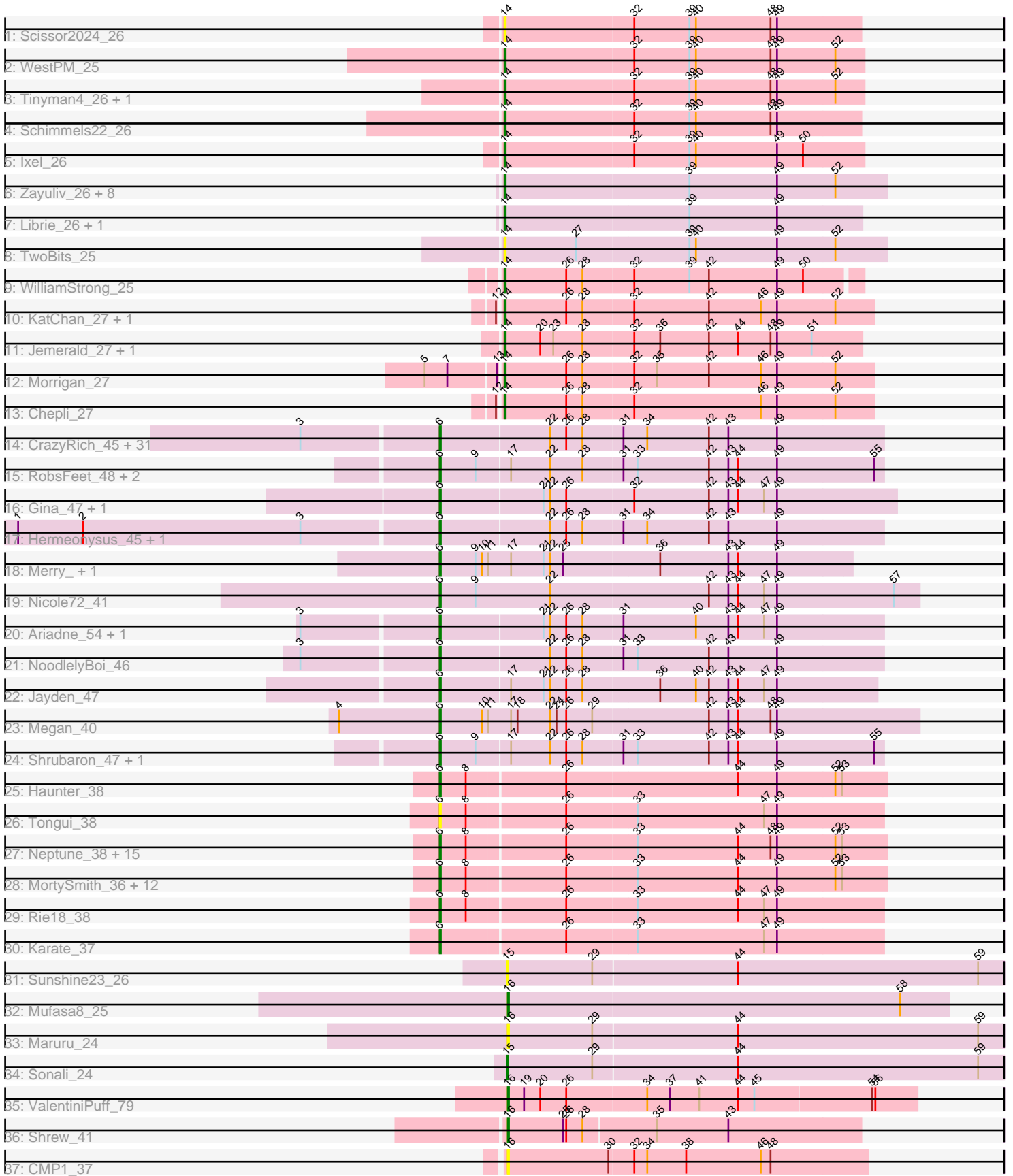


Pham 212443



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 212443 Report

This analysis was run 02/22/25 on database version 588.

Pham number 212443 has 114 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Scissor2024_26
- Track 2 : WestPM_25
- Track 3 : Tinyman4_26, HerculesXL_26
- Track 4 : Schimmels22_26
- Track 5 : Ixel_26
- Track 6 : Zayuliv_26, LilTerminator_27, Zepp_27, QuadZero_26, Fulton_26, Greenlvy_26, Wardwill_28, BaronJohn_27, Hasitha_26
- Track 7 : Librie_26, CaptainRex_26
- Track 8 : TwoBits_25
- Track 9 : WilliamStrong_25
- Track 10 : KatChan_27, Luna18_27
- Track 11 : Jemerald_27, Juicer_27
- Track 12 : Morrigan_27
- Track 13 : Chepli_27
- Track 14 : CrazyRich_45, EarickHC_46, Selwyn23_47, Ramiel05_45, SirFrank_45, Glorp_47, Ganandorf_45, Honeyfin_47, Kowalski_45, Busephilis_45, PierreOrion_46, Jefe_46, Piperis_46, Cranjis_47, Antares_46, KaiHaiDragon_46, Crisis_47, Phorgeous_45, Quhwah_49, Onika_45, Phrancesco_46, Shotgun_45, BrazzalePHS_45, PhedwardCullen_44, Paschalis_45, Savannah_45, Scumberland_47, ClearAsMud_48, Yeti_46, Jollipop_46, LittleFortune_47, PiperSansNom_46
- Track 15 : RobsFeet_48, Tyumbra_45, Fireman_47
- Track 16 : Gina_47, Teamocil_47
- Track 17 : Hermeonysus_45, Pulchra_47
- Track 18 : Merry_, Sunny_
- Track 19 : Nicole72_41
- Track 20 : Ariadne_54, Smarties_54
- Track 21 : NoodlelyBoi_46
- Track 22 : Jayden_47
- Track 23 : Megan_40
- Track 24 : Shrubaron_47, Metamorphoo_47
- Track 25 : Haunter_38
- Track 26 : Tongui_38
- Track 27 : Neptune_38, Pharpay_38, Snakehole_38, CoolCookie_38, Anakin_38, OverHedge_38, Rachella_38, AnnaSerena_38, PhunaPhoke_38, Artiphact_38, Potty_38, Tedro_38, Cybele_38, NarutoRun_38, Krampus_38, Gilda_38

- Track 28 : MortySmith_36, DannyDe_37, Poultruss_37, Kate_38, Hiddenleaf_37, SilentWarrior_37, JingleBells_37, Crestdrop_37, FreddieHg_37, Aesir_37, Annapurna_38, JDawG_37, Chivey_37
- Track 29 : Rie18_38
- Track 30 : Karate_37
- Track 31 : Sunshine23_26
- Track 32 : Mufasa8_25
- Track 33 : Maruru_24
- Track 34 : Sonali_24
- Track 35 : ValentiniPuff_79
- Track 36 : Shrew_41
- Track 37 : CMP1_37

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

The start number called the most often in the published annotations is 6, it was called in 72 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aesir_37, Anakin_38, AnnaSerena_38, Annapurna_38, Antares_46, Ariadne_54, Artiphact_38, BrazzalePHS_45, Busephilis_45, Chivey_37, ClearAsMud_48, CoolCookie_38, Cranjis_47, CrazyRich_45, Crestdrop_37, Crisis_47, Cybele_38, DannyDe_37, EarickHC_46, Fireman_47, FreddieHg_37, Ganandorf_45, Gilda_38, Gina_47, Glorp_47, Haunter_38, Hermeonysus_45, Hiddenleaf_37, Honeyfin_47, JDawG_37, Jayden_47, Jefe_46, JingleBells_37, Jollipop_46, KaiHaiDragon_46, Karate_37, Kate_38, Kowalski_45, Krampus_38, LittleFortune_47, Megan_40, Merry_, Metamorphoo_47, MortySmith_36, NarutoRun_38, Neptune_38, Nicole72_41, NoodlelyBoi_46, Onika_45, OverHedge_38, Paschalis_45, Pharpay_38, PhedwardCullen_44, Phorgeous_45, Phrancesco_46, PhunaPhoke_38, PierreOrion_46, PiperSansNom_46, Piperis_46, Potty_38, Poultruss_37, Pulchra_47, Quhwah_49, Rachella_38, Ramiel05_45, Rie18_38, RobsFeet_48, Savannah_45, Scumberland_47, Selwyn23_47, Shotgun_45, Shrubaron_47, SilentWarrior_37, SirFrank_45, Smarties_54, Snakehole_38, Sunny_, Teamocil_47, Tedro_38, Tongui_38, Tyrumbra_45, Yeti_46,

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

-

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

- BaronJohn_27, CMP1_37, CaptainRex_26, Chepli_27, Fulton_26, Greenlvy_26, Hasitha_26, HerculesXL_26, Ixel_26, Jemerald_27, Juicer_27, KatChan_27, Librie_26, LilTerminator_27, Luna18_27, Maruru_24, Morrigan_27, Mufasa8_25, QuadZero_26, Schimmels22_26, Scissor2024_26, Shrew_41, Sonali_24, Sunshine23_26, Tinyman4_26, TwoBits_25, ValentiniPuff_79, Wardwill_28, WestPM_25, WilliamStrong_25, Zayuliv_26, Zepp_27,

Summary by start number:

Start 6:

- Found in 82 of 114 (71.9%) of genes in pham

- Manual Annotations of this start: 72 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir_37 (EF), Anakin_38 (EF), AnnaSerena_38 (EF), Annapurna_38 (EF), Antares_46 (EC), Ariadne_54 (EC), Artiphact_38 (EF), BrazzalePHS_45 (EC), Busephilis_45 (EC), Chivey_37 (EF), ClearAsMud_48 (EC), CoolCookie_38 (EF), Cranjjs_47 (EC), CrazyRich_45 (EC), Crestdrop_37 (EF), Crisis_47 (EC), Cybele_38 (EF), DannyDe_37 (EF), EarickHC_46 (EC), Fireman_47 (EC), FreddieHg_37 (EF), Ganandorf_45 (EC), Gilda_38 (EF), Gina_47 (EC), Glorp_47 (EC), Haunter_38 (EF), Hermeonysus_45 (EC), Hiddenleaf_37 (EF), Honeyfin_47 (EC), JDawG_37 (EF), Jayden_47 (EC), Jefe_46 (EC), JingleBells_37 (EF), Jollipop_46 (EC), KaiHaiDragon_46 (EC), Karate_37 (EF), Kate_38 (EF), Kowalski_45 (EC), Krampus_38 (EF), LittleFortune_47 (EC), Megan_40 (EC), Merry_ (EC), Metamorphoo_47 (EC), MortySmith_36 (EF), NarutoRun_38 (EF), Neptune_38 (EF), Nicole72_41 (EC), NoodlelyBoi_46 (EC), Onika_45 (EC), OverHedge_38 (EF), Paschalis_45 (EC), Pharpay_38 (EF), PhedwardCullen_44 (EC), Phorgeous_45 (EC), Phrancesco_46 (EC), PhunaPhoke_38 (EF), PierreOrion_46 (EC), PiperSansNom_46 (EC), Piperis_46 (EC), Potty_38 (EF), Poultruss_37 (EF), Pulchra_47 (EC), Quhwah_49 (EC), Rachella_38 (EF), Ramiel05_45 (EC), Rie18_38 (EF), RobsFeet_48 (EC), Savannah_45 (EC), Scumberland_47 (EC), Selwyn23_47 (EC), Shotgun_45 (EC), Shrubaron_47 (EC), SilentWarrior_37 (EF), SirFrank_45 (EC), Smarties_54 (EC), Snakehole_38 (EF), Sunny_ (EC), Teamocil_47 (EC), Tedro_38 (EF), Tongui_38 (EF), Tyumbra_45 (EC), Yeti_46 (EC),

Start 14:

- Found in 25 of 114 (21.9%) of genes in pham
- Manual Annotations of this start: 20 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaronJohn_27 (EA5), CaptainRex_26 (EA5), Chepli_27 (EA6), Fulton_26 (EA5), Greenlvy_26 (EA5), Hasitha_26 (EA5), HerculesXL_26 (EA11), Ixel_26 (EA11), Jemerald_27 (EA6), Juicer_27 (EA6), KatChan_27 (EA6), Librie_26 (EA5), LilTerminator_27 (EA5), Luna18_27 (EA6), Morrigan_27 (EA6), QuadZero_26 (EA5), Schimmels22_26 (EA11), Scissor2024_26 (EA11), Tinyman4_26 (EA11), TwoBits_25 (EA5), Wardwill_28 (EA5), WestPM_25 (EA11), WilliamStrong_25 (EA6), Zayuliv_26 (EA5), Zepp_27 (EA5),

Start 15:

- Found in 2 of 114 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sonali_24 (FG), Sunshine23_26 (FG),

Start 16:

- Found in 5 of 114 (4.4%) of genes in pham
- Manual Annotations of this start: 3 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CMP1_37 (singleton), Maruru_24 (FG), Mufasa8_25 (FG), Shrew_41 (singleton), ValentiniPuff_79 (singleton),

Summary by clusters:

There are 7 clusters represented in this pham: singleton, EA11, EF, EC, FG, EA5, EA6,

Info for manual annotations of cluster EA11:

- Start number 14 was manually annotated 5 times for cluster EA11.

Info for manual annotations of cluster EA5:

- Start number 14 was manually annotated 8 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 14 was manually annotated 7 times for cluster EA6.

Info for manual annotations of cluster EC:

- Start number 6 was manually annotated 44 times for cluster EC.

Info for manual annotations of cluster EF:

- Start number 6 was manually annotated 28 times for cluster EF.

Info for manual annotations of cluster FG:

- Start number 15 was manually annotated 1 time for cluster FG.
- Start number 16 was manually annotated 1 time for cluster FG.

Gene Information:

Gene: Aesir_37 Start: 24476, Stop: 24877, Start Num: 6

Candidate Starts for Aesir_37:

(Start: 6 @24476 has 72 MA's), (8, 24500), (26, 24587), (33, 24650), (44, 24743), (49, 24779), (52, 24830), (53, 24836),

Gene: Anakin_38 Start: 24796, Stop: 25197, Start Num: 6

Candidate Starts for Anakin_38:

(Start: 6 @24796 has 72 MA's), (8, 24820), (26, 24907), (33, 24970), (44, 25063), (48, 25093), (49, 25099), (52, 25150), (53, 25156),

Gene: AnnaSerena_38 Start: 24831, Stop: 25232, Start Num: 6

Candidate Starts for AnnaSerena_38:

(Start: 6 @24831 has 72 MA's), (8, 24855), (26, 24942), (33, 25005), (44, 25098), (48, 25128), (49, 25134), (52, 25185), (53, 25191),

Gene: Annapurna_38 Start: 23938, Stop: 24339, Start Num: 6

Candidate Starts for Annapurna_38:

(Start: 6 @23938 has 72 MA's), (8, 23962), (26, 24049), (33, 24112), (44, 24205), (49, 24241), (52, 24292), (53, 24298),

Gene: Antares_46 Start: 32014, Stop: 32415, Start Num: 6

Candidate Starts for Antares_46:

(3, 31891), (Start: 6 @32014 has 72 MA's), (22, 32113), (26, 32128), (28, 32143), (31, 32179), (34, 32200), (42, 32257), (43, 32275), (49, 32320),

Gene: Ariadne_54 Start: 33634, Stop: 34035, Start Num: 6

Candidate Starts for Ariadne_54:

(3, 33511), (Start: 6 @33634 has 72 MA's), (21, 33727), (22, 33733), (26, 33748), (28, 33763), (31, 33799), (40, 33865), (43, 33895), (44, 33904), (47, 33928), (49, 33940),

Gene: Artiphact_38 Start: 24820, Stop: 25221, Start Num: 6

Candidate Starts for Artiphact_38:

(Start: 6 @24820 has 72 MA's), (8, 24844), (26, 24931), (33, 24994), (44, 25087), (48, 25117), (49, 25123), (52, 25174), (53, 25180),

Gene: BaronJohn_27 Start: 19174, Stop: 19521, Start Num: 14

Candidate Starts for BaronJohn_27:

(Start: 14 @19174 has 20 MA's), (39, 19342), (49, 19423), (52, 19474),

Gene: BrazzalePHS_45 Start: 31809, Stop: 32210, Start Num: 6

Candidate Starts for BrazzalePHS_45:

(3, 31686), (Start: 6 @31809 has 72 MA's), (22, 31908), (26, 31923), (28, 31938), (31, 31974), (34, 31995), (42, 32052), (43, 32070), (49, 32115),

Gene: Busephilis_45 Start: 31750, Stop: 32151, Start Num: 6

Candidate Starts for Busephilis_45:

(3, 31627), (Start: 6 @31750 has 72 MA's), (22, 31849), (26, 31864), (28, 31879), (31, 31915), (34, 31936), (42, 31993), (43, 32011), (49, 32056),

Gene: CMP1_37 Start: 36378, Stop: 36704, Start Num: 16

Candidate Starts for CMP1_37:

(Start: 16 @36378 has 3 MA's), (30, 36471), (32, 36492), (34, 36504), (38, 36540), (46, 36609), (48, 36618),

Gene: CaptainRex_26 Start: 18608, Stop: 18931, Start Num: 14

Candidate Starts for CaptainRex_26:

(Start: 14 @18608 has 20 MA's), (39, 18776), (49, 18857),

Gene: Chepli_27 Start: 19263, Stop: 19598, Start Num: 14

Candidate Starts for Chepli_27:

(12, 19260), (Start: 14 @19263 has 20 MA's), (26, 19320), (28, 19335), (32, 19380), (46, 19497), (49, 19512), (52, 19563),

Gene: Chivey_37 Start: 23887, Stop: 24288, Start Num: 6

Candidate Starts for Chivey_37:

(Start: 6 @23887 has 72 MA's), (8, 23911), (26, 23998), (33, 24061), (44, 24154), (49, 24190), (52, 24241), (53, 24247),

Gene: ClearAsMud_48 Start: 31890, Stop: 32291, Start Num: 6

Candidate Starts for ClearAsMud_48:

(3, 31767), (Start: 6 @31890 has 72 MA's), (22, 31989), (26, 32004), (28, 32019), (31, 32055), (34, 32076), (42, 32133), (43, 32151), (49, 32196),

Gene: CoolCookie_38 Start: 24826, Stop: 25227, Start Num: 6

Candidate Starts for CoolCookie_38:

(Start: 6 @24826 has 72 MA's), (8, 24850), (26, 24937), (33, 25000), (44, 25093), (48, 25123), (49, 25129), (52, 25180), (53, 25186),

Gene: Cranjis_47 Start: 31969, Stop: 32370, Start Num: 6

Candidate Starts for Cranjis_47:

(3, 31846), (Start: 6 @31969 has 72 MA's), (22, 32068), (26, 32083), (28, 32098), (31, 32134), (34, 32155), (42, 32212), (43, 32230), (49, 32275),

Gene: CrazyRich_45 Start: 31778, Stop: 32179, Start Num: 6

Candidate Starts for CrazyRich_45:

(3, 31655), (Start: 6 @31778 has 72 MA's), (22, 31877), (26, 31892), (28, 31907), (31, 31943), (34, 31964), (42, 32021), (43, 32039), (49, 32084),

Gene: Crestdrop_37 Start: 23798, Stop: 24199, Start Num: 6

Candidate Starts for Crestdrop_37:

(Start: 6 @23798 has 72 MA's), (8, 23822), (26, 23909), (33, 23972), (44, 24065), (49, 24101), (52, 24152), (53, 24158),

Gene: Crisis_47 Start: 31769, Stop: 32170, Start Num: 6

Candidate Starts for Crisis_47:

(3, 31646), (Start: 6 @31769 has 72 MA's), (22, 31868), (26, 31883), (28, 31898), (31, 31934), (34, 31955), (42, 32012), (43, 32030), (49, 32075),

Gene: Cybele_38 Start: 24796, Stop: 25197, Start Num: 6

Candidate Starts for Cybele_38:

(Start: 6 @24796 has 72 MA's), (8, 24820), (26, 24907), (33, 24970), (44, 25063), (48, 25093), (49, 25099), (52, 25150), (53, 25156),

Gene: DannyDe_37 Start: 23893, Stop: 24294, Start Num: 6

Candidate Starts for DannyDe_37:

(Start: 6 @23893 has 72 MA's), (8, 23917), (26, 24004), (33, 24067), (44, 24160), (49, 24196), (52, 24247), (53, 24253),

Gene: EarickHC_46 Start: 31692, Stop: 32093, Start Num: 6

Candidate Starts for EarickHC_46:

(3, 31569), (Start: 6 @31692 has 72 MA's), (22, 31791), (26, 31806), (28, 31821), (31, 31857), (34, 31878), (42, 31935), (43, 31953), (49, 31998),

Gene: Fireman_47 Start: 33300, Stop: 33701, Start Num: 6

Candidate Starts for Fireman_47:

(Start: 6 @33300 has 72 MA's), (9, 33333), (17, 33363), (22, 33399), (28, 33429), (31, 33465), (33, 33477), (42, 33543), (43, 33561), (44, 33570), (49, 33606), (55, 33693),

Gene: FreddieHg_37 Start: 23903, Stop: 24304, Start Num: 6

Candidate Starts for FreddieHg_37:

(Start: 6 @23903 has 72 MA's), (8, 23927), (26, 24014), (33, 24077), (44, 24170), (49, 24206), (52, 24257), (53, 24263),

Gene: Fulton_26 Start: 18590, Stop: 18937, Start Num: 14

Candidate Starts for Fulton_26:

(Start: 14 @18590 has 20 MA's), (39, 18758), (49, 18839), (52, 18890),

Gene: Ganandorf_45 Start: 31831, Stop: 32232, Start Num: 6

Candidate Starts for Ganandorf_45:

(3, 31708), (Start: 6 @31831 has 72 MA's), (22, 31930), (26, 31945), (28, 31960), (31, 31996), (34, 32017), (42, 32074), (43, 32092), (49, 32137),

Gene: Gilda_38 Start: 24820, Stop: 25221, Start Num: 6

Candidate Starts for Gilda_38:

(Start: 6 @24820 has 72 MA's), (8, 24844), (26, 24931), (33, 24994), (44, 25087), (48, 25117), (49, 25123), (52, 25174), (53, 25180),

Gene: Gina_47 Start: 31433, Stop: 31846, Start Num: 6

Candidate Starts for Gina_47:

(Start: 6 @31433 has 72 MA's), (21, 31526), (22, 31532), (26, 31547), (32, 31607), (42, 31676), (43, 31694), (44, 31703), (47, 31727), (49, 31739),

Gene: Glorp_47 Start: 31832, Stop: 32233, Start Num: 6

Candidate Starts for Glorp_47:

(3, 31709), (Start: 6 @31832 has 72 MA's), (22, 31931), (26, 31946), (28, 31961), (31, 31997), (34, 32018), (42, 32075), (43, 32093), (49, 32138),

Gene: Greenlvy_26 Start: 19176, Stop: 19523, Start Num: 14

Candidate Starts for Greenlvy_26:

(Start: 14 @19176 has 20 MA's), (39, 19344), (49, 19425), (52, 19476),

Gene: Hasitha_26 Start: 18602, Stop: 18949, Start Num: 14

Candidate Starts for Hasitha_26:

(Start: 14 @18602 has 20 MA's), (39, 18770), (49, 18851), (52, 18902),

Gene: Haunter_38 Start: 24212, Stop: 24613, Start Num: 6

Candidate Starts for Haunter_38:

(Start: 6 @24212 has 72 MA's), (8, 24236), (26, 24323), (44, 24479), (49, 24515), (52, 24566), (53, 24572),

Gene: HerculesXL_26 Start: 18674, Stop: 19000, Start Num: 14

Candidate Starts for HerculesXL_26:

(Start: 14 @18674 has 20 MA's), (32, 18791), (39, 18842), (40, 18848), (48, 18917), (49, 18923), (52, 18974),

Gene: Hermeonysus_45 Start: 31698, Stop: 32099, Start Num: 6

Candidate Starts for Hermeonysus_45:

(1, 31314), (2, 31374), (3, 31575), (Start: 6 @31698 has 72 MA's), (22, 31797), (26, 31812), (28, 31827), (31, 31863), (34, 31884), (42, 31941), (43, 31959), (49, 32004),

Gene: Hiddenleaf_37 Start: 23887, Stop: 24288, Start Num: 6

Candidate Starts for Hiddenleaf_37:

(Start: 6 @23887 has 72 MA's), (8, 23911), (26, 23998), (33, 24061), (44, 24154), (49, 24190), (52, 24241), (53, 24247),

Gene: Honeyfin_47 Start: 32019, Stop: 32420, Start Num: 6

Candidate Starts for Honeyfin_47:

(3, 31896), (Start: 6 @32019 has 72 MA's), (22, 32118), (26, 32133), (28, 32148), (31, 32184), (34, 32205), (42, 32262), (43, 32280), (49, 32325),

Gene: Ixel_26 Start: 18510, Stop: 18836, Start Num: 14

Candidate Starts for Ixel_26:

(Start: 14 @18510 has 20 MA's), (32, 18627), (39, 18678), (40, 18684), (49, 18759), (50, 18783),

Gene: JDawG_37 Start: 24471, Stop: 24872, Start Num: 6

Candidate Starts for JDawG_37:

(Start: 6 @24471 has 72 MA's), (8, 24495), (26, 24582), (33, 24645), (44, 24738), (49, 24774), (52, 24825), (53, 24831),

Gene: Jayden_47 Start: 32140, Stop: 32535, Start Num: 6

Candidate Starts for Jayden_47:

(Start: 6 @32140 has 72 MA's), (17, 32203), (21, 32233), (22, 32239), (26, 32254), (28, 32269), (36, 32338), (40, 32371), (42, 32383), (43, 32401), (44, 32410), (47, 32434), (49, 32446),

Gene: Jefe_46 Start: 31756, Stop: 32157, Start Num: 6

Candidate Starts for Jefe_46:

(3, 31633), (Start: 6 @31756 has 72 MA's), (22, 31855), (26, 31870), (28, 31885), (31, 31921), (34, 31942), (42, 31999), (43, 32017), (49, 32062),

Gene: Jemerald_27 Start: 20196, Stop: 20519, Start Num: 14

Candidate Starts for Jemerald_27:

(Start: 14 @20196 has 20 MA's), (20, 20229), (23, 20241), (28, 20268), (32, 20313), (36, 20337), (42, 20382), (44, 20409), (48, 20439), (49, 20445), (51, 20475),

Gene: JingleBells_37 Start: 24008, Stop: 24409, Start Num: 6

Candidate Starts for JingleBells_37:

(Start: 6 @24008 has 72 MA's), (8, 24032), (26, 24119), (33, 24182), (44, 24275), (49, 24311), (52, 24362), (53, 24368),

Gene: Jollipop_46 Start: 32095, Stop: 32496, Start Num: 6

Candidate Starts for Jollipop_46:

(3, 31972), (Start: 6 @32095 has 72 MA's), (22, 32194), (26, 32209), (28, 32224), (31, 32260), (34, 32281), (42, 32338), (43, 32356), (49, 32401),

Gene: Juicer_27 Start: 20196, Stop: 20519, Start Num: 14

Candidate Starts for Juicer_27:

(Start: 14 @20196 has 20 MA's), (20, 20229), (23, 20241), (28, 20268), (32, 20313), (36, 20337), (42, 20382), (44, 20409), (48, 20439), (49, 20445), (51, 20475),

Gene: KaiHaiDragon_46 Start: 31692, Stop: 32093, Start Num: 6

Candidate Starts for KaiHaiDragon_46:

(3, 31569), (Start: 6 @31692 has 72 MA's), (22, 31791), (26, 31806), (28, 31821), (31, 31857), (34, 31878), (42, 31935), (43, 31953), (49, 31998),

Gene: Karate_37 Start: 24819, Stop: 25217, Start Num: 6

Candidate Starts for Karate_37:

(Start: 6 @24819 has 72 MA's), (26, 24930), (33, 24993), (47, 25110), (49, 25122),

Gene: KatChan_27 Start: 19269, Stop: 19604, Start Num: 14

Candidate Starts for KatChan_27:

(12, 19266), (Start: 14 @19269 has 20 MA's), (26, 19326), (28, 19341), (32, 19386), (42, 19455), (46, 19503), (49, 19518), (52, 19569),

Gene: Kate_38 Start: 24828, Stop: 25229, Start Num: 6

Candidate Starts for Kate_38:

(Start: 6 @24828 has 72 MA's), (8, 24852), (26, 24939), (33, 25002), (44, 25095), (49, 25131), (52, 25182), (53, 25188),

Gene: Kowalski_45 Start: 31805, Stop: 32206, Start Num: 6

Candidate Starts for Kowalski_45:

(3, 31682), (Start: 6 @31805 has 72 MA's), (22, 31904), (26, 31919), (28, 31934), (31, 31970), (34, 31991), (42, 32048), (43, 32066), (49, 32111),

Gene: Krampus_38 Start: 24828, Stop: 25229, Start Num: 6

Candidate Starts for Krampus_38:

(Start: 6 @24828 has 72 MA's), (8, 24852), (26, 24939), (33, 25002), (44, 25095), (48, 25125), (49, 25131), (52, 25182), (53, 25188),

Gene: Librie_26 Start: 18608, Stop: 18931, Start Num: 14

Candidate Starts for Librie_26:

(Start: 14 @18608 has 20 MA's), (39, 18776), (49, 18857),

Gene: LilTerminator_27 Start: 18608, Stop: 18955, Start Num: 14

Candidate Starts for LilTerminator_27:

(Start: 14 @18608 has 20 MA's), (39, 18776), (49, 18857), (52, 18908),

Gene: LittleFortune_47 Start: 32061, Stop: 32462, Start Num: 6

Candidate Starts for LittleFortune_47:

(3, 31938), (Start: 6 @32061 has 72 MA's), (22, 32160), (26, 32175), (28, 32190), (31, 32226), (34, 32247), (42, 32304), (43, 32322), (49, 32367),

Gene: Luna18_27 Start: 19269, Stop: 19604, Start Num: 14

Candidate Starts for Luna18_27:

(12, 19266), (Start: 14 @19269 has 20 MA's), (26, 19326), (28, 19341), (32, 19386), (42, 19455), (46, 19503), (49, 19518), (52, 19569),

Gene: Maruru_24 Start: 23469, Stop: 23924, Start Num: 16

Candidate Starts for Maruru_24:

(Start: 16 @23469 has 3 MA's), (29, 23547), (44, 23679), (59, 23901),

Gene: Megan_40 Start: 32577, Stop: 33014, Start Num: 6

Candidate Starts for Megan_40:

(4, 32484), (Start: 6 @32577 has 72 MA's), (10, 32616), (11, 32622), (17, 32643), (18, 32649), (22, 32679), (24, 32685), (26, 32694), (29, 32718), (42, 32823), (43, 32841), (44, 32850), (48, 32880), (49, 32886),

Gene: Merry_ Start: 33347, Stop: 33721, Start Num: 6

Candidate Starts for Merry_:

(Start: 6 @33347 has 72 MA's), (9, 33380), (10, 33386), (11, 33392), (17, 33413), (21, 33443), (22, 33449), (25, 33461), (36, 33548), (43, 33611), (44, 33620), (49, 33656),

Gene: Metamorphoo_47 Start: 32562, Stop: 32963, Start Num: 6

Candidate Starts for Metamorphoo_47:

(Start: 6 @32562 has 72 MA's), (9, 32595), (17, 32625), (22, 32661), (26, 32676), (28, 32691), (31, 32727), (33, 32739), (42, 32805), (43, 32823), (44, 32832), (49, 32868), (55, 32955),

Gene: Morrigan_27 Start: 20156, Stop: 20491, Start Num: 14

Candidate Starts for Morrigan_27:

(5, 20090), (7, 20111), (13, 20153), (Start: 14 @20156 has 20 MA's), (26, 20213), (28, 20228), (32, 20273), (35, 20294), (42, 20342), (46, 20390), (49, 20405), (52, 20456),

Gene: MortySmith_36 Start: 23859, Stop: 24260, Start Num: 6

Candidate Starts for MortySmith_36:

(Start: 6 @23859 has 72 MA's), (8, 23883), (26, 23970), (33, 24033), (44, 24126), (49, 24162), (52, 24213), (53, 24219),

Gene: Mufasa8_25 Start: 23961, Stop: 24362, Start Num: 16

Candidate Starts for Mufasa8_25:

(Start: 16 @23961 has 3 MA's), (58, 24318),

Gene: NarutoRun_38 Start: 24796, Stop: 25197, Start Num: 6

Candidate Starts for NarutoRun_38:

(Start: 6 @24796 has 72 MA's), (8, 24820), (26, 24907), (33, 24970), (44, 25063), (48, 25093), (49, 25099), (52, 25150), (53, 25156),

Gene: Neptune_38 Start: 24796, Stop: 25197, Start Num: 6

Candidate Starts for Neptune_38:

(Start: 6 @24796 has 72 MA's), (8, 24820), (26, 24907), (33, 24970), (44, 25063), (48, 25093), (49, 25099), (52, 25150), (53, 25156),

Gene: Nicole72_41 Start: 33423, Stop: 33860, Start Num: 6

Candidate Starts for Nicole72_41:

(Start: 6 @33423 has 72 MA's), (9, 33456), (22, 33525), (42, 33669), (43, 33687), (44, 33696), (47, 33720), (49, 33732), (57, 33837),

Gene: NoodlelyBoi_46 Start: 32103, Stop: 32504, Start Num: 6

Candidate Starts for NoodlelyBoi_46:

(3, 31980), (Start: 6 @32103 has 72 MA's), (22, 32202), (26, 32217), (28, 32232), (31, 32268), (33, 32280), (42, 32346), (43, 32364), (49, 32409),

Gene: Onika_45 Start: 31780, Stop: 32181, Start Num: 6

Candidate Starts for Onika_45:

(3, 31657), (Start: 6 @31780 has 72 MA's), (22, 31879), (26, 31894), (28, 31909), (31, 31945), (34, 31966), (42, 32023), (43, 32041), (49, 32086),

Gene: OverHedge_38 Start: 24786, Stop: 25187, Start Num: 6

Candidate Starts for OverHedge_38:

(Start: 6 @24786 has 72 MA's), (8, 24810), (26, 24897), (33, 24960), (44, 25053), (48, 25083), (49, 25089), (52, 25140), (53, 25146),

Gene: Paschalis_45 Start: 31787, Stop: 32188, Start Num: 6

Candidate Starts for Paschalis_45:

(3, 31664), (Start: 6 @31787 has 72 MA's), (22, 31886), (26, 31901), (28, 31916), (31, 31952), (34, 31973), (42, 32030), (43, 32048), (49, 32093),

Gene: Pharpay_38 Start: 24841, Stop: 25242, Start Num: 6

Candidate Starts for Pharpay_38:

(Start: 6 @24841 has 72 MA's), (8, 24865), (26, 24952), (33, 25015), (44, 25108), (48, 25138), (49, 25144), (52, 25195), (53, 25201),

Gene: PhedwardCullen_44 Start: 31538, Stop: 31939, Start Num: 6

Candidate Starts for PhedwardCullen_44:

(3, 31415), (Start: 6 @31538 has 72 MA's), (22, 31637), (26, 31652), (28, 31667), (31, 31703), (34, 31724), (42, 31781), (43, 31799), (49, 31844),

Gene: Phorgeous_45 Start: 31650, Stop: 32051, Start Num: 6
Candidate Starts for Phorgeous_45:
(3, 31527), (Start: 6 @31650 has 72 MA's), (22, 31749), (26, 31764), (28, 31779), (31, 31815), (34, 31836), (42, 31893), (43, 31911), (49, 31956),

Gene: Phrancesco_46 Start: 31940, Stop: 32341, Start Num: 6
Candidate Starts for Phrancesco_46:
(3, 31817), (Start: 6 @31940 has 72 MA's), (22, 32039), (26, 32054), (28, 32069), (31, 32105), (34, 32126), (42, 32183), (43, 32201), (49, 32246),

Gene: PhunaPhoke_38 Start: 24814, Stop: 25215, Start Num: 6
Candidate Starts for PhunaPhoke_38:
(Start: 6 @24814 has 72 MA's), (8, 24838), (26, 24925), (33, 24988), (44, 25081), (48, 25111), (49, 25117), (52, 25168), (53, 25174),

Gene: PierreOrion_46 Start: 31954, Stop: 32355, Start Num: 6
Candidate Starts for PierreOrion_46:
(3, 31831), (Start: 6 @31954 has 72 MA's), (22, 32053), (26, 32068), (28, 32083), (31, 32119), (34, 32140), (42, 32197), (43, 32215), (49, 32260),

Gene: PiperSansNom_46 Start: 32094, Stop: 32495, Start Num: 6
Candidate Starts for PiperSansNom_46:
(3, 31971), (Start: 6 @32094 has 72 MA's), (22, 32193), (26, 32208), (28, 32223), (31, 32259), (34, 32280), (42, 32337), (43, 32355), (49, 32400),

Gene: Piperis_46 Start: 31773, Stop: 32174, Start Num: 6
Candidate Starts for Piperis_46:
(3, 31650), (Start: 6 @31773 has 72 MA's), (22, 31872), (26, 31887), (28, 31902), (31, 31938), (34, 31959), (42, 32016), (43, 32034), (49, 32079),

Gene: Potty_38 Start: 24819, Stop: 25220, Start Num: 6
Candidate Starts for Potty_38:
(Start: 6 @24819 has 72 MA's), (8, 24843), (26, 24930), (33, 24993), (44, 25086), (48, 25116), (49, 25122), (52, 25173), (53, 25179),

Gene: Poultruss_37 Start: 25165, Stop: 25566, Start Num: 6
Candidate Starts for Poultruss_37:
(Start: 6 @25165 has 72 MA's), (8, 25189), (26, 25276), (33, 25339), (44, 25432), (49, 25468), (52, 25519), (53, 25525),

Gene: Pulchra_47 Start: 32170, Stop: 32571, Start Num: 6
Candidate Starts for Pulchra_47:
(1, 31786), (2, 31846), (3, 32047), (Start: 6 @32170 has 72 MA's), (22, 32269), (26, 32284), (28, 32299), (31, 32335), (34, 32356), (42, 32413), (43, 32431), (49, 32476),

Gene: QuadZero_26 Start: 18612, Stop: 18959, Start Num: 14
Candidate Starts for QuadZero_26:
(Start: 14 @18612 has 20 MA's), (39, 18780), (49, 18861), (52, 18912),

Gene: Quhwah_49 Start: 32402, Stop: 32803, Start Num: 6
Candidate Starts for Quhwah_49:
(3, 32279), (Start: 6 @32402 has 72 MA's), (22, 32501), (26, 32516), (28, 32531), (31, 32567), (34, 32588), (42, 32645), (43, 32663), (49, 32708),

Gene: Rachella_38 Start: 24822, Stop: 25223, Start Num: 6

Candidate Starts for Rachella_38:

(Start: 6 @24822 has 72 MA's), (8, 24846), (26, 24933), (33, 24996), (44, 25089), (48, 25119), (49, 25125), (52, 25176), (53, 25182),

Gene: Ramiel05_45 Start: 31805, Stop: 32206, Start Num: 6

Candidate Starts for Ramiel05_45:

(3, 31682), (Start: 6 @31805 has 72 MA's), (22, 31904), (26, 31919), (28, 31934), (31, 31970), (34, 31991), (42, 32048), (43, 32066), (49, 32111),

Gene: Rie18_38 Start: 24311, Stop: 24709, Start Num: 6

Candidate Starts for Rie18_38:

(Start: 6 @24311 has 72 MA's), (8, 24335), (26, 24422), (33, 24485), (44, 24578), (47, 24602), (49, 24614),

Gene: RobsFeet_48 Start: 32843, Stop: 33244, Start Num: 6

Candidate Starts for RobsFeet_48:

(Start: 6 @32843 has 72 MA's), (9, 32876), (17, 32906), (22, 32942), (28, 32972), (31, 33008), (33, 33020), (42, 33086), (43, 33104), (44, 33113), (49, 33149), (55, 33236),

Gene: Savannah_45 Start: 31832, Stop: 32233, Start Num: 6

Candidate Starts for Savannah_45:

(3, 31709), (Start: 6 @31832 has 72 MA's), (22, 31931), (26, 31946), (28, 31961), (31, 31997), (34, 32018), (42, 32075), (43, 32093), (49, 32138),

Gene: Schimmels22_26 Start: 19037, Stop: 19360, Start Num: 14

Candidate Starts for Schimmels22_26:

(Start: 14 @19037 has 20 MA's), (32, 19154), (39, 19205), (40, 19211), (48, 19280), (49, 19286),

Gene: Scissor2024_26 Start: 18673, Stop: 18996, Start Num: 14

Candidate Starts for Scissor2024_26:

(Start: 14 @18673 has 20 MA's), (32, 18790), (39, 18841), (40, 18847), (48, 18916), (49, 18922),

Gene: Scumberland_47 Start: 32027, Stop: 32428, Start Num: 6

Candidate Starts for Scumberland_47:

(3, 31904), (Start: 6 @32027 has 72 MA's), (22, 32126), (26, 32141), (28, 32156), (31, 32192), (34, 32213), (42, 32270), (43, 32288), (49, 32333),

Gene: Selwyn23_47 Start: 32004, Stop: 32405, Start Num: 6

Candidate Starts for Selwyn23_47:

(3, 31881), (Start: 6 @32004 has 72 MA's), (22, 32103), (26, 32118), (28, 32133), (31, 32169), (34, 32190), (42, 32247), (43, 32265), (49, 32310),

Gene: Shotgun_45 Start: 31631, Stop: 32032, Start Num: 6

Candidate Starts for Shotgun_45:

(3, 31508), (Start: 6 @31631 has 72 MA's), (22, 31730), (26, 31745), (28, 31760), (31, 31796), (34, 31817), (42, 31874), (43, 31892), (49, 31937),

Gene: Shrew_41 Start: 15755, Stop: 16075, Start Num: 16

Candidate Starts for Shrew_41:

(Start: 16 @15755 has 3 MA's), (25, 15806), (26, 15809), (28, 15824), (35, 15890), (43, 15956),

Gene: Shrubaron_47 Start: 32477, Stop: 32878, Start Num: 6

Candidate Starts for Shrubaron_47:

(Start: 6 @32477 has 72 MA's), (9, 32510), (17, 32540), (22, 32576), (26, 32591), (28, 32606), (31, 32642), (33, 32654), (42, 32720), (43, 32738), (44, 32747), (49, 32783), (55, 32870),

Gene: SilentWarrior_37 Start: 23900, Stop: 24301, Start Num: 6

Candidate Starts for SilentWarrior_37:

(Start: 6 @23900 has 72 MA's), (8, 23924), (26, 24011), (33, 24074), (44, 24167), (49, 24203), (52, 24254), (53, 24260),

Gene: SirFrank_45 Start: 31673, Stop: 32074, Start Num: 6

Candidate Starts for SirFrank_45:

(3, 31550), (Start: 6 @31673 has 72 MA's), (22, 31772), (26, 31787), (28, 31802), (31, 31838), (34, 31859), (42, 31916), (43, 31934), (49, 31979),

Gene: Smarties_54 Start: 33634, Stop: 34035, Start Num: 6

Candidate Starts for Smarties_54:

(3, 33511), (Start: 6 @33634 has 72 MA's), (21, 33727), (22, 33733), (26, 33748), (28, 33763), (31, 33799), (40, 33865), (43, 33895), (44, 33904), (47, 33928), (49, 33940),

Gene: Snakehole_38 Start: 23999, Stop: 24400, Start Num: 6

Candidate Starts for Snakehole_38:

(Start: 6 @23999 has 72 MA's), (8, 24023), (26, 24110), (33, 24173), (44, 24266), (48, 24296), (49, 24302), (52, 24353), (53, 24359),

Gene: Sonali_24 Start: 24016, Stop: 24471, Start Num: 15

Candidate Starts for Sonali_24:

(Start: 15 @24016 has 1 MA's), (29, 24094), (44, 24226), (59, 24448),

Gene: Sunny_ Start: 33349, Stop: 33723, Start Num: 6

Candidate Starts for Sunny_:

(Start: 6 @33349 has 72 MA's), (9, 33382), (10, 33388), (11, 33394), (17, 33415), (21, 33445), (22, 33451), (25, 33463), (36, 33550), (43, 33613), (44, 33622), (49, 33658),

Gene: Sunshine23_26 Start: 24033, Stop: 24488, Start Num: 15

Candidate Starts for Sunshine23_26:

(Start: 15 @24033 has 1 MA's), (29, 24111), (44, 24243), (59, 24465),

Gene: Teamocil_47 Start: 31532, Stop: 31945, Start Num: 6

Candidate Starts for Teamocil_47:

(Start: 6 @31532 has 72 MA's), (21, 31625), (22, 31631), (26, 31646), (32, 31706), (42, 31775), (43, 31793), (44, 31802), (47, 31826), (49, 31838),

Gene: Tedro_38 Start: 24292, Stop: 24693, Start Num: 6

Candidate Starts for Tedro_38:

(Start: 6 @24292 has 72 MA's), (8, 24316), (26, 24403), (33, 24466), (44, 24559), (48, 24589), (49, 24595), (52, 24646), (53, 24652),

Gene: Tinyman4_26 Start: 18674, Stop: 19000, Start Num: 14

Candidate Starts for Tinyman4_26:

(Start: 14 @18674 has 20 MA's), (32, 18791), (39, 18842), (40, 18848), (48, 18917), (49, 18923), (52, 18974),

Gene: Tongui_38 Start: 24250, Stop: 24648, Start Num: 6
Candidate Starts for Tongui_38:
(Start: 6 @24250 has 72 MA's), (8, 24274), (26, 24361), (33, 24424), (47, 24541), (49, 24553),

Gene: TwoBits_25 Start: 18989, Stop: 19336, Start Num: 14
Candidate Starts for TwoBits_25:
(Start: 14 @18989 has 20 MA's), (27, 19055), (39, 19157), (40, 19163), (49, 19238), (52, 19289),

Gene: Tyrumbra_45 Start: 32643, Stop: 33044, Start Num: 6
Candidate Starts for Tyrumbra_45:
(Start: 6 @32643 has 72 MA's), (9, 32676), (17, 32706), (22, 32742), (28, 32772), (31, 32808), (33, 32820), (42, 32886), (43, 32904), (44, 32913), (49, 32949), (55, 33036),

Gene: ValentiniPuff_79 Start: 47112, Stop: 47483, Start Num: 16
Candidate Starts for ValentiniPuff_79:
(Start: 16 @47112 has 3 MA's), (19, 47127), (20, 47142), (26, 47166), (34, 47238), (37, 47259), (41, 47286), (44, 47322), (45, 47337), (54, 47442), (56, 47445),

Gene: Wardwill_28 Start: 18770, Stop: 19117, Start Num: 14
Candidate Starts for Wardwill_28:
(Start: 14 @18770 has 20 MA's), (39, 18938), (49, 19019), (52, 19070),

Gene: WestPM_25 Start: 18517, Stop: 18843, Start Num: 14
Candidate Starts for WestPM_25:
(Start: 14 @18517 has 20 MA's), (32, 18634), (39, 18685), (40, 18691), (48, 18760), (49, 18766), (52, 18817),

Gene: WilliamStrong_25 Start: 20264, Stop: 20584, Start Num: 14
Candidate Starts for WilliamStrong_25:
(Start: 14 @20264 has 20 MA's), (26, 20321), (28, 20336), (32, 20381), (39, 20432), (42, 20450), (49, 20513), (50, 20537),

Gene: Yeti_46 Start: 31806, Stop: 32207, Start Num: 6
Candidate Starts for Yeti_46:
(3, 31683), (Start: 6 @31806 has 72 MA's), (22, 31905), (26, 31920), (28, 31935), (31, 31971), (34, 31992), (42, 32049), (43, 32067), (49, 32112),

Gene: Zayuliv_26 Start: 19198, Stop: 19545, Start Num: 14
Candidate Starts for Zayuliv_26:
(Start: 14 @19198 has 20 MA's), (39, 19366), (49, 19447), (52, 19498),

Gene: Zepp_27 Start: 18596, Stop: 18943, Start Num: 14
Candidate Starts for Zepp_27:
(Start: 14 @18596 has 20 MA's), (39, 18764), (49, 18845), (52, 18896),