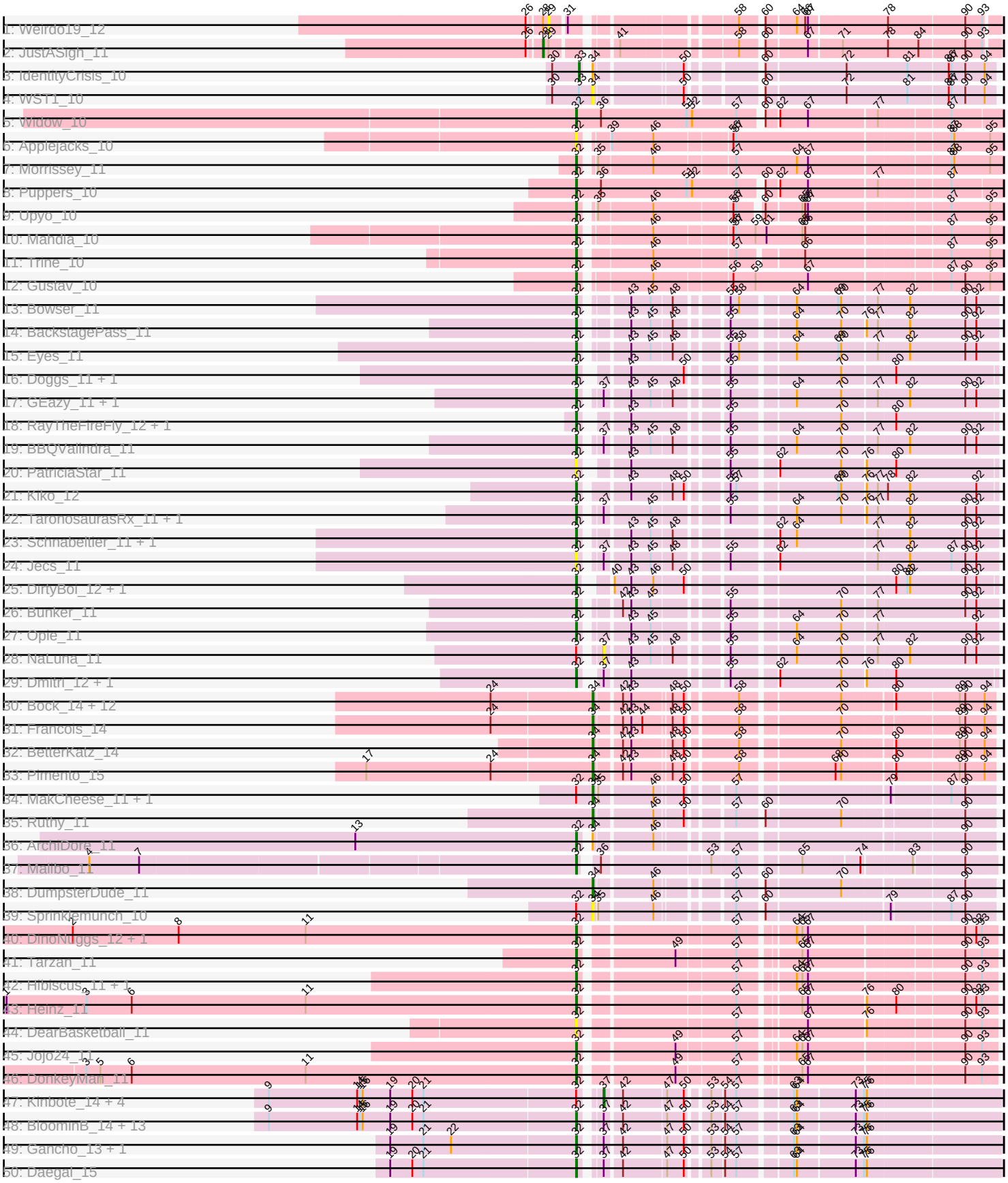
Pham 347472


1: Weirdo19_12
2: JustASigh_11
3: IdentityCrisis_10
4: WST1_10
5: Widow_10
6: Applejacks_10
7: Morrissey_11
8: Puppers_10
9: Opyo_10
10: Mandia_10
11: Trine_10
12: Gustav_10
13: Bowser_11
14: BackstagePass_11
15: Eyes_11
16: Doggs_11 + 1
17: GEazy_11 + 1
18: RayTheFireFly_12 + 1
19: BBQValindra_11
20: PatriciaStar_11
21: Kiko_12
22: TaronosaurasRx_11 + 1
23: Schnabeltier_11 + 1
24: Jecs_11
25: DirtyBoi_12 + 1
26: Bunker_11
27: Opie_11
28: NaLuna_11
29: Dmitri_12 + 1
30: Bock_14 + 12
31: Francois_14
32: BetterKatz_14
33: Pimento_15
34: MakCheese_11 + 1
35: Ruthy_11
36: ArchiDore_11
37: Malibo_11
38: DumpsterDude_11
39: Sprinklemunch_10
40: DinoNuggs_12 + 1
41: Tarzan_11
42: Hibiscus_11 + 1
43: Heinz_11
44: DearBasketball_11
45: Jojo24_15
46: DonkeyMan_11
47: Kinbote_14 + 4
48: BloominB_14 + 13
49: Gancho_13 + 1
50: Daegal_15

Pham 347472


51: Amochick_14
52: NovoPizza_12
53: WorMMAs_10
54: Rem711_17
55: 32HC_18

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 347472 Report

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

Pham number 347472 has 95 members, 16 are drafts.

Phages represented in each track:
- Track 1 : Weirdo19_12
- Track 2 : JustASigh_11
- Track 3 : IdentityCrisis_10
- Track 4 : WST1_10
- Track 5 : Widow_10
- Track 6 : Applejacks_10
- Track 7 : Morrissey_11
- Track 8 : Puppers_10
- Track 9 : Upyo_10
- Track 10 : Mahdia_10
- Track 11 : Trine_10
- Track 12 : Gustav_10
- Track 13 : Bowser_11
- Track 14 : BackstagePass_11
- Track 15 : Eyes_11
- Track 16 : Doggs_11, Coriander_12
- Track 17 : GEazy_11, HannahD_11
- Track 18 : RayTheFireFly_12, Moonflower_12
- Track 19 : BBQValindra_11
- Track 20 : PatriciaStar_11
- Track 21 : Kiko_12
- Track 22 : TaronosaurasRx_11, ZAYM_11
- Track 23 : Schnabeltier_11, MagicMan_11
- Track 24 : Jecs_11
- Track 25 : DirtyBoi_12, Hedwig_12
- Track 26 : Bunker_11
- Track 27 : Opie_11
- Track 28 : NaLuna_11
- Track 29 : Dmitri_12, Chipko_12
- Track 30 : Bock_14, Chop_14, Mulch_14, Nadeem_14, SussRoloMann_14, WheatThin_14, Brylie_14, Parada_14, Ayotoya_14, DelRio_15, GrandSlam_14, Hamood_14, NancyRae_14
- Track 31 : Francois_14
- Track 32 : BetterKatz_14
- Track 33 : Pimento_15
- Track 34 : MakCheese_11, Zodiariah_10
- Track 35 : Ruthy_11

• Track 36 : ArchiDore_11
• Track 37 : Malibo_11
• Track 38 : DumpsterDude_11
• Track 39 : Sprinklemunch_10
• Track 40 : DinoNuggs_12, Reyja_12
• Track 41 : Tarzan_11
• Track 42 : Hibiscus_11, Santhid_11
• Track 43 : Heinz_11
• Track 44 : DearBasketball_11
• Track 45 : Jojo24_11
• Track 46 : DonkeyMan_11
• Track 47 : Kinbote_14, HH92_14, Webster2_14, Wishmaker_14, LilHazelnut_14
• Track 48 : BloominB_14, Ein37_14, OBUpride_14, Luna22_14, Ubuntu_14, Evanesce_14, Amymech_14, Dewey_14, Giles_14, Luke_14, Hail_14, Hadrien_14, DeepSoil15_14, Forge_14
• Track 49 : Gancho_13, Gravaillia_14
• Track 50 : Daegal_15
• Track 51 : Amochick_14
• Track 52 : NovoPizza_12
• Track 53 : WorMMAs_10
• Track 54 : Rem711_17
• Track 55 : 32HC_18

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

The start number called the most often in the published annotations is 32, it was called in 52 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Amymech_14, Applejacks_10, ArchiDore_11, BBQValindra_11, BackstagePass_11, BloominB_14, Bowser_11, Bunker_11, Chipko_12, Coriander_12, Daegal_15, DearBasketball_11, DeepSoil15_14, Dewey_14, DinoNuggs_12, DirtyBoi_12, Dmitri_12, Doggs_11, DonkeyMan_11, Ein37_14, Evanesce_14, Eyes_11, Forge_14, GEazy_11, Gancho_13, Giles_14, Gravaillia_14, Gustav_10, Hadrien_14, Hail_14, HannahD_11, Hedwig_12, Heinz_11, Hibiscus_11, Jecs_11, Jojo24_11, Kiko_12, Luke_14, Luna22_14, MagicMan_11, Mahdia_10, Malibo_11, Moonflower_12, Morrissey_11, NovoPizza_12, OBUpride_14, Opie_11, PatriciaStar_11, Puppers_10, RayTheFireFly_12, Reyja_12, Santhid_11, Schnabeltier_11, TaronosaurasRx_11, Tarzan_11, Trine_10, Ubuntu_14, Upyo_10, Widow_10, WorMMAs_10, ZAYM_11,

Genes that have the "Most Annotated" start but do not call it:
• 32HC_18, Amochick_14, HH92_14, Kinbote_14, LilHazelnut_14, MakCheese_11, NaLuna_11, Rem711_17, Sprinklemunch_10, Webster2_14, Wishmaker_14, Zodiariah_10,

Genes that do not have the "Most Annotated" start:
• Ayotoya_14, BetterKatz_14, Bock_14, Brylie_14, Chop_14, DelRio_15, DumpsterDude_11, Francois_14, GrandSlam_14, Hamood_14, IdentityCrisis_10, JustASigh_11, Mulch_14, Nadeem_14, NancyRae_14, Parada_14, Pimento_15, Ruthy_11, SussRoloMann_14, WST1_10, Weirdo19_12, WheatThin_14,

Summary by start number:

Start 27:
• Found in 2 of 95 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 79
• Called 100.0% of time when present
• Phage (with cluster) where this start called: 32HC_18 (Z), Rem711_17 (Z),

Start 28:
• Found in 2 of 95 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 79
• Called 50.0% of time when present
• Phage (with cluster) where this start called: JustASigh_11 (AH),

Start 29:
• Found in 3 of 95 (3.2%) of genes in pham
• No Manual Annotations of this start.
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Weirdo19_12 (AH),

Start 32:
• Found in 73 of 95 (76.8%) of genes in pham
• Manual Annotations of this start: 52 of 79
• Called 83.6% of time when present
• Phage (with cluster) where this start called: Amymech_14 (Q), Applejacks_10 (CD), ArchiDore_11 (DW), BBQValindra_11 (DB), BackstagePass_11 (DB), BloominB_14 (Q), Bowser_11 (DB), Bunker_11 (DB), Chipko_12 (DB), Coriander_12 (DB), Daegal_15 (Q), DearBasketball_11 (DY), DeepSoil15_14 (Q), Dewey_14 (Q), DinoNuggs_12 (DY), DirtyBoi_12 (DB), Dmitri_12 (DB), Doggs_11 (DB), DonkeyMan_11 (DY), Ein37_14 (Q), Evanesce_14 (Q), Eyes_11 (DB), Forge_14 (Q), GEazy_11 (DB), Gancho_13 (Q), Giles_14 (Q), Gravaillia_14 (Q), Gustav_10 (CD), Hadrien_14 (Q), Hail_14 (Q), HannahD_11 (DB), Hedwig_12 (DB), Heinz_11 (DY), Hibiscus_11 (DY), Jecs_11 (DB), Jojo24_11 (DY), Kiko_12 (DB), Luke_14 (Q), Luna22_14 (Q), MagicMan_11 (DB), Mahdia_10 (CD), Malibo_11 (DW), Moonflower_12 (DB), Morrissey_11 (CD), NovoPizza_12 (Q), OBUpride_14 (Q), Opie_11 (DB), PatriciaStar_11 (DB), Puppers_10 (CD), RayTheFireFly_12 (DB), Reyja_12 (DY), Santhid_11 (DY), Schnabeltier_11 (DB), TaronosaurasRx_11 (DB), Tarzan_11 (DY), Trine_10 (CD), Ubuntu_14 (Q), Upyo_10 (CD), Widow_10 (CD), WorMMAs_10 (UNK), ZAYM_11 (DB),

Start 33:
• Found in 2 of 95 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 79
• Called 50.0% of time when present
• Phage (with cluster) where this start called: IdentityCrisis_10 (AJ),

Start 34:
• Found in 24 of 95 (25.3%) of genes in pham
• Manual Annotations of this start: 18 of 79
• Called 91.7% of time when present
• Phage (with cluster) where this start called: Ayotoya_14 (DI), BetterKatz_14 (DI), Bock_14 (DI), Brylie_14 (DI), Chop_14 (DI), DelRio_15 (DI), DumpsterDude_11 (DW),

Francois_14 (DI), GrandSlam_14 (DI), Hamood_14 (DI), MakCheese_11 (DW), Mulch_14 (DI), Nadeem_14 (DI), NancyRae_14 (DI), Parada_14 (DI), Pimento_15 (DI), Ruthy_11 (DW), Sprinklemunch_10 (DW), SussRoloMann_14 (DI), WST1_10 (AJ), WheatThin_14 (DI), Zodiariah_10 (DW),

Start 37:
• Found in 33 of 95 (34.7%) of genes in pham
• Manual Annotations of this start: 6 of 79
• Called 21.2% of time when present
• Phage (with cluster) where this start called: Amochick_14 (Q), HH92_14 (Q), Kinbote_14 (Q), LilHazelnut_14 (Q), NaLuna_11 (DB), Webster2_14 (Q), Wishmaker_14 (Q),

Summary by clusters:

There are 10 clusters represented in this pham: Z, DI, AH, AJ, DB, CD, Q, DY, DW, UNK,

Info for manual annotations of cluster AH:
•Start number 28 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster AJ:
•Start number 33 was manually annotated 1 time for cluster AJ.

Info for manual annotations of cluster CD:
•Start number 32 was manually annotated 7 times for cluster CD.

Info for manual annotations of cluster DB:
•Start number 32 was manually annotated 18 times for cluster DB.

Info for manual annotations of cluster DI:
•Start number 34 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DW:
•Start number 32 was manually annotated 2 times for cluster DW.
•Start number 34 was manually annotated 3 times for cluster DW.

Info for manual annotations of cluster DY:
•Start number 32 was manually annotated 7 times for cluster DY.

Info for manual annotations of cluster Q:
•Start number 32 was manually annotated 18 times for cluster Q.
•Start number 37 was manually annotated 6 times for cluster Q.

Info for manual annotations of cluster Z:
•Start number 27 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_18 Start: 11044, Stop: 11448, Start Num: 27

Candidate Starts for 32HC_18:
(10, 10795), (12, 10798), (Start: 27 @11044 has 1 MA's), (Start: 32 @11077 has 52 MA's), (53, 11161), (56, 11182), (62, 11221), (90, 11413), (91, 11422),

Gene: Amochick_14 Start: 9530, Stop: 9916, Start Num: 37
Candidate Starts for Amochick_14:
(18, 9311), (19, 9317), (20, 9341), (21, 9353), (22, 9383), (23, 9419), (Start: 32 @9515 has 52 MA's), (Start: 37 @9530 has 6 MA's), (42, 9545), (47, 9590), (50, 9608), (53, 9626), (54, 9638), (57, 9650), (63, 9701), (64, 9704), (73, 9764), (75, 9773), (76, 9776),

Gene: Amymech_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Amymech_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Applejacks_10 Start: 7102, Stop: 7527, Start Num: 32
Candidate Starts for Applejacks_10:
(Start: 32 @7102 has 52 MA's), (39, 7123), (46, 7168), (56, 7246), (57, 7249), (87, 7471), (88, 7474), (95, 7513),

Gene: ArchiDore_11 Start: 7674, Stop: 8060, Start Num: 32
Candidate Starts for ArchiDore_11:
(13, 7434), (Start: 32 @7674 has 52 MA's), (Start: 34 @7680 has 18 MA's), (46, 7737), (90, 8028),

Gene: Ayotoya_14 Start: 9234, Stop: 9620, Start Num: 34
Candidate Starts for Ayotoya_14:
(24, 9138), (Start: 34 @9234 has 18 MA's), (42, 9258), (43, 9267), (48, 9306), (50, 9318), (58, 9366), (70, 9465), (80, 9516), (89, 9582), (90, 9588), (94, 9609),

Gene: BBQValindra_11 Start: 7497, Stop: 7895, Start Num: 32
Candidate Starts for BBQValindra_11:
(Start: 32 @7497 has 52 MA's), (Start: 37 @7512 has 6 MA's), (43, 7536), (45, 7557), (48, 7578), (55, 7623), (64, 7683), (70, 7731), (77, 7767), (82, 7800), (90, 7860), (92, 7872),

Gene: BackstagePass_11 Start: 7474, Stop: 7872, Start Num: 32
Candidate Starts for BackstagePass_11:
(Start: 32 @7474 has 52 MA's), (43, 7513), (45, 7534), (48, 7555), (55, 7600), (64, 7660), (70, 7708), (76, 7732), (77, 7744), (82, 7777), (90, 7837), (92, 7849),

Gene: BetterKatz_14 Start: 9202, Stop: 9588, Start Num: 34
Candidate Starts for BetterKatz_14:
(Start: 34 @9202 has 18 MA's), (42, 9226), (43, 9235), (48, 9274), (50, 9286), (58, 9334), (70, 9433), (80, 9484), (89, 9550), (90, 9556), (94, 9577),

Gene: BloominB_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for BloominB_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Bock_14 Start: 8952, Stop: 9338, Start Num: 34
Candidate Starts for Bock_14:

(24, 8856), (Start: 34 @8952 has 18 MA's), (42, 8976), (43, 8985), (48, 9024), (50, 9036), (58, 9084), (70, 9183), (80, 9234), (89, 9300), (90, 9306), (94, 9327),

Gene: Bowser_11 Start: 7495, Stop: 7893, Start Num: 32
Candidate Starts for Bowser_11:
(Start: 32 @7495 has 52 MA's), (43, 7534), (45, 7555), (48, 7576), (55, 7621), (58, 7630), (64, 7681), (69, 7726), (70, 7729), (77, 7765), (82, 7798), (90, 7858), (92, 7870),

Gene: Brylie_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for Brylie_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: Bunker_11 Start: 7497, Stop: 7895, Start Num: 32
Candidate Starts for Bunker_11:
(Start: 32 @7497 has 52 MA's), (42, 7527), (43, 7536), (45, 7557), (55, 7623), (70, 7731), (77, 7767), (90, 7860), (92, 7872),

Gene: Chipko_12 Start: 7874, Stop: 8269, Start Num: 32
Candidate Starts for Chipko_12:
(Start: 32 @7874 has 52 MA's), (Start: 37 @7886 has 6 MA's), (43, 7910), (55, 8000), (62, 8042), (70, 8108), (76, 8132), (80, 8162),

Gene: Chop_14 Start: 8982, Stop: 9368, Start Num: 34
Candidate Starts for Chop_14:
(24, 8886), (Start: 34 @8982 has 18 MA's), (42, 9006), (43, 9015), (48, 9054), (50, 9066), (58, 9114), (70, 9213), (80, 9264), (89, 9330), (90, 9336), (94, 9357),

Gene: Coriander_12 Start: 7873, Stop: 8268, Start Num: 32
Candidate Starts for Coriander_12:
(Start: 32 @7873 has 52 MA's), (43, 7909), (50, 7966), (55, 7999), (70, 8107), (80, 8161),

Gene: Daegal_15 Start: 9812, Stop: 10213, Start Num: 32
Candidate Starts for Daegal_15:
(19, 9614), (20, 9638), (21, 9650), (Start: 32 @9812 has 52 MA's), (Start: 37 @9827 has 6 MA's), (42, 9842), (47, 9887), (50, 9905), (53, 9923), (54, 9935), (57, 9947), (63, 9998), (64, 10001), (73, 10061), (75, 10070), (76, 10073),

Gene: DearBasketball_11 Start: 7430, Stop: 7834, Start Num: 32
Candidate Starts for DearBasketball_11:
(Start: 32 @7430 has 52 MA's), (57, 7580), (67, 7643), (76, 7703), (90, 7802), (93, 7820),

Gene: DeepSoil15_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for DeepSoil15_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: DelRio_15 Start: 9459, Stop: 9845, Start Num: 34
Candidate Starts for DelRio_15:
(24, 9363), (Start: 34 @9459 has 18 MA's), (42, 9483), (43, 9492), (48, 9531), (50, 9543), (58, 9591), (70, 9690), (80, 9741), (89, 9807), (90, 9813), (94, 9834),

Gene: Dewey_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Dewey_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: DinoNuggs_12 Start: 7576, Stop: 7980, Start Num: 32
Candidate Starts for DinoNuggs_12:
(2, 7033), (8, 7147), (11, 7285), (Start: 32 @7576 has 52 MA's), (57, 7726), (64, 7777), (65, 7783), (67, 7789), (90, 7948), (92, 7960), (93, 7966),

Gene: DirtyBoi_12 Start: 7867, Stop: 8259, Start Num: 32
Candidate Starts for DirtyBoi_12:
(Start: 32 @7867 has 52 MA's), (40, 7885), (43, 7903), (46, 7927), (50, 7957), (80, 8152), (81, 8164), (82, 8167), (90, 8227), (92, 8239),

Gene: Dmitri_12 Start: 7855, Stop: 8250, Start Num: 32
Candidate Starts for Dmitri_12:
(Start: 32 @7855 has 52 MA's), (Start: 37 @7867 has 6 MA's), (43, 7891), (55, 7981), (62, 8023), (70, 8089), (76, 8113), (80, 8143),

Gene: Doggs_11 Start: 7570, Stop: 7965, Start Num: 32
Candidate Starts for Doggs_11:
(Start: 32 @7570 has 52 MA's), (43, 7606), (50, 7663), (55, 7696), (70, 7804), (80, 7858),

Gene: DonkeyMan_11 Start: 7427, Stop: 7831, Start Num: 32
Candidate Starts for DonkeyMan_11:
(3, 6899), (5, 6914), (6, 6947), (11, 7136), (Start: 32 @7427 has 52 MA's), (49, 7517), (57, 7577), (65, 7634), (67, 7640), (90, 7799), (93, 7817),

Gene: DumpsterDude_11 Start: 7693, Stop: 8073, Start Num: 34
Candidate Starts for DumpsterDude_11:
(Start: 34 @7693 has 18 MA's), (46, 7750), (57, 7816), (60, 7840), (70, 7918), (90, 8041),

Gene: Ein37_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Ein37_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Evanesce_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Evanesce_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Eyes_11 Start: 7504, Stop: 7902, Start Num: 32
Candidate Starts for Eyes_11:
(Start: 32 @7504 has 52 MA's), (43, 7543), (45, 7564), (48, 7585), (55, 7630), (58, 7639), (64, 7690), (69, 7735), (70, 7738), (77, 7774), (82, 7807), (90, 7867), (92, 7879),

Gene: Forge_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Forge_14:

(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Francois_14 Start: 8963, Stop: 9349, Start Num: 34
Candidate Starts for Francois_14:
(24, 8867), (Start: 34 @8963 has 18 MA's), (42, 8987), (43, 8996), (44, 9008), (48, 9035), (50, 9047), (58, 9095), (70, 9194), (89, 9311), (90, 9317), (94, 9338),

Gene: GEazy_11 Start: 7506, Stop: 7904, Start Num: 32
Candidate Starts for GEazy_11:
(Start: 32 @7506 has 52 MA's), (Start: 37 @7521 has 6 MA's), (43, 7545), (45, 7566), (48, 7587), (55, 7632), (64, 7692), (70, 7740), (77, 7776), (82, 7809), (90, 7869), (92, 7881),

Gene: Gancho_13 Start: 9221, Stop: 9622, Start Num: 32
Candidate Starts for Gancho_13:
(19, 9023), (21, 9059), (22, 9089), (Start: 32 @9221 has 52 MA's), (Start: 37 @9236 has 6 MA's), (42, 9251), (47, 9296), (50, 9314), (53, 9332), (54, 9344), (57, 9356), (63, 9407), (64, 9410), (73, 9470), (75, 9479), (76, 9482),

Gene: Giles_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Giles_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: GrandSlam_14 Start: 8982, Stop: 9368, Start Num: 34
Candidate Starts for GrandSlam_14:
(24, 8886), (Start: 34 @8982 has 18 MA's), (42, 9006), (43, 9015), (48, 9054), (50, 9066), (58, 9114), (70, 9213), (80, 9264), (89, 9330), (90, 9336), (94, 9357),

Gene: Gravaillia_14 Start: 9254, Stop: 9655, Start Num: 32
Candidate Starts for Gravaillia_14:
(19, 9056), (21, 9092), (22, 9122), (Start: 32 @9254 has 52 MA's), (Start: 37 @9269 has 6 MA's), (42, 9284), (47, 9329), (50, 9347), (53, 9365), (54, 9377), (57, 9389), (63, 9440), (64, 9443), (73, 9503), (75, 9512), (76, 9515),

Gene: Gustav_10 Start: 7169, Stop: 7594, Start Num: 32
Candidate Starts for Gustav_10:
(Start: 32 @7169 has 52 MA's), (46, 7235), (56, 7313), (59, 7337), (67, 7394), (87, 7538), (90, 7553), (95, 7580),

Gene: HH92_14 Start: 9536, Stop: 9922, Start Num: 37
Candidate Starts for HH92_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Hadrien_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Hadrien_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Hail_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Hail_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Hamood_14 Start: 8982, Stop: 9368, Start Num: 34
Candidate Starts for Hamood_14:
(24, 8886), (Start: 34 @8982 has 18 MA's), (42, 9006), (43, 9015), (48, 9054), (50, 9066), (58, 9114), (70, 9213), (80, 9264), (89, 9330), (90, 9336), (94, 9357),

Gene: HannahD_11 Start: 7506, Stop: 7904, Start Num: 32
Candidate Starts for HannahD_11:
(Start: 32 @7506 has 52 MA's), (Start: 37 @7521 has 6 MA's), (43, 7545), (45, 7566), (48, 7587), (55, 7632), (64, 7692), (70, 7740), (77, 7776), (82, 7809), (90, 7869), (92, 7881),

Gene: Hedwig_12 Start: 7867, Stop: 8259, Start Num: 32
Candidate Starts for Hedwig_12:
(Start: 32 @7867 has 52 MA's), (40, 7885), (43, 7903), (46, 7927), (50, 7957), (80, 8152), (81, 8164), (82, 8167), (90, 8227), (92, 8239),

Gene: Heinz_11 Start: 7463, Stop: 7867, Start Num: 32
Candidate Starts for Heinz_11:
(1, 6851), (3, 6938), (6, 6986), (11, 7175), (Start: 32 @7463 has 52 MA's), (57, 7613), (65, 7670), (67, 7676), (76, 7736), (80, 7766), (90, 7835), (92, 7847), (93, 7853),

Gene: Hibiscus_11 Start: 7440, Stop: 7844, Start Num: 32
Candidate Starts for Hibiscus_11:
(Start: 32 @7440 has 52 MA's), (57, 7590), (64, 7641), (65, 7647), (67, 7653), (90, 7812), (93, 7830),

Gene: IdentityCrisis_10 Start: 7775, Stop: 8167, Start Num: 33
Candidate Starts for IdentityCrisis_10:
(30, 7748), (Start: 33 @7775 has 1 MA's), (Start: 34 @7778 has 18 MA's), (50, 7862), (60, 7925), (72, 8009), (81, 8075), (86, 8117), (87, 8120), (90, 8135), (94, 8156),

Gene: Jecs_11 Start: 7828, Stop: 8226, Start Num: 32
Candidate Starts for Jecs_11:
(Start: 32 @7828 has 52 MA's), (Start: 37 @7843 has 6 MA's), (43, 7867), (45, 7888), (48, 7909), (55, 7954), (62, 7996), (77, 8098), (82, 8131), (87, 8176), (90, 8191), (92, 8203),

Gene: Jojo24_11 Start: 7435, Stop: 7839, Start Num: 32
Candidate Starts for Jojo24_11:
(Start: 32 @7435 has 52 MA's), (49, 7525), (57, 7585), (64, 7636), (65, 7642), (67, 7648), (90, 7807), (93, 7825),

Gene: JustASigh_11 Start: 8496, Stop: 8918, Start Num: 28
Candidate Starts for JustASigh_11:
(26, 8484), (Start: 28 @8496 has 1 MA's), (29, 8502), (41, 8553), (58, 8661), (60, 8682), (67, 8724), (71, 8757), (78, 8805), (84, 8838), (90, 8886), (93, 8904),

Gene: Kiko_12 Start: 7703, Stop: 8101, Start Num: 32
Candidate Starts for Kiko_12:

(Start: 32 @7703 has 52 MA's), (43, 7745), (48, 7787), (50, 7799), (55, 7832), (57, 7838), (69, 7937), (70, 7940), (76, 7964), (77, 7976), (78, 7985), (82, 8009), (92, 8081),

Gene: Kinbote_14 Start: 9536, Stop: 9922, Start Num: 37
Candidate Starts for Kinbote_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: LilHazelnut_14 Start: 9536, Stop: 9922, Start Num: 37
Candidate Starts for LilHazelnut_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Luke_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Luke_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Luna22_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Luna22_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: MagicMan_11 Start: 7834, Stop: 8232, Start Num: 32
Candidate Starts for MagicMan_11:
(Start: 32 @7834 has 52 MA's), (43, 7873), (45, 7894), (48, 7915), (62, 8002), (64, 8020), (77, 8104), (82, 8137), (90, 8197), (92, 8209),

Gene: Mahdia_10 Start: 7171, Stop: 7596, Start Num: 32
Candidate Starts for Mahdia_10:
(Start: 32 @7171 has 52 MA's), (46, 7237), (56, 7315), (57, 7318), (59, 7339), (61, 7351), (65, 7390), (66, 7393), (87, 7540), (95, 7582),

Gene: MakCheese_11 Start: 7500, Stop: 7880, Start Num: 34
Candidate Starts for MakCheese_11:
(Start: 32 @7494 has 52 MA's), (Start: 34 @7500 has 18 MA's), (35, 7503), (46, 7557), (50, 7584), (57, 7623), (79, 7773), (87, 7833), (90, 7848),

Gene: Malibo_11 Start: 7740, Stop: 8135, Start Num: 32
Candidate Starts for Malibo_11:
(4, 7233), (7, 7287), (Start: 32 @7740 has 52 MA's), (36, 7752), (53, 7860), (57, 7884), (65, 7944), (74, 8001), (83, 8052), (90, 8103),

Gene: Moonflower_12 Start: 7878, Stop: 8273, Start Num: 32
Candidate Starts for Moonflower_12:
(Start: 32 @7878 has 52 MA's), (43, 7914), (55, 8004), (70, 8112), (80, 8166),

Gene: Morrissey_11 Start: 7567, Stop: 7992, Start Num: 32
Candidate Starts for Morrissey_11:

(Start: 32 @7567 has 52 MA's), (35, 7576), (46, 7633), (57, 7714), (64, 7780), (67, 7792), (87, 7936), (88, 7939), (95, 7978),

Gene: Mulch_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for Mulch_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: NaLuna_11 Start: 7521, Stop: 7904, Start Num: 37
Candidate Starts for NaLuna_11:
(Start: 32 @7506 has 52 MA's), (Start: 37 @7521 has 6 MA's), (43, 7545), (45, 7566), (48, 7587), (55, 7632), (64, 7692), (70, 7740), (77, 7776), (82, 7809), (90, 7869), (92, 7881),

Gene: Nadeem_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for Nadeem_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: NancyRae_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for NancyRae_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: NovoPizza_12 Start: 9624, Stop: 10025, Start Num: 32
Candidate Starts for NovoPizza_12:
(25, 9579), (Start: 32 @9624 has 52 MA's), (Start: 37 @9639 has 6 MA's), (38, 9642), (42, 9654), (43, 9663), (47, 9699), (53, 9735), (54, 9747), (57, 9759), (62, 9795), (63, 9810), (64, 9813), (73, 9873), (76, 9885), (80, 9915), (87, 9972),

Gene: OBUpride_14 Start: 9515, Stop: 9916, Start Num: 32
Candidate Starts for OBUpride_14:
(9, 9185), (14, 9281), (15, 9284), (16, 9287), (19, 9317), (20, 9341), (21, 9353), (Start: 32 @9515 has 52 MA's), (Start: 37 @9530 has 6 MA's), (42, 9545), (47, 9590), (50, 9608), (53, 9626), (54, 9638), (57, 9650), (63, 9701), (64, 9704), (73, 9764), (75, 9773), (76, 9776),

Gene: Opie_11 Start: 7849, Stop: 8247, Start Num: 32
Candidate Starts for Opie_11:
(Start: 32 @7849 has 52 MA's), (43, 7888), (45, 7909), (55, 7975), (64, 8035), (70, 8083), (77, 8119), (92, 8224),

Gene: Parada_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for Parada_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: PatriciaStar_11 Start: 7491, Stop: 7886, Start Num: 32
Candidate Starts for PatriciaStar_11:
(Start: 32 @7491 has 52 MA's), (43, 7527), (55, 7617), (62, 7659), (70, 7725), (76, 7749), (80, 7779),

Gene: Pimento_15 Start: 9153, Stop: 9539, Start Num: 34
Candidate Starts for Pimento_15:
(17, 8922), (24, 9057), (Start: 34 @9153 has 18 MA's), (42, 9177), (43, 9186), (48, 9225), (50, 9237), (58, 9285), (68, 9378), (70, 9384), (80, 9435), (89, 9501), (90, 9507), (94, 9528),

Gene: Puppers_10 Start: 7091, Stop: 7525, Start Num: 32
Candidate Starts for Puppers_10:
(Start: 32 @7091 has 52 MA's), (36, 7118), (51, 7211), (52, 7217), (57, 7265), (60, 7286), (62, 7298), (67, 7328), (77, 7400), (87, 7472),

Gene: RayTheFireFly_12 Start: 7879, Stop: 8274, Start Num: 32
Candidate Starts for RayTheFireFly_12:
(Start: 32 @7879 has 52 MA's), (43, 7915), (55, 8005), (70, 8113), (80, 8167),

Gene: Rem711_17 Start: 11092, Stop: 11496, Start Num: 27
Candidate Starts for Rem711_17:
(Start: 27 @11092 has 1 MA's), (29, 11101), (Start: 32 @11125 has 52 MA's), (56, 11230), (62, 11269), (90, 11461), (91, 11470),

Gene: Reyja_12 Start: 7576, Stop: 7980, Start Num: 32
Candidate Starts for Reyja_12:
(2, 7033), (8, 7147), (11, 7285), (Start: 32 @7576 has 52 MA's), (57, 7726), (64, 7777), (65, 7783), (67, 7789), (90, 7948), (92, 7960), (93, 7966),

Gene: Ruthy_11 Start: 7764, Stop: 8144, Start Num: 34
Candidate Starts for Ruthy_11:
(Start: 34 @7764 has 18 MA's), (46, 7821), (50, 7848), (57, 7887), (60, 7911), (70, 7989), (90, 8112),

Gene: Santhid_11 Start: 7444, Stop: 7848, Start Num: 32
Candidate Starts for Santhid_11:
(Start: 32 @7444 has 52 MA's), (57, 7594), (64, 7645), (65, 7651), (67, 7657), (90, 7816), (93, 7834),

Gene: Schnabeltier_11 Start: 7835, Stop: 8233, Start Num: 32
Candidate Starts for Schnabeltier_11:
(Start: 32 @7835 has 52 MA's), (43, 7874), (45, 7895), (48, 7916), (62, 8003), (64, 8021), (77, 8105), (82, 8138), (90, 8198), (92, 8210),

Gene: Sprinklemunch_10 Start: 7540, Stop: 7920, Start Num: 34
Candidate Starts for Sprinklemunch_10:
(Start: 32 @7534 has 52 MA's), (Start: 34 @7540 has 18 MA's), (35, 7543), (46, 7597), (57, 7663), (60, 7687), (79, 7813), (87, 7873), (90, 7888),

Gene: SussRoloMann_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for SussRoloMann_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: TaronosaurasRx_11 Start: 7848, Stop: 8246, Start Num: 32
Candidate Starts for TaronosaurasRx_11:
(Start: 32 @7848 has 52 MA's), (Start: 37 @7863 has 6 MA's), (45, 7908), (55, 7974), (64, 8034), (70, 8082), (76, 8106), (77, 8118), (82, 8151), (90, 8211), (92, 8223),

Gene: Tarzan_11 Start: 7432, Stop: 7836, Start Num: 32
Candidate Starts for Tarzan_11:
(Start: 32 @7432 has 52 MA's), (49, 7522), (57, 7582), (65, 7639), (67, 7645), (90, 7804), (93, 7822),

Gene: Trine_10 Start: 7087, Stop: 7506, Start Num: 32

Candidate Starts for Trine_10:
(Start: 32 @7087 has 52 MA's), (46, 7156), (57, 7240), (66, 7303), (87, 7450), (95, 7492),

Gene: Ubuntu_14 Start: 9521, Stop: 9922, Start Num: 32
Candidate Starts for Ubuntu_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Upyo_10 Start: 7111, Stop: 7524, Start Num: 32
Candidate Starts for Upyo_10:
(Start: 32 @7111 has 52 MA's), (35, 7120), (46, 7177), (56, 7258), (57, 7261), (60, 7282), (65, 7318), (66, 7321), (67, 7324), (87, 7468), (95, 7510),

Gene: WST1_10 Start: 7781, Stop: 8170, Start Num: 34
Candidate Starts for WST1_10:
(30, 7751), (Start: 33 @7778 has 1 MA's), (Start: 34 @7781 has 18 MA's), (50, 7865), (60, 7928), (72, 8012), (81, 8078), (86, 8120), (87, 8123), (90, 8138), (94, 8159),

Gene: Webster2_14 Start: 9536, Stop: 9922, Start Num: 37
Candidate Starts for Webster2_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: Weirdo19_12 Start: 8274, Stop: 8690, Start Num: 29
Candidate Starts for Weirdo19_12:
(26, 8256), (Start: 28 @8268 has 1 MA's), (29, 8274), (31, 8289), (58, 8433), (60, 8454), (64, 8484), (66, 8493), (67, 8496), (78, 8577), (90, 8658), (93, 8676),

Gene: WheatThin_14 Start: 8949, Stop: 9335, Start Num: 34
Candidate Starts for WheatThin_14:
(24, 8853), (Start: 34 @8949 has 18 MA's), (42, 8973), (43, 8982), (48, 9021), (50, 9033), (58, 9081), (70, 9180), (80, 9231), (89, 9297), (90, 9303), (94, 9324),

Gene: Widow_10 Start: 7082, Stop: 7516, Start Num: 32
Candidate Starts for Widow_10:
(Start: 32 @7082 has 52 MA's), (36, 7109), (51, 7202), (52, 7208), (57, 7256), (60, 7277), (62, 7289), (67, 7319), (77, 7391), (87, 7463),

Gene: Wishmaker_14 Start: 9536, Stop: 9922, Start Num: 37
Candidate Starts for Wishmaker_14:
(9, 9191), (14, 9287), (15, 9290), (16, 9293), (19, 9323), (20, 9347), (21, 9359), (Start: 32 @9521 has 52 MA's), (Start: 37 @9536 has 6 MA's), (42, 9551), (47, 9596), (50, 9614), (53, 9632), (54, 9644), (57, 9656), (63, 9707), (64, 9710), (73, 9770), (75, 9779), (76, 9782),

Gene: WorMMAs_10 Start: 7020, Stop: 7451, Start Num: 32
Candidate Starts for WorMMAs_10:
(Start: 32 @7020 has 52 MA's), (35, 7044), (46, 7104), (57, 7188), (60, 7209), (62, 7221), (65, 7245), (66, 7248), (77, 7323), (78, 7332), (85, 7386), (87, 7395),

Gene: ZAYM_11 Start: 7841, Stop: 8239, Start Num: 32
Candidate Starts for ZAYM_11:

(Start: 32 @7841 has 52 MA's), (Start: 37 @7856 has 6 MA's), (45, 7901), (55, 7967), (64, 8027), (70, 8075), (76, 8099), (77, 8111), (82, 8144), (90, 8204), (92, 8216),

Gene: Zodiariah_10 Start: 7490, Stop: 7870, Start Num: 34
Candidate Starts for Zodiariah_10:
(Start: 32 @7484 has 52 MA's), (Start: 34 @7490 has 18 MA's), (35, 7493), (46, 7547), (50, 7574), (57, 7613), (79, 7763), (87, 7823), (90, 7838),