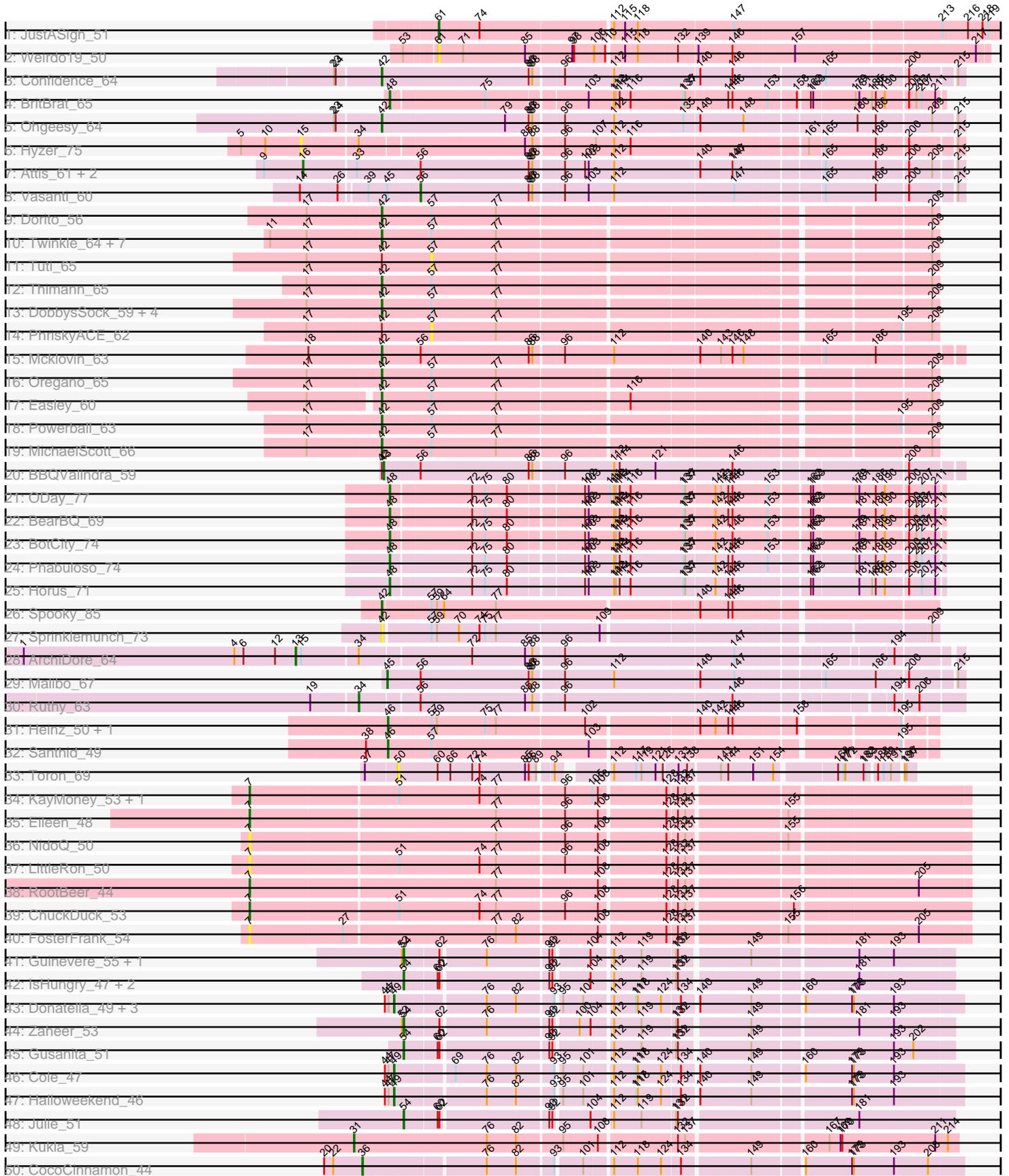
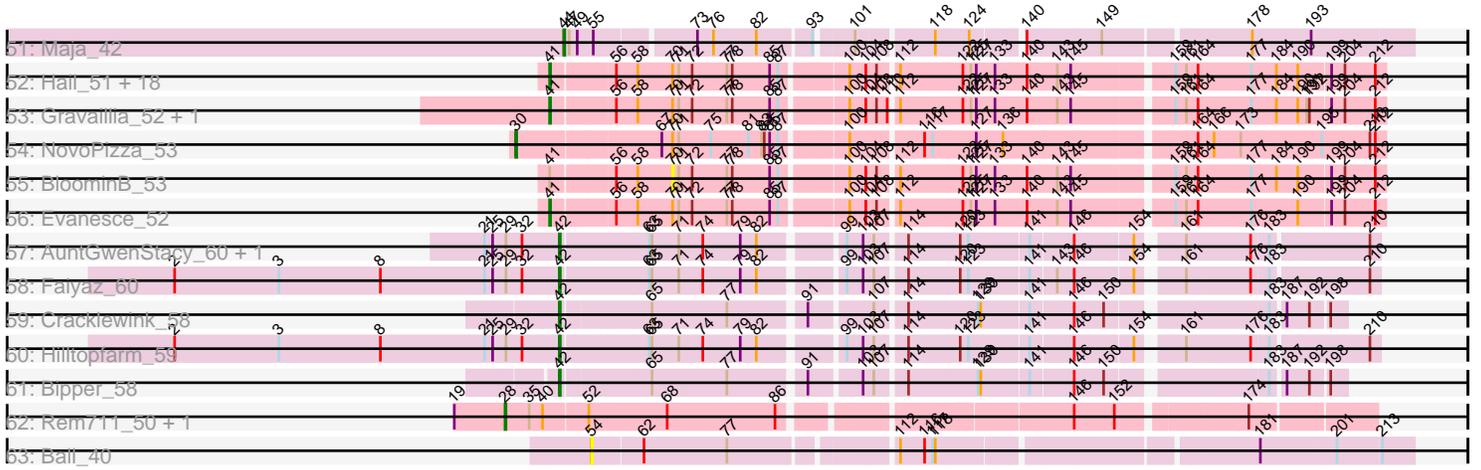


Pham 291010



Pham 291010



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 291010 Report

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

Pham number 291010 has 105 members, 16 are drafts.

Phages represented in each track:

- Track 1 : JustASigh_51
- Track 2 : Weirido19_50
- Track 3 : Confidence_64
- Track 4 : BritBrat_65
- Track 5 : Ohgeesy_64
- Track 6 : Hyzer_75
- Track 7 : Attis_61, SoilAssassin_61, LordFarquaad_63
- Track 8 : Vasanti_60
- Track 9 : Dorito_56
- Track 10 : Twinkle_64, WinkNick_63, Adora_62, Shlim410_63, Howe_65, Dolores_63, Sekhmet_62, Hortense_65
- Track 11 : Tuti_65
- Track 12 : Thimann_65
- Track 13 : DobbysSock_59, Beenie_59, Samman98_65, Invectra_67, Clark_64
- Track 14 : PhriskyACE_62
- Track 15 : Mcklovin_63
- Track 16 : Oregano_65
- Track 17 : Easley_60
- Track 18 : Powerball_63
- Track 19 : MichaelScott_66
- Track 20 : BBQValindra_59
- Track 21 : ODay_77
- Track 22 : BearBQ_69
- Track 23 : BotCity_74
- Track 24 : Phabuloso_74
- Track 25 : Horus_71
- Track 26 : Spooky_85
- Track 27 : Sprinklemunch_73
- Track 28 : ArchiDore_64
- Track 29 : Malibo_67
- Track 30 : Ruthy_63
- Track 31 : Heinz_50, Hibiscus_51
- Track 32 : Santhid_49
- Track 33 : Toron_69
- Track 34 : KayMoney_53, Constance_53
- Track 35 : Eileen_48
- Track 36 : NidoQ_50

- Track 37 : LittleRon_50
- Track 38 : RootBeer_44
- Track 39 : ChuckDuck_53
- Track 40 : FosterFrank_54
- Track 41 : Guinevere_55, GoodLuckBabe_53
- Track 42 : IsHungry_47, MillySue_52, Popper_52
- Track 43 : Donatella_49, Ryan_51, QuinnAvery_52, Yonex_51
- Track 44 : Zaheer_53
- Track 45 : Gusanita_51
- Track 46 : Cole_47
- Track 47 : Halloweekend_46
- Track 48 : Julie_51
- Track 49 : Kukla_59
- Track 50 : CocoCinnamon_44
- Track 51 : Maja_42
- Track 52 : Hail_51, Webster2_53, Luke_53, LilHazelNut_53, Hadrien_53, Giles_51, Forge_51, Ubuntu_53, Gancho_52, Ein37_53, Amymech_53, HH92_52, DeepSoil15_53, Amochick_53, Daegal_55, Kinbote_53, Luna22_51, Wishmaker_51, Dewey_51
- Track 53 : Gravaillia_52, OBUpride_53
- Track 54 : NovoPizza_53
- Track 55 : BloominB_53
- Track 56 : Evanesce_52
- Track 57 : AuntGwenStacy_60, Typha_59
- Track 58 : Faiyaz_60
- Track 59 : Cracklewink_58
- Track 60 : Hilltopfarm_59
- Track 61 : Bipper_58
- Track 62 : Rem711_50, 32HC_51
- Track 63 : Ball_40

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

The start number called the most often in the published annotations is 42, it was called in 28 of the 89 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora_62, AuntGwenStacy_60, Beenie_59, Bipper_58, Clark_64, Confidence_64, Cracklewink_58, DobbysSock_59, Dolores_63, Dorito_56, Easley_60, Faiyaz_60, Hilltopfarm_59, Hortense_65, Howe_65, Invecetra_67, Mcklovin_63, MichaelScott_66, Ohgeesy_64, Oregano_65, Powerball_63, Samman98_65, Sekhmet_62, Shlim410_63, Spooky_85, Sprinklemunch_73, Thimann_65, Twinkle_64, Typha_59, WinkNick_63,

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

- BBQValindra_59, PhriskyACE_62, Tuti_65,

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

- 32HC_51, Amochick_53, Amymech_53, ArchiDore_64, Attis_61, Ball_40, BearBQ_69, BloominB_53, BotCity_74, BritBrat_65, ChuckDuck_53,

CocoCinnamon_44, Cole_47, Constance_53, Daegal_55, DeepSoil15_53, Dewey_51, Donatella_49, Eileen_48, Ein37_53, Evanesce_52, Forge_51, FosterFrank_54, Gancho_52, Giles_51, GoodLuckBabe_53, Gravallia_52, Guinevere_55, Gusanita_51, HH92_52, Hadrien_53, Hail_51, Halloweekend_46, Heinz_50, Hibiscus_51, Horus_71, Hyzer_75, IsHungry_47, Julie_51, JustASigh_51, KayMoney_53, Kinbote_53, Kukla_59, LilHazelNut_53, LittleRon_50, LordFarquaad_63, Luke_53, Luna22_51, Maja_42, Malibo_67, MillySue_52, NidoQ_50, NovoPizza_53, OBUpride_53, ODay_77, Phabuloso_74, Popper_52, QuinnAvery_52, Rem711_50, RootBeer_44, Ruthy_63, Ryan_51, Santhid_49, SoilAssassin_61, Toron_69, Ubuntu_53, Vasanti_60, Webster2_53, Weirido19_50, Wishmaker_51, Yonex_51, Zaheer_53,

Summary by start number:

Start 7:

- Found in 8 of 105 (7.6%) of genes in pham
- Manual Annotations of this start: 5 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChuckDuck_53 (FA), Constance_53 (FA), Eileen_48 (FA), FosterFrank_54 (FA), KayMoney_53 (FA), LittleRon_50 (FA), NidoQ_50 (FA), RootBeer_44 (FA),

Start 13:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArchiDore_64 (DW),

Start 15:

- Found in 2 of 105 (1.9%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hyzer_75 (CZ1),

Start 16:

- Found in 3 of 105 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Attis_61 (CZ2), LordFarquaad_63 (CZ2), SoilAssassin_61 (CZ2),

Start 28:

- Found in 2 of 105 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 32HC_51 (Z), Rem711_50 (Z),

Start 30:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NovoPizza_53 (Q),

Start 31:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kukla_59 (FJ),

Start 34:

- Found in 3 of 105 (2.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Ruthy_63 (DW),

Start 36:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CocoCinnamon_44 (FO),

Start 41:

- Found in 23 of 105 (21.9%) of genes in pham
- Manual Annotations of this start: 22 of 89
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Amochick_53 (Q), Amymech_53 (Q), Daegal_55 (Q), DeepSoil15_53 (Q), Dewey_51 (Q), Ein37_53 (Q), Evanesce_52 (Q), Forge_51 (Q), Gancho_52 (Q), Giles_51 (Q), Gravaillia_52 (Q), HH92_52 (Q), Hadrien_53 (Q), Hail_51 (Q), Kinbote_53 (Q), LilHazelnut_53 (Q), Luke_53 (Q), Luna22_51 (Q), OBUpride_53 (Q), Ubuntu_53 (Q), Webster2_53 (Q), Wishmaker_51 (Q),

Start 42:

- Found in 33 of 105 (31.4%) of genes in pham
- Manual Annotations of this start: 28 of 89
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Adora_62 (CZ4), AuntGwenStacy_60 (Y), Beenie_59 (CZ4), Bipper_58 (Y), Clark_64 (CZ4), Confidence_64 (CY1), Cracklewink_58 (Y), DobbysSock_59 (CZ4), Dolores_63 (CZ4), Dorito_56 (CZ4), Easley_60 (CZ4), Faiyaz_60 (Y), Hilltopfarm_59 (Y), Hortense_65 (CZ4), Howe_65 (CZ4), Invectra_67 (CZ4), Mcklovin_63 (CZ4), MichaelScott_66 (CZ4), Ohgeesy_64 (CZ), Oregano_65 (CZ4), Powerball_63 (CZ4), Samman98_65 (CZ4), Sekhmet_62 (CZ4), Shlim410_63 (CZ4), Spooky_85 (DN2), Sprinklemunch_73 (DW), Thimann_65 (CZ4), Twinkle_64 (CZ4), Typha_59 (Y), WinkNick_63 (CZ4),

Start 43:

- Found in 1 of 105 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BBQValindra_59 (DB),

Start 44:

- Found in 7 of 105 (6.7%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Maja_42 (FO),

Start 45:

- Found in 2 of 105 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Malibo_67 (DW),

Start 46:

- Found in 3 of 105 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Heinz_50 (DY), Hibiscus_51 (DY), Santhid_49 (DY),

Start 48:

- Found in 6 of 105 (5.7%) of genes in pham
- Manual Annotations of this start: 6 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ_69 (DN), BotCity_74 (DN), BritBrat_65 (CY2), Horus_71 (DN1), ODay_77 (DN), Phabuloso_74 (DN1),

Start 49:

- Found in 7 of 105 (6.7%) of genes in pham
- Manual Annotations of this start: 5 of 89
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Cole_47 (FF), Donatella_49 (FF), Halloweekend_46 (FF), QuinnAvery_52 (FF), Ryan_51 (FF), Yonex_51 (FF),

Start 50:

- Found in 1 of 105 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toron_69 (F6),

Start 54:

- Found in 9 of 105 (8.6%) of genes in pham
- Manual Annotations of this start: 6 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ball_40 (singleton), GoodLuckBabe_53 (FF), Guinevere_55 (FF), Gusanita_51 (FF), IsHungry_47 (FF), Julie_51 (FF), MillySue_52 (FF), Popper_52 (FF), Zaheer_53 (FF),

Start 56:

- Found in 31 of 105 (29.5%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Vasanti_60 (CZ2),

Start 57:

- Found in 26 of 105 (24.8%) of genes in pham
- No Manual Annotations of this start.
- Called 7.7% of time when present
- Phage (with cluster) where this start called: PhriskyACE_62 (CZ4), Tuti_65 (CZ4),

Start 61:

- Found in 2 of 105 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JustASigh_51 (AH), Weirido19_50 (AH),

Start 70:

- Found in 25 of 105 (23.8%) of genes in pham
- No Manual Annotations of this start.
- Called 4.0% of time when present
- Phage (with cluster) where this start called: BloominB_53 (Q),

Summary by clusters:

There are 22 clusters represented in this pham: DN, singleton, CZ2, CZ1, DB, CZ4, FA, FF, DY, DW, FJ, FO, DN1, DN2, CY2, CY1, AH, Q, CZ, Y, Z, F6,

Info for manual annotations of cluster AH:

- Start number 61 was manually annotated 1 time for cluster AH.

Info for manual annotations of cluster CY1:

- Start number 42 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster CY2:

- Start number 48 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster CZ:

- Start number 42 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ2:

- Start number 16 was manually annotated 3 times for cluster CZ2.
- Start number 56 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ4:

- Start number 42 was manually annotated 20 times for cluster CZ4.

Info for manual annotations of cluster DB:

- Start number 43 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DN:

- Start number 48 was manually annotated 3 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 48 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 42 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DW:

- Start number 13 was manually annotated 1 time for cluster DW.
- Start number 34 was manually annotated 1 time for cluster DW.

- Start number 45 was manually annotated 1 time for cluster DW.

Info for manual annotations of cluster DY:

- Start number 46 was manually annotated 3 times for cluster DY.

Info for manual annotations of cluster FA:

- Start number 7 was manually annotated 5 times for cluster FA.

Info for manual annotations of cluster FF:

- Start number 49 was manually annotated 5 times for cluster FF.
- Start number 54 was manually annotated 6 times for cluster FF.

Info for manual annotations of cluster FJ:

- Start number 31 was manually annotated 1 time for cluster FJ.

Info for manual annotations of cluster FO:

- Start number 36 was manually annotated 1 time for cluster FO.
- Start number 44 was manually annotated 1 time for cluster FO.

Info for manual annotations of cluster Q:

- Start number 30 was manually annotated 1 time for cluster Q.
- Start number 41 was manually annotated 22 times for cluster Q.

Info for manual annotations of cluster Y:

- Start number 42 was manually annotated 5 times for cluster Y.

Info for manual annotations of cluster Z:

- Start number 28 was manually annotated 1 time for cluster Z.

Gene Information:

Gene: 32HC_51 Start: 34909, Stop: 35787, Start Num: 28

Candidate Starts for 32HC_51:

(19, 34852), (Start: 28 @34909 has 1 MA's), (35, 34936), (40, 34951), (52, 34999), (68, 35086), (86, 35203), (146, 35488), (152, 35533), (174, 35659),

Gene: Adora_62 Start: 43256, Stop: 44095, Start Num: 42

Candidate Starts for Adora_62:

(11, 43076), (17, 43136), (Start: 42 @43256 has 28 MA's), (57, 43334), (77, 43436), (209, 44084),

Gene: Amochick_53 Start: 37915, Stop: 38778, Start Num: 41

Candidate Starts for Amochick_53:

(Start: 41 @37915 has 22 MA's), (Start: 56 @37981 has 1 MA's), (58, 38005), (70, 38044), (71, 38050), (72, 38065), (77, 38101), (78, 38107), (85, 38149), (87, 38158), (100, 38221), (104, 38239), (108, 38251), (112, 38269), (122, 38338), (125, 38347), (127, 38353), (133, 38374), (140, 38407), (143, 38440), (145, 38455), (159, 38554), (161, 38566), (164, 38578), (177, 38635), (184, 38662), (190, 38686), (199, 38719), (204, 38734), (212, 38767),

Gene: Amymech_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Amymech_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: ArchiDore_64 Start: 45624, Stop: 46604, Start Num: 13

Candidate Starts for ArchiDore_64:

(1, 45183), (4, 45528), (6, 45543), (12, 45591), (Start: 13 @45624 has 1 MA's), (15, 45633), (Start: 34 @45717 has 1 MA's), (72, 45888), (85, 45972), (88, 45984), (96, 46026), (147, 46296), (194, 46518),

Gene: Attis_61 Start: 41335, Stop: 42336, Start Num: 16

Candidate Starts for Attis_61:

(9, 41272), (Start: 16 @41335 has 3 MA's), (33, 41413), (Start: 56 @41509 has 1 MA's), (86, 41683), (87, 41686), (88, 41689), (96, 41731), (102, 41764), (103, 41770), (112, 41812), (140, 41947), (146, 41998), (147, 42001), (165, 42133), (186, 42211), (200, 42259), (209, 42295), (215, 42325),

Gene: AuntGwenStacy_60 Start: 43522, Stop: 44343, Start Num: 42

Candidate Starts for AuntGwenStacy_60:

(21, 43438), (25, 43447), (29, 43462), (32, 43480), (Start: 42 @43522 has 28 MA's), (63, 43615), (65, 43618), (71, 43648), (74, 43675), (79, 43714), (82, 43732), (99, 43807), (103, 43825), (107, 43837), (114, 43867), (120, 43924), (123, 43933), (141, 43996), (146, 44041), (154, 44104), (161, 44143), (176, 44212), (183, 44230), (210, 44332),

Gene: BBQValindra_59 Start: 41751, Stop: 42629, Start Num: 43

Candidate Starts for BBQValindra_59:

(Start: 42 @41748 has 28 MA's), (Start: 43 @41751 has 1 MA's), (Start: 56 @41802 has 1 MA's), (86, 41976), (88, 41982), (96, 42024), (112, 42105), (114, 42114), (121, 42171), (146, 42291), (200, 42552),

Gene: Ball_40 Start: 29611, Stop: 30444, Start Num: 54

Candidate Starts for Ball_40:

(Start: 54 @29611 has 6 MA's), (62, 29665), (77, 29758), (112, 29917), (116, 29944), (117, 29953), (118, 29956), (181, 30280), (201, 30361), (213, 30409),

Gene: BearBQ_69 Start: 43538, Stop: 44368, Start Num: 48

Candidate Starts for BearBQ_69:

(Start: 48 @43538 has 6 MA's), (72, 43664), (75, 43685), (80, 43718), (102, 43826), (103, 43832), (112, 43874), (113, 43877), (114, 43883), (116, 43901), (135, 43982), (137, 43985), (142, 44030), (144, 44051), (146, 44057), (153, 44111), (162, 44168), (163, 44171), (181, 44240), (186, 44267), (190, 44282), (200, 44315), (203, 44327), (207, 44336), (211, 44357),

Gene: Beenie_59 Start: 41304, Stop: 42143, Start Num: 42

Candidate Starts for Beenie_59:

(17, 41181), (Start: 42 @41304 has 28 MA's), (57, 41382), (77, 41484), (209, 42132),

Gene: Bipper_58 Start: 42349, Stop: 43125, Start Num: 42

Candidate Starts for Bipper_58:

(Start: 42 @42349 has 28 MA's), (65, 42442), (77, 42523), (91, 42598), (103, 42649), (107, 42661), (114, 42691), (129, 42766), (130, 42769), (141, 42820), (146, 42865), (150, 42898), (183, 43054), (187, 43066), (192, 43090), (198, 43108),

Gene: BloominB_53 Start: 38020, Stop: 38754, Start Num: 70

Candidate Starts for BloominB_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: BotCity_74 Start: 43774, Stop: 44604, Start Num: 48

Candidate Starts for BotCity_74:

(Start: 48 @43774 has 6 MA's), (72, 43900), (75, 43921), (80, 43954), (102, 44062), (103, 44068), (112, 44110), (113, 44113), (114, 44119), (116, 44137), (135, 44218), (137, 44221), (142, 44266), (146, 44293), (153, 44347), (162, 44404), (163, 44407), (179, 44470), (181, 44476), (186, 44503), (190, 44518), (200, 44551), (203, 44563), (207, 44572), (211, 44593),

Gene: BritBrat_65 Start: 43022, Stop: 43852, Start Num: 48

Candidate Starts for BritBrat_65:

(Start: 48 @43022 has 6 MA's), (75, 43169), (103, 43316), (112, 43358), (113, 43361), (114, 43367), (116, 43385), (135, 43466), (137, 43469), (144, 43535), (146, 43541), (153, 43595), (158, 43637), (162, 43652), (163, 43655), (179, 43718), (181, 43724), (185, 43745), (186, 43751), (190, 43766), (200, 43799), (203, 43811), (207, 43820), (211, 43841),

Gene: ChuckDuck_53 Start: 34124, Stop: 35224, Start Num: 7

Candidate Starts for ChuckDuck_53:

(Start: 7 @34124 has 5 MA's), (51, 34358), (74, 34487), (77, 34511), (96, 34616), (108, 34667), (128, 34769), (132, 34784), (137, 34796), (156, 34952),

Gene: Clark_64 Start: 41067, Stop: 41906, Start Num: 42

Candidate Starts for Clark_64:

(17, 40944), (Start: 42 @41067 has 28 MA's), (57, 41145), (77, 41247), (209, 41895),

Gene: CocoCinnamon_44 Start: 29916, Stop: 30803, Start Num: 36

Candidate Starts for CocoCinnamon_44:

(20, 29853), (22, 29868), (Start: 36 @29916 has 1 MA's), (76, 30102), (82, 30150), (93, 30204), (101, 30237), (112, 30276), (118, 30315), (124, 30351), (134, 30378), (149, 30480), (160, 30555), (175, 30627), (178, 30630), (193, 30696), (208, 30747),

Gene: Cole_47 Start: 33705, Stop: 34544, Start Num: 49

Candidate Starts for Cole_47:

(Start: 44 @33690 has 1 MA's), (47, 33696), (Start: 49 @33705 has 5 MA's), (69, 33792), (76, 33843), (82, 33891), (93, 33945), (95, 33951), (101, 33978), (112, 34017), (117, 34053), (118, 34056), (124, 34092), (134, 34119), (140, 34140), (149, 34221), (160, 34296), (175, 34368), (178, 34371), (193, 34437),

Gene: Confidence_64 Start: 42274, Stop: 43167, Start Num: 42

Candidate Starts for Confidence_64:

(23, 42202), (24, 42205), (Start: 42 @42274 has 28 MA's), (86, 42505), (87, 42508), (88, 42511), (96, 42553), (112, 42634), (140, 42769), (146, 42820), (165, 42964), (200, 43090), (215, 43156),

Gene: Constance_53 Start: 34710, Stop: 35807, Start Num: 7

Candidate Starts for Constance_53:

(Start: 7 @34710 has 5 MA's), (51, 34944), (74, 35073), (77, 35097), (96, 35202), (105, 35244), (108, 35253), (128, 35355), (132, 35370), (137, 35382),

Gene: Cracklewink_58 Start: 42330, Stop: 43106, Start Num: 42

Candidate Starts for Cracklewink_58:

(Start: 42 @42330 has 28 MA's), (65, 42423), (77, 42504), (91, 42579), (107, 42642), (114, 42672), (129, 42747), (130, 42750), (141, 42801), (146, 42846), (150, 42879), (183, 43035), (187, 43047), (192, 43071), (198, 43089),

Gene: Daegal_55 Start: 38475, Stop: 39338, Start Num: 41

Candidate Starts for Daegal_55:

(Start: 41 @38475 has 22 MA's), (Start: 56 @38541 has 1 MA's), (58, 38565), (70, 38604), (71, 38610), (72, 38625), (77, 38661), (78, 38667), (85, 38709), (87, 38718), (100, 38781), (104, 38799), (108, 38811), (112, 38829), (122, 38898), (125, 38907), (127, 38913), (133, 38934), (140, 38967), (143, 39000), (145, 39015), (159, 39114), (161, 39126), (164, 39138), (177, 39195), (184, 39222), (190, 39246), (199, 39279), (204, 39294), (212, 39327),

Gene: DeepSoil15_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for DeepSoil15_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Dewey_51 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Dewey_51:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: DobbysSock_59 Start: 40715, Stop: 41554, Start Num: 42

Candidate Starts for DobbysSock_59:

(17, 40592), (Start: 42 @40715 has 28 MA's), (57, 40793), (77, 40895), (209, 41543),

Gene: Dolores_63 Start: 40400, Stop: 41236, Start Num: 42

Candidate Starts for Dolores_63:

(11, 40220), (17, 40280), (Start: 42 @40400 has 28 MA's), (57, 40478), (77, 40580), (209, 41225),

Gene: Donatella_49 Start: 34170, Stop: 35009, Start Num: 49

Candidate Starts for Donatella_49:

(Start: 44 @34155 has 1 MA's), (47, 34161), (Start: 49 @34170 has 5 MA's), (76, 34308), (82, 34356), (93, 34410), (95, 34416), (101, 34443), (112, 34482), (117, 34518), (118, 34521), (124, 34557), (134, 34584), (140, 34605), (149, 34686), (160, 34761), (175, 34833), (178, 34836), (193, 34902),

Gene: Dorito_56 Start: 38217, Stop: 39053, Start Num: 42

Candidate Starts for Dorito_56:

(17, 38097), (Start: 42 @38217 has 28 MA's), (57, 38292), (77, 38394), (209, 39042),

Gene: Easley_60 Start: 39896, Stop: 40729, Start Num: 42

Candidate Starts for Easley_60:

(17, 39791), (Start: 42 @39896 has 28 MA's), (57, 39971), (77, 40073), (116, 40277), (209, 40718),

Gene: Eileen_48 Start: 31825, Stop: 32925, Start Num: 7

Candidate Starts for Eileen_48:

(Start: 7 @31825 has 5 MA's), (77, 32212), (96, 32317), (108, 32368), (128, 32470), (132, 32485), (137, 32497), (155, 32644),

Gene: Ein37_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Ein37_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Evanesce_52 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Evanesce_52:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Faiyaz_60 Start: 43512, Stop: 44333, Start Num: 42

Candidate Starts for Faiyaz_60:

(2, 43080), (3, 43197), (8, 43311), (21, 43428), (25, 43437), (29, 43452), (32, 43470), (Start: 42 @43512 has 28 MA's), (63, 43605), (65, 43608), (71, 43638), (74, 43665), (79, 43704), (82, 43722), (99, 43797), (103, 43815), (107, 43827), (114, 43857), (120, 43914), (123, 43923), (141, 43986), (143, 44013), (146, 44031), (154, 44094), (161, 44133), (176, 44202), (183, 44220), (210, 44322),

Gene: Forge_51 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Forge_51:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: FosterFrank_54 Start: 33446, Stop: 34543, Start Num: 7

Candidate Starts for FosterFrank_54:

(Start: 7 @33446 has 5 MA's), (27, 33596), (77, 33833), (82, 33866), (108, 33989), (128, 34091), (132, 34106), (137, 34118), (155, 34265), (205, 34460),

Gene: Gancho_52 Start: 37614, Stop: 38477, Start Num: 41

Candidate Starts for Gancho_52:

(Start: 41 @37614 has 22 MA's), (Start: 56 @37680 has 1 MA's), (58, 37704), (70, 37743), (71, 37749), (72, 37764), (77, 37800), (78, 37806), (85, 37848), (87, 37857), (100, 37920), (104, 37938), (108, 37950), (112, 37968), (122, 38037), (125, 38046), (127, 38052), (133, 38073), (140, 38106), (143, 38139), (145, 38154), (159, 38253), (161, 38265), (164, 38277), (177, 38334), (184, 38361), (190, 38385), (199, 38418), (204, 38433), (212, 38466),

Gene: Giles_51 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Giles_51:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143,

38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: GoodLuckBabe_53 Start: 34865, Stop: 35668, Start Num: 54

Candidate Starts for GoodLuckBabe_53:

(52, 34862), (Start: 54 @34865 has 6 MA's), (62, 34916), (76, 34985), (90, 35081), (92, 35084), (104, 35132), (112, 35159), (119, 35204), (131, 35255), (132, 35258), (149, 35360), (181, 35519), (193, 35576),

Gene: Gravaillia_52 Start: 37905, Stop: 38768, Start Num: 41

Candidate Starts for Gravaillia_52:

(Start: 41 @37905 has 22 MA's), (Start: 56 @37971 has 1 MA's), (58, 37995), (70, 38034), (71, 38040), (72, 38055), (77, 38091), (78, 38097), (85, 38139), (87, 38148), (100, 38211), (104, 38229), (108, 38241), (110, 38253), (112, 38259), (122, 38328), (125, 38337), (127, 38343), (133, 38364), (140, 38397), (143, 38430), (145, 38445), (159, 38544), (161, 38556), (164, 38568), (177, 38625), (184, 38652), (190, 38676), (191, 38685), (192, 38688), (199, 38709), (204, 38724), (212, 38757),

Gene: Guinevere_55 Start: 34842, Stop: 35645, Start Num: 54

Candidate Starts for Guinevere_55:

(52, 34839), (Start: 54 @34842 has 6 MA's), (62, 34893), (76, 34962), (90, 35058), (92, 35061), (104, 35109), (112, 35136), (119, 35181), (131, 35232), (132, 35235), (149, 35337), (181, 35496), (193, 35553),

Gene: Gusanita_51 Start: 34996, Stop: 35799, Start Num: 54

Candidate Starts for Gusanita_51:

(Start: 54 @34996 has 6 MA's), (60, 35044), (62, 35047), (90, 35212), (92, 35215), (112, 35290), (119, 35335), (131, 35386), (132, 35389), (149, 35491), (193, 35707), (202, 35734),

Gene: HH92_52 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for HH92_52:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Hadrien_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Hadrien_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Hail_51 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Hail_51:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Halloweekend_46 Start: 33347, Stop: 34186, Start Num: 49

Candidate Starts for Halloweekend_46:

(Start: 44 @33332 has 1 MA's), (47, 33338), (Start: 49 @33347 has 5 MA's), (76, 33485), (82, 33533), (93, 33587), (95, 33593), (101, 33620), (112, 33659), (117, 33695), (118, 33698), (124, 33734), (134, 33761), (140, 33782), (149, 33863), (175, 34010), (178, 34013), (193, 34079),

Gene: Heinz_50 Start: 32603, Stop: 33430, Start Num: 46

Candidate Starts for Heinz_50:

(Start: 46 @32603 has 3 MA's), (57, 32672), (59, 32681), (75, 32759), (77, 32774), (102, 32915), (140, 33086), (142, 33110), (144, 33131), (146, 33137), (158, 33233), (195, 33380),

Gene: Hibiscus_51 Start: 32552, Stop: 33379, Start Num: 46

Candidate Starts for Hibiscus_51:

(Start: 46 @32552 has 3 MA's), (57, 32621), (59, 32630), (75, 32708), (77, 32723), (102, 32864), (140, 33035), (142, 33059), (144, 33080), (146, 33086), (158, 33182), (195, 33329),

Gene: Hilltopfarm_59 Start: 43214, Stop: 44035, Start Num: 42

Candidate Starts for Hilltopfarm_59:

(2, 42782), (3, 42899), (8, 43013), (21, 43130), (25, 43139), (29, 43154), (32, 43172), (Start: 42 @43214 has 28 MA's), (63, 43307), (65, 43310), (71, 43340), (74, 43367), (79, 43406), (82, 43424), (99, 43499), (103, 43517), (107, 43529), (114, 43559), (120, 43616), (123, 43625), (141, 43688), (146, 43733), (154, 43796), (161, 43835), (176, 43904), (183, 43922), (210, 44024),

Gene: Hortense_65 Start: 44611, Stop: 45450, Start Num: 42

Candidate Starts for Hortense_65:

(11, 44431), (17, 44491), (Start: 42 @44611 has 28 MA's), (57, 44689), (77, 44791), (209, 45439),

Gene: Horus_71 Start: 43494, Stop: 44324, Start Num: 48

Candidate Starts for Horus_71:

(Start: 48 @43494 has 6 MA's), (72, 43620), (75, 43641), (80, 43674), (102, 43782), (103, 43788), (112, 43830), (113, 43833), (114, 43839), (116, 43857), (135, 43938), (137, 43941), (142, 43986), (144, 44007), (146, 44013), (162, 44124), (163, 44127), (181, 44196), (185, 44217), (186, 44223), (190, 44238), (200, 44271), (207, 44292), (211, 44313),

Gene: Howe_65 Start: 44611, Stop: 45450, Start Num: 42

Candidate Starts for Howe_65:

(11, 44431), (17, 44491), (Start: 42 @44611 has 28 MA's), (57, 44689), (77, 44791), (209, 45439),

Gene: Hyzer_75 Start: 50006, Stop: 50998, Start Num: 15

Candidate Starts for Hyzer_75:

(5, 49919), (10, 49952), (15, 50006), (Start: 34 @50087 has 1 MA's), (85, 50342), (88, 50354), (96, 50396), (107, 50447), (112, 50477), (116, 50504), (161, 50771), (165, 50795), (186, 50873), (200, 50921), (215, 50987),

Gene: Invectra_67 Start: 42640, Stop: 43479, Start Num: 42

Candidate Starts for Invectra_67:

(17, 42517), (Start: 42 @42640 has 28 MA's), (57, 42718), (77, 42820), (209, 43468),

Gene: IsHungry_47 Start: 33169, Stop: 33972, Start Num: 54

Candidate Starts for IsHungry_47:

(Start: 54 @33169 has 6 MA's), (60, 33217), (62, 33220), (90, 33385), (92, 33388), (104, 33436), (112, 33463), (119, 33508), (131, 33559), (132, 33562), (181, 33823),

Gene: Julie_51 Start: 34956, Stop: 35759, Start Num: 54

Candidate Starts for Julie_51:

(Start: 54 @34956 has 6 MA's), (60, 35004), (62, 35007), (90, 35172), (92, 35175), (104, 35223), (112, 35250), (119, 35295), (131, 35346), (132, 35349), (181, 35610),

Gene: JustASigh_51 Start: 35983, Stop: 36849, Start Num: 61

Candidate Starts for JustASigh_51:

(Start: 61 @35983 has 1 MA's), (74, 36049), (112, 36244), (115, 36262), (118, 36283), (147, 36436), (213, 36757), (216, 36796), (218, 36820), (219, 36829),

Gene: KayMoney_53 Start: 34053, Stop: 35150, Start Num: 7

Candidate Starts for KayMoney_53:

(Start: 7 @34053 has 5 MA's), (51, 34287), (74, 34416), (77, 34440), (96, 34545), (105, 34587), (108, 34596), (128, 34698), (132, 34713), (137, 34725),

Gene: Kinbote_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Kinbote_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Kukla_59 Start: 36053, Stop: 36976, Start Num: 31

Candidate Starts for Kukla_59:

(Start: 31 @36053 has 1 MA's), (76, 36269), (82, 36314), (95, 36383), (108, 36437), (132, 36554), (137, 36566), (167, 36770), (169, 36788), (170, 36791), (211, 36941), (214, 36959),

Gene: LilHazelnut_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for LilHazelnut_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: LittleRon_50 Start: 33651, Stop: 34748, Start Num: 7

Candidate Starts for LittleRon_50:

(Start: 7 @33651 has 5 MA's), (51, 33885), (74, 34014), (77, 34038), (96, 34143), (108, 34194), (128, 34296), (132, 34311), (137, 34323),

Gene: LordFarquaad_63 Start: 41316, Stop: 42317, Start Num: 16

Candidate Starts for LordFarquaad_63:

(9, 41253), (Start: 16 @41316 has 3 MA's), (33, 41394), (Start: 56 @41490 has 1 MA's), (86, 41664), (87, 41667), (88, 41670), (96, 41712), (102, 41745), (103, 41751), (112, 41793), (140, 41928), (146, 41979), (147, 41982), (165, 42114), (186, 42192), (200, 42240), (209, 42276), (215, 42306),

Gene: Luke_53 Start: 37846, Stop: 38709, Start Num: 41

Candidate Starts for Luke_53:

(Start: 41 @37846 has 22 MA's), (Start: 56 @37912 has 1 MA's), (58, 37936), (70, 37975), (71, 37981), (72, 37996), (77, 38032), (78, 38038), (85, 38080), (87, 38089), (100, 38152), (104, 38170), (108, 38182), (112, 38200), (122, 38269), (125, 38278), (127, 38284), (133, 38305), (140, 38338), (143, 38371), (145, 38386), (159, 38485), (161, 38497), (164, 38509), (177, 38566), (184, 38593), (190, 38617), (199, 38650), (204, 38665), (212, 38698),

Gene: Luna22_51 Start: 37875, Stop: 38738, Start Num: 41

Candidate Starts for Luna22_51:

(Start: 41 @37875 has 22 MA's), (Start: 56 @37941 has 1 MA's), (58, 37965), (70, 38004), (71, 38010), (72, 38025), (77, 38061), (78, 38067), (85, 38109), (87, 38118), (100, 38181), (104, 38199), (108, 38211), (112, 38229), (122, 38298), (125, 38307), (127, 38313), (133, 38334), (140, 38367), (143, 38400), (145, 38415), (159, 38514), (161, 38526), (164, 38538), (177, 38595), (184, 38622), (190, 38646), (199, 38679), (204, 38694), (212, 38727),

Gene: Maja_42 Start: 30329, Stop: 31183, Start Num: 44

Candidate Starts for Maja_42:

(Start: 44 @30329 has 1 MA's), (47, 30335), (Start: 49 @30344 has 5 MA's), (55, 30362), (73, 30464), (76, 30482), (82, 30530), (93, 30584), (101, 30617), (118, 30695), (124, 30731), (140, 30779), (149, 30860), (178, 31010), (193, 31076),

Gene: Malibo_67 Start: 44890, Stop: 45759, Start Num: 45

Candidate Starts for Malibo_67:

(Start: 45 @44890 has 1 MA's), (Start: 56 @44935 has 1 MA's), (86, 45109), (87, 45112), (88, 45115), (96, 45157), (112, 45238), (140, 45373), (147, 45427), (165, 45556), (186, 45634), (200, 45682), (215, 45748),

Gene: Mcklovin_63 Start: 46941, Stop: 47825, Start Num: 42

Candidate Starts for Mcklovin_63:

(18, 46821), (Start: 42 @46941 has 28 MA's), (Start: 56 @46998 has 1 MA's), (86, 47172), (88, 47178), (96, 47220), (112, 47301), (140, 47436), (143, 47469), (146, 47487), (148, 47505), (165, 47622), (186, 47700),

Gene: MichaelScott_66 Start: 42331, Stop: 43167, Start Num: 42

Candidate Starts for MichaelScott_66:

(17, 42211), (Start: 42 @42331 has 28 MA's), (57, 42406), (77, 42508), (209, 43156),

Gene: MillySue_52 Start: 34794, Stop: 35597, Start Num: 54

Candidate Starts for MillySue_52:

(Start: 54 @34794 has 6 MA's), (60, 34842), (62, 34845), (90, 35010), (92, 35013), (104, 35061), (112, 35088), (119, 35133), (131, 35184), (132, 35187), (181, 35448),

Gene: NidoQ_50 Start: 34199, Stop: 35299, Start Num: 7

Candidate Starts for NidoQ_50:

(Start: 7 @34199 has 5 MA's), (77, 34586), (96, 34691), (108, 34742), (128, 34844), (132, 34859), (137, 34871), (155, 35018),

Gene: NovoPizza_53 Start: 38434, Stop: 39345, Start Num: 30

Candidate Starts for NovoPizza_53:

(Start: 30 @38434 has 1 MA's), (67, 38590), (70, 38602), (71, 38608), (75, 38644), (81, 38683), (83, 38698), (84, 38701), (85, 38707), (87, 38716), (100, 38779), (116, 38854), (117, 38863), (127, 38911), (136, 38941), (164, 39139), (166, 39154), (173, 39184), (195, 39274), (210, 39328), (212, 39334),

Gene: OBUpride_53 Start: 37905, Stop: 38768, Start Num: 41

Candidate Starts for OBUpride_53:

(Start: 41 @37905 has 22 MA's), (Start: 56 @37971 has 1 MA's), (58, 37995), (70, 38034), (71, 38040), (72, 38055), (77, 38091), (78, 38097), (85, 38139), (87, 38148), (100, 38211), (104, 38229), (108, 38241), (110, 38253), (112, 38259), (122, 38328), (125, 38337), (127, 38343), (133, 38364), (140, 38397), (143, 38430), (145, 38445), (159, 38544), (161, 38556), (164, 38568), (177, 38625), (184,

38652), (190, 38676), (191, 38685), (192, 38688), (199, 38709), (204, 38724), (212, 38757),

Gene: ODay_77 Start: 44730, Stop: 45560, Start Num: 48

Candidate Starts for ODay_77:

(Start: 48 @44730 has 6 MA's), (72, 44856), (75, 44877), (80, 44910), (102, 45018), (103, 45024), (111, 45060), (112, 45066), (113, 45069), (114, 45075), (116, 45093), (135, 45174), (137, 45177), (142, 45222), (143, 45231), (144, 45243), (146, 45249), (153, 45303), (162, 45360), (163, 45363), (179, 45426), (181, 45432), (186, 45459), (190, 45474), (200, 45507), (207, 45528), (211, 45549),

Gene: Ohgeesy_64 Start: 43662, Stop: 44552, Start Num: 42

Candidate Starts for Ohgeesy_64:

(23, 43590), (24, 43593), (Start: 42 @43662 has 28 MA's), (79, 43854), (86, 43893), (87, 43896), (88, 43899), (96, 43941), (112, 44022), (135, 44133), (140, 44157), (148, 44226), (180, 44391), (186, 44421), (209, 44505), (215, 44541),

Gene: Oregano_65 Start: 41205, Stop: 42041, Start Num: 42

Candidate Starts for Oregano_65:

(17, 41085), (Start: 42 @41205 has 28 MA's), (57, 41280), (77, 41382), (209, 42030),

Gene: Phabuloso_74 Start: 42992, Stop: 43822, Start Num: 48

Candidate Starts for Phabuloso_74:

(Start: 48 @42992 has 6 MA's), (72, 43118), (75, 43139), (80, 43172), (102, 43280), (103, 43286), (112, 43328), (113, 43331), (114, 43337), (116, 43355), (135, 43436), (137, 43439), (142, 43484), (144, 43505), (146, 43511), (153, 43565), (162, 43622), (163, 43625), (179, 43688), (181, 43694), (186, 43721), (190, 43736), (200, 43769), (203, 43781), (207, 43790), (211, 43811),

Gene: PhriskyACE_62 Start: 41297, Stop: 42058, Start Num: 57

Candidate Starts for PhriskyACE_62:

(17, 41102), (Start: 42 @41222 has 28 MA's), (57, 41297), (77, 41399), (195, 42002), (209, 42047),

Gene: Popper_52 Start: 34367, Stop: 35170, Start Num: 54

Candidate Starts for Popper_52:

(Start: 54 @34367 has 6 MA's), (60, 34415), (62, 34418), (90, 34583), (92, 34586), (104, 34634), (112, 34661), (119, 34706), (131, 34757), (132, 34760), (181, 35021),

Gene: Powerball_63 Start: 41331, Stop: 42167, Start Num: 42

Candidate Starts for Powerball_63:

(17, 41208), (Start: 42 @41331 has 28 MA's), (57, 41406), (77, 41508), (195, 42111), (209, 42156),

Gene: QuinnAvery_52 Start: 34788, Stop: 35627, Start Num: 49

Candidate Starts for QuinnAvery_52:

(Start: 44 @34773 has 1 MA's), (47, 34779), (Start: 49 @34788 has 5 MA's), (76, 34926), (82, 34974), (93, 35028), (95, 35034), (101, 35061), (112, 35100), (117, 35136), (118, 35139), (124, 35175), (134, 35202), (140, 35223), (149, 35304), (160, 35379), (175, 35451), (178, 35454), (193, 35520),

Gene: Rem711_50 Start: 34893, Stop: 35771, Start Num: 28

Candidate Starts for Rem711_50:

(19, 34836), (Start: 28 @34893 has 1 MA's), (35, 34920), (40, 34935), (52, 34983), (68, 35070), (86, 35187), (146, 35472), (152, 35517), (174, 35643),

Gene: RootBeer_44 Start: 30900, Stop: 31997, Start Num: 7

Candidate Starts for RootBeer_44:

(Start: 7 @30900 has 5 MA's), (77, 31287), (108, 31443), (128, 31545), (132, 31560), (137, 31572), (205, 31914),

Gene: Ruthy_63 Start: 45360, Stop: 46259, Start Num: 34

Candidate Starts for Ruthy_63:

(19, 45288), (Start: 34 @45360 has 1 MA's), (Start: 56 @45447 has 1 MA's), (85, 45615), (88, 45627), (96, 45669), (146, 45936), (194, 46161), (206, 46191),

Gene: Ryan_51 Start: 34472, Stop: 35311, Start Num: 49

Candidate Starts for Ryan_51:

(Start: 44 @34457 has 1 MA's), (47, 34463), (Start: 49 @34472 has 5 MA's), (76, 34610), (82, 34658), (93, 34712), (95, 34718), (101, 34745), (112, 34784), (117, 34820), (118, 34823), (124, 34859), (134, 34886), (140, 34907), (149, 34988), (160, 35063), (175, 35135), (178, 35138), (193, 35204),

Gene: Samman98_65 Start: 41170, Stop: 42009, Start Num: 42

Candidate Starts for Samman98_65:

(17, 41047), (Start: 42 @41170 has 28 MA's), (57, 41248), (77, 41350), (209, 41998),

Gene: Santhid_49 Start: 31927, Stop: 32751, Start Num: 46

Candidate Starts for Santhid_49:

(38, 31891), (Start: 46 @31927 has 3 MA's), (57, 31996), (103, 32245), (195, 32701),

Gene: Sekhmet_62 Start: 40799, Stop: 41635, Start Num: 42

Candidate Starts for Sekhmet_62:

(11, 40619), (17, 40679), (Start: 42 @40799 has 28 MA's), (57, 40877), (77, 40979), (209, 41624),

Gene: Shlim410_63 Start: 44611, Stop: 45450, Start Num: 42

Candidate Starts for Shlim410_63:

(11, 44431), (17, 44491), (Start: 42 @44611 has 28 MA's), (57, 44689), (77, 44791), (209, 45439),

Gene: SoilAssassin_61 Start: 41334, Stop: 42335, Start Num: 16

Candidate Starts for SoilAssassin_61:

(9, 41271), (Start: 16 @41334 has 3 MA's), (33, 41412), (Start: 56 @41508 has 1 MA's), (86, 41682), (87, 41685), (88, 41688), (96, 41730), (102, 41763), (103, 41769), (112, 41811), (140, 41946), (146, 41997), (147, 42000), (165, 42132), (186, 42210), (200, 42258), (209, 42294), (215, 42324),

Gene: Spooky_85 Start: 47535, Stop: 48386, Start Num: 42

Candidate Starts for Spooky_85:

(Start: 42 @47535 has 28 MA's), (57, 47610), (59, 47619), (64, 47631), (77, 47712), (140, 48030), (144, 48075), (146, 48081),

Gene: Sprinklemunch_73 Start: 47017, Stop: 47847, Start Num: 42

Candidate Starts for Sprinklemunch_73:

(Start: 42 @47017 has 28 MA's), (57, 47089), (59, 47098), (70, 47134), (74, 47167), (75, 47176), (77, 47191), (109, 47353), (209, 47836),

Gene: Thimann_65 Start: 41439, Stop: 42275, Start Num: 42

Candidate Starts for Thimann_65:

(17, 41319), (Start: 42 @41439 has 28 MA's), (57, 41514), (77, 41616), (209, 42264),

Gene: Toron_69 Start: 42674, Stop: 43411, Start Num: 50

Candidate Starts for Toron_69:

(37, 42623), (50, 42674), (60, 42734), (66, 42755), (72, 42791), (74, 42803), (85, 42875), (86, 42881), (89, 42893), (94, 42911), (112, 42974), (117, 43010), (119, 43019), (121, 43040), (126, 43052), (133, 43073), (138, 43085), (143, 43133), (144, 43145), (151, 43184), (154, 43214), (168, 43301), (171, 43310), (172, 43313), (182, 43343), (183, 43346), (188, 43358), (189, 43367), (191, 43379), (196, 43394), (197, 43397),

Gene: Tuti_65 Start: 42264, Stop: 43025, Start Num: 57

Candidate Starts for Tuti_65:

(17, 42063), (Start: 42 @42186 has 28 MA's), (57, 42264), (77, 42366), (209, 43014),

Gene: Twinkle_64 Start: 45670, Stop: 46509, Start Num: 42

Candidate Starts for Twinkle_64:

(11, 45490), (17, 45550), (Start: 42 @45670 has 28 MA's), (57, 45748), (77, 45850), (209, 46498),

Gene: Typha_59 Start: 43522, Stop: 44343, Start Num: 42

Candidate Starts for Typha_59:

(21, 43438), (25, 43447), (29, 43462), (32, 43480), (Start: 42 @43522 has 28 MA's), (63, 43615), (65, 43618), (71, 43648), (74, 43675), (79, 43714), (82, 43732), (99, 43807), (103, 43825), (107, 43837), (114, 43867), (120, 43924), (123, 43933), (141, 43996), (146, 44041), (154, 44104), (161, 44143), (176, 44212), (183, 44230), (210, 44332),

Gene: Ubuntu_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Ubuntu_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Vasanti_60 Start: 40525, Stop: 41349, Start Num: 56

Candidate Starts for Vasanti_60:

(14, 40357), (26, 40414), (39, 40453), (Start: 45 @40480 has 1 MA's), (Start: 56 @40525 has 1 MA's), (86, 40699), (87, 40702), (88, 40705), (96, 40747), (103, 40786), (112, 40828), (147, 41017), (165, 41146), (186, 41224), (200, 41272), (215, 41338),

Gene: Webster2_53 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Webster2_53:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Weirido19_50 Start: 36157, Stop: 37002, Start Num: 61

Candidate Starts for Weirido19_50:

(53, 36112), (Start: 61 @36157 has 1 MA's), (71, 36196), (85, 36295), (97, 36364), (98, 36367), (106, 36400), (110, 36418), (115, 36442), (118, 36463), (132, 36523), (139, 36553), (146, 36607), (157, 36706), (217, 36985),

Gene: WinkNick_63 Start: 40323, Stop: 41159, Start Num: 42

Candidate Starts for WinkNick_63:

(11, 40143), (17, 40203), (Start: 42 @40323 has 28 MA's), (57, 40401), (77, 40503), (209, 41148),

Gene: Wishmaker_51 Start: 37891, Stop: 38754, Start Num: 41

Candidate Starts for Wishmaker_51:

(Start: 41 @37891 has 22 MA's), (Start: 56 @37957 has 1 MA's), (58, 37981), (70, 38020), (71, 38026), (72, 38041), (77, 38077), (78, 38083), (85, 38125), (87, 38134), (100, 38197), (104, 38215), (108, 38227), (112, 38245), (122, 38314), (125, 38323), (127, 38329), (133, 38350), (140, 38383), (143, 38416), (145, 38431), (159, 38530), (161, 38542), (164, 38554), (177, 38611), (184, 38638), (190, 38662), (199, 38695), (204, 38710), (212, 38743),

Gene: Yonex_51 Start: 34472, Stop: 35311, Start Num: 49

Candidate Starts for Yonex_51:

(Start: 44 @34457 has 1 MA's), (47, 34463), (Start: 49 @34472 has 5 MA's), (76, 34610), (82, 34658), (93, 34712), (95, 34718), (101, 34745), (112, 34784), (117, 34820), (118, 34823), (124, 34859), (134, 34886), (140, 34907), (149, 34988), (160, 35063), (175, 35135), (178, 35138), (193, 35204),

Gene: Zaheer_53 Start: 35680, Stop: 36483, Start Num: 54

Candidate Starts for Zaheer_53:

(52, 35677), (Start: 54 @35680 has 6 MA's), (62, 35731), (76, 35800), (90, 35896), (92, 35899), (100, 35929), (104, 35947), (112, 35974), (119, 36019), (131, 36070), (132, 36073), (149, 36175), (181, 36334), (193, 36391),