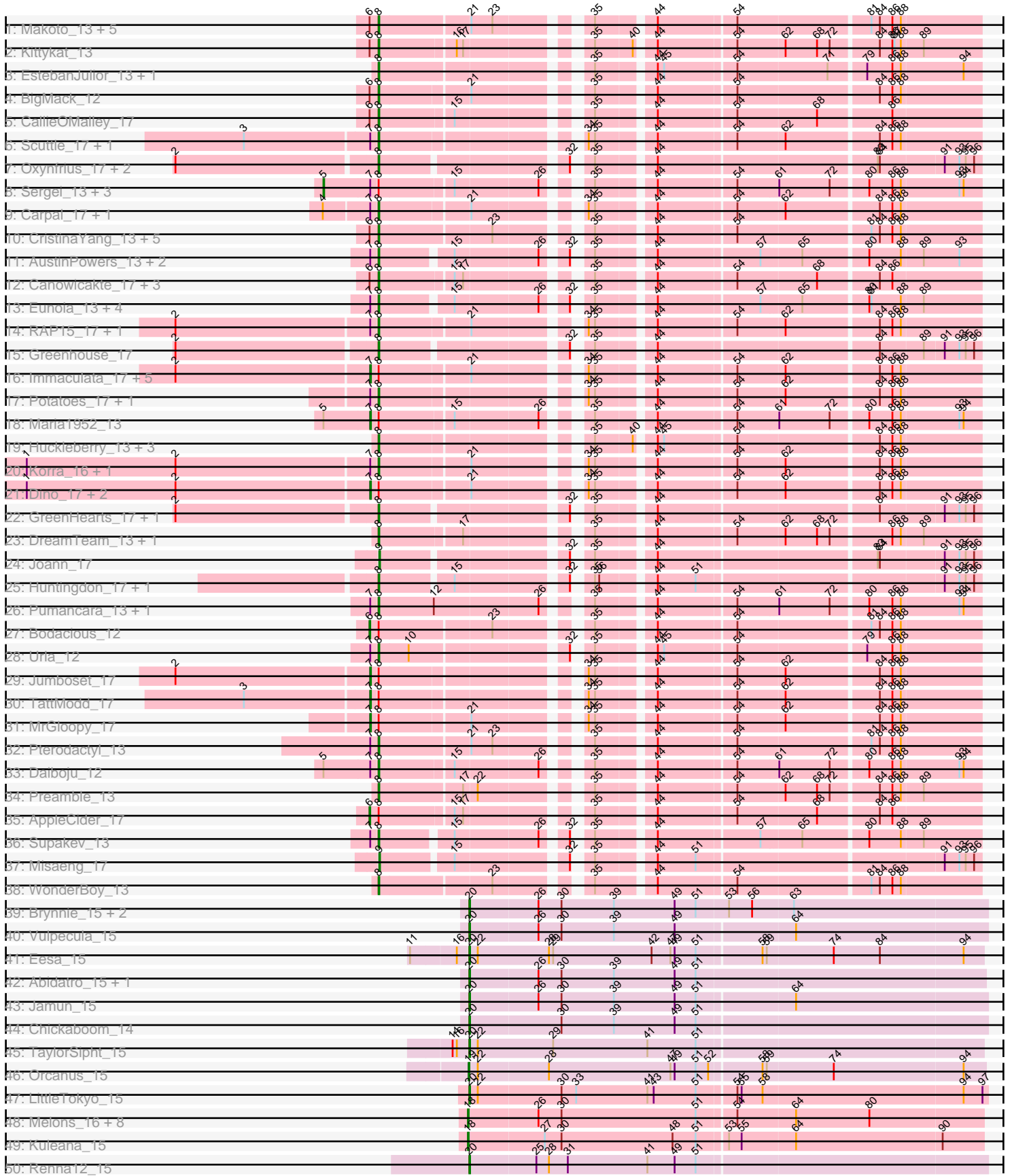
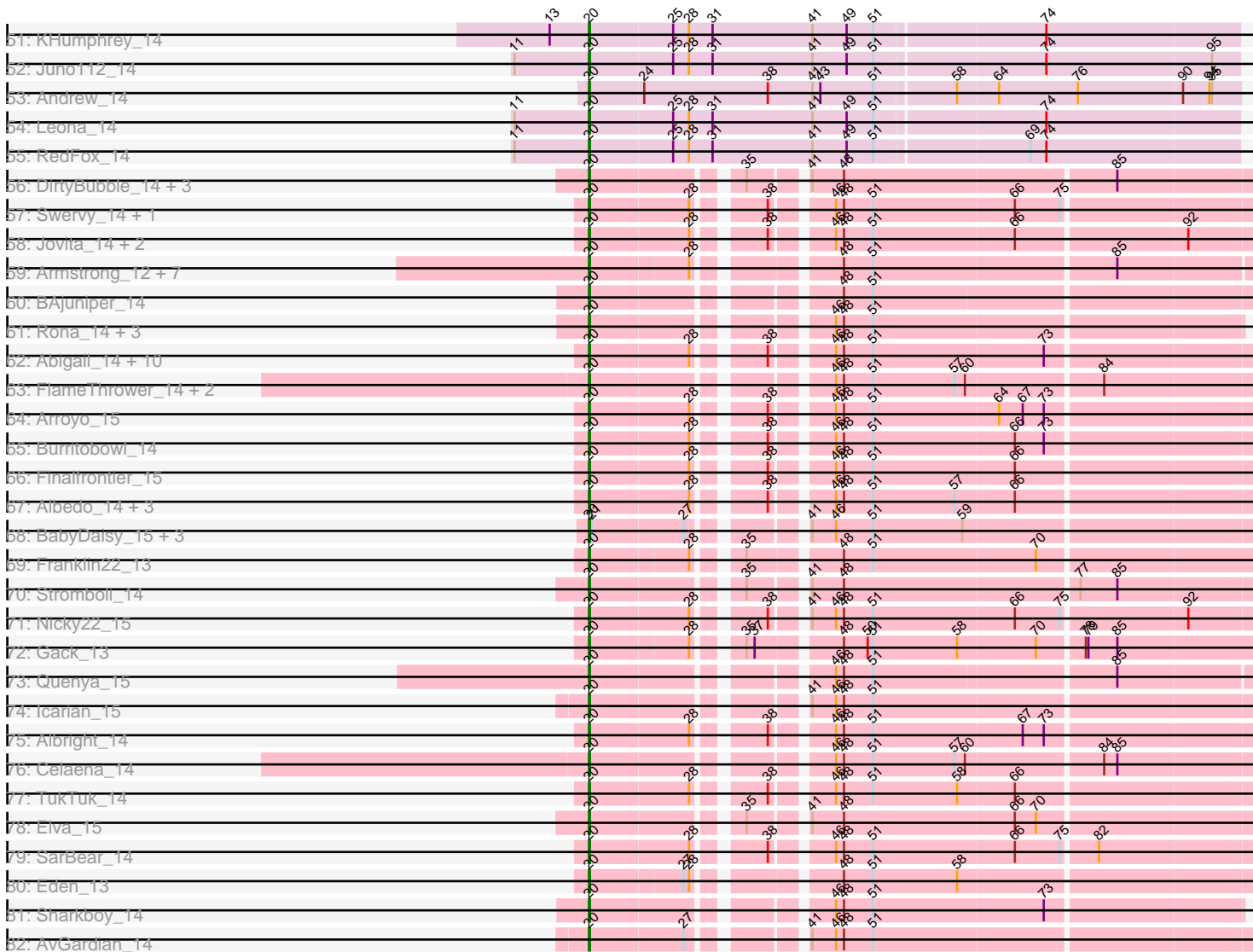


Pham 191105



Pham 191105



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 191105 Report

This analysis was run 11/02/24 on database version 579.

Pham number 191105 has 171 members, 0 are drafts.

Phages represented in each track:

- Track 1 : Makoto_13, PitaDog_13, Christian_13, DrRobert_13, OurGirlNessie_13, Lucy_13
- Track 2 : Kittykat_13
- Track 3 : EstebanJulior_13, MamaPearl_13
- Track 4 : BigMack_12
- Track 5 : CallieOMalley_17
- Track 6 : Scuttle_17, Riverdale_17
- Track 7 : Oxynfrius_17, Lakshmi_17, Albanese_17
- Track 8 : Sergei_13, KingBob_13, Herb_13, Temper16_13
- Track 9 : Carpal_17, Beethoven_17
- Track 10 : CristinaYang_13, Lasagna_13, LilStuart_13, Nancia_13, Lennox_13, ChewChew_13
- Track 11 : AustinPowers_13, HunterDalle_13, Vulture_13
- Track 12 : Canowicakte_17, Suppi_17, Wayne_16, Litotes_17
- Track 13 : Eunoia_13, Aledel_12, OMalley_13, Chridison_13, Riovina_13
- Track 14 : RAP15_17, Vallejo_17
- Track 15 : Greenhouse_17
- Track 16 : Immaculata_17, Glenn_17, Rozby_17, Savage2526_17, MeganNoll_16, Kalizoi_17
- Track 17 : Potatoes_17, Cholula_17
- Track 18 : Maria1952_13
- Track 19 : Huckleberry_13, HeadNerd_12, Bennie_13, Moki_13
- Track 20 : Korra_16, Wawa_17
- Track 21 : Dino_17, BrotherBLo_17, Zorro_17
- Track 22 : GreenHearts_17, Nubia_16
- Track 23 : DreamTeam_13, Gisselle_13
- Track 24 : Joann_17
- Track 25 : Huntingdon_17, RcigaStruga_17
- Track 26 : Pumancara_13, PinkFriday_13
- Track 27 : Bodacious_12
- Track 28 : Urla_12
- Track 29 : Jumboset_17
- Track 30 : TattModd_17
- Track 31 : MrGloopy_17
- Track 32 : Pterodactyl_13
- Track 33 : Daiboju_12
- Track 34 : Preamble_13

- Track 35 : AppleCider_17
- Track 36 : Supakev_13
- Track 37 : Misaeng_17
- Track 38 : WonderBoy_13
- Track 39 : Brynnie_15, Ruchi_15, Basilisk_15
- Track 40 : Vulpecula_15
- Track 41 : Eesa_15
- Track 42 : Abidatro_15, Galaxy_15
- Track 43 : Jamun_15
- Track 44 : Chickaboom_14
- Track 45 : TaylorSipht_15
- Track 46 : Orcanus_15
- Track 47 : LittleTokyo_15
- Track 48 : Melons_16, Polka_15, Amelia_16, Cote_16, Lunar_15, Daob_16, Coral_15, Kepler_15, HannahPhantana_16
- Track 49 : Kuleana_15
- Track 50 : Renna12_15
- Track 51 : KHumphrey_14
- Track 52 : Juno112_14
- Track 53 : Andrew_14
- Track 54 : Leona_14
- Track 55 : RedFox_14
- Track 56 : DirtyBubble_14, Stoor_14, SanaSana_15, BabyYoda_14
- Track 57 : Swervy_14, Slay_14
- Track 58 : Jovita_14, QMacho_15, Eula_14
- Track 59 : Armstrong_12, Clayda5_13, Rollins_12, Coltrane_12, Vitas_13, Brahms_12, Bernstein_12, Skylord_13
- Track 60 : BAJuniper_14
- Track 61 : Rona_14, Kieran_14, ChiliPepper_14, Dismas_14
- Track 62 : Abigail_14, DickRichards_14, Avocadoman_14, Johnathan_14, CroZenni_14, SansAfet_14, BelmontSKP_15, LimaBean_14, Kenzers_14, Lynlen_14, AnnaLie_15
- Track 63 : FlameThrower_14, Bachaco_14, Katzastrophic_14
- Track 64 : Arroyo_15
- Track 65 : Burritobowl_14
- Track 66 : Finalfrontier_15
- Track 67 : Albedo_14, BubbaBear_14, Doobus_14, Phisb_14
- Track 68 : BabyDaisy_15, Didgeridoo_15, IndyLu_14, Lahqtemish_14
- Track 69 : Franklin22_13
- Track 70 : Stromboli_14
- Track 71 : Nicky22_15
- Track 72 : Gack_13
- Track 73 : Quenya_15
- Track 74 : Icarian_15
- Track 75 : Albright_14
- Track 76 : Celaena_14
- Track 77 : TukTuk_14
- Track 78 : Elva_15
- Track 79 : SarBear_14
- Track 80 : Eden_13
- Track 81 : Sharkboy_14
- Track 82 : AvGardian_14

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

The start number called the most often in the published annotations is 20, it was called in 78 of the 171 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro_15, Abigail_14, Albedo_14, Albright_14, Andrew_14, AnnaLie_15, Armstrong_12, Arroyo_15, AvGardian_14, Avocadoman_14, BAJuniper_14, BabyDaisy_15, BabyYoda_14, Bachaco_14, Basilisk_15, BelmontSKP_15, Bernstein_12, Brahms_12, Brynnie_15, BubbaBear_14, Burritobowl_14, Celaena_14, Chickaboom_14, ChiliPepper_14, Clayda5_13, Coltrane_12, CroZenni_14, DickRichards_14, Didgeridoo_15, DirtyBubble_14, Dismas_14, Doobus_14, Eden_13, Eesa_15, Elva_15, Eula_14, Finalfrontier_15, FlameThrower_14, Franklin22_13, Gack_13, Galaxy_15, Icarian_15, IndyLu_14, Jamun_15, Johnathan_14, Jovita_14, Juno112_14, KHumphrey_14, Katzastrophic_14, Kenzers_14, Kieran_14, Lahqtemish_14, Leona_14, LimaBean_14, LittleTokyo_15, Lynlen_14, Nicky22_15, Phisb_14, QMacho_15, Quenya_15, RedFox_14, Renna12_15, Rollins_12, Rona_14, Ruchi_15, SanaSana_15, SansAfet_14, SarBear_14, Sharkboy_14, Skylord_13, Slay_14, Stoor_14, Stromboli_14, Swervy_14, TaylorSipht_15, TukTuk_14, Vitas_13, Vulpecula_15,

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

-

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

- Albanese_17, Aledel_12, Amelia_16, AppleCider_17, AustinPowers_13, Beethoven_17, Bennie_13, BigMack_12, Bodacious_12, BrotherBLo_17, CallieOMalley_17, Canowicakte_17, Carpal_17, ChewChew_13, Cholula_17, Chridison_13, Christian_13, Coral_15, Cote_16, CristinaYang_13, Daiboju_12, Daob_16, Dino_17, DrRobert_13, DreamTeam_13, EstebanJulior_13, Eunoia_13, Gisselle_13, Glenn_17, GreenHearts_17, Greenhouse_17, HannahPhantana_16, HeadNerd_12, Herb_13, Huckleberry_13, HunterDalle_13, Huntingdon_17, Immaculata_17, Joann_17, Jumboset_17, Kalizoi_17, Kepler_15, KingBob_13, Kittykat_13, Korra_16, Kuleana_15, Lakshmi_17, Lasagna_13, Lennox_13, LilStuart_13, Litotes_17, Lucy_13, Lunar_15, Makoto_13, MamaPearl_13, Maria1952_13, MeganNoll_16, Melons_16, Misaeng_17, Moki_13, MrGloopy_17, Nancia_13, Nubia_16, OMalley_13, Orcanus_15, OurGirlNessie_13, Oxyfrius_17, PinkFriday_13, PitaDog_13, Polka_15, Potatoes_17, Preamble_13, Pterodactyl_13, Pumancara_13, RAP15_17, RcigaStruga_17, Riovina_13, Riverdale_17, Rozby_17, Savage2526_17, Scuttle_17, Sergei_13, Supakev_13, Suppi_17, TattModd_17, Temper16_13, Urla_12, Vallejo_17, Vulture_13, Wawa_17, Wayne_16, WonderBoy_13, Zorro_17,

Summary by start number:

Start 5:

- Found in 6 of 171 (3.5%) of genes in pham
- Manual Annotations of this start: 4 of 171
- Called 66.7% of time when present

- Phage (with cluster) where this start called: Herb_13 (AK), KingBob_13 (AK), Sergej_13 (AK), Temper16_13 (AK),

Start 6:

- Found in 21 of 171 (12.3%) of genes in pham
- Manual Annotations of this start: 2 of 171
- Called 9.5% of time when present
- Phage (with cluster) where this start called: AppleCider_17 (AK), Bodacious_12 (AK),

Start 7:

- Found in 41 of 171 (24.0%) of genes in pham
- Manual Annotations of this start: 13 of 171
- Called 31.7% of time when present
- Phage (with cluster) where this start called: BrotherBLo_17 (AK), Dino_17 (AK), Glenn_17 (AK), Immaculata_17 (AK), Jumboset_17 (AK), Kalizoi_17 (AK), Maria1952_13 (AK), MeganNoll_16 (AK), MrGloopy_17 (AK), Rozby_17 (AK), Savage2526_17 (AK), TattModd_17 (AK), Zorro_17 (AK),

Start 8:

- Found in 80 of 171 (46.8%) of genes in pham
- Manual Annotations of this start: 61 of 171
- Called 76.2% of time when present
- Phage (with cluster) where this start called: Albanese_17 (AK), Aledel_12 (AK), AustinPowers_13 (AK), Beethoven_17 (AK), Bennie_13 (AK), BigMack_12 (AK), CallieOMalley_17 (AK), Canowicakte_17 (AK), Carpal_17 (AK), ChewChew_13 (AK), Cholula_17 (AK), Chridison_13 (AK), Christian_13 (AK), CristinaYang_13 (AK), Daiboju_12 (AK), DrRobert_13 (AK), DreamTeam_13 (AK), EstebanJulior_13 (AK), Eunoia_13 (AK), Gisselle_13 (AK), GreenHearts_17 (AK), Greenhouse_17 (AK), HeadNerd_12 (AK), Huckleberry_13 (AK), HunterDalle_13 (AK), Huntingdon_17 (AK), Kittykat_13 (AK), Korra_16 (AK), Lakshmi_17 (AK), Lasagna_13 (AK), Lennox_13 (AK), LilStuart_13 (AK), Litotes_17 (AK), Lucy_13 (AK), Makoto_13 (AK), MamaPearl_13 (AK), Moki_13 (AK), Nancia_13 (AK), Nubia_16 (AK), OMalley_13 (AK), OurGirlNessie_13 (AK), Oxynfrius_17 (AK), PinkFriday_13 (AK), PitaDog_13 (AK), Potatoes_17 (AK), Preamble_13 (AK), Pterodactyl_13 (AK), Pumancara_13 (AK), RAP15_17 (AK), RcigaStruga_17 (AK), Rivovina_13 (AK), Riverdale_17 (AK), Scuttle_17 (AK), Supakev_13 (AK), Suppi_17 (AK), Urla_12 (AK), Vallejo_17 (AK), Vulture_13 (AK), Wawa_17 (AK), Wayne_16 (AK), WonderBoy_13 (AK),

Start 9:

- Found in 2 of 171 (1.2%) of genes in pham
- Manual Annotations of this start: 2 of 171
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Joann_17 (AK), Misaeng_17 (AK),

Start 18:

- Found in 10 of 171 (5.8%) of genes in pham
- Manual Annotations of this start: 10 of 171
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelia_16 (AS2), Coral_15 (AS2), Cote_16 (AS2), Daob_16 (AS2), HannahPhantana_16 (AS2), Kepler_15 (AS2), Kuleana_15 (AS2), Lunar_15 (AS2), Melons_16 (AS2), Polka_15 (AS2),

Start 19:

- Found in 1 of 171 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 171
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Orcanus_15 (AS1),

Start 20:

- Found in 78 of 171 (45.6%) of genes in pham
- Manual Annotations of this start: 78 of 171
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro_15 (AS1), Abigail_14 (EB), Albedo_14 (EB), Albright_14 (EB), Andrew_14 (AS3), AnnaLie_15 (EB), Armstrong_12 (EB), Arroyo_15 (EB), AvGardian_14 (EB), Avocadoman_14 (EB), BAjuniper_14 (EB), BabyDaisy_15 (EB), BabyYoda_14 (EB), Bachaco_14 (EB), Basilisk_15 (AS1), BelmontSKP_15 (EB), Bernstein_12 (EB), Brahms_12 (EB), Brynnie_15 (AS1), BubbaBear_14 (EB), Burritobowl_14 (EB), Celaena_14 (EB), Chickaboom_14 (AS1), ChiliPepper_14 (EB), Clayda5_13 (EB), Coltrane_12 (EB), CroZenni_14 (EB), DickRichards_14 (EB), Didgeridoo_15 (EB), DirtyBubble_14 (EB), Dismas_14 (EB), Doobus_14 (EB), Eden_13 (EB), Eesa_15 (AS1), Elva_15 (EB), Eula_14 (EB), Finalfrontier_15 (EB), FlameThrower_14 (EB), Franklin22_13 (EB), Gack_13 (EB), Galaxy_15 (AS1), Icarian_15 (EB), IndyLu_14 (EB), Jamun_15 (AS1), Johnathan_14 (EB), Jovita_14 (EB), Juno112_14 (AS3), KHumphrey_14 (AS3), Katzastrophic_14 (EB), Kenzers_14 (EB), Kieran_14 (EB), Lahqtemish_14 (EB), Leona_14 (AS3), LimaBean_14 (EB), LittleTokyo_15 (AS2), Lynlen_14 (EB), Nicky22_15 (EB), Phisb_14 (EB), QMacho_15 (EB), Quenya_15 (EB), RedFox_14 (AS3), Renna12_15 (AS3), Rollins_12 (EB), Rona_14 (EB), Ruchi_15 (AS1), SanaSana_15 (EB), SansAfet_14 (EB), SarBear_14 (EB), Sharkboy_14 (EB), Skylord_13 (EB), Slay_14 (EB), Stoor_14 (EB), Stromboli_14 (EB), Swervy_14 (EB), TaylorSipt_15 (AS1), TukTuk_14 (EB), Vitas_13 (EB), Vulpecula_15 (AS1),

Summary by clusters:

There are 5 clusters represented in this pham: AS3, AS2, AK, AS1, EB,

Info for manual annotations of cluster AK:

- Start number 5 was manually annotated 4 times for cluster AK.
- Start number 6 was manually annotated 2 times for cluster AK.
- Start number 7 was manually annotated 13 times for cluster AK.
- Start number 8 was manually annotated 61 times for cluster AK.
- Start number 9 was manually annotated 2 times for cluster AK.

Info for manual annotations of cluster AS1:

- Start number 19 was manually annotated 1 time for cluster AS1.
- Start number 20 was manually annotated 10 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 18 was manually annotated 10 times for cluster AS2.
- Start number 20 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 20 was manually annotated 6 times for cluster AS3.

Info for manual annotations of cluster EB:

- Start number 20 was manually annotated 61 times for cluster EB.

Gene Information:

Gene: Abidatro_15 Start: 9744, Stop: 10471, Start Num: 20

Candidate Starts for Abidatro_15:

(Start: 20 @9744 has 78 MA's), (26, 9840), (30, 9873), (39, 9948), (49, 10035), (51, 10065),

Gene: Abigail_14 Start: 9362, Stop: 10053, Start Num: 20

Candidate Starts for Abigail_14:

(Start: 20 @9362 has 78 MA's), (28, 9473), (38, 9536), (46, 9593), (48, 9602), (51, 9635), (73, 9827),

Gene: Albanese_17 Start: 11894, Stop: 12654, Start Num: 8

Candidate Starts for Albanese_17:

(2, 11618), (Start: 8 @11894 has 61 MA's), (32, 12131), (35, 12146), (44, 12218), (83, 12512), (84, 12515), (91, 12602), (93, 12623), (95, 12632), (96, 12644),

Gene: Albedo_14 Start: 9208, Stop: 9899, Start Num: 20

Candidate Starts for Albedo_14:

(Start: 20 @9208 has 78 MA's), (28, 9319), (38, 9382), (46, 9439), (48, 9448), (51, 9481), (57, 9574), (66, 9640),

Gene: Albright_14 Start: 9243, Stop: 9934, Start Num: 20

Candidate Starts for Albright_14:

(Start: 20 @9243 has 78 MA's), (28, 9354), (38, 9417), (46, 9474), (48, 9483), (51, 9516), (67, 9684), (73, 9708),

Gene: Aledel_12 Start: 8974, Stop: 9731, Start Num: 8

Candidate Starts for Aledel_12:

(Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9067), (26, 9181), (32, 9208), (35, 9223), (44, 9295), (57, 9433), (65, 9487), (80, 9574), (81, 9577), (88, 9619), (89, 9649),

Gene: Amelia_16 Start: 9644, Stop: 10362, Start Num: 18

Candidate Starts for Amelia_16:

(Start: 18 @9644 has 10 MA's), (26, 9740), (30, 9773), (51, 9965), (54, 10016), (64, 10097), (80, 10202),

Gene: Andrew_14 Start: 9438, Stop: 10162, Start Num: 20

Candidate Starts for Andrew_14:

(Start: 20 @9438 has 78 MA's), (24, 9498), (38, 9639), (41, 9690), (43, 9699), (51, 9759), (58, 9846), (64, 9891), (76, 9981), (90, 10098), (94, 10128), (95, 10131),

Gene: AnnaLie_15 Start: 9652, Stop: 10343, Start Num: 20

Candidate Starts for AnnaLie_15:

(Start: 20 @9652 has 78 MA's), (28, 9763), (38, 9826), (46, 9883), (48, 9892), (51, 9925), (73, 10117),

Gene: AppleCider_17 Start: 11828, Stop: 12606, Start Num: 6

Candidate Starts for AppleCider_17:

(Start: 6 @11828 has 2 MA's), (Start: 8 @11840 has 61 MA's), (15, 11939), (17, 11951), (35, 12095), (44, 12167), (54, 12272), (68, 12383), (84, 12464), (86, 12482),

Gene: Armstrong_12 Start: 8785, Stop: 9494, Start Num: 20
Candidate Starts for Armstrong_12:
(Start: 20 @8785 has 78 MA's), (28, 8893), (48, 9025), (51, 9058), (85, 9325),

Gene: Arroyo_15 Start: 9713, Stop: 10404, Start Num: 20
Candidate Starts for Arroyo_15:
(Start: 20 @9713 has 78 MA's), (28, 9824), (38, 9887), (46, 9944), (48, 9953), (51, 9986), (64, 10127),
(67, 10154), (73, 10178),

Gene: AustinPowers_13 Start: 8975, Stop: 9732, Start Num: 8
Candidate Starts for AustinPowers_13:
(Start: 7 @8966 has 13 MA's), (Start: 8 @8975 has 61 MA's), (15, 9068), (26, 9182), (32, 9209), (35, 9224), (44, 9296), (57, 9434), (65, 9488), (80, 9575), (88, 9620), (89, 9650), (93, 9701),

Gene: AvGardian_14 Start: 9267, Stop: 9958, Start Num: 20
Candidate Starts for AvGardian_14:
(Start: 20 @9267 has 78 MA's), (27, 9372), (41, 9471), (46, 9498), (48, 9507), (51, 9540),

Gene: Avocadoman_14 Start: 9305, Stop: 9996, Start Num: 20
Candidate Starts for Avocadoman_14:
(Start: 20 @9305 has 78 MA's), (28, 9416), (38, 9479), (46, 9536), (48, 9545), (51, 9578), (73, 9770),

Gene: BAjuniper_14 Start: 8933, Stop: 9645, Start Num: 20
Candidate Starts for BAjuniper_14:
(Start: 20 @8933 has 78 MA's), (48, 9173), (51, 9206),

Gene: BabyDaisy_15 Start: 9464, Stop: 10155, Start Num: 20
Candidate Starts for BabyDaisy_15:
(Start: 20 @9464 has 78 MA's), (21, 9467), (27, 9569), (41, 9668), (46, 9695), (51, 9737), (59, 9839),

Gene: BabyYoda_14 Start: 9464, Stop: 10155, Start Num: 20
Candidate Starts for BabyYoda_14:
(Start: 20 @9464 has 78 MA's), (35, 9614), (41, 9668), (48, 9704), (85, 10004),

Gene: Bachaco_14 Start: 9138, Stop: 9847, Start Num: 20
Candidate Starts for Bachaco_14:
(Start: 20 @9138 has 78 MA's), (46, 9369), (48, 9378), (51, 9411), (57, 9504), (60, 9516), (84, 9660),

Gene: Basilisk_15 Start: 10064, Stop: 10794, Start Num: 20
Candidate Starts for Basilisk_15:
(Start: 20 @10064 has 78 MA's), (26, 10160), (30, 10193), (39, 10268), (49, 10355), (51, 10385), (53, 10430), (56, 10463), (63, 10520),

Gene: Beethoven_17 Start: 11795, Stop: 12561, Start Num: 8
Candidate Starts for Beethoven_17:
(4, 11723), (Start: 7 @11786 has 13 MA's), (Start: 8 @11795 has 61 MA's), (21, 11915), (34, 12041),
(35, 12050), (44, 12122), (54, 12227), (62, 12293), (84, 12419), (86, 12437), (88, 12449),

Gene: BelmontSKP_15 Start: 9652, Stop: 10343, Start Num: 20
Candidate Starts for BelmontSKP_15:
(Start: 20 @9652 has 78 MA's), (28, 9763), (38, 9826), (46, 9883), (48, 9892), (51, 9925), (73, 10117),

Gene: Bennie_13 Start: 8948, Stop: 9714, Start Num: 8

Candidate Starts for Bennie_13:

(Start: 8 @8948 has 61 MA's), (35, 9203), (40, 9254), (44, 9275), (45, 9284), (54, 9380), (84, 9572), (86, 9590), (88, 9602),

Gene: Bernstein_12 Start: 8845, Stop: 9554, Start Num: 20

Candidate Starts for Bernstein_12:

(Start: 20 @8845 has 78 MA's), (28, 8953), (48, 9085), (51, 9118), (85, 9385),

Gene: BigMack_12 Start: 8944, Stop: 9710, Start Num: 8

Candidate Starts for BigMack_12:

(Start: 6 @8932 has 2 MA's), (Start: 8 @8944 has 61 MA's), (21, 9064), (35, 9199), (44, 9271), (54, 9376), (84, 9568), (86, 9586), (88, 9598),

Gene: Bodacious_12 Start: 8930, Stop: 9711, Start Num: 6

Candidate Starts for Bodacious_12:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: Brahms_12 Start: 8785, Stop: 9494, Start Num: 20

Candidate Starts for Brahms_12:

(Start: 20 @8785 has 78 MA's), (28, 8893), (48, 9025), (51, 9058), (85, 9325),

Gene: BrotherBLo_17 Start: 11792, Stop: 12567, Start Num: 7

Candidate Starts for BrotherBLo_17:

(1, 11306), (2, 11519), (Start: 7 @11792 has 13 MA's), (Start: 8 @11801 has 61 MA's), (21, 11921), (34, 12047), (35, 12056), (44, 12128), (54, 12233), (62, 12299), (84, 12425), (86, 12443), (88, 12455),

Gene: Brynnie_15 Start: 9876, Stop: 10606, Start Num: 20

Candidate Starts for Brynnie_15:

(Start: 20 @9876 has 78 MA's), (26, 9972), (30, 10005), (39, 10080), (49, 10167), (51, 10197), (53, 10242), (56, 10275), (63, 10332),

Gene: BubbaBear_14 Start: 9208, Stop: 9899, Start Num: 20

Candidate Starts for BubbaBear_14:

(Start: 20 @9208 has 78 MA's), (28, 9319), (38, 9382), (46, 9439), (48, 9448), (51, 9481), (57, 9574), (66, 9640),

Gene: Burritobowl_14 Start: 9270, Stop: 9961, Start Num: 20

Candidate Starts for Burritobowl_14:

(Start: 20 @9270 has 78 MA's), (28, 9381), (38, 9444), (46, 9501), (48, 9510), (51, 9543), (66, 9702), (73, 9735),

Gene: CallieOMalley_17 Start: 11840, Stop: 12606, Start Num: 8

Candidate Starts for CallieOMalley_17:

(Start: 6 @11828 has 2 MA's), (Start: 8 @11840 has 61 MA's), (15, 11939), (35, 12095), (44, 12167), (54, 12272), (68, 12383), (86, 12482),

Gene: Canowicakte_17 Start: 11875, Stop: 12641, Start Num: 8

Candidate Starts for Canowicakte_17:

(Start: 6 @11863 has 2 MA's), (Start: 8 @11875 has 61 MA's), (15, 11974), (17, 11986), (35, 12130), (44, 12202), (54, 12307), (68, 12418), (84, 12499), (86, 12517),

Gene: Carpal_17 Start: 11802, Stop: 12568, Start Num: 8

Candidate Starts for Carpal_17:

(4, 11730), (Start: 7 @11793 has 13 MA's), (Start: 8 @11802 has 61 MA's), (21, 11922), (34, 12048), (35, 12057), (44, 12129), (54, 12234), (62, 12300), (84, 12426), (86, 12444), (88, 12456),

Gene: Celaena_14 Start: 9074, Stop: 9783, Start Num: 20

Candidate Starts for Celaena_14:

(Start: 20 @9074 has 78 MA's), (46, 9305), (48, 9314), (51, 9347), (57, 9440), (60, 9452), (84, 9596), (85, 9611),

Gene: ChewChew_13 Start: 8941, Stop: 9710, Start Num: 8

Candidate Starts for ChewChew_13:

(Start: 6 @8929 has 2 MA's), (Start: 8 @8941 has 61 MA's), (23, 9094), (35, 9199), (44, 9271), (54, 9376), (81, 9556), (84, 9568), (86, 9586), (88, 9598),

Gene: Chickaboom_14 Start: 9421, Stop: 10145, Start Num: 20

Candidate Starts for Chickaboom_14:

(Start: 20 @9421 has 78 MA's), (30, 9550), (39, 9625), (49, 9712), (51, 9742),

Gene: ChiliPepper_14 Start: 9439, Stop: 10115, Start Num: 20

Candidate Starts for ChiliPepper_14:

(Start: 20 @9439 has 78 MA's), (46, 9670), (48, 9679), (51, 9712),

Gene: Cholula_17 Start: 11847, Stop: 12613, Start Num: 8

Candidate Starts for Cholula_17:

(Start: 7 @11838 has 13 MA's), (Start: 8 @11847 has 61 MA's), (34, 12093), (35, 12102), (44, 12174), (54, 12279), (62, 12345), (84, 12471), (86, 12489), (88, 12501),

Gene: Chridison_13 Start: 8975, Stop: 9732, Start Num: 8

Candidate Starts for Chridison_13:

(Start: 7 @8966 has 13 MA's), (Start: 8 @8975 has 61 MA's), (15, 9068), (26, 9182), (32, 9209), (35, 9224), (44, 9296), (57, 9434), (65, 9488), (80, 9575), (81, 9578), (88, 9620), (89, 9650),

Gene: Christian_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for Christian_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (21, 9065), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: Clayda5_13 Start: 8785, Stop: 9494, Start Num: 20

Candidate Starts for Clayda5_13:

(Start: 20 @8785 has 78 MA's), (28, 8893), (48, 9025), (51, 9058), (85, 9325),

Gene: Coltrane_12 Start: 8785, Stop: 9494, Start Num: 20

Candidate Starts for Coltrane_12:

(Start: 20 @8785 has 78 MA's), (28, 8893), (48, 9025), (51, 9058), (85, 9325),

Gene: Coral_15 Start: 9483, Stop: 10201, Start Num: 18

Candidate Starts for Coral_15:

(Start: 18 @9483 has 10 MA's), (26, 9579), (30, 9612), (51, 9804), (54, 9855), (64, 9936), (80, 10041),

Gene: Cote_16 Start: 9644, Stop: 10362, Start Num: 18

Candidate Starts for Cote_16:

(Start: 18 @9644 has 10 MA's), (26, 9740), (30, 9773), (51, 9965), (54, 10016), (64, 10097), (80, 10202),

Gene: CristinaYang_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for CristinaYang_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: CroZenni_14 Start: 9243, Stop: 9934, Start Num: 20

Candidate Starts for CroZenni_14:

(Start: 20 @9243 has 78 MA's), (28, 9354), (38, 9417), (46, 9474), (48, 9483), (51, 9516), (73, 9708),

Gene: Daiboju_12 Start: 8974, Stop: 9737, Start Num: 8

Candidate Starts for Daiboju_12:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9073), (26, 9187), (35, 9229), (44, 9301), (54, 9406), (61, 9460), (72, 9532), (80, 9580), (86, 9613), (88, 9625), (93, 9706), (94, 9712),

Gene: Daob_16 Start: 9647, Stop: 10365, Start Num: 18

Candidate Starts for Daob_16:

(Start: 18 @9647 has 10 MA's), (26, 9743), (30, 9776), (51, 9968), (54, 10019), (64, 10100), (80, 10205),

Gene: DickRichards_14 Start: 9737, Stop: 10428, Start Num: 20

Candidate Starts for DickRichards_14:

(Start: 20 @9737 has 78 MA's), (28, 9848), (38, 9911), (46, 9968), (48, 9977), (51, 10010), (73, 10202),

Gene: Didgeridoo_15 Start: 9466, Stop: 10157, Start Num: 20

Candidate Starts for Didgeridoo_15:

(Start: 20 @9466 has 78 MA's), (21, 9469), (27, 9571), (41, 9670), (46, 9697), (51, 9739), (59, 9841),

Gene: Dino_17 Start: 11791, Stop: 12566, Start Num: 7

Candidate Starts for Dino_17:

(1, 11305), (2, 11518), (Start: 7 @11791 has 13 MA's), (Start: 8 @11800 has 61 MA's), (21, 11920), (34, 12046), (35, 12055), (44, 12127), (54, 12232), (62, 12298), (84, 12424), (86, 12442), (88, 12454),

Gene: DirtyBubble_14 Start: 9472, Stop: 10163, Start Num: 20

Candidate Starts for DirtyBubble_14:

(Start: 20 @9472 has 78 MA's), (35, 9622), (41, 9676), (48, 9712), (85, 10012),

Gene: Dismas_14 Start: 9439, Stop: 10115, Start Num: 20

Candidate Starts for Dismas_14:

(Start: 20 @9439 has 78 MA's), (46, 9670), (48, 9679), (51, 9712),

Gene: Doobus_14 Start: 9474, Stop: 10165, Start Num: 20

Candidate Starts for Doobus_14:

(Start: 20 @9474 has 78 MA's), (28, 9585), (38, 9648), (46, 9705), (48, 9714), (51, 9747), (57, 9840), (66, 9906),

Gene: DrRobert_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for DrRobert_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (21, 9065), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: DreamTeam_13 Start: 9012, Stop: 9778, Start Num: 8

Candidate Starts for DreamTeam_13:

(Start: 8 @9012 has 61 MA's), (17, 9123), (35, 9267), (44, 9339), (54, 9444), (62, 9510), (68, 9555), (72, 9573), (86, 9654), (88, 9666), (89, 9696),

Gene: Eden_13 Start: 8899, Stop: 9614, Start Num: 20

Candidate Starts for Eden_13:

(Start: 20 @8899 has 78 MA's), (27, 9001), (28, 9007), (48, 9139), (51, 9172), (58, 9268),

Gene: Eesa_15 Start: 9662, Stop: 10383, Start Num: 20

Candidate Starts for Eesa_15:

(11, 9584), (16, 9647), (Start: 20 @9662 has 78 MA's), (22, 9674), (28, 9776), (29, 9782), (42, 9923), (47, 9950), (49, 9956), (51, 9986), (58, 10073), (59, 10079), (74, 10172), (84, 10238), (94, 10355),

Gene: Elva_15 Start: 9524, Stop: 10215, Start Num: 20

Candidate Starts for Elva_15:

(Start: 20 @9524 has 78 MA's), (35, 9674), (41, 9728), (48, 9764), (66, 9956), (70, 9980),

Gene: EstebanJulior_13 Start: 8981, Stop: 9747, Start Num: 8

Candidate Starts for EstebanJulior_13:

(Start: 8 @8981 has 61 MA's), (35, 9236), (44, 9308), (45, 9317), (54, 9413), (71, 9539), (79, 9587), (86, 9623), (88, 9635), (94, 9722),

Gene: Eula_14 Start: 9244, Stop: 9935, Start Num: 20

Candidate Starts for Eula_14:

(Start: 20 @9244 has 78 MA's), (28, 9355), (38, 9418), (46, 9475), (48, 9484), (51, 9517), (66, 9676), (92, 9862),

Gene: Eunoia_13 Start: 8974, Stop: 9731, Start Num: 8

Candidate Starts for Eunoia_13:

(Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9067), (26, 9181), (32, 9208), (35, 9223), (44, 9295), (57, 9433), (65, 9487), (80, 9574), (81, 9577), (88, 9619), (89, 9649),

Gene: Finalfrontier_15 Start: 9756, Stop: 10447, Start Num: 20

Candidate Starts for Finalfrontier_15:

(Start: 20 @9756 has 78 MA's), (28, 9867), (38, 9930), (46, 9987), (48, 9996), (51, 10029), (66, 10188),

Gene: FlameThrower_14 Start: 8962, Stop: 9671, Start Num: 20

Candidate Starts for FlameThrower_14:

(Start: 20 @8962 has 78 MA's), (46, 9193), (48, 9202), (51, 9235), (57, 9328), (60, 9340), (84, 9484),

Gene: Franklin22_13 Start: 8878, Stop: 9596, Start Num: 20

Candidate Starts for Franklin22_13:

(Start: 20 @8878 has 78 MA's), (28, 8986), (35, 9025), (48, 9118), (51, 9151), (70, 9334),

Gene: Gack_13 Start: 8940, Stop: 9655, Start Num: 20

Candidate Starts for Gack_13:

(Start: 20 @8940 has 78 MA's), (28, 9048), (35, 9087), (37, 9096), (48, 9180), (50, 9207), (51, 9213), (58, 9309), (70, 9396), (78, 9444), (79, 9447), (85, 9480),

Gene: Galaxy_15 Start: 9750, Stop: 10477, Start Num: 20

Candidate Starts for Galaxy_15:

(Start: 20 @9750 has 78 MA's), (26, 9846), (30, 9879), (39, 9954), (49, 10041), (51, 10071),

Gene: Gisselle_13 Start: 9012, Stop: 9778, Start Num: 8

Candidate Starts for Gisselle_13:

(Start: 8 @9012 has 61 MA's), (17, 9123), (35, 9267), (44, 9339), (54, 9444), (62, 9510), (68, 9555), (72, 9573), (86, 9654), (88, 9666), (89, 9696),

Gene: Glenn_17 Start: 11843, Stop: 12618, Start Num: 7

Candidate Starts for Glenn_17:

(2, 11570), (Start: 7 @11843 has 13 MA's), (Start: 8 @11852 has 61 MA's), (21, 11972), (34, 12098), (35, 12107), (44, 12179), (54, 12284), (62, 12350), (84, 12476), (86, 12494), (88, 12506),

Gene: GreenHearts_17 Start: 11941, Stop: 12701, Start Num: 8

Candidate Starts for GreenHearts_17:

(2, 11665), (Start: 8 @11941 has 61 MA's), (32, 12178), (35, 12193), (44, 12265), (84, 12562), (91, 12649), (93, 12670), (95, 12679), (96, 12691),

Gene: Greenhouse_17 Start: 11865, Stop: 12625, Start Num: 8

Candidate Starts for Greenhouse_17:

(2, 11589), (Start: 8 @11865 has 61 MA's), (32, 12102), (35, 12117), (44, 12189), (84, 12486), (89, 12546), (91, 12573), (93, 12594), (95, 12603), (96, 12615),

Gene: HannahPhantana_16 Start: 9647, Stop: 10365, Start Num: 18

Candidate Starts for HannahPhantana_16:

(Start: 18 @9647 has 10 MA's), (26, 9743), (30, 9776), (51, 9968), (54, 10019), (64, 10100), (80, 10205),

Gene: HeadNerd_12 Start: 8948, Stop: 9714, Start Num: 8

Candidate Starts for HeadNerd_12:

(Start: 8 @8948 has 61 MA's), (35, 9203), (40, 9254), (44, 9275), (45, 9284), (54, 9380), (84, 9572), (86, 9590), (88, 9602),

Gene: Herb_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for Herb_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9073), (26, 9187), (35, 9229), (44, 9301), (54, 9406), (61, 9460), (72, 9532), (80, 9580), (86, 9613), (88, 9625), (93, 9706), (94, 9712),

Gene: Huckleberry_13 Start: 8948, Stop: 9714, Start Num: 8

Candidate Starts for Huckleberry_13:

(Start: 8 @8948 has 61 MA's), (35, 9203), (40, 9254), (44, 9275), (45, 9284), (54, 9380), (84, 9572), (86, 9590), (88, 9602),

Gene: HunterDalle_13 Start: 8974, Stop: 9731, Start Num: 8

Candidate Starts for HunterDalle_13:

(Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9067), (26, 9181), (32, 9208), (35, 9223), (44, 9295), (57, 9433), (65, 9487), (80, 9574), (88, 9619), (89, 9649), (93, 9700),

Gene: Huntingdon_17 Start: 11851, Stop: 12611, Start Num: 8

Candidate Starts for Huntingdon_17:

(Start: 8 @11851 has 61 MA's), (15, 11947), (32, 12088), (35, 12103), (36, 12109), (44, 12175), (51, 12229), (91, 12559), (93, 12580), (95, 12589), (96, 12601),

Gene: Icarian_15 Start: 9446, Stop: 10137, Start Num: 20
Candidate Starts for Icarian_15:
(Start: 20 @9446 has 78 MA's), (41, 9650), (46, 9677), (48, 9686), (51, 9719),

Gene: Immaculata_17 Start: 11837, Stop: 12612, Start Num: 7
Candidate Starts for Immaculata_17:
(2, 11564), (Start: 7 @11837 has 13 MA's), (Start: 8 @11846 has 61 MA's), (21, 11966), (34, 12092),
(35, 12101), (44, 12173), (54, 12278), (62, 12344), (84, 12470), (86, 12488), (88, 12500),

Gene: IndyLu_14 Start: 9288, Stop: 9979, Start Num: 20
Candidate Starts for IndyLu_14:
(Start: 20 @9288 has 78 MA's), (21, 9291), (27, 9393), (41, 9492), (46, 9519), (51, 9561), (59, 9663),

Gene: Jamun_15 Start: 10088, Stop: 10812, Start Num: 20
Candidate Starts for Jamun_15:
(Start: 20 @10088 has 78 MA's), (26, 10184), (30, 10217), (39, 10292), (49, 10379), (51, 10409), (64,
10541),

Gene: Joann_17 Start: 11845, Stop: 12605, Start Num: 9
Candidate Starts for Joann_17:
(Start: 9 @11845 has 2 MA's), (32, 12082), (35, 12097), (44, 12169), (83, 12463), (84, 12466), (91,
12553), (93, 12574), (95, 12583), (96, 12595),

Gene: Johnathan_14 Start: 9243, Stop: 9934, Start Num: 20
Candidate Starts for Johnathan_14:
(Start: 20 @9243 has 78 MA's), (28, 9354), (38, 9417), (46, 9474), (48, 9483), (51, 9516), (73, 9708),

Gene: Jovita_14 Start: 9345, Stop: 10036, Start Num: 20
Candidate Starts for Jovita_14:
(Start: 20 @9345 has 78 MA's), (28, 9456), (38, 9519), (46, 9576), (48, 9585), (51, 9618), (66, 9777),
(92, 9963),

Gene: Jumboset_17 Start: 11786, Stop: 12561, Start Num: 7
Candidate Starts for Jumboset_17:
(2, 11513), (Start: 7 @11786 has 13 MA's), (Start: 8 @11795 has 61 MA's), (34, 12041), (35, 12050),
(44, 12122), (54, 12227), (62, 12293), (84, 12419), (86, 12437), (88, 12449),

Gene: Juno112_14 Start: 9061, Stop: 9785, Start Num: 20
Candidate Starts for Juno112_14:
(11, 8977), (Start: 20 @9061 has 78 MA's), (25, 9154), (28, 9172), (31, 9199), (41, 9313), (49, 9352),
(51, 9382), (74, 9568), (95, 9754),

Gene: KHumphrey_14 Start: 9058, Stop: 9782, Start Num: 20
Candidate Starts for KHumphrey_14:
(13, 9016), (Start: 20 @9058 has 78 MA's), (25, 9151), (28, 9169), (31, 9196), (41, 9310), (49, 9349),
(51, 9379), (74, 9565),

Gene: Kalizoi_17 Start: 11785, Stop: 12560, Start Num: 7
Candidate Starts for Kalizoi_17:
(2, 11512), (Start: 7 @11785 has 13 MA's), (Start: 8 @11794 has 61 MA's), (21, 11914), (34, 12040),
(35, 12049), (44, 12121), (54, 12226), (62, 12292), (84, 12418), (86, 12436), (88, 12448),

Gene: Katzastrophic_14 Start: 9137, Stop: 9846, Start Num: 20

Candidate Starts for Katzastrophic_14:

(Start: 20 @9137 has 78 MA's), (46, 9368), (48, 9377), (51, 9410), (57, 9503), (60, 9515), (84, 9659),

Gene: Kenzers_14 Start: 9260, Stop: 9951, Start Num: 20

Candidate Starts for Kenzers_14:

(Start: 20 @9260 has 78 MA's), (28, 9371), (38, 9434), (46, 9491), (48, 9500), (51, 9533), (73, 9725),

Gene: Kepler_15 Start: 9482, Stop: 10200, Start Num: 18

Candidate Starts for Kepler_15:

(Start: 18 @9482 has 10 MA's), (26, 9578), (30, 9611), (51, 9803), (54, 9854), (64, 9935), (80, 10040),

Gene: Kieran_14 Start: 9442, Stop: 10118, Start Num: 20

Candidate Starts for Kieran_14:

(Start: 20 @9442 has 78 MA's), (46, 9673), (48, 9682), (51, 9715),

Gene: KingBob_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for KingBob_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9073), (26, 9187), (35, 9229), (44, 9301), (54, 9406), (61, 9460), (72, 9532), (80, 9580), (86, 9613), (88, 9625), (93, 9706), (94, 9712),

Gene: Kittykat_13 Start: 8984, Stop: 9750, Start Num: 8

Candidate Starts for Kittykat_13:

(Start: 6 @8972 has 2 MA's), (Start: 8 @8984 has 61 MA's), (16, 9086), (17, 9095), (35, 9239), (40, 9290), (44, 9311), (54, 9416), (62, 9482), (68, 9527), (72, 9545), (84, 9608), (86, 9626), (87, 9629), (88, 9638), (89, 9668),

Gene: Korra_16 Start: 11800, Stop: 12566, Start Num: 8

Candidate Starts for Korra_16:

(1, 11305), (2, 11518), (Start: 7 @11791 has 13 MA's), (Start: 8 @11800 has 61 MA's), (21, 11920), (34, 12046), (35, 12055), (44, 12127), (54, 12232), (62, 12298), (84, 12424), (86, 12442), (88, 12454),

Gene: Kuleana_15 Start: 9441, Stop: 10159, Start Num: 18

Candidate Starts for Kuleana_15:

(Start: 18 @9441 has 10 MA's), (27, 9546), (30, 9570), (48, 9729), (51, 9762), (53, 9801), (55, 9819), (64, 9894), (90, 10101),

Gene: Lahqtemish_14 Start: 9360, Stop: 10051, Start Num: 20

Candidate Starts for Lahqtemish_14:

(Start: 20 @9360 has 78 MA's), (21, 9363), (27, 9465), (41, 9564), (46, 9591), (51, 9633), (59, 9735),

Gene: Lakshmi_17 Start: 11870, Stop: 12630, Start Num: 8

Candidate Starts for Lakshmi_17:

(2, 11594), (Start: 8 @11870 has 61 MA's), (32, 12107), (35, 12122), (44, 12194), (83, 12488), (84, 12491), (91, 12578), (93, 12599), (95, 12608), (96, 12620),

Gene: Lasagna_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for Lasagna_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: Lennox_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for Lennox_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: Leona_14 Start: 9111, Stop: 9835, Start Num: 20

Candidate Starts for Leona_14:

(11, 9027), (Start: 20 @9111 has 78 MA's), (25, 9204), (28, 9222), (31, 9249), (41, 9363), (49, 9402), (51, 9432), (74, 9618),

Gene: LilStuart_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for LilStuart_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: LimaBean_14 Start: 9243, Stop: 9934, Start Num: 20

Candidate Starts for LimaBean_14:

(Start: 20 @9243 has 78 MA's), (28, 9354), (38, 9417), (46, 9474), (48, 9483), (51, 9516), (73, 9708),

Gene: Litotes_17 Start: 11825, Stop: 12591, Start Num: 8

Candidate Starts for Litotes_17:

(Start: 6 @11813 has 2 MA's), (Start: 8 @11825 has 61 MA's), (15, 11924), (17, 11936), (35, 12080), (44, 12152), (54, 12257), (68, 12368), (84, 12449), (86, 12467),

Gene: LittleTokyo_15 Start: 9395, Stop: 10119, Start Num: 20

Candidate Starts for LittleTokyo_15:

(Start: 20 @9395 has 78 MA's), (22, 9407), (30, 9524), (33, 9545), (41, 9647), (43, 9656), (51, 9716), (54, 9767), (55, 9773), (58, 9803), (94, 10085), (97, 10112),

Gene: Lucy_13 Start: 8934, Stop: 9703, Start Num: 8

Candidate Starts for Lucy_13:

(Start: 6 @8922 has 2 MA's), (Start: 8 @8934 has 61 MA's), (21, 9057), (23, 9087), (35, 9192), (44, 9264), (54, 9369), (81, 9549), (84, 9561), (86, 9579), (88, 9591),

Gene: Lunar_15 Start: 9644, Stop: 10362, Start Num: 18

Candidate Starts for Lunar_15:

(Start: 18 @9644 has 10 MA's), (26, 9740), (30, 9773), (51, 9965), (54, 10016), (64, 10097), (80, 10202),

Gene: Lynlen_14 Start: 9260, Stop: 9951, Start Num: 20

Candidate Starts for Lynlen_14:

(Start: 20 @9260 has 78 MA's), (28, 9371), (38, 9434), (46, 9491), (48, 9500), (51, 9533), (73, 9725),

Gene: Makoto_13 Start: 8943, Stop: 9712, Start Num: 8

Candidate Starts for Makoto_13:

(Start: 6 @8931 has 2 MA's), (Start: 8 @8943 has 61 MA's), (21, 9066), (23, 9096), (35, 9201), (44, 9273), (54, 9378), (81, 9558), (84, 9570), (86, 9588), (88, 9600),

Gene: MamaPearl_13 Start: 8981, Stop: 9747, Start Num: 8

Candidate Starts for MamaPearl_13:

(Start: 8 @8981 has 61 MA's), (35, 9236), (44, 9308), (45, 9317), (54, 9413), (71, 9539), (79, 9587), (86, 9623), (88, 9635), (94, 9722),

Gene: Maria1952_13 Start: 8965, Stop: 9737, Start Num: 7

Candidate Starts for Maria1952_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9073), (26, 9187), (35, 9229), (44, 9301), (54, 9406), (61, 9460), (72, 9532), (80, 9580), (86, 9613), (88, 9625), (93, 9706), (94, 9712),

Gene: MeganNoll_16 Start: 11843, Stop: 12618, Start Num: 7

Candidate Starts for MeganNoll_16:

(2, 11570), (Start: 7 @11843 has 13 MA's), (Start: 8 @11852 has 61 MA's), (21, 11972), (34, 12098), (35, 12107), (44, 12179), (54, 12284), (62, 12350), (84, 12476), (86, 12494), (88, 12506),

Gene: Melons_16 Start: 9644, Stop: 10362, Start Num: 18

Candidate Starts for Melons_16:

(Start: 18 @9644 has 10 MA's), (26, 9740), (30, 9773), (51, 9965), (54, 10016), (64, 10097), (80, 10202),

Gene: Misaeng_17 Start: 11918, Stop: 12678, Start Num: 9

Candidate Starts for Misaeng_17:

(Start: 9 @11918 has 2 MA's), (15, 12014), (32, 12155), (35, 12170), (44, 12242), (51, 12296), (91, 12626), (93, 12647), (95, 12656), (96, 12668),

Gene: Moki_13 Start: 8948, Stop: 9714, Start Num: 8

Candidate Starts for Moki_13:

(Start: 8 @8948 has 61 MA's), (35, 9203), (40, 9254), (44, 9275), (45, 9284), (54, 9380), (84, 9572), (86, 9590), (88, 9602),

Gene: MrGloopy_17 Start: 11777, Stop: 12552, Start Num: 7

Candidate Starts for MrGloopy_17:

(Start: 7 @11777 has 13 MA's), (Start: 8 @11786 has 61 MA's), (21, 11906), (34, 12032), (35, 12041), (44, 12113), (54, 12218), (62, 12284), (84, 12410), (86, 12428), (88, 12440),

Gene: Nancia_13 Start: 8942, Stop: 9711, Start Num: 8

Candidate Starts for Nancia_13:

(Start: 6 @8930 has 2 MA's), (Start: 8 @8942 has 61 MA's), (23, 9095), (35, 9200), (44, 9272), (54, 9377), (81, 9557), (84, 9569), (86, 9587), (88, 9599),

Gene: Nicky22_15 Start: 9691, Stop: 10382, Start Num: 20

Candidate Starts for Nicky22_15:

(Start: 20 @9691 has 78 MA's), (28, 9802), (38, 9865), (41, 9895), (46, 9922), (48, 9931), (51, 9964), (66, 10123), (75, 10174), (92, 10309),

Gene: Nubia_16 Start: 11830, Stop: 12590, Start Num: 8

Candidate Starts for Nubia_16:

(2, 11554), (Start: 8 @11830 has 61 MA's), (32, 12067), (35, 12082), (44, 12154), (84, 12451), (91, 12538), (93, 12559), (95, 12568), (96, 12580),

Gene: OMalley_13 Start: 8974, Stop: 9731, Start Num: 8

Candidate Starts for OMalley_13:

(Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9067), (26, 9181), (32, 9208), (35, 9223), (44, 9295), (57, 9433), (65, 9487), (80, 9574), (81, 9577), (88, 9619), (89, 9649),

Gene: Orcanus_15 Start: 9449, Stop: 10170, Start Num: 19

Candidate Starts for Orcanus_15:

(Start: 19 @9449 has 1 MA's), (22, 9461), (28, 9560), (47, 9734), (49, 9740), (51, 9770), (52, 9788), (58, 9857), (59, 9863), (74, 9956), (94, 10139),

Gene: OurGirlNessie_13 Start: 8934, Stop: 9703, Start Num: 8

Candidate Starts for OurGirlNessie_13:

(Start: 6 @8922 has 2 MA's), (Start: 8 @8934 has 61 MA's), (21, 9057), (23, 9087), (35, 9192), (44, 9264), (54, 9369), (81, 9549), (84, 9561), (86, 9579), (88, 9591),

Gene: Oxynfrius_17 Start: 11843, Stop: 12603, Start Num: 8

Candidate Starts for Oxynfrius_17:

(2, 11567), (Start: 8 @11843 has 61 MA's), (32, 12080), (35, 12095), (44, 12167), (83, 12461), (84, 12464), (91, 12551), (93, 12572), (95, 12581), (96, 12593),

Gene: Phisb_14 Start: 9208, Stop: 9899, Start Num: 20

Candidate Starts for Phisb_14:

(Start: 20 @9208 has 78 MA's), (28, 9319), (38, 9382), (46, 9439), (48, 9448), (51, 9481), (57, 9574), (66, 9640),

Gene: PinkFriday_13 Start: 8971, Stop: 9743, Start Num: 8

Candidate Starts for PinkFriday_13:

(Start: 7 @8962 has 13 MA's), (Start: 8 @8971 has 61 MA's), (12, 9049), (26, 9193), (35, 9235), (44, 9307), (54, 9412), (61, 9466), (72, 9538), (80, 9586), (86, 9619), (88, 9631), (93, 9712), (94, 9718),

Gene: PitaDog_13 Start: 8933, Stop: 9702, Start Num: 8

Candidate Starts for PitaDog_13:

(Start: 6 @8921 has 2 MA's), (Start: 8 @8933 has 61 MA's), (21, 9056), (23, 9086), (35, 9191), (44, 9263), (54, 9368), (81, 9548), (84, 9560), (86, 9578), (88, 9590),

Gene: Polka_15 Start: 9483, Stop: 10201, Start Num: 18

Candidate Starts for Polka_15:

(Start: 18 @9483 has 10 MA's), (26, 9579), (30, 9612), (51, 9804), (54, 9855), (64, 9936), (80, 10041),

Gene: Potatoes_17 Start: 11847, Stop: 12613, Start Num: 8

Candidate Starts for Potatoes_17:

(Start: 7 @11838 has 13 MA's), (Start: 8 @11847 has 61 MA's), (34, 12093), (35, 12102), (44, 12174), (54, 12279), (62, 12345), (84, 12471), (86, 12489), (88, 12501),

Gene: Preamble_13 Start: 8946, Stop: 9715, Start Num: 8

Candidate Starts for Preamble_13:

(Start: 8 @8946 has 61 MA's), (17, 9060), (22, 9078), (35, 9204), (44, 9276), (54, 9381), (62, 9447), (68, 9492), (72, 9510), (84, 9573), (86, 9591), (88, 9603), (89, 9633),

Gene: Pterodactyl_13 Start: 8935, Stop: 9704, Start Num: 8

Candidate Starts for Pterodactyl_13:

(Start: 7 @8923 has 13 MA's), (Start: 8 @8935 has 61 MA's), (21, 9058), (23, 9088), (35, 9193), (44, 9265), (54, 9370), (81, 9550), (84, 9562), (86, 9580), (88, 9592),

Gene: Pumancara_13 Start: 8970, Stop: 9742, Start Num: 8

Candidate Starts for Pumancara_13:

(Start: 7 @8961 has 13 MA's), (Start: 8 @8970 has 61 MA's), (12, 9048), (26, 9192), (35, 9234), (44, 9306), (54, 9411), (61, 9465), (72, 9537), (80, 9585), (86, 9618), (88, 9630), (93, 9711), (94, 9717),

Gene: QMacho_15 Start: 9727, Stop: 10418, Start Num: 20

Candidate Starts for QMacho_15:

(Start: 20 @9727 has 78 MA's), (28, 9838), (38, 9901), (46, 9958), (48, 9967), (51, 10000), (66, 10159), (92, 10345),

Gene: Quenya_15 Start: 9138, Stop: 9844, Start Num: 20

Candidate Starts for Quenya_15:

(Start: 20 @9138 has 78 MA's), (46, 9369), (48, 9378), (51, 9411), (85, 9675),

Gene: RAP15_17 Start: 11852, Stop: 12618, Start Num: 8

Candidate Starts for RAP15_17:

(2, 11570), (Start: 7 @11843 has 13 MA's), (Start: 8 @11852 has 61 MA's), (21, 11972), (34, 12098), (35, 12107), (44, 12179), (54, 12284), (62, 12350), (84, 12476), (86, 12494), (88, 12506),

Gene: RcigaStruga_17 Start: 11851, Stop: 12611, Start Num: 8

Candidate Starts for RcigaStruga_17:

(Start: 8 @11851 has 61 MA's), (15, 11947), (32, 12088), (35, 12103), (36, 12109), (44, 12175), (51, 12229), (91, 12559), (93, 12580), (95, 12589), (96, 12601),

Gene: RedFox_14 Start: 9060, Stop: 9784, Start Num: 20

Candidate Starts for RedFox_14:

(11, 8976), (Start: 20 @9060 has 78 MA's), (25, 9153), (28, 9171), (31, 9198), (41, 9312), (49, 9351), (51, 9381), (69, 9549), (74, 9567),

Gene: Renna12_15 Start: 9269, Stop: 9993, Start Num: 20

Candidate Starts for Renna12_15:

(Start: 20 @9269 has 78 MA's), (25, 9362), (28, 9380), (31, 9407), (41, 9521), (49, 9560), (51, 9590),

Gene: Riovina_13 Start: 8974, Stop: 9731, Start Num: 8

Candidate Starts for Riovina_13:

(Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9067), (26, 9181), (32, 9208), (35, 9223), (44, 9295), (57, 9433), (65, 9487), (80, 9574), (81, 9577), (88, 9619), (89, 9649),

Gene: Riverdale_17 Start: 11782, Stop: 12548, Start Num: 8

Candidate Starts for Riverdale_17:

(3, 11599), (Start: 7 @11773 has 13 MA's), (Start: 8 @11782 has 61 MA's), (34, 12028), (35, 12037), (44, 12109), (54, 12214), (62, 12280), (84, 12406), (86, 12424), (88, 12436),

Gene: Rollins_12 Start: 8845, Stop: 9554, Start Num: 20

Candidate Starts for Rollins_12:

(Start: 20 @8845 has 78 MA's), (28, 8953), (48, 9085), (51, 9118), (85, 9385),

Gene: Rona_14 Start: 9439, Stop: 10115, Start Num: 20

Candidate Starts for Rona_14:

(Start: 20 @9439 has 78 MA's), (46, 9670), (48, 9679), (51, 9712),

Gene: Rozby_17 Start: 11774, Stop: 12549, Start Num: 7

Candidate Starts for Rozby_17:

(2, 11501), (Start: 7 @11774 has 13 MA's), (Start: 8 @11783 has 61 MA's), (21, 11903), (34, 12029), (35, 12038), (44, 12110), (54, 12215), (62, 12281), (84, 12407), (86, 12425), (88, 12437),

Gene: Ruchi_15 Start: 10010, Stop: 10740, Start Num: 20

Candidate Starts for Ruchi_15:

(Start: 20 @10010 has 78 MA's), (26, 10106), (30, 10139), (39, 10214), (49, 10301), (51, 10331), (53, 10376), (56, 10409), (63, 10466),

Gene: SanaSana_15 Start: 9463, Stop: 10154, Start Num: 20

Candidate Starts for SanaSana_15:

(Start: 20 @9463 has 78 MA's), (35, 9613), (41, 9667), (48, 9703), (85, 10003),

Gene: SansAfet_14 Start: 9254, Stop: 9945, Start Num: 20

Candidate Starts for SansAfet_14:

(Start: 20 @9254 has 78 MA's), (28, 9365), (38, 9428), (46, 9485), (48, 9494), (51, 9527), (73, 9719),

Gene: SarBear_14 Start: 9220, Stop: 9911, Start Num: 20

Candidate Starts for SarBear_14:

(Start: 20 @9220 has 78 MA's), (28, 9331), (38, 9394), (46, 9451), (48, 9460), (51, 9493), (66, 9652), (75, 9703), (82, 9739),

Gene: Savage2526_17 Start: 11837, Stop: 12612, Start Num: 7

Candidate Starts for Savage2526_17:

(2, 11564), (Start: 7 @11837 has 13 MA's), (Start: 8 @11846 has 61 MA's), (21, 11966), (34, 12092), (35, 12101), (44, 12173), (54, 12278), (62, 12344), (84, 12470), (86, 12488), (88, 12500),

Gene: Scuttle_17 Start: 11851, Stop: 12617, Start Num: 8

Candidate Starts for Scuttle_17:

(3, 11668), (Start: 7 @11842 has 13 MA's), (Start: 8 @11851 has 61 MA's), (34, 12097), (35, 12106), (44, 12178), (54, 12283), (62, 12349), (84, 12475), (86, 12493), (88, 12505),

Gene: Sergei_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for Sergei_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9073), (26, 9187), (35, 9229), (44, 9301), (54, 9406), (61, 9460), (72, 9532), (80, 9580), (86, 9613), (88, 9625), (93, 9706), (94, 9712),

Gene: Sharkboy_14 Start: 9438, Stop: 10114, Start Num: 20

Candidate Starts for Sharkboy_14:

(Start: 20 @9438 has 78 MA's), (46, 9669), (48, 9678), (51, 9711), (73, 9903),

Gene: Skylord_13 Start: 8785, Stop: 9494, Start Num: 20

Candidate Starts for Skylord_13:

(Start: 20 @8785 has 78 MA's), (28, 8893), (48, 9025), (51, 9058), (85, 9325),

Gene: Slay_14 Start: 9696, Stop: 10387, Start Num: 20

Candidate Starts for Slay_14:

(Start: 20 @9696 has 78 MA's), (28, 9807), (38, 9870), (46, 9927), (48, 9936), (51, 9969), (66, 10128), (75, 10179),

Gene: Stoor_14 Start: 9460, Stop: 10151, Start Num: 20

Candidate Starts for Stoor_14:

(Start: 20 @9460 has 78 MA's), (35, 9610), (41, 9664), (48, 9700), (85, 10000),

Gene: Stromboli_14 Start: 9463, Stop: 10154, Start Num: 20

Candidate Starts for Stromboli_14:

(Start: 20 @9463 has 78 MA's), (35, 9613), (41, 9667), (48, 9703), (77, 9961), (85, 10003),

Gene: Supakev_13 Start: 8976, Stop: 9733, Start Num: 8

Candidate Starts for Supakev_13:

(Start: 7 @8967 has 13 MA's), (Start: 8 @8976 has 61 MA's), (15, 9069), (26, 9183), (32, 9210), (35, 9225), (44, 9297), (57, 9435), (65, 9489), (80, 9576), (88, 9621), (89, 9651),

Gene: Suppi_17 Start: 11875, Stop: 12641, Start Num: 8

Candidate Starts for Suppi_17:

(Start: 6 @11863 has 2 MA's), (Start: 8 @11875 has 61 MA's), (15, 11974), (17, 11986), (35, 12130), (44, 12202), (54, 12307), (68, 12418), (84, 12499), (86, 12517),

Gene: Swervy_14 Start: 9220, Stop: 9911, Start Num: 20

Candidate Starts for Swervy_14:

(Start: 20 @9220 has 78 MA's), (28, 9331), (38, 9394), (46, 9451), (48, 9460), (51, 9493), (66, 9652), (75, 9703),

Gene: TattModd_17 Start: 11836, Stop: 12611, Start Num: 7

Candidate Starts for TattModd_17:

(3, 11662), (Start: 7 @11836 has 13 MA's), (Start: 8 @11845 has 61 MA's), (34, 12091), (35, 12100), (44, 12172), (54, 12277), (62, 12343), (84, 12469), (86, 12487), (88, 12499),

Gene: TaylorSipt_15 Start: 9540, Stop: 10261, Start Num: 20

Candidate Starts for TaylorSipt_15:

(14, 9516), (16, 9522), (Start: 20 @9540 has 78 MA's), (22, 9552), (29, 9660), (41, 9795), (51, 9864),

Gene: Temper16_13 Start: 8899, Stop: 9737, Start Num: 5

Candidate Starts for Temper16_13:

(Start: 5 @8899 has 4 MA's), (Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9073), (26, 9187), (35, 9229), (44, 9301), (54, 9406), (61, 9460), (72, 9532), (80, 9580), (86, 9613), (88, 9625), (93, 9706), (94, 9712),

Gene: TukTuk_14 Start: 9280, Stop: 9971, Start Num: 20

Candidate Starts for TukTuk_14:

(Start: 20 @9280 has 78 MA's), (28, 9391), (38, 9454), (46, 9511), (48, 9520), (51, 9553), (58, 9649), (66, 9712),

Gene: Urla_12 Start: 8980, Stop: 9749, Start Num: 8

Candidate Starts for Urla_12:

(Start: 7 @8971 has 13 MA's), (Start: 8 @8980 has 61 MA's), (10, 9022), (32, 9223), (35, 9238), (44, 9310), (45, 9319), (54, 9415), (79, 9589), (86, 9625), (88, 9637),

Gene: Vallejo_17 Start: 11784, Stop: 12550, Start Num: 8

Candidate Starts for Vallejo_17:

(2, 11502), (Start: 7 @11775 has 13 MA's), (Start: 8 @11784 has 61 MA's), (21, 11904), (34, 12030), (35, 12039), (44, 12111), (54, 12216), (62, 12282), (84, 12408), (86, 12426), (88, 12438),

Gene: Vitas_13 Start: 8785, Stop: 9494, Start Num: 20

Candidate Starts for Vitas_13:

(Start: 20 @8785 has 78 MA's), (28, 8893), (48, 9025), (51, 9058), (85, 9325),

Gene: Vulpecula_15 Start: 10086, Stop: 10810, Start Num: 20

Candidate Starts for Vulpecula_15:

(Start: 20 @10086 has 78 MA's), (26, 10182), (30, 10215), (39, 10290), (49, 10377), (64, 10539),

Gene: Vulture_13 Start: 8974, Stop: 9731, Start Num: 8

Candidate Starts for Vulture_13:

(Start: 7 @8965 has 13 MA's), (Start: 8 @8974 has 61 MA's), (15, 9067), (26, 9181), (32, 9208), (35, 9223), (44, 9295), (57, 9433), (65, 9487), (80, 9574), (88, 9619), (89, 9649), (93, 9700),

Gene: Wawa_17 Start: 11821, Stop: 12587, Start Num: 8

Candidate Starts for Wawa_17:

(1, 11326), (2, 11539), (Start: 7 @11812 has 13 MA's), (Start: 8 @11821 has 61 MA's), (21, 11941), (34, 12067), (35, 12076), (44, 12148), (54, 12253), (62, 12319), (84, 12445), (86, 12463), (88, 12475),

Gene: Wayne_16 Start: 11921, Stop: 12687, Start Num: 8

Candidate Starts for Wayne_16:

(Start: 6 @11909 has 2 MA's), (Start: 8 @11921 has 61 MA's), (15, 12020), (17, 12032), (35, 12176), (44, 12248), (54, 12353), (68, 12464), (84, 12545), (86, 12563),

Gene: WonderBoy_13 Start: 8935, Stop: 9704, Start Num: 8

Candidate Starts for WonderBoy_13:

(Start: 8 @8935 has 61 MA's), (23, 9088), (35, 9193), (44, 9265), (54, 9370), (81, 9550), (84, 9562), (86, 9580), (88, 9592),

Gene: Zorro_17 Start: 11791, Stop: 12566, Start Num: 7

Candidate Starts for Zorro_17:

(1, 11305), (2, 11518), (Start: 7 @11791 has 13 MA's), (Start: 8 @11800 has 61 MA's), (21, 11920), (34, 12046), (35, 12055), (44, 12127), (54, 12232), (62, 12298), (84, 12424), (86, 12442), (88, 12454),