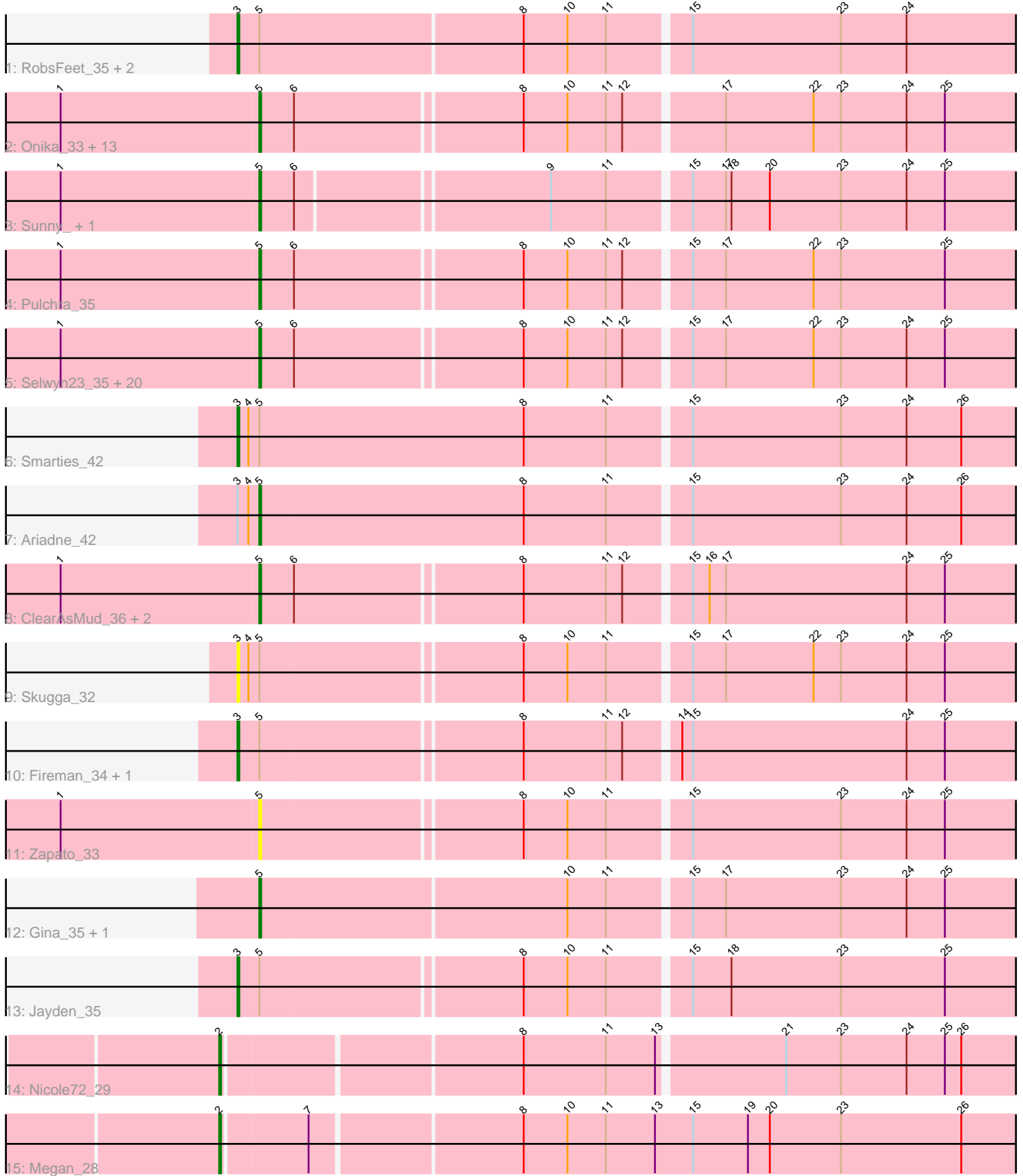


Pham 301364



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 301364 Report

This analysis was run 06/08/26 on database version 649.

Pham number 301364 has 55 members, 7 are drafts.

Phages represented in each track:

- Track 1 : RobsFeet_35, Shrubaron_34, Metamorphoo_34
- Track 2 : Onika_33, Scumberland_35, Ramiel05_33, Lucretia_34, Antares_34, Kowalski_33, Phrancesco_34, Ganandorf_33, CrazyRich_33, PhedwardCullen_33, Savannah_33, BeagleBug_33, Busephilis_33, Hermeonysus_33
- Track 3 : Sunny_, Merry_
- Track 4 : Pulchra_35
- Track 5 : Selwyn23_35, Yeti_34, Piperis_34, Cranjis_35, Glorp_35, Honeyfin_35, Jollipop_34, PiperSansNom_34, EarickHC_34, Germa_35, KaiHaiDragon_34, Paschalis_33, PierreOrion_34, Rockwell_33, Shotgun_33, LittleFortune_35, Jefe_34, Quhwah_37, Phorgeous_33, BrazzalePHS_33, Crisis_35
- Track 6 : Smarties_42
- Track 7 : Ariadne_42
- Track 8 : ClearAsMud_36, NoodlelyBoi_34, SirFrank_33
- Track 9 : Skugga_32
- Track 10 : Fireman_34, Tyrumbra_32
- Track 11 : Zapato_33
- Track 12 : Gina_35, Teamocil_35
- Track 13 : Jayden_35
- Track 14 : Nicole72_29
- Track 15 : Megan_28

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

The start number called the most often in the published annotations is 5, it was called in 39 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares_34, Ariadne_42, BeagleBug_33, BrazzalePHS_33, Busephilis_33, ClearAsMud_36, Cranjis_35, CrazyRich_33, Crisis_35, EarickHC_34, Ganandorf_33, Germa_35, Gina_35, Glorp_35, Hermeonysus_33, Honeyfin_35, Jefe_34, Jollipop_34, KaiHaiDragon_34, Kowalski_33, LittleFortune_35, Lucretia_34, Merry_, NoodlelyBoi_34, Onika_33, Paschalis_33, PhedwardCullen_33, Phorgeous_33, Phrancesco_34, PierreOrion_34, PiperSansNom_34, Piperis_34, Pulchra_35, Quhwah_37, Ramiel05_33, Rockwell_33, Savannah_33, Scumberland_35,

Selwyn23_35, Shotgun_33, SirFrank_33, Sunny_, Teamocil_35, Yeti_34, Zapato_33,

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

- Fireman_34, Jayden_35, Metamorphoo_34, RobsFeet_35, Shrubaron_34, Skugga_32, Smarties_42, Tyrumbra_32,

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

- Megan_28, Nicole72_29,

Summary by start number:

Start 2:

- Found in 2 of 55 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Megan_28 (EC), Nicole72_29 (EC),

Start 3:

- Found in 9 of 55 (16.4%) of genes in pham
- Manual Annotations of this start: 7 of 48
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Fireman_34 (EC), Jayden_35 (EC), Metamorphoo_34 (EC), RobsFeet_35 (EC), Shrubaron_34 (EC), Skugga_32 (EC), Smarties_42 (EC), Tyrumbra_32 (EC),

Start 5:

- Found in 53 of 55 (96.4%) of genes in pham
- Manual Annotations of this start: 39 of 48
- Called 84.9% of time when present
- Phage (with cluster) where this start called: Antares_34 (EC), Ariadne_42 (EC), BeagleBug_33 (EC), BrazzalePHS_33 (EC), Busephilis_33 (EC), ClearAsMud_36 (EC), Cranjis_35 (EC), CrazyRich_33 (EC), Crisis_35 (EC), EarickHC_34 (EC), Ganandorf_33 (EC), Germa_35 (EC), Gina_35 (EC), Glorp_35 (EC), Hermeonysus_33 (EC), Honeyfin_35 (EC), Jefe_34 (EC), Jollipop_34 (EC), KaiHaiDragon_34 (EC), Kowalski_33 (EC), LittleFortune_35 (EC), Lucretia_34 (EC), Merry_ (EC), NoodlelyBoi_34 (EC), Onika_33 (EC), Paschalis_33 (EC), PhedwardCullen_33 (EC), Phorgeous_33 (EC), Phrancesco_34 (EC), PierreOrion_34 (EC), PiperSansNom_34 (EC), Piperis_34 (EC), Pulchra_35 (EC), Quhwah_37 (EC), Ramiel05_33 (EC), Rockwell_33 (EC), Savannah_33 (EC), Scumberland_35 (EC), Selwyn23_35 (EC), Shotgun_33 (EC), SirFrank_33 (EC), Sunny_ (EC), Teamocil_35 (EC), Yeti_34 (EC), Zapato_33 (EC),

Summary by clusters:

There is one cluster represented in this pham: EC

Info for manual annotations of cluster EC:

- Start number 2 was manually annotated 2 times for cluster EC.
- Start number 3 was manually annotated 7 times for cluster EC.
- Start number 5 was manually annotated 39 times for cluster EC.

Gene Information:

Gene: Antares_34 Start: 20033, Stop: 20461, Start Num: 5

Candidate Starts for Antares_34:

(1, 19925), (Start: 5 @20033 has 39 MA's), (6, 20051), (8, 20171), (10, 20195), (11, 20216), (12, 20225), (17, 20276), (22, 20324), (23, 20339), (24, 20375), (25, 20396),

Gene: Ariadne_42 Start: 21727, Stop: 22140, Start Num: 5

Candidate Starts for Ariadne_42:

(Start: 3 @21715 has 7 MA's), (4, 21721), (Start: 5 @21727 has 39 MA's), (8, 21871), (11, 21916), (15, 21958), (23, 22039), (24, 22075), (26, 22105),

Gene: BeagleBug_33 Start: 19814, Stop: 20242, Start Num: 5

Candidate Starts for BeagleBug_33:

(1, 19706), (Start: 5 @19814 has 39 MA's), (6, 19832), (8, 19952), (10, 19976), (11, 19997), (12, 20006), (17, 20057), (22, 20105), (23, 20120), (24, 20156), (25, 20177),

Gene: BrazzalePHS_33 Start: 19828, Stop: 20256, Start Num: 5

Candidate Starts for BrazzalePHS_33:

(1, 19720), (Start: 5 @19828 has 39 MA's), (6, 19846), (8, 19966), (10, 19990), (11, 20011), (12, 20020), (15, 20053), (17, 20071), (22, 20119), (23, 20134), (24, 20170), (25, 20191),

Gene: Busephilis_33 Start: 19763, Stop: 20191, Start Num: 5

Candidate Starts for Busephilis_33:

(1, 19655), (Start: 5 @19763 has 39 MA's), (6, 19781), (8, 19901), (10, 19925), (11, 19946), (12, 19955), (17, 20006), (22, 20054), (23, 20069), (24, 20105), (25, 20126),

Gene: ClearAsMud_36 Start: 20542, Stop: 20970, Start Num: 5

Candidate Starts for ClearAsMud_36:

(1, 20434), (Start: 5 @20542 has 39 MA's), (6, 20560), (8, 20680), (11, 20725), (12, 20734), (15, 20767), (16, 20776), (17, 20785), (24, 20884), (25, 20905),

Gene: Cranjjs_35 Start: 19988, Stop: 20416, Start Num: 5

Candidate Starts for Cranjjs_35:

(1, 19880), (Start: 5 @19988 has 39 MA's), (6, 20006), (8, 20126), (10, 20150), (11, 20171), (12, 20180), (15, 20213), (17, 20231), (22, 20279), (23, 20294), (24, 20330), (25, 20351),

Gene: CrazyRich_33 Start: 19797, Stop: 20225, Start Num: 5

Candidate Starts for CrazyRich_33:

(1, 19689), (Start: 5 @19797 has 39 MA's), (6, 19815), (8, 19935), (10, 19959), (11, 19980), (12, 19989), (17, 20040), (22, 20088), (23, 20103), (24, 20139), (25, 20160),

Gene: Crisis_35 Start: 19782, Stop: 20210, Start Num: 5

Candidate Starts for Crisis_35:

(1, 19674), (Start: 5 @19782 has 39 MA's), (6, 19800), (8, 19920), (10, 19944), (11, 19965), (12, 19974), (15, 20007), (17, 20025), (22, 20073), (23, 20088), (24, 20124), (25, 20145),

Gene: EarickHC_34 Start: 19708, Stop: 20136, Start Num: 5

Candidate Starts for EarickHC_34:

(1, 19600), (Start: 5 @19708 has 39 MA's), (6, 19726), (8, 19846), (10, 19870), (11, 19891), (12, 19900), (15, 19933), (17, 19951), (22, 19999), (23, 20014), (24, 20050), (25, 20071),

Gene: Fireman_34 Start: 19587, Stop: 20027, Start Num: 3

Candidate Starts for Fireman_34:

(Start: 3 @19587 has 7 MA's), (Start: 5 @19599 has 39 MA's), (8, 19737), (11, 19782), (12, 19791), (14, 19818), (15, 19824), (24, 19941), (25, 19962),

Gene: Ganandorf_33 Start: 19844, Stop: 20272, Start Num: 5

Candidate Starts for Ganandorf_33:

(1, 19736), (Start: 5 @19844 has 39 MA's), (6, 19862), (8, 19982), (10, 20006), (11, 20027), (12, 20036), (17, 20087), (22, 20135), (23, 20150), (24, 20186), (25, 20207),

Gene: Germa_35 Start: 19673, Stop: 20101, Start Num: 5

Candidate Starts for Germa_35:

(1, 19565), (Start: 5 @19673 has 39 MA's), (6, 19691), (8, 19811), (10, 19835), (11, 19856), (12, 19865), (15, 19898), (17, 19916), (22, 19964), (23, 19979), (24, 20015), (25, 20036),

Gene: Gina_35 Start: 19622, Stop: 20053, Start Num: 5

Candidate Starts for Gina_35:

(Start: 5 @19622 has 39 MA's), (10, 19787), (11, 19808), (15, 19850), (17, 19868), (23, 19931), (24, 19967), (25, 19988),

Gene: Glorp_35 Start: 19845, Stop: 20273, Start Num: 5

Candidate Starts for Glorp_35:

(1, 19737), (Start: 5 @19845 has 39 MA's), (6, 19863), (8, 19983), (10, 20007), (11, 20028), (12, 20037), (15, 20070), (17, 20088), (22, 20136), (23, 20151), (24, 20187), (25, 20208),

Gene: Hermeonysus_33 Start: 19717, Stop: 20145, Start Num: 5

Candidate Starts for Hermeonysus_33:

(1, 19609), (Start: 5 @19717 has 39 MA's), (6, 19735), (8, 19855), (10, 19879), (11, 19900), (12, 19909), (17, 19960), (22, 20008), (23, 20023), (24, 20059), (25, 20080),

Gene: Honeyfin_35 Start: 20032, Stop: 20460, Start Num: 5

Candidate Starts for Honeyfin_35:

(1, 19924), (Start: 5 @20032 has 39 MA's), (6, 20050), (8, 20170), (10, 20194), (11, 20215), (12, 20224), (15, 20257), (17, 20275), (22, 20323), (23, 20338), (24, 20374), (25, 20395),

Gene: Jayden_35 Start: 19763, Stop: 20203, Start Num: 3

Candidate Starts for Jayden_35:

(Start: 3 @19763 has 7 MA's), (Start: 5 @19775 has 39 MA's), (8, 19913), (10, 19937), (11, 19958), (15, 20000), (18, 20021), (23, 20081), (25, 20138),

Gene: Jefe_34 Start: 19769, Stop: 20197, Start Num: 5

Candidate Starts for Jefe_34:

(1, 19661), (Start: 5 @19769 has 39 MA's), (6, 19787), (8, 19907), (10, 19931), (11, 19952), (12, 19961), (15, 19994), (17, 20012), (22, 20060), (23, 20075), (24, 20111), (25, 20132),

Gene: Jollipop_34 Start: 20114, Stop: 20542, Start Num: 5

Candidate Starts for Jollipop_34:

(1, 20006), (Start: 5 @20114 has 39 MA's), (6, 20132), (8, 20252), (10, 20276), (11, 20297), (12, 20306), (15, 20339), (17, 20357), (22, 20405), (23, 20420), (24, 20456), (25, 20477),

Gene: KaiHaiDragon_34 Start: 19708, Stop: 20136, Start Num: 5

Candidate Starts for KaiHaiDragon_34:

(1, 19600), (Start: 5 @19708 has 39 MA's), (6, 19726), (8, 19846), (10, 19870), (11, 19891), (12, 19900), (15, 19933), (17, 19951), (22, 19999), (23, 20014), (24, 20050), (25, 20071),

Gene: Kowalski_33 Start: 19824, Stop: 20252, Start Num: 5

Candidate Starts for Kowalski_33:

(1, 19716), (Start: 5 @19824 has 39 MA's), (6, 19842), (8, 19962), (10, 19986), (11, 20007), (12, 20016), (17, 20067), (22, 20115), (23, 20130), (24, 20166), (25, 20187),

Gene: LittleFortune_35 Start: 20074, Stop: 20502, Start Num: 5

Candidate Starts for LittleFortune_35:

(1, 19966), (Start: 5 @20074 has 39 MA's), (6, 20092), (8, 20212), (10, 20236), (11, 20257), (12, 20266), (15, 20299), (17, 20317), (22, 20365), (23, 20380), (24, 20416), (25, 20437),

Gene: Lucretia_34 Start: 19761, Stop: 20189, Start Num: 5

Candidate Starts for Lucretia_34:

(1, 19653), (Start: 5 @19761 has 39 MA's), (6, 19779), (8, 19899), (10, 19923), (11, 19944), (12, 19953), (17, 20004), (22, 20052), (23, 20067), (24, 20103), (25, 20124),

Gene: Megan_28 Start: 21122, Stop: 21574, Start Num: 2

Candidate Starts for Megan_28:

(Start: 2 @21122 has 2 MA's), (7, 21167), (8, 21278), (10, 21302), (11, 21323), (13, 21350), (15, 21371), (19, 21401), (20, 21413), (23, 21452), (26, 21518),

Gene: Merry_ Start: 21887, Stop: 22312, Start Num: 5

Candidate Starts for Merry_:

(1, 21779), (Start: 5 @21887 has 39 MA's), (6, 21905), (9, 22037), (11, 22067), (15, 22109), (17, 22127), (18, 22130), (20, 22151), (23, 22190), (24, 22226), (25, 22247),

Gene: Metamorphoo_34 Start: 19612, Stop: 20055, Start Num: 3

Candidate Starts for Metamorphoo_34:

(Start: 3 @19612 has 7 MA's), (Start: 5 @19624 has 39 MA's), (8, 19765), (10, 19789), (11, 19810), (15, 19852), (23, 19933), (24, 19969),

Gene: Nicole72_29 Start: 21490, Stop: 21936, Start Num: 2

Candidate Starts for Nicole72_29:

(Start: 2 @21490 has 2 MA's), (8, 21646), (11, 21691), (13, 21718), (21, 21784), (23, 21814), (24, 21850), (25, 21871), (26, 21880),

Gene: NoodlelyBoi_34 Start: 20152, Stop: 20580, Start Num: 5

Candidate Starts for NoodlelyBoi_34:

(1, 20044), (Start: 5 @20152 has 39 MA's), (6, 20170), (8, 20290), (11, 20335), (12, 20344), (15, 20377), (16, 20386), (17, 20395), (24, 20494), (25, 20515),

Gene: Onika_33 Start: 19799, Stop: 20227, Start Num: 5

Candidate Starts for Onika_33:

(1, 19691), (Start: 5 @19799 has 39 MA's), (6, 19817), (8, 19937), (10, 19961), (11, 19982), (12, 19991), (17, 20042), (22, 20090), (23, 20105), (24, 20141), (25, 20162),

Gene: Paschalis_33 Start: 19812, Stop: 20240, Start Num: 5

Candidate Starts for Paschalis_33:

(1, 19704), (Start: 5 @19812 has 39 MA's), (6, 19830), (8, 19950), (10, 19974), (11, 19995), (12, 20004), (15, 20037), (17, 20055), (22, 20103), (23, 20118), (24, 20154), (25, 20175),

Gene: PhedwardCullen_33 Start: 19557, Stop: 19985, Start Num: 5

Candidate Starts for PhedwardCullen_33:

(1, 19449), (Start: 5 @19557 has 39 MA's), (6, 19575), (8, 19695), (10, 19719), (11, 19740), (12, 19749), (17, 19800), (22, 19848), (23, 19863), (24, 19899), (25, 19920),

Gene: Phorgeous_33 Start: 19666, Stop: 20094, Start Num: 5

Candidate Starts for Phorgeous_33:

(1, 19558), (Start: 5 @19666 has 39 MA's), (6, 19684), (8, 19804), (10, 19828), (11, 19849), (12, 19858), (15, 19891), (17, 19909), (22, 19957), (23, 19972), (24, 20008), (25, 20029),

Gene: Phrancesco_34 Start: 19944, Stop: 20372, Start Num: 5

Candidate Starts for Phrancesco_34:

(1, 19836), (Start: 5 @19944 has 39 MA's), (6, 19962), (8, 20082), (10, 20106), (11, 20127), (12, 20136), (17, 20187), (22, 20235), (23, 20250), (24, 20286), (25, 20307),

Gene: PierreOrion_34 Start: 19967, Stop: 20395, Start Num: 5

Candidate Starts for PierreOrion_34:

(1, 19859), (Start: 5 @19967 has 39 MA's), (6, 19985), (8, 20105), (10, 20129), (11, 20150), (12, 20159), (15, 20192), (17, 20210), (22, 20258), (23, 20273), (24, 20309), (25, 20330),

Gene: PiperSansNom_34 Start: 20119, Stop: 20547, Start Num: 5

Candidate Starts for PiperSansNom_34:

(1, 20011), (Start: 5 @20119 has 39 MA's), (6, 20137), (8, 20257), (10, 20281), (11, 20302), (12, 20311), (15, 20344), (17, 20362), (22, 20410), (23, 20425), (24, 20461), (25, 20482),

Gene: Piperis_34 Start: 19789, Stop: 20217, Start Num: 5

Candidate Starts for Piperis_34:

(1, 19681), (Start: 5 @19789 has 39 MA's), (6, 19807), (8, 19927), (10, 19951), (11, 19972), (12, 19981), (15, 20014), (17, 20032), (22, 20080), (23, 20095), (24, 20131), (25, 20152),

Gene: Pulchra_35 Start: 20189, Stop: 20617, Start Num: 5

Candidate Starts for Pulchra_35:

(1, 20081), (Start: 5 @20189 has 39 MA's), (6, 20207), (8, 20327), (10, 20351), (11, 20372), (12, 20381), (15, 20414), (17, 20432), (22, 20480), (23, 20495), (25, 20552),

Gene: Quhwah_37 Start: 20415, Stop: 20843, Start Num: 5

Candidate Starts for Quhwah_37:

(1, 20307), (Start: 5 @20415 has 39 MA's), (6, 20433), (8, 20553), (10, 20577), (11, 20598), (12, 20607), (15, 20640), (17, 20658), (22, 20706), (23, 20721), (24, 20757), (25, 20778),

Gene: Ramiel05_33 Start: 19824, Stop: 20252, Start Num: 5

Candidate Starts for Ramiel05_33:

(1, 19716), (Start: 5 @19824 has 39 MA's), (6, 19842), (8, 19962), (10, 19986), (11, 20007), (12, 20016), (17, 20067), (22, 20115), (23, 20130), (24, 20166), (25, 20187),

Gene: RobsFeet_35 Start: 19893, Stop: 20336, Start Num: 3

Candidate Starts for RobsFeet_35:

(Start: 3 @19893 has 7 MA's), (Start: 5 @19905 has 39 MA's), (8, 20046), (10, 20070), (11, 20091), (15, 20133), (23, 20214), (24, 20250),

Gene: Rockwell_33 Start: 19824, Stop: 20252, Start Num: 5

Candidate Starts for Rockwell_33:

(1, 19716), (Start: 5 @19824 has 39 MA's), (6, 19842), (8, 19962), (10, 19986), (11, 20007), (12, 20016), (15, 20049), (17, 20067), (22, 20115), (23, 20130), (24, 20166), (25, 20187),

Gene: Savannah_33 Start: 19851, Stop: 20279, Start Num: 5

Candidate Starts for Savannah_33:

(1, 19743), (Start: 5 @19851 has 39 MA's), (6, 19869), (8, 19989), (10, 20013), (11, 20034), (12, 20043), (17, 20094), (22, 20142), (23, 20157), (24, 20193), (25, 20214),

Gene: Scumberland_35 Start: 20040, Stop: 20468, Start Num: 5

Candidate Starts for Scumberland_35:

(1, 19932), (Start: 5 @20040 has 39 MA's), (6, 20058), (8, 20178), (10, 20202), (11, 20223), (12, 20232), (17, 20283), (22, 20331), (23, 20346), (24, 20382), (25, 20403),

Gene: Selwyn23_35 Start: 20017, Stop: 20445, Start Num: 5

Candidate Starts for Selwyn23_35:

(1, 19909), (Start: 5 @20017 has 39 MA's), (6, 20035), (8, 20155), (10, 20179), (11, 20200), (12, 20209), (15, 20242), (17, 20260), (22, 20308), (23, 20323), (24, 20359), (25, 20380),

Gene: Shotgun_33 Start: 19650, Stop: 20078, Start Num: 5

Candidate Starts for Shotgun_33:

(1, 19542), (Start: 5 @19650 has 39 MA's), (6, 19668), (8, 19788), (10, 19812), (11, 19833), (12, 19842), (15, 19875), (17, 19893), (22, 19941), (23, 19956), (24, 19992), (25, 20013),

Gene: Shrubaron_34 Start: 19527, Stop: 19970, Start Num: 3

Candidate Starts for Shrubaron_34:

(Start: 3 @19527 has 7 MA's), (Start: 5 @19539 has 39 MA's), (8, 19680), (10, 19704), (11, 19725), (15, 19767), (23, 19848), (24, 19884),

Gene: SirFrank_33 Start: 19752, Stop: 20180, Start Num: 5

Candidate Starts for SirFrank_33:

(1, 19644), (Start: 5 @19752 has 39 MA's), (6, 19770), (8, 19890), (11, 19935), (12, 19944), (15, 19977), (16, 19986), (17, 19995), (24, 20094), (25, 20115),

Gene: Skugga_32 Start: 19629, Stop: 20069, Start Num: 3

Candidate Starts for Skugga_32:

(Start: 3 @19629 has 7 MA's), (4, 19635), (Start: 5 @19641 has 39 MA's), (8, 19779), (10, 19803), (11, 19824), (15, 19866), (17, 19884), (22, 19932), (23, 19947), (24, 19983), (25, 20004),

Gene: Smarties_42 Start: 21715, Stop: 22140, Start Num: 3

Candidate Starts for Smarties_42:

(Start: 3 @21715 has 7 MA's), (4, 21721), (Start: 5 @21727 has 39 MA's), (8, 21871), (11, 21916), (15, 21958), (23, 22039), (24, 22075), (26, 22105),

Gene: Sunny_ Start: 21889, Stop: 22314, Start Num: 5

Candidate Starts for Sunny_:

(1, 21781), (Start: 5 @21889 has 39 MA's), (6, 21907), (9, 22039), (11, 22069), (15, 22111), (17, 22129), (18, 22132), (20, 22153), (23, 22192), (24, 22228), (25, 22249),

Gene: Teamocil_35 Start: 19721, Stop: 20152, Start Num: 5

Candidate Starts for Teamocil_35:

(Start: 5 @19721 has 39 MA's), (10, 19886), (11, 19907), (15, 19949), (17, 19967), (23, 20030), (24, 20066), (25, 20087),

Gene: Tyrumbra_32 Start: 18930, Stop: 19370, Start Num: 3

Candidate Starts for Tyrumbra_32:

(Start: 3 @18930 has 7 MA's), (Start: 5 @18942 has 39 MA's), (8, 19080), (11, 19125), (12, 19134), (14, 19161), (15, 19167), (24, 19284), (25, 19305),

Gene: Yeti_34 Start: 19819, Stop: 20247, Start Num: 5

Candidate Starts for Yeti_34:

(1, 19711), (Start: 5 @19819 has 39 MA's), (6, 19837), (8, 19957), (10, 19981), (11, 20002), (12, 20011), (15, 20044), (17, 20062), (22, 20110), (23, 20125), (24, 20161), (25, 20182),

Gene: Zapato_33 Start: 19664, Stop: 20092, Start Num: 5

Candidate Starts for Zapato_33:

(1, 19556), (Start: 5 @19664 has 39 MA's), (8, 19802), (10, 19826), (11, 19847), (15, 19889), (23, 19970), (24, 20006), (25, 20027),