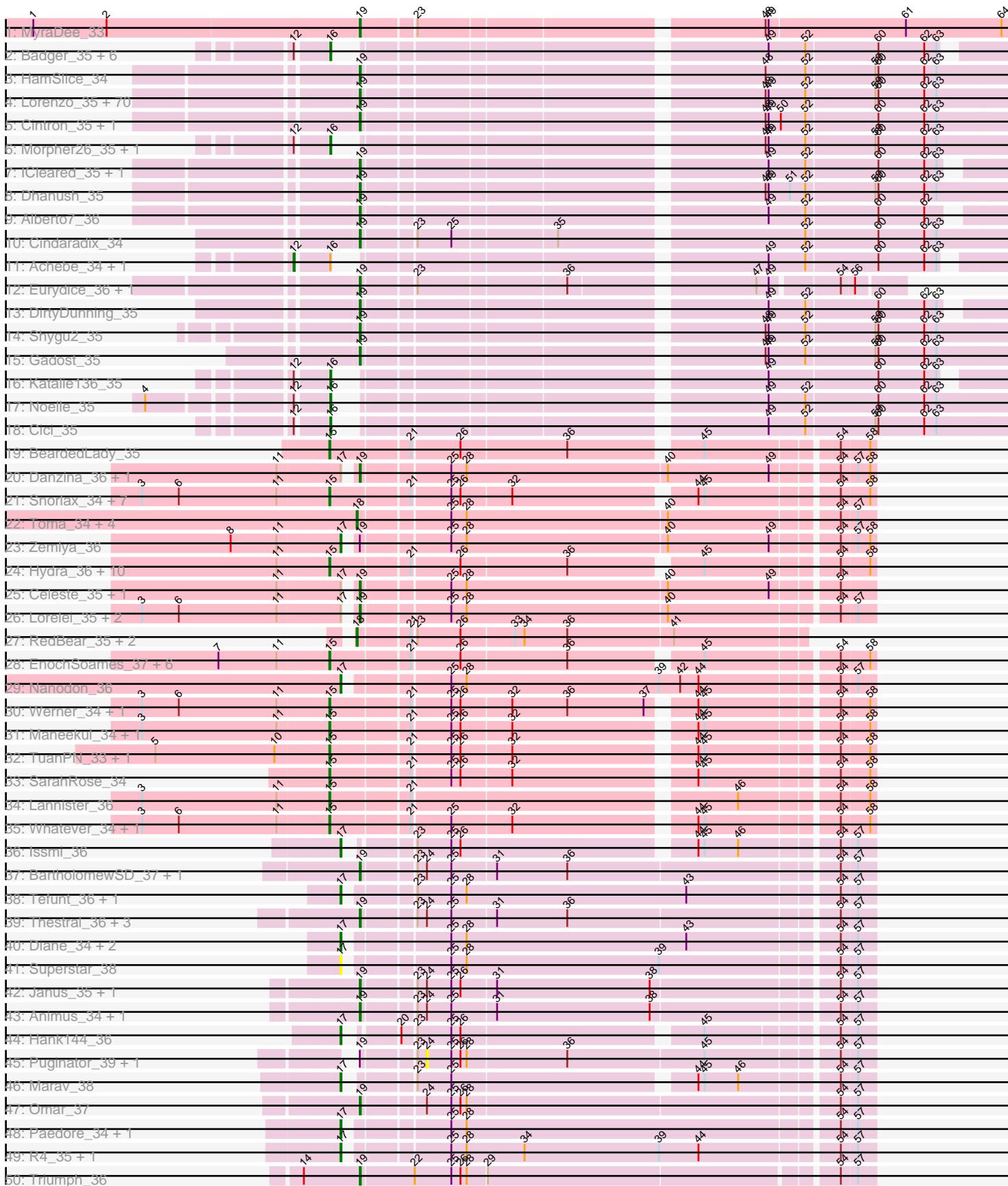


Pham 163369



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 163369 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163369 has 188 members, 8 are drafts.

Phages represented in each track:

- Track 1 : MyraDee_33
- Track 2 : Badger_35, Perplexer_35, Datway_35, Backyardigan_35, Xena_35, PetiteSangsue_35, AbbysRanger_35
- Track 3 : HamSlice_34
- Track 4 : Lorenzo_35, Cocoaberry_35, Florean_35, Eapen_35, Bartimeaus_35, Avle17_35, Wilbur_35, Taquarus_35, Bruiser_34, Relief_35, Kyee_35, Pipcraft_35, Happiness_35, Holli_35, CentreCat_35, Funston_35, Ruin_35, TygerBlood_35, Scamp_35, Baby16_35, Phighter1804_35, Albee_35, Nemo27_35, Citius_35, Flux_35, Lemur_35, Kingmustik0402_35, Caelakin_35, NotAPhaseMom_35, LittleB_35, Lunsford_36, JoongJeon_35, Eris_34, Annyong_35, Chaph_35, Druantia_35, Wander_35, Bombshell_35, TiroTheta9_35, Sabertooth_35, MeeZee_35, Thanksgivukkah_35, Burger_34, Blackmoor_35, LochMonster_35, Skipitt_35, Iceman_36, Maverick_35, Houdini22_35, NorthStar_35, Phacado_35, Mazhar510_35, Eros_35, Peaches_35, Romney_35, Millski_34, BubbleTrouble_35, Jaykayelowell_35, PeterPeter_35, Clarenza_35, Deano_35, Shaka_35, Palestino_34, YoSam321_35, Spino_35, Roosevelt_35, Wizard007_35, JetBlade_35, Connomayer_35, Broseidon_35, KFPoly_35
- Track 5 : Cintron_35, Camperdownii_34
- Track 6 : Morpher26_35, Wile_35
- Track 7 : ICleared_35, Koreni_34
- Track 8 : Dhanush_35
- Track 9 : Alberto7_36
- Track 10 : Cindaradix_34
- Track 11 : Achebe_34, Bumblebee11_35
- Track 12 : Eurydice_36, Nebs_36
- Track 13 : DirtyDunning_35
- Track 14 : Shygu2_35
- Track 15 : Gadost_35
- Track 16 : Katalie136_35
- Track 17 : Noelle_35
- Track 18 : Cici_35
- Track 19 : BeardedLady_35
- Track 20 : Danzina_36, Brataylor_37
- Track 21 : Snorlax_34, Chucky_34, BarryBee_37, Dwayne_34, Triste_34, TagePhighter_36, OzzyJ_35, Emaanora_37
- Track 22 : Toma_34, Sujidade_35, Godpower_35, Goby_34, Lika_34
- Track 23 : Zemlya_36

- Track 24 : Hydra_36, Legacy_34, Esperer_34, SunsetPointe_34, Unstoppable_34, Leviticus_34, Aaronocolus_34, Phettuccine_34, Bovely_34, Ozzie_34, Indigo_33
- Track 25 : Celeste_35, Dattran_36
- Track 26 : Lorelei_35, Nabi_35, Rana_35
- Track 27 : RedBear_35, South40_34, Katalie_34
- Track 28 : EnochSoames_37, Rusticus_35, Eddasa_35, Izzy_35, Jash_35, BryanRecycles_35, Oliynyk_35
- Track 29 : Nanodon_36
- Track 30 : Werner_34, Hippo_34
- Track 31 : Maneekul_34, Yasdnil_34
- Track 32 : TuanPN_33, Ejemplo_33
- Track 33 : SarahRose_34
- Track 34 : Lannister_36
- Track 35 : Whatever_34, Asten_34
- Track 36 : Issmi_36
- Track 37 : BartholomewSD_37, Alvy_37
- Track 38 : Tefunt_36, Nishikigoi_36
- Track 39 : Thestral_36, Bowden_35, TrvxScott_34, TinaBelcher_35
- Track 40 : Diane_34, Haizum_36, Amethyst_34
- Track 41 : Superstar_38
- Track 42 : Janus_35, SqueakyClean_34
- Track 43 : Animus_34, GirlDinner_36
- Track 44 : Hank144_36
- Track 45 : Puginator_39, Zainub_41
- Track 46 : Marav_38
- Track 47 : Omar_37
- Track 48 : Paedore_34, Loofah_35
- Track 49 : R4_35, ELB20_33
- Track 50 : Triumph_36
- Track 51 : Pablito_34
- Track 52 : Andris_34
- Track 53 : Caelum_36
- Track 54 : Jevington_38
- Track 55 : Daudau_35
- Track 56 : phiHau3_36
- Track 57 : BroPlease_35
- Track 58 : GreenWeasel_36

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

The start number called the most often in the published annotations is 19, it was called in 105 of the 180 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Albee_35, Alberto7_36, Alvy_37, Animus_34, Annyong_35, Avle17_35, Baby16_35, BartholomewSD_37, Bartimeaus_35, Blackmoor_35, Bombshell_35, Bowden_35, Brataylor_37, BroPlease_35, Broseidon_35, Bruiser_34, BubbleTrouble_35, Burger_34, Caelakin_35, Caelum_36, Camperdownii_34, Celeste_35, CentreCat_35, Chaph_35, Cindaradix_34, Cintron_35, Citius_35, Clarenza_35, Cocoaberry_35, Connomayer_35, Danzina_36, Dattran_36, Deano_35, Dhanush_35,

DirtyDunning_35, Druantia_35, Eapen_35, Eris_34, Eros_35, Eurydice_36, Florean_35, Flux_35, Funston_35, Gadost_35, GirlDinner_36, HamSlice_34, Happiness_35, Holli_35, Houdini22_35, ICleared_35, Iceman_36, Janus_35, Jaykayelowell_35, JetBlade_35, JoongJeon_35, KFPoly_35, Kingmustik0402_35, Koreni_34, Kyee_35, Lemur_35, LittleB_35, LochMonster_35, Lorelei_35, Lorenzo_35, Lunsford_36, Maverick_35, Mazhar510_35, MeeZee_35, Millski_34, MyraDee_33, Nabi_35, Nebs_36, Nemo27_35, NorthStar_35, NotAPhaseMom_35, Omar_37, Palestino_34, Peaches_35, PeterPeter_35, Phacado_35, Phighter1804_35, Pipcraft_35, Rana_35, Relief_35, Romney_35, Roosevelt_35, Ruin_35, Sabertooth_35, Scamp_35, Shaka_35, Shygu2_35, Skipitt_35, Spino_35, SqueakyClean_34, Taquarus_35, Thanksgivukkah_35, Thestral_36, TinaBelcher_35, TiroTheta9_35, Triumph_36, TrvxScott_34, TygerBlood_35, Wander_35, Wilbur_35, Wizard007_35, YoSam321_35,

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

- GreenWeasel_36, Puginator_39, Zainub_41, Zemlya_36, phiHau3_36,

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

- Aaronocolus_34, AbbysRanger_35, Achebe_34, Amethyst_34, Andris_34, Asten_34, Backyardigan_35, Badger_35, BarryBee_37, BeardedLady_35, Bovely_34, BryanRecycles_35, Bumblebee11_35, Chucky_34, Cici_35, Datway_35, Daudau_35, Diane_34, Dwayne_34, ELB20_33, Eddasa_35, Ejemplo_33, Emaanora_37, EnochSoames_37, Esperer_34, Goby_34, Godpower_35, Haizum_36, Hank144_36, Hippo_34, Hydra_36, Indigo_33, Issmi_36, Izzy_35, Jash_35, Jevington_38, Katalie136_35, Katalie_34, Lannister_36, Legacy_34, Leviticus_34, Lika_34, Loofah_35, Maneekul_34, Marav_38, Morpher26_35, Nanodon_36, Nishikigoi_36, Noelle_35, Oliynyk_35, Ozzie_34, OzzyJ_35, Pablito_34, Paedore_34, Perplexer_35, PetiteSangsue_35, Phettuccine_34, R4_35, RedBear_35, Rusticus_35, SarahRose_34, Snorlax_34, South40_34, Sujidade_35, SunsetPointe_34, Superstar_38, TagePhighter_36, Tefunt_36, Toma_34, Triste_34, TuanPN_33, Unstoppable_34, Werner_34, Whatever_34, Wile_35, Xena_35, Yasdnil_34,

Summary by start number:

Start 12:

- Found in 14 of 188 (7.4%) of genes in pham
- Manual Annotations of this start: 2 of 180
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Achebe_34 (A4), Bumblebee11_35 (A4),

Start 14:

- Found in 3 of 188 (1.6%) of genes in pham
- Manual Annotations of this start: 2 of 180
- Called 66.7% of time when present
- Phage (with cluster) where this start called: GreenWeasel_36 (BD4), phiHau3_36 (BD4),

Start 15:

- Found in 37 of 188 (19.7%) of genes in pham
- Manual Annotations of this start: 35 of 180
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aaronocolus_34 (BD1), Asten_34 (BD1), BarryBee_37 (BD1), BeardedLady_35 (BD1), Bovely_34 (BD1), BryanRecycles_35 (BD1), Chucky_34 (BD1), Dwayne_34 (BD1), Eddasa_35 (BD1), Ejemplo_33 (BD1), Emaanora_37 (BD1), EnochSoames_37 (BD1), Esperer_34 (BD1), Hippo_34 (BD1), Hydra_36 (BD1), Indigo_33 (BD1), Izzy_35 (BD1), Jash_35 (BD1), Lannister_36 (BD1), Legacy_34 (BD1), Leviticus_34 (BD1), Maneekul_34 (BD1), Oliynyk_35 (BD1), Ozzie_34 (BD1), OzzyJ_35 (BD1), Phettuccine_34 (BD1), Rusticus_35 (BD1), SarahRose_34 (BD1), Snorlax_34 (BD1), SunsetPointe_34 (BD1), TagePhighter_36 (BD1), Triste_34 (BD1), TuanPN_33 (BD1), Unstoppable_34 (BD1), Werner_34 (BD1), Whatever_34 (BD1), Yasdnil_34 (BD1),

Start 16:

- Found in 14 of 188 (7.4%) of genes in pham
- Manual Annotations of this start: 12 of 180
- Called 85.7% of time when present
- Phage (with cluster) where this start called: AbbysRanger_35 (A4), Backyardigan_35 (A4), Badger_35 (A4), Cici_35 (A4), Datway_35 (A4), Katalie136_35 (A4), Morpher26_35 (A4), Noelle_35 (A4), Perplexer_35 (A4), PetiteSangsue_35 (A4), Wile_35 (A4), Xena_35 (A4),

Start 17:

- Found in 26 of 188 (13.8%) of genes in pham
- Manual Annotations of this start: 16 of 180
- Called 73.1% of time when present
- Phage (with cluster) where this start called: Amethyst_34 (BD2), Andris_34 (BD2), Daudau_35 (BD2), Diane_34 (BD2), ELB20_33 (BD2), Haizum_36 (BD2), Hank144_36 (BD2), Issmi_36 (BD2), Jevington_38 (BD2), Loofah_35 (BD2), Marav_38 (BD2), Nanodon_36 (BD1), Nishikigoi_36 (BD2), Pablito_34 (BD2), Paedore_34 (BD2), R4_35 (BD2), Superstar_38 (BD2), Tefunt_36 (BD2), Zemlya_36 (BD1),

Start 18:

- Found in 8 of 188 (4.3%) of genes in pham
- Manual Annotations of this start: 8 of 180
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Goby_34 (BD1), Godpower_35 (BD1), Katalie_34 (BD1), Lika_34 (BD1), RedBear_35 (BD1), South40_34 (BD1), Sujidade_35 (BD1), Toma_34 (BD1),

Start 19:

- Found in 111 of 188 (59.0%) of genes in pham
- Manual Annotations of this start: 105 of 180
- Called 95.5% of time when present
- Phage (with cluster) where this start called: Albee_35 (A4), Alberto7_36 (A4), Alvy_37 (BD2), Animus_34 (BD2), Anyong_35 (A4), Avle17_35 (A4), Baby16_35 (A4), BartholomewSD_37 (BD2), Bartimeaus_35 (A4), Blackmoor_35 (A4), Bombshell_35 (A4), Bowden_35 (BD2), Brataylor_37 (BD1), BroPlease_35 (BD4), Broseidon_35 (A4), Bruiser_34 (A4), BubbleTrouble_35 (A4), Burger_34 (A4), Caelakin_35 (A4), Caelum_36 (BD2), Camperdownii_34 (A4), Celeste_35 (BD1), CentreCat_35 (A4), Chaph_35 (A4), Cindaradix_34 (A4), Cintron_35 (A4), Citius_35 (A4), Clarenza_35 (A4), Cocoaberry_35 (A4), Connomayer_35 (A4), Danzina_36 (BD1), Dattran_36 (BD1), Deano_35 (A4), Dhanush_35 (A4), DirtyDunning_35 (A4), Druantia_35 (A4), Eapen_35 (A4), Eris_34 (A4), Eros_35 (A4), Eurydice_36 (A4),

Floean_35 (A4), Flux_35 (A4), Funston_35 (A4), Gadost_35 (A4), GirlDinner_36 (BD2), HamSlice_34 (A4), Happiness_35 (A4), Holli_35 (A4), Houdini22_35 (A4), ICleared_35 (A4), Iceman_36 (A4), Janus_35 (BD2), Jaykayelowell_35 (A4), JetBlade_35 (A4), JoongJeon_35 (A4), KFPoly_35 (A4), Kingmustik0402_35 (A4), Koreni_34 (A4), Kyee_35 (A4), Lemur_35 (A4), LittleB_35 (A4), LochMonster_35 (A4), Lorelei_35 (BD1), Lorenzo_35 (A4), Lunsford_36 (A4), Maverick_35 (A4), Mazhar510_35 (A4), MeeZee_35 (A4), Millski_34 (A4), MyraDee_33 (A18), Nabi_35 (BD1), Nebs_36 (A4), Nemo27_35 (A4), NorthStar_35 (A4), NotAPhaseMom_35 (A4), Omar_37 (BD2), Palestino_34 (A4), Peaches_35 (A4), PeterPeter_35 (A4), Phacado_35 (A4), Phighter1804_35 (A4), Pipcraft_35 (A4), Rana_35 (BD1), Relief_35 (A4), Romney_35 (A4), Roosevelt_35 (A4), Ruin_35 (A4), Sabertooth_35 (A4), Scamp_35 (A4), Shaka_35 (A4), Shygu2_35 (A4), Skipitt_35 (A4), Spino_35 (A4), SqueakyClean_34 (BD2), Taquarus_35 (A4), Thanksgivukkah_35 (A4), Thestral_36 (BD2), TinaBelcher_35 (BD2), TiroTheta9_35 (A4), Triumph_36 (BD2), TrvxScott_34 (BD2), TygerBlood_35 (A4), Wander_35 (A4), Wilbur_35 (A4), Wizard007_35 (A4), YoSam321_35 (A4),

Start 24:

- Found in 14 of 188 (7.4%) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Puginator_39 (BD2), Zainub_41 (BD2),

Summary by clusters:

There are 5 clusters represented in this pham: BD4, A18, BD1, A4, BD2,

Info for manual annotations of cluster A18:

- Start number 19 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A4:

- Start number 12 was manually annotated 2 times for cluster A4.
- Start number 16 was manually annotated 12 times for cluster A4.
- Start number 19 was manually annotated 84 times for cluster A4.

Info for manual annotations of cluster BD1:

- Start number 15 was manually annotated 35 times for cluster BD1.
- Start number 17 was manually annotated 2 times for cluster BD1.
- Start number 18 was manually annotated 8 times for cluster BD1.
- Start number 19 was manually annotated 7 times for cluster BD1.

Info for manual annotations of cluster BD2:

- Start number 17 was manually annotated 14 times for cluster BD2.
- Start number 19 was manually annotated 12 times for cluster BD2.

Info for manual annotations of cluster BD4:

- Start number 14 was manually annotated 2 times for cluster BD4.
- Start number 19 was manually annotated 1 time for cluster BD4.

Gene Information:

Gene: Aaronocolus_34 Start: 25685, Stop: 26173, Start Num: 15
Candidate Starts for Aaronocolus_34:
(11, 25637), (Start: 15 @25685 has 35 MA's), (21, 25757), (26, 25802), (36, 25904), (45, 26021), (54, 26141), (58, 26168),

Gene: AbbysRanger_35 Start: 27851, Stop: 27276, Start Num: 16
Candidate Starts for AbbysRanger_35:
(Start: 12 @27881 has 2 MA's), (Start: 16 @27851 has 12 MA's), (49, 27488), (52, 27452), (60, 27383), (62, 27338), (63, 27326),

Gene: Achebe_34 Start: 27864, Stop: 27259, Start Num: 12
Candidate Starts for Achebe_34:
(Start: 12 @27864 has 2 MA's), (Start: 16 @27834 has 12 MA's), (49, 27471), (52, 27435), (60, 27366), (62, 27321), (63, 27309),

Gene: Albee_35 Start: 27804, Stop: 27208, Start Num: 19
Candidate Starts for Albee_35:
(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Alberto7_36 Start: 28144, Stop: 27569, Start Num: 19
Candidate Starts for Alberto7_36:
(Start: 19 @28144 has 105 MA's), (49, 27781), (52, 27745), (60, 27676), (62, 27631),

Gene: Alvy_37 Start: 27037, Stop: 27510, Start Num: 19
Candidate Starts for Alvy_37:
(Start: 19 @27037 has 105 MA's), (23, 27082), (24, 27091), (25, 27115), (31, 27157), (36, 27226), (54, 27478), (57, 27493),

Gene: Amethyst_34 Start: 26390, Stop: 26875, Start Num: 17
Candidate Starts for Amethyst_34:
(Start: 17 @26390 has 16 MA's), (25, 26474), (28, 26489), (43, 26705), (54, 26843), (57, 26858),

Gene: Andris_34 Start: 26452, Stop: 26937, Start Num: 17
Candidate Starts for Andris_34:
(Start: 17 @26452 has 16 MA's), (23, 26503), (25, 26536), (28, 26551), (30, 26575), (34, 26608), (39, 26740), (53, 26896), (54, 26905), (57, 26920),

Gene: Animus_34 Start: 26897, Stop: 27370, Start Num: 19
Candidate Starts for Animus_34:
(Start: 19 @26897 has 105 MA's), (23, 26942), (24, 26951), (25, 26975), (31, 27017), (38, 27167), (54, 27338), (57, 27353),

Gene: Annyong_35 Start: 27805, Stop: 27209, Start Num: 19
Candidate Starts for Annyong_35:
(Start: 19 @27805 has 105 MA's), (48, 27445), (49, 27442), (52, 27406), (59, 27340), (60, 27337), (62, 27292), (63, 27280),

Gene: Asten_34 Start: 26046, Stop: 26534, Start Num: 15
Candidate Starts for Asten_34:
(3, 25866), (6, 25902), (11, 25998), (Start: 15 @26046 has 35 MA's), (21, 26118), (25, 26154), (32, 26211), (44, 26376), (45, 26382), (54, 26502), (58, 26529),

Gene: Avle17_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Avle17_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Baby16_35 Start: 27815, Stop: 27219, Start Num: 19

Candidate Starts for Baby16_35:

(Start: 19 @27815 has 105 MA's), (48, 27455), (49, 27452), (52, 27416), (59, 27350), (60, 27347), (62, 27302), (63, 27290),

Gene: Backyardigan_35 Start: 27867, Stop: 27271, Start Num: 16

Candidate Starts for Backyardigan_35:

(Start: 12 @27897 has 2 MA's), (Start: 16 @27867 has 12 MA's), (49, 27504), (52, 27468), (60, 27399), (62, 27354), (63, 27342),

Gene: Badger_35 Start: 27835, Stop: 27260, Start Num: 16

Candidate Starts for Badger_35:

(Start: 12 @27865 has 2 MA's), (Start: 16 @27835 has 12 MA's), (49, 27472), (52, 27436), (60, 27367), (62, 27322), (63, 27310),

Gene: BarryBee_37 Start: 26056, Stop: 26544, Start Num: 15

Candidate Starts for BarryBee_37:

(3, 25876), (6, 25912), (11, 26008), (Start: 15 @26056 has 35 MA's), (21, 26128), (25, 26164), (26, 26173), (32, 26221), (44, 26386), (45, 26392), (54, 26512), (58, 26539),

Gene: BartholomewSD_37 Start: 27037, Stop: 27510, Start Num: 19

Candidate Starts for BartholomewSD_37:

(Start: 19 @27037 has 105 MA's), (23, 27082), (24, 27091), (25, 27115), (31, 27157), (36, 27226), (54, 27478), (57, 27493),

Gene: Bartimeaus_35 Start: 27806, Stop: 27210, Start Num: 19

Candidate Starts for Bartimeaus_35:

(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: BeardedLady_35 Start: 25938, Stop: 26426, Start Num: 15

Candidate Starts for BeardedLady_35:

(Start: 15 @25938 has 35 MA's), (21, 26010), (26, 26055), (36, 26157), (45, 26274), (54, 26394), (58, 26421),

Gene: Blackmoor_35 Start: 27806, Stop: 27210, Start Num: 19

Candidate Starts for Blackmoor_35:

(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: Bombshell_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Bombshell_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Bovely_34 Start: 25691, Stop: 26179, Start Num: 15

Candidate Starts for Bovely_34:

(11, 25643), (Start: 15 @25691 has 35 MA's), (21, 25763), (26, 25808), (36, 25910), (45, 26027), (54, 26147), (58, 26174),

Gene: Bowden_35 Start: 26947, Stop: 27420, Start Num: 19

Candidate Starts for Bowden_35:

(Start: 19 @26947 has 105 MA's), (23, 26992), (24, 27001), (25, 27025), (31, 27067), (36, 27136), (54, 27388), (57, 27403),

Gene: Brataylor_37 Start: 27039, Stop: 27515, Start Num: 19

Candidate Starts for Brataylor_37:

(11, 26973), (Start: 17 @27033 has 16 MA's), (Start: 19 @27039 has 105 MA's), (25, 27117), (28, 27132), (40, 27327), (49, 27426), (54, 27483), (57, 27498), (58, 27510),

Gene: BroPlease_35 Start: 26228, Stop: 26704, Start Num: 19

Candidate Starts for BroPlease_35:

(Start: 19 @26228 has 105 MA's), (23, 26273), (25, 26306), (26, 26315), (29, 26339), (44, 26543), (54, 26672),

Gene: Broseidon_35 Start: 27806, Stop: 27210, Start Num: 19

Candidate Starts for Broseidon_35:

(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: Bruiser_34 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Bruiser_34:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: BryanRecycles_35 Start: 26042, Stop: 26530, Start Num: 15

Candidate Starts for BryanRecycles_35:

(7, 25937), (11, 25994), (Start: 15 @26042 has 35 MA's), (21, 26114), (26, 26159), (36, 26261), (45, 26378), (54, 26498), (58, 26525),

Gene: BubbleTrouble_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for BubbleTrouble_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Bumblebee11_35 Start: 27867, Stop: 27262, Start Num: 12

Candidate Starts for Bumblebee11_35:

(Start: 12 @27867 has 2 MA's), (Start: 16 @27837 has 12 MA's), (49, 27474), (52, 27438), (60, 27369), (62, 27324), (63, 27312),

Gene: Burger_34 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Burger_34:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Caelakin_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Caelakin_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Caelum_36 Start: 26653, Stop: 27126, Start Num: 19

Candidate Starts for Caelum_36:

(Start: 19 @26653 has 105 MA's), (23, 26698), (24, 26707), (25, 26731), (26, 26740), (31, 26773), (38, 26923), (44, 26968), (54, 27094), (55, 27103), (57, 27109),

Gene: Camperdownii_34 Start: 27498, Stop: 26902, Start Num: 19

Candidate Starts for Camperdownii_34:

(Start: 19 @27498 has 105 MA's), (48, 27138), (49, 27135), (50, 27123), (52, 27099), (60, 27030), (62, 26985), (63, 26973),

Gene: Celeste_35 Start: 26508, Stop: 26984, Start Num: 19

Candidate Starts for Celeste_35:

(11, 26442), (Start: 17 @26502 has 16 MA's), (Start: 19 @26508 has 105 MA's), (25, 26586), (28, 26601), (40, 26796), (49, 26895), (54, 26952),

Gene: CentreCat_35 Start: 27807, Stop: 27211, Start Num: 19

Candidate Starts for CentreCat_35:

(Start: 19 @27807 has 105 MA's), (48, 27447), (49, 27444), (52, 27408), (59, 27342), (60, 27339), (62, 27294), (63, 27282),

Gene: Chaph_35 Start: 27815, Stop: 27219, Start Num: 19

Candidate Starts for Chaph_35:

(Start: 19 @27815 has 105 MA's), (48, 27455), (49, 27452), (52, 27416), (59, 27350), (60, 27347), (62, 27302), (63, 27290),

Gene: Chucky_34 Start: 26060, Stop: 26548, Start Num: 15

Candidate Starts for Chucky_34:

(3, 25880), (6, 25916), (11, 26012), (Start: 15 @26060 has 35 MA's), (21, 26132), (25, 26168), (26, 26177), (32, 26225), (44, 26390), (45, 26396), (54, 26516), (58, 26543),

Gene: Cici_35 Start: 27852, Stop: 27256, Start Num: 16

Candidate Starts for Cici_35:

(Start: 12 @27882 has 2 MA's), (Start: 16 @27852 has 12 MA's), (49, 27489), (52, 27453), (59, 27387), (60, 27384), (62, 27339), (63, 27327),

Gene: Cindaradix_34 Start: 27606, Stop: 27010, Start Num: 19

Candidate Starts for Cindaradix_34:

(Start: 19 @27606 has 105 MA's), (23, 27561), (25, 27528), (35, 27432), (52, 27207), (60, 27138), (62, 27093), (63, 27081),

Gene: Cintron_35 Start: 27870, Stop: 27274, Start Num: 19

Candidate Starts for Cintron_35:

(Start: 19 @27870 has 105 MA's), (48, 27510), (49, 27507), (50, 27495), (52, 27471), (60, 27402), (62, 27357), (63, 27345),

Gene: Citius_35 Start: 27819, Stop: 27223, Start Num: 19

Candidate Starts for Citius_35:

(Start: 19 @27819 has 105 MA's), (48, 27459), (49, 27456), (52, 27420), (59, 27354), (60, 27351), (62, 27306), (63, 27294),

Gene: Clarenza_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for Clarenza_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Cocoaberry_35 Start: 27808, Stop: 27212, Start Num: 19

Candidate Starts for Cocoaberry_35:

(Start: 19 @27808 has 105 MA's), (48, 27448), (49, 27445), (52, 27409), (59, 27343), (60, 27340), (62, 27295), (63, 27283),

Gene: Connomayer_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Connomayer_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Danzina_36 Start: 26809, Stop: 27285, Start Num: 19

Candidate Starts for Danzina_36:

(11, 26743), (Start: 17 @26803 has 16 MA's), (Start: 19 @26809 has 105 MA's), (25, 26887), (28, 26902), (40, 27097), (49, 27196), (54, 27253), (57, 27268), (58, 27280),

Gene: Dattran_36 Start: 26615, Stop: 27091, Start Num: 19

Candidate Starts for Dattran_36:

(11, 26549), (Start: 17 @26609 has 16 MA's), (Start: 19 @26615 has 105 MA's), (25, 26693), (28, 26708), (40, 26903), (49, 27002), (54, 27059),

Gene: Datway_35 Start: 27823, Stop: 27227, Start Num: 16

Candidate Starts for Datway_35:

(Start: 12 @27853 has 2 MA's), (Start: 16 @27823 has 12 MA's), (49, 27460), (52, 27424), (60, 27355), (62, 27310), (63, 27298),

Gene: Daudau_35 Start: 26779, Stop: 27237, Start Num: 17

Candidate Starts for Daudau_35:

(13, 26740), (Start: 17 @26779 has 16 MA's), (23, 26824), (25, 26857), (26, 26866), (27, 26869), (44, 27079), (45, 27085), (46, 27118), (54, 27205), (57, 27220),

Gene: Deano_35 Start: 27812, Stop: 27216, Start Num: 19

Candidate Starts for Deano_35:

(Start: 19 @27812 has 105 MA's), (48, 27452), (49, 27449), (52, 27413), (59, 27347), (60, 27344), (62, 27299), (63, 27287),

Gene: Dhanush_35 Start: 27807, Stop: 27211, Start Num: 19

Candidate Starts for Dhanush_35:

(Start: 19 @27807 has 105 MA's), (48, 27447), (49, 27444), (51, 27423), (52, 27408), (59, 27342), (60, 27339), (62, 27294), (63, 27282),

Gene: Diane_34 Start: 26663, Stop: 27148, Start Num: 17

Candidate Starts for Diane_34:

(Start: 17 @26663 has 16 MA's), (25, 26747), (28, 26762), (43, 26978), (54, 27116), (57, 27131),

Gene: DirtyDunning_35 Start: 27843, Stop: 27268, Start Num: 19

Candidate Starts for DirtyDunning_35:

(Start: 19 @27843 has 105 MA's), (49, 27480), (52, 27444), (60, 27375), (62, 27330), (63, 27318),

Gene: Druantia_35 Start: 27807, Stop: 27211, Start Num: 19

Candidate Starts for Druantia_35:

(Start: 19 @27807 has 105 MA's), (48, 27447), (49, 27444), (52, 27408), (59, 27342), (60, 27339), (62, 27294), (63, 27282),

Gene: Dwayne_34 Start: 26047, Stop: 26535, Start Num: 15

Candidate Starts for Dwayne_34:

(3, 25867), (6, 25903), (11, 25999), (Start: 15 @26047 has 35 MA's), (21, 26119), (25, 26155), (26, 26164), (32, 26212), (44, 26377), (45, 26383), (54, 26503), (58, 26530),

Gene: ELB20_33 Start: 27045, Stop: 27530, Start Num: 17

Candidate Starts for ELB20_33:

(Start: 17 @27045 has 16 MA's), (25, 27129), (28, 27144), (34, 27201), (39, 27333), (44, 27372), (54, 27498), (57, 27513),

Gene: Eapen_35 Start: 27802, Stop: 27206, Start Num: 19

Candidate Starts for Eapen_35:

(Start: 19 @27802 has 105 MA's), (48, 27442), (49, 27439), (52, 27403), (59, 27337), (60, 27334), (62, 27289), (63, 27277),

Gene: Eddasa_35 Start: 26042, Stop: 26530, Start Num: 15

Candidate Starts for Eddasa_35:

(7, 25937), (11, 25994), (Start: 15 @26042 has 35 MA's), (21, 26114), (26, 26159), (36, 26261), (45, 26378), (54, 26498), (58, 26525),

Gene: Ejemplo_33 Start: 25988, Stop: 26476, Start Num: 15

Candidate Starts for Ejemplo_33:

(5, 25820), (10, 25937), (Start: 15 @25988 has 35 MA's), (21, 26060), (25, 26096), (26, 26105), (32, 26153), (44, 26318), (45, 26324), (54, 26444), (58, 26471),

Gene: Emaanora_37 Start: 26005, Stop: 26493, Start Num: 15

Candidate Starts for Emaanora_37:

(3, 25825), (6, 25861), (11, 25957), (Start: 15 @26005 has 35 MA's), (21, 26077), (25, 26113), (26, 26122), (32, 26170), (44, 26335), (45, 26341), (54, 26461), (58, 26488),

Gene: EnochSoames_37 Start: 26037, Stop: 26525, Start Num: 15

Candidate Starts for EnochSoames_37:

(7, 25932), (11, 25989), (Start: 15 @26037 has 35 MA's), (21, 26109), (26, 26154), (36, 26256), (45, 26373), (54, 26493), (58, 26520),

Gene: Eris_34 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Eris_34:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Eros_35 Start: 27806, Stop: 27210, Start Num: 19

Candidate Starts for Eros_35:

(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: Esperer_34 Start: 25504, Stop: 25992, Start Num: 15

Candidate Starts for Esperer_34:

(11, 25456), (Start: 15 @25504 has 35 MA's), (21, 25576), (26, 25621), (36, 25723), (45, 25840), (54, 25960), (58, 25987),

Gene: Eurydice_36 Start: 27798, Stop: 27322, Start Num: 19
Candidate Starts for Eurydice_36:
(Start: 19 @27798 has 105 MA's), (23, 27753), (36, 27615), (47, 27450), (49, 27438), (54, 27378), (56, 27366),

Gene: Florean_35 Start: 27803, Stop: 27207, Start Num: 19
Candidate Starts for Florean_35:
(Start: 19 @27803 has 105 MA's), (48, 27443), (49, 27440), (52, 27404), (59, 27338), (60, 27335), (62, 27290), (63, 27278),

Gene: Flux_35 Start: 27806, Stop: 27210, Start Num: 19
Candidate Starts for Flux_35:
(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: Funston_35 Start: 27804, Stop: 27208, Start Num: 19
Candidate Starts for Funston_35:
(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Gadost_35 Start: 27808, Stop: 27212, Start Num: 19
Candidate Starts for Gadost_35:
(Start: 19 @27808 has 105 MA's), (48, 27448), (49, 27445), (52, 27409), (59, 27343), (60, 27340), (62, 27295), (63, 27283),

Gene: GirlDinner_36 Start: 26398, Stop: 26871, Start Num: 19
Candidate Starts for GirlDinner_36:
(Start: 19 @26398 has 105 MA's), (23, 26443), (24, 26452), (25, 26476), (31, 26518), (38, 26668), (54, 26839), (57, 26854),

Gene: Goby_34 Start: 26511, Stop: 26990, Start Num: 18
Candidate Starts for Goby_34:
(Start: 18 @26511 has 8 MA's), (25, 26592), (28, 26607), (40, 26802), (54, 26958), (57, 26973),

Gene: Godpower_35 Start: 26506, Stop: 26985, Start Num: 18
Candidate Starts for Godpower_35:
(Start: 18 @26506 has 8 MA's), (25, 26587), (28, 26602), (40, 26797), (54, 26953), (57, 26968),

Gene: GreenWeasel_36 Start: 26199, Stop: 26711, Start Num: 14
Candidate Starts for GreenWeasel_36:
(9, 26163), (Start: 14 @26199 has 2 MA's), (Start: 19 @26235 has 105 MA's), (23, 26280), (25, 26313), (26, 26322), (29, 26346), (44, 26550), (54, 26679),

Gene: Haizum_36 Start: 26732, Stop: 27217, Start Num: 17
Candidate Starts for Haizum_36:
(Start: 17 @26732 has 16 MA's), (25, 26816), (28, 26831), (43, 27047), (54, 27185), (57, 27200),

Gene: HamSlice_34 Start: 27802, Stop: 27206, Start Num: 19
Candidate Starts for HamSlice_34:
(Start: 19 @27802 has 105 MA's), (48, 27442), (52, 27403), (59, 27337), (60, 27334), (62, 27289), (63, 27277),

Gene: Hank144_36 Start: 26811, Stop: 27266, Start Num: 17

Candidate Starts for Hank144_36:

(Start: 17 @26811 has 16 MA's), (20, 26844), (23, 26856), (25, 26889), (26, 26898), (45, 27117), (54, 27234), (57, 27249),

Gene: Happiness_35 Start: 27809, Stop: 27213, Start Num: 19

Candidate Starts for Happiness_35:

(Start: 19 @27809 has 105 MA's), (48, 27449), (49, 27446), (52, 27410), (59, 27344), (60, 27341), (62, 27296), (63, 27284),

Gene: Hippo_34 Start: 26056, Stop: 26544, Start Num: 15

Candidate Starts for Hippo_34:

(3, 25876), (6, 25912), (11, 26008), (Start: 15 @26056 has 35 MA's), (21, 26128), (25, 26164), (26, 26173), (32, 26221), (36, 26275), (37, 26350), (44, 26386), (45, 26392), (54, 26512), (58, 26539),

Gene: Holli_35 Start: 27594, Stop: 26998, Start Num: 19

Candidate Starts for Holli_35:

(Start: 19 @27594 has 105 MA's), (48, 27234), (49, 27231), (52, 27195), (59, 27129), (60, 27126), (62, 27081), (63, 27069),

Gene: Houdini22_35 Start: 27808, Stop: 27212, Start Num: 19

Candidate Starts for Houdini22_35:

(Start: 19 @27808 has 105 MA's), (48, 27448), (49, 27445), (52, 27409), (59, 27343), (60, 27340), (62, 27295), (63, 27283),

Gene: Hydra_36 Start: 26216, Stop: 26704, Start Num: 15

Candidate Starts for Hydra_36:

(11, 26168), (Start: 15 @26216 has 35 MA's), (21, 26288), (26, 26333), (36, 26435), (45, 26552), (54, 26672), (58, 26699),

Gene: ICleared_35 Start: 27836, Stop: 27261, Start Num: 19

Candidate Starts for ICleared_35:

(Start: 19 @27836 has 105 MA's), (49, 27473), (52, 27437), (60, 27368), (62, 27323), (63, 27311),

Gene: Iceman_36 Start: 28093, Stop: 27497, Start Num: 19

Candidate Starts for Iceman_36:

(Start: 19 @28093 has 105 MA's), (48, 27733), (49, 27730), (52, 27694), (59, 27628), (60, 27625), (62, 27580), (63, 27568),

Gene: Indigo_33 Start: 25684, Stop: 26172, Start Num: 15

Candidate Starts for Indigo_33:

(11, 25636), (Start: 15 @25684 has 35 MA's), (21, 25756), (26, 25801), (36, 25903), (45, 26020), (54, 26140), (58, 26167),

Gene: Issmi_36 Start: 27365, Stop: 27823, Start Num: 17

Candidate Starts for Issmi_36:

(Start: 17 @27365 has 16 MA's), (23, 27410), (25, 27443), (26, 27452), (44, 27665), (45, 27671), (46, 27704), (54, 27791), (57, 27806),

Gene: Izzy_35 Start: 26089, Stop: 26577, Start Num: 15

Candidate Starts for Izzy_35:

(7, 25984), (11, 26041), (Start: 15 @26089 has 35 MA's), (21, 26161), (26, 26206), (36, 26308), (45, 26425), (54, 26545), (58, 26572),

Gene: Janus_35 Start: 26738, Stop: 27211, Start Num: 19

Candidate Starts for Janus_35:

(Start: 19 @26738 has 105 MA's), (23, 26783), (24, 26792), (25, 26816), (26, 26825), (31, 26858), (38, 27008), (54, 27179), (57, 27194),

Gene: Jash_35 Start: 26042, Stop: 26530, Start Num: 15

Candidate Starts for Jash_35:

(7, 25937), (11, 25994), (Start: 15 @26042 has 35 MA's), (21, 26114), (26, 26159), (36, 26261), (45, 26378), (54, 26498), (58, 26525),

Gene: Jaykayelowell_35 Start: 27800, Stop: 27204, Start Num: 19

Candidate Starts for Jaykayelowell_35:

(Start: 19 @27800 has 105 MA's), (48, 27440), (49, 27437), (52, 27401), (59, 27335), (60, 27332), (62, 27287), (63, 27275),

Gene: JetBlade_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for JetBlade_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Jevington_38 Start: 27148, Stop: 27609, Start Num: 17

Candidate Starts for Jevington_38:

(Start: 17 @27148 has 16 MA's), (23, 27196), (25, 27229), (44, 27451), (45, 27457), (46, 27490), (54, 27577), (57, 27592),

Gene: JoongJeon_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for JoongJeon_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: KFPoly_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for KFPoly_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Katalie_34 Start: 26236, Stop: 26655, Start Num: 18

Candidate Starts for Katalie_34:

(Start: 18 @26236 has 8 MA's), (21, 26281), (23, 26284), (26, 26326), (33, 26377), (34, 26386), (36, 26428), (41, 26530),

Gene: Katalie136_35 Start: 27837, Stop: 27262, Start Num: 16

Candidate Starts for Katalie136_35:

(Start: 12 @27867 has 2 MA's), (Start: 16 @27837 has 12 MA's), (49, 27474), (60, 27369), (62, 27324), (63, 27312),

Gene: Kingmustik0402_35 Start: 27796, Stop: 27200, Start Num: 19

Candidate Starts for Kingmustik0402_35:

(Start: 19 @27796 has 105 MA's), (48, 27436), (49, 27433), (52, 27397), (59, 27331), (60, 27328), (62, 27283), (63, 27271),

Gene: Koreni_34 Start: 27485, Stop: 26910, Start Num: 19

Candidate Starts for Koreni_34:

(Start: 19 @27485 has 105 MA's), (49, 27122), (52, 27086), (60, 27017), (62, 26972), (63, 26960),

Gene: Kyee_35 Start: 27802, Stop: 27206, Start Num: 19

Candidate Starts for Kyee_35:

(Start: 19 @27802 has 105 MA's), (48, 27442), (49, 27439), (52, 27403), (59, 27337), (60, 27334), (62, 27289), (63, 27277),

Gene: Lannister_36 Start: 26707, Stop: 27195, Start Num: 15

Candidate Starts for Lannister_36:

(3, 26527), (11, 26659), (Start: 15 @26707 has 35 MA's), (21, 26779), (46, 27076), (54, 27163), (58, 27190),

Gene: Legacy_34 Start: 25659, Stop: 26147, Start Num: 15

Candidate Starts for Legacy_34:

(11, 25611), (Start: 15 @25659 has 35 MA's), (21, 25731), (26, 25776), (36, 25878), (45, 25995), (54, 26115), (58, 26142),

Gene: Lemur_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for Lemur_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Leviticus_34 Start: 25688, Stop: 26176, Start Num: 15

Candidate Starts for Leviticus_34:

(11, 25640), (Start: 15 @25688 has 35 MA's), (21, 25760), (26, 25805), (36, 25907), (45, 26024), (54, 26144), (58, 26171),

Gene: Lika_34 Start: 26509, Stop: 26988, Start Num: 18

Candidate Starts for Lika_34:

(Start: 18 @26509 has 8 MA's), (25, 26590), (28, 26605), (40, 26800), (54, 26956), (57, 26971),

Gene: LittleB_35 Start: 27805, Stop: 27209, Start Num: 19

Candidate Starts for LittleB_35:

(Start: 19 @27805 has 105 MA's), (48, 27445), (49, 27442), (52, 27406), (59, 27340), (60, 27337), (62, 27292), (63, 27280),

Gene: LochMonster_35 Start: 27843, Stop: 27247, Start Num: 19

Candidate Starts for LochMonster_35:

(Start: 19 @27843 has 105 MA's), (48, 27483), (49, 27480), (52, 27444), (59, 27378), (60, 27375), (62, 27330), (63, 27318),

Gene: Loofah_35 Start: 26915, Stop: 27400, Start Num: 17

Candidate Starts for Loofah_35:

(Start: 17 @26915 has 16 MA's), (25, 26999), (28, 27014), (54, 27368), (57, 27383),

Gene: Lorelei_35 Start: 26571, Stop: 27047, Start Num: 19

Candidate Starts for Lorelei_35:

(3, 26373), (6, 26409), (11, 26505), (Start: 17 @26565 has 16 MA's), (Start: 19 @26571 has 105 MA's), (25, 26649), (28, 26664), (40, 26859), (54, 27015), (57, 27030),

Gene: Lorenzo_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Lorenzo_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Lunsford_36 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for Lunsford_36:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Maneekul_34 Start: 26078, Stop: 26566, Start Num: 15

Candidate Starts for Maneekul_34:

(3, 25898), (11, 26030), (Start: 15 @26078 has 35 MA's), (21, 26150), (25, 26186), (26, 26195), (32, 26243), (44, 26408), (45, 26414), (54, 26534), (58, 26561),

Gene: Marav_38 Start: 27473, Stop: 27934, Start Num: 17

Candidate Starts for Marav_38:

(Start: 17 @27473 has 16 MA's), (23, 27521), (25, 27554), (44, 27776), (45, 27782), (46, 27815), (54, 27902), (57, 27917),

Gene: Maverick_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Maverick_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Mazhar510_35 Start: 27805, Stop: 27209, Start Num: 19

Candidate Starts for Mazhar510_35:

(Start: 19 @27805 has 105 MA's), (48, 27445), (49, 27442), (52, 27406), (59, 27340), (60, 27337), (62, 27292), (63, 27280),

Gene: MeeZee_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for MeeZee_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Millski_34 Start: 27808, Stop: 27212, Start Num: 19

Candidate Starts for Millski_34:

(Start: 19 @27808 has 105 MA's), (48, 27448), (49, 27445), (52, 27409), (59, 27343), (60, 27340), (62, 27295), (63, 27283),

Gene: Morpher26_35 Start: 27858, Stop: 27262, Start Num: 16

Candidate Starts for Morpher26_35:

(Start: 12 @27888 has 2 MA's), (Start: 16 @27858 has 12 MA's), (48, 27498), (49, 27495), (52, 27459), (59, 27393), (60, 27390), (62, 27345), (63, 27333),

Gene: MyraDee_33 Start: 25725, Stop: 25126, Start Num: 19

Candidate Starts for MyraDee_33:

(1, 26043), (2, 25971), (Start: 19 @25725 has 105 MA's), (23, 25677), (48, 25362), (49, 25359), (61, 25227), (64, 25134),

Gene: Nabi_35 Start: 26571, Stop: 27047, Start Num: 19

Candidate Starts for Nabi_35:

(3, 26373), (6, 26409), (11, 26505), (Start: 17 @26565 has 16 MA's), (Start: 19 @26571 has 105 MA's), (25, 26649), (28, 26664), (40, 26859), (54, 27015), (57, 27030),

Gene: Nanodon_36 Start: 26328, Stop: 26813, Start Num: 17

Candidate Starts for Nanodon_36:

(Start: 17 @26328 has 16 MA's), (25, 26412), (28, 26427), (39, 26616), (42, 26637), (44, 26655), (54, 26781), (57, 26796),

Gene: Nebs_36 Start: 27798, Stop: 27322, Start Num: 19

Candidate Starts for Nebs_36:

(Start: 19 @27798 has 105 MA's), (23, 27753), (36, 27615), (47, 27450), (49, 27438), (54, 27378), (56, 27366),

Gene: Nemo27_35 Start: 27803, Stop: 27207, Start Num: 19

Candidate Starts for Nemo27_35:

(Start: 19 @27803 has 105 MA's), (48, 27443), (49, 27440), (52, 27404), (59, 27338), (60, 27335), (62, 27290), (63, 27278),

Gene: Nishikigoi_36 Start: 26732, Stop: 27217, Start Num: 17

Candidate Starts for Nishikigoi_36:

(Start: 17 @26732 has 16 MA's), (23, 26783), (25, 26816), (28, 26831), (43, 27047), (54, 27185), (57, 27200),

Gene: Noelle_35 Start: 27902, Stop: 27306, Start Num: 16

Candidate Starts for Noelle_35:

(4, 28055), (Start: 12 @27932 has 2 MA's), (Start: 16 @27902 has 12 MA's), (49, 27539), (52, 27503), (60, 27434), (62, 27389), (63, 27377),

Gene: NorthStar_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for NorthStar_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: NotAPhaseMom_35 Start: 27808, Stop: 27212, Start Num: 19

Candidate Starts for NotAPhaseMom_35:

(Start: 19 @27808 has 105 MA's), (48, 27448), (49, 27445), (52, 27409), (59, 27343), (60, 27340), (62, 27295), (63, 27283),

Gene: Oliynyk_35 Start: 26042, Stop: 26530, Start Num: 15

Candidate Starts for Oliynyk_35:

(7, 25937), (11, 25994), (Start: 15 @26042 has 35 MA's), (21, 26114), (26, 26159), (36, 26261), (45, 26378), (54, 26498), (58, 26525),

Gene: Omar_37 Start: 26978, Stop: 27451, Start Num: 19

Candidate Starts for Omar_37:

(Start: 19 @26978 has 105 MA's), (24, 27032), (25, 27056), (26, 27065), (28, 27071), (54, 27419), (57, 27434),

Gene: Ozzie_34 Start: 25668, Stop: 26156, Start Num: 15

Candidate Starts for Ozzie_34:

(11, 25620), (Start: 15 @25668 has 35 MA's), (21, 25740), (26, 25785), (36, 25887), (45, 26004), (54, 26124), (58, 26151),

Gene: OzzyJ_35 Start: 26047, Stop: 26535, Start Num: 15

Candidate Starts for OzzyJ_35:

(3, 25867), (6, 25903), (11, 25999), (Start: 15 @26047 has 35 MA's), (21, 26119), (25, 26155), (26, 26164), (32, 26212), (44, 26377), (45, 26383), (54, 26503), (58, 26530),

Gene: Pablito_34 Start: 26313, Stop: 26771, Start Num: 17

Candidate Starts for Pablito_34:

(Start: 17 @26313 has 16 MA's), (25, 26394), (32, 26451), (44, 26616), (45, 26622), (47, 26673), (54, 26739), (57, 26754),

Gene: Paedore_34 Start: 26900, Stop: 27385, Start Num: 17

Candidate Starts for Paedore_34:

(Start: 17 @26900 has 16 MA's), (25, 26984), (28, 26999), (54, 27353), (57, 27368),

Gene: Palestino_34 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Palestino_34:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Peaches_35 Start: 27803, Stop: 27207, Start Num: 19

Candidate Starts for Peaches_35:

(Start: 19 @27803 has 105 MA's), (48, 27443), (49, 27440), (52, 27404), (59, 27338), (60, 27335), (62, 27290), (63, 27278),

Gene: Perplexer_35 Start: 27834, Stop: 27259, Start Num: 16

Candidate Starts for Perplexer_35:

(Start: 12 @27864 has 2 MA's), (Start: 16 @27834 has 12 MA's), (49, 27471), (52, 27435), (60, 27366), (62, 27321), (63, 27309),

Gene: PeterPeter_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for PeterPeter_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: PetiteSangsue_35 Start: 27837, Stop: 27262, Start Num: 16

Candidate Starts for PetiteSangsue_35:

(Start: 12 @27867 has 2 MA's), (Start: 16 @27837 has 12 MA's), (49, 27474), (52, 27438), (60, 27369), (62, 27324), (63, 27312),

Gene: Phacado_35 Start: 27803, Stop: 27207, Start Num: 19

Candidate Starts for Phacado_35:

(Start: 19 @27803 has 105 MA's), (48, 27443), (49, 27440), (52, 27404), (59, 27338), (60, 27335), (62, 27290), (63, 27278),

Gene: Phettuccine_34 Start: 25684, Stop: 26172, Start Num: 15

Candidate Starts for Phettuccine_34:

(11, 25636), (Start: 15 @25684 has 35 MA's), (21, 25756), (26, 25801), (36, 25903), (45, 26020), (54, 26140), (58, 26167),

Gene: Phighter1804_35 Start: 27846, Stop: 27250, Start Num: 19

Candidate Starts for Phighter1804_35:

(Start: 19 @27846 has 105 MA's), (48, 27486), (49, 27483), (52, 27447), (59, 27381), (60, 27378), (62, 27333), (63, 27321),

Gene: Pipcraft_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Pipcraft_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Puginator_39 Start: 27390, Stop: 27809, Start Num: 24

Candidate Starts for Puginator_39:

(Start: 19 @27336 has 105 MA's), (23, 27381), (24, 27390), (25, 27414), (26, 27423), (28, 27429), (36, 27525), (45, 27657), (54, 27777), (57, 27792),

Gene: R4_35 Start: 27055, Stop: 27540, Start Num: 17

Candidate Starts for R4_35:

(Start: 17 @27055 has 16 MA's), (25, 27139), (28, 27154), (34, 27211), (39, 27343), (44, 27382), (54, 27508), (57, 27523),

Gene: Rana_35 Start: 26571, Stop: 27047, Start Num: 19

Candidate Starts for Rana_35:

(3, 26373), (6, 26409), (11, 26505), (Start: 17 @26565 has 16 MA's), (Start: 19 @26571 has 105 MA's), (25, 26649), (28, 26664), (40, 26859), (54, 27015), (57, 27030),

Gene: RedBear_35 Start: 26236, Stop: 26655, Start Num: 18

Candidate Starts for RedBear_35:

(Start: 18 @26236 has 8 MA's), (21, 26281), (23, 26284), (26, 26326), (33, 26377), (34, 26386), (36, 26428), (41, 26530),

Gene: Relief_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Relief_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Romney_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Romney_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Roosevelt_35 Start: 27806, Stop: 27210, Start Num: 19

Candidate Starts for Roosevelt_35:

(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: Ruin_35 Start: 27800, Stop: 27204, Start Num: 19

Candidate Starts for Ruin_35:

(Start: 19 @27800 has 105 MA's), (48, 27440), (49, 27437), (52, 27401), (59, 27335), (60, 27332), (62, 27287), (63, 27275),

Gene: Rusticus_35 Start: 26042, Stop: 26530, Start Num: 15

Candidate Starts for Rusticus_35:

(7, 25937), (11, 25994), (Start: 15 @26042 has 35 MA's), (21, 26114), (26, 26159), (36, 26261), (45, 26378), (54, 26498), (58, 26525),

Gene: Sabertooth_35 Start: 27803, Stop: 27207, Start Num: 19

Candidate Starts for Sabertooth_35:

(Start: 19 @27803 has 105 MA's), (48, 27443), (49, 27440), (52, 27404), (59, 27338), (60, 27335), (62, 27290), (63, 27278),

Gene: SarahRose_34 Start: 26055, Stop: 26543, Start Num: 15

Candidate Starts for SarahRose_34:

(Start: 15 @26055 has 35 MA's), (21, 26127), (25, 26163), (26, 26172), (32, 26220), (44, 26385), (45, 26391), (54, 26511), (58, 26538),

Gene: Scamp_35 Start: 27806, Stop: 27210, Start Num: 19

Candidate Starts for Scamp_35:

(Start: 19 @27806 has 105 MA's), (48, 27446), (49, 27443), (52, 27407), (59, 27341), (60, 27338), (62, 27293), (63, 27281),

Gene: Shaka_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Shaka_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Shygu2_35 Start: 27798, Stop: 27202, Start Num: 19

Candidate Starts for Shygu2_35:

(Start: 19 @27798 has 105 MA's), (48, 27438), (49, 27435), (52, 27399), (59, 27333), (60, 27330), (62, 27285), (63, 27273),

Gene: Skipitt_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for Skipitt_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Snorlax_34 Start: 26059, Stop: 26547, Start Num: 15

Candidate Starts for Snorlax_34:

(3, 25879), (6, 25915), (11, 26011), (Start: 15 @26059 has 35 MA's), (21, 26131), (25, 26167), (26, 26176), (32, 26224), (44, 26389), (45, 26395), (54, 26515), (58, 26542),

Gene: South40_34 Start: 26236, Stop: 26655, Start Num: 18

Candidate Starts for South40_34:

(Start: 18 @26236 has 8 MA's), (21, 26281), (23, 26284), (26, 26326), (33, 26377), (34, 26386), (36, 26428), (41, 26530),

Gene: Spino_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Spino_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: SqueakyClean_34 Start: 26829, Stop: 27302, Start Num: 19

Candidate Starts for SqueakyClean_34:

(Start: 19 @26829 has 105 MA's), (23, 26874), (24, 26883), (25, 26907), (26, 26916), (31, 26949), (38, 27099), (54, 27270), (57, 27285),

Gene: Sujidade_35 Start: 26794, Stop: 27273, Start Num: 18

Candidate Starts for Sujidade_35:

(Start: 18 @26794 has 8 MA's), (25, 26875), (28, 26890), (40, 27085), (54, 27241), (57, 27256),

Gene: SunsetPointe_34 Start: 25675, Stop: 26163, Start Num: 15

Candidate Starts for SunsetPointe_34:

(11, 25627), (Start: 15 @25675 has 35 MA's), (21, 25747), (26, 25792), (36, 25894), (45, 26011), (54, 26131), (58, 26158),

Gene: Superstar_38 Start: 27847, Stop: 28332, Start Num: 17

Candidate Starts for Superstar_38:

(Start: 17 @27847 has 16 MA's), (25, 27931), (28, 27946), (39, 28135), (54, 28300), (57, 28315),

Gene: TagePhighter_36 Start: 26059, Stop: 26547, Start Num: 15

Candidate Starts for TagePhighter_36:

(3, 25879), (6, 25915), (11, 26011), (Start: 15 @26059 has 35 MA's), (21, 26131), (25, 26167), (26, 26176), (32, 26224), (44, 26389), (45, 26395), (54, 26515), (58, 26542),

Gene: Taquarus_35 Start: 27807, Stop: 27211, Start Num: 19

Candidate Starts for Taquarus_35:

(Start: 19 @27807 has 105 MA's), (48, 27447), (49, 27444), (52, 27408), (59, 27342), (60, 27339), (62, 27294), (63, 27282),

Gene: Tefunt_36 Start: 26734, Stop: 27219, Start Num: 17

Candidate Starts for Tefunt_36:

(Start: 17 @26734 has 16 MA's), (23, 26785), (25, 26818), (28, 26833), (43, 27049), (54, 27187), (57, 27202),

Gene: Thanksgivukkah_35 Start: 27805, Stop: 27209, Start Num: 19

Candidate Starts for Thanksgivukkah_35:

(Start: 19 @27805 has 105 MA's), (48, 27445), (49, 27442), (52, 27406), (59, 27340), (60, 27337), (62, 27292), (63, 27280),

Gene: Thestral_36 Start: 26939, Stop: 27412, Start Num: 19

Candidate Starts for Thestral_36:

(Start: 19 @26939 has 105 MA's), (23, 26984), (24, 26993), (25, 27017), (31, 27059), (36, 27128), (54, 27380), (57, 27395),

Gene: TinaBelcher_35 Start: 26886, Stop: 27359, Start Num: 19

Candidate Starts for TinaBelcher_35:

(Start: 19 @26886 has 105 MA's), (23, 26931), (24, 26940), (25, 26964), (31, 27006), (36, 27075), (54, 27327), (57, 27342),

Gene: TiroTheta9_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for TiroTheta9_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Toma_34 Start: 26511, Stop: 26990, Start Num: 18

Candidate Starts for Toma_34:

(Start: 18 @26511 has 8 MA's), (25, 26592), (28, 26607), (40, 26802), (54, 26958), (57, 26973),

Gene: Triste_34 Start: 26047, Stop: 26535, Start Num: 15

Candidate Starts for Triste_34:

(3, 25867), (6, 25903), (11, 25999), (Start: 15 @26047 has 35 MA's), (21, 26119), (25, 26155), (26, 26164), (32, 26212), (44, 26377), (45, 26383), (54, 26503), (58, 26530),

Gene: Triumph_36 Start: 26636, Stop: 27115, Start Num: 19

Candidate Starts for Triumph_36:

(Start: 14 @26600 has 2 MA's), (Start: 19 @26636 has 105 MA's), (22, 26687), (25, 26723), (26, 26732), (28, 26738), (29, 26756), (54, 27083), (57, 27098),

Gene: TrvxScott_34 Start: 26932, Stop: 27405, Start Num: 19

Candidate Starts for TrvxScott_34:

(Start: 19 @26932 has 105 MA's), (23, 26977), (24, 26986), (25, 27010), (31, 27052), (36, 27121), (54, 27373), (57, 27388),

Gene: TuanPN_33 Start: 25988, Stop: 26476, Start Num: 15

Candidate Starts for TuanPN_33:

(5, 25820), (10, 25937), (Start: 15 @25988 has 35 MA's), (21, 26060), (25, 26096), (26, 26105), (32, 26153), (44, 26318), (45, 26324), (54, 26444), (58, 26471),

Gene: TygerBlood_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for TygerBlood_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Unstoppable_34 Start: 25679, Stop: 26167, Start Num: 15

Candidate Starts for Unstoppable_34:

(11, 25631), (Start: 15 @25679 has 35 MA's), (21, 25751), (26, 25796), (36, 25898), (45, 26015), (54, 26135), (58, 26162),

Gene: Wander_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Wander_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Werner_34 Start: 26057, Stop: 26545, Start Num: 15

Candidate Starts for Werner_34:

(3, 25877), (6, 25913), (11, 26009), (Start: 15 @26057 has 35 MA's), (21, 26129), (25, 26165), (26, 26174), (32, 26222), (36, 26276), (37, 26351), (44, 26387), (45, 26393), (54, 26513), (58, 26540),

Gene: Whatever_34 Start: 26057, Stop: 26545, Start Num: 15

Candidate Starts for Whatever_34:

(3, 25877), (6, 25913), (11, 26009), (Start: 15 @26057 has 35 MA's), (21, 26129), (25, 26165), (32, 26222), (44, 26387), (45, 26393), (54, 26513), (58, 26540),

Gene: Wilbur_35 Start: 27804, Stop: 27208, Start Num: 19

Candidate Starts for Wilbur_35:

(Start: 19 @27804 has 105 MA's), (48, 27444), (49, 27441), (52, 27405), (59, 27339), (60, 27336), (62, 27291), (63, 27279),

Gene: Wile_35 Start: 27868, Stop: 27272, Start Num: 16

Candidate Starts for Wile_35:

(Start: 12 @27898 has 2 MA's), (Start: 16 @27868 has 12 MA's), (48, 27508), (49, 27505), (52, 27469), (59, 27403), (60, 27400), (62, 27355), (63, 27343),

Gene: Wizard007_35 Start: 27809, Stop: 27213, Start Num: 19

Candidate Starts for Wizard007_35:

(Start: 19 @27809 has 105 MA's), (48, 27449), (49, 27446), (52, 27410), (59, 27344), (60, 27341), (62, 27296), (63, 27284),

Gene: Xena_35 Start: 27834, Stop: 27259, Start Num: 16

Candidate Starts for Xena_35:

(Start: 12 @27864 has 2 MA's), (Start: 16 @27834 has 12 MA's), (49, 27471), (52, 27435), (60, 27366), (62, 27321), (63, 27309),

Gene: Yasdnii_34 Start: 26106, Stop: 26594, Start Num: 15

Candidate Starts for Yasdnii_34:

(3, 25926), (11, 26058), (Start: 15 @26106 has 35 MA's), (21, 26178), (25, 26214), (26, 26223), (32, 26271), (44, 26436), (45, 26442), (54, 26562), (58, 26589),

Gene: YoSam321_35 Start: 27801, Stop: 27205, Start Num: 19

Candidate Starts for YoSam321_35:

(Start: 19 @27801 has 105 MA's), (48, 27441), (49, 27438), (52, 27402), (59, 27336), (60, 27333), (62, 27288), (63, 27276),

Gene: Zainub_41 Start: 27330, Stop: 27749, Start Num: 24

Candidate Starts for Zainub_41:

(Start: 19 @27276 has 105 MA's), (23, 27321), (24, 27330), (25, 27354), (26, 27363), (28, 27369), (36, 27465), (45, 27597), (54, 27717), (57, 27732),

Gene: Zemlya_36 Start: 26609, Stop: 27091, Start Num: 17

Candidate Starts for Zemlya_36:

(8, 26504), (11, 26549), (Start: 17 @26609 has 16 MA's), (Start: 19 @26615 has 105 MA's), (25, 26693), (28, 26708), (40, 26903), (49, 27002), (54, 27059), (57, 27074), (58, 27086),

Gene: phiHau3_36 Start: 26164, Stop: 26676, Start Num: 14

Candidate Starts for phiHau3_36:

(9, 26128), (Start: 14 @26164 has 2 MA's), (Start: 19 @26200 has 105 MA's), (23, 26245), (25, 26278), (26, 26287), (29, 26311), (54, 26644),