

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 168122 Report

This analysis was run 07/09/24 on database version 566.

Pham number 168122 has 100 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Navo_53
- Track 2 : WhereRU_54, Persimmon_51, Bartholomune_53, Braelyn_54
- Track 3 : Anedeia_53
- Track 4 : Sushi23_55, Teutsch_55, Larnav_60, Tribute_53, Peebs_54, Pepperwood_55
- Track 5 : Leo04_56, Cross_55, Watermoore_55, BlueOtter_57, Cursive_53, Lululemon_56, HangryHippo_57, Samisti12_55, PacManQ_56
- Track 6 : Warpy_59, Jay2Jay_60
- Track 7 : Squillium_54, Liandry_54, PinkiePie_53
- Track 8 : NootNoot_51, Paradiddles_51
- Track 9 : EGole_56
- Track 10 : Bmoc_53
- Track 11 : Angela_52, MulchMansion_52, LilMartin_52
- Track 12 : Targaryen_56
- Track 13 : Evy_56
- Track 14 : Mildred21_53
- Track 15 : Daubenski_56
- Track 16 : Stanimal_57, Sollertia_57, Genie2_57
- Track 17 : PumpkinSpice_56, Quarant19_57, Wipeout_55, Birchlyn_54, TomSawyer_55, Gibbi_61, JimJam_57, Bordeaux_55, MindFlayer_55, Spelly_57, Amabiko_57, Battuta_55, Starbow_55, Jollison_62, SaltySpittoon_57
- Track 18 : Wofford_56, Elmer_64
- Track 19 : LukeCage_56
- Track 20 : Karimac_56, IchabodCrane_54, KentuckyRacer_61, CeilingFan_59, Spilled_58
- Track 21 : StarPlatinum_57
- Track 22 : Yaboi_57, BoomerJR_57
- Track 23 : Mugiwara_58
- Track 24 : Tomas_59
- Track 25 : Enygma_57
- Track 26 : Karp_34, Stigma_35
- Track 27 : Kenrey_36, Phredrick_34
- Track 28 : Jada_34, Gilson_36, Emma1919_36, Forrest_36
- Track 29 : Beuffert_33, Blueeyedbeauty_34
- Track 30 : TunaTartare_34
- Track 31 : Belfort_36, Comrade_35, SparkleGoddess_35
- Track 32 : Sham_32

- Track 33 : Patelgo_35
- Track 34 : SeresaTree_35, Faust_35
- Track 35 : Annadreamy_32, Limpid_32
- Track 36 : Moab_35
- Track 37 : MeganTheeKilla_34
- Track 38 : Francob_34
- Track 39 : Muntaha_31, Wakanda_31
- Track 40 : Circinus_32, BillNye_30
- Track 41 : Trina_77
- Track 42 : NiceHouse_66
- Track 43 : Dorin_50, Francesca_50

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

The start number called the most often in the published annotations is 15, it was called in 32 of the 86 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko_57, Anedea_53, Angela_52, Battuta_55, Birchlyn_54, Bmoc_53, BoomerJR_57, Bordeaux_55, CeilingFan_59, Elmer_64, Enygma_57, Genie2_57, Gibbi_61, IchabodCrane_54, JimJam_57, Jollison_62, Karimac_56, KentuckyRacer_61, LilMartin_52, LukeCage_56, Mildred21_53, MindFlayer_55, Mugiwara_58, MulchMansion_52, PumpkinSpice_56, Quarant19_57, SaltySpittoon_57, Sollertia_57, Spelly_57, Spilled_58, Stanimal_57, StarPlatinum_57, Starbow_55, TomSawyer_55, Tomas_59, Wipeout_55, Wofford_56, Yaboi_57,

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:

- Annadreamy_32, Bartholomune_53, Belfort_36, Beuffert_33, BillNye_30, BlueOtter_57, Blueeyedbeauty_34, Braelyn_54, Circinus_32, Comrade_35, Cross_55, Cursive_53, Daubenski_56, Dorin_50, EGole_56, Emma1919_36, Evy_56, Faust_35, Forrest_36, Francesca_50, Francob_34, Gilson_36, HangryHippo_57, Jada_34, Jay2Jay_60, Karp_34, Kenrey_36, Larnav_60, Leo04_56, Liandry_54, Limpid_32, Lululemon_56, MeganTheeKilla_34, Moab_35, Muntaha_31, Navo_53, NiceHouse_66, NootNoot_51, PacManQ_56, Paradiddles_51, Patelgo_35, Peebs_54, Pepperwood_55, Persimmon_51, Phredrick_34, PinkiePie_53, Samisti12_55, SeresaTree_35, Sham_32, SparkleGoddess_35, Squillium_54, Stigma_35, Sushi23_55, Targaryen_56, Teutsch_55, Tribute_53, Trina_77, TunaTartare_34, Wakanda_31, Warpy_59, Watermoore_55, WhereRU_54,

Summary by start number:

Start 6:

- Found in 2 of 100 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Muntaha_31 (BK2), Wakanda_31 (BK2),

Start 7:

- Found in 2 of 100 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillNye_30 (BK2), Circinus_32 (BK2),

Start 8:

- Found in 19 of 100 (19.0%) of genes in pham
- Manual Annotations of this start: 18 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Belfort_36 (BK1), Comrade_35 (BK1), Emma1919_36 (BK1), Faust_35 (BK1), Forrest_36 (BK1), Francob_34 (BK1), Gilson_36 (BK1), Jada_34 (BK1), Karp_34 (BK1), Kenrey_36 (BK1), MeganTheeKilla_34 (BK1), Moab_35 (BK1), Patelgo_35 (BK1), Phredrick_34 (BK1), SeresaTree_35 (BK1), Sham_32 (BK1), SparkleGoddess_35 (BK1), Stigma_35 (BK1), TunaTartare_34 (BK1),

Start 9:

- Found in 4 of 100 (4.0%) of genes in pham
- Manual Annotations of this start: 4 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy_32 (BK1), Beuffert_33 (BK1), Blueeyedbeauty_34 (BK1), Limpid_32 (BK1),

Start 12:

- Found in 3 of 100 (3.0%) of genes in pham
- Manual Annotations of this start: 1 of 86
- Called 33.3% of time when present
- Phage (with cluster) where this start called: NiceHouse_66 (CE),

Start 13:

- Found in 3 of 100 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 86
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dorin_50 (CG), Francesca_50 (CG), Trina_77 (CE),

Start 14:

- Found in 31 of 100 (31.0%) of genes in pham
- Manual Annotations of this start: 23 of 86
- Called 93.5% of time when present
- Phage (with cluster) where this start called: Bartholomune_53 (BE1), BlueOtter_57 (BE1), Braelyn_54 (BE1), Cross_55 (BE1), Cursive_53 (BE1), Daubenski_56 (BE1), EGole_56 (BE1), Evy_56 (BE1), HangryHippo_57 (BE1), Larnav_60 (BE1), Leo04_56 (BE1), Liandry_54 (BE1), Lululemon_56 (BE1), Navo_53 (BE1), NootNoot_51 (BE1), PacManQ_56 (BE1), Paradiddles_51 (BE1), Peebs_54 (BE1), Pepperwood_55 (BE1), Persimmon_51 (BE1), PinkiePie_53 (BE1), Samisti12_55 (BE1), Squillium_54 (BE1), Sushi23_55 (BE1), Targaryen_56 (BE1), Teutsch_55 (BE1), Tribute_53 (BE1), Watermoore_55 (BE1), WhereRU_54 (BE1),

Start 15:

- Found in 38 of 100 (38.0%) of genes in pham
- Manual Annotations of this start: 32 of 86

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amabiko_57 (BE2), Anedea_53 (BE1), Angela_52 (BE1), Battuta_55 (BE2), Birchlyn_54 (BE2), Bmoc_53 (BE1), BoomerJR_57 (BE2), Bordeaux_55 (BE2), CeilingFan_59 (BE2), Elmer_64 (BE2), Enygma_57 (BE2), Genie2_57 (BE2), Gibbi_61 (BE2), IchabodCrane_54 (BE2), JimJam_57 (BE2), Jollison_62 (BE2), Karimac_56 (BE2), KentuckyRacer_61 (BE2), LilMartin_52 (BE1), LukeCage_56 (BE2), Mildred21_53 (BE1), MindFlayer_55 (BE2), Mugiwara_58 (BE2), MulchMansion_52 (BE1), PumpkinSpice_56 (BE2), Quaran19_57 (BE2), SaltySpittoon_57 (BE2), Sollertia_57 (BE2), Spelly_57 (BE2), Spilled_58 (BE2), Stanimal_57 (BE2), StarPlatinum_57 (BE2), Starbow_55 (BE2), TomSawyer_55 (BE2), Tomas_59 (BE2), Wipeout_55 (BE2), Wofford_56 (BE2), Yaboi_57 (BE2),

Start 25:

- Found in 14 of 100 (14.0%) of genes in pham
- Manual Annotations of this start: 2 of 86
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Jay2Jay_60 (BE1), Warpy_59 (BE1),

Summary by clusters:

There are 6 clusters represented in this pham: CG, CE, BK1, BK2, BE2, BE1,

Info for manual annotations of cluster BE1:

- Start number 14 was manually annotated 23 times for cluster BE1.
- Start number 15 was manually annotated 6 times for cluster BE1.
- Start number 25 was manually annotated 2 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 15 was manually annotated 26 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 8 was manually annotated 18 times for cluster BK1.
- Start number 9 was manually annotated 4 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 6 was manually annotated 2 times for cluster BK2.
- Start number 7 was manually annotated 2 times for cluster BK2.

Info for manual annotations of cluster CE:

- Start number 12 was manually annotated 1 time for cluster CE.
- Start number 13 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster CG:

- Start number 13 was manually annotated 1 time for cluster CG.

Gene Information:

Gene: Amabiko_57 Start: 31721, Stop: 32224, Start Num: 15

Candidate Starts for Amabiko_57:

(Start: 15 @31721 has 32 MA's), (69, 32117), (84, 32198), (85, 32213),

Gene: Anedea_53 Start: 31253, Stop: 31759, Start Num: 15

Candidate Starts for Anedea_53:

(2, 31166), (3, 31175), (4, 31181), (Start: 15 @31253 has 32 MA's), (20, 31283), (46, 31484), (47, 31487), (69, 31649), (77, 31697), (85, 31748),

Gene: Angela_52 Start: 30731, Stop: 31234, Start Num: 15

Candidate Starts for Angela_52:

(2, 30644), (3, 30653), (4, 30659), (Start: 15 @30731 has 32 MA's), (20, 30761), (47, 30965), (77, 31175), (85, 31223),

Gene: Annadreamy_32 Start: 20312, Stop: 20857, Start Num: 9

Candidate Starts for Annadreamy_32:

(Start: 9 @20312 has 4 MA's), (11, 20330), (43, 20561), (46, 20585), (53, 20633), (56, 20654), (57, 20675), (71, 20753), (75, 20789), (76, 20792), (83, 20822), (85, 20846),

Gene: Bartholomune_53 Start: 31042, Stop: 31548, Start Num: 14

Candidate Starts for Bartholomune_53:

(1, 30946), (2, 30958), (3, 30967), (4, 30973), (10, 31000), (Start: 14 @31042 has 23 MA's), (Start: 25 @31102 has 2 MA's), (28, 31135), (34, 31177), (47, 31279), (57, 31366), (64, 31417), (77, 31489), (85, 31537),

Gene: Battuta_55 Start: 31695, Stop: 32198, Start Num: 15

Candidate Starts for Battuta_55:

(Start: 15 @31695 has 32 MA's), (69, 32091), (84, 32172), (85, 32187),

Gene: Belfort_36 Start: 22825, Stop: 23370, Start Num: 8

Candidate Starts for Belfort_36:

(Start: 8 @22825 has 18 MA's), (35, 23005), (49, 23125), (53, 23146), (54, 23155), (56, 23167), (60, 23224), (74, 23290), (75, 23302), (83, 23335),

Gene: Beuffert_33 Start: 21407, Stop: 21952, Start Num: 9

Candidate Starts for Beuffert_33:

(Start: 9 @21407 has 4 MA's), (11, 21425), (43, 21656), (46, 21680), (53, 21728), (56, 21749), (57, 21770), (71, 21848), (75, 21884), (83, 21917), (85, 21941),

Gene: BillNye_30 Start: 23720, Stop: 24247, Start Num: 7

Candidate Starts for BillNye_30:

(Start: 7 @23720 has 2 MA's), (11, 23738), (38, 23918), (53, 24032), (56, 24053), (57, 24074), (75, 24182), (78, 24191), (82, 24209), (83, 24215),

Gene: Birchlyn_54 Start: 29578, Stop: 30081, Start Num: 15

Candidate Starts for Birchlyn_54:

(Start: 15 @29578 has 32 MA's), (69, 29974), (84, 30055), (85, 30070),

Gene: BlueOtter_57 Start: 32406, Stop: 32912, Start Num: 14

Candidate Starts for BlueOtter_57:

(Start: 14 @32406 has 23 MA's), (27, 32487), (29, 32502), (46, 32640), (64, 32781), (67, 32799), (77, 32853), (80, 32862), (85, 32901),

Gene: Blueeyedbeauty_34 Start: 20804, Stop: 21349, Start Num: 9

Candidate Starts for Blueeyedbeauty_34:

(Start: 9 @20804 has 4 MA's), (11, 20822), (43, 21053), (46, 21077), (53, 21125), (56, 21146), (57, 21167), (71, 21245), (75, 21281), (83, 21314), (85, 21338),

Gene: Bmoc_53 Start: 31038, Stop: 31544, Start Num: 15

Candidate Starts for Bmoc_53:

(Start: 15 @31038 has 32 MA's), (20, 31068), (46, 31269), (47, 31272), (57, 31359), (69, 31434), (77, 31482), (80, 31491), (85, 31533),

Gene: BoomerJR_57 Start: 31584, Stop: 32087, Start Num: 15

Candidate Starts for BoomerJR_57:

(Start: 15 @31584 has 32 MA's), (30, 31680), (38, 31749), (69, 31980), (85, 32076),

Gene: Bordeaux_55 Start: 31850, Stop: 32353, Start Num: 15

Candidate Starts for Bordeaux_55:

(Start: 15 @31850 has 32 MA's), (69, 32246), (84, 32327), (85, 32342),

Gene: Braelyn_54 Start: 31809, Stop: 32315, Start Num: 14

Candidate Starts for Braelyn_54:

(1, 31713), (2, 31725), (3, 31734), (4, 31740), (10, 31767), (Start: 14 @31809 has 23 MA's), (Start: 25 @31869 has 2 MA's), (28, 31902), (34, 31944), (47, 32046), (57, 32133), (64, 32184), (77, 32256), (85, 32304),

Gene: CeilingFan_59 Start: 31610, Stop: 32113, Start Num: 15

Candidate Starts for CeilingFan_59:

(Start: 15 @31610 has 32 MA's), (66, 31997), (69, 32006), (84, 32087), (85, 32102),

Gene: Circinus_32 Start: 23856, Stop: 24383, Start Num: 7

Candidate Starts for Circinus_32:

(Start: 7 @23856 has 2 MA's), (11, 23874), (38, 24054), (53, 24168), (56, 24189), (57, 24210), (75, 24318), (78, 24327), (82, 24345), (83, 24351),

Gene: Comrade_35 Start: 22440, Stop: 22985, Start Num: 8

Candidate Starts for Comrade_35:

(Start: 8 @22440 has 18 MA's), (35, 22620), (49, 22740), (53, 22761), (54, 22770), (56, 22782), (60, 22839), (74, 22905), (75, 22917), (83, 22950),

Gene: Cross_55 Start: 32407, Stop: 32913, Start Num: 14

Candidate Starts for Cross_55:

(Start: 14 @32407 has 23 MA's), (27, 32488), (29, 32503), (46, 32641), (64, 32782), (67, 32800), (77, 32854), (80, 32863), (85, 32902),

Gene: Cursive_53 Start: 31932, Stop: 32438, Start Num: 14

Candidate Starts for Cursive_53:

(Start: 14 @31932 has 23 MA's), (27, 32013), (29, 32028), (46, 32166), (64, 32307), (67, 32325), (77, 32379), (80, 32388), (85, 32427),

Gene: Daubenski_56 Start: 32152, Stop: 32658, Start Num: 14

Candidate Starts for Daubenski_56:

(Start: 14 @32152 has 23 MA's), (27, 32233), (29, 32248), (30, 32251), (35, 32296), (46, 32386), (64, 32527), (77, 32599), (85, 32647),

Gene: Dorin_50 Start: 31412, Stop: 31951, Start Num: 13

Candidate Starts for Dorin_50:

(Start: 13 @31412 has 2 MA's), (24, 31484), (31, 31529), (33, 31556), (42, 31622), (48, 31688), (54, 31721), (61, 31805), (62, 31811), (74, 31871),

Gene: EGole_56 Start: 33311, Stop: 33868, Start Num: 14

Candidate Starts for EGole_56:

(Start: 14 @33311 has 23 MA's), (27, 33392), (29, 33407), (46, 33545), (57, 33635), (67, 33725), (77, 33779), (80, 33788), (81, 33794), (86, 33857),

Gene: Elmer_64 Start: 32757, Stop: 33260, Start Num: 15

Candidate Starts for Elmer_64:

(Start: 15 @32757 has 32 MA's), (20, 32787), (24, 32811), (34, 32889), (35, 32898), (51, 33024), (53, 33036), (69, 33153), (85, 33249),

Gene: Emma1919_36 Start: 21218, Stop: 21772, Start Num: 8

Candidate Starts for Emma1919_36:

(Start: 8 @21218 has 18 MA's), (33, 21383), (35, 21398), (45, 21485), (49, 21527), (53, 21548), (55, 21560), (56, 21569), (74, 21692), (75, 21704), (83, 21737),

Gene: Enygma_57 Start: 33532, Stop: 34035, Start Num: 15

Candidate Starts for Enygma_57:

(Start: 15 @33532 has 32 MA's), (20, 33562), (26, 33601), (27, 33610), (58, 33865), (69, 33928), (80, 33985), (85, 34024),

Gene: Evy_56 Start: 32408, Stop: 32914, Start Num: 14

Candidate Starts for Evy_56:

(1, 32312), (2, 32324), (4, 32339), (10, 32366), (Start: 14 @32408 has 23 MA's), (Start: 25 @32468 has 2 MA's), (27, 32489), (30, 32507), (57, 32732), (64, 32783), (67, 32801), (77, 32855), (80, 32864), (85, 32903),

Gene: Faust_35 Start: 21811, Stop: 22359, Start Num: 8

Candidate Starts for Faust_35:

(Start: 8 @21811 has 18 MA's), (Start: 12 @21847 has 1 MA's), (34, 21985), (41, 22036), (53, 22135), (54, 22144), (55, 22147), (56, 22156), (57, 22177), (75, 22291), (76, 22294), (83, 22324),

Gene: Forrest_36 Start: 21341, Stop: 21895, Start Num: 8

Candidate Starts for Forrest_36:

(Start: 8 @21341 has 18 MA's), (33, 21506), (35, 21521), (45, 21608), (49, 21650), (53, 21671), (55, 21683), (56, 21692), (74, 21815), (75, 21827), (83, 21860),

Gene: Francesca_50 Start: 31544, Stop: 32083, Start Num: 13

Candidate Starts for Francesca_50:

(Start: 13 @31544 has 2 MA's), (24, 31616), (31, 31661), (33, 31688), (42, 31754), (48, 31820), (54, 31853), (61, 31937), (62, 31943), (74, 32003),

Gene: Francob_34 Start: 21349, Stop: 21903, Start Num: 8

Candidate Starts for Francob_34:

(Start: 8 @21349 has 18 MA's), (35, 21529), (40, 21568), (41, 21571), (53, 21679), (54, 21688), (62, 21766), (74, 21823),

Gene: Genie2_57 Start: 31698, Stop: 32201, Start Num: 15

Candidate Starts for Genie2_57:

(Start: 15 @31698 has 32 MA's), (30, 31794), (38, 31863), (43, 31905), (69, 32094), (85, 32190),

Gene: Gibbi_61 Start: 31833, Stop: 32336, Start Num: 15
Candidate Starts for Gibbi_61:
(Start: 15 @31833 has 32 MA's), (69, 32229), (84, 32310), (85, 32325),

Gene: Gilson_36 Start: 21171, Stop: 21725, Start Num: 8
Candidate Starts for Gilson_36:
(Start: 8 @21171 has 18 MA's), (33, 21336), (35, 21351), (45, 21438), (49, 21480), (53, 21501), (55, 21513), (56, 21522), (74, 21645), (75, 21657), (83, 21690),

Gene: HangryHippo_57 Start: 32406, Stop: 32912, Start Num: 14
Candidate Starts for HangryHippo_57:
(Start: 14 @32406 has 23 MA's), (27, 32487), (29, 32502), (46, 32640), (64, 32781), (67, 32799), (77, 32853), (80, 32862), (85, 32901),

Gene: IchabodCrane_54 Start: 31422, Stop: 31925, Start Num: 15
Candidate Starts for IchabodCrane_54:
(Start: 15 @31422 has 32 MA's), (66, 31809), (69, 31818), (84, 31899), (85, 31914),

Gene: Jada_34 Start: 20523, Stop: 21077, Start Num: 8
Candidate Starts for Jada_34:
(Start: 8 @20523 has 18 MA's), (33, 20688), (35, 20703), (45, 20790), (49, 20832), (53, 20853), (55, 20865), (56, 20874), (74, 20997), (75, 21009), (83, 21042),

Gene: Jay2Jay_60 Start: 33276, Stop: 33767, Start Num: 25
Candidate Starts for Jay2Jay_60:
(1, 33120), (2, 33132), (4, 33147), (10, 33174), (Start: 14 @33216 has 23 MA's), (Start: 25 @33276 has 2 MA's), (27, 33297), (57, 33540), (64, 33591), (67, 33609), (77, 33663), (80, 33672), (84, 33696), (87, 33750), (88, 33756),

Gene: JimJam_57 Start: 31796, Stop: 32299, Start Num: 15
Candidate Starts for JimJam_57:
(Start: 15 @31796 has 32 MA's), (69, 32192), (84, 32273), (85, 32288),

Gene: Jollison_62 Start: 31678, Stop: 32181, Start Num: 15
Candidate Starts for Jollison_62:
(Start: 15 @31678 has 32 MA's), (69, 32074), (84, 32155), (85, 32170),

Gene: Karimac_56 Start: 31827, Stop: 32330, Start Num: 15
Candidate Starts for Karimac_56:
(Start: 15 @31827 has 32 MA's), (66, 32214), (69, 32223), (84, 32304), (85, 32319),

Gene: Karp_34 Start: 22040, Stop: 22585, Start Num: 8
Candidate Starts for Karp_34:
(Start: 8 @22040 has 18 MA's), (35, 22220), (53, 22361), (54, 22370), (56, 22382), (60, 22439), (74, 22505), (75, 22517), (83, 22550),

Gene: Kenrey_36 Start: 21220, Stop: 21774, Start Num: 8
Candidate Starts for Kenrey_36:
(Start: 8 @21220 has 18 MA's), (33, 21385), (35, 21400), (46, 21493), (53, 21550), (55, 21562), (56, 21571), (75, 21706), (76, 21709), (83, 21739),

Gene: KentuckyRacer_61 Start: 31611, Stop: 32114, Start Num: 15
Candidate Starts for KentuckyRacer_61:

(Start: 15 @31611 has 32 MA's), (66, 31998), (69, 32007), (84, 32088), (85, 32103),

Gene: Larnav_60 Start: 32391, Stop: 32897, Start Num: 14

Candidate Starts for Larnav_60:

(Start: 14 @32391 has 23 MA's), (27, 32472), (29, 32487), (46, 32625), (57, 32715), (64, 32766), (67, 32784), (77, 32838), (80, 32847), (85, 32886),

Gene: Leo04_56 Start: 32906, Stop: 33412, Start Num: 14

Candidate Starts for Leo04_56:

(Start: 14 @32906 has 23 MA's), (27, 32987), (29, 33002), (46, 33140), (64, 33281), (67, 33299), (77, 33353), (80, 33362), (85, 33401),

Gene: Liandry_54 Start: 31746, Stop: 32297, Start Num: 14

Candidate Starts for Liandry_54:

(1, 31650), (2, 31662), (3, 31671), (4, 31677), (10, 31704), (Start: 14 @31746 has 23 MA's), (Start: 25 @31806 has 2 MA's), (47, 31983), (57, 32070), (64, 32121), (67, 32139), (77, 32193), (84, 32226), (87, 32280), (88, 32286),

Gene: LilMartin_52 Start: 30679, Stop: 31182, Start Num: 15

Candidate Starts for LilMartin_52:

(2, 30592), (3, 30601), (4, 30607), (Start: 15 @30679 has 32 MA's), (20, 30709), (47, 30913), (77, 31123), (85, 31171),

Gene: Limpid_32 Start: 20311, Stop: 20856, Start Num: 9

Candidate Starts for Limpid_32:

(Start: 9 @20311 has 4 MA's), (11, 20329), (43, 20560), (46, 20584), (53, 20632), (56, 20653), (57, 20674), (71, 20752), (75, 20788), (76, 20791), (83, 20821), (85, 20845),

Gene: LukeCage_56 Start: 31578, Stop: 32081, Start Num: 15

Candidate Starts for LukeCage_56:

(Start: 15 @31578 has 32 MA's), (30, 31674), (38, 31743), (66, 31965), (69, 31974), (85, 32070),

Gene: Lululemon_56 Start: 31787, Stop: 32293, Start Num: 14

Candidate Starts for Lululemon_56:

(Start: 14 @31787 has 23 MA's), (27, 31868), (29, 31883), (46, 32021), (64, 32162), (67, 32180), (77, 32234), (80, 32243), (85, 32282),

Gene: MeganTheeKilla_34 Start: 20532, Stop: 21086, Start Num: 8

Candidate Starts for MeganTheeKilla_34:

(Start: 8 @20532 has 18 MA's), (33, 20697), (35, 20712), (45, 20799), (49, 20841), (53, 20862), (55, 20874), (56, 20883), (74, 21006), (75, 21018), (76, 21021), (83, 21051),

Gene: Mildred21_53 Start: 30872, Stop: 31375, Start Num: 15

Candidate Starts for Mildred21_53:

(Start: 15 @30872 has 32 MA's), (47, 31106), (69, 31268), (77, 31316), (79, 31322), (85, 31364),

Gene: MindFlayer_55 Start: 31329, Stop: 31832, Start Num: 15

Candidate Starts for MindFlayer_55:

(Start: 15 @31329 has 32 MA's), (69, 31725), (84, 31806), (85, 31821),

Gene: Moab_35 Start: 22371, Stop: 22916, Start Num: 8

Candidate Starts for Moab_35:

(Start: 8 @22371 has 18 MA's), (35, 22551), (40, 22590), (41, 22593), (53, 22692), (56, 22713), (60, 22770), (73, 22830), (75, 22848), (76, 22851), (83, 22881),

Gene: Mugiwara_58 Start: 32077, Stop: 32580, Start Num: 15

Candidate Starts for Mugiwara_58:

(Start: 15 @32077 has 32 MA's), (58, 32410), (69, 32473), (85, 32569),

Gene: MulchMansion_52 Start: 30679, Stop: 31182, Start Num: 15

Candidate Starts for MulchMansion_52:

(2, 30592), (3, 30601), (4, 30607), (Start: 15 @30679 has 32 MA's), (20, 30709), (47, 30913), (77, 31123), (85, 31171),

Gene: Muntaha_31 Start: 22171, Stop: 22716, Start Num: 6

Candidate Starts for Muntaha_31:

(Start: 6 @22171 has 2 MA's), (38, 22387), (53, 22501), (55, 22513), (56, 22522), (57, 22543), (63, 22594), (75, 22651), (82, 22678), (83, 22684),

Gene: Navo_53 Start: 31704, Stop: 32210, Start Num: 14

Candidate Starts for Navo_53:

(1, 31608), (2, 31620), (4, 31635), (Start: 14 @31704 has 23 MA's), (Start: 25 @31764 has 2 MA's), (57, 32028), (64, 32079), (77, 32151), (85, 32199),

Gene: NiceHouse_66 Start: 37810, Stop: 38346, Start Num: 12

Candidate Starts for NiceHouse_66:

(Start: 12 @37810 has 1 MA's), (19, 37843), (21, 37858), (23, 37882), (24, 37885), (26, 37900), (30, 37927), (46, 38068), (50, 38098), (52, 38107), (54, 38125), (57, 38158), (61, 38200), (68, 38233), (70, 38239), (85, 38335),

Gene: NootNoot_51 Start: 30660, Stop: 31211, Start Num: 14

Candidate Starts for NootNoot_51:

(1, 30564), (2, 30576), (4, 30591), (5, 30603), (10, 30618), (Start: 14 @30660 has 23 MA's), (Start: 25 @30720 has 2 MA's), (47, 30897), (57, 30984), (64, 31035), (67, 31053), (77, 31107), (84, 31140), (87, 31194), (88, 31200),

Gene: PacManQ_56 Start: 31787, Stop: 32293, Start Num: 14

Candidate Starts for PacManQ_56:

(Start: 14 @31787 has 23 MA's), (27, 31868), (29, 31883), (46, 32021), (64, 32162), (67, 32180), (77, 32234), (80, 32243), (85, 32282),

Gene: Paradiddles_51 Start: 30921, Stop: 31472, Start Num: 14

Candidate Starts for Paradiddles_51:

(1, 30825), (2, 30837), (4, 30852), (5, 30864), (10, 30879), (Start: 14 @30921 has 23 MA's), (Start: 25 @30981 has 2 MA's), (47, 31158), (57, 31245), (64, 31296), (67, 31314), (77, 31368), (84, 31401), (87, 31455), (88, 31461),

Gene: Patelgo_35 Start: 22561, Stop: 23106, Start Num: 8

Candidate Starts for Patelgo_35:

(Start: 8 @22561 has 18 MA's), (35, 22741), (40, 22780), (41, 22783), (53, 22882), (56, 22903), (60, 22960), (73, 23020), (75, 23038), (76, 23041), (83, 23071), (85, 23095),

Gene: Peebs_54 Start: 32144, Stop: 32650, Start Num: 14

Candidate Starts for Peebs_54:

(Start: 14 @32144 has 23 MA's), (27, 32225), (29, 32240), (46, 32378), (57, 32468), (64, 32519), (67, 32537), (77, 32591), (80, 32600), (85, 32639),

Gene: Pepperwood_55 Start: 32277, Stop: 32783, Start Num: 14

Candidate Starts for Pepperwood_55:

(Start: 14 @32277 has 23 MA's), (27, 32358), (29, 32373), (46, 32511), (57, 32601), (64, 32652), (67, 32670), (77, 32724), (80, 32733), (85, 32772),

Gene: Persimmon_51 Start: 30635, Stop: 31141, Start Num: 14

Candidate Starts for Persimmon_51:

(1, 30539), (2, 30551), (3, 30560), (4, 30566), (10, 30593), (Start: 14 @30635 has 23 MA's), (Start: 25 @30695 has 2 MA's), (28, 30728), (34, 30770), (47, 30872), (57, 30959), (64, 31010), (77, 31082), (85, 31130),

Gene: Phredrick_34 Start: 20426, Stop: 20980, Start Num: 8

Candidate Starts for Phredrick_34:

(Start: 8 @20426 has 18 MA's), (33, 20591), (35, 20606), (46, 20699), (53, 20756), (55, 20768), (56, 20777), (75, 20912), (76, 20915), (83, 20945),

Gene: PinkiePie_53 Start: 31746, Stop: 32297, Start Num: 14

Candidate Starts for PinkiePie_53:

(1, 31650), (2, 31662), (3, 31671), (4, 31677), (10, 31704), (Start: 14 @31746 has 23 MA's), (Start: 25 @31806 has 2 MA's), (47, 31983), (57, 32070), (64, 32121), (67, 32139), (77, 32193), (84, 32226), (87, 32280), (88, 32286),

Gene: PumpkinSpice_56 Start: 31721, Stop: 32224, Start Num: 15

Candidate Starts for PumpkinSpice_56:

(Start: 15 @31721 has 32 MA's), (69, 32117), (84, 32198), (85, 32213),

Gene: Quaran19_57 Start: 31712, Stop: 32215, Start Num: 15

Candidate Starts for Quaran19_57:

(Start: 15 @31712 has 32 MA's), (69, 32108), (84, 32189), (85, 32204),

Gene: SaltySpittoon_57 Start: 31721, Stop: 32224, Start Num: 15

Candidate Starts for SaltySpittoon_57:

(Start: 15 @31721 has 32 MA's), (69, 32117), (84, 32198), (85, 32213),

Gene: Samisti12_55 Start: 33580, Stop: 34086, Start Num: 14

Candidate Starts for Samisti12_55:

(Start: 14 @33580 has 23 MA's), (27, 33661), (29, 33676), (46, 33814), (64, 33955), (67, 33973), (77, 34027), (80, 34036), (85, 34075),

Gene: SeresaTree_35 Start: 21201, Stop: 21749, Start Num: 8

Candidate Starts for SeresaTree_35:

(Start: 8 @21201 has 18 MA's), (Start: 12 @21237 has 1 MA's), (34, 21375), (41, 21426), (53, 21525), (54, 21534), (55, 21537), (56, 21546), (57, 21567), (75, 21681), (76, 21684), (83, 21714),

Gene: Sham_32 Start: 22298, Stop: 22846, Start Num: 8

Candidate Starts for Sham_32:

(Start: 8 @22298 has 18 MA's), (31, 22439), (32, 22448), (34, 22472), (40, 22520), (41, 22523), (43, 22550), (53, 22622), (54, 22631), (56, 22643), (59, 22679), (75, 22778), (83, 22811), (85, 22835),

Gene: Sollertia_57 Start: 31698, Stop: 32201, Start Num: 15

Candidate Starts for Sollertia_57:

(Start: 15 @31698 has 32 MA's), (30, 31794), (38, 31863), (43, 31905), (69, 32094), (85, 32190),

Gene: SparkleGoddess_35 Start: 22442, Stop: 22987, Start Num: 8

Candidate Starts for SparkleGoddess_35:

(Start: 8 @22442 has 18 MA's), (35, 22622), (49, 22742), (53, 22763), (54, 22772), (56, 22784), (60, 22841), (74, 22907), (75, 22919), (83, 22952),

Gene: Spelly_57 Start: 31676, Stop: 32179, Start Num: 15

Candidate Starts for Spelly_57:

(Start: 15 @31676 has 32 MA's), (69, 32072), (84, 32153), (85, 32168),

Gene: Spilled_58 Start: 31793, Stop: 32296, Start Num: 15

Candidate Starts for Spilled_58:

(Start: 15 @31793 has 32 MA's), (66, 32180), (69, 32189), (84, 32270), (85, 32285),

Gene: Squillium_54 Start: 31747, Stop: 32298, Start Num: 14

Candidate Starts for Squillium_54:

(1, 31651), (2, 31663), (3, 31672), (4, 31678), (10, 31705), (Start: 14 @31747 has 23 MA's), (Start: 25 @31807 has 2 MA's), (47, 31984), (57, 32071), (64, 32122), (67, 32140), (77, 32194), (84, 32227), (87, 32281), (88, 32287),

Gene: Stanimal_57 Start: 31587, Stop: 32090, Start Num: 15

Candidate Starts for Stanimal_57:

(Start: 15 @31587 has 32 MA's), (30, 31683), (38, 31752), (43, 31794), (69, 31983), (85, 32079),

Gene: StarPlatinum_57 Start: 32221, Stop: 32724, Start Num: 15

Candidate Starts for StarPlatinum_57:

(Start: 15 @32221 has 32 MA's), (38, 32386), (58, 32554), (66, 32608), (69, 32617), (85, 32713),

Gene: Starbow_55 Start: 31697, Stop: 32200, Start Num: 15

Candidate Starts for Starbow_55:

(Start: 15 @31697 has 32 MA's), (69, 32093), (84, 32174), (85, 32189),

Gene: Stigma_35 Start: 22443, Stop: 22988, Start Num: 8

Candidate Starts for Stigma_35:

(Start: 8 @22443 has 18 MA's), (35, 22623), (53, 22764), (54, 22773), (56, 22785), (60, 22842), (74, 22908), (75, 22920), (83, 22953),

Gene: Sushi23_55 Start: 32502, Stop: 33008, Start Num: 14

Candidate Starts for Sushi23_55:

(Start: 14 @32502 has 23 MA's), (27, 32583), (29, 32598), (46, 32736), (57, 32826), (64, 32877), (67, 32895), (77, 32949), (80, 32958), (85, 32997),

Gene: Targaryen_56 Start: 33265, Stop: 33816, Start Num: 14

Candidate Starts for Targaryen_56:

(1, 33169), (2, 33181), (4, 33196), (10, 33223), (Start: 14 @33265 has 23 MA's), (Start: 25 @33325 has 2 MA's), (27, 33346), (57, 33589), (64, 33640), (67, 33658), (77, 33712), (80, 33721), (84, 33745), (87, 33799), (88, 33805),

Gene: Teutsch_55 Start: 32771, Stop: 33277, Start Num: 14

Candidate Starts for Teutsch_55:

(Start: 14 @32771 has 23 MA's), (27, 32852), (29, 32867), (46, 33005), (57, 33095), (64, 33146), (67, 33164), (77, 33218), (80, 33227), (85, 33266),

Gene: TomSawyer_55 Start: 31315, Stop: 31818, Start Num: 15

Candidate Starts for TomSawyer_55:

(Start: 15 @31315 has 32 MA's), (69, 31711), (84, 31792), (85, 31807),

Gene: Tomas_59 Start: 34046, Stop: 34549, Start Num: 15

Candidate Starts for Tomas_59:

(5, 33989), (Start: 15 @34046 has 32 MA's), (20, 34076), (22, 34088), (30, 34142), (35, 34187), (38, 34211), (69, 34442), (72, 34451), (79, 34496), (84, 34523), (85, 34538),

Gene: Tribute_53 Start: 31971, Stop: 32477, Start Num: 14

Candidate Starts for Tribute_53:

(Start: 14 @31971 has 23 MA's), (27, 32052), (29, 32067), (46, 32205), (57, 32295), (64, 32346), (67, 32364), (77, 32418), (80, 32427), (85, 32466),

Gene: Trina_77 Start: 41278, Stop: 41826, Start Num: 13

Candidate Starts for Trina_77:

(Start: 13 @41278 has 2 MA's), (16, 41296), (17, 41302), (18, 41308), (24, 41353), (36, 41440), (37, 41467), (39, 41479), (41, 41485), (44, 41527), (65, 41701),

Gene: TunaTartare_34 Start: 22591, Stop: 23139, Start Num: 8

Candidate Starts for TunaTartare_34:

(Start: 8 @22591 has 18 MA's), (31, 22732), (32, 22741), (34, 22765), (41, 22816), (53, 22915), (54, 22924), (56, 22936), (73, 23053), (75, 23071), (83, 23104), (85, 23128),

Gene: Wakanda_31 Start: 22109, Stop: 22654, Start Num: 6

Candidate Starts for Wakanda_31:

(Start: 6 @22109 has 2 MA's), (38, 22325), (53, 22439), (55, 22451), (56, 22460), (57, 22481), (63, 22532), (75, 22589), (82, 22616), (83, 22622),

Gene: Warpy_59 Start: 32789, Stop: 33280, Start Num: 25

Candidate Starts for Warpy_59:

(1, 32633), (2, 32645), (4, 32660), (10, 32687), (Start: 14 @32729 has 23 MA's), (Start: 25 @32789 has 2 MA's), (27, 32810), (57, 33053), (64, 33104), (67, 33122), (77, 33176), (80, 33185), (84, 33209), (87, 33263), (88, 33269),

Gene: Watermoore_55 Start: 32978, Stop: 33484, Start Num: 14

Candidate Starts for Watermoore_55:

(Start: 14 @32978 has 23 MA's), (27, 33059), (29, 33074), (46, 33212), (64, 33353), (67, 33371), (77, 33425), (80, 33434), (85, 33473),

Gene: WhereRU_54 Start: 31226, Stop: 31732, Start Num: 14

Candidate Starts for WhereRU_54:

(1, 31130), (2, 31142), (3, 31151), (4, 31157), (10, 31184), (Start: 14 @31226 has 23 MA's), (Start: 25 @31286 has 2 MA's), (28, 31319), (34, 31361), (47, 31463), (57, 31550), (64, 31601), (77, 31673), (85, 31721),

Gene: Wipeout_55 Start: 32066, Stop: 32569, Start Num: 15

Candidate Starts for Wipeout_55:

(Start: 15 @32066 has 32 MA's), (69, 32462), (84, 32543), (85, 32558),

Gene: Wofford_56 Start: 32720, Stop: 33223, Start Num: 15

Candidate Starts for Wofford_56:

(Start: 15 @32720 has 32 MA's), (20, 32750), (24, 32774), (34, 32852), (35, 32861), (51, 32987), (53, 32999), (69, 33116), (85, 33212),

Gene: Yaboi_57 Start: 31675, Stop: 32178, Start Num: 15

Candidate Starts for Yaboi_57:

(Start: 15 @31675 has 32 MA's), (30, 31771), (38, 31840), (69, 32071), (85, 32167),