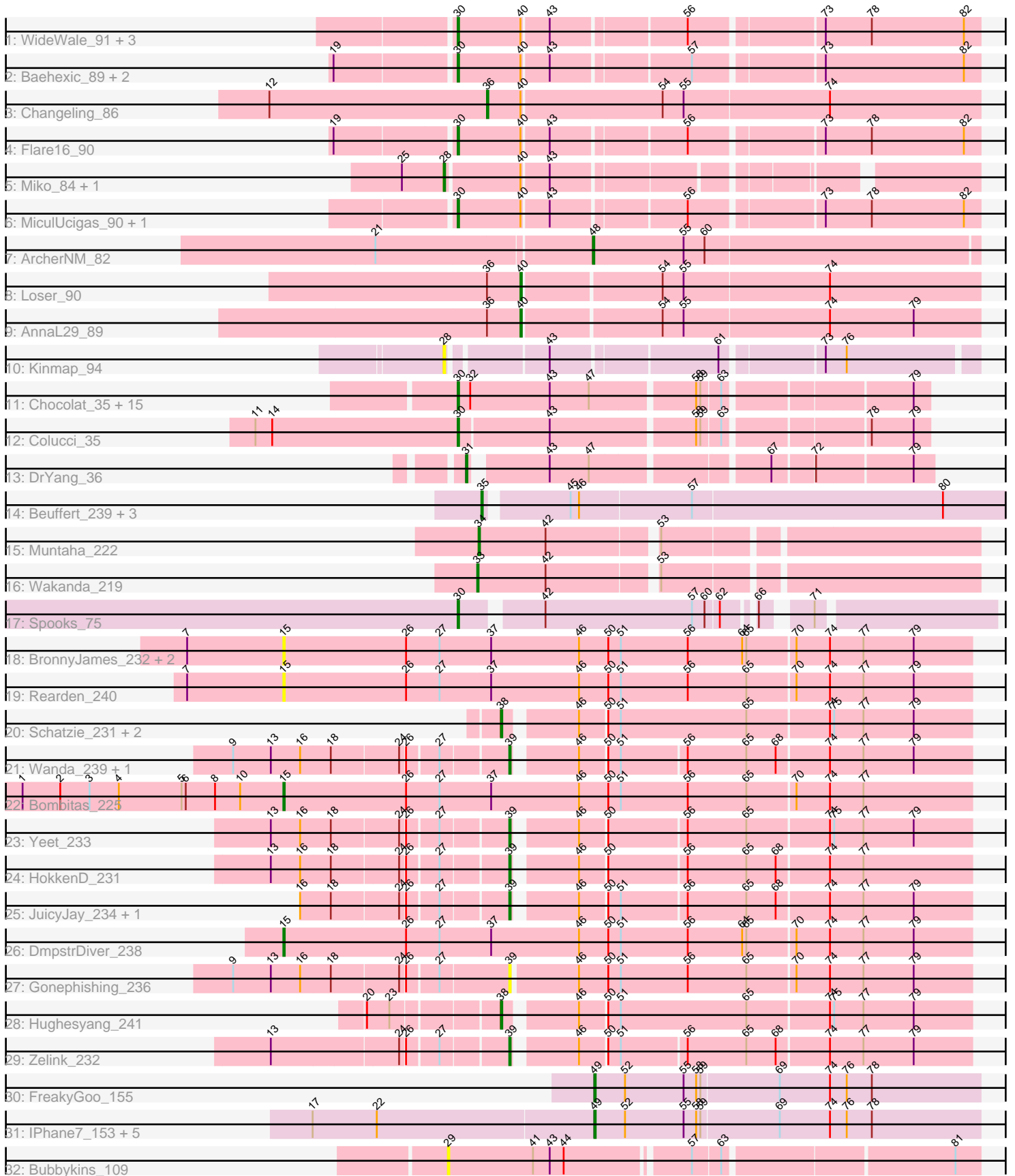


Pham 308565



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 308565 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308565 has 68 members, 12 are drafts.

Phages represented in each track:

- Track 1 : WideWale_91, Equemioh13_90, Updawg_91, Gratitude_88
- Track 2 : Baehexic_89, Terrific_91, Centaur_90
- Track 3 : Changeling_86
- Track 4 : Flare16_90
- Track 5 : Miko_84, Rachaly_85
- Track 6 : MiculUcigas_90, Sknot_90
- Track 7 : ArcherNM_82
- Track 8 : Loser_90
- Track 9 : AnnaL29_89
- Track 10 : Kinmap_94
- Track 11 : Chocolat_35, RosiePosie_35, EdgarPoe_35, Linus_35, Tophat_35, Mordred_35, JayCookie_35, MoyaNatalis_35, Conboy_35, Scavito_35, Chipper1996_350, Chubster_35, PrincessTrina_35, JaNo_35, Kabreeze_35, HumptyDumpty_35
- Track 12 : Colucci_35
- Track 13 : DrYang_36
- Track 14 : Beuffert_239, Blueeyedbeauty_241, Annadreamy_229, Limpid_236
- Track 15 : Muntaha_222
- Track 16 : Wakanda_219
- Track 17 : Spooks_75
- Track 18 : BronnyJames_232, Shaboozey_238, Nibley_231
- Track 19 : Rearden_240
- Track 20 : Schatzie_231, BAKA_241, Phoebus_237
- Track 21 : Wanda_239, Klein_247
- Track 22 : Bombitas_225
- Track 23 : Yeet_233
- Track 24 : HokkenD_231
- Track 25 : JuicyJay_234, Beem_242
- Track 26 : DmpstrDiver_238
- Track 27 : Gonephishing_236
- Track 28 : Hughesyang_241
- Track 29 : Zelink_232
- Track 30 : FreakyGoo_155
- Track 31 : IPhone7_153, SlimJimmy_153, TyDawg_149, Auspice_156, KleverKiS_158, TpudiCK_156
- Track 32 : Bubbykins_109

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

The start number called the most often in the published annotations is 30, it was called in 25 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Baehexic_89, Centaur_90, Chipper1996_350, Chocolat_35, Chubster_35, Colucci_35, Conboy_35, EdgarPoe_35, Equemioh13_90, Flare16_90, Gratitude_88, HumptyDumpty_35, JaNo_35, JayCookie_35, Kabreeze_35, Linus_35, MiculUcigas_90, Mordred_35, MoyaNatalis_35, PrincessTrina_35, RosiePosie_35, Scavito_35, Sknot_90, Spooks_75, Terrific_91, Tophat_35, Updawg_91, WideWale_91,

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

-

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

- AnnaL29_89, Annadreamy_229, ArcherNM_82, Auspice_156, BAKA_241, Beem_242, Beuffert_239, Blueeyedbeauty_241, Bombitas_225, BronnyJames_232, Bubbykins_109, Changeling_86, DmpstrDiver_238, DrYang_36, FreakyGoo_155, Gonephishing_236, HokkenD_231, Hughesyang_241, IPhane7_153, JuicyJay_234, Kinmap_94, Klein_247, KleverKiS_158, Limpid_236, Loser_90, Miko_84, Muntaha_222, Nibley_231, Phoebus_237, Rachaly_85, Rearden_240, Schatzie_231, Shaboozey_238, SlimJimmy_153, TpudiCK_156, TyDawg_149, Wakanda_219, Wanda_239, Yeet_233, Zelink_232,

Summary by start number:

Start 15:

- Found in 6 of 68 (8.8%) of genes in pham
- Manual Annotations of this start: 2 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bombitas_225 (J), BronnyJames_232 (J), DmpstrDiver_238 (J), Nibley_231 (J), Rearden_240 (J), Shaboozey_238 (J),

Start 28:

- Found in 3 of 68 (4.4%) of genes in pham
- Manual Annotations of this start: 2 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kinmap_94 (A21), Miko_84 (A2), Rachaly_85 (A2),

Start 29:

- Found in 1 of 68 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bubbykins_109 (UNK),

Start 30:

- Found in 28 of 68 (41.2%) of genes in pham

- Manual Annotations of this start: 25 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Baehexic_89 (A2), Centaur_90 (A2), Chipper1996_350 (AR), Chocolat_35 (AR), Chubster_35 (AR), Colucci_35 (AR), Conboy_35 (AR), EdgarPoe_35 (AR), Equemioh13_90 (A2), Flare16_90 (A2), Gratitude_88 (A2), HumptyDumpty_35 (AR), JaNo_35 (AR), JayCookie_35 (AR), Kabreeze_35 (AR), Linus_35 (AR), MiculUcigas_90 (A2), Mordred_35 (AR), MoyaNatalis_35 (AR), PrincessTrina_35 (AR), RosiePosie_35 (AR), Scavito_35 (AR), Sknot_90 (A2), Spooks_75 (BT), Terrific_91 (A2), Tophat_35 (AR), Updawg_91 (A2), WideWale_91 (A2),

Start 31:

- Found in 1 of 68 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DrYang_36 (AR),

Start 33:

- Found in 1 of 68 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wakanda_219 (BK2),

Start 34:

- Found in 1 of 68 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Muntaha_222 (BK2),

Start 35:

- Found in 4 of 68 (5.9%) of genes in pham
- Manual Annotations of this start: 4 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy_229 (BK1), Beuffert_239 (BK1), Blueeyedbeauty_241 (BK1), Limpid_236 (BK1),

Start 36:

- Found in 3 of 68 (4.4%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Changeling_86 (A2),

Start 38:

- Found in 4 of 68 (5.9%) of genes in pham
- Manual Annotations of this start: 4 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BAKA_241 (J), Hughesyang_241 (J), Phoebus_237 (J), Schatzie_231 (J),

Start 39:

- Found in 8 of 68 (11.8%) of genes in pham
- Manual Annotations of this start: 7 of 56
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Beem_242 (J), Gonephishing_236 (J), HokkenD_231 (J), JuicyJay_234 (J), Klein_247 (J), Wanda_239 (J), Yeet_233 (J), Zelink_232 (J),

Start 40:

- Found in 15 of 68 (22.1%) of genes in pham
- Manual Annotations of this start: 2 of 56
- Called 13.3% of time when present
- Phage (with cluster) where this start called: AnnaL29_89 (A2), Loser_90 (A2),

Start 48:

- Found in 1 of 68 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArcherNM_82 (A2),

Start 49:

- Found in 7 of 68 (10.3%) of genes in pham
- Manual Annotations of this start: 5 of 56
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Auspice_156 (M1), FreakyGoo_155 (M1), IPhone7_153 (M1), KleverKiS_158 (M1), SlimJimmy_153 (M1), TpudiCK_156 (M1), TyDawg_149 (M1),

Summary by clusters:

There are 9 clusters represented in this pham: A21, J, BT, A2, M1, BK1, BK2, UNK, AR,

Info for manual annotations of cluster A2:

- Start number 28 was manually annotated 2 times for cluster A2.
- Start number 30 was manually annotated 8 times for cluster A2.
- Start number 36 was manually annotated 1 time for cluster A2.
- Start number 40 was manually annotated 2 times for cluster A2.
- Start number 48 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster AR:

- Start number 30 was manually annotated 16 times for cluster AR.
- Start number 31 was manually annotated 1 time for cluster AR.

Info for manual annotations of cluster BK1:

- Start number 35 was manually annotated 4 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 33 was manually annotated 1 time for cluster BK2.
- Start number 34 was manually annotated 1 time for cluster BK2.

Info for manual annotations of cluster BT:

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

Info for manual annotations of cluster J:

- Start number 15 was manually annotated 2 times for cluster J.

- Start number 38 was manually annotated 4 times for cluster J.
- Start number 39 was manually annotated 7 times for cluster J.

Info for manual annotations of cluster M1:

- Start number 49 was manually annotated 5 times for cluster M1.

Gene Information:

Gene: AnnaL29_89 Start: 49609, Stop: 49292, Start Num: 40

Candidate Starts for AnnaL29_89:

(Start: 36 @49633 has 1 MA's), (Start: 40 @49609 has 2 MA's), (54, 49516), (55, 49501), (74, 49399), (79, 49339),

Gene: Annadreamy_229 Start: 111840, Stop: 112202, Start Num: 35

Candidate Starts for Annadreamy_229:

(Start: 35 @111840 has 4 MA's), (45, 111894), (46, 111900), (57, 111978), (80, 112155),

Gene: ArcherNM_82 Start: 48789, Stop: 48520, Start Num: 48

Candidate Starts for ArcherNM_82:

(21, 48936), (Start: 48 @48789 has 1 MA's), (55, 48726), (60, 48711),

Gene: Auspice_156 Start: 78089, Stop: 77817, Start Num: 49

Candidate Starts for Auspice_156:

(17, 78284), (22, 78239), (Start: 49 @78089 has 5 MA's), (52, 78068), (55, 78026), (58, 78017), (59, 78014), (69, 77960), (74, 77924), (76, 77912), (78, 77894),

Gene: BAKA_241 Start: 110720, Stop: 110400, Start Num: 38

Candidate Starts for BAKA_241:

(Start: 38 @110720 has 4 MA's), (46, 110675), (50, 110657), (51, 110648), (65, 110558), (74, 110501), (75, 110498), (77, 110477), (79, 110441),

Gene: Baehexic_89 Start: 49622, Stop: 49272, Start Num: 30

Candidate Starts for Baehexic_89:

(19, 49703), (Start: 30 @49622 has 25 MA's), (Start: 40 @49577 has 2 MA's), (43, 49559), (57, 49466), (73, 49382), (82, 49283),

Gene: Beem_242 Start: 112166, Stop: 111855, Start Num: 39

Candidate Starts for Beem_242:

(16, 112301), (18, 112280), (24, 112235), (26, 112232), (27, 112211), (Start: 39 @112166 has 7 MA's), (46, 112127), (50, 112109), (51, 112100), (56, 112055), (65, 112013), (68, 111992), (74, 111956), (77, 111932), (79, 111896),

Gene: Beuffert_239 Start: 116330, Stop: 116692, Start Num: 35

Candidate Starts for Beuffert_239:

(Start: 35 @116330 has 4 MA's), (45, 116384), (46, 116390), (57, 116468), (80, 116645),

Gene: Blueeyedbeauty_241 Start: 116156, Stop: 116518, Start Num: 35

Candidate Starts for Blueeyedbeauty_241:

(Start: 35 @116156 has 4 MA's), (45, 116210), (46, 116216), (57, 116294), (80, 116471),

Gene: Bombitas_225 Start: 109165, Stop: 108677, Start Num: 15

Candidate Starts for Bombitas_225:

(1, 109351), (2, 109324), (3, 109303), (4, 109282), (5, 109237), (6, 109234), (8, 109213), (10, 109195), (Start: 15 @109165 has 2 MA's), (26, 109078), (27, 109054), (37, 109018), (46, 108955), (50, 108934), (51, 108925), (56, 108877), (65, 108835), (70, 108802), (74, 108778), (77, 108754),

Gene: BronnyJames_232 Start: 107477, Stop: 106989, Start Num: 15

Candidate Starts for BronnyJames_232:

(7, 107546), (Start: 15 @107477 has 2 MA's), (26, 107390), (27, 107366), (37, 107330), (46, 107267), (50, 107246), (51, 107237), (56, 107189), (64, 107150), (65, 107147), (70, 107114), (74, 107090), (77, 107066), (79, 107030),

Gene: Bubbykins_109 Start: 64227, Stop: 64580, Start Num: 29

Candidate Starts for Bubbykins_109:

(29, 64227), (41, 64287), (43, 64299), (44, 64308), (57, 64389), (63, 64407), (81, 64563),

Gene: Centaur_90 Start: 49489, Stop: 49139, Start Num: 30

Candidate Starts for Centaur_90:

(19, 49570), (Start: 30 @49489 has 25 MA's), (Start: 40 @49444 has 2 MA's), (43, 49426), (57, 49333), (73, 49249), (82, 49150),

Gene: Changeling_86 Start: 49621, Stop: 49277, Start Num: 36

Candidate Starts for Changeling_86:

(12, 49774), (Start: 36 @49621 has 1 MA's), (Start: 40 @49597 has 2 MA's), (54, 49501), (55, 49486), (74, 49384),

Gene: Chipper1996_350 Start: 29519, Stop: 29208, Start Num: 30

Candidate Starts for Chipper1996_350:

(Start: 30 @29519 has 25 MA's), (32, 29510), (43, 29453), (47, 29426), (58, 29357), (59, 29354), (63, 29342), (79, 29219),

Gene: Chocolat_35 Start: 29519, Stop: 29208, Start Num: 30

Candidate Starts for Chocolat_35:

(Start: 30 @29519 has 25 MA's), (32, 29510), (43, 29453), (47, 29426), (58, 29357), (59, 29354), (63, 29342), (79, 29219),

Gene: Chubster_35 Start: 29291, Stop: 28980, Start Num: 30

Candidate Starts for Chubster_35:

(Start: 30 @29291 has 25 MA's), (32, 29282), (43, 29225), (47, 29198), (58, 29129), (59, 29126), (63, 29114), (79, 28991),

Gene: Colucci_35 Start: 29165, Stop: 28857, Start Num: 30

Candidate Starts for Colucci_35:

(11, 29309), (14, 29297), (Start: 30 @29165 has 25 MA's), (43, 29102), (58, 29006), (59, 29003), (63, 28991), (78, 28898), (79, 28868),

Gene: Conboy_35 Start: 29518, Stop: 29207, Start Num: 30

Candidate Starts for Conboy_35:

(Start: 30 @29518 has 25 MA's), (32, 29509), (43, 29452), (47, 29425), (58, 29356), (59, 29353), (63, 29341), (79, 29218),

Gene: DmpstrDiver_238 Start: 110803, Stop: 110315, Start Num: 15

Candidate Starts for DmpstrDiver_238:

(Start: 15 @110803 has 2 MA's), (26, 110716), (27, 110692), (37, 110656), (46, 110593), (50, 110572), (51, 110563), (56, 110515), (64, 110476), (65, 110473), (70, 110440), (74, 110416), (77, 110392), (79, 110356),

Gene: DrYang_36 Start: 30909, Stop: 30613, Start Num: 31

Candidate Starts for DrYang_36:

(Start: 31 @30909 has 1 MA's), (43, 30861), (47, 30834), (67, 30720), (72, 30693), (79, 30627),

Gene: EdgarPoe_35 Start: 29518, Stop: 29207, Start Num: 30

Candidate Starts for EdgarPoe_35:

(Start: 30 @29518 has 25 MA's), (32, 29509), (43, 29452), (47, 29425), (58, 29356), (59, 29353), (63, 29341), (79, 29218),

Gene: Equemioh13_90 Start: 49724, Stop: 49374, Start Num: 30

Candidate Starts for Equemioh13_90:

(Start: 30 @49724 has 25 MA's), (Start: 40 @49679 has 2 MA's), (43, 49661), (56, 49571), (73, 49484), (78, 49451), (82, 49385),

Gene: Flare16_90 Start: 49539, Stop: 49189, Start Num: 30

Candidate Starts for Flare16_90:

(19, 49620), (Start: 30 @49539 has 25 MA's), (Start: 40 @49494 has 2 MA's), (43, 49476), (56, 49386), (73, 49299), (78, 49266), (82, 49200),

Gene: FreakyGoo_155 Start: 78003, Stop: 77731, Start Num: 49

Candidate Starts for FreakyGoo_155:

(Start: 49 @78003 has 5 MA's), (52, 77982), (55, 77940), (58, 77931), (59, 77928), (69, 77874), (74, 77838), (76, 77826), (78, 77808),

Gene: Gonephishing_236 Start: 109863, Stop: 109540, Start Num: 39

Candidate Starts for Gonephishing_236:

(9, 110049), (13, 110022), (16, 110001), (18, 109980), (24, 109935), (26, 109932), (27, 109911), (Start: 39 @109863 has 7 MA's), (46, 109818), (50, 109797), (51, 109788), (56, 109740), (65, 109698), (70, 109665), (74, 109641), (77, 109617), (79, 109581),

Gene: Gratitude_88 Start: 49724, Stop: 49374, Start Num: 30

Candidate Starts for Gratitude_88:

(Start: 30 @49724 has 25 MA's), (Start: 40 @49679 has 2 MA's), (43, 49661), (56, 49571), (73, 49484), (78, 49451), (82, 49385),

Gene: HokkenD_231 Start: 112106, Stop: 111795, Start Num: 39

Candidate Starts for HokkenD_231:

(13, 112262), (16, 112241), (18, 112220), (24, 112175), (26, 112172), (27, 112151), (Start: 39 @112106 has 7 MA's), (46, 112067), (50, 112049), (56, 111995), (65, 111953), (68, 111932), (74, 111896), (77, 111872),

Gene: Hughesyang_241 Start: 112144, Stop: 111824, Start Num: 38

Candidate Starts for Hughesyang_241:

(20, 112228), (23, 112213), (Start: 38 @112144 has 4 MA's), (46, 112099), (50, 112081), (51, 112072), (65, 111982), (74, 111925), (75, 111922), (77, 111901), (79, 111865),

Gene: HumptyDumpty_35 Start: 29517, Stop: 29206, Start Num: 30

Candidate Starts for HumptyDumpty_35:

(Start: 30 @29517 has 25 MA's), (32, 29508), (43, 29451), (47, 29424), (58, 29355), (59, 29352), (63, 29340), (79, 29217),

Gene: IPhane7_153 Start: 77705, Stop: 77433, Start Num: 49
Candidate Starts for IPhane7_153:

(17, 77900), (22, 77855), (Start: 49 @77705 has 5 MA's), (52, 77684), (55, 77642), (58, 77633), (59, 77630), (69, 77576), (74, 77540), (76, 77528), (78, 77510),

Gene: JaNo_35 Start: 29517, Stop: 29206, Start Num: 30
Candidate Starts for JaNo_35:

(Start: 30 @29517 has 25 MA's), (32, 29508), (43, 29451), (47, 29424), (58, 29355), (59, 29352), (63, 29340), (79, 29217),

Gene: JayCookie_35 Start: 29521, Stop: 29210, Start Num: 30
Candidate Starts for JayCookie_35:

(Start: 30 @29521 has 25 MA's), (32, 29512), (43, 29455), (47, 29428), (58, 29359), (59, 29356), (63, 29344), (79, 29221),

Gene: JuicyJay_234 Start: 112115, Stop: 111804, Start Num: 39
Candidate Starts for JuicyJay_234:

(16, 112250), (18, 112229), (24, 112184), (26, 112181), (27, 112160), (Start: 39 @112115 has 7 MA's), (46, 112076), (50, 112058), (51, 112049), (56, 112004), (65, 111962), (68, 111941), (74, 111905), (77, 111881), (79, 111845),

Gene: Kabreeze_35 Start: 29517, Stop: 29206, Start Num: 30
Candidate Starts for Kabreeze_35:

(Start: 30 @29517 has 25 MA's), (32, 29508), (43, 29451), (47, 29424), (58, 29355), (59, 29352), (63, 29340), (79, 29217),

Gene: Kinmap_94 Start: 48187, Stop: 47843, Start Num: 28
Candidate Starts for Kinmap_94:

(Start: 28 @48187 has 2 MA's), (43, 48124), (61, 48013), (73, 47947), (76, 47932),

Gene: Klein_247 Start: 111346, Stop: 111035, Start Num: 39
Candidate Starts for Klein_247:

(9, 111529), (13, 111502), (16, 111481), (18, 111460), (24, 111415), (26, 111412), (27, 111391), (Start: 39 @111346 has 7 MA's), (46, 111307), (50, 111289), (51, 111280), (56, 111235), (65, 111193), (68, 111172), (74, 111136), (77, 111112), (79, 111076),

Gene: KleverKiS_158 Start: 78761, Stop: 78489, Start Num: 49
Candidate Starts for KleverKiS_158:

(17, 78956), (22, 78911), (Start: 49 @78761 has 5 MA's), (52, 78740), (55, 78698), (58, 78689), (59, 78686), (69, 78632), (74, 78596), (76, 78584), (78, 78566),

Gene: Limpid_236 Start: 117153, Stop: 117515, Start Num: 35
Candidate Starts for Limpid_236:

(Start: 35 @117153 has 4 MA's), (45, 117207), (46, 117213), (57, 117291), (80, 117468),

Gene: Linus_35 Start: 29518, Stop: 29207, Start Num: 30
Candidate Starts for Linus_35:

(Start: 30 @29518 has 25 MA's), (32, 29509), (43, 29452), (47, 29425), (58, 29356), (59, 29353), (63, 29341), (79, 29218),

Gene: Loser_90 Start: 49859, Stop: 49542, Start Num: 40

Candidate Starts for Loser_90:

(Start: 36 @49883 has 1 MA's), (Start: 40 @49859 has 2 MA's), (54, 49766), (55, 49751), (74, 49649),

Gene: MiculUcigas_90 Start: 49442, Stop: 49092, Start Num: 30

Candidate Starts for MiculUcigas_90:

(Start: 30 @49442 has 25 MA's), (Start: 40 @49397 has 2 MA's), (43, 49379), (56, 49289), (73, 49202), (78, 49169), (82, 49103),

Gene: Miko_84 Start: 48454, Stop: 48119, Start Num: 28

Candidate Starts for Miko_84:

(25, 48484), (Start: 28 @48454 has 2 MA's), (Start: 40 @48403 has 2 MA's), (43, 48385),

Gene: Mordred_35 Start: 29517, Stop: 29206, Start Num: 30

Candidate Starts for Mordred_35:

(Start: 30 @29517 has 25 MA's), (32, 29508), (43, 29451), (47, 29424), (58, 29355), (59, 29352), (63, 29340), (79, 29217),

Gene: MoyaNatalis_35 Start: 29521, Stop: 29210, Start Num: 30

Candidate Starts for MoyaNatalis_35:

(Start: 30 @29521 has 25 MA's), (32, 29512), (43, 29455), (47, 29428), (58, 29359), (59, 29356), (63, 29344), (79, 29221),

Gene: Muntaha_222 Start: 108668, Stop: 109000, Start Num: 34

Candidate Starts for Muntaha_222:

(Start: 34 @108668 has 1 MA's), (42, 108716), (53, 108788),

Gene: Nibley_231 Start: 107054, Stop: 106566, Start Num: 15

Candidate Starts for Nibley_231:

(7, 107123), (Start: 15 @107054 has 2 MA's), (26, 106967), (27, 106943), (37, 106907), (46, 106844), (50, 106823), (51, 106814), (56, 106766), (64, 106727), (65, 106724), (70, 106691), (74, 106667), (77, 106643), (79, 106607),

Gene: Phoebus_237 Start: 113352, Stop: 113032, Start Num: 38

Candidate Starts for Phoebus_237:

(Start: 38 @113352 has 4 MA's), (46, 113307), (50, 113289), (51, 113280), (65, 113190), (74, 113133), (75, 113130), (77, 113109), (79, 113073),

Gene: PrincessTrina_35 Start: 29521, Stop: 29210, Start Num: 30

Candidate Starts for PrincessTrina_35:

(Start: 30 @29521 has 25 MA's), (32, 29512), (43, 29455), (47, 29428), (58, 29359), (59, 29356), (63, 29344), (79, 29221),

Gene: Rachaly_85 Start: 48597, Stop: 48262, Start Num: 28

Candidate Starts for Rachaly_85:

(25, 48627), (Start: 28 @48597 has 2 MA's), (Start: 40 @48546 has 2 MA's), (43, 48528),

Gene: Rearden_240 Start: 109535, Stop: 109047, Start Num: 15

Candidate Starts for Rearden_240:

(7, 109604), (Start: 15 @109535 has 2 MA's), (26, 109448), (27, 109424), (37, 109388), (46, 109325), (50, 109304), (51, 109295), (56, 109247), (65, 109205), (70, 109172), (74, 109148), (77, 109124), (79, 109088),

Gene: RosiePosie_35 Start: 29520, Stop: 29209, Start Num: 30

Candidate Starts for RosiePosie_35:

(Start: 30 @29520 has 25 MA's), (32, 29511), (43, 29454), (47, 29427), (58, 29358), (59, 29355), (63, 29343), (79, 29220),

Gene: Scavito_35 Start: 29518, Stop: 29207, Start Num: 30

Candidate Starts for Scavito_35:

(Start: 30 @29518 has 25 MA's), (32, 29509), (43, 29452), (47, 29425), (58, 29356), (59, 29353), (63, 29341), (79, 29218),

Gene: Schatzie_231 Start: 110377, Stop: 110057, Start Num: 38

Candidate Starts for Schatzie_231:

(Start: 38 @110377 has 4 MA's), (46, 110332), (50, 110314), (51, 110305), (65, 110215), (74, 110158), (75, 110155), (77, 110134), (79, 110098),

Gene: Shaboozey_238 Start: 108326, Stop: 107838, Start Num: 15

Candidate Starts for Shaboozey_238:

(7, 108395), (Start: 15 @108326 has 2 MA's), (26, 108239), (27, 108215), (37, 108179), (46, 108116), (50, 108095), (51, 108086), (56, 108038), (64, 107999), (65, 107996), (70, 107963), (74, 107939), (77, 107915), (79, 107879),

Gene: Sknot_90 Start: 49536, Stop: 49186, Start Num: 30

Candidate Starts for Sknot_90:

(Start: 30 @49536 has 25 MA's), (Start: 40 @49491 has 2 MA's), (43, 49473), (56, 49383), (73, 49296), (78, 49263), (82, 49197),

Gene: SlimJimmy_153 Start: 78262, Stop: 77990, Start Num: 49

Candidate Starts for SlimJimmy_153:

(17, 78457), (22, 78412), (Start: 49 @78262 has 5 MA's), (52, 78241), (55, 78199), (58, 78190), (59, 78187), (69, 78133), (74, 78097), (76, 78085), (78, 78067),

Gene: Spooks_75 Start: 50779, Stop: 50438, Start Num: 30

Candidate Starts for Spooks_75:

(Start: 30 @50779 has 25 MA's), (42, 50728), (57, 50623), (60, 50614), (62, 50605), (66, 50587), (71, 50560),

Gene: Terrific_91 Start: 49504, Stop: 49154, Start Num: 30

Candidate Starts for Terrific_91:

(19, 49585), (Start: 30 @49504 has 25 MA's), (Start: 40 @49459 has 2 MA's), (43, 49441), (57, 49348), (73, 49264), (82, 49165),

Gene: Tophat_35 Start: 29519, Stop: 29208, Start Num: 30

Candidate Starts for Tophat_35:

(Start: 30 @29519 has 25 MA's), (32, 29510), (43, 29453), (47, 29426), (58, 29357), (59, 29354), (63, 29342), (79, 29219),

Gene: TpudiCK_156 Start: 77520, Stop: 77248, Start Num: 49

Candidate Starts for TpudiCK_156:

(17, 77715), (22, 77670), (Start: 49 @77520 has 5 MA's), (52, 77499), (55, 77457), (58, 77448), (59, 77445), (69, 77391), (74, 77355), (76, 77343), (78, 77325),

Gene: TyDawg_149 Start: 77708, Stop: 77436, Start Num: 49

Candidate Starts for TyDawg_149:

(17, 77903), (22, 77858), (Start: 49 @77708 has 5 MA's), (52, 77687), (55, 77645), (58, 77636), (59, 77633), (69, 77579), (74, 77543), (76, 77531), (78, 77513),

Gene: Updawg_91 Start: 49724, Stop: 49374, Start Num: 30

Candidate Starts for Updawg_91:

(Start: 30 @49724 has 25 MA's), (Start: 40 @49679 has 2 MA's), (43, 49661), (56, 49571), (73, 49484), (78, 49451), (82, 49385),

Gene: Wakanda_219 Start: 108031, Stop: 108363, Start Num: 33

Candidate Starts for Wakanda_219:

(Start: 33 @108031 has 1 MA's), (42, 108079), (53, 108151),

Gene: Wanda_239 Start: 108976, Stop: 108665, Start Num: 39

Candidate Starts for Wanda_239:

(9, 109159), (13, 109132), (16, 109111), (18, 109090), (24, 109045), (26, 109042), (27, 109021), (Start: 39 @108976 has 7 MA's), (46, 108937), (50, 108919), (51, 108910), (56, 108865), (65, 108823), (68, 108802), (74, 108766), (77, 108742), (79, 108706),

Gene: WideWale_91 Start: 49724, Stop: 49374, Start Num: 30

Candidate Starts for WideWale_91:

(Start: 30 @49724 has 25 MA's), (Start: 40 @49679 has 2 MA's), (43, 49661), (56, 49571), (73, 49484), (78, 49451), (82, 49385),

Gene: Yeet_233 Start: 110472, Stop: 110161, Start Num: 39

Candidate Starts for Yeet_233:

(13, 110628), (16, 110607), (18, 110586), (24, 110541), (26, 110538), (27, 110517), (Start: 39 @110472 has 7 MA's), (46, 110433), (50, 110415), (56, 110361), (65, 110319), (74, 110262), (75, 110259), (77, 110238), (79, 110202),

Gene: Zelink_232 Start: 110059, Stop: 109748, Start Num: 39

Candidate Starts for Zelink_232:

(13, 110215), (24, 110128), (26, 110125), (27, 110104), (Start: 39 @110059 has 7 MA's), (46, 110020), (50, 110002), (51, 109993), (56, 109948), (65, 109906), (68, 109885), (74, 109849), (77, 109825), (79, 109789),