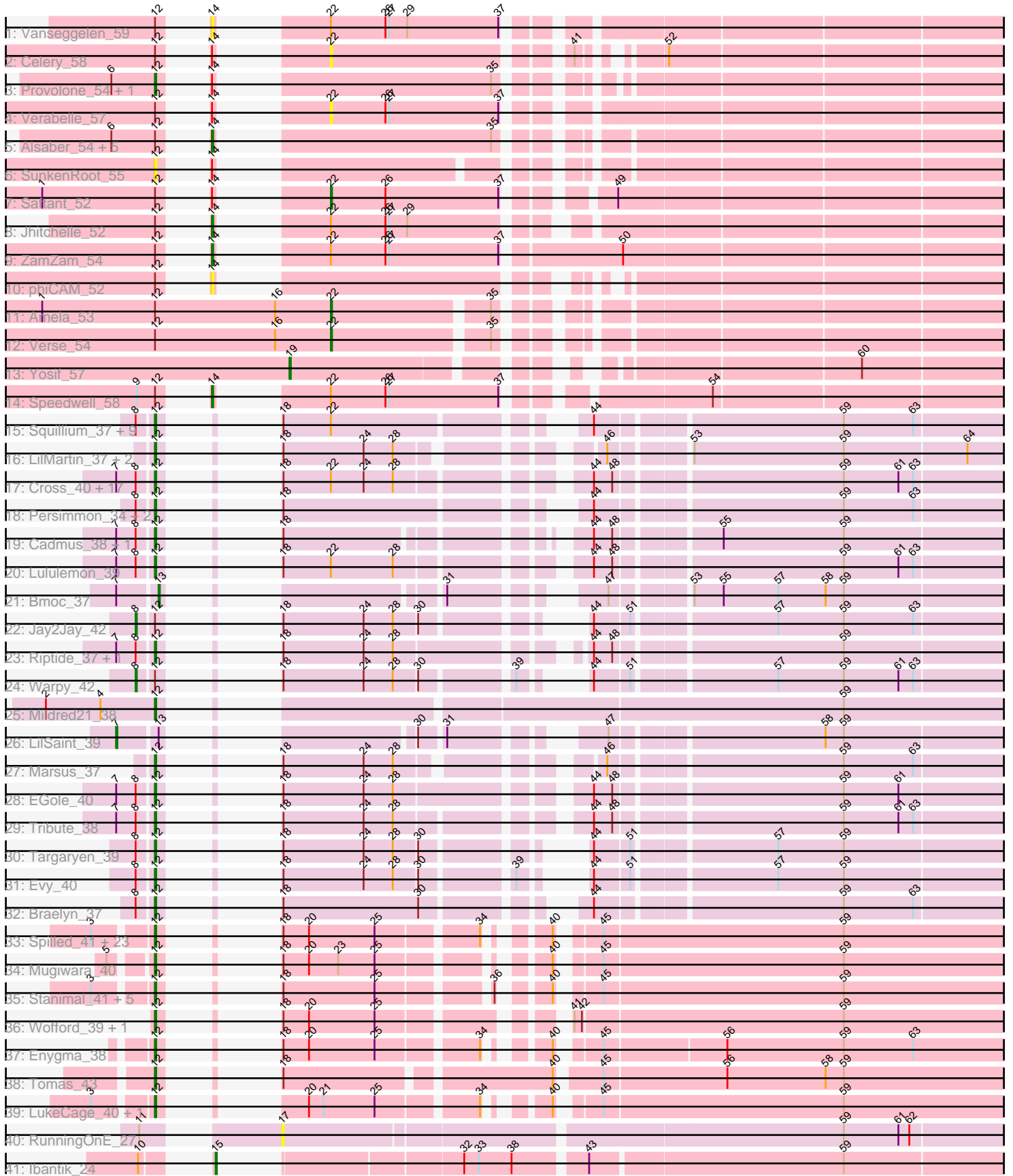


Pham 308352



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 308352 Report

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

Pham number 308352 has 109 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Vanseggelen_59
- Track 2 : Celery_58
- Track 3 : Provolone_54, Dexers_52
- Track 4 : Verabelle_57
- Track 5 : Alsaber_54, Sudan_54, Kaine_54, Pavo_55, Conan_54, ElGato_54
- Track 6 : SunkenRoot_55
- Track 7 : Saftant_52
- Track 8 : Jhitchelle_52
- Track 9 : ZamZam_54
- Track 10 : phiCAM_52
- Track 11 : Amela_53
- Track 12 : Verse_54
- Track 13 : Yosif_57
- Track 14 : Speedwell_58
- Track 15 : Squillium_37, Eliot67_36, Navo_36, WhereRU_35, Liandry_37, Davielle_35, PinkiePie_36, Paradiddles_34, PynkPanther_43, FreddyDRoo_36
- Track 16 : LilMartin_37, Angela_37, MulchMansion_37
- Track 17 : Cross_40, Pepperwood_40, Scheme_40, Samisti12_39, Shuckle_38, Sushi23_40, Peebs_39, WashU_43, Larnav_40, Watermoore_39, Cursive_37, ArianaSWT_43, BlueOtter_40, HangryHippo_40, PacManQ_39, Leo04_40, Coogler_40, Teutsch_39
- Track 18 : Persimmon_34, NootNoot_34, Bartholomune_37
- Track 19 : Cadmus_38, Daubenski_41
- Track 20 : Lululemon_39
- Track 21 : Bmoc_37
- Track 22 : Jay2Jay_42
- Track 23 : Riptide_37, Anedea_37
- Track 24 : Warpy_42
- Track 25 : Mildred21_38
- Track 26 : LilSaint_39
- Track 27 : Marsus_37
- Track 28 : EGole_40
- Track 29 : Tribute_38
- Track 30 : Targaryen_39
- Track 31 : Evy_40
- Track 32 : Braelyn_37

- Track 33 : Spilled_41, SaltySpittoon_41, KentuckyRacer_41, Gibbi_44, Brizzy_40, PumpkinSpice_40, MindFlayer_39, AcciDwight_45, JimJam_41, Rikishi_41, Jollison_40, Wipeout_38, Amabiko_41, Starbow_39, Battuta_39, Birchlyn_38, Daisy123_45, CeilingFan_40, Spelly_41, Quaran19_41, Bordeaux_39, IchabodCrane_38, TomSawyer_39, Karimac_40
- Track 34 : Mugiwara_40
- Track 35 : Stanimal_41, Yaboi_41, Genie2_41, Sollertia_41, BoomerJR_41, AngryGiraffe_40
- Track 36 : Wofford_39, Elmer_42
- Track 37 : Enygma_38
- Track 38 : Tomas_43
- Track 39 : LukeCage_40, StarPlatinum_40
- Track 40 : RunningOnE_27
- Track 41 : Ibantik_24

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

The start number called the most often in the published annotations is 12, it was called in 77 of the 95 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AcciDwight_45, Amabiko_41, Anedea_37, Angela_37, AngryGiraffe_40, ArianaSWT_43, Bartholomune_37, Battuta_39, Birchlyn_38, BlueOtter_40, BoomerJR_41, Bordeaux_39, Braelyn_37, Brizzy_40, Cadmus_38, CeilingFan_40, Coogler_40, Cross_40, Cursive_37, Daisy123_45, Daubenski_41, Davielle_35, Dexers_52, EGole_40, Eliot67_36, Elmer_42, Enygma_38, Evy_40, FreddyDRoo_36, Genie2_41, Gibbi_44, HangryHippo_40, IchabodCrane_38, JimJam_41, Jollison_40, Karimac_40, KentuckyRacer_41, Larnav_40, Leo04_40, Liandry_37, LilMartin_37, LukeCage_40, Lululemon_39, Marsus_37, Mildred21_38, MindFlayer_39, Mugiwara_40, MulchMansion_37, Navo_36, NootNoot_34, PacManQ_39, Paradiddles_34, Peebs_39, Pepperwood_40, Persimmon_34, PinkiePie_36, Provolone_54, PumpkinSpice_40, PynkPanther_43, Quaran19_41, Rikishi_41, Riptide_37, SaltySpittoon_41, Samisti12_39, Scheme_40, Shuckle_38, Sollertia_41, Spelly_41, Spilled_41, Squillium_37, Stanimal_41, StarPlatinum_40, Starbow_39, SunkenRoot_55, Sushi23_40, Targaryen_39, Teutsch_39, TomSawyer_39, Tomas_43, Tribute_38, WashU_43, Watermoore_39, WhereRU_35, Wipeout_38, Wofford_39, Yaboi_41,

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

- Alsaber_54, Amela_53, Celery_58, Conan_54, ElGato_54, Jay2Jay_42, Jhitchelle_52, Kaine_54, Pavo_55, Saftant_52, Speedwell_58, Sudan_54, Vanseggelen_59, Verabelle_57, Verse_54, Warpy_42, ZamZam_54, phiCAM_52,

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

- Bmoc_37, Ibantik_24, LilSaint_39, RunningOnE_27, Yosif_57,

Summary by start number:

Start 7:

- Found in 27 of 109 (24.8%) of genes in pham

- Manual Annotations of this start: 1 of 95
- Called 3.7% of time when present
- Phage (with cluster) where this start called: LilSaint_39 (BE1),

Start 8:

- Found in 43 of 109 (39.4%) of genes in pham
- Manual Annotations of this start: 2 of 95
- Called 4.7% of time when present
- Phage (with cluster) where this start called: Jay2Jay_42 (BE1), Warpy_42 (BE1),

Start 12:

- Found in 104 of 109 (95.4%) of genes in pham
- Manual Annotations of this start: 77 of 95
- Called 82.7% of time when present
- Phage (with cluster) where this start called: AcciDwight_45 (BE2), Amabiko_41 (BE2), Anedea_37 (BE1), Angela_37 (BE1), AngryGiraffe_40 (BE2), ArianaSWT_43 (BE1), Bartholomune_37 (BE1), Battuta_39 (BE2), Birchlyn_38 (BE2), BlueOtter_40 (BE1), BoomerJR_41 (BE2), Bordeaux_39 (BE2), Braelyn_37 (BE1), Brizzy_40 (BE2), Cadmus_38 (BE1), CeilingFan_40 (BE2), Coogler_40 (BE1), Cross_40 (BE1), Cursive_37 (BE1), Daisy123_45 (BE2), Daubenski_41 (BE1), Davielle_35 (BE1), Dexers_52 (BD3), EGole_40 (BE1), Elliot67_36 (BE1), Elmer_42 (BE2), Enygma_38 (BE2), Evy_40 (BE1), FreddyDRoo_36 (BE1), Genie2_41 (BE2), Gibbi_44 (BE2), HangryHippo_40 (BE1), IchabodCrane_38 (BE2), JimJam_41 (BE2), Jollison_40 (BE2), Karimac_40 (BE2), KentuckyRacer_41 (BE2), Larnav_40 (BE1), Leo04_40 (BE1), Liandry_37 (BE1), LilMartin_37 (BE1), LukeCage_40 (BE2), Lululemon_39 (BE1), Marsus_37 (BE1), Mildred21_38 (BE1), MindFlayer_39 (BE2), Mugiwara_40 (BE2), MulchMansion_37 (BE1), Navo_36 (BE1), NootNoot_34 (BE1), PacManQ_39 (BE1), Paradiddles_34 (BE1), Peebs_39 (BE1), Pepperwood_40 (BE1), Persimmon_34 (BE1), PinkiePie_36 (BE1), Provolone_54 (BD3), PumpkinSpice_40 (BE2), PynkPanther_43 (BE1), Quarant19_41 (BE2), Rikishi_41 (BE2), Riptide_37 (BE1), SaltySpittoon_41 (BE2), Samisti12_39 (BE1), Scheme_40 (BE1), Shuckle_38 (BE1), Sollertia_41 (BE2), Spelly_41 (BE2), Spilled_41 (BE2), Squillium_37 (BE1), Stanimal_41 (BE2), StarPlatinum_40 (BE2), Starbow_39 (BE2), SunkenRoot_55 (BD3), Sushi23_40 (BE1), Targaryen_39 (BE1), Teutsch_39 (BE1), TomSawyer_39 (BE2), Tomas_43 (BE2), Tribute_38 (BE1), WashU_43 (BE1), Watermoore_39 (BE1), WhereRU_35 (BE1), Wipeout_38 (BE2), Wofford_39 (BE2), Yaboi_41 (BE2),

Start 13:

- Found in 2 of 109 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bmoc_37 (BE1),

Start 14:

- Found in 17 of 109 (15.6%) of genes in pham
- Manual Annotations of this start: 9 of 95
- Called 64.7% of time when present
- Phage (with cluster) where this start called: Alsaber_54 (BD3), Conan_54 (BD3), ElGato_54 (BD3), Jhitchelle_52 (BD3), Kaine_54 (BD3), Pavo_55 (BD3), Speedwell_58 (BD3), Sudan_54 (BD3), Vanseggelen_59 (BD3), ZamZam_54 (BD3), phiCAM_52 (BD3),

Start 15:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ibantik_24 (singleton),

Start 17:

- Found in 1 of 109 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RunningOnE_27 (UNK),

Start 19:

- Found in 1 of 109 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yosif_57 (BD3),

Start 22:

- Found in 38 of 109 (34.9%) of genes in pham
- Manual Annotations of this start: 3 of 95
- Called 13.2% of time when present
- Phage (with cluster) where this start called: Amela_53 (BD3), Celery_58 (BD3), Saftant_52 (BD3), Verabelle_57 (BD3), Verse_54 (BD3),

Summary by clusters:

There are 5 clusters represented in this pham: BE2, UNK, singleton, BE1, BD3,

Info for manual annotations of cluster BD3:

- Start number 12 was manually annotated 2 times for cluster BD3.
- Start number 14 was manually annotated 9 times for cluster BD3.
- Start number 19 was manually annotated 1 time for cluster BD3.
- Start number 22 was manually annotated 3 times for cluster BD3.

Info for manual annotations of cluster BE1:

- Start number 7 was manually annotated 1 time for cluster BE1.
- Start number 8 was manually annotated 2 times for cluster BE1.
- Start number 12 was manually annotated 41 times for cluster BE1.
- Start number 13 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 12 was manually annotated 34 times for cluster BE2.

Gene Information:

Gene: AcciDwight_45 Start: 17607, Stop: 17062, Start Num: 12

Candidate Starts for AcciDwight_45:

(3, 17649), (Start: 12 @17607 has 77 MA's), (18, 17595), (20, 17574), (25, 17520), (34, 17445), (40, 17415), (45, 17391), (59, 17196),

Gene: Alsaber_54 Start: 39554, Stop: 39006, Start Num: 14

Candidate Starts for Alsaber_54:

(6, 39599), (Start: 12 @39563 has 77 MA's), (Start: 14 @39554 has 9 MA's), (35, 39380),

Gene: Amabiko_41 Start: 17652, Stop: 17107, Start Num: 12

Candidate Starts for Amabiko_41:

(3, 17694), (Start: 12 @17652 has 77 MA's), (18, 17640), (20, 17619), (25, 17565), (34, 17490), (40, 17460), (45, 17436), (59, 17241),

Gene: Amela_53 Start: 40390, Stop: 39896, Start Num: 22

Candidate Starts for Amela_53:

(1, 40627), (Start: 12 @40534 has 77 MA's), (16, 40435), (Start: 22 @40390 has 3 MA's), (35, 40270),

Gene: Anedea_37 Start: 16674, Stop: 16126, Start Num: 12

Candidate Starts for Anedea_37:

(Start: 7 @16701 has 1 MA's), (Start: 8 @16686 has 2 MA's), (Start: 12 @16674 has 77 MA's), (18, 16662), (24, 16596), (28, 16572), (44, 16446), (48, 16431), (59, 16257),

Gene: Angela_37 Start: 16562, Stop: 16026, Start Num: 12

Candidate Starts for Angela_37:

(Start: 12 @16562 has 77 MA's), (18, 16550), (24, 16484), (28, 16460), (46, 16334), (53, 16280), (59, 16157), (64, 16058),

Gene: AngryGiraffe_40 Start: 17449, Stop: 16904, Start Num: 12

Candidate Starts for AngryGiraffe_40:

(3, 17491), (Start: 12 @17449 has 77 MA's), (18, 17437), (25, 17362), (36, 17284), (40, 17257), (45, 17233), (59, 17038),

Gene: ArianaSWT_43 Start: 17904, Stop: 17356, Start Num: 12

Candidate Starts for ArianaSWT_43:

(Start: 7 @17931 has 1 MA's), (Start: 8 @17916 has 2 MA's), (Start: 12 @17904 has 77 MA's), (18, 17892), (Start: 22 @17853 has 3 MA's), (24, 17826), (28, 17802), (44, 17676), (48, 17661), (59, 17487), (61, 17442), (63, 17430),

Gene: Bartholomune_37 Start: 16300, Stop: 15761, Start Num: 12

Candidate Starts for Bartholomune_37:

(Start: 8 @16312 has 2 MA's), (Start: 12 @16300 has 77 MA's), (18, 16288), (44, 16081), (59, 15892), (63, 15835),

Gene: Battuta_39 Start: 17628, Stop: 17083, Start Num: 12

Candidate Starts for Battuta_39:

(3, 17670), (Start: 12 @17628 has 77 MA's), (18, 17616), (20, 17595), (25, 17541), (34, 17466), (40, 17436), (45, 17412), (59, 17217),

Gene: Birchlyn_38 Start: 15509, Stop: 14964, Start Num: 12

Candidate Starts for Birchlyn_38:

(3, 15551), (Start: 12 @15509 has 77 MA's), (18, 15497), (20, 15476), (25, 15422), (34, 15347), (40, 15317), (45, 15293), (59, 15098),

Gene: BlueOtter_40 Start: 17946, Stop: 17398, Start Num: 12

Candidate Starts for BlueOtter_40:

(Start: 7 @17973 has 1 MA's), (Start: 8 @17958 has 2 MA's), (Start: 12 @17946 has 77 MA's), (18, 17934), (Start: 22 @17895 has 3 MA's), (24, 17868), (28, 17844), (44, 17718), (48, 17703), (59,

17529), (61, 17484), (63, 17472),

Gene: Bmoc_37 Start: 16809, Stop: 16282, Start Num: 13

Candidate Starts for Bmoc_37:

(Start: 7 @16839 has 1 MA's), (Start: 13 @16809 has 1 MA's), (31, 16680), (47, 16590), (53, 16536), (55, 16512), (57, 16467), (58, 16428), (59, 16413),

Gene: BoomerJR_41 Start: 17449, Stop: 16904, Start Num: 12

Candidate Starts for BoomerJR_41:

(3, 17491), (Start: 12 @17449 has 77 MA's), (18, 17437), (25, 17362), (36, 17284), (40, 17257), (45, 17233), (59, 17038),

Gene: Bordeaux_39 Start: 17643, Stop: 17098, Start Num: 12

Candidate Starts for Bordeaux_39:

(3, 17685), (Start: 12 @17643 has 77 MA's), (18, 17631), (20, 17610), (25, 17556), (34, 17481), (40, 17451), (45, 17427), (59, 17232),

Gene: Braelyn_37 Start: 16693, Stop: 16154, Start Num: 12

Candidate Starts for Braelyn_37:

(Start: 8 @16705 has 2 MA's), (Start: 12 @16693 has 77 MA's), (18, 16681), (30, 16570), (44, 16474), (59, 16285), (63, 16228),

Gene: Brizzy_40 Start: 17302, Stop: 16757, Start Num: 12

Candidate Starts for Brizzy_40:

(3, 17344), (Start: 12 @17302 has 77 MA's), (18, 17290), (20, 17269), (25, 17215), (34, 17140), (40, 17110), (45, 17086), (59, 16891),

Gene: Cadmus_38 Start: 17427, Stop: 16891, Start Num: 12

Candidate Starts for Cadmus_38:

(Start: 7 @17454 has 1 MA's), (Start: 8 @17439 has 2 MA's), (Start: 12 @17427 has 77 MA's), (18, 17415), (44, 17211), (48, 17196), (55, 17121), (59, 17022),

Gene: CeilingFan_40 Start: 17403, Stop: 16858, Start Num: 12

Candidate Starts for CeilingFan_40:

(3, 17445), (Start: 12 @17403 has 77 MA's), (18, 17391), (20, 17370), (25, 17316), (34, 17241), (40, 17211), (45, 17187), (59, 16992),

Gene: Celery_58 Start: 39644, Stop: 39150, Start Num: 22

Candidate Starts for Celery_58:

(Start: 12 @39695 has 77 MA's), (Start: 14 @39686 has 9 MA's), (Start: 22 @39644 has 3 MA's), (41, 39470), (52, 39425),

Gene: Conan_54 Start: 39514, Stop: 38966, Start Num: 14

Candidate Starts for Conan_54:

(6, 39559), (Start: 12 @39523 has 77 MA's), (Start: 14 @39514 has 9 MA's), (35, 39340),

Gene: Coogler_40 Start: 17935, Stop: 17387, Start Num: 12

Candidate Starts for Coogler_40:

(Start: 7 @17962 has 1 MA's), (Start: 8 @17947 has 2 MA's), (Start: 12 @17935 has 77 MA's), (18, 17923), (Start: 22 @17884 has 3 MA's), (24, 17857), (28, 17833), (44, 17707), (48, 17692), (59, 17518), (61, 17473), (63, 17461),

Gene: Cross_40 Start: 17947, Stop: 17399, Start Num: 12

Candidate Starts for Cross_40:

(Start: 7 @17974 has 1 MA's), (Start: 8 @17959 has 2 MA's), (Start: 12 @17947 has 77 MA's), (18, 17935), (Start: 22 @17896 has 3 MA's), (24, 17869), (28, 17845), (44, 17719), (48, 17704), (59, 17530), (61, 17485), (63, 17473),

Gene: Cursive_37 Start: 16764, Stop: 16216, Start Num: 12

Candidate Starts for Cursive_37:

(Start: 7 @16791 has 1 MA's), (Start: 8 @16776 has 2 MA's), (Start: 12 @16764 has 77 MA's), (18, 16752), (Start: 22 @16713 has 3 MA's), (24, 16686), (28, 16662), (44, 16536), (48, 16521), (59, 16347), (61, 16302), (63, 16290),

Gene: Daisy123_45 Start: 17262, Stop: 16717, Start Num: 12

Candidate Starts for Daisy123_45:

(3, 17304), (Start: 12 @17262 has 77 MA's), (18, 17250), (20, 17229), (25, 17175), (34, 17100), (40, 17070), (45, 17046), (59, 16851),

Gene: Daubenski_41 Start: 18191, Stop: 17655, Start Num: 12

Candidate Starts for Daubenski_41:

(Start: 7 @18218 has 1 MA's), (Start: 8 @18203 has 2 MA's), (Start: 12 @18191 has 77 MA's), (18, 18179), (44, 17975), (48, 17960), (55, 17885), (59, 17786),

Gene: Davielle_35 Start: 15984, Stop: 15445, Start Num: 12

Candidate Starts for Davielle_35:

(Start: 8 @15996 has 2 MA's), (Start: 12 @15984 has 77 MA's), (18, 15972), (Start: 22 @15933 has 3 MA's), (44, 15765), (59, 15576), (63, 15519),

Gene: Dexers_52 Start: 39805, Stop: 39248, Start Num: 12

Candidate Starts for Dexers_52:

(6, 39841), (Start: 12 @39805 has 77 MA's), (Start: 14 @39796 has 9 MA's), (35, 39622),

Gene: EGole_40 Start: 18846, Stop: 18292, Start Num: 12

Candidate Starts for EGole_40:

(Start: 7 @18873 has 1 MA's), (Start: 8 @18858 has 2 MA's), (Start: 12 @18846 has 77 MA's), (18, 18834), (24, 18768), (28, 18744), (44, 18612), (48, 18597), (59, 18423), (61, 18378),

Gene: ElGato_54 Start: 39418, Stop: 38870, Start Num: 14

Candidate Starts for ElGato_54:

(6, 39463), (Start: 12 @39427 has 77 MA's), (Start: 14 @39418 has 9 MA's), (35, 39244),

Gene: Eliot67_36 Start: 16298, Stop: 15759, Start Num: 12

Candidate Starts for Eliot67_36:

(Start: 8 @16310 has 2 MA's), (Start: 12 @16298 has 77 MA's), (18, 16286), (Start: 22 @16247 has 3 MA's), (44, 16079), (59, 15890), (63, 15833),

Gene: Elmer_42 Start: 18521, Stop: 17967, Start Num: 12

Candidate Starts for Elmer_42:

(Start: 12 @18521 has 77 MA's), (18, 18509), (20, 18488), (25, 18434), (41, 18317), (42, 18311), (59, 18101),

Gene: Enygma_38 Start: 16815, Stop: 16273, Start Num: 12

Candidate Starts for Enygma_38:

(Start: 12 @16815 has 77 MA's), (18, 16803), (20, 16782), (25, 16728), (34, 16653), (40, 16623), (45, 16599), (56, 16503), (59, 16407), (63, 16350),

Gene: Evy_40 Start: 17788, Stop: 17264, Start Num: 12

Candidate Starts for Evy_40:

(Start: 8 @17800 has 2 MA's), (Start: 12 @17788 has 77 MA's), (18, 17776), (24, 17710), (28, 17686), (30, 17668), (39, 17602), (44, 17584), (51, 17557), (57, 17449), (59, 17395),

Gene: FreddyDRoo_36 Start: 16298, Stop: 15759, Start Num: 12

Candidate Starts for FreddyDRoo_36:

(Start: 8 @16310 has 2 MA's), (Start: 12 @16298 has 77 MA's), (18, 16286), (Start: 22 @16247 has 3 MA's), (44, 16079), (59, 15890), (63, 15833),

Gene: Genie2_41 Start: 17452, Stop: 16907, Start Num: 12

Candidate Starts for Genie2_41:

(3, 17494), (Start: 12 @17452 has 77 MA's), (18, 17440), (25, 17365), (36, 17287), (40, 17260), (45, 17236), (59, 17041),

Gene: Gibbi_44 Start: 17263, Stop: 16718, Start Num: 12

Candidate Starts for Gibbi_44:

(3, 17305), (Start: 12 @17263 has 77 MA's), (18, 17251), (20, 17230), (25, 17176), (34, 17101), (40, 17071), (45, 17047), (59, 16852),

Gene: HangryHippo_40 Start: 17946, Stop: 17398, Start Num: 12

Candidate Starts for HangryHippo_40:

(Start: 7 @17973 has 1 MA's), (Start: 8 @17958 has 2 MA's), (Start: 12 @17946 has 77 MA's), (18, 17934), (Start: 22 @17895 has 3 MA's), (24, 17868), (28, 17844), (44, 17718), (48, 17703), (59, 17529), (61, 17484), (63, 17472),

Gene: Ibantik_24 Start: 10903, Stop: 10337, Start Num: 15

Candidate Starts for Ibantik_24:

(10, 10924), (Start: 15 @10903 has 1 MA's), (32, 10762), (33, 10750), (38, 10723), (43, 10669), (59, 10468),

Gene: IchabodCrane_38 Start: 17355, Stop: 16810, Start Num: 12

Candidate Starts for IchabodCrane_38:

(3, 17397), (Start: 12 @17355 has 77 MA's), (18, 17343), (20, 17322), (25, 17268), (34, 17193), (40, 17163), (45, 17139), (59, 16944),

Gene: Jay2Jay_42 Start: 17989, Stop: 17453, Start Num: 8

Candidate Starts for Jay2Jay_42:

(Start: 8 @17989 has 2 MA's), (Start: 12 @17977 has 77 MA's), (18, 17965), (24, 17899), (28, 17875), (30, 17857), (44, 17773), (51, 17746), (57, 17638), (59, 17584), (63, 17527),

Gene: Jhitchelle_52 Start: 39342, Stop: 38791, Start Num: 14

Candidate Starts for Jhitchelle_52:

(Start: 12 @39351 has 77 MA's), (Start: 14 @39342 has 9 MA's), (Start: 22 @39300 has 3 MA's), (26, 39255), (27, 39252), (29, 39237),

Gene: JimJam_41 Start: 17591, Stop: 17046, Start Num: 12

Candidate Starts for JimJam_41:

(3, 17633), (Start: 12 @17591 has 77 MA's), (18, 17579), (20, 17558), (25, 17504), (34, 17429), (40, 17399), (45, 17375), (59, 17180),

Gene: Jollison_40 Start: 17609, Stop: 17064, Start Num: 12

Candidate Starts for Jollison_40:

(3, 17651), (Start: 12 @17609 has 77 MA's), (18, 17597), (20, 17576), (25, 17522), (34, 17447), (40, 17417), (45, 17393), (59, 17198),

Gene: Kaine_54 Start: 39706, Stop: 39158, Start Num: 14

Candidate Starts for Kaine_54:

(6, 39751), (Start: 12 @39715 has 77 MA's), (Start: 14 @39706 has 9 MA's), (35, 39532),

Gene: Karimac_40 Start: 17758, Stop: 17213, Start Num: 12

Candidate Starts for Karimac_40:

(3, 17800), (Start: 12 @17758 has 77 MA's), (18, 17746), (20, 17725), (25, 17671), (34, 17596), (40, 17566), (45, 17542), (59, 17347),

Gene: KentuckyRacer_41 Start: 17404, Stop: 16859, Start Num: 12

Candidate Starts for KentuckyRacer_41:

(3, 17446), (Start: 12 @17404 has 77 MA's), (18, 17392), (20, 17371), (25, 17317), (34, 17242), (40, 17212), (45, 17188), (59, 16993),

Gene: Larnav_40 Start: 17894, Stop: 17346, Start Num: 12

Candidate Starts for Larnav_40:

(Start: 7 @17921 has 1 MA's), (Start: 8 @17906 has 2 MA's), (Start: 12 @17894 has 77 MA's), (18, 17882), (Start: 22 @17843 has 3 MA's), (24, 17816), (28, 17792), (44, 17666), (48, 17651), (59, 17477), (61, 17432), (63, 17420),

Gene: Leo04_40 Start: 17945, Stop: 17397, Start Num: 12

Candidate Starts for Leo04_40:

(Start: 7 @17972 has 1 MA's), (Start: 8 @17957 has 2 MA's), (Start: 12 @17945 has 77 MA's), (18, 17933), (Start: 22 @17894 has 3 MA's), (24, 17867), (28, 17843), (44, 17717), (48, 17702), (59, 17528), (61, 17483), (63, 17471),

Gene: Liandry_37 Start: 16297, Stop: 15758, Start Num: 12

Candidate Starts for Liandry_37:

(Start: 8 @16309 has 2 MA's), (Start: 12 @16297 has 77 MA's), (18, 16285), (Start: 22 @16246 has 3 MA's), (44, 16078), (59, 15889), (63, 15832),

Gene: LilMartin_37 Start: 16509, Stop: 15973, Start Num: 12

Candidate Starts for LilMartin_37:

(Start: 12 @16509 has 77 MA's), (18, 16497), (24, 16431), (28, 16407), (46, 16281), (53, 16227), (59, 16104), (64, 16005),

Gene: LilSaint_39 Start: 16738, Stop: 16181, Start Num: 7

Candidate Starts for LilSaint_39:

(Start: 7 @16738 has 1 MA's), (Start: 13 @16708 has 1 MA's), (30, 16597), (31, 16579), (47, 16489), (58, 16327), (59, 16312),

Gene: LukeCage_40 Start: 17395, Stop: 16850, Start Num: 12

Candidate Starts for LukeCage_40:

(3, 17437), (Start: 12 @17395 has 77 MA's), (20, 17362), (21, 17350), (25, 17308), (34, 17233), (40, 17203), (45, 17179), (59, 16984),

Gene: Lululemon_39 Start: 17326, Stop: 16778, Start Num: 12

Candidate Starts for Lululemon_39:

(Start: 7 @17353 has 1 MA's), (Start: 8 @17338 has 2 MA's), (Start: 12 @17326 has 77 MA's), (18, 17314), (Start: 22 @17275 has 3 MA's), (28, 17224), (44, 17098), (48, 17083), (59, 16909), (61, 16864), (63, 16852),

Gene: Marsus_37 Start: 16373, Stop: 15837, Start Num: 12

Candidate Starts for Marsus_37:

(Start: 12 @16373 has 77 MA's), (18, 16361), (24, 16295), (28, 16271), (46, 16145), (59, 15968), (63, 15911),

Gene: Mildred21_38 Start: 16663, Stop: 16070, Start Num: 12

Candidate Starts for Mildred21_38:

(2, 16753), (4, 16708), (Start: 12 @16663 has 77 MA's), (59, 16204),

Gene: MindFlayer_39 Start: 17262, Stop: 16717, Start Num: 12

Candidate Starts for MindFlayer_39:

(3, 17304), (Start: 12 @17262 has 77 MA's), (18, 17250), (20, 17229), (25, 17175), (34, 17100), (40, 17070), (45, 17046), (59, 16851),

Gene: Mugiwara_40 Start: 17308, Stop: 16763, Start Num: 12

Candidate Starts for Mugiwara_40:

(5, 17335), (Start: 12 @17308 has 77 MA's), (18, 17296), (20, 17275), (23, 17251), (25, 17221), (40, 17116), (45, 17092), (59, 16897),

Gene: MulchMansion_37 Start: 16510, Stop: 15974, Start Num: 12

Candidate Starts for MulchMansion_37:

(Start: 12 @16510 has 77 MA's), (18, 16498), (24, 16432), (28, 16408), (46, 16282), (53, 16228), (59, 16105), (64, 16006),

Gene: Navo_36 Start: 16456, Stop: 15917, Start Num: 12

Candidate Starts for Navo_36:

(Start: 8 @16468 has 2 MA's), (Start: 12 @16456 has 77 MA's), (18, 16444), (Start: 22 @16405 has 3 MA's), (44, 16237), (59, 16048), (63, 15991),

Gene: NootNoot_34 Start: 15479, Stop: 14940, Start Num: 12

Candidate Starts for NootNoot_34:

(Start: 8 @15491 has 2 MA's), (Start: 12 @15479 has 77 MA's), (18, 15467), (44, 15260), (59, 15071), (63, 15014),

Gene: PacManQ_39 Start: 17326, Stop: 16778, Start Num: 12

Candidate Starts for PacManQ_39:

(Start: 7 @17353 has 1 MA's), (Start: 8 @17338 has 2 MA's), (Start: 12 @17326 has 77 MA's), (18, 17314), (Start: 22 @17275 has 3 MA's), (24, 17248), (28, 17224), (44, 17098), (48, 17083), (59, 16909), (61, 16864), (63, 16852),

Gene: Paradiddles_34 Start: 15470, Stop: 14931, Start Num: 12

Candidate Starts for Paradiddles_34:

(Start: 8 @15482 has 2 MA's), (Start: 12 @15470 has 77 MA's), (18, 15458), (Start: 22 @15419 has 3 MA's), (44, 15251), (59, 15062), (63, 15005),

Gene: Pavo_55 Start: 39712, Stop: 39164, Start Num: 14

Candidate Starts for Pavo_55:

(6, 39757), (Start: 12 @39721 has 77 MA's), (Start: 14 @39712 has 9 MA's), (35, 39538),

Gene: Peebs_39 Start: 17645, Stop: 17097, Start Num: 12

Candidate Starts for Peebs_39:

(Start: 7 @17672 has 1 MA's), (Start: 8 @17657 has 2 MA's), (Start: 12 @17645 has 77 MA's), (18, 17633), (Start: 22 @17594 has 3 MA's), (24, 17567), (28, 17543), (44, 17417), (48, 17402), (59, 17228), (61, 17183), (63, 17171),

Gene: Pepperwood_40 Start: 17818, Stop: 17270, Start Num: 12

Candidate Starts for Pepperwood_40:

(Start: 7 @17845 has 1 MA's), (Start: 8 @17830 has 2 MA's), (Start: 12 @17818 has 77 MA's), (18, 17806), (Start: 22 @17767 has 3 MA's), (24, 17740), (28, 17716), (44, 17590), (48, 17575), (59, 17401), (61, 17356), (63, 17344),

Gene: Persimmon_34 Start: 15527, Stop: 14988, Start Num: 12

Candidate Starts for Persimmon_34:

(Start: 8 @15539 has 2 MA's), (Start: 12 @15527 has 77 MA's), (18, 15515), (44, 15308), (59, 15119), (63, 15062),

Gene: PinkiePie_36 Start: 16298, Stop: 15759, Start Num: 12

Candidate Starts for PinkiePie_36:

(Start: 8 @16310 has 2 MA's), (Start: 12 @16298 has 77 MA's), (18, 16286), (Start: 22 @16247 has 3 MA's), (44, 16079), (59, 15890), (63, 15833),

Gene: Provolone_54 Start: 39561, Stop: 39010, Start Num: 12

Candidate Starts for Provolone_54:

(6, 39597), (Start: 12 @39561 has 77 MA's), (Start: 14 @39552 has 9 MA's), (35, 39378),

Gene: PumpkinSpice_40 Start: 17652, Stop: 17107, Start Num: 12

Candidate Starts for PumpkinSpice_40:

(3, 17694), (Start: 12 @17652 has 77 MA's), (18, 17640), (20, 17619), (25, 17565), (34, 17490), (40, 17460), (45, 17436), (59, 17241),

Gene: PynkPanther_43 Start: 16511, Stop: 15972, Start Num: 12

Candidate Starts for PynkPanther_43:

(Start: 8 @16523 has 2 MA's), (Start: 12 @16511 has 77 MA's), (18, 16499), (Start: 22 @16460 has 3 MA's), (44, 16292), (59, 16103), (63, 16046),

Gene: Quaran19_41 Start: 17643, Stop: 17098, Start Num: 12

Candidate Starts for Quaran19_41:

(3, 17685), (Start: 12 @17643 has 77 MA's), (18, 17631), (20, 17610), (25, 17556), (34, 17481), (40, 17451), (45, 17427), (59, 17232),

Gene: Rikishi_41 Start: 17558, Stop: 17013, Start Num: 12

Candidate Starts for Rikishi_41:

(3, 17600), (Start: 12 @17558 has 77 MA's), (18, 17546), (20, 17525), (25, 17471), (34, 17396), (40, 17366), (45, 17342), (59, 17147),

Gene: Riptide_37 Start: 16400, Stop: 15852, Start Num: 12

Candidate Starts for Riptide_37:

(Start: 7 @16427 has 1 MA's), (Start: 8 @16412 has 2 MA's), (Start: 12 @16400 has 77 MA's), (18, 16388), (24, 16322), (28, 16298), (44, 16172), (48, 16157), (59, 15983),

Gene: RunningOnE_27 Start: 11133, Stop: 10561, Start Num: 17

Candidate Starts for RunningOnE_27:

(11, 11157), (17, 11133), (59, 10692), (61, 10647), (62, 10638),

Gene: Saftant_52 Start: 39619, Stop: 39104, Start Num: 22

Candidate Starts for Saftant_52:

(1, 39763), (Start: 12 @39670 has 77 MA's), (Start: 14 @39661 has 9 MA's), (Start: 22 @39619 has 3 MA's), (26, 39574), (37, 39481), (49, 39418),

Gene: SaltySpittoon_41 Start: 17652, Stop: 17107, Start Num: 12

Candidate Starts for SaltySpittoon_41:

(3, 17694), (Start: 12 @17652 has 77 MA's), (18, 17640), (20, 17619), (25, 17565), (34, 17490), (40, 17460), (45, 17436), (59, 17241),

Gene: Samisti12_39 Start: 18415, Stop: 17867, Start Num: 12

Candidate Starts for Samisti12_39:

(Start: 7 @18442 has 1 MA's), (Start: 8 @18427 has 2 MA's), (Start: 12 @18415 has 77 MA's), (18, 18403), (Start: 22 @18364 has 3 MA's), (24, 18337), (28, 18313), (44, 18187), (48, 18172), (59, 17998), (61, 17953), (63, 17941),

Gene: Scheme_40 Start: 17829, Stop: 17281, Start Num: 12

Candidate Starts for Scheme_40:

(Start: 7 @17856 has 1 MA's), (Start: 8 @17841 has 2 MA's), (Start: 12 @17829 has 77 MA's), (18, 17817), (Start: 22 @17778 has 3 MA's), (24, 17751), (28, 17727), (44, 17601), (48, 17586), (59, 17412), (61, 17367), (63, 17355),

Gene: Shuckle_38 Start: 18098, Stop: 17550, Start Num: 12

Candidate Starts for Shuckle_38:

(Start: 7 @18125 has 1 MA's), (Start: 8 @18110 has 2 MA's), (Start: 12 @18098 has 77 MA's), (18, 18086), (Start: 22 @18047 has 3 MA's), (24, 18020), (28, 17996), (44, 17870), (48, 17855), (59, 17681), (61, 17636), (63, 17624),

Gene: Sollertia_41 Start: 17452, Stop: 16907, Start Num: 12

Candidate Starts for Sollertia_41:

(3, 17494), (Start: 12 @17452 has 77 MA's), (18, 17440), (25, 17365), (36, 17287), (40, 17260), (45, 17236), (59, 17041),

Gene: Speedwell_58 Start: 40874, Stop: 40317, Start Num: 14

Candidate Starts for Speedwell_58:

(9, 40898), (Start: 12 @40883 has 77 MA's), (Start: 14 @40874 has 9 MA's), (Start: 22 @40832 has 3 MA's), (26, 40787), (27, 40784), (37, 40694), (54, 40556),

Gene: Spelly_41 Start: 17607, Stop: 17062, Start Num: 12

Candidate Starts for Spelly_41:

(3, 17649), (Start: 12 @17607 has 77 MA's), (18, 17595), (20, 17574), (25, 17520), (34, 17445), (40, 17415), (45, 17391), (59, 17196),

Gene: Spilled_41 Start: 17361, Stop: 16816, Start Num: 12

Candidate Starts for Spilled_41:

(3, 17403), (Start: 12 @17361 has 77 MA's), (18, 17349), (20, 17328), (25, 17274), (34, 17199), (40, 17169), (45, 17145), (59, 16950),

Gene: Squillium_37 Start: 16297, Stop: 15758, Start Num: 12

Candidate Starts for Squillium_37:

(Start: 8 @16309 has 2 MA's), (Start: 12 @16297 has 77 MA's), (18, 16285), (Start: 22 @16246 has 3 MA's), (44, 16078), (59, 15889), (63, 15832),

Gene: Stanimal_41 Start: 17452, Stop: 16907, Start Num: 12

Candidate Starts for Stanimal_41:

(3, 17494), (Start: 12 @17452 has 77 MA's), (18, 17440), (25, 17365), (36, 17287), (40, 17260), (45, 17236), (59, 17041),

Gene: StarPlatinum_40 Start: 17451, Stop: 16906, Start Num: 12

Candidate Starts for StarPlatinum_40:

(3, 17493), (Start: 12 @17451 has 77 MA's), (20, 17418), (21, 17406), (25, 17364), (34, 17289), (40, 17259), (45, 17235), (59, 17040),

Gene: Starbow_39 Start: 17628, Stop: 17083, Start Num: 12

Candidate Starts for Starbow_39:

(3, 17670), (Start: 12 @17628 has 77 MA's), (18, 17616), (20, 17595), (25, 17541), (34, 17466), (40, 17436), (45, 17412), (59, 17217),

Gene: Sudan_54 Start: 39552, Stop: 39004, Start Num: 14

Candidate Starts for Sudan_54:

(6, 39597), (Start: 12 @39561 has 77 MA's), (Start: 14 @39552 has 9 MA's), (35, 39378),

Gene: SunkenRoot_55 Start: 40266, Stop: 39718, Start Num: 12

Candidate Starts for SunkenRoot_55:

(Start: 12 @40266 has 77 MA's), (Start: 14 @40257 has 9 MA's),

Gene: Sushi23_40 Start: 18041, Stop: 17493, Start Num: 12

Candidate Starts for Sushi23_40:

(Start: 7 @18068 has 1 MA's), (Start: 8 @18053 has 2 MA's), (Start: 12 @18041 has 77 MA's), (18, 18029), (Start: 22 @17990 has 3 MA's), (24, 17963), (28, 17939), (44, 17813), (48, 17798), (59, 17624), (61, 17579), (63, 17567),

Gene: Targaryen_39 Start: 18535, Stop: 18011, Start Num: 12

Candidate Starts for Targaryen_39:

(Start: 8 @18547 has 2 MA's), (Start: 12 @18535 has 77 MA's), (18, 18523), (24, 18457), (28, 18433), (30, 18415), (44, 18331), (51, 18304), (57, 18196), (59, 18142),

Gene: Teutsch_39 Start: 17734, Stop: 17186, Start Num: 12

Candidate Starts for Teutsch_39:

(Start: 7 @17761 has 1 MA's), (Start: 8 @17746 has 2 MA's), (Start: 12 @17734 has 77 MA's), (18, 17722), (Start: 22 @17683 has 3 MA's), (24, 17656), (28, 17632), (44, 17506), (48, 17491), (59, 17317), (61, 17272), (63, 17260),

Gene: TomSawyer_39 Start: 17246, Stop: 16701, Start Num: 12

Candidate Starts for TomSawyer_39:

(3, 17288), (Start: 12 @17246 has 77 MA's), (18, 17234), (20, 17213), (25, 17159), (34, 17084), (40, 17054), (45, 17030), (59, 16835),

Gene: Tomas_43 Start: 19506, Stop: 18931, Start Num: 12

Candidate Starts for Tomas_43:

(Start: 12 @19506 has 77 MA's), (18, 19494), (40, 19290), (45, 19260), (56, 19161), (58, 19080), (59, 19065),

Gene: Tribute_38 Start: 17512, Stop: 16964, Start Num: 12

Candidate Starts for Tribute_38:

(Start: 7 @17539 has 1 MA's), (Start: 8 @17524 has 2 MA's), (Start: 12 @17512 has 77 MA's), (18, 17500), (24, 17434), (28, 17410), (44, 17284), (48, 17269), (59, 17095), (61, 17050), (63, 17038),

Gene: Vanseggelen_59 Start: 39574, Stop: 39017, Start Num: 14

Candidate Starts for Vanseggelen_59:

(Start: 12 @39583 has 77 MA's), (Start: 14 @39574 has 9 MA's), (Start: 22 @39532 has 3 MA's), (26, 39487), (27, 39484), (29, 39469), (37, 39394),

Gene: Verabelle_57 Start: 39198, Stop: 38683, Start Num: 22

Candidate Starts for Verabelle_57:

(Start: 12 @39249 has 77 MA's), (Start: 14 @39240 has 9 MA's), (Start: 22 @39198 has 3 MA's), (26, 39153), (27, 39150), (37, 39060),

Gene: Verse_54 Start: 40384, Stop: 39890, Start Num: 22

Candidate Starts for Verse_54:

(Start: 12 @40528 has 77 MA's), (16, 40429), (Start: 22 @40384 has 3 MA's), (35, 40264),

Gene: Warpy_42 Start: 18009, Stop: 17473, Start Num: 8

Candidate Starts for Warpy_42:

(Start: 8 @18009 has 2 MA's), (Start: 12 @17997 has 77 MA's), (18, 17985), (24, 17919), (28, 17895), (30, 17877), (39, 17811), (44, 17793), (51, 17766), (57, 17658), (59, 17604), (61, 17559), (63, 17547),

Gene: WashU_43 Start: 17819, Stop: 17271, Start Num: 12

Candidate Starts for WashU_43:

(Start: 7 @17846 has 1 MA's), (Start: 8 @17831 has 2 MA's), (Start: 12 @17819 has 77 MA's), (18, 17807), (Start: 22 @17768 has 3 MA's), (24, 17741), (28, 17717), (44, 17591), (48, 17576), (59, 17402), (61, 17357), (63, 17345),

Gene: Watermoore_39 Start: 17947, Stop: 17399, Start Num: 12

Candidate Starts for Watermoore_39:

(Start: 7 @17974 has 1 MA's), (Start: 8 @17959 has 2 MA's), (Start: 12 @17947 has 77 MA's), (18, 17935), (Start: 22 @17896 has 3 MA's), (24, 17869), (28, 17845), (44, 17719), (48, 17704), (59, 17530), (61, 17485), (63, 17473),

Gene: WhereRU_35 Start: 15984, Stop: 15445, Start Num: 12

Candidate Starts for WhereRU_35:

(Start: 8 @15996 has 2 MA's), (Start: 12 @15984 has 77 MA's), (18, 15972), (Start: 22 @15933 has 3 MA's), (44, 15765), (59, 15576), (63, 15519),

Gene: Wipeout_38 Start: 17268, Stop: 16723, Start Num: 12

Candidate Starts for Wipeout_38:

(3, 17310), (Start: 12 @17268 has 77 MA's), (18, 17256), (20, 17235), (25, 17181), (34, 17106), (40, 17076), (45, 17052), (59, 16857),

Gene: Wofford_39 Start: 17999, Stop: 17445, Start Num: 12

Candidate Starts for Wofford_39:

(Start: 12 @17999 has 77 MA's), (18, 17987), (20, 17966), (25, 17912), (41, 17795), (42, 17789), (59, 17579),

Gene: Yaboi_41 Start: 17428, Stop: 16883, Start Num: 12

Candidate Starts for Yaboi_41:

(3, 17470), (Start: 12 @17428 has 77 MA's), (18, 17416), (25, 17341), (36, 17263), (40, 17236), (45, 17212), (59, 17017),

Gene: Yosif_57 Start: 40542, Stop: 40027, Start Num: 19

Candidate Starts for Yosif_57:

(Start: 19 @40542 has 1 MA's), (60, 40149),

Gene: ZamZam_54 Start: 39972, Stop: 39394, Start Num: 14

Candidate Starts for ZamZam_54:

(Start: 12 @39981 has 77 MA's), (Start: 14 @39972 has 9 MA's), (Start: 22 @39930 has 3 MA's), (26, 39885), (27, 39882), (37, 39792), (50, 39705),

Gene: phiCAM_52 Start: 41496, Stop: 40966, Start Num: 14

Candidate Starts for phiCAM_52:

(Start: 12 @41505 has 77 MA's), (Start: 14 @41496 has 9 MA's),