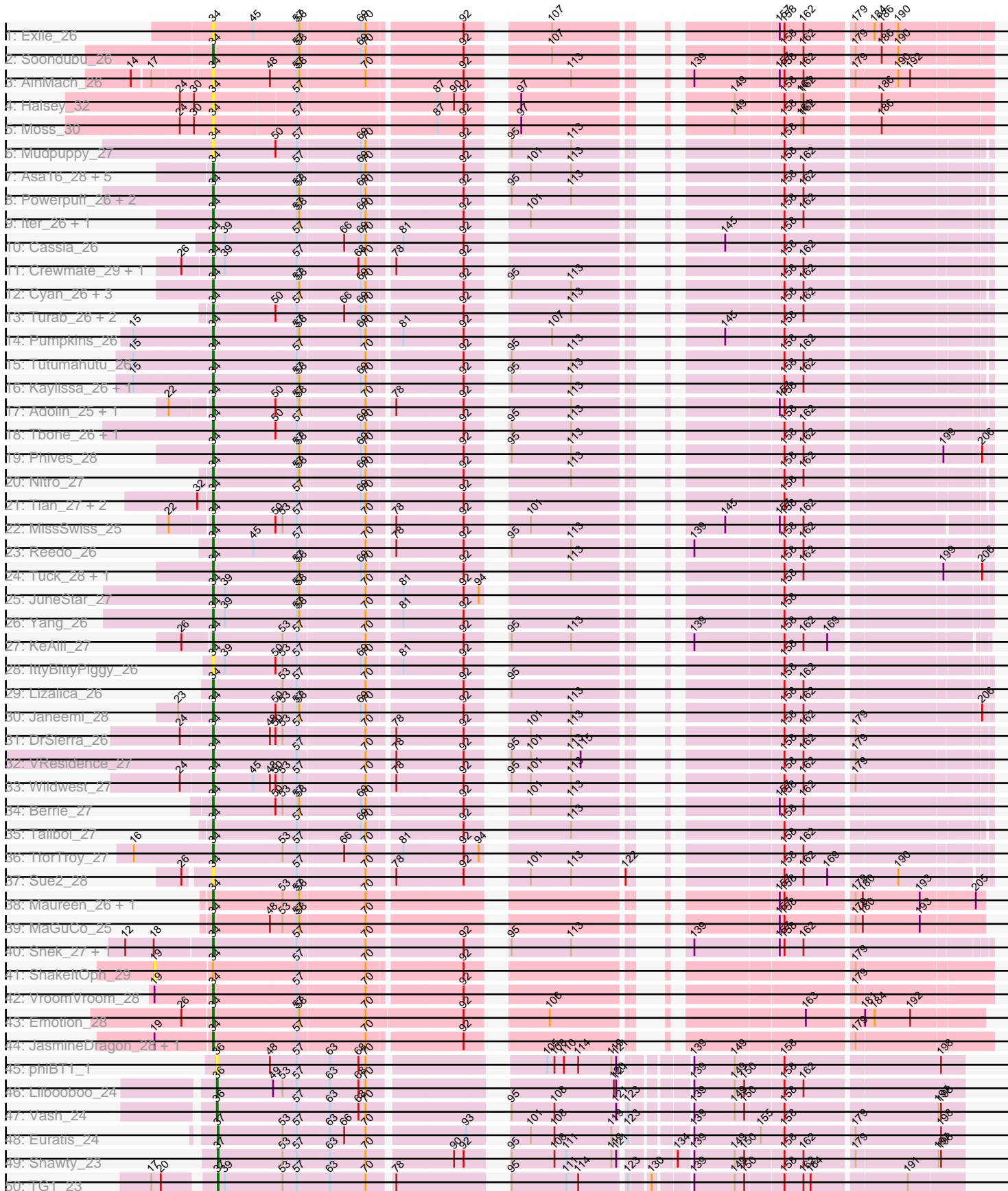
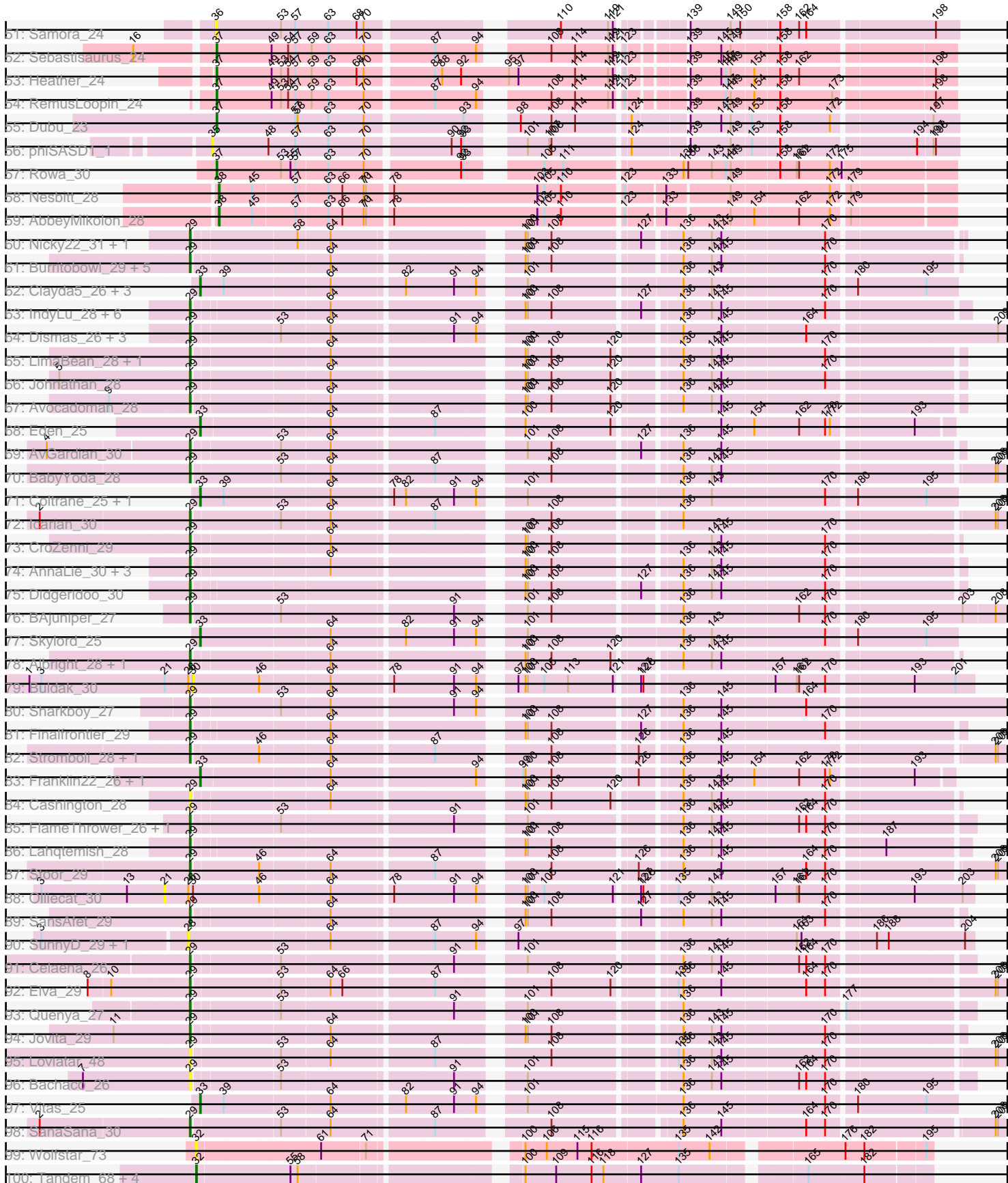


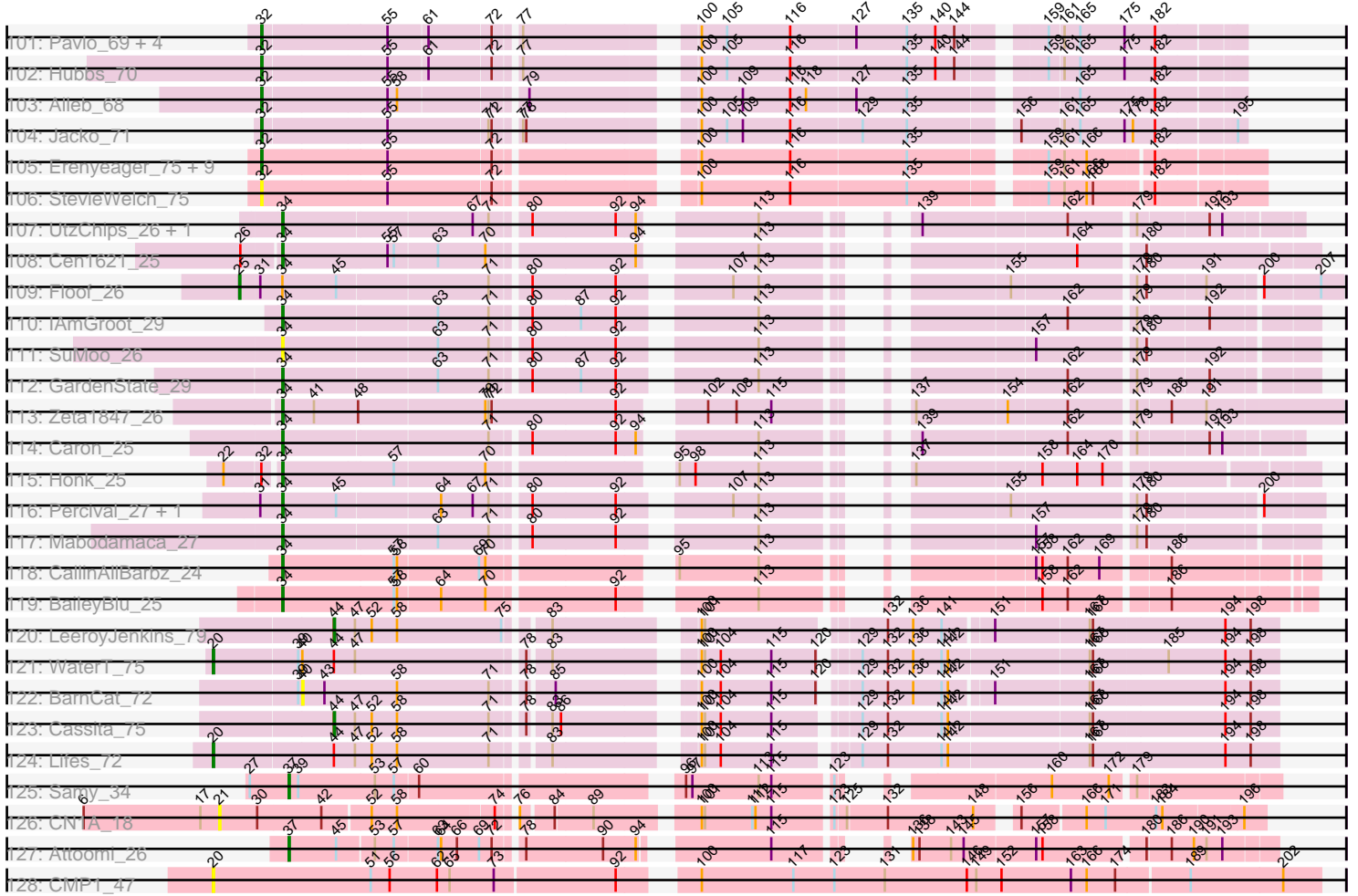
Pham 171209



Pham 171209



Pham 171209



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 171209 Report

This analysis was run 07/10/24 on database version 566.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 171209 has 198 members, 36 are drafts.

Phages represented in each track:

- Track 1 : Exile_26
- Track 2 : Soondubu_26
- Track 3 : AinMach_26
- Track 4 : Halsey_32
- Track 5 : Moss_30
- Track 6 : Mudpuppy_27
- Track 7 : Asa16_28, London_28, Elezi_28, Eraser_28, Jstan_30, Niobe_28
- Track 8 : Powerpuff_26, AGrandiflora_27, YesChef_26
- Track 9 : lter_26, Ascela_26
- Track 10 : Cassia_26
- Track 11 : Crewmate_29, ObiToo_28
- Track 12 : Cyan_26, JohnDoe_26, Joemato_28, Simpson_28
- Track 13 : Turab_26, Adumb2043_26, AEgle_26
- Track 14 : Pumpkins_26
- Track 15 : Tutumahutu_26
- Track 16 : Kaylissa_26, Lego_26
- Track 17 : Adolin_25, DrManhattan_25
- Track 18 : Tbone_26, Warda_26
- Track 19 : Phives_28
- Track 20 : Nitro_27
- Track 21 : Tian_27, Amyev_27, Pixelle_28
- Track 22 : MissSwiss_25
- Track 23 : Reedo_26
- Track 24 : Tuck_28, Community_27
- Track 25 : JuneStar_27
- Track 26 : Yang_26
- Track 27 : KeAlii_27
- Track 28 : IttyBittyPiggy_26
- Track 29 : Lizalica_26
- Track 30 : Janeemi_28
- Track 31 : DrSierra_26
- Track 32 : VResidence_27
- Track 33 : Wildwest_27

- Track 34 : Berrie_27
- Track 35 : Tallboi_27
- Track 36 : TforTroy_27
- Track 37 : Sue2_28
- Track 38 : Maureen_26, Liebe_26
- Track 39 : MaGuCo_25
- Track 40 : Snek_27, Tweety19_27
- Track 41 : ShakeltOph_29
- Track 42 : VroomVroom_28
- Track 43 : Emotion_28
- Track 44 : JasmineDragon_28, MiniMommy_29
- Track 45 : phiBT1_1
- Track 46 : Lilbooboo_24
- Track 47 : Vash_24
- Track 48 : Euratis_24
- Track 49 : Shawty_23
- Track 50 : TG1_23
- Track 51 : Samora_24
- Track 52 : Sebastisaurus_24
- Track 53 : Heather_24
- Track 54 : RemusLoopin_24
- Track 55 : Dubu_23
- Track 56 : phiSASD1_1
- Track 57 : Rowa_30
- Track 58 : Nesbitt_28
- Track 59 : AbbeyMikolon_28
- Track 60 : Nicky22_31, Slay_30
- Track 61 : Burritobowl_29, DickRichards_29, Lynlen_29, Arroyo_30, Kenzers_29, BubbaBear_29
- Track 62 : Clayda5_26, Rollins_25, Bernstein_25, Armstrong_25
- Track 63 : IndyLu_28, Phisb_29, Eula_29, TukTuk_29, QMacho_30, BabyDaisy_29, SarBear_29
- Track 64 : Dismas_26, ChiliPepper_26, Kieran_26, Rona_26
- Track 65 : LimaBean_28, Abigail_28
- Track 66 : Johnathan_28
- Track 67 : Avocadoman_28
- Track 68 : Eden_25
- Track 69 : AvGardian_30
- Track 70 : BabyYoda_28
- Track 71 : Coltrane_25, Brahms_25
- Track 72 : Icarian_30
- Track 73 : CroZenni_29
- Track 74 : AnnaLie_30, Swervy_29, BelmontSKP_30, Albedo_29
- Track 75 : Didgeridoo_30
- Track 76 : BAjuniper_27
- Track 77 : Skylord_25
- Track 78 : Albright_28, Doobus_28
- Track 79 : Buldak_30
- Track 80 : Sharkboy_27
- Track 81 : Finalfrontier_29
- Track 82 : Stromboli_28, DirtyBubble_28
- Track 83 : Franklin22_26, Gack_25
- Track 84 : Cashington_28

- Track 85 : FlameThrower_26, Katzastrophic_26
- Track 86 : Lahqtemish_28
- Track 87 : Stoor_29
- Track 88 : Olliecat_30
- Track 89 : SansAfet_29
- Track 90 : SunnyD_29, Shayna_27
- Track 91 : Celaena_26
- Track 92 : Elva_29
- Track 93 : Quenya_27
- Track 94 : Jovita_29
- Track 95 : Loviatar_48
- Track 96 : Bachaco_26
- Track 97 : Vitas_25
- Track 98 : SanaSana_30
- Track 99 : Wolfstar_73
- Track 100 : Tandem_68, Pioneer3_68, OlinDD_68, Platte_68, Hortus1_68
- Track 101 : Pavlo_69, DejaVu_71, PhillyPhilly_69, Roman_72, Lupine_68
- Track 102 : Hubbs_70
- Track 103 : Alleb_68
- Track 104 : Jacko_71
- Track 105 : Erenyeager_75, Lyell_74, Necrophoxinus_76, RunningBrook_77, Fork_70, DustyDino_78, Welcome_76, ASegato_73, Yuma_73, Musetta_74
- Track 106 : StevieWelch_75
- Track 107 : UtzChips_26, Barnstormer_26
- Track 108 : Cen1621_25
- Track 109 : Floof_26
- Track 110 : IAmGroot_29
- Track 111 : SuMoo_26
- Track 112 : GardenState_29
- Track 113 : Zeta1847_26
- Track 114 : Caron_25
- Track 115 : Honk_25
- Track 116 : Percival_27, Gretchen_27
- Track 117 : Mabodamaca_27
- Track 118 : CallinAllBarbz_24
- Track 119 : BaileyBlu_25
- Track 120 : LeeroyJenkins_79
- Track 121 : WaterT_75
- Track 122 : BarnCat_72
- Track 123 : Cassita_75
- Track 124 : Lifes_72
- Track 125 : Samy_34
- Track 126 : CN1A_18
- Track 127 : Attoomi_26
- Track 128 : CMP1_47

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

The start number called the most often in the published annotations is 34, it was called in 61 of the 162 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle_26, AGrandiflora_27, Adolin_25, Adumb2043_26, AinMach_26, Amyev_27, Asa16_28, Ascela_26, BaileyBlu_25, Barnstormer_26, Berrie_27, CallinAllBarbz_24, Caron_25, Cassia_26, Cen1621_25, Community_27, Crewmate_29, Cyan_26, DrManhattan_25, DrSierra_26, Elezi_28, Emotion_28, Eraser_28, Exile_26, GardenState_29, Gretchen_27, Halsey_32, Honk_25, IAmGroot_29, Iter_26, IttyBittyPiggy_26, Janeemi_28, JasmineDragon_28, Joemato_28, JohnDoe_26, Jstan_30, JuneStar_27, Kaylissa_26, KeAlii_27, Lego_26, Liebe_26, Lizalica_26, London_28, MaGuCo_25, Mabodamaca_27, Maureen_26, MiniMommy_29, MissSwiss_25, Moss_30, Mudpuppy_27, Niobe_28, Nitro_27, ObiToo_28, Percival_27, Phives_28, Pixelle_28, Powerpuff_26, Pumpkins_26, Reedo_26, Simpson_28, Snek_27, Soondubu_26, SuMoo_26, Sue2_28, Tallboi_27, Tbone_26, TforTroy_27, Tian_27, Tuck_28, Turab_26, Tutumahutu_26, Tweety19_27, UtzChips_26, VResidence_27, VroomVroom_28, Warda_26, Wildwest_27, Yang_26, YesChef_26, Zeta1847_26,

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

- Floof_26, ShakeltOph_29,

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

- ASegato_73, AbbeyMikolon_28, Abigail_28, Albedo_29, Albright_28, Alleb_68, AnnaLie_30, Armstrong_25, Arroyo_30, Attoomi_26, AvGardian_30, Avocadoman_28, BAjuniper_27, BabyDaisy_29, BabyYoda_28, Bachaco_26, BarnCat_72, BelmontSKP_30, Bernstein_25, Brahms_25, BubbaBear_29, Buldak_30, Burritobowl_29, CMP1_47, CN1A_18, Cashington_28, Cassita_75, Celaena_26, ChiliPepper_26, Clayda5_26, Coltrane_25, CroZenni_29, DejaVu_71, DickRichards_29, Didgeridoo_30, DirtyBubble_28, Dismas_26, Doobus_28, Dubu_23, DustyDino_78, Eden_25, Elva_29, Erenyeager_75, Eula_29, Euratis_24, Finalfrontier_29, FlameThrower_26, Fork_70, Franklin22_26, Gack_25, Heather_24, Hortus1_68, Hubbs_70, Icarian_30, IndyLu_28, Jacko_71, Johnathan_28, Jovita_29, Katzastrophic_26, Kenzers_29, Kieran_26, Lahqtemish_28, LeeroyJenkins_79, Lifes_72, Lilbooboo_24, LimaBean_28, Loviatar_48, Lupine_68, Lyell_74, Lynlen_29, Musetta_74, Necrophoxinus_76, Nesbitt_28, Nicky22_31, OlinDD_68, Olliecat_30, Pavlo_69, PhillyPhilly_69, Phisb_29, Pioneer3_68, Platte_68, QMacho_30, Quenya_27, RemusLoopin_24, Rollins_25, Roman_72, Rona_26, Rowa_30, RunningBrook_77, Samora_24, Samy_34, SanaSana_30, SansAfet_29, SarBear_29, Sebastisaurus_24, Sharkboy_27, Shawty_23, Shayna_27, Skylord_25, Slay_30, StevieWelch_75, Stoor_29, Stromboli_28, SunnyD_29, Swervy_29, TG1_23, Tandem_68, TukTuk_29, Vash_24, Vitas_25, WaterT_75, Welcome_76, Wolfstar_73, Yuma_73, phiBT1_1, phiSASD1_1,

Summary by start number:

Start 19:

- Found in 4 of 198 (2.0%) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: ShakeltOph_29 (AZ4),

Start 20:

- Found in 4 of 198 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 162

- Called 75.0% of time when present
- Phage (with cluster) where this start called: CMP1_47 (singleton), Lifes_72 (GB), WaterT_75 (GB),

Start 21:

- Found in 3 of 198 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 66.7% of time when present
- Phage (with cluster) where this start called: CN1A_18 (singleton), Ollicat_30 (EB),

Start 25:

- Found in 1 of 198 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Floof_26 (EH),

Start 28:

- Found in 4 of 198 (2.0%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Shayna_27 (EB), SunnyD_29 (EB),

Start 29:

- Found in 52 of 198 (26.3%) of genes in pham
- Manual Annotations of this start: 49 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abigail_28 (EB), Albedo_29 (EB), Albright_28 (EB), AnnaLie_30 (EB), Arroyo_30 (EB), AvGuardian_30 (EB), Avocadoman_28 (EB), BAjuniper_27 (EB), BabyDaisy_29 (EB), BabyYoda_28 (EB), Bachaco_26 (EB), BelmontSKP_30 (EB), BubbaBear_29 (EB), Burritobowl_29 (EB), Cashington_28 (EB), Celaena_26 (EB), ChiliPepper_26 (EB), CroZenni_29 (EB), DickRichards_29 (EB), Didgeridoo_30 (EB), DirtyBubble_28 (EB), Dismas_26 (EB), Doobus_28 (EB), Elva_29 (EB), Eula_29 (EB), Finalfrontier_29 (EB), FlameThrower_26 (EB), Icarian_30 (EB), IndyLu_28 (EB), Johnathan_28 (EB), Jovita_29 (EB), Katzastrophic_26 (EB), Kenzers_29 (EB), Kieran_26 (EB), Lahqtemish_28 (EB), LimaBean_28 (EB), Loviatar_48 (EB), Lynlen_29 (EB), Nicky22_31 (EB), Phisb_29 (EB), QMacho_30 (EB), Quenya_27 (EB), Rona_26 (EB), SanaSana_30 (EB), SansAfet_29 (EB), SarBear_29 (EB), Sharkboy_27 (EB), Slay_30 (EB), Stoor_29 (EB), Stromboli_28 (EB), Swervy_29 (EB), TukTuk_29 (EB),

Start 30:

- Found in 5 of 198 (2.5%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Buldak_30 (EB),

Start 32:

- Found in 29 of 198 (14.6%) of genes in pham
- Manual Annotations of this start: 22 of 162
- Called 86.2% of time when present
- Phage (with cluster) where this start called: ASegato_73 (ED2), Alleb_68 (ED1), DejaVu_71 (ED1), DustyDino_78 (ED2), Erenyeager_75 (ED2), Fork_70 (ED2), Hortus1_68 (ED1), Hubbs_70 (ED1), Jacko_71 (ED1), Lupine_68 (ED1), Lyell_74

(ED2), Musetta_74 (ED2), Necrophoxinus_76 (ED2), OlinDD_68 (ED1), Pavlo_69 (ED1), PhillyPhilly_69 (ED1), Pioneer3_68 (ED1), Platte_68 (ED1), Roman_72 (ED1), RunningBrook_77 (ED2), StevieWelch_75 (ED2), Tandem_68 (ED1), Welcome_76 (ED2), Wolfstar_73 (ED), Yuma_73 (ED2),

Start 33:

- Found in 11 of 198 (5.6%) of genes in pham
- Manual Annotations of this start: 11 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Armstrong_25 (EB), Bernstein_25 (EB), Brahms_25 (EB), Clayda5_26 (EB), Coltrane_25 (EB), Eden_25 (EB), Franklin22_26 (EB), Gack_25 (EB), Rollins_25 (EB), Skylord_25 (EB), Vitas_25 (EB),

Start 34:

- Found in 82 of 198 (41.4%) of genes in pham
- Manual Annotations of this start: 61 of 162
- Called 97.6% of time when present
- Phage (with cluster) where this start called: AEgle_26 (AZ1), AGrandiflora_27 (AZ1), Adolin_25 (AZ1), Adumb2043_26 (AZ1), AinMach_26 (AZ), Amyev_27 (AZ1), Asa16_28 (AZ1), Ascela_26 (AZ1), BaileyBlu_25 (FP), Barnstormer_26 (EH), Berrie_27 (AZ1), CallinAllBarbz_24 (FP), Caron_25 (EH), Cassia_26 (AZ1), Cen1621_25 (EH), Community_27 (AZ1), Crewmate_29 (AZ1), Cyan_26 (AZ1), DrManhattan_25 (AZ1), DrSierra_26 (AZ1), Elezi_28 (AZ1), Emotion_28 (AZ4), Eraser_28 (AZ1), Exile_26 (AZ), GardenState_29 (EH), Gretchen_27 (EH), Halsey_32 (AZ), Honk_25 (EH), IAmGroot_29 (EH), Iter_26 (AZ1), IttyBittyPiggy_26 (AZ1), Janeemi_28 (AZ1), JasmineDragon_28 (AZ4), Joemato_28 (AZ1), JohnDoe_26 (AZ1), Jstan_30 (AZ1), JuneStar_27 (AZ1), Kaylissa_26 (AZ1), KeAlii_27 (AZ1), Lego_26 (AZ1), Liebe_26 (AZ2), Lizalica_26 (AZ1), London_28 (AZ1), MaGuCo_25 (AZ2), Mabodamaca_27 (EH), Maureen_26 (AZ2), MiniMommy_29 (AZ4), MissSwiss_25 (AZ1), Moss_30 (AZ), Mudpuppy_27 (AZ1), Niobe_28 (AZ1), Nitro_27 (AZ1), ObiToo_28 (AZ1), Percival_27 (EH), Phives_28 (AZ1), Pixelle_28 (AZ1), Powerpuff_26 (AZ1), Pumpkins_26 (AZ1), Reedo_26 (AZ1), Simpson_28 (AZ1), Sneak_27 (AZ3), Soondubu_26 (AZ), SuMoo_26 (EH), Sue2_28 (AZ1), Tallboi_27 (AZ1), Tbone_26 (AZ1), TforTroy_27 (AZ1), Tian_27 (AZ1), Tuck_28 (AZ1), Turab_26 (AZ1), Tutumahutu_26 (AZ1), Tweety19_27 (AZ3), UtzChips_26 (EH), VResidence_27 (AZ1), VroomVroom_28 (AZ4), Warda_26 (AZ1), Wildwest_27 (AZ1), Yang_26 (AZ1), YesChef_26 (AZ1), Zeta1847_26 (EH),

Start 35:

- Found in 1 of 198 (0.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: phiSASD1_1 (BJ),

Start 36:

- Found in 4 of 198 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lilbooboo_24 (BB1), Samora_24 (BB1), Vash_24 (BB1), phiBT1_1 (BB1),

Start 37:

- Found in 10 of 198 (5.1%) of genes in pham

- Manual Annotations of this start: 10 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attoomi_26 (singleton), Dubu_23 (BJ), Euratis_24 (BB1), Heather_24 (BB2), RemusLoopin_24 (BB2), Rowa_30 (BL), Samy_34 (singleton), Sebastisaurus_24 (BB2), Shawty_23 (BB1), TG1_23 (BB1),

Start 38:

- Found in 2 of 198 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 162
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon_28 (BL), Nesbitt_28 (BL),

Start 40:

- Found in 2 of 198 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BarnCat_72 (GB),

Start 44:

- Found in 4 of 198 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 162
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Cassita_75 (GB), LeeroyJenkins_79 (GB),

Summary by clusters:

There are 17 clusters represented in this pham: FP, singleton, AZ3, EH, BL, ED, BJ, EB, ED2, ED1, GB, AZ1, AZ2, AZ, AZ4, BB2, BB1,

Info for manual annotations of cluster AZ:

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

Info for manual annotations of cluster AZ1:

- Start number 34 was manually annotated 39 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 34 was manually annotated 3 times for cluster AZ2.

Info for manual annotations of cluster AZ3:

- Start number 34 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster AZ4:

- Start number 34 was manually annotated 3 times for cluster AZ4.

Info for manual annotations of cluster BB1:

- Start number 36 was manually annotated 2 times for cluster BB1.
- Start number 37 was manually annotated 3 times for cluster BB1.

Info for manual annotations of cluster BB2:

- Start number 37 was manually annotated 3 times for cluster BB2.

Info for manual annotations of cluster BJ:

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

Info for manual annotations of cluster BL:

- Start number 37 was manually annotated 1 time for cluster BL.
- Start number 38 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster EB:

- Start number 29 was manually annotated 49 times for cluster EB.
- Start number 33 was manually annotated 11 times for cluster EB.

Info for manual annotations of cluster ED1:

- Start number 32 was manually annotated 13 times for cluster ED1.

Info for manual annotations of cluster ED2:

- Start number 32 was manually annotated 9 times for cluster ED2.

Info for manual annotations of cluster EH:

- Start number 25 was manually annotated 1 time for cluster EH.
- Start number 34 was manually annotated 11 times for cluster EH.

Info for manual annotations of cluster FP:

- Start number 34 was manually annotated 2 times for cluster FP.

Info for manual annotations of cluster GB:

- Start number 20 was manually annotated 2 times for cluster GB.
- Start number 44 was manually annotated 2 times for cluster GB.

Gene Information:

Gene: AEgle_26 Start: 21448, Stop: 22278, Start Num: 34

Candidate Starts for AEgle_26:

(Start: 34 @21448 has 61 MA's), (50, 21526), (57, 21553), (66, 21610), (69, 21631), (70, 21637), (92, 21748), (113, 21850), (158, 22042), (162, 22066),

Gene: AGrandiflora_27 Start: 21481, Stop: 22308, Start Num: 34

Candidate Starts for AGrandiflora_27:

(Start: 34 @21481 has 61 MA's), (57, 21586), (58, 21589), (69, 21664), (70, 21670), (92, 21781), (95, 21808), (113, 21883), (158, 22075), (162, 22099),

Gene: ASegato_73 Start: 42743, Stop: 41883, Start Num: 32

Candidate Starts for ASegato_73:

(Start: 32 @42743 has 22 MA's), (55, 42626), (72, 42530), (100, 42374), (116, 42290), (135, 42182), (159, 42071), (161, 42056), (166, 42035), (182, 41978),

Gene: AbbeyMikolon_28 Start: 21726, Stop: 22598, Start Num: 38

Candidate Starts for AbbeyMikolon_28:

(Start: 38 @21726 has 2 MA's), (45, 21768), (57, 21819), (63, 21858), (66, 21876), (70, 21903), (71, 21906), (78, 21933), (103, 22113), (105, 22122), (110, 22143), (123, 22215), (133, 22260), (149, 22335), (154, 22362), (162, 22416), (172, 22455), (179, 22473),

Gene: Abigail_28 Start: 21092, Stop: 21970, Start Num: 29

Candidate Starts for Abigail_28:

(Start: 29 @21092 has 49 MA's), (64, 21254), (100, 21461), (101, 21464), (108, 21494), (120, 21569), (136, 21638), (143, 21674), (145, 21686), (170, 21812),

Gene: Adolin_25 Start: 19890, Stop: 20729, Start Num: 34

Candidate Starts for Adolin_25:

(22, 19842), (Start: 34 @19890 has 61 MA's), (50, 19968), (57, 19995), (58, 19998), (70, 20079), (78, 20109), (92, 20193), (113, 20295), (157, 20481), (158, 20487),

Gene: Adumb2043_26 Start: 21447, Stop: 22277, Start Num: 34

Candidate Starts for Adumb2043_26:

(Start: 34 @21447 has 61 MA's), (50, 21525), (57, 21552), (66, 21609), (69, 21630), (70, 21636), (92, 21747), (113, 21849), (158, 22041), (162, 22065),

Gene: AinMach_26 Start: 21970, Stop: 22809, Start Num: 34

Candidate Starts for AinMach_26:

(14, 21880), (17, 21901), (Start: 34 @21970 has 61 MA's), (48, 22042), (57, 22075), (58, 22078), (70, 22159), (92, 22270), (113, 22372), (139, 22456), (157, 22558), (158, 22564), (162, 22588), (179, 22645), (190, 22696), (192, 22711),

Gene: Albedo_29 Start: 21558, Stop: 22436, Start Num: 29

Candidate Starts for Albedo_29:

(Start: 29 @21558 has 49 MA's), (64, 21720), (100, 21927), (101, 21930), (108, 21960), (136, 22104), (143, 22140), (145, 22152), (170, 22278),

Gene: Albright_28 Start: 20850, Stop: 21722, Start Num: 29

Candidate Starts for Albright_28:

(Start: 29 @20850 has 49 MA's), (64, 21012), (100, 21219), (101, 21222), (108, 21252), (120, 21327), (136, 21396), (143, 21432), (145, 21444),

Gene: Alleb_68 Start: 42903, Stop: 42067, Start Num: 32

Candidate Starts for Alleb_68:

(Start: 32 @42903 has 22 MA's), (55, 42789), (58, 42780), (79, 42672), (100, 42540), (109, 42501), (116, 42456), (118, 42441), (127, 42396), (135, 42348), (165, 42210), (182, 42141),

Gene: Amyev_27 Start: 23372, Stop: 24199, Start Num: 34

Candidate Starts for Amyev_27:

(Start: 32 @23357 has 22 MA's), (Start: 34 @23372 has 61 MA's), (57, 23477), (69, 23555), (70, 23561), (92, 23672), (158, 23966),

Gene: AnnaLie_30 Start: 21841, Stop: 22719, Start Num: 29

Candidate Starts for AnnaLie_30:

(Start: 29 @21841 has 49 MA's), (64, 22003), (100, 22210), (101, 22213), (108, 22243), (136, 22387), (143, 22423), (145, 22435), (170, 22561),

Gene: Armstrong_25 Start: 19307, Stop: 20188, Start Num: 33

Candidate Starts for Armstrong_25:

(Start: 33 @19307 has 11 MA's), (39, 19337), (64, 19466), (82, 19550), (91, 19610), (94, 19637), (101, 19676), (136, 19859), (143, 19895), (170, 20033), (180, 20066), (195, 20150),

Gene: Arroyo_30 Start: 22039, Stop: 22911, Start Num: 29

Candidate Starts for Arroyo_30:

(Start: 29 @22039 has 49 MA's), (64, 22201), (100, 22408), (101, 22411), (108, 22441), (136, 22585), (143, 22621), (145, 22633), (170, 22759),

Gene: Asa16_28 Start: 23617, Stop: 24447, Start Num: 34

Candidate Starts for Asa16_28:

(Start: 34 @23617 has 61 MA's), (57, 23722), (69, 23800), (70, 23806), (92, 23917), (101, 23968), (113, 24019), (158, 24211), (162, 24235),

Gene: Ascela_26 Start: 21460, Stop: 22293, Start Num: 34

Candidate Starts for Ascela_26:

(Start: 34 @21460 has 61 MA's), (57, 21565), (58, 21568), (69, 21643), (70, 21649), (92, 21760), (101, 21811), (158, 22054), (162, 22078),

Gene: Attoomi_26 Start: 21271, Stop: 22065, Start Num: 37

Candidate Starts for Attoomi_26:

(Start: 37 @21271 has 10 MA's), (45, 21316), (53, 21349), (57, 21367), (63, 21406), (64, 21409), (66, 21424), (69, 21445), (72, 21457), (78, 21478), (90, 21550), (94, 21580), (115, 21676), (136, 21739), (138, 21745), (143, 21775), (145, 21787), (157, 21853), (158, 21859), (180, 21949), (186, 21970), (190, 21991), (191, 22003), (193, 22018),

Gene: AvGardian_30 Start: 21901, Stop: 22776, Start Num: 29

Candidate Starts for AvGardian_30:

(4, 21733), (Start: 29 @21901 has 49 MA's), (53, 22003), (64, 22063), (101, 22273), (108, 22303), (127, 22405), (136, 22447), (145, 22495),

Gene: Avocadoman_28 Start: 21034, Stop: 21912, Start Num: 29

Candidate Starts for Avocadoman_28:

(9, 20935), (Start: 29 @21034 has 49 MA's), (64, 21196), (100, 21403), (101, 21406), (108, 21436), (120, 21511), (136, 21580), (143, 21616), (145, 21628),

Gene: BAjuniper_27 Start: 22228, Stop: 23160, Start Num: 29

Candidate Starts for BAjuniper_27:

(Start: 29 @22228 has 49 MA's), (53, 22330), (91, 22534), (101, 22600), (108, 22630), (136, 22774), (162, 22915), (170, 22948), (203, 23110), (208, 23149),

Gene: BabyDaisy_29 Start: 21585, Stop: 22454, Start Num: 29

Candidate Starts for BabyDaisy_29:

(Start: 29 @21585 has 49 MA's), (64, 21744), (100, 21951), (101, 21954), (108, 21984), (127, 22086), (136, 22128), (143, 22164), (145, 22176), (170, 22302),

Gene: BabyYoda_28 Start: 21834, Stop: 22760, Start Num: 29

Candidate Starts for BabyYoda_28:

(Start: 29 @21834 has 49 MA's), (53, 21939), (64, 21999), (87, 22119), (108, 22239), (136, 22383), (143, 22419), (145, 22431), (208, 22749), (209, 22752),

Gene: Bachaco_26 Start: 22486, Stop: 23376, Start Num: 29

Candidate Starts for Bachaco_26:

(7, 22351), (Start: 29 @22486 has 49 MA's), (53, 22588), (91, 22792), (101, 22858), (136, 23032), (143, 23068), (145, 23080), (162, 23173), (164, 23182), (170, 23206),

Gene: BaileyBlu_25 Start: 20669, Stop: 21496, Start Num: 34

Candidate Starts for BaileyBlu_25:

(Start: 34 @20669 has 61 MA's), (57, 20774), (58, 20777), (64, 20816), (70, 20858), (92, 20969), (113, 21071), (158, 21263), (162, 21287), (186, 21374),

Gene: BarnCat_72 Start: 43640, Stop: 42804, Start Num: 40

Candidate Starts for BarnCat_72:

(39, 43643), (40, 43640), (43, 43619), (58, 43553), (71, 43466), (78, 43442), (85, 43421), (100, 43316), (104, 43298), (115, 43250), (120, 43208), (129, 43184), (132, 43160), (136, 43136), (141, 43109), (142, 43103), (151, 43067), (167, 42980), (168, 42977), (194, 42854), (198, 42830),

Gene: Barnstormer_26 Start: 21235, Stop: 22050, Start Num: 34

Candidate Starts for Barnstormer_26:

(Start: 34 @21235 has 61 MA's), (67, 21409), (71, 21424), (80, 21454), (92, 21532), (94, 21550), (113, 21634), (139, 21718), (162, 21850), (179, 21907), (192, 21970), (193, 21982),

Gene: BelmontSKP_30 Start: 21841, Stop: 22719, Start Num: 29

Candidate Starts for BelmontSKP_30:

(Start: 29 @21841 has 49 MA's), (64, 22003), (100, 22210), (101, 22213), (108, 22243), (136, 22387), (143, 22423), (145, 22435), (170, 22561),

Gene: Bernstein_25 Start: 19362, Stop: 20243, Start Num: 33

Candidate Starts for Bernstein_25:

(Start: 33 @19362 has 11 MA's), (39, 19392), (64, 19521), (82, 19605), (91, 19665), (94, 19692), (101, 19731), (136, 19914), (143, 19950), (170, 20088), (180, 20121), (195, 20205),

Gene: Berrie_27 Start: 22583, Stop: 23416, Start Num: 34

Candidate Starts for Berrie_27:

(Start: 34 @22583 has 61 MA's), (50, 22661), (53, 22670), (57, 22688), (58, 22691), (69, 22766), (70, 22772), (92, 22883), (101, 22934), (113, 22985), (157, 23171), (158, 23177), (162, 23201),

Gene: Brahms_25 Start: 19309, Stop: 20190, Start Num: 33

Candidate Starts for Brahms_25:

(Start: 33 @19309 has 11 MA's), (39, 19339), (64, 19468), (78, 19537), (82, 19552), (91, 19612), (94, 19639), (101, 19678), (136, 19861), (143, 19897), (170, 20035), (180, 20068), (195, 20152),

Gene: BubbaBear_29 Start: 21529, Stop: 22401, Start Num: 29

Candidate Starts for BubbaBear_29:

(Start: 29 @21529 has 49 MA's), (64, 21691), (100, 21898), (101, 21901), (108, 21931), (136, 22075), (143, 22111), (145, 22123), (170, 22249),

Gene: Buldak_30 Start: 20906, Stop: 21808, Start Num: 30

Candidate Starts for Buldak_30:

(1, 20699), (3, 20714), (21, 20870), (28, 20900), (30, 20906), (46, 20990), (64, 21074), (78, 21143), (91, 21218), (94, 21245), (97, 21272), (100, 21281), (101, 21284), (105, 21305), (113, 21335), (121, 21392), (127, 21416), (128, 21419), (157, 21569), (161, 21596), (162, 21599), (170, 21632), (193, 21734), (201, 21785),

Gene: Burritobowl_29 Start: 21596, Stop: 22468, Start Num: 29

Candidate Starts for Burritobowl_29:

(Start: 29 @21596 has 49 MA's), (64, 21758), (100, 21965), (101, 21968), (108, 21998), (136, 22142), (143, 22178), (145, 22190), (170, 22316),

Gene: CMP1_47 Start: 45048, Stop: 44038, Start Num: 20

Candidate Starts for CMP1_47:

(Start: 20 @45048 has 2 MA's), (51, 44898), (56, 44880), (62, 44835), (65, 44823), (73, 44781), (92, 44670), (100, 44619), (117, 44532), (123, 44493), (131, 44445), (146, 44367), (149, 44358), (152, 44334), (163, 44268), (166, 44253), (174, 44226), (189, 44160), (202, 44073),

Gene: CN1A_18 Start: 10315, Stop: 11211, Start Num: 21

Candidate Starts for CN1A_18:

(6, 10186), (17, 10297), (21, 10315), (30, 10351), (42, 10411), (52, 10453), (58, 10477), (74, 10564), (76, 10576), (84, 10603), (89, 10636), (100, 10720), (101, 10723), (111, 10768), (112, 10771), (115, 10786), (123, 10837), (125, 10846), (132, 10882), (148, 10963), (156, 10990), (166, 11047), (171, 11065), (183, 11113), (184, 11119), (196, 11191),

Gene: CallinAllBarbz_24 Start: 20698, Stop: 21528, Start Num: 34

Candidate Starts for CallinAllBarbz_24:

(Start: 34 @20698 has 61 MA's), (57, 20803), (58, 20806), (69, 20881), (70, 20887), (95, 21025), (113, 21100), (157, 21286), (158, 21292), (162, 21316), (169, 21346), (186, 21403),

Gene: Caron_25 Start: 20308, Stop: 21123, Start Num: 34

Candidate Starts for Caron_25:

(Start: 34 @20308 has 61 MA's), (71, 20497), (80, 20527), (92, 20605), (94, 20623), (113, 20707), (139, 20791), (162, 20923), (179, 20980), (192, 21043), (193, 21055),

Gene: Cashington_28 Start: 20885, Stop: 21757, Start Num: 29

Candidate Starts for Cashington_28:

(Start: 29 @20885 has 49 MA's), (64, 21047), (100, 21254), (101, 21257), (108, 21287), (120, 21362), (136, 21431), (143, 21467), (145, 21479), (170, 21605),

Gene: Cassia_26 Start: 21909, Stop: 22739, Start Num: 34

Candidate Starts for Cassia_26:

(Start: 34 @21909 has 61 MA's), (39, 21924), (57, 22014), (66, 22071), (69, 22092), (70, 22098), (81, 22134), (92, 22209), (145, 22434), (158, 22503),

Gene: Cassita_75 Start: 44392, Stop: 43580, Start Num: 44

Candidate Starts for Cassita_75:

(Start: 44 @44392 has 2 MA's), (47, 44374), (52, 44359), (58, 44335), (71, 44248), (78, 44224), (83, 44206), (86, 44200), (100, 44098), (101, 44095), (104, 44080), (115, 44032), (129, 43966), (132, 43942), (141, 43891), (142, 43885), (167, 43756), (168, 43753), (194, 43630), (198, 43606),

Gene: Celaena_26 Start: 22171, Stop: 23061, Start Num: 29

Candidate Starts for Celaena_26:

(Start: 29 @22171 has 49 MA's), (53, 22273), (91, 22477), (101, 22543), (136, 22717), (143, 22753), (145, 22765), (162, 22858), (164, 22867), (170, 22891),

Gene: Cen1621_25 Start: 19802, Stop: 20638, Start Num: 34

Candidate Starts for Cen1621_25:

(26, 19769), (Start: 34 @19802 has 61 MA's), (55, 19898), (57, 19904), (63, 19943), (70, 19988), (94, 20117), (113, 20201), (164, 20426), (180, 20483),

Gene: ChiliPepper_26 Start: 21822, Stop: 22757, Start Num: 29

Candidate Starts for ChiliPepper_26:

(Start: 29 @21822 has 49 MA's), (53, 21924), (64, 21984), (91, 22128), (94, 22155), (136, 22368), (145, 22416), (164, 22518), (209, 22749),

Gene: Clayda5_26 Start: 19296, Stop: 20177, Start Num: 33

Candidate Starts for Clayda5_26:

(Start: 33 @19296 has 11 MA's), (39, 19326), (64, 19455), (82, 19539), (91, 19599), (94, 19626), (101, 19665), (136, 19848), (143, 19884), (170, 20022), (180, 20055), (195, 20139),

Gene: Coltrane_25 Start: 19309, Stop: 20190, Start Num: 33

Candidate Starts for Coltrane_25:

(Start: 33 @19309 has 11 MA's), (39, 19339), (64, 19468), (78, 19537), (82, 19552), (91, 19612), (94, 19639), (101, 19678), (136, 19861), (143, 19897), (170, 20035), (180, 20068), (195, 20152),

Gene: Community_27 Start: 23698, Stop: 24531, Start Num: 34

Candidate Starts for Community_27:

(Start: 34 @23698 has 61 MA's), (57, 23803), (58, 23806), (69, 23881), (70, 23887), (92, 23998), (113, 24100), (158, 24292), (162, 24316), (199, 24478), (206, 24520),

Gene: Crewmate_29 Start: 22203, Stop: 23036, Start Num: 34

Candidate Starts for Crewmate_29:

(26, 22170), (Start: 34 @22203 has 61 MA's), (39, 22218), (57, 22308), (68, 22383), (70, 22392), (78, 22422), (92, 22506), (158, 22800), (162, 22824),

Gene: CroZenni_29 Start: 21434, Stop: 22306, Start Num: 29

Candidate Starts for CroZenni_29:

(Start: 29 @21434 has 49 MA's), (64, 21596), (100, 21803), (101, 21806), (108, 21836), (143, 22016), (145, 22028), (170, 22154),

Gene: Cyan_26 Start: 21540, Stop: 22367, Start Num: 34

Candidate Starts for Cyan_26:

(Start: 34 @21540 has 61 MA's), (57, 21645), (58, 21648), (69, 21723), (70, 21729), (92, 21840), (95, 21867), (113, 21942), (158, 22134), (162, 22158),

Gene: DejaVu_71 Start: 42873, Stop: 42037, Start Num: 32

Candidate Starts for DejaVu_71:

(Start: 32 @42873 has 22 MA's), (55, 42759), (61, 42723), (72, 42666), (77, 42648), (100, 42510), (105, 42486), (116, 42426), (127, 42366), (135, 42318), (140, 42291), (144, 42273), (159, 42207), (161, 42195), (165, 42180), (175, 42138), (182, 42111),

Gene: DickRichards_29 Start: 21925, Stop: 22797, Start Num: 29

Candidate Starts for DickRichards_29:

(Start: 29 @21925 has 49 MA's), (64, 22087), (100, 22294), (101, 22297), (108, 22327), (136, 22471), (143, 22507), (145, 22519), (170, 22645),

Gene: Didgeridoo_30 Start: 21590, Stop: 22465, Start Num: 29

Candidate Starts for Didgeridoo_30:

(Start: 29 @21590 has 49 MA's), (100, 21956), (101, 21959), (108, 21989), (127, 22091), (136, 22133), (143, 22169), (145, 22181), (170, 22307),

Gene: DirtyBubble_28 Start: 21790, Stop: 22716, Start Num: 29

Candidate Starts for DirtyBubble_28:

(Start: 29 @21790 has 49 MA's), (46, 21871), (64, 21955), (87, 22075), (108, 22195), (126, 22294), (136, 22339), (145, 22387), (208, 22705), (209, 22708),

Gene: Dismas_26 Start: 21810, Stop: 22745, Start Num: 29

Candidate Starts for Dismas_26:

(Start: 29 @21810 has 49 MA's), (53, 21912), (64, 21972), (91, 22116), (94, 22143), (136, 22356), (145, 22404), (164, 22506), (209, 22737),

Gene: Doobus_28 Start: 21201, Stop: 22079, Start Num: 29

Candidate Starts for Doobus_28:

(Start: 29 @21201 has 49 MA's), (64, 21363), (100, 21570), (101, 21573), (108, 21603), (120, 21678), (136, 21747), (143, 21783), (145, 21795),

Gene: DrManhattan_25 Start: 19880, Stop: 20719, Start Num: 34

Candidate Starts for DrManhattan_25:

(22, 19832), (Start: 34 @19880 has 61 MA's), (50, 19958), (57, 19985), (58, 19988), (70, 20069), (78, 20099), (92, 20183), (113, 20285), (157, 20471), (158, 20477),

Gene: DrSierra_26 Start: 20561, Stop: 21397, Start Num: 34

Candidate Starts for DrSierra_26:

(24, 20522), (Start: 34 @20561 has 61 MA's), (48, 20633), (50, 20639), (53, 20648), (57, 20666), (70, 20750), (78, 20780), (92, 20864), (101, 20915), (113, 20966), (158, 21158), (162, 21182), (179, 21239),

Gene: Dubu_23 Start: 19866, Stop: 20717, Start Num: 37

Candidate Starts for Dubu_23:

(Start: 37 @19866 has 10 MA's), (57, 19965), (58, 19968), (63, 20007), (70, 20052), (93, 20166), (98, 20205), (108, 20244), (114, 20274), (124, 20334), (139, 20397), (145, 20436), (149, 20448), (153, 20472), (158, 20505), (172, 20568), (197, 20685),

Gene: DustyDino_78 Start: 43706, Stop: 42846, Start Num: 32

Candidate Starts for DustyDino_78:

(Start: 32 @43706 has 22 MA's), (55, 43589), (72, 43493), (100, 43337), (116, 43253), (135, 43145), (159, 43034), (161, 43019), (166, 42998), (182, 42941),

Gene: Eden_25 Start: 19510, Stop: 20370, Start Num: 33

Candidate Starts for Eden_25:

(Start: 33 @19510 has 11 MA's), (64, 19666), (87, 19786), (100, 19873), (120, 19981), (145, 20098), (154, 20137), (162, 20191), (170, 20224), (172, 20230), (193, 20326),

Gene: Elezi_28 Start: 23618, Stop: 24448, Start Num: 34

Candidate Starts for Elezi_28:

(Start: 34 @23618 has 61 MA's), (57, 23723), (69, 23801), (70, 23807), (92, 23918), (101, 23969), (113, 24020), (158, 24212), (162, 24236),

Gene: Elva_29 Start: 21782, Stop: 22714, Start Num: 29

Candidate Starts for Elva_29:

(8, 21662), (10, 21689), (Start: 29 @21782 has 49 MA's), (53, 21887), (64, 21947), (66, 21962), (87, 22067), (108, 22187), (120, 22262), (135, 22325), (136, 22331), (145, 22379), (164, 22481), (170, 22505), (208, 22700), (209, 22703),

Gene: Emotion_28 Start: 22403, Stop: 23242, Start Num: 34

Candidate Starts for Emotion_28:

(26, 22367), (Start: 34 @22403 has 61 MA's), (57, 22508), (58, 22511), (70, 22592), (92, 22712), (106, 22787), (163, 23033), (181, 23099), (184, 23111), (192, 23156),

Gene: Eraser_28 Start: 23624, Stop: 24454, Start Num: 34

Candidate Starts for Eraser_28:

(Start: 34 @23624 has 61 MA's), (57, 23729), (69, 23807), (70, 23813), (92, 23924), (101, 23975), (113, 24026), (158, 24218), (162, 24242),

Gene: Erenyeager_75 Start: 42798, Stop: 41938, Start Num: 32

Candidate Starts for Erenyeager_75:

(Start: 32 @42798 has 22 MA's), (55, 42681), (72, 42585), (100, 42429), (116, 42345), (135, 42237), (159, 42126), (161, 42111), (166, 42090), (182, 42033),

Gene: Eula_29 Start: 21517, Stop: 22395, Start Num: 29

Candidate Starts for Eula_29:

(Start: 29 @21517 has 49 MA's), (64, 21679), (100, 21886), (101, 21889), (108, 21919), (127, 22021), (136, 22063), (143, 22099), (145, 22111), (170, 22237),

Gene: Euratis_24 Start: 19908, Stop: 20756, Start Num: 37

Candidate Starts for Euratis_24:

(Start: 37 @19908 has 10 MA's), (53, 19989), (57, 20007), (63, 20049), (66, 20067), (70, 20094), (93, 20208), (101, 20256), (108, 20286), (119, 20358), (123, 20370), (139, 20430), (155, 20511), (158, 20541), (179, 20622), (198, 20727),

Gene: Exile_26 Start: 23786, Stop: 24622, Start Num: 34

Candidate Starts for Exile_26:

(Start: 34 @23786 has 61 MA's), (45, 23837), (57, 23891), (58, 23894), (69, 23969), (70, 23975), (92, 24086), (107, 24164), (157, 24374), (158, 24380), (162, 24404), (179, 24461), (184, 24482), (186, 24491), (190, 24512),

Gene: Finalfrontier_29 Start: 21954, Stop: 22829, Start Num: 29

Candidate Starts for Finalfrontier_29:

(Start: 29 @21954 has 49 MA's), (64, 22113), (100, 22320), (101, 22323), (108, 22353), (127, 22455), (136, 22497), (145, 22545), (170, 22671),

Gene: FlameThrower_26 Start: 21657, Stop: 22547, Start Num: 29

Candidate Starts for FlameThrower_26:

(Start: 29 @21657 has 49 MA's), (53, 21759), (91, 21963), (101, 22029), (136, 22203), (143, 22239), (145, 22251), (162, 22344), (164, 22353), (170, 22377),

Gene: Floop_26 Start: 21144, Stop: 22037, Start Num: 25

Candidate Starts for Floop_26:

(Start: 25 @21144 has 1 MA's), (31, 21162), (Start: 34 @21183 has 61 MA's), (45, 21234), (71, 21372), (80, 21402), (92, 21480), (107, 21564), (113, 21588), (155, 21753), (179, 21861), (180, 21870), (191, 21921), (200, 21966), (207, 22017),

Gene: Fork_70 Start: 42453, Stop: 41593, Start Num: 32

Candidate Starts for Fork_70:

(Start: 32 @42453 has 22 MA's), (55, 42336), (72, 42240), (100, 42084), (116, 42000), (135, 41892), (159, 41781), (161, 41766), (166, 41745), (182, 41688),

Gene: Franklin22_26 Start: 19660, Stop: 20520, Start Num: 33

Candidate Starts for Franklin22_26:

(Start: 33 @19660 has 11 MA's), (64, 19816), (94, 19987), (99, 20020), (100, 20023), (108, 20056), (126, 20155), (136, 20200), (145, 20248), (154, 20287), (162, 20341), (170, 20374), (172, 20380), (193, 20476),

Gene: Gack_25 Start: 19547, Stop: 20410, Start Num: 33

Candidate Starts for Gack_25:

(Start: 33 @19547 has 11 MA's), (64, 19703), (94, 19874), (99, 19907), (100, 19910), (108, 19943), (126, 20042), (136, 20087), (145, 20135), (154, 20174), (162, 20228), (170, 20261), (172, 20267), (193, 20363),

Gene: GardenState_29 Start: 22154, Stop: 22987, Start Num: 34

Candidate Starts for GardenState_29:

(Start: 34 @22154 has 61 MA's), (63, 22295), (71, 22343), (80, 22373), (87, 22418), (92, 22451), (113, 22559), (162, 22775), (179, 22832), (192, 22895),

Gene: Gretchen_27 Start: 22546, Stop: 23382, Start Num: 34

Candidate Starts for Gretchen_27:

(31, 22525), (Start: 34 @22546 has 61 MA's), (45, 22597), (64, 22690), (67, 22720), (71, 22735), (80, 22765), (92, 22843), (107, 22927), (113, 22951), (155, 23116), (179, 23224), (180, 23233), (200, 23329),

Gene: Halsey_32 Start: 20157, Stop: 20993, Start Num: 34

Candidate Starts for Halsey_32:

(24, 20115), (30, 20133), (Start: 34 @20157 has 61 MA's), (57, 20256), (87, 20418), (90, 20439), (92, 20451), (97, 20490), (149, 20688), (158, 20745), (161, 20766), (162, 20769), (186, 20859),

Gene: Heather_24 Start: 19550, Stop: 20422, Start Num: 37

Candidate Starts for Heather_24:

(Start: 37 @19550 has 10 MA's), (49, 19619), (53, 19631), (54, 19640), (57, 19649), (59, 19670), (63, 19691), (68, 19727), (70, 19736), (87, 19814), (88, 19823), (92, 19847), (95, 19907), (97, 19919), (114, 19991), (119, 20033), (121, 20039), (123, 20045), (139, 20105), (145, 20144), (147, 20150), (149, 20156), (154, 20183), (158, 20213), (162, 20237), (198, 20396),

Gene: Honk_25 Start: 19520, Stop: 20347, Start Num: 34

Candidate Starts for Honk_25:

(22, 19475), (Start: 32 @19508 has 22 MA's), (Start: 34 @19520 has 61 MA's), (57, 19622), (70, 19706), (95, 19844), (98, 19859), (113, 19919), (137, 19997), (158, 20111), (164, 20144), (170, 20168),

Gene: Hortus1_68 Start: 43079, Stop: 42243, Start Num: 32

Candidate Starts for Hortus1_68:

(Start: 32 @43079 has 22 MA's), (55, 42965), (58, 42956), (100, 42716), (109, 42677), (116, 42632), (118, 42617), (127, 42572), (135, 42524), (165, 42386), (182, 42317),

Gene: Hubbs_70 Start: 43101, Stop: 42265, Start Num: 32

Candidate Starts for Hubbs_70:

(Start: 32 @43101 has 22 MA's), (55, 42987), (61, 42951), (72, 42894), (77, 42876), (100, 42738), (105, 42714), (116, 42654), (135, 42546), (140, 42519), (144, 42501), (159, 42435), (161, 42423), (165, 42408), (175, 42366), (182, 42339),

Gene: IAmGroot_29 Start: 22818, Stop: 23651, Start Num: 34

Candidate Starts for IAmGroot_29:

(Start: 34 @22818 has 61 MA's), (63, 22959), (71, 23007), (80, 23037), (87, 23082), (92, 23115), (113, 23223), (162, 23439), (179, 23496), (192, 23559),

Gene: Icarian_30 Start: 22263, Stop: 23189, Start Num: 29

Candidate Starts for Icarian_30:

(2, 22083), (Start: 29 @22263 has 49 MA's), (53, 22368), (64, 22428), (87, 22548), (108, 22668), (136, 22812), (208, 23178), (209, 23181),

Gene: IndyLu_28 Start: 21376, Stop: 22257, Start Num: 29

Candidate Starts for IndyLu_28:

(Start: 29 @21376 has 49 MA's), (64, 21535), (100, 21742), (101, 21745), (108, 21775), (127, 21877), (136, 21919), (143, 21955), (145, 21967), (170, 22093),

Gene: Iter_26 Start: 21460, Stop: 22293, Start Num: 34

Candidate Starts for Iter_26:

(Start: 34 @21460 has 61 MA's), (57, 21565), (58, 21568), (69, 21643), (70, 21649), (92, 21760), (101, 21811), (158, 22054), (162, 22078),

Gene: IttyBittyPiggy_26 Start: 21487, Stop: 22314, Start Num: 34

Candidate Starts for IttyBittyPiggy_26:

(Start: 34 @21487 has 61 MA's), (39, 21502), (50, 21565), (53, 21574), (57, 21592), (69, 21670), (70, 21676), (81, 21712), (92, 21787), (158, 22081),

Gene: Jacko_71 Start: 42128, Stop: 41289, Start Num: 32

Candidate Starts for Jacko_71:

(Start: 32 @42128 has 22 MA's), (55, 42014), (71, 41921), (72, 41918), (77, 41900), (78, 41897), (100, 41762), (105, 41738), (109, 41723), (116, 41678), (129, 41612), (135, 41570), (156, 41483), (161, 41447), (165, 41432), (175, 41390), (178, 41384), (182, 41363), (195, 41297),

Gene: Janeemi_28 Start: 23727, Stop: 24560, Start Num: 34

Candidate Starts for Janeemi_28:

(23, 23688), (Start: 34 @23727 has 61 MA's), (50, 23805), (53, 23814), (57, 23832), (58, 23835), (69, 23910), (70, 23916), (92, 24027), (113, 24129), (158, 24321), (162, 24345), (206, 24549),

Gene: JasmineDragon_28 Start: 21466, Stop: 22305, Start Num: 34

Candidate Starts for JasmineDragon_28:

(19, 21397), (Start: 34 @21466 has 61 MA's), (57, 21571), (70, 21655), (92, 21766), (179, 22141),

Gene: Joemato_28 Start: 21540, Stop: 22367, Start Num: 34

Candidate Starts for Joemato_28:

(Start: 34 @21540 has 61 MA's), (57, 21645), (58, 21648), (69, 21723), (70, 21729), (92, 21840), (95, 21867), (113, 21942), (158, 22134), (162, 22158),

Gene: JohnDoe_26 Start: 21535, Stop: 22362, Start Num: 34

Candidate Starts for JohnDoe_26:

(Start: 34 @21535 has 61 MA's), (57, 21640), (58, 21643), (69, 21718), (70, 21724), (92, 21835), (95, 21862), (113, 21937), (158, 22129), (162, 22153),

Gene: Johnathan_28 Start: 20974, Stop: 21852, Start Num: 29

Candidate Starts for Johnathan_28:

(5, 20812), (Start: 29 @20974 has 49 MA's), (64, 21136), (100, 21343), (101, 21346), (108, 21376), (120, 21451), (136, 21520), (143, 21556), (145, 21568), (170, 21694),

Gene: Jovita_29 Start: 21620, Stop: 22498, Start Num: 29

Candidate Starts for Jovita_29:

(11, 21527), (Start: 29 @21620 has 49 MA's), (64, 21782), (100, 21989), (101, 21992), (108, 22022), (136, 22166), (143, 22202), (145, 22214), (170, 22340),

Gene: Jstan_30 Start: 23618, Stop: 24448, Start Num: 34

Candidate Starts for Jstan_30:

(Start: 34 @23618 has 61 MA's), (57, 23723), (69, 23801), (70, 23807), (92, 23918), (101, 23969), (113, 24020), (158, 24212), (162, 24236),

Gene: JuneStar_27 Start: 23759, Stop: 24592, Start Num: 34

Candidate Starts for JuneStar_27:

(Start: 34 @23759 has 61 MA's), (39, 23774), (57, 23864), (58, 23867), (70, 23948), (81, 23987), (92, 24062), (94, 24080), (158, 24356),

Gene: Katzastrophic_26 Start: 21775, Stop: 22665, Start Num: 29

Candidate Starts for Katzastrophic_26:

(Start: 29 @21775 has 49 MA's), (53, 21877), (91, 22081), (101, 22147), (136, 22321), (143, 22357), (145, 22369), (162, 22462), (164, 22471), (170, 22495),

Gene: Kaylissa_26 Start: 21530, Stop: 22357, Start Num: 34

Candidate Starts for Kaylissa_26:

(15, 21434), (Start: 34 @21530 has 61 MA's), (57, 21635), (58, 21638), (69, 21713), (70, 21719), (92, 21830), (95, 21857), (113, 21932), (158, 22124), (162, 22148),

Gene: KeAlii_27 Start: 21676, Stop: 22503, Start Num: 34

Candidate Starts for KeAlii_27:

(26, 21643), (Start: 34 @21676 has 61 MA's), (53, 21763), (57, 21781), (70, 21865), (92, 21979), (95, 22006), (113, 22081), (139, 22165), (158, 22273), (162, 22297), (169, 22327),

Gene: Kenzers_29 Start: 21507, Stop: 22385, Start Num: 29

Candidate Starts for Kenzers_29:

(Start: 29 @21507 has 49 MA's), (64, 21669), (100, 21876), (101, 21879), (108, 21909), (136, 22053), (143, 22089), (145, 22101), (170, 22227),

Gene: Kieran_26 Start: 21813, Stop: 22748, Start Num: 29

Candidate Starts for Kieran_26:

(Start: 29 @21813 has 49 MA's), (53, 21915), (64, 21975), (91, 22119), (94, 22146), (136, 22359), (145, 22407), (164, 22509), (209, 22740),

Gene: Lahqtemish_28 Start: 21427, Stop: 22308, Start Num: 29

Candidate Starts for Lahqtemish_28:

(Start: 29 @21427 has 49 MA's), (100, 21793), (101, 21796), (108, 21826), (136, 21970), (143, 22006), (145, 22018), (170, 22144), (187, 22210),

Gene: LeeroyJenkins_79 Start: 45485, Stop: 44679, Start Num: 44

Candidate Starts for LeeroyJenkins_79:

(Start: 44 @45485 has 2 MA's), (47, 45467), (52, 45452), (58, 45428), (75, 45329), (83, 45299), (100, 45191), (101, 45188), (132, 45035), (136, 45011), (141, 44984), (151, 44942), (167, 44855), (168, 44852), (194, 44729), (198, 44705),

Gene: Lego_26 Start: 21484, Stop: 22311, Start Num: 34

Candidate Starts for Lego_26:

(15, 21388), (Start: 34 @21484 has 61 MA's), (57, 21589), (58, 21592), (69, 21667), (70, 21673), (92, 21784), (95, 21811), (113, 21886), (158, 22078), (162, 22102),

Gene: Liebe_26 Start: 22078, Stop: 22905, Start Num: 34

Candidate Starts for Liebe_26:

(Start: 34 @22078 has 61 MA's), (53, 22162), (57, 22180), (58, 22183), (70, 22264), (157, 22666), (158, 22672), (179, 22753), (180, 22762), (193, 22831), (205, 22894),

Gene: Lifes_72 Start: 42506, Stop: 41583, Start Num: 20

Candidate Starts for Lifes_72:

(Start: 20 @42506 has 2 MA's), (Start: 44 @42395 has 2 MA's), (47, 42377), (52, 42362), (58, 42338), (71, 42251), (83, 42209), (100, 42101), (101, 42098), (104, 42083), (115, 42035), (129, 41969), (132, 41945), (141, 41894), (142, 41888), (167, 41759), (168, 41756), (194, 41633), (198, 41609),

Gene: Lilbooboo_24 Start: 20133, Stop: 20978, Start Num: 36

Candidate Starts for Lilbooboo_24:

(Start: 36 @20133 has 2 MA's), (49, 20202), (53, 20214), (57, 20232), (63, 20274), (68, 20310), (70, 20319), (120, 20586), (121, 20589), (139, 20655), (149, 20706), (150, 20718), (158, 20763), (162, 20787),

Gene: LimaBean_28 Start: 20970, Stop: 21848, Start Num: 29

Candidate Starts for LimaBean_28:

(Start: 29 @20970 has 49 MA's), (64, 21132), (100, 21339), (101, 21342), (108, 21372), (120, 21447), (136, 21516), (143, 21552), (145, 21564), (170, 21690),

Gene: Lizalica_26 Start: 21527, Stop: 22360, Start Num: 34

Candidate Starts for Lizalica_26:

(Start: 34 @21527 has 61 MA's), (53, 21614), (57, 21632), (70, 21716), (92, 21830), (95, 21857), (158, 22124), (162, 22148),

Gene: London_28 Start: 23618, Stop: 24448, Start Num: 34

Candidate Starts for London_28:

(Start: 34 @23618 has 61 MA's), (57, 23723), (69, 23801), (70, 23807), (92, 23918), (101, 23969), (113, 24020), (158, 24212), (162, 24236),

Gene: Loviatar_48 Start: 22647, Stop: 23573, Start Num: 29

Candidate Starts for Loviatar_48:

(Start: 29 @22647 has 49 MA's), (53, 22752), (64, 22812), (87, 22932), (108, 23052), (135, 23190), (136, 23196), (143, 23232), (145, 23244), (170, 23370), (208, 23562), (209, 23565),

Gene: Lupine_68 Start: 42287, Stop: 41451, Start Num: 32

Candidate Starts for Lupine_68:

(Start: 32 @42287 has 22 MA's), (55, 42173), (61, 42137), (72, 42080), (77, 42062), (100, 41924), (105, 41900), (116, 41840), (127, 41780), (135, 41732), (140, 41705), (144, 41687), (159, 41621), (161, 41609), (165, 41594), (175, 41552), (182, 41525),

Gene: Lyell_74 Start: 42652, Stop: 41792, Start Num: 32

Candidate Starts for Lyell_74:

(Start: 32 @42652 has 22 MA's), (55, 42535), (72, 42439), (100, 42283), (116, 42199), (135, 42091), (159, 41980), (161, 41965), (166, 41944), (182, 41887),

Gene: Lynlen_29 Start: 21507, Stop: 22385, Start Num: 29

Candidate Starts for Lynlen_29:

(Start: 29 @21507 has 49 MA's), (64, 21669), (100, 21876), (101, 21879), (108, 21909), (136, 22053), (143, 22089), (145, 22101), (170, 22227),

Gene: MaGuCo_25 Start: 21194, Stop: 22021, Start Num: 34

Candidate Starts for MaGuCo_25:

(Start: 34 @21194 has 61 MA's), (48, 21263), (53, 21278), (57, 21296), (58, 21299), (70, 21380), (157, 21782), (158, 21788), (179, 21869), (180, 21878), (193, 21947),

Gene: Mabodamaca_27 Start: 21572, Stop: 22405, Start Num: 34

Candidate Starts for Mabodamaca_27:

(Start: 34 @21572 has 61 MA's), (63, 21713), (71, 21761), (80, 21791), (92, 21869), (113, 21977), (157, 22163), (179, 22250), (180, 22259),

Gene: Maureen_26 Start: 22078, Stop: 22905, Start Num: 34

Candidate Starts for Maureen_26:

(Start: 34 @22078 has 61 MA's), (53, 22162), (57, 22180), (58, 22183), (70, 22264), (157, 22666), (158, 22672), (179, 22753), (180, 22762), (193, 22831), (205, 22894),

Gene: MiniMommy_29 Start: 21467, Stop: 22306, Start Num: 34

Candidate Starts for MiniMommy_29:

(19, 21398), (Start: 34 @21467 has 61 MA's), (57, 21572), (70, 21656), (92, 21767), (179, 22142),

Gene: MissSwiss_25 Start: 19949, Stop: 20782, Start Num: 34

Candidate Starts for MissSwiss_25:

(22, 19901), (Start: 34 @19949 has 61 MA's), (50, 20027), (53, 20036), (57, 20054), (70, 20138), (78, 20168), (92, 20252), (101, 20303), (145, 20477), (157, 20540), (158, 20546), (162, 20570),

Gene: Moss_30 Start: 20153, Stop: 20989, Start Num: 34

Candidate Starts for Moss_30:

(24, 20111), (30, 20129), (Start: 34 @20153 has 61 MA's), (57, 20252), (87, 20414), (92, 20447), (97, 20486), (149, 20684), (158, 20741), (161, 20762), (162, 20765), (186, 20855),

Gene: Mudpuppy_27 Start: 21535, Stop: 22362, Start Num: 34

Candidate Starts for Mudpuppy_27:

(Start: 34 @21535 has 61 MA's), (50, 21613), (57, 21640), (69, 21718), (70, 21724), (92, 21835), (95, 21862), (113, 21937), (158, 22129),

Gene: Musetta_74 Start: 43173, Stop: 42313, Start Num: 32

Candidate Starts for Musetta_74:

(Start: 32 @43173 has 22 MA's), (55, 43056), (72, 42960), (100, 42804), (116, 42720), (135, 42612), (159, 42501), (161, 42486), (166, 42465), (182, 42408),

Gene: Necrophoxinus_76 Start: 43347, Stop: 42487, Start Num: 32

Candidate Starts for Necrophoxinus_76:

(Start: 32 @43347 has 22 MA's), (55, 43230), (72, 43134), (100, 42978), (116, 42894), (135, 42786), (159, 42675), (161, 42660), (166, 42639), (182, 42582),

Gene: Nesbitt_28 Start: 21736, Stop: 22608, Start Num: 38

Candidate Starts for Nesbitt_28:

(Start: 38 @21736 has 2 MA's), (45, 21778), (57, 21829), (63, 21868), (66, 21886), (70, 21913), (71, 21916), (78, 21943), (103, 22123), (105, 22132), (110, 22153), (123, 22225), (133, 22270), (149, 22345), (172, 22465), (179, 22483),

Gene: Nicky22_31 Start: 22149, Stop: 23024, Start Num: 29

Candidate Starts for Nicky22_31:

(Start: 29 @22149 has 49 MA's), (58, 22272), (64, 22311), (100, 22518), (101, 22521), (108, 22551), (127, 22653), (136, 22695), (143, 22731), (145, 22743), (170, 22869),

Gene: Niobe_28 Start: 23618, Stop: 24448, Start Num: 34
Candidate Starts for Niobe_28:
(Start: 34 @23618 has 61 MA's), (57, 23723), (69, 23801), (70, 23807), (92, 23918), (101, 23969),
(113, 24020), (158, 24212), (162, 24236),

Gene: Nitro_27 Start: 22945, Stop: 23772, Start Num: 34
Candidate Starts for Nitro_27:
(Start: 34 @22945 has 61 MA's), (57, 23050), (58, 23053), (69, 23128), (70, 23134), (92, 23245), (113,
23347), (158, 23539), (162, 23563),

Gene: ObiToo_28 Start: 21940, Stop: 22776, Start Num: 34
Candidate Starts for ObiToo_28:
(26, 21907), (Start: 34 @21940 has 61 MA's), (39, 21955), (57, 22045), (68, 22120), (70, 22129), (78,
22159), (92, 22243), (158, 22537), (162, 22561),

Gene: OlinDD_68 Start: 43078, Stop: 42242, Start Num: 32
Candidate Starts for OlinDD_68:
(Start: 32 @43078 has 22 MA's), (55, 42964), (58, 42955), (100, 42715), (109, 42676), (116, 42631),
(118, 42616), (127, 42571), (135, 42523), (165, 42385), (182, 42316),

Gene: Olliecat_30 Start: 20850, Stop: 21788, Start Num: 21
Candidate Starts for Olliecat_30:
(3, 20694), (13, 20802), (21, 20850), (28, 20880), (30, 20886), (46, 20970), (64, 21054), (78, 21123),
(91, 21198), (94, 21225), (100, 21261), (101, 21264), (105, 21285), (121, 21372), (127, 21396), (128,
21399), (135, 21432), (143, 21474), (157, 21549), (161, 21576), (162, 21579), (170, 21612), (193,
21714), (203, 21774),

Gene: Pavlo_69 Start: 42932, Stop: 42096, Start Num: 32
Candidate Starts for Pavlo_69:
(Start: 32 @42932 has 22 MA's), (55, 42818), (61, 42782), (72, 42725), (77, 42707), (100, 42569),
(105, 42545), (116, 42485), (127, 42425), (135, 42377), (140, 42350), (144, 42332), (159, 42266),
(161, 42254), (165, 42239), (175, 42197), (182, 42170),

Gene: Percival_27 Start: 22377, Stop: 23213, Start Num: 34
Candidate Starts for Percival_27:
(31, 22356), (Start: 34 @22377 has 61 MA's), (45, 22428), (64, 22521), (67, 22551), (71, 22566), (80,
22596), (92, 22674), (107, 22758), (113, 22782), (155, 22947), (179, 23055), (180, 23064), (200,
23160),

Gene: PhillyPhilly_69 Start: 42466, Stop: 41630, Start Num: 32
Candidate Starts for PhillyPhilly_69:
(Start: 32 @42466 has 22 MA's), (55, 42352), (61, 42316), (72, 42259), (77, 42241), (100, 42103),
(105, 42079), (116, 42019), (127, 41959), (135, 41911), (140, 41884), (144, 41866), (159, 41800),
(161, 41788), (165, 41773), (175, 41731), (182, 41704),

Gene: Phisb_29 Start: 21573, Stop: 22451, Start Num: 29
Candidate Starts for Phisb_29:
(Start: 29 @21573 has 49 MA's), (64, 21735), (100, 21942), (101, 21945), (108, 21975), (127, 22077),
(136, 22119), (143, 22155), (145, 22167), (170, 22293),

Gene: Phives_28 Start: 23535, Stop: 24368, Start Num: 34
Candidate Starts for Phives_28:

(Start: 34 @23535 has 61 MA's), (57, 23640), (58, 23643), (69, 23718), (70, 23724), (92, 23835), (95, 23862), (113, 23937), (158, 24129), (162, 24153), (199, 24315), (206, 24357),

Gene: Pioneer3_68 Start: 42900, Stop: 42064, Start Num: 32

Candidate Starts for Pioneer3_68:

(Start: 32 @42900 has 22 MA's), (55, 42786), (58, 42777), (100, 42537), (109, 42498), (116, 42453), (118, 42438), (127, 42393), (135, 42345), (165, 42207), (182, 42138),

Gene: Pixelle_28 Start: 23376, Stop: 24203, Start Num: 34

Candidate Starts for Pixelle_28:

(Start: 32 @23361 has 22 MA's), (Start: 34 @23376 has 61 MA's), (57, 23481), (69, 23559), (70, 23565), (92, 23676), (158, 23970),

Gene: Platte_68 Start: 42871, Stop: 42035, Start Num: 32

Candidate Starts for Platte_68:

(Start: 32 @42871 has 22 MA's), (55, 42757), (58, 42748), (100, 42508), (109, 42469), (116, 42424), (118, 42409), (127, 42364), (135, 42316), (165, 42178), (182, 42109),

Gene: Powerpuff_26 Start: 21535, Stop: 22362, Start Num: 34

Candidate Starts for Powerpuff_26:

(Start: 34 @21535 has 61 MA's), (57, 21640), (58, 21643), (69, 21718), (70, 21724), (92, 21835), (95, 21862), (113, 21937), (158, 22129), (162, 22153),

Gene: Pumpkins_26 Start: 22329, Stop: 23159, Start Num: 34

Candidate Starts for Pumpkins_26:

(15, 22233), (Start: 34 @22329 has 61 MA's), (57, 22434), (58, 22437), (69, 22512), (70, 22518), (81, 22554), (92, 22629), (107, 22707), (145, 22854), (158, 22923),

Gene: QMacho_30 Start: 22000, Stop: 22878, Start Num: 29

Candidate Starts for QMacho_30:

(Start: 29 @22000 has 49 MA's), (64, 22162), (100, 22369), (101, 22372), (108, 22402), (127, 22504), (136, 22546), (143, 22582), (145, 22594), (170, 22720),

Gene: Quenya_27 Start: 21668, Stop: 22558, Start Num: 29

Candidate Starts for Quenya_27:

(Start: 29 @21668 has 49 MA's), (53, 21770), (91, 21974), (101, 22040), (136, 22214), (177, 22406),

Gene: Reedo_26 Start: 20112, Stop: 20945, Start Num: 34

Candidate Starts for Reedo_26:

(Start: 34 @20112 has 61 MA's), (45, 20163), (57, 20217), (70, 20301), (78, 20331), (92, 20415), (95, 20442), (113, 20517), (139, 20601), (158, 20709), (162, 20733),

Gene: RemusLoopin_24 Start: 20149, Stop: 20988, Start Num: 37

Candidate Starts for RemusLoopin_24:

(Start: 37 @20149 has 10 MA's), (49, 20218), (53, 20230), (54, 20239), (57, 20248), (59, 20269), (63, 20290), (70, 20335), (87, 20413), (94, 20464), (108, 20527), (114, 20557), (119, 20599), (121, 20605), (123, 20611), (139, 20671), (147, 20716), (149, 20722), (154, 20749), (158, 20779), (173, 20845), (198, 20962),

Gene: Rollins_25 Start: 19362, Stop: 20243, Start Num: 33

Candidate Starts for Rollins_25:

(Start: 33 @19362 has 11 MA's), (39, 19392), (64, 19521), (82, 19605), (91, 19665), (94, 19692), (101, 19731), (136, 19914), (143, 19950), (170, 20088), (180, 20121), (195, 20205),

Gene: Roman_72 Start: 43587, Stop: 42751, Start Num: 32

Candidate Starts for Roman_72:

(Start: 32 @43587 has 22 MA's), (55, 43473), (61, 43437), (72, 43380), (77, 43362), (100, 43224), (105, 43200), (116, 43140), (127, 43080), (135, 43032), (140, 43005), (144, 42987), (159, 42921), (161, 42909), (165, 42894), (175, 42852), (182, 42825),

Gene: Rona_26 Start: 21810, Stop: 22745, Start Num: 29

Candidate Starts for Rona_26:

(Start: 29 @21810 has 49 MA's), (53, 21912), (64, 21972), (91, 22116), (94, 22143), (136, 22356), (145, 22404), (164, 22506), (209, 22737),

Gene: Rowa_30 Start: 23093, Stop: 23953, Start Num: 37

Candidate Starts for Rowa_30:

(Start: 37 @23093 has 10 MA's), (53, 23174), (55, 23186), (57, 23192), (63, 23231), (70, 23276), (92, 23387), (93, 23390), (105, 23459), (111, 23483), (136, 23624), (138, 23630), (143, 23660), (147, 23678), (149, 23684), (158, 23741), (161, 23762), (162, 23765), (172, 23804), (175, 23819),

Gene: RunningBrook_77 Start: 43706, Stop: 42846, Start Num: 32

Candidate Starts for RunningBrook_77:

(Start: 32 @43706 has 22 MA's), (55, 43589), (72, 43493), (100, 43337), (116, 43253), (135, 43145), (159, 43034), (161, 43019), (166, 42998), (182, 42941),

Gene: Samora_24 Start: 20288, Stop: 21133, Start Num: 36

Candidate Starts for Samora_24:

(Start: 36 @20288 has 2 MA's), (53, 20369), (57, 20387), (63, 20429), (68, 20465), (70, 20474), (110, 20678), (119, 20738), (121, 20744), (139, 20810), (149, 20861), (150, 20873), (158, 20918), (162, 20942), (164, 20951), (198, 21104),

Gene: Samy_34 Start: 26611, Stop: 27414, Start Num: 37

Candidate Starts for Samy_34:

(27, 26575), (Start: 37 @26611 has 10 MA's), (39, 26620), (53, 26692), (57, 26710), (60, 26731), (96, 26944), (97, 26950), (113, 27013), (115, 27025), (123, 27076), (160, 27214), (172, 27268), (179, 27286),

Gene: SanaSana_30 Start: 22297, Stop: 23223, Start Num: 29

Candidate Starts for SanaSana_30:

(2, 22117), (Start: 29 @22297 has 49 MA's), (53, 22402), (64, 22462), (87, 22582), (108, 22702), (136, 22846), (145, 22894), (164, 22996), (170, 23020), (208, 23212), (209, 23215),

Gene: SansAfet_29 Start: 21442, Stop: 22320, Start Num: 29

Candidate Starts for SansAfet_29:

(Start: 29 @21442 has 49 MA's), (64, 21604), (100, 21811), (101, 21814), (108, 21844), (127, 21946), (136, 21988), (143, 22024), (145, 22036), (170, 22162),

Gene: SarBear_29 Start: 21497, Stop: 22372, Start Num: 29

Candidate Starts for SarBear_29:

(Start: 29 @21497 has 49 MA's), (64, 21659), (100, 21866), (101, 21869), (108, 21899), (127, 22001), (136, 22043), (143, 22079), (145, 22091), (170, 22217),

Gene: Sebastisaurus_24 Start: 19989, Stop: 20828, Start Num: 37

Candidate Starts for Sebastisaurus_24:

(16, 19896), (Start: 37 @19989 has 10 MA's), (49, 20058), (54, 20079), (57, 20088), (59, 20109), (63, 20130), (70, 20175), (87, 20253), (94, 20304), (108, 20367), (114, 20397), (119, 20439), (121, 20445), (123, 20451), (139, 20511), (145, 20550), (149, 20562), (158, 20619),

Gene: ShakeltOph_29 Start: 21397, Stop: 22305, Start Num: 19

Candidate Starts for ShakeltOph_29:

(19, 21397), (Start: 34 @21466 has 61 MA's), (57, 21571), (70, 21655), (92, 21766), (179, 22141),

Gene: Sharkboy_27 Start: 21891, Stop: 22829, Start Num: 29

Candidate Starts for Sharkboy_27:

(Start: 29 @21891 has 49 MA's), (53, 21996), (64, 22056), (91, 22200), (94, 22227), (136, 22440), (145, 22488), (164, 22590),

Gene: Shawty_23 Start: 20354, Stop: 21199, Start Num: 37

Candidate Starts for Shawty_23:

(Start: 37 @20354 has 10 MA's), (53, 20435), (57, 20453), (63, 20495), (70, 20540), (90, 20639), (92, 20651), (95, 20678), (108, 20732), (111, 20747), (119, 20804), (121, 20810), (134, 20861), (139, 20876), (149, 20927), (150, 20939), (158, 20984), (162, 21008), (179, 21065), (197, 21167), (198, 21170),

Gene: Shayna_27 Start: 20808, Stop: 21713, Start Num: 28

Candidate Starts for Shayna_27:

(3, 20631), (28, 20808), (64, 20979), (87, 21099), (94, 21150), (97, 21177), (161, 21501), (163, 21507), (186, 21591), (188, 21606), (204, 21702),

Gene: Simpson_28 Start: 21540, Stop: 22367, Start Num: 34

Candidate Starts for Simpson_28:

(Start: 34 @21540 has 61 MA's), (57, 21645), (58, 21648), (69, 21723), (70, 21729), (92, 21840), (95, 21867), (113, 21942), (158, 22134), (162, 22158),

Gene: Skylord_25 Start: 19293, Stop: 20174, Start Num: 33

Candidate Starts for Skylord_25:

(Start: 33 @19293 has 11 MA's), (64, 19452), (82, 19536), (91, 19596), (94, 19623), (101, 19662), (136, 19845), (143, 19881), (170, 20019), (180, 20052), (195, 20136),

Gene: Slay_30 Start: 22145, Stop: 23020, Start Num: 29

Candidate Starts for Slay_30:

(Start: 29 @22145 has 49 MA's), (58, 22268), (64, 22307), (100, 22514), (101, 22517), (108, 22547), (127, 22649), (136, 22691), (143, 22727), (145, 22739), (170, 22865),

Gene: Snek_27 Start: 20682, Stop: 21515, Start Num: 34

Candidate Starts for Snek_27:

(12, 20580), (18, 20616), (Start: 34 @20682 has 61 MA's), (57, 20787), (70, 20871), (92, 20985), (95, 21012), (113, 21087), (139, 21171), (157, 21273), (158, 21279), (162, 21303),

Gene: Soondubu_26 Start: 23790, Stop: 24626, Start Num: 34

Candidate Starts for Soondubu_26:

(Start: 34 @23790 has 61 MA's), (57, 23895), (58, 23898), (69, 23973), (70, 23979), (92, 24090), (107, 24168), (158, 24384), (162, 24408), (179, 24465), (186, 24495), (190, 24516),

Gene: StevieWelch_75 Start: 42798, Stop: 41938, Start Num: 32

Candidate Starts for StevieWelch_75:

(Start: 32 @42798 has 22 MA's), (55, 42681), (72, 42585), (100, 42429), (116, 42345), (135, 42237), (159, 42126), (161, 42111), (166, 42090), (168, 42084), (182, 42033),

Gene: Stoor_29 Start: 22294, Stop: 23220, Start Num: 29

Candidate Starts for Stoor_29:

(Start: 29 @22294 has 49 MA's), (46, 22375), (64, 22459), (87, 22579), (108, 22699), (126, 22798), (136, 22843), (145, 22891), (164, 22993), (170, 23017), (208, 23209), (209, 23212),

Gene: Stromboli_28 Start: 21831, Stop: 22757, Start Num: 29

Candidate Starts for Stromboli_28:

(Start: 29 @21831 has 49 MA's), (46, 21912), (64, 21996), (87, 22116), (108, 22236), (126, 22335), (136, 22380), (145, 22428), (208, 22746), (209, 22749),

Gene: SuMoo_26 Start: 20527, Stop: 21360, Start Num: 34

Candidate Starts for SuMoo_26:

(Start: 34 @20527 has 61 MA's), (63, 20668), (71, 20716), (80, 20746), (92, 20824), (113, 20932), (157, 21118), (179, 21205), (180, 21214),

Gene: Sue2_28 Start: 22397, Stop: 23227, Start Num: 34

Candidate Starts for Sue2_28:

(26, 22367), (Start: 34 @22397 has 61 MA's), (57, 22502), (70, 22586), (78, 22616), (92, 22700), (101, 22751), (113, 22802), (122, 22862), (158, 22994), (162, 23018), (169, 23048), (190, 23126),

Gene: SunnyD_29 Start: 20850, Stop: 21755, Start Num: 28

Candidate Starts for SunnyD_29:

(3, 20673), (28, 20850), (64, 21021), (87, 21141), (94, 21192), (97, 21219), (161, 21543), (163, 21549), (186, 21633), (188, 21648), (204, 21744),

Gene: Swervy_29 Start: 21497, Stop: 22375, Start Num: 29

Candidate Starts for Swervy_29:

(Start: 29 @21497 has 49 MA's), (64, 21659), (100, 21866), (101, 21869), (108, 21899), (136, 22043), (143, 22079), (145, 22091), (170, 22217),

Gene: TG1_23 Start: 20234, Stop: 21076, Start Num: 37

Candidate Starts for TG1_23:

(17, 20168), (Start: 20 @20180 has 2 MA's), (Start: 37 @20234 has 10 MA's), (39, 20243), (53, 20315), (57, 20333), (63, 20375), (70, 20420), (78, 20447), (95, 20558), (111, 20627), (114, 20642), (123, 20696), (130, 20717), (139, 20756), (149, 20807), (150, 20819), (158, 20864), (162, 20888), (164, 20897), (191, 21008),

Gene: Tallboi_27 Start: 22973, Stop: 23800, Start Num: 34

Candidate Starts for Tallboi_27:

(Start: 34 @22973 has 61 MA's), (57, 23078), (69, 23156), (70, 23162), (92, 23273), (113, 23375), (158, 23567),

Gene: Tandem_68 Start: 42998, Stop: 42162, Start Num: 32

Candidate Starts for Tandem_68:

(Start: 32 @42998 has 22 MA's), (55, 42884), (58, 42875), (100, 42635), (109, 42596), (116, 42551), (118, 42536), (127, 42491), (135, 42443), (165, 42305), (182, 42236),

Gene: Tbone_26 Start: 21559, Stop: 22386, Start Num: 34

Candidate Starts for Tbone_26:

(Start: 34 @21559 has 61 MA's), (50, 21637), (57, 21664), (69, 21742), (70, 21748), (92, 21859), (95, 21886), (113, 21961), (158, 22153), (162, 22177),

Gene: TforTroy_27 Start: 22221, Stop: 23054, Start Num: 34

Candidate Starts for TforTroy_27:

(16, 22125), (Start: 34 @22221 has 61 MA's), (53, 22308), (57, 22326), (66, 22383), (70, 22410), (81, 22449), (92, 22524), (94, 22542), (158, 22818), (162, 22842),

Gene: Tian_27 Start: 23372, Stop: 24199, Start Num: 34

Candidate Starts for Tian_27:

(Start: 32 @23357 has 22 MA's), (Start: 34 @23372 has 61 MA's), (57, 23477), (69, 23555), (70, 23561), (92, 23672), (158, 23966),

Gene: Tuck_28 Start: 23678, Stop: 24511, Start Num: 34

Candidate Starts for Tuck_28:

(Start: 34 @23678 has 61 MA's), (57, 23783), (58, 23786), (69, 23861), (70, 23867), (92, 23978), (113, 24080), (158, 24272), (162, 24296), (199, 24458), (206, 24500),

Gene: TukTuk_29 Start: 21556, Stop: 22434, Start Num: 29

Candidate Starts for TukTuk_29:

(Start: 29 @21556 has 49 MA's), (64, 21718), (100, 21925), (101, 21928), (108, 21958), (127, 22060), (136, 22102), (143, 22138), (145, 22150), (170, 22276),

Gene: Turab_26 Start: 21447, Stop: 22277, Start Num: 34

Candidate Starts for Turab_26:

(Start: 34 @21447 has 61 MA's), (50, 21525), (57, 21552), (66, 21609), (69, 21630), (70, 21636), (92, 21747), (113, 21849), (158, 22041), (162, 22065),

Gene: Tutumahutu_26 Start: 21534, Stop: 22361, Start Num: 34

Candidate Starts for Tutumahutu_26:

(15, 21438), (Start: 34 @21534 has 61 MA's), (57, 21639), (70, 21723), (92, 21834), (95, 21861), (113, 21936), (158, 22128), (162, 22152),

Gene: Tweety19_27 Start: 20681, Stop: 21514, Start Num: 34

Candidate Starts for Tweety19_27:

(12, 20579), (18, 20615), (Start: 34 @20681 has 61 MA's), (57, 20786), (70, 20870), (92, 20984), (95, 21011), (113, 21086), (139, 21170), (157, 21272), (158, 21278), (162, 21302),

Gene: UtzChips_26 Start: 21221, Stop: 22036, Start Num: 34

Candidate Starts for UtzChips_26:

(Start: 34 @21221 has 61 MA's), (67, 21395), (71, 21410), (80, 21440), (92, 21518), (94, 21536), (113, 21620), (139, 21704), (162, 21836), (179, 21893), (192, 21956), (193, 21968),

Gene: VResidence_27 Start: 21676, Stop: 22509, Start Num: 34

Candidate Starts for VResidence_27:

(Start: 34 @21676 has 61 MA's), (57, 21781), (70, 21865), (78, 21895), (92, 21979), (95, 22006), (101, 22030), (113, 22081), (115, 22093), (158, 22273), (162, 22297), (179, 22354),

Gene: Vash_24 Start: 19933, Stop: 20778, Start Num: 36

Candidate Starts for Vash_24:

(Start: 36 @19933 has 2 MA's), (57, 20032), (63, 20074), (68, 20110), (70, 20119), (95, 20257), (108, 20311), (121, 20389), (123, 20395), (139, 20455), (149, 20506), (150, 20518), (158, 20563), (197, 20746), (198, 20749),

Gene: Vitas_25 Start: 19302, Stop: 20183, Start Num: 33

Candidate Starts for Vitas_25:

(Start: 33 @19302 has 11 MA's), (39, 19332), (64, 19461), (82, 19545), (91, 19605), (94, 19632), (101, 19671), (136, 19854), (170, 20028), (180, 20061), (195, 20145),

Gene: VroomVroom_28 Start: 21561, Stop: 22400, Start Num: 34

Candidate Starts for VroomVroom_28:

(19, 21492), (Start: 34 @21561 has 61 MA's), (57, 21666), (70, 21750), (92, 21861), (179, 22236),

Gene: Warda_26 Start: 21534, Stop: 22361, Start Num: 34

Candidate Starts for Warda_26:

(Start: 34 @21534 has 61 MA's), (50, 21612), (57, 21639), (69, 21717), (70, 21723), (92, 21834), (95, 21861), (113, 21936), (158, 22128), (162, 22152),

Gene: WaterT_75 Start: 44346, Stop: 43423, Start Num: 20

Candidate Starts for WaterT_75:

(Start: 20 @44346 has 2 MA's), (39, 44268), (40, 44265), (Start: 44 @44235 has 2 MA's), (47, 44217), (78, 44067), (83, 44049), (100, 43941), (101, 43938), (104, 43923), (115, 43875), (120, 43833), (129, 43809), (132, 43785), (136, 43761), (141, 43734), (142, 43728), (167, 43599), (168, 43596), (185, 43527), (194, 43473), (198, 43449),

Gene: Welcome_76 Start: 43158, Stop: 42298, Start Num: 32

Candidate Starts for Welcome_76:

(Start: 32 @43158 has 22 MA's), (55, 43041), (72, 42945), (100, 42789), (116, 42705), (135, 42597), (159, 42486), (161, 42471), (166, 42450), (182, 42393),

Gene: Wildwest_27 Start: 21505, Stop: 22341, Start Num: 34

Candidate Starts for Wildwest_27:

(24, 21466), (Start: 34 @21505 has 61 MA's), (45, 21556), (48, 21577), (50, 21583), (53, 21592), (57, 21610), (70, 21694), (78, 21724), (92, 21808), (95, 21835), (101, 21859), (113, 21910), (158, 22102), (162, 22126), (179, 22183),

Gene: Wolfstar_73 Start: 44392, Stop: 43553, Start Num: 32

Candidate Starts for Wolfstar_73:

(Start: 32 @44392 has 22 MA's), (61, 44239), (71, 44185), (100, 44026), (106, 43999), (115, 43960), (116, 43942), (135, 43834), (142, 43795), (176, 43651), (182, 43627), (195, 43561),

Gene: Yang_26 Start: 21587, Stop: 22423, Start Num: 34

Candidate Starts for Yang_26:

(Start: 34 @21587 has 61 MA's), (39, 21602), (57, 21692), (58, 21695), (70, 21776), (81, 21815), (92, 21890), (158, 22184),

Gene: YesChef_26 Start: 21535, Stop: 22362, Start Num: 34

Candidate Starts for YesChef_26:

(Start: 34 @21535 has 61 MA's), (57, 21640), (58, 21643), (69, 21718), (70, 21724), (92, 21835), (95, 21862), (113, 21937), (158, 22129), (162, 22153),

Gene: Yuma_73 Start: 42667, Stop: 41807, Start Num: 32

Candidate Starts for Yuma_73:

(Start: 32 @42667 has 22 MA's), (55, 42550), (72, 42454), (100, 42298), (116, 42214), (135, 42106), (159, 41995), (161, 41980), (166, 41959), (182, 41902),

Gene: Zeta1847_26 Start: 21229, Stop: 22101, Start Num: 34

Candidate Starts for Zeta1847_26:

(Start: 34 @21229 has 61 MA's), (41, 21259), (48, 21301), (70, 21418), (71, 21421), (72, 21424), (92, 21541), (102, 21595), (108, 21622), (115, 21655), (137, 21721), (154, 21805), (162, 21859), (179, 21916), (186, 21946), (191, 21979),

Gene: phiBT1_1 Start: 20650, Stop: 21495, Start Num: 36

Candidate Starts for phiBT1_1:

(Start: 36 @20650 has 2 MA's), (48, 20716), (57, 20749), (63, 20791), (68, 20827), (70, 20836), (105, 21019), (108, 21028), (110, 21040), (114, 21058), (119, 21100), (121, 21106), (139, 21172), (149, 21223), (158, 21280), (198, 21466),

Gene: phiSASD1_1 Start: 19051, Stop: 19908, Start Num: 35

Candidate Starts for phiSASD1_1:

(35, 19051), (48, 19120), (57, 19153), (63, 19195), (70, 19240), (90, 19339), (92, 19351), (93, 19354), (101, 19402), (107, 19429), (108, 19432), (124, 19522), (139, 19588), (149, 19639), (153, 19663), (158, 19696), (194, 19858), (197, 19876), (198, 19879),