



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 296297 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296297 has 164 members, 19 are drafts.

Phages represented in each track:

- Track 1 : GTE5_64
- Track 2 : Flapper_80
- Track 3 : MerCougar_78, Outis_76, StarStruck_76
- Track 4 : NosilaM_76
- Track 5 : SuperSulley_77, Buggaboo_77, Bonum_79, Kabluna_78
- Track 6 : RedRaider_83
- Track 7 : Float294_78, Lollipop1437_79
- Track 8 : Skysand_80, Patio_78
- Track 9 : Ennea_83
- Track 10 : BillyBobJr_81, Adgers_80, Sombrero_78, BirksAndSocks_81, Sam12_76, Exiguo_76, Gorko_76, Poland_81, Beaver_80, Jellybones_78, FelixAlejandro_81, Msay19_81, Worcestershire_76, Squibbles_76, Boneham_80, CinnamonToast_81, Butterball_79, RemRem_78
- Track 11 : BigShaq_78, BenoitCattle_77, Crete_77
- Track 12 : Chelms_77, Linetti_77, Dakiti_78, PierreThree_76
- Track 13 : CathyBurgh_77, Barbochs_74, Kelzog_78, Monty_76, Hotorobo_77, Breezic_77, John316_80, Flakey_76, Ekhein_77, Lizzo_77, GourdThymes_77
- Track 14 : Benczkowski14_73, Niagara_73, Kvothe_72, Katyusha_72, Tredge_73, Teech_74, Teatealatte_74
- Track 15 : Hollow_74
- Track 16 : Guacamole_35, Hitter_38, MintFen_37
- Track 17 : Delian_40, Mellie_34, JasperJr_35, Obliviate_33, PhrostedPhlake_40
- Track 18 : Walrus_37
- Track 19 : Zarbodnamra_36
- Track 20 : CaptainKirk2_37, UmaThurman_32
- Track 21 : Melba_36, BlingBling_34
- Track 22 : Angelique_36
- Track 23 : Ghobes_18
- Track 24 : DirtyBoi_33
- Track 25 : Hedwig_35
- Track 26 : RayTheFireFly_41
- Track 27 : BackstagePass_33
- Track 28 : Jecs_36
- Track 29 : PullumCavea_89, Wizard_86, Fireball_94, Arri_91, Gezellig_87, Phlop_88, Sendy_93, KimmyK_89, Valary_92, JohnPork_92, Portcullis_91, Shinji_90
- Track 30 : TillyBobJoe_90, SmokingBunny_92, Salvador_91, Evamon_91, Togo_91
- Track 31 : Danyall_92, YungMoney_91, Nubi_94, Mutzi_91, Barb_95

- Track 32 : Twister6_90, VanDeWege_93, RogerDodger_94
- Track 33 : Jambalaya_88, Savbucketdawg_86
- Track 34 : Halo3_90
- Track 35 : PinkCoffee_93, CoveyB_93, ClamChowder_94
- Track 36 : CherryCola_90, Egi03_89
- Track 37 : Bakery_93, Sixsevenium_90
- Track 38 : Hans_13, Phauci_4, Phinally_11, Leonard_11, Inspectinfecti_12, Ali17_9
- Track 39 : MelBins_11
- Track 40 : Belphegor_5
- Track 41 : ViaConlectus_9, Scioto_9, Natkenzie_9, Abblin_9
- Track 42 : Tardus_10
- Track 43 : BigHunkinEater_11
- Track 44 : Sampson_9
- Track 45 : Pumpkiney_10
- Track 46 : APunk_10
- Track 47 : Zitch_10
- Track 48 : Lilbeanie_11
- Track 49 : BotCity_42
- Track 50 : Birdsong_40
- Track 51 : Kamaru_38, LitninMcQueen_37
- Track 52 : Phabuloso_40
- Track 53 : Getalong_44
- Track 54 : ShawBrad_43, Frickyeah_43, Holliday_42, Phistory_43, Lutum_43, Kenna_42, Crater_40
- Track 55 : CheeseTouch_41
- Track 56 : Whitney_45, BENtherdunthat_42, Budski_42
- Track 57 : Periwinkle_46
- Track 58 : CherryTomatoes_206, Pupper_204, SCentae_203, Skog_33
- Track 59 : AnClar_78, Sisko_81, Yago84_80, LittleMunchkin_81
- Track 60 : Evaa_82
- Track 61 : BiggityBass_81
- Track 62 : Eyre_32

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

The start number called the most often in the published annotations is 36, it was called in 41 of the 145 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk_10, Abblin_9, Ali17_9, Angelique_36, BENtherdunthat_42, BackstagePass_33, Belphegor_5, BigHunkinEater_11, Birdsong_40, BlingBling_34, BotCity_42, Budski_42, CheeseTouch_41, Crater_40, Delian_40, DirtyBoi_33, Eyre_32, Frickyeah_43, Getalong_44, Hans_13, Hedwig_35, Holliday_42, Inspectinfecti_12, JasperJr_35, Jecs_36, Kamaru_38, Kenna_42, Leonard_11, LitninMcQueen_37, Lutum_43, MelBins_11, Melba_36, Mellie_34, Natkenzie_9, Obliviate_33, Periwinkle_46, Phabuloso_40, Phauci_4, Phinally_11, Phistory_43, PhrostedPhlake_40, Pumpkiney_10, RayTheFireFly_41, Sampson_9, Scioto_9, ShawBrad_43, Tardus_10, ViaConlectus_9, Whitney_45, Zitch_10,

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

- CaptainKirk2_37, Guacamole_35, Hitter_38, MintFen_37, UmaThurman_32, Walrus_37, Zarbodnamra_36,

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

- Adgers_80, AnClar_78, Arri_91, Bakery_93, Barb_95, Barbochs_74, Beaver_80, Benczkowski14_73, BenoitCattle_77, BigShaq_78, BiggityBass_81, BillyBobJr_81, BirksAndSocks_81, Boneham_80, Bonum_79, Breezic_77, Buggaboo_77, Butterball_79, CathyBurgh_77, Chelms_77, CherryCola_90, CherryTomatoes_206, CinnamonToast_81, ClamChowder_94, CoveyB_93, Crete_77, Dakiti_78, Danyall_92, Egi03_89, Ekhein_77, Ennea_83, Evaa_82, Evamon_91, Exiguo_76, FelixAlejandro_81, Fireball_94, Flakey_76, Flapper_80, Float294_78, GTE5_64, Gezellig_87, Ghobes_18, Gorko_76, GourdThymes_77, Halo3_90, Hollow_74, Hotorobo_77, Jambalaya_88, Jellybones_78, John316_80, JohnPork_92, Kabluna_78, Katyusha_72, Kelzog_78, KimmyK_89, Kvothe_72, Lilbeanie_11, Linetti_77, LittleMunchkin_81, Lizzo_77, Lollipop1437_79, MerCougar_78, Monty_76, Msay19_81, Mutzi_91, Niagara_73, NosilaM_76, Nubi_94, Outis_76, Patio_78, Phlop_88, PierreThree_76, PinkCoffee_93, Poland_81, Portcullis_91, PullumCavea_89, Pupper_204, RedRaider_83, RemRem_78, RogerDodger_94, SCentae_203, Salvador_91, Sam12_76, Savbucketdawg_86, Sendy_93, Shinji_90, Sisko_81, Sixsevenium_90, Skog_33, Skysand_80, SmokingBunny_92, Sombrero_78, Squibbles_76, StarStruck_76, SuperSulley_77, Teatealatte_74, Teech_74, TillyBobJoe_90, Togo_91, Tredge_73, Twister6_90, Valary_92, VanDeWege_93, Wizard_86, Worcestershire_76, Yago84_80, YungMoney_91,

Summary by start number:

Start 20:

- Found in 22 of 164 (13.4%) of genes in pham
- Manual Annotations of this start: 5 of 145
- Called 22.7% of time when present
- Phage (with cluster) where this start called: CherryCola_90 (DC1), ClamChowder_94 (DC1), CoveyB_93 (DC1), Egi03_89 (DC1), PinkCoffee_93 (DC1),

Start 27:

- Found in 1 of 164 (0.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GTE5_64 (CR1),

Start 30:

- Found in 20 of 164 (12.2%) of genes in pham
- Manual Annotations of this start: 10 of 145
- Called 50.0% of time when present
- Phage (with cluster) where this start called: AnClar_78 (DR), BiggityBass_81 (DR), Evaa_82 (DR), Guacamole_35 (CV), Hitter_38 (CV), LittleMunchkin_81 (DR), MintFen_37 (CV), Sisko_81 (DR), Yago84_80 (DR), Zarbodnamra_36 (CV),

Start 32:

- Found in 36 of 164 (22.0%) of genes in pham
- Manual Annotations of this start: 31 of 145
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adgers_80 (CS2), Barbochs_74 (CS2), Beaver_80 (CS2), BenoitCattle_77 (CS2), BigShaq_78 (CS2), BillyBobJr_81 (CS2),

BirksAndSocks_81 (CS2), Boneham_80 (CS2), Breezic_77 (CS2), Butterball_79 (CS2), CathyBurgh_77 (CS2), Chelms_77 (CS2), CinnamonToast_81 (CS2), Crete_77 (CS2), Dakiti_78 (CS2), Ekhein_77 (CS2), Exiguo_76 (CS2), FelixAlejandro_81 (CS2), Flakey_76 (CS2), Gorko_76 (CS2), GourdThymes_77 (CS2), Hotorobo_77 (CS2), Jellybones_78 (CS2), John316_80 (CS2), Kelzog_78 (CS2), Linetti_77 (CS2), Lizzo_77 (CS2), Monty_76 (CS2), Msay19_81 (CS2), PierreThree_76 (CS2), Poland_81 (CS2), RemRem_78 (CS2), Sam12_76 (CS2), Sombrero_78 (CS2), Squibbles_76 (CS2), Worcestershire_76 (CS2),

Start 33:

- Found in 47 of 164 (28.7%) of genes in pham
- Manual Annotations of this start: 38 of 145
- Called 89.4% of time when present
- Phage (with cluster) where this start called: Arri_91 (DC1), Bakery_93 (DC1), Barb_95 (DC1), Benczkowski14_73 (CS4), CherryTomatoes_206 (DO), Danyall_92 (DC1), Evamon_91 (DC1), Fireball_94 (DC1), Gezellig_87 (DC1), Halo3_90 (DC1), Hollow_74 (CS4), Jambalaya_88 (DC1), JohnPork_92 (DC), Katyusha_72 (CS4), KimmyK_89 (DC1), Kvothe_72 (CS4), Mutzi_91 (DC1), Niagara_73 (CS4), Nubi_94 (DC1), Phlop_88 (DC1), Portcullis_91 (DC1), PullumCavea_89 (DC1), Pupper_204 (DO), RogerDodger_94 (DC1), SCentae_203 (DO), Salvador_91 (DC1), Savbucketdawg_86 (DC1), Sendy_93 (DC), Shinji_90 (DC1), Sixsevenium_90 (DC), Skog_33 (DO), SmokingBunny_92 (DC1), Teatealatte_74 (CS4), Teech_74 (CS4), TillyBobJoe_90 (DC1), Togo_91 (DC1), Tredge_73 (CS4), Twister6_90 (DC1), Valary_92 (DC1), VanDeWege_93 (DC1), Wizard_86 (DC1), YungMoney_91 (DC1),

Start 34:

- Found in 24 of 164 (14.6%) of genes in pham
- Manual Annotations of this start: 15 of 145
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Bonum_79 (CR2), Buggaboo_77 (CR2), Ennea_83 (CR3), Flapper_80 (CR1), Float294_78 (CR3), Kabluna_78 (CR2), Lollipop1437_79 (CR3), MerCougar_78 (CR2), NosilaM_76 (CR2), Outis_76 (CR2), Patio_78 (CR3), RedRaider_83 (CR3), Skysand_80 (CR3), StarStruck_76 (CR2), SuperSulley_77 (CR2),

Start 36:

- Found in 57 of 164 (34.8%) of genes in pham
- Manual Annotations of this start: 41 of 145
- Called 87.7% of time when present
- Phage (with cluster) where this start called: APunk_10 (DE4), Abblin_9 (DE4), Ali17_9 (DE2), Angelique_36 (CY1), BENtherdunthat_42 (DN1), BackstagePass_33 (DB), Belphegor_5 (DE2), BigHunkinEater_11 (DE4), Birdsong_40 (DN), BlingBling_34 (CV), BotCity_42 (DN), Budski_42 (DN), CheeseTouch_41 (DN1), Crater_40 (DN3), Delian_40 (CV), DirtyBoi_33 (DB), Eyre_32 (singleton), Frickyeah_43 (DN1), Getalong_44 (DN1), Hans_13 (DE2), Hedwig_35 (DB), Holliday_42 (DN1), Inspectinfecti_12 (DE2), JasperJr_35 (CV), Jecs_36 (DB), Kamaru_38 (DN1), Kenna_42 (DN1), Leonard_11 (DE2), LitninMcQueen_37 (DN1), Lutum_43 (DN1), MelBins_11 (DE2), Melba_36 (CV), Mellie_34 (CV), Natkenzie_9 (DE4), Obliviate_33 (CV), Periwinkle_46 (DN1), Phabuloso_40 (DN1), Phauci_4 (DE2), Phinally_11 (DE2), Phistory_43 (DN1), PhrostedPhlake_40 (CV), Pumpkiney_10 (DE4), RayTheFireFly_41 (DB), Sampson_9 (DE4), Scioto_9 (DE4), ShawBrad_43 (DN1), Tardus_10 (DE4), ViaConlectus_9 (DE4), Whitney_45 (DN1), Zitch_10 (DE4),

Start 37:

- Found in 1 of 164 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 145
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lilbeanie_11 (DE5),

Start 39:

- Found in 38 of 164 (23.2%) of genes in pham
- Manual Annotations of this start: 3 of 145
- Called 7.9% of time when present
- Phage (with cluster) where this start called: CaptainKirk2_37 (CV), UmaThurman_32 (CV), Walrus_37 (CV),

Start 55:

- Found in 68 of 164 (41.5%) of genes in pham
- Manual Annotations of this start: 1 of 145
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Ghobes_18 (DA),

Summary by clusters:

There are 20 clusters represented in this pham: CR2, CR3, singleton, CR1, DN, DO, DC, DB, DE2, DE4, CY1, DA, DN1, DE5, DN3, CS4, DC1, DR, CV, CS2,

Info for manual annotations of cluster CR1:

- Start number 34 was manually annotated 1 time for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 34 was manually annotated 8 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 34 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CS2:

- Start number 32 was manually annotated 31 times for cluster CS2.

Info for manual annotations of cluster CS4:

- Start number 33 was manually annotated 8 times for cluster CS4.

Info for manual annotations of cluster CV:

- Start number 30 was manually annotated 4 times for cluster CV.
- Start number 36 was manually annotated 7 times for cluster CV.
- Start number 39 was manually annotated 3 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 36 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster DA:

- Start number 55 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DB:

- Start number 36 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 20 was manually annotated 5 times for cluster DC1.
- Start number 33 was manually annotated 26 times for cluster DC1.

Info for manual annotations of cluster DE2:

- Start number 36 was manually annotated 8 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 36 was manually annotated 5 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 37 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DN:

- Start number 36 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 36 was manually annotated 12 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 36 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DO:

- Start number 33 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 30 was manually annotated 6 times for cluster DR.

Gene Information:

Gene: APunk_10 Start: 5832, Stop: 6140, Start Num: 36

Candidate Starts for APunk_10:

(24, 5769), (28, 5787), (Start: 36 @5832 has 41 MA's), (Start: 55 @5928 has 1 MA's), (56, 5934), (58, 5970), (59, 6018), (60, 6024),

Gene: Abblin_9 Start: 5353, Stop: 5655, Start Num: 36

Candidate Starts for Abblin_9:

(Start: 36 @5353 has 41 MA's), (Start: 55 @5443 has 1 MA's), (58, 5485), (59, 5533), (60, 5539),

Gene: Adgers_80 Start: 60593, Stop: 60273, Start Num: 32

Candidate Starts for Adgers_80:

(Start: 32 @60593 has 31 MA's), (60, 60380),

Gene: Ali17_9 Start: 5663, Stop: 5983, Start Num: 36

Candidate Starts for Ali17_9:

(Start: 36 @5663 has 41 MA's), (Start: 55 @5753 has 1 MA's), (56, 5759), (58, 5795), (60, 5852),

Gene: AnClar_78 Start: 60612, Stop: 60265, Start Num: 30

Candidate Starts for AnClar_78:

(Start: 30 @60612 has 10 MA's), (41, 60555), (54, 60489), (59, 60393), (60, 60387),

Gene: Angelique_36 Start: 29622, Stop: 29323, Start Num: 36

Candidate Starts for Angelique_36:

(Start: 36 @29622 has 41 MA's), (Start: 39 @29610 has 3 MA's), (44, 29586), (45, 29583), (48, 29571), (51, 29559), (54, 29526), (Start: 55 @29523 has 1 MA's), (58, 29478), (59, 29430),

Gene: Arri_91 Start: 57646, Stop: 57308, Start Num: 33

Candidate Starts for Arri_91:

(19, 57736), (Start: 20 @57733 has 5 MA's), (25, 57688), (Start: 33 @57646 has 38 MA's), (47, 57580), (58, 57487), (59, 57439), (60, 57433),

Gene: BENtherdunthat_42 Start: 29776, Stop: 29441, Start Num: 36

Candidate Starts for BENtherdunthat_42:

(Start: 34 @29788 has 15 MA's), (35, 29779), (Start: 36 @29776 has 41 MA's), (Start: 39 @29764 has 3 MA's), (44, 29740), (45, 29737), (54, 29680), (Start: 55 @29677 has 1 MA's), (57, 29659), (58, 29635), (59, 29587), (60, 29581),

Gene: BackstagePass_33 Start: 28562, Stop: 28269, Start Num: 36

Candidate Starts for BackstagePass_33:

(Start: 36 @28562 has 41 MA's), (44, 28526), (45, 28523), (48, 28511), (51, 28499), (54, 28469), (Start: 55 @28466 has 1 MA's), (56, 28460), (57, 28448), (58, 28424), (60, 28367),

Gene: Bakery_93 Start: 59467, Stop: 59129, Start Num: 33

Candidate Starts for Bakery_93:

(21, 59542), (23, 59521), (25, 59509), (Start: 33 @59467 has 38 MA's), (47, 59401), (52, 59371), (54, 59356), (58, 59308), (59, 59260), (60, 59254),

Gene: Barb_95 Start: 58510, Stop: 58172, Start Num: 33

Candidate Starts for Barb_95:

(19, 58600), (Start: 20 @58597 has 5 MA's), (25, 58552), (Start: 33 @58510 has 38 MA's), (47, 58444), (54, 58399), (58, 58351), (59, 58303), (60, 58297),

Gene: Barbochs_74 Start: 59970, Stop: 59629, Start Num: 32

Candidate Starts for Barbochs_74:

(Start: 32 @59970 has 31 MA's), (60, 59757), (61, 59748),

Gene: Beaver_80 Start: 61914, Stop: 61585, Start Num: 32

Candidate Starts for Beaver_80:

(Start: 32 @61914 has 31 MA's), (60, 61701),

Gene: Belphegor_5 Start: 2778, Stop: 3092, Start Num: 36

Candidate Starts for Belphegor_5:

(11, 2478), (12, 2493), (Start: 36 @2778 has 41 MA's), (Start: 55 @2871 has 1 MA's), (56, 2877), (58, 2913), (59, 2964), (60, 2970),

Gene: Benczkowski14_73 Start: 60661, Stop: 60341, Start Num: 33

Candidate Starts for Benczkowski14_73:

(Start: 33 @60661 has 38 MA's), (60, 60451),

Gene: BenoitCattle_77 Start: 60565, Stop: 60242, Start Num: 32

Candidate Starts for BenoitCattle_77:

(Start: 32 @60565 has 31 MA's), (47, 60496), (60, 60346),

Gene: BigHunkinEater_11 Start: 5283, Stop: 5588, Start Num: 36
Candidate Starts for BigHunkinEater_11:
(Start: 36 @5283 has 41 MA's), (Start: 55 @5376 has 1 MA's), (58, 5418), (59, 5466), (60, 5472),

Gene: BigShaq_78 Start: 60737, Stop: 60411, Start Num: 32
Candidate Starts for BigShaq_78:
(Start: 32 @60737 has 31 MA's), (47, 60668), (60, 60524),

Gene: BiggityBass_81 Start: 62080, Stop: 61751, Start Num: 30
Candidate Starts for BiggityBass_81:
(Start: 30 @62080 has 10 MA's), (41, 62023), (Start: 55 @61954 has 1 MA's), (59, 61861),

Gene: BillyBobJr_81 Start: 62041, Stop: 61709, Start Num: 32
Candidate Starts for BillyBobJr_81:
(Start: 32 @62041 has 31 MA's), (60, 61828),

Gene: Birdsong_40 Start: 30587, Stop: 30261, Start Num: 36
Candidate Starts for Birdsong_40:
(Start: 36 @30587 has 41 MA's), (Start: 39 @30575 has 3 MA's), (44, 30551), (45, 30548), (46, 30545),
(48, 30533), (54, 30491), (Start: 55 @30488 has 1 MA's), (57, 30470), (58, 30446), (59, 30398), (60,
30392),

Gene: BirksAndSocks_81 Start: 62036, Stop: 61731, Start Num: 32
Candidate Starts for BirksAndSocks_81:
(Start: 32 @62036 has 31 MA's), (60, 61823),

Gene: BlingBling_34 Start: 30550, Stop: 30248, Start Num: 36
Candidate Starts for BlingBling_34:
(Start: 30 @30583 has 10 MA's), (Start: 36 @30550 has 41 MA's), (Start: 39 @30538 has 3 MA's), (41,
30526), (44, 30514), (45, 30511), (48, 30499), (51, 30487), (54, 30454), (Start: 55 @30451 has 1
MA's), (57, 30430), (58, 30406), (59, 30358), (60, 30352),

Gene: Boneham_80 Start: 61961, Stop: 61656, Start Num: 32
Candidate Starts for Boneham_80:
(Start: 32 @61961 has 31 MA's), (60, 61748),

Gene: Bonum_79 Start: 57724, Stop: 57392, Start Num: 34
Candidate Starts for Bonum_79:
(Start: 34 @57724 has 15 MA's), (40, 57697), (Start: 55 @57610 has 1 MA's), (59, 57520), (60, 57514),

Gene: BotCity_42 Start: 30361, Stop: 30053, Start Num: 36
Candidate Starts for BotCity_42:
(7, 30835), (8, 30784), (14, 30583), (15, 30574), (16, 30550), (Start: 36 @30361 has 41 MA's), (Start:
39 @30349 has 3 MA's), (44, 30325), (45, 30322), (48, 30310), (53, 30280), (54, 30268), (Start: 55
@30265 has 1 MA's), (57, 30247), (58, 30223), (59, 30175), (60, 30169),

Gene: Breezic_77 Start: 60181, Stop: 59828, Start Num: 32
Candidate Starts for Breezic_77:
(Start: 32 @60181 has 31 MA's), (60, 59968), (61, 59959),

Gene: Budski_42 Start: 31521, Stop: 31192, Start Num: 36
Candidate Starts for Budski_42:

(Start: 34 @31533 has 15 MA's), (35, 31524), (Start: 36 @31521 has 41 MA's), (Start: 39 @31509 has 3 MA's), (44, 31485), (45, 31482), (54, 31425), (Start: 55 @31422 has 1 MA's), (57, 31404), (58, 31380), (59, 31332), (60, 31326),

Gene: Buggaboo_77 Start: 58290, Stop: 57958, Start Num: 34

Candidate Starts for Buggaboo_77:

(Start: 34 @58290 has 15 MA's), (40, 58263), (Start: 55 @58176 has 1 MA's), (59, 58086), (60, 58080),

Gene: Butterball_79 Start: 61966, Stop: 61661, Start Num: 32

Candidate Starts for Butterball_79:

(Start: 32 @61966 has 31 MA's), (60, 61753),

Gene: CaptainKirk2_37 Start: 29823, Stop: 29527, Start Num: 39

Candidate Starts for CaptainKirk2_37:

(Start: 30 @29868 has 10 MA's), (Start: 36 @29835 has 41 MA's), (Start: 39 @29823 has 3 MA's), (44, 29799), (45, 29796), (48, 29784), (51, 29772), (54, 29739), (Start: 55 @29736 has 1 MA's), (57, 29715), (58, 29691), (59, 29643), (60, 29637),

Gene: CathyBurgh_77 Start: 60701, Stop: 60336, Start Num: 32

Candidate Starts for CathyBurgh_77:

(Start: 32 @60701 has 31 MA's), (60, 60488), (61, 60479),

Gene: CheeseTouch_41 Start: 28097, Stop: 27792, Start Num: 36

Candidate Starts for CheeseTouch_41:

(14, 28319), (15, 28310), (16, 28286), (Start: 36 @28097 has 41 MA's), (Start: 39 @28085 has 3 MA's), (44, 28061), (45, 28058), (48, 28046), (54, 28004), (Start: 55 @28001 has 1 MA's), (57, 27983), (58, 27959), (59, 27911), (60, 27905),

Gene: Chelms_77 Start: 60667, Stop: 60350, Start Num: 32

Candidate Starts for Chelms_77:

(Start: 32 @60667 has 31 MA's), (60, 60454),

Gene: CherryCola_90 Start: 58146, Stop: 57721, Start Num: 20

Candidate Starts for CherryCola_90:

(19, 58149), (Start: 20 @58146 has 5 MA's), (25, 58101), (Start: 33 @58059 has 38 MA's), (47, 57993), (58, 57900), (59, 57852), (60, 57846),

Gene: CherryTomatoes_206 Start: 140218, Stop: 140541, Start Num: 33

Candidate Starts for CherryTomatoes_206:

(Start: 33 @140218 has 38 MA's), (59, 140422), (60, 140428),

Gene: CinnamonToast_81 Start: 62041, Stop: 61709, Start Num: 32

Candidate Starts for CinnamonToast_81:

(Start: 32 @62041 has 31 MA's), (60, 61828),

Gene: ClamChowder_94 Start: 58597, Stop: 58172, Start Num: 20

Candidate Starts for ClamChowder_94:

(19, 58600), (Start: 20 @58597 has 5 MA's), (25, 58552), (Start: 33 @58510 has 38 MA's), (47, 58444), (54, 58399), (58, 58351), (59, 58303), (60, 58297),

Gene: CoveyB_93 Start: 58084, Stop: 57659, Start Num: 20

Candidate Starts for CoveyB_93:

(19, 58087), (Start: 20 @58084 has 5 MA's), (25, 58039), (Start: 33 @57997 has 38 MA's), (47, 57931), (54, 57886), (58, 57838), (59, 57790), (60, 57784),

Gene: Crater_40 Start: 29695, Stop: 29378, Start Num: 36

Candidate Starts for Crater_40:

(1, 30361), (2, 30358), (3, 30334), (4, 30322), (5, 30280), (6, 30274), (9, 30082), (14, 29917), (15, 29908), (16, 29884), (Start: 36 @29695 has 41 MA's), (Start: 39 @29683 has 3 MA's), (44, 29659), (45, 29656), (48, 29644), (51, 29632), (54, 29599), (Start: 55 @29596 has 1 MA's), (57, 29578), (58, 29554), (59, 29506), (60, 29500),

Gene: Crete_77 Start: 60795, Stop: 60469, Start Num: 32

Candidate Starts for Crete_77:

(Start: 32 @60795 has 31 MA's), (47, 60726), (60, 60582),

Gene: Dakiti_78 Start: 61535, Stop: 61218, Start Num: 32

Candidate Starts for Dakiti_78:

(Start: 32 @61535 has 31 MA's), (60, 61322),

Gene: Danyall_92 Start: 57691, Stop: 57353, Start Num: 33

Candidate Starts for Danyall_92:

(19, 57781), (Start: 20 @57778 has 5 MA's), (25, 57733), (Start: 33 @57691 has 38 MA's), (47, 57625), (54, 57580), (58, 57532), (59, 57484), (60, 57478),

Gene: Delian_40 Start: 29833, Stop: 29525, Start Num: 36

Candidate Starts for Delian_40:

(Start: 30 @29866 has 10 MA's), (Start: 36 @29833 has 41 MA's), (Start: 39 @29821 has 3 MA's), (44, 29797), (45, 29794), (48, 29782), (51, 29770), (54, 29737), (Start: 55 @29734 has 1 MA's), (57, 29713), (58, 29689), (59, 29641), (60, 29635),

Gene: DirtyBoi_33 Start: 28465, Stop: 28172, Start Num: 36

Candidate Starts for DirtyBoi_33:

(Start: 34 @28477 has 15 MA's), (35, 28468), (Start: 36 @28465 has 41 MA's), (Start: 39 @28453 has 3 MA's), (44, 28429), (45, 28426), (48, 28414), (54, 28372), (Start: 55 @28369 has 1 MA's), (56, 28363), (57, 28351), (58, 28327), (60, 28270),

Gene: Egi03_89 Start: 57168, Stop: 56743, Start Num: 20

Candidate Starts for Egi03_89:

(19, 57171), (Start: 20 @57168 has 5 MA's), (25, 57123), (Start: 33 @57081 has 38 MA's), (47, 57015), (58, 56922), (59, 56874), (60, 56868),

Gene: Ekhein_77 Start: 59871, Stop: 59527, Start Num: 32

Candidate Starts for Ekhein_77:

(Start: 32 @59871 has 31 MA's), (60, 59658), (61, 59649),

Gene: Ennea_83 Start: 59022, Stop: 58708, Start Num: 34

Candidate Starts for Ennea_83:

(31, 59040), (Start: 34 @59022 has 15 MA's), (44, 58977), (60, 58815),

Gene: Evaa_82 Start: 60219, Stop: 59869, Start Num: 30

Candidate Starts for Evaa_82:

(Start: 30 @60219 has 10 MA's), (38, 60171), (41, 60156), (58, 60045), (59, 59997), (60, 59991),

Gene: Evamon_91 Start: 57458, Stop: 57120, Start Num: 33

Candidate Starts for Evamon_91:

(21, 57530), (25, 57500), (Start: 33 @57458 has 38 MA's), (47, 57392), (58, 57299), (59, 57251), (60, 57245),

Gene: Exiguo_76 Start: 59877, Stop: 59545, Start Num: 32

Candidate Starts for Exiguo_76:

(Start: 32 @59877 has 31 MA's), (60, 59664),

Gene: Eyre_32 Start: 25507, Stop: 25208, Start Num: 36

Candidate Starts for Eyre_32:

(Start: 36 @25507 has 41 MA's), (Start: 39 @25495 has 3 MA's), (43, 25477), (44, 25471), (45, 25468), (48, 25456), (51, 25444), (54, 25411), (Start: 55 @25408 has 1 MA's), (58, 25363), (59, 25315),

Gene: FelixAlejandro_81 Start: 62391, Stop: 62059, Start Num: 32

Candidate Starts for FelixAlejandro_81:

(Start: 32 @62391 has 31 MA's), (60, 62178),

Gene: Fireball_94 Start: 57920, Stop: 57582, Start Num: 33

Candidate Starts for Fireball_94:

(19, 58010), (Start: 20 @58007 has 5 MA's), (25, 57962), (Start: 33 @57920 has 38 MA's), (47, 57854), (58, 57761), (59, 57713), (60, 57707),

Gene: Flakey_76 Start: 60687, Stop: 60322, Start Num: 32

Candidate Starts for Flakey_76:

(Start: 32 @60687 has 31 MA's), (60, 60474), (61, 60465),

Gene: Flapper_80 Start: 58306, Stop: 57980, Start Num: 34

Candidate Starts for Flapper_80:

(Start: 34 @58306 has 15 MA's), (40, 58282), (44, 58261), (49, 58240), (59, 58105), (60, 58099),

Gene: Float294_78 Start: 58928, Stop: 58614, Start Num: 34

Candidate Starts for Float294_78:

(Start: 34 @58928 has 15 MA's), (44, 58883), (60, 58721),

Gene: Frickyeah_43 Start: 29647, Stop: 29330, Start Num: 36

Candidate Starts for Frickyeah_43:

(1, 30313), (2, 30310), (3, 30286), (4, 30274), (5, 30232), (6, 30226), (9, 30034), (14, 29869), (15, 29860), (16, 29836), (Start: 36 @29647 has 41 MA's), (Start: 39 @29635 has 3 MA's), (44, 29611), (45, 29608), (48, 29596), (51, 29584), (54, 29551), (Start: 55 @29548 has 1 MA's), (57, 29530), (58, 29506), (59, 29458), (60, 29452),

Gene: GTE5_64 Start: 50838, Stop: 50473, Start Num: 27

Candidate Starts for GTE5_64:

(27, 50838), (Start: 34 @50799 has 15 MA's), (40, 50775), (44, 50754), (50, 50730), (59, 50598), (60, 50592),

Gene: Getalong_44 Start: 32367, Stop: 32050, Start Num: 36

Candidate Starts for Getalong_44:

(35, 32370), (Start: 36 @32367 has 41 MA's), (Start: 39 @32355 has 3 MA's), (44, 32331), (45, 32328), (48, 32316), (51, 32304), (54, 32271), (Start: 55 @32268 has 1 MA's), (57, 32250), (58, 32226), (59, 32178), (60, 32172),

Gene: Gezellig_87 Start: 57304, Stop: 56966, Start Num: 33

Candidate Starts for Gezellig_87:

(19, 57394), (Start: 20 @57391 has 5 MA's), (25, 57346), (Start: 33 @57304 has 38 MA's), (47, 57238), (58, 57145), (59, 57097), (60, 57091),

Gene: Ghobes_18 Start: 16697, Stop: 16407, Start Num: 55

Candidate Starts for Ghobes_18:

(13, 17057), (Start: 55 @16697 has 1 MA's),

Gene: Gorko_76 Start: 59788, Stop: 59468, Start Num: 32

Candidate Starts for Gorko_76:

(Start: 32 @59788 has 31 MA's), (60, 59575),

Gene: GourdThymes_77 Start: 60728, Stop: 60423, Start Num: 32

Candidate Starts for GourdThymes_77:

(Start: 32 @60728 has 31 MA's), (60, 60515), (61, 60506),

Gene: Guacamole_35 Start: 30431, Stop: 30090, Start Num: 30

Candidate Starts for Guacamole_35:

(Start: 30 @30431 has 10 MA's), (Start: 36 @30398 has 41 MA's), (Start: 39 @30386 has 3 MA's), (44, 30362), (45, 30359), (48, 30347), (51, 30335), (54, 30302), (Start: 55 @30299 has 1 MA's), (57, 30278), (58, 30254), (59, 30206), (60, 30200),

Gene: Halo3_90 Start: 58179, Stop: 57841, Start Num: 33

Candidate Starts for Halo3_90:

(17, 58332), (18, 58311), (25, 58221), (Start: 33 @58179 has 38 MA's), (47, 58113), (54, 58068), (58, 58020), (59, 57972), (60, 57966),

Gene: Hans_13 Start: 6198, Stop: 6524, Start Num: 36

Candidate Starts for Hans_13:

(Start: 36 @6198 has 41 MA's), (Start: 55 @6291 has 1 MA's), (56, 6297), (58, 6333), (60, 6390),

Gene: Hedwig_35 Start: 28932, Stop: 28639, Start Num: 36

Candidate Starts for Hedwig_35:

(Start: 36 @28932 has 41 MA's), (Start: 39 @28920 has 3 MA's), (44, 28896), (45, 28893), (48, 28881), (54, 28839), (Start: 55 @28836 has 1 MA's), (56, 28830), (57, 28818), (58, 28794), (60, 28737),

Gene: Hitter_38 Start: 30165, Stop: 29812, Start Num: 30

Candidate Starts for Hitter_38:

(Start: 30 @30165 has 10 MA's), (Start: 36 @30132 has 41 MA's), (Start: 39 @30120 has 3 MA's), (44, 30096), (45, 30093), (48, 30081), (51, 30069), (54, 30036), (Start: 55 @30033 has 1 MA's), (57, 30012), (58, 29988), (59, 29940), (60, 29934),

Gene: Holliday_42 Start: 30222, Stop: 29905, Start Num: 36

Candidate Starts for Holliday_42:

(1, 30888), (2, 30885), (3, 30861), (4, 30849), (5, 30807), (6, 30801), (9, 30609), (14, 30444), (15, 30435), (16, 30411), (Start: 36 @30222 has 41 MA's), (Start: 39 @30210 has 3 MA's), (44, 30186), (45, 30183), (48, 30171), (51, 30159), (54, 30126), (Start: 55 @30123 has 1 MA's), (57, 30105), (58, 30081), (59, 30033), (60, 30027),

Gene: Hollow_74 Start: 60832, Stop: 60512, Start Num: 33

Candidate Starts for Hollow_74:

(Start: 33 @60832 has 38 MA's), (46, 60772), (59, 60628), (60, 60622),

Gene: Hotorobo_77 Start: 60751, Stop: 60410, Start Num: 32

Candidate Starts for Hotorobo_77:

(Start: 32 @60751 has 31 MA's), (60, 60538), (61, 60529),

Gene: Inspectinfecti_12 Start: 6720, Stop: 7040, Start Num: 36

Candidate Starts for Inspectinfecti_12:

(Start: 36 @6720 has 41 MA's), (Start: 55 @6810 has 1 MA's), (56, 6816), (58, 6852), (60, 6909),

Gene: Jambalaya_88 Start: 56761, Stop: 56423, Start Num: 33

Candidate Starts for Jambalaya_88:

(10, 57106), (25, 56803), (Start: 33 @56761 has 38 MA's), (47, 56695), (58, 56602), (59, 56554), (60, 56548),

Gene: JasperJr_35 Start: 30398, Stop: 30090, Start Num: 36

Candidate Starts for JasperJr_35:

(Start: 30 @30431 has 10 MA's), (Start: 36 @30398 has 41 MA's), (Start: 39 @30386 has 3 MA's), (44, 30362), (45, 30359), (48, 30347), (51, 30335), (54, 30302), (Start: 55 @30299 has 1 MA's), (57, 30278), (58, 30254), (59, 30206), (60, 30200),

Gene: Jecs_36 Start: 29006, Stop: 28725, Start Num: 36

Candidate Starts for Jecs_36:

(26, 29063), (29, 29045), (Start: 36 @29006 has 41 MA's), (Start: 39 @28994 has 3 MA's), (44, 28970), (45, 28967), (48, 28955), (51, 28943), (54, 28910), (Start: 55 @28907 has 1 MA's), (57, 28889), (58, 28865), (59, 28817),

Gene: Jellybones_78 Start: 61675, Stop: 61343, Start Num: 32

Candidate Starts for Jellybones_78:

(Start: 32 @61675 has 31 MA's), (60, 61462),

Gene: John316_80 Start: 61839, Stop: 61486, Start Num: 32

Candidate Starts for John316_80:

(Start: 32 @61839 has 31 MA's), (60, 61626), (61, 61617),

Gene: JohnPork_92 Start: 57360, Stop: 57022, Start Num: 33

Candidate Starts for JohnPork_92:

(19, 57450), (Start: 20 @57447 has 5 MA's), (25, 57402), (Start: 33 @57360 has 38 MA's), (47, 57294), (58, 57201), (59, 57153), (60, 57147),

Gene: Kabluna_78 Start: 57062, Stop: 56721, Start Num: 34

Candidate Starts for Kabluna_78:

(Start: 34 @57062 has 15 MA's), (40, 57035), (Start: 55 @56948 has 1 MA's), (59, 56858), (60, 56852),

Gene: Kamaru_38 Start: 29300, Stop: 28986, Start Num: 36

Candidate Starts for Kamaru_38:

(Start: 34 @29312 has 15 MA's), (35, 29303), (Start: 36 @29300 has 41 MA's), (Start: 39 @29288 has 3 MA's), (44, 29264), (45, 29261), (48, 29249), (54, 29204), (Start: 55 @29201 has 1 MA's), (57, 29183), (58, 29159), (59, 29111), (60, 29105),

Gene: Katyusha_72 Start: 60661, Stop: 60341, Start Num: 33

Candidate Starts for Katyusha_72:

(Start: 33 @60661 has 38 MA's), (60, 60451),

Gene: Kelzog_78 Start: 60628, Stop: 60299, Start Num: 32

Candidate Starts for Kelzog_78:

(Start: 32 @60628 has 31 MA's), (60, 60415), (61, 60406),

Gene: Kenna_42 Start: 30558, Stop: 30241, Start Num: 36

Candidate Starts for Kenna_42:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (14, 30780), (15, 30771), (16, 30747), (Start: 36 @30558 has 41 MA's), (Start: 39 @30546 has 3 MA's), (44, 30522), (45, 30519), (48, 30507), (51, 30495), (54, 30462), (Start: 55 @30459 has 1 MA's), (57, 30441), (58, 30417), (59, 30369), (60, 30363),

Gene: KimmyK_89 Start: 57751, Stop: 57413, Start Num: 33

Candidate Starts for KimmyK_89:

(19, 57841), (Start: 20 @57838 has 5 MA's), (25, 57793), (Start: 33 @57751 has 38 MA's), (47, 57685), (58, 57592), (59, 57544), (60, 57538),

Gene: Kvothe_72 Start: 60503, Stop: 60183, Start Num: 33

Candidate Starts for Kvothe_72:

(Start: 33 @60503 has 38 MA's), (60, 60293),

Gene: Leonard_11 Start: 6315, Stop: 6635, Start Num: 36

Candidate Starts for Leonard_11:

(Start: 36 @6315 has 41 MA's), (Start: 55 @6405 has 1 MA's), (56, 6411), (58, 6447), (60, 6504),

Gene: Lilbeanie_11 Start: 4525, Stop: 4851, Start Num: 37

Candidate Starts for Lilbeanie_11:

(Start: 37 @4525 has 1 MA's), (Start: 55 @4612 has 1 MA's), (58, 4657), (60, 4711),

Gene: Linetti_77 Start: 61689, Stop: 61372, Start Num: 32

Candidate Starts for Linetti_77:

(Start: 32 @61689 has 31 MA's), (60, 61476),

Gene: LitninMcQueen_37 Start: 29049, Stop: 28729, Start Num: 36

Candidate Starts for LitninMcQueen_37:

(Start: 34 @29061 has 15 MA's), (35, 29052), (Start: 36 @29049 has 41 MA's), (Start: 39 @29037 has 3 MA's), (44, 29013), (45, 29010), (48, 28998), (54, 28953), (Start: 55 @28950 has 1 MA's), (57, 28932), (58, 28908), (59, 28860), (60, 28854),

Gene: LittleMunchkin_81 Start: 61979, Stop: 61644, Start Num: 30

Candidate Starts for LittleMunchkin_81:

(Start: 30 @61979 has 10 MA's), (41, 61922), (54, 61856), (59, 61760), (60, 61754),

Gene: Lizzo_77 Start: 60701, Stop: 60336, Start Num: 32

Candidate Starts for Lizzo_77:

(Start: 32 @60701 has 31 MA's), (60, 60488), (61, 60479),

Gene: Lollipop1437_79 Start: 58702, Stop: 58388, Start Num: 34

Candidate Starts for Lollipop1437_79:

(Start: 34 @58702 has 15 MA's), (44, 58657), (60, 58495),

Gene: Lutum_43 Start: 30558, Stop: 30241, Start Num: 36

Candidate Starts for Lutum_43:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (14, 30780), (15, 30771), (16, 30747), (Start: 36 @30558 has 41 MA's), (Start: 39 @30546 has 3 MA's), (44, 30522),

(45, 30519), (48, 30507), (51, 30495), (54, 30462), (Start: 55 @30459 has 1 MA's), (57, 30441), (58, 30417), (59, 30369), (60, 30363),

Gene: MelBins_11 Start: 6093, Stop: 6413, Start Num: 36

Candidate Starts for MelBins_11:

(22, 6012), (Start: 36 @6093 has 41 MA's), (Start: 55 @6183 has 1 MA's), (56, 6189), (58, 6225), (60, 6282),

Gene: Melba_36 Start: 30375, Stop: 30085, Start Num: 36

Candidate Starts for Melba_36:

(Start: 30 @30408 has 10 MA's), (Start: 36 @30375 has 41 MA's), (Start: 39 @30363 has 3 MA's), (41, 30351), (44, 30339), (45, 30336), (48, 30324), (51, 30312), (54, 30279), (Start: 55 @30276 has 1 MA's), (57, 30255), (58, 30231), (59, 30183), (60, 30177),

Gene: Mellie_34 Start: 28646, Stop: 28332, Start Num: 36

Candidate Starts for Mellie_34:

(Start: 30 @28679 has 10 MA's), (Start: 36 @28646 has 41 MA's), (Start: 39 @28634 has 3 MA's), (44, 28610), (45, 28607), (48, 28595), (51, 28583), (54, 28550), (Start: 55 @28547 has 1 MA's), (57, 28529), (58, 28505), (59, 28457), (60, 28451),

Gene: MerCougar_78 Start: 58752, Stop: 58420, Start Num: 34

Candidate Starts for MerCougar_78:

(Start: 34 @58752 has 15 MA's), (44, 58707), (Start: 55 @58641 has 1 MA's), (60, 58545),

Gene: MintFen_37 Start: 30482, Stop: 30147, Start Num: 30

Candidate Starts for MintFen_37:

(Start: 30 @30482 has 10 MA's), (Start: 36 @30449 has 41 MA's), (Start: 39 @30437 has 3 MA's), (44, 30413), (45, 30410), (48, 30398), (51, 30386), (54, 30353), (Start: 55 @30350 has 1 MA's), (57, 30329), (58, 30305), (59, 30257), (60, 30251),

Gene: Monty_76 Start: 59914, Stop: 59549, Start Num: 32

Candidate Starts for Monty_76:

(Start: 32 @59914 has 31 MA's), (60, 59701), (61, 59692),

Gene: Msay19_81 Start: 62277, Stop: 61945, Start Num: 32

Candidate Starts for Msay19_81:

(Start: 32 @62277 has 31 MA's), (60, 62064),

Gene: Mutzi_91 Start: 58651, Stop: 58313, Start Num: 33

Candidate Starts for Mutzi_91:

(19, 58741), (Start: 20 @58738 has 5 MA's), (25, 58693), (Start: 33 @58651 has 38 MA's), (47, 58585), (54, 58540), (58, 58492), (59, 58444), (60, 58438),

Gene: Natkenzie_9 Start: 5353, Stop: 5655, Start Num: 36

Candidate Starts for Natkenzie_9:

(Start: 36 @5353 has 41 MA's), (Start: 55 @5443 has 1 MA's), (58, 5485), (59, 5533), (60, 5539),

Gene: Niagara_73 Start: 60594, Stop: 60274, Start Num: 33

Candidate Starts for Niagara_73:

(Start: 33 @60594 has 38 MA's), (60, 60384),

Gene: NosilaM_76 Start: 57364, Stop: 57035, Start Num: 34

Candidate Starts for NosilaM_76:

(Start: 34 @57364 has 15 MA's), (50, 57295), (Start: 55 @57253 has 1 MA's), (59, 57163), (60, 57157),

Gene: Nubi_94 Start: 57714, Stop: 57376, Start Num: 33

Candidate Starts for Nubi_94:

(19, 57804), (Start: 20 @57801 has 5 MA's), (25, 57756), (Start: 33 @57714 has 38 MA's), (47, 57648), (54, 57603), (58, 57555), (59, 57507), (60, 57501),

Gene: Obliviate_33 Start: 28822, Stop: 28514, Start Num: 36

Candidate Starts for Obliviate_33:

(Start: 30 @28855 has 10 MA's), (Start: 36 @28822 has 41 MA's), (Start: 39 @28810 has 3 MA's), (44, 28786), (45, 28783), (48, 28771), (51, 28759), (54, 28726), (Start: 55 @28723 has 1 MA's), (57, 28702), (58, 28678), (59, 28630), (60, 28624),

Gene: Outis_76 Start: 57844, Stop: 57512, Start Num: 34

Candidate Starts for Outis_76:

(Start: 34 @57844 has 15 MA's), (44, 57799), (Start: 55 @57733 has 1 MA's), (60, 57637),

Gene: Patio_78 Start: 57925, Stop: 57620, Start Num: 34

Candidate Starts for Patio_78:

(Start: 34 @57925 has 15 MA's), (48, 57865), (60, 57727),

Gene: Periwinkle_46 Start: 32013, Stop: 31696, Start Num: 36

Candidate Starts for Periwinkle_46:

(Start: 34 @32025 has 15 MA's), (35, 32016), (Start: 36 @32013 has 41 MA's), (Start: 39 @32001 has 3 MA's), (44, 31977), (45, 31974), (54, 31917), (Start: 55 @31914 has 1 MA's), (58, 31872), (59, 31824), (60, 31818),

Gene: Phabuloso_40 Start: 30274, Stop: 29954, Start Num: 36

Candidate Starts for Phabuloso_40:

(1, 30940), (2, 30937), (3, 30913), (4, 30901), (9, 30661), (14, 30496), (15, 30487), (16, 30463), (Start: 36 @30274 has 41 MA's), (Start: 39 @30262 has 3 MA's), (44, 30238), (45, 30235), (48, 30223), (52, 30193), (54, 30178), (Start: 55 @30175 has 1 MA's), (58, 30133), (59, 30085), (60, 30079),

Gene: Phauci_4 Start: 2839, Stop: 3165, Start Num: 36

Candidate Starts for Phauci_4:

(Start: 36 @2839 has 41 MA's), (Start: 55 @2932 has 1 MA's), (56, 2938), (58, 2974), (60, 3031),

Gene: Phinally_11 Start: 6312, Stop: 6632, Start Num: 36

Candidate Starts for Phinally_11:

(Start: 36 @6312 has 41 MA's), (Start: 55 @6402 has 1 MA's), (56, 6408), (58, 6444), (60, 6501),

Gene: Phistory_43 Start: 30909, Stop: 30592, Start Num: 36

Candidate Starts for Phistory_43:

(1, 31575), (2, 31572), (3, 31548), (4, 31536), (5, 31494), (6, 31488), (9, 31296), (14, 31131), (15, 31122), (16, 31098), (Start: 36 @30909 has 41 MA's), (Start: 39 @30897 has 3 MA's), (44, 30873), (45, 30870), (48, 30858), (51, 30846), (54, 30813), (Start: 55 @30810 has 1 MA's), (57, 30792), (58, 30768), (59, 30720), (60, 30714),

Gene: Phlop_88 Start: 57354, Stop: 57016, Start Num: 33

Candidate Starts for Phlop_88:

(19, 57444), (Start: 20 @57441 has 5 MA's), (25, 57396), (Start: 33 @57354 has 38 MA's), (47, 57288), (58, 57195), (59, 57147), (60, 57141),

Gene: PhrostedPhlake_40 Start: 30630, Stop: 30334, Start Num: 36

Candidate Starts for PhrostedPhlake_40:

(Start: 30 @30663 has 10 MA's), (Start: 36 @30630 has 41 MA's), (Start: 39 @30618 has 3 MA's), (44, 30594), (45, 30591), (48, 30579), (51, 30567), (54, 30534), (Start: 55 @30531 has 1 MA's), (57, 30510), (58, 30486), (59, 30438), (60, 30432),

Gene: PierreThree_76 Start: 61166, Stop: 60849, Start Num: 32

Candidate Starts for PierreThree_76:

(Start: 32 @61166 has 31 MA's), (60, 60953),

Gene: PinkCoffee_93 Start: 57642, Stop: 57217, Start Num: 20

Candidate Starts for PinkCoffee_93:

(19, 57645), (Start: 20 @57642 has 5 MA's), (25, 57597), (Start: 33 @57555 has 38 MA's), (47, 57489), (54, 57444), (58, 57396), (59, 57348), (60, 57342),

Gene: Poland_81 Start: 62256, Stop: 61924, Start Num: 32

Candidate Starts for Poland_81:

(Start: 32 @62256 has 31 MA's), (60, 62043),

Gene: Portcullis_91 Start: 57360, Stop: 57022, Start Num: 33

Candidate Starts for Portcullis_91:

(19, 57450), (Start: 20 @57447 has 5 MA's), (25, 57402), (Start: 33 @57360 has 38 MA's), (47, 57294), (58, 57201), (59, 57153), (60, 57147),

Gene: PullumCavea_89 Start: 57531, Stop: 57193, Start Num: 33

Candidate Starts for PullumCavea_89:

(19, 57621), (Start: 20 @57618 has 5 MA's), (25, 57573), (Start: 33 @57531 has 38 MA's), (47, 57465), (58, 57372), (59, 57324), (60, 57318),

Gene: Pumpkiney_10 Start: 4586, Stop: 4891, Start Num: 36

Candidate Starts for Pumpkiney_10:

(Start: 36 @4586 has 41 MA's), (Start: 55 @4679 has 1 MA's), (58, 4721), (59, 4769), (60, 4775),

Gene: Pupper_204 Start: 140080, Stop: 140403, Start Num: 33

Candidate Starts for Pupper_204:

(Start: 33 @140080 has 38 MA's), (59, 140284), (60, 140290),

Gene: RayTheFireFly_41 Start: 30859, Stop: 30572, Start Num: 36

Candidate Starts for RayTheFireFly_41:

(Start: 34 @30871 has 15 MA's), (Start: 36 @30859 has 41 MA's), (Start: 39 @30847 has 3 MA's), (44, 30823), (45, 30820), (48, 30808), (51, 30796), (54, 30763), (Start: 55 @30760 has 1 MA's), (57, 30742), (58, 30718), (59, 30670),

Gene: RedRaider_83 Start: 60073, Stop: 59747, Start Num: 34

Candidate Starts for RedRaider_83:

(Start: 34 @60073 has 15 MA's), (42, 60037), (59, 59872), (60, 59866),

Gene: RemRem_78 Start: 59853, Stop: 59521, Start Num: 32

Candidate Starts for RemRem_78:

(Start: 32 @59853 has 31 MA's), (60, 59640),

Gene: RogerDodger_94 Start: 58119, Stop: 57781, Start Num: 33

Candidate Starts for RogerDodger_94:

(10, 58464), (18, 58251), (25, 58161), (Start: 33 @58119 has 38 MA's), (47, 58053), (58, 57960), (59, 57912), (60, 57906),

Gene: SCentae_203 Start: 140271, Stop: 140594, Start Num: 33

Candidate Starts for SCentae_203:

(Start: 33 @140271 has 38 MA's), (59, 140475), (60, 140481),

Gene: Salvador_91 Start: 57456, Stop: 57118, Start Num: 33

Candidate Starts for Salvador_91:

(21, 57528), (25, 57498), (Start: 33 @57456 has 38 MA's), (47, 57390), (58, 57297), (59, 57249), (60, 57243),

Gene: Sam12_76 Start: 59877, Stop: 59545, Start Num: 32

Candidate Starts for Sam12_76:

(Start: 32 @59877 has 31 MA's), (60, 59664),

Gene: Sampson_9 Start: 5298, Stop: 5600, Start Num: 36

Candidate Starts for Sampson_9:

(Start: 36 @5298 has 41 MA's), (Start: 55 @5388 has 1 MA's), (58, 5430), (59, 5478), (60, 5484),

Gene: Savbucketdawg_86 Start: 56798, Stop: 56460, Start Num: 33

Candidate Starts for Savbucketdawg_86:

(10, 57143), (25, 56840), (Start: 33 @56798 has 38 MA's), (47, 56732), (58, 56639), (59, 56591), (60, 56585),

Gene: Scioto_9 Start: 5353, Stop: 5655, Start Num: 36

Candidate Starts for Scioto_9:

(Start: 36 @5353 has 41 MA's), (Start: 55 @5443 has 1 MA's), (58, 5485), (59, 5533), (60, 5539),

Gene: Sendy_93 Start: 57536, Stop: 57198, Start Num: 33

Candidate Starts for Sendy_93:

(19, 57626), (Start: 20 @57623 has 5 MA's), (25, 57578), (Start: 33 @57536 has 38 MA's), (47, 57470), (58, 57377), (59, 57329), (60, 57323),

Gene: ShawBrad_43 Start: 30132, Stop: 29815, Start Num: 36

Candidate Starts for ShawBrad_43:

(1, 30798), (2, 30795), (3, 30771), (4, 30759), (5, 30717), (6, 30711), (9, 30519), (14, 30354), (15, 30345), (16, 30321), (Start: 36 @30132 has 41 MA's), (Start: 39 @30120 has 3 MA's), (44, 30096), (45, 30093), (48, 30081), (51, 30069), (54, 30036), (Start: 55 @30033 has 1 MA's), (57, 30015), (58, 29991), (59, 29943), (60, 29937),

Gene: Shinji_90 Start: 57537, Stop: 57199, Start Num: 33

Candidate Starts for Shinji_90:

(19, 57627), (Start: 20 @57624 has 5 MA's), (25, 57579), (Start: 33 @57537 has 38 MA's), (47, 57471), (58, 57378), (59, 57330), (60, 57324),

Gene: Sisko_81 Start: 60938, Stop: 60591, Start Num: 30

Candidate Starts for Sisko_81:

(Start: 30 @60938 has 10 MA's), (41, 60881), (54, 60815), (59, 60719), (60, 60713),

Gene: Sixsevenium_90 Start: 58448, Stop: 58110, Start Num: 33

Candidate Starts for Sixsevenium_90:

(21, 58523), (23, 58502), (25, 58490), (Start: 33 @58448 has 38 MA's), (47, 58382), (52, 58352), (54, 58337), (58, 58289), (59, 58241), (60, 58235),

Gene: Skog_33 Start: 15580, Stop: 15906, Start Num: 33
Candidate Starts for Skog_33:
(Start: 33 @15580 has 38 MA's), (59, 15784), (60, 15790),

Gene: Skysand_80 Start: 58588, Stop: 58283, Start Num: 34
Candidate Starts for Skysand_80:
(Start: 34 @58588 has 15 MA's), (48, 58528), (60, 58390),

Gene: SmokingBunny_92 Start: 58452, Stop: 58114, Start Num: 33
Candidate Starts for SmokingBunny_92:
(21, 58524), (25, 58494), (Start: 33 @58452 has 38 MA's), (47, 58386), (58, 58293), (59, 58245), (60, 58239),

Gene: Sombrero_78 Start: 60468, Stop: 60136, Start Num: 32
Candidate Starts for Sombrero_78:
(Start: 32 @60468 has 31 MA's), (60, 60255),

Gene: Squibbles_76 Start: 60731, Stop: 60402, Start Num: 32
Candidate Starts for Squibbles_76:
(Start: 32 @60731 has 31 MA's), (60, 60518),

Gene: StarStruck_76 Start: 57844, Stop: 57512, Start Num: 34
Candidate Starts for StarStruck_76:
(Start: 34 @57844 has 15 MA's), (44, 57799), (Start: 55 @57733 has 1 MA's), (60, 57637),

Gene: SuperSulley_77 Start: 58290, Stop: 57958, Start Num: 34
Candidate Starts for SuperSulley_77:
(Start: 34 @58290 has 15 MA's), (40, 58263), (Start: 55 @58176 has 1 MA's), (59, 58086), (60, 58080),

Gene: Tardus_10 Start: 4552, Stop: 4857, Start Num: 36
Candidate Starts for Tardus_10:
(Start: 36 @4552 has 41 MA's), (Start: 55 @4645 has 1 MA's), (58, 4687), (59, 4735), (60, 4741),

Gene: Teatealatte_74 Start: 60491, Stop: 60171, Start Num: 33
Candidate Starts for Teatealatte_74:
(Start: 33 @60491 has 38 MA's), (60, 60281),

Gene: Teech_74 Start: 60307, Stop: 59987, Start Num: 33
Candidate Starts for Teech_74:
(Start: 33 @60307 has 38 MA's), (60, 60097),

Gene: TillyBobJoe_90 Start: 57675, Stop: 57337, Start Num: 33
Candidate Starts for TillyBobJoe_90:
(21, 57747), (25, 57717), (Start: 33 @57675 has 38 MA's), (47, 57609), (58, 57516), (59, 57468), (60, 57462),

Gene: Togo_91 Start: 58452, Stop: 58114, Start Num: 33
Candidate Starts for Togo_91:
(21, 58524), (25, 58494), (Start: 33 @58452 has 38 MA's), (47, 58386), (58, 58293), (59, 58245), (60, 58239),

Gene: Tredge_73 Start: 60491, Stop: 60171, Start Num: 33

Candidate Starts for Tredge_73:

(Start: 33 @60491 has 38 MA's), (60, 60281),

Gene: Twister6_90 Start: 56801, Stop: 56463, Start Num: 33

Candidate Starts for Twister6_90:

(10, 57146), (18, 56933), (25, 56843), (Start: 33 @56801 has 38 MA's), (47, 56735), (58, 56642), (59, 56594), (60, 56588),

Gene: UmaThurman_32 Start: 29419, Stop: 29123, Start Num: 39

Candidate Starts for UmaThurman_32:

(Start: 30 @29464 has 10 MA's), (Start: 36 @29431 has 41 MA's), (Start: 39 @29419 has 3 MA's), (44, 29395), (45, 29392), (48, 29380), (51, 29368), (54, 29335), (Start: 55 @29332 has 1 MA's), (57, 29311), (58, 29287), (59, 29239), (60, 29233),

Gene: Valary_92 Start: 58444, Stop: 58106, Start Num: 33

Candidate Starts for Valary_92:

(19, 58534), (Start: 20 @58531 has 5 MA's), (25, 58486), (Start: 33 @58444 has 38 MA's), (47, 58378), (58, 58285), (59, 58237), (60, 58231),

Gene: VanDeWege_93 Start: 57969, Stop: 57631, Start Num: 33

Candidate Starts for VanDeWege_93:

(10, 58314), (18, 58101), (25, 58011), (Start: 33 @57969 has 38 MA's), (47, 57903), (58, 57810), (59, 57762), (60, 57756),

Gene: ViaConlectus_9 Start: 5353, Stop: 5655, Start Num: 36

Candidate Starts for ViaConlectus_9:

(Start: 36 @5353 has 41 MA's), (Start: 55 @5443 has 1 MA's), (58, 5485), (59, 5533), (60, 5539),

Gene: Walrus_37 Start: 30012, Stop: 29710, Start Num: 39

Candidate Starts for Walrus_37:

(Start: 30 @30057 has 10 MA's), (Start: 36 @30024 has 41 MA's), (Start: 39 @30012 has 3 MA's), (41, 30000), (44, 29988), (45, 29985), (51, 29961), (54, 29928), (Start: 55 @29925 has 1 MA's), (57, 29907), (58, 29883), (59, 29835), (60, 29829),

Gene: Whitney_45 Start: 33551, Stop: 33234, Start Num: 36

Candidate Starts for Whitney_45:

(Start: 34 @33563 has 15 MA's), (35, 33554), (Start: 36 @33551 has 41 MA's), (Start: 39 @33539 has 3 MA's), (44, 33515), (45, 33512), (54, 33455), (Start: 55 @33452 has 1 MA's), (57, 33434), (58, 33410), (59, 33362), (60, 33356),

Gene: Wizard_86 Start: 57304, Stop: 56966, Start Num: 33

Candidate Starts for Wizard_86:

(19, 57394), (Start: 20 @57391 has 5 MA's), (25, 57346), (Start: 33 @57304 has 38 MA's), (47, 57238), (58, 57145), (59, 57097), (60, 57091),

Gene: Worcestershire_76 Start: 59861, Stop: 59529, Start Num: 32

Candidate Starts for Worcestershire_76:

(Start: 32 @59861 has 31 MA's), (60, 59648),

Gene: Yago84_80 Start: 60646, Stop: 60299, Start Num: 30

Candidate Starts for Yago84_80:

(Start: 30 @60646 has 10 MA's), (41, 60589), (54, 60523), (59, 60427), (60, 60421),

Gene: YungMoney_91 Start: 59491, Stop: 59153, Start Num: 33

Candidate Starts for YungMoney_91:

(19, 59581), (Start: 20 @59578 has 5 MA's), (25, 59533), (Start: 33 @59491 has 38 MA's), (47, 59425), (54, 59380), (58, 59332), (59, 59284), (60, 59278),

Gene: Zarbodnamra_36 Start: 29888, Stop: 29547, Start Num: 30

Candidate Starts for Zarbodnamra_36:

(Start: 30 @29888 has 10 MA's), (Start: 36 @29855 has 41 MA's), (Start: 39 @29843 has 3 MA's), (41, 29831), (44, 29819), (45, 29816), (48, 29804), (51, 29792), (54, 29759), (Start: 55 @29756 has 1 MA's), (58, 29711), (59, 29663), (60, 29657),

Gene: Zitch_10 Start: 5089, Stop: 5394, Start Num: 36

Candidate Starts for Zitch_10:

(24, 5026), (28, 5044), (Start: 36 @5089 has 41 MA's), (Start: 55 @5182 has 1 MA's), (58, 5224), (59, 5272), (60, 5278),