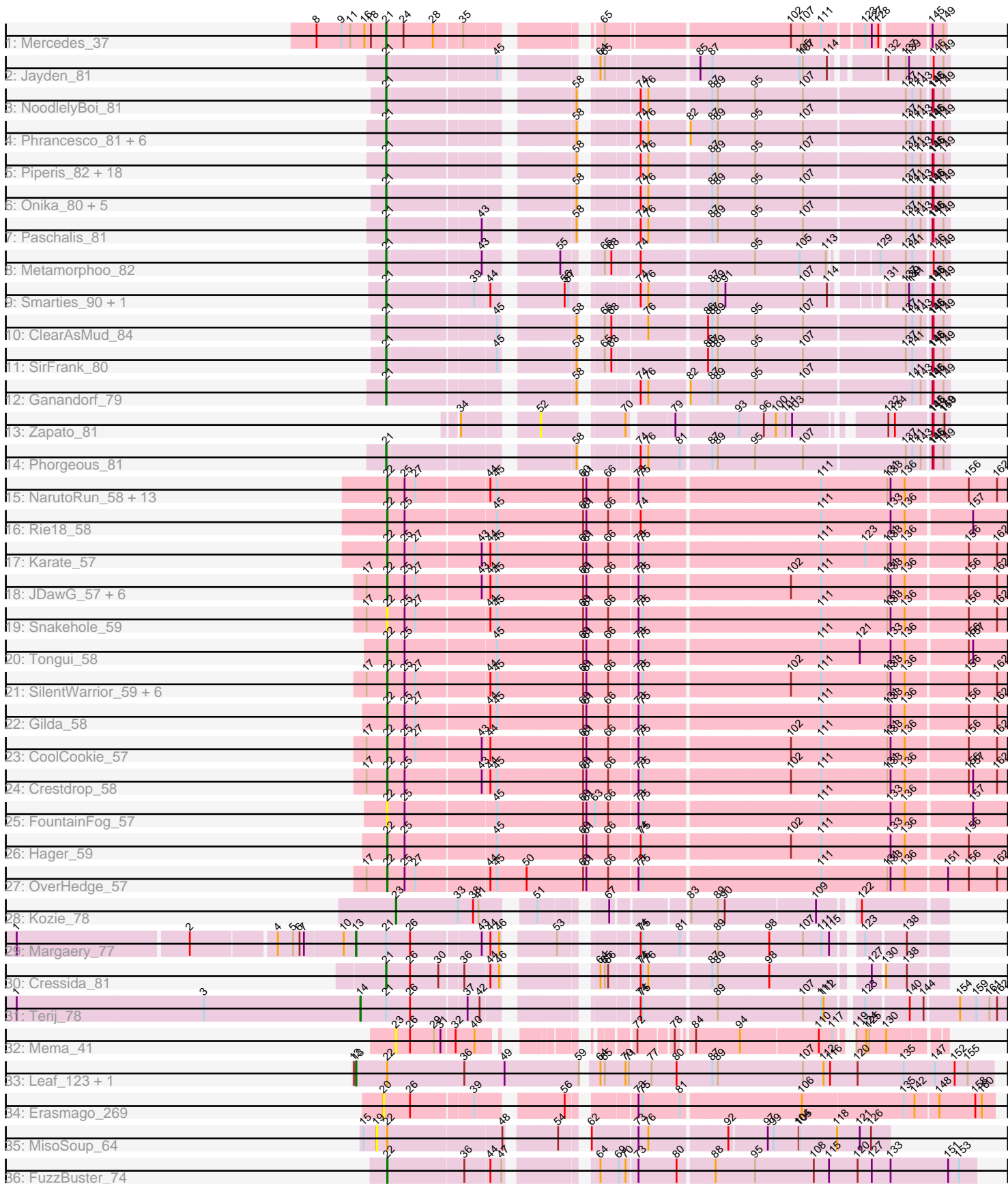


Pham 294618



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 294618 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294618 has 92 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Mercedes_37
- Track 2 : Jayden_81
- Track 3 : NoodlelyBoi_81
- Track 4 : Phrancesco_81, KaiHaiDragon_82, PhedwardCullen_78, EarickHC_82, Quhwah_85, Pulchra_83, CrazyRich_79
- Track 5 : Piperis_82, Savannah_80, Shotgun_80, Jollipop_82, BrazzalePHS_80, LittleFortune_82, Rockwell_80, PiperSansNom_82, Scumberland_83, Yeti_82, Jefe_81, Kowalski_80, Honeyfin_81, Ramiel05_80, Lucretia_81, PierreOrion_80, Cranjis_82, Crisis_82, Hermeonysus_81
- Track 6 : Onika_80, BeagleBug_80, Glorp_82, Selwyn23_82, Busephilis_80, Antares_81
- Track 7 : Paschalis_81
- Track 8 : Metamorphoo_82
- Track 9 : Smarties_90, Ariadne_90
- Track 10 : ClearAsMud_84
- Track 11 : SirFrank_80
- Track 12 : Ganandorf_79
- Track 13 : Zapato_81
- Track 14 : Phorgeous_81
- Track 15 : NarutoRun_58, Artiphact_57, Pharpay_57, AnnaSerena_58, Poultruss_57, Cybele_58, Kate_58, OhDear_58, Anakin_58, Rachella_58, PhunaPhoke_58, Neptune_58, Potty_57, Krampus_58
- Track 16 : Rie18_58
- Track 17 : Karate_57
- Track 18 : JDawG_57, MortySmith_56, Haunter_58, Tedro_58, Dauntless_57, Erudite_57, Aesir_57
- Track 19 : Snakehole_59
- Track 20 : Tongui_58
- Track 21 : SilentWarrior_59, Hiddenleaf_59, JingleBells_58, Chivey_59, FreddieHg_59, DannyDe_59, Annapurna_59
- Track 22 : Gilda_58
- Track 23 : CoolCookie_57
- Track 24 : Crestdrop_58
- Track 25 : FountainFog_57
- Track 26 : Hager_59
- Track 27 : OverHedge_57
- Track 28 : Kozie_78

- Track 29 : Margaery_77
- Track 30 : Cressida_81
- Track 31 : Terij_78
- Track 32 : Mema_41
- Track 33 : Leaf_123, Dewdrop_123
- Track 34 : Erasmago_269
- Track 35 : MisoSoup_64
- Track 36 : 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 21, it was called in 39 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Antares_81, Ariadne_90, BeagleBug_80, BrazzalePHS_80, Busephilis_80, ClearAsMud_84, Cranjis_82, CrazyRich_79, Cressida_81, Crisis_82, EarickHC_82, Ganandorf_79, Glorp_82, Hermeonysus_81, Honeyfin_81, Jayden_81, Jefe_81, Jollipop_82, KaiHaiDragon_82, Kowalski_80, LittleFortune_82, Lucretia_81, Mercedes_37, Metamorphoo_82, NoodlelyBoi_81, Onika_80, Paschalis_81, PhedwardCullen_78, Phorgeous_81, Phrancesco_81, PierreOrion_80, PiperSansNom_82, Piperis_82, Pulchra_83, Quhwah_85, Ramiel05_80, Rockwell_80, Savannah_80, Scumberland_83, Selwyn23_82, Shotgun_80, SirFrank_80, Smarties_90, Yeti_82,

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

- Margaery_77, Terij_78,

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

- Aesir_57, Anakin_58, AnnaSerena_58, Annapurna_59, Artiphact_57, Chivey_59, CoolCookie_57, Crestdrop_58, Cybele_58, DannyDe_59, Dauntless_57, Dewdrop_123, Erasmago_269, Erudite_57, FountainFog_57, FreddieHg_59, FuzzBuster_74, Gilda_58, Hager_59, Haunter_58, Hiddenleaf_59, JDawG_57, JingleBells_58, Karate_57, Kate_58, Kozie_78, Krampus_58, Leaf_123, Mema_41, MisoSoup_64, MortySmith_56, NarutoRun_58, Neptune_58, OhDear_58, OverHedge_57, Pharpay_57, PhunaPhoke_58, Potty_57, Poultruss_57, Rachella_58, Rie18_58, SilentWarrior_59, Snakehole_59, Tedro_58, Tongui_58, Zapato_81,

Summary by start number:

Start 13:

- Found in 3 of 92 (3.3%) of genes in pham
- Manual Annotations of this start: 3 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dewdrop_123 (GC), Leaf_123 (GC), Margaery_77 (EI),

Start 14:

- Found in 1 of 92 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 79

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Terij_78 (EI),

Start 19:

- Found in 1 of 92 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MisoSoup_64 (GM),

Start 20:

- Found in 1 of 92 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Erasmago_269 (GD2),

Start 21:

- Found in 46 of 92 (50.0%) of genes in pham
- Manual Annotations of this start: 39 of 79
- Called 95.7% of time when present
- Phage (with cluster) where this start called: Antares_81 (EC), Ariadne_90 (EC), BeagleBug_80 (EC), BrazzalePHS_80 (EC), Busephilis_80 (EC), ClearAsMud_84 (EC), Cranjis_82 (EC), CrazyRich_79 (EC), Cressida_81 (EI), Crisis_82 (EC), EarickHC_82 (EC), Ganandorf_79 (EC), Glorp_82 (EC), Hermeonysus_81 (EC), Honeyfin_81 (EC), Jayden_81 (EC), Jefe_81 (EC), Jollipop_82 (EC), KaiHaiDragon_82 (EC), Kowalski_80 (EC), LittleFortune_82 (EC), Lucretia_81 (EC), Mercedes_37 (EA), Metamorphoo_82 (EC), NoodlelyBoi_81 (EC), Onika_80 (EC), Paschalis_81 (EC), PhedwardCullen_78 (EC), Phorgeous_81 (EC), Phrancesco_81 (EC), PierreOrion_80 (EC), PiperSansNom_82 (EC), Piperis_82 (EC), Pulchra_83 (EC), Quhwah_85 (EC), Ramiel05_80 (EC), Rockwell_80 (EC), Savannah_80 (EC), Scumberland_83 (EC), Selwyn23_82 (EC), Shotgun_80 (EC), SirFrank_80 (EC), Smarties_90 (EC), Yeti_82 (EC),

Start 22:

- Found in 42 of 92 (45.7%) of genes in pham
- Manual Annotations of this start: 35 of 79
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Aesir_57 (EF), Anakin_58 (EF), AnnaSerena_58 (EF), Annapurna_59 (EF), Artiphact_57 (EF), Chivey_59 (EF), CoolCookie_57 (EF), Crestdrop_58 (EF), Cybele_58 (EF), DannyDe_59 (EF), Dauntless_57 (EF), Erudite_57 (EF), FountainFog_57 (EF), FreddieHg_59 (EF), FuzzBuster_74 (GM), Gilda_58 (EF), Hager_59 (EF), Haunter_58 (EF), Hiddenleaf_59 (EF), JDawG_57 (EF), JingleBells_58 (EF), Karate_57 (EF), Kate_58 (EF), Krampus_58 (EF), MortySmith_56 (EF), NarutoRun_58 (EF), Neptune_58 (EF), OhDear_58 (EF), OverHedge_57 (EF), Pharpay_57 (EF), PhunaPhoke_58 (EF), Potty_57 (EF), Poultruss_57 (EF), Rachella_58 (EF), Rie18_58 (EF), SilentWarrior_59 (EF), Snakehole_59 (EF), Tedro_58 (EF), Tongui_58 (EF),

Start 23:

- Found in 2 of 92 (2.2%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kozie_78 (EI), Mema_41 (EL),

Start 52:

- Found in 1 of 92 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zapato_81 (EC),

Summary by clusters:

There are 8 clusters represented in this pham: EL, GD2, EI, EF, EA, EC, GC, GM,

Info for manual annotations of cluster EA:

- Start number 21 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EC:

- Start number 21 was manually annotated 37 times for cluster EC.

Info for manual annotations of cluster EF:

- Start number 22 was manually annotated 34 times for cluster EF.

Info for manual annotations of cluster EI:

- Start number 13 was manually annotated 1 time for cluster EI.
- Start number 14 was manually annotated 1 time for cluster EI.
- Start number 21 was manually annotated 1 time for cluster EI.
- Start number 23 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.

Info for manual annotations of cluster GM:

- Start number 22 was manually annotated 1 time for cluster GM.

Gene Information:

Gene: Aesir_57 Start: 43316, Stop: 44947, Start Num: 22

Candidate Starts for Aesir_57:

(17, 43265), (Start: 22 @43316 has 35 MA's), (25, 43361), (27, 43391), (43, 43565), (44, 43583), (45, 43601), (60, 43835), (61, 43844), (66, 43901), (73, 43976), (75, 43988), (102, 44375), (111, 44456), (131, 44633), (133, 44642), (136, 44681), (156, 44843), (162, 44921),

Gene: Anakin_58 Start: 43655, Stop: 45286, Start Num: 22

Candidate Starts for Anakin_58:

(Start: 22 @43655 has 35 MA's), (25, 43700), (27, 43730), (44, 43922), (45, 43940), (60, 44174), (61, 44183), (66, 44240), (73, 44315), (75, 44327), (111, 44795), (131, 44972), (133, 44981), (136, 45020), (156, 45182), (162, 45260),

Gene: AnnaSerena_58 Start: 43689, Stop: 45320, Start Num: 22

Candidate Starts for AnnaSerena_58:

(Start: 22 @43689 has 35 MA's), (25, 43734), (27, 43764), (44, 43956), (45, 43974), (60, 44208), (61, 44217), (66, 44274), (73, 44349), (75, 44361), (111, 44829), (131, 45006), (133, 45015), (136, 45054),

(156, 45216), (162, 45294),

Gene: Annapurna_59 Start: 43165, Stop: 44796, Start Num: 22

Candidate Starts for Annapurna_59:

(17, 43114), (Start: 22 @43165 has 35 MA's), (25, 43210), (27, 43240), (44, 43432), (45, 43450), (60, 43684), (61, 43693), (66, 43750), (73, 43825), (75, 43837), (102, 44224), (111, 44305), (131, 44482), (133, 44491), (136, 44530), (156, 44692), (162, 44770),

Gene: Antares_81 Start: 47473, Stop: 48798, Start Num: 21

Candidate Starts for Antares_81:

(Start: 21 @47473 has 39 MA's), (58, 47902), (74, 48016), (76, 48037), (87, 48193), (89, 48208), (95, 48310), (107, 48442), (137, 48694), (141, 48712), (143, 48733), (145, 48754), (146, 48757), (149, 48781),

Gene: Ariadne_90 Start: 48355, Stop: 49632, Start Num: 21

Candidate Starts for Ariadne_90:

(Start: 21 @48355 has 39 MA's), (39, 48568), (44, 48607), (56, 48757), (57, 48766), (74, 48898), (76, 48919), (87, 49075), (89, 49090), (91, 49111), (107, 49324), (114, 49387), (131, 49486), (137, 49528), (139, 49537), (141, 49546), (145, 49588), (146, 49591), (149, 49615),

Gene: Artiphact_57 Start: 43679, Stop: 45310, Start Num: 22

Candidate Starts for Artiphact_57:

(Start: 22 @43679 has 35 MA's), (25, 43724), (27, 43754), (44, 43946), (45, 43964), (60, 44198), (61, 44207), (66, 44264), (73, 44339), (75, 44351), (111, 44819), (131, 44996), (133, 45005), (136, 45044), (156, 45206), (162, 45284),

Gene: BeagleBug_80 Start: 47276, Stop: 48601, Start Num: 21

Candidate Starts for BeagleBug_80:

(Start: 21 @47276 has 39 MA's), (58, 47705), (74, 47819), (76, 47840), (87, 47996), (89, 48011), (95, 48113), (107, 48245), (137, 48497), (141, 48515), (143, 48536), (145, 48557), (146, 48560), (149, 48584),

Gene: BrazzalePHS_80 Start: 47273, Stop: 48598, Start Num: 21

Candidate Starts for BrazzalePHS_80:

(Start: 21 @47273 has 39 MA's), (58, 47702), (74, 47816), (76, 47837), (87, 47993), (89, 48008), (95, 48110), (107, 48242), (137, 48494), (141, 48512), (143, 48533), (145, 48554), (146, 48557), (149, 48581),

Gene: Busephilis_80 Start: 47180, Stop: 48505, Start Num: 21

Candidate Starts for Busephilis_80:

(Start: 21 @47180 has 39 MA's), (58, 47609), (74, 47723), (76, 47744), (87, 47900), (89, 47915), (95, 48017), (107, 48149), (137, 48401), (141, 48419), (143, 48440), (145, 48461), (146, 48464), (149, 48488),

Gene: Chivey_59 Start: 43119, Stop: 44750, Start Num: 22

Candidate Starts for Chivey_59:

(17, 43068), (Start: 22 @43119 has 35 MA's), (25, 43164), (27, 43194), (44, 43386), (45, 43404), (60, 43638), (61, 43647), (66, 43704), (73, 43779), (75, 43791), (102, 44178), (111, 44259), (131, 44436), (133, 44445), (136, 44484), (156, 44646), (162, 44724),

Gene: ClearAsMud_84 Start: 47498, Stop: 48823, Start Num: 21

Candidate Starts for ClearAsMud_84:

(Start: 21 @47498 has 39 MA's), (45, 47768), (58, 47927), (65, 47957), (68, 47975), (76, 48062), (86, 48206), (87, 48218), (89, 48233), (95, 48335), (107, 48467), (137, 48719), (141, 48737), (143, 48758), (145, 48779), (146, 48782), (149, 48806),

Gene: CoolCookie_57 Start: 43699, Stop: 45330, Start Num: 22

Candidate Starts for CoolCookie_57:

(17, 43648), (Start: 22 @43699 has 35 MA's), (25, 43744), (27, 43774), (43, 43948), (44, 43966), (60, 44218), (61, 44227), (66, 44284), (73, 44359), (75, 44371), (102, 44758), (111, 44839), (131, 45016), (133, 45025), (136, 45064), (156, 45226), (162, 45304),

Gene: Cranjjs_82 Start: 47460, Stop: 48785, Start Num: 21

Candidate Starts for Cranjjs_82:

(Start: 21 @47460 has 39 MA's), (58, 47889), (74, 48003), (76, 48024), (87, 48180), (89, 48195), (95, 48297), (107, 48429), (137, 48681), (141, 48699), (143, 48720), (145, 48741), (146, 48744), (149, 48768),

Gene: CrazyRich_79 Start: 46970, Stop: 48295, Start Num: 21

Candidate Starts for CrazyRich_79:

(Start: 21 @46970 has 39 MA's), (58, 47399), (74, 47513), (76, 47534), (82, 47633), (87, 47690), (89, 47705), (95, 47807), (107, 47939), (137, 48191), (141, 48209), (143, 48230), (145, 48251), (146, 48254), (149, 48278),

Gene: Cressida_81 Start: 48489, Stop: 49766, Start Num: 21

Candidate Starts for Cressida_81:

(Start: 21 @48489 has 39 MA's), (26, 48546), (30, 48624), (36, 48681), (44, 48747), (46, 48771), (64, 48939), (65, 48948), (66, 48957), (74, 49032), (75, 49038), (76, 49053), (87, 49209), (89, 49224), (98, 49365), (127, 49593), (130, 49620), (138, 49668),

Gene: Crestdrop_58 Start: 43390, Stop: 45021, Start Num: 22

Candidate Starts for Crestdrop_58:

(17, 43339), (Start: 22 @43390 has 35 MA's), (25, 43435), (43, 43639), (44, 43657), (45, 43675), (60, 43909), (61, 43918), (66, 43975), (73, 44050), (75, 44062), (102, 44449), (111, 44530), (131, 44707), (133, 44716), (136, 44755), (156, 44917), (157, 44929), (162, 44995),

Gene: Crisis_82 Start: 47416, Stop: 48741, Start Num: 21

Candidate Starts for Crisis_82:

(Start: 21 @47416 has 39 MA's), (58, 47845), (74, 47959), (76, 47980), (87, 48136), (89, 48151), (95, 48253), (107, 48385), (137, 48637), (141, 48655), (143, 48676), (145, 48697), (146, 48700), (149, 48724),

Gene: Cybele_58 Start: 43673, Stop: 45316, Start Num: 22

Candidate Starts for Cybele_58:

(Start: 22 @43673 has 35 MA's), (25, 43718), (27, 43748), (44, 43940), (45, 43958), (60, 44192), (61, 44201), (66, 44258), (73, 44333), (75, 44345), (111, 44813), (131, 44990), (133, 44999), (136, 45038), (156, 45212), (162, 45290),

Gene: DannyDe_59 Start: 43120, Stop: 44751, Start Num: 22

Candidate Starts for DannyDe_59:

(17, 43069), (Start: 22 @43120 has 35 MA's), (25, 43165), (27, 43195), (44, 43387), (45, 43405), (60, 43639), (61, 43648), (66, 43705), (73, 43780), (75, 43792), (102, 44179), (111, 44260), (131, 44437), (133, 44446), (136, 44485), (156, 44647), (162, 44725),

Gene: Dauntless_57 Start: 43251, Stop: 44882, Start Num: 22

Candidate Starts for Dauntless_57:

(17, 43200), (Start: 22 @43251 has 35 MA's), (25, 43296), (27, 43326), (43, 43500), (44, 43518), (45, 43536), (60, 43770), (61, 43779), (66, 43836), (73, 43911), (75, 43923), (102, 44310), (111, 44391), (131, 44568), (133, 44577), (136, 44616), (156, 44778), (162, 44856),

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

Candidate Starts for Dewdrop_123:

(12, 75549), (Start: 13 @75555 has 3 MA's), (Start: 22 @75639 has 35 MA's), (36, 75849), (49, 75960), (59, 76164), (64, 76194), (65, 76203), (70, 76260), (71, 76269), (77, 76332), (80, 76398), (87, 76494), (89, 76509), (107, 76743), (112, 76800), (116, 76818), (120, 76893), (135, 77016), (147, 77100), (152, 77154), (155, 77190),

Gene: EarickHC_82 Start: 47338, Stop: 48663, Start Num: 21

Candidate Starts for EarickHC_82:

(Start: 21 @47338 has 39 MA's), (58, 47767), (74, 47881), (76, 47902), (82, 48001), (87, 48058), (89, 48073), (95, 48175), (107, 48307), (137, 48559), (141, 48577), (143, 48598), (145, 48619), (146, 48622), (149, 48646),

Gene: Erasmago_269 Start: 149411, Stop: 150913, Start Num: 20

Candidate Starts for Erasmago_269:

(20, 149411), (26, 149477), (39, 149639), (56, 149837), (73, 149978), (75, 149990), (81, 150089), (106, 150407), (135, 150674), (142, 150704), (148, 150761), (158, 150860), (160, 150878),

Gene: Erudite_57 Start: 43251, Stop: 44882, Start Num: 22

Candidate Starts for Erudite_57:

(17, 43200), (Start: 22 @43251 has 35 MA's), (25, 43296), (27, 43326), (43, 43500), (44, 43518), (45, 43536), (60, 43770), (61, 43779), (66, 43836), (73, 43911), (75, 43923), (102, 44310), (111, 44391), (131, 44568), (133, 44577), (136, 44616), (156, 44778), (162, 44856),

Gene: FountainFog_57 Start: 42893, Stop: 44521, Start Num: 22

Candidate Starts for FountainFog_57:

(Start: 22 @42893 has 35 MA's), (25, 42938), (45, 43178), (60, 43412), (61, 43421), (63, 43445), (66, 43478), (73, 43553), (75, 43565), (111, 44033), (133, 44219), (136, 44258), (157, 44429),

Gene: FreddieHg_59 Start: 43136, Stop: 44767, Start Num: 22

Candidate Starts for FreddieHg_59:

(17, 43085), (Start: 22 @43136 has 35 MA's), (25, 43181), (27, 43211), (44, 43403), (45, 43421), (60, 43655), (61, 43664), (66, 43721), (73, 43796), (75, 43808), (102, 44195), (111, 44276), (131, 44453), (133, 44462), (136, 44501), (156, 44663), (162, 44741),

Gene: FuzzBuster_74 Start: 44531, Stop: 43062, Start Num: 22

Candidate Starts for FuzzBuster_74:

(Start: 22 @44531 has 35 MA's), (36, 44333), (44, 44267), (47, 44237), (64, 44054), (69, 44006), (70, 43988), (73, 43961), (80, 43856), (88, 43766), (95, 43661), (108, 43505), (115, 43466), (120, 43388), (127, 43349), (133, 43298), (151, 43139), (153, 43109),

Gene: Ganandorf_79 Start: 46824, Stop: 48149, Start Num: 21

Candidate Starts for Ganandorf_79:

(Start: 21 @46824 has 39 MA's), (58, 47253), (74, 47367), (76, 47388), (82, 47487), (87, 47544), (89, 47559), (95, 47661), (107, 47793), (141, 48063), (143, 48084), (145, 48105), (146, 48108), (149, 48132),

Gene: Gilda_58 Start: 43677, Stop: 45308, Start Num: 22

Candidate Starts for Gilda_58:

(Start: 22 @43677 has 35 MA's), (25, 43722), (27, 43752), (44, 43944), (45, 43962), (60, 44196), (61, 44205), (66, 44262), (73, 44337), (75, 44349), (111, 44817), (131, 44994), (133, 45003), (136, 45042), (156, 45204), (162, 45282),

Gene: Glorp_82 Start: 47225, Stop: 48550, Start Num: 21

Candidate Starts for Glorp_82:

(Start: 21 @47225 has 39 MA's), (58, 47654), (74, 47768), (76, 47789), (87, 47945), (89, 47960), (95, 48062), (107, 48194), (137, 48446), (141, 48464), (143, 48485), (145, 48506), (146, 48509), (149, 48533),

Gene: Hager_59 Start: 43064, Stop: 44692, Start Num: 22

Candidate Starts for Hager_59:

(Start: 22 @43064 has 35 MA's), (25, 43109), (45, 43349), (60, 43583), (61, 43592), (66, 43649), (74, 43730), (75, 43736), (102, 44123), (111, 44204), (133, 44390), (136, 44429), (156, 44585),

Gene: Haunter_58 Start: 42889, Stop: 44520, Start Num: 22

Candidate Starts for Haunter_58:

(17, 42838), (Start: 22 @42889 has 35 MA's), (25, 42934), (27, 42964), (43, 43138), (44, 43156), (45, 43174), (60, 43408), (61, 43417), (66, 43474), (73, 43549), (75, 43561), (102, 43948), (111, 44029), (131, 44206), (133, 44215), (136, 44254), (156, 44416), (162, 44494),

Gene: Hermeonysus_81 Start: 47181, Stop: 48506, Start Num: 21

Candidate Starts for Hermeonysus_81:

(Start: 21 @47181 has 39 MA's), (58, 47610), (74, 47724), (76, 47745), (87, 47901), (89, 47916), (95, 48018), (107, 48150), (137, 48402), (141, 48420), (143, 48441), (145, 48462), (146, 48465), (149, 48489),

Gene: Hiddenleaf_59 Start: 43119, Stop: 44750, Start Num: 22

Candidate Starts for Hiddenleaf_59:

(17, 43068), (Start: 22 @43119 has 35 MA's), (25, 43164), (27, 43194), (44, 43386), (45, 43404), (60, 43638), (61, 43647), (66, 43704), (73, 43779), (75, 43791), (102, 44178), (111, 44259), (131, 44436), (133, 44445), (136, 44484), (156, 44646), (162, 44724),

Gene: Honeyfin_81 Start: 47014, Stop: 48339, Start Num: 21

Candidate Starts for Honeyfin_81:

(Start: 21 @47014 has 39 MA's), (58, 47443), (74, 47557), (76, 47578), (87, 47734), (89, 47749), (95, 47851), (107, 47983), (137, 48235), (141, 48253), (143, 48274), (145, 48295), (146, 48298), (149, 48322),

Gene: JDawG_57 Start: 43311, Stop: 44942, Start Num: 22

Candidate Starts for JDawG_57:

(17, 43260), (Start: 22 @43311 has 35 MA's), (25, 43356), (27, 43386), (43, 43560), (44, 43578), (45, 43596), (60, 43830), (61, 43839), (66, 43896), (73, 43971), (75, 43983), (102, 44370), (111, 44451), (131, 44628), (133, 44637), (136, 44676), (156, 44838), (162, 44916),

Gene: Jayden_81 Start: 46981, Stop: 48267, Start Num: 21

Candidate Starts for Jayden_81:

(Start: 21 @46981 has 39 MA's), (45, 47251), (64, 47434), (65, 47443), (85, 47671), (87, 47701), (105, 47941), (107, 47950), (114, 48013), (132, 48121), (137, 48163), (139, 48172), (146, 48226), (149, 48250),

Gene: Jefe_81 Start: 47236, Stop: 48561, Start Num: 21

Candidate Starts for Jefe_81:

(Start: 21 @47236 has 39 MA's), (58, 47665), (74, 47779), (76, 47800), (87, 47956), (89, 47971), (95, 48073), (107, 48205), (137, 48457), (141, 48475), (143, 48496), (145, 48517), (146, 48520), (149, 48544),

Gene: JingleBells_58 Start: 43225, Stop: 44856, Start Num: 22

Candidate Starts for JingleBells_58:

(17, 43174), (Start: 22 @43225 has 35 MA's), (25, 43270), (27, 43300), (44, 43492), (45, 43510), (60, 43744), (61, 43753), (66, 43810), (73, 43885), (75, 43897), (102, 44284), (111, 44365), (131, 44542), (133, 44551), (136, 44590), (156, 44752), (162, 44830),

Gene: Jollipop_82 Start: 47601, Stop: 48926, Start Num: 21

Candidate Starts for Jollipop_82:

(Start: 21 @47601 has 39 MA's), (58, 48030), (74, 48144), (76, 48165), (87, 48321), (89, 48336), (95, 48438), (107, 48570), (137, 48822), (141, 48840), (143, 48861), (145, 48882), (146, 48885), (149, 48909),

Gene: KaiHaiDragon_82 Start: 47338, Stop: 48663, Start Num: 21

Candidate Starts for KaiHaiDragon_82:

(Start: 21 @47338 has 39 MA's), (58, 47767), (74, 47881), (76, 47902), (82, 48001), (87, 48058), (89, 48073), (95, 48175), (107, 48307), (137, 48559), (141, 48577), (143, 48598), (145, 48619), (146, 48622), (149, 48646),

Gene: Karate_57 Start: 43493, Stop: 45124, Start Num: 22

Candidate Starts for Karate_57:

(Start: 22 @43493 has 35 MA's), (25, 43538), (27, 43568), (43, 43742), (44, 43760), (45, 43778), (60, 44012), (61, 44021), (66, 44078), (73, 44153), (75, 44165), (111, 44633), (123, 44753), (131, 44810), (133, 44819), (136, 44858), (156, 45020), (162, 45098),

Gene: Kate_58 Start: 43594, Stop: 45225, Start Num: 22

Candidate Starts for Kate_58:

(Start: 22 @43594 has 35 MA's), (25, 43639), (27, 43669), (44, 43861), (45, 43879), (60, 44113), (61, 44122), (66, 44179), (73, 44254), (75, 44266), (111, 44734), (131, 44911), (133, 44920), (136, 44959), (156, 45121), (162, 45199),

Gene: Kowalski_80 Start: 47268, Stop: 48593, Start Num: 21

Candidate Starts for Kowalski_80:

(Start: 21 @47268 has 39 MA's), (58, 47697), (74, 47811), (76, 47832), (87, 47988), (89, 48003), (95, 48105), (107, 48237), (137, 48489), (141, 48507), (143, 48528), (145, 48549), (146, 48552), (149, 48576),

Gene: Kozie_78 Start: 48031, Stop: 49293, Start Num: 23

Candidate Starts for Kozie_78:

(Start: 23 @48031 has 1 MA's), (33, 48199), (38, 48241), (41, 48256), (51, 48367), (67, 48505), (83, 48679), (89, 48751), (90, 48769), (109, 49009), (122, 49087),

Gene: Krampus_58 Start: 43690, Stop: 45321, Start Num: 22

Candidate Starts for Krampus_58:

(Start: 22 @43690 has 35 MA's), (25, 43735), (27, 43765), (44, 43957), (45, 43975), (60, 44209), (61, 44218), (66, 44275), (73, 44350), (75, 44362), (111, 44830), (131, 45007), (133, 45016), (136, 45055), (156, 45217), (162, 45295),

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

Candidate Starts for Leaf_123:

(12, 75549), (Start: 13 @75555 has 3 MA's), (Start: 22 @75639 has 35 MA's), (36, 75849), (49, 75960), (59, 76164), (64, 76194), (65, 76203), (70, 76260), (71, 76269), (77, 76332), (80, 76398), (87, 76494), (89, 76509), (107, 76743), (112, 76800), (116, 76818), (120, 76893), (135, 77016), (147, 77100), (152, 77154), (155, 77190),

Gene: LittleFortune_82 Start: 47257, Stop: 48582, Start Num: 21

Candidate Starts for LittleFortune_82:

(Start: 21 @47257 has 39 MA's), (58, 47686), (74, 47800), (76, 47821), (87, 47977), (89, 47992), (95, 48094), (107, 48226), (137, 48478), (141, 48496), (143, 48517), (145, 48538), (146, 48541), (149, 48565),

Gene: Lucretia_81 Start: 47310, Stop: 48635, Start Num: 21

Candidate Starts for Lucretia_81:

(Start: 21 @47310 has 39 MA's), (58, 47739), (74, 47853), (76, 47874), (87, 48030), (89, 48045), (95, 48147), (107, 48279), (137, 48531), (141, 48549), (143, 48570), (145, 48591), (146, 48594), (149, 48618),

Gene: Margaery_77 Start: 47888, Stop: 49243, Start Num: 13

Candidate Starts for Margaery_77:

(1, 47039), (2, 47486), (4, 47696), (5, 47732), (6, 47750), (7, 47762), (10, 47858), (Start: 13 @47888 has 3 MA's), (Start: 21 @47963 has 39 MA's), (26, 48017), (43, 48200), (44, 48218), (46, 48242), (53, 48341), (74, 48503), (75, 48509), (81, 48608), (89, 48695), (98, 48836), (107, 48929), (111, 48980), (115, 48998), (123, 49049), (138, 49145),

Gene: Mema_41 Start: 31761, Stop: 32876, Start Num: 23

Candidate Starts for Mema_41:

(Start: 23 @31761 has 1 MA's), (26, 31797), (29, 31863), (31, 31881), (32, 31914), (40, 31959), (72, 32199), (78, 32277), (84, 32310), (94, 32424), (110, 32619), (117, 32649), (119, 32670), (124, 32694), (125, 32700), (130, 32742),

Gene: Mercedes_37 Start: 29517, Stop: 28231, Start Num: 21

Candidate Starts for Mercedes_37:

(8, 29709), (9, 29640), (11, 29616), (16, 29577), (18, 29559), (Start: 21 @29517 has 39 MA's), (24, 29475), (28, 29394), (35, 29328), (65, 29061), (102, 28593), (107, 28563), (111, 28512), (123, 28419), (127, 28401), (128, 28383), (145, 28266), (149, 28239),

Gene: Metamorphoo_82 Start: 48066, Stop: 49349, Start Num: 21

Candidate Starts for Metamorphoo_82:

(Start: 21 @48066 has 39 MA's), (43, 48300), (55, 48456), (65, 48525), (68, 48543), (74, 48609), (95, 48903), (105, 49026), (113, 49095), (129, 49185), (137, 49245), (141, 49263), (146, 49308), (149, 49332),

Gene: MisoSoup_64 Start: 40326, Stop: 39097, Start Num: 19

Candidate Starts for MisoSoup_64:

(15, 40362), (19, 40326), (Start: 22 @40299 has 35 MA's), (48, 40005), (54, 39891), (62, 39843), (73, 39732), (76, 39705), (92, 39507), (97, 39417), (99, 39402), (104, 39336), (105, 39333), (118, 39240), (121, 39177), (126, 39147),

Gene: MortySmith_56 Start: 42725, Stop: 44356, Start Num: 22

Candidate Starts for MortySmith_56:

(17, 42674), (Start: 22 @42725 has 35 MA's), (25, 42770), (27, 42800), (43, 42974), (44, 42992), (45, 43010), (60, 43244), (61, 43253), (66, 43310), (73, 43385), (75, 43397), (102, 43784), (111, 43865),

(131, 44042), (133, 44051), (136, 44090), (156, 44252), (162, 44330),

Gene: NarutoRun_58 Start: 43655, Stop: 45286, Start Num: 22

Candidate Starts for NarutoRun_58:

(Start: 22 @43655 has 35 MA's), (25, 43700), (27, 43730), (44, 43922), (45, 43940), (60, 44174), (61, 44183), (66, 44240), (73, 44315), (75, 44327), (111, 44795), (131, 44972), (133, 44981), (136, 45020), (156, 45182), (162, 45260),

Gene: Neptune_58 Start: 43673, Stop: 45316, Start Num: 22

Candidate Starts for Neptune_58:

(Start: 22 @43673 has 35 MA's), (25, 43718), (27, 43748), (44, 43940), (45, 43958), (60, 44192), (61, 44201), (66, 44258), (73, 44333), (75, 44345), (111, 44813), (131, 44990), (133, 44999), (136, 45038), (156, 45212), (162, 45290),

Gene: NoodlelyBoi_81 Start: 47603, Stop: 48928, Start Num: 21

Candidate Starts for NoodlelyBoi_81:

(Start: 21 @47603 has 39 MA's), (58, 48032), (74, 48146), (76, 48167), (87, 48323), (89, 48338), (95, 48440), (107, 48572), (137, 48824), (141, 48842), (143, 48863), (145, 48884), (146, 48887), (149, 48911),

Gene: OhDear_58 Start: 43653, Stop: 45284, Start Num: 22

Candidate Starts for OhDear_58:

(Start: 22 @43653 has 35 MA's), (25, 43698), (27, 43728), (44, 43920), (45, 43938), (60, 44172), (61, 44181), (66, 44238), (73, 44313), (75, 44325), (111, 44793), (131, 44970), (133, 44979), (136, 45018), (156, 45180), (162, 45258),

Gene: Onika_80 Start: 47239, Stop: 48564, Start Num: 21

Candidate Starts for Onika_80:

(Start: 21 @47239 has 39 MA's), (58, 47668), (74, 47782), (76, 47803), (87, 47959), (89, 47974), (95, 48076), (107, 48208), (137, 48460), (141, 48478), (143, 48499), (145, 48520), (146, 48523), (149, 48547),

Gene: OverHedge_57 Start: 43551, Stop: 45182, Start Num: 22

Candidate Starts for OverHedge_57:

(17, 43500), (Start: 22 @43551 has 35 MA's), (25, 43596), (27, 43626), (44, 43818), (45, 43836), (50, 43917), (60, 44070), (61, 44079), (66, 44136), (73, 44211), (75, 44223), (111, 44691), (131, 44868), (133, 44877), (136, 44916), (151, 45021), (156, 45078), (162, 45156),

Gene: Paschalis_81 Start: 47266, Stop: 48591, Start Num: 21

Candidate Starts for Paschalis_81:

(Start: 21 @47266 has 39 MA's), (43, 47500), (58, 47695), (74, 47809), (76, 47830), (87, 47986), (89, 48001), (95, 48103), (107, 48235), (137, 48487), (141, 48505), (143, 48526), (145, 48547), (146, 48550), (149, 48574),

Gene: Pharpay_57 Start: 43700, Stop: 45331, Start Num: 22

Candidate Starts for Pharpay_57:

(Start: 22 @43700 has 35 MA's), (25, 43745), (27, 43775), (44, 43967), (45, 43985), (60, 44219), (61, 44228), (66, 44285), (73, 44360), (75, 44372), (111, 44840), (131, 45017), (133, 45026), (136, 45065), (156, 45227), (162, 45305),

Gene: PhedwardCullen_78 Start: 46717, Stop: 48042, Start Num: 21

Candidate Starts for PhedwardCullen_78:

(Start: 21 @46717 has 39 MA's), (58, 47146), (74, 47260), (76, 47281), (82, 47380), (87, 47437), (89, 47452), (95, 47554), (107, 47686), (137, 47938), (141, 47956), (143, 47977), (145, 47998), (146, 48001), (149, 48025),

Gene: Phorgeous_81 Start: 47055, Stop: 48380, Start Num: 21

Candidate Starts for Phorgeous_81:

(Start: 21 @47055 has 39 MA's), (58, 47484), (74, 47598), (76, 47619), (81, 47703), (87, 47775), (89, 47790), (95, 47892), (107, 48024), (137, 48276), (141, 48294), (143, 48315), (145, 48336), (146, 48339), (149, 48363),

Gene: Phrancesco_81 Start: 47366, Stop: 48691, Start Num: 21

Candidate Starts for Phrancesco_81:

(Start: 21 @47366 has 39 MA's), (58, 47795), (74, 47909), (76, 47930), (82, 48029), (87, 48086), (89, 48101), (95, 48203), (107, 48335), (137, 48587), (141, 48605), (143, 48626), (145, 48647), (146, 48650), (149, 48674),

Gene: PhunaPhoke_58 Start: 43670, Stop: 45301, Start Num: 22

Candidate Starts for PhunaPhoke_58:

(Start: 22 @43670 has 35 MA's), (25, 43715), (27, 43745), (44, 43937), (45, 43955), (60, 44189), (61, 44198), (66, 44255), (73, 44330), (75, 44342), (111, 44810), (131, 44987), (133, 44996), (136, 45035), (156, 45197), (162, 45275),

Gene: PierreOrion_80 Start: 47075, Stop: 48400, Start Num: 21

Candidate Starts for PierreOrion_80:

(Start: 21 @47075 has 39 MA's), (58, 47504), (74, 47618), (76, 47639), (87, 47795), (89, 47810), (95, 47912), (107, 48044), (137, 48296), (141, 48314), (143, 48335), (145, 48356), (146, 48359), (149, 48383),

Gene: PiperSansNom_82 Start: 47575, Stop: 48900, Start Num: 21

Candidate Starts for PiperSansNom_82:

(Start: 21 @47575 has 39 MA's), (58, 48004), (74, 48118), (76, 48139), (87, 48295), (89, 48310), (95, 48412), (107, 48544), (137, 48796), (141, 48814), (143, 48835), (145, 48856), (146, 48859), (149, 48883),

Gene: Piperis_82 Start: 47174, Stop: 48499, Start Num: 21

Candidate Starts for Piperis_82:

(Start: 21 @47174 has 39 MA's), (58, 47603), (74, 47717), (76, 47738), (87, 47894), (89, 47909), (95, 48011), (107, 48143), (137, 48395), (141, 48413), (143, 48434), (145, 48455), (146, 48458), (149, 48482),

Gene: Potty_57 Start: 43600, Stop: 45231, Start Num: 22

Candidate Starts for Potty_57:

(Start: 22 @43600 has 35 MA's), (25, 43645), (27, 43675), (44, 43867), (45, 43885), (60, 44119), (61, 44128), (66, 44185), (73, 44260), (75, 44272), (111, 44740), (131, 44917), (133, 44926), (136, 44965), (156, 45127), (162, 45205),

Gene: Poultruss_57 Start: 43897, Stop: 45528, Start Num: 22

Candidate Starts for Poultruss_57:

(Start: 22 @43897 has 35 MA's), (25, 43942), (27, 43972), (44, 44164), (45, 44182), (60, 44416), (61, 44425), (66, 44482), (73, 44557), (75, 44569), (111, 45037), (131, 45214), (133, 45223), (136, 45262), (156, 45424), (162, 45502),

Gene: Pulchra_83 Start: 47741, Stop: 49066, Start Num: 21

Candidate Starts for Pulchra_83:

(Start: 21 @47741 has 39 MA's), (58, 48170), (74, 48284), (76, 48305), (82, 48404), (87, 48461), (89, 48476), (95, 48578), (107, 48710), (137, 48962), (141, 48980), (143, 49001), (145, 49022), (146, 49025), (149, 49049),

Gene: Quhwah_85 Start: 47895, Stop: 49220, Start Num: 21

Candidate Starts for Quhwah_85:

(Start: 21 @47895 has 39 MA's), (58, 48324), (74, 48438), (76, 48459), (82, 48558), (87, 48615), (89, 48630), (95, 48732), (107, 48864), (137, 49116), (141, 49134), (143, 49155), (145, 49176), (146, 49179), (149, 49203),

Gene: Rachella_58 Start: 43681, Stop: 45312, Start Num: 22

Candidate Starts for Rachella_58:

(Start: 22 @43681 has 35 MA's), (25, 43726), (27, 43756), (44, 43948), (45, 43966), (60, 44200), (61, 44209), (66, 44266), (73, 44341), (75, 44353), (111, 44821), (131, 44998), (133, 45007), (136, 45046), (156, 45208), (162, 45286),

Gene: Ramiel05_80 Start: 47268, Stop: 48593, Start Num: 21

Candidate Starts for Ramiel05_80:

(Start: 21 @47268 has 39 MA's), (58, 47697), (74, 47811), (76, 47832), (87, 47988), (89, 48003), (95, 48105), (107, 48237), (137, 48489), (141, 48507), (143, 48528), (145, 48549), (146, 48552), (149, 48576),

Gene: Rie18_58 Start: 43470, Stop: 45098, Start Num: 22

Candidate Starts for Rie18_58:

(Start: 22 @43470 has 35 MA's), (25, 43515), (45, 43755), (60, 43989), (61, 43998), (66, 44055), (74, 44136), (111, 44610), (133, 44796), (136, 44835), (157, 45006),

Gene: Rockwell_80 Start: 47292, Stop: 48617, Start Num: 21

Candidate Starts for Rockwell_80:

(Start: 21 @47292 has 39 MA's), (58, 47721), (74, 47835), (76, 47856), (87, 48012), (89, 48027), (95, 48129), (107, 48261), (137, 48513), (141, 48531), (143, 48552), (145, 48573), (146, 48576), (149, 48600),

Gene: Savannah_80 Start: 47460, Stop: 48785, Start Num: 21

Candidate Starts for Savannah_80:

(Start: 21 @47460 has 39 MA's), (58, 47889), (74, 48003), (76, 48024), (87, 48180), (89, 48195), (95, 48297), (107, 48429), (137, 48681), (141, 48699), (143, 48720), (145, 48741), (146, 48744), (149, 48768),

Gene: Scumberland_83 Start: 47514, Stop: 48839, Start Num: 21

Candidate Starts for Scumberland_83:

(Start: 21 @47514 has 39 MA's), (58, 47943), (74, 48057), (76, 48078), (87, 48234), (89, 48249), (95, 48351), (107, 48483), (137, 48735), (141, 48753), (143, 48774), (145, 48795), (146, 48798), (149, 48822),

Gene: Selwyn23_82 Start: 47399, Stop: 48724, Start Num: 21

Candidate Starts for Selwyn23_82:

(Start: 21 @47399 has 39 MA's), (58, 47828), (74, 47942), (76, 47963), (87, 48119), (89, 48134), (95, 48236), (107, 48368), (137, 48620), (141, 48638), (143, 48659), (145, 48680), (146, 48683), (149, 48707),

Gene: Shotgun_80 Start: 46770, Stop: 48095, Start Num: 21

Candidate Starts for Shotgun_80:

(Start: 21 @46770 has 39 MA's), (58, 47199), (74, 47313), (76, 47334), (87, 47490), (89, 47505), (95, 47607), (107, 47739), (137, 47991), (141, 48009), (143, 48030), (145, 48051), (146, 48054), (149, 48078),

Gene: SilentWarrior_59 Start: 43086, Stop: 44717, Start Num: 22

Candidate Starts for SilentWarrior_59:

(17, 43035), (Start: 22 @43086 has 35 MA's), (25, 43131), (27, 43161), (44, 43353), (45, 43371), (60, 43605), (61, 43614), (66, 43671), (73, 43746), (75, 43758), (102, 44145), (111, 44226), (131, 44403), (133, 44412), (136, 44451), (156, 44613), (162, 44691),

Gene: SirFrank_80 Start: 47190, Stop: 48515, Start Num: 21

Candidate Starts for SirFrank_80:

(Start: 21 @47190 has 39 MA's), (45, 47460), (58, 47619), (65, 47649), (68, 47667), (86, 47898), (87, 47910), (89, 47925), (95, 48027), (107, 48159), (137, 48411), (141, 48429), (145, 48471), (146, 48474), (149, 48498),

Gene: Smarties_90 Start: 48352, Stop: 49629, Start Num: 21

Candidate Starts for Smarties_90:

(Start: 21 @48352 has 39 MA's), (39, 48565), (44, 48604), (56, 48754), (57, 48763), (74, 48895), (76, 48916), (87, 49072), (89, 49087), (91, 49108), (107, 49321), (114, 49384), (131, 49483), (137, 49525), (139, 49534), (141, 49543), (145, 49585), (146, 49588), (149, 49612),

Gene: Snakehole_59 Start: 43097, Stop: 44728, Start Num: 22

Candidate Starts for Snakehole_59:

(17, 43046), (Start: 22 @43097 has 35 MA's), (25, 43142), (27, 43172), (44, 43364), (45, 43382), (60, 43616), (61, 43625), (66, 43682), (73, 43757), (75, 43769), (111, 44237), (131, 44414), (133, 44423), (136, 44462), (156, 44624), (162, 44702),

Gene: Tedro_58 Start: 43107, Stop: 44738, Start Num: 22

Candidate Starts for Tedro_58:

(17, 43056), (Start: 22 @43107 has 35 MA's), (25, 43152), (27, 43182), (43, 43356), (44, 43374), (45, 43392), (60, 43626), (61, 43635), (66, 43692), (73, 43767), (75, 43779), (102, 44166), (111, 44247), (131, 44424), (133, 44433), (136, 44472), (156, 44634), (162, 44712),

Gene: Terij_78 Start: 47347, Stop: 48885, Start Num: 14

Candidate Starts for Terij_78:

(1, 46399), (3, 46915), (Start: 14 @47347 has 1 MA's), (Start: 21 @47410 has 39 MA's), (26, 47464), (37, 47608), (42, 47641), (74, 47956), (75, 47962), (89, 48148), (107, 48382), (111, 48433), (112, 48439), (123, 48514), (140, 48619), (144, 48655), (154, 48742), (159, 48787), (161, 48823), (162, 48844),

Gene: Tongui_58 Start: 43376, Stop: 45001, Start Num: 22

Candidate Starts for Tongui_58:

(Start: 22 @43376 has 35 MA's), (25, 43421), (45, 43661), (60, 43895), (61, 43904), (66, 43961), (73, 44036), (75, 44048), (111, 44516), (121, 44621), (133, 44702), (136, 44741), (156, 44897), (157, 44909),

Gene: Yeti_82 Start: 46796, Stop: 48121, Start Num: 21

Candidate Starts for Yeti_82:

(Start: 21 @46796 has 39 MA's), (58, 47225), (74, 47339), (76, 47360), (87, 47516), (89, 47531), (95, 47633), (107, 47765), (137, 48017), (141, 48035), (143, 48056), (145, 48077), (146, 48080), (149, 48104),

Gene: Zapato_81 Start: 47662, Stop: 48594, Start Num: 52

Candidate Starts for Zapato_81:

(34, 47506), (52, 47662), (70, 47848), (79, 47953), (93, 48115), (96, 48178), (100, 48211), (101, 48238), (103, 48256), (132, 48445), (134, 48463), (145, 48550), (146, 48553), (149, 48577), (150, 48580),