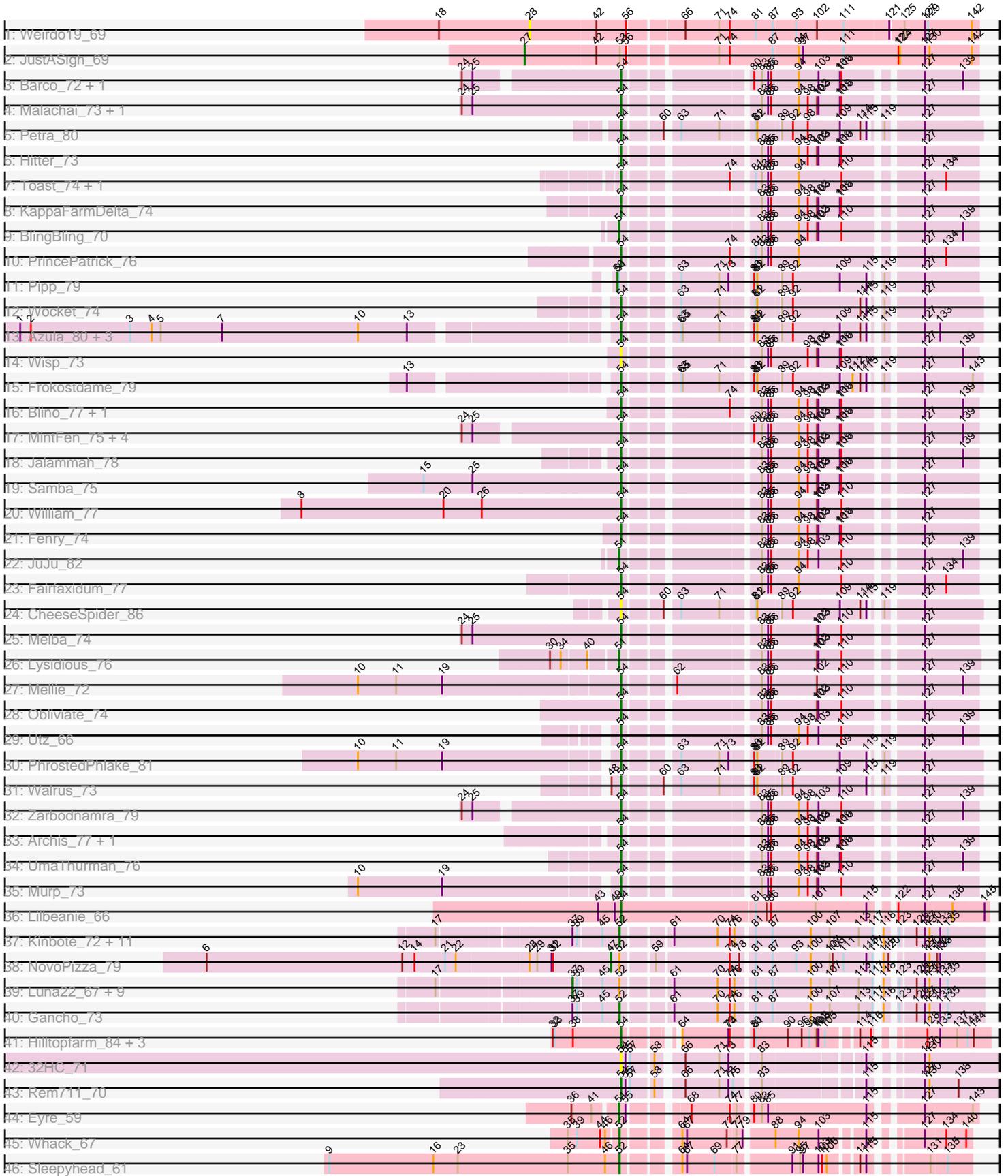


Pham 291081



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 291081 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291081 has 81 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Weirdo19_69
- Track 2 : JustASigh_69
- Track 3 : Barco_72, Zilla_73
- Track 4 : Malachai_73, Begonia_73
- Track 5 : Petra_80
- Track 6 : Hitter_73
- Track 7 : Toast_74, PCoral7_74
- Track 8 : KappaFarmDelta_74
- Track 9 : BlingBling_70
- Track 10 : PrincePatrick_76
- Track 11 : Pipp_79
- Track 12 : Wocket_74
- Track 13 : Azula_80, Gambino_82, Blueberry_79, MissRona_80
- Track 14 : Wisp_73
- Track 15 : Frokostdame_79
- Track 16 : Blino_77, CarolAnn_76
- Track 17 : MintFen_75, Guacamole_73, Delian_78, CaptainKirk2_75, JasperJr_73
- Track 18 : Jalammah_78
- Track 19 : Samba_75
- Track 20 : William_77
- Track 21 : Fenry_74
- Track 22 : JuJu_82
- Track 23 : Fairfaxidum_77
- Track 24 : CheeseSpider_86
- Track 25 : Melba_74
- Track 26 : Lysidious_76
- Track 27 : Mellie_72
- Track 28 : Obliviate_74
- Track 29 : Utz_66
- Track 30 : PhrostedPhlake_81
- Track 31 : Walrus_73
- Track 32 : Zarbodnamra_79
- Track 33 : Archis_77, ZiggyZoo_76
- Track 34 : UmaThurman_76
- Track 35 : Murp_73
- Track 36 : Lilbeanie_66

- Track 37 : Kinbote_72, Ubuntu_74, BloominB_74, Evanesce_73, LilHazelNut_74, Webster2_74, Amymech_74, Ein37_74, OBUpride_73, DeepSoil15_74, HH92_73, Amochick_75
- Track 38 : NovoPizza_79
- Track 39 : Luna22_67, Forge_67, Wishmaker_67, Hadrien_71, Dewey_67, Hail_67, Luke_71, Gravaillia_68, Daegal_76, Giles_67
- Track 40 : Gancho_73
- Track 41 : Hilltopfarm_84, Faiyaz_85, Typha_83, AuntGwenStacy_83
- Track 42 : 32HC_71
- Track 43 : Rem711_70
- Track 44 : Eyre_59
- Track 45 : Whack_67
- Track 46 : Sleepyhead_61

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

The start number called the most often in the published annotations is 54, it was called in 43 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 32HC_71, Archis_77, AuntGwenStacy_83, Azula_80, Barco_72, Begonia_73, Blino_77, Blueberry_79, CaptainKirk2_75, CarolAnn_76, CheeseSpider_86, Delian_78, Fairfaxidum_77, Faiyaz_85, Fenry_74, Frokostdame_79, Gambino_82, Guacamole_73, Hilltopfarm_84, Hitter_73, Jalamah_78, JasperJr_73, KappaFarmDelta_74, Lilbeanie_66, Malachai_73, Melba_74, Mellie_72, MintFen_75, MissRona_80, Murp_73, Obliviate_74, PCoral7_74, Petra_80, PhrostedPhlake_81, PrincePatrick_76, Rem711_70, Samba_75, Toast_74, Typha_83, UmaThurman_76, Utz_66, Walrus_73, William_77, Wisp_73, Wocket_74, Zarbodnamra_79, ZiggyZoo_76, Zilla_73,

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

-

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

- Amochick_75, Amymech_74, BlingBling_70, BloominB_74, Daegal_76, DeepSoil15_74, Dewey_67, Ein37_74, Evanesce_73, Eyre_59, Forge_67, Gancho_73, Giles_67, Gravaillia_68, HH92_73, Hadrien_71, Hail_67, JuJu_82, JustASigh_69, Kinbote_72, LilHazelNut_74, Luke_71, Luna22_67, Lysidious_76, NovoPizza_79, OBUpride_73, Pipp_79, Sleepyhead_61, Ubuntu_74, Webster2_74, Weirido19_69, Whack_67, Wishmaker_67,

Summary by start number:

Start 27:

- Found in 1 of 81 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh_69 (AH),

Start 28:

- Found in 2 of 81 (2.5%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Weirido19_69 (AH),

Start 37:

- Found in 23 of 81 (28.4%) of genes in pham
- Manual Annotations of this start: 10 of 74
- Called 43.5% of time when present
- Phage (with cluster) where this start called: Daegal_76 (Q), Dewey_67 (Q), Forge_67 (Q), Giles_67 (Q), Gravaillia_68 (Q), Hadrien_71 (Q), Hail_67 (Q), Luke_71 (Q), Luna22_67 (Q), Wishmaker_67 (Q),

Start 47:

- Found in 1 of 81 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NovoPizza_79 (Q),

Start 50:

- Found in 1 of 81 (1.2%) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pipp_79 (CV),

Start 51:

- Found in 5 of 81 (6.2%) of genes in pham
- Manual Annotations of this start: 4 of 74
- Called 80.0% of time when present
- Phage (with cluster) where this start called: BlingBling_70 (CV), Eyre_59 (singleton), JuJu_82 (CV), Lysidious_76 (CV),

Start 52:

- Found in 26 of 81 (32.1%) of genes in pham
- Manual Annotations of this start: 14 of 74
- Called 57.7% of time when present
- Phage (with cluster) where this start called: Amochick_75 (Q), Amymech_74 (Q), BloominB_74 (Q), DeepSoil15_74 (Q), Ein37_74 (Q), Evanesce_73 (Q), Gancho_73 (Q), HH92_73 (Q), Kinbote_72 (Q), LilHazelNut_74 (Q), OBUpride_73 (Q), Sleepyhead_61 (singleton), Ubuntu_74 (Q), Webster2_74 (Q), Whack_67 (singleton),

Start 54:

- Found in 48 of 81 (59.3%) of genes in pham
- Manual Annotations of this start: 43 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC_71 (Z), Archis_77 (CV), AuntGwenStacy_83 (Y), Azula_80 (CV), Barco_72 (CV), Begonia_73 (CV), Blino_77 (CV), Blueberry_79 (CV), CaptainKirk2_75 (CV), CarolAnn_76 (CV), CheeseSpider_86 (CV), Delian_78 (CV), Fairfaxidum_77 (CV), Faiyaz_85 (Y), Ferry_74 (CV), Frokostdame_79 (CV), Gambino_82 (CV), Guacamole_73 (CV), Hilltopfarm_84 (Y), Hitter_73 (CV), Jalammah_78 (CV), JasperJr_73 (CV), KappaFarmDelta_74 (CV), Lilbeanie_66 (DE5), Malachai_73 (CV), Melba_74 (CV), Mellie_72 (CV), MintFen_75 (CV), MissRona_80 (CV), Murp_73 (CV), Obliviate_74

(CV), PCoral7_74 (CV), Petra_80 (CV), PhrostedPhlake_81 (CV), PrincePatrick_76 (CV), Rem711_70 (Z), Samba_75 (CV), Toast_74 (CV), Typha_83 (Y), UmaThurman_76 (CV), Utz_66 (CV), Walrus_73 (CV), William_77 (CV), Wisp_73 (CV), Wocket_74 (CV), Zarbodnamra_79 (CV), ZiggyZoo_76 (CV), Zilla_73 (CV),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, AH, DE5, Q, Y, Z, CV,

Info for manual annotations of cluster AH:

- Start number 27 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster CV:

- Start number 50 was manually annotated 1 time for cluster CV.
- Start number 51 was manually annotated 3 times for cluster CV.
- Start number 54 was manually annotated 38 times for cluster CV.

Info for manual annotations of cluster DE5:

- Start number 54 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster Q:

- Start number 37 was manually annotated 10 times for cluster Q.
- Start number 47 was manually annotated 1 time for cluster Q.
- Start number 52 was manually annotated 12 times for cluster Q.

Info for manual annotations of cluster Y:

- Start number 54 was manually annotated 3 times for cluster Y.

Info for manual annotations of cluster Z:

- Start number 54 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_71 Start: 43501, Stop: 44121, Start Num: 54

Candidate Starts for 32HC_71:

(Start: 54 @43501 has 43 MA's), (55, 43510), (57, 43513), (58, 43552), (66, 43591), (71, 43657), (73, 43675), (83, 43726), (115, 43900), (127, 43969), (130, 43978),

Gene: Amochick_75 Start: 48792, Stop: 49403, Start Num: 52

Candidate Starts for Amochick_75:

(17, 48474), (Start: 37 @48711 has 10 MA's), (39, 48720), (45, 48762), (Start: 52 @48792 has 14 MA's), (61, 48873), (70, 48957), (74, 48981), (76, 48990), (81, 49020), (87, 49053), (100, 49119), (107, 49155), (113, 49209), (117, 49233), (118, 49236), (123, 49251), (126, 49278), (127, 49293), (130, 49302), (133, 49320), (135, 49335),

Gene: Amymech_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for Amymech_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Archis_77 Start: 45860, Stop: 46450, Start Num: 54

Candidate Starts for Archis_77:

(Start: 54 @45860 has 43 MA's), (83, 46082), (85, 46094), (86, 46100), (94, 46145), (98, 46163), (102, 46181), (103, 46184), (109, 46223), (110, 46226), (127, 46352),

Gene: AuntGwenStacy_83 Start: 54897, Stop: 55466, Start Num: 54

Candidate Starts for AuntGwenStacy_83:

(32, 54768), (33, 54771), (38, 54807), (Start: 54 @54897 has 43 MA's), (64, 54963), (73, 55053), (74, 55056), (80, 55086), (81, 55089), (90, 55146), (96, 55170), (99, 55185), (101, 55194), (102, 55197), (103, 55200), (105, 55212), (114, 55260), (116, 55281), (128, 55347), (133, 55368), (137, 55401), (141, 55422), (144, 55434),

Gene: Azula_80 Start: 50046, Stop: 50630, Start Num: 54

Candidate Starts for Azula_80:

(1, 48945), (2, 48966), (3, 49161), (4, 49203), (5, 49221), (7, 49341), (10, 49608), (13, 49704), (Start: 54 @50046 has 43 MA's), (63, 50127), (65, 50130), (71, 50199), (80, 50250), (81, 50253), (82, 50256), (89, 50295), (92, 50316), (109, 50403), (114, 50442), (115, 50454), (119, 50463), (127, 50523), (133, 50550),

Gene: Barco_72 Start: 45671, Stop: 46261, Start Num: 54

Candidate Starts for Barco_72:

(24, 45398), (25, 45419), (Start: 54 @45671 has 43 MA's), (80, 45878), (83, 45893), (85, 45905), (86, 45911), (94, 45956), (103, 45995), (109, 46034), (110, 46037), (127, 46163), (139, 46235),

Gene: Begonia_73 Start: 48471, Stop: 49061, Start Num: 54

Candidate Starts for Begonia_73:

(24, 48171), (25, 48192), (Start: 54 @48471 has 43 MA's), (83, 48693), (85, 48705), (86, 48711), (94, 48756), (98, 48774), (102, 48792), (103, 48795), (109, 48834), (110, 48837), (127, 48963),

Gene: BlingBling_70 Start: 45443, Stop: 46036, Start Num: 51

Candidate Starts for BlingBling_70:

(Start: 51 @45443 has 4 MA's), (83, 45668), (85, 45680), (86, 45686), (94, 45731), (98, 45749), (102, 45767), (103, 45770), (110, 45812), (127, 45938), (139, 46010),

Gene: Blino_77 Start: 51275, Stop: 51865, Start Num: 54

Candidate Starts for Blino_77:

(Start: 54 @51275 has 43 MA's), (74, 51452), (83, 51497), (85, 51509), (86, 51515), (94, 51560), (98, 51578), (102, 51596), (103, 51599), (109, 51638), (110, 51641), (127, 51767), (139, 51839),

Gene: BloominB_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for BloominB_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Blueberry_79 Start: 50046, Stop: 50630, Start Num: 54

Candidate Starts for Blueberry_79:

(1, 48945), (2, 48966), (3, 49161), (4, 49203), (5, 49221), (7, 49341), (10, 49608), (13, 49704), (Start: 54 @50046 has 43 MA's), (63, 50127), (65, 50130), (71, 50199), (80, 50250), (81, 50253), (82, 50256), (89, 50295), (92, 50316), (109, 50403), (114, 50442), (115, 50454), (119, 50463), (127, 50523), (133, 50550),

Gene: CaptainKirk2_75 Start: 45228, Stop: 45818, Start Num: 54

Candidate Starts for CaptainKirk2_75:

(24, 44955), (25, 44976), (Start: 54 @45228 has 43 MA's), (80, 45435), (83, 45450), (85, 45462), (86, 45468), (94, 45513), (98, 45531), (102, 45549), (103, 45552), (109, 45591), (110, 45594), (127, 45720), (139, 45792),

Gene: CarolAnn_76 Start: 51274, Stop: 51864, Start Num: 54

Candidate Starts for CarolAnn_76:

(Start: 54 @51274 has 43 MA's), (74, 51451), (83, 51496), (85, 51508), (86, 51514), (94, 51559), (98, 51577), (102, 51595), (103, 51598), (109, 51637), (110, 51640), (127, 51766), (139, 51838),

Gene: CheeseSpider_86 Start: 49892, Stop: 50476, Start Num: 54

Candidate Starts for CheeseSpider_86:

(Start: 54 @49892 has 43 MA's), (60, 49958), (63, 49973), (71, 50045), (81, 50099), (82, 50102), (89, 50141), (92, 50162), (109, 50249), (114, 50288), (115, 50300), (119, 50309), (127, 50369),

Gene: Daegal_76 Start: 49270, Stop: 49962, Start Num: 37

Candidate Starts for Daegal_76:

(17, 49033), (Start: 37 @49270 has 10 MA's), (39, 49279), (45, 49321), (Start: 52 @49351 has 14 MA's), (61, 49432), (70, 49516), (74, 49540), (76, 49549), (81, 49579), (87, 49612), (100, 49678), (107, 49714), (113, 49768), (117, 49792), (118, 49795), (123, 49810), (126, 49837), (127, 49852), (130, 49861), (133, 49879), (135, 49894),

Gene: DeepSoil15_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for DeepSoil15_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Delian_78 Start: 45226, Stop: 45816, Start Num: 54

Candidate Starts for Delian_78:

(24, 44953), (25, 44974), (Start: 54 @45226 has 43 MA's), (80, 45433), (83, 45448), (85, 45460), (86, 45466), (94, 45511), (98, 45529), (102, 45547), (103, 45550), (109, 45589), (110, 45592), (127, 45718), (139, 45790),

Gene: Dewey_67 Start: 48164, Stop: 48856, Start Num: 37

Candidate Starts for Dewey_67:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Ein37_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for Ein37_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Evanesce_73 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for Evanesce_73:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Eyre_59 Start: 38628, Stop: 39218, Start Num: 51

Candidate Starts for Eyre_59:

(36, 38547), (41, 38586), (Start: 51 @38628 has 4 MA's), (55, 38640), (68, 38730), (74, 38805), (77, 38814), (80, 38835), (83, 38850), (85, 38862), (115, 39042), (127, 39117), (143, 39207),

Gene: Fairfaxidum_77 Start: 47701, Stop: 48291, Start Num: 54

Candidate Starts for Fairfaxidum_77:

(Start: 54 @47701 has 43 MA's), (83, 47923), (85, 47935), (86, 47941), (94, 47986), (110, 48067), (127, 48193), (134, 48232),

Gene: Faiyaz_85 Start: 54903, Stop: 55472, Start Num: 54

Candidate Starts for Faiyaz_85:

(32, 54774), (33, 54777), (38, 54813), (Start: 54 @54903 has 43 MA's), (64, 54969), (73, 55059), (74, 55062), (80, 55092), (81, 55095), (90, 55152), (96, 55176), (99, 55191), (101, 55200), (102, 55203), (103, 55206), (105, 55218), (114, 55266), (116, 55287), (128, 55353), (133, 55374), (137, 55407), (141, 55428), (144, 55440),

Gene: Fenry_74 Start: 47299, Stop: 47889, Start Num: 54

Candidate Starts for Fenry_74:

(Start: 54 @47299 has 43 MA's), (83, 47521), (85, 47533), (86, 47539), (94, 47584), (98, 47602), (102, 47620), (103, 47623), (109, 47662), (110, 47665), (127, 47791),

Gene: Forge_67 Start: 48164, Stop: 48856, Start Num: 37

Candidate Starts for Forge_67:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Frokostdame_79 Start: 49511, Stop: 50095, Start Num: 54

Candidate Starts for Frokostdame_79:

(13, 49172), (Start: 54 @49511 has 43 MA's), (63, 49592), (65, 49595), (71, 49664), (80, 49715), (81, 49718), (82, 49721), (89, 49760), (92, 49781), (109, 49868), (112, 49892), (114, 49907), (115, 49919), (119, 49928), (127, 49988), (143, 50078),

Gene: Gambino_82 Start: 50046, Stop: 50630, Start Num: 54

Candidate Starts for Gambino_82:

(1, 48945), (2, 48966), (3, 49161), (4, 49203), (5, 49221), (7, 49341), (10, 49608), (13, 49704), (Start: 54 @50046 has 43 MA's), (63, 50127), (65, 50130), (71, 50199), (80, 50250), (81, 50253), (82, 50256), (89, 50295), (92, 50316), (109, 50403), (114, 50442), (115, 50454), (119, 50463), (127, 50523), (133, 50550),

Gene: Gancho_73 Start: 48020, Stop: 48631, Start Num: 52

Candidate Starts for Gancho_73:

(Start: 37 @47939 has 10 MA's), (39, 47948), (45, 47990), (Start: 52 @48020 has 14 MA's), (61, 48101), (70, 48185), (74, 48209), (76, 48218), (81, 48248), (87, 48281), (100, 48347), (107, 48383), (113, 48437), (117, 48461), (118, 48464), (123, 48479), (126, 48506), (127, 48521), (130, 48530), (133, 48548), (135, 48563),

Gene: Giles_67 Start: 48164, Stop: 48856, Start Num: 37

Candidate Starts for Giles_67:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Gravaillia_68 Start: 48220, Stop: 48912, Start Num: 37

Candidate Starts for Gravaillia_68:

(17, 47983), (Start: 37 @48220 has 10 MA's), (39, 48229), (45, 48271), (Start: 52 @48301 has 14 MA's), (61, 48382), (70, 48466), (74, 48490), (76, 48499), (81, 48529), (87, 48562), (100, 48628), (107, 48664), (113, 48718), (117, 48742), (118, 48745), (123, 48760), (126, 48787), (127, 48802), (130, 48811), (133, 48829), (135, 48844),

Gene: Guacamole_73 Start: 46646, Stop: 47236, Start Num: 54

Candidate Starts for Guacamole_73:

(24, 46373), (25, 46394), (Start: 54 @46646 has 43 MA's), (80, 46853), (83, 46868), (85, 46880), (86, 46886), (94, 46931), (98, 46949), (102, 46967), (103, 46970), (109, 47009), (110, 47012), (127, 47138), (139, 47210),

Gene: HH92_73 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for HH92_73:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Hadrien_71 Start: 48164, Stop: 48856, Start Num: 37

Candidate Starts for Hadrien_71:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Hail_67 Start: 48164, Stop: 48856, Start Num: 37

Candidate Starts for Hail_67:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Hilltopfarm_84 Start: 54597, Stop: 55166, Start Num: 54

Candidate Starts for Hilltopfarm_84:

(32, 54468), (33, 54471), (38, 54507), (Start: 54 @54597 has 43 MA's), (64, 54663), (73, 54753), (74, 54756), (80, 54786), (81, 54789), (90, 54846), (96, 54870), (99, 54885), (101, 54894), (102, 54897), (103, 54900), (105, 54912), (114, 54960), (116, 54981), (128, 55047), (133, 55068), (137, 55101), (141, 55122), (144, 55134),

Gene: Hitter_73 Start: 44905, Stop: 45495, Start Num: 54

Candidate Starts for Hitter_73:

(Start: 54 @44905 has 43 MA's), (83, 45127), (85, 45139), (86, 45145), (94, 45190), (98, 45208), (102, 45226), (103, 45229), (109, 45268), (110, 45271), (127, 45397),

Gene: Jalammah_78 Start: 48811, Stop: 49401, Start Num: 54

Candidate Starts for Jalammah_78:

(Start: 54 @48811 has 43 MA's), (83, 49033), (85, 49045), (86, 49051), (94, 49096), (98, 49114), (102, 49132), (103, 49135), (109, 49174), (110, 49177), (127, 49303), (139, 49375),

Gene: JasperJr_73 Start: 46646, Stop: 47236, Start Num: 54

Candidate Starts for JasperJr_73:

(24, 46373), (25, 46394), (Start: 54 @46646 has 43 MA's), (80, 46853), (83, 46868), (85, 46880), (86, 46886), (94, 46931), (98, 46949), (102, 46967), (103, 46970), (109, 47009), (110, 47012), (127, 47138), (139, 47210),

Gene: JuJu_82 Start: 50269, Stop: 50862, Start Num: 51

Candidate Starts for JuJu_82:

(Start: 51 @50269 has 4 MA's), (83, 50494), (85, 50506), (86, 50512), (94, 50557), (98, 50575), (103, 50596), (110, 50638), (127, 50764), (139, 50836),

Gene: JustASigh_69 Start: 44678, Stop: 45514, Start Num: 27

Candidate Starts for JustASigh_69:

(Start: 27 @44678 has 1 MA's), (42, 44810), (53, 44855), (56, 44867), (71, 45023), (74, 45044), (87, 45128), (94, 45170), (97, 45179), (111, 45257), (122, 45365), (124, 45368), (127, 45416), (130, 45425), (142, 45503),

Gene: KappaFarmDelta_74 Start: 46258, Stop: 46848, Start Num: 54

Candidate Starts for KappaFarmDelta_74:

(Start: 54 @46258 has 43 MA's), (83, 46480), (85, 46492), (86, 46498), (94, 46543), (98, 46561), (102, 46579), (103, 46582), (109, 46621), (110, 46624), (127, 46750),

Gene: Kinbote_72 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for Kinbote_72:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: LilHazelnut_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for LilHazelnut_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Lilbeanie_66 Start: 45819, Stop: 46490, Start Num: 54

Candidate Starts for Lilbeanie_66:

(43, 45774), (49, 45807), (Start: 54 @45819 has 43 MA's), (81, 46077), (84, 46098), (86, 46107), (101, 46188), (115, 46287), (122, 46317), (127, 46368), (136, 46422), (145, 46482),

Gene: Luke_71 Start: 48119, Stop: 48811, Start Num: 37

Candidate Starts for Luke_71:

(17, 47882), (Start: 37 @48119 has 10 MA's), (39, 48128), (45, 48170), (Start: 52 @48200 has 14 MA's), (61, 48281), (70, 48365), (74, 48389), (76, 48398), (81, 48428), (87, 48461), (100, 48527), (107, 48563), (113, 48617), (117, 48641), (118, 48644), (123, 48659), (126, 48686), (127, 48701), (130, 48710), (133, 48728), (135, 48743),

Gene: Luna22_67 Start: 48148, Stop: 48840, Start Num: 37

Candidate Starts for Luna22_67:

(17, 47911), (Start: 37 @48148 has 10 MA's), (39, 48157), (45, 48199), (Start: 52 @48229 has 14 MA's), (61, 48310), (70, 48394), (74, 48418), (76, 48427), (81, 48457), (87, 48490), (100, 48556), (107, 48592), (113, 48646), (117, 48670), (118, 48673), (123, 48688), (126, 48715), (127, 48730), (130, 48739), (133, 48757), (135, 48772),

Gene: Lysidious_76 Start: 47074, Stop: 47670, Start Num: 51

Candidate Starts for Lysidious_76:

(30, 46966), (34, 46984), (40, 47026), (Start: 51 @47074 has 4 MA's), (83, 47299), (85, 47311), (86, 47317), (102, 47398), (103, 47401), (110, 47443), (127, 47569),

Gene: Malachai_73 Start: 48471, Stop: 49061, Start Num: 54

Candidate Starts for Malachai_73:

(24, 48171), (25, 48192), (Start: 54 @48471 has 43 MA's), (83, 48693), (85, 48705), (86, 48711), (94, 48756), (98, 48774), (102, 48792), (103, 48795), (109, 48834), (110, 48837), (127, 48963),

Gene: Melba_74 Start: 45340, Stop: 45930, Start Num: 54

Candidate Starts for Melba_74:

(24, 45037), (25, 45058), (Start: 54 @45340 has 43 MA's), (83, 45562), (85, 45574), (86, 45580), (102, 45661), (103, 45664), (110, 45706), (127, 45832),

Gene: Mellie_72 Start: 45623, Stop: 46213, Start Num: 54

Candidate Starts for Mellie_72:

(10, 45134), (11, 45209), (19, 45299), (Start: 54 @45623 has 43 MA's), (62, 45698), (83, 45845), (85, 45857), (86, 45863), (102, 45944), (110, 45989), (127, 46115), (139, 46187),

Gene: MintFen_75 Start: 45842, Stop: 46432, Start Num: 54

Candidate Starts for MintFen_75:

(24, 45569), (25, 45590), (Start: 54 @45842 has 43 MA's), (80, 46049), (83, 46064), (85, 46076), (86, 46082), (94, 46127), (98, 46145), (102, 46163), (103, 46166), (109, 46205), (110, 46208), (127, 46334), (139, 46406),

Gene: MissRona_80 Start: 50047, Stop: 50631, Start Num: 54

Candidate Starts for MissRona_80:

(1, 48946), (2, 48967), (3, 49162), (4, 49204), (5, 49222), (7, 49342), (10, 49609), (13, 49705), (Start: 54 @50047 has 43 MA's), (63, 50128), (65, 50131), (71, 50200), (80, 50251), (81, 50254), (82, 50257), (89, 50296), (92, 50317), (109, 50404), (114, 50443), (115, 50455), (119, 50464), (127, 50524), (133, 50551),

Gene: Murp_73 Start: 48722, Stop: 49312, Start Num: 54

Candidate Starts for Murp_73:

(10, 48254), (19, 48419), (Start: 54 @48722 has 43 MA's), (83, 48944), (85, 48956), (86, 48962), (94, 49007), (98, 49025), (102, 49043), (103, 49046), (110, 49088), (127, 49214),

Gene: NovoPizza_79 Start: 50384, Stop: 51010, Start Num: 47

Candidate Starts for NovoPizza_79:

(6, 49607), (12, 49991), (14, 50015), (21, 50075), (22, 50096), (28, 50231), (29, 50246), (31, 50273), (32, 50276), (Start: 47 @50384 has 1 MA's), (Start: 52 @50399 has 14 MA's), (59, 50453), (74, 50588), (78, 50606), (81, 50627), (87, 50660), (93, 50699), (100, 50726), (107, 50762), (108, 50768), (111, 50786), (115, 50831), (117, 50840), (118, 50843), (120, 50852), (127, 50900), (130, 50909), (132, 50921), (133, 50927),

Gene: OBUpride_73 Start: 48289, Stop: 48900, Start Num: 52

Candidate Starts for OBUpride_73:

(17, 47971), (Start: 37 @48208 has 10 MA's), (39, 48217), (45, 48259), (Start: 52 @48289 has 14 MA's), (61, 48370), (70, 48454), (74, 48478), (76, 48487), (81, 48517), (87, 48550), (100, 48616), (107, 48652), (113, 48706), (117, 48730), (118, 48733), (123, 48748), (126, 48775), (127, 48790), (130, 48799), (133, 48817), (135, 48832),

Gene: Obliviate_74 Start: 45891, Stop: 46481, Start Num: 54

Candidate Starts for Obliviate_74:

(Start: 54 @45891 has 43 MA's), (83, 46113), (85, 46125), (86, 46131), (102, 46212), (103, 46215), (110, 46257), (127, 46383),

Gene: PCoral7_74 Start: 46525, Stop: 47115, Start Num: 54

Candidate Starts for PCoral7_74:

(Start: 54 @46525 has 43 MA's), (74, 46702), (81, 46735), (83, 46747), (85, 46759), (86, 46765), (94, 46810), (110, 46891), (127, 47017), (134, 47056),

Gene: Petra_80 Start: 48158, Stop: 48742, Start Num: 54

Candidate Starts for Petra_80:

(Start: 54 @48158 has 43 MA's), (60, 48224), (63, 48239), (71, 48311), (81, 48365), (82, 48368), (89, 48407), (92, 48428), (98, 48455), (109, 48515), (114, 48554), (115, 48566), (119, 48575), (127, 48635),

Gene: PhrostedPhlake_81 Start: 48308, Stop: 48892, Start Num: 54

Candidate Starts for PhrostedPhlake_81:

(10, 47840), (11, 47915), (19, 48005), (Start: 54 @48308 has 43 MA's), (63, 48389), (71, 48461), (73, 48479), (80, 48512), (81, 48515), (82, 48518), (89, 48557), (92, 48578), (109, 48665), (115, 48716), (119, 48725), (127, 48785),

Gene: Pipp_79 Start: 47870, Stop: 48448, Start Num: 50

Candidate Starts for Pipp_79:

(Start: 50 @47870 has 1 MA's), (Start: 51 @47873 has 4 MA's), (63, 47954), (71, 48026), (73, 48044), (80, 48077), (81, 48080), (82, 48083), (89, 48122), (92, 48143), (109, 48230), (115, 48281), (119, 48290), (127, 48350),

Gene: PrincePatrick_76 Start: 45859, Stop: 46449, Start Num: 54

Candidate Starts for PrincePatrick_76:

(Start: 54 @45859 has 43 MA's), (74, 46036), (81, 46069), (83, 46081), (85, 46093), (86, 46099), (94, 46144), (127, 46351), (134, 46390),

Gene: Rem711_70 Start: 43454, Stop: 44074, Start Num: 54

Candidate Starts for Rem711_70:

(Start: 54 @43454 has 43 MA's), (55, 43463), (57, 43466), (58, 43505), (66, 43544), (71, 43610), (73, 43628), (75, 43637), (83, 43679), (115, 43853), (127, 43922), (130, 43931), (138, 43985),

Gene: Samba_75 Start: 48756, Stop: 49346, Start Num: 54

Candidate Starts for Samba_75:

(15, 48378), (25, 48474), (Start: 54 @48756 has 43 MA's), (83, 48978), (85, 48990), (86, 48996), (94, 49041), (98, 49059), (102, 49077), (103, 49080), (109, 49119), (110, 49122), (127, 49248),

Gene: Sleepyhead_61 Start: 40018, Stop: 40581, Start Num: 52

Candidate Starts for Sleepyhead_61:

(9, 39454), (16, 39658), (23, 39706), (35, 39922), (46, 39991), (Start: 52 @40018 has 14 MA's), (64, 40105), (67, 40114), (69, 40168), (77, 40207), (91, 40303), (95, 40318), (97, 40324), (103, 40354), (104, 40360), (106, 40369), (114, 40414), (115, 40426), (131, 40507), (135, 40537),

Gene: Toast_74 Start: 46525, Stop: 47115, Start Num: 54

Candidate Starts for Toast_74:

(Start: 54 @46525 has 43 MA's), (74, 46702), (81, 46735), (83, 46747), (85, 46759), (86, 46765), (94, 46810), (110, 46891), (127, 47017), (134, 47056),

Gene: Typha_83 Start: 54897, Stop: 55466, Start Num: 54

Candidate Starts for Typha_83:

(32, 54768), (33, 54771), (38, 54807), (Start: 54 @54897 has 43 MA's), (64, 54963), (73, 55053), (74, 55056), (80, 55086), (81, 55089), (90, 55146), (96, 55170), (99, 55185), (101, 55194), (102, 55197), (103, 55200), (105, 55212), (114, 55260), (116, 55281), (128, 55347), (133, 55368), (137, 55401), (141, 55422), (144, 55434),

Gene: Ubuntu_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for Ubuntu_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: UmaThurman_76 Start: 46447, Stop: 47037, Start Num: 54

Candidate Starts for UmaThurman_76:

(Start: 54 @46447 has 43 MA's), (83, 46669), (85, 46681), (86, 46687), (94, 46732), (98, 46750), (102, 46768), (103, 46771), (109, 46810), (110, 46813), (127, 46939), (139, 47011),

Gene: Utz_66 Start: 46364, Stop: 46954, Start Num: 54

Candidate Starts for Utz_66:

(Start: 54 @46364 has 43 MA's), (83, 46586), (85, 46598), (86, 46604), (94, 46649), (98, 46667), (103, 46688), (110, 46730), (127, 46856), (139, 46928),

Gene: Walrus_73 Start: 47019, Stop: 47603, Start Num: 54

Candidate Starts for Walrus_73:

(48, 47004), (Start: 54 @47019 has 43 MA's), (60, 47085), (63, 47100), (71, 47172), (80, 47223), (81, 47226), (82, 47229), (89, 47268), (92, 47289), (109, 47376), (115, 47427), (119, 47436), (127, 47496),

Gene: Webster2_74 Start: 48245, Stop: 48856, Start Num: 52

Candidate Starts for Webster2_74:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Weirido19_69 Start: 44467, Stop: 45291, Start Num: 28

Candidate Starts for Weirido19_69:

(18, 44290), (28, 44467), (42, 44593), (56, 44650), (66, 44746), (71, 44812), (74, 44833), (81, 44884), (87, 44917), (93, 44956), (102, 44995), (111, 45046), (121, 45130), (125, 45154), (127, 45193), (129, 45199), (142, 45280),

Gene: Whack_67 Start: 43772, Stop: 44335, Start Num: 52

Candidate Starts for Whack_67:

(35, 43679), (39, 43697), (44, 43742), (46, 43751), (Start: 52 @43772 has 14 MA's), (64, 43859), (67, 43868), (72, 43946), (77, 43961), (79, 43973), (88, 44024), (94, 44069), (103, 44108), (115, 44180), (127, 44249), (134, 44285), (140, 44324),

Gene: William_77 Start: 47824, Stop: 48414, Start Num: 54

Candidate Starts for William_77:

(8, 47206), (20, 47485), (26, 47560), (Start: 54 @47824 has 43 MA's), (83, 48046), (85, 48058), (86, 48064), (94, 48109), (102, 48145), (103, 48148), (110, 48190), (127, 48316),

Gene: Wishmaker_67 Start: 48164, Stop: 48856, Start Num: 37

Candidate Starts for Wishmaker_67:

(17, 47927), (Start: 37 @48164 has 10 MA's), (39, 48173), (45, 48215), (Start: 52 @48245 has 14 MA's), (61, 48326), (70, 48410), (74, 48434), (76, 48443), (81, 48473), (87, 48506), (100, 48572), (107, 48608), (113, 48662), (117, 48686), (118, 48689), (123, 48704), (126, 48731), (127, 48746), (130, 48755), (133, 48773), (135, 48788),

Gene: Wisp_73 Start: 46479, Stop: 47069, Start Num: 54

Candidate Starts for Wisp_73:

(Start: 54 @46479 has 43 MA's), (83, 46701), (85, 46713), (86, 46719), (98, 46782), (102, 46800), (103, 46803), (109, 46842), (110, 46845), (127, 46971), (139, 47043),

Gene: Wocket_74 Start: 46904, Stop: 47488, Start Num: 54

Candidate Starts for Wocket_74:

(Start: 54 @46904 has 43 MA's), (63, 46985), (71, 47057), (81, 47111), (82, 47114), (89, 47153), (92, 47174), (114, 47300), (115, 47312), (119, 47321), (127, 47381),

Gene: Zarbodnamra_79 Start: 46838, Stop: 47428, Start Num: 54

Candidate Starts for Zarbodnamra_79:

(24, 46565), (25, 46586), (Start: 54 @46838 has 43 MA's), (83, 47060), (85, 47072), (86, 47078), (94, 47123), (98, 47141), (103, 47162), (110, 47204), (127, 47330), (139, 47402),

Gene: ZiggyZoo_76 Start: 48324, Stop: 48914, Start Num: 54

Candidate Starts for ZiggyZoo_76:

(Start: 54 @48324 has 43 MA's), (83, 48546), (85, 48558), (86, 48564), (94, 48609), (98, 48627), (102, 48645), (103, 48648), (109, 48687), (110, 48690), (127, 48816),

Gene: Zilla_73 Start: 45688, Stop: 46278, Start Num: 54

Candidate Starts for Zilla_73:

(24, 45415), (25, 45436), (Start: 54 @45688 has 43 MA's), (80, 45895), (83, 45910), (85, 45922), (86, 45928), (94, 45973), (103, 46012), (109, 46051), (110, 46054), (127, 46180), (139, 46252),