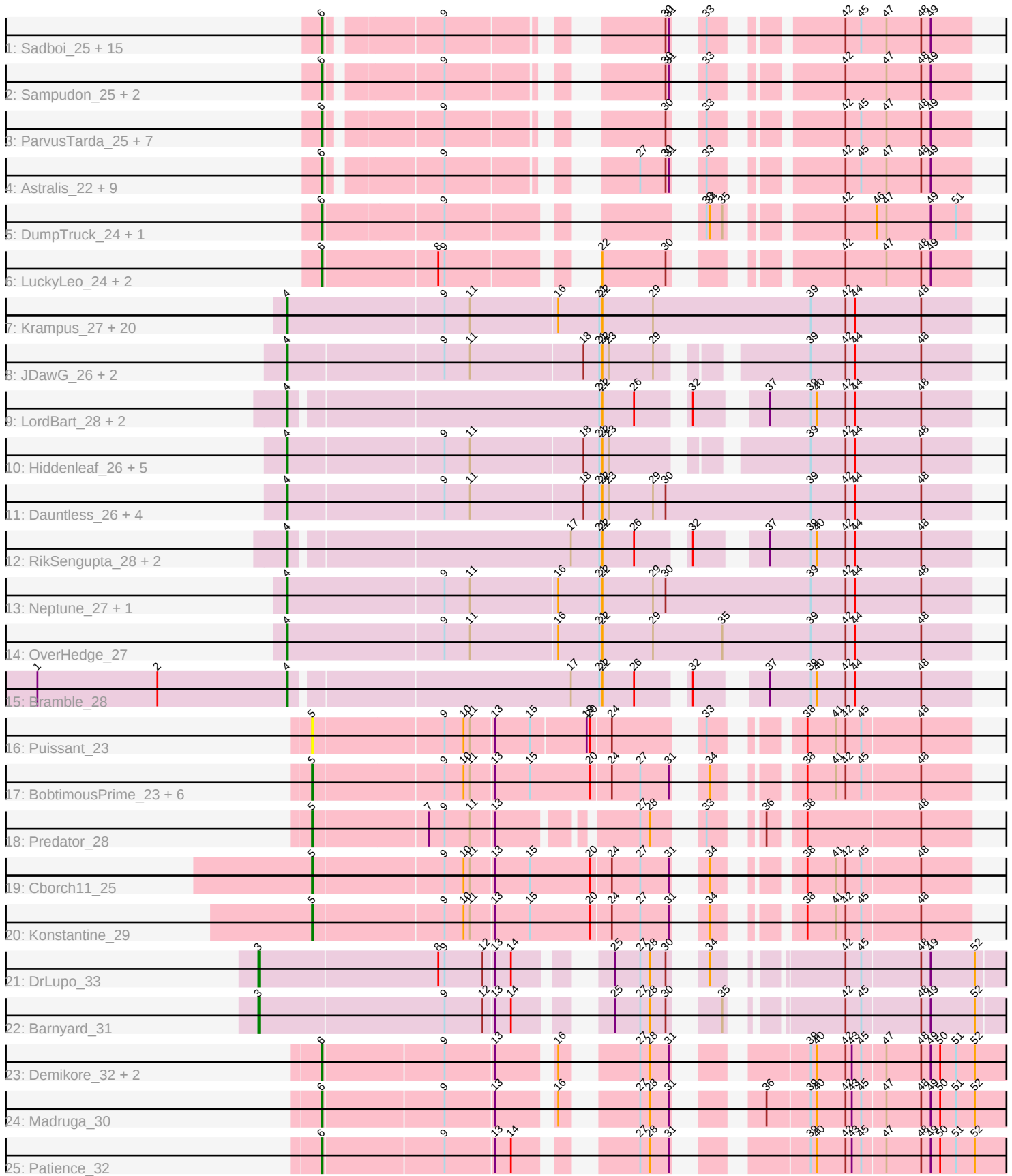


Pham 280272



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 280272 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280272 has 105 members, 13 are drafts.

Phages represented in each track:

- Track 1 : Sadboi_25, OtterstedtS21_25, Alephilan_22, DaviePasture_25, Gibbin_26, Mima20_23, GretelLyn_25, Ranch_25, Patos_26, Erutan_25, Zany_23, Rukungu_25, Yikes_26, NorManre_26, LavAbarElk_23, DoobyDoo_24
- Track 2 : Sampudon_25, Lila22_24, Jalebi_24
- Track 3 : ParvusTarda_25, Lambo_25, Fulcrum_26, MoiGyank_27, BirthdayBoy_26, GOATification_26, Wojtek_24, Rota_24
- Track 4 : Astralis_22, Alyssamiracle_24, Avian_22, RazorC_22, Genamy16_24, Rumi_24, Charminar_22, Jamemuya19_22, Stormer_23, NovaSharks_24
- Track 5 : DumpTruck_24, Xenia2_25
- Track 6 : LuckyLeo_24, Apeppi_22, Tillicus_24
- Track 7 : Krampus_27, FountainFog_26, Gilda_27, Pharpay_27, Anakin_27, Karate_26, Rachella_27, Poultruss_26, Haunter_27, Kate_27, AnnaSerena_27, CoolCookie_27, Rie18_27, OhDear_27, Potty_27, Artiphact_27, Tedro_27, PhunaPhoke_27, Hager_28, NarutoRun_27, Tongui_26
- Track 8 : JDawG_26, Aesir_26, MortySmith_25
- Track 9 : LordBart_28, Ajin_28, Sparcetus_28
- Track 10 : Hiddenleaf_26, Snakehole_28, DannyDe_26, SilentWarrior_26, FreddieHg_26, Chivey_26
- Track 11 : Dauntless_26, Crestdrop_26, JingleBells_26, Annapurna_26, Erudite_26
- Track 12 : RikSengupta_28, TinyMiny_28, Kors_28
- Track 13 : Neptune_27, Cybele_27
- Track 14 : OverHedge_27
- Track 15 : Bramble_28
- Track 16 : Puissant_23
- Track 17 : BobtimousPrime_23, Phreeze_24, Beckerton_24, Oaker_24, Megatron06_26, Thumb_24, Damien_24
- Track 18 : Predator_28
- Track 19 : Cborch11_25
- Track 20 : Konstantine_29
- Track 21 : DrLupo_33
- Track 22 : Barnyard_31
- Track 23 : Demikore_32, Labelle_31, SuperSonics_31
- Track 24 : Madrugua_30
- Track 25 : Patience_32

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

The start number called the most often in the published annotations is 4, it was called in 41 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Aesir_26, Ajin_28, Anakin_27, AnnaSerena_27, Annapurna_26, Artiphact_27, Bramble_28, Chivey_26, CoolCookie_27, Crestdrop_26, Cybele_27, DannyDe_26, Dauntless_26, Erudite_26, FountainFog_26, FreddieHg_26, Gilda_27, Hager_28, Haunter_27, Hiddenleaf_26, JDawG_26, JingleBells_26, Karate_26, Kate_27, Kors_28, Krampus_27, LordBart_28, MortySmith_25, NarutoRun_27, Neptune_27, OhDear_27, OverHedge_27, Pharpay_27, PhunaPhoke_27, Potty_27, Poultruss_26, Rachella_27, Rie18_27, RikSengupta_28, SilentWarrior_26, Snakehole_28, Sparcetus_28, Tedro_27, TinyMiny_28, Tongui_26,

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

•

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

• Alephlan_22, Alyssamiracle_24, Apeppi_22, Astralis_22, Avian_22, Barnyard_31, Beckerton_24, BirthdayBoy_26, BobtimousPrime_23, Cborch11_25, Charminar_22, Damien_24, DaviePasture_25, Demikore_32, DoobyDoo_24, DrLupo_33, DumpTruck_24, Erutan_25, Fulcrum_26, GOATification_26, Genamy16_24, Gibbin_26, Gretellyn_25, Jalebi_24, Jamemuya19_22, Konstantine_29, Labelle_31, Lambo_25, LavAbarElk_23, Lila22_24, LuckyLeo_24, Madrugua_30, Megatron06_26, Mima20_23, MoiGyank_27, NorManre_26, NovaSharks_24, Oaker_24, OtterstedtS21_25, ParvusTarda_25, Patience_32, Patos_26, Phreeze_24, Predator_28, Puissant_23, Ranch_25, RazorC_22, Rota_24, Rukungu_25, Rumi_24, Sadboi_25, Sampudon_25, Stormer_23, SuperSonics_31, Thumb_24, Tillicus_24, Wojtek_24, Xenia2_25, Yikes_26, Zany_23,

Summary by start number:

Start 3:

- Found in 2 of 105 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_31 (H2), DrLupo_33 (H2),

Start 4:

- Found in 45 of 105 (42.9%) of genes in pham
- Manual Annotations of this start: 41 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aesir_26 (EF), Ajin_28 (EF), Anakin_27 (EF), AnnaSerena_27 (EF), Annapurna_26 (EF), Artiphact_27 (EF), Bramble_28 (EF), Chivey_26 (EF), CoolCookie_27 (EF), Crestdrop_26 (EF), Cybele_27 (EF), DannyDe_26 (EF), Dauntless_26 (EF), Erudite_26 (EF), FountainFog_26 (EF), FreddieHg_26 (EF), Gilda_27 (EF), Hager_28 (EF), Haunter_27 (EF), Hiddenleaf_26 (EF), JDawG_26 (EF), JingleBells_26 (EF), Karate_26 (EF), Kate_27 (EF), Kors_28 (EF), Krampus_27 (EF), LordBart_28 (EF), MortySmith_25 (EF), NarutoRun_27 (EF), Neptune_27 (EF), OhDear_27 (EF), OverHedge_27 (EF), Pharpay_27 (EF), PhunaPhoke_27 (EF), Potty_27 (EF), Poultruss_26 (EF), Rachella_27 (EF),

Rie18_27 (EF), RikSengupta_28 (EF), SilentWarrior_26 (EF), Snakehole_28 (EF), Sparcetus_28 (EF), Tedro_27 (EF), TinyMiny_28 (EF), Tongui_26 (EF),

Start 5:

- Found in 11 of 105 (10.5%) of genes in pham
- Manual Annotations of this start: 9 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_24 (H1), BobtimousPrime_23 (H1), Cborch11_25 (H1), Damien_24 (H1), Konstantine_29 (H1), Megatron06_26 (H1), Oaker_24 (H1), Phreeze_24 (H1), Predator_28 (H1), Puissant_23 (H1), Thumb_24 (H1),

Start 6:

- Found in 47 of 105 (44.8%) of genes in pham
- Manual Annotations of this start: 40 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alephilan_22 (DV), Alyssamiracle_24 (DV), Apeppi_22 (DV), Astralis_22 (DV), Avian_22 (DV), BirthdayBoy_26 (DV), Charminar_22 (DV), DaviePasture_25 (DV), Demikore_32 (U), DoobyDoo_24 (DV), DumpTruck_24 (DV), Erutan_25 (DV), Fulcrum_26 (DV), GOATification_26 (DV), Genamy16_24 (DV), Gibbin_26 (DV), GretelLyn_25 (DV), Jalebi_24 (DV), Jamemuya19_22 (DV), Labelle_31 (U), Lambo_25 (DV), LavAbarElk_23 (DV), Lila22_24 (DV), LuckyLeo_24 (DV), Madrug_30 (U), Mima20_23 (DV), MoiGyank_27 (DV), NorManre_26 (DV), NovaSharks_24 (DV), OtterstedtS21_25 (DV), ParvusTarda_25 (DV), Patience_32 (U), Patos_26 (DV), Ranch_25 (DV), RazorC_22 (DV), Rota_24 (DV), Rukungu_25 (DV), Rumi_24 (DV), Sadboi_25 (DV), Sampudon_25 (DV), Stormer_23 (DV), SuperSonics_31 (U), Tillicus_24 (DV), Wojtek_24 (DV), Xenia2_25 (DV), Yikes_26 (DV), Zany_23 (DV),

Summary by clusters:

There are 5 clusters represented in this pham: DV, H2, H1, U, EF,

Info for manual annotations of cluster DV:

- Start number 6 was manually annotated 37 times for cluster DV.

Info for manual annotations of cluster EF:

- Start number 4 was manually annotated 41 times for cluster EF.

Info for manual annotations of cluster H1:

- Start number 5 was manually annotated 9 times for cluster H1.

Info for manual annotations of cluster H2:

- Start number 3 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster U:

- Start number 6 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Aesir_26 Start: 13825, Stop: 14427, Start Num: 4

Candidate Starts for Aesir_26:

(Start: 4 @13825 has 41 MA's), (9, 13969), (11, 13993), (18, 14098), (21, 14113), (22, 14116), (23, 14122), (29, 14164), (39, 14275), (42, 14308), (44, 14317), (48, 14380),

Gene: Ajin_28 Start: 13971, Stop: 14564, Start Num: 4

Candidate Starts for Ajin_28:

(Start: 4 @13971 has 41 MA's), (21, 14253), (22, 14256), (26, 14286), (32, 14325), (37, 14373), (39, 14412), (40, 14418), (42, 14445), (44, 14454), (48, 14517),

Gene: Alephilan_22 Start: 15936, Stop: 16421, Start Num: 6

Candidate Starts for Alephilan_22:

(Start: 6 @15936 has 40 MA's), (9, 16041), (30, 16197), (31, 16200), (33, 16209), (42, 16302), (45, 16317), (47, 16341), (48, 16374), (49, 16383),

Gene: Alyssamiracle_24 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Alyssamiracle_24:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Anakin_27 Start: 14035, Stop: 14679, Start Num: 4

Candidate Starts for Anakin_27:

(Start: 4 @14035 has 41 MA's), (9, 14182), (11, 14206), (16, 14287), (21, 14326), (22, 14329), (29, 14377), (39, 14527), (42, 14560), (44, 14569), (48, 14632),

Gene: AnnaSerena_27 Start: 14044, Stop: 14688, Start Num: 4

Candidate Starts for AnnaSerena_27:

(Start: 4 @14044 has 41 MA's), (9, 14191), (11, 14215), (16, 14296), (21, 14335), (22, 14338), (29, 14386), (39, 14536), (42, 14569), (44, 14578), (48, 14641),

Gene: Annapurna_26 Start: 13248, Stop: 13889, Start Num: 4

Candidate Starts for Annapurna_26:

(Start: 4 @13248 has 41 MA's), (9, 13392), (11, 13416), (18, 13521), (21, 13536), (22, 13539), (23, 13545), (29, 13587), (30, 13599), (39, 13737), (42, 13770), (44, 13779), (48, 13842),

Gene: Apeppi_22 Start: 16058, Stop: 16555, Start Num: 6

Candidate Starts for Apeppi_22:

(Start: 6 @16058 has 40 MA's), (8, 16163), (9, 16169), (22, 16271), (30, 16331), (42, 16436), (47, 16475), (48, 16508), (49, 16517),

Gene: Artiphact_27 Start: 14036, Stop: 14680, Start Num: 4

Candidate Starts for Artiphact_27:

(Start: 4 @14036 has 41 MA's), (9, 14183), (11, 14207), (16, 14288), (21, 14327), (22, 14330), (29, 14378), (39, 14528), (42, 14561), (44, 14570), (48, 14633),

Gene: Astralis_22 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Astralis_22:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Avian_22 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Avian_22:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Barnyard_31 Start: 17229, Stop: 17840, Start Num: 3

Candidate Starts for Barnyard_31:

(Start: 3 @17229 has 2 MA's), (9, 17403), (12, 17439), (13, 17448), (14, 17463), (25, 17523), (27, 17547), (28, 17556), (30, 17571), (35, 17598), (42, 17676), (45, 17691), (48, 17745), (49, 17754), (52, 17796),

Gene: Beckerton_24 Start: 15907, Stop: 16452, Start Num: 5

Candidate Starts for Beckerton_24:

(Start: 5 @15907 has 9 MA's), (9, 16027), (10, 16045), (11, 16051), (13, 16072), (15, 16105), (20, 16162), (24, 16180), (27, 16207), (31, 16234), (34, 16246), (38, 16300), (41, 16327), (42, 16336), (45, 16351), (48, 16405),

Gene: BirthdayBoy_26 Start: 16789, Stop: 17265, Start Num: 6

Candidate Starts for BirthdayBoy_26:

(Start: 6 @16789 has 40 MA's), (9, 16885), (30, 17041), (33, 17053), (42, 17146), (45, 17161), (47, 17185), (48, 17218), (49, 17227),

Gene: BobtimousPrime_23 Start: 15827, Stop: 16372, Start Num: 5

Candidate Starts for BobtimousPrime_23:

(Start: 5 @15827 has 9 MA's), (9, 15947), (10, 15965), (11, 15971), (13, 15992), (15, 16025), (20, 16082), (24, 16100), (27, 16127), (31, 16154), (34, 16166), (38, 16220), (41, 16247), (42, 16256), (45, 16271), (48, 16325),

Gene: Bramble_28 Start: 13937, Stop: 14530, Start Num: 4

Candidate Starts for Bramble_28:

(1, 13700), (2, 13814), (Start: 4 @13937 has 41 MA's), (17, 14192), (21, 14219), (22, 14222), (26, 14252), (32, 14291), (37, 14339), (39, 14378), (40, 14384), (42, 14411), (44, 14420), (48, 14483),

Gene: Cborch11_25 Start: 15369, Stop: 15914, Start Num: 5

Candidate Starts for Cborch11_25:

(Start: 5 @15369 has 9 MA's), (9, 15489), (10, 15507), (11, 15513), (13, 15534), (15, 15567), (20, 15624), (24, 15642), (27, 15669), (31, 15696), (34, 15708), (38, 15762), (41, 15789), (42, 15798), (45, 15813), (48, 15867),

Gene: Charminar_22 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Charminar_22:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Chivey_26 Start: 13241, Stop: 13843, Start Num: 4

Candidate Starts for Chivey_26:

(Start: 4 @13241 has 41 MA's), (9, 13385), (11, 13409), (18, 13514), (21, 13529), (22, 13532), (23, 13538), (39, 13691), (42, 13724), (44, 13733), (48, 13796),

Gene: CoolCookie_27 Start: 14042, Stop: 14686, Start Num: 4

Candidate Starts for CoolCookie_27:

(Start: 4 @14042 has 41 MA's), (9, 14189), (11, 14213), (16, 14294), (21, 14333), (22, 14336), (29, 14384), (39, 14534), (42, 14567), (44, 14576), (48, 14639),

Gene: Crestdrop_26 Start: 13111, Stop: 13752, Start Num: 4

Candidate Starts for Crestdrop_26:

(Start: 4 @13111 has 41 MA's), (9, 13255), (11, 13279), (18, 13384), (21, 13399), (22, 13402), (23, 13408), (29, 13450), (30, 13462), (39, 13600), (42, 13633), (44, 13642), (48, 13705),

Gene: Cybele_27 Start: 14012, Stop: 14656, Start Num: 4

Candidate Starts for Cybele_27:

(Start: 4 @14012 has 41 MA's), (9, 14159), (11, 14183), (16, 14264), (21, 14303), (22, 14306), (29, 14354), (30, 14366), (39, 14504), (42, 14537), (44, 14546), (48, 14609),

Gene: Damien_24 Start: 15370, Stop: 15915, Start Num: 5

Candidate Starts for Damien_24:

(Start: 5 @15370 has 9 MA's), (9, 15490), (10, 15508), (11, 15514), (13, 15535), (15, 15568), (20, 15625), (24, 15643), (27, 15670), (31, 15697), (34, 15709), (38, 15763), (41, 15790), (42, 15799), (45, 15814), (48, 15868),

Gene: DannyDe_26 Start: 13233, Stop: 13835, Start Num: 4

Candidate Starts for DannyDe_26:

(Start: 4 @13233 has 41 MA's), (9, 13377), (11, 13401), (18, 13506), (21, 13521), (22, 13524), (23, 13530), (39, 13683), (42, 13716), (44, 13725), (48, 13788),

Gene: Dauntless_26 Start: 13754, Stop: 14395, Start Num: 4

Candidate Starts for Dauntless_26:

(Start: 4 @13754 has 41 MA's), (9, 13898), (11, 13922), (18, 14027), (21, 14042), (22, 14045), (23, 14051), (29, 14093), (30, 14105), (39, 14243), (42, 14276), (44, 14285), (48, 14348),

Gene: DaviePasture_25 Start: 16546, Stop: 17034, Start Num: 6

Candidate Starts for DaviePasture_25:

(Start: 6 @16546 has 40 MA's), (9, 16654), (30, 16810), (31, 16813), (33, 16822), (42, 16915), (45, 16930), (47, 16954), (48, 16987), (49, 16996),

Gene: Demikore_32 Start: 18730, Stop: 19290, Start Num: 6

Candidate Starts for Demikore_32:

(Start: 6 @18730 has 40 MA's), (9, 18838), (13, 18883), (16, 18928), (27, 18979), (28, 18988), (31, 19006), (39, 19090), (40, 19096), (42, 19123), (43, 19129), (45, 19138), (47, 19159), (48, 19192), (49, 19201), (50, 19210), (51, 19225), (52, 19243),

Gene: DoobyDoo_24 Start: 15723, Stop: 16199, Start Num: 6

Candidate Starts for DoobyDoo_24:

(Start: 6 @15723 has 40 MA's), (9, 15819), (30, 15975), (31, 15978), (33, 15987), (42, 16080), (45, 16095), (47, 16119), (48, 16152), (49, 16161),

Gene: DrLupo_33 Start: 17635, Stop: 18246, Start Num: 3

Candidate Starts for DrLupo_33:

(Start: 3 @17635 has 2 MA's), (8, 17803), (9, 17809), (12, 17845), (13, 17854), (14, 17869), (25, 17929), (27, 17953), (28, 17962), (30, 17977), (34, 17992), (42, 18082), (45, 18097), (48, 18151), (49, 18160), (52, 18202),

Gene: DumpTruck_24 Start: 15958, Stop: 16452, Start Num: 6

Candidate Starts for DumpTruck_24:

(Start: 6 @15958 has 40 MA's), (9, 16066), (33, 16240), (34, 16243), (35, 16255), (42, 16333), (46, 16363), (47, 16372), (49, 16414), (51, 16438),

Gene: Erudite_26 Start: 13754, Stop: 14395, Start Num: 4

Candidate Starts for Erudite_26:

(Start: 4 @13754 has 41 MA's), (9, 13898), (11, 13922), (18, 14027), (21, 14042), (22, 14045), (23, 14051), (29, 14093), (30, 14105), (39, 14243), (42, 14276), (44, 14285), (48, 14348),

Gene: Erutan_25 Start: 16236, Stop: 16712, Start Num: 6

Candidate Starts for Erutan_25:

(Start: 6 @16236 has 40 MA's), (9, 16332), (30, 16488), (31, 16491), (33, 16500), (42, 16593), (45, 16608), (47, 16632), (48, 16665), (49, 16674),

Gene: FountainFog_26 Start: 13354, Stop: 13998, Start Num: 4

Candidate Starts for FountainFog_26:

(Start: 4 @13354 has 41 MA's), (9, 13501), (11, 13525), (16, 13606), (21, 13645), (22, 13648), (29, 13696), (39, 13846), (42, 13879), (44, 13888), (48, 13951),

Gene: FreddieHg_26 Start: 13257, Stop: 13859, Start Num: 4

Candidate Starts for FreddieHg_26:

(Start: 4 @13257 has 41 MA's), (9, 13401), (11, 13425), (18, 13530), (21, 13545), (22, 13548), (23, 13554), (39, 13707), (42, 13740), (44, 13749), (48, 13812),

Gene: Fulcrum_26 Start: 16769, Stop: 17245, Start Num: 6

Candidate Starts for Fulcrum_26:

(Start: 6 @16769 has 40 MA's), (9, 16865), (30, 17021), (33, 17033), (42, 17126), (45, 17141), (47, 17165), (48, 17198), (49, 17207),

Gene: GOATification_26 Start: 16769, Stop: 17245, Start Num: 6

Candidate Starts for GOATification_26:

(Start: 6 @16769 has 40 MA's), (9, 16865), (30, 17021), (33, 17033), (42, 17126), (45, 17141), (47, 17165), (48, 17198), (49, 17207),

Gene: Genamy16_24 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Genamy16_24:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Gibbin_26 Start: 16829, Stop: 17317, Start Num: 6

Candidate Starts for Gibbin_26:

(Start: 6 @16829 has 40 MA's), (9, 16937), (30, 17093), (31, 17096), (33, 17105), (42, 17198), (45, 17213), (47, 17237), (48, 17270), (49, 17279),

Gene: Gilda_27 Start: 14036, Stop: 14680, Start Num: 4

Candidate Starts for Gilda_27:

(Start: 4 @14036 has 41 MA's), (9, 14183), (11, 14207), (16, 14288), (21, 14327), (22, 14330), (29, 14378), (39, 14528), (42, 14561), (44, 14570), (48, 14633),

Gene: Gretellyn_25 Start: 17103, Stop: 17579, Start Num: 6

Candidate Starts for Gretellyn_25:

(Start: 6 @17103 has 40 MA's), (9, 17199), (30, 17355), (31, 17358), (33, 17367), (42, 17460), (45, 17475), (47, 17499), (48, 17532), (49, 17541),

Gene: Hager_28 Start: 13598, Stop: 14242, Start Num: 4

Candidate Starts for Hager_28:

(Start: 4 @13598 has 41 MA's), (9, 13745), (11, 13769), (16, 13850), (21, 13889), (22, 13892), (29, 13940), (39, 14090), (42, 14123), (44, 14132), (48, 14195),

Gene: Haunter_27 Start: 13449, Stop: 14093, Start Num: 4

Candidate Starts for Haunter_27:

(Start: 4 @13449 has 41 MA's), (9, 13596), (11, 13620), (16, 13701), (21, 13740), (22, 13743), (29, 13791), (39, 13941), (42, 13974), (44, 13983), (48, 14046),

Gene: Hiddenleaf_26 Start: 13241, Stop: 13843, Start Num: 4

Candidate Starts for Hiddenleaf_26:

(Start: 4 @13241 has 41 MA's), (9, 13385), (11, 13409), (18, 13514), (21, 13529), (22, 13532), (23, 13538), (39, 13691), (42, 13724), (44, 13733), (48, 13796),

Gene: JDawG_26 Start: 13823, Stop: 14425, Start Num: 4

Candidate Starts for JDawG_26:

(Start: 4 @13823 has 41 MA's), (9, 13967), (11, 13991), (18, 14096), (21, 14111), (22, 14114), (23, 14120), (29, 14162), (39, 14273), (42, 14306), (44, 14315), (48, 14378),

Gene: Jalebi_24 Start: 17279, Stop: 17755, Start Num: 6

Candidate Starts for Jalebi_24:

(Start: 6 @17279 has 40 MA's), (9, 17375), (30, 17531), (31, 17534), (33, 17543), (42, 17636), (47, 17675), (48, 17708), (49, 17717),

Gene: Jamemuya19_22 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Jamemuya19_22:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: JingleBells_26 Start: 13318, Stop: 13959, Start Num: 4

Candidate Starts for JingleBells_26:

(Start: 4 @13318 has 41 MA's), (9, 13462), (11, 13486), (18, 13591), (21, 13606), (22, 13609), (23, 13615), (29, 13657), (30, 13669), (39, 13807), (42, 13840), (44, 13849), (48, 13912),

Gene: Karate_26 Start: 13448, Stop: 14092, Start Num: 4

Candidate Starts for Karate_26:

(Start: 4 @13448 has 41 MA's), (9, 13595), (11, 13619), (16, 13700), (21, 13739), (22, 13742), (29, 13790), (39, 13940), (42, 13973), (44, 13982), (48, 14045),

Gene: Kate_27 Start: 14044, Stop: 14688, Start Num: 4

Candidate Starts for Kate_27:

(Start: 4 @14044 has 41 MA's), (9, 14191), (11, 14215), (16, 14296), (21, 14335), (22, 14338), (29, 14386), (39, 14536), (42, 14569), (44, 14578), (48, 14641),

Gene: Konstantine_29 Start: 16571, Stop: 17116, Start Num: 5

Candidate Starts for Konstantine_29:

(Start: 5 @16571 has 9 MA's), (9, 16691), (10, 16709), (11, 16715), (13, 16736), (15, 16769), (20, 16826), (24, 16844), (27, 16871), (31, 16898), (34, 16910), (38, 16964), (41, 16991), (42, 17000), (45, 17015), (48, 17069),

Gene: Kors_28 Start: 14017, Stop: 14610, Start Num: 4

Candidate Starts for Kors_28:

(Start: 4 @14017 has 41 MA's), (17, 14272), (21, 14299), (22, 14302), (26, 14332), (32, 14371), (37, 14419), (39, 14458), (40, 14464), (42, 14491), (44, 14500), (48, 14563),

Gene: Krampus_27 Start: 14042, Stop: 14686, Start Num: 4

Candidate Starts for Krampus_27:

(Start: 4 @14042 has 41 MA's), (9, 14189), (11, 14213), (16, 14294), (21, 14333), (22, 14336), (29, 14384), (39, 14534), (42, 14567), (44, 14576), (48, 14639),

Gene: Labelle_31 Start: 18732, Stop: 19292, Start Num: 6

Candidate Starts for Labelle_31:

(Start: 6 @18732 has 40 MA's), (9, 18840), (13, 18885), (16, 18930), (27, 18981), (28, 18990), (31, 19008), (39, 19092), (40, 19098), (42, 19125), (43, 19131), (45, 19140), (47, 19161), (48, 19194), (49, 19203), (50, 19212), (51, 19227), (52, 19245),

Gene: Lambo_25 Start: 16772, Stop: 17257, Start Num: 6

Candidate Starts for Lambo_25:

(Start: 6 @16772 has 40 MA's), (9, 16877), (30, 17033), (33, 17045), (42, 17138), (45, 17153), (47, 17177), (48, 17210), (49, 17219),

Gene: LavAbarElk_23 Start: 15206, Stop: 15694, Start Num: 6

Candidate Starts for LavAbarElk_23:

(Start: 6 @15206 has 40 MA's), (9, 15314), (30, 15470), (31, 15473), (33, 15482), (42, 15575), (45, 15590), (47, 15614), (48, 15647), (49, 15656),

Gene: Lila22_24 Start: 16727, Stop: 17203, Start Num: 6

Candidate Starts for Lila22_24:

(Start: 6 @16727 has 40 MA's), (9, 16823), (30, 16979), (31, 16982), (33, 16991), (42, 17084), (47, 17123), (48, 17156), (49, 17165),

Gene: LordBart_28 Start: 13933, Stop: 14526, Start Num: 4

Candidate Starts for LordBart_28:

(Start: 4 @13933 has 41 MA's), (21, 14215), (22, 14218), (26, 14248), (32, 14287), (37, 14335), (39, 14374), (40, 14380), (42, 14407), (44, 14416), (48, 14479),

Gene: LuckyLeo_24 Start: 16058, Stop: 16555, Start Num: 6

Candidate Starts for LuckyLeo_24:

(Start: 6 @16058 has 40 MA's), (8, 16163), (9, 16169), (22, 16271), (30, 16331), (42, 16436), (47, 16475), (48, 16508), (49, 16517),

Gene: Madruga_30 Start: 18401, Stop: 18961, Start Num: 6

Candidate Starts for Madruga_30:

(Start: 6 @18401 has 40 MA's), (9, 18509), (13, 18554), (16, 18599), (27, 18650), (28, 18659), (31, 18677), (36, 18722), (39, 18761), (40, 18767), (42, 18794), (43, 18800), (45, 18809), (47, 18830), (48, 18863), (49, 18872), (50, 18881), (51, 18896), (52, 18914),

Gene: Megatron06_26 Start: 15903, Stop: 16448, Start Num: 5

Candidate Starts for Megatron06_26:

(Start: 5 @15903 has 9 MA's), (9, 16023), (10, 16041), (11, 16047), (13, 16068), (15, 16101), (20, 16158), (24, 16176), (27, 16203), (31, 16230), (34, 16242), (38, 16296), (41, 16323), (42, 16332), (45, 16347), (48, 16401),

Gene: Mima20_23 Start: 16456, Stop: 16944, Start Num: 6

Candidate Starts for Mima20_23:

(Start: 6 @16456 has 40 MA's), (9, 16564), (30, 16720), (31, 16723), (33, 16732), (42, 16825), (45, 16840), (47, 16864), (48, 16897), (49, 16906),

Gene: MoiGyank_27 Start: 17140, Stop: 17616, Start Num: 6

Candidate Starts for MoiGyank_27:

(Start: 6 @17140 has 40 MA's), (9, 17236), (30, 17392), (33, 17404), (42, 17497), (45, 17512), (47, 17536), (48, 17569), (49, 17578),

Gene: MortySmith_25 Start: 13216, Stop: 13818, Start Num: 4

Candidate Starts for MortySmith_25:

(Start: 4 @13216 has 41 MA's), (9, 13360), (11, 13384), (18, 13489), (21, 13504), (22, 13507), (23, 13513), (29, 13555), (39, 13666), (42, 13699), (44, 13708), (48, 13771),

Gene: NarutoRun_27 Start: 14035, Stop: 14679, Start Num: 4

Candidate Starts for NarutoRun_27:

(Start: 4 @14035 has 41 MA's), (9, 14182), (11, 14206), (16, 14287), (21, 14326), (22, 14329), (29, 14377), (39, 14527), (42, 14560), (44, 14569), (48, 14632),

Gene: Neptune_27 Start: 14012, Stop: 14656, Start Num: 4

Candidate Starts for Neptune_27:

(Start: 4 @14012 has 41 MA's), (9, 14159), (11, 14183), (16, 14264), (21, 14303), (22, 14306), (29, 14354), (30, 14366), (39, 14504), (42, 14537), (44, 14546), (48, 14609),

Gene: NorManre_26 Start: 16335, Stop: 16823, Start Num: 6

Candidate Starts for NorManre_26:

(Start: 6 @16335 has 40 MA's), (9, 16443), (30, 16599), (31, 16602), (33, 16611), (42, 16704), (45, 16719), (47, 16743), (48, 16776), (49, 16785),

Gene: NovaSharks_24 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for NovaSharks_24:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Oaker_24 Start: 15627, Stop: 16172, Start Num: 5

Candidate Starts for Oaker_24:

(Start: 5 @15627 has 9 MA's), (9, 15747), (10, 15765), (11, 15771), (13, 15792), (15, 15825), (20, 15882), (24, 15900), (27, 15927), (31, 15954), (34, 15966), (38, 16020), (41, 16047), (42, 16056), (45, 16071), (48, 16125),

Gene: OhDear_27 Start: 14041, Stop: 14685, Start Num: 4

Candidate Starts for OhDear_27:

(Start: 4 @14041 has 41 MA's), (9, 14188), (11, 14212), (16, 14293), (21, 14332), (22, 14335), (29, 14383), (39, 14533), (42, 14566), (44, 14575), (48, 14638),

Gene: OtterstedtS21_25 Start: 16425, Stop: 16901, Start Num: 6

Candidate Starts for OtterstedtS21_25:

(Start: 6 @16425 has 40 MA's), (9, 16521), (30, 16677), (31, 16680), (33, 16689), (42, 16782), (45, 16797), (47, 16821), (48, 16854), (49, 16863),

Gene: OverHedge_27 Start: 14002, Stop: 14646, Start Num: 4

Candidate Starts for OverHedge_27:

(Start: 4 @14002 has 41 MA's), (9, 14149), (11, 14173), (16, 14254), (21, 14293), (22, 14296), (29, 14344), (35, 14410), (39, 14494), (42, 14527), (44, 14536), (48, 14599),

Gene: ParvusTarda_25 Start: 15907, Stop: 16383, Start Num: 6

Candidate Starts for ParvusTarda_25:

(Start: 6 @15907 has 40 MA's), (9, 16003), (30, 16159), (33, 16171), (42, 16264), (45, 16279), (47, 16303), (48, 16336), (49, 16345),

Gene: Patience_32 Start: 19282, Stop: 19842, Start Num: 6

Candidate Starts for Patience_32:

(Start: 6 @19282 has 40 MA's), (9, 19390), (13, 19435), (14, 19450), (27, 19531), (28, 19540), (31, 19558), (39, 19642), (40, 19648), (42, 19675), (43, 19681), (45, 19690), (47, 19711), (48, 19744), (49, 19753), (50, 19762), (51, 19777), (52, 19795),

Gene: Patos_26 Start: 16335, Stop: 16823, Start Num: 6

Candidate Starts for Patos_26:

(Start: 6 @16335 has 40 MA's), (9, 16443), (30, 16599), (31, 16602), (33, 16611), (42, 16704), (45, 16719), (47, 16743), (48, 16776), (49, 16785),

Gene: Pharpay_27 Start: 14057, Stop: 14701, Start Num: 4

Candidate Starts for Pharpay_27:

(Start: 4 @14057 has 41 MA's), (9, 14204), (11, 14228), (16, 14309), (21, 14348), (22, 14351), (29, 14399), (39, 14549), (42, 14582), (44, 14591), (48, 14654),

Gene: Phreeze_24 Start: 15370, Stop: 15915, Start Num: 5

Candidate Starts for Phreeze_24:

(Start: 5 @15370 has 9 MA's), (9, 15490), (10, 15508), (11, 15514), (13, 15535), (15, 15568), (20, 15625), (24, 15643), (27, 15670), (31, 15697), (34, 15709), (38, 15763), (41, 15790), (42, 15799), (45, 15814), (48, 15868),

Gene: PhunaPhoke_27 Start: 14030, Stop: 14674, Start Num: 4

Candidate Starts for PhunaPhoke_27:

(Start: 4 @14030 has 41 MA's), (9, 14177), (11, 14201), (16, 14282), (21, 14321), (22, 14324), (29, 14372), (39, 14522), (42, 14555), (44, 14564), (48, 14627),

Gene: Potty_27 Start: 14035, Stop: 14679, Start Num: 4

Candidate Starts for Potty_27:

(Start: 4 @14035 has 41 MA's), (9, 14182), (11, 14206), (16, 14287), (21, 14326), (22, 14329), (29, 14377), (39, 14527), (42, 14560), (44, 14569), (48, 14632),

Gene: Poultress_26 Start: 13799, Stop: 14443, Start Num: 4

Candidate Starts for Poultress_26:

(Start: 4 @13799 has 41 MA's), (9, 13946), (11, 13970), (16, 14051), (21, 14090), (22, 14093), (29, 14141), (39, 14291), (42, 14324), (44, 14333), (48, 14396),

Gene: Predator_28 Start: 16911, Stop: 17432, Start Num: 5

Candidate Starts for Predator_28:

(Start: 5 @16911 has 9 MA's), (7, 17016), (9, 17031), (11, 17055), (13, 17076), (27, 17187), (28, 17196), (33, 17223), (36, 17253), (38, 17280), (48, 17385),

Gene: Puissant_23 Start: 15838, Stop: 16380, Start Num: 5

Candidate Starts for Puissant_23:

(Start: 5 @15838 has 9 MA's), (9, 15958), (10, 15976), (11, 15982), (13, 16003), (15, 16036), (19, 16087), (20, 16090), (24, 16108), (33, 16171), (38, 16228), (41, 16255), (42, 16264), (45, 16279), (48, 16333),

Gene: Rachella_27 Start: 14038, Stop: 14682, Start Num: 4

Candidate Starts for Rachella_27:

(Start: 4 @14038 has 41 MA's), (9, 14185), (11, 14209), (16, 14290), (21, 14329), (22, 14332), (29, 14380), (39, 14530), (42, 14563), (44, 14572), (48, 14635),

Gene: Ranch_25 Start: 15273, Stop: 15749, Start Num: 6

Candidate Starts for Ranch_25:

(Start: 6 @15273 has 40 MA's), (9, 15369), (30, 15525), (31, 15528), (33, 15537), (42, 15630), (45, 15645), (47, 15669), (48, 15702), (49, 15711),

Gene: RazorC_22 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for RazorC_22:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Rie18_27 Start: 13380, Stop: 14024, Start Num: 4

Candidate Starts for Rie18_27:

(Start: 4 @13380 has 41 MA's), (9, 13527), (11, 13551), (16, 13632), (21, 13671), (22, 13674), (29, 13722), (39, 13872), (42, 13905), (44, 13914), (48, 13977),

Gene: RikSengupta_28 Start: 14054, Stop: 14647, Start Num: 4

Candidate Starts for RikSengupta_28:

(Start: 4 @14054 has 41 MA's), (17, 14309), (21, 14336), (22, 14339), (26, 14369), (32, 14408), (37, 14456), (39, 14495), (40, 14501), (42, 14528), (44, 14537), (48, 14600),

Gene: Rota_24 Start: 16231, Stop: 16707, Start Num: 6

Candidate Starts for Rota_24:

(Start: 6 @16231 has 40 MA's), (9, 16327), (30, 16483), (33, 16495), (42, 16588), (45, 16603), (47, 16627), (48, 16660), (49, 16669),

Gene: Rukungu_25 Start: 16972, Stop: 17448, Start Num: 6

Candidate Starts for Rukungu_25:

(Start: 6 @16972 has 40 MA's), (9, 17068), (30, 17224), (31, 17227), (33, 17236), (42, 17329), (45, 17344), (47, 17368), (48, 17401), (49, 17410),

Gene: Rumi_24 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Rumi_24:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: Sadboi_25 Start: 17103, Stop: 17579, Start Num: 6

Candidate Starts for Sadboi_25:

(Start: 6 @17103 has 40 MA's), (9, 17199), (30, 17355), (31, 17358), (33, 17367), (42, 17460), (45, 17475), (47, 17499), (48, 17532), (49, 17541),

Gene: Sampudon_25 Start: 17279, Stop: 17755, Start Num: 6

Candidate Starts for Sampudon_25:

(Start: 6 @17279 has 40 MA's), (9, 17375), (30, 17531), (31, 17534), (33, 17543), (42, 17636), (47, 17675), (48, 17708), (49, 17717),

Gene: SilentWarrior_26 Start: 13249, Stop: 13851, Start Num: 4

Candidate Starts for SilentWarrior_26:

(Start: 4 @13249 has 41 MA's), (9, 13393), (11, 13417), (18, 13522), (21, 13537), (22, 13540), (23, 13546), (39, 13699), (42, 13732), (44, 13741), (48, 13804),

Gene: Snakehole_28 Start: 13338, Stop: 13940, Start Num: 4

Candidate Starts for Snakehole_28:

(Start: 4 @13338 has 41 MA's), (9, 13482), (11, 13506), (18, 13611), (21, 13626), (22, 13629), (23, 13635), (39, 13788), (42, 13821), (44, 13830), (48, 13893),

Gene: Sparcetus_28 Start: 13933, Stop: 14526, Start Num: 4

Candidate Starts for Sparcetus_28:

(Start: 4 @13933 has 41 MA's), (21, 14215), (22, 14218), (26, 14248), (32, 14287), (37, 14335), (39, 14374), (40, 14380), (42, 14407), (44, 14416), (48, 14479),

Gene: Stormer_23 Start: 14342, Stop: 14818, Start Num: 6

Candidate Starts for Stormer_23:

(Start: 6 @14342 has 40 MA's), (9, 14438), (27, 14570), (30, 14594), (31, 14597), (33, 14606), (42, 14699), (45, 14714), (47, 14738), (48, 14771), (49, 14780),

Gene: SuperSonics_31 Start: 18458, Stop: 19018, Start Num: 6

Candidate Starts for SuperSonics_31:

(Start: 6 @18458 has 40 MA's), (9, 18566), (13, 18611), (16, 18656), (27, 18707), (28, 18716), (31, 18734), (39, 18818), (40, 18824), (42, 18851), (43, 18857), (45, 18866), (47, 18887), (48, 18920), (49, 18929), (50, 18938), (51, 18953), (52, 18971),

Gene: Tedro_27 Start: 13508, Stop: 14152, Start Num: 4

Candidate Starts for Tedro_27:

(Start: 4 @13508 has 41 MA's), (9, 13655), (11, 13679), (16, 13760), (21, 13799), (22, 13802), (29, 13850), (39, 14000), (42, 14033), (44, 14042), (48, 14105),

Gene: Thumb_24 Start: 15370, Stop: 15915, Start Num: 5

Candidate Starts for Thumb_24:

(Start: 5 @15370 has 9 MA's), (9, 15490), (10, 15508), (11, 15514), (13, 15535), (15, 15568), (20, 15625), (24, 15643), (27, 15670), (31, 15697), (34, 15709), (38, 15763), (41, 15790), (42, 15799), (45, 15814), (48, 15868),

Gene: Tillicus_24 Start: 15652, Stop: 16149, Start Num: 6

Candidate Starts for Tillicus_24:

(Start: 6 @15652 has 40 MA's), (8, 15757), (9, 15763), (22, 15865), (30, 15925), (42, 16030), (47, 16069), (48, 16102), (49, 16111),

Gene: TinyMiny_28 Start: 13952, Stop: 14545, Start Num: 4

Candidate Starts for TinyMiny_28:

(Start: 4 @13952 has 41 MA's), (17, 14207), (21, 14234), (22, 14237), (26, 14267), (32, 14306), (37, 14354), (39, 14393), (40, 14399), (42, 14426), (44, 14435), (48, 14498),

Gene: Tongui_26 Start: 13372, Stop: 14016, Start Num: 4

Candidate Starts for Tongui_26:

(Start: 4 @13372 has 41 MA's), (9, 13519), (11, 13543), (16, 13624), (21, 13663), (22, 13666), (29, 13714), (39, 13864), (42, 13897), (44, 13906), (48, 13969),

Gene: Wojtek_24 Start: 15980, Stop: 16456, Start Num: 6

Candidate Starts for Wojtek_24:

(Start: 6 @15980 has 40 MA's), (9, 16076), (30, 16232), (33, 16244), (42, 16337), (45, 16352), (47, 16376), (48, 16409), (49, 16418),

Gene: Xenia2_25 Start: 16000, Stop: 16494, Start Num: 6

Candidate Starts for Xenia2_25:

(Start: 6 @16000 has 40 MA's), (9, 16108), (33, 16282), (34, 16285), (35, 16297), (42, 16375), (46, 16405), (47, 16414), (49, 16456), (51, 16480),

Gene: Yikes_26 Start: 17364, Stop: 17840, Start Num: 6

Candidate Starts for Yikes_26:

(Start: 6 @17364 has 40 MA's), (9, 17460), (30, 17616), (31, 17619), (33, 17628), (42, 17721), (45, 17736), (47, 17760), (48, 17793), (49, 17802),

Gene: Zany_23 Start: 16493, Stop: 16969, Start Num: 6

Candidate Starts for Zany_23:

(Start: 6 @16493 has 40 MA's), (9, 16589), (30, 16745), (31, 16748), (33, 16757), (42, 16850), (45, 16865), (47, 16889), (48, 16922), (49, 16931),