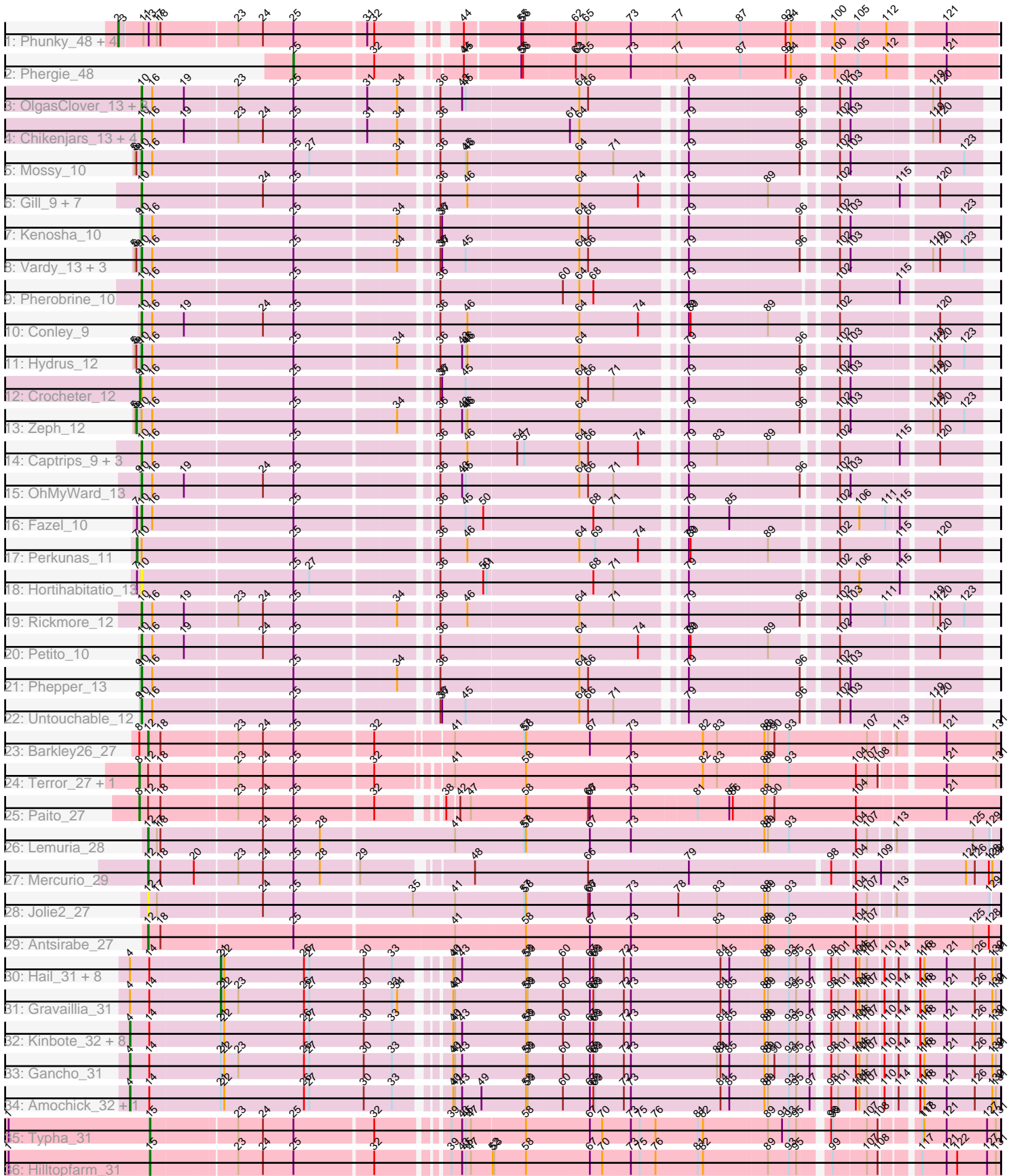


Pham 171408



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 171408 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171408 has 78 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Phunky_48, Gareth_47, Vortex_48, Virgeve_47, Lulwa_48
- Track 2 : Phergie_48
- Track 3 : OlgasClover_13, Jodelie19_13, Aflac_13, Figliar_13
- Track 4 : Chikenjars_13, EndAve_13, Duffington_13, Nithya_13, AlainaMarie_13
- Track 5 : Mossy_10
- Track 6 : Gill_9, Capybara_9, Odesza_9, Magel_9, Roney_9, Kerry_9, Gravy_9, Tanis_9
- Track 7 : Kenosha_10
- Track 8 : Vardy_13, Burley_13, Nadmeg_13, Runhaar_13
- Track 9 : Pherobrine_10
- Track 10 : Conley_9
- Track 11 : Hydrus_12
- Track 12 : Crocheter_12
- Track 13 : Zeph_12
- Track 14 : Captrips_9, Artorias_9, FortCran_9, Avazak_9
- Track 15 : OhMyWard_13
- Track 16 : Fazel_10
- Track 17 : Perkunas_11
- Track 18 : Hortihabitatio_13
- Track 19 : Rickmore_12
- Track 20 : Petite_10
- Track 21 : Phepper_13
- Track 22 : Untouchable_12
- Track 23 : Barkley26_27
- Track 24 : Terror_27, Taheera_27
- Track 25 : Paito_27
- Track 26 : Lemuria_28
- Track 27 : Mercurio_29
- Track 28 : Jolie2_27
- Track 29 : Antsirabe_27
- Track 30 : Hail_31, Hadrien_32, Giles_31, Wishmaker_31, Dewey_31, Forge_31, Luna22_31, Luke_32, Ubuntu_32
- Track 31 : Gravallia_31
- Track 32 : Kinbote_32, Evanesce_31, Amymech_32, Webster2_32, DeepSoil15_32, Ein37_32, HH92_31, OBUpride_32, LilHazelNut_32
- Track 33 : Gancho_31
- Track 34 : Amochick_32, Daegal_33

- Track 35 : Typha_31
- Track 36 : Hilltopfarm_31

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

The start number called the most often in the published annotations is 10, it was called in 36 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aflac_13, AlainaMarie_13, Artorias_9, Avazak_9, Burley_13, Captrips_9, Capybara_9, Chikenjars_13, Conley_9, Duffington_13, EndAve_13, Fazel_10, Figliar_13, FortCran_9, Gill_9, Gravy_9, Hortihabitatio_13, Hydrus_12, Jodelie19_13, Kenosha_10, Kerry_9, Magel_9, Mossy_10, Nadmeg_13, Nithya_13, Odesza_9, OhMyWard_13, OlgasClover_13, Petite_10, Phepper_13, Pherobrine_10, Rickmore_12, Roney_9, Runhaar_13, Tanis_9, Untouchable_12, Vardy_13,

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

- Crocheter_12, Perkunas_11, Zeph_12,

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

- Amochick_32, Amymech_32, Antsirabe_27, Barkley26_27, Daegal_33, DeepSoil15_32, Dewey_31, Ein37_32, Evanesce_31, Forge_31, Gancho_31, Gareth_47, Giles_31, Gravaillia_31, HH92_31, Hadrien_32, Hail_31, Hilltopfarm_31, Jolie2_27, Kinbote_32, Lemuria_28, LilHazelNut_32, Luke_32, Lulwa_48, Luna22_31, Mercurio_29, OBUpride_32, Paito_27, Phergie_48, Phunky_48, Taheera_27, Terror_27, Typha_31, Ubuntu_32, Virgeve_47, Vortex_48, Webster2_32, Wishmaker_31,

Summary by start number:

Start 2:

- Found in 5 of 78 (6.4%) of genes in pham
- Manual Annotations of this start: 5 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gareth_47 (B1), Lulwa_48 (B1), Phunky_48 (B1), Virgeve_47 (B1), Vortex_48 (B1),

Start 4:

- Found in 22 of 78 (28.2%) of genes in pham
- Manual Annotations of this start: 12 of 76
- Called 54.5% of time when present
- Phage (with cluster) where this start called: Amochick_32 (Q), Amymech_32 (Q), Daegal_33 (Q), DeepSoil15_32 (Q), Ein37_32 (Q), Evanesce_31 (Q), Gancho_31 (Q), HH92_31 (Q), Kinbote_32 (Q), LilHazelNut_32 (Q), OBUpride_32 (Q), Webster2_32 (Q),

Start 6:

- Found in 7 of 78 (9.0%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 14.3% of time when present

- Phage (with cluster) where this start called: Zeph_12 (DJ),

Start 7:

- Found in 3 of 78 (3.8%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Perkunas_11 (DJ),

Start 8:

- Found in 4 of 78 (5.1%) of genes in pham
- Manual Annotations of this start: 3 of 76
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Paito_27 (G1), Taheera_27 (G1), Terror_27 (G1),

Start 9:

- Found in 12 of 78 (15.4%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Crocheter_12 (DJ),

Start 10:

- Found in 40 of 78 (51.3%) of genes in pham
- Manual Annotations of this start: 36 of 76
- Called 92.5% of time when present
- Phage (with cluster) where this start called: Aflac_13 (DJ), AlainaMarie_13 (DJ), Artorias_9 (DJ), Avazak_9 (DJ), Burley_13 (DJ), Captrips_9 (DJ), Capybara_9 (DJ), Chikenjars_13 (DJ), Conley_9 (DJ), Duffington_13 (DJ), EndAve_13 (DJ), Fazel_10 (DJ), Figliar_13 (DJ), FortCran_9 (DJ), Gill_9 (DJ), Gravy_9 (DJ), Hortihabitatio_13 (DJ), Hydrus_12 (DJ), Jodelie19_13 (DJ), Kenosha_10 (DJ), Kerry_9 (DJ), Magel_9 (DJ), Mossy_10 (DJ), Nadmeg_13 (DJ), Nithya_13 (DJ), Odesza_9 (DJ), OhMyWard_13 (DJ), OlgasClover_13 (DJ), Petite_10 (DJ), Phepper_13 (DJ), Pherobrine_10 (DJ), Rickmore_12 (DJ), Roney_9 (DJ), Runhaar_13 (DJ), Tanis_9 (DJ), Untouchable_12 (DJ), Vardy_13 (DJ),

Start 12:

- Found in 8 of 78 (10.3%) of genes in pham
- Manual Annotations of this start: 4 of 76
- Called 62.5% of time when present
- Phage (with cluster) where this start called: Antsirabe_27 (G5), Barkley26_27 (G1), Jolie2_27 (G4), Lemuria_28 (G4), Mercurio_29 (G4),

Start 15:

- Found in 2 of 78 (2.6%) of genes in pham
- Manual Annotations of this start: 2 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hilltopfarm_31 (Y), Typha_31 (Y),

Start 21:

- Found in 22 of 78 (28.2%) of genes in pham
- Manual Annotations of this start: 10 of 76
- Called 45.5% of time when present

- Phage (with cluster) where this start called: Dewey_31 (Q), Forge_31 (Q), Giles_31 (Q), Gravaillia_31 (Q), Hadrien_32 (Q), Hail_31 (Q), Luke_32 (Q), Luna22_31 (Q), Ubuntu_32 (Q), Wishmaker_31 (Q),

Start 25:

- Found in 56 of 78 (71.8%) of genes in pham
- Manual Annotations of this start: 1 of 76
- Called 1.8% of time when present
- Phage (with cluster) where this start called: Phergie_48 (B1),

Summary by clusters:

There are 7 clusters represented in this pham: G5, G4, DJ, G1, Q, B1, Y,

Info for manual annotations of cluster B1:

- Start number 2 was manually annotated 5 times for cluster B1.
- Start number 25 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster DJ:

- Start number 6 was manually annotated 1 time for cluster DJ.
- Start number 7 was manually annotated 1 time for cluster DJ.
- Start number 9 was manually annotated 1 time for cluster DJ.
- Start number 10 was manually annotated 36 times for cluster DJ.

Info for manual annotations of cluster G1:

- Start number 8 was manually annotated 3 times for cluster G1.
- Start number 12 was manually annotated 1 time for cluster G1.

Info for manual annotations of cluster G4:

- Start number 12 was manually annotated 2 times for cluster G4.

Info for manual annotations of cluster G5:

- Start number 12 was manually annotated 1 time for cluster G5.

Info for manual annotations of cluster Q:

- Start number 4 was manually annotated 12 times for cluster Q.
- Start number 21 was manually annotated 10 times for cluster Q.

Info for manual annotations of cluster Y:

- Start number 15 was manually annotated 2 times for cluster Y.

Gene Information:

Gene: Aflac_13 Start: 6653, Stop: 7939, Start Num: 10

Candidate Starts for Aflac_13:

(Start: 10 @6653 has 36 MA's), (16, 6671), (19, 6725), (23, 6809), (Start: 25 @6902 has 1 MA's), (31, 7016), (34, 7064), (36, 7115), (43, 7151), (45, 7157), (64, 7343), (66, 7358), (79, 7496), (96, 7673), (102, 7718), (103, 7736), (119, 7859), (120, 7871),

Gene: AlainaMarie_13 Start: 6643, Stop: 7929, Start Num: 10

Candidate Starts for AlainaMarie_13:

(Start: 10 @6643 has 36 MA's), (16, 6661), (19, 6715), (23, 6799), (24, 6841), (Start: 25 @6892 has 1 MA's), (31, 7006), (34, 7054), (36, 7105), (61, 7318), (64, 7333), (79, 7486), (96, 7663), (102, 7708), (103, 7726), (119, 7849), (120, 7861),

Gene: Amochick_32 Start: 26987, Stop: 28345, Start Num: 4

Candidate Starts for Amochick_32:

(Start: 4 @26987 has 12 MA's), (14, 27020), (Start: 21 @27137 has 10 MA's), (22, 27143), (26, 27278), (27, 27287), (30, 27380), (33, 27428), (40, 27497), (41, 27500), (43, 27512), (49, 27542), (58, 27614), (59, 27617), (60, 27674), (67, 27719), (68, 27725), (69, 27728), (72, 27776), (73, 27788), (84, 27938), (85, 27953), (88, 28010), (89, 28016), (93, 28049), (95, 28061), (97, 28082), (98, 28103), (101, 28115), (104, 28142), (106, 28148), (107, 28160), (110, 28178), (114, 28196), (116, 28217), (118, 28223), (121, 28259), (126, 28304), (130, 28334), (131, 28337),

Gene: Amymech_32 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for Amymech_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Antsirabe_27 Start: 25537, Stop: 26892, Start Num: 12

Candidate Starts for Antsirabe_27:

(Start: 12 @25537 has 4 MA's), (18, 25558), (Start: 25 @25771 has 1 MA's), (41, 26029), (58, 26143), (67, 26248), (73, 26317), (83, 26461), (88, 26539), (89, 26545), (93, 26578), (104, 26686), (107, 26704), (125, 26848), (128, 26875),

Gene: Artorias_9 Start: 3802, Stop: 5085, Start Num: 10

Candidate Starts for Artorias_9:

(Start: 10 @3802 has 36 MA's), (16, 3820), (Start: 25 @4051 has 1 MA's), (36, 4264), (46, 4309), (54, 4387), (57, 4399), (64, 4492), (66, 4507), (74, 4591), (79, 4645), (83, 4690), (89, 4771), (102, 4864), (115, 4960), (120, 5017),

Gene: Avazak_9 Start: 3805, Stop: 5088, Start Num: 10

Candidate Starts for Avazak_9:

(Start: 10 @3805 has 36 MA's), (16, 3823), (Start: 25 @4054 has 1 MA's), (36, 4267), (46, 4312), (54, 4390), (57, 4402), (64, 4495), (66, 4510), (74, 4594), (79, 4648), (83, 4693), (89, 4774), (102, 4867), (115, 4963), (120, 5020),

Gene: Barkley26_27 Start: 23877, Stop: 25223, Start Num: 12

Candidate Starts for Barkley26_27:

(Start: 8 @23862 has 3 MA's), (Start: 12 @23877 has 4 MA's), (18, 23898), (23, 24018), (24, 24060), (Start: 25 @24111 has 1 MA's), (32, 24237), (41, 24357), (57, 24468), (58, 24471), (67, 24576), (73, 24645), (82, 24765), (83, 24789), (88, 24867), (89, 24873), (90, 24882), (93, 24906), (107, 25035), (113, 25068), (121, 25134), (131, 25215),

Gene: Burley_13 Start: 6444, Stop: 7730, Start Num: 10

Candidate Starts for Burley_13:

(5, 6432), (Start: 6 @6435 has 1 MA's), (Start: 9 @6441 has 1 MA's), (Start: 10 @6444 has 36 MA's), (16, 6462), (Start: 25 @6693 has 1 MA's), (34, 6855), (36, 6906), (37, 6909), (45, 6948), (64, 7134), (66, 7149), (79, 7287), (96, 7464), (102, 7509), (103, 7527), (119, 7650), (120, 7662), (123, 7701),

Gene: Captrips_9 Start: 3805, Stop: 5088, Start Num: 10

Candidate Starts for Captrips_9:

(Start: 10 @3805 has 36 MA's), (16, 3823), (Start: 25 @4054 has 1 MA's), (36, 4267), (46, 4312), (54, 4390), (57, 4402), (64, 4495), (66, 4510), (74, 4594), (79, 4648), (83, 4693), (89, 4774), (102, 4867), (115, 4963), (120, 5020),

Gene: Capybara_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Capybara_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: Chikenjars_13 Start: 6643, Stop: 7929, Start Num: 10

Candidate Starts for Chikenjars_13:

(Start: 10 @6643 has 36 MA's), (16, 6661), (19, 6715), (23, 6799), (24, 6841), (Start: 25 @6892 has 1 MA's), (31, 7006), (34, 7054), (36, 7105), (61, 7318), (64, 7333), (79, 7486), (96, 7663), (102, 7708), (103, 7726), (119, 7849), (120, 7861),

Gene: Conley_9 Start: 3832, Stop: 5115, Start Num: 10

Candidate Starts for Conley_9:

(Start: 10 @3832 has 36 MA's), (16, 3850), (19, 3904), (24, 4030), (Start: 25 @4081 has 1 MA's), (36, 4294), (46, 4339), (64, 4522), (74, 4621), (79, 4675), (80, 4678), (89, 4801), (102, 4894), (120, 5047),

Gene: Crocheter_12 Start: 5368, Stop: 6657, Start Num: 9

Candidate Starts for Crocheter_12:

(Start: 9 @5368 has 1 MA's), (Start: 10 @5371 has 36 MA's), (16, 5389), (Start: 25 @5620 has 1 MA's), (36, 5833), (37, 5836), (45, 5875), (64, 6061), (66, 6076), (71, 6118), (79, 6214), (96, 6391), (102, 6436), (103, 6454), (119, 6577), (120, 6589),

Gene: Daegal_33 Start: 27275, Stop: 28633, Start Num: 4

Candidate Starts for Daegal_33:

(Start: 4 @27275 has 12 MA's), (14, 27308), (Start: 21 @27425 has 10 MA's), (22, 27431), (26, 27566), (27, 27575), (30, 27668), (33, 27716), (40, 27785), (41, 27788), (43, 27800), (49, 27830), (58, 27902), (59, 27905), (60, 27962), (67, 28007), (68, 28013), (69, 28016), (72, 28064), (73, 28076), (84, 28226), (85, 28241), (88, 28298), (89, 28304), (93, 28337), (95, 28349), (97, 28370), (98, 28391), (101, 28403), (104, 28430), (106, 28436), (107, 28448), (110, 28466), (114, 28484), (116, 28505), (118, 28511), (121, 28547), (126, 28592), (130, 28622), (131, 28625),

Gene: DeepSoil15_32 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for DeepSoil15_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Dewey_31 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Dewey_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217),

(121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Duffington_13 Start: 6628, Stop: 7914, Start Num: 10

Candidate Starts for Duffington_13:

(Start: 10 @6628 has 36 MA's), (16, 6646), (19, 6700), (23, 6784), (24, 6826), (Start: 25 @6877 has 1 MA's), (31, 6991), (34, 7039), (36, 7090), (61, 7303), (64, 7318), (79, 7471), (96, 7648), (102, 7693), (103, 7711), (119, 7834), (120, 7846),

Gene: Ein37_32 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for Ein37_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: EndAve_13 Start: 6643, Stop: 7929, Start Num: 10

Candidate Starts for EndAve_13:

(Start: 10 @6643 has 36 MA's), (16, 6661), (19, 6715), (23, 6799), (24, 6841), (Start: 25 @6892 has 1 MA's), (31, 7006), (34, 7054), (36, 7105), (61, 7318), (64, 7333), (79, 7486), (96, 7663), (102, 7708), (103, 7726), (119, 7849), (120, 7861),

Gene: Evanesce_31 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for Evanesce_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Fazel_10 Start: 5376, Stop: 6665, Start Num: 10

Candidate Starts for Fazel_10:

(Start: 7 @5376 has 1 MA's), (Start: 10 @5376 has 36 MA's), (16, 5394), (Start: 25 @5625 has 1 MA's), (36, 5838), (45, 5880), (50, 5907), (68, 6090), (71, 6123), (79, 6219), (85, 6285), (102, 6444), (106, 6477), (111, 6519), (115, 6540),

Gene: Figliar_13 Start: 6653, Stop: 7939, Start Num: 10

Candidate Starts for Figliar_13:

(Start: 10 @6653 has 36 MA's), (16, 6671), (19, 6725), (23, 6809), (Start: 25 @6902 has 1 MA's), (31, 7016), (34, 7064), (36, 7115), (43, 7151), (45, 7157), (64, 7343), (66, 7358), (79, 7496), (96, 7673), (102, 7718), (103, 7736), (119, 7859), (120, 7871),

Gene: Forge_31 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Forge_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: FortCran_9 Start: 3802, Stop: 5085, Start Num: 10

Candidate Starts for FortCran_9:

(Start: 10 @3802 has 36 MA's), (16, 3820), (Start: 25 @4051 has 1 MA's), (36, 4264), (46, 4309), (54, 4387), (57, 4399), (64, 4492), (66, 4507), (74, 4591), (79, 4645), (83, 4690), (89, 4771), (102, 4864), (115, 4960), (120, 5017),

Gene: Gancho_31 Start: 26704, Stop: 28062, Start Num: 4

Candidate Starts for Gancho_31:

(Start: 4 @26704 has 12 MA's), (14, 26737), (Start: 21 @26854 has 10 MA's), (22, 26860), (23, 26884), (26, 26995), (27, 27004), (30, 27097), (33, 27145), (40, 27214), (41, 27217), (43, 27229), (58, 27331), (59, 27334), (60, 27391), (67, 27436), (68, 27442), (69, 27445), (72, 27493), (73, 27505), (83, 27649), (84, 27655), (85, 27670), (88, 27727), (89, 27733), (90, 27742), (93, 27766), (95, 27778), (97, 27799), (98, 27820), (101, 27832), (104, 27859), (106, 27865), (107, 27877), (110, 27895), (114, 27913), (116, 27934), (118, 27940), (121, 27976), (126, 28021), (130, 28051), (131, 28054),

Gene: Gareth_47 Start: 40034, Stop: 41389, Start Num: 2

Candidate Starts for Gareth_47:

(Start: 2 @40034 has 5 MA's), (3, 40043), (11, 40073), (13, 40082), (17, 40094), (18, 40100), (23, 40220), (24, 40262), (Start: 25 @40313 has 1 MA's), (31, 40427), (32, 40439), (44, 40541), (55, 40628), (56, 40631), (62, 40715), (65, 40733), (73, 40808), (77, 40883), (87, 40991), (92, 41069), (94, 41078), (100, 41138), (105, 41174), (112, 41222), (121, 41309),

Gene: Giles_31 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Giles_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Gill_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Gill_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: Gravaillia_31 Start: 26860, Stop: 28068, Start Num: 21

Candidate Starts for Gravaillia_31:

(Start: 4 @26710 has 12 MA's), (14, 26743), (Start: 21 @26860 has 10 MA's), (22, 26866), (23, 26890), (26, 27001), (27, 27010), (30, 27103), (33, 27151), (34, 27160), (40, 27220), (41, 27223), (58, 27337), (59, 27340), (60, 27397), (67, 27442), (68, 27448), (69, 27451), (72, 27499), (73, 27511), (84, 27661), (85, 27676), (88, 27733), (89, 27739), (93, 27772), (95, 27784), (97, 27805), (98, 27826), (101, 27838), (104, 27865), (106, 27871), (107, 27883), (110, 27901), (114, 27919), (116, 27940), (118, 27946), (121, 27982), (126, 28027), (130, 28057), (131, 28060),

Gene: Gravy_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Gravy_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: HH92_31 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for HH92_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Hadrien_32 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Hadrien_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Hail_31 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Hail_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Hilltopfarm_31 Start: 27809, Stop: 29119, Start Num: 15

Candidate Starts for Hilltopfarm_31:

(1, 27569), (Start: 15 @27809 has 2 MA's), (23, 27947), (24, 27989), (Start: 25 @28040 has 1 MA's), (32, 28166), (39, 28268), (43, 28286), (45, 28292), (47, 28301), (52, 28334), (53, 28337), (58, 28391), (67, 28499), (70, 28520), (73, 28568), (75, 28583), (76, 28610), (81, 28679), (82, 28688), (89, 28796), (93, 28829), (95, 28838), (99, 28880), (107, 28931), (108, 28946), (117, 28991), (121, 29030), (122, 29048), (127, 29099), (131, 29111),

Gene: Hortihabitatio_13 Start: 5735, Stop: 7024, Start Num: 10

Candidate Starts for Hortihabitatio_13:

(Start: 7 @5729 has 1 MA's), (Start: 10 @5735 has 36 MA's), (Start: 25 @5984 has 1 MA's), (27, 6008), (36, 6197), (50, 6266), (51, 6272), (68, 6449), (71, 6482), (79, 6578), (102, 6803), (106, 6836), (115, 6899),

Gene: Hydrus_12 Start: 5629, Stop: 6915, Start Num: 10

Candidate Starts for Hydrus_12:

(5, 5617), (Start: 6 @5620 has 1 MA's), (Start: 9 @5626 has 1 MA's), (Start: 10 @5629 has 36 MA's), (16, 5647), (Start: 25 @5878 has 1 MA's), (34, 6040), (36, 6091), (43, 6127), (45, 6133), (46, 6136), (64, 6319), (79, 6472), (96, 6649), (102, 6694), (103, 6712), (119, 6835), (120, 6847), (123, 6886),

Gene: Jodelie19_13 Start: 6647, Stop: 7933, Start Num: 10

Candidate Starts for Jodelie19_13:

(Start: 10 @6647 has 36 MA's), (16, 6665), (19, 6719), (23, 6803), (Start: 25 @6896 has 1 MA's), (31, 7010), (34, 7058), (36, 7109), (43, 7145), (45, 7151), (64, 7337), (66, 7352), (79, 7490), (96, 7667), (102, 7712), (103, 7730), (119, 7853), (120, 7865),

Gene: Jolie2_27 Start: 24367, Stop: 25716, Start Num: 12

Candidate Starts for Jolie2_27:

(Start: 12 @24367 has 4 MA's), (17, 24382), (24, 24550), (Start: 25 @24601 has 1 MA's), (35, 24793), (41, 24859), (57, 24970), (58, 24973), (66, 25075), (67, 25078), (73, 25147), (78, 25228), (83, 25291), (88, 25369), (89, 25375), (93, 25408), (104, 25516), (107, 25534), (113, 25567), (129, 25705),

Gene: Kenosha_10 Start: 4230, Stop: 5516, Start Num: 10

Candidate Starts for Kenosha_10:

(Start: 9 @4227 has 1 MA's), (Start: 10 @4230 has 36 MA's), (16, 4248), (Start: 25 @4479 has 1 MA's), (34, 4641), (36, 4692), (37, 4695), (64, 4920), (66, 4935), (79, 5073), (96, 5250), (102, 5295), (103, 5313), (123, 5487),

Gene: Kerry_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Kerry_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: Kinbote_32 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for Kinbote_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Lemuria_28 Start: 25522, Stop: 26871, Start Num: 12

Candidate Starts for Lemuria_28:

(Start: 12 @25522 has 4 MA's), (17, 25537), (18, 25543), (24, 25705), (Start: 25 @25756 has 1 MA's), (28, 25798), (41, 26017), (57, 26128), (58, 26131), (67, 26236), (73, 26305), (88, 26524), (89, 26530), (93, 26563), (104, 26671), (107, 26689), (113, 26722), (125, 26833), (129, 26860),

Gene: LilHazelNut_32 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for LilHazelNut_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Luke_32 Start: 27086, Stop: 28294, Start Num: 21

Candidate Starts for Luke_32:

(Start: 4 @26936 has 12 MA's), (14, 26969), (Start: 21 @27086 has 10 MA's), (22, 27092), (26, 27227), (27, 27236), (30, 27329), (33, 27377), (40, 27446), (41, 27449), (43, 27461), (58, 27563), (59, 27566), (60, 27623), (67, 27668), (68, 27674), (69, 27677), (72, 27725), (73, 27737), (84, 27887), (85, 27902), (88, 27959), (89, 27965), (93, 27998), (95, 28010), (97, 28031), (98, 28052), (101, 28064), (104, 28091), (106, 28097), (107, 28109), (110, 28127), (114, 28145), (116, 28166), (118, 28172), (121, 28208), (126, 28253), (130, 28283), (131, 28286),

Gene: Lulwa_48 Start: 40324, Stop: 41679, Start Num: 2

Candidate Starts for Lulwa_48:

(Start: 2 @40324 has 5 MA's), (3, 40333), (11, 40363), (13, 40372), (17, 40384), (18, 40390), (23, 40510), (24, 40552), (Start: 25 @40603 has 1 MA's), (31, 40717), (32, 40729), (44, 40831), (55, 40918), (56, 40921), (62, 41005), (65, 41023), (73, 41098), (77, 41173), (87, 41281), (92, 41359), (94,

41368), (100, 41428), (105, 41464), (112, 41512), (121, 41599),

Gene: Luna22_31 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Luna22_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Magel_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Magel_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: Mercurio_29 Start: 26072, Stop: 27397, Start Num: 12

Candidate Starts for Mercurio_29:

(Start: 12 @26072 has 4 MA's), (18, 26093), (20, 26147), (23, 26213), (24, 26255), (Start: 25 @26306 has 1 MA's), (28, 26348), (29, 26408), (48, 26567), (66, 26753), (79, 26921), (98, 27149), (104, 27182), (109, 27224), (124, 27341), (126, 27356), (128, 27380), (130, 27386),

Gene: Mossy_10 Start: 4506, Stop: 5792, Start Num: 10

Candidate Starts for Mossy_10:

(5, 4494), (Start: 6 @4497 has 1 MA's), (Start: 9 @4503 has 1 MA's), (Start: 10 @4506 has 36 MA's), (16, 4524), (Start: 25 @4755 has 1 MA's), (27, 4779), (34, 4917), (36, 4968), (45, 5010), (46, 5013), (64, 5196), (71, 5253), (79, 5349), (96, 5526), (102, 5571), (103, 5589), (123, 5763),

Gene: Nadmeg_13 Start: 6445, Stop: 7731, Start Num: 10

Candidate Starts for Nadmeg_13:

(5, 6433), (Start: 6 @6436 has 1 MA's), (Start: 9 @6442 has 1 MA's), (Start: 10 @6445 has 36 MA's), (16, 6463), (Start: 25 @6694 has 1 MA's), (34, 6856), (36, 6907), (37, 6910), (45, 6949), (64, 7135), (66, 7150), (79, 7288), (96, 7465), (102, 7510), (103, 7528), (119, 7651), (120, 7663), (123, 7702),

Gene: Nithya_13 Start: 6643, Stop: 7929, Start Num: 10

Candidate Starts for Nithya_13:

(Start: 10 @6643 has 36 MA's), (16, 6661), (19, 6715), (23, 6799), (24, 6841), (Start: 25 @6892 has 1 MA's), (31, 7006), (34, 7054), (36, 7105), (61, 7318), (64, 7333), (79, 7486), (96, 7663), (102, 7708), (103, 7726), (119, 7849), (120, 7861),

Gene: OBUpride_32 Start: 26975, Stop: 28333, Start Num: 4

Candidate Starts for OBUpride_32:

(Start: 4 @26975 has 12 MA's), (14, 27008), (Start: 21 @27125 has 10 MA's), (22, 27131), (26, 27266), (27, 27275), (30, 27368), (33, 27416), (40, 27485), (41, 27488), (43, 27500), (58, 27602), (59, 27605), (60, 27662), (67, 27707), (68, 27713), (69, 27716), (72, 27764), (73, 27776), (84, 27926), (85, 27941), (88, 27998), (89, 28004), (93, 28037), (95, 28049), (97, 28070), (98, 28091), (101, 28103), (104, 28130), (106, 28136), (107, 28148), (110, 28166), (114, 28184), (116, 28205), (118, 28211), (121, 28247), (126, 28292), (130, 28322), (131, 28325),

Gene: Odesza_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Odesza_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: OhMyWard_13 Start: 6444, Stop: 7730, Start Num: 10

Candidate Starts for OhMyWard_13:

(Start: 9 @6441 has 1 MA's), (Start: 10 @6444 has 36 MA's), (16, 6462), (19, 6516), (24, 6642), (Start: 25 @6693 has 1 MA's), (36, 6906), (43, 6942), (45, 6948), (64, 7134), (66, 7149), (71, 7191), (79, 7287), (96, 7464), (102, 7509), (103, 7527),

Gene: OlgasClover_13 Start: 6644, Stop: 7930, Start Num: 10

Candidate Starts for OlgasClover_13:

(Start: 10 @6644 has 36 MA's), (16, 6662), (19, 6716), (23, 6800), (Start: 25 @6893 has 1 MA's), (31, 7007), (34, 7055), (36, 7106), (43, 7142), (45, 7148), (64, 7334), (66, 7349), (79, 7487), (96, 7664), (102, 7709), (103, 7727), (119, 7850), (120, 7862),

Gene: Paito_27 Start: 24076, Stop: 25437, Start Num: 8

Candidate Starts for Paito_27:

(Start: 8 @24076 has 3 MA's), (Start: 12 @24091 has 4 MA's), (18, 24112), (23, 24232), (24, 24274), (Start: 25 @24325 has 1 MA's), (32, 24451), (38, 24535), (42, 24553), (47, 24571), (58, 24664), (66, 24769), (67, 24772), (73, 24841), (81, 24946), (85, 25000), (86, 25006), (88, 25057), (90, 25072), (104, 25207), (121, 25348),

Gene: Perkunas_11 Start: 4324, Stop: 5613, Start Num: 7

Candidate Starts for Perkunas_11:

(Start: 7 @4324 has 1 MA's), (Start: 10 @4330 has 36 MA's), (Start: 25 @4579 has 1 MA's), (36, 4792), (46, 4837), (64, 5020), (69, 5047), (74, 5119), (79, 5173), (80, 5176), (89, 5299), (102, 5392), (115, 5488), (120, 5545),

Gene: Petito_10 Start: 4026, Stop: 5309, Start Num: 10

Candidate Starts for Petito_10:

(Start: 10 @4026 has 36 MA's), (16, 4044), (19, 4098), (24, 4224), (Start: 25 @4275 has 1 MA's), (36, 4488), (64, 4716), (74, 4815), (79, 4869), (80, 4872), (89, 4995), (102, 5088), (120, 5241),

Gene: Phepper_13 Start: 6443, Stop: 7729, Start Num: 10

Candidate Starts for Phepper_13:

(Start: 9 @6440 has 1 MA's), (Start: 10 @6443 has 36 MA's), (16, 6461), (Start: 25 @6692 has 1 MA's), (34, 6854), (36, 6905), (64, 7133), (66, 7148), (79, 7286), (96, 7463), (102, 7508), (103, 7526),

Gene: Phergie_48 Start: 40220, Stop: 41311, Start Num: 25

Candidate Starts for Phergie_48:

(Start: 25 @40220 has 1 MA's), (32, 40346), (44, 40460), (45, 40463), (55, 40550), (56, 40553), (62, 40637), (63, 40640), (65, 40655), (73, 40730), (77, 40805), (87, 40913), (92, 40991), (94, 41000), (100, 41060), (105, 41096), (112, 41144), (121, 41231),

Gene: Pherobrine_10 Start: 4207, Stop: 5496, Start Num: 10

Candidate Starts for Pherobrine_10:

(Start: 10 @4207 has 36 MA's), (16, 4225), (Start: 25 @4456 has 1 MA's), (36, 4669), (60, 4870), (64, 4897), (68, 4921), (79, 5050), (102, 5275), (115, 5371),

Gene: Phunky_48 Start: 40337, Stop: 41692, Start Num: 2

Candidate Starts for Phunky_48:

(Start: 2 @40337 has 5 MA's), (3, 40346), (11, 40376), (13, 40385), (17, 40397), (18, 40403), (23, 40523), (24, 40565), (Start: 25 @40616 has 1 MA's), (31, 40730), (32, 40742), (44, 40844), (55, 40931), (56, 40934), (62, 41018), (65, 41036), (73, 41111), (77, 41186), (87, 41294), (92, 41372), (94, 41381), (100, 41441), (105, 41477), (112, 41525), (121, 41612),

Gene: Rickmore_12 Start: 5213, Stop: 6499, Start Num: 10

Candidate Starts for Rickmore_12:

(Start: 10 @5213 has 36 MA's), (16, 5231), (19, 5285), (23, 5369), (24, 5411), (Start: 25 @5462 has 1 MA's), (34, 5624), (36, 5675), (46, 5720), (64, 5903), (71, 5960), (79, 6056), (96, 6233), (102, 6278), (103, 6296), (111, 6353), (119, 6419), (120, 6431), (123, 6470),

Gene: Roney_9 Start: 3518, Stop: 4801, Start Num: 10

Candidate Starts for Roney_9:

(Start: 10 @3518 has 36 MA's), (24, 3716), (Start: 25 @3767 has 1 MA's), (36, 3980), (46, 4025), (64, 4208), (74, 4307), (79, 4361), (89, 4487), (102, 4580), (115, 4676), (120, 4733),

Gene: Runhaar_13 Start: 6445, Stop: 7731, Start Num: 10

Candidate Starts for Runhaar_13:

(5, 6433), (Start: 6 @6436 has 1 MA's), (Start: 9 @6442 has 1 MA's), (Start: 10 @6445 has 36 MA's), (16, 6463), (Start: 25 @6694 has 1 MA's), (34, 6856), (36, 6907), (37, 6910), (45, 6949), (64, 7135), (66, 7150), (79, 7288), (96, 7465), (102, 7510), (103, 7528), (119, 7651), (120, 7663), (123, 7702),

Gene: Taheera_27 Start: 23964, Stop: 25310, Start Num: 8

Candidate Starts for Taheera_27:

(Start: 8 @23964 has 3 MA's), (Start: 12 @23979 has 4 MA's), (18, 24000), (23, 24120), (24, 24162), (Start: 25 @24213 has 1 MA's), (32, 24339), (41, 24444), (58, 24558), (73, 24732), (82, 24852), (83, 24876), (88, 24954), (89, 24960), (93, 24993), (104, 25104), (107, 25122), (108, 25137), (121, 25221), (131, 25302),

Gene: Tanis_9 Start: 3368, Stop: 4651, Start Num: 10

Candidate Starts for Tanis_9:

(Start: 10 @3368 has 36 MA's), (24, 3566), (Start: 25 @3617 has 1 MA's), (36, 3830), (46, 3875), (64, 4058), (74, 4157), (79, 4211), (89, 4337), (102, 4430), (115, 4526), (120, 4583),

Gene: Terror_27 Start: 23964, Stop: 25310, Start Num: 8

Candidate Starts for Terror_27:

(Start: 8 @23964 has 3 MA's), (Start: 12 @23979 has 4 MA's), (18, 24000), (23, 24120), (24, 24162), (Start: 25 @24213 has 1 MA's), (32, 24339), (41, 24444), (58, 24558), (73, 24732), (82, 24852), (83, 24876), (88, 24954), (89, 24960), (93, 24993), (104, 25104), (107, 25122), (108, 25137), (121, 25221), (131, 25302),

Gene: Typha_31 Start: 27779, Stop: 29089, Start Num: 15

Candidate Starts for Typha_31:

(1, 27539), (Start: 15 @27779 has 2 MA's), (23, 27917), (24, 27959), (Start: 25 @28010 has 1 MA's), (32, 28136), (39, 28238), (43, 28256), (45, 28262), (47, 28271), (58, 28361), (67, 28469), (70, 28490), (73, 28538), (75, 28553), (76, 28580), (81, 28649), (82, 28658), (89, 28766), (91, 28787), (93, 28799), (95, 28808), (98, 28847), (99, 28850), (107, 28901), (108, 28916), (117, 28961), (118, 28964), (121, 29000), (127, 29069), (131, 29081),

Gene: Ubuntu_32 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Ubuntu_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Untouchable_12 Start: 5370, Stop: 6656, Start Num: 10

Candidate Starts for Untouchable_12:

(Start: 9 @5367 has 1 MA's), (Start: 10 @5370 has 36 MA's), (16, 5388), (Start: 25 @5619 has 1 MA's), (36, 5832), (37, 5835), (45, 5874), (64, 6060), (66, 6075), (71, 6117), (79, 6213), (96, 6390), (102, 6435), (103, 6453), (119, 6576), (120, 6588),

Gene: Vardy_13 Start: 6443, Stop: 7729, Start Num: 10

Candidate Starts for Vardy_13:

(5, 6431), (Start: 6 @6434 has 1 MA's), (Start: 9 @6440 has 1 MA's), (Start: 10 @6443 has 36 MA's), (16, 6461), (Start: 25 @6692 has 1 MA's), (34, 6854), (36, 6905), (37, 6908), (45, 6947), (64, 7133), (66, 7148), (79, 7286), (96, 7463), (102, 7508), (103, 7526), (119, 7649), (120, 7661), (123, 7700),

Gene: Virgeve_47 Start: 40112, Stop: 41467, Start Num: 2

Candidate Starts for Virgeve_47:

(Start: 2 @40112 has 5 MA's), (3, 40121), (11, 40151), (13, 40160), (17, 40172), (18, 40178), (23, 40298), (24, 40340), (Start: 25 @40391 has 1 MA's), (31, 40505), (32, 40517), (44, 40619), (55, 40706), (56, 40709), (62, 40793), (65, 40811), (73, 40886), (77, 40961), (87, 41069), (92, 41147), (94, 41156), (100, 41216), (105, 41252), (112, 41300), (121, 41387),

Gene: Vortex_48 Start: 40042, Stop: 41397, Start Num: 2

Candidate Starts for Vortex_48:

(Start: 2 @40042 has 5 MA's), (3, 40051), (11, 40081), (13, 40090), (17, 40102), (18, 40108), (23, 40228), (24, 40270), (Start: 25 @40321 has 1 MA's), (31, 40435), (32, 40447), (44, 40549), (55, 40636), (56, 40639), (62, 40723), (65, 40741), (73, 40816), (77, 40891), (87, 40999), (92, 41077), (94, 41086), (100, 41146), (105, 41182), (112, 41230), (121, 41317),

Gene: Webster2_32 Start: 26981, Stop: 28339, Start Num: 4

Candidate Starts for Webster2_32:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Wishmaker_31 Start: 27131, Stop: 28339, Start Num: 21

Candidate Starts for Wishmaker_31:

(Start: 4 @26981 has 12 MA's), (14, 27014), (Start: 21 @27131 has 10 MA's), (22, 27137), (26, 27272), (27, 27281), (30, 27374), (33, 27422), (40, 27491), (41, 27494), (43, 27506), (58, 27608), (59, 27611), (60, 27668), (67, 27713), (68, 27719), (69, 27722), (72, 27770), (73, 27782), (84, 27932), (85, 27947), (88, 28004), (89, 28010), (93, 28043), (95, 28055), (97, 28076), (98, 28097), (101, 28109), (104, 28136), (106, 28142), (107, 28154), (110, 28172), (114, 28190), (116, 28211), (118, 28217), (121, 28253), (126, 28298), (130, 28328), (131, 28331),

Gene: Zeph_12 Start: 5620, Stop: 6915, Start Num: 6

Candidate Starts for Zeph_12:

(5, 5617), (Start: 6 @5620 has 1 MA's), (Start: 9 @5626 has 1 MA's), (Start: 10 @5629 has 36 MA's), (16, 5647), (Start: 25 @5878 has 1 MA's), (34, 6040), (36, 6091), (43, 6127), (45, 6133), (46, 6136), (64, 6319), (79, 6472), (96, 6649), (102, 6694), (103, 6712), (119, 6835), (120, 6847), (123, 6886),