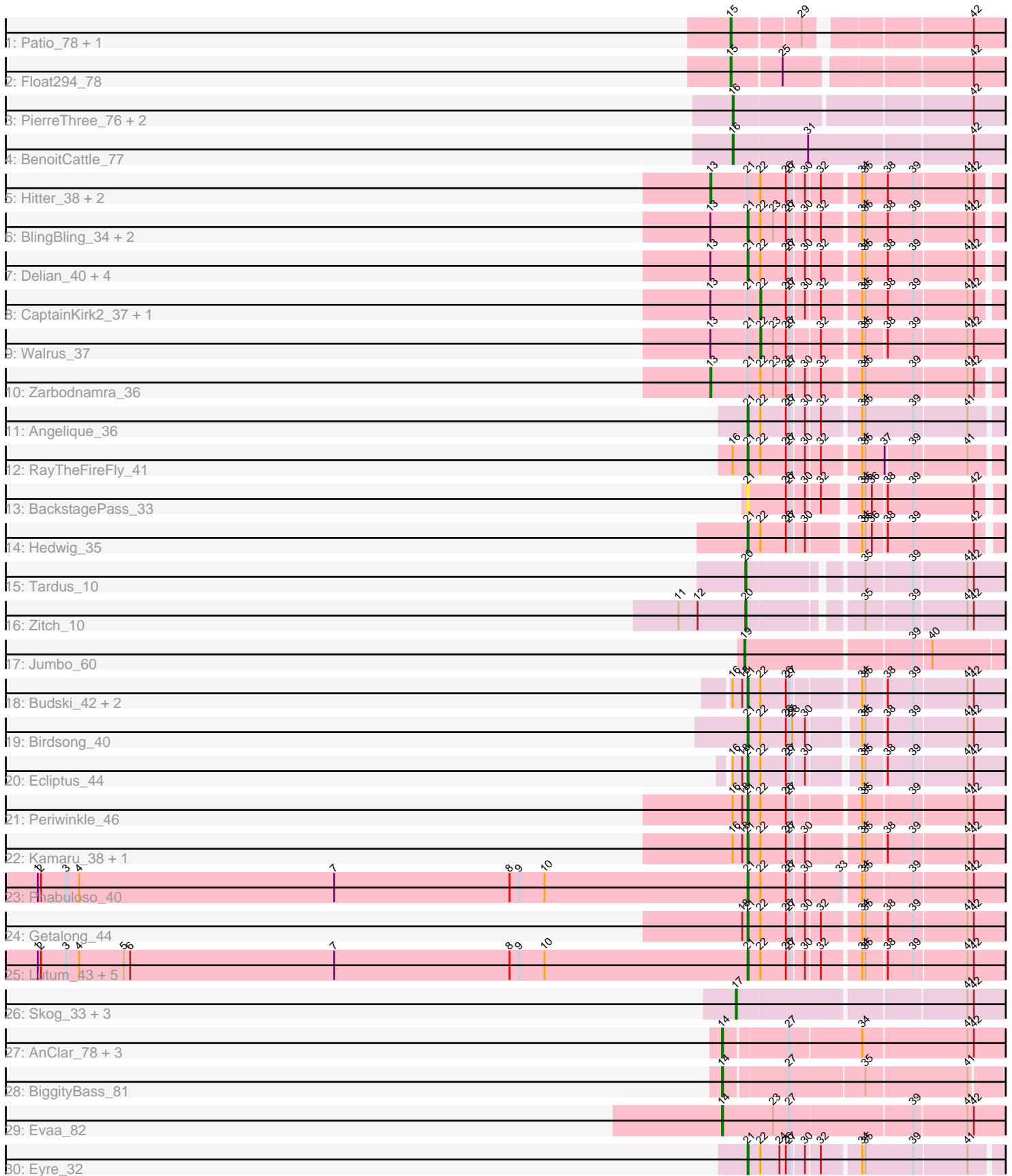


Pham 196580



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 196580 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196580 has 56 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Patio_78, Skysand_80
- Track 2 : Float294_78
- Track 3 : PierreThree_76, Dakiti_78, Linetti_77
- Track 4 : BenoitCattle_77
- Track 5 : Hitter_38, Guacamole_35, MintFen_37
- Track 6 : BlingBling_34, Archis_40, Melba_36
- Track 7 : Delian_40, Mellie_34, JasperJr_35, Oblivate_33, PhrostedPhlake_40
- Track 8 : CaptainKirk2_37, UmaThurman_32
- Track 9 : Walrus_37
- Track 10 : Zarbodnamra_36
- Track 11 : Angelique_36
- Track 12 : RayTheFireFly_41
- Track 13 : BackstagePass_33
- Track 14 : Hedwig_35
- Track 15 : Tardus_10
- Track 16 : Zitch_10
- Track 17 : Jumbo_60
- Track 18 : Budski_42, BENtherdunthat_42, Whitney_45
- Track 19 : Birdsong_40
- Track 20 : Ecliptus_44
- Track 21 : Periwinkle_46
- Track 22 : Kamaru_38, LitninMcQueen_37
- Track 23 : Phabuloso_40
- Track 24 : Getalong_44
- Track 25 : Lutum_43, Frickyeah_43, Holliday_42, Phistory_43, Kenna_42, Crater_40
- Track 26 : Skog_33, CherryTomatoes_206, Pupper_204, SCentae_203
- Track 27 : AnClar_78, Sisko_81, LittleMunchkin_81, Yago84_80
- Track 28 : BiggityBass_81
- Track 29 : Evaa_82
- Track 30 : Eyre_32

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

The start number called the most often in the published annotations is 21, it was called in 27 of the 54 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Angelique_36, Archis_40, BENtherdunthat_42, BackstagePass_33, Birdsong_40, BlingBling_34, Budski_42, Crater_40, Delian_40, Ecliptus_44, Eyre_32, Frickyeah_43, Getalong_44, Hedwig_35, Holliday_42, JasperJr_35, Kamaru_38, Kenna_42, LitninMcQueen_37, Lutum_43, Melba_36, Mellie_34, Oblivate_33, Periwinkle_46, Phabuloso_40, Phistory_43, PhrostedPhlake_40, RayTheFireFly_41, Whitney_45,

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

- CaptainKirk2_37, Guacamole_35, Hitter_38, MintFen_37, UmaThurman_32, Walrus_37, Zarbodnamra_36,

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

- AnClar_78, BenoitCattle_77, BiggityBass_81, CherryTomatoes_206, Dakiti_78, Evaa_82, Float294_78, Jumbo_60, Linetti_77, LittleMunchkin_81, Patio_78, PierreThree_76, Pupper_204, SCentae_203, Sisko_81, Skog_33, Skysand_80, Tardus_10, Yago84_80, Zitch_10,

Summary by start number:

Start 13:

- Found in 15 of 56 (26.8%) of genes in pham
- Manual Annotations of this start: 4 of 54
- Called 26.7% of time when present
- Phage (with cluster) where this start called: Guacamole_35 (CV), Hitter_38 (CV), MintFen_37 (CV), Zarbodnamra_36 (CV),

Start 14:

- Found in 6 of 56 (10.7%) of genes in pham
- Manual Annotations of this start: 6 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnClar_78 (DR), BiggityBass_81 (DR), Evaa_82 (DR), LittleMunchkin_81 (DR), Sisko_81 (DR), Yago84_80 (DR),

Start 15:

- Found in 3 of 56 (5.4%) of genes in pham
- Manual Annotations of this start: 3 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Float294_78 (CR3), Patio_78 (CR3), Skysand_80 (CR3),

Start 16:

- Found in 12 of 56 (21.4%) of genes in pham
- Manual Annotations of this start: 4 of 54
- Called 33.3% of time when present
- Phage (with cluster) where this start called: BenoitCattle_77 (CS2), Dakiti_78 (CS2), Linetti_77 (CS2), PierreThree_76 (CS2),

Start 17:

- Found in 4 of 56 (7.1%) of genes in pham

- Manual Annotations of this start: 4 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes_206 (DO), Pupper_204 (DO), SCentae_203 (DO), Skog_33 (DO),

Start 19:

- Found in 1 of 56 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jumbo_60 (DF3),

Start 20:

- Found in 2 of 56 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 54
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tardus_10 (DE4), Zitch_10 (DE4),

Start 21:

- Found in 36 of 56 (64.3%) of genes in pham
- Manual Annotations of this start: 27 of 54
- Called 80.6% of time when present
- Phage (with cluster) where this start called: Angelique_36 (CY1), Archis_40 (CV), BENTherdunthat_42 (DN1), BackstagePass_33 (DB), Birdsong_40 (DN), BlingBling_34 (CV), Budski_42 (DN), Crater_40 (DN3), Delian_40 (CV), Ecliptus_44 (DN), Eyre_32 (singleton), Frickyeah_43 (DN1), Getalong_44 (DN1), Hedwig_35 (DB), Holliday_42 (DN1), JasperJr_35 (CV), Kamaru_38 (DN1), Kenna_42 (DN1), LitninMcQueen_37 (DN1), Lutum_43 (DN1), Melba_36 (CV), Mellie_34 (CV), Obliviate_33 (CV), Periwinkle_46 (DN1), Phabuloso_40 (DN1), Phistory_43 (DN1), PhrostedPhlake_40 (CV), RayTheFireFly_41 (DB), Whitney_45 (DN1),

Start 22:

- Found in 35 of 56 (62.5%) of genes in pham
- Manual Annotations of this start: 3 of 54
- Called 8.6% of time when present
- Phage (with cluster) where this start called: CaptainKirk2_37 (CV), UmaThurman_32 (CV), Walrus_37 (CV),

Summary by clusters:

There are 13 clusters represented in this pham: DN, CR3, CY1, DO, DE4, DB, singleton, DF3, DN1, DN3, DR, CV, CS2,

Info for manual annotations of cluster CR3:

- Start number 15 was manually annotated 3 times for cluster CR3.

Info for manual annotations of cluster CS2:

- Start number 16 was manually annotated 4 times for cluster CS2.

Info for manual annotations of cluster CV:

- Start number 13 was manually annotated 4 times for cluster CV.
- Start number 21 was manually annotated 8 times for cluster CV.
- Start number 22 was manually annotated 3 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 21 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster DB:

- Start number 21 was manually annotated 2 times for cluster DB.

Info for manual annotations of cluster DE4:

- Start number 20 was manually annotated 2 times for cluster DE4.

Info for manual annotations of cluster DF3:

- Start number 19 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DN:

- Start number 21 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 21 was manually annotated 11 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 21 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DO:

- Start number 17 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 14 was manually annotated 6 times for cluster DR.

Gene Information:

Gene: AnClar_78 Start: 60612, Stop: 60265, Start Num: 14

Candidate Starts for AnClar_78:

(Start: 14 @60612 has 6 MA's), (27, 60555), (34, 60489), (41, 60393), (42, 60387),

Gene: Angelique_36 Start: 29622, Stop: 29323, Start Num: 21

Candidate Starts for Angelique_36:

(Start: 21 @29622 has 27 MA's), (Start: 22 @29610 has 3 MA's), (26, 29586), (27, 29583), (30, 29571), (32, 29559), (34, 29526), (35, 29523), (39, 29478), (41, 29430),

Gene: Archis_40 Start: 30536, Stop: 30222, Start Num: 21

Candidate Starts for Archis_40:

(Start: 13 @30569 has 4 MA's), (Start: 21 @30536 has 27 MA's), (Start: 22 @30524 has 3 MA's), (23, 30512), (26, 30500), (27, 30497), (30, 30485), (32, 30473), (34, 30440), (35, 30437), (38, 30416), (39, 30392), (41, 30344), (42, 30338),

Gene: BENtherdunthat_42 Start: 29776, Stop: 29441, Start Num: 21

Candidate Starts for BENtherdunthat_42:

(Start: 16 @29788 has 4 MA's), (18, 29779), (Start: 21 @29776 has 27 MA's), (Start: 22 @29764 has 3 MA's), (26, 29740), (27, 29737), (34, 29680), (35, 29677), (38, 29659), (39, 29635), (41, 29587), (42, 29581),

Gene: BackstagePass_33 Start: 28562, Stop: 28269, Start Num: 21

Candidate Starts for BackstagePass_33:

(Start: 21 @28562 has 27 MA's), (26, 28526), (27, 28523), (30, 28511), (32, 28499), (34, 28469), (35, 28466), (36, 28460), (38, 28448), (39, 28424), (42, 28367),

Gene: BenoitCattle_77 Start: 60565, Stop: 60242, Start Num: 16

Candidate Starts for BenoitCattle_77:

(Start: 16 @60565 has 4 MA's), (31, 60496), (42, 60346),

Gene: BiggityBass_81 Start: 62080, Stop: 61751, Start Num: 14

Candidate Starts for BiggityBass_81:

(Start: 14 @62080 has 6 MA's), (27, 62023), (35, 61954), (41, 61861),

Gene: Birdsong_40 Start: 30587, Stop: 30261, Start Num: 21

Candidate Starts for Birdsong_40:

(Start: 21 @30587 has 27 MA's), (Start: 22 @30575 has 3 MA's), (26, 30551), (27, 30548), (28, 30545), (30, 30533), (34, 30491), (35, 30488), (38, 30470), (39, 30446), (41, 30398), (42, 30392),

Gene: BlingBling_34 Start: 30550, Stop: 30248, Start Num: 21

Candidate Starts for BlingBling_34:

(Start: 13 @30583 has 4 MA's), (Start: 21 @30550 has 27 MA's), (Start: 22 @30538 has 3 MA's), (23, 30526), (26, 30514), (27, 30511), (30, 30499), (32, 30487), (34, 30454), (35, 30451), (38, 30430), (39, 30406), (41, 30358), (42, 30352),

Gene: Budski_42 Start: 31521, Stop: 31192, Start Num: 21

Candidate Starts for Budski_42:

(Start: 16 @31533 has 4 MA's), (18, 31524), (Start: 21 @31521 has 27 MA's), (Start: 22 @31509 has 3 MA's), (26, 31485), (27, 31482), (34, 31425), (35, 31422), (38, 31404), (39, 31380), (41, 31332), (42, 31326),

Gene: CaptainKirk2_37 Start: 29823, Stop: 29527, Start Num: 22

Candidate Starts for CaptainKirk2_37:

(Start: 13 @29868 has 4 MA's), (Start: 21 @29835 has 27 MA's), (Start: 22 @29823 has 3 MA's), (26, 29799), (27, 29796), (30, 29784), (32, 29772), (34, 29739), (35, 29736), (38, 29715), (39, 29691), (41, 29643), (42, 29637),

Gene: CherryTomatoes_206 Start: 140218, Stop: 140541, Start Num: 17

Candidate Starts for CherryTomatoes_206:

(Start: 17 @140218 has 4 MA's), (41, 140422), (42, 140428),

Gene: Crater_40 Start: 29695, Stop: 29378, Start Num: 21

Candidate Starts for Crater_40:

(1, 30361), (2, 30358), (3, 30334), (4, 30322), (5, 30280), (6, 30274), (7, 30082), (8, 29917), (9, 29908), (10, 29884), (Start: 21 @29695 has 27 MA's), (Start: 22 @29683 has 3 MA's), (26, 29659), (27, 29656), (30, 29644), (32, 29632), (34, 29599), (35, 29596), (38, 29578), (39, 29554), (41, 29506), (42, 29500),

Gene: Dakiti_78 Start: 61535, Stop: 61218, Start Num: 16

Candidate Starts for Dakiti_78:

(Start: 16 @61535 has 4 MA's), (42, 61322),

Gene: Delian_40 Start: 29833, Stop: 29525, Start Num: 21

Candidate Starts for Delian_40:

(Start: 13 @29866 has 4 MA's), (Start: 21 @29833 has 27 MA's), (Start: 22 @29821 has 3 MA's), (26, 29797), (27, 29794), (30, 29782), (32, 29770), (34, 29737), (35, 29734), (38, 29713), (39, 29689), (41, 29641), (42, 29635),

Gene: Ecliptus_44 Start: 32044, Stop: 31706, Start Num: 21

Candidate Starts for Ecliptus_44:

(Start: 16 @32056 has 4 MA's), (18, 32047), (Start: 21 @32044 has 27 MA's), (Start: 22 @32032 has 3 MA's), (26, 32008), (27, 32005), (30, 31993), (34, 31951), (35, 31948), (38, 31930), (39, 31906), (41, 31858), (42, 31852),

Gene: Evaa_82 Start: 60219, Stop: 59869, Start Num: 14

Candidate Starts for Evaa_82:

(Start: 14 @60219 has 6 MA's), (23, 60171), (27, 60156), (39, 60045), (41, 59997), (42, 59991),

Gene: Eyre_32 Start: 25507, Stop: 25208, Start Num: 21

Candidate Starts for Eyre_32:

(Start: 21 @25507 has 27 MA's), (Start: 22 @25495 has 3 MA's), (24, 25477), (26, 25471), (27, 25468), (30, 25456), (32, 25444), (34, 25411), (35, 25408), (39, 25363), (41, 25315),

Gene: Float294_78 Start: 58928, Stop: 58614, Start Num: 15

Candidate Starts for Float294_78:

(Start: 15 @58928 has 3 MA's), (25, 58883), (42, 58721),

Gene: Frickyeah_43 Start: 29647, Stop: 29330, Start Num: 21

Candidate Starts for Frickyeah_43:

(1, 30313), (2, 30310), (3, 30286), (4, 30274), (5, 30232), (6, 30226), (7, 30034), (8, 29869), (9, 29860), (10, 29836), (Start: 21 @29647 has 27 MA's), (Start: 22 @29635 has 3 MA's), (26, 29611), (27, 29608), (30, 29596), (32, 29584), (34, 29551), (35, 29548), (38, 29530), (39, 29506), (41, 29458), (42, 29452),

Gene: Getalong_44 Start: 32367, Stop: 32050, Start Num: 21

Candidate Starts for Getalong_44:

(18, 32370), (Start: 21 @32367 has 27 MA's), (Start: 22 @32355 has 3 MA's), (26, 32331), (27, 32328), (30, 32316), (32, 32304), (34, 32271), (35, 32268), (38, 32250), (39, 32226), (41, 32178), (42, 32172),

Gene: Guacamole_35 Start: 30431, Stop: 30090, Start Num: 13

Candidate Starts for Guacamole_35:

(Start: 13 @30431 has 4 MA's), (Start: 21 @30398 has 27 MA's), (Start: 22 @30386 has 3 MA's), (26, 30362), (27, 30359), (30, 30347), (32, 30335), (34, 30302), (35, 30299), (38, 30278), (39, 30254), (41, 30206), (42, 30200),

Gene: Hedwig_35 Start: 28932, Stop: 28639, Start Num: 21

Candidate Starts for Hedwig_35:

(Start: 21 @28932 has 27 MA's), (Start: 22 @28920 has 3 MA's), (26, 28896), (27, 28893), (30, 28881), (34, 28839), (35, 28836), (36, 28830), (38, 28818), (39, 28794), (42, 28737),

Gene: Hitter_38 Start: 30165, Stop: 29812, Start Num: 13

Candidate Starts for Hitter_38:

(Start: 13 @30165 has 4 MA's), (Start: 21 @30132 has 27 MA's), (Start: 22 @30120 has 3 MA's), (26, 30096), (27, 30093), (30, 30081), (32, 30069), (34, 30036), (35, 30033), (38, 30012), (39, 29988), (41, 29940), (42, 29934),

Gene: Holliday_42 Start: 30222, Stop: 29905, Start Num: 21

Candidate Starts for Holliday_42:

(1, 30888), (2, 30885), (3, 30861), (4, 30849), (5, 30807), (6, 30801), (7, 30609), (8, 30444), (9, 30435), (10, 30411), (Start: 21 @30222 has 27 MA's), (Start: 22 @30210 has 3 MA's), (26, 30186), (27, 30183), (30, 30171), (32, 30159), (34, 30126), (35, 30123), (38, 30105), (39, 30081), (41, 30033), (42, 30027),

Gene: JasperJr_35 Start: 30398, Stop: 30090, Start Num: 21

Candidate Starts for JasperJr_35:

(Start: 13 @30431 has 4 MA's), (Start: 21 @30398 has 27 MA's), (Start: 22 @30386 has 3 MA's), (26, 30362), (27, 30359), (30, 30347), (32, 30335), (34, 30302), (35, 30299), (38, 30278), (39, 30254), (41, 30206), (42, 30200),

Gene: Jumbo_60 Start: 54431, Stop: 54102, Start Num: 19

Candidate Starts for Jumbo_60:

(Start: 19 @54431 has 1 MA's), (39, 54281), (40, 54266),

Gene: Kamaru_38 Start: 29300, Stop: 28986, Start Num: 21

Candidate Starts for Kamaru_38:

(Start: 16 @29312 has 4 MA's), (18, 29303), (Start: 21 @29300 has 27 MA's), (Start: 22 @29288 has 3 MA's), (26, 29264), (27, 29261), (30, 29249), (34, 29204), (35, 29201), (38, 29183), (39, 29159), (41, 29111), (42, 29105),

Gene: Kenna_42 Start: 30558, Stop: 30241, Start Num: 21

Candidate Starts for Kenna_42:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (7, 30945), (8, 30780), (9, 30771), (10, 30747), (Start: 21 @30558 has 27 MA's), (Start: 22 @30546 has 3 MA's), (26, 30522), (27, 30519), (30, 30507), (32, 30495), (34, 30462), (35, 30459), (38, 30441), (39, 30417), (41, 30369), (42, 30363),

Gene: Linetti_77 Start: 61689, Stop: 61372, Start Num: 16

Candidate Starts for Linetti_77:

(Start: 16 @61689 has 4 MA's), (42, 61476),

Gene: LitninMcQueen_37 Start: 29049, Stop: 28729, Start Num: 21

Candidate Starts for LitninMcQueen_37:

(Start: 16 @29061 has 4 MA's), (18, 29052), (Start: 21 @29049 has 27 MA's), (Start: 22 @29037 has 3 MA's), (26, 29013), (27, 29010), (30, 28998), (34, 28953), (35, 28950), (38, 28932), (39, 28908), (41, 28860), (42, 28854),

Gene: LittleMunchkin_81 Start: 61979, Stop: 61644, Start Num: 14

Candidate Starts for LittleMunchkin_81:

(Start: 14 @61979 has 6 MA's), (27, 61922), (34, 61856), (41, 61760), (42, 61754),

Gene: Lutum_43 Start: 30558, Stop: 30241, Start Num: 21

Candidate Starts for Lutum_43:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (7, 30945), (8, 30780), (9, 30771), (10, 30747), (Start: 21 @30558 has 27 MA's), (Start: 22 @30546 has 3 MA's), (26, 30522), (27, 30519), (30, 30507), (32, 30495), (34, 30462), (35, 30459), (38, 30441), (39, 30417), (41, 30369), (42, 30363),

Gene: Melba_36 Start: 30375, Stop: 30085, Start Num: 21

Candidate Starts for Melba_36:

(Start: 13 @30408 has 4 MA's), (Start: 21 @30375 has 27 MA's), (Start: 22 @30363 has 3 MA's), (23, 30351), (26, 30339), (27, 30336), (30, 30324), (32, 30312), (34, 30279), (35, 30276), (38, 30255), (39, 30231), (41, 30183), (42, 30177),

Gene: Mellie_34 Start: 28646, Stop: 28332, Start Num: 21

Candidate Starts for Mellie_34:

(Start: 13 @28679 has 4 MA's), (Start: 21 @28646 has 27 MA's), (Start: 22 @28634 has 3 MA's), (26, 28610), (27, 28607), (30, 28595), (32, 28583), (34, 28550), (35, 28547), (38, 28529), (39, 28505), (41, 28457), (42, 28451),

Gene: MintFen_37 Start: 30482, Stop: 30147, Start Num: 13

Candidate Starts for MintFen_37:

(Start: 13 @30482 has 4 MA's), (Start: 21 @30449 has 27 MA's), (Start: 22 @30437 has 3 MA's), (26, 30413), (27, 30410), (30, 30398), (32, 30386), (34, 30353), (35, 30350), (38, 30329), (39, 30305), (41, 30257), (42, 30251),

Gene: Obliviate_33 Start: 28822, Stop: 28514, Start Num: 21

Candidate Starts for Obliviate_33:

(Start: 13 @28855 has 4 MA's), (Start: 21 @28822 has 27 MA's), (Start: 22 @28810 has 3 MA's), (26, 28786), (27, 28783), (30, 28771), (32, 28759), (34, 28726), (35, 28723), (38, 28702), (39, 28678), (41, 28630), (42, 28624),

Gene: Patio_78 Start: 57925, Stop: 57620, Start Num: 15

Candidate Starts for Patio_78:

(Start: 15 @57925 has 3 MA's), (29, 57865), (42, 57727),

Gene: Periwinkle_46 Start: 32013, Stop: 31696, Start Num: 21

Candidate Starts for Periwinkle_46:

(Start: 16 @32025 has 4 MA's), (18, 32016), (Start: 21 @32013 has 27 MA's), (Start: 22 @32001 has 3 MA's), (26, 31977), (27, 31974), (34, 31917), (35, 31914), (39, 31872), (41, 31824), (42, 31818),

Gene: Phabuloso_40 Start: 30274, Stop: 29954, Start Num: 21

Candidate Starts for Phabuloso_40:

(1, 30940), (2, 30937), (3, 30913), (4, 30901), (7, 30661), (8, 30496), (9, 30487), (10, 30463), (Start: 21 @30274 has 27 MA's), (Start: 22 @30262 has 3 MA's), (26, 30238), (27, 30235), (30, 30223), (33, 30193), (34, 30178), (35, 30175), (39, 30133), (41, 30085), (42, 30079),

Gene: Phistory_43 Start: 30909, Stop: 30592, Start Num: 21

Candidate Starts for Phistory_43:

(1, 31575), (2, 31572), (3, 31548), (4, 31536), (5, 31494), (6, 31488), (7, 31296), (8, 31131), (9, 31122), (10, 31098), (Start: 21 @30909 has 27 MA's), (Start: 22 @30897 has 3 MA's), (26, 30873), (27, 30870), (30, 30858), (32, 30846), (34, 30813), (35, 30810), (38, 30792), (39, 30768), (41, 30720), (42, 30714),

Gene: PhrostedPhlake_40 Start: 30630, Stop: 30334, Start Num: 21

Candidate Starts for PhrostedPhlake_40:

(Start: 13 @30663 has 4 MA's), (Start: 21 @30630 has 27 MA's), (Start: 22 @30618 has 3 MA's), (26, 30594), (27, 30591), (30, 30579), (32, 30567), (34, 30534), (35, 30531), (38, 30510), (39, 30486), (41, 30438), (42, 30432),

Gene: PierreThree_76 Start: 61166, Stop: 60849, Start Num: 16

Candidate Starts for PierreThree_76:

(Start: 16 @61166 has 4 MA's), (42, 60953),

Gene: Pupper_204 Start: 140080, Stop: 140403, Start Num: 17
Candidate Starts for Pupper_204:
(Start: 17 @140080 has 4 MA's), (41, 140284), (42, 140290),

Gene: RayTheFireFly_41 Start: 30859, Stop: 30572, Start Num: 21
Candidate Starts for RayTheFireFly_41:
(Start: 16 @30871 has 4 MA's), (Start: 21 @30859 has 27 MA's), (Start: 22 @30847 has 3 MA's), (26, 30823), (27, 30820), (30, 30808), (32, 30796), (34, 30763), (35, 30760), (37, 30742), (39, 30718), (41, 30670),

Gene: SCentae_203 Start: 140271, Stop: 140594, Start Num: 17
Candidate Starts for SCentae_203:
(Start: 17 @140271 has 4 MA's), (41, 140475), (42, 140481),

Gene: Sisko_81 Start: 60938, Stop: 60591, Start Num: 14
Candidate Starts for Sisko_81:
(Start: 14 @60938 has 6 MA's), (27, 60881), (34, 60815), (41, 60719), (42, 60713),

Gene: Skog_33 Start: 15580, Stop: 15906, Start Num: 17
Candidate Starts for Skog_33:
(Start: 17 @15580 has 4 MA's), (41, 15784), (42, 15790),

Gene: Skysand_80 Start: 58588, Stop: 58283, Start Num: 15
Candidate Starts for Skysand_80:
(Start: 15 @58588 has 3 MA's), (29, 58528), (42, 58390),

Gene: Tardus_10 Start: 4552, Stop: 4857, Start Num: 20
Candidate Starts for Tardus_10:
(Start: 20 @4552 has 2 MA's), (35, 4645), (39, 4687), (41, 4735), (42, 4741),

Gene: UmaThurman_32 Start: 29419, Stop: 29123, Start Num: 22
Candidate Starts for UmaThurman_32:
(Start: 13 @29464 has 4 MA's), (Start: 21 @29431 has 27 MA's), (Start: 22 @29419 has 3 MA's), (26, 29395), (27, 29392), (30, 29380), (32, 29368), (34, 29335), (35, 29332), (38, 29311), (39, 29287), (41, 29239), (42, 29233),

Gene: Walrus_37 Start: 30012, Stop: 29710, Start Num: 22
Candidate Starts for Walrus_37:
(Start: 13 @30057 has 4 MA's), (Start: 21 @30024 has 27 MA's), (Start: 22 @30012 has 3 MA's), (23, 30000), (26, 29988), (27, 29985), (32, 29961), (34, 29928), (35, 29925), (38, 29907), (39, 29883), (41, 29835), (42, 29829),

Gene: Whitney_45 Start: 33551, Stop: 33234, Start Num: 21
Candidate Starts for Whitney_45:
(Start: 16 @33563 has 4 MA's), (18, 33554), (Start: 21 @33551 has 27 MA's), (Start: 22 @33539 has 3 MA's), (26, 33515), (27, 33512), (34, 33455), (35, 33452), (38, 33434), (39, 33410), (41, 33362), (42, 33356),

Gene: Yago84_80 Start: 60646, Stop: 60299, Start Num: 14
Candidate Starts for Yago84_80:
(Start: 14 @60646 has 6 MA's), (27, 60589), (34, 60523), (41, 60427), (42, 60421),

Gene: Zarbodnamra_36 Start: 29888, Stop: 29547, Start Num: 13

Candidate Starts for Zarbodnamra_36:

(Start: 13 @29888 has 4 MA's), (Start: 21 @29855 has 27 MA's), (Start: 22 @29843 has 3 MA's), (23, 29831), (26, 29819), (27, 29816), (30, 29804), (32, 29792), (34, 29759), (35, 29756), (39, 29711), (41, 29663), (42, 29657),

Gene: Zitch_10 Start: 5089, Stop: 5394, Start Num: 20

Candidate Starts for Zitch_10:

(11, 5026), (12, 5044), (Start: 20 @5089 has 2 MA's), (35, 5182), (39, 5224), (41, 5272), (42, 5278),