

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 298315 Report

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

Pham number 298315 has 85 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Geeche_52, Norvs_54, Culver_53, Dusty_52, Toniann_53, Smoothie_55, ClubL_53, WilliamBoone_53, Engineer_55, Lozinak_54, Miskis_51, PhinkBoden_53, Abscondus_52, Aphelion_53, Cucurbita_55, Bachita_55
- Track 2 : OneUp_47
- Track 3 : BrutonGaster_42
- Track 4 : Dmitri_25
- Track 5 : RayTheFireFly_25
- Track 6 : Chipko_25
- Track 7 : Doggs_24, Coriander_25
- Track 8 : Mutzi_41, Fireball_43, SharkTale_43, Fugax_45, PullumCavea_41, YungMoney_45, ClamChowder_44, PinkCoffee_44, Egi03_42, Sendy_43, Nubi_42, TillyBobJoe_42, Togo_41, Shinji_42, Phlop_41, SmokingBunny_42, Barb_44
- Track 9 : Sixsevenium_45, Bakery_47
- Track 10 : Malisha_27, Spooky_26, Squiddly_28
- Track 11 : Leroy_26, Apricot_25, ShawBrad_26, Lutum_26, MortyNRick_25, Kuwabara_25, Horus_26, Phabuloso_25, BotCity_26, Phistory_27, Getalong_27, Budski_26, BENtherdunthat_26, Holliday_26, CheeseTouch_26, Kamaru_26, Frickyeah_25, Birdsong_25, Kenna_25, Asapag_26, Whitney_27, Crater_24, BearBQ_25
- Track 12 : LitninMcQueen_25, Periwinkle_28
- Track 13 : Che9d_39, ThetaBob_34, Demsculpinboyz_40
- Track 14 : Jabbawokkie_42, Zapner_41
- Track 15 : Avani_39
- Track 16 : Yoshi_41
- Track 17 : TChen_34, LunaStella_36
- Track 18 : Toron_35
- Track 19 : 32HC_40
- Track 20 : Rem711_39
- Track 21 : REQ2_25
- Track 22 : MooMoo_32
- Track 23 : Whack_24

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

The start number called the most often in the published annotations is 19, it was called in 26 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apricot_25, Asapag_26, BENtherdunthat_26, BearBQ_25, Birdsong_25, BotCity_26, Budski_26, CheeseTouch_26, Crater_24, Frickyeah_25, Getalong_27, Holliday_26, Horus_26, Kamaru_26, Kenna_25, Kuwabara_25, Leroy_26, LitninMcQueen_25, Lutum_26, Malisha_27, MortyNRick_25, Periwinkle_28, Phabuloso_25, Phistory_27, REQ2_25, ShawBrad_26, Spooky_26, Squiddly_28, Whitney_27,

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

- Avani_39, Che9d_39, Demsculpinboyz_40, Jabbawokkie_42, ThetaBob_34, Yoshi_41, Zapner_41,

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

- 32HC_40, Abscondus_52, Aphelion_53, Bachita_55, Bakery_47, Barb_44, BrutonGaster_42, Chipko_25, ClamChowder_44, ClubL_53, Coriander_25, Cucurbita_55, Culver_53, Dmitri_25, Doggs_24, Dusty_52, Egi03_42, Engineer_55, Fireball_43, Fugax_45, Geeche_52, Lozinak_54, LunaStella_36, Miskis_51, MooMoo_32, Mutzi_41, Norvs_54, Nubi_42, OneUp_47, PhinkBoden_53, Phlop_41, PinkCoffee_44, PullumCavea_41, RayTheFireFly_25, Rem711_39, Sendy_43, SharkTale_43, Shinji_42, Sixsevenium_45, SmokingBunny_42, Smoothie_55, TChen_34, TillyBobJoe_42, Togo_41, Toniann_53, Toron_35, Whack_24, WilliamBoone_53, YungMoney_45,

Summary by start number:

Start 9:

- Found in 6 of 85 (7.1%) of genes in pham
- Manual Annotations of this start: 6 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Avani_39 (F2), Che9d_39 (F2), Demsculpinboyz_40 (F2), Jabbawokkie_42 (F2), ThetaBob_34 (F4), Zapner_41 (F2),

Start 10:

- Found in 7 of 85 (8.2%) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Yoshi_41 (F2),

Start 11:

- Found in 4 of 85 (4.7%) of genes in pham
- Manual Annotations of this start: 3 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LunaStella_36 (F4), MooMoo_32 (singleton), TChen_34 (F4), Toron_35 (F6),

Start 12:

- Found in 19 of 85 (22.4%) of genes in pham
- Manual Annotations of this start: 15 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bakery_47 (DC1), Barb_44 (DC1), ClamChowder_44 (DC1), Egi03_42 (DC1), Fireball_43 (DC1), Fugax_45 (DC1),

Mutzi_41 (DC1), Nubi_42 (DC1), Phlop_41 (DC1), PinkCoffee_44 (DC1), PullumCavea_41 (DC1), Sendy_43 (DC1), SharkTale_43 (DC1), Shinji_42 (DC1), Sixsevenium_45 (DC1), SmokingBunny_42 (DC1), TillyBobJoe_42 (DC1), Togo_41 (DC1), YungMoney_45 (DC1),

Start 13:

- Found in 3 of 85 (3.5%) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Whack_24 (singleton),

Start 14:

- Found in 11 of 85 (12.9%) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 18.2% of time when present
- Phage (with cluster) where this start called: 32HC_40 (Z), Rem711_39 (Z),

Start 15:

- Found in 18 of 85 (21.2%) of genes in pham
- Manual Annotations of this start: 17 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_52 (CQ1), Aphelion_53 (CQ1), Bachita_55 (CQ1), BrutonGaster_42 (CQ2), ClubL_53 (CQ1), Cucurbita_55 (CQ1), Culver_53 (CQ1), Dusty_52 (CQ1), Engineer_55 (CQ1), Geeche_52 (CQ1), Lozinak_54 (CQ1), Miskis_51 (CQ1), Norvs_54 (CQ1), OneUp_47 (CQ2), PhinkBoden_53 (CQ1), Smoothie_55 (CQ1), Toniann_53 (CQ1), WilliamBoone_53 (CQ1),

Start 18:

- Found in 5 of 85 (5.9%) of genes in pham
- Manual Annotations of this start: 4 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chipko_25 (DB), Coriander_25 (DB), Dmitri_25 (DB), Doggs_24 (DB), RayTheFireFly_25 (DB),

Start 19:

- Found in 36 of 85 (42.4%) of genes in pham
- Manual Annotations of this start: 26 of 74
- Called 80.6% of time when present
- Phage (with cluster) where this start called: Apricot_25 (DN3), Asapag_26 (DN1), BENTherdunthat_26 (DN1), BearBQ_25 (DN), Birdsong_25 (DN), BotCity_26 (DN), Budski_26 (DN), CheeseTouch_26 (DN1), Crater_24 (DN3), Frickyeah_25 (DN1), Getalong_27 (DN1), Holliday_26 (DN1), Horus_26 (DN1), Kamaru_26 (DN1), Kenna_25 (DN1), Kuwabara_25 (DN4), Leroy_26 (DN1), LitninMcQueen_25 (DN1), Lutum_26 (DN1), Malisha_27 (DN), MortyNRick_25 (DN), Periwinkle_28 (DN1), Phabuloso_25 (DN1), Phistory_27 (DN1), REQ2_25 (singleton), ShawBrad_26 (DN1), Spooky_26 (DN2), Squiddly_28 (DN2), Whitney_27 (DN1),

Summary by clusters:

There are 14 clusters represented in this pham: DN, F2, F4, F6, DB, singleton, DN4, DN1, DN3, DN2, CQ2, CQ1, Z, DC1,

Info for manual annotations of cluster CQ1:

- Start number 15 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 15 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DB:

- Start number 18 was manually annotated 4 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 12 was manually annotated 15 times for cluster DC1.

Info for manual annotations of cluster DN:

- Start number 19 was manually annotated 6 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 19 was manually annotated 15 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 19 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 19 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 19 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F2:

- Start number 9 was manually annotated 5 times for cluster F2.
- Start number 10 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F4:

- Start number 9 was manually annotated 1 time for cluster F4.
- Start number 11 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster Z:

- Start number 14 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_40 Start: 30479, Stop: 30703, Start Num: 14

Candidate Starts for 32HC_40:

(1, 30116), (2, 30122), (3, 30146), (4, 30179), (5, 30224), (6, 30296), (Start: 14 @30479 has 1 MA's), (45, 30677),

Gene: Abscondus_52 Start: 33342, Stop: 33560, Start Num: 15

Candidate Starts for Abscondus_52:

(Start: 15 @33342 has 17 MA's), (44, 33528),

Gene: Aphelion_53 Start: 33611, Stop: 33829, Start Num: 15

Candidate Starts for Aphelion_53:
(Start: 15 @33611 has 17 MA's), (44, 33797),

Gene: Apricot_25 Start: 20422, Stop: 20625, Start Num: 19
Candidate Starts for Apricot_25:
(7, 20350), (Start: 19 @20422 has 26 MA's), (27, 20503), (29, 20509), (30, 20518), (34, 20542), (37, 20551), (44, 20596), (45, 20599),

Gene: Asapag_26 Start: 20864, Stop: 21067, Start Num: 19
Candidate Starts for Asapag_26:
(7, 20792), (Start: 19 @20864 has 26 MA's), (27, 20945), (29, 20951), (30, 20960), (34, 20984), (37, 20993), (44, 21038), (45, 21041),

Gene: Avani_39 Start: 28553, Stop: 28789, Start Num: 9
Candidate Starts for Avani_39:
(Start: 9 @28553 has 6 MA's), (Start: 10 @28556 has 1 MA's), (Start: 14 @28574 has 1 MA's), (17, 28586), (Start: 19 @28589 has 26 MA's), (21, 28610), (23, 28652), (24, 28655), (29, 28673), (30, 28682), (36, 28712), (40, 28724), (42, 28739), (44, 28760), (45, 28763),

Gene: BENtherdunthat_26 Start: 20861, Stop: 21064, Start Num: 19
Candidate Starts for BENtherdunthat_26:
(7, 20789), (Start: 19 @20861 has 26 MA's), (27, 20942), (29, 20948), (30, 20957), (34, 20981), (37, 20990), (44, 21035), (45, 21038),

Gene: Bachita_55 Start: 34044, Stop: 34262, Start Num: 15
Candidate Starts for Bachita_55:
(Start: 15 @34044 has 17 MA's), (44, 34230),

Gene: Bakery_47 Start: 36845, Stop: 37081, Start Num: 12
Candidate Starts for Bakery_47:
(Start: 12 @36845 has 15 MA's), (28, 36959), (38, 37004), (40, 37010), (43, 37028),

Gene: Barb_44 Start: 35817, Stop: 36053, Start Num: 12
Candidate Starts for Barb_44:
(Start: 12 @35817 has 15 MA's), (38, 35976), (40, 35982), (43, 36000),

Gene: BearBQ_25 Start: 21701, Stop: 21904, Start Num: 19
Candidate Starts for BearBQ_25:
(7, 21629), (Start: 19 @21701 has 26 MA's), (27, 21782), (29, 21788), (30, 21797), (34, 21821), (37, 21830), (44, 21875), (45, 21878),

Gene: Birdsong_25 Start: 20594, Stop: 20797, Start Num: 19
Candidate Starts for Birdsong_25:
(7, 20522), (Start: 19 @20594 has 26 MA's), (27, 20675), (29, 20681), (30, 20690), (34, 20714), (37, 20723), (44, 20768), (45, 20771),

Gene: BotCity_26 Start: 20862, Stop: 21065, Start Num: 19
Candidate Starts for BotCity_26:
(7, 20790), (Start: 19 @20862 has 26 MA's), (27, 20943), (29, 20949), (30, 20958), (34, 20982), (37, 20991), (44, 21036), (45, 21039),

Gene: BrutonGaster_42 Start: 30728, Stop: 30943, Start Num: 15
Candidate Starts for BrutonGaster_42:

(Start: 15 @30728 has 17 MA's), (33, 30848), (44, 30914),

Gene: Budski_26 Start: 20969, Stop: 21172, Start Num: 19

Candidate Starts for Budski_26:

(7, 20897), (Start: 19 @20969 has 26 MA's), (27, 21050), (29, 21056), (30, 21065), (34, 21089), (37, 21098), (44, 21143), (45, 21146),

Gene: Che9d_39 Start: 28562, Stop: 28798, Start Num: 9

Candidate Starts for Che9d_39:

(Start: 9 @28562 has 6 MA's), (Start: 10 @28565 has 1 MA's), (Start: 14 @28583 has 1 MA's), (17, 28595), (Start: 19 @28598 has 26 MA's), (21, 28619), (22, 28646), (23, 28661), (24, 28664), (29, 28682), (30, 28691), (36, 28721), (40, 28733), (42, 28748), (44, 28769), (45, 28772),

Gene: CheeseTouch_26 Start: 20855, Stop: 21058, Start Num: 19

Candidate Starts for CheeseTouch_26:

(7, 20783), (Start: 19 @20855 has 26 MA's), (27, 20936), (29, 20942), (30, 20951), (34, 20975), (37, 20984), (44, 21029), (45, 21032),

Gene: Chipko_25 Start: 21910, Stop: 22116, Start Num: 18

Candidate Starts for Chipko_25:

(Start: 18 @21910 has 4 MA's), (44, 22087), (45, 22090),

Gene: ClamChowder_44 Start: 35817, Stop: 36053, Start Num: 12

Candidate Starts for ClamChowder_44:

(Start: 12 @35817 has 15 MA's), (38, 35976), (40, 35982), (43, 36000),

Gene: ClubL_53 Start: 33533, Stop: 33751, Start Num: 15

Candidate Starts for ClubL_53:

(Start: 15 @33533 has 17 MA's), (44, 33719),

Gene: Coriander_25 Start: 21895, Stop: 22101, Start Num: 18

Candidate Starts for Coriander_25:

(16, 21892), (Start: 18 @21895 has 4 MA's), (44, 22072), (45, 22075),

Gene: Crater_24 Start: 20422, Stop: 20625, Start Num: 19

Candidate Starts for Crater_24:

(7, 20350), (Start: 19 @20422 has 26 MA's), (27, 20503), (29, 20509), (30, 20518), (34, 20542), (37, 20551), (44, 20596), (45, 20599),

Gene: Cucurbita_55 Start: 34903, Stop: 35121, Start Num: 15

Candidate Starts for Cucurbita_55:

(Start: 15 @34903 has 17 MA's), (44, 35089),

Gene: Culver_53 Start: 33342, Stop: 33560, Start Num: 15

Candidate Starts for Culver_53:

(Start: 15 @33342 has 17 MA's), (44, 33528),

Gene: Demsculpinboyz_40 Start: 28495, Stop: 28731, Start Num: 9

Candidate Starts for Demsculpinboyz_40:

(Start: 9 @28495 has 6 MA's), (Start: 10 @28498 has 1 MA's), (Start: 14 @28516 has 1 MA's), (17, 28528), (Start: 19 @28531 has 26 MA's), (21, 28552), (22, 28579), (23, 28594), (24, 28597), (29, 28615), (30, 28624), (36, 28654), (40, 28666), (42, 28681), (44, 28702), (45, 28705),

Gene: Dmitri_25 Start: 21950, Stop: 22156, Start Num: 18
Candidate Starts for Dmitri_25:
(16, 21947), (Start: 18 @21950 has 4 MA's), (44, 22127), (45, 22130),

Gene: Doggs_24 Start: 21594, Stop: 21800, Start Num: 18
Candidate Starts for Doggs_24:
(16, 21591), (Start: 18 @21594 has 4 MA's), (44, 21771), (45, 21774),

Gene: Dusty_52 Start: 33342, Stop: 33560, Start Num: 15
Candidate Starts for Dusty_52:
(Start: 15 @33342 has 17 MA's), (44, 33528),

Gene: Egi03_42 Start: 35298, Stop: 35534, Start Num: 12
Candidate Starts for Egi03_42:
(Start: 12 @35298 has 15 MA's), (38, 35457), (40, 35463), (43, 35481),

Gene: Engineer_55 Start: 34017, Stop: 34235, Start Num: 15
Candidate Starts for Engineer_55:
(Start: 15 @34017 has 17 MA's), (44, 34203),

Gene: Fireball_43 Start: 35762, Stop: 35998, Start Num: 12
Candidate Starts for Fireball_43:
(Start: 12 @35762 has 15 MA's), (38, 35921), (40, 35927), (43, 35945),

Gene: Frickyeah_25 Start: 20627, Stop: 20830, Start Num: 19
Candidate Starts for Frickyeah_25:
(7, 20555), (Start: 19 @20627 has 26 MA's), (27, 20708), (29, 20714), (30, 20723), (34, 20747), (37, 20756), (44, 20801), (45, 20804),

Gene: Fugax_45 Start: 35809, Stop: 36045, Start Num: 12
Candidate Starts for Fugax_45:
(Start: 12 @35809 has 15 MA's), (38, 35968), (40, 35974), (43, 35992),

Gene: Geeche_52 Start: 33433, Stop: 33651, Start Num: 15
Candidate Starts for Geeche_52:
(Start: 15 @33433 has 17 MA's), (44, 33619),

Gene: Getalong_27 Start: 21664, Stop: 21867, Start Num: 19
Candidate Starts for Getalong_27:
(7, 21592), (Start: 19 @21664 has 26 MA's), (27, 21745), (29, 21751), (30, 21760), (34, 21784), (37, 21793), (44, 21838), (45, 21841),

Gene: Holliday_26 Start: 20969, Stop: 21172, Start Num: 19
Candidate Starts for Holliday_26:
(7, 20897), (Start: 19 @20969 has 26 MA's), (27, 21050), (29, 21056), (30, 21065), (34, 21089), (37, 21098), (44, 21143), (45, 21146),

Gene: Horus_26 Start: 20886, Stop: 21089, Start Num: 19
Candidate Starts for Horus_26:
(7, 20814), (Start: 19 @20886 has 26 MA's), (27, 20967), (29, 20973), (30, 20982), (34, 21006), (37, 21015), (44, 21060), (45, 21063),

Gene: Jabbawokkie_42 Start: 29943, Stop: 30179, Start Num: 9

Candidate Starts for Jabbawokkie_42:

(Start: 9 @29943 has 6 MA's), (Start: 10 @29946 has 1 MA's), (Start: 14 @29964 has 1 MA's), (17, 29976), (Start: 19 @29979 has 26 MA's), (21, 30000), (24, 30045), (29, 30063), (30, 30072), (36, 30102), (40, 30114), (42, 30129), (44, 30150), (45, 30153),

Gene: Kamaru_26 Start: 20969, Stop: 21172, Start Num: 19

Candidate Starts for Kamaru_26:

(7, 20897), (Start: 19 @20969 has 26 MA's), (27, 21050), (29, 21056), (30, 21065), (34, 21089), (37, 21098), (44, 21143), (45, 21146),

Gene: Kenna_25 Start: 20862, Stop: 21065, Start Num: 19

Candidate Starts for Kenna_25:

(7, 20790), (Start: 19 @20862 has 26 MA's), (27, 20943), (29, 20949), (30, 20958), (34, 20982), (37, 20991), (44, 21036), (45, 21039),

Gene: Kuwabara_25 Start: 20288, Stop: 20491, Start Num: 19

Candidate Starts for Kuwabara_25:

(7, 20216), (Start: 19 @20288 has 26 MA's), (27, 20369), (29, 20375), (30, 20384), (34, 20408), (37, 20417), (44, 20462), (45, 20465),

Gene: Leroy_26 Start: 20887, Stop: 21090, Start Num: 19

Candidate Starts for Leroy_26:

(7, 20815), (Start: 19 @20887 has 26 MA's), (27, 20968), (29, 20974), (30, 20983), (34, 21007), (37, 21016), (44, 21061), (45, 21064),

Gene: LitninMcQueen_25 Start: 20618, Stop: 20821, Start Num: 19

Candidate Starts for LitninMcQueen_25:

(7, 20546), (Start: 19 @20618 has 26 MA's), (27, 20699), (29, 20705), (30, 20714), (34, 20738), (37, 20747), (45, 20795),

Gene: Lozinak_54 Start: 34072, Stop: 34290, Start Num: 15

Candidate Starts for Lozinak_54:

(Start: 15 @34072 has 17 MA's), (44, 34258),

Gene: LunaStella_36 Start: 29841, Stop: 30074, Start Num: 11

Candidate Starts for LunaStella_36:

(8, 29826), (Start: 11 @29841 has 3 MA's), (Start: 13 @29850 has 1 MA's), (17, 29868), (21, 29892), (22, 29919), (24, 29937), (27, 29949), (30, 29964), (35, 29991), (36, 29994), (41, 30018), (44, 30042), (45, 30045),

Gene: Lutum_26 Start: 20862, Stop: 21065, Start Num: 19

Candidate Starts for Lutum_26:

(7, 20790), (Start: 19 @20862 has 26 MA's), (27, 20943), (29, 20949), (30, 20958), (34, 20982), (37, 20991), (44, 21036), (45, 21039),

Gene: Malisha_27 Start: 22747, Stop: 22950, Start Num: 19

Candidate Starts for Malisha_27:

(7, 22675), (Start: 19 @22747 has 26 MA's), (27, 22828), (30, 22843), (34, 22867), (37, 22876), (40, 22885), (45, 22924),

Gene: Miskis_51 Start: 33377, Stop: 33595, Start Num: 15

Candidate Starts for Miskis_51:

(Start: 15 @33377 has 17 MA's), (44, 33563),

Gene: MooMoo_32 Start: 28388, Stop: 28621, Start Num: 11

Candidate Starts for MooMoo_32:

(8, 28373), (Start: 11 @28388 has 3 MA's), (Start: 14 @28403 has 1 MA's), (20, 28430), (24, 28484), (27, 28496), (30, 28511), (35, 28538), (36, 28541), (41, 28565), (44, 28589), (45, 28592),

Gene: MortyNRick_25 Start: 20594, Stop: 20797, Start Num: 19

Candidate Starts for MortyNRick_25:

(7, 20522), (Start: 19 @20594 has 26 MA's), (27, 20675), (29, 20681), (30, 20690), (34, 20714), (37, 20723), (44, 20768), (45, 20771),

Gene: Mutzi_41 Start: 36497, Stop: 36733, Start Num: 12

Candidate Starts for Mutzi_41:

(Start: 12 @36497 has 15 MA's), (38, 36656), (40, 36662), (43, 36680),

Gene: Norvs_54 Start: 33616, Stop: 33834, Start Num: 15

Candidate Starts for Norvs_54:

(Start: 15 @33616 has 17 MA's), (44, 33802),

Gene: Nubi_42 Start: 35642, Stop: 35878, Start Num: 12

Candidate Starts for Nubi_42:

(Start: 12 @35642 has 15 MA's), (38, 35801), (40, 35807), (43, 35825),

Gene: OneUp_47 Start: 31052, Stop: 31267, Start Num: 15

Candidate Starts for OneUp_47:

(Start: 15 @31052 has 17 MA's), (25, 31133), (44, 31238),

Gene: Periwinkle_28 Start: 21331, Stop: 21534, Start Num: 19

Candidate Starts for Periwinkle_28:

(7, 21259), (Start: 19 @21331 has 26 MA's), (27, 21412), (29, 21418), (30, 21427), (34, 21451), (37, 21460), (45, 21508),

Gene: Phabuloso_25 Start: 20618, Stop: 20821, Start Num: 19

Candidate Starts for Phabuloso_25:

(7, 20546), (Start: 19 @20618 has 26 MA's), (27, 20699), (29, 20705), (30, 20714), (34, 20738), (37, 20747), (44, 20792), (45, 20795),

Gene: PhinkBoden_53 Start: 33997, Stop: 34215, Start Num: 15

Candidate Starts for PhinkBoden_53:

(Start: 15 @33997 has 17 MA's), (44, 34183),

Gene: Phistory_27 Start: 21652, Stop: 21855, Start Num: 19

Candidate Starts for Phistory_27:

(7, 21580), (Start: 19 @21652 has 26 MA's), (27, 21733), (29, 21739), (30, 21748), (34, 21772), (37, 21781), (44, 21826), (45, 21829),

Gene: Phlop_41 Start: 35723, Stop: 35959, Start Num: 12

Candidate Starts for Phlop_41:

(Start: 12 @35723 has 15 MA's), (38, 35882), (40, 35888), (43, 35906),

Gene: PinkCoffee_44 Start: 35826, Stop: 36062, Start Num: 12

Candidate Starts for PinkCoffee_44:

(Start: 12 @35826 has 15 MA's), (38, 35985), (40, 35991), (43, 36009),

Gene: PullumCavea_41 Start: 35723, Stop: 35959, Start Num: 12
Candidate Starts for PullumCavea_41:
(Start: 12 @35723 has 15 MA's), (38, 35882), (40, 35888), (43, 35906),

Gene: REQ2_25 Start: 22322, Stop: 22531, Start Num: 19
Candidate Starts for REQ2_25:
(Start: 19 @22322 has 26 MA's), (31, 22424), (36, 22448), (39, 22457),

Gene: RayTheFireFly_25 Start: 21927, Stop: 22133, Start Num: 18
Candidate Starts for RayTheFireFly_25:
(16, 21924), (Start: 18 @21927 has 4 MA's), (44, 22104), (45, 22107),

Gene: Rem711_39 Start: 30460, Stop: 30684, Start Num: 14
Candidate Starts for Rem711_39:
(1, 30097), (2, 30103), (4, 30160), (5, 30205), (6, 30277), (Start: 14 @30460 has 1 MA's), (45, 30658),

Gene: Sendy_43 Start: 35843, Stop: 36079, Start Num: 12
Candidate Starts for Sendy_43:
(Start: 12 @35843 has 15 MA's), (38, 36002), (40, 36008), (43, 36026),

Gene: SharkTale_43 Start: 36524, Stop: 36760, Start Num: 12
Candidate Starts for SharkTale_43:
(Start: 12 @36524 has 15 MA's), (38, 36683), (40, 36689), (43, 36707),

Gene: ShawBrad_26 Start: 20874, Stop: 21077, Start Num: 19
Candidate Starts for ShawBrad_26:
(7, 20802), (Start: 19 @20874 has 26 MA's), (27, 20955), (29, 20961), (30, 20970), (34, 20994), (37, 21003), (44, 21048), (45, 21051),

Gene: Shinji_42 Start: 35079, Stop: 35315, Start Num: 12
Candidate Starts for Shinji_42:
(Start: 12 @35079 has 15 MA's), (38, 35238), (40, 35244), (43, 35262),

Gene: Sixsevenium_45 Start: 36074, Stop: 36310, Start Num: 12
Candidate Starts for Sixsevenium_45:
(Start: 12 @36074 has 15 MA's), (28, 36188), (38, 36233), (40, 36239), (43, 36257),

Gene: SmokingBunny_42 Start: 35628, Stop: 35864, Start Num: 12
Candidate Starts for SmokingBunny_42:
(Start: 12 @35628 has 15 MA's), (38, 35787), (40, 35793), (43, 35811),

Gene: Smoothie_55 Start: 34072, Stop: 34290, Start Num: 15
Candidate Starts for Smoothie_55:
(Start: 15 @34072 has 17 MA's), (44, 34258),

Gene: Spooky_26 Start: 20956, Stop: 21159, Start Num: 19
Candidate Starts for Spooky_26:
(7, 20884), (Start: 19 @20956 has 26 MA's), (27, 21037), (30, 21052), (34, 21076), (37, 21085), (40, 21094), (45, 21133),

Gene: Squiddly_28 Start: 22368, Stop: 22571, Start Num: 19
Candidate Starts for Squiddly_28:

(7, 22296), (Start: 19 @22368 has 26 MA's), (27, 22449), (30, 22464), (34, 22488), (37, 22497), (40, 22506), (45, 22545),

Gene: TChen_34 Start: 29842, Stop: 30075, Start Num: 11

Candidate Starts for TChen_34:

(8, 29827), (Start: 11 @29842 has 3 MA's), (Start: 13 @29851 has 1 MA's), (17, 29869), (21, 29893), (22, 29920), (24, 29938), (27, 29950), (30, 29965), (35, 29992), (36, 29995), (41, 30019), (44, 30043), (45, 30046),

Gene: ThetaBob_34 Start: 28787, Stop: 29023, Start Num: 9

Candidate Starts for ThetaBob_34:

(Start: 9 @28787 has 6 MA's), (Start: 10 @28790 has 1 MA's), (Start: 14 @28808 has 1 MA's), (17, 28820), (Start: 19 @28823 has 26 MA's), (21, 28844), (22, 28871), (23, 28886), (24, 28889), (29, 28907), (30, 28916), (36, 28946), (40, 28958), (42, 28973), (44, 28994), (45, 28997),

Gene: TillyBobJoe_42 Start: 35432, Stop: 35668, Start Num: 12

Candidate Starts for TillyBobJoe_42:

(Start: 12 @35432 has 15 MA's), (38, 35591), (40, 35597), (43, 35615),

Gene: Togo_41 Start: 35628, Stop: 35864, Start Num: 12

Candidate Starts for Togo_41:

(Start: 12 @35628 has 15 MA's), (38, 35787), (40, 35793), (43, 35811),

Gene: Toniann_53 Start: 33559, Stop: 33777, Start Num: 15

Candidate Starts for Toniann_53:

(Start: 15 @33559 has 17 MA's), (44, 33745),

Gene: Toron_35 Start: 29685, Stop: 29918, Start Num: 11

Candidate Starts for Toron_35:

(8, 29670), (Start: 11 @29685 has 3 MA's), (Start: 14 @29700 has 1 MA's), (20, 29727), (21, 29736), (24, 29781), (27, 29793), (30, 29808), (35, 29835), (41, 29862), (44, 29886), (45, 29889),

Gene: Whack_24 Start: 21206, Stop: 21436, Start Num: 13

Candidate Starts for Whack_24:

(Start: 13 @21206 has 1 MA's), (26, 21305), (32, 21332), (34, 21347), (39, 21362),

Gene: Whitney_27 Start: 21773, Stop: 21976, Start Num: 19

Candidate Starts for Whitney_27:

(7, 21701), (Start: 19 @21773 has 26 MA's), (27, 21854), (29, 21860), (30, 21869), (34, 21893), (37, 21902), (44, 21947), (45, 21950),

Gene: WilliamBoone_53 Start: 32911, Stop: 33129, Start Num: 15

Candidate Starts for WilliamBoone_53:

(Start: 15 @32911 has 17 MA's), (44, 33097),

Gene: Yoshi_41 Start: 28866, Stop: 29099, Start Num: 10

Candidate Starts for Yoshi_41:

(Start: 10 @28866 has 1 MA's), (Start: 14 @28884 has 1 MA's), (17, 28896), (Start: 19 @28899 has 26 MA's), (21, 28920), (22, 28947), (24, 28965), (29, 28983), (30, 28992), (36, 29022), (40, 29034), (42, 29049), (44, 29070), (45, 29073),

Gene: YungMoney_45 Start: 38071, Stop: 38307, Start Num: 12

Candidate Starts for YungMoney_45:

(Start: 12 @38071 has 15 MA's), (38, 38230), (40, 38236), (43, 38254),

Gene: Zapner_41 Start: 29944, Stop: 30180, Start Num: 9

Candidate Starts for Zapner_41:

(Start: 9 @29944 has 6 MA's), (Start: 10 @29947 has 1 MA's), (Start: 14 @29965 has 1 MA's), (17, 29977), (Start: 19 @29980 has 26 MA's), (21, 30001), (24, 30046), (29, 30064), (30, 30073), (36, 30103), (40, 30115), (42, 30130), (44, 30151), (45, 30154),