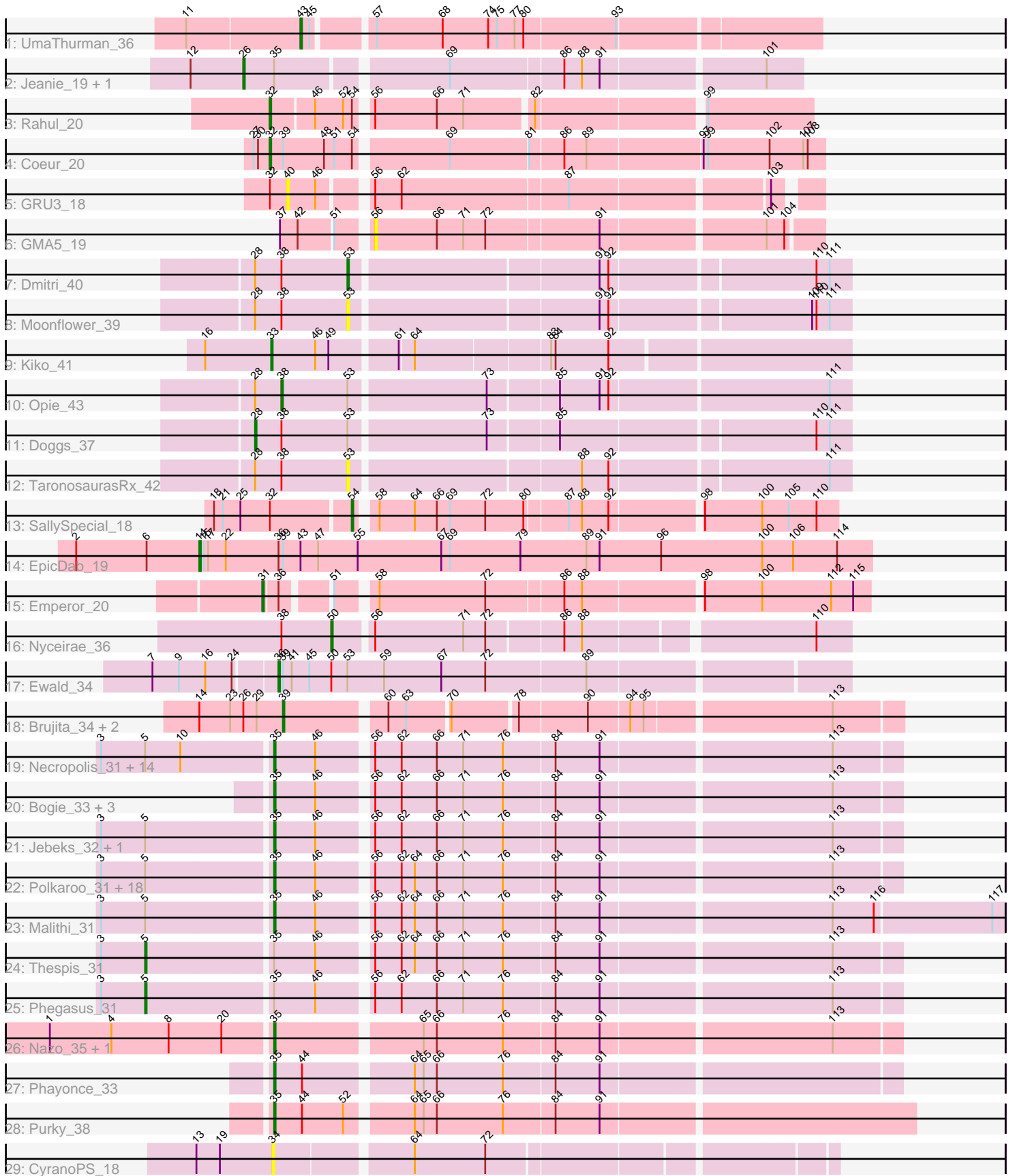


Pham 202917



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 202917 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202917 has 69 members, 9 are drafts.

Phages represented in each track:

- Track 1 : UmaThurman_36
- Track 2 : Jeanie_19, McGonagall_19
- Track 3 : Rahul_20
- Track 4 : Coeur_20
- Track 5 : GRU3_18
- Track 6 : GMA5_19
- Track 7 : Dmitri_40
- Track 8 : Moonflower_39
- Track 9 : Kiko_41
- Track 10 : Opie_43
- Track 11 : Doggs_37
- Track 12 : TaronosaurusRx_42
- Track 13 : SallySpecial_18
- Track 14 : EpicDab_19
- Track 15 : Emperor_20
- Track 16 : Nyceirae_36
- Track 17 : Ewald_34
- Track 18 : Brujita_34, Island3_34, Babsiella_34
- Track 19 : Necropolis_31, Venti_31, Fishburne_31, Kari_31, Phineas_31, Dynamo_31, Majeke_31, Donovan_31, Mangethe_31, Techage_31, Langerak_31, HUHilltop_31, Zilizebeth_31, Vidya_31, Bartholomew_30
- Track 20 : Bogie_33, Pygmy_33, Shipwreck_33, Arib1_31
- Track 21 : Jebeks_32, FirstPlacePfu_31
- Track 22 : Polkaroo_31, KilKor_31, Brusacoram_31, Phalm_31, GreaseLightnin_31, Willsammy_30, Ksquared_31, StevieRay_31, Camster_31, Sonah_31, Jung_30, Bunnies_31, Atcoo_31, Glaske_31, Gavriela_31, Megiddo_31, Juniormint_31, StressBall_31, CactusJack_31
- Track 23 : Malithi_31
- Track 24 : Thespis_31
- Track 25 : Phegasus_31
- Track 26 : Nazo_35, BigNuz_34
- Track 27 : Phayonce_33
- Track 28 : Purky_38
- Track 29 : CyranoPS_18

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

The start number called the most often in the published annotations is 35, it was called in 41 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Arib1_31, Atcoo_31, Bartholomew_30, BigNuz_34, Bogie_33, Brusacoram_31, Bunnies_31, CactusJack_31, Camster_31, Donovan_31, Dynamo_31, FirstPlacePfu_31, Fishburne_31, Gavriela_31, Glaske_31, GreaseLightnin_31, HUHilltop_31, Jebeks_32, Jung_30, Juniormint_31, Kari_31, KilKor_31, Ksquared_31, Langerak_31, Majeke_31, Malithi_31, Mangethe_31, Megiddo_31, Nazo_35, Necropolis_31, Phalm_31, Phayonce_33, Phineas_31, Polkaroo_31, Purky_38, Pygmy_33, Shipwreck_33, Sonah_31, StevieRay_31, StressBall_31, Techage_31, Venti_31, Vidya_31, Willsammy_30, Zilizebeth_31,

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

- Jeanie_19, McGonagall_19, Phegasus_31, Thespis_31,

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

- Babsiella_34, Brujita_34, Coeur_20, CyranoPS_18, Dmitri_40, Doggs_37, Emperor_20, EpicDab_19, Ewald_34, GMA5_19, GRU3_18, Island3_34, Kiko_41, Moonflower_39, Nyceirae_36, Opie_43, Rahul_20, SallySpecial_18, TaronosaurusRx_42, UmaThurman_36,

Summary by start number:

Start 5:

- Found in 39 of 69 (56.5%) of genes in pham
- Manual Annotations of this start: 2 of 60
- Called 5.1% of time when present
- Phage (with cluster) where this start called: Phegasus_31 (P1), Thespis_31 (P1),

Start 14:

- Found in 4 of 69 (5.8%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 25.0% of time when present
- Phage (with cluster) where this start called: EpicDab_19 (DM),

Start 26:

- Found in 5 of 69 (7.2%) of genes in pham
- Manual Annotations of this start: 2 of 60
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Jeanie_19 (CW1), McGonagall_19 (CW1),

Start 28:

- Found in 5 of 69 (7.2%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Doggs_37 (DB),

Start 31:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Emperor_20 (DM),

Start 32:

- Found in 4 of 69 (5.8%) of genes in pham
- Manual Annotations of this start: 2 of 60
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Coeur_20 (CW2), Rahul_20 (CW2),

Start 33:

- Found in 1 of 69 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kiko_41 (DB),

Start 34:

- Found in 1 of 69 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CyranoPS_18 (singleton),

Start 35:

- Found in 49 of 69 (71.0%) of genes in pham
- Manual Annotations of this start: 41 of 60
- Called 91.8% of time when present
- Phage (with cluster) where this start called: Arib1_31 (P1), Atcoo_31 (P1), Bartholomew_30 (P1), BigNuz_34 (P4), Bogie_33 (P1), Brusacoram_31 (P1), Bunnies_31 (P1), CactusJack_31 (P1), Camster_31 (P1), Donovan_31 (P1), Dynamo_31 (P1), FirstPlacePfu_31 (P1), Fishburne_31 (P1), Gavriela_31 (P1), Glaske_31 (P1), GreaseLightnin_31 (P1), HUHilltop_31 (P1), Jebeks_32 (P1), Jung_30 (P1), Juniormint_31 (P1), Kari_31 (P1), KilKor_31 (P1), Ksquared_31 (P1), Langerak_31 (P1), Majeke_31 (P1), Malithi_31 (P1), Mangethe_31 (P1), Megiddo_31 (P1), Nazo_35 (P4), Necropolis_31 (P1), Phalm_31 (P1), Phayonce_33 (P5), Phineas_31 (P1), Polkaroo_31 (P1), Purky_38 (P6), Pygmy_33 (P1), Shipwreck_33 (P1), Sonah_31 (P1), StevieRay_31 (P1), StressBall_31 (P1), Techage_31 (P1), Venti_31 (P1), Vidya_31 (P1), Willsammy_30 (P1), Zilizebeth_31 (P1),

Start 36:

- Found in 3 of 69 (4.3%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ewald_34 (DT),

Start 38:

- Found in 6 of 69 (8.7%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Opie_43 (DB),

Start 39:

- Found in 6 of 69 (8.7%) of genes in pham

- Manual Annotations of this start: 3 of 60
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Babsiella_34 (I1), Brujita_34 (I1), Island3_34 (I1),

Start 40:

- Found in 1 of 69 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GRU3_18 (CW2),

Start 43:

- Found in 2 of 69 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 50.0% of time when present
- Phage (with cluster) where this start called: UmaThurman_36 (CV),

Start 50:

- Found in 2 of 69 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Nyceirae_36 (DT),

Start 53:

- Found in 6 of 69 (8.7%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Dmitri_40 (DB), Moonflower_39 (DB), TaronosaurusRx_42 (DB),

Start 54:

- Found in 3 of 69 (4.3%) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 33.3% of time when present
- Phage (with cluster) where this start called: SallySpecial_18 (DM),

Start 56:

- Found in 47 of 69 (68.1%) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: GMA5_19 (CW2),

Summary by clusters:

There are 12 clusters represented in this pham: singleton, P1, P6, P4, P5, CW1, CW2, DB, I1, DM, DT, CV,

Info for manual annotations of cluster CV:

- Start number 43 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CW1:

- Start number 26 was manually annotated 2 times for cluster CW1.

Info for manual annotations of cluster CW2:

- Start number 32 was manually annotated 2 times for cluster CW2.

Info for manual annotations of cluster DB:

- Start number 28 was manually annotated 1 time for cluster DB.
- Start number 33 was manually annotated 1 time for cluster DB.
- Start number 38 was manually annotated 1 time for cluster DB.
- Start number 53 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DM:

- Start number 14 was manually annotated 1 time for cluster DM.
- Start number 31 was manually annotated 1 time for cluster DM.
- Start number 54 was manually annotated 1 time for cluster DM.

Info for manual annotations of cluster DT:

- Start number 36 was manually annotated 1 time for cluster DT.
- Start number 50 was manually annotated 1 time for cluster DT.

Info for manual annotations of cluster I1:

- Start number 39 was manually annotated 3 times for cluster I1.

Info for manual annotations of cluster P1:

- Start number 5 was manually annotated 2 times for cluster P1.
- Start number 35 was manually annotated 37 times for cluster P1.

Info for manual annotations of cluster P4:

- Start number 35 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 35 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 35 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Arib1_31 Start: 27353, Stop: 26952, Start Num: 35

Candidate Starts for Arib1_31:

(Start: 35 @27353 has 41 MA's), (46, 27326), (56, 27296), (62, 27278), (66, 27254), (71, 27236), (76, 27209), (84, 27176), (91, 27146), (113, 26996),

Gene: Atcoo_31 Start: 27834, Stop: 27433, Start Num: 35

Candidate Starts for Atcoo_31:

(3, 27945), (Start: 5 @27915 has 2 MA's), (Start: 35 @27834 has 41 MA's), (46, 27807), (56, 27777), (62, 27759), (64, 27750), (66, 27735), (71, 27717), (76, 27690), (84, 27657), (91, 27627), (113, 27477),

Gene: Babsiella_34 Start: 28570, Stop: 28175, Start Num: 39

Candidate Starts for Babsiella_34:

(Start: 14 @28627 has 1 MA's), (23, 28606), (Start: 26 @28597 has 2 MA's), (29, 28588), (Start: 39 @28570 has 3 MA's), (60, 28510), (63, 28498), (70, 28471), (78, 28429), (90, 28384), (94, 28357), (95, 28348), (113, 28228),

Gene: Bartholomew_30 Start: 27347, Stop: 26946, Start Num: 35

Candidate Starts for Bartholomew_30:

(3, 27458), (Start: 5 @27428 has 2 MA's), (10, 27404), (Start: 35 @27347 has 41 MA's), (46, 27320), (56, 27290), (62, 27272), (66, 27248), (71, 27230), (76, 27203), (84, 27170), (91, 27140), (113, 26990),

Gene: BigNuz_34 Start: 29474, Stop: 29073, Start Num: 35

Candidate Starts for BigNuz_34:

(1, 29621), (4, 29579), (8, 29540), (20, 29504), (Start: 35 @29474 has 41 MA's), (65, 29384), (66, 29375), (76, 29330), (84, 29297), (91, 29267), (113, 29117),

Gene: Bogie_33 Start: 29130, Stop: 28729, Start Num: 35

Candidate Starts for Bogie_33:

(Start: 35 @29130 has 41 MA's), (46, 29103), (56, 29073), (62, 29055), (66, 29031), (71, 29013), (76, 28986), (84, 28953), (91, 28923), (113, 28773),

Gene: Brujita_34 Start: 29468, Stop: 29082, Start Num: 39

Candidate Starts for Brujita_34:

(Start: 14 @29525 has 1 MA's), (23, 29504), (Start: 26 @29495 has 2 MA's), (29, 29486), (Start: 39 @29468 has 3 MA's), (60, 29408), (63, 29396), (70, 29369), (78, 29327), (90, 29282), (94, 29255), (95, 29246), (113, 29126),

Gene: Brusacoram_31 Start: 27340, Stop: 26939, Start Num: 35

Candidate Starts for Brusacoram_31:

(3, 27451), (Start: 5 @27421 has 2 MA's), (Start: 35 @27340 has 41 MA's), (46, 27313), (56, 27283), (62, 27265), (64, 27256), (66, 27241), (71, 27223), (76, 27196), (84, 27163), (91, 27133), (113, 26983),

Gene: Bunnies_31 Start: 27361, Stop: 26960, Start Num: 35

Candidate Starts for Bunnies_31:

(3, 27472), (Start: 5 @27442 has 2 MA's), (Start: 35 @27361 has 41 MA's), (46, 27334), (56, 27304), (62, 27286), (64, 27277), (66, 27262), (71, 27244), (76, 27217), (84, 27184), (91, 27154), (113, 27004),

Gene: CactusJack_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for CactusJack_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: Camster_31 Start: 27377, Stop: 26976, Start Num: 35

Candidate Starts for Camster_31:

(3, 27488), (Start: 5 @27458 has 2 MA's), (Start: 35 @27377 has 41 MA's), (46, 27350), (56, 27320), (62, 27302), (64, 27293), (66, 27278), (71, 27260), (76, 27233), (84, 27200), (91, 27170), (113, 27020),

Gene: Coeur_20 Start: 14347, Stop: 13994, Start Num: 32

Candidate Starts for Coeur_20:

(27, 14356), (30, 14353), (Start: 32 @14347 has 2 MA's), (Start: 39 @14338 has 3 MA's), (48, 14311), (51, 14305), (Start: 54 @14293 has 1 MA's), (69, 14236), (81, 14185), (86, 14164), (89, 14149), (97, 14074), (99, 14071), (102, 14029), (107, 14008), (108, 14005),

Gene: CyranoPS_18 Start: 12709, Stop: 12362, Start Num: 34

Candidate Starts for CyranoPS_18:

(13, 12760), (19, 12745), (34, 12709), (64, 12625), (72, 12577),

Gene: Dmitri_40 Start: 33369, Stop: 33049, Start Num: 53

Candidate Starts for Dmitri_40:

(Start: 28 @33429 has 1 MA's), (Start: 38 @33411 has 1 MA's), (Start: 53 @33369 has 1 MA's), (91, 33210), (92, 33204), (110, 33072), (111, 33063),

Gene: Doggs_37 Start: 32568, Stop: 32188, Start Num: 28

Candidate Starts for Doggs_37:

(Start: 28 @32568 has 1 MA's), (Start: 38 @32550 has 1 MA's), (Start: 53 @32508 has 1 MA's), (73, 32421), (85, 32376), (110, 32211), (111, 32202),

Gene: Donovan_31 Start: 27369, Stop: 26968, Start Num: 35

Candidate Starts for Donovan_31:

(3, 27480), (Start: 5 @27450 has 2 MA's), (10, 27426), (Start: 35 @27369 has 41 MA's), (46, 27342), (56, 27312), (62, 27294), (66, 27270), (71, 27252), (76, 27225), (84, 27192), (91, 27162), (113, 27012),

Gene: Dynamo_31 Start: 27758, Stop: 27357, Start Num: 35

Candidate Starts for Dynamo_31:

(3, 27869), (Start: 5 @27839 has 2 MA's), (10, 27815), (Start: 35 @27758 has 41 MA's), (46, 27731), (56, 27701), (62, 27683), (66, 27659), (71, 27641), (76, 27614), (84, 27581), (91, 27551), (113, 27401),

Gene: Emperor_20 Start: 14847, Stop: 14473, Start Num: 31

Candidate Starts for Emperor_20:

(Start: 31 @14847 has 1 MA's), (Start: 36 @14838 has 1 MA's), (51, 14811), (58, 14790), (72, 14718), (86, 14670), (88, 14658), (98, 14583), (100, 14544), (112, 14499), (115, 14484),

Gene: EpicDab_19 Start: 14735, Stop: 14277, Start Num: 14

Candidate Starts for EpicDab_19:

(2, 14819), (6, 14771), (Start: 14 @14735 has 1 MA's), (15, 14732), (17, 14729), (22, 14717), (Start: 36 @14681 has 1 MA's), (Start: 39 @14678 has 3 MA's), (Start: 43 @14666 has 1 MA's), (47, 14654), (55, 14627), (67, 14570), (69, 14564), (79, 14516), (89, 14471), (91, 14462), (96, 14420), (100, 14351), (106, 14330), (114, 14300),

Gene: Ewald_34 Start: 29912, Stop: 29541, Start Num: 36

Candidate Starts for Ewald_34:

(7, 29993), (9, 29975), (16, 29957), (24, 29939), (Start: 36 @29912 has 1 MA's), (Start: 39 @29909 has 3 MA's), (41, 29903), (45, 29891), (Start: 50 @29876 has 1 MA's), (Start: 53 @29867 has 1 MA's), (59, 29843), (67, 29804), (72, 29774), (89, 29708),

Gene: FirstPlacePfu_31 Start: 27379, Stop: 26978, Start Num: 35

Candidate Starts for FirstPlacePfu_31:

(3, 27490), (Start: 5 @27460 has 2 MA's), (Start: 35 @27379 has 41 MA's), (46, 27352), (56, 27322), (62, 27304), (66, 27280), (71, 27262), (76, 27235), (84, 27202), (91, 27172), (113, 27022),

Gene: Fishburne_31 Start: 27347, Stop: 26946, Start Num: 35

Candidate Starts for Fishburne_31:

(3, 27458), (Start: 5 @27428 has 2 MA's), (10, 27404), (Start: 35 @27347 has 41 MA's), (46, 27320), (56, 27290), (62, 27272), (66, 27248), (71, 27230), (76, 27203), (84, 27170), (91, 27140), (113, 26990),

Gene: GMA5_19 Start: 14633, Stop: 14346, Start Num: 56

Candidate Starts for GMA5_19:

(37, 14684), (42, 14672), (51, 14651), (56, 14633), (66, 14591), (71, 14573), (72, 14558), (91, 14486), (101, 14381), (104, 14369),

Gene: GRU3_18 Start: 14485, Stop: 14162, Start Num: 40

Candidate Starts for GRU3_18:

(Start: 32 @14497 has 2 MA's), (40, 14485), (46, 14467), (56, 14440), (62, 14422), (87, 14314), (103, 14188),

Gene: Gavriela_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for Gavriela_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: Glaske_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for Glaske_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: GreaseLightnin_31 Start: 27596, Stop: 27195, Start Num: 35

Candidate Starts for GreaseLightnin_31:

(3, 27707), (Start: 5 @27677 has 2 MA's), (Start: 35 @27596 has 41 MA's), (46, 27569), (56, 27539), (62, 27521), (64, 27512), (66, 27497), (71, 27479), (76, 27452), (84, 27419), (91, 27389), (113, 27239),

Gene: HUHilltop_31 Start: 27380, Stop: 26979, Start Num: 35

Candidate Starts for HUHilltop_31:

(3, 27491), (Start: 5 @27461 has 2 MA's), (10, 27437), (Start: 35 @27380 has 41 MA's), (46, 27353), (56, 27323), (62, 27305), (66, 27281), (71, 27263), (76, 27236), (84, 27203), (91, 27173), (113, 27023),

Gene: Island3_34 Start: 29468, Stop: 29082, Start Num: 39

Candidate Starts for Island3_34:

(Start: 14 @29525 has 1 MA's), (23, 29504), (Start: 26 @29495 has 2 MA's), (29, 29486), (Start: 39 @29468 has 3 MA's), (60, 29408), (63, 29396), (70, 29369), (78, 29327), (90, 29282), (94, 29255), (95, 29246), (113, 29126),

Gene: Jeanie_19 Start: 13938, Stop: 13588, Start Num: 26

Candidate Starts for Jeanie_19:

(12, 13974), (Start: 26 @13938 has 2 MA's), (Start: 35 @13917 has 41 MA's), (69, 13812), (86, 13740), (88, 13728), (91, 13716), (101, 13611),

Gene: Jebeks_32 Start: 27332, Stop: 26931, Start Num: 35

Candidate Starts for Jebeks_32:

(3, 27443), (Start: 5 @27413 has 2 MA's), (Start: 35 @27332 has 41 MA's), (46, 27305), (56, 27275), (62, 27257), (66, 27233), (71, 27215), (76, 27188), (84, 27155), (91, 27125), (113, 26975),

Gene: Jung_30 Start: 27311, Stop: 26910, Start Num: 35

Candidate Starts for Jung_30:

(3, 27422), (Start: 5 @27392 has 2 MA's), (Start: 35 @27311 has 41 MA's), (46, 27284), (56, 27254), (62, 27236), (64, 27227), (66, 27212), (71, 27194), (76, 27167), (84, 27134), (91, 27104), (113, 26954),

Gene: Juniormint_31 Start: 27383, Stop: 26982, Start Num: 35

Candidate Starts for Juniormint_31:

(3, 27494), (Start: 5 @27464 has 2 MA's), (Start: 35 @27383 has 41 MA's), (46, 27356), (56, 27326), (62, 27308), (64, 27299), (66, 27284), (71, 27266), (76, 27239), (84, 27206), (91, 27176), (113, 27026),

Gene: Kari_31 Start: 27344, Stop: 26943, Start Num: 35

Candidate Starts for Kari_31:

(3, 27455), (Start: 5 @27425 has 2 MA's), (10, 27401), (Start: 35 @27344 has 41 MA's), (46, 27317), (56, 27287), (62, 27269), (66, 27245), (71, 27227), (76, 27200), (84, 27167), (91, 27137), (113, 26987),

Gene: Kiko_41 Start: 32143, Stop: 31775, Start Num: 33

Candidate Starts for Kiko_41:

(16, 32188), (Start: 33 @32143 has 1 MA's), (46, 32113), (49, 32104), (61, 32065), (64, 32056), (83, 31969), (84, 31966), (92, 31930),

Gene: KilKor_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for KilKor_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: Ksquared_31 Start: 27361, Stop: 26960, Start Num: 35

Candidate Starts for Ksquared_31:

(3, 27472), (Start: 5 @27442 has 2 MA's), (Start: 35 @27361 has 41 MA's), (46, 27334), (56, 27304), (62, 27286), (64, 27277), (66, 27262), (71, 27244), (76, 27217), (84, 27184), (91, 27154), (113, 27004),

Gene: Langerak_31 Start: 27363, Stop: 26962, Start Num: 35

Candidate Starts for Langerak_31:

(3, 27474), (Start: 5 @27444 has 2 MA's), (10, 27420), (Start: 35 @27363 has 41 MA's), (46, 27336), (56, 27306), (62, 27288), (66, 27264), (71, 27246), (76, 27219), (84, 27186), (91, 27156), (113, 27006),

Gene: Majeke_31 Start: 27385, Stop: 26984, Start Num: 35

Candidate Starts for Majeke_31:

(3, 27496), (Start: 5 @27466 has 2 MA's), (10, 27442), (Start: 35 @27385 has 41 MA's), (46, 27358), (56, 27328), (62, 27310), (66, 27286), (71, 27268), (76, 27241), (84, 27208), (91, 27178), (113, 27028),

Gene: Malithi_31 Start: 27270, Stop: 26800, Start Num: 35

Candidate Starts for Malithi_31:

(3, 27381), (Start: 5 @27351 has 2 MA's), (Start: 35 @27270 has 41 MA's), (46, 27243), (56, 27213), (62, 27195), (64, 27186), (66, 27171), (71, 27153), (76, 27126), (84, 27093), (91, 27063), (113, 26913), (116, 26886), (117, 26808),

Gene: Mangethe_31 Start: 27385, Stop: 26984, Start Num: 35

Candidate Starts for Mangethe_31:

(3, 27496), (Start: 5 @27466 has 2 MA's), (10, 27442), (Start: 35 @27385 has 41 MA's), (46, 27358), (56, 27328), (62, 27310), (66, 27286), (71, 27268), (76, 27241), (84, 27208), (91, 27178), (113, 27028),

Gene: McGonagall_19 Start: 13938, Stop: 13588, Start Num: 26

Candidate Starts for McGonagall_19:

(12, 13974), (Start: 26 @13938 has 2 MA's), (Start: 35 @13917 has 41 MA's), (69, 13812), (86, 13740), (88, 13728), (91, 13716), (101, 13611),

Gene: Megiddo_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for Megiddo_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: Moonflower_39 Start: 33232, Stop: 32912, Start Num: 53

Candidate Starts for Moonflower_39:

(Start: 28 @33292 has 1 MA's), (Start: 38 @33274 has 1 MA's), (Start: 53 @33232 has 1 MA's), (91, 33073), (92, 33067), (109, 32938), (110, 32935), (111, 32926),

Gene: Nazo_35 Start: 29476, Stop: 29075, Start Num: 35

Candidate Starts for Nazo_35:

(1, 29623), (4, 29581), (8, 29542), (20, 29506), (Start: 35 @29476 has 41 MA's), (65, 29386), (66, 29377), (76, 29332), (84, 29299), (91, 29269), (113, 29119),

Gene: Necropolis_31 Start: 27344, Stop: 26943, Start Num: 35

Candidate Starts for Necropolis_31:

(3, 27455), (Start: 5 @27425 has 2 MA's), (10, 27401), (Start: 35 @27344 has 41 MA's), (46, 27317), (56, 27287), (62, 27269), (66, 27245), (71, 27227), (76, 27200), (84, 27167), (91, 27137), (113, 26987),

Gene: Nyceirae_36 Start: 30000, Stop: 29677, Start Num: 50

Candidate Starts for Nyceirae_36:

(Start: 38 @30033 has 1 MA's), (Start: 50 @30000 has 1 MA's), (56, 29979), (71, 29919), (72, 29904), (86, 29856), (88, 29844), (110, 29700),

Gene: Opie_43 Start: 33208, Stop: 32843, Start Num: 38

Candidate Starts for Opie_43:

(Start: 28 @33226 has 1 MA's), (Start: 38 @33208 has 1 MA's), (Start: 53 @33166 has 1 MA's), (73, 33079), (85, 33034), (91, 33007), (92, 33001), (111, 32857),

Gene: Phalm_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for Phalm_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: Phayonce_33 Start: 29388, Stop: 28987, Start Num: 35

Candidate Starts for Phayonce_33:

(Start: 35 @29388 has 41 MA's), (44, 29370), (64, 29304), (65, 29298), (66, 29289), (76, 29244), (84, 29211), (91, 29181),

Gene: Phegasus_31 Start: 27433, Stop: 26951, Start Num: 5

Candidate Starts for Phegasus_31:

(3, 27463), (Start: 5 @27433 has 2 MA's), (Start: 35 @27352 has 41 MA's), (46, 27325), (56, 27295), (62, 27277), (66, 27253), (71, 27235), (76, 27208), (84, 27175), (91, 27145), (113, 26995),

Gene: Phineas_31 Start: 27718, Stop: 27317, Start Num: 35

Candidate Starts for Phineas_31:

(3, 27829), (Start: 5 @27799 has 2 MA's), (10, 27775), (Start: 35 @27718 has 41 MA's), (46, 27691), (56, 27661), (62, 27643), (66, 27619), (71, 27601), (76, 27574), (84, 27541), (91, 27511), (113, 27361),

Gene: Polkaroo_31 Start: 27361, Stop: 26960, Start Num: 35

Candidate Starts for Polkaroo_31:

(3, 27472), (Start: 5 @27442 has 2 MA's), (Start: 35 @27361 has 41 MA's), (46, 27334), (56, 27304), (62, 27286), (64, 27277), (66, 27262), (71, 27244), (76, 27217), (84, 27184), (91, 27154), (113, 27004),

Gene: Purky_38 Start: 30118, Stop: 29705, Start Num: 35

Candidate Starts for Purky_38:

(Start: 35 @30118 has 41 MA's), (44, 30100), (52, 30073), (64, 30034), (65, 30028), (66, 30019), (76, 29974), (84, 29941), (91, 29911),

Gene: Pygmy_33 Start: 29186, Stop: 28785, Start Num: 35

Candidate Starts for Pygmy_33:

(Start: 35 @29186 has 41 MA's), (46, 29159), (56, 29129), (62, 29111), (66, 29087), (71, 29069), (76, 29042), (84, 29009), (91, 28979), (113, 28829),

Gene: Rahul_20 Start: 14354, Stop: 14019, Start Num: 32

Candidate Starts for Rahul_20:

(Start: 32 @14354 has 2 MA's), (46, 14327), (52, 14309), (Start: 54 @14303 has 1 MA's), (56, 14297), (66, 14255), (71, 14237), (82, 14195), (99, 14090),

Gene: SallySpecial_18 Start: 14300, Stop: 13995, Start Num: 54

Candidate Starts for SallySpecial_18:

(18, 14387), (21, 14381), (25, 14369), (Start: 32 @14351 has 2 MA's), (Start: 54 @14300 has 1 MA's), (58, 14291), (64, 14267), (66, 14252), (69, 14243), (72, 14219), (80, 14195), (87, 14168), (88, 14159), (92, 14141), (98, 14084), (100, 14045), (105, 14027), (110, 14009),

Gene: Shipwreck_33 Start: 29161, Stop: 28760, Start Num: 35

Candidate Starts for Shipwreck_33:

(Start: 35 @29161 has 41 MA's), (46, 29134), (56, 29104), (62, 29086), (66, 29062), (71, 29044), (76, 29017), (84, 28984), (91, 28954), (113, 28804),

Gene: Sonah_31 Start: 27333, Stop: 26932, Start Num: 35

Candidate Starts for Sonah_31:

(3, 27444), (Start: 5 @27414 has 2 MA's), (Start: 35 @27333 has 41 MA's), (46, 27306), (56, 27276), (62, 27258), (64, 27249), (66, 27234), (71, 27216), (76, 27189), (84, 27156), (91, 27126), (113, 26976),

Gene: StevieRay_31 Start: 27312, Stop: 26911, Start Num: 35

Candidate Starts for StevieRay_31:

(3, 27423), (Start: 5 @27393 has 2 MA's), (Start: 35 @27312 has 41 MA's), (46, 27285), (56, 27255), (62, 27237), (64, 27228), (66, 27213), (71, 27195), (76, 27168), (84, 27135), (91, 27105), (113, 26955),

Gene: StressBall_31 Start: 27604, Stop: 27203, Start Num: 35

Candidate Starts for StressBall_31:

(3, 27715), (Start: 5 @27685 has 2 MA's), (Start: 35 @27604 has 41 MA's), (46, 27577), (56, 27547), (62, 27529), (64, 27520), (66, 27505), (71, 27487), (76, 27460), (84, 27427), (91, 27397), (113, 27247),

Gene: TaronosaurusRx_42 Start: 31568, Stop: 31248, Start Num: 53

Candidate Starts for TaronosaurusRx_42:

(Start: 28 @31628 has 1 MA's), (Start: 38 @31610 has 1 MA's), (Start: 53 @31568 has 1 MA's), (88, 31421), (92, 31403), (111, 31262),

Gene: Techage_31 Start: 27370, Stop: 26969, Start Num: 35

Candidate Starts for Techage_31:

(3, 27481), (Start: 5 @27451 has 2 MA's), (10, 27427), (Start: 35 @27370 has 41 MA's), (46, 27343), (56, 27313), (62, 27295), (66, 27271), (71, 27253), (76, 27226), (84, 27193), (91, 27163), (113, 27013),

Gene: Thespis_31 Start: 27421, Stop: 26939, Start Num: 5

Candidate Starts for Thespis_31:

(3, 27451), (Start: 5 @27421 has 2 MA's), (Start: 35 @27340 has 41 MA's), (46, 27313), (56, 27283), (62, 27265), (64, 27256), (66, 27241), (71, 27223), (76, 27196), (84, 27163), (91, 27133), (113, 26983),

Gene: UmaThurman_36 Start: 31566, Stop: 31237, Start Num: 43

Candidate Starts for UmaThurman_36:

(11, 31641), (Start: 43 @31566 has 1 MA's), (45, 31560), (57, 31527), (68, 31482), (74, 31452), (75, 31446), (77, 31434), (80, 31428), (93, 31368),

Gene: Venti_31 Start: 27347, Stop: 26946, Start Num: 35

Candidate Starts for Venti_31:

(3, 27458), (Start: 5 @27428 has 2 MA's), (10, 27404), (Start: 35 @27347 has 41 MA's), (46, 27320), (56, 27290), (62, 27272), (66, 27248), (71, 27230), (76, 27203), (84, 27170), (91, 27140), (113, 26990),

Gene: Vidya_31 Start: 27380, Stop: 26979, Start Num: 35

Candidate Starts for Vidya_31:

(3, 27491), (Start: 5 @27461 has 2 MA's), (10, 27437), (Start: 35 @27380 has 41 MA's), (46, 27353), (56, 27323), (62, 27305), (66, 27281), (71, 27263), (76, 27236), (84, 27203), (91, 27173), (113, 27023),

Gene: Willsammy_30 Start: 27087, Stop: 26686, Start Num: 35

Candidate Starts for Willsammy_30:

(3, 27198), (Start: 5 @27168 has 2 MA's), (Start: 35 @27087 has 41 MA's), (46, 27060), (56, 27030), (62, 27012), (64, 27003), (66, 26988), (71, 26970), (76, 26943), (84, 26910), (91, 26880), (113, 26730),

Gene: Zilizebeth_31 Start: 27379, Stop: 26978, Start Num: 35

Candidate Starts for Zilizebeth_31:

(3, 27490), (Start: 5 @27460 has 2 MA's), (10, 27436), (Start: 35 @27379 has 41 MA's), (46, 27352), (56, 27322), (62, 27304), (66, 27280), (71, 27262), (76, 27235), (84, 27202), (91, 27172), (113, 27022),