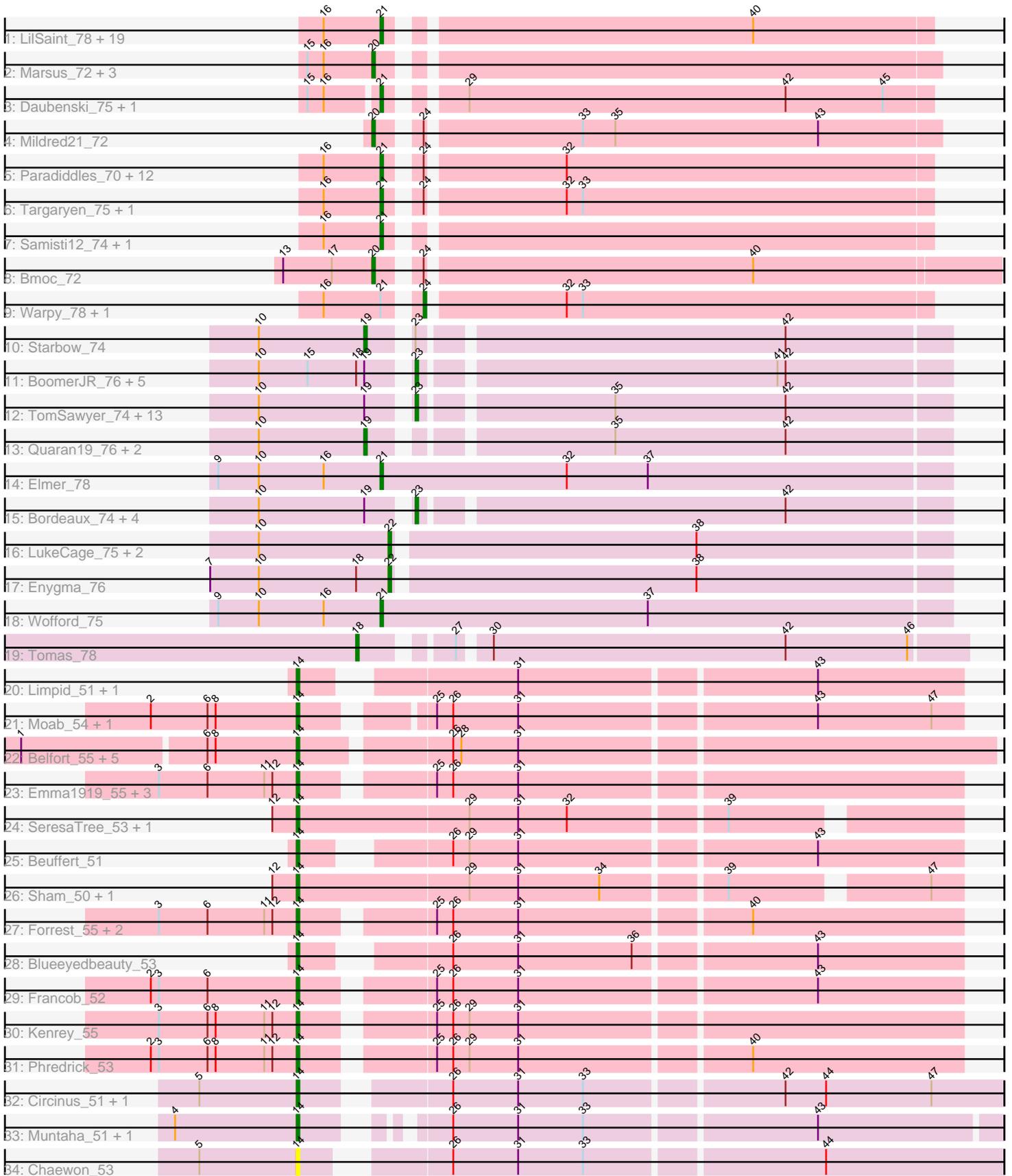


Pham 283637



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 283637 Report

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

Pham number 283637 has 114 members, 9 are drafts.

Phages represented in each track:

- Track 1 : LilSaint_78, Cursive_72, Larnav_74, EGole_75, HangryHippo_74, Tribute_72, Coogler_74, Watermoore_74, PacManQ_73, BlueOtter_74, Anedea_72, Leo04_75, Teutsch_74, Scheme_75, Cross_74, Peebs_73, Lululemon_73, Pepperwood_74, Sushi23_74, Riptide_71
- Track 2 : Marsus_72, MulchMansion_71, LilMartin_71, Angela_71
- Track 3 : Daubenski_75, Cadmus_72
- Track 4 : Mildred21_72
- Track 5 : Paradiddles_70, Braelyn_73, NootNoot_70, FreddyDRoo_72, Persimmon_70, Squillium_73, Eliot67_72, Navo_72, WhereRU_71, Liandry_73, Bartholomune_72, Davielle_71, PinkiePie_72
- Track 6 : Targaryen_75, Evy_75
- Track 7 : Samisti12_74, Shuckle_72
- Track 8 : Bmoc_72
- Track 9 : Warpy_78, Jay2Jay_79
- Track 10 : Starbow_74
- Track 11 : BoomerJR_76, AngryGiraffe_75, Sollertia_76, Genie2_76, Yaboi_76, Stanimal_76
- Track 12 : TomSawyer_74, CeilingFan_75, Birchlyn_73, SaltySpittoon_76, JimJam_76, Gibbi_80, Spelly_76, Karimac_75, Amabiko_76, PumpkinSpice_75, AcciDwight_80, Rikishi_76, MindFlayer_74, Wipeout_74
- Track 13 : Quarant19_76, KentuckyRacer_76, Jollison_75
- Track 14 : Elmer_78
- Track 15 : Bordeaux_74, Spilled_77, Battuta_74, IchabodCrane_73, Brizzy_75
- Track 16 : LukeCage_75, StarPlatinum_76, Mugiwara_75
- Track 17 : Enygma_76
- Track 18 : Wofford_75
- Track 19 : Tomas_78
- Track 20 : Limpid_51, Annadreamy_51
- Track 21 : Moab_54, Patelgo_54
- Track 22 : Belfort_55, Westy_54, Karp_52, Comrade_54, SparkleGoddess_54, Stigma_53
- Track 23 : Emma1919_55, Gilson_54, DeluluLabubu_52, Maupel_53
- Track 24 : SeresaTree_53, Faust_54
- Track 25 : Beuffert_51
- Track 26 : Sham_50, TunaTartare_52
- Track 27 : Forrest_55, MeganTheeKilla_52, Jada_53
- Track 28 : Blueeyedbeauty_53

- Track 29 : Francob_52
- Track 30 : Kenrey_55
- Track 31 : Phredrick_53
- Track 32 : Circinus_51, BillNye_50
- Track 33 : Muntaha_51, Wakanda_50
- Track 34 : Chaewon_53

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

The start number called the most often in the published annotations is 21, it was called in 38 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anedea_72, Bartholomune_72, BlueOtter_74, Braelyn_73, Cadmus_72, Coogler_74, Cross_74, Cursive_72, Daubenski_75, Davielle_71, EGole_75, Eliot67_72, Elmer_78, Evy_75, FreddyDRoo_72, HangryHippo_74, Larnav_74, Leo04_75, Liandry_73, LilSaint_78, Lululemon_73, Navo_72, NootNoot_70, PacManQ_73, Paradiddles_70, Peebs_73, Pepperwood_74, Persimmon_70, PinkiePie_72, Riptide_71, Samisti12_74, Scheme_75, Shuckle_72, Squillium_73, Sushi23_74, Targaryen_75, Teutsch_74, Tribute_72, Watermoore_74, WhereRU_71, Wofford_75,

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

- Jay2Jay_79, Warpy_78,

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

- AcciDwight_80, Amabiko_76, Angela_71, AngryGiraffe_75, Annadreamy_51, Battuta_74, Belfort_55, Beuffert_51, BillNye_50, Birchlyn_73, Blueeyedbeauty_53, Bmoc_72, BoomerJR_76, Bordeaux_74, Brizzy_75, CeilingFan_75, Chaewon_53, Circinus_51, Comrade_54, DeluluLabubu_52, Emma1919_55, Enygma_76, Faust_54, Forrest_55, Francob_52, Genie2_76, Gibbi_80, Gilson_54, IchabodCrane_73, Jada_53, JimJam_76, Jollison_75, Karimac_75, Karp_52, Kenrey_55, KentuckyRacer_76, LilMartin_71, Limpid_51, LukeCage_75, Marsus_72, Maupel_53, MeganTheeKilla_52, Mildred21_72, MindFlayer_74, Moab_54, Mugiwara_75, MulchMansion_71, Muntaha_51, Patelgo_54, Phredrick_53, PumpkinSpice_75, Quarant19_76, Rikishi_76, SaltySpittoon_76, SeresaTree_53, Sham_50, Sollertia_76, SparkleGoddess_54, Spelly_76, Spilled_77, Stanimal_76, StarPlatinum_76, Starbow_74, Stigma_53, TomSawyer_74, Tomas_78, TunaTartare_52, Wakanda_50, Westy_54, Wipeout_74, Yaboi_76,

Summary by start number:

Start 14:

- Found in 31 of 114 (27.2%) of genes in pham
- Manual Annotations of this start: 27 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy_51 (BK1), Belfort_55 (BK1), Beuffert_51 (BK1), BillNye_50 (BK2), Blueeyedbeauty_53 (BK1), Chaewon_53 (BK2), Circinus_51 (BK2), Comrade_54 (BK1), DeluluLabubu_52 (BK1), Emma1919_55 (BK1), Faust_54 (BK1), Forrest_55 (BK1), Francob_52 (BK1),

Gilson_54 (BK1), Jada_53 (BK1), Karp_52 (BK1), Kenrey_55 (BK1), Limpid_51 (BK1), Maupel_53 (BK1), MeganTheeKilla_52 (BK1), Moab_54 (BK1), Muntaha_51 (BK2), Patelgo_54 (BK1), Phredrick_53 (BK1), SeresaTree_53 (BK1), Sham_50 (BK1), SparkleGoddess_54 (BK1), Stigma_53 (BK1), TunaTartare_52 (BK1), Wakanda_50 (BK2), Westy_54 (BK1),

Start 18:

- Found in 8 of 114 (7.0%) of genes in pham
- Manual Annotations of this start: 1 of 105
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Tomas_78 (BE2),

Start 19:

- Found in 29 of 114 (25.4%) of genes in pham
- Manual Annotations of this start: 4 of 105
- Called 13.8% of time when present
- Phage (with cluster) where this start called: Jollison_75 (BE2), KentuckyRacer_76 (BE2), Quaran19_76 (BE2), Starbow_74 (BE2),

Start 20:

- Found in 6 of 114 (5.3%) of genes in pham
- Manual Annotations of this start: 6 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angela_71 (BE1), Bmoc_72 (BE1), LilMartin_71 (BE1), Marsus_72 (BE1), Mildred21_72 (BE1), MulchMansion_71 (BE1),

Start 21:

- Found in 43 of 114 (37.7%) of genes in pham
- Manual Annotations of this start: 38 of 105
- Called 95.3% of time when present
- Phage (with cluster) where this start called: Anedea_72 (BE1), Bartholomune_72 (BE1), BlueOtter_74 (BE1), Braelyn_73 (BE1), Cadmus_72 (BE1), Coogler_74 (BE1), Cross_74 (BE1), Cursive_72 (BE1), Daubenski_75 (BE1), Davielle_71 (BE1), EGole_75 (BE1), Eliot67_72 (BE1), Elmer_78 (BE2), Evy_75 (BE1), FreddyDRoo_72 (BE1), HangryHippo_74 (BE1), Larnav_74 (BE1), Leo04_75 (BE1), Liandry_73 (BE1), LilSaint_78 (BE1), Lululemon_73 (BE1), Navo_72 (BE1), NootNoot_70 (BE1), PacManQ_73 (BE1), Paradiddles_70 (BE1), Peebs_73 (BE1), Pepperwood_74 (BE1), Persimmon_70 (BE1), PinkiePie_72 (BE1), Riptide_71 (BE1), Samisti12_74 (BE1), Scheme_75 (BE1), Shuckle_72 (BE1), Squillium_73 (BE1), Sushi23_74 (BE1), Targaryen_75 (BE1), Teutsch_74 (BE1), Tribute_72 (BE1), Watermoore_74 (BE1), WhereRU_71 (BE1), Wofford_75 (BE2),

Start 22:

- Found in 4 of 114 (3.5%) of genes in pham
- Manual Annotations of this start: 4 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Enygma_76 (BE2), LukeCage_75 (BE2), Mugiwara_75 (BE2), StarPlatinum_76 (BE2),

Start 23:

- Found in 26 of 114 (22.8%) of genes in pham
- Manual Annotations of this start: 23 of 105
- Called 96.2% of time when present

- Phage (with cluster) where this start called: AcciDwight_80 (BE2), Amabiko_76 (BE2), AngryGiraffe_75 (BE2), Battuta_74 (BE2), Birchlyn_73 (BE2), BoomerJR_76 (BE2), Bordeaux_74 (BE2), Brizzy_75 (BE2), CeilingFan_75 (BE2), Genie2_76 (BE2), Gibbi_80 (BE2), IchabodCrane_73 (BE2), JimJam_76 (BE2), Karimac_75 (BE2), MindFlayer_74 (BE2), PumpkinSpice_75 (BE2), Rikishi_76 (BE2), SaltySpittoon_76 (BE2), Sollertia_76 (BE2), Spelly_76 (BE2), Spilled_77 (BE2), Stanimal_76 (BE2), TomSawyer_74 (BE2), Wipeout_74 (BE2), Yaboi_76 (BE2),

Start 24:

- Found in 19 of 114 (16.7%) of genes in pham
- Manual Annotations of this start: 2 of 105
- Called 10.5% of time when present
- Phage (with cluster) where this start called: Jay2Jay_79 (BE1), Warpy_78 (BE1),

Summary by clusters:

There are 4 clusters represented in this pham: BE2, BE1, BK1, BK2,

Info for manual annotations of cluster BE1:

- Start number 20 was manually annotated 6 times for cluster BE1.
- Start number 21 was manually annotated 36 times for cluster BE1.
- Start number 24 was manually annotated 2 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 18 was manually annotated 1 time for cluster BE2.
- Start number 19 was manually annotated 4 times for cluster BE2.
- Start number 21 was manually annotated 2 times for cluster BE2.
- Start number 22 was manually annotated 4 times for cluster BE2.
- Start number 23 was manually annotated 23 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 14 was manually annotated 23 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 14 was manually annotated 4 times for cluster BK2.

Gene Information:

Gene: AcciDwight_80 Start: 54382, Stop: 54570, Start Num: 23

Candidate Starts for AcciDwight_80:

(10, 54331), (Start: 19 @54370 has 4 MA's), (Start: 23 @54382 has 23 MA's), (35, 54448), (42, 54511),

Gene: Amabiko_76 Start: 54427, Stop: 54615, Start Num: 23

Candidate Starts for Amabiko_76:

(10, 54376), (Start: 19 @54415 has 4 MA's), (Start: 23 @54427 has 23 MA's), (35, 54493), (42, 54556),

Gene: Anedea_72 Start: 53993, Stop: 54184, Start Num: 21

Candidate Starts for Anedea_72:

(16, 53972), (Start: 21 @53993 has 38 MA's), (40, 54119),

Gene: Angela_71 Start: 53445, Stop: 53642, Start Num: 20

Candidate Starts for Angela_71:
(15, 53421), (16, 53427), (Start: 20 @53445 has 6 MA's),

Gene: AngryGiraffe_75 Start: 54378, Stop: 54566, Start Num: 23
Candidate Starts for AngryGiraffe_75:
(10, 54327), (15, 54345), (Start: 18 @54363 has 1 MA's), (Start: 19 @54366 has 4 MA's), (Start: 23 @54378 has 23 MA's), (41, 54504), (42, 54507),

Gene: Annadreamy_51 Start: 43372, Stop: 43596, Start Num: 14
Candidate Starts for Annadreamy_51:
(Start: 14 @43372 has 27 MA's), (31, 43438), (43, 43543),

Gene: Bartholomune_72 Start: 53812, Stop: 54003, Start Num: 21
Candidate Starts for Bartholomune_72:
(16, 53791), (Start: 21 @53812 has 38 MA's), (Start: 24 @53821 has 2 MA's), (32, 53869),

Gene: Battuta_74 Start: 54401, Stop: 54589, Start Num: 23
Candidate Starts for Battuta_74:
(10, 54350), (Start: 19 @54389 has 4 MA's), (Start: 23 @54401 has 23 MA's), (42, 54530),

Gene: Belfort_55 Start: 45887, Stop: 46132, Start Num: 14
Candidate Starts for Belfort_55:
(1, 45788), (6, 45854), (8, 45857), (Start: 14 @45887 has 27 MA's), (26, 45938), (28, 45941), (31, 45962),

Gene: Beuffert_51 Start: 44510, Stop: 44734, Start Num: 14
Candidate Starts for Beuffert_51:
(Start: 14 @44510 has 27 MA's), (26, 44552), (29, 44558), (31, 44576), (43, 44681),

Gene: BillNye_50 Start: 47336, Stop: 47578, Start Num: 14
Candidate Starts for BillNye_50:
(5, 47300), (Start: 14 @47336 has 27 MA's), (26, 47381), (31, 47405), (33, 47429), (42, 47498), (44, 47513), (47, 47552),

Gene: Birchlyn_73 Start: 52284, Stop: 52472, Start Num: 23
Candidate Starts for Birchlyn_73:
(10, 52233), (Start: 19 @52272 has 4 MA's), (Start: 23 @52284 has 23 MA's), (35, 52350), (42, 52413),

Gene: BlueOtter_74 Start: 55186, Stop: 55377, Start Num: 21
Candidate Starts for BlueOtter_74:
(16, 55165), (Start: 21 @55186 has 38 MA's), (40, 55312),

Gene: Blueeyedbeauty_53 Start: 43884, Stop: 44108, Start Num: 14
Candidate Starts for Blueeyedbeauty_53:
(Start: 14 @43884 has 27 MA's), (26, 43926), (31, 43950), (36, 43992), (43, 44055),

Gene: Bmoc_72 Start: 53803, Stop: 54021, Start Num: 20
Candidate Starts for Bmoc_72:
(13, 53770), (17, 53788), (Start: 20 @53803 has 6 MA's), (Start: 24 @53815 has 2 MA's), (40, 53932),

Gene: BoomerJR_76 Start: 54267, Stop: 54455, Start Num: 23
Candidate Starts for BoomerJR_76:

(10, 54216), (15, 54234), (Start: 18 @54252 has 1 MA's), (Start: 19 @54255 has 4 MA's), (Start: 23 @54267 has 23 MA's), (41, 54393), (42, 54396),

Gene: Bordeaux_74 Start: 54556, Stop: 54744, Start Num: 23

Candidate Starts for Bordeaux_74:

(10, 54505), (Start: 19 @54544 has 4 MA's), (Start: 23 @54556 has 23 MA's), (42, 54685),

Gene: Braelyn_73 Start: 54579, Stop: 54770, Start Num: 21

Candidate Starts for Braelyn_73:

(16, 54558), (Start: 21 @54579 has 38 MA's), (Start: 24 @54588 has 2 MA's), (32, 54636),

Gene: Brizzy_75 Start: 54075, Stop: 54263, Start Num: 23

Candidate Starts for Brizzy_75:

(10, 54024), (Start: 19 @54063 has 4 MA's), (Start: 23 @54075 has 23 MA's), (42, 54204),

Gene: Cadmus_72 Start: 54158, Stop: 54349, Start Num: 21

Candidate Starts for Cadmus_72:

(15, 54134), (16, 54140), (Start: 21 @54158 has 38 MA's), (29, 54179), (42, 54296), (45, 54332),

Gene: CeilingFan_75 Start: 54316, Stop: 54504, Start Num: 23

Candidate Starts for CeilingFan_75:

(10, 54265), (Start: 19 @54304 has 4 MA's), (Start: 23 @54316 has 23 MA's), (35, 54382), (42, 54445),

Gene: Chaewon_53 Start: 47476, Stop: 47715, Start Num: 14

Candidate Starts for Chaewon_53:

(5, 47440), (Start: 14 @47476 has 27 MA's), (26, 47518), (31, 47542), (33, 47566), (44, 47650),

Gene: Circinus_51 Start: 47475, Stop: 47717, Start Num: 14

Candidate Starts for Circinus_51:

(5, 47439), (Start: 14 @47475 has 27 MA's), (26, 47520), (31, 47544), (33, 47568), (42, 47637), (44, 47652), (47, 47691),

Gene: Comrade_54 Start: 45503, Stop: 45748, Start Num: 14

Candidate Starts for Comrade_54:

(1, 45404), (6, 45470), (8, 45473), (Start: 14 @45503 has 27 MA's), (26, 45554), (28, 45557), (31, 45578),

Gene: Coogler_74 Start: 55212, Stop: 55403, Start Num: 21

Candidate Starts for Coogler_74:

(16, 55191), (Start: 21 @55212 has 38 MA's), (40, 55338),

Gene: Cross_74 Start: 55187, Stop: 55378, Start Num: 21

Candidate Starts for Cross_74:

(16, 55166), (Start: 21 @55187 has 38 MA's), (40, 55313),

Gene: Cursive_72 Start: 54712, Stop: 54903, Start Num: 21

Candidate Starts for Cursive_72:

(16, 54691), (Start: 21 @54712 has 38 MA's), (40, 54838),

Gene: Daubenski_75 Start: 54922, Stop: 55113, Start Num: 21

Candidate Starts for Daubenski_75:

(15, 54898), (16, 54904), (Start: 21 @54922 has 38 MA's), (29, 54943), (42, 55060), (45, 55096),

Gene: Davielle_71 Start: 53999, Stop: 54190, Start Num: 21

Candidate Starts for Davielle_71:

(16, 53978), (Start: 21 @53999 has 38 MA's), (Start: 24 @54008 has 2 MA's), (32, 54056),

Gene: DeluluLabubu_52 Start: 43617, Stop: 43847, Start Num: 14

Candidate Starts for DeluluLabubu_52:

(3, 43566), (6, 43584), (11, 43605), (12, 43608), (Start: 14 @43617 has 27 MA's), (25, 43659), (26, 43665), (31, 43689),

Gene: EGole_75 Start: 56133, Stop: 56324, Start Num: 21

Candidate Starts for EGole_75:

(16, 56112), (Start: 21 @56133 has 38 MA's), (40, 56259),

Gene: Eliot67_72 Start: 53854, Stop: 54045, Start Num: 21

Candidate Starts for Eliot67_72:

(16, 53833), (Start: 21 @53854 has 38 MA's), (Start: 24 @53863 has 2 MA's), (32, 53911),

Gene: Elmer_78 Start: 55487, Stop: 55696, Start Num: 21

Candidate Starts for Elmer_78:

(9, 55427), (10, 55442), (16, 55466), (Start: 21 @55487 has 38 MA's), (32, 55556), (37, 55586),

Gene: Emma1919_55 Start: 44300, Stop: 44530, Start Num: 14

Candidate Starts for Emma1919_55:

(3, 44249), (6, 44267), (11, 44288), (12, 44291), (Start: 14 @44300 has 27 MA's), (25, 44342), (26, 44348), (31, 44372),

Gene: Enygma_76 Start: 56198, Stop: 56398, Start Num: 22

Candidate Starts for Enygma_76:

(7, 56132), (10, 56150), (Start: 18 @56186 has 1 MA's), (Start: 22 @56198 has 4 MA's), (38, 56306),

Gene: Evy_75 Start: 55080, Stop: 55271, Start Num: 21

Candidate Starts for Evy_75:

(16, 55059), (Start: 21 @55080 has 38 MA's), (Start: 24 @55089 has 2 MA's), (32, 55137), (33, 55143),

Gene: Faust_54 Start: 45437, Stop: 45667, Start Num: 14

Candidate Starts for Faust_54:

(12, 45428), (Start: 14 @45437 has 27 MA's), (29, 45500), (31, 45518), (32, 45536), (39, 45590),

Gene: Forrest_55 Start: 44997, Stop: 45227, Start Num: 14

Candidate Starts for Forrest_55:

(3, 44946), (6, 44964), (11, 44985), (12, 44988), (Start: 14 @44997 has 27 MA's), (25, 45039), (26, 45045), (31, 45069), (40, 45150),

Gene: Francob_52 Start: 44361, Stop: 44591, Start Num: 14

Candidate Starts for Francob_52:

(2, 44307), (3, 44310), (6, 44328), (Start: 14 @44361 has 27 MA's), (25, 44403), (26, 44409), (31, 44433), (43, 44538),

Gene: FreddyDRoo_72 Start: 53854, Stop: 54045, Start Num: 21

Candidate Starts for FreddyDRoo_72:

(16, 53833), (Start: 21 @53854 has 38 MA's), (Start: 24 @53863 has 2 MA's), (32, 53911),

Gene: Genie2_76 Start: 54381, Stop: 54569, Start Num: 23

Candidate Starts for Genie2_76:

(10, 54330), (15, 54348), (Start: 18 @54366 has 1 MA's), (Start: 19 @54369 has 4 MA's), (Start: 23 @54381 has 23 MA's), (41, 54507), (42, 54510),

Gene: Gibbi_80 Start: 54539, Stop: 54727, Start Num: 23

Candidate Starts for Gibbi_80:

(10, 54488), (Start: 19 @54527 has 4 MA's), (Start: 23 @54539 has 23 MA's), (35, 54605), (42, 54668),

Gene: Gilson_54 Start: 44253, Stop: 44483, Start Num: 14

Candidate Starts for Gilson_54:

(3, 44202), (6, 44220), (11, 44241), (12, 44244), (Start: 14 @44253 has 27 MA's), (25, 44295), (26, 44301), (31, 44325),

Gene: HangryHippo_74 Start: 55186, Stop: 55377, Start Num: 21

Candidate Starts for HangryHippo_74:

(16, 55165), (Start: 21 @55186 has 38 MA's), (40, 55312),

Gene: IchabodCrane_73 Start: 54128, Stop: 54316, Start Num: 23

Candidate Starts for IchabodCrane_73:

(10, 54077), (Start: 19 @54116 has 4 MA's), (Start: 23 @54128 has 23 MA's), (42, 54257),

Gene: Jada_53 Start: 44179, Stop: 44409, Start Num: 14

Candidate Starts for Jada_53:

(3, 44128), (6, 44146), (11, 44167), (12, 44170), (Start: 14 @44179 has 27 MA's), (25, 44221), (26, 44227), (31, 44251), (40, 44332),

Gene: Jay2Jay_79 Start: 55942, Stop: 56124, Start Num: 24

Candidate Starts for Jay2Jay_79:

(16, 55912), (Start: 21 @55933 has 38 MA's), (Start: 24 @55942 has 2 MA's), (32, 55990), (33, 55996),

Gene: JimJam_76 Start: 54502, Stop: 54690, Start Num: 23

Candidate Starts for JimJam_76:

(10, 54451), (Start: 19 @54490 has 4 MA's), (Start: 23 @54502 has 23 MA's), (35, 54568), (42, 54631),

Gene: Jollison_75 Start: 54372, Stop: 54572, Start Num: 19

Candidate Starts for Jollison_75:

(10, 54333), (Start: 19 @54372 has 4 MA's), (35, 54450), (42, 54513),

Gene: Karimac_75 Start: 54533, Stop: 54721, Start Num: 23

Candidate Starts for Karimac_75:

(10, 54482), (Start: 19 @54521 has 4 MA's), (Start: 23 @54533 has 23 MA's), (35, 54599), (42, 54662),

Gene: Karp_52 Start: 45102, Stop: 45347, Start Num: 14

Candidate Starts for Karp_52:

(1, 45003), (6, 45069), (8, 45072), (Start: 14 @45102 has 27 MA's), (26, 45153), (28, 45156), (31, 45177),

Gene: Kenrey_55 Start: 44448, Stop: 44678, Start Num: 14

Candidate Starts for Kenrey_55:

(3, 44397), (6, 44415), (8, 44418), (11, 44436), (12, 44439), (Start: 14 @44448 has 27 MA's), (25, 44490), (26, 44496), (29, 44502), (31, 44520),

Gene: KentuckyRacer_76 Start: 54305, Stop: 54505, Start Num: 19

Candidate Starts for KentuckyRacer_76:
(10, 54266), (Start: 19 @54305 has 4 MA's), (35, 54383), (42, 54446),

Gene: Larnav_74 Start: 55171, Stop: 55362, Start Num: 21
Candidate Starts for Larnav_74:
(16, 55150), (Start: 21 @55171 has 38 MA's), (40, 55297),

Gene: Leo04_75 Start: 55686, Stop: 55877, Start Num: 21
Candidate Starts for Leo04_75:
(16, 55665), (Start: 21 @55686 has 38 MA's), (40, 55812),

Gene: Liandry_73 Start: 54561, Stop: 54752, Start Num: 21
Candidate Starts for Liandry_73:
(16, 54540), (Start: 21 @54561 has 38 MA's), (Start: 24 @54570 has 2 MA's), (32, 54618),

Gene: LilMartin_71 Start: 53393, Stop: 53590, Start Num: 20
Candidate Starts for LilMartin_71:
(15, 53369), (16, 53375), (Start: 20 @53393 has 6 MA's),

Gene: LilSaint_78 Start: 53665, Stop: 53856, Start Num: 21
Candidate Starts for LilSaint_78:
(16, 53644), (Start: 21 @53665 has 38 MA's), (40, 53791),

Gene: Limpid_51 Start: 43371, Stop: 43595, Start Num: 14
Candidate Starts for Limpid_51:
(Start: 14 @43371 has 27 MA's), (31, 43437), (43, 43542),

Gene: LukeCage_75 Start: 54284, Stop: 54484, Start Num: 22
Candidate Starts for LukeCage_75:
(10, 54236), (Start: 22 @54284 has 4 MA's), (38, 54392),

Gene: Lululemon_73 Start: 54567, Stop: 54758, Start Num: 21
Candidate Starts for Lululemon_73:
(16, 54546), (Start: 21 @54567 has 38 MA's), (40, 54693),

Gene: Marsus_72 Start: 53665, Stop: 53862, Start Num: 20
Candidate Starts for Marsus_72:
(15, 53641), (16, 53647), (Start: 20 @53665 has 6 MA's),

Gene: Maupel_53 Start: 44253, Stop: 44483, Start Num: 14
Candidate Starts for Maupel_53:
(3, 44202), (6, 44220), (11, 44241), (12, 44244), (Start: 14 @44253 has 27 MA's), (25, 44295), (26, 44301), (31, 44325),

Gene: MeganTheeKilla_52 Start: 43614, Stop: 43844, Start Num: 14
Candidate Starts for MeganTheeKilla_52:
(3, 43563), (6, 43581), (11, 43602), (12, 43605), (Start: 14 @43614 has 27 MA's), (25, 43656), (26, 43662), (31, 43686), (40, 43767),

Gene: Mildred21_72 Start: 53597, Stop: 53794, Start Num: 20
Candidate Starts for Mildred21_72:
(Start: 20 @53597 has 6 MA's), (Start: 24 @53609 has 2 MA's), (33, 53663), (35, 53675), (43, 53750),

Gene: MindFlyer_74 Start: 54035, Stop: 54223, Start Num: 23
Candidate Starts for MindFlyer_74:
(10, 53984), (Start: 19 @54023 has 4 MA's), (Start: 23 @54035 has 23 MA's), (35, 54101), (42, 54164),

Gene: Moab_54 Start: 45473, Stop: 45700, Start Num: 14
Candidate Starts for Moab_54:
(2, 45419), (6, 45440), (8, 45443), (Start: 14 @45473 has 27 MA's), (25, 45512), (26, 45518), (31, 45542), (43, 45647), (47, 45689),

Gene: Mugiwara_75 Start: 54783, Stop: 54983, Start Num: 22
Candidate Starts for Mugiwara_75:
(10, 54735), (Start: 22 @54783 has 4 MA's), (38, 54891),

Gene: MulchMansion_71 Start: 53393, Stop: 53590, Start Num: 20
Candidate Starts for MulchMansion_71:
(15, 53369), (16, 53375), (Start: 20 @53393 has 6 MA's),

Gene: Muntaha_51 Start: 45723, Stop: 45953, Start Num: 14
Candidate Starts for Muntaha_51:
(4, 45678), (Start: 14 @45723 has 27 MA's), (26, 45759), (31, 45783), (33, 45807), (43, 45888),

Gene: Navo_72 Start: 54483, Stop: 54674, Start Num: 21
Candidate Starts for Navo_72:
(16, 54462), (Start: 21 @54483 has 38 MA's), (Start: 24 @54492 has 2 MA's), (32, 54540),

Gene: NootNoot_70 Start: 53475, Stop: 53666, Start Num: 21
Candidate Starts for NootNoot_70:
(16, 53454), (Start: 21 @53475 has 38 MA's), (Start: 24 @53484 has 2 MA's), (32, 53532),

Gene: PacManQ_73 Start: 54567, Stop: 54758, Start Num: 21
Candidate Starts for PacManQ_73:
(16, 54546), (Start: 21 @54567 has 38 MA's), (40, 54693),

Gene: Paradiddles_70 Start: 53739, Stop: 53930, Start Num: 21
Candidate Starts for Paradiddles_70:
(16, 53718), (Start: 21 @53739 has 38 MA's), (Start: 24 @53748 has 2 MA's), (32, 53796),

Gene: Patelgo_54 Start: 45660, Stop: 45887, Start Num: 14
Candidate Starts for Patelgo_54:
(2, 45606), (6, 45627), (8, 45630), (Start: 14 @45660 has 27 MA's), (25, 45699), (26, 45705), (31, 45729), (43, 45834), (47, 45876),

Gene: Peebs_73 Start: 54921, Stop: 55112, Start Num: 21
Candidate Starts for Peebs_73:
(16, 54900), (Start: 21 @54921 has 38 MA's), (40, 55047),

Gene: Pepperwood_74 Start: 55054, Stop: 55245, Start Num: 21
Candidate Starts for Pepperwood_74:
(16, 55033), (Start: 21 @55054 has 38 MA's), (40, 55180),

Gene: Persimmon_70 Start: 53408, Stop: 53599, Start Num: 21
Candidate Starts for Persimmon_70:
(16, 53387), (Start: 21 @53408 has 38 MA's), (Start: 24 @53417 has 2 MA's), (32, 53465),

Gene: Phredrick_53 Start: 43519, Stop: 43749, Start Num: 14

Candidate Starts for Phredrick_53:

(2, 43465), (3, 43468), (6, 43486), (8, 43489), (11, 43507), (12, 43510), (Start: 14 @43519 has 27 MA's), (25, 43561), (26, 43567), (29, 43573), (31, 43591), (40, 43672),

Gene: PinkiePie_72 Start: 54561, Stop: 54752, Start Num: 21

Candidate Starts for PinkiePie_72:

(16, 54540), (Start: 21 @54561 has 38 MA's), (Start: 24 @54570 has 2 MA's), (32, 54618),

Gene: PumpkinSpice_75 Start: 54427, Stop: 54615, Start Num: 23

Candidate Starts for PumpkinSpice_75:

(10, 54376), (Start: 19 @54415 has 4 MA's), (Start: 23 @54427 has 23 MA's), (35, 54493), (42, 54556),

Gene: Quaran19_76 Start: 54406, Stop: 54606, Start Num: 19

Candidate Starts for Quaran19_76:

(10, 54367), (Start: 19 @54406 has 4 MA's), (35, 54484), (42, 54547),

Gene: Rikishi_76 Start: 54333, Stop: 54521, Start Num: 23

Candidate Starts for Rikishi_76:

(10, 54282), (Start: 19 @54321 has 4 MA's), (Start: 23 @54333 has 23 MA's), (35, 54399), (42, 54462),

Gene: Riptide_71 Start: 53209, Stop: 53400, Start Num: 21

Candidate Starts for Riptide_71:

(16, 53188), (Start: 21 @53209 has 38 MA's), (40, 53335),

Gene: SaltySpittoon_76 Start: 54427, Stop: 54615, Start Num: 23

Candidate Starts for SaltySpittoon_76:

(10, 54376), (Start: 19 @54415 has 4 MA's), (Start: 23 @54427 has 23 MA's), (35, 54493), (42, 54556),

Gene: Samisti12_74 Start: 56364, Stop: 56555, Start Num: 21

Candidate Starts for Samisti12_74:

(16, 56343), (Start: 21 @56364 has 38 MA's),

Gene: Scheme_75 Start: 55768, Stop: 55959, Start Num: 21

Candidate Starts for Scheme_75:

(16, 55747), (Start: 21 @55768 has 38 MA's), (40, 55894),

Gene: SeresaTree_53 Start: 44827, Stop: 45057, Start Num: 14

Candidate Starts for SeresaTree_53:

(12, 44818), (Start: 14 @44827 has 27 MA's), (29, 44890), (31, 44908), (32, 44926), (39, 44980),

Gene: Sham_50 Start: 45368, Stop: 45598, Start Num: 14

Candidate Starts for Sham_50:

(12, 45359), (Start: 14 @45368 has 27 MA's), (29, 45431), (31, 45449), (34, 45479), (39, 45521), (47, 45587),

Gene: Shuckle_72 Start: 55378, Stop: 55569, Start Num: 21

Candidate Starts for Shuckle_72:

(16, 55357), (Start: 21 @55378 has 38 MA's),

Gene: Sollertia_76 Start: 54381, Stop: 54569, Start Num: 23

Candidate Starts for Sollertia_76:

(10, 54330), (15, 54348), (Start: 18 @54366 has 1 MA's), (Start: 19 @54369 has 4 MA's), (Start: 23 @54381 has 23 MA's), (41, 54507), (42, 54510),

Gene: SparkleGoddess_54 Start: 45504, Stop: 45749, Start Num: 14

Candidate Starts for SparkleGoddess_54:

(1, 45405), (6, 45471), (8, 45474), (Start: 14 @45504 has 27 MA's), (26, 45555), (28, 45558), (31, 45579),

Gene: Spelly_76 Start: 54382, Stop: 54570, Start Num: 23

Candidate Starts for Spelly_76:

(10, 54331), (Start: 19 @54370 has 4 MA's), (Start: 23 @54382 has 23 MA's), (35, 54448), (42, 54511),

Gene: Spilled_77 Start: 54499, Stop: 54687, Start Num: 23

Candidate Starts for Spilled_77:

(10, 54448), (Start: 19 @54487 has 4 MA's), (Start: 23 @54499 has 23 MA's), (42, 54628),

Gene: Squillium_73 Start: 54562, Stop: 54753, Start Num: 21

Candidate Starts for Squillium_73:

(16, 54541), (Start: 21 @54562 has 38 MA's), (Start: 24 @54571 has 2 MA's), (32, 54619),

Gene: Stanimal_76 Start: 54270, Stop: 54458, Start Num: 23

Candidate Starts for Stanimal_76:

(10, 54219), (15, 54237), (Start: 18 @54255 has 1 MA's), (Start: 19 @54258 has 4 MA's), (Start: 23 @54270 has 23 MA's), (41, 54396), (42, 54399),

Gene: StarPlatinum_76 Start: 54924, Stop: 55124, Start Num: 22

Candidate Starts for StarPlatinum_76:

(10, 54876), (Start: 22 @54924 has 4 MA's), (38, 55032),

Gene: Starbow_74 Start: 54391, Stop: 54591, Start Num: 19

Candidate Starts for Starbow_74:

(10, 54352), (Start: 19 @54391 has 4 MA's), (Start: 23 @54403 has 23 MA's), (42, 54532),

Gene: Stigma_53 Start: 45518, Stop: 45763, Start Num: 14

Candidate Starts for Stigma_53:

(1, 45419), (6, 45485), (8, 45488), (Start: 14 @45518 has 27 MA's), (26, 45569), (28, 45572), (31, 45593),

Gene: Sushi23_74 Start: 55279, Stop: 55470, Start Num: 21

Candidate Starts for Sushi23_74:

(16, 55258), (Start: 21 @55279 has 38 MA's), (40, 55405),

Gene: Targaryen_75 Start: 55982, Stop: 56173, Start Num: 21

Candidate Starts for Targaryen_75:

(16, 55961), (Start: 21 @55982 has 38 MA's), (Start: 24 @55991 has 2 MA's), (32, 56039), (33, 56045),

Gene: Teutsch_74 Start: 55542, Stop: 55733, Start Num: 21

Candidate Starts for Teutsch_74:

(16, 55521), (Start: 21 @55542 has 38 MA's), (40, 55668),

Gene: TomSawyer_74 Start: 54021, Stop: 54209, Start Num: 23

Candidate Starts for TomSawyer_74:

(10, 53970), (Start: 19 @54009 has 4 MA's), (Start: 23 @54021 has 23 MA's), (35, 54087), (42, 54150),

Gene: Tomas_78 Start: 56737, Stop: 56946, Start Num: 18

Candidate Starts for Tomas_78:

(Start: 18 @56737 has 1 MA's), (27, 56764), (30, 56773), (42, 56881), (46, 56926),

Gene: Tribute_72 Start: 54748, Stop: 54939, Start Num: 21

Candidate Starts for Tribute_72:

(16, 54727), (Start: 21 @54748 has 38 MA's), (40, 54874),

Gene: TunaTartare_52 Start: 45671, Stop: 45901, Start Num: 14

Candidate Starts for TunaTartare_52:

(12, 45662), (Start: 14 @45671 has 27 MA's), (29, 45734), (31, 45752), (34, 45782), (39, 45824), (47, 45890),

Gene: Wakanda_50 Start: 45660, Stop: 45890, Start Num: 14

Candidate Starts for Wakanda_50:

(4, 45615), (Start: 14 @45660 has 27 MA's), (26, 45696), (31, 45720), (33, 45744), (43, 45825),

Gene: Warpy_78 Start: 55455, Stop: 55637, Start Num: 24

Candidate Starts for Warpy_78:

(16, 55425), (Start: 21 @55446 has 38 MA's), (Start: 24 @55455 has 2 MA's), (32, 55503), (33, 55509),

Gene: Watermoore_74 Start: 55758, Stop: 55949, Start Num: 21

Candidate Starts for Watermoore_74:

(16, 55737), (Start: 21 @55758 has 38 MA's), (40, 55884),

Gene: Westy_54 Start: 45505, Stop: 45750, Start Num: 14

Candidate Starts for Westy_54:

(1, 45406), (6, 45472), (8, 45475), (Start: 14 @45505 has 27 MA's), (26, 45556), (28, 45559), (31, 45580),

Gene: WhereRU_71 Start: 53999, Stop: 54190, Start Num: 21

Candidate Starts for WhereRU_71:

(16, 53978), (Start: 21 @53999 has 38 MA's), (Start: 24 @54008 has 2 MA's), (32, 54056),

Gene: Wipeout_74 Start: 54772, Stop: 54960, Start Num: 23

Candidate Starts for Wipeout_74:

(10, 54721), (Start: 19 @54760 has 4 MA's), (Start: 23 @54772 has 23 MA's), (35, 54838), (42, 54901),

Gene: Wofford_75 Start: 55450, Stop: 55659, Start Num: 21

Candidate Starts for Wofford_75:

(9, 55390), (10, 55405), (16, 55429), (Start: 21 @55450 has 38 MA's), (37, 55549),

Gene: Yaboi_76 Start: 54358, Stop: 54546, Start Num: 23

Candidate Starts for Yaboi_76:

(10, 54307), (15, 54325), (Start: 18 @54343 has 1 MA's), (Start: 19 @54346 has 4 MA's), (Start: 23 @54358 has 23 MA's), (41, 54484), (42, 54487),