

Pham 196533



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 196533 Report

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

Pham number 196533 has 65 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Homines_52
- Track 2 : Fushigi_74
- Track 3 : Tonenili_51
- Track 4 : ScoobyDoobyDoo_3
- Track 5 : Blarby_62
- Track 6 : PHappiness_47, Blexus_49, Poenanya_50, BlueCrab_48, Sandalphon_53, Stap_50, Nimbo_46, Polka14_48, Deb65_47, IbOuu_53, RockyHorror_51, Leperchaun_44, Spikelee_57, Radiance_51, DaWorst_52, Doug_53, Oksu_55, Boomer_53, Pacc40_46, PMC_45, Daenerys_46, JoeyJr_47, Rockne_49, Empress_50, KingMidas_51, Zerg_50, Spoonbill_49, Phasih_48, Doomphist_50, Geralt_47, RitaG_47, OldBen_49, BodEinwohner17_52, Scottish_50
- Track 7 : Florinda_63, Quico_60
- Track 8 : IrishSherpFalk_82, WillSterrel_81, Spartacus_88
- Track 9 : Gandalph_52
- Track 10 : EleanorGeorge_84
- Track 11 : Pollywog_51
- Track 12 : Eish_52
- Track 13 : OlympiaSaint_51
- Track 14 : DeadP_56, Wee_53, Renaud18_56, Taj_54
- Track 15 : Job42_51
- Track 16 : Ramsey_52
- Track 17 : Filuzino_81
- Track 18 : ShroomBoi_53
- Track 19 : OwlsT2W_50
- Track 20 : Estave1_51
- Track 21 : Demsculpinboyz_60, Che9d_57
- Track 22 : Squirty_54
- Track 23 : Cornie_84
- Track 24 : Cornie_44
- Track 25 : Kumao_60

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

The start number called the most often in the published annotations is 28, it was called in 48 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Blexus_49, BlueCrab_48, BodEinwohner17_52, Boomer_53, Che9d_57, Cornie_84, DaWorst_52, Daenerys_46, Deb65_47, Demsculpinboyz_60, Doomphist_50, Doug_53, Empress_50, Filuzino_81, Fushigi_74, Gandalph_52, Geralt_47, Homines_52, IbOuu_53, IrishSherpFalk_82, Job42_51, JoeyJr_47, KingMidas_51, Kumao_60, Leperchaun_44, Nimbo_46, Oksu_55, OldBen_49, OlympiaSaint_51, OwlsT2W_50, PHappiness_47, PMC_45, Pacc40_46, Phasih_48, Poenanya_50, Polka14_48, Pollywog_51, Radiance_51, RitaG_47, Rockne_49, RockyHorror_51, Sandalphon_53, ScoobyDoobyDoo_3, Scottish_50, Spartacus_88, Spikelee_57, Spoonbill_49, Stap_50, WillSterrel_81, Zerg_50,

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

- EleanorGeorge_84,

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

- Blarby_62, Cornie_44, DeadP_56, Eish_52, Estave1_51, Florinda_63, Quico_60, Ramsey_52, Renaud18_56, ShroomBoi_53, Squirty_54, Taj_54, Tonenili_51, Wee_53,

Summary by start number:

Start 11:

- Found in 6 of 65 (9.2%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Blarby_62 (F),

Start 16:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Florinda_63 (F1), Quico_60 (F1),

Start 17:

- Found in 8 of 65 (12.3%) of genes in pham
- Manual Annotations of this start: 5 of 62
- Called 62.5% of time when present
- Phage (with cluster) where this start called: DeadP_56 (F1), Estave1_51 (F1), Renaud18_56 (F4), Taj_54 (F1), Wee_53 (F1),

Start 20:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: EleanorGeorge_84 (F1),

Start 23:

- Found in 2 of 65 (3.1%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Eish_52 (F1), Ramsey_52 (F1),

Start 24:

- Found in 1 of 65 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cornie_44 (F5),

Start 25:

- Found in 1 of 65 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ShroomBoi_53 (F1),

Start 28:

- Found in 51 of 65 (78.5%) of genes in pham
- Manual Annotations of this start: 48 of 62
- Called 98.0% of time when present
- Phage (with cluster) where this start called: Blexus_49 (F1), BlueCrab_48 (F1), BodEinwohner17_52 (F1), Boomer_53 (F1), Che9d_57 (F2), Cornie_84 (F5), DaWorst_52 (F1), Daenerys_46 (F1), Deb65_47 (F1), Demsculpinboyz_60 (F2), Doomphist_50 (F1), Doug_53 (F1), Empress_50 (F1), Filuzino_81 (F1), Fushigi_74 (A1), Gandolph_52 (F1), Geralt_47 (F1), Homines_52 (A1), IbOuu_53 (F1), IrishSherpFalk_82 (F1), Job42_51 (F1), JoeyJr_47 (F1), KingMidas_51 (F1), Kumao_60 (singleton), Leperchaun_44 (F1), Nimbo_46 (F1), Oksu_55 (F1), OldBen_49 (F1), OlympiaSaint_51 (F1), OwlsT2W_50 (F1), PHappiness_47 (F1), PMC_45 (F1), Pacc40_46 (F1), Phasih_48 (F1), Poenanya_50 (F1), Polka14_48 (F1), Pollywog_51 (F1), Radiance_51 (F1), RitaG_47 (F1), Rockne_49 (F1), RockyHorror_51 (F1), Sandalphon_53 (F1), ScoobyDoobyDoo_3 (C2), Scottish_50 (F1), Spartacus_88 (F1), Spikelee_57 (F1), Spoonbill_49 (F1), Stap_50 (F1), WillSterrel_81 (F1), Zerg_50 (F1),

Start 30:

- Found in 8 of 65 (12.3%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Squirty_54 (F3),

Start 38:

- Found in 1 of 65 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonenili_51 (C1),

Summary by clusters:

There are 10 clusters represented in this pham: F1, F2, F3, F4, F5, F, singleton, A1, C2, C1,

Info for manual annotations of cluster A1:

- Start number 28 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 38 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster C2:

- Start number 28 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster F1:

- Start number 16 was manually annotated 2 times for cluster F1.
- Start number 17 was manually annotated 4 times for cluster F1.
- Start number 20 was manually annotated 1 time for cluster F1.
- Start number 23 was manually annotated 2 times for cluster F1.
- Start number 25 was manually annotated 1 time for cluster F1.
- Start number 28 was manually annotated 41 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 28 was manually annotated 2 times for cluster F2.

Info for manual annotations of cluster F3:

- Start number 30 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 17 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 24 was manually annotated 1 time for cluster F5.
- Start number 28 was manually annotated 1 time for cluster F5.

Gene Information:

Gene: Blarby_62 Start: 37522, Stop: 38091, Start Num: 11

Candidate Starts for Blarby_62:

(1, 37411), (2, 37444), (3, 37459), (6, 37489), (7, 37492), (9, 37495), (11, 37522), (12, 37531), (Start: 17 @37582 has 5 MA's), (21, 37618), (Start: 30 @37675 has 1 MA's), (35, 37708), (40, 37729), (65, 37903), (75, 38032), (76, 38035), (78, 38065),

Gene: Blexus_49 Start: 36674, Stop: 37057, Start Num: 28

Candidate Starts for Blexus_49:

(Start: 28 @36674 has 48 MA's), (32, 36683), (47, 36746), (49, 36770), (65, 36887), (70, 36953), (73, 36989), (78, 37028),

Gene: BlueCrab_48 Start: 36400, Stop: 36783, Start Num: 28

Candidate Starts for BlueCrab_48:

(Start: 28 @36400 has 48 MA's), (32, 36409), (47, 36472), (49, 36496), (65, 36613), (70, 36679), (73, 36715), (78, 36754),

Gene: BodEinwohner17_52 Start: 36616, Stop: 36999, Start Num: 28

Candidate Starts for BodEinwohner17_52:

(Start: 28 @36616 has 48 MA's), (32, 36625), (47, 36688), (49, 36712), (65, 36829), (70, 36895), (73, 36931), (78, 36970),

Gene: Boomer_53 Start: 37849, Stop: 38232, Start Num: 28

Candidate Starts for Boomer_53:

(Start: 28 @37849 has 48 MA's), (32, 37858), (47, 37921), (49, 37945), (65, 38062), (70, 38128), (73, 38164), (78, 38203),

Gene: Che9d_57 Start: 36146, Stop: 36583, Start Num: 28

Candidate Starts for Che9d_57:

(Start: 28 @36146 has 48 MA's), (44, 36230), (46, 36239), (52, 36275), (59, 36347), (65, 36389), (68, 36449),

Gene: Cornie_84 Start: 49125, Stop: 49526, Start Num: 28

Candidate Starts for Cornie_84:

(4, 48918), (5, 48927), (8, 48951), (10, 48969), (19, 49062), (Start: 20 @49071 has 1 MA's), (22, 49092), (Start: 28 @49125 has 48 MA's), (31, 49137), (45, 49200), (48, 49215), (54, 49242), (55, 49248), (58, 49293), (60, 49305), (66, 49359), (71, 49416), (77, 49482),

Gene: Cornie_44 Start: 34732, Stop: 35169, Start Num: 24

Candidate Starts for Cornie_44:

(Start: 24 @34732 has 1 MA's), (Start: 30 @34756 has 1 MA's), (49, 34858), (65, 34975), (75, 35104), (76, 35107), (78, 35137), (80, 35158),

Gene: DaWorst_52 Start: 37475, Stop: 37858, Start Num: 28

Candidate Starts for DaWorst_52:

(Start: 28 @37475 has 48 MA's), (32, 37484), (47, 37547), (49, 37571), (65, 37688), (70, 37754), (73, 37790), (78, 37829),

Gene: Daenerys_46 Start: 35343, Stop: 35726, Start Num: 28

Candidate Starts for Daenerys_46:

(Start: 28 @35343 has 48 MA's), (32, 35352), (47, 35415), (49, 35439), (65, 35556), (70, 35622), (73, 35658), (78, 35697),

Gene: DeadP_56 Start: 38235, Stop: 38747, Start Num: 17

Candidate Starts for DeadP_56:

(1, 38067), (2, 38100), (3, 38115), (6, 38145), (7, 38148), (11, 38175), (12, 38184), (Start: 17 @38235 has 5 MA's), (21, 38271), (Start: 30 @38328 has 1 MA's), (35, 38361), (40, 38382), (60, 38523), (65, 38556), (78, 38721),

Gene: Deb65_47 Start: 35312, Stop: 35695, Start Num: 28

Candidate Starts for Deb65_47:

(Start: 28 @35312 has 48 MA's), (32, 35321), (47, 35384), (49, 35408), (65, 35525), (70, 35591), (73, 35627), (78, 35666),

Gene: Demsculpinboyz_60 Start: 36255, Stop: 36692, Start Num: 28

Candidate Starts for Demsculpinboyz_60:

(Start: 28 @36255 has 48 MA's), (44, 36339), (46, 36348), (52, 36384), (59, 36456), (65, 36498), (68, 36558),

Gene: Doomphist_50 Start: 37614, Stop: 37997, Start Num: 28

Candidate Starts for Doomphist_50:

(Start: 28 @37614 has 48 MA's), (32, 37623), (47, 37686), (49, 37710), (65, 37827), (70, 37893), (73, 37929), (78, 37968),

Gene: Doug_53 Start: 37732, Stop: 38115, Start Num: 28

Candidate Starts for Doug_53:

(Start: 28 @37732 has 48 MA's), (32, 37741), (47, 37804), (49, 37828), (65, 37945), (70, 38011), (73, 38047), (78, 38086),

Gene: Eish_52 Start: 37152, Stop: 37565, Start Num: 23

Candidate Starts for Eish_52:

(Start: 23 @37152 has 2 MA's), (33, 37185), (37, 37212), (42, 37236), (65, 37395), (70, 37461), (73, 37497), (78, 37536),

Gene: EleanorGeorge_84 Start: 49979, Stop: 50533, Start Num: 20

Candidate Starts for EleanorGeorge_84:

(4, 49826), (5, 49835), (8, 49859), (10, 49877), (19, 49970), (Start: 20 @49979 has 1 MA's), (22, 50000), (Start: 28 @50033 has 48 MA's), (31, 50045), (41, 50108), (47, 50132), (50, 50174), (78, 50495), (81, 50519),

Gene: Empress_50 Start: 36757, Stop: 37140, Start Num: 28

Candidate Starts for Empress_50:

(Start: 28 @36757 has 48 MA's), (32, 36766), (47, 36829), (49, 36853), (65, 36970), (70, 37036), (73, 37072), (78, 37111),

Gene: Estave1_51 Start: 36423, Stop: 36932, Start Num: 17

Candidate Starts for Estave1_51:

(1, 36255), (2, 36288), (3, 36303), (6, 36333), (7, 36336), (11, 36363), (12, 36372), (Start: 17 @36423 has 5 MA's), (21, 36459), (Start: 30 @36516 has 1 MA's), (35, 36549), (40, 36570), (65, 36744), (75, 36873), (76, 36876), (78, 36906),

Gene: Filuzino_81 Start: 50456, Stop: 50911, Start Num: 28

Candidate Starts for Filuzino_81:

(15, 50363), (Start: 28 @50456 has 48 MA's), (31, 50468), (45, 50531), (48, 50546), (54, 50573), (55, 50579), (59, 50627), (65, 50669), (72, 50780), (78, 50849), (82, 50891),

Gene: Florinda_63 Start: 39217, Stop: 39705, Start Num: 16

Candidate Starts for Florinda_63:

(Start: 16 @39217 has 2 MA's), (Start: 17 @39226 has 5 MA's), (27, 39301), (29, 39310), (36, 39346), (49, 39418), (53, 39439), (65, 39535), (70, 39601), (73, 39637), (78, 39676),

Gene: Fushigi_74 Start: 44956, Stop: 44495, Start Num: 28

Candidate Starts for Fushigi_74:

(13, 45070), (Start: 28 @44956 has 48 MA's), (51, 44821), (56, 44797), (57, 44773), (61, 44728), (78, 44533), (81, 44509),

Gene: Gandalph_52 Start: 36543, Stop: 36980, Start Num: 28

Candidate Starts for Gandalph_52:

(Start: 28 @36543 has 48 MA's), (34, 36576), (39, 36603), (42, 36627), (65, 36786), (67, 36831), (78, 36954),

Gene: Geralt_47 Start: 35311, Stop: 35694, Start Num: 28

Candidate Starts for Geralt_47:

(Start: 28 @35311 has 48 MA's), (32, 35320), (47, 35383), (49, 35407), (65, 35524), (70, 35590), (73, 35626), (78, 35665),

Gene: Homines_52 Start: 36648, Stop: 36226, Start Num: 28

Candidate Starts for Homines_52:

(15, 36741), (Start: 28 @36648 has 48 MA's), (31, 36636), (45, 36573), (48, 36558), (54, 36531), (55, 36525), (59, 36477), (65, 36435), (72, 36324), (78, 36255),

Gene: lbOuu_53 Start: 37593, Stop: 37976, Start Num: 28

Candidate Starts for lbOuu_53:

(Start: 28 @37593 has 48 MA's), (32, 37602), (47, 37665), (49, 37689), (65, 37806), (70, 37872), (73, 37908), (78, 37947),

Gene: IrishSherpFalk_82 Start: 49608, Stop: 50033, Start Num: 28

Candidate Starts for IrishSherpFalk_82:

(Start: 28 @49608 has 48 MA's), (59, 49803), (65, 49845), (69, 49905), (70, 49914), (74, 49950), (78, 49995), (81, 50019),

Gene: Job42_51 Start: 38265, Stop: 38648, Start Num: 28

Candidate Starts for Job42_51:

(Start: 28 @38265 has 48 MA's), (32, 38274), (47, 38337), (49, 38361), (70, 38544), (73, 38580), (78, 38619),

Gene: JoeyJr_47 Start: 35511, Stop: 35894, Start Num: 28

Candidate Starts for JoeyJr_47:

(Start: 28 @35511 has 48 MA's), (32, 35520), (47, 35583), (49, 35607), (65, 35724), (70, 35790), (73, 35826), (78, 35865),

Gene: KingMidas_51 Start: 37173, Stop: 37556, Start Num: 28

Candidate Starts for KingMidas_51:

(Start: 28 @37173 has 48 MA's), (32, 37182), (47, 37245), (49, 37269), (65, 37386), (70, 37452), (73, 37488), (78, 37527),

Gene: Kumao_60 Start: 43284, Stop: 43625, Start Num: 28

Candidate Starts for Kumao_60:

(Start: 28 @43284 has 48 MA's), (43, 43332), (60, 43392), (65, 43425), (75, 43554), (76, 43557), (78, 43587), (81, 43611),

Gene: Leperchaun_44 Start: 34741, Stop: 35124, Start Num: 28

Candidate Starts for Leperchaun_44:

(Start: 28 @34741 has 48 MA's), (32, 34750), (47, 34813), (49, 34837), (65, 34954), (70, 35020), (73, 35056), (78, 35095),

Gene: Nimbo_46 Start: 35314, Stop: 35697, Start Num: 28

Candidate Starts for Nimbo_46:

(Start: 28 @35314 has 48 MA's), (32, 35323), (47, 35386), (49, 35410), (65, 35527), (70, 35593), (73, 35629), (78, 35668),

Gene: Oksu_55 Start: 38799, Stop: 39179, Start Num: 28

Candidate Starts for Oksu_55:

(Start: 28 @38799 has 48 MA's), (32, 38808), (47, 38871), (49, 38895), (65, 39012), (70, 39078), (73, 39114), (78, 39153),

Gene: OldBen_49 Start: 37029, Stop: 37412, Start Num: 28

Candidate Starts for OldBen_49:

(Start: 28 @37029 has 48 MA's), (32, 37038), (47, 37101), (49, 37125), (65, 37242), (70, 37308), (73, 37344), (78, 37383),

Gene: OlympiaSaint_51 Start: 36873, Stop: 37310, Start Num: 28

Candidate Starts for OlympiaSaint_51:

(Start: 28 @36873 has 48 MA's), (34, 36906), (39, 36933), (42, 36957), (65, 37116), (75, 37245), (76, 37248), (78, 37278), (80, 37299),

Gene: OwlsT2W_50 Start: 36873, Stop: 37304, Start Num: 28

Candidate Starts for OwlsT2W_50:

(Start: 28 @36873 has 48 MA's), (34, 36906), (39, 36933), (42, 36957), (63, 37095), (65, 37116), (67, 37161), (78, 37284),

Gene: PHappiness_47 Start: 35287, Stop: 35670, Start Num: 28

Candidate Starts for PHappiness_47:

(Start: 28 @35287 has 48 MA's), (32, 35296), (47, 35359), (49, 35383), (65, 35500), (70, 35566), (73, 35602), (78, 35641),

Gene: PMC_45 Start: 36085, Stop: 36468, Start Num: 28

Candidate Starts for PMC_45:

(Start: 28 @36085 has 48 MA's), (32, 36094), (47, 36157), (49, 36181), (65, 36298), (70, 36364), (73, 36400), (78, 36439),

Gene: Pacc40_46 Start: 35361, Stop: 35744, Start Num: 28

Candidate Starts for Pacc40_46:

(Start: 28 @35361 has 48 MA's), (32, 35370), (47, 35433), (49, 35457), (65, 35574), (70, 35640), (73, 35676), (78, 35715),

Gene: Phasih_48 Start: 36631, Stop: 37014, Start Num: 28

Candidate Starts for Phasih_48:

(Start: 28 @36631 has 48 MA's), (32, 36640), (47, 36703), (49, 36727), (65, 36844), (70, 36910), (73, 36946), (78, 36985),

Gene: Poenanya_50 Start: 37614, Stop: 37997, Start Num: 28

Candidate Starts for Poenanya_50:

(Start: 28 @37614 has 48 MA's), (32, 37623), (47, 37686), (49, 37710), (65, 37827), (70, 37893), (73, 37929), (78, 37968),

Gene: Polka14_48 Start: 35964, Stop: 36347, Start Num: 28

Candidate Starts for Polka14_48:

(Start: 28 @35964 has 48 MA's), (32, 35973), (47, 36036), (49, 36060), (65, 36177), (70, 36243), (73, 36279), (78, 36318),

Gene: Pollywog_51 Start: 37317, Stop: 37757, Start Num: 28

Candidate Starts for Pollywog_51:

(Start: 28 @37317 has 48 MA's), (34, 37350), (39, 37377), (42, 37401), (63, 37539), (65, 37560), (67, 37605), (78, 37728), (79, 37746),

Gene: Quico_60 Start: 39037, Stop: 39525, Start Num: 16

Candidate Starts for Quico_60:

(Start: 16 @39037 has 2 MA's), (Start: 17 @39046 has 5 MA's), (27, 39121), (29, 39130), (36, 39166), (49, 39238), (53, 39259), (65, 39355), (70, 39421), (73, 39457), (78, 39496),

Gene: Radiance_51 Start: 37201, Stop: 37584, Start Num: 28

Candidate Starts for Radiance_51:

(Start: 28 @37201 has 48 MA's), (32, 37210), (47, 37273), (49, 37297), (65, 37414), (70, 37480), (73, 37516), (78, 37555),

Gene: Ramsey_52 Start: 37825, Stop: 38238, Start Num: 23

Candidate Starts for Ramsey_52:

(Start: 23 @37825 has 2 MA's), (33, 37858), (37, 37885), (42, 37909), (65, 38068), (70, 38134), (73, 38170), (78, 38209),

Gene: Renaud18_56 Start: 37524, Stop: 38036, Start Num: 17

Candidate Starts for Renaud18_56:

(1, 37356), (2, 37389), (3, 37404), (6, 37434), (7, 37437), (11, 37464), (12, 37473), (Start: 17 @37524 has 5 MA's), (21, 37560), (Start: 30 @37617 has 1 MA's), (35, 37650), (40, 37671), (60, 37812), (65, 37845), (78, 38010),

Gene: RitaG_47 Start: 35632, Stop: 36015, Start Num: 28

Candidate Starts for RitaG_47:

(Start: 28 @35632 has 48 MA's), (32, 35641), (47, 35704), (49, 35728), (65, 35845), (70, 35911), (73, 35947), (78, 35986),

Gene: Rockne_49 Start: 36085, Stop: 36468, Start Num: 28

Candidate Starts for Rockne_49:

(Start: 28 @36085 has 48 MA's), (32, 36094), (47, 36157), (49, 36181), (65, 36298), (70, 36364), (73, 36400), (78, 36439),

Gene: RockyHorror_51 Start: 36489, Stop: 36872, Start Num: 28

Candidate Starts for RockyHorror_51:

(Start: 28 @36489 has 48 MA's), (32, 36498), (47, 36561), (49, 36585), (65, 36702), (70, 36768), (73, 36804), (78, 36843),

Gene: Sandalphon_53 Start: 37808, Stop: 38191, Start Num: 28

Candidate Starts for Sandalphon_53:

(Start: 28 @37808 has 48 MA's), (32, 37817), (47, 37880), (49, 37904), (65, 38021), (70, 38087), (73, 38123), (78, 38162),

Gene: ScoobyDoobyDoo_3 Start: 606, Stop: 1007, Start Num: 28

Candidate Starts for ScoobyDoobyDoo_3:

(Start: 28 @606 has 48 MA's), (45, 681), (48, 696), (54, 723), (55, 729), (58, 774), (60, 786), (66, 840), (71, 897), (77, 963),

Gene: Scottish_50 Start: 36644, Stop: 37027, Start Num: 28

Candidate Starts for Scottish_50:

(Start: 28 @36644 has 48 MA's), (32, 36653), (47, 36716), (49, 36740), (65, 36857), (70, 36923), (73, 36959), (78, 36998),

Gene: ShroomBoi_53 Start: 37239, Stop: 37649, Start Num: 25

Candidate Starts for ShroomBoi_53:

(Start: 25 @37239 has 1 MA's), (26, 37242), (33, 37269), (37, 37296), (42, 37320), (65, 37479), (70, 37545), (73, 37581), (78, 37620),

Gene: Spartacus_88 Start: 51839, Stop: 52264, Start Num: 28

Candidate Starts for Spartacus_88:

(Start: 28 @51839 has 48 MA's), (59, 52034), (65, 52076), (69, 52136), (70, 52145), (74, 52181), (78, 52226), (81, 52250),

Gene: Spikelee_57 Start: 38384, Stop: 38767, Start Num: 28

Candidate Starts for Spikelee_57:

(Start: 28 @38384 has 48 MA's), (32, 38393), (47, 38456), (49, 38480), (65, 38597), (70, 38663), (73, 38699), (78, 38738),

Gene: Spoonbill_49 Start: 35586, Stop: 35969, Start Num: 28

Candidate Starts for Spoonbill_49:

(Start: 28 @35586 has 48 MA's), (32, 35595), (47, 35658), (49, 35682), (65, 35799), (70, 35865), (73, 35901), (78, 35940),

Gene: Squirty_54 Start: 37873, Stop: 38295, Start Num: 30

Candidate Starts for Squirty_54:

(14, 37786), (18, 37807), (Start: 30 @37873 has 1 MA's), (40, 37927), (65, 38101), (75, 38230), (76, 38233), (78, 38263), (80, 38284),

Gene: Stap_50 Start: 36387, Stop: 36770, Start Num: 28

Candidate Starts for Stap_50:

(Start: 28 @36387 has 48 MA's), (32, 36396), (47, 36459), (49, 36483), (65, 36600), (70, 36666), (73, 36702), (78, 36741),

Gene: Taj_54 Start: 37445, Stop: 37957, Start Num: 17

Candidate Starts for Taj_54:

(1, 37277), (2, 37310), (3, 37325), (6, 37355), (7, 37358), (11, 37385), (12, 37394), (Start: 17 @37445 has 5 MA's), (21, 37481), (Start: 30 @37538 has 1 MA's), (35, 37571), (40, 37592), (60, 37733), (65, 37766), (78, 37931),

Gene: Tonenili_51 Start: 16033, Stop: 16419, Start Num: 38

Candidate Starts for Tonenili_51:

(Start: 38 @16033 has 1 MA's), (62, 16195), (64, 16219), (70, 16294), (73, 16330), (78, 16369),

Gene: Wee_53 Start: 37717, Stop: 38229, Start Num: 17

Candidate Starts for Wee_53:

(1, 37549), (2, 37582), (3, 37597), (6, 37627), (7, 37630), (11, 37657), (12, 37666), (Start: 17 @37717 has 5 MA's), (21, 37753), (Start: 30 @37810 has 1 MA's), (35, 37843), (40, 37864), (60, 38005), (65, 38038), (78, 38203),

Gene: WillSterrel_81 Start: 49641, Stop: 50066, Start Num: 28

Candidate Starts for WillSterrel_81:

(Start: 28 @49641 has 48 MA's), (59, 49836), (65, 49878), (69, 49938), (70, 49947), (74, 49983), (78, 50028), (81, 50052),

Gene: Zerg_50 Start: 36598, Stop: 36981, Start Num: 28

Candidate Starts for Zerg_50:

(Start: 28 @36598 has 48 MA's), (32, 36607), (47, 36670), (49, 36694), (65, 36811), (70, 36877), (73, 36913), (78, 36952),