start: 38 @18034 has 5 MA's), (Start: 41 @18049 has 1 MA's), (42, 18052), (44, 18064), (53, 18112), (59, 18130), (66, 18163), (87, 18265), (89, 18280), (97, 18334), (98, 18340),

Gene: Juno112_23 Start: 17622, Stop: 17945, Start Num: 33

Candidate Starts for Juno112_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: KHumphrey_23 Start: 17620, Stop: 17943, Start Num: 33

Candidate Starts for KHumphrey_23:

(Start: 33 @17620 has 36 MA's), (44, 17659), (50, 17692), (59, 17725), (70, 17779), (87, 17860),

Gene: Kabloowy_28 Start: 20549, Stop: 20857, Start Num: 39

Candidate Starts for Kabloowy_28:

(4, 19871), (5, 20021), (Start: 39 @20549 has 21 MA's), (58, 20645), (59, 20648), (62, 20657), (87, 20783), (89, 20798), (90, 20810),

Gene: KayMoney_27 Start: 20265, Stop: 20573, Start Num: 39

Candidate Starts for KayMoney_27:

(Start: 39 @20265 has 21 MA's), (58, 20361), (59, 20364), (62, 20373), (64, 20385), (87, 20499),

Gene: KendraB23_25 Start: 19185, Stop: 19517, Start Num: 33

Candidate Starts for KendraB23_25:

(Start: 33 @19185 has 36 MA's), (50, 19260), (52, 19269), (59, 19293), (60, 19296), (71, 19350), (74, 19362), (86, 19416), (87, 19428),

Gene: Kepler_24 Start: 17872, Stop: 18219, Start Num: 38

Candidate Starts for Kepler_24:

(Start: 38 @17872 has 5 MA's), (Start: 41 @17887 has 1 MA's), (42, 17890), (44, 17902), (53, 17950), (59, 17968), (87, 18103), (89, 18118), (97, 18172), (98, 18178),

Gene: Kithara_63 Start: 46188, Stop: 46532, Start Num: 27

Candidate Starts for Kithara_63:

(21, 46140), (Start: 27 @46188 has 1 MA's), (34, 46212), (51, 46290), (52, 46299), (55, 46311), (59, 46320), (62, 46329), (71, 46377), (81, 46416), (87, 46455), (89, 46470), (94, 46518),

Gene: Kukla_23 Start: 18379, Stop: 18687, Start Num: 39

Candidate Starts for Kukla_23:

(16, 18238), (17, 18253), (Start: 39 @18379 has 21 MA's), (52, 18454), (62, 18487), (71, 18535), (80, 18568), (87, 18613),

Gene: Kuleana_24 Start: 17910, Stop: 18254, Start Num: 38

Candidate Starts for Kuleana_24:

(35, 17904), (Start: 38 @17910 has 5 MA's), (48, 17961), (59, 18006), (70, 18060), (71, 18063), (87, 18141), (88, 18147), (89, 18156), (97, 18210), (103, 18231), (104, 18237),

Gene: Laphuphu24k_22 Start: 17622, Stop: 17930, Start Num: 33

Candidate Starts for Laphuphu24k_22:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: Lawnathon_28 Start: 20289, Stop: 20597, Start Num: 39

Candidate Starts for Lawnathon_28:

(Start: 39 @20289 has 21 MA's), (58, 20385), (59, 20388), (62, 20397), (87, 20523), (89, 20538), (90, 20550),

Gene: LeBruni_27 Start: 20262, Stop: 20564, Start Num: 39

Candidate Starts for LeBruni_27:

(36, 20256), (Start: 39 @20262 has 21 MA's), (51, 20331), (78, 20442), (82, 20460), (86, 20484), (87, 20496),

Gene: Leona_23 Start: 17683, Stop: 18000, Start Num: 33

Candidate Starts for Leona_23:

(Start: 33 @17683 has 36 MA's), (44, 17722), (50, 17755), (59, 17788), (70, 17842), (87, 17923),

Gene: LittleRon_27 Start: 20234, Stop: 20542, Start Num: 39

Candidate Starts for LittleRon_27:

(Start: 39 @20234 has 21 MA's), (58, 20330), (59, 20333), (87, 20468),

Gene: LittleTokyo_24 Start: 17866, Stop: 18186, Start Num: 38

Candidate Starts for LittleTokyo_24:

(35, 17863), (Start: 38 @17866 has 5 MA's), (48, 17917), (59, 17962), (75, 18031), (85, 18073), (89, 18112),

Gene: Lunar_25 Start: 18034, Stop: 18384, Start Num: 37

Candidate Starts for Lunar_25:

(Start: 37 @18034 has 10 MA's), (Start: 38 @18037 has 5 MA's), (42, 18055), (53, 18115), (59, 18133), (87, 18268), (89, 18283), (97, 18337), (98, 18343),

Gene: MUWow_27 Start: 20453, Stop: 20761, Start Num: 39

Candidate Starts for MUWow_27:

(Start: 39 @20453 has 21 MA's), (58, 20549), (59, 20552), (62, 20561), (87, 20687), (89, 20702), (90, 20714),

Gene: Mapleville_27 Start: 20359, Stop: 20667, Start Num: 39

Candidate Starts for Mapleville_27:

(Start: 39 @20359 has 21 MA's), (58, 20455), (59, 20458), (62, 20467), (87, 20593), (89, 20608), (90, 20620),

Gene: Mashley_43 Start: 34157, Stop: 34516, Start Num: 43

Candidate Starts for Mashley_43:

(8, 33788), (10, 33815), (12, 33881), (13, 33884), (Start: 43 @34157 has 1 MA's), (71, 34292), (87, 34373), (89, 34388), (101, 34475),

Gene: Melons_25 Start: 18034, Stop: 18384, Start Num: 37

Candidate Starts for Melons_25:

(Start: 37 @18034 has 10 MA's), (Start: 38 @18037 has 5 MA's), (42, 18055), (53, 18115), (59, 18133), (87, 18268), (89, 18283), (97, 18337), (98, 18343),

Gene: Merpity_25 Start: 18054, Stop: 18350, Start Num: 43

Candidate Starts for Merpity_25:

(26, 17988), (Start: 43 @18054 has 1 MA's), (Start: 46 @18072 has 2 MA's), (67, 18165), (68, 18177), (71, 18192), (82, 18234), (84, 18240), (87, 18270),

Gene: MisoSoup_36 Start: 27160, Stop: 27543, Start Num: 29

Candidate Starts for MisoSoup_36:

(7, 26842), (9, 26872), (14, 27001), (Start: 29 @27160 has 13 MA's), (48, 27241), (52, 27262), (61, 27292), (83, 27376), (85, 27385), (87, 27409), (89, 27424), (97, 27475), (102, 27508),

Gene: MrSmee_23 Start: 18072, Stop: 18350, Start Num: 46

Candidate Starts for MrSmee_23:

(26, 17988), (Start: 43 @18054 has 1 MA's), (Start: 46 @18072 has 2 MA's), (67, 18165), (68, 18177), (71, 18192), (82, 18234), (84, 18240), (87, 18270),

Gene: NewKitty_29 Start: 20590, Stop: 20898, Start Num: 39

Candidate Starts for NewKitty_29:

(Start: 39 @20590 has 21 MA's), (58, 20686), (59, 20689), (62, 20698), (87, 20824), (89, 20839), (90, 20851),

Gene: Niblet_24 Start: 19054, Stop: 19386, Start Num: 33

Candidate Starts for Niblet_24:

(Start: 33 @19054 has 36 MA's), (40, 19072), (50, 19129), (59, 19162), (71, 19219), (74, 19231), (87, 19297),

Gene: NidoQ_26 Start: 20780, Stop: 21058, Start Num: 45

Candidate Starts for NidoQ_26:

(Start: 43 @20771 has 1 MA's), (Start: 45 @20780 has 3 MA's), (Start: 46 @20786 has 2 MA's), (63, 20858), (68, 20894), (71, 20909), (87, 20987),

Gene: Oppalora_23 Start: 17621, Stop: 17944, Start Num: 33

Candidate Starts for Oppalora_23:

(Start: 33 @17621 has 36 MA's), (44, 17660), (50, 17693), (59, 17726), (70, 17780), (87, 17861),

Gene: Orcanus_24 Start: 18977, Stop: 19309, Start Num: 33

Candidate Starts for Orcanus_24:

(Start: 33 @18977 has 36 MA's), (50, 19052), (52, 19061), (59, 19085), (60, 19088), (71, 19142), (74, 19154), (86, 19208), (87, 19220),

Gene: OtsoOtso_24 Start: 17889, Stop: 18239, Start Num: 37

Candidate Starts for OtsoOtso_24:

(Start: 37 @17889 has 10 MA's), (Start: 38 @17892 has 5 MA's), (42, 17910), (44, 17922), (53, 17970), (59, 17988), (87, 18123), (89, 18138),

Gene: PeggyLeg03_26 Start: 20763, Stop: 21041, Start Num: 45

Candidate Starts for PeggyLeg03_26:

(1, 19992), (2, 19998), (3, 20007), (Start: 43 @20754 has 1 MA's), (Start: 45 @20763 has 3 MA's), (Start: 46 @20769 has 2 MA's), (68, 20877), (71, 20892), (87, 20970),

Gene: Pelletreau_25 Start: 19183, Stop: 19515, Start Num: 33

Candidate Starts for Pelletreau_25:

(Start: 33 @19183 has 36 MA's), (50, 19258), (52, 19267), (59, 19291), (60, 19294), (71, 19348), (74, 19360), (86, 19414), (87, 19426),

Gene: PhirstandPhine_25 Start: 18037, Stop: 18390, Start Num: 38

Candidate Starts for PhirstandPhine_25:

(Start: 38 @18037 has 5 MA's), (42, 18055), (53, 18115), (59, 18133), (87, 18268), (89, 18283), (97, 18337),

Gene: PhluffyCoco_23 Start: 17622, Stop: 17930, Start Num: 33

Candidate Starts for PhluffyCoco_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: Phrank15_27 Start: 20294, Stop: 20602, Start Num: 39

Candidate Starts for Phrank15_27:

(Start: 39 @20294 has 21 MA's), (58, 20390), (59, 20393), (62, 20402), (87, 20528), (89, 20543), (90, 20555),

Gene: Pineda_25 Start: 18045, Stop: 18395, Start Num: 37

Candidate Starts for Pineda_25:

(Start: 37 @18045 has 10 MA's), (Start: 38 @18048 has 5 MA's), (42, 18066), (44, 18078), (53, 18126), (59, 18144), (87, 18279), (89, 18294),

Gene: Polka_24 Start: 17889, Stop: 18239, Start Num: 37

Candidate Starts for Polka_24:

(Start: 37 @17889 has 10 MA's), (Start: 38 @17892 has 5 MA's), (42, 17910), (44, 17922), (53, 17970), (59, 17988), (87, 18123), (89, 18138),

Gene: Quenya_24 Start: 19845, Stop: 20162, Start Num: 29

Candidate Starts for Quenya_24:

(Start: 29 @19845 has 13 MA's), (51, 19932), (63, 19974), (65, 19986), (76, 20037), (87, 20097),

Gene: QuinnAvery_26 Start: 19733, Stop: 20041, Start Num: 39

Candidate Starts for QuinnAvery_26:

(Start: 39 @19733 has 21 MA's), (52, 19808), (58, 19829), (62, 19841), (71, 19889), (80, 19922), (87, 19967), (92, 20009),

Gene: Raphaella_28 Start: 20360, Stop: 20668, Start Num: 39

Candidate Starts for Raphaella_28:

(Start: 39 @20360 has 21 MA's), (58, 20456), (59, 20459), (62, 20468), (87, 20594), (89, 20609), (90, 20621),

Gene: Rattail_23 Start: 17683, Stop: 18000, Start Num: 33

Candidate Starts for Rattail_23:

(Start: 33 @17683 has 36 MA's), (44, 17722), (50, 17755), (59, 17788), (70, 17842), (87, 17923),

Gene: RedFox_23 Start: 17622, Stop: 17945, Start Num: 33

Candidate Starts for RedFox_23:

(Start: 33 @17622 has 36 MA's), (44, 17661), (50, 17694), (59, 17727), (70, 17781), (87, 17862),

Gene: Renna12_24 Start: 17975, Stop: 18319, Start Num: 33

Candidate Starts for Renna12_24:

(Start: 33 @17975 has 36 MA's), (44, 18014), (50, 18047), (59, 18080), (70, 18134), (86, 18203), (87, 18215),

Gene: Rollins_22 Start: 17162, Stop: 17488, Start Num: 29

Candidate Starts for Rollins_22:

(Start: 29 @17162 has 13 MA's), (71, 17345), (72, 17351), (87, 17423),

Gene: Ruchi_24 Start: 19293, Stop: 19598, Start Num: 41

Candidate Starts for Ruchi_24:

(Start: 33 @19266 has 36 MA's), (Start: 41 @19293 has 1 MA's), (50, 19341), (52, 19350), (59, 19374), (71, 19431), (74, 19443), (86, 19497), (87, 19509),

Gene: Sakai_28 Start: 20369, Stop: 20677, Start Num: 39

Candidate Starts for Sakai_28:

(Start: 39 @20369 has 21 MA's), (58, 20465), (59, 20468), (62, 20477), (87, 20603), (89, 20618), (90, 20630),

Gene: Shen_25 Start: 19184, Stop: 19516, Start Num: 33

Candidate Starts for Shen_25:

(Start: 33 @19184 has 36 MA's), (50, 19259), (52, 19268), (59, 19292), (60, 19295), (71, 19349), (74, 19361), (86, 19415), (87, 19427),

Gene: Skitty_23 Start: 18072, Stop: 18350, Start Num: 46

Candidate Starts for Skitty_23:

(26, 17988), (Start: 43 @18054 has 1 MA's), (Start: 46 @18072 has 2 MA's), (67, 18165), (68, 18177), (71, 18192), (82, 18234), (84, 18240), (87, 18270),

Gene: Skylord_22 Start: 17110, Stop: 17436, Start Num: 29

Candidate Starts for Skylord_22:

(Start: 29 @17110 has 13 MA's), (71, 17293), (72, 17299), (87, 17371),

Gene: SonDevVon_27 Start: 20362, Stop: 20670, Start Num: 39

Candidate Starts for SonDevVon_27:

(Start: 39 @20362 has 21 MA's), (58, 20458), (59, 20461), (62, 20470), (87, 20596), (89, 20611), (90, 20623),

Gene: Sporco_29 Start: 20417, Stop: 20725, Start Num: 39

Candidate Starts for Sporco_29:

(Start: 39 @20417 has 21 MA's), (58, 20513), (59, 20516), (62, 20525), (87, 20651), (89, 20666), (90, 20678),

Gene: StuartMinion_23 Start: 17655, Stop: 17969, Start Num: 33

Candidate Starts for StuartMinion_23:

(Start: 32 @17652 has 1 MA's), (Start: 33 @17655 has 36 MA's), (44, 17691), (49, 17715), (52, 17733), (53, 17739), (59, 17757), (62, 17766), (70, 17811), (86, 17880), (87, 17892), (91, 17925),

Gene: TaylorSipht_24 Start: 18002, Stop: 18337, Start Num: 33

Candidate Starts for TaylorSipht_24:

(Start: 33 @18002 has 36 MA's), (42, 18032), (50, 18077), (59, 18110), (64, 18131), (70, 18164), (71, 18167), (74, 18179), (82, 18209), (86, 18233), (87, 18245),

Gene: Toad24_25 Start: 19184, Stop: 19516, Start Num: 33

Candidate Starts for Toad24_25:

(Start: 33 @19184 has 36 MA's), (50, 19259), (52, 19268), (59, 19292), (60, 19295), (71, 19349), (74, 19361), (86, 19415), (87, 19427),

Gene: Vitas_22 Start: 17102, Stop: 17428, Start Num: 29

Candidate Starts for Vitas_22:

(Start: 29 @17102 has 13 MA's), (71, 17285), (72, 17291), (87, 17363),

Gene: Vopal_29 Start: 20432, Stop: 20740, Start Num: 39

Candidate Starts for Vopal_29:

(Start: 39 @20432 has 21 MA's), (58, 20528), (59, 20531), (62, 20540), (87, 20666), (89, 20681), (90, 20693),

Gene: Vulpecula_24 Start: 18724, Stop: 19056, Start Num: 33

Candidate Starts for Vulpecula_24:

(Start: 33 @18724 has 36 MA's), (50, 18799), (52, 18808), (71, 18889), (74, 18901), (79, 18916), (86, 18955), (87, 18967),

Gene: Westrich_25 Start: 19173, Stop: 19505, Start Num: 33

Candidate Starts for Westrich_25:

(Start: 33 @19173 has 36 MA's), (50, 19248), (52, 19257), (59, 19281), (60, 19284), (71, 19338), (74, 19350), (86, 19404), (87, 19416),

Gene: WileyE_23 Start: 18049, Stop: 18381, Start Num: 33

Candidate Starts for WileyE_23:

(Start: 33 @18049 has 36 MA's), (Start: 41 @18076 has 1 MA's), (50, 18124), (52, 18133), (59, 18157), (64, 18178), (71, 18214), (86, 18280), (87, 18292),

Gene: Wrackline_37 Start: 22162, Stop: 22623, Start Num: 32

Candidate Starts for Wrackline_37:

(Start: 32 @22162 has 1 MA's), (58, 22267), (64, 22291), (87, 22393), (89, 22408), (93, 22444), (97, 22462), (99, 22474), (105, 22522), (106, 22528), (107, 22534),

Gene: Wyvern_31 Start: 21316, Stop: 21717, Start Num: 25

Candidate Starts for Wyvern_31:

(18, 21238), (Start: 25 @21316 has 1 MA's), (Start: 28 @21331 has 3 MA's), (53, 21436), (55, 21442), (69, 21502), (73, 21517), (87, 21586), (88, 21592), (93, 21637), (97, 21655), (101, 21685),

Gene: Yappy_73 Start: 34287, Stop: 34649, Start Num: 30

Candidate Starts for Yappy_73:

(Start: 30 @34287 has 1 MA's), (52, 34368), (62, 34401), (66, 34425), (87, 34515), (93, 34566), (97, 34578),

Gene: Zhuangyuan_25 Start: 18457, Stop: 18819, Start Num: 33

Candidate Starts for Zhuangyuan_25:

(Start: 33 @18457 has 36 MA's), (Start: 39 @18469 has 21 MA's), (52, 18541), (59, 18565), (70, 18619), (86, 18688), (87, 18700),

Gene: Zixiang_24 Start: 19055, Stop: 19387, Start Num: 33

Candidate Starts for Zixiang_24:

(Start: 33 @19055 has 36 MA's), (40, 19073), (50, 19130), (59, 19163), (71, 19220), (74, 19232), (87, 19298),