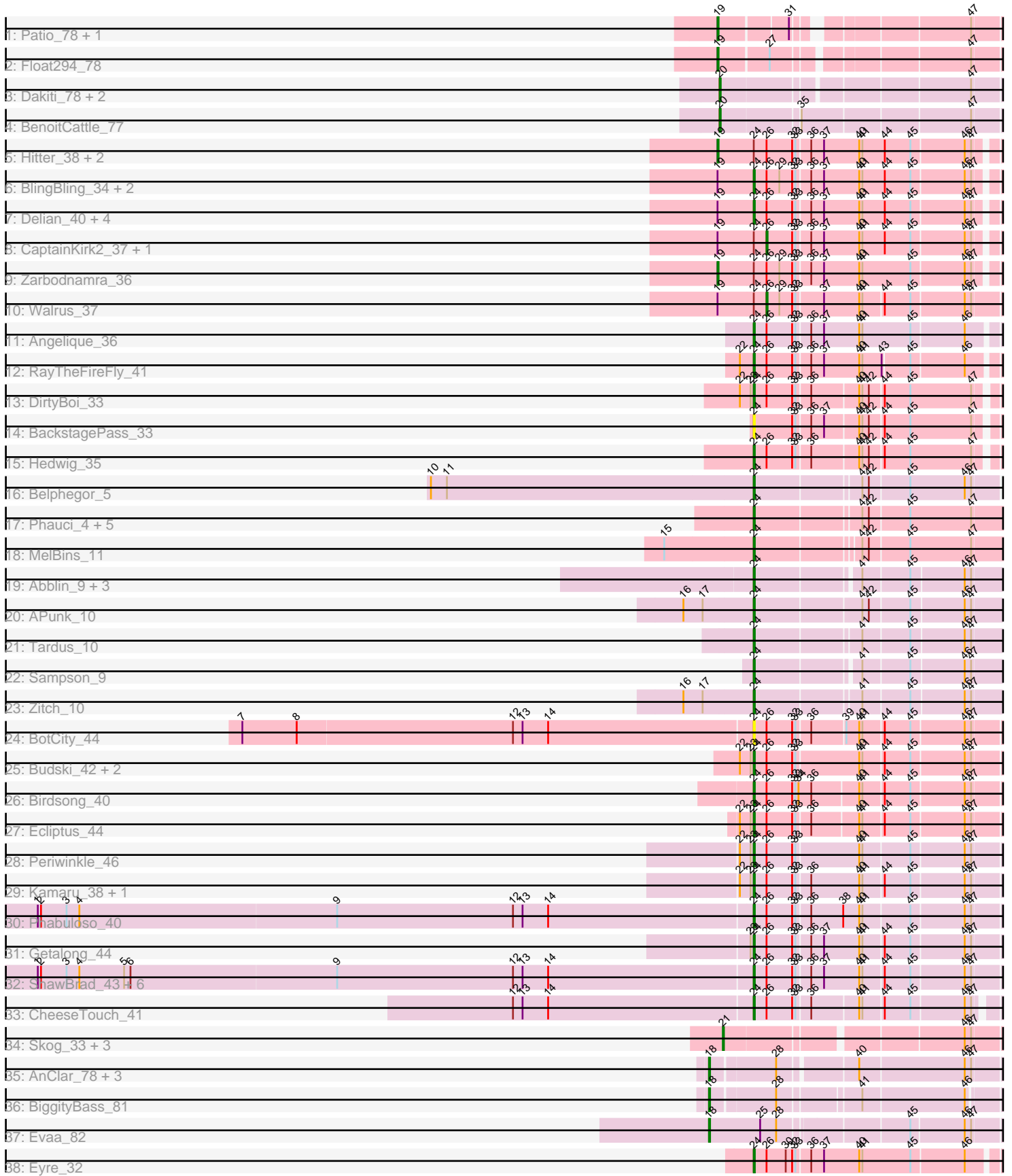


Pham 224545



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 224545 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224545 has 73 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Patio_78, Skysand_80
- Track 2 : Float294_78
- Track 3 : Dakiti_78, PierreThree_76, 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, PhrostedPhlake_40, JasperJr_35, Obliviate_33, Mellie_34
- Track 8 : CaptainKirk2_37, UmaThurman_32
- Track 9 : Zarbodnamra_36
- Track 10 : Walrus_37
- Track 11 : Angelique_36
- Track 12 : RayTheFireFly_41
- Track 13 : DirtyBoi_33
- Track 14 : BackstagePass_33
- Track 15 : Hedwig_35
- Track 16 : Belphegor_5
- Track 17 : Phauci_4, Leonard_11, Ali17_9, Inspectinfecti_12, Hans_13, Phinally_11
- Track 18 : MelBins_11
- Track 19 : Abblin_9, Scioto_9, Natkenzie_9, ViaConlectus_9
- Track 20 : APunk_10
- Track 21 : Tardus_10
- Track 22 : Sampson_9
- Track 23 : Zitch_10
- Track 24 : BotCity_44
- Track 25 : Budski_42, BENtherdunthat_42, Whitney_45
- Track 26 : Birdsong_40
- Track 27 : Ecliptus_44
- Track 28 : Periwinkle_46
- Track 29 : Kamaru_38, LitninMcQueen_37
- Track 30 : Phabuloso_40
- Track 31 : Getalong_44
- Track 32 : ShawBrad_43, Lutum_43, Frickyeah_43, Phistory_43, Kenna_42, Holliday_42, Crater_40
- Track 33 : CheeseTouch_41
- Track 34 : Skog_33, CherryTomatoes_206, Pupper_204, SCentae_203
- Track 35 : AnClar_78, Sisko_81, LittleMunchkin_81, Yago84_80
- Track 36 : BiggityBass_81

- Track 37 : Evaa_82
- Track 38 : 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 24, it was called in 42 of the 66 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- APunk_10, Abblin_9, Ali17_9, Angelique_36, Archis_40, BENtherdunthat_42, BackstagePass_33, Belphegor_5, Birdsong_40, BlingBling_34, BotCity_44, Budski_42, CheeseTouch_41, Crater_40, Delian_40, DirtyBoi_33, Ecliptus_44, Eyre_32, Frickyeah_43, Getalong_44, Hans_13, Hedwig_35, Holliday_42, Inspectinfecti_12, JasperJr_35, Kamaru_38, Kenna_42, Leonard_11, LitninMcQueen_37, Lutum_43, MelBins_11, Melba_36, Mellie_34, Natkenzie_9, Obliviate_33, Periwinkle_46, Phabuloso_40, Phauci_4, Phinally_11, Phistory_43, PhrostedPhlake_40, RayTheFireFly_41, Sampson_9, Scioto_9, ShawBrad_43, Tardus_10, ViaConlectus_9, Whitney_45, Zitch_10,

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, Linetti_77, LittleMunchkin_81, Patio_78, PierreThree_76, Pupper_204, SCentae_203, Sisko_81, Skog_33, Skysand_80, Yago84_80,

Summary by start number:

Start 18:

- Found in 6 of 73 (8.2%) of genes in pham
- Manual Annotations of this start: 6 of 66
- 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 19:

- Found in 18 of 73 (24.7%) of genes in pham
- Manual Annotations of this start: 7 of 66
- Called 38.9% of time when present
- Phage (with cluster) where this start called: Float294_78 (CR3), Guacamole_35 (CV), Hitter_38 (CV), MintFen_37 (CV), Patio_78 (CR3), Skysand_80 (CR3), Zarbodnamra_36 (CV),

Start 20:

- Found in 4 of 73 (5.5%) of genes in pham
- Manual Annotations of this start: 4 of 66
- Called 100.0% of time when present

- Phage (with cluster) where this start called: BenoitCattle_77 (CS2), Dakiti_78 (CS2), Linetti_77 (CS2), PierreThree_76 (CS2),

Start 21:

- Found in 4 of 73 (5.5%) of genes in pham
- Manual Annotations of this start: 4 of 66
- 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 24:

- Found in 56 of 73 (76.7%) of genes in pham
- Manual Annotations of this start: 42 of 66
- Called 87.5% of time when present
- Phage (with cluster) where this start called: APunk_10 (DE4), Abblin_9 (DE4), Ali17_9 (DE2), Angelique_36 (CY1), Archis_40 (CV), BENtherdunthat_42 (DN1), BackstagePass_33 (DB), Belphegor_5 (DE), Birdsong_40 (DN), BlingBling_34 (CV), BotCity_44 (DN), Budski_42 (DN), CheeseTouch_41 (DN1), Crater_40 (DN3), Delian_40 (CV), DirtyBoi_33 (DB), Ecliptus_44 (DN), Eyre_32 (singleton), Frickyeah_43 (DN1), Getalong_44 (DN1), Hans_13 (DE2), Hedwig_35 (DB), Holliday_42 (DN1), Inspectinfecti_12 (DE2), JasperJr_35 (CV), Kamaru_38 (DN1), Kenna_42 (DN1), Leonard_11 (DE2), LitninMcQueen_37 (DN1), Lutum_43 (DN1), MelBins_11 (DE2), Melba_36 (CV), Mellie_34 (CV), Natkenzie_9 (DE4), Obliviate_33 (CV), Periwinkle_46 (DN1), Phabuloso_40 (DN1), Phauci_4 (DE2), Phinally_11 (DE2), Phistory_43 (DN1), PhrostedPhlake_40 (CV), RayTheFireFly_41 (DB), Sampson_9 (DE4), Scioto_9 (DE4), ShawBrad_43 (DN1), Tardus_10 (DE4), ViaConlectus_9 (DE4), Whitney_45 (DN1), Zitch_10 (DE4),

Start 26:

- Found in 39 of 73 (53.4%) of genes in pham
- Manual Annotations of this start: 3 of 66
- Called 7.7% 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 14 clusters represented in this pham: DN, CR3, CY1, DO, DB, DE2, DE, DE4, singleton, DN1, DN3, DR, CV, CS2,

Info for manual annotations of cluster CR3:

- Start number 19 was manually annotated 3 times for cluster CR3.

Info for manual annotations of cluster CS2:

- Start number 20 was manually annotated 4 times for cluster CS2.

Info for manual annotations of cluster CV:

- Start number 19 was manually annotated 4 times for cluster CV.
- Start number 24 was manually annotated 8 times for cluster CV.
- Start number 26 was manually annotated 3 times for cluster CV.

Info for manual annotations of cluster CY1:

- Start number 24 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster DB:

- Start number 24 was manually annotated 3 times for cluster DB.

Info for manual annotations of cluster DE:

- Start number 24 was manually annotated 1 time for cluster DE.

Info for manual annotations of cluster DE2:

- Start number 24 was manually annotated 7 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 24 was manually annotated 5 times for cluster DE4.

Info for manual annotations of cluster DN:

- Start number 24 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 24 was manually annotated 12 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 24 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DO:

- Start number 21 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 18 was manually annotated 6 times for cluster DR.

Gene Information:

Gene: APunk_10 Start: 5832, Stop: 6140, Start Num: 24

Candidate Starts for APunk_10:

(16, 5769), (17, 5787), (Start: 24 @5832 has 42 MA's), (41, 5928), (42, 5934), (45, 5970), (46, 6018), (47, 6024),

Gene: Abblin_9 Start: 5353, Stop: 5655, Start Num: 24

Candidate Starts for Abblin_9:

(Start: 24 @5353 has 42 MA's), (41, 5443), (45, 5485), (46, 5533), (47, 5539),

Gene: Ali17_9 Start: 5663, Stop: 5983, Start Num: 24

Candidate Starts for Ali17_9:

(Start: 24 @5663 has 42 MA's), (41, 5753), (42, 5759), (45, 5795), (47, 5852),

Gene: AnClar_78 Start: 60612, Stop: 60265, Start Num: 18

Candidate Starts for AnClar_78:

(Start: 18 @60612 has 6 MA's), (28, 60555), (40, 60489), (46, 60393), (47, 60387),

Gene: Angelique_36 Start: 29622, Stop: 29323, Start Num: 24

Candidate Starts for Angelique_36:

(Start: 24 @29622 has 42 MA's), (Start: 26 @29610 has 3 MA's), (32, 29586), (33, 29583), (36, 29571), (37, 29559), (40, 29526), (41, 29523), (45, 29478), (46, 29430),

Gene: Archis_40 Start: 30536, Stop: 30222, Start Num: 24

Candidate Starts for Archis_40:

(Start: 19 @30569 has 7 MA's), (Start: 24 @30536 has 42 MA's), (Start: 26 @30524 has 3 MA's), (29, 30512), (32, 30500), (33, 30497), (36, 30485), (37, 30473), (40, 30440), (41, 30437), (44, 30416), (45, 30392), (46, 30344), (47, 30338),

Gene: BENtherdunthat_42 Start: 29776, Stop: 29441, Start Num: 24

Candidate Starts for BENtherdunthat_42:

(22, 29788), (23, 29779), (Start: 24 @29776 has 42 MA's), (Start: 26 @29764 has 3 MA's), (32, 29740), (33, 29737), (40, 29680), (41, 29677), (44, 29659), (45, 29635), (46, 29587), (47, 29581),

Gene: BackstagePass_33 Start: 28562, Stop: 28269, Start Num: 24

Candidate Starts for BackstagePass_33:

(Start: 24 @28562 has 42 MA's), (32, 28526), (33, 28523), (36, 28511), (37, 28499), (40, 28469), (41, 28466), (42, 28460), (44, 28448), (45, 28424), (47, 28367),

Gene: Belphegor_5 Start: 2778, Stop: 3092, Start Num: 24

Candidate Starts for Belphegor_5:

(10, 2478), (11, 2493), (Start: 24 @2778 has 42 MA's), (41, 2871), (42, 2877), (45, 2913), (46, 2964), (47, 2970),

Gene: BenoitCattle_77 Start: 60565, Stop: 60242, Start Num: 20

Candidate Starts for BenoitCattle_77:

(Start: 20 @60565 has 4 MA's), (35, 60496), (47, 60346),

Gene: BiggityBass_81 Start: 62080, Stop: 61751, Start Num: 18

Candidate Starts for BiggityBass_81:

(Start: 18 @62080 has 6 MA's), (28, 62023), (41, 61954), (46, 61861),

Gene: Birdsong_40 Start: 30587, Stop: 30261, Start Num: 24

Candidate Starts for Birdsong_40:

(Start: 24 @30587 has 42 MA's), (Start: 26 @30575 has 3 MA's), (32, 30551), (33, 30548), (34, 30545), (36, 30533), (40, 30491), (41, 30488), (44, 30470), (45, 30446), (46, 30398), (47, 30392),

Gene: BlingBling_34 Start: 30550, Stop: 30248, Start Num: 24

Candidate Starts for BlingBling_34:

(Start: 19 @30583 has 7 MA's), (Start: 24 @30550 has 42 MA's), (Start: 26 @30538 has 3 MA's), (29, 30526), (32, 30514), (33, 30511), (36, 30499), (37, 30487), (40, 30454), (41, 30451), (44, 30430), (45, 30406), (46, 30358), (47, 30352),

Gene: BotCity_44 Start: 30361, Stop: 30053, Start Num: 24

Candidate Starts for BotCity_44:

(7, 30835), (8, 30784), (12, 30583), (13, 30574), (14, 30550), (Start: 24 @30361 has 42 MA's), (Start: 26 @30349 has 3 MA's), (32, 30325), (33, 30322), (36, 30310), (39, 30280), (40, 30268), (41, 30265), (44, 30247), (45, 30223), (46, 30175), (47, 30169),

Gene: Budski_42 Start: 31521, Stop: 31192, Start Num: 24

Candidate Starts for Budski_42:

(22, 31533), (23, 31524), (Start: 24 @31521 has 42 MA's), (Start: 26 @31509 has 3 MA's), (32, 31485), (33, 31482), (40, 31425), (41, 31422), (44, 31404), (45, 31380), (46, 31332), (47, 31326),

Gene: CaptainKirk2_37 Start: 29823, Stop: 29527, Start Num: 26

Candidate Starts for CaptainKirk2_37:

(Start: 19 @29868 has 7 MA's), (Start: 24 @29835 has 42 MA's), (Start: 26 @29823 has 3 MA's), (32, 29799), (33, 29796), (36, 29784), (37, 29772), (40, 29739), (41, 29736), (44, 29715), (45, 29691), (46, 29643), (47, 29637),

Gene: CheeseTouch_41 Start: 28097, Stop: 27792, Start Num: 24

Candidate Starts for CheeseTouch_41:

(12, 28319), (13, 28310), (14, 28286), (Start: 24 @28097 has 42 MA's), (Start: 26 @28085 has 3 MA's), (32, 28061), (33, 28058), (36, 28046), (40, 28004), (41, 28001), (44, 27983), (45, 27959), (46, 27911), (47, 27905),

Gene: CherryTomatoes_206 Start: 140218, Stop: 140541, Start Num: 21

Candidate Starts for CherryTomatoes_206:

(Start: 21 @140218 has 4 MA's), (46, 140422), (47, 140428),

Gene: Crater_40 Start: 29695, Stop: 29378, Start Num: 24

Candidate Starts for Crater_40:

(1, 30361), (2, 30358), (3, 30334), (4, 30322), (5, 30280), (6, 30274), (9, 30082), (12, 29917), (13, 29908), (14, 29884), (Start: 24 @29695 has 42 MA's), (Start: 26 @29683 has 3 MA's), (32, 29659), (33, 29656), (36, 29644), (37, 29632), (40, 29599), (41, 29596), (44, 29578), (45, 29554), (46, 29506), (47, 29500),

Gene: Dakiti_78 Start: 61535, Stop: 61218, Start Num: 20

Candidate Starts for Dakiti_78:

(Start: 20 @61535 has 4 MA's), (47, 61322),

Gene: Delian_40 Start: 29833, Stop: 29525, Start Num: 24

Candidate Starts for Delian_40:

(Start: 19 @29866 has 7 MA's), (Start: 24 @29833 has 42 MA's), (Start: 26 @29821 has 3 MA's), (32, 29797), (33, 29794), (36, 29782), (37, 29770), (40, 29737), (41, 29734), (44, 29713), (45, 29689), (46, 29641), (47, 29635),

Gene: DirtyBoi_33 Start: 28465, Stop: 28172, Start Num: 24

Candidate Starts for DirtyBoi_33:

(22, 28477), (23, 28468), (Start: 24 @28465 has 42 MA's), (Start: 26 @28453 has 3 MA's), (32, 28429), (33, 28426), (36, 28414), (40, 28372), (41, 28369), (42, 28363), (44, 28351), (45, 28327), (47, 28270),

Gene: Ecliptus_44 Start: 32044, Stop: 31706, Start Num: 24

Candidate Starts for Ecliptus_44:

(22, 32056), (23, 32047), (Start: 24 @32044 has 42 MA's), (Start: 26 @32032 has 3 MA's), (32, 32008), (33, 32005), (36, 31993), (40, 31951), (41, 31948), (44, 31930), (45, 31906), (46, 31858), (47, 31852),

Gene: Evaa_82 Start: 60219, Stop: 59869, Start Num: 18

Candidate Starts for Evaa_82:

(Start: 18 @60219 has 6 MA's), (25, 60171), (28, 60156), (45, 60045), (46, 59997), (47, 59991),

Gene: Eyre_32 Start: 25507, Stop: 25208, Start Num: 24

Candidate Starts for Eyre_32:

(Start: 24 @25507 has 42 MA's), (Start: 26 @25495 has 3 MA's), (30, 25477), (32, 25471), (33, 25468), (36, 25456), (37, 25444), (40, 25411), (41, 25408), (45, 25363), (46, 25315),

Gene: Float294_78 Start: 58928, Stop: 58614, Start Num: 19

Candidate Starts for Float294_78:

(Start: 19 @58928 has 7 MA's), (27, 58883), (47, 58721),

Gene: Frickyeah_43 Start: 29647, Stop: 29330, Start Num: 24

Candidate Starts for Frickyeah_43:

(1, 30313), (2, 30310), (3, 30286), (4, 30274), (5, 30232), (6, 30226), (9, 30034), (12, 29869), (13, 29860), (14, 29836), (Start: 24 @29647 has 42 MA's), (Start: 26 @29635 has 3 MA's), (32, 29611), (33, 29608), (36, 29596), (37, 29584), (40, 29551), (41, 29548), (44, 29530), (45, 29506), (46, 29458), (47, 29452),

Gene: Getalong_44 Start: 32367, Stop: 32050, Start Num: 24

Candidate Starts for Getalong_44:

(23, 32370), (Start: 24 @32367 has 42 MA's), (Start: 26 @32355 has 3 MA's), (32, 32331), (33, 32328), (36, 32316), (37, 32304), (40, 32271), (41, 32268), (44, 32250), (45, 32226), (46, 32178), (47, 32172),

Gene: Guacamole_35 Start: 30431, Stop: 30090, Start Num: 19

Candidate Starts for Guacamole_35:

(Start: 19 @30431 has 7 MA's), (Start: 24 @30398 has 42 MA's), (Start: 26 @30386 has 3 MA's), (32, 30362), (33, 30359), (36, 30347), (37, 30335), (40, 30302), (41, 30299), (44, 30278), (45, 30254), (46, 30206), (47, 30200),

Gene: Hans_13 Start: 6198, Stop: 6524, Start Num: 24

Candidate Starts for Hans_13:

(Start: 24 @6198 has 42 MA's), (41, 6291), (42, 6297), (45, 6333), (47, 6390),

Gene: Hedwig_35 Start: 28932, Stop: 28639, Start Num: 24

Candidate Starts for Hedwig_35:

(Start: 24 @28932 has 42 MA's), (Start: 26 @28920 has 3 MA's), (32, 28896), (33, 28893), (36, 28881), (40, 28839), (41, 28836), (42, 28830), (44, 28818), (45, 28794), (47, 28737),

Gene: Hitter_38 Start: 30165, Stop: 29812, Start Num: 19

Candidate Starts for Hitter_38:

(Start: 19 @30165 has 7 MA's), (Start: 24 @30132 has 42 MA's), (Start: 26 @30120 has 3 MA's), (32, 30096), (33, 30093), (36, 30081), (37, 30069), (40, 30036), (41, 30033), (44, 30012), (45, 29988), (46, 29940), (47, 29934),

Gene: Holliday_42 Start: 30222, Stop: 29905, Start Num: 24

Candidate Starts for Holliday_42:

(1, 30888), (2, 30885), (3, 30861), (4, 30849), (5, 30807), (6, 30801), (9, 30609), (12, 30444), (13, 30435), (14, 30411), (Start: 24 @30222 has 42 MA's), (Start: 26 @30210 has 3 MA's), (32, 30186), (33, 30183), (36, 30171), (37, 30159), (40, 30126), (41, 30123), (44, 30105), (45, 30081), (46, 30033), (47, 30027),

Gene: Inspectinfecti_12 Start: 6720, Stop: 7040, Start Num: 24

Candidate Starts for Inspectinfecti_12:

(Start: 24 @6720 has 42 MA's), (41, 6810), (42, 6816), (45, 6852), (47, 6909),

Gene: JasperJr_35 Start: 30398, Stop: 30090, Start Num: 24

Candidate Starts for JasperJr_35:

(Start: 19 @30431 has 7 MA's), (Start: 24 @30398 has 42 MA's), (Start: 26 @30386 has 3 MA's), (32, 30362), (33, 30359), (36, 30347), (37, 30335), (40, 30302), (41, 30299), (44, 30278), (45, 30254), (46, 30206), (47, 30200),

Gene: Kamaru_38 Start: 29300, Stop: 28986, Start Num: 24

Candidate Starts for Kamaru_38:

(22, 29312), (23, 29303), (Start: 24 @29300 has 42 MA's), (Start: 26 @29288 has 3 MA's), (32, 29264), (33, 29261), (36, 29249), (40, 29204), (41, 29201), (44, 29183), (45, 29159), (46, 29111), (47, 29105),

Gene: Kenna_42 Start: 30558, Stop: 30241, Start Num: 24

Candidate Starts for Kenna_42:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (12, 30780), (13, 30771), (14, 30747), (Start: 24 @30558 has 42 MA's), (Start: 26 @30546 has 3 MA's), (32, 30522), (33, 30519), (36, 30507), (37, 30495), (40, 30462), (41, 30459), (44, 30441), (45, 30417), (46, 30369), (47, 30363),

Gene: Leonard_11 Start: 6315, Stop: 6635, Start Num: 24

Candidate Starts for Leonard_11:

(Start: 24 @6315 has 42 MA's), (41, 6405), (42, 6411), (45, 6447), (47, 6504),

Gene: Linetti_77 Start: 61689, Stop: 61372, Start Num: 20

Candidate Starts for Linetti_77:

(Start: 20 @61689 has 4 MA's), (47, 61476),

Gene: LitninMcQueen_37 Start: 29049, Stop: 28729, Start Num: 24

Candidate Starts for LitninMcQueen_37:

(22, 29061), (23, 29052), (Start: 24 @29049 has 42 MA's), (Start: 26 @29037 has 3 MA's), (32, 29013), (33, 29010), (36, 28998), (40, 28953), (41, 28950), (44, 28932), (45, 28908), (46, 28860), (47, 28854),

Gene: LittleMunchkin_81 Start: 61979, Stop: 61644, Start Num: 18

Candidate Starts for LittleMunchkin_81:

(Start: 18 @61979 has 6 MA's), (28, 61922), (40, 61856), (46, 61760), (47, 61754),

Gene: Lutum_43 Start: 30558, Stop: 30241, Start Num: 24

Candidate Starts for Lutum_43:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (12, 30780), (13, 30771), (14, 30747), (Start: 24 @30558 has 42 MA's), (Start: 26 @30546 has 3 MA's), (32, 30522), (33, 30519), (36, 30507), (37, 30495), (40, 30462), (41, 30459), (44, 30441), (45, 30417), (46, 30369), (47, 30363),

Gene: MelBins_11 Start: 6093, Stop: 6413, Start Num: 24

Candidate Starts for MelBins_11:

(15, 6012), (Start: 24 @6093 has 42 MA's), (41, 6183), (42, 6189), (45, 6225), (47, 6282),

Gene: Melba_36 Start: 30375, Stop: 30085, Start Num: 24

Candidate Starts for Melba_36:

(Start: 19 @30408 has 7 MA's), (Start: 24 @30375 has 42 MA's), (Start: 26 @30363 has 3 MA's), (29, 30351), (32, 30339), (33, 30336), (36, 30324), (37, 30312), (40, 30279), (41, 30276), (44, 30255), (45, 30231), (46, 30183), (47, 30177),

Gene: Mellie_34 Start: 28646, Stop: 28332, Start Num: 24

Candidate Starts for Mellie_34:

(Start: 19 @28679 has 7 MA's), (Start: 24 @28646 has 42 MA's), (Start: 26 @28634 has 3 MA's), (32, 28610), (33, 28607), (36, 28595), (37, 28583), (40, 28550), (41, 28547), (44, 28529), (45, 28505), (46, 28457), (47, 28451),

Gene: MintFen_37 Start: 30482, Stop: 30147, Start Num: 19

Candidate Starts for MintFen_37:

(Start: 19 @30482 has 7 MA's), (Start: 24 @30449 has 42 MA's), (Start: 26 @30437 has 3 MA's), (32, 30413), (33, 30410), (36, 30398), (37, 30386), (40, 30353), (41, 30350), (44, 30329), (45, 30305), (46, 30257), (47, 30251),

Gene: Natkenzie_9 Start: 5353, Stop: 5655, Start Num: 24

Candidate Starts for Natkenzie_9:

(Start: 24 @5353 has 42 MA's), (41, 5443), (45, 5485), (46, 5533), (47, 5539),

Gene: Obliviate_33 Start: 28822, Stop: 28514, Start Num: 24

Candidate Starts for Obliviate_33:

(Start: 19 @28855 has 7 MA's), (Start: 24 @28822 has 42 MA's), (Start: 26 @28810 has 3 MA's), (32, 28786), (33, 28783), (36, 28771), (37, 28759), (40, 28726), (41, 28723), (44, 28702), (45, 28678), (46, 28630), (47, 28624),

Gene: Patio_78 Start: 57925, Stop: 57620, Start Num: 19

Candidate Starts for Patio_78:

(Start: 19 @57925 has 7 MA's), (31, 57865), (47, 57727),

Gene: Periwinkle_46 Start: 32013, Stop: 31696, Start Num: 24

Candidate Starts for Periwinkle_46:

(22, 32025), (23, 32016), (Start: 24 @32013 has 42 MA's), (Start: 26 @32001 has 3 MA's), (32, 31977), (33, 31974), (40, 31917), (41, 31914), (45, 31872), (46, 31824), (47, 31818),

Gene: Phabuloso_40 Start: 30274, Stop: 29954, Start Num: 24

Candidate Starts for Phabuloso_40:

(1, 30940), (2, 30937), (3, 30913), (4, 30901), (9, 30661), (12, 30496), (13, 30487), (14, 30463), (Start: 24 @30274 has 42 MA's), (Start: 26 @30262 has 3 MA's), (32, 30238), (33, 30235), (36, 30223), (38, 30193), (40, 30178), (41, 30175), (45, 30133), (46, 30085), (47, 30079),

Gene: Phauci_4 Start: 2839, Stop: 3165, Start Num: 24

Candidate Starts for Phauci_4:

(Start: 24 @2839 has 42 MA's), (41, 2932), (42, 2938), (45, 2974), (47, 3031),

Gene: Phinally_11 Start: 6312, Stop: 6632, Start Num: 24

Candidate Starts for Phinally_11:

(Start: 24 @6312 has 42 MA's), (41, 6402), (42, 6408), (45, 6444), (47, 6501),

Gene: Phistory_43 Start: 30909, Stop: 30592, Start Num: 24

Candidate Starts for Phistory_43:

(1, 31575), (2, 31572), (3, 31548), (4, 31536), (5, 31494), (6, 31488), (9, 31296), (12, 31131), (13, 31122), (14, 31098), (Start: 24 @30909 has 42 MA's), (Start: 26 @30897 has 3 MA's), (32, 30873), (33, 30870), (36, 30858), (37, 30846), (40, 30813), (41, 30810), (44, 30792), (45, 30768), (46, 30720), (47, 30714),

Gene: PhrostedPhlake_40 Start: 30630, Stop: 30334, Start Num: 24

Candidate Starts for PhrostedPhlake_40:

(Start: 19 @30663 has 7 MA's), (Start: 24 @30630 has 42 MA's), (Start: 26 @30618 has 3 MA's), (32, 30594), (33, 30591), (36, 30579), (37, 30567), (40, 30534), (41, 30531), (44, 30510), (45, 30486), (46, 30438), (47, 30432),

Gene: PierreThree_76 Start: 61166, Stop: 60849, Start Num: 20

Candidate Starts for PierreThree_76:

(Start: 20 @61166 has 4 MA's), (47, 60953),

Gene: Pupper_204 Start: 140080, Stop: 140403, Start Num: 21
Candidate Starts for Pupper_204:
(Start: 21 @140080 has 4 MA's), (46, 140284), (47, 140290),

Gene: RayTheFireFly_41 Start: 30859, Stop: 30572, Start Num: 24
Candidate Starts for RayTheFireFly_41:
(22, 30871), (Start: 24 @30859 has 42 MA's), (Start: 26 @30847 has 3 MA's), (32, 30823), (33, 30820),
(36, 30808), (37, 30796), (40, 30763), (41, 30760), (43, 30742), (45, 30718), (46, 30670),

Gene: SCentae_203 Start: 140271, Stop: 140594, Start Num: 21
Candidate Starts for SCentae_203:
(Start: 21 @140271 has 4 MA's), (46, 140475), (47, 140481),

Gene: Sampson_9 Start: 5298, Stop: 5600, Start Num: 24
Candidate Starts for Sampson_9:
(Start: 24 @5298 has 42 MA's), (41, 5388), (45, 5430), (46, 5478), (47, 5484),

Gene: Scioto_9 Start: 5353, Stop: 5655, Start Num: 24
Candidate Starts for Scioto_9:
(Start: 24 @5353 has 42 MA's), (41, 5443), (45, 5485), (46, 5533), (47, 5539),

Gene: ShawBrad_43 Start: 30132, Stop: 29815, Start Num: 24
Candidate Starts for ShawBrad_43:
(1, 30798), (2, 30795), (3, 30771), (4, 30759), (5, 30717), (6, 30711), (9, 30519), (12, 30354), (13,
30345), (14, 30321), (Start: 24 @30132 has 42 MA's), (Start: 26 @30120 has 3 MA's), (32, 30096),
(33, 30093), (36, 30081), (37, 30069), (40, 30036), (41, 30033), (44, 30015), (45, 29991), (46, 29943),
(47, 29937),

Gene: Sisko_81 Start: 60938, Stop: 60591, Start Num: 18
Candidate Starts for Sisko_81:
(Start: 18 @60938 has 6 MA's), (28, 60881), (40, 60815), (46, 60719), (47, 60713),

Gene: Skog_33 Start: 15580, Stop: 15906, Start Num: 21
Candidate Starts for Skog_33:
(Start: 21 @15580 has 4 MA's), (46, 15784), (47, 15790),

Gene: Skysand_80 Start: 58588, Stop: 58283, Start Num: 19
Candidate Starts for Skysand_80:
(Start: 19 @58588 has 7 MA's), (31, 58528), (47, 58390),

Gene: Tardus_10 Start: 4552, Stop: 4857, Start Num: 24
Candidate Starts for Tardus_10:
(Start: 24 @4552 has 42 MA's), (41, 4645), (45, 4687), (46, 4735), (47, 4741),

Gene: UmaThurman_32 Start: 29419, Stop: 29123, Start Num: 26
Candidate Starts for UmaThurman_32:
(Start: 19 @29464 has 7 MA's), (Start: 24 @29431 has 42 MA's), (Start: 26 @29419 has 3 MA's), (32,
29395), (33, 29392), (36, 29380), (37, 29368), (40, 29335), (41, 29332), (44, 29311), (45, 29287), (46,
29239), (47, 29233),

Gene: ViaConlectus_9 Start: 5353, Stop: 5655, Start Num: 24
Candidate Starts for ViaConlectus_9:

(Start: 24 @5353 has 42 MA's), (41, 5443), (45, 5485), (46, 5533), (47, 5539),

Gene: Walrus_37 Start: 30012, Stop: 29710, Start Num: 26

Candidate Starts for Walrus_37:

(Start: 19 @30057 has 7 MA's), (Start: 24 @30024 has 42 MA's), (Start: 26 @30012 has 3 MA's), (29, 30000), (32, 29988), (33, 29985), (37, 29961), (40, 29928), (41, 29925), (44, 29907), (45, 29883), (46, 29835), (47, 29829),

Gene: Whitney_45 Start: 33551, Stop: 33234, Start Num: 24

Candidate Starts for Whitney_45:

(22, 33563), (23, 33554), (Start: 24 @33551 has 42 MA's), (Start: 26 @33539 has 3 MA's), (32, 33515), (33, 33512), (40, 33455), (41, 33452), (44, 33434), (45, 33410), (46, 33362), (47, 33356),

Gene: Yago84_80 Start: 60646, Stop: 60299, Start Num: 18

Candidate Starts for Yago84_80:

(Start: 18 @60646 has 6 MA's), (28, 60589), (40, 60523), (46, 60427), (47, 60421),

Gene: Zarbodnamra_36 Start: 29888, Stop: 29547, Start Num: 19

Candidate Starts for Zarbodnamra_36:

(Start: 19 @29888 has 7 MA's), (Start: 24 @29855 has 42 MA's), (Start: 26 @29843 has 3 MA's), (29, 29831), (32, 29819), (33, 29816), (36, 29804), (37, 29792), (40, 29759), (41, 29756), (45, 29711), (46, 29663), (47, 29657),

Gene: Zitch_10 Start: 5089, Stop: 5394, Start Num: 24

Candidate Starts for Zitch_10:

(16, 5026), (17, 5044), (Start: 24 @5089 has 42 MA's), (41, 5182), (45, 5224), (46, 5272), (47, 5278),