

Pham 283863



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 283863 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283863 has 55 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Dori_51
- Track 2 : Blueberry_46, Gambino_49, Azula_47, MissRona_47
- Track 3 : Fenry_43
- Track 4 : Jalammah_48
- Track 5 : Mellie_43
- Track 6 : Utz_39, Samba_44
- Track 7 : ZiggyZoo_46
- Track 8 : Wocket_45
- Track 9 : CarolAnn_48, Blino_49
- Track 10 : Murp_47
- Track 11 : Malachai_44, Begonia_44
- Track 12 : KappaFarmDelta_46
- Track 13 : Wisp_43
- Track 14 : Wrigley_52
- Track 15 : Pepperoni_38
- Track 16 : Madavieve_43
- Track 17 : Dolores_48, WinkNick_49
- Track 18 : Oregano_48, Annalisa_45
- Track 19 : PhriskyACE_45
- Track 20 : Faith5x5_37
- Track 21 : YungMoney_53
- Track 22 : Clown_59
- Track 23 : PhorbesPhlower_43
- Track 24 : MortyNRick_52
- Track 25 : Phistory_58
- Track 26 : Kuwabara_52
- Track 27 : LastJedi_41, LordVader_44
- Track 28 : Firehouse51_47, DosHalletts_47
- Track 29 : Girafales_56
- Track 30 : Florinda_57, Quico_55
- Track 31 : Squirty_40, Donkeykong_46, Jennelsea_44, Zizzle_51, Brocalys_43, Pippy_45, Clifton_42
- Track 32 : Aegeus_91, Baudelaire_91
- Track 33 : BigNuz_37, Nazo_38
- Track 34 : Phayonce_36
- Track 35 : Purky_41
- Track 36 : P1201_08

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

The start number called the most often in the published annotations is 36, it was called in 17 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Azula_47, Begonia_44, Blino_49, Blueberry_46, CarolAnn_48, Fenry_43, Gambino_49, Jalammah_48, KappaFarmDelta_46, Malachai_44, Mellie_43, MissRona_47, Murp_47, Samba_44, Utz_39, Wisp_43, Wocket_45, ZiggyZoo_46,

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

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

- Aegeus_91, Annalisa_45, Baudelaire_91, BigNuz_37, Brocalys_43, Clifton_42, Clown_59, Dolores_48, Donkeykong_46, Dori_51, DosHalletts_47, Faith5x5_37, Firehouse51_47, Florinda_57, Girafales_56, Jennelsea_44, Kuwabara_52, LastJedi_41, LordVader_44, Madavieve_43, MortyNRick_52, Nazo_38, Oregano_48, P1201_08, Pepperoni_38, Phayonce_36, Phistory_58, PhorbesPhlower_43, PhriskyACE_45, Pippy_45, Purky_41, Quico_55, Squirty_40, WinkNick_49, Wrigley_52, YungMoney_53, Zizzle_51,

Summary by start number:

Start 22:

- Found in 1 of 55 (1.8%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: P1201_08 (singleton),

Start 24:

- Found in 1 of 55 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kuwabara_52 (DN4),

Start 28:

- Found in 4 of 55 (7.3%) of genes in pham
- Manual Annotations of this start: 4 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigNuz_37 (P4), Nazo_38 (P4), Phayonce_36 (P5), Purky_41 (P6),

Start 30:

- Found in 9 of 55 (16.4%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 22.2% of time when present
- Phage (with cluster) where this start called: LastJedi_41 (F1), LordVader_44 (F),

Start 32:

- Found in 15 of 55 (27.3%) of genes in pham
- Manual Annotations of this start: 12 of 48
- Called 86.7% of time when present
- Phage (with cluster) where this start called: Brocalys_43 (F1), Clifton_42 (F1), Donkeykong_46 (F1), Dori_51 (AD), DosHalletts_47 (F1), Firehouse51_47 (F1), Florinda_57 (F1), Girafales_56 (F1), Jennelsea_44 (F1), Pippy_45 (F1), Quico_55 (F1), Squirty_40 (F3), Zizzle_51 (F1),

Start 33:

- Found in 13 of 55 (23.6%) of genes in pham
- Manual Annotations of this start: 7 of 48
- Called 69.2% of time when present
- Phage (with cluster) where this start called: Annalisa_45 (CZ4), Dolores_48 (CZ4), Faith5x5_37 (CZ6), Madavieve_43 (CZ1), Oregano_48 (CZ4), PhorbesPhlower_43 (DH), PhriskyACE_45 (CZ4), WinkNick_49 (CZ4), Wrigley_52 (CY4),

Start 34:

- Found in 1 of 55 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phistory_58 (DN1),

Start 35:

- Found in 1 of 55 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: YungMoney_53 (DC1),

Start 36:

- Found in 18 of 55 (32.7%) of genes in pham
- Manual Annotations of this start: 17 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azula_47 (CV), Begonia_44 (CV), Blino_49 (CV), Blueberry_46 (CV), CarolAnn_48 (CV), Fenry_43 (CV), Gambino_49 (CV), Jalammah_48 (CV), KappaFarmDelta_46 (CV), Malachai_44 (CV), Mellie_43 (CV), MissRona_47 (CV), Murp_47 (CV), Samba_44 (CV), Utz_39 (CV), Wisp_43 (CV), Wocket_45 (CV), ZiggyZoo_46 (CV),

Start 37:

- Found in 1 of 55 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Clown_59 (DC2),

Start 39:

- Found in 2 of 55 (3.6%) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus_91 (L5), Baudelaire_91 (L5),

Start 40:

- Found in 16 of 55 (29.1%) of genes in pham

- No Manual Annotations of this start.
- Called 6.2% of time when present
- Phage (with cluster) where this start called: Pepperoni_38 (CZ),

Start 46:

- Found in 23 of 55 (41.8%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 4.3% of time when present
- Phage (with cluster) where this start called: MortyNRick_52 (DN),

Summary by clusters:

There are 21 clusters represented in this pham: DN, F1, F, F3, P6, AD, DH, CY4, P4, P5, CZ6, singleton, CZ4, CZ, L5, DN1, CZ1, DN4, DC2, CV, DC1,

Info for manual annotations of cluster AD:

- Start number 32 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster CV:

- Start number 36 was manually annotated 17 times for cluster CV.

Info for manual annotations of cluster CY4:

- Start number 33 was manually annotated 1 time for cluster CY4.

Info for manual annotations of cluster CZ4:

- Start number 33 was manually annotated 4 times for cluster CZ4.

Info for manual annotations of cluster CZ6:

- Start number 33 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DC1:

- Start number 35 was manually annotated 1 time for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 37 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DH:

- Start number 33 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN:

- Start number 46 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 34 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN4:

- Start number 24 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster F1:

- Start number 30 was manually annotated 1 time for cluster F1.

- Start number 32 was manually annotated 10 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 32 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster L5:

- Start number 39 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster P4:

- Start number 28 was manually annotated 2 times for cluster P4.

Info for manual annotations of cluster P5:

- Start number 28 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 28 was manually annotated 1 time for cluster P6.

Gene Information:

Gene: Aegeus_91 Start: 56094, Stop: 56897, Start Num: 39

Candidate Starts for Aegeus_91:

(Start: 39 @56094 has 2 MA's), (43, 56127), (45, 56136), (48, 56169), (49, 56175), (51, 56187), (57, 56208), (79, 56373), (80, 56376), (86, 56457), (101, 56595), (108, 56655), (111, 56670), (113, 56709), (121, 56757), (140, 56877),

Gene: Annalisa_45 Start: 33306, Stop: 34055, Start Num: 33

Candidate Starts for Annalisa_45:

(17, 33153), (26, 33261), (Start: 33 @33306 has 7 MA's), (41, 33336), (43, 33363), (45, 33372), (65, 33489), (69, 33516), (73, 33540), (76, 33555), (77, 33585), (88, 33675), (89, 33678), (113, 33900),

Gene: Azula_47 Start: 35195, Stop: 35956, Start Num: 36

Candidate Starts for Azula_47:

(Start: 36 @35195 has 17 MA's), (41, 35210), (56, 35312), (59, 35345), (69, 35390), (72, 35399), (73, 35414), (79, 35483), (92, 35579), (101, 35669), (123, 35861),

Gene: Baudelaire_91 Start: 56094, Stop: 56897, Start Num: 39

Candidate Starts for Baudelaire_91:

(Start: 39 @56094 has 2 MA's), (43, 56127), (45, 56136), (48, 56169), (49, 56175), (51, 56187), (57, 56208), (79, 56373), (80, 56376), (86, 56457), (101, 56595), (108, 56655), (111, 56670), (113, 56709), (121, 56757), (140, 56877),

Gene: Begonia_44 Start: 35305, Stop: 36069, Start Num: 36

Candidate Starts for Begonia_44:

(12, 35065), (15, 35119), (20, 35164), (25, 35230), (Start: 36 @35305 has 17 MA's), (41, 35320), (Start: 46 @35359 has 1 MA's), (54, 35416), (67, 35494), (71, 35506), (73, 35527), (79, 35596), (92, 35692), (101, 35782), (123, 35974),

Gene: BigNuz_37 Start: 30064, Stop: 30867, Start Num: 28

Candidate Starts for BigNuz_37:

(Start: 28 @30064 has 4 MA's), (Start: 46 @30166 has 1 MA's), (49, 30202), (79, 30394), (90, 30490), (100, 30574), (106, 30640), (107, 30643), (110, 30667), (117, 30721), (122, 30760), (123, 30781),

(124, 30784), (138, 30853),

Gene: Blino_49 Start: 38491, Stop: 39252, Start Num: 36

Candidate Starts for Blino_49:

(25, 38416), (Start: 36 @38491 has 17 MA's), (41, 38506), (45, 38542), (55, 38605), (57, 38617), (66, 38659), (69, 38686), (79, 38779), (92, 38875), (101, 38965), (123, 39157),

Gene: Blueberry_46 Start: 35195, Stop: 35956, Start Num: 36

Candidate Starts for Blueberry_46:

(Start: 36 @35195 has 17 MA's), (41, 35210), (56, 35312), (59, 35345), (69, 35390), (72, 35399), (73, 35414), (79, 35483), (92, 35579), (101, 35669), (123, 35861),

Gene: Brocalys_43 Start: 31207, Stop: 31986, Start Num: 32

Candidate Starts for Brocalys_43:

(Start: 30 @31177 has 1 MA's), (Start: 32 @31207 has 12 MA's), (40, 31231), (41, 31234), (45, 31270), (Start: 46 @31273 has 1 MA's), (50, 31318), (72, 31426), (73, 31441), (79, 31510), (81, 31558), (100, 31675), (104, 31726), (114, 31822), (128, 31927), (130, 31933), (139, 31975), (141, 31981),

Gene: CarolAnn_48 Start: 38490, Stop: 39251, Start Num: 36

Candidate Starts for CarolAnn_48:

(25, 38415), (Start: 36 @38490 has 17 MA's), (41, 38505), (45, 38541), (55, 38604), (57, 38616), (66, 38658), (69, 38685), (79, 38778), (92, 38874), (101, 38964), (123, 39156),

Gene: Clifton_42 Start: 31558, Stop: 32337, Start Num: 32

Candidate Starts for Clifton_42:

(Start: 30 @31528 has 1 MA's), (Start: 32 @31558 has 12 MA's), (40, 31582), (41, 31585), (45, 31621), (Start: 46 @31624 has 1 MA's), (50, 31669), (72, 31777), (73, 31792), (79, 31861), (81, 31909), (100, 32026), (104, 32077), (114, 32173), (128, 32278), (130, 32284), (139, 32326), (141, 32332),

Gene: Clown_59 Start: 43467, Stop: 44249, Start Num: 37

Candidate Starts for Clown_59:

(11, 43209), (13, 43230), (21, 43341), (29, 43410), (Start: 37 @43467 has 1 MA's), (45, 43518), (50, 43566), (59, 43611), (67, 43656), (71, 43668), (73, 43689), (75, 43701), (84, 43833), (85, 43836), (94, 43908), (102, 44004), (110, 44055), (112, 44076), (115, 44103), (118, 44118), (125, 44178), (132, 44214),

Gene: Dolores_48 Start: 34386, Stop: 35135, Start Num: 33

Candidate Starts for Dolores_48:

(1, 33747), (2, 33801), (3, 33834), (4, 33873), (5, 33894), (6, 33927), (7, 33939), (8, 34062), (9, 34083), (16, 34230), (Start: 33 @34386 has 7 MA's), (41, 34416), (43, 34443), (45, 34452), (65, 34569), (69, 34596), (73, 34620), (76, 34635), (77, 34665), (88, 34755), (89, 34758), (113, 34980),

Gene: Donkeykong_46 Start: 35576, Stop: 36355, Start Num: 32

Candidate Starts for Donkeykong_46:

(Start: 30 @35546 has 1 MA's), (Start: 32 @35576 has 12 MA's), (40, 35600), (41, 35603), (45, 35639), (Start: 46 @35642 has 1 MA's), (50, 35687), (72, 35795), (73, 35810), (79, 35879), (81, 35927), (100, 36044), (104, 36095), (114, 36191), (128, 36296), (130, 36302), (139, 36344), (141, 36350),

Gene: Dori_51 Start: 44920, Stop: 45693, Start Num: 32

Candidate Starts for Dori_51:

(Start: 32 @44920 has 12 MA's), (40, 44941), (45, 44980), (Start: 46 @44983 has 1 MA's), (69, 45124), (72, 45133), (73, 45148), (79, 45217), (81, 45265), (100, 45382), (104, 45433), (114, 45529), (128, 45634), (130, 45640), (139, 45682), (141, 45688),

Gene: DosHalletts_47 Start: 34853, Stop: 35650, Start Num: 32

Candidate Starts for DosHalletts_47:

(Start: 32 @34853 has 12 MA's), (41, 34895), (45, 34931), (Start: 46 @34934 has 1 MA's), (52, 34988), (72, 35090), (73, 35105), (79, 35174), (81, 35222), (100, 35339), (104, 35390), (114, 35486), (128, 35591), (130, 35597), (139, 35639), (141, 35645),

Gene: Faith5x5_37 Start: 28702, Stop: 29454, Start Num: 33

Candidate Starts for Faith5x5_37:

(26, 28657), (Start: 33 @28702 has 7 MA's), (40, 28729), (50, 28816), (53, 28825), (69, 28915), (72, 28924), (73, 28939), (75, 28951), (88, 29074), (89, 29077), (101, 29197), (113, 29299),

Gene: Fenry_43 Start: 34202, Stop: 34963, Start Num: 36

Candidate Starts for Fenry_43:

(14, 33998), (25, 34127), (Start: 36 @34202 has 17 MA's), (41, 34217), (55, 34316), (57, 34328), (66, 34370), (69, 34397), (79, 34490), (92, 34586), (101, 34676), (109, 34742), (123, 34868),

Gene: Firehouse51_47 Start: 36491, Stop: 37288, Start Num: 32

Candidate Starts for Firehouse51_47:

(Start: 32 @36491 has 12 MA's), (41, 36533), (45, 36569), (Start: 46 @36572 has 1 MA's), (52, 36626), (72, 36728), (73, 36743), (79, 36812), (81, 36860), (100, 36977), (104, 37028), (114, 37124), (128, 37229), (130, 37235), (139, 37277), (141, 37283),

Gene: Florinda_57 Start: 36157, Stop: 36951, Start Num: 32

Candidate Starts for Florinda_57:

(Start: 32 @36157 has 12 MA's), (41, 36199), (45, 36235), (Start: 46 @36238 has 1 MA's), (49, 36274), (60, 36334), (72, 36391), (73, 36406), (79, 36475), (81, 36523), (100, 36640), (104, 36691), (114, 36787), (128, 36892), (130, 36898), (139, 36940), (141, 36946),

Gene: Gambino_49 Start: 35195, Stop: 35956, Start Num: 36

Candidate Starts for Gambino_49:

(Start: 36 @35195 has 17 MA's), (41, 35210), (56, 35312), (59, 35345), (69, 35390), (72, 35399), (73, 35414), (79, 35483), (92, 35579), (101, 35669), (123, 35861),

Gene: Girafales_56 Start: 35966, Stop: 36760, Start Num: 32

Candidate Starts for Girafales_56:

(Start: 32 @35966 has 12 MA's), (41, 36008), (45, 36044), (Start: 46 @36047 has 1 MA's), (50, 36092), (72, 36200), (73, 36215), (74, 36224), (79, 36284), (81, 36332), (100, 36449), (104, 36500), (114, 36596), (128, 36701), (130, 36707), (139, 36749), (141, 36755),

Gene: Jalammah_48 Start: 35515, Stop: 36279, Start Num: 36

Candidate Starts for Jalammah_48:

(14, 35311), (25, 35440), (Start: 36 @35515 has 17 MA's), (50, 35614), (54, 35626), (67, 35704), (71, 35716), (73, 35737), (74, 35746), (79, 35806), (92, 35902), (101, 35992), (123, 36184),

Gene: Jennelsea_44 Start: 32861, Stop: 33640, Start Num: 32

Candidate Starts for Jennelsea_44:

(Start: 30 @32831 has 1 MA's), (Start: 32 @32861 has 12 MA's), (40, 32885), (41, 32888), (45, 32924), (Start: 46 @32927 has 1 MA's), (50, 32972), (72, 33080), (73, 33095), (79, 33164), (81, 33212), (100, 33329), (104, 33380), (114, 33476), (128, 33581), (130, 33587), (139, 33629), (141, 33635),

Gene: KappaFarmDelta_46 Start: 33140, Stop: 33901, Start Num: 36

Candidate Starts for KappaFarmDelta_46:

(14, 32939), (25, 33065), (Start: 36 @33140 has 17 MA's), (41, 33155), (55, 33254), (57, 33266), (66, 33308), (69, 33335), (78, 33416), (79, 33428), (92, 33524), (101, 33614), (109, 33680), (123, 33806),

Gene: Kuwabara_52 Start: 36557, Stop: 37444, Start Num: 24

Candidate Starts for Kuwabara_52:

(18, 36500), (19, 36503), (Start: 24 @36557 has 1 MA's), (31, 36629), (Start: 33 @36644 has 7 MA's), (41, 36671), (42, 36695), (69, 36854), (73, 36878), (82, 37013), (89, 37037), (98, 37109), (100, 37130), (104, 37181), (126, 37367), (127, 37370),

Gene: LastJedi_41 Start: 31571, Stop: 32380, Start Num: 30

Candidate Starts for LastJedi_41:

(Start: 30 @31571 has 1 MA's), (Start: 32 @31601 has 12 MA's), (40, 31625), (41, 31628), (45, 31664), (Start: 46 @31667 has 1 MA's), (50, 31712), (72, 31820), (73, 31835), (79, 31904), (81, 31952), (100, 32069), (104, 32120), (114, 32216), (128, 32321), (130, 32327), (139, 32369), (141, 32375),

Gene: LordVader_44 Start: 30174, Stop: 30983, Start Num: 30

Candidate Starts for LordVader_44:

(Start: 30 @30174 has 1 MA's), (Start: 32 @30204 has 12 MA's), (40, 30228), (41, 30231), (45, 30267), (Start: 46 @30270 has 1 MA's), (50, 30315), (72, 30423), (73, 30438), (79, 30507), (81, 30555), (100, 30672), (104, 30723), (114, 30819), (128, 30924), (130, 30930), (139, 30972), (141, 30978),

Gene: Madavieve_43 Start: 34739, Stop: 35503, Start Num: 33

Candidate Starts for Madavieve_43:

(Start: 33 @34739 has 7 MA's), (40, 34766), (41, 34769), (43, 34796), (45, 34805), (55, 34868), (57, 34880), (64, 34922), (69, 34949), (79, 35042), (83, 35096), (97, 35189), (100, 35210), (101, 35234), (102, 35252), (105, 35273), (106, 35276), (107, 35279), (110, 35303), (116, 35354), (117, 35357), (123, 35417), (131, 35453), (135, 35474),

Gene: Malachai_44 Start: 35305, Stop: 36069, Start Num: 36

Candidate Starts for Malachai_44:

(12, 35065), (15, 35119), (20, 35164), (25, 35230), (Start: 36 @35305 has 17 MA's), (41, 35320), (Start: 46 @35359 has 1 MA's), (54, 35416), (67, 35494), (71, 35506), (73, 35527), (79, 35596), (92, 35692), (101, 35782), (123, 35974),

Gene: Mellie_43 Start: 33024, Stop: 33788, Start Num: 36

Candidate Starts for Mellie_43:

(10, 32739), (15, 32838), (25, 32949), (Start: 36 @33024 has 17 MA's), (50, 33123), (72, 33231), (73, 33246), (79, 33315), (92, 33411), (101, 33501), (102, 33519), (123, 33693),

Gene: MissRona_47 Start: 35196, Stop: 35957, Start Num: 36

Candidate Starts for MissRona_47:

(Start: 36 @35196 has 17 MA's), (41, 35211), (56, 35313), (59, 35346), (69, 35391), (72, 35400), (73, 35415), (79, 35484), (92, 35580), (101, 35670), (123, 35862),

Gene: MortyNRick_52 Start: 37928, Stop: 38608, Start Num: 46

Candidate Starts for MortyNRick_52:

(Start: 33 @37859 has 7 MA's), (45, 37925), (Start: 46 @37928 has 1 MA's), (50, 37973), (59, 38024), (64, 38042), (73, 38093), (89, 38231), (99, 38309), (113, 38453), (128, 38546),

Gene: Murp_47 Start: 36766, Stop: 37527, Start Num: 36

Candidate Starts for Murp_47:

(25, 36691), (Start: 36 @36766 has 17 MA's), (41, 36781), (55, 36880), (57, 36892), (66, 36934), (69, 36961), (78, 37042), (79, 37054), (92, 37150), (101, 37240), (109, 37306), (123, 37432),

Gene: Nazo_38 Start: 30066, Stop: 30869, Start Num: 28

Candidate Starts for Nazo_38:

(Start: 28 @30066 has 4 MA's), (Start: 46 @30168 has 1 MA's), (49, 30204), (79, 30396), (90, 30492), (100, 30576), (106, 30642), (107, 30645), (110, 30669), (117, 30723), (122, 30762), (123, 30783), (124, 30786), (138, 30855),

Gene: Oregano_48 Start: 33939, Stop: 34688, Start Num: 33

Candidate Starts for Oregano_48:

(17, 33786), (26, 33894), (Start: 33 @33939 has 7 MA's), (41, 33969), (43, 33996), (45, 34005), (65, 34122), (69, 34149), (73, 34173), (76, 34188), (77, 34218), (88, 34308), (89, 34311), (113, 34533),

Gene: P1201_08 Start: 2597, Stop: 3520, Start Num: 22

Candidate Starts for P1201_08:

(22, 2597), (23, 2600), (27, 2642), (Start: 33 @2690 has 7 MA's), (45, 2765), (49, 2804), (51, 2816), (63, 2882), (70, 2924), (74, 2957), (79, 3017), (96, 3185), (103, 3263), (119, 3398), (129, 3473), (136, 3509), (137, 3512),

Gene: Pepperoni_38 Start: 29786, Stop: 30508, Start Num: 40

Candidate Starts for Pepperoni_38:

(Start: 33 @29759 has 7 MA's), (40, 29786), (41, 29789), (Start: 46 @29828 has 1 MA's), (50, 29873), (59, 29924), (64, 29942), (73, 29993), (89, 30131), (95, 30182), (113, 30353),

Gene: Phayonce_36 Start: 29962, Stop: 30771, Start Num: 28

Candidate Starts for Phayonce_36:

(Start: 28 @29962 has 4 MA's), (43, 30052), (44, 30058), (79, 30298), (90, 30394), (100, 30478), (106, 30544), (107, 30547), (110, 30571), (122, 30664), (123, 30685), (138, 30757),

Gene: Phistory_58 Start: 36964, Stop: 37761, Start Num: 34

Candidate Starts for Phistory_58:

(Start: 34 @36964 has 1 MA's), (41, 36991), (50, 37075), (58, 37111), (61, 37132), (62, 37138), (68, 37192), (73, 37219), (79, 37288), (87, 37357), (92, 37390), (120, 37633), (123, 37675), (133, 37720),

Gene: PhorbesPhlower_43 Start: 29950, Stop: 30699, Start Num: 33

Candidate Starts for PhorbesPhlower_43:

(Start: 33 @29950 has 7 MA's), (40, 29977), (41, 29980), (Start: 46 @30019 has 1 MA's), (50, 30064), (59, 30115), (64, 30133), (73, 30184), (89, 30322), (95, 30373), (113, 30544),

Gene: PhriskyACE_45 Start: 34290, Stop: 35057, Start Num: 33

Candidate Starts for PhriskyACE_45:

(Start: 33 @34290 has 7 MA's), (40, 34317), (41, 34320), (43, 34347), (50, 34404), (56, 34422), (72, 34512), (73, 34527), (75, 34539), (83, 34650), (100, 34764), (101, 34788), (102, 34806), (105, 34827), (106, 34830), (107, 34833), (110, 34857), (116, 34908), (117, 34911),

Gene: Pippy_45 Start: 33164, Stop: 33943, Start Num: 32

Candidate Starts for Pippy_45:

(Start: 30 @33134 has 1 MA's), (Start: 32 @33164 has 12 MA's), (40, 33188), (41, 33191), (45, 33227), (Start: 46 @33230 has 1 MA's), (50, 33275), (72, 33383), (73, 33398), (79, 33467), (81, 33515), (100, 33632), (104, 33683), (114, 33779), (128, 33884), (130, 33890), (139, 33932), (141, 33938),

Gene: Purky_41 Start: 30689, Stop: 31480, Start Num: 28

Candidate Starts for Purky_41:

(Start: 28 @30689 has 4 MA's), (Start: 46 @30788 has 1 MA's), (49, 30824), (69, 30923), (79, 31016), (100, 31196), (102, 31238), (106, 31262), (107, 31265), (110, 31289), (116, 31340), (117, 31343), (122, 31382), (123, 31403), (134, 31454),

Gene: Quico_55 Start: 35977, Stop: 36771, Start Num: 32

Candidate Starts for Quico_55:

(Start: 32 @35977 has 12 MA's), (41, 36019), (45, 36055), (Start: 46 @36058 has 1 MA's), (49, 36094), (60, 36154), (72, 36211), (73, 36226), (79, 36295), (81, 36343), (100, 36460), (104, 36511), (114, 36607), (128, 36712), (130, 36718), (139, 36760), (141, 36766),

Gene: Samba_44 Start: 35414, Stop: 36175, Start Num: 36

Candidate Starts for Samba_44:

(15, 35228), (25, 35339), (Start: 36 @35414 has 17 MA's), (41, 35429), (47, 35492), (59, 35564), (69, 35609), (72, 35618), (73, 35633), (79, 35702), (92, 35798), (101, 35888), (123, 36080),

Gene: Squirty_40 Start: 32337, Stop: 33116, Start Num: 32

Candidate Starts for Squirty_40:

(Start: 30 @32307 has 1 MA's), (Start: 32 @32337 has 12 MA's), (40, 32361), (41, 32364), (45, 32400), (Start: 46 @32403 has 1 MA's), (50, 32448), (72, 32556), (73, 32571), (79, 32640), (81, 32688), (100, 32805), (104, 32856), (114, 32952), (128, 33057), (130, 33063), (139, 33105), (141, 33111),

Gene: Utz_39 Start: 34104, Stop: 34865, Start Num: 36

Candidate Starts for Utz_39:

(15, 33918), (25, 34029), (Start: 36 @34104 has 17 MA's), (41, 34119), (47, 34182), (59, 34254), (69, 34299), (72, 34308), (73, 34323), (79, 34392), (92, 34488), (101, 34578), (123, 34770),

Gene: WinkNick_49 Start: 34309, Stop: 35058, Start Num: 33

Candidate Starts for WinkNick_49:

(1, 33670), (2, 33724), (3, 33757), (4, 33796), (5, 33817), (6, 33850), (7, 33862), (8, 33985), (9, 34006), (16, 34153), (Start: 33 @34309 has 7 MA's), (41, 34339), (43, 34366), (45, 34375), (65, 34492), (69, 34519), (73, 34543), (76, 34558), (77, 34588), (88, 34678), (89, 34681), (113, 34903),

Gene: Wisp_43 Start: 34155, Stop: 34916, Start Num: 36

Candidate Starts for Wisp_43:

(12, 33915), (15, 33969), (25, 34080), (Start: 36 @34155 has 17 MA's), (41, 34170), (55, 34269), (57, 34281), (66, 34323), (69, 34350), (79, 34443), (92, 34539), (101, 34629), (123, 34821), (133, 34866),

Gene: Wocket_45 Start: 33305, Stop: 34066, Start Num: 36

Candidate Starts for Wocket_45:

(14, 33104), (25, 33230), (Start: 36 @33305 has 17 MA's), (41, 33320), (55, 33419), (57, 33431), (66, 33473), (69, 33500), (78, 33581), (79, 33593), (92, 33689), (101, 33779), (109, 33845), (123, 33971), (133, 34016),

Gene: Wrigley_52 Start: 36935, Stop: 37699, Start Num: 33

Candidate Starts for Wrigley_52:

(Start: 33 @36935 has 7 MA's), (40, 36962), (41, 36965), (45, 37001), (55, 37064), (57, 37076), (64, 37118), (69, 37145), (79, 37238), (83, 37292), (100, 37406), (101, 37430), (102, 37448), (105, 37469), (106, 37472), (107, 37475), (110, 37499), (116, 37550), (117, 37553), (123, 37613),

Gene: YungMoney_53 Start: 42952, Stop: 43722, Start Num: 35

Candidate Starts for YungMoney_53:

(Start: 35 @42952 has 1 MA's), (38, 42964), (41, 42976), (50, 43057), (67, 43147), (71, 43159), (73, 43180), (74, 43189), (79, 43249), (84, 43321), (91, 43342), (93, 43369), (102, 43465), (110, 43516),

(112, 43537), (115, 43564), (118, 43579), (136, 43699),

Gene: ZiggyZoo_46 Start: 35375, Stop: 36136, Start Num: 36

Candidate Starts for ZiggyZoo_46:

(10, 35090), (15, 35189), (Start: 36 @35375 has 17 MA's), (41, 35390), (55, 35489), (57, 35501), (66, 35543), (69, 35570), (79, 35663), (92, 35759), (101, 35849), (123, 36041),

Gene: Zizzle_51 Start: 36006, Stop: 36785, Start Num: 32

Candidate Starts for Zizzle_51:

(Start: 30 @35976 has 1 MA's), (Start: 32 @36006 has 12 MA's), (40, 36030), (41, 36033), (45, 36069), (Start: 46 @36072 has 1 MA's), (50, 36117), (72, 36225), (73, 36240), (79, 36309), (81, 36357), (100, 36474), (104, 36525), (114, 36621), (128, 36726), (130, 36732), (139, 36774), (141, 36780),