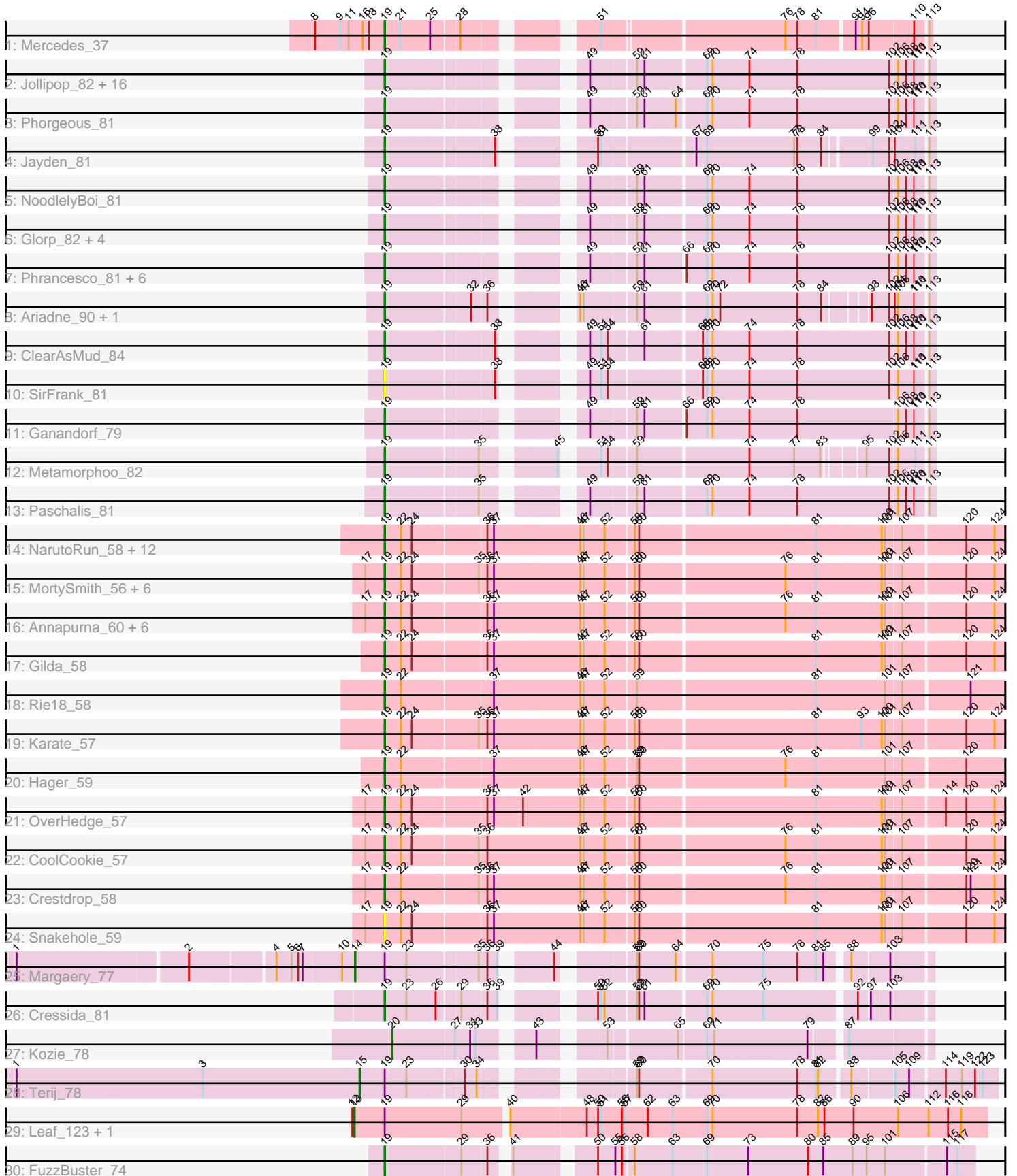


Pham 200180



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 200180 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200180 has 82 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Mercedes_37
- Track 2 : Jollipop_82, BrazzalePHS_80, LittleFortune_82, PierreOrion_80, Kowalski_80, Cranjis_82, Piperis_82, Savannah_80, Jefe_81, Crisis_82, Honeyfin_81, Scumberland_83, Hermeonysus_81, Shotgun_80, PiperSansNom_82, Yeti_82, Ramiel05_80
- Track 3 : Phorgeous_81
- Track 4 : Jayden_81
- Track 5 : NoodlelyBoi_81
- Track 6 : Glorp_82, Busephilis_80, Onika_80, Selwyn23_82, Antares_81
- Track 7 : Phrancesco_81, KaiHaiDragon_82, CrazyRich_79, PhedwardCullen_78, Quhwah_85, Pulchra_83, EarickHC_82
- Track 8 : Ariadne_90, Smarties_90
- Track 9 : ClearAsMud_84
- Track 10 : SirFrank_81
- Track 11 : Ganandorf_79
- Track 12 : Metamorphoo_82
- Track 13 : Paschalis_81
- Track 14 : NarutoRun_58, PhunaPhoke_58, Kate_58, Cybele_58, Artiphact_57, AnnaSerena_58, Pharpay_57, Anakin_58, Krampus_58, Potty_57, Poultruss_57, Rachella_58, Neptune_58
- Track 15 : MortySmith_56, Haunter_58, Tedro_58, Dauntless_57, Aesir_57, JDawG_57, Erudite_57
- Track 16 : Annapurna_60, Hiddenleaf_59, FreddieHg_59, JingleBells_58, SilentWarrior_59, Chivey_59, DannyDe_59
- Track 17 : Gilda_58
- Track 18 : Rie18_58
- Track 19 : Karate_57
- Track 20 : Hager_59
- Track 21 : OverHedge_57
- Track 22 : CoolCookie_57
- Track 23 : Crestdrop_58
- Track 24 : Snakehole_59
- Track 25 : Margaery_77
- Track 26 : Cressida_81
- Track 27 : Kozie_78
- Track 28 : Terij_78
- Track 29 : Leaf_123, Dewdrop_123

- Track 30 : FuzzBuster_74

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

The start number called the most often in the published annotations is 19, it was called in 69 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aesir_57, Anakin_58, AnnaSerena_58, Annapurna_60, Antares_81, Ariadne_90, Artiphact_57, BrazzalePHS_80, Busephilis_80, Chivey_59, ClearAsMud_84, CoolCookie_57, Cranjis_82, CrazyRich_79, Cressida_81, Crestdrop_58, Crisis_82, Cybele_58, DannyDe_59, Dauntless_57, EarickHC_82, Erudite_57, FreddieHg_59, FuzzBuster_74, Ganandorf_79, Gilda_58, Glorp_82, Hager_59, Haunter_58, Hermeonysus_81, Hiddenleaf_59, Honeyfin_81, JDawG_57, Jayden_81, Jefe_81, JingleBells_58, Jollipop_82, KaiHaiDragon_82, Karate_57, Kate_58, Kowalski_80, Krampus_58, LittleFortune_82, Mercedes_37, Metamorphoo_82, MortySmith_56, NarutoRun_58, Neptune_58, NoodlelyBoi_81, Onika_80, OverHedge_57, Paschalis_81, Pharpay_57, PhedwardCullen_78, Phorgeous_81, Phrancesco_81, PhunaPhoke_58, PierreOrion_80, PiperSansNom_82, Piperis_82, Potty_57, Poultruss_57, Pulchra_83, Quhwah_85, Rachella_58, Ramiel05_80, Rie18_58, Savannah_80, Scumberland_83, Selwyn23_82, Shotgun_80, SilentWarrior_59, SirFrank_81, Smarties_90, Snakehole_59, Tedro_58, Yeti_82,

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

- Dewdrop_123, Leaf_123, Margaery_77, Terij_78,

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

- Kozie_78,

Summary by start number:

Start 13:

- Found in 2 of 82 (2.4%) of genes in pham
- Manual Annotations of this start: 2 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dewdrop_123 (GC), Leaf_123 (GC),

Start 14:

- Found in 1 of 82 (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: Margaery_77 (EI),

Start 15:

- Found in 1 of 82 (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: Terij_78 (EI),

Start 19:

- Found in 81 of 82 (98.8%) of genes in pham
- Manual Annotations of this start: 69 of 74
- Called 95.1% of time when present
- Phage (with cluster) where this start called: Aesir_57 (EF), Anakin_58 (EF), AnnaSerena_58 (EF), Annapurna_60 (EF), Antares_81 (EC), Ariadne_90 (EC), Artiphact_57 (EF), BrazzalePHS_80 (EC), Busephilis_80 (EC), Chivey_59 (EF), ClearAsMud_84 (EC), CoolCookie_57 (EF), Cranjjs_82 (EC), CrazyRich_79 (EC), Cressida_81 (EI), Crestdrop_58 (EF), Crisis_82 (EC), Cybele_58 (EF), DannyDe_59 (EF), Dauntless_57 (EF), EarickHC_82 (EC), Erudite_57 (EF), FreddieHg_59 (EF), FuzzBuster_74 (singleton), Ganandorf_79 (EC), Gilda_58 (EF), Glorp_82 (EC), Hager_59 (EF), Haunter_58 (EF), Hermeonysus_81 (EC), Hiddenleaf_59 (EF), Honeyfin_81 (EC), JDawG_57 (EF), Jayden_81 (EC), Jefe_81 (EC), JingleBells_58 (EF), Jollipop_82 (EC), KaiHaiDragon_82 (EC), Karate_57 (EF), Kate_58 (EF), Kowalski_80 (EC), Krampus_58 (EF), LittleFortune_82 (EC), Mercedes_37 (EA), Metamorphoo_82 (EC), MortySmith_56 (EF), NarutoRun_58 (EF), Neptune_58 (EF), NoodlelyBoi_81 (EC), Onika_80 (EC), OverHedge_57 (EF), Paschalis_81 (EC), Pharpay_57 (EF), PhedwardCullen_78 (EC), Phorgeous_81 (EC), Phrancesco_81 (EC), PhunaPhoke_58 (EF), PierreOrion_80 (EC), PiperSansNom_82 (EC), Piperis_82 (EC), Potty_57 (EF), Poultruss_57 (EF), Pulchra_83 (EC), Quhwah_85 (EC), Rachella_58 (EF), Ramiel05_80 (EC), Rie18_58 (EF), Savannah_80 (EC), Scumberland_83 (EC), Selwyn23_82 (EC), Shotgun_80 (EC), SilentWarrior_59 (EF), SirFrank_81 (EC), Smarties_90 (EC), Snakehole_59 (EF), Tedro_58 (EF), Yeti_82 (EC),

Start 20:

- Found in 1 of 82 (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: Kozie_78 (EI),

Summary by clusters:

There are 6 clusters represented in this pham: singleton, EI, EF, EA, EC, GC,

Info for manual annotations of cluster EA:

- Start number 19 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EC:

- Start number 19 was manually annotated 35 times for cluster EC.

Info for manual annotations of cluster EF:

- Start number 19 was manually annotated 31 times for cluster EF.

Info for manual annotations of cluster EI:

- Start number 14 was manually annotated 1 time for cluster EI.
- Start number 15 was manually annotated 1 time for cluster EI.
- Start number 19 was manually annotated 1 time for cluster EI.
- Start number 20 was manually annotated 1 time for cluster EI.

Info for manual annotations of cluster GC:

- Start number 13 was manually annotated 2 times for cluster GC.

Gene Information:

Gene: Aesir_57 Start: 43316, Stop: 44947, Start Num: 19

Candidate Starts for Aesir_57:

(17, 43265), (Start: 19 @43316 has 69 MA's), (22, 43361), (24, 43391), (35, 43565), (36, 43583), (37, 43601), (46, 43835), (47, 43844), (52, 43901), (58, 43976), (60, 43988), (76, 44375), (81, 44456), (100, 44633), (101, 44642), (107, 44681), (120, 44843), (124, 44921),

Gene: Anakin_58 Start: 43655, Stop: 45286, Start Num: 19

Candidate Starts for Anakin_58:

(Start: 19 @43655 has 69 MA's), (22, 43700), (24, 43730), (36, 43922), (37, 43940), (46, 44174), (47, 44183), (52, 44240), (58, 44315), (60, 44327), (81, 44795), (100, 44972), (101, 44981), (107, 45020), (120, 45182), (124, 45260),

Gene: AnnaSerena_58 Start: 43689, Stop: 45320, Start Num: 19

Candidate Starts for AnnaSerena_58:

(Start: 19 @43689 has 69 MA's), (22, 43734), (24, 43764), (36, 43956), (37, 43974), (46, 44208), (47, 44217), (52, 44274), (58, 44349), (60, 44361), (81, 44829), (100, 45006), (101, 45015), (107, 45054), (120, 45216), (124, 45294),

Gene: Annapurna_60 Start: 43165, Stop: 44796, Start Num: 19

Candidate Starts for Annapurna_60:

(17, 43114), (Start: 19 @43165 has 69 MA's), (22, 43210), (24, 43240), (36, 43432), (37, 43450), (46, 43684), (47, 43693), (52, 43750), (58, 43825), (60, 43837), (76, 44224), (81, 44305), (100, 44482), (101, 44491), (107, 44530), (120, 44692), (124, 44770),

Gene: Antares_81 Start: 47473, Stop: 48798, Start Num: 19

Candidate Starts for Antares_81:

(Start: 19 @47473 has 69 MA's), (49, 47902), (59, 48016), (61, 48037), (69, 48193), (70, 48208), (74, 48310), (78, 48442), (102, 48694), (106, 48712), (108, 48733), (110, 48754), (111, 48757), (113, 48781),

Gene: Ariadne_90 Start: 48355, Stop: 49632, Start Num: 19

Candidate Starts for Ariadne_90:

(Start: 19 @48355 has 69 MA's), (32, 48568), (36, 48607), (46, 48757), (47, 48766), (59, 48898), (61, 48919), (69, 49075), (70, 49090), (72, 49111), (78, 49324), (84, 49387), (98, 49486), (102, 49528), (104, 49537), (106, 49546), (110, 49588), (111, 49591), (113, 49615),

Gene: Artiphact_57 Start: 43679, Stop: 45310, Start Num: 19

Candidate Starts for Artiphact_57:

(Start: 19 @43679 has 69 MA's), (22, 43724), (24, 43754), (36, 43946), (37, 43964), (46, 44198), (47, 44207), (52, 44264), (58, 44339), (60, 44351), (81, 44819), (100, 44996), (101, 45005), (107, 45044), (120, 45206), (124, 45284),

Gene: BrazzalePHS_80 Start: 47273, Stop: 48598, Start Num: 19

Candidate Starts for BrazzalePHS_80:

(Start: 19 @47273 has 69 MA's), (49, 47702), (59, 47816), (61, 47837), (69, 47993), (70, 48008), (74, 48110), (78, 48242), (102, 48494), (106, 48512), (108, 48533), (110, 48554), (111, 48557), (113, 48581),

Gene: Busephilis_80 Start: 47180, Stop: 48505, Start Num: 19

Candidate Starts for Busephilis_80:

(Start: 19 @47180 has 69 MA's), (49, 47609), (59, 47723), (61, 47744), (69, 47900), (70, 47915), (74, 48017), (78, 48149), (102, 48401), (106, 48419), (108, 48440), (110, 48461), (111, 48464), (113, 48488),

Gene: Chivey_59 Start: 43119, Stop: 44750, Start Num: 19

Candidate Starts for Chivey_59:

(17, 43068), (Start: 19 @43119 has 69 MA's), (22, 43164), (24, 43194), (36, 43386), (37, 43404), (46, 43638), (47, 43647), (52, 43704), (58, 43779), (60, 43791), (76, 44178), (81, 44259), (100, 44436), (101, 44445), (107, 44484), (120, 44646), (124, 44724),

Gene: ClearAsMud_84 Start: 47498, Stop: 48823, Start Num: 19

Candidate Starts for ClearAsMud_84:

(Start: 19 @47498 has 69 MA's), (38, 47768), (49, 47927), (51, 47957), (54, 47975), (61, 48062), (68, 48206), (69, 48218), (70, 48233), (74, 48335), (78, 48467), (102, 48719), (106, 48737), (108, 48758), (110, 48779), (111, 48782), (113, 48806),

Gene: CoolCookie_57 Start: 43699, Stop: 45330, Start Num: 19

Candidate Starts for CoolCookie_57:

(17, 43648), (Start: 19 @43699 has 69 MA's), (22, 43744), (24, 43774), (35, 43948), (36, 43966), (46, 44218), (47, 44227), (52, 44284), (58, 44359), (60, 44371), (76, 44758), (81, 44839), (100, 45016), (101, 45025), (107, 45064), (120, 45226), (124, 45304),

Gene: Cranjis_82 Start: 47460, Stop: 48785, Start Num: 19

Candidate Starts for Cranjis_82:

(Start: 19 @47460 has 69 MA's), (49, 47889), (59, 48003), (61, 48024), (69, 48180), (70, 48195), (74, 48297), (78, 48429), (102, 48681), (106, 48699), (108, 48720), (110, 48741), (111, 48744), (113, 48768),

Gene: CrazyRich_79 Start: 46970, Stop: 48295, Start Num: 19

Candidate Starts for CrazyRich_79:

(Start: 19 @46970 has 69 MA's), (49, 47399), (59, 47513), (61, 47534), (66, 47633), (69, 47690), (70, 47705), (74, 47807), (78, 47939), (102, 48191), (106, 48209), (108, 48230), (110, 48251), (111, 48254), (113, 48278),

Gene: Cressida_81 Start: 48489, Stop: 49766, Start Num: 19

Candidate Starts for Cressida_81:

(Start: 19 @48489 has 69 MA's), (23, 48546), (26, 48624), (29, 48681), (36, 48747), (39, 48771), (50, 48939), (51, 48948), (52, 48957), (59, 49032), (60, 49038), (61, 49053), (69, 49209), (70, 49224), (75, 49365), (92, 49593), (97, 49620), (103, 49668),

Gene: Crestdrop_58 Start: 43390, Stop: 45021, Start Num: 19

Candidate Starts for Crestdrop_58:

(17, 43339), (Start: 19 @43390 has 69 MA's), (22, 43435), (35, 43639), (36, 43657), (37, 43675), (46, 43909), (47, 43918), (52, 43975), (58, 44050), (60, 44062), (76, 44449), (81, 44530), (100, 44707), (101, 44716), (107, 44755), (120, 44917), (121, 44929), (124, 44995),

Gene: Crisis_82 Start: 47416, Stop: 48741, Start Num: 19

Candidate Starts for Crisis_82:

(Start: 19 @47416 has 69 MA's), (49, 47845), (59, 47959), (61, 47980), (69, 48136), (70, 48151), (74, 48253), (78, 48385), (102, 48637), (106, 48655), (108, 48676), (110, 48697), (111, 48700), (113, 48724),

Gene: Cybele_58 Start: 43673, Stop: 45316, Start Num: 19

Candidate Starts for Cybele_58:

(Start: 19 @43673 has 69 MA's), (22, 43718), (24, 43748), (36, 43940), (37, 43958), (46, 44192), (47, 44201), (52, 44258), (58, 44333), (60, 44345), (81, 44813), (100, 44990), (101, 44999), (107, 45038), (120, 45212), (124, 45290),

Gene: DannyDe_59 Start: 43120, Stop: 44751, Start Num: 19

Candidate Starts for DannyDe_59:

(17, 43069), (Start: 19 @43120 has 69 MA's), (22, 43165), (24, 43195), (36, 43387), (37, 43405), (46, 43639), (47, 43648), (52, 43705), (58, 43780), (60, 43792), (76, 44179), (81, 44260), (100, 44437), (101, 44446), (107, 44485), (120, 44647), (124, 44725),

Gene: Dauntless_57 Start: 43251, Stop: 44882, Start Num: 19

Candidate Starts for Dauntless_57:

(17, 43200), (Start: 19 @43251 has 69 MA's), (22, 43296), (24, 43326), (35, 43500), (36, 43518), (37, 43536), (46, 43770), (47, 43779), (52, 43836), (58, 43911), (60, 43923), (76, 44310), (81, 44391), (100, 44568), (101, 44577), (107, 44616), (120, 44778), (124, 44856),

Gene: Dewdrop_123 Start: 75555, Stop: 77261, Start Num: 13

Candidate Starts for Dewdrop_123:

(12, 75549), (Start: 13 @75555 has 2 MA's), (Start: 19 @75639 has 69 MA's), (29, 75849), (40, 75960), (48, 76164), (50, 76194), (51, 76203), (56, 76260), (57, 76269), (62, 76332), (63, 76398), (69, 76494), (70, 76509), (78, 76743), (82, 76800), (86, 76818), (90, 76893), (106, 77016), (112, 77100), (116, 77154), (118, 77190),

Gene: EarickHC_82 Start: 47338, Stop: 48663, Start Num: 19

Candidate Starts for EarickHC_82:

(Start: 19 @47338 has 69 MA's), (49, 47767), (59, 47881), (61, 47902), (66, 48001), (69, 48058), (70, 48073), (74, 48175), (78, 48307), (102, 48559), (106, 48577), (108, 48598), (110, 48619), (111, 48622), (113, 48646),

Gene: Erudite_57 Start: 43251, Stop: 44882, Start Num: 19

Candidate Starts for Erudite_57:

(17, 43200), (Start: 19 @43251 has 69 MA's), (22, 43296), (24, 43326), (35, 43500), (36, 43518), (37, 43536), (46, 43770), (47, 43779), (52, 43836), (58, 43911), (60, 43923), (76, 44310), (81, 44391), (100, 44568), (101, 44577), (107, 44616), (120, 44778), (124, 44856),

Gene: FreddieHg_59 Start: 43136, Stop: 44767, Start Num: 19

Candidate Starts for FreddieHg_59:

(17, 43085), (Start: 19 @43136 has 69 MA's), (22, 43181), (24, 43211), (36, 43403), (37, 43421), (46, 43655), (47, 43664), (52, 43721), (58, 43796), (60, 43808), (76, 44195), (81, 44276), (100, 44453), (101, 44462), (107, 44501), (120, 44663), (124, 44741),

Gene: FuzzBuster_74 Start: 44531, Stop: 43062, Start Num: 19

Candidate Starts for FuzzBuster_74:

(Start: 19 @44531 has 69 MA's), (29, 44333), (36, 44267), (41, 44237), (50, 44054), (55, 44006), (56, 43988), (58, 43961), (63, 43856), (69, 43766), (73, 43661), (80, 43505), (85, 43466), (89, 43388), (95, 43349), (101, 43298), (115, 43139), (117, 43109),

Gene: Ganandorf_79 Start: 46824, Stop: 48149, Start Num: 19

Candidate Starts for Ganandorf_79:

(Start: 19 @46824 has 69 MA's), (49, 47253), (59, 47367), (61, 47388), (66, 47487), (69, 47544), (70, 47559), (74, 47661), (78, 47793), (106, 48063), (108, 48084), (110, 48105), (111, 48108), (113, 48132),

Gene: Gilda_58 Start: 43677, Stop: 45308, Start Num: 19

Candidate Starts for Gilda_58:

(Start: 19 @43677 has 69 MA's), (22, 43722), (24, 43752), (36, 43944), (37, 43962), (46, 44196), (47, 44205), (52, 44262), (58, 44337), (60, 44349), (81, 44817), (100, 44994), (101, 45003), (107, 45042), (120, 45204), (124, 45282),

Gene: Glorp_82 Start: 47225, Stop: 48550, Start Num: 19

Candidate Starts for Glorp_82:

(Start: 19 @47225 has 69 MA's), (49, 47654), (59, 47768), (61, 47789), (69, 47945), (70, 47960), (74, 48062), (78, 48194), (102, 48446), (106, 48464), (108, 48485), (110, 48506), (111, 48509), (113, 48533),

Gene: Hager_59 Start: 43064, Stop: 44692, Start Num: 19

Candidate Starts for Hager_59:

(Start: 19 @43064 has 69 MA's), (22, 43109), (37, 43349), (46, 43583), (47, 43592), (52, 43649), (59, 43730), (60, 43736), (76, 44123), (81, 44204), (101, 44390), (107, 44429), (120, 44585),

Gene: Haunter_58 Start: 42889, Stop: 44520, Start Num: 19

Candidate Starts for Haunter_58:

(17, 42838), (Start: 19 @42889 has 69 MA's), (22, 42934), (24, 42964), (35, 43138), (36, 43156), (37, 43174), (46, 43408), (47, 43417), (52, 43474), (58, 43549), (60, 43561), (76, 43948), (81, 44029), (100, 44206), (101, 44215), (107, 44254), (120, 44416), (124, 44494),

Gene: Hermeonysus_81 Start: 47181, Stop: 48506, Start Num: 19

Candidate Starts for Hermeonysus_81:

(Start: 19 @47181 has 69 MA's), (49, 47610), (59, 47724), (61, 47745), (69, 47901), (70, 47916), (74, 48018), (78, 48150), (102, 48402), (106, 48420), (108, 48441), (110, 48462), (111, 48465), (113, 48489),

Gene: Hiddenleaf_59 Start: 43119, Stop: 44750, Start Num: 19

Candidate Starts for Hiddenleaf_59:

(17, 43068), (Start: 19 @43119 has 69 MA's), (22, 43164), (24, 43194), (36, 43386), (37, 43404), (46, 43638), (47, 43647), (52, 43704), (58, 43779), (60, 43791), (76, 44178), (81, 44259), (100, 44436), (101, 44445), (107, 44484), (120, 44646), (124, 44724),

Gene: Honeyfin_81 Start: 47014, Stop: 48339, Start Num: 19

Candidate Starts for Honeyfin_81:

(Start: 19 @47014 has 69 MA's), (49, 47443), (59, 47557), (61, 47578), (69, 47734), (70, 47749), (74, 47851), (78, 47983), (102, 48235), (106, 48253), (108, 48274), (110, 48295), (111, 48298), (113, 48322),

Gene: JDawG_57 Start: 43311, Stop: 44942, Start Num: 19

Candidate Starts for JDawG_57:

(17, 43260), (Start: 19 @43311 has 69 MA's), (22, 43356), (24, 43386), (35, 43560), (36, 43578), (37, 43596), (46, 43830), (47, 43839), (52, 43896), (58, 43971), (60, 43983), (76, 44370), (81, 44451), (100, 44628), (101, 44637), (107, 44676), (120, 44838), (124, 44916),

Gene: Jayden_81 Start: 46981, Stop: 48267, Start Num: 19

Candidate Starts for Jayden_81:

(Start: 19 @46981 has 69 MA's), (38, 47251), (50, 47434), (51, 47443), (67, 47671), (69, 47701), (77, 47941), (78, 47950), (84, 48013), (99, 48121), (102, 48163), (104, 48172), (111, 48226), (113, 48250),

Gene: Jefe_81 Start: 47236, Stop: 48561, Start Num: 19

Candidate Starts for Jefe_81:

(Start: 19 @47236 has 69 MA's), (49, 47665), (59, 47779), (61, 47800), (69, 47956), (70, 47971), (74, 48073), (78, 48205), (102, 48457), (106, 48475), (108, 48496), (110, 48517), (111, 48520), (113, 48544),

Gene: JingleBells_58 Start: 43225, Stop: 44856, Start Num: 19

Candidate Starts for JingleBells_58:

(17, 43174), (Start: 19 @43225 has 69 MA's), (22, 43270), (24, 43300), (36, 43492), (37, 43510), (46, 43744), (47, 43753), (52, 43810), (58, 43885), (60, 43897), (76, 44284), (81, 44365), (100, 44542), (101, 44551), (107, 44590), (120, 44752), (124, 44830),

Gene: Jollipop_82 Start: 47601, Stop: 48926, Start Num: 19

Candidate Starts for Jollipop_82:

(Start: 19 @47601 has 69 MA's), (49, 48030), (59, 48144), (61, 48165), (69, 48321), (70, 48336), (74, 48438), (78, 48570), (102, 48822), (106, 48840), (108, 48861), (110, 48882), (111, 48885), (113, 48909),

Gene: KaiHaiDragon_82 Start: 47338, Stop: 48663, Start Num: 19

Candidate Starts for KaiHaiDragon_82:

(Start: 19 @47338 has 69 MA's), (49, 47767), (59, 47881), (61, 47902), (66, 48001), (69, 48058), (70, 48073), (74, 48175), (78, 48307), (102, 48559), (106, 48577), (108, 48598), (110, 48619), (111, 48622), (113, 48646),

Gene: Karate_57 Start: 43493, Stop: 45124, Start Num: 19

Candidate Starts for Karate_57:

(Start: 19 @43493 has 69 MA's), (22, 43538), (24, 43568), (35, 43742), (36, 43760), (37, 43778), (46, 44012), (47, 44021), (52, 44078), (58, 44153), (60, 44165), (81, 44633), (93, 44753), (100, 44810), (101, 44819), (107, 44858), (120, 45020), (124, 45098),

Gene: Kate_58 Start: 43594, Stop: 45225, Start Num: 19

Candidate Starts for Kate_58:

(Start: 19 @43594 has 69 MA's), (22, 43639), (24, 43669), (36, 43861), (37, 43879), (46, 44113), (47, 44122), (52, 44179), (58, 44254), (60, 44266), (81, 44734), (100, 44911), (101, 44920), (107, 44959), (120, 45121), (124, 45199),

Gene: Kowalski_80 Start: 47268, Stop: 48593, Start Num: 19

Candidate Starts for Kowalski_80:

(Start: 19 @47268 has 69 MA's), (49, 47697), (59, 47811), (61, 47832), (69, 47988), (70, 48003), (74, 48105), (78, 48237), (102, 48489), (106, 48507), (108, 48528), (110, 48549), (111, 48552), (113, 48576),

Gene: Kozie_78 Start: 48031, Stop: 49293, Start Num: 20

Candidate Starts for Kozie_78:

(Start: 20 @48031 has 1 MA's), (27, 48199), (31, 48241), (33, 48256), (43, 48367), (53, 48505), (65, 48679), (69, 48751), (71, 48769), (79, 49009), (87, 49087),

Gene: Krampus_58 Start: 43690, Stop: 45321, Start Num: 19

Candidate Starts for Krampus_58:

(Start: 19 @43690 has 69 MA's), (22, 43735), (24, 43765), (36, 43957), (37, 43975), (46, 44209), (47, 44218), (52, 44275), (58, 44350), (60, 44362), (81, 44830), (100, 45007), (101, 45016), (107, 45055), (120, 45217), (124, 45295),

Gene: Leaf_123 Start: 75555, Stop: 77261, Start Num: 13

Candidate Starts for Leaf_123:

(12, 75549), (Start: 13 @75555 has 2 MA's), (Start: 19 @75639 has 69 MA's), (29, 75849), (40, 75960), (48, 76164), (50, 76194), (51, 76203), (56, 76260), (57, 76269), (62, 76332), (63, 76398), (69, 76494), (70, 76509), (78, 76743), (82, 76800), (86, 76818), (90, 76893), (106, 77016), (112, 77100), (116, 77154), (118, 77190),

Gene: LittleFortune_82 Start: 47257, Stop: 48582, Start Num: 19

Candidate Starts for LittleFortune_82:

(Start: 19 @47257 has 69 MA's), (49, 47686), (59, 47800), (61, 47821), (69, 47977), (70, 47992), (74, 48094), (78, 48226), (102, 48478), (106, 48496), (108, 48517), (110, 48538), (111, 48541), (113, 48565),

Gene: Margaery_77 Start: 47888, Stop: 49243, Start Num: 14

Candidate Starts for Margaery_77:

(1, 47039), (2, 47486), (4, 47696), (5, 47732), (6, 47750), (7, 47762), (10, 47858), (Start: 14 @47888 has 1 MA's), (Start: 19 @47963 has 69 MA's), (23, 48017), (35, 48200), (36, 48218), (39, 48242), (44, 48341), (59, 48503), (60, 48509), (64, 48608), (70, 48695), (75, 48836), (78, 48929), (81, 48980), (85, 48998), (88, 49049), (103, 49145),

Gene: Mercedes_37 Start: 29517, Stop: 28231, Start Num: 19

Candidate Starts for Mercedes_37:

(8, 29709), (9, 29640), (11, 29616), (16, 29577), (18, 29559), (Start: 19 @29517 has 69 MA's), (21, 29475), (25, 29394), (28, 29328), (51, 29061), (76, 28593), (78, 28563), (81, 28512), (91, 28419), (94, 28401), (96, 28383), (110, 28266), (113, 28239),

Gene: Metamorphoo_82 Start: 48066, Stop: 49349, Start Num: 19

Candidate Starts for Metamorphoo_82:

(Start: 19 @48066 has 69 MA's), (35, 48300), (45, 48456), (51, 48525), (54, 48543), (59, 48609), (74, 48903), (77, 49026), (83, 49095), (95, 49185), (102, 49245), (106, 49263), (111, 49308), (113, 49332),

Gene: MortySmith_56 Start: 42725, Stop: 44356, Start Num: 19

Candidate Starts for MortySmith_56:

(17, 42674), (Start: 19 @42725 has 69 MA's), (22, 42770), (24, 42800), (35, 42974), (36, 42992), (37, 43010), (46, 43244), (47, 43253), (52, 43310), (58, 43385), (60, 43397), (76, 43784), (81, 43865), (100, 44042), (101, 44051), (107, 44090), (120, 44252), (124, 44330),

Gene: NarutoRun_58 Start: 43655, Stop: 45286, Start Num: 19

Candidate Starts for NarutoRun_58:

(Start: 19 @43655 has 69 MA's), (22, 43700), (24, 43730), (36, 43922), (37, 43940), (46, 44174), (47, 44183), (52, 44240), (58, 44315), (60, 44327), (81, 44795), (100, 44972), (101, 44981), (107, 45020), (120, 45182), (124, 45260),

Gene: Neptune_58 Start: 43673, Stop: 45316, Start Num: 19

Candidate Starts for Neptune_58:

(Start: 19 @43673 has 69 MA's), (22, 43718), (24, 43748), (36, 43940), (37, 43958), (46, 44192), (47, 44201), (52, 44258), (58, 44333), (60, 44345), (81, 44813), (100, 44990), (101, 44999), (107, 45038), (120, 45212), (124, 45290),

Gene: NoodlelyBoi_81 Start: 47603, Stop: 48928, Start Num: 19

Candidate Starts for NoodlelyBoi_81:

(Start: 19 @47603 has 69 MA's), (49, 48032), (59, 48146), (61, 48167), (69, 48323), (70, 48338), (74, 48440), (78, 48572), (102, 48824), (106, 48842), (108, 48863), (110, 48884), (111, 48887), (113,

48911),

Gene: Onika_80 Start: 47239, Stop: 48564, Start Num: 19

Candidate Starts for Onika_80:

(Start: 19 @47239 has 69 MA's), (49, 47668), (59, 47782), (61, 47803), (69, 47959), (70, 47974), (74, 48076), (78, 48208), (102, 48460), (106, 48478), (108, 48499), (110, 48520), (111, 48523), (113, 48547),

Gene: OverHedge_57 Start: 43551, Stop: 45182, Start Num: 19

Candidate Starts for OverHedge_57:

(17, 43500), (Start: 19 @43551 has 69 MA's), (22, 43596), (24, 43626), (36, 43818), (37, 43836), (42, 43917), (46, 44070), (47, 44079), (52, 44136), (58, 44211), (60, 44223), (81, 44691), (100, 44868), (101, 44877), (107, 44916), (114, 45021), (120, 45078), (124, 45156),

Gene: Paschalis_81 Start: 47266, Stop: 48591, Start Num: 19

Candidate Starts for Paschalis_81:

(Start: 19 @47266 has 69 MA's), (35, 47500), (49, 47695), (59, 47809), (61, 47830), (69, 47986), (70, 48001), (74, 48103), (78, 48235), (102, 48487), (106, 48505), (108, 48526), (110, 48547), (111, 48550), (113, 48574),

Gene: Pharpay_57 Start: 43700, Stop: 45331, Start Num: 19

Candidate Starts for Pharpay_57:

(Start: 19 @43700 has 69 MA's), (22, 43745), (24, 43775), (36, 43967), (37, 43985), (46, 44219), (47, 44228), (52, 44285), (58, 44360), (60, 44372), (81, 44840), (100, 45017), (101, 45026), (107, 45065), (120, 45227), (124, 45305),

Gene: PhedwardCullen_78 Start: 46717, Stop: 48042, Start Num: 19

Candidate Starts for PhedwardCullen_78:

(Start: 19 @46717 has 69 MA's), (49, 47146), (59, 47260), (61, 47281), (66, 47380), (69, 47437), (70, 47452), (74, 47554), (78, 47686), (102, 47938), (106, 47956), (108, 47977), (110, 47998), (111, 48001), (113, 48025),

Gene: Phorgeous_81 Start: 47055, Stop: 48380, Start Num: 19

Candidate Starts for Phorgeous_81:

(Start: 19 @47055 has 69 MA's), (49, 47484), (59, 47598), (61, 47619), (64, 47703), (69, 47775), (70, 47790), (74, 47892), (78, 48024), (102, 48276), (106, 48294), (108, 48315), (110, 48336), (111, 48339), (113, 48363),

Gene: Phrancesco_81 Start: 47366, Stop: 48691, Start Num: 19

Candidate Starts for Phrancesco_81:

(Start: 19 @47366 has 69 MA's), (49, 47795), (59, 47909), (61, 47930), (66, 48029), (69, 48086), (70, 48101), (74, 48203), (78, 48335), (102, 48587), (106, 48605), (108, 48626), (110, 48647), (111, 48650), (113, 48674),

Gene: PhunaPhoke_58 Start: 43670, Stop: 45301, Start Num: 19

Candidate Starts for PhunaPhoke_58:

(Start: 19 @43670 has 69 MA's), (22, 43715), (24, 43745), (36, 43937), (37, 43955), (46, 44189), (47, 44198), (52, 44255), (58, 44330), (60, 44342), (81, 44810), (100, 44987), (101, 44996), (107, 45035), (120, 45197), (124, 45275),

Gene: PierreOrion_80 Start: 47075, Stop: 48400, Start Num: 19

Candidate Starts for PierreOrion_80:

(Start: 19 @47075 has 69 MA's), (49, 47504), (59, 47618), (61, 47639), (69, 47795), (70, 47810), (74, 47912), (78, 48044), (102, 48296), (106, 48314), (108, 48335), (110, 48356), (111, 48359), (113, 48383),

Gene: PiperSansNom_82 Start: 47575, Stop: 48900, Start Num: 19

Candidate Starts for PiperSansNom_82:

(Start: 19 @47575 has 69 MA's), (49, 48004), (59, 48118), (61, 48139), (69, 48295), (70, 48310), (74, 48412), (78, 48544), (102, 48796), (106, 48814), (108, 48835), (110, 48856), (111, 48859), (113, 48883),

Gene: Piperis_82 Start: 47174, Stop: 48499, Start Num: 19

Candidate Starts for Piperis_82:

(Start: 19 @47174 has 69 MA's), (49, 47603), (59, 47717), (61, 47738), (69, 47894), (70, 47909), (74, 48011), (78, 48143), (102, 48395), (106, 48413), (108, 48434), (110, 48455), (111, 48458), (113, 48482),

Gene: Potty_57 Start: 43600, Stop: 45231, Start Num: 19

Candidate Starts for Potty_57:

(Start: 19 @43600 has 69 MA's), (22, 43645), (24, 43675), (36, 43867), (37, 43885), (46, 44119), (47, 44128), (52, 44185), (58, 44260), (60, 44272), (81, 44740), (100, 44917), (101, 44926), (107, 44965), (120, 45127), (124, 45205),

Gene: Poultruss_57 Start: 43897, Stop: 45528, Start Num: 19

Candidate Starts for Poultruss_57:

(Start: 19 @43897 has 69 MA's), (22, 43942), (24, 43972), (36, 44164), (37, 44182), (46, 44416), (47, 44425), (52, 44482), (58, 44557), (60, 44569), (81, 45037), (100, 45214), (101, 45223), (107, 45262), (120, 45424), (124, 45502),

Gene: Pulchra_83 Start: 47741, Stop: 49066, Start Num: 19

Candidate Starts for Pulchra_83:

(Start: 19 @47741 has 69 MA's), (49, 48170), (59, 48284), (61, 48305), (66, 48404), (69, 48461), (70, 48476), (74, 48578), (78, 48710), (102, 48962), (106, 48980), (108, 49001), (110, 49022), (111, 49025), (113, 49049),

Gene: Quhwah_85 Start: 47895, Stop: 49220, Start Num: 19

Candidate Starts for Quhwah_85:

(Start: 19 @47895 has 69 MA's), (49, 48324), (59, 48438), (61, 48459), (66, 48558), (69, 48615), (70, 48630), (74, 48732), (78, 48864), (102, 49116), (106, 49134), (108, 49155), (110, 49176), (111, 49179), (113, 49203),

Gene: Rachella_58 Start: 43681, Stop: 45312, Start Num: 19

Candidate Starts for Rachella_58:

(Start: 19 @43681 has 69 MA's), (22, 43726), (24, 43756), (36, 43948), (37, 43966), (46, 44200), (47, 44209), (52, 44266), (58, 44341), (60, 44353), (81, 44821), (100, 44998), (101, 45007), (107, 45046), (120, 45208), (124, 45286),

Gene: Ramiel05_80 Start: 47268, Stop: 48593, Start Num: 19

Candidate Starts for Ramiel05_80:

(Start: 19 @47268 has 69 MA's), (49, 47697), (59, 47811), (61, 47832), (69, 47988), (70, 48003), (74, 48105), (78, 48237), (102, 48489), (106, 48507), (108, 48528), (110, 48549), (111, 48552), (113, 48576),

Gene: Rie18_58 Start: 43470, Stop: 45098, Start Num: 19

Candidate Starts for Rie18_58:

(Start: 19 @43470 has 69 MA's), (22, 43515), (37, 43755), (46, 43989), (47, 43998), (52, 44055), (59, 44136), (81, 44610), (101, 44796), (107, 44835), (121, 45006),

Gene: Savannah_80 Start: 47460, Stop: 48785, Start Num: 19

Candidate Starts for Savannah_80:

(Start: 19 @47460 has 69 MA's), (49, 47889), (59, 48003), (61, 48024), (69, 48180), (70, 48195), (74, 48297), (78, 48429), (102, 48681), (106, 48699), (108, 48720), (110, 48741), (111, 48744), (113, 48768),

Gene: Scumberland_83 Start: 47514, Stop: 48839, Start Num: 19

Candidate Starts for Scumberland_83:

(Start: 19 @47514 has 69 MA's), (49, 47943), (59, 48057), (61, 48078), (69, 48234), (70, 48249), (74, 48351), (78, 48483), (102, 48735), (106, 48753), (108, 48774), (110, 48795), (111, 48798), (113, 48822),

Gene: Selwyn23_82 Start: 47399, Stop: 48724, Start Num: 19

Candidate Starts for Selwyn23_82:

(Start: 19 @47399 has 69 MA's), (49, 47828), (59, 47942), (61, 47963), (69, 48119), (70, 48134), (74, 48236), (78, 48368), (102, 48620), (106, 48638), (108, 48659), (110, 48680), (111, 48683), (113, 48707),

Gene: Shotgun_80 Start: 46770, Stop: 48095, Start Num: 19

Candidate Starts for Shotgun_80:

(Start: 19 @46770 has 69 MA's), (49, 47199), (59, 47313), (61, 47334), (69, 47490), (70, 47505), (74, 47607), (78, 47739), (102, 47991), (106, 48009), (108, 48030), (110, 48051), (111, 48054), (113, 48078),

Gene: SilentWarrior_59 Start: 43086, Stop: 44717, Start Num: 19

Candidate Starts for SilentWarrior_59:

(17, 43035), (Start: 19 @43086 has 69 MA's), (22, 43131), (24, 43161), (36, 43353), (37, 43371), (46, 43605), (47, 43614), (52, 43671), (58, 43746), (60, 43758), (76, 44145), (81, 44226), (100, 44403), (101, 44412), (107, 44451), (120, 44613), (124, 44691),

Gene: SirFrank_81 Start: 47190, Stop: 48515, Start Num: 19

Candidate Starts for SirFrank_81:

(Start: 19 @47190 has 69 MA's), (38, 47460), (49, 47619), (51, 47649), (54, 47667), (68, 47898), (69, 47910), (70, 47925), (74, 48027), (78, 48159), (102, 48411), (106, 48429), (110, 48471), (111, 48474), (113, 48498),

Gene: Smarties_90 Start: 48352, Stop: 49629, Start Num: 19

Candidate Starts for Smarties_90:

(Start: 19 @48352 has 69 MA's), (32, 48565), (36, 48604), (46, 48754), (47, 48763), (59, 48895), (61, 48916), (69, 49072), (70, 49087), (72, 49108), (78, 49321), (84, 49384), (98, 49483), (102, 49525), (104, 49534), (106, 49543), (110, 49585), (111, 49588), (113, 49612),

Gene: Snakehole_59 Start: 43097, Stop: 44728, Start Num: 19

Candidate Starts for Snakehole_59:

(17, 43046), (Start: 19 @43097 has 69 MA's), (22, 43142), (24, 43172), (36, 43364), (37, 43382), (46, 43616), (47, 43625), (52, 43682), (58, 43757), (60, 43769), (81, 44237), (100, 44414), (101, 44423), (107, 44462), (120, 44624), (124, 44702),

Gene: Tedro_58 Start: 43107, Stop: 44738, Start Num: 19

Candidate Starts for Tedro_58:

(17, 43056), (Start: 19 @43107 has 69 MA's), (22, 43152), (24, 43182), (35, 43356), (36, 43374), (37, 43392), (46, 43626), (47, 43635), (52, 43692), (58, 43767), (60, 43779), (76, 44166), (81, 44247), (100, 44424), (101, 44433), (107, 44472), (120, 44634), (124, 44712),

Gene: Terij_78 Start: 47347, Stop: 48885, Start Num: 15

Candidate Starts for Terij_78:

(1, 46399), (3, 46915), (Start: 15 @47347 has 1 MA's), (Start: 19 @47410 has 69 MA's), (23, 47464), (30, 47608), (34, 47641), (59, 47956), (60, 47962), (70, 48148), (78, 48382), (81, 48433), (82, 48439), (88, 48514), (105, 48619), (109, 48655), (114, 48742), (119, 48787), (122, 48823), (123, 48844),

Gene: Yeti_82 Start: 46796, Stop: 48121, Start Num: 19

Candidate Starts for Yeti_82:

(Start: 19 @46796 has 69 MA's), (49, 47225), (59, 47339), (61, 47360), (69, 47516), (70, 47531), (74, 47633), (78, 47765), (102, 48017), (106, 48035), (108, 48056), (110, 48077), (111, 48080), (113, 48104),