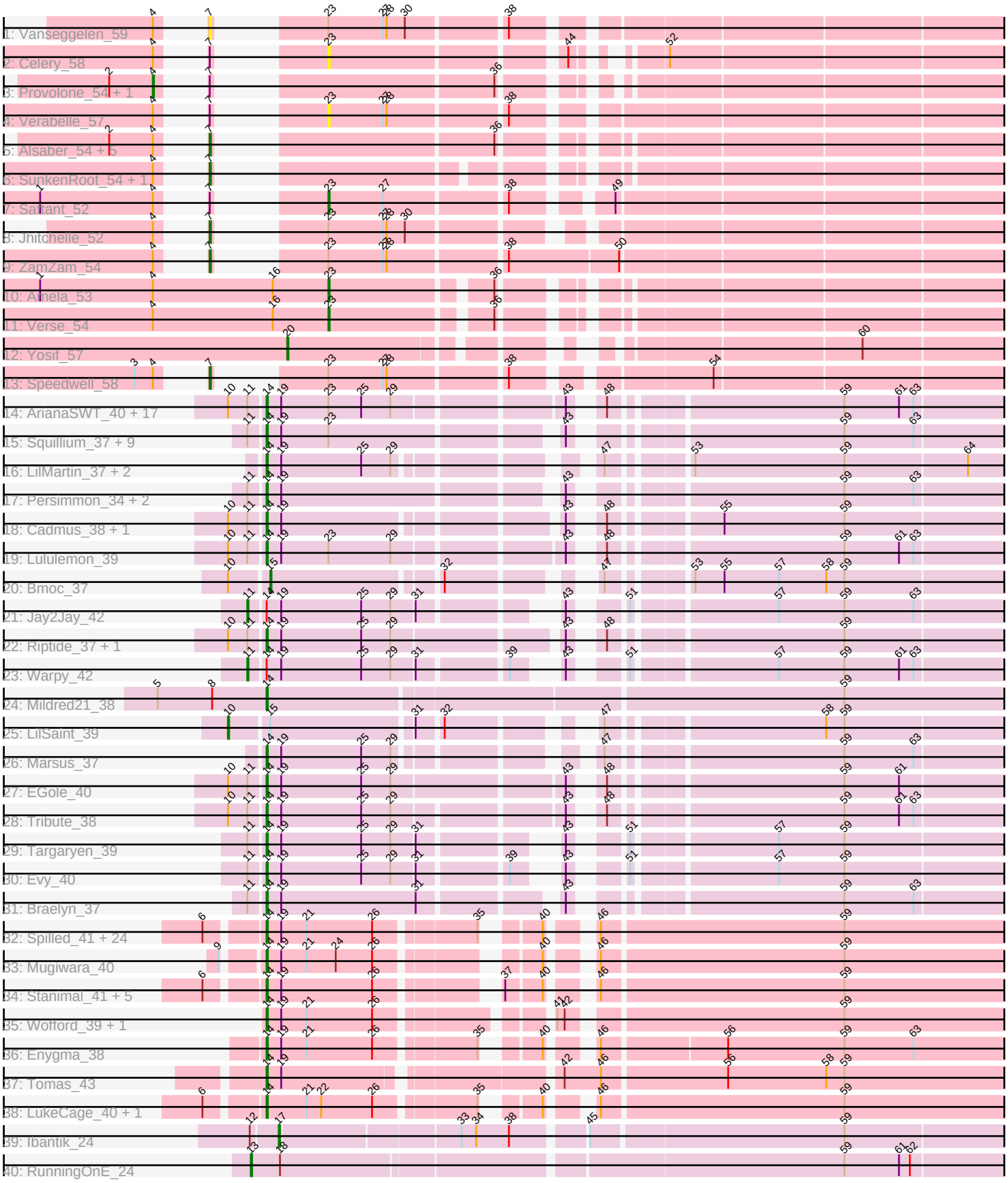
Pham 332643


1: Vanseggelen_59
2: Celery_58
3: Provolone_54 + 1
4: Verabelle_57
5: Alsaber_54 + 5
6: SunkenRoot_54 + 1
7: Saltant_52
8: Jhitchelle_52
9: ZamZam_54
10: Amela_53
11: Verse_54
12: Yosif_57
13: Speedwell_58
14: ArianaSWT_40 + 17
15: Squillium_37 + 9
16: LilMartin_37 + 2
17: Persimmon_34 + 2
18: Cadmus_38 + 1
19: Lululemon_39
20: Bmoc_37
21: Jay2Jay_42
22: Riptide_37 + 1
23: Warpy_42
24: Mildred21_38
25: LilSaint_39
26: Marsus_37
27: EGole_40
28: Tribute_38
29: Targaryen_39
30: Evy_40
31: Braelyn_37
32: Spilled_41 + 24
33: Mugiwara_40
34: Stanimal_41 + 5
35: Wofford_39 + 1
36: Enygma_38
37: Tomas_43
38: LukeCage_40 + 1
39: Ibantik_24
40: RunningOnE_24

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 332643 Report

This analysis was run 11/14/26 on database version 672.

Pham number 332643 has 110 members, 8 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_54, phiCAM_52
• Track 7 : Saftant_52
• Track 8 : Jhitchelle_52
• Track 9 : ZamZam_54
• Track 10 : Amela_53
• Track 11 : Verse_54
• Track 12 : Yosif_57
• Track 13 : Speedwell_58
• Track 14 : ArianaSWT_40, Cross_40, Pepperwood_40, Scheme_40, Samisti12_39, Shuckle_38, Sushi23_40, Peebs_39, Larnav_40, Watermoore_39, Cursive_37, BlueOtter_40, HangryHippo_40, PacManQ_39, Leo04_40, WashU_40, Coogler_40, Teutsch_39
• Track 15 : Squillium_37, Eliot67_36, Navo_36, WhereRU_35, Liandry_37, Davielle_35, PinkiePie_36, Paradiddles_34, PynkPanther_36, FreddyDRoo_37
• Track 16 : LilMartin_37, Angela_37, MulchMansion_37
• Track 17 : Persimmon_34, NootNoot_34, Bartholomune_37
• Track 18 : Cadmus_38, Daubenski_41
• Track 19 : Lululemon_39
• Track 20 : Bmoc_37
• Track 21 : Jay2Jay_42
• Track 22 : Riptide_37, Anedea_37
• Track 23 : Warpy_42
• Track 24 : Mildred21_38
• Track 25 : LilSaint_39
• Track 26 : Marsus_37
• Track 27 : EGole_40
• Track 28 : Tribute_38
• Track 29 : Targaryen_39
• Track 30 : Evy_40
• Track 31 : Braelyn_37
• Track 32 : Spilled_41, SaltySpitoon_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, CeilingFan_40, Spelly_41, Quaran19_41, Bordeaux_39, Daisy123_40, IchabodCrane_38, TomSawyer_39, Karimac_40, Tuesday_45
• Track 33 : Mugiwara_40
• Track 34 : Stanimal_41, Yaboi_41, Genie2_41, Sollertia_41, BoomerJR_41, AngryGiraffe_40
• Track 35 : Wofford_39, Elmer_42
• Track 36 : Enygma_38
• Track 37 : Tomas_43
• Track 38 : LukeCage_40, StarPlatinum_40
• Track 39 : Ibantik_24
• Track 40 : RunningOnE_24

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

The start number called the most often in the published annotations is 14, it was called in 80 of the 102 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AcciDwight_45, Amabiko_41, Anedea_37, Angela_37, AngryGiraffe_40, ArianaSWT_40, 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_40, Daubenski_41, Davielle_35, EGole_40, Eliot67_36, Elmer_42, Enygma_38, Evy_40, FreddyDRoo_37, 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, PumpkinSpice_40, PynkPanther_36, Quaran19_41, Rikishi_41, Riptide_37, SaltySpitoon_41, Samisti12_39, Scheme_40, Shuckle_38, Sollertia_41, Spelly_41, Spilled_41, Squillium_37, Stanimal_41, StarPlatinum_40, Starbow_39, Sushi23_40, Targaryen_39, Teutsch_39, TomSawyer_39, Tomas_43, Tribute_38, Tuesday_45, WashU_40, Watermoore_39, WhereRU_35, Wipeout_38, Wofford_39, Yaboi_41,

Genes that have the "Most Annotated" start but do not call it:
• Jay2Jay_42, Warpy_42,

Genes that do not have the "Most Annotated" start:
• Alsaber_54, Amela_53, Bmoc_37, Celery_58, Conan_54, Dexers_52, ElGato_54, Ibantik_24, Jhitchelle_52, Kaine_54, LilSaint_39, Pavo_55, Provolone_54, RunningOnE_24, Saftant_52, Speedwell_58, Sudan_54, SunkenRoot_54, Vanseggelen_59, Verabelle_57, Verse_54, Yosif_57, ZamZam_54, phiCAM_52,

Summary by start number:

Start 4:
• Found in 19 of 110 (17.3%) of genes in pham
• Manual Annotations of this start: 2 of 102
• Called 10.5% of time when present

• Phage (with cluster) where this start called: Dexers_52 (BD3), Provolone_54 (BD3),

Start 7:
• Found in 17 of 110 (15.5%) of genes in pham
• Manual Annotations of this start: 10 of 102
• Called 70.6% 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), SunkenRoot_54 (BD3), Vanseggelen_59 (BD3), ZamZam_54 (BD3), phiCAM_52 (BD3),

Start 10:
• Found in 27 of 110 (24.5%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 3.7% of time when present
• Phage (with cluster) where this start called: LilSaint_39 (BE1),

Start 11:
• Found in 43 of 110 (39.1%) of genes in pham
• Manual Annotations of this start: 2 of 102
• Called 4.7% of time when present
• Phage (with cluster) where this start called: Jay2Jay_42 (BE1), Warpy_42 (BE1),

Start 13:
• Found in 1 of 110 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: RunningOnE_24 (JN),

Start 14:
• Found in 86 of 110 (78.2%) of genes in pham
• Manual Annotations of this start: 80 of 102
• Called 97.7% 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_40 (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_40 (BE2), Daubenski_41 (BE1), Davielle_35 (BE1), EGole_40 (BE1), Eliot67_36 (BE1), Elmer_42 (BE2), Enygma_38 (BE2), Evy_40 (BE1), FreddyDRoo_37 (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), PumpkinSpice_40 (BE2), PynkPanther_36 (BE1), Quaran19_41 (BE2), Rikishi_41 (BE2), Riptide_37 (BE1), SaltySpitoon_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), Sushi23_40 (BE1), Targaryen_39 (BE1), Teutsch_39 (BE1), TomSawyer_39 (BE2), Tomas_43 (BE2), Tribute_38 (BE1),

Tuesday_45 (BE2), WashU_40 (BE1), Watermoore_39 (BE1), WhereRU_35 (BE1), Wipeout_38 (BE2), Wofford_39 (BE2), Yaboi_41 (BE2),

Start 15:
• Found in 2 of 110 (1.8%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Bmoc_37 (BE1),

Start 17:
• Found in 1 of 110 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ibantik_24 (JN),

Start 20:
• Found in 1 of 110 (0.9%) of genes in pham
• Manual Annotations of this start: 1 of 102
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Yosif_57 (BD3),

Start 23:
• Found in 38 of 110 (34.5%) of genes in pham
• Manual Annotations of this start: 3 of 102
• 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 4 clusters represented in this pham: BE2, JN, BE1, BD3,

Info for manual annotations of cluster BD3:
•Start number 4 was manually annotated 2 times for cluster BD3.
•Start number 7 was manually annotated 10 times for cluster BD3.
•Start number 20 was manually annotated 1 time for cluster BD3.
•Start number 23 was manually annotated 3 times for cluster BD3.

Info for manual annotations of cluster BE1:
•Start number 10 was manually annotated 1 time for cluster BE1.
•Start number 11 was manually annotated 2 times for cluster BE1.
•Start number 14 was manually annotated 45 times for cluster BE1.
•Start number 15 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 14 was manually annotated 35 times for cluster BE2.

Info for manual annotations of cluster JN:
•Start number 13 was manually annotated 1 time for cluster JN.
•Start number 17 was manually annotated 1 time for cluster JN.

Gene Information:

Gene: AcciDwight_45 Start: 17607, Stop: 17062, Start Num: 14
Candidate Starts for AcciDwight_45:
(6, 17649), (Start: 14 @17607 has 80 MA's), (19, 17595), (21, 17574), (26, 17520), (35, 17445), (40, 17415), (46, 17391), (59, 17196),

Gene: Alsaber_54 Start: 39554, Stop: 39006, Start Num: 7
Candidate Starts for Alsaber_54:
(2, 39599), (Start: 4 @39563 has 2 MA's), (Start: 7 @39554 has 10 MA's), (36, 39380),

Gene: Amabiko_41 Start: 17652, Stop: 17107, Start Num: 14
Candidate Starts for Amabiko_41:
(6, 17694), (Start: 14 @17652 has 80 MA's), (19, 17640), (21, 17619), (26, 17565), (35, 17490), (40, 17460), (46, 17436), (59, 17241),

Gene: Amela_53 Start: 40390, Stop: 39896, Start Num: 23
Candidate Starts for Amela_53:
(1, 40627), (Start: 4 @40534 has 2 MA's), (16, 40435), (Start: 23 @40390 has 3 MA's), (36, 40270),

Gene: Anedea_37 Start: 16674, Stop: 16126, Start Num: 14
Candidate Starts for Anedea_37:
(Start: 10 @16701 has 1 MA's), (Start: 11 @16686 has 2 MA's), (Start: 14 @16674 has 80 MA's), (19, 16662), (25, 16596), (29, 16572), (43, 16446), (48, 16431), (59, 16257),

Gene: Angela_37 Start: 16562, Stop: 16026, Start Num: 14
Candidate Starts for Angela_37:
(Start: 14 @16562 has 80 MA's), (19, 16550), (25, 16484), (29, 16460), (47, 16334), (53, 16280), (59, 16157), (64, 16058),

Gene: AngryGiraffe_40 Start: 17449, Stop: 16904, Start Num: 14
Candidate Starts for AngryGiraffe_40:
(6, 17491), (Start: 14 @17449 has 80 MA's), (19, 17437), (26, 17362), (37, 17284), (40, 17257), (46, 17233), (59, 17038),

Gene: ArianaSWT_40 Start: 17904, Stop: 17356, Start Num: 14
Candidate Starts for ArianaSWT_40:
(Start: 10 @17931 has 1 MA's), (Start: 11 @17916 has 2 MA's), (Start: 14 @17904 has 80 MA's), (19, 17892), (Start: 23 @17853 has 3 MA's), (25, 17826), (29, 17802), (43, 17676), (48, 17661), (59, 17487), (61, 17442), (63, 17430),

Gene: Bartholomune_37 Start: 16300, Stop: 15761, Start Num: 14
Candidate Starts for Bartholomune_37:
(Start: 11 @16312 has 2 MA's), (Start: 14 @16300 has 80 MA's), (19, 16288), (43, 16081), (59, 15892), (63, 15835),

Gene: Battuta_39 Start: 17628, Stop: 17083, Start Num: 14
Candidate Starts for Battuta_39:
(6, 17670), (Start: 14 @17628 has 80 MA's), (19, 17616), (21, 17595), (26, 17541), (35, 17466), (40, 17436), (46, 17412), (59, 17217),

Gene: Birchlyn_38 Start: 15509, Stop: 14964, Start Num: 14
Candidate Starts for Birchlyn_38:

(6, 15551), (Start: 14 @15509 has 80 MA's), (19, 15497), (21, 15476), (26, 15422), (35, 15347), (40, 15317), (46, 15293), (59, 15098),

Gene: BlueOtter_40 Start: 17946, Stop: 17398, Start Num: 14
Candidate Starts for BlueOtter_40:
(Start: 10 @17973 has 1 MA's), (Start: 11 @17958 has 2 MA's), (Start: 14 @17946 has 80 MA's), (19, 17934), (Start: 23 @17895 has 3 MA's), (25, 17868), (29, 17844), (43, 17718), (48, 17703), (59, 17529), (61, 17484), (63, 17472),

Gene: Bmoc_37 Start: 16809, Stop: 16282, Start Num: 15
Candidate Starts for Bmoc_37:
(Start: 10 @16839 has 1 MA's), (Start: 15 @16809 has 1 MA's), (32, 16680), (47, 16590), (53, 16536), (55, 16512), (57, 16467), (58, 16428), (59, 16413),

Gene: BoomerJR_41 Start: 17449, Stop: 16904, Start Num: 14
Candidate Starts for BoomerJR_41:
(6, 17491), (Start: 14 @17449 has 80 MA's), (19, 17437), (26, 17362), (37, 17284), (40, 17257), (46, 17233), (59, 17038),

Gene: Bordeaux_39 Start: 17643, Stop: 17098, Start Num: 14
Candidate Starts for Bordeaux_39:
(6, 17685), (Start: 14 @17643 has 80 MA's), (19, 17631), (21, 17610), (26, 17556), (35, 17481), (40, 17451), (46, 17427), (59, 17232),

Gene: Braelyn_37 Start: 16693, Stop: 16154, Start Num: 14
Candidate Starts for Braelyn_37:
(Start: 11 @16705 has 2 MA's), (Start: 14 @16693 has 80 MA's), (19, 16681), (31, 16570), (43, 16474), (59, 16285), (63, 16228),

Gene: Brizzy_40 Start: 17302, Stop: 16757, Start Num: 14
Candidate Starts for Brizzy_40:
(6, 17344), (Start: 14 @17302 has 80 MA's), (19, 17290), (21, 17269), (26, 17215), (35, 17140), (40, 17110), (46, 17086), (59, 16891),

Gene: Cadmus_38 Start: 17427, Stop: 16891, Start Num: 14
Candidate Starts for Cadmus_38:
(Start: 10 @17454 has 1 MA's), (Start: 11 @17439 has 2 MA's), (Start: 14 @17427 has 80 MA's), (19, 17415), (43, 17211), (48, 17196), (55, 17121), (59, 17022),

Gene: CeilingFan_40 Start: 17403, Stop: 16858, Start Num: 14
Candidate Starts for CeilingFan_40:
(6, 17445), (Start: 14 @17403 has 80 MA's), (19, 17391), (21, 17370), (26, 17316), (35, 17241), (40, 17211), (46, 17187), (59, 16992),

Gene: Celery_58 Start: 39644, Stop: 39150, Start Num: 23
Candidate Starts for Celery_58:
(Start: 4 @39695 has 2 MA's), (Start: 7 @39686 has 10 MA's), (Start: 23 @39644 has 3 MA's), (44, 39470), (52, 39425),

Gene: Conan_54 Start: 39514, Stop: 38966, Start Num: 7
Candidate Starts for Conan_54:
(2, 39559), (Start: 4 @39523 has 2 MA's), (Start: 7 @39514 has 10 MA's), (36, 39340),

Gene: Coogler_40 Start: 17935, Stop: 17387, Start Num: 14
Candidate Starts for Coogler_40:
(Start: 10 @17962 has 1 MA's), (Start: 11 @17947 has 2 MA's), (Start: 14 @17935 has 80 MA's), (19, 17923), (Start: 23 @17884 has 3 MA's), (25, 17857), (29, 17833), (43, 17707), (48, 17692), (59, 17518), (61, 17473), (63, 17461),

Gene: Cross_40 Start: 17947, Stop: 17399, Start Num: 14
Candidate Starts for Cross_40:
(Start: 10 @17974 has 1 MA's), (Start: 11 @17959 has 2 MA's), (Start: 14 @17947 has 80 MA's), (19, 17935), (Start: 23 @17896 has 3 MA's), (25, 17869), (29, 17845), (43, 17719), (48, 17704), (59, 17530), (61, 17485), (63, 17473),

Gene: Cursive_37 Start: 16764, Stop: 16216, Start Num: 14
Candidate Starts for Cursive_37:
(Start: 10 @16791 has 1 MA's), (Start: 11 @16776 has 2 MA's), (Start: 14 @16764 has 80 MA's), (19, 16752), (Start: 23 @16713 has 3 MA's), (25, 16686), (29, 16662), (43, 16536), (48, 16521), (59, 16347), (61, 16302), (63, 16290),

Gene: Daisy123_40 Start: 17262, Stop: 16717, Start Num: 14
Candidate Starts for Daisy123_40:
(6, 17304), (Start: 14 @17262 has 80 MA's), (19, 17250), (21, 17229), (26, 17175), (35, 17100), (40, 17070), (46, 17046), (59, 16851),

Gene: Daubenski_41 Start: 18191, Stop: 17655, Start Num: 14
Candidate Starts for Daubenski_41:
(Start: 10 @18218 has 1 MA's), (Start: 11 @18203 has 2 MA's), (Start: 14 @18191 has 80 MA's), (19, 18179), (43, 17975), (48, 17960), (55, 17885), (59, 17786),

Gene: Davielle_35 Start: 15984, Stop: 15445, Start Num: 14
Candidate Starts for Davielle_35:
(Start: 11 @15996 has 2 MA's), (Start: 14 @15984 has 80 MA's), (19, 15972), (Start: 23 @15933 has 3 MA's), (43, 15765), (59, 15576), (63, 15519),

Gene: Dexers_52 Start: 39805, Stop: 39248, Start Num: 4
Candidate Starts for Dexers_52:
(2, 39841), (Start: 4 @39805 has 2 MA's), (Start: 7 @39796 has 10 MA's), (36, 39622),

Gene: EGole_40 Start: 18846, Stop: 18292, Start Num: 14
Candidate Starts for EGole_40:
(Start: 10 @18873 has 1 MA's), (Start: 11 @18858 has 2 MA's), (Start: 14 @18846 has 80 MA's), (19, 18834), (25, 18768), (29, 18744), (43, 18612), (48, 18597), (59, 18423), (61, 18378),

Gene: ElGato_54 Start: 39418, Stop: 38870, Start Num: 7
Candidate Starts for ElGato_54:
(2, 39463), (Start: 4 @39427 has 2 MA's), (Start: 7 @39418 has 10 MA's), (36, 39244),

Gene: Eliot67_36 Start: 16298, Stop: 15759, Start Num: 14
Candidate Starts for Eliot67_36:
(Start: 11 @16310 has 2 MA's), (Start: 14 @16298 has 80 MA's), (19, 16286), (Start: 23 @16247 has 3 MA's), (43, 16079), (59, 15890), (63, 15833),

Gene: Elmer_42 Start: 18521, Stop: 17967, Start Num: 14
Candidate Starts for Elmer_42:

(Start: 14 @18521 has 80 MA's), (19, 18509), (21, 18488), (26, 18434), (41, 18317), (42, 18311), (59, 18101),

Gene: Enygma_38 Start: 16815, Stop: 16273, Start Num: 14
Candidate Starts for Enygma_38:
(Start: 14 @16815 has 80 MA's), (19, 16803), (21, 16782), (26, 16728), (35, 16653), (40, 16623), (46, 16599), (56, 16503), (59, 16407), (63, 16350),

Gene: Evy_40 Start: 17788, Stop: 17264, Start Num: 14
Candidate Starts for Evy_40:
(Start: 11 @17800 has 2 MA's), (Start: 14 @17788 has 80 MA's), (19, 17776), (25, 17710), (29, 17686), (31, 17668), (39, 17602), (43, 17584), (51, 17557), (57, 17449), (59, 17395),

Gene: FreddyDRoo_37 Start: 16298, Stop: 15759, Start Num: 14
Candidate Starts for FreddyDRoo_37:
(Start: 11 @16310 has 2 MA's), (Start: 14 @16298 has 80 MA's), (19, 16286), (Start: 23 @16247 has 3 MA's), (43, 16079), (59, 15890), (63, 15833),

Gene: Genie2_41 Start: 17452, Stop: 16907, Start Num: 14
Candidate Starts for Genie2_41:
(6, 17494), (Start: 14 @17452 has 80 MA's), (19, 17440), (26, 17365), (37, 17287), (40, 17260), (46, 17236), (59, 17041),

Gene: Gibbi_44 Start: 17263, Stop: 16718, Start Num: 14
Candidate Starts for Gibbi_44:
(6, 17305), (Start: 14 @17263 has 80 MA's), (19, 17251), (21, 17230), (26, 17176), (35, 17101), (40, 17071), (46, 17047), (59, 16852),

Gene: HangryHippo_40 Start: 17946, Stop: 17398, Start Num: 14
Candidate Starts for HangryHippo_40:
(Start: 10 @17973 has 1 MA's), (Start: 11 @17958 has 2 MA's), (Start: 14 @17946 has 80 MA's), (19, 17934), (Start: 23 @17895 has 3 MA's), (25, 17868), (29, 17844), (43, 17718), (48, 17703), (59, 17529), (61, 17484), (63, 17472),

Gene: Ibantik_24 Start: 10903, Stop: 10337, Start Num: 17
Candidate Starts for Ibantik_24:
(12, 10924), (Start: 17 @10903 has 1 MA's), (33, 10762), (34, 10750), (38, 10723), (45, 10669), (59, 10468),

Gene: IchabodCrane_38 Start: 17355, Stop: 16810, Start Num: 14
Candidate Starts for IchabodCrane_38:
(6, 17397), (Start: 14 @17355 has 80 MA's), (19, 17343), (21, 17322), (26, 17268), (35, 17193), (40, 17163), (46, 17139), (59, 16944),

Gene: Jay2Jay_42 Start: 17989, Stop: 17453, Start Num: 11
Candidate Starts for Jay2Jay_42:
(Start: 11 @17989 has 2 MA's), (Start: 14 @17977 has 80 MA's), (19, 17965), (25, 17899), (29, 17875), (31, 17857), (43, 17773), (51, 17746), (57, 17638), (59, 17584), (63, 17527),

Gene: Jhitchelle_52 Start: 39342, Stop: 38791, Start Num: 7
Candidate Starts for Jhitchelle_52:
(Start: 4 @39351 has 2 MA's), (Start: 7 @39342 has 10 MA's), (Start: 23 @39300 has 3 MA's), (27, 39255), (28, 39252), (30, 39237),

Gene: JimJam_41 Start: 17591, Stop: 17046, Start Num: 14
Candidate Starts for JimJam_41:
(6, 17633), (Start: 14 @17591 has 80 MA's), (19, 17579), (21, 17558), (26, 17504), (35, 17429), (40, 17399), (46, 17375), (59, 17180),

Gene: Jollison_40 Start: 17609, Stop: 17064, Start Num: 14
Candidate Starts for Jollison_40:
(6, 17651), (Start: 14 @17609 has 80 MA's), (19, 17597), (21, 17576), (26, 17522), (35, 17447), (40, 17417), (46, 17393), (59, 17198),

Gene: Kaine_54 Start: 39706, Stop: 39158, Start Num: 7
Candidate Starts for Kaine_54:
(2, 39751), (Start: 4 @39715 has 2 MA's), (Start: 7 @39706 has 10 MA's), (36, 39532),

Gene: Karimac_40 Start: 17758, Stop: 17213, Start Num: 14
Candidate Starts for Karimac_40:
(6, 17800), (Start: 14 @17758 has 80 MA's), (19, 17746), (21, 17725), (26, 17671), (35, 17596), (40, 17566), (46, 17542), (59, 17347),

Gene: KentuckyRacer_41 Start: 17404, Stop: 16859, Start Num: 14
Candidate Starts for KentuckyRacer_41:
(6, 17446), (Start: 14 @17404 has 80 MA's), (19, 17392), (21, 17371), (26, 17317), (35, 17242), (40, 17212), (46, 17188), (59, 16993),

Gene: Larnav_40 Start: 17894, Stop: 17346, Start Num: 14
Candidate Starts for Larnav_40:
(Start: 10 @17921 has 1 MA's), (Start: 11 @17906 has 2 MA's), (Start: 14 @17894 has 80 MA's), (19, 17882), (Start: 23 @17843 has 3 MA's), (25, 17816), (29, 17792), (43, 17666), (48, 17651), (59, 17477), (61, 17432), (63, 17420),

Gene: Leo04_40 Start: 17945, Stop: 17397, Start Num: 14
Candidate Starts for Leo04_40:
(Start: 10 @17972 has 1 MA's), (Start: 11 @17957 has 2 MA's), (Start: 14 @17945 has 80 MA's), (19, 17933), (Start: 23 @17894 has 3 MA's), (25, 17867), (29, 17843), (43, 17717), (48, 17702), (59, 17528), (61, 17483), (63, 17471),

Gene: Liandry_37 Start: 16297, Stop: 15758, Start Num: 14
Candidate Starts for Liandry_37:
(Start: 11 @16309 has 2 MA's), (Start: 14 @16297 has 80 MA's), (19, 16285), (Start: 23 @16246 has 3 MA's), (43, 16078), (59, 15889), (63, 15832),

Gene: LilMartin_37 Start: 16509, Stop: 15973, Start Num: 14
Candidate Starts for LilMartin_37:
(Start: 14 @16509 has 80 MA's), (19, 16497), (25, 16431), (29, 16407), (47, 16281), (53, 16227), (59, 16104), (64, 16005),

Gene: LilSaint_39 Start: 16738, Stop: 16181, Start Num: 10
Candidate Starts for LilSaint_39:
(Start: 10 @16738 has 1 MA's), (Start: 15 @16708 has 1 MA's), (31, 16597), (32, 16579), (47, 16489), (58, 16327), (59, 16312),

Gene: LukeCage_40 Start: 17395, Stop: 16850, Start Num: 14

Candidate Starts for LukeCage_40:
(6, 17437), (Start: 14 @17395 has 80 MA's), (21, 17362), (22, 17350), (26, 17308), (35, 17233), (40, 17203), (46, 17179), (59, 16984),

Gene: Lululemon_39 Start: 17326, Stop: 16778, Start Num: 14
Candidate Starts for Lululemon_39:
(Start: 10 @17353 has 1 MA's), (Start: 11 @17338 has 2 MA's), (Start: 14 @17326 has 80 MA's), (19, 17314), (Start: 23 @17275 has 3 MA's), (29, 17224), (43, 17098), (48, 17083), (59, 16909), (61, 16864), (63, 16852),

Gene: Marsus_37 Start: 16373, Stop: 15837, Start Num: 14
Candidate Starts for Marsus_37:
(Start: 14 @16373 has 80 MA's), (19, 16361), (25, 16295), (29, 16271), (47, 16145), (59, 15968), (63, 15911),

Gene: Mildred21_38 Start: 16663, Stop: 16070, Start Num: 14
Candidate Starts for Mildred21_38:
(5, 16753), (8, 16708), (Start: 14 @16663 has 80 MA's), (59, 16204),

Gene: MindFlayer_39 Start: 17262, Stop: 16717, Start Num: 14
Candidate Starts for MindFlayer_39:
(6, 17304), (Start: 14 @17262 has 80 MA's), (19, 17250), (21, 17229), (26, 17175), (35, 17100), (40, 17070), (46, 17046), (59, 16851),

Gene: Mugiwara_40 Start: 17308, Stop: 16763, Start Num: 14
Candidate Starts for Mugiwara_40:
(9, 17335), (Start: 14 @17308 has 80 MA's), (19, 17296), (21, 17275), (24, 17251), (26, 17221), (40, 17116), (46, 17092), (59, 16897),

Gene: MulchMansion_37 Start: 16510, Stop: 15974, Start Num: 14
Candidate Starts for MulchMansion_37:
(Start: 14 @16510 has 80 MA's), (19, 16498), (25, 16432), (29, 16408), (47, 16282), (53, 16228), (59, 16105), (64, 16006),

Gene: Navo_36 Start: 16456, Stop: 15917, Start Num: 14
Candidate Starts for Navo_36:
(Start: 11 @16468 has 2 MA's), (Start: 14 @16456 has 80 MA's), (19, 16444), (Start: 23 @16405 has 3 MA's), (43, 16237), (59, 16048), (63, 15991),

Gene: NootNoot_34 Start: 15479, Stop: 14940, Start Num: 14
Candidate Starts for NootNoot_34:
(Start: 11 @15491 has 2 MA's), (Start: 14 @15479 has 80 MA's), (19, 15467), (43, 15260), (59, 15071), (63, 15014),

Gene: PacManQ_39 Start: 17326, Stop: 16778, Start Num: 14
Candidate Starts for PacManQ_39:
(Start: 10 @17353 has 1 MA's), (Start: 11 @17338 has 2 MA's), (Start: 14 @17326 has 80 MA's), (19, 17314), (Start: 23 @17275 has 3 MA's), (25, 17248), (29, 17224), (43, 17098), (48, 17083), (59, 16909), (61, 16864), (63, 16852),

Gene: Paradiddles_34 Start: 15470, Stop: 14931, Start Num: 14
Candidate Starts for Paradiddles_34:

(Start: 11 @15482 has 2 MA's), (Start: 14 @15470 has 80 MA's), (19, 15458), (Start: 23 @15419 has 3 MA's), (43, 15251), (59, 15062), (63, 15005),

Gene: Pavo_55 Start: 39712, Stop: 39164, Start Num: 7
Candidate Starts for Pavo_55:
(2, 39757), (Start: 4 @39721 has 2 MA's), (Start: 7 @39712 has 10 MA's), (36, 39538),

Gene: Peebs_39 Start: 17645, Stop: 17097, Start Num: 14
Candidate Starts for Peebs_39:
(Start: 10 @17672 has 1 MA's), (Start: 11 @17657 has 2 MA's), (Start: 14 @17645 has 80 MA's), (19, 17633), (Start: 23 @17594 has 3 MA's), (25, 17567), (29, 17543), (43, 17417), (48, 17402), (59, 17228), (61, 17183), (63, 17171),

Gene: Pepperwood_40 Start: 17818, Stop: 17270, Start Num: 14
Candidate Starts for Pepperwood_40:
(Start: 10 @17845 has 1 MA's), (Start: 11 @17830 has 2 MA's), (Start: 14 @17818 has 80 MA's), (19, 17806), (Start: 23 @17767 has 3 MA's), (25, 17740), (29, 17716), (43, 17590), (48, 17575), (59, 17401), (61, 17356), (63, 17344),

Gene: Persimmon_34 Start: 15527, Stop: 14988, Start Num: 14
Candidate Starts for Persimmon_34:
(Start: 11 @15539 has 2 MA's), (Start: 14 @15527 has 80 MA's), (19, 15515), (43, 15308), (59, 15119), (63, 15062),

Gene: PinkiePie_36 Start: 16298, Stop: 15759, Start Num: 14
Candidate Starts for PinkiePie_36:
(Start: 11 @16310 has 2 MA's), (Start: 14 @16298 has 80 MA's), (19, 16286), (Start: 23 @16247 has 3 MA's), (43, 16079), (59, 15890), (63, 15833),

Gene: Provolone_54 Start: 39561, Stop: 39010, Start Num: 4
Candidate Starts for Provolone_54:
(2, 39597), (Start: 4 @39561 has 2 MA's), (Start: 7 @39552 has 10 MA's), (36, 39378),

Gene: PumpkinSpice_40 Start: 17652, Stop: 17107, Start Num: 14
Candidate Starts for PumpkinSpice_40:
(6, 17694), (Start: 14 @17652 has 80 MA's), (19, 17640), (21, 17619), (26, 17565), (35, 17490), (40, 17460), (46, 17436), (59, 17241),

Gene: PynkPanther_36 Start: 16511, Stop: 15972, Start Num: 14
Candidate Starts for PynkPanther_36:
(Start: 11 @16523 has 2 MA's), (Start: 14 @16511 has 80 MA's), (19, 16499), (Start: 23 @16460 has 3 MA's), (43, 16292), (59, 16103), (63, 16046),

Gene: Quaran19_41 Start: 17643, Stop: 17098, Start Num: 14
Candidate Starts for Quaran19_41:
(6, 17685), (Start: 14 @17643 has 80 MA's), (19, 17631), (21, 17610), (26, 17556), (35, 17481), (40, 17451), (46, 17427), (59, 17232),

Gene: Rikishi_41 Start: 17558, Stop: 17013, Start Num: 14
Candidate Starts for Rikishi_41:
(6, 17600), (Start: 14 @17558 has 80 MA's), (19, 17546), (21, 17525), (26, 17471), (35, 17396), (40, 17366), (46, 17342), (59, 17147),

Gene: Riptide_37 Start: 16400, Stop: 15852, Start Num: 14
Candidate Starts for Riptide_37:
(Start: 10 @16427 has 1 MA's), (Start: 11 @16412 has 2 MA's), (Start: 14 @16400 has 80 MA's), (19, 16388), (25, 16322), (29, 16298), (43, 16172), (48, 16157), (59, 15983),

Gene: RunningOnE_24 Start: 11157, Stop: 10561, Start Num: 13
Candidate Starts for RunningOnE_24:
(Start: 13 @11157 has 1 MA's), (18, 11133), (59, 10692), (61, 10647), (62, 10638),

Gene: Saftant_52 Start: 39619, Stop: 39104, Start Num: 23
Candidate Starts for Saftant_52:
(1, 39763), (Start: 4 @39670 has 2 MA's), (Start: 7 @39661 has 10 MA's), (Start: 23 @39619 has 3 MA's), (27, 39574), (38, 39481), (49, 39418),

Gene: SaltySpitoon_41 Start: 17652, Stop: 17107, Start Num: 14
Candidate Starts for SaltySpitoon_41:
(6, 17694), (Start: 14 @17652 has 80 MA's), (19, 17640), (21, 17619), (26, 17565), (35, 17490), (40, 17460), (46, 17436), (59, 17241),

Gene: Samisti12_39 Start: 18415, Stop: 17867, Start Num: 14
Candidate Starts for Samisti12_39:
(Start: 10 @18442 has 1 MA's), (Start: 11 @18427 has 2 MA's), (Start: 14 @18415 has 80 MA's), (19, 18403), (Start: 23 @18364 has 3 MA's), (25, 18337), (29, 18313), (43, 18187), (48, 18172), (59, 17998), (61, 17953), (63, 17941),

Gene: Scheme_40 Start: 17829, Stop: 17281, Start Num: 14
Candidate Starts for Scheme_40:
(Start: 10 @17856 has 1 MA's), (Start: 11 @17841 has 2 MA's), (Start: 14 @17829 has 80 MA's), (19, 17817), (Start: 23 @17778 has 3 MA's), (25, 17751), (29, 17727), (43, 17601), (48, 17586), (59, 17412), (61, 17367), (63, 17355),

Gene: Shuckle_38 Start: 18098, Stop: 17550, Start Num: 14
Candidate Starts for Shuckle_38:
(Start: 10 @18125 has 1 MA's), (Start: 11 @18110 has 2 MA's), (Start: 14 @18098 has 80 MA's), (19, 18086), (Start: 23 @18047 has 3 MA's), (25, 18020), (29, 17996), (43, 17870), (48, 17855), (59, 17681), (61, 17636), (63, 17624),

Gene: Sollertia_41 Start: 17452, Stop: 16907, Start Num: 14
Candidate Starts for Sollertia_41:
(6, 17494), (Start: 14 @17452 has 80 MA's), (19, 17440), (26, 17365), (37, 17287), (40, 17260), (46, 17236), (59, 17041),

Gene: Speedwell_58 Start: 40874, Stop: 40317, Start Num: 7
Candidate Starts for Speedwell_58:
(3, 40898), (Start: 4 @40883 has 2 MA's), (Start: 7 @40874 has 10 MA's), (Start: 23 @40832 has 3 MA's), (27, 40787), (28, 40784), (38, 40694), (54, 40556),

Gene: Spelly_41 Start: 17607, Stop: 17062, Start Num: 14
Candidate Starts for Spelly_41:
(6, 17649), (Start: 14 @17607 has 80 MA's), (19, 17595), (21, 17574), (26, 17520), (35, 17445), (40, 17415), (46, 17391), (59, 17196),

Gene: Spilled_41 Start: 17361, Stop: 16816, Start Num: 14

Candidate Starts for Spilled_41:
(6, 17403), (Start: 14 @17361 has 80 MA's), (19, 17349), (21, 17328), (26, 17274), (35, 17199), (40, 17169), (46, 17145), (59, 16950),

Gene: Squillium_37 Start: 16297, Stop: 15758, Start Num: 14
Candidate Starts for Squillium_37:
(Start: 11 @16309 has 2 MA's), (Start: 14 @16297 has 80 MA's), (19, 16285), (Start: 23 @16246 has 3 MA's), (43, 16078), (59, 15889), (63, 15832),

Gene: Stanimal_41 Start: 17452, Stop: 16907, Start Num: 14
Candidate Starts for Stanimal_41:
(6, 17494), (Start: 14 @17452 has 80 MA's), (19, 17440), (26, 17365), (37, 17287), (40, 17260), (46, 17236), (59, 17041),

Gene: StarPlatinum_40 Start: 17451, Stop: 16906, Start Num: 14
Candidate Starts for StarPlatinum_40:
(6, 17493), (Start: 14 @17451 has 80 MA's), (21, 17418), (22, 17406), (26, 17364), (35, 17289), (40, 17259), (46, 17235), (59, 17040),

Gene: Starbow_39 Start: 17628, Stop: 17083, Start Num: 14
Candidate Starts for Starbow_39:
(6, 17670), (Start: 14 @17628 has 80 MA's), (19, 17616), (21, 17595), (26, 17541), (35, 17466), (40, 17436), (46, 17412), (59, 17217),

Gene: Sudan_54 Start: 39552, Stop: 39004, Start Num: 7
Candidate Starts for Sudan_54:
(2, 39597), (Start: 4 @39561 has 2 MA's), (Start: 7 @39552 has 10 MA's), (36, 39378),

Gene: SunkenRoot_54 Start: 40257, Stop: 39718, Start Num: 7
Candidate Starts for SunkenRoot_54:
(Start: 4 @40266 has 2 MA's), (Start: 7 @40257 has 10 MA's),

Gene: Sushi23_40 Start: 18041, Stop: 17493, Start Num: 14
Candidate Starts for Sushi23_40:
(Start: 10 @18068 has 1 MA's), (Start: 11 @18053 has 2 MA's), (Start: 14 @18041 has 80 MA's), (19, 18029), (Start: 23 @17990 has 3 MA's), (25, 17963), (29, 17939), (43, 17813), (48, 17798), (59, 17624), (61, 17579), (63, 17567),

Gene: Targaryen_39 Start: 18535, Stop: 18011, Start Num: 14
Candidate Starts for Targaryen_39:
(Start: 11 @18547 has 2 MA's), (Start: 14 @18535 has 80 MA's), (19, 18523), (25, 18457), (29, 18433), (31, 18415), (43, 18331), (51, 18304), (57, 18196), (59, 18142),

Gene: Teutsch_39 Start: 17734, Stop: 17186, Start Num: 14
Candidate Starts for Teutsch_39:
(Start: 10 @17761 has 1 MA's), (Start: 11 @17746 has 2 MA's), (Start: 14 @17734 has 80 MA's), (19, 17722), (Start: 23 @17683 has 3 MA's), (25, 17656), (29, 17632), (43, 17506), (48, 17491), (59, 17317), (61, 17272), (63, 17260),

Gene: TomSawyer_39 Start: 17246, Stop: 16701, Start Num: 14
Candidate Starts for TomSawyer_39:
(6, 17288), (Start: 14 @17246 has 80 MA's), (19, 17234), (21, 17213), (26, 17159), (35, 17084), (40, 17054), (46, 17030), (59, 16835),

Gene: Tomas_43 Start: 19506, Stop: 18931, Start Num: 14
Candidate Starts for Tomas_43:
(Start: 14 @19506 has 80 MA's), (19, 19494), (42, 19290), (46, 19260), (56, 19161), (58, 19080), (59, 19065),

Gene: Tribute_38 Start: 17512, Stop: 16964, Start Num: 14
Candidate Starts for Tribute_38:
(Start: 10 @17539 has 1 MA's), (Start: 11 @17524 has 2 MA's), (Start: 14 @17512 has 80 MA's), (19, 17500), (25, 17434), (29, 17410), (43, 17284), (48, 17269), (59, 17095), (61, 17050), (63, 17038),

Gene: Tuesday_45 Start: 17652, Stop: 17107, Start Num: 14
Candidate Starts for Tuesday_45:
(6, 17694), (Start: 14 @17652 has 80 MA's), (19, 17640), (21, 17619), (26, 17565), (35, 17490), (40, 17460), (46, 17436), (59, 17241),

Gene: Vanseggelen_59 Start: 39574, Stop: 39017, Start Num: 7
Candidate Starts for Vanseggelen_59:
(Start: 4 @39583 has 2 MA's), (Start: 7 @39574 has 10 MA's), (Start: 23 @39532 has 3 MA's), (27, 39487), (28, 39484), (30, 39469), (38, 39394),

Gene: Verabelle_57 Start: 39198, Stop: 38683, Start Num: 23
Candidate Starts for Verabelle_57:
(Start: 4 @39249 has 2 MA's), (Start: 7 @39240 has 10 MA's), (Start: 23 @39198 has 3 MA's), (27, 39153), (28, 39150), (38, 39060),

Gene: Verse_54 Start: 40384, Stop: 39890, Start Num: 23
Candidate Starts for Verse_54:
(Start: 4 @40528 has 2 MA's), (16, 40429), (Start: 23 @40384 has 3 MA's), (36, 40264),

Gene: Warpy_42 Start: 18009, Stop: 17473, Start Num: 11
Candidate Starts for Warpy_42:
(Start: 11 @18009 has 2 MA's), (Start: 14 @17997 has 80 MA's), (19, 17985), (25, 17919), (29, 17895), (31, 17877), (39, 17811), (43, 17793), (51, 17766), (57, 17658), (59, 17604), (61, 17559), (63, 17547),

Gene: WashU_40 Start: 17819, Stop: 17271, Start Num: 14
Candidate Starts for WashU_40:
(Start: 10 @17846 has 1 MA's), (Start: 11 @17831 has 2 MA's), (Start: 14 @17819 has 80 MA's), (19, 17807), (Start: 23 @17768 has 3 MA's), (25, 17741), (29, 17717), (43, 17591), (48, 17576), (59, 17402), (61, 17357), (63, 17345),

Gene: Watermoore_39 Start: 17947, Stop: 17399, Start Num: 14
Candidate Starts for Watermoore_39:
(Start: 10 @17974 has 1 MA's), (Start: 11 @17959 has 2 MA's), (Start: 14 @17947 has 80 MA's), (19, 17935), (Start: 23 @17896 has 3 MA's), (25, 17869), (29, 17845), (43, 17719), (48, 17704), (59, 17530), (61, 17485), (63, 17473),

Gene: WhereRU_35 Start: 15984, Stop: 15445, Start Num: 14
Candidate Starts for WhereRU_35:
(Start: 11 @15996 has 2 MA's), (Start: 14 @15984 has 80 MA's), (19, 15972), (Start: 23 @15933 has 3 MA's), (43, 15765), (59, 15576), (63, 15519),

Gene: Wipeout_38 Start: 17268, Stop: 16723, Start Num: 14

Candidate Starts for Wipeout_38:
(6, 17310), (Start: 14 @17268 has 80 MA's), (19, 17256), (21, 17235), (26, 17181), (35, 17106), (40, 17076), (46, 17052), (59, 16857),

Gene: Wofford_39 Start: 17999, Stop: 17445, Start Num: 14
Candidate Starts for Wofford_39:
(Start: 14 @17999 has 80 MA's), (19, 17987), (21, 17966), (26, 17912), (41, 17795), (42, 17789), (59, 17579),

Gene: Yaboi_41 Start: 17428, Stop: 16883, Start Num: 14
Candidate Starts for Yaboi_41:
(6, 17470), (Start: 14 @17428 has 80 MA's), (19, 17416), (26, 17341), (37, 17263), (40, 17236), (46, 17212), (59, 17017),

Gene: Yosif_57 Start: 40542, Stop: 40027, Start Num: 20
Candidate Starts for Yosif_57:
(Start: 20 @40542 has 1 MA's), (60, 40149),

Gene: ZamZam_54 Start: 39972, Stop: 39394, Start Num: 7
Candidate Starts for ZamZam_54:
(Start: 4 @39981 has 2 MA's), (Start: 7 @39972 has 10 MA's), (Start: 23 @39930 has 3 MA's), (27, 39885), (28, 39882), (38, 39792), (50, 39705),

Gene: phiCAM_52 Start: 41496, Stop: 40966, Start Num: 7
Candidate Starts for phiCAM_52:
(Start: 4 @41505 has 2 MA's), (Start: 7 @41496 has 10 MA's),