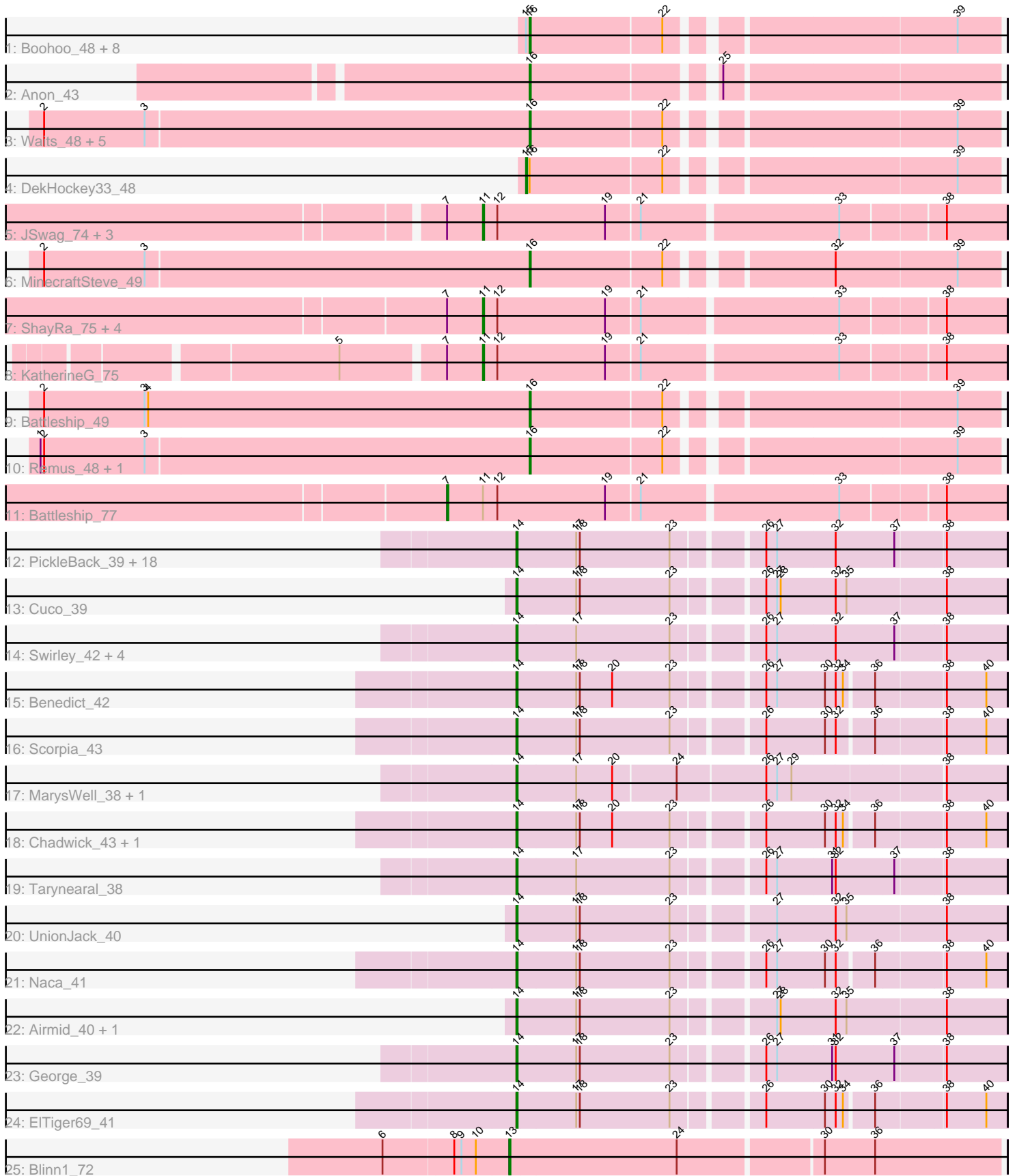


Pham 171433



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 171433 Report

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

Pham number 171433 has 71 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Boohoo_48, Soups_48, Nebulosus_47, KatherineG_49, Anaysia_48, LastResort_47, ShayRa_49, ReMo_47, Looper_48
- Track 2 : Anon_43
- Track 3 : Waits_48, JSwag_47, Rosalind_47, Oofda_49, Epsocamisio_47, Switzerland_48
- Track 4 : DekHockey33_48
- Track 5 : JSwag_74, Nebulosus_72, MinecraftSteve_75, Epsocamisio_71
- Track 6 : MinecraftSteve_49
- Track 7 : ShayRa_75, Rosalind_73, Switzerland_74, Soups_75, DekHockey33_76
- Track 8 : KatherineG_75
- Track 9 : Battleship_49
- Track 10 : Remus_48, Strosahl_48
- Track 11 : Battleship_77
- Track 12 : PickleBack_39, Theia_37, Conspiracy_39, Jovo_39, Milcery_40, Discoknowium_38, Dublin_38, Zolita_40, Ghoulboy_41, ForGetIt_39, Coog_39, Midas2_39, SydNat_41, Archetta_39, AgentM_38, Tiger_38, Aragog_38, Lev2_39, Phlorence_38
- Track 13 : Cuco_39
- Track 14 : Swirley_42, LittleCherry_40, HuhtaEnerson15_40, Bonamassa_40, Micasa_40
- Track 15 : Benedict_42
- Track 16 : Scorpia_43
- Track 17 : MarysWell_38, Bluefalcon_38
- Track 18 : Chadwick_43, PetterN_43
- Track 19 : Tarynearal_38
- Track 20 : UnionJack_40
- Track 21 : Naca_41
- Track 22 : Airmid_40, Jabiru_40
- Track 23 : George_39
- Track 24 : EITiger69_41
- Track 25 : Blinn1_72

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

The start number called the most often in the published annotations is 14, it was called in 37 of the 69 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AgentM_38, Airmid_40, Aragog_38, Archetta_39, Benedict_42, Bluefalcon_38, Bonamassa_40, Chadwick_43, Conspiracy_39, Coog_39, Cuco_39, Discoknowium_38, Dublin_38, ElTiger69_41, ForGetIt_39, George_39, Ghouboy_41, HuhtaEnerson15_40, Jabiru_40, Jovo_39, Lev2_39, LittleCherry_40, MarysWell_38, Micasa_40, Midas2_39, Milcery_40, Naca_41, PetterN_43, Phlorence_38, PickleBack_39, Scorpia_43, Swirley_42, SydNat_41, Tarynearal_38, Theia_37, Tiger_38, UnionJack_40, Zolita_40,

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

-

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

- Anaysia_48, Anon_43, Battleship_49, Battleship_77, Blinn1_72, Boohoo_48, DekHockey33_48, DekHockey33_76, Epsocamisio_47, Epsocamisio_71, JSwag_47, JSwag_74, KatherineG_49, KatherineG_75, LastResort_47, Looper_48, MinecraftSteve_49, MinecraftSteve_75, Nebulosus_47, Nebulosus_72, Oofda_49, ReMo_47, Remus_48, Rosalind_47, Rosalind_73, ShayRa_49, ShayRa_75, Soups_48, Soups_75, Strosahl_48, Switzerland_48, Switzerland_74, Waits_48,

Summary by start number:

Start 7:

- Found in 11 of 71 (15.5%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Battleship_77 (A15),

Start 11:

- Found in 11 of 71 (15.5%) of genes in pham
- Manual Annotations of this start: 10 of 69
- Called 90.9% of time when present
- Phage (with cluster) where this start called: DekHockey33_76 (A15), Epsocamisio_71 (A15), JSwag_74 (A15), KatherineG_75 (A15), MinecraftSteve_75 (A15), Nebulosus_72 (A15), Rosalind_73 (A15), ShayRa_75 (A15), Soups_75 (A15), Switzerland_74 (A15),

Start 13:

- Found in 1 of 71 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blinn1_72 (A6),

Start 14:

- Found in 38 of 71 (53.5%) of genes in pham
- Manual Annotations of this start: 37 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AgentM_38 (A5), Airmid_40 (A5), Aragog_38 (A5), Archetta_39 (A5), Benedict_42 (A5), Bluefalcon_38 (A5), Bonamassa_40 (A5), Chadwick_43 (A5), Conspiracy_39 (A5), Coog_39 (A5),

Cuco_39 (A5), Discoknowium_38 (A5), Dublin_38 (A5), EITiger69_41 (A5), ForGetIt_39 (A5), George_39 (A5), Ghoulboy_41 (A5), HuhtaEnerson15_40 (A5), Jabiru_40 (A5), Jovo_39 (A5), Lev2_39 (A5), LittleCherry_40 (A5), MarysWell_38 (A5), Micasa_40 (A5), Midas2_39 (A5), Milcery_40 (A5), Naca_41 (A5), PetterN_43 (A5), Phlorence_38 (A5), PickleBack_39 (A5), Scorpio_43 (A5), Swirley_42 (A5), SydNat_41 (A5), Tarynearal_38 (A5), Theia_37 (A5), Tiger_38 (A5), UnionJack_40 (A5), Zolita_40 (A5),

Start 15:

- Found in 10 of 71 (14.1%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 10.0% of time when present
- Phage (with cluster) where this start called: DekHockey33_48 (A15),

Start 16:

- Found in 21 of 71 (29.6%) of genes in pham
- Manual Annotations of this start: 19 of 69
- Called 95.2% of time when present
- Phage (with cluster) where this start called: Anaysia_48 (A15), Anon_43 (A15), Battleship_49 (A15), Boohoo_48 (A15), Epsocamio_47 (A15), JSwag_47 (A15), KatherineG_49 (A15), LastResort_47 (A15), Looper_48 (A15), MinecraftSteve_49 (A15), Nebulosus_47 (A15), Oofda_49 (A15), ReMo_47 (A15), Remus_48 (A15), Rosalind_47 (A15), ShayRa_49 (A15), Soups_48 (A15), Strosahl_48 (A15), Switzerland_48 (A15), Waits_48 (A15),

Summary by clusters:

There are 3 clusters represented in this pham: A15, A5, A6,

Info for manual annotations of cluster A15:

- Start number 7 was manually annotated 1 time for cluster A15.
- Start number 11 was manually annotated 10 times for cluster A15.
- Start number 15 was manually annotated 1 time for cluster A15.
- Start number 16 was manually annotated 19 times for cluster A15.

Info for manual annotations of cluster A5:

- Start number 14 was manually annotated 37 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 13 was manually annotated 1 time for cluster A6.

Gene Information:

Gene: AgentM_38 Start: 30504, Stop: 30118, Start Num: 14

Candidate Starts for AgentM_38:

(Start: 14 @30504 has 37 MA's), (17, 30456), (18, 30453), (23, 30378), (26, 30312), (27, 30303), (32, 30255), (37, 30207), (38, 30168),

Gene: Airmid_40 Start: 30562, Stop: 30173, Start Num: 14

Candidate Starts for Airmid_40:

(Start: 14 @30562 has 37 MA's), (17, 30514), (18, 30511), (23, 30436), (27, 30361), (28, 30358), (32, 30313), (35, 30304), (38, 30223),

Gene: Anaysia_48 Start: 30327, Stop: 29968, Start Num: 16

Candidate Starts for Anaysia_48:

(Start: 15 @30330 has 1 MA's), (Start: 16 @30327 has 19 MA's), (22, 30219), (39, 30003),

Gene: Anon_43 Start: 29368, Stop: 29009, Start Num: 16

Candidate Starts for Anon_43:

(Start: 16 @29368 has 19 MA's), (25, 29230),

Gene: Aragog_38 Start: 30534, Stop: 30148, Start Num: 14

Candidate Starts for Aragog_38:

(Start: 14 @30534 has 37 MA's), (17, 30486), (18, 30483), (23, 30408), (26, 30342), (27, 30333), (32, 30285), (37, 30237), (38, 30198),

Gene: Archetta_39 Start: 31064, Stop: 30678, Start Num: 14

Candidate Starts for Archetta_39:

(Start: 14 @31064 has 37 MA's), (17, 31016), (18, 31013), (23, 30938), (26, 30872), (27, 30863), (32, 30815), (37, 30767), (38, 30728),

Gene: Battleship_49 Start: 30296, Stop: 29937, Start Num: 16

Candidate Starts for Battleship_49:

(2, 30701), (3, 30617), (4, 30614), (Start: 16 @30296 has 19 MA's), (22, 30188), (39, 29972),

Gene: Battleship_77 Start: 41490, Stop: 41044, Start Num: 7

Candidate Starts for Battleship_77:

(Start: 7 @41490 has 1 MA's), (Start: 11 @41460 has 10 MA's), (12, 41448), (19, 41358), (21, 41331), (33, 41175), (38, 41094),

Gene: Benedict_42 Start: 30735, Stop: 30355, Start Num: 14

Candidate Starts for Benedict_42:

(Start: 14 @30735 has 37 MA's), (17, 30687), (18, 30684), (20, 30657), (23, 30609), (26, 30543), (27, 30534), (30, 30495), (32, 30486), (34, 30480), (36, 30459), (38, 30405), (40, 30372),

Gene: Blinn1_72 Start: 40389, Stop: 39991, Start Num: 13

Candidate Starts for Blinn1_72:

(6, 40491), (8, 40434), (9, 40428), (10, 40416), (Start: 13 @40389 has 1 MA's), (24, 40251), (30, 40137), (36, 40095),

Gene: Bluefalcon_38 Start: 31022, Stop: 30636, Start Num: 14

Candidate Starts for Bluefalcon_38:

(Start: 14 @31022 has 37 MA's), (17, 30974), (20, 30944), (24, 30893), (26, 30821), (27, 30812), (29, 30800), (38, 30686),

Gene: Bonamassa_40 Start: 31053, Stop: 30667, Start Num: 14

Candidate Starts for Bonamassa_40:

(Start: 14 @31053 has 37 MA's), (17, 31005), (23, 30927), (26, 30861), (27, 30852), (32, 30804), (37, 30756), (38, 30717),

Gene: Boohoo_48 Start: 30327, Stop: 29968, Start Num: 16

Candidate Starts for Boohoo_48:

(Start: 15 @30330 has 1 MA's), (Start: 16 @30327 has 19 MA's), (22, 30219), (39, 30003),

Gene: Chadwick_43 Start: 30715, Stop: 30335, Start Num: 14

Candidate Starts for Chadwick_43:

(Start: 14 @30715 has 37 MA's), (17, 30667), (18, 30664), (20, 30637), (23, 30589), (26, 30523), (30, 30475), (32, 30466), (34, 30460), (36, 30439), (38, 30385), (40, 30352),

Gene: Conspiracy_39 Start: 30746, Stop: 30360, Start Num: 14

Candidate Starts for Conspiracy_39:

(Start: 14 @30746 has 37 MA's), (17, 30698), (18, 30695), (23, 30620), (26, 30554), (27, 30545), (32, 30497), (37, 30449), (38, 30410),

Gene: Coog_39 Start: 30844, Stop: 30458, Start Num: 14

Candidate Starts for Coog_39:

(Start: 14 @30844 has 37 MA's), (17, 30796), (18, 30793), (23, 30718), (26, 30652), (27, 30643), (32, 30595), (37, 30547), (38, 30508),

Gene: Cuco_39 Start: 30800, Stop: 30411, Start Num: 14

Candidate Starts for Cuco_39:

(Start: 14 @30800 has 37 MA's), (17, 30752), (18, 30749), (23, 30674), (26, 30608), (27, 30599), (28, 30596), (32, 30551), (35, 30542), (38, 30461),

Gene: DekHockey33_48 Start: 30545, Stop: 30183, Start Num: 15

Candidate Starts for DekHockey33_48:

(Start: 15 @30545 has 1 MA's), (Start: 16 @30542 has 19 MA's), (22, 30434), (39, 30218),

Gene: DekHockey33_76 Start: 41545, Stop: 41129, Start Num: 11

Candidate Starts for DekHockey33_76:

(Start: 7 @41575 has 1 MA's), (Start: 11 @41545 has 10 MA's), (12, 41533), (19, 41443), (21, 41416), (33, 41260), (38, 41179),

Gene: Discoknowium_38 Start: 30543, Stop: 30157, Start Num: 14

Candidate Starts for Discoknowium_38:

(Start: 14 @30543 has 37 MA's), (17, 30495), (18, 30492), (23, 30417), (26, 30351), (27, 30342), (32, 30294), (37, 30246), (38, 30207),

Gene: Dublin_38 Start: 30565, Stop: 30179, Start Num: 14

Candidate Starts for Dublin_38:

(Start: 14 @30565 has 37 MA's), (17, 30517), (18, 30514), (23, 30439), (26, 30373), (27, 30364), (32, 30316), (37, 30268), (38, 30229),

Gene: EITiger69_41 Start: 30732, Stop: 30352, Start Num: 14

Candidate Starts for EITiger69_41:

(Start: 14 @30732 has 37 MA's), (17, 30684), (18, 30681), (23, 30606), (26, 30540), (30, 30492), (32, 30483), (34, 30477), (36, 30456), (38, 30402), (40, 30369),

Gene: Epsocamisio_71 Start: 40692, Stop: 40276, Start Num: 11

Candidate Starts for Epsocamisio_71:

(Start: 7 @40722 has 1 MA's), (Start: 11 @40692 has 10 MA's), (12, 40680), (19, 40590), (21, 40563), (33, 40407), (38, 40326),

Gene: Epsocamisio_47 Start: 30101, Stop: 29742, Start Num: 16

Candidate Starts for Epsocamisio_47:

(2, 30503), (3, 30419), (Start: 16 @30101 has 19 MA's), (22, 29993), (39, 29777),

Gene: ForGetIt_39 Start: 30771, Stop: 30385, Start Num: 14

Candidate Starts for ForGetIt_39:

(Start: 14 @30771 has 37 MA's), (17, 30723), (18, 30720), (23, 30645), (26, 30579), (27, 30570), (32, 30522), (37, 30474), (38, 30435),

Gene: George_39 Start: 30995, Stop: 30609, Start Num: 14

Candidate Starts for George_39:

(Start: 14 @30995 has 37 MA's), (17, 30947), (18, 30944), (23, 30869), (26, 30803), (27, 30794), (31, 30749), (32, 30746), (37, 30698), (38, 30659),

Gene: Ghoulboy_41 Start: 31508, Stop: 31122, Start Num: 14

Candidate Starts for Ghoulboy_41:

(Start: 14 @31508 has 37 MA's), (17, 31460), (18, 31457), (23, 31382), (26, 31316), (27, 31307), (32, 31259), (37, 31211), (38, 31172),

Gene: HuhtaEnerson15_40 Start: 30986, Stop: 30600, Start Num: 14

Candidate Starts for HuhtaEnerson15_40:

(Start: 14 @30986 has 37 MA's), (17, 30938), (23, 30860), (26, 30794), (27, 30785), (32, 30737), (37, 30689), (38, 30650),

Gene: JSwag_74 Start: 40977, Stop: 40561, Start Num: 11

Candidate Starts for JSwag_74:

(Start: 7 @41007 has 1 MA's), (Start: 11 @40977 has 10 MA's), (12, 40965), (19, 40875), (21, 40848), (33, 40692), (38, 40611),

Gene: JSwag_47 Start: 30039, Stop: 29680, Start Num: 16

Candidate Starts for JSwag_47:

(2, 30441), (3, 30357), (Start: 16 @30039 has 19 MA's), (22, 29931), (39, 29715),

Gene: Jabiru_40 Start: 30604, Stop: 30215, Start Num: 14

Candidate Starts for Jabiru_40:

(Start: 14 @30604 has 37 MA's), (17, 30556), (18, 30553), (23, 30478), (27, 30403), (28, 30400), (32, 30355), (35, 30346), (38, 30265),

Gene: Jovo_39 Start: 31027, Stop: 30641, Start Num: 14

Candidate Starts for Jovo_39:

(Start: 14 @31027 has 37 MA's), (17, 30979), (18, 30976), (23, 30901), (26, 30835), (27, 30826), (32, 30778), (37, 30730), (38, 30691),

Gene: KatherineG_49 Start: 30542, Stop: 30183, Start Num: 16

Candidate Starts for KatherineG_49:

(Start: 15 @30545 has 1 MA's), (Start: 16 @30542 has 19 MA's), (22, 30434), (39, 30218),

Gene: KatherineG_75 Start: 41450, Stop: 41034, Start Num: 11

Candidate Starts for KatherineG_75:

(5, 41561), (Start: 7 @41480 has 1 MA's), (Start: 11 @41450 has 10 MA's), (12, 41438), (19, 41348), (21, 41321), (33, 41165), (38, 41084),

Gene: LastResort_47 Start: 30103, Stop: 29744, Start Num: 16

Candidate Starts for LastResort_47:

(Start: 15 @30106 has 1 MA's), (Start: 16 @30103 has 19 MA's), (22, 29995), (39, 29779),

Gene: Lev2_39 Start: 30659, Stop: 30273, Start Num: 14

Candidate Starts for Lev2_39:

(Start: 14 @30659 has 37 MA's), (17, 30611), (18, 30608), (23, 30533), (26, 30467), (27, 30458), (32, 30410), (37, 30362), (38, 30323),

Gene: LittleCherry_40 Start: 30996, Stop: 30610, Start Num: 14

Candidate Starts for LittleCherry_40:

(Start: 14 @30996 has 37 MA's), (17, 30948), (23, 30870), (26, 30804), (27, 30795), (32, 30747), (37, 30699), (38, 30660),

Gene: Looper_48 Start: 30080, Stop: 29721, Start Num: 16

Candidate Starts for Looper_48:

(Start: 15 @30083 has 1 MA's), (Start: 16 @30080 has 19 MA's), (22, 29972), (39, 29756),

Gene: MarysWell_38 Start: 30859, Stop: 30467, Start Num: 14

Candidate Starts for MarysWell_38:

(Start: 14 @30859 has 37 MA's), (17, 30811), (20, 30781), (24, 30730), (26, 30658), (27, 30649), (29, 30637), (38, 30517),

Gene: Micasa_40 Start: 31126, Stop: 30740, Start Num: 14

Candidate Starts for Micasa_40:

(Start: 14 @31126 has 37 MA's), (17, 31078), (23, 31000), (26, 30934), (27, 30925), (32, 30877), (37, 30829), (38, 30790),

Gene: Midas2_39 Start: 30844, Stop: 30458, Start Num: 14

Candidate Starts for Midas2_39:

(Start: 14 @30844 has 37 MA's), (17, 30796), (18, 30793), (23, 30718), (26, 30652), (27, 30643), (32, 30595), (37, 30547), (38, 30508),

Gene: Milcery_40 Start: 30963, Stop: 30577, Start Num: 14

Candidate Starts for Milcery_40:

(Start: 14 @30963 has 37 MA's), (17, 30915), (18, 30912), (23, 30837), (26, 30771), (27, 30762), (32, 30714), (37, 30666), (38, 30627),

Gene: MinecraftSteve_49 Start: 30303, Stop: 29944, Start Num: 16

Candidate Starts for MinecraftSteve_49:

(2, 30705), (3, 30621), (Start: 16 @30303 has 19 MA's), (22, 30195), (32, 30078), (39, 29979),

Gene: MinecraftSteve_75 Start: 41265, Stop: 40849, Start Num: 11

Candidate Starts for MinecraftSteve_75:

(Start: 7 @41295 has 1 MA's), (Start: 11 @41265 has 10 MA's), (12, 41253), (19, 41163), (21, 41136), (33, 40980), (38, 40899),

Gene: Naca_41 Start: 31274, Stop: 30894, Start Num: 14

Candidate Starts for Naca_41:

(Start: 14 @31274 has 37 MA's), (17, 31226), (18, 31223), (23, 31148), (26, 31082), (27, 31073), (30, 31034), (32, 31025), (36, 30998), (38, 30944), (40, 30911),

Gene: Nebulosus_47 Start: 30099, Stop: 29740, Start Num: 16

Candidate Starts for Nebulosus_47:

(Start: 15 @30102 has 1 MA's), (Start: 16 @30099 has 19 MA's), (22, 29991), (39, 29775),

Gene: Nebulosus_72 Start: 40929, Stop: 40513, Start Num: 11

Candidate Starts for Nebulosus_72:

(Start: 7 @40959 has 1 MA's), (Start: 11 @40929 has 10 MA's), (12, 40917), (19, 40827), (21, 40800), (33, 40644), (38, 40563),

Gene: Oofda_49 Start: 30194, Stop: 29835, Start Num: 16

Candidate Starts for Oofda_49:

(2, 30596), (3, 30512), (Start: 16 @30194 has 19 MA's), (22, 30086), (39, 29870),

Gene: PetterN_43 Start: 30715, Stop: 30335, Start Num: 14

Candidate Starts for PetterN_43:

(Start: 14 @30715 has 37 MA's), (17, 30667), (18, 30664), (20, 30637), (23, 30589), (26, 30523), (30, 30475), (32, 30466), (34, 30460), (36, 30439), (38, 30385), (40, 30352),

Gene: Phlorence_38 Start: 30534, Stop: 30148, Start Num: 14

Candidate Starts for Phlorence_38:

(Start: 14 @30534 has 37 MA's), (17, 30486), (18, 30483), (23, 30408), (26, 30342), (27, 30333), (32, 30285), (37, 30237), (38, 30198),

Gene: PickleBack_39 Start: 30660, Stop: 30274, Start Num: 14

Candidate Starts for PickleBack_39:

(Start: 14 @30660 has 37 MA's), (17, 30612), (18, 30609), (23, 30534), (26, 30468), (27, 30459), (32, 30411), (37, 30363), (38, 30324),

Gene: ReMo_47 Start: 30100, Stop: 29741, Start Num: 16

Candidate Starts for ReMo_47:

(Start: 15 @30103 has 1 MA's), (Start: 16 @30100 has 19 MA's), (22, 29992), (39, 29776),

Gene: Remus_48 Start: 30019, Stop: 29660, Start Num: 16

Candidate Starts for Remus_48:

(1, 30424), (2, 30421), (3, 30337), (Start: 16 @30019 has 19 MA's), (22, 29911), (39, 29695),

Gene: Rosalind_73 Start: 41184, Stop: 40768, Start Num: 11

Candidate Starts for Rosalind_73:

(Start: 7 @41214 has 1 MA's), (Start: 11 @41184 has 10 MA's), (12, 41172), (19, 41082), (21, 41055), (33, 40899), (38, 40818),

Gene: Rosalind_47 Start: 30222, Stop: 29863, Start Num: 16

Candidate Starts for Rosalind_47:

(2, 30624), (3, 30540), (Start: 16 @30222 has 19 MA's), (22, 30114), (39, 29898),

Gene: Scorpia_43 Start: 30792, Stop: 30412, Start Num: 14

Candidate Starts for Scorpia_43:

(Start: 14 @30792 has 37 MA's), (17, 30744), (18, 30741), (23, 30666), (26, 30600), (30, 30552), (32, 30543), (36, 30516), (38, 30462), (40, 30429),

Gene: ShayRa_75 Start: 41213, Stop: 40797, Start Num: 11

Candidate Starts for ShayRa_75:

(Start: 7 @41243 has 1 MA's), (Start: 11 @41213 has 10 MA's), (12, 41201), (19, 41111), (21, 41084), (33, 40928), (38, 40847),

Gene: ShayRa_49 Start: 30304, Stop: 29945, Start Num: 16

Candidate Starts for ShayRa_49:

(Start: 15 @30307 has 1 MA's), (Start: 16 @30304 has 19 MA's), (22, 30196), (39, 29980),

Gene: Soups_48 Start: 30303, Stop: 29944, Start Num: 16

Candidate Starts for Soups_48:

(Start: 15 @30306 has 1 MA's), (Start: 16 @30303 has 19 MA's), (22, 30195), (39, 29979),

Gene: Soups_75 Start: 41477, Stop: 41061, Start Num: 11

Candidate Starts for Soups_75:

(Start: 7 @41507 has 1 MA's), (Start: 11 @41477 has 10 MA's), (12, 41465), (19, 41375), (21, 41348), (33, 41192), (38, 41111),

Gene: Strosahl_48 Start: 30019, Stop: 29660, Start Num: 16

Candidate Starts for Strosahl_48:

(1, 30424), (2, 30421), (3, 30337), (Start: 16 @30019 has 19 MA's), (22, 29911), (39, 29695),

Gene: Swirley_42 Start: 31327, Stop: 30941, Start Num: 14

Candidate Starts for Swirley_42:

(Start: 14 @31327 has 37 MA's), (17, 31279), (23, 31201), (26, 31135), (27, 31126), (32, 31078), (37, 31030), (38, 30991),

Gene: Switzerland_74 Start: 41352, Stop: 40936, Start Num: 11

Candidate Starts for Switzerland_74:

(Start: 7 @41382 has 1 MA's), (Start: 11 @41352 has 10 MA's), (12, 41340), (19, 41250), (21, 41223), (33, 41067), (38, 40986),

Gene: Switzerland_48 Start: 30402, Stop: 30043, Start Num: 16

Candidate Starts for Switzerland_48:

(2, 30804), (3, 30720), (Start: 16 @30402 has 19 MA's), (22, 30294), (39, 30078),

Gene: SydNat_41 Start: 31517, Stop: 31131, Start Num: 14

Candidate Starts for SydNat_41:

(Start: 14 @31517 has 37 MA's), (17, 31469), (18, 31466), (23, 31391), (26, 31325), (27, 31316), (32, 31268), (37, 31220), (38, 31181),

Gene: Tarynearal_38 Start: 30769, Stop: 30383, Start Num: 14

Candidate Starts for Tarynearal_38:

(Start: 14 @30769 has 37 MA's), (17, 30721), (23, 30643), (26, 30577), (27, 30568), (31, 30523), (32, 30520), (37, 30472), (38, 30433),

Gene: Theia_37 Start: 30792, Stop: 30406, Start Num: 14

Candidate Starts for Theia_37:

(Start: 14 @30792 has 37 MA's), (17, 30744), (18, 30741), (23, 30666), (26, 30600), (27, 30591), (32, 30543), (37, 30495), (38, 30456),

Gene: Tiger_38 Start: 30325, Stop: 29939, Start Num: 14

Candidate Starts for Tiger_38:

(Start: 14 @30325 has 37 MA's), (17, 30277), (18, 30274), (23, 30199), (26, 30133), (27, 30124), (32, 30076), (37, 30028), (38, 29989),

Gene: UnionJack_40 Start: 30292, Stop: 29903, Start Num: 14

Candidate Starts for UnionJack_40:

(Start: 14 @30292 has 37 MA's), (17, 30244), (18, 30241), (23, 30166), (27, 30091), (32, 30043), (35, 30034), (38, 29953),

Gene: Waits_48 Start: 30191, Stop: 29832, Start Num: 16

Candidate Starts for Waits_48:

(2, 30593), (3, 30509), (Start: 16 @30191 has 19 MA's), (22, 30083), (39, 29867),

Gene: Zolita_40 Start: 31521, Stop: 31135, Start Num: 14

Candidate Starts for Zolita_40:

(Start: 14 @31521 has 37 MA's), (17, 31473), (18, 31470), (23, 31395), (26, 31329), (27, 31320), (32, 31272), (37, 31224), (38, 31185),