



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 303216 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303216 has 115 members, 27 are drafts.

Phages represented in each track:

- Track 1 : BlacksBerry_15, Larson_17, Sigman_16, Maskar_15, Puhltonio_16, Pops_16, MelsMeow_15, TallGrassMM_16, Longacauda_15, OneBrain_16, FremontTroll_16, Fang_16, BatteryCK_15, BoogieWoogie_15, Olive_16, Swish_16, Happabalu_16, Flake_16, Gwennie1_16, Oosterbaan_16, Numberten_16, PhatLouie_16, Anderson_16, Phipps_16, Harvey_16, Andre_16, DuchessDung_15, Doddsville_16, Nyala_15, NiaNia_16, OSmaximus_16, Mesmerelda_15, Chah_16, Yoshand_16, Triad_16, SilverBell_16, Virgeve_15, Inverness_16, Etaye_16, Caspiboi_15, Pinkman_15, Chute_15, Banjo_15, JDog_15, Eugenia_16, GreenChile_16, KLucky39_16, Newman_16, Badfish_16, SirBeauregard_15, Kikipoo_16, UncleHowie_16, Khan1_16, MrPhizzler_16, Scoot17C_16, Thora_16, Lasso_16, Ashraf_15, Lopsy_15, Chuni_15, Daffy_16, Hekos_15, Eremos_16, Apizium_15, Cornbread_15, DelRivs_15, Katniss_16, Orwigg_15, ABU_16, SallyH_16, Hamish_16, ShadowBud_16, Suffolk_16, Orion_16, Colbert_16, Rimu_16, Aleia_16, Gophee_16, ThreeOh3D2_16, TooFast2Furius_17, IsaacEli_16, Vortex_16, PG1_16, RedRaider89_17, PallasAthena_16, Megatron_16, Coletti_16, Mana_15, ImtiyazSitla_15, Swiphy_16, Morgushi_16, LeiMonet_16, FluffyNinja_16, FleetyMac_15, Nova1_15, Murdoc_16, Taraxa_16, Megamind20_16, Vaishali24_15, DolOn_17, Lehmann_16, HogWash_15, Iridoclysis_16, Nathan_16, ElvisPhasley_16, Serendipity_16, Potter_15
- Track 2 : Chipette_17, OliverWalter_16, Riverton_16, Basato_17, Prickles_16, Manad_15, Thunderbird_15
- Track 3 : Karn_15

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

The start number called the most often in the published annotations is 2, it was called in 88 of the 88 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ABU_16, Aleia_16, Anderson_16, Andre_16, Apizium_15, Ashraf_15, Badfish_16, Banjo_15, Basato_17, BatteryCK_15, BlacksBerry_15, BoogieWoogie_15, Caspiboi_15, Chah_16, Chipette_17, Chuni_15, Chute_15, Colbert_16, Coletti_16, Cornbread_15, Daffy_16, DelRivs_15, Doddsville_16, DolOn_17, DuchessDung_15, ElvisPhasley_16, Eremos_16, Etaye_16, Eugenia_16, Fang_16, Flake_16,

FleetyMac_15, FluffyNinja_16, FremontTroll_16, Gophee_16, GreenChile_16, Gwennie1_16, Hamish_16, Happabalu_16, Harvey_16, Hekos_15, HogWash_15, ImtiyazSitla_15, Inverness_16, Iridoclysis_16, IsaacEli_16, JDog_15, KLucky39_16, Karn_15, Katniss_16, Khan1_16, Kikipoo_16, Larson_17, Lasso_16, Lehmann_16, LeiMonet_16, Longacauda_15, Lopsy_15, Mana_15, Manad_15, Maskar_15, Megamind20_16, Megatron_16, MelsMeow_15, Mesmerelda_15, Morgushi_16, MrPhizzler_16, Murdoc_16, Nathan_16, Newman_16, NiaNia_16, Nova1_15, Numberberten_16, Nyala_15, OSmaximus_16, Olive_16, OliverWalter_16, OneBrain_16, Oosterbaan_16, Orion_16, Orwigg_15, PG1_16, PallasAthena_16, PhatLouie_16, Phipps_16, Pinkman_15, Pops_16, Potter_15, Prickles_16, Puhltonio_16, RedRaider89_17, Rimu_16, Riverton_16, SallyH_16, Scoot17C_16, Serendipity_16, ShadowBud_16, Sigman_16, SilverBell_16, SirBeauregard_15, Suffolk_16, Swiphy_16, Swish_16, TallGrassMM_16, Taraxa_16, Thora_16, ThreeOh3D2_16, Thunderbird_15, TooFast2Furius_17, Triad_16, UncleHowie_16, Vaishali24_15, Virgeve_15, Vortex_16, Yoshand_16,

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

-

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

-

Summary by start number:

Start 2:

- Found in 115 of 115 (100.0%) of genes in pham
- Manual Annotations of this start: 88 of 88
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ABU_16 (B1), Aleia_16 (B1), Anderson_16 (B1), Andre_16 (B1), Apizium_15 (B1), Ashraf_15 (B1), Badfish_16 (B1), Banjo_15 (B1), Basato_17 (B1), BatteryCK_15 (B1), BlacksBerry_15 (B1), BoogieWoogie_15 (B1), Caspiroi_15 (B1), Chah_16 (B1), Chipette_17 (B1), Chuni_15 (B1), Chute_15 (B1), Colbert_16 (B1), Coletti_16 (B1), Cornbread_15 (B1), Daffy_16 (B1), DelRivs_15 (B1), Doddsville_16 (B1), DoOn_17 (B1), DuchessDung_15 (B1), ElvisPhasley_16 (B1), Eremos_16 (B1), Etaye_16 (B1), Eugenia_16 (B1), Fang_16 (B1), Flake_16 (B1), FleetyMac_15 (B1), FluffyNinja_16 (B1), FremontTroll_16 (B1), Gophee_16 (B1), GreenChile_16 (B1), Gwennie1_16 (B1), Hamish_16 (B1), Happabalu_16 (B1), Harvey_16 (B1), Hekos_15 (B1), HogWash_15 (B1), ImtiyazSitla_15 (B1), Inverness_16 (B1), Iridoclysis_16 (B1), IsaacEli_16 (B1), JDog_15 (B1), KLucky39_16 (B1), Karn_15 (B1), Katniss_16 (B1), Khan1_16 (B1), Kikipoo_16 (B1), Larson_17 (B1), Lasso_16 (B1), Lehmann_16 (B1), LeiMonet_16 (B1), Longacauda_15 (B1), Lopsy_15 (B1), Mana_15 (B1), Manad_15 (B1), Maskar_15 (B1), Megamind20_16 (B1), Megatron_16 (B1), MelsMeow_15 (B1), Mesmerelda_15 (B1), Morgushi_16 (B1), MrPhizzler_16 (B1), Murdoc_16 (B1), Nathan_16 (B1), Newman_16 (B1), NiaNia_16 (B1), Nova1_15 (B1), Numberberten_16 (B1), Nyala_15 (B1), OSmaximus_16 (B1), Olive_16 (B1), OliverWalter_16 (B1), OneBrain_16 (B1), Oosterbaan_16 (B1), Orion_16 (B1), Orwigg_15 (B1), PG1_16 (B1), PallasAthena_16 (B1), PhatLouie_16 (B1), Phipps_16 (B1), Pinkman_15 (B1), Pops_16 (B1), Potter_15 (B1), Prickles_16 (B1), Puhltonio_16 (B1), RedRaider89_17 (B1), Rimu_16 (B1), Riverton_16 (B1), SallyH_16 (B1), Scoot17C_16 (B1), Serendipity_16 (B1), ShadowBud_16 (B1), Sigman_16 (B1), SilverBell_16 (B1), SirBeauregard_15 (B1), Suffolk_16 (B1), Swiphy_16 (B1), Swish_16 (B1), TallGrassMM_16 (B1), Taraxa_16 (B1), Thora_16 (B1), ThreeOh3D2_16 (B1),

Thunderbird_15 (B1), TooFast2Furius_17 (B1), Triad_16 (B1), UncleHowie_16 (B1), Vaishali24_15 (B1), Virgeve_15 (B1), Vortex_16 (B1), Yoshand_16 (B1),

Summary by clusters:

There is one cluster represented in this pham: B1

Info for manual annotations of cluster B1:

•Start number 2 was manually annotated 88 times for cluster B1.

Gene Information:

Gene: ABU_16 Start: 13693, Stop: 13992, Start Num: 2

Candidate Starts for ABU_16:

(1, 13642), (Start: 2 @13693 has 88 MA's), (3, 13705), (4, 13708), (5, 13717), (6, 13738), (7, 13933),

Gene: Aleia_16 Start: 13274, Stop: 13573, Start Num: 2

Candidate Starts for Aleia_16:

(1, 13223), (Start: 2 @13274 has 88 MA's), (3, 13286), (4, 13289), (5, 13298), (6, 13319), (7, 13514),

Gene: Anderson_16 Start: 13686, Stop: 13985, Start Num: 2

Candidate Starts for Anderson_16:

(1, 13635), (Start: 2 @13686 has 88 MA's), (3, 13698), (4, 13701), (5, 13710), (6, 13731), (7, 13926),

Gene: Andre_16 Start: 13684, Stop: 13983, Start Num: 2

Candidate Starts for Andre_16:

(1, 13633), (Start: 2 @13684 has 88 MA's), (3, 13696), (4, 13699), (5, 13708), (6, 13729), (7, 13924),

Gene: Apizium_15 Start: 13430, Stop: 13729, Start Num: 2

Candidate Starts for Apizium_15:

(1, 13379), (Start: 2 @13430 has 88 MA's), (3, 13442), (4, 13445), (5, 13454), (6, 13475), (7, 13670),

Gene: Ashraf_15 Start: 13248, Stop: 13547, Start Num: 2

Candidate Starts for Ashraf_15:

(1, 13197), (Start: 2 @13248 has 88 MA's), (3, 13260), (4, 13263), (5, 13272), (6, 13293), (7, 13488),

Gene: Badfish_16 Start: 13719, Stop: 14018, Start Num: 2

Candidate Starts for Badfish_16:

(1, 13668), (Start: 2 @13719 has 88 MA's), (3, 13731), (4, 13734), (5, 13743), (6, 13764), (7, 13959),

Gene: Banjo_15 Start: 13397, Stop: 13696, Start Num: 2

Candidate Starts for Banjo_15:

(1, 13346), (Start: 2 @13397 has 88 MA's), (3, 13409), (4, 13412), (5, 13421), (6, 13442), (7, 13637),

Gene: Basato_17 Start: 13923, Stop: 14222, Start Num: 2

Candidate Starts for Basato_17:

(1, 13872), (Start: 2 @13923 has 88 MA's), (4, 13938), (5, 13947), (6, 13968), (7, 14163),

Gene: BatteryCK_15 Start: 13254, Stop: 13553, Start Num: 2

Candidate Starts for BatteryCK_15:

(1, 13203), (Start: 2 @13254 has 88 MA's), (3, 13266), (4, 13269), (5, 13278), (6, 13299), (7, 13494),

Gene: BlacksBerry_15 Start: 13408, Stop: 13707, Start Num: 2
Candidate Starts for BlacksBerry_15:
(1, 13357), (Start: 2 @13408 has 88 MA's), (3, 13420), (4, 13423), (5, 13432), (6, 13453), (7, 13648),

Gene: BoogieWoogie_15 Start: 13390, Stop: 13689, Start Num: 2
Candidate Starts for BoogieWoogie_15:
(1, 13339), (Start: 2 @13390 has 88 MA's), (3, 13402), (4, 13405), (5, 13414), (6, 13435), (7, 13630),

Gene: Caspiboi_15 Start: 13408, Stop: 13707, Start Num: 2
Candidate Starts for Caspiboi_15:
(1, 13357), (Start: 2 @13408 has 88 MA's), (3, 13420), (4, 13423), (5, 13432), (6, 13453), (7, 13648),

Gene: Chah_16 Start: 13720, Stop: 14019, Start Num: 2
Candidate Starts for Chah_16:
(1, 13669), (Start: 2 @13720 has 88 MA's), (3, 13732), (4, 13735), (5, 13744), (6, 13765), (7, 13960),

Gene: Chipette_17 Start: 13924, Stop: 14223, Start Num: 2
Candidate Starts for Chipette_17:
(1, 13873), (Start: 2 @13924 has 88 MA's), (4, 13939), (5, 13948), (6, 13969), (7, 14164),

Gene: Chuni_15 Start: 13717, Stop: 14016, Start Num: 2
Candidate Starts for Chuni_15:
(1, 13666), (Start: 2 @13717 has 88 MA's), (3, 13729), (4, 13732), (5, 13741), (6, 13762), (7, 13957),

Gene: Chute_15 Start: 13716, Stop: 14015, Start Num: 2
Candidate Starts for Chute_15:
(1, 13665), (Start: 2 @13716 has 88 MA's), (3, 13728), (4, 13731), (5, 13740), (6, 13761), (7, 13956),

Gene: Colbert_16 Start: 13704, Stop: 14003, Start Num: 2
Candidate Starts for Colbert_16:
(1, 13653), (Start: 2 @13704 has 88 MA's), (3, 13716), (4, 13719), (5, 13728), (6, 13749), (7, 13944),

Gene: Coletti_16 Start: 13716, Stop: 14015, Start Num: 2
Candidate Starts for Coletti_16:
(1, 13665), (Start: 2 @13716 has 88 MA's), (3, 13728), (4, 13731), (5, 13740), (6, 13761), (7, 13956),

Gene: Cornbread_15 Start: 13417, Stop: 13716, Start Num: 2
Candidate Starts for Cornbread_15:
(1, 13366), (Start: 2 @13417 has 88 MA's), (3, 13429), (4, 13432), (5, 13441), (6, 13462), (7, 13657),

Gene: Daffy_16 Start: 13426, Stop: 13725, Start Num: 2
Candidate Starts for Daffy_16:
(1, 13375), (Start: 2 @13426 has 88 MA's), (3, 13438), (4, 13441), (5, 13450), (6, 13471), (7, 13666),

Gene: DelRivs_15 Start: 13413, Stop: 13712, Start Num: 2
Candidate Starts for DelRivs_15:
(1, 13362), (Start: 2 @13413 has 88 MA's), (3, 13425), (4, 13428), (5, 13437), (6, 13458), (7, 13653),

Gene: Doddsville_16 Start: 13414, Stop: 13713, Start Num: 2
Candidate Starts for Doddsville_16:
(1, 13363), (Start: 2 @13414 has 88 MA's), (3, 13426), (4, 13429), (5, 13438), (6, 13459), (7, 13654),

Gene: DolOn_17 Start: 13936, Stop: 14235, Start Num: 2
Candidate Starts for DolOn_17:
(1, 13885), (Start: 2 @13936 has 88 MA's), (3, 13948), (4, 13951), (5, 13960), (6, 13981), (7, 14176),

Gene: DuchessDung_15 Start: 13254, Stop: 13553, Start Num: 2
Candidate Starts for DuchessDung_15:
(1, 13203), (Start: 2 @13254 has 88 MA's), (3, 13266), (4, 13269), (5, 13278), (6, 13299), (7, 13494),

Gene: ElvisPhasley_16 Start: 13714, Stop: 14013, Start Num: 2
Candidate Starts for ElvisPhasley_16:
(1, 13663), (Start: 2 @13714 has 88 MA's), (3, 13726), (4, 13729), (5, 13738), (6, 13759), (7, 13954),

Gene: Eremos_16 Start: 13701, Stop: 14000, Start Num: 2
Candidate Starts for Eremos_16:
(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: Etake_16 Start: 13686, Stop: 13985, Start Num: 2
Candidate Starts for Etake_16:
(1, 13635), (Start: 2 @13686 has 88 MA's), (3, 13698), (4, 13701), (5, 13710), (6, 13731), (7, 13926),

Gene: Eugenia_16 Start: 13714, Stop: 14013, Start Num: 2
Candidate Starts for Eugenia_16:
(1, 13663), (Start: 2 @13714 has 88 MA's), (3, 13726), (4, 13729), (5, 13738), (6, 13759), (7, 13954),

Gene: Fang_16 Start: 13717, Stop: 14016, Start Num: 2
Candidate Starts for Fang_16:
(1, 13666), (Start: 2 @13717 has 88 MA's), (3, 13729), (4, 13732), (5, 13741), (6, 13762), (7, 13957),

Gene: Flake_16 Start: 13718, Stop: 14017, Start Num: 2
Candidate Starts for Flake_16:
(1, 13667), (Start: 2 @13718 has 88 MA's), (3, 13730), (4, 13733), (5, 13742), (6, 13763), (7, 13958),

Gene: FleetyMac_15 Start: 13699, Stop: 13998, Start Num: 2
Candidate Starts for FleetyMac_15:
(1, 13648), (Start: 2 @13699 has 88 MA's), (3, 13711), (4, 13714), (5, 13723), (6, 13744), (7, 13939),

Gene: FluffyNinja_16 Start: 13705, Stop: 14004, Start Num: 2
Candidate Starts for FluffyNinja_16:
(1, 13654), (Start: 2 @13705 has 88 MA's), (3, 13717), (4, 13720), (5, 13729), (6, 13750), (7, 13945),

Gene: FremontTroll_16 Start: 13400, Stop: 13699, Start Num: 2
Candidate Starts for FremontTroll_16:
(1, 13349), (Start: 2 @13400 has 88 MA's), (3, 13412), (4, 13415), (5, 13424), (6, 13445), (7, 13640),

Gene: Gophee_16 Start: 13686, Stop: 13985, Start Num: 2
Candidate Starts for Gophee_16:
(1, 13635), (Start: 2 @13686 has 88 MA's), (3, 13698), (4, 13701), (5, 13710), (6, 13731), (7, 13926),

Gene: GreenChile_16 Start: 13703, Stop: 14002, Start Num: 2
Candidate Starts for GreenChile_16:
(1, 13652), (Start: 2 @13703 has 88 MA's), (3, 13715), (4, 13718), (5, 13727), (6, 13748), (7, 13943),

Gene: Gwennie1_16 Start: 13725, Stop: 14024, Start Num: 2

Candidate Starts for Gwennie1_16:

(1, 13674), (Start: 2 @13725 has 88 MA's), (3, 13737), (4, 13740), (5, 13749), (6, 13770), (7, 13965),

Gene: Hamish_16 Start: 13695, Stop: 13994, Start Num: 2

Candidate Starts for Hamish_16:

(1, 13644), (Start: 2 @13695 has 88 MA's), (3, 13707), (4, 13710), (5, 13719), (6, 13740), (7, 13935),

Gene: Happabalu_16 Start: 13395, Stop: 13694, Start Num: 2

Candidate Starts for Happabalu_16:

(1, 13344), (Start: 2 @13395 has 88 MA's), (3, 13407), (4, 13410), (5, 13419), (6, 13440), (7, 13635),

Gene: Harvey_16 Start: 13723, Stop: 14022, Start Num: 2

Candidate Starts for Harvey_16:

(1, 13672), (Start: 2 @13723 has 88 MA's), (3, 13735), (4, 13738), (5, 13747), (6, 13768), (7, 13963),

Gene: Hekos_15 Start: 13425, Stop: 13724, Start Num: 2

Candidate Starts for Hekos_15:

(1, 13374), (Start: 2 @13425 has 88 MA's), (3, 13437), (4, 13440), (5, 13449), (6, 13470), (7, 13665),

Gene: HogWash_15 Start: 13704, Stop: 14003, Start Num: 2

Candidate Starts for HogWash_15:

(1, 13653), (Start: 2 @13704 has 88 MA's), (3, 13716), (4, 13719), (5, 13728), (6, 13749), (7, 13944),

Gene: ImtiyazSitla_15 Start: 13248, Stop: 13547, Start Num: 2

Candidate Starts for ImtiyazSitla_15:

(1, 13197), (Start: 2 @13248 has 88 MA's), (3, 13260), (4, 13263), (5, 13272), (6, 13293), (7, 13488),

Gene: Inverness_16 Start: 13709, Stop: 14008, Start Num: 2

Candidate Starts for Inverness_16:

(1, 13658), (Start: 2 @13709 has 88 MA's), (3, 13721), (4, 13724), (5, 13733), (6, 13754), (7, 13949),

Gene: Iridoclysis_16 Start: 13681, Stop: 13980, Start Num: 2

Candidate Starts for Iridoclysis_16:

(1, 13630), (Start: 2 @13681 has 88 MA's), (3, 13693), (4, 13696), (5, 13705), (6, 13726), (7, 13921),

Gene: IsaacEli_16 Start: 13713, Stop: 14012, Start Num: 2

Candidate Starts for IsaacEli_16:

(1, 13662), (Start: 2 @13713 has 88 MA's), (3, 13725), (4, 13728), (5, 13737), (6, 13758), (7, 13953),

Gene: JDog_15 Start: 13416, Stop: 13715, Start Num: 2

Candidate Starts for JDog_15:

(1, 13365), (Start: 2 @13416 has 88 MA's), (3, 13428), (4, 13431), (5, 13440), (6, 13461), (7, 13656),

Gene: KLucky39_16 Start: 13701, Stop: 14000, Start Num: 2

Candidate Starts for KLucky39_16:

(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: Karn_15 Start: 13416, Stop: 13715, Start Num: 2

Candidate Starts for Karn_15:

(1, 13365), (Start: 2 @13416 has 88 MA's), (3, 13428), (4, 13431), (5, 13440), (6, 13461),

Gene: Katniss_16 Start: 13720, Stop: 14019, Start Num: 2

Candidate Starts for Katniss_16:

(1, 13669), (Start: 2 @13720 has 88 MA's), (3, 13732), (4, 13735), (5, 13744), (6, 13765), (7, 13960),

Gene: Khan1_16 Start: 13416, Stop: 13715, Start Num: 2

Candidate Starts for Khan1_16:

(1, 13365), (Start: 2 @13416 has 88 MA's), (3, 13428), (4, 13431), (5, 13440), (6, 13461), (7, 13656),

Gene: Kikipoo_16 Start: 13713, Stop: 14012, Start Num: 2

Candidate Starts for Kikipoo_16:

(1, 13662), (Start: 2 @13713 has 88 MA's), (3, 13725), (4, 13728), (5, 13737), (6, 13758), (7, 13953),

Gene: Larson_17 Start: 13718, Stop: 14017, Start Num: 2

Candidate Starts for Larson_17:

(1, 13667), (Start: 2 @13718 has 88 MA's), (3, 13730), (4, 13733), (5, 13742), (6, 13763), (7, 13958),

Gene: Lasso_16 Start: 13680, Stop: 13979, Start Num: 2

Candidate Starts for Lasso_16:

(1, 13629), (Start: 2 @13680 has 88 MA's), (3, 13692), (4, 13695), (5, 13704), (6, 13725), (7, 13920),

Gene: Lehmann_16 Start: 13245, Stop: 13544, Start Num: 2

Candidate Starts for Lehmann_16:

(1, 13194), (Start: 2 @13245 has 88 MA's), (3, 13257), (4, 13260), (5, 13269), (6, 13290), (7, 13485),

Gene: LeiMonet_16 Start: 13410, Stop: 13709, Start Num: 2

Candidate Starts for LeiMonet_16:

(1, 13359), (Start: 2 @13410 has 88 MA's), (3, 13422), (4, 13425), (5, 13434), (6, 13455), (7, 13650),

Gene: Longacauda_15 Start: 13404, Stop: 13703, Start Num: 2

Candidate Starts for Longacauda_15:

(1, 13353), (Start: 2 @13404 has 88 MA's), (3, 13416), (4, 13419), (5, 13428), (6, 13449), (7, 13644),

Gene: Lopsy_15 Start: 13260, Stop: 13559, Start Num: 2

Candidate Starts for Lopsy_15:

(1, 13209), (Start: 2 @13260 has 88 MA's), (3, 13272), (4, 13275), (5, 13284), (6, 13305), (7, 13500),

Gene: Mana_15 Start: 13408, Stop: 13707, Start Num: 2

Candidate Starts for Mana_15:

(1, 13357), (Start: 2 @13408 has 88 MA's), (3, 13420), (4, 13423), (5, 13432), (6, 13453), (7, 13648),

Gene: Manad_15 Start: 13258, Stop: 13557, Start Num: 2

Candidate Starts for Manad_15:

(1, 13207), (Start: 2 @13258 has 88 MA's), (4, 13273), (5, 13282), (6, 13303), (7, 13498),

Gene: Maskar_15 Start: 13248, Stop: 13547, Start Num: 2

Candidate Starts for Maskar_15:

(1, 13197), (Start: 2 @13248 has 88 MA's), (3, 13260), (4, 13263), (5, 13272), (6, 13293), (7, 13488),

Gene: Megamind20_16 Start: 13421, Stop: 13720, Start Num: 2

Candidate Starts for Megamind20_16:

(1, 13370), (Start: 2 @13421 has 88 MA's), (3, 13433), (4, 13436), (5, 13445), (6, 13466), (7, 13661),

Gene: Megatron_16 Start: 13701, Stop: 14000, Start Num: 2

Candidate Starts for Megatron_16:

(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: MelsMeow_15 Start: 13260, Stop: 13559, Start Num: 2
Candidate Starts for MelsMeow_15:
(1, 13209), (Start: 2 @13260 has 88 MA's), (3, 13272), (4, 13275), (5, 13284), (6, 13305), (7, 13500),

Gene: Mesmerelda_15 Start: 13402, Stop: 13701, Start Num: 2
Candidate Starts for Mesmerelda_15:
(1, 13351), (Start: 2 @13402 has 88 MA's), (3, 13414), (4, 13417), (5, 13426), (6, 13447), (7, 13642),

Gene: Morgushi_16 Start: 13412, Stop: 13711, Start Num: 2
Candidate Starts for Morgushi_16:
(1, 13361), (Start: 2 @13412 has 88 MA's), (3, 13424), (4, 13427), (5, 13436), (6, 13457), (7, 13652),

Gene: MrPhizzler_16 Start: 13413, Stop: 13712, Start Num: 2
Candidate Starts for MrPhizzler_16:
(1, 13362), (Start: 2 @13413 has 88 MA's), (3, 13425), (4, 13428), (5, 13437), (6, 13458), (7, 13653),

Gene: Murdoc_16 Start: 13701, Stop: 14000, Start Num: 2
Candidate Starts for Murdoc_16:
(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: Nathan_16 Start: 13711, Stop: 14010, Start Num: 2
Candidate Starts for Nathan_16:
(1, 13660), (Start: 2 @13711 has 88 MA's), (3, 13723), (4, 13726), (5, 13735), (6, 13756), (7, 13951),

Gene: Newman_16 Start: 13701, Stop: 14000, Start Num: 2
Candidate Starts for Newman_16:
(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: NiaNia_16 Start: 13426, Stop: 13725, Start Num: 2
Candidate Starts for NiaNia_16:
(1, 13375), (Start: 2 @13426 has 88 MA's), (3, 13438), (4, 13441), (5, 13450), (6, 13471), (7, 13666),

Gene: Nova1_15 Start: 13274, Stop: 13573, Start Num: 2
Candidate Starts for Nova1_15:
(1, 13223), (Start: 2 @13274 has 88 MA's), (3, 13286), (4, 13289), (5, 13298), (6, 13319), (7, 13514),

Gene: Numberten_16 Start: 13704, Stop: 14003, Start Num: 2
Candidate Starts for Numberten_16:
(1, 13653), (Start: 2 @13704 has 88 MA's), (3, 13716), (4, 13719), (5, 13728), (6, 13749), (7, 13944),

Gene: Nyala_15 Start: 13403, Stop: 13702, Start Num: 2
Candidate Starts for Nyala_15:
(1, 13352), (Start: 2 @13403 has 88 MA's), (3, 13415), (4, 13418), (5, 13427), (6, 13448), (7, 13643),

Gene: OSmaximus_16 Start: 13711, Stop: 14010, Start Num: 2
Candidate Starts for OSmaximus_16:
(1, 13660), (Start: 2 @13711 has 88 MA's), (3, 13723), (4, 13726), (5, 13735), (6, 13756), (7, 13951),

Gene: Olive_16 Start: 13692, Stop: 13991, Start Num: 2
Candidate Starts for Olive_16:
(1, 13641), (Start: 2 @13692 has 88 MA's), (3, 13704), (4, 13707), (5, 13716), (6, 13737), (7, 13932),

Gene: OliverWalter_16 Start: 13709, Stop: 14008, Start Num: 2

Candidate Starts for OliverWalter_16:

(1, 13658), (Start: 2 @13709 has 88 MA's), (4, 13724), (5, 13733), (6, 13754), (7, 13949),

Gene: OneBrain_16 Start: 13404, Stop: 13703, Start Num: 2

Candidate Starts for OneBrain_16:

(1, 13353), (Start: 2 @13404 has 88 MA's), (3, 13416), (4, 13419), (5, 13428), (6, 13449), (7, 13644),

Gene: Oosterbaan_16 Start: 13702, Stop: 14001, Start Num: 2

Candidate Starts for Oosterbaan_16:

(1, 13651), (Start: 2 @13702 has 88 MA's), (3, 13714), (4, 13717), (5, 13726), (6, 13747), (7, 13942),

Gene: Orion_16 Start: 13702, Stop: 14001, Start Num: 2

Candidate Starts for Orion_16:

(1, 13651), (Start: 2 @13702 has 88 MA's), (3, 13714), (4, 13717), (5, 13726), (6, 13747), (7, 13942),

Gene: Orwigg_15 Start: 13394, Stop: 13693, Start Num: 2

Candidate Starts for Orwigg_15:

(1, 13343), (Start: 2 @13394 has 88 MA's), (3, 13406), (4, 13409), (5, 13418), (6, 13439), (7, 13634),

Gene: PG1_16 Start: 13714, Stop: 14013, Start Num: 2

Candidate Starts for PG1_16:

(1, 13663), (Start: 2 @13714 has 88 MA's), (3, 13726), (4, 13729), (5, 13738), (6, 13759), (7, 13954),

Gene: PallasAthena_16 Start: 13409, Stop: 13708, Start Num: 2

Candidate Starts for PallasAthena_16:

(1, 13358), (Start: 2 @13409 has 88 MA's), (3, 13421), (4, 13424), (5, 13433), (6, 13454), (7, 13649),

Gene: PhatLouie_16 Start: 13701, Stop: 14000, Start Num: 2

Candidate Starts for PhatLouie_16:

(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: Phipps_16 Start: 13680, Stop: 13979, Start Num: 2

Candidate Starts for Phipps_16:

(1, 13629), (Start: 2 @13680 has 88 MA's), (3, 13692), (4, 13695), (5, 13704), (6, 13725), (7, 13920),

Gene: Pinkman_15 Start: 13260, Stop: 13559, Start Num: 2

Candidate Starts for Pinkman_15:

(1, 13209), (Start: 2 @13260 has 88 MA's), (3, 13272), (4, 13275), (5, 13284), (6, 13305), (7, 13500),

Gene: Pops_16 Start: 13704, Stop: 14003, Start Num: 2

Candidate Starts for Pops_16:

(1, 13653), (Start: 2 @13704 has 88 MA's), (3, 13716), (4, 13719), (5, 13728), (6, 13749), (7, 13944),

Gene: Potter_15 Start: 13415, Stop: 13714, Start Num: 2

Candidate Starts for Potter_15:

(1, 13364), (Start: 2 @13415 has 88 MA's), (3, 13427), (4, 13430), (5, 13439), (6, 13460), (7, 13655),

Gene: Prickles_16 Start: 13695, Stop: 13994, Start Num: 2

Candidate Starts for Prickles_16:

(1, 13644), (Start: 2 @13695 has 88 MA's), (4, 13710), (5, 13719), (6, 13740), (7, 13935),

Gene: Puhltonio_16 Start: 13710, Stop: 14009, Start Num: 2

Candidate Starts for Puhltonio_16:

(1, 13659), (Start: 2 @13710 has 88 MA's), (3, 13722), (4, 13725), (5, 13734), (6, 13755), (7, 13950),

Gene: RedRaider89_17 Start: 13933, Stop: 14232, Start Num: 2

Candidate Starts for RedRaider89_17:

(1, 13882), (Start: 2 @13933 has 88 MA's), (3, 13945), (4, 13948), (5, 13957), (6, 13978), (7, 14173),

Gene: Rimu_16 Start: 13413, Stop: 13712, Start Num: 2

Candidate Starts for Rimu_16:

(1, 13362), (Start: 2 @13413 has 88 MA's), (3, 13425), (4, 13428), (5, 13437), (6, 13458), (7, 13653),

Gene: Riverton_16 Start: 13707, Stop: 14006, Start Num: 2

Candidate Starts for Riverton_16:

(1, 13656), (Start: 2 @13707 has 88 MA's), (4, 13722), (5, 13731), (6, 13752), (7, 13947),

Gene: SallyH_16 Start: 13711, Stop: 14010, Start Num: 2

Candidate Starts for SallyH_16:

(1, 13660), (Start: 2 @13711 has 88 MA's), (3, 13723), (4, 13726), (5, 13735), (6, 13756), (7, 13951),

Gene: Scoot17C_16 Start: 13702, Stop: 14001, Start Num: 2

Candidate Starts for Scoot17C_16:

(1, 13651), (Start: 2 @13702 has 88 MA's), (3, 13714), (4, 13717), (5, 13726), (6, 13747), (7, 13942),

Gene: Serendipity_16 Start: 13722, Stop: 14021, Start Num: 2

Candidate Starts for Serendipity_16:

(1, 13671), (Start: 2 @13722 has 88 MA's), (3, 13734), (4, 13737), (5, 13746), (6, 13767), (7, 13962),

Gene: ShadowBud_16 Start: 13716, Stop: 14015, Start Num: 2

Candidate Starts for ShadowBud_16:

(1, 13665), (Start: 2 @13716 has 88 MA's), (3, 13728), (4, 13731), (5, 13740), (6, 13761), (7, 13956),

Gene: Sigman_16 Start: 13692, Stop: 13991, Start Num: 2

Candidate Starts for Sigman_16:

(1, 13641), (Start: 2 @13692 has 88 MA's), (3, 13704), (4, 13707), (5, 13716), (6, 13737), (7, 13932),

Gene: SilverBell_16 Start: 13707, Stop: 14006, Start Num: 2

Candidate Starts for SilverBell_16:

(1, 13656), (Start: 2 @13707 has 88 MA's), (3, 13719), (4, 13722), (5, 13731), (6, 13752), (7, 13947),

Gene: SirBeauregard_15 Start: 13368, Stop: 13667, Start Num: 2

Candidate Starts for SirBeauregard_15:

(1, 13317), (Start: 2 @13368 has 88 MA's), (3, 13380), (4, 13383), (5, 13392), (6, 13413), (7, 13608),

Gene: Suffolk_16 Start: 13700, Stop: 13999, Start Num: 2

Candidate Starts for Suffolk_16:

(1, 13649), (Start: 2 @13700 has 88 MA's), (3, 13712), (4, 13715), (5, 13724), (6, 13745), (7, 13940),

Gene: Swiphy_16 Start: 13701, Stop: 14000, Start Num: 2

Candidate Starts for Swiphy_16:

(1, 13650), (Start: 2 @13701 has 88 MA's), (3, 13713), (4, 13716), (5, 13725), (6, 13746), (7, 13941),

Gene: Swish_16 Start: 13696, Stop: 13995, Start Num: 2

Candidate Starts for Swish_16:

(1, 13645), (Start: 2 @13696 has 88 MA's), (3, 13708), (4, 13711), (5, 13720), (6, 13741), (7, 13936),

Gene: TallGrassMM_16 Start: 13426, Stop: 13725, Start Num: 2

Candidate Starts for TallGrassMM_16:

(1, 13375), (Start: 2 @13426 has 88 MA's), (3, 13438), (4, 13441), (5, 13450), (6, 13471), (7, 13666),

Gene: Taraxa_16 Start: 13280, Stop: 13579, Start Num: 2

Candidate Starts for Taraxa_16:

(1, 13229), (Start: 2 @13280 has 88 MA's), (3, 13292), (4, 13295), (5, 13304), (6, 13325), (7, 13520),

Gene: Thora_16 Start: 13710, Stop: 14009, Start Num: 2

Candidate Starts for Thora_16:

(1, 13659), (Start: 2 @13710 has 88 MA's), (3, 13722), (4, 13725), (5, 13734), (6, 13755), (7, 13950),

Gene: ThreeOh3D2_16 Start: 13711, Stop: 14010, Start Num: 2

Candidate Starts for ThreeOh3D2_16:

(1, 13660), (Start: 2 @13711 has 88 MA's), (3, 13723), (4, 13726), (5, 13735), (6, 13756), (7, 13951),

Gene: Thunderbird_15 Start: 13410, Stop: 13709, Start Num: 2

Candidate Starts for Thunderbird_15:

(1, 13359), (Start: 2 @13410 has 88 MA's), (4, 13425), (5, 13434), (6, 13455), (7, 13650),

Gene: TooFast2Furius_17 Start: 13942, Stop: 14241, Start Num: 2

Candidate Starts for TooFast2Furius_17:

(1, 13891), (Start: 2 @13942 has 88 MA's), (3, 13954), (4, 13957), (5, 13966), (6, 13987), (7, 14182),

Gene: Triad_16 Start: 13245, Stop: 13544, Start Num: 2

Candidate Starts for Triad_16:

(1, 13194), (Start: 2 @13245 has 88 MA's), (3, 13257), (4, 13260), (5, 13269), (6, 13290), (7, 13485),

Gene: UncleHowie_16 Start: 13408, Stop: 13707, Start Num: 2

Candidate Starts for UncleHowie_16:

(1, 13357), (Start: 2 @13408 has 88 MA's), (3, 13420), (4, 13423), (5, 13432), (6, 13453), (7, 13648),

Gene: Vaishali24_15 Start: 13361, Stop: 13660, Start Num: 2

Candidate Starts for Vaishali24_15:

(1, 13310), (Start: 2 @13361 has 88 MA's), (3, 13373), (4, 13376), (5, 13385), (6, 13406), (7, 13601),

Gene: Virgeve_15 Start: 13414, Stop: 13713, Start Num: 2

Candidate Starts for Virgeve_15:

(1, 13363), (Start: 2 @13414 has 88 MA's), (3, 13426), (4, 13429), (5, 13438), (6, 13459), (7, 13654),

Gene: Vortex_16 Start: 13415, Stop: 13714, Start Num: 2

Candidate Starts for Vortex_16:

(1, 13364), (Start: 2 @13415 has 88 MA's), (3, 13427), (4, 13430), (5, 13439), (6, 13460), (7, 13655),

Gene: Yoshand_16 Start: 13705, Stop: 14004, Start Num: 2

Candidate Starts for Yoshand_16:

(1, 13654), (Start: 2 @13705 has 88 MA's), (3, 13717), (4, 13720), (5, 13729), (6, 13750), (7, 13945),