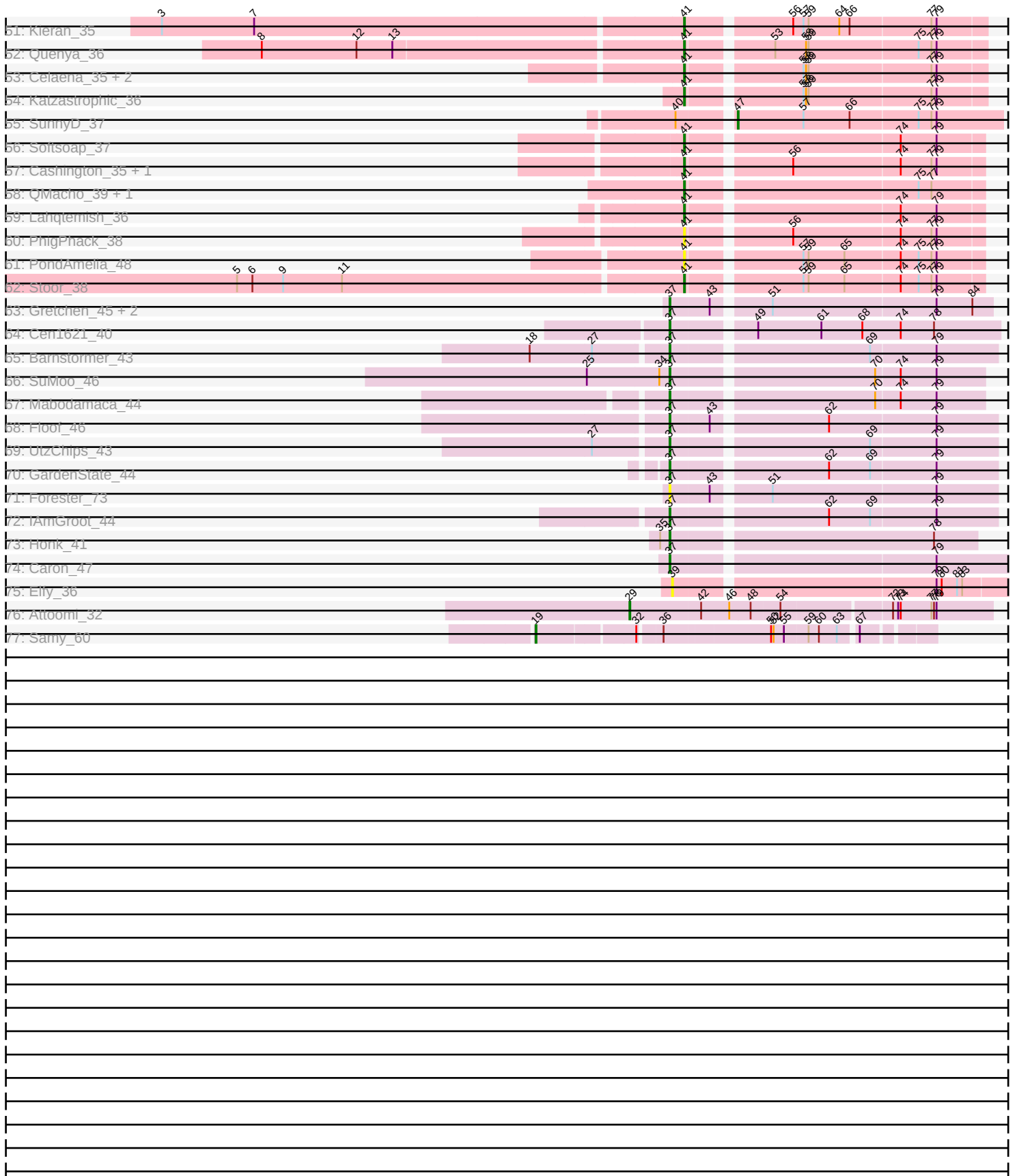


Pham 280192



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 280192 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280192 has 132 members, 22 are drafts.

Phages represented in each track:

- Track 1 : Elezi_35, London_35, Subaru_36
- Track 2 : Niobe_35, Skelbel_36, Asa16_35, Eraser_35, Jstan_37
- Track 3 : Pumpkins_36
- Track 4 : Turab_34, AEgle_34
- Track 5 : Amploria_35
- Track 6 : MissSwiss_35
- Track 7 : Crewmate_41, ObiToo_40
- Track 8 : Cassia_36
- Track 9 : Yang_36
- Track 10 : Nitro_36
- Track 11 : Pixelle_35, Amyev_35, Tian_35
- Track 12 : Schaffner_36
- Track 13 : Adolin_35
- Track 14 : JuneStar_37
- Track 15 : TforTroy_37
- Track 16 : Tallboi_36
- Track 17 : Adumb2043_34
- Track 18 : IttyBittyPiggy_36
- Track 19 : DrManhattan_35
- Track 20 : AinMach_39
- Track 21 : Nicky22_38
- Track 22 : BAJuniper_36
- Track 23 : Franklin22_36
- Track 24 : Elva_39
- Track 25 : Kenzers_37, Lynlen_37, SirBeanington_37, Albedo_37
- Track 26 : BabyYoda_38
- Track 27 : CliffHanger_38
- Track 28 : BubbaBear_36, Abigail_36, SansAfet_38, Milomuff_38, LimaBean_36, Solea_38
- Track 29 : Icarian_40, Akino08_38, Loviatar_38
- Track 30 : Bengal_38, Doobus_36, Albright_35, Avocadoman_36
- Track 31 : Shayna_37, Teagster_38
- Track 32 : SanaSana_40
- Track 33 : AylexOG_39
- Track 34 : AvGardian_39
- Track 35 : DirtyBubble_37, Stromboli_38

- Track 36 : AnnaLie_38, Burritobowl_37, CroZenni_37, BelmontSKP_38, Arroyo_38, Johnathan_36, DickRichards_36, IndyLu_36
- Track 37 : Rollins_34, Coltrane_34, Clayda5_35, Skylord_34, Brahms_34, Bernstein_34, Armstrong_34, Vitas_34
- Track 38 : PastaFagioli_36
- Track 39 : SarBear_37, Slay_38, Lilo27_38
- Track 40 : Gack_34
- Track 41 : Rona_35
- Track 42 : Kamdara_35, ChiliPepper_34, Dismas_35
- Track 43 : WalkingDead_39
- Track 44 : Didgeridoo_39, Kate33_37
- Track 45 : Phisb_38, TukTuk_38
- Track 46 : Sharkboy_36
- Track 47 : Eden_35
- Track 48 : Finalfrontier_37
- Track 49 : Jabb_38, Eula_38, CupcakePrincess_38, Jovita_38, MsUbiquitous_38
- Track 50 : Swervy_38
- Track 51 : Kieran_35
- Track 52 : Quenya_36
- Track 53 : Celaena_35, FlameThrower_35, Bachaco_35
- Track 54 : Katzastrophic_36
- Track 55 : SunnyD_37
- Track 56 : Softsoap_37
- Track 57 : Cashington_35, BabyDaisy_36
- Track 58 : QMacho_39, Pecas_37
- Track 59 : Lahqtemish_36
- Track 60 : PhigPhack_38
- Track 61 : PondAmelia_48
- Track 62 : Stoor_38
- Track 63 : Gretchen_45, Percival_46, SuperHands_45
- Track 64 : Cen1621_40
- Track 65 : Barnstormer_43
- Track 66 : SuMoo_46
- Track 67 : Mabodamaca_44
- Track 68 : Floof_46
- Track 69 : UtzChips_43
- Track 70 : GardenState_44
- Track 71 : Forester_73
- Track 72 : IAmGroot_44
- Track 73 : Honk_41
- Track 74 : Caron_47
- Track 75 : Elfy_36
- Track 76 : Attoomi_32
- Track 77 : Samy_60

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

The start number called the most often in the published annotations is 41, it was called in 70 of the 110 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abigail_36, Akino08_38, Albedo_37, Albright_35, AnnaLie_38, Armstrong_34, Arroyo_38, AvGardian_39, Avocadoman_36, AylexOG_39, BAjuniper_36, BabyDaisy_36, BabyYoda_38, Bachaco_35, BelmontSKP_38, Bengal_38, Bernstein_34, Brahms_34, BubbaBear_36, Burritobowl_37, Cashington_35, Celaena_35, ChiliPepper_34, Clayda5_35, Coltrane_34, CroZenni_37, CupcakePrincess_38, DickRichards_36, Didgeridoo_39, DirtyBubble_37, Dismas_35, Doobus_36, Eden_35, Elva_39, Eula_38, Finalfrontier_37, FlameThrower_35, Franklin22_36, Gack_34, Icarian_40, IndyLu_36, Jabb_38, Johnathan_36, Jovita_38, Kamdara_35, Kate33_37, Katzastrophic_36, Kenzers_37, Kieran_35, Lahqtemish_36, Lilo27_38, LimaBean_36, Loviatar_38, Lynlen_37, Milomuff_38, MsUbiquitous_38, Nicky22_38, PastaFagioli_36, Pecas_37, PhigPhack_38, Phisb_38, PondAmelia_48, QMacho_39, Quenya_36, Rollins_34, Rona_35, SanaSana_40, SansAfet_38, SarBear_37, Sharkboy_36, SirBeanington_37, Skylord_34, Slay_38, Softsoap_37, Solea_38, Stoor_38, Stromboli_38, Swervy_38, TukTuk_38, Vitas_34, WalkingDead_39,

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

-

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

- AEgle_34, Adolin_35, Adumb2043_34, AinMach_39, Amploria_35, Amyev_35, Asa16_35, Attoomi_32, Barnstormer_43, Caron_47, Cassia_36, Cen1621_40, CliffHanger_38, Crewmate_41, DrManhattan_35, Elezi_35, Elfy_36, Eraser_35, Floof_46, Forester_73, GardenState_44, Gretchen_45, Honk_41, IAmGroot_44, IttyBittyPiggy_36, Jstan_37, JuneStar_37, London_35, Mabodamaca_44, MissSwiss_35, Niobe_35, Nitro_36, ObiToo_40, Percival_46, Pixelle_35, Pumpkins_36, Samy_60, Schaffner_36, Shayna_37, Skelbel_36, SuMoo_46, Subaru_36, SunnyD_37, SuperHands_45, Tallboi_36, Teagster_38, TforTroy_37, Tian_35, Turab_34, UtzChips_43, Yang_36,

Summary by start number:

Start 19:

- Found in 1 of 132 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Samy_60 (singleton),

Start 29:

- Found in 1 of 132 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attoomi_32 (singleton),

Start 37:

- Found in 15 of 132 (11.4%) of genes in pham
- Manual Annotations of this start: 12 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AinMach_39 (AZ7), Barnstormer_43 (EH), Caron_47 (EH), Cen1621_40 (EH), Floof_46 (EH), Forester_73 (EH), GardenState_44 (EH), Gretchen_45 (EH), Honk_41 (EH), IAmGroot_44 (EH), Mabodamaca_44 (EH), Percival_46 (EH), SuMoo_46 (EH), SuperHands_45 (EH),

UtzChips_43 (EH),

Start 38:

- Found in 5 of 132 (3.8%) of genes in pham
- Manual Annotations of this start: 5 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JuneStar_37 (AZ1), Pumpkins_36 (AZ1), Schaffner_36 (AZ1), TforTroy_37 (AZ1), Yang_36 (AZ1),

Start 39:

- Found in 25 of 132 (18.9%) of genes in pham
- Manual Annotations of this start: 17 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle_34 (AZ1), Adolin_35 (AZ1), Adumb2043_34 (AZ1), Amploria_35 (AZ1), Amyev_35 (AZ1), Asa16_35 (AZ1), Cassia_36 (AZ1), Crewmate_41 (AZ1), DrManhattan_35 (AZ1), Elezi_35 (AZ1), Elfy_36 (FP), Eraser_35 (AZ1), IttyBittyPiggy_36 (AZ1), Jstan_37 (AZ1), London_35 (AZ1), MissSwiss_35 (AZ1), Niobe_35 (AZ1), Nitro_36 (AZ1), ObiToo_40 (AZ1), Pixelle_35 (AZ1), Skelbel_36 (AZ1), Subaru_36 (AZ1), Tallboi_36 (AZ1), Tian_35 (AZ1), Turab_34 (AZ1),

Start 40:

- Found in 4 of 132 (3.0%) of genes in pham
- Manual Annotations of this start: 3 of 110
- Called 75.0% of time when present
- Phage (with cluster) where this start called: CliffHanger_38 (EB), Shayna_37 (EB), Teagster_38 (EB),

Start 41:

- Found in 81 of 132 (61.4%) of genes in pham
- Manual Annotations of this start: 70 of 110
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abigail_36 (EB), Akino08_38 (EB), Albedo_37 (EB), Albright_35 (EB), AnnaLie_38 (EB), Armstrong_34 (EB), Arroyo_38 (EB), AvGardian_39 (EB), Avocadoman_36 (EB), AylexOG_39 (EB), BAjuniper_36 (EB), BabyDaisy_36 (EB), BabyYoda_38 (EB), Bachaco_35 (EB), BelmontSKP_38 (EB), Bengal_38 (EB), Bernstein_34 (EB), Brahms_34 (EB), BubbaBear_36 (EB), Burritobowl_37 (EB), Cashington_35 (EB), Celaena_35 (EB), ChiliPepper_34 (EB), Clayda5_35 (EB), Coltrane_34 (EB), CroZenni_37 (EB), CupcakePrincess_38 (EB), DickRichards_36 (EB), Didgeridoo_39 (EB), DirtyBubble_37 (EB), Dismas_35 (EB), Doobus_36 (EB), Eden_35 (EB), Elva_39 (EB), Eula_38 (EB), Finalfrontier_37 (EB), FlameThrower_35 (EB), Franklin22_36 (EB), Gack_34 (EB), Icarian_40 (EB), IndyLu_36 (EB), Jabb_38 (EB), Johnathan_36 (EB), Jovita_38 (EB), Kamdara_35 (EB), Kate33_37 (EB), Katzastrophic_36 (EB), Kenzers_37 (EB), Kieran_35 (EB), Lahqtemish_36 (EB), Lilo27_38 (EB), LimaBean_36 (EB), Loviatar_38 (EB), Lynlen_37 (EB), Milomuff_38 (EB), MsUbiquitous_38 (EB), Nicky22_38 (EB), PastaFagioli_36 (EB), Pecas_37 (EB), PhigPhack_38 (EB), Phisb_38 (EB), PondAmelia_48 (EB), QMacho_39 (EB), Quenya_36 (EB), Rollins_34 (EB), Rona_35 (EB), SanaSana_40 (EB), SansAfet_38 (EB), SarBear_37 (EB), Sharkboy_36 (EB), SirBeanington_37 (EB), Skylord_34 (EB), Slay_38 (EB), Softsoap_37 (EB), Solea_38 (EB), Stoor_38 (EB), Stromboli_38 (EB), Swervy_38 (EB), TukTuk_38 (EB), Vitas_34 (EB), WalkingDead_39 (EB),

Start 47:

- Found in 3 of 132 (2.3%) of genes in pham
- Manual Annotations of this start: 1 of 110
- Called 33.3% of time when present
- Phage (with cluster) where this start called: SunnyD_37 (EB),

Summary by clusters:

There are 6 clusters represented in this pham: FP, singleton, EH, EB, AZ1, AZ7,

Info for manual annotations of cluster AZ1:

- Start number 38 was manually annotated 5 times for cluster AZ1.
- Start number 39 was manually annotated 17 times for cluster AZ1.

Info for manual annotations of cluster EB:

- Start number 40 was manually annotated 3 times for cluster EB.
- Start number 41 was manually annotated 70 times for cluster EB.
- Start number 47 was manually annotated 1 time for cluster EB.

Info for manual annotations of cluster EH:

- Start number 37 was manually annotated 12 times for cluster EH.

Gene Information:

Gene: AEgle_34 Start: 25272, Stop: 25622, Start Num: 39

Candidate Starts for AEgle_34:

(16, 25092), (20, 25146), (Start: 39 @25272 has 17 MA's), (44, 25317), (49, 25356), (74, 25518), (79, 25560),

Gene: Abigail_36 Start: 25222, Stop: 25548, Start Num: 41

Candidate Starts for Abigail_36:

(Start: 41 @25222 has 70 MA's), (74, 25453), (77, 25489), (79, 25495),

Gene: Adolin_35 Start: 24126, Stop: 24476, Start Num: 39

Candidate Starts for Adolin_35:

(17, 23973), (20, 24003), (26, 24045), (Start: 39 @24126 has 17 MA's), (49, 24210), (79, 24414), (80, 24420),

Gene: Adumb2043_34 Start: 25291, Stop: 25641, Start Num: 39

Candidate Starts for Adumb2043_34:

(Start: 39 @25291 has 17 MA's), (44, 25336), (49, 25375), (74, 25537), (79, 25579),

Gene: AinMach_39 Start: 26488, Stop: 26916, Start Num: 37

Candidate Starts for AinMach_39:

(30, 26443), (33, 26470), (Start: 37 @26488 has 12 MA's), (45, 26545), (66, 26695), (72, 26743), (74, 26752), (79, 26794), (81, 26818), (82, 26821),

Gene: Akino08_38 Start: 27649, Stop: 27975, Start Num: 41

Candidate Starts for Akino08_38:

(2, 27016), (5, 27136), (6, 27154), (9, 27190), (11, 27259), (Start: 41 @27649 has 70 MA's), (59, 27775), (65, 27817), (74, 27880), (75, 27901), (77, 27916), (79, 27922),

Gene: Albedo_37 Start: 25772, Stop: 26098, Start Num: 41
Candidate Starts for Albedo_37:
(Start: 41 @25772 has 70 MA's), (58, 25895), (75, 26024), (77, 26039),

Gene: Albright_35 Start: 24924, Stop: 25250, Start Num: 41
Candidate Starts for Albright_35:
(Start: 41 @24924 has 70 MA's), (74, 25155), (77, 25191), (79, 25197),

Gene: Amploria_35 Start: 25474, Stop: 25824, Start Num: 39
Candidate Starts for Amploria_35:
(21, 25345), (22, 25348), (31, 25438), (Start: 39 @25474 has 17 MA's), (44, 25519), (49, 25558), (74, 25720), (79, 25762),

Gene: Amyev_35 Start: 26817, Stop: 27164, Start Num: 39
Candidate Starts for Amyev_35:
(Start: 39 @26817 has 17 MA's), (49, 26901), (74, 27063), (79, 27105),

Gene: AnnaLie_38 Start: 26045, Stop: 26371, Start Num: 41
Candidate Starts for AnnaLie_38:
(Start: 41 @26045 has 70 MA's), (74, 26276), (77, 26312), (79, 26318),

Gene: Armstrong_34 Start: 23647, Stop: 23988, Start Num: 41
Candidate Starts for Armstrong_34:
(Start: 41 @23647 has 70 MA's), (54, 23740), (79, 23920),

Gene: Arroyo_38 Start: 26083, Stop: 26409, Start Num: 41
Candidate Starts for Arroyo_38:
(Start: 41 @26083 has 70 MA's), (74, 26314), (77, 26350), (79, 26356),

Gene: Asa16_35 Start: 26861, Stop: 27211, Start Num: 39
Candidate Starts for Asa16_35:
(Start: 39 @26861 has 17 MA's), (44, 26906), (49, 26945), (58, 26999), (72, 27098), (79, 27149),

Gene: Attoomi_32 Start: 23857, Stop: 24264, Start Num: 29
Candidate Starts for Attoomi_32:
(Start: 29 @23857 has 1 MA's), (42, 23938), (46, 23971), (48, 23995), (54, 24028), (72, 24148), (73, 24154), (74, 24157), (77, 24193), (78, 24196), (79, 24199),

Gene: AvGardian_39 Start: 26215, Stop: 26541, Start Num: 41
Candidate Starts for AvGardian_39:
(4, 25681), (Start: 41 @26215 has 70 MA's), (58, 26338), (77, 26482), (79, 26488),

Gene: Avocadoman_36 Start: 25161, Stop: 25487, Start Num: 41
Candidate Starts for Avocadoman_36:
(Start: 41 @25161 has 70 MA's), (74, 25392), (77, 25428), (79, 25434),

Gene: AylexOG_39 Start: 26118, Stop: 26444, Start Num: 41
Candidate Starts for AylexOG_39:
(Start: 41 @26118 has 70 MA's), (58, 26241), (75, 26370), (77, 26385),

Gene: BAjuniper_36 Start: 26884, Stop: 27216, Start Num: 41
Candidate Starts for BAjuniper_36:
(14, 26641), (Start: 41 @26884 has 70 MA's), (53, 26974), (58, 27010), (59, 27013), (71, 27103), (77, 27154), (79, 27160), (85, 27211),

Gene: BabyDaisy_36 Start: 25684, Stop: 26010, Start Num: 41
Candidate Starts for BabyDaisy_36:
(Start: 41 @25684 has 70 MA's), (56, 25792), (74, 25915), (77, 25951), (79, 25957),

Gene: BabyYoda_38 Start: 26829, Stop: 27155, Start Num: 41
Candidate Starts for BabyYoda_38:
(Start: 41 @26829 has 70 MA's), (57, 26949), (59, 26955), (65, 26997), (74, 27060), (75, 27081), (77, 27096), (79, 27102),

Gene: Bachaco_35 Start: 26844, Stop: 27173, Start Num: 41
Candidate Starts for Bachaco_35:
(Start: 41 @26844 has 70 MA's), (57, 26964), (58, 26967), (59, 26970), (77, 27111), (79, 27117),

Gene: Barnstormer_43 Start: 27456, Stop: 27818, Start Num: 37
Candidate Starts for Barnstormer_43:
(18, 27303), (27, 27375), (Start: 37 @27456 has 12 MA's), (69, 27672), (79, 27747),

Gene: BelmontSKP_38 Start: 26045, Stop: 26371, Start Num: 41
Candidate Starts for BelmontSKP_38:
(Start: 41 @26045 has 70 MA's), (74, 26276), (77, 26312), (79, 26318),

Gene: Bengal_38 Start: 25673, Stop: 25999, Start Num: 41
Candidate Starts for Bengal_38:
(Start: 41 @25673 has 70 MA's), (74, 25904), (77, 25940), (79, 25946),

Gene: Bernstein_34 Start: 23702, Stop: 24043, Start Num: 41
Candidate Starts for Bernstein_34:
(Start: 41 @23702 has 70 MA's), (54, 23795), (79, 23975),

Gene: Brahms_34 Start: 23649, Stop: 23990, Start Num: 41
Candidate Starts for Brahms_34:
(Start: 41 @23649 has 70 MA's), (54, 23742), (79, 23922),

Gene: BubbaBear_36 Start: 25617, Stop: 25943, Start Num: 41
Candidate Starts for BubbaBear_36:
(Start: 41 @25617 has 70 MA's), (74, 25848), (77, 25884), (79, 25890),

Gene: Burritobowl_37 Start: 25618, Stop: 25944, Start Num: 41
Candidate Starts for Burritobowl_37:
(Start: 41 @25618 has 70 MA's), (74, 25849), (77, 25885), (79, 25891),

Gene: Caron_47 Start: 28859, Stop: 29239, Start Num: 37
Candidate Starts for Caron_47:
(Start: 37 @28859 has 12 MA's), (79, 29150),

Gene: Cashington_35 Start: 24964, Stop: 25290, Start Num: 41
Candidate Starts for Cashington_35:
(Start: 41 @24964 has 70 MA's), (56, 25072), (74, 25195), (77, 25231), (79, 25237),

Gene: Cassia_36 Start: 25737, Stop: 26096, Start Num: 39

Candidate Starts for Cassia_36:

(15, 25515), (Start: 39 @25737 has 17 MA's), (79, 26025),

Gene: Celaena_35 Start: 26594, Stop: 26923, Start Num: 41

Candidate Starts for Celaena_35:

(Start: 41 @26594 has 70 MA's), (57, 26714), (58, 26717), (59, 26720), (77, 26861), (79, 26867),

Gene: Cen1621_40 Start: 25799, Stop: 26167, Start Num: 37

Candidate Starts for Cen1621_40:

(Start: 37 @25799 has 12 MA's), (49, 25886), (61, 25958), (68, 26006), (74, 26051), (78, 26090),

Gene: ChiliPepper_34 Start: 26048, Stop: 26380, Start Num: 41

Candidate Starts for ChiliPepper_34:

(Start: 41 @26048 has 70 MA's), (56, 26159), (57, 26171), (59, 26177), (66, 26225), (74, 26282), (77, 26318), (79, 26324),

Gene: Clayda5_35 Start: 23636, Stop: 23977, Start Num: 41

Candidate Starts for Clayda5_35:

(Start: 41 @23636 has 70 MA's), (54, 23729), (79, 23909),

Gene: CliffHanger_38 Start: 24541, Stop: 24900, Start Num: 40

Candidate Starts for CliffHanger_38:

(Start: 40 @24541 has 3 MA's), (57, 24670), (75, 24802), (77, 24817), (79, 24823),

Gene: Coltrane_34 Start: 23649, Stop: 23990, Start Num: 41

Candidate Starts for Coltrane_34:

(Start: 41 @23649 has 70 MA's), (54, 23742), (79, 23922),

Gene: Crewmate_41 Start: 26389, Stop: 26751, Start Num: 39

Candidate Starts for Crewmate_41:

(Start: 39 @26389 has 17 MA's), (58, 26527), (74, 26635), (79, 26677),

Gene: CroZenni_37 Start: 25508, Stop: 25834, Start Num: 41

Candidate Starts for CroZenni_37:

(Start: 41 @25508 has 70 MA's), (74, 25739), (77, 25775), (79, 25781),

Gene: CupcakePrincess_38 Start: 25806, Stop: 26132, Start Num: 41

Candidate Starts for CupcakePrincess_38:

(Start: 41 @25806 has 70 MA's), (74, 26037), (75, 26058), (77, 26073),

Gene: DickRichards_36 Start: 25947, Stop: 26273, Start Num: 41

Candidate Starts for DickRichards_36:

(Start: 41 @25947 has 70 MA's), (74, 26178), (77, 26214), (79, 26220),

Gene: Didgeridoo_39 Start: 26093, Stop: 26419, Start Num: 41

Candidate Starts for Didgeridoo_39:

(Start: 41 @26093 has 70 MA's), (74, 26324), (77, 26360), (79, 26366),

Gene: DirtyBubble_37 Start: 26477, Stop: 26803, Start Num: 41

Candidate Starts for DirtyBubble_37:

(1, 25724), (5, 25964), (6, 25982), (9, 26018), (11, 26087), (Start: 41 @26477 has 70 MA's), (57, 26597), (59, 26603), (74, 26708), (75, 26729), (77, 26744), (79, 26750),

Gene: Dismas_35 Start: 26219, Stop: 26551, Start Num: 41

Candidate Starts for Dismas_35:

(Start: 41 @26219 has 70 MA's), (56, 26330), (57, 26342), (59, 26348), (66, 26396), (74, 26453), (77, 26489), (79, 26495),

Gene: Doobus_36 Start: 25328, Stop: 25654, Start Num: 41

Candidate Starts for Doobus_36:

(Start: 41 @25328 has 70 MA's), (74, 25559), (77, 25595), (79, 25601),

Gene: DrManhattan_35 Start: 24117, Stop: 24467, Start Num: 39

Candidate Starts for DrManhattan_35:

(16, 23940), (17, 23964), (20, 23994), (26, 24036), (Start: 39 @24117 has 17 MA's), (49, 24201), (79, 24405), (80, 24411),

Gene: Eden_35 Start: 24432, Stop: 24761, Start Num: 41

Candidate Starts for Eden_35:

(Start: 41 @24432 has 70 MA's), (54, 24525), (57, 24552), (58, 24555), (77, 24699), (79, 24705),

Gene: Elezi_35 Start: 26877, Stop: 27227, Start Num: 39

Candidate Starts for Elezi_35:

(28, 26808), (Start: 39 @26877 has 17 MA's), (44, 26922), (49, 26961), (58, 27015), (72, 27114), (74, 27123), (79, 27165),

Gene: Elfy_36 Start: 25169, Stop: 25540, Start Num: 39

Candidate Starts for Elfy_36:

(Start: 39 @25169 has 17 MA's), (79, 25457), (80, 25463), (81, 25481), (83, 25487),

Gene: Elva_39 Start: 26539, Stop: 26865, Start Num: 41

Candidate Starts for Elva_39:

(Start: 41 @26539 has 70 MA's), (54, 26632), (58, 26662), (75, 26791), (77, 26806), (79, 26812),

Gene: Eraser_35 Start: 26868, Stop: 27218, Start Num: 39

Candidate Starts for Eraser_35:

(Start: 39 @26868 has 17 MA's), (44, 26913), (49, 26952), (58, 27006), (72, 27105), (79, 27156),

Gene: Eula_38 Start: 25719, Stop: 26045, Start Num: 41

Candidate Starts for Eula_38:

(Start: 41 @25719 has 70 MA's), (74, 25950), (75, 25971), (77, 25986),

Gene: Finalfrontier_37 Start: 26331, Stop: 26657, Start Num: 41

Candidate Starts for Finalfrontier_37:

(Start: 41 @26331 has 70 MA's), (74, 26562), (76, 26595), (79, 26604),

Gene: FlameThrower_35 Start: 26044, Stop: 26373, Start Num: 41

Candidate Starts for FlameThrower_35:

(Start: 41 @26044 has 70 MA's), (57, 26164), (58, 26167), (59, 26170), (77, 26311), (79, 26317),

Gene: Floof_46 Start: 28537, Stop: 28899, Start Num: 37

Candidate Starts for Floof_46:

(Start: 37 @28537 has 12 MA's), (43, 28582), (62, 28705), (79, 28828),

Gene: Forester_73 Start: 29475, Stop: 29837, Start Num: 37
Candidate Starts for Forester_73:
(Start: 37 @29475 has 12 MA's), (43, 29520), (51, 29577), (79, 29766),

Gene: Franklin22_36 Start: 24418, Stop: 24747, Start Num: 41
Candidate Starts for Franklin22_36:
(Start: 41 @24418 has 70 MA's), (53, 24505), (58, 24541), (59, 24544), (76, 24682), (77, 24685), (79, 24691),

Gene: Gack_34 Start: 24169, Stop: 24498, Start Num: 41
Candidate Starts for Gack_34:
(Start: 41 @24169 has 70 MA's), (58, 24292), (76, 24433), (79, 24442),

Gene: GardenState_44 Start: 27681, Stop: 28043, Start Num: 37
Candidate Starts for GardenState_44:
(Start: 37 @27681 has 12 MA's), (62, 27849), (69, 27897), (79, 27972),

Gene: Gretchen_45 Start: 29159, Stop: 29515, Start Num: 37
Candidate Starts for Gretchen_45:
(Start: 37 @29159 has 12 MA's), (43, 29204), (51, 29261), (79, 29450), (84, 29492),

Gene: Honk_41 Start: 24866, Stop: 25207, Start Num: 37
Candidate Starts for Honk_41:
(35, 24857), (Start: 37 @24866 has 12 MA's), (78, 25157),

Gene: IAmGroot_44 Start: 28148, Stop: 28510, Start Num: 37
Candidate Starts for IAmGroot_44:
(Start: 37 @28148 has 12 MA's), (62, 28316), (69, 28364), (79, 28439),

Gene: Icarian_40 Start: 27112, Stop: 27438, Start Num: 41
Candidate Starts for Icarian_40:
(2, 26479), (5, 26599), (6, 26617), (9, 26653), (11, 26722), (Start: 41 @27112 has 70 MA's), (59, 27238), (65, 27280), (74, 27343), (75, 27364), (77, 27379), (79, 27385),

Gene: IndyLu_36 Start: 25645, Stop: 25971, Start Num: 41
Candidate Starts for IndyLu_36:
(Start: 41 @25645 has 70 MA's), (74, 25876), (77, 25912), (79, 25918),

Gene: IttyBittyPiggy_36 Start: 25503, Stop: 25862, Start Num: 39
Candidate Starts for IttyBittyPiggy_36:
(Start: 39 @25503 has 17 MA's), (58, 25641), (79, 25791),

Gene: Jabb_38 Start: 25806, Stop: 26132, Start Num: 41
Candidate Starts for Jabb_38:
(Start: 41 @25806 has 70 MA's), (74, 26037), (75, 26058), (77, 26073),

Gene: Johnathan_36 Start: 25051, Stop: 25377, Start Num: 41
Candidate Starts for Johnathan_36:
(Start: 41 @25051 has 70 MA's), (74, 25282), (77, 25318), (79, 25324),

Gene: Jovita_38 Start: 25821, Stop: 26147, Start Num: 41
Candidate Starts for Jovita_38:

(Start: 41 @25821 has 70 MA's), (74, 26052), (75, 26073), (77, 26088),

Gene: Jstan_37 Start: 26862, Stop: 27212, Start Num: 39

Candidate Starts for Jstan_37:

(Start: 39 @26862 has 17 MA's), (44, 26907), (49, 26946), (58, 27000), (72, 27099), (79, 27150),

Gene: JuneStar_37 Start: 27633, Stop: 27992, Start Num: 38

Candidate Starts for JuneStar_37:

(10, 27243), (Start: 38 @27633 has 5 MA's), (49, 27717), (58, 27771), (69, 27846), (79, 27921),

Gene: Kamdara_35 Start: 26224, Stop: 26556, Start Num: 41

Candidate Starts for Kamdara_35:

(Start: 41 @26224 has 70 MA's), (56, 26335), (57, 26347), (59, 26353), (66, 26401), (74, 26458), (77, 26494), (79, 26500),

Gene: Kate33_37 Start: 25417, Stop: 25743, Start Num: 41

Candidate Starts for Kate33_37:

(Start: 41 @25417 has 70 MA's), (74, 25648), (77, 25684), (79, 25690),

Gene: Katzastrophic_36 Start: 26173, Stop: 26502, Start Num: 41

Candidate Starts for Katzastrophic_36:

(Start: 41 @26173 has 70 MA's), (57, 26293), (58, 26296), (59, 26299), (77, 26440), (79, 26446),

Gene: Kenzers_37 Start: 25644, Stop: 25970, Start Num: 41

Candidate Starts for Kenzers_37:

(Start: 41 @25644 has 70 MA's), (58, 25767), (75, 25896), (77, 25911),

Gene: Kieran_35 Start: 26228, Stop: 26560, Start Num: 41

Candidate Starts for Kieran_35:

(3, 25631), (7, 25739), (Start: 41 @26228 has 70 MA's), (56, 26339), (57, 26351), (59, 26357), (64, 26393), (66, 26405), (77, 26498), (79, 26504),

Gene: Lahqtemish_36 Start: 25690, Stop: 26016, Start Num: 41

Candidate Starts for Lahqtemish_36:

(Start: 41 @25690 has 70 MA's), (74, 25921), (79, 25963),

Gene: Lilo27_38 Start: 25629, Stop: 25955, Start Num: 41

Candidate Starts for Lilo27_38:

(Start: 41 @25629 has 70 MA's), (75, 25881), (77, 25896),

Gene: LimaBean_36 Start: 25100, Stop: 25426, Start Num: 41

Candidate Starts for LimaBean_36:

(Start: 41 @25100 has 70 MA's), (74, 25331), (77, 25367), (79, 25373),

Gene: London_35 Start: 26877, Stop: 27227, Start Num: 39

Candidate Starts for London_35:

(28, 26808), (Start: 39 @26877 has 17 MA's), (44, 26922), (49, 26961), (58, 27015), (72, 27114), (74, 27123), (79, 27165),

Gene: Loviatar_38 Start: 27664, Stop: 27990, Start Num: 41

Candidate Starts for Loviatar_38:

(2, 27031), (5, 27151), (6, 27169), (9, 27205), (11, 27274), (Start: 41 @27664 has 70 MA's), (59, 27790), (65, 27832), (74, 27895), (75, 27916), (77, 27931), (79, 27937),

Gene: Lynlen_37 Start: 25644, Stop: 25970, Start Num: 41
Candidate Starts for Lynlen_37:
(Start: 41 @25644 has 70 MA's), (58, 25767), (75, 25896), (77, 25911),

Gene: Mabodamaca_44 Start: 28805, Stop: 29152, Start Num: 37
Candidate Starts for Mabodamaca_44:
(Start: 37 @28805 has 12 MA's), (70, 29027), (74, 29054), (79, 29096),

Gene: Milomuff_38 Start: 25521, Stop: 25847, Start Num: 41
Candidate Starts for Milomuff_38:
(Start: 41 @25521 has 70 MA's), (74, 25752), (77, 25788), (79, 25794),

Gene: MissSwiss_35 Start: 24190, Stop: 24540, Start Num: 39
Candidate Starts for MissSwiss_35:
(16, 23998), (17, 24022), (20, 24052), (26, 24094), (Start: 39 @24190 has 17 MA's), (49, 24274), (74, 24436), (79, 24478), (80, 24484),

Gene: MsUbiquitous_38 Start: 25806, Stop: 26132, Start Num: 41
Candidate Starts for MsUbiquitous_38:
(Start: 41 @25806 has 70 MA's), (74, 26037), (75, 26058), (77, 26073),

Gene: Nicky22_38 Start: 26183, Stop: 26509, Start Num: 41
Candidate Starts for Nicky22_38:
(Start: 41 @26183 has 70 MA's), (75, 26435), (77, 26450),

Gene: Niobe_35 Start: 26862, Stop: 27212, Start Num: 39
Candidate Starts for Niobe_35:
(Start: 39 @26862 has 17 MA's), (44, 26907), (49, 26946), (58, 27000), (72, 27099), (79, 27150),

Gene: Nitro_36 Start: 26582, Stop: 26929, Start Num: 39
Candidate Starts for Nitro_36:
(Start: 39 @26582 has 17 MA's), (44, 26627), (49, 26666), (58, 26720), (74, 26828), (79, 26870),

Gene: ObiToo_40 Start: 26129, Stop: 26491, Start Num: 39
Candidate Starts for ObiToo_40:
(Start: 39 @26129 has 17 MA's), (58, 26267), (74, 26375), (79, 26417),

Gene: PastaFagioli_36 Start: 25674, Stop: 26000, Start Num: 41
Candidate Starts for PastaFagioli_36:
(Start: 41 @25674 has 70 MA's), (74, 25905), (79, 25947),

Gene: Pecas_37 Start: 25718, Stop: 26044, Start Num: 41
Candidate Starts for Pecas_37:
(Start: 41 @25718 has 70 MA's), (75, 25970), (77, 25985),

Gene: Percival_46 Start: 28994, Stop: 29350, Start Num: 37
Candidate Starts for Percival_46:
(Start: 37 @28994 has 12 MA's), (43, 29039), (51, 29096), (79, 29285), (84, 29327),

Gene: PhigPhack_38 Start: 25544, Stop: 25870, Start Num: 41
Candidate Starts for PhigPhack_38:
(Start: 41 @25544 has 70 MA's), (56, 25652), (74, 25775), (77, 25811), (79, 25817),

Gene: Phisb_38 Start: 25777, Stop: 26103, Start Num: 41

Candidate Starts for Phisb_38:

(Start: 41 @25777 has 70 MA's), (56, 25885), (74, 26008), (77, 26044), (79, 26050),

Gene: Pixelle_35 Start: 26837, Stop: 27184, Start Num: 39

Candidate Starts for Pixelle_35:

(Start: 39 @26837 has 17 MA's), (49, 26921), (74, 27083), (79, 27125),

Gene: PondAmelia_48 Start: 26644, Stop: 26970, Start Num: 41

Candidate Starts for PondAmelia_48:

(Start: 41 @26644 has 70 MA's), (57, 26764), (59, 26770), (65, 26812), (74, 26875), (75, 26896), (77, 26911), (79, 26917),

Gene: Pumpkins_36 Start: 26180, Stop: 26539, Start Num: 38

Candidate Starts for Pumpkins_36:

(24, 26060), (Start: 38 @26180 has 5 MA's), (58, 26318), (79, 26468),

Gene: QMacho_39 Start: 26201, Stop: 26527, Start Num: 41

Candidate Starts for QMacho_39:

(Start: 41 @26201 has 70 MA's), (75, 26453), (77, 26468),

Gene: Quenya_36 Start: 25890, Stop: 26219, Start Num: 41

Candidate Starts for Quenya_36:

(8, 25413), (12, 25524), (13, 25566), (Start: 41 @25890 has 70 MA's), (53, 25977), (58, 26013), (59, 26016), (75, 26142), (77, 26157), (79, 26163),

Gene: Rollins_34 Start: 23702, Stop: 24043, Start Num: 41

Candidate Starts for Rollins_34:

(Start: 41 @23702 has 70 MA's), (54, 23795), (79, 23975),

Gene: Rona_35 Start: 26210, Stop: 26542, Start Num: 41

Candidate Starts for Rona_35:

(3, 25613), (7, 25721), (Start: 41 @26210 has 70 MA's), (56, 26321), (57, 26333), (59, 26339), (66, 26387), (74, 26444), (77, 26480), (79, 26486),

Gene: Samy_60 Start: 37282, Stop: 37698, Start Num: 19

Candidate Starts for Samy_60:

(Start: 19 @37282 has 1 MA's), (32, 37390), (36, 37414), (50, 37534), (52, 37537), (55, 37549), (59, 37576), (60, 37585), (63, 37606), (67, 37624),

Gene: SanaSana_40 Start: 27314, Stop: 27640, Start Num: 41

Candidate Starts for SanaSana_40:

(Start: 41 @27314 has 70 MA's), (59, 27440), (74, 27545), (75, 27566), (77, 27581), (79, 27587),

Gene: SansAfet_38 Start: 25631, Stop: 25957, Start Num: 41

Candidate Starts for SansAfet_38:

(Start: 41 @25631 has 70 MA's), (74, 25862), (77, 25898), (79, 25904),

Gene: SarBear_37 Start: 25498, Stop: 25824, Start Num: 41

Candidate Starts for SarBear_37:

(Start: 41 @25498 has 70 MA's), (75, 25750), (77, 25765),

Gene: Schaffner_36 Start: 26410, Stop: 26769, Start Num: 38

Candidate Starts for Schaffner_36:

(Start: 38 @26410 has 5 MA's), (49, 26494), (58, 26548), (69, 26623), (79, 26698),

Gene: Sharkboy_36 Start: 26309, Stop: 26641, Start Num: 41

Candidate Starts for Sharkboy_36:

(Start: 41 @26309 has 70 MA's), (56, 26420), (57, 26432), (59, 26438), (66, 26486), (74, 26543), (79, 26585),

Gene: Shayna_37 Start: 24987, Stop: 25346, Start Num: 40

Candidate Starts for Shayna_37:

(Start: 40 @24987 has 3 MA's), (Start: 47 @25041 has 1 MA's), (57, 25116), (75, 25248), (77, 25263), (79, 25269),

Gene: SirBeanington_37 Start: 25819, Stop: 26145, Start Num: 41

Candidate Starts for SirBeanington_37:

(Start: 41 @25819 has 70 MA's), (58, 25942), (75, 26071), (77, 26086),

Gene: Skelbel_36 Start: 26862, Stop: 27212, Start Num: 39

Candidate Starts for Skelbel_36:

(Start: 39 @26862 has 17 MA's), (44, 26907), (49, 26946), (58, 27000), (72, 27099), (79, 27150),

Gene: Skylord_34 Start: 23633, Stop: 23974, Start Num: 41

Candidate Starts for Skylord_34:

(Start: 41 @23633 has 70 MA's), (54, 23726), (79, 23906),

Gene: Slay_38 Start: 26179, Stop: 26505, Start Num: 41

Candidate Starts for Slay_38:

(Start: 41 @26179 has 70 MA's), (75, 26431), (77, 26446),

Gene: Softsoap_37 Start: 25542, Stop: 25868, Start Num: 41

Candidate Starts for Softsoap_37:

(Start: 41 @25542 has 70 MA's), (74, 25773), (79, 25815),

Gene: Solea_38 Start: 25521, Stop: 25847, Start Num: 41

Candidate Starts for Solea_38:

(Start: 41 @25521 has 70 MA's), (74, 25752), (77, 25788), (79, 25794),

Gene: Stoor_38 Start: 26983, Stop: 27309, Start Num: 41

Candidate Starts for Stoor_38:

(5, 26470), (6, 26488), (9, 26524), (11, 26593), (Start: 41 @26983 has 70 MA's), (57, 27103), (59, 27109), (65, 27151), (74, 27214), (75, 27235), (77, 27250), (79, 27256),

Gene: Stromboli_38 Start: 26847, Stop: 27173, Start Num: 41

Candidate Starts for Stromboli_38:

(1, 26094), (5, 26334), (6, 26352), (9, 26388), (11, 26457), (Start: 41 @26847 has 70 MA's), (57, 26967), (59, 26973), (74, 27078), (75, 27099), (77, 27114), (79, 27120),

Gene: SuMoo_46 Start: 28468, Stop: 28815, Start Num: 37

Candidate Starts for SuMoo_46:

(25, 28372), (34, 28456), (Start: 37 @28468 has 12 MA's), (70, 28690), (74, 28717), (79, 28759),

Gene: Subaru_36 Start: 26877, Stop: 27227, Start Num: 39

Candidate Starts for Subaru_36:

(28, 26808), (Start: 39 @26877 has 17 MA's), (44, 26922), (49, 26961), (58, 27015), (72, 27114), (74, 27123), (79, 27165),

Gene: SunnyD_37 Start: 25043, Stop: 25348, Start Num: 47

Candidate Starts for SunnyD_37:

(Start: 40 @24989 has 3 MA's), (Start: 47 @25043 has 1 MA's), (57, 25118), (66, 25172), (75, 25250), (77, 25265), (79, 25271),

Gene: SuperHands_45 Start: 29494, Stop: 29850, Start Num: 37

Candidate Starts for SuperHands_45:

(Start: 37 @29494 has 12 MA's), (43, 29539), (51, 29596), (79, 29785), (84, 29827),

Gene: Swervy_38 Start: 25698, Stop: 26024, Start Num: 41

Candidate Starts for Swervy_38:

(Start: 41 @25698 has 70 MA's), (75, 25950), (77, 25965),

Gene: Tallboi_36 Start: 27029, Stop: 27379, Start Num: 39

Candidate Starts for Tallboi_36:

(23, 26903), (Start: 39 @27029 has 17 MA's), (44, 27074), (74, 27275), (79, 27317),

Gene: Teagster_38 Start: 25820, Stop: 26179, Start Num: 40

Candidate Starts for Teagster_38:

(Start: 40 @25820 has 3 MA's), (Start: 47 @25874 has 1 MA's), (57, 25949), (75, 26081), (77, 26096), (79, 26102),

Gene: TforTroy_37 Start: 26052, Stop: 26408, Start Num: 38

Candidate Starts for TforTroy_37:

(24, 25932), (Start: 38 @26052 has 5 MA's), (79, 26340),

Gene: Tian_35 Start: 26817, Stop: 27164, Start Num: 39

Candidate Starts for Tian_35:

(Start: 39 @26817 has 17 MA's), (49, 26901), (74, 27063), (79, 27105),

Gene: TukTuk_38 Start: 25769, Stop: 26095, Start Num: 41

Candidate Starts for TukTuk_38:

(Start: 41 @25769 has 70 MA's), (56, 25877), (74, 26000), (77, 26036), (79, 26042),

Gene: Turab_34 Start: 25291, Stop: 25641, Start Num: 39

Candidate Starts for Turab_34:

(16, 25111), (20, 25165), (Start: 39 @25291 has 17 MA's), (44, 25336), (49, 25375), (74, 25537), (79, 25579),

Gene: UtzChips_43 Start: 27442, Stop: 27804, Start Num: 37

Candidate Starts for UtzChips_43:

(27, 27361), (Start: 37 @27442 has 12 MA's), (69, 27658), (79, 27733),

Gene: Vitas_34 Start: 23642, Stop: 23983, Start Num: 41

Candidate Starts for Vitas_34:

(Start: 41 @23642 has 70 MA's), (54, 23735), (79, 23915),

Gene: WalkingDead_39 Start: 27238, Stop: 27564, Start Num: 41

Candidate Starts for WalkingDead_39:

(Start: 41 @27238 has 70 MA's), (59, 27364), (65, 27406), (72, 27460), (74, 27469), (75, 27490), (77, 27505), (79, 27511),

Gene: Yang_36 Start: 25545, Stop: 25904, Start Num: 38

Candidate Starts for Yang_36:

(Start: 38 @25545 has 5 MA's), (58, 25683), (69, 25758), (79, 25833),