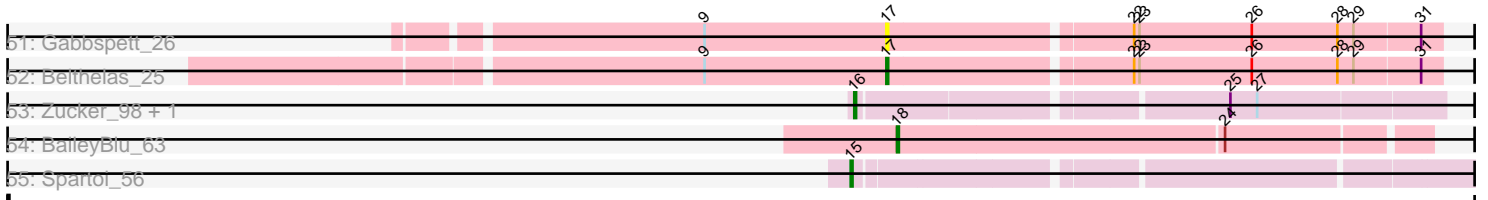


Pham 163363



Pham 163363



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 163363 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163363 has 193 members, 39 are drafts.

Phages represented in each track:

- Track 1 : PHL111M01_45, Supernova_45, Wizzo_44, Cota_45
- Track 2 : PHL037M02_45
- Track 3 : Leviosa_44, PHL112N00_46, Aquarius_48, P101A_47, PHL060L00_46
- Track 4 : P104B_44, P104A_45, P100D_47, Kubed_44, Enoki_45, Procrass1_45, LilBandit_45
- Track 5 : P100.1_47, P106I_46, P106C_46, P106A_45, P106M_45, P106L_45
- Track 6 : BruceLethal_44, PHL010M04_45
- Track 7 : P1.1_45
- Track 8 : PA6_48
- Track 9 : Stormborn_46, QueenBey_43, Attacne_45
- Track 10 : Pirate_44
- Track 11 : DrParker_45
- Track 12 : Lauchelly_45
- Track 13 : P107A_45
- Track 14 : PHL113M01_44
- Track 15 : PAD20_48
- Track 16 : P107C_44, ATCC29399BC_46, ATCC29399BT_46
- Track 17 : Keiki_45
- Track 18 : P9.1_45
- Track 19 : MrAK_46
- Track 20 : Ouroboros_45
- Track 21 : Solid_45
- Track 22 : PHL114L00_46
- Track 23 : P14.4_47
- Track 24 : P100A_45
- Track 25 : PHL067M10_45
- Track 26 : PAS50_48
- Track 27 : PHL071N05_45
- Track 28 : Moyashi_44
- Track 29 : P108C_44, P105_45
- Track 30 : SKKY_47
- Track 31 : E6_60, G4_69, B22_61, Doucette_61
- Track 32 : KyriosFaba_25, Bradley2_25, Anseraureola_25, Lola20_25, Jahseh_25, Gillker_25, Baine_26, Yasuo_25, Danimal_25, Cayde6_26, EdElric_25
- Track 33 : Douggie_25, Kevanna_25, MelBee03_25, Leafy_25, Loca_25, Quaker_25, Livingwater_25

- Track 34 : Picnic_25, Majesty_25, Goobery_25, JaimeB_25, Ciel_25, GoldenBlanche_26, Chatham_25, Aztec_25, Pondwater_25, Jannah_25, Witch_25, NeumannU_25, Erin_25, Scrunchy_25, Yubaba_25, Astro16_25, Minima_25, Dongwon_25, Horacetta_25, Gardevoir_25, SeaWolves_25, JoBros_25, BarBear_25, PaoPu_25, YertPhresh_25, Hernandez44_25, Alucard_25, BurtonThePup_25, ManAs_25, Slentz_25, Dooby_25, Puddles3_26, Luxx_25, Sara_25, Owens_25, Octopus_25, LemonPepper_26, BinkBonk_25
- Track 35 : Biscayne_26
- Track 36 : Stem_25, Niffler_25, Nobel_25
- Track 37 : Bodhi17_26, Kaijohn_25, MrGreen_25, Scamander_25, Avvas_27, Kojax4_25, Josuke_25, Otwor_25, Wolfpack_25, Vanisius_25, Jerky_25, LaviMo_25, SantasSleigh_28, Maneater_27, Godfather_25, KayPaulus_25, Sage7_28, Rhysand_25, Danno_25, Cheesecake_25, Charbie_25, TimoTea_25, Sippinontea_25, Aries55_25, Burgy_25, VitulaEligans_25, RoscoWindex_27
- Track 38 : TomBrady12_26, TinyTruffula_25, Publix_26, Clownery_25, Trireme_25, Cazares_25, Yami_25, Bullzi2019_26, Slizam_25, Miaurora_25, Lunatic_25, Namsahir_27, PuffyCat_25, Snuffles_27
- Track 39 : Efeko_27
- Track 40 : Eightball_25
- Track 41 : JRok_25, BrokMonster_25, McShie_25
- Track 42 : JooneeDee_26, Bintii_26, MirimarMandM_25, Upsilon_25, Elspeth_27, HarperAnne_26, Ekko14_26, PoRanda_25
- Track 43 : Naby_26
- Track 44 : KillerTomato_25, Concrete_25, BoomRoasted_25, Bri160_25
- Track 45 : Azizam_25, Oaklynn_26
- Track 46 : Rhogar_25, LionelHutz_25, TeddyBoy_25
- Track 47 : BonaeVitae_27
- Track 48 : MasterPitts_27, DaftyDuck_27
- Track 49 : Noelani_25
- Track 50 : Hulk_25
- Track 51 : Gabbspett_26
- Track 52 : Belthelas_25
- Track 53 : Zucker_98, BlackSpider_87
- Track 54 : BaileyBlu_63
- Track 55 : Spartoi_56

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

The start number called the most often in the published annotations is 17, it was called in 105 of the 154 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alucard_25, Anseraureola_25, Aries55_25, Astro16_25, Avvas_27, Azizam_25, Aztec_25, Baine_26, BarBear_25, Belthelas_25, BinkBonk_25, Bintii_26, Biscayne_26, Bodhi17_26, BonaeVitae_27, BoomRoasted_25, Bradley2_25, Bri160_25, BrokMonster_25, Bullzi2019_26, Burgy_25, BurtonThePup_25, Cayde6_26, Cazares_25, Charbie_25, Chatham_25, Cheesecake_25, Ciel_25, Clownery_25, Concrete_25, DaftyDuck_27, Danimal_25, Danno_25, Dongwon_25, Dooby_25, Duggie_25, EdEric_25, Efeko_27, Eightball_25, Ekko14_26, Elspeth_27, Erin_25, Gabbspett_26, Gardevoir_25, Gillker_25, Godfather_25,

GoldenBlanche_26, Goobery_25, HarperAnne_26, Hernandez44_25, Horacetta_25, Hulk_25, JRok_25, Jahseh_25, JaimeB_25, Jannah_25, Jerky_25, JoBros_25, JooneeDee_26, Josuke_25, Kaijohn_25, KayPaulus_25, Kevanna_25, KillerTomato_25, Kojax4_25, KyriosFaba_25, LaviMo_25, Leafy_25, LemonPepper_26, LionelHutz_25, Livingwater_25, Loca_25, Lola20_25, Lunatic_25, Luxx_25, Majesty_25, ManAs_25, Maneater_27, MasterPitts_27, McShie_25, MelBee03_25, Miaurora_25, Minima_25, MirimarMandM_25, MrGreen_25, Naby_26, Namsahir_27, NeumannU_25, Niffler_25, Nobel_25, Noelani_25, Oaklynn_26, Octopus_25, Otwor_25, Owens_25, PaoPu_25, Picnic_25, PoRanda_25, Pondwater_25, Publix_26, Puddles3_26, PuffyCat_25, Quaker_25, Rhogar_25, Rhysand_25, RoscoWindex_27, Sage7_28, SantasSleigh_28, Sara_25, Scamander_25, Scrunchy_25, SeaWolves_25, Sippinontea_25, Slentz_25, Slizam_25, Snuffles_27, Stem_25, TeddyBoy_25, TimoTea_25, TinyTruffula_25, TomBrady12_26, Trireme_25, Upsilon_25, Vanisius_25, VitulaEligans_25, Witch_25, Wolfpack_25, Yami_25, Yasuo_25, YertPhresh_25, Yubaba_25,

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

-

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

- ATCC29399BC_46, ATCC29399BT_46, Aquarius_48, Attacne_45, B22_61, BaileyBlu_63, BlackSpider_87, BruceLethal_44, Cota_45, Doucette_61, DrParker_45, E6_60, Enoki_45, G4_69, Keiki_45, Kubed_44, Lauchelly_45, Leviosa_44, LilBandit_45, Moyashi_44, MrAK_46, Ouroboros_45, P1.1_45, P100.1_47, P100A_45, P100D_47, P101A_47, P104A_45, P104B_44, P105_45, P106A_45, P106C_46, P106I_46, P106L_45, P106M_45, P107A_45, P107C_44, P108C_44, P14.4_47, P9.1_45, PA6_48, PAD20_48, PAS50_48, PHL010M04_45, PHL037M02_45, PHL060L00_46, PHL067M10_45, PHL071N05_45, PHL111M01_45, PHL112N00_46, PHL113M01_44, PHL114L00_46, Pirate_44, Procrass1_45, QueenBey_43, SKKY_47, Solid_45, Spartoi_56, Stormborn_46, Supernova_45, Wizzo_44, Zucker_98,

Summary by start number:

Start 14:

- Found in 20 of 193 (10.4%) of genes in pham
- Manual Annotations of this start: 3 of 154
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Keiki_45 (BU), P1.1_45 (BU), P14.4_47 (BU), PAS50_48 (BU), PHL113M01_44 (BU),

Start 15:

- Found in 1 of 193 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 154
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spartoi_56 (singleton),

Start 16:

- Found in 60 of 193 (31.1%) of genes in pham
- Manual Annotations of this start: 44 of 154
- Called 91.7% of time when present
- Phage (with cluster) where this start called: ATCC29399BC_46 (BU), ATCC29399BT_46 (BU), Aquarius_48 (BU), Attacne_45 (BU), B22_61 (BW),

BlackSpider_87 (FN), BruceLethal_44 (BU), Cota_45 (BU), Doucette_61 (BW), DrParker_45 (BU), E6_60 (BW), Enoki_45 (BU), G4_69 (BW), Kubed_44 (BU), Lauchelly_45 (BU), Leviosa_44 (BU), LilBandit_45 (BU), Moyashi_44 (BU), MrAK_46 (BU), Ouroboros_45 (BU), P100.1_47 (BU), P100A_45 (BU), P100D_47 (BU), P101A_47 (BU), P104A_45 (BU), P104B_44 (BU), P105_45 (BU), P106A_45 (BU), P106C_46 (BU), P106I_46 (BU), P106L_45 (BU), P106M_45 (BU), P107A_45 (BU), P107C_44 (BU), P108C_44 (BU), P9.1_45 (BU), PA6_48 (BU), PAD20_48 (BU), PHL010M04_45 (BU), PHL037M02_45 (BU), PHL060L00_46 (BU), PHL067M10_45 (BU), PHL071N05_45 (BU), PHL111M01_45 (BU), PHL112N00_46 (BU), PHL114L00_46 (BU), Pirate_44 (BU), Procrass1_45 (BU), QueenBey_43 (BU), SKKY_47 (BU), Solid_45 (BU), Stormborn_46 (BU), Supernova_45 (BU), Wizzo_44 (BU), Zucker_98 (FN),

Start 17:

- Found in 131 of 193 (67.9%) of genes in pham
- Manual Annotations of this start: 105 of 154
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alucard_25 (EE), Anseraureola_25 (EE), Aries55_25 (EE), Astro16_25 (EE), Avvas_27 (EE), Azizam_25 (EE), Aztec_25 (EE), Baine_26 (EE), BarBear_25 (EE), Belthelas_25 (EE), BinkBonk_25 (EE), Bintii_26 (EE), Biscayne_26 (EE), Bodhi17_26 (EE), BonaeVitae_27 (EE), BoomRoasted_25 (EE), Bradley2_25 (EE), Bri160_25 (EE), BrokMonster_25 (EE), Bullzi2019_26 (EE), Burgy_25 (EE), BurtonThePup_25 (EE), Cayde6_26 (EE), Cazares_25 (EE), Charbie_25 (EE), Chatham_25 (EE), Cheesecake_25 (EE), Ciel_25 (EE), Clownery_25 (EE), Concrete_25 (EE), DaftyDuck_27 (EE), Danimal_25 (EE), Danno_25 (EE), Dongwon_25 (EE), Dooby_25 (EE), Duggie_25 (EE), EdElric_25 (EE), Efeko_27 (EE), Eightball_25 (EE), Ekko14_26 (EE), Elspeth_27 (EE), Erin_25 (EE), Gabbspett_26 (EE), Gardevoir_25 (EE), Gillker_25 (EE), Godfather_25 (EE), GoldenBlanche_26 (EE), Goobery_25 (EE), HarperAnne_26 (EE), Hernandez44_25 (EE), Horacetta_25 (EE), Hulk_25 (EE), JRok_25 (EE), Jahseh_25 (EE), JaimeB_25 (EE), Jannah_25 (EE), Jerky_25 (EE), JoBros_25 (EE), JooneeDee_26 (EE), Josuke_25 (EE), Kaijohn_25 (EE), KayPaulus_25 (EE), Kevanna_25 (EE), KillerTomato_25 (EE), Kojax4_25 (EE), KyriosFaba_25 (EE), LaviMo_25 (EE), Leafy_25 (EE), LemonPepper_26 (EE), LionelHutz_25 (EE), Livingwater_25 (EE), Loca_25 (EE), Lola20_25 (EE), Lunatic_25 (EE), Luxx_25 (EE), Majesty_25 (EE), ManAs_25 (EE), Maneater_27 (EE), MasterPitts_27 (EE), McShie_25 (EE), MelBee03_25 (EE), Miaurora_25 (EE), Minima_25 (EE), MirimarMandM_25 (EE), MrGreen_25 (EE), Naby_26 (EE), Namsahir_27 (EE), NeumannU_25 (EE), Niffler_25 (EE), Nobel_25 (EE), Noelani_25 (EE), Oaklynn_26 (EE), Octopus_25 (EE), Otwor_25 (EE), Owens_25 (EE), PaoPu_25 (EE), Picnic_25 (EE), PoRanda_25 (EE), Pondwater_25 (EE), Publix_26 (EE), Puddles3_26 (EE), PuffyCat_25 (EE), Quaker_25 (EE), Rhogar_25 (EE), Rhysand_25 (EE), RoscoWindex_27 (EE), Sage7_28 (EE), SantasSleigh_28 (EE), Sara_25 (EE), Scamander_25 (EE), Scrunchy_25 (EE), SeaWolves_25 (EE), Sippinontea_25 (EE), Slentz_25 (EE), Slizam_25 (EE), Snuffles_27 (EE), Stem_25 (EE), TeddyBoy_25 (EE), TimoTea_25 (EE), TinyTruffula_25 (EE), TomBrady12_26 (EE), Trireme_25 (EE), Upsilon_25 (EE), Vanisius_25 (EE), VitulaEligans_25 (EE), Witch_25 (EE), Wolfpack_25 (EE), Yami_25 (EE), Yasuo_25 (EE), YertPhresh_25 (EE), Yubaba_25 (EE),

Start 18:

- Found in 1 of 193 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 154

- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaileyBlu_63 (FP),

Summary by clusters:

There are 6 clusters represented in this pham: FP, singleton, EE, BU, BW, FN,

Info for manual annotations of cluster BU:

- Start number 14 was manually annotated 3 times for cluster BU.
- Start number 16 was manually annotated 39 times for cluster BU.

Info for manual annotations of cluster BW:

- Start number 16 was manually annotated 4 times for cluster BW.

Info for manual annotations of cluster EE:

- Start number 17 was manually annotated 105 times for cluster EE.

Info for manual annotations of cluster FN:

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

Info for manual annotations of cluster FP:

- Start number 18 was manually annotated 1 time for cluster FP.

Gene Information:

Gene: ATCC29399BC_46 Start: 29152, Stop: 29454, Start Num: 16

Candidate Starts for ATCC29399BC_46:

(11, 29134), (Start: 16 @29152 has 44 MA's),

Gene: ATCC29399BT_46 Start: 29152, Stop: 29454, Start Num: 16

Candidate Starts for ATCC29399BT_46:

(11, 29134), (Start: 16 @29152 has 44 MA's),

Gene: Alucard_25 Start: 16990, Stop: 17289, Start Num: 17

Candidate Starts for Alucard_25:

(Start: 17 @16990 has 105 MA's), (22, 17119), (23, 17122), (26, 17185), (28, 17233), (29, 17242), (31, 17278),

Gene: Anseraureola_25 Start: 17052, Stop: 17351, Start Num: 17

Candidate Starts for Anseraureola_25:

(9, 16950), (Start: 17 @17052 has 105 MA's), (22, 17181), (23, 17184), (26, 17247), (28, 17295), (29, 17304), (31, 17340),

Gene: Aquarius_48 Start: 29747, Stop: 30049, Start Num: 16

Candidate Starts for Aquarius_48:

(Start: 16 @29747 has 44 MA's),

Gene: Aries55_25 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Aries55_25:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: Astro16_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for Astro16_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Attacne_45 Start: 28511, Stop: 28813, Start Num: 16

Candidate Starts for Attacne_45:

(Start: 14 @28508 has 3 MA's), (Start: 16 @28511 has 44 MA's), (30, 28799),

Gene: Avvas_27 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Avvas_27:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: Azizam_25 Start: 17012, Stop: 17311, Start Num: 17

Candidate Starts for Azizam_25:

(3, 16631), (6, 16640), (9, 16910), (Start: 17 @17012 has 105 MA's), (22, 17141), (23, 17144), (26, 17207), (28, 17255), (29, 17264), (31, 17300),

Gene: Aztec_25 Start: 16995, Stop: 17294, Start Num: 17

Candidate Starts for Aztec_25:

(Start: 17 @16995 has 105 MA's), (22, 17124), (23, 17127), (26, 17190), (28, 17238), (29, 17247), (31, 17283),

Gene: B22_61 Start: 36822, Stop: 37160, Start Num: 16

Candidate Starts for B22_61:

(11, 36804), (Start: 16 @36822 has 44 MA's), (19, 36855), (21, 36930),

Gene: BaileyBlu_63 Start: 40002, Stop: 40289, Start Num: 18

Candidate Starts for BaileyBlu_63:

(Start: 18 @40002 has 1 MA's), (24, 40182),

Gene: Baine_26 Start: 17015, Stop: 17314, Start Num: 17

Candidate Starts for Baine_26:

(9, 16913), (Start: 17 @17015 has 105 MA's), (22, 17144), (23, 17147), (26, 17210), (28, 17258), (29, 17267), (31, 17303),

Gene: BarBear_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for BarBear_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Belthelas_25 Start: 17128, Stop: 17427, Start Num: 17

Candidate Starts for Belthelas_25:

(9, 17026), (Start: 17 @17128 has 105 MA's), (22, 17257), (23, 17260), (26, 17323), (28, 17371), (29, 17380), (31, 17416),

Gene: BinkBonk_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for BinkBonk_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Bintii_26 Start: 17094, Stop: 17393, Start Num: 17

Candidate Starts for Bintii_26:

(9, 16992), (Start: 17 @17094 has 105 MA's), (22, 17223), (23, 17226), (26, 17289), (28, 17337), (29, 17346), (31, 17382),

Gene: Biscayne_26 Start: 17155, Stop: 17454, Start Num: 17

Candidate Starts for Biscayne_26:

(9, 17053), (10, 17077), (Start: 17 @17155 has 105 MA's), (22, 17284), (23, 17287), (26, 17350), (28, 17398), (29, 17407), (31, 17443),

Gene: BlackSpider_87 Start: 50168, Stop: 50473, Start Num: 16

Candidate Starts for BlackSpider_87:

(Start: 16 @50168 has 44 MA's), (25, 50357), (27, 50372),

Gene: Bodhi17_26 Start: 17109, Stop: 17408, Start Num: 17

Candidate Starts for Bodhi17_26:

(9, 17007), (Start: 17 @17109 has 105 MA's), (22, 17238), (23, 17241), (26, 17304), (28, 17352), (29, 17361), (31, 17397),

Gene: BonaeVitae_27 Start: 17082, Stop: 17384, Start Num: 17

Candidate Starts for BonaeVitae_27:

(9, 16983), (Start: 17 @17082 has 105 MA's), (22, 17211), (26, 17277), (28, 17325), (29, 17334),

Gene: BoomRoasted_25 Start: 17082, Stop: 17381, Start Num: 17

Candidate Starts for BoomRoasted_25:

(9, 16980), (Start: 17 @17082 has 105 MA's), (22, 17211), (23, 17214), (26, 17277), (28, 17325), (29, 17334), (31, 17370),

Gene: Bradley2_25 Start: 16994, Stop: 17293, Start Num: 17

Candidate Starts for Bradley2_25:

(9, 16892), (Start: 17 @16994 has 105 MA's), (22, 17123), (23, 17126), (26, 17189), (28, 17237), (29, 17246), (31, 17282),

Gene: Bri160_25 Start: 17069, Stop: 17368, Start Num: 17

Candidate Starts for Bri160_25:

(9, 16967), (Start: 17 @17069 has 105 MA's), (22, 17198), (23, 17201), (26, 17264), (28, 17312), (29, 17321), (31, 17357),

Gene: BrokMonster_25 Start: 17060, Stop: 17359, Start Num: 17

Candidate Starts for BrokMonster_25:

(1, 16586), (2, 16658), (9, 16958), (Start: 17 @17060 has 105 MA's), (22, 17189), (23, 17192), (26, 17255), (28, 17303), (29, 17312), (31, 17348),

Gene: BruceLethal_44 Start: 28884, Stop: 29186, Start Num: 16

Candidate Starts for BruceLethal_44:

(Start: 16 @28884 has 44 MA's),

Gene: Bullzi2019_26 Start: 16770, Stop: 17069, Start Num: 17

Candidate Starts for Bullzi2019_26:

(9, 16668), (Start: 17 @16770 has 105 MA's), (22, 16899), (23, 16902), (26, 16965), (28, 17013), (29, 17022),

Gene: Burgy_25 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for Burgy_25:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: BurtonThePup_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for BurtonThePup_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Cayde6_26 Start: 17015, Stop: 17314, Start Num: 17

Candidate Starts for Cayde6_26:

(9, 16913), (Start: 17 @17015 has 105 MA's), (22, 17144), (23, 17147), (26, 17210), (28, 17258), (29, 17267), (31, 17303),

Gene: Cazares_25 Start: 16542, Stop: 16841, Start Num: 17

Candidate Starts for Cazares_25:

(9, 16440), (Start: 17 @16542 has 105 MA's), (22, 16671), (23, 16674), (26, 16737), (28, 16785), (29, 16794),

Gene: Charbie_25 Start: 17055, Stop: 17354, Start Num: 17

Candidate Starts for Charbie_25:

(9, 16953), (Start: 17 @17055 has 105 MA's), (22, 17184), (23, 17187), (26, 17250), (28, 17298), (29, 17307), (31, 17343),

Gene: Chatham_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Chatham_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Cheesecake_25 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for Cheesecake_25:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: Ciel_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for Ciel_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Clownery_25 Start: 16668, Stop: 16967, Start Num: 17

Candidate Starts for Clownery_25:

(9, 16566), (Start: 17 @16668 has 105 MA's), (22, 16797), (23, 16800), (26, 16863), (28, 16911), (29, 16920),

Gene: Concrete_25 Start: 17059, Stop: 17358, Start Num: 17

Candidate Starts for Concrete_25:

(9, 16957), (Start: 17 @17059 has 105 MA's), (22, 17188), (23, 17191), (26, 17254), (28, 17302), (29, 17311), (31, 17347),

Gene: Cota_45 Start: 29185, Stop: 29487, Start Num: 16

Candidate Starts for Cota_45:

(Start: 14 @29182 has 3 MA's), (Start: 16 @29185 has 44 MA's), (30, 29473),

Gene: DaftyDuck_27 Start: 17012, Stop: 17311, Start Num: 17

Candidate Starts for DaftyDuck_27:

(9, 16910), (Start: 17 @17012 has 105 MA's), (22, 17141), (23, 17144), (26, 17207), (28, 17255), (29, 17264),

Gene: Danimal_25 Start: 16991, Stop: 17290, Start Num: 17

Candidate Starts for Danimal_25:

(9, 16889), (Start: 17 @16991 has 105 MA's), (22, 17120), (23, 17123), (26, 17186), (28, 17234), (29, 17243), (31, 17279),

Gene: Danno_25 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Danno_25:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: Dongwon_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Dongwon_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Dooby_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Dooby_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Doucette_61 Start: 37032, Stop: 37370, Start Num: 16

Candidate Starts for Doucette_61:

(11, 37014), (Start: 16 @37032 has 44 MA's), (21, 37140),

Gene: Douggie_25 Start: 17065, Stop: 17364, Start Num: 17

Candidate Starts for Douggie_25:

(9, 16963), (Start: 17 @17065 has 105 MA's), (22, 17194), (23, 17197), (26, 17260), (28, 17308), (29, 17317), (31, 17353),

Gene: DrParker_45 Start: 29378, Stop: 29680, Start Num: 16

Candidate Starts for DrParker_45:

(Start: 14 @29375 has 3 MA's), (Start: 16 @29378 has 44 MA's), (30, 29666),

Gene: E6_60 Start: 37670, Stop: 38008, Start Num: 16

Candidate Starts for E6_60:

(11, 37652), (Start: 16 @37670 has 44 MA's), (21, 37778),

Gene: EdElric_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for EdElric_25:

(9, 16887), (Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Efeke_27 Start: 16867, Stop: 17157, Start Num: 17

Candidate Starts for Efeke_27:

(Start: 17 @16867 has 105 MA's), (22, 16996), (23, 16999), (26, 17062), (28, 17110),

Gene: Eightball_25 Start: 17066, Stop: 17365, Start Num: 17

Candidate Starts for Eightball_25:

(9, 16964), (Start: 17 @17066 has 105 MA's), (22, 17195), (23, 17198), (26, 17261), (28, 17309), (29, 17318), (31, 17354),

Gene: Ekko14_26 Start: 16744, Stop: 17043, Start Num: 17

Candidate Starts for Ekko14_26:

(9, 16642), (Start: 17 @16744 has 105 MA's), (22, 16873), (23, 16876), (26, 16939), (28, 16987), (29, 16996), (31, 17032),

Gene: Elspeth_27 Start: 16744, Stop: 17043, Start Num: 17

Candidate Starts for Elspeth_27:

(9, 16642), (Start: 17 @16744 has 105 MA's), (22, 16873), (23, 16876), (26, 16939), (28, 16987), (29, 16996), (31, 17032),

Gene: Enoki_45 Start: 28982, Stop: 29284, Start Num: 16

Candidate Starts for Enoki_45:

(Start: 16 @28982 has 44 MA's), (30, 29270),

Gene: Erin_25 Start: 16987, Stop: 17286, Start Num: 17

Candidate Starts for Erin_25:

(Start: 17 @16987 has 105 MA's), (22, 17116), (23, 17119), (26, 17182), (28, 17230), (29, 17239), (31, 17275),

Gene: G4_69 Start: 38158, Stop: 38496, Start Num: 16

Candidate Starts for G4_69:

(11, 38140), (Start: 16 @38158 has 44 MA's), (19, 38191), (21, 38266),

Gene: Gabbspett_26 Start: 17109, Stop: 17408, Start Num: 17

Candidate Starts for Gabbspett_26:

(9, 17007), (Start: 17 @17109 has 105 MA's), (22, 17238), (23, 17241), (26, 17304), (28, 17352), (29, 17361), (31, 17397),

Gene: Gardevoir_25 Start: 17023, Stop: 17322, Start Num: 17

Candidate Starts for Gardevoir_25:

(Start: 17 @17023 has 105 MA's), (22, 17152), (23, 17155), (26, 17218), (28, 17266), (29, 17275), (31, 17311),

Gene: Gillker_25 Start: 16988, Stop: 17287, Start Num: 17

Candidate Starts for Gillker_25:

(9, 16886), (Start: 17 @16988 has 105 MA's), (22, 17117), (23, 17120), (26, 17183), (28, 17231), (29, 17240), (31, 17276),

Gene: Godfather_25 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Godfather_25:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: GoldenBlanche_26 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for GoldenBlanche_26:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Goobery_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for Goobery_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: HarperAnne_26 Start: 16743, Stop: 17042, Start Num: 17

Candidate Starts for HarperAnne_26:

(9, 16641), (Start: 17 @16743 has 105 MA's), (22, 16872), (23, 16875), (26, 16938), (28, 16986), (29, 16995), (31, 17031),

Gene: Hernandez44_25 Start: 17104, Stop: 17403, Start Num: 17

Candidate Starts for Hernandez44_25:

(Start: 17 @17104 has 105 MA's), (22, 17233), (23, 17236), (26, 17299), (28, 17347), (29, 17356), (31, 17392),

Gene: Horacetta_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Horacetta_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Hulk_25 Start: 17022, Stop: 17321, Start Num: 17

Candidate Starts for Hulk_25:

(4, 16653), (7, 16662), (9, 16920), (Start: 17 @17022 has 105 MA's), (22, 17151), (23, 17154), (26, 17217), (28, 17265), (29, 17274), (31, 17310),

Gene: JRok_25 Start: 17009, Stop: 17308, Start Num: 17

Candidate Starts for JRok_25:

(1, 16535), (2, 16607), (9, 16907), (Start: 17 @17009 has 105 MA's), (22, 17138), (23, 17141), (26, 17204), (28, 17252), (29, 17261), (31, 17297),

Gene: Jahseh_25 Start: 16995, Stop: 17294, Start Num: 17

Candidate Starts for Jahseh_25:

(9, 16893), (Start: 17 @16995 has 105 MA's), (22, 17124), (23, 17127), (26, 17190), (28, 17238), (29, 17247), (31, 17283),

Gene: JaimeB_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for JaimeB_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Jannah_25 Start: 17055, Stop: 17354, Start Num: 17

Candidate Starts for Jannah_25:

(Start: 17 @17055 has 105 MA's), (22, 17184), (23, 17187), (26, 17250), (28, 17298), (29, 17307), (31, 17343),

Gene: Jerky_25 Start: 17154, Stop: 17453, Start Num: 17

Candidate Starts for Jerky_25:

(9, 17052), (Start: 17 @17154 has 105 MA's), (22, 17283), (23, 17286), (26, 17349), (28, 17397), (29, 17406), (31, 17442),

Gene: JoBros_25 Start: 16990, Stop: 17289, Start Num: 17

Candidate Starts for JoBros_25:

(Start: 17 @16990 has 105 MA's), (22, 17119), (23, 17122), (26, 17185), (28, 17233), (29, 17242), (31, 17278),

Gene: JooneeDee_26 Start: 17094, Stop: 17393, Start Num: 17

Candidate Starts for JooneeDee_26:

(9, 16992), (Start: 17 @17094 has 105 MA's), (22, 17223), (23, 17226), (26, 17289), (28, 17337), (29, 17346), (31, 17382),

Gene: Josuke_25 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for Josuke_25:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: Kaijohn_25 Start: 17052, Stop: 17351, Start Num: 17

Candidate Starts for Kaijohn_25:

(9, 16950), (Start: 17 @17052 has 105 MA's), (22, 17181), (23, 17184), (26, 17247), (28, 17295), (29, 17304), (31, 17340),

Gene: KayPaulus_25 Start: 17082, Stop: 17381, Start Num: 17

Candidate Starts for KayPaulus_25:

(9, 16980), (Start: 17 @17082 has 105 MA's), (22, 17211), (23, 17214), (26, 17277), (28, 17325), (29, 17334), (31, 17370),

Gene: Keiki_45 Start: 28972, Stop: 29277, Start Num: 14

Candidate Starts for Keiki_45:

(Start: 14 @28972 has 3 MA's), (Start: 16 @28975 has 44 MA's), (20, 29071), (30, 29263),

Gene: Kevanna_25 Start: 17068, Stop: 17367, Start Num: 17

Candidate Starts for Kevanna_25:

(9, 16966), (Start: 17 @17068 has 105 MA's), (22, 17197), (23, 17200), (26, 17263), (28, 17311), (29, 17320), (31, 17356),

Gene: KillerTomato_25 Start: 17069, Stop: 17368, Start Num: 17

Candidate Starts for KillerTomato_25:

(9, 16967), (Start: 17 @17069 has 105 MA's), (22, 17198), (23, 17201), (26, 17264), (28, 17312), (29, 17321), (31, 17357),

Gene: Kojax4_25 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Kojax4_25:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: Kubed_44 Start: 29097, Stop: 29399, Start Num: 16

Candidate Starts for Kubed_44:

(Start: 16 @29097 has 44 MA's), (30, 29385),

Gene: KyriosFaba_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for KyriosFaba_25:

(9, 16887), (Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Lauchelly_45 Start: 29153, Stop: 29455, Start Num: 16

Candidate Starts for Lauchelly_45:

(Start: 16 @29153 has 44 MA's), (30, 29441),

Gene: LaviMo_25 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for LaviMo_25:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: Leafy_25 Start: 17034, Stop: 17333, Start Num: 17

Candidate Starts for Leafy_25:

(9, 16932), (Start: 17 @17034 has 105 MA's), (22, 17163), (23, 17166), (26, 17229), (28, 17277), (29, 17286), (31, 17322),

Gene: LemonPepper_26 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for LemonPepper_26:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Leviosa_44 Start: 29089, Stop: 29391, Start Num: 16

Candidate Starts for Leviosa_44:

(Start: 16 @29089 has 44 MA's),

Gene: LilBandit_45 Start: 28677, Stop: 28979, Start Num: 16

Candidate Starts for LilBandit_45:

(Start: 16 @28677 has 44 MA's), (30, 28965),

Gene: LionelHutz_25 Start: 17075, Stop: 17374, Start Num: 17

Candidate Starts for LionelHutz_25:

(9, 16973), (Start: 17 @17075 has 105 MA's), (22, 17204), (23, 17207), (26, 17270), (28, 17318), (29, 17327), (31, 17363),

Gene: Livingwater_25 Start: 17077, Stop: 17376, Start Num: 17

Candidate Starts for Livingwater_25:

(9, 16975), (Start: 17 @17077 has 105 MA's), (22, 17206), (23, 17209), (26, 17272), (28, 17320), (29, 17329), (31, 17365),

Gene: Loca_25 Start: 17102, Stop: 17401, Start Num: 17

Candidate Starts for Loca_25:

(9, 17000), (Start: 17 @17102 has 105 MA's), (22, 17231), (23, 17234), (26, 17297), (28, 17345), (29, 17354), (31, 17390),

Gene: Lola20_25 Start: 17015, Stop: 17314, Start Num: 17

Candidate Starts for Lola20_25:

(9, 16913), (Start: 17 @17015 has 105 MA's), (22, 17144), (23, 17147), (26, 17210), (28, 17258), (29, 17267), (31, 17303),

Gene: Lunatic_25 Start: 16542, Stop: 16841, Start Num: 17

Candidate Starts for Lunatic_25:

(9, 16440), (Start: 17 @16542 has 105 MA's), (22, 16671), (23, 16674), (26, 16737), (28, 16785), (29, 16794),

Gene: Luxx_25 Start: 17090, Stop: 17389, Start Num: 17

Candidate Starts for Luxx_25:

(Start: 17 @17090 has 105 MA's), (22, 17219), (23, 17222), (26, 17285), (28, 17333), (29, 17342), (31, 17378),

Gene: Majesty_25 Start: 17071, Stop: 17370, Start Num: 17

Candidate Starts for Majesty_25:

(Start: 17 @17071 has 105 MA's), (22, 17200), (23, 17203), (26, 17266), (28, 17314), (29, 17323), (31, 17359),

Gene: ManAs_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for ManAs_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Maneater_27 Start: 17054, Stop: 17353, Start Num: 17

Candidate Starts for Maneater_27:

(9, 16952), (Start: 17 @17054 has 105 MA's), (22, 17183), (23, 17186), (26, 17249), (28, 17297), (29, 17306), (31, 17342),

Gene: MasterPitts_27 Start: 17012, Stop: 17311, Start Num: 17

Candidate Starts for MasterPitts_27:

(9, 16910), (Start: 17 @17012 has 105 MA's), (22, 17141), (23, 17144), (26, 17207), (28, 17255), (29, 17264),

Gene: McShie_25 Start: 17061, Stop: 17360, Start Num: 17

Candidate Starts for McShie_25:

(1, 16587), (2, 16659), (9, 16959), (Start: 17 @17061 has 105 MA's), (22, 17190), (23, 17193), (26, 17256), (28, 17304), (29, 17313), (31, 17349),

Gene: MelBee03_25 Start: 17068, Stop: 17367, Start Num: 17

Candidate Starts for MelBee03_25:

(9, 16966), (Start: 17 @17068 has 105 MA's), (22, 17197), (23, 17200), (26, 17263), (28, 17311), (29, 17320), (31, 17356),

Gene: Miaurora_25 Start: 16659, Stop: 16958, Start Num: 17

Candidate Starts for Miaurora_25:

(9, 16557), (Start: 17 @16659 has 105 MA's), (22, 16788), (23, 16791), (26, 16854), (28, 16902), (29, 16911),

Gene: Minima_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Minima_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: MirimarMandM_25 Start: 17137, Stop: 17436, Start Num: 17

Candidate Starts for MirimarMandM_25:

(9, 17035), (Start: 17 @17137 has 105 MA's), (22, 17266), (23, 17269), (26, 17332), (28, 17380), (29, 17389), (31, 17425),

Gene: Moyashi_44 Start: 28889, Stop: 29191, Start Num: 16

Candidate Starts for Moyashi_44:

(Start: 16 @28889 has 44 MA's),

Gene: MrAK_46 Start: 29362, Stop: 29664, Start Num: 16

Candidate Starts for MrAK_46:

(Start: 16 @29362 has 44 MA's),

Gene: MrGreen_25 Start: 17048, Stop: 17347, Start Num: 17

Candidate Starts for MrGreen_25:

(9, 16946), (Start: 17 @17048 has 105 MA's), (22, 17177), (23, 17180), (26, 17243), (28, 17291), (29, 17300), (31, 17336),

Gene: Naby_26 Start: 17079, Stop: 17381, Start Num: 17

Candidate Starts for Naby_26:

(5, 16722), (9, 16980), (Start: 17 @17079 has 105 MA's), (22, 17208), (26, 17274), (28, 17322), (29, 17331),

Gene: Namsahir_27 Start: 16803, Stop: 17102, Start Num: 17

Candidate Starts for Namsahir_27:

(9, 16701), (Start: 17 @16803 has 105 MA's), (22, 16932), (23, 16935), (26, 16998), (28, 17046), (29, 17055),

Gene: NeumannU_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for NeumannU_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Niffler_25 Start: 16650, Stop: 16949, Start Num: 17

Candidate Starts for Niffler_25:

(9, 16548), (Start: 17 @16650 has 105 MA's), (22, 16779), (23, 16782), (26, 16845), (28, 16893), (29, 16902),

Gene: Nobel_25 Start: 16676, Stop: 16975, Start Num: 17

Candidate Starts for Nobel_25:

(9, 16574), (Start: 17 @16676 has 105 MA's), (22, 16805), (23, 16808), (26, 16871), (28, 16919), (29, 16928),

Gene: Noelani_25 Start: 16975, Stop: 17274, Start Num: 17

Candidate Starts for Noelani_25:

(8, 16711), (9, 16873), (10, 16897), (Start: 17 @16975 has 105 MA's), (23, 17107), (26, 17170), (28, 17218), (29, 17227), (31, 17263),

Gene: Oaklynn_26 Start: 17012, Stop: 17311, Start Num: 17

Candidate Starts for Oaklynn_26:

(3, 16631), (6, 16640), (9, 16910), (Start: 17 @17012 has 105 MA's), (22, 17141), (23, 17144), (26, 17207), (28, 17255), (29, 17264), (31, 17300),

Gene: Octopus_25 Start: 16995, Stop: 17294, Start Num: 17

Candidate Starts for Octopus_25:

(Start: 17 @16995 has 105 MA's), (22, 17124), (23, 17127), (26, 17190), (28, 17238), (29, 17247), (31, 17283),

Gene: Otwor_25 Start: 17081, Stop: 17380, Start Num: 17

Candidate Starts for Otwor_25:

(9, 16979), (Start: 17 @17081 has 105 MA's), (22, 17210), (23, 17213), (26, 17276), (28, 17324), (29, 17333), (31, 17369),

Gene: Ouroboros_45 Start: 29142, Stop: 29444, Start Num: 16

Candidate Starts for Ouroboros_45:

(Start: 16 @29142 has 44 MA's), (20, 29238), (30, 29430),

Gene: Owens_25 Start: 17072, Stop: 17371, Start Num: 17
Candidate Starts for Owens_25:
(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: P1.1_45 Start: 28981, Stop: 29286, Start Num: 14
Candidate Starts for P1.1_45:
(12, 28969), (Start: 14 @28981 has 3 MA's), (Start: 16 @28984 has 44 MA's), (30, 29272),

Gene: P100.1_47 Start: 29248, Stop: 29550, Start Num: 16
Candidate Starts for P100.1_47:
(13, 29236), (Start: 16 @29248 has 44 MA's), (30, 29536),

Gene: P100A_45 Start: 29140, Stop: 29442, Start Num: 16
Candidate Starts for P100A_45:
(Start: 16 @29140 has 44 MA's), (30, 29428),

Gene: P100D_47 Start: 29142, Stop: 29444, Start Num: 16
Candidate Starts for P100D_47:
(Start: 16 @29142 has 44 MA's), (30, 29430),

Gene: P101A_47 Start: 29210, Stop: 29512, Start Num: 16
Candidate Starts for P101A_47:
(Start: 16 @29210 has 44 MA's),

Gene: P104A_45 Start: 29007, Stop: 29309, Start Num: 16
Candidate Starts for P104A_45:
(Start: 16 @29007 has 44 MA's), (30, 29295),

Gene: P104B_44 Start: 28966, Stop: 29268, Start Num: 16
Candidate Starts for P104B_44:
(Start: 16 @28966 has 44 MA's), (30, 29254),

Gene: P105_45 Start: 28838, Stop: 29140, Start Num: 16
Candidate Starts for P105_45:
(Start: 14 @28835 has 3 MA's), (Start: 16 @28838 has 44 MA's),

Gene: P106A_45 Start: 29190, Stop: 29492, Start Num: 16
Candidate Starts for P106A_45:
(13, 29178), (Start: 16 @29190 has 44 MA's), (30, 29478),

Gene: P106C_46 Start: 29277, Stop: 29579, Start Num: 16
Candidate Starts for P106C_46:
(13, 29265), (Start: 16 @29277 has 44 MA's), (30, 29565),

Gene: P106I_46 Start: 29106, Stop: 29408, Start Num: 16
Candidate Starts for P106I_46:
(13, 29094), (Start: 16 @29106 has 44 MA's), (30, 29394),

Gene: P106L_45 Start: 29277, Stop: 29579, Start Num: 16
Candidate Starts for P106L_45:
(13, 29265), (Start: 16 @29277 has 44 MA's), (30, 29565),

Gene: P106M_45 Start: 29277, Stop: 29579, Start Num: 16
Candidate Starts for P106M_45:
(13, 29265), (Start: 16 @29277 has 44 MA's), (30, 29565),

Gene: P107A_45 Start: 29101, Stop: 29403, Start Num: 16
Candidate Starts for P107A_45:
(Start: 16 @29101 has 44 MA's), (20, 29197),

Gene: P107C_44 Start: 29152, Stop: 29454, Start Num: 16
Candidate Starts for P107C_44:
(11, 29134), (Start: 16 @29152 has 44 MA's),

Gene: P108C_44 Start: 29130, Stop: 29432, Start Num: 16
Candidate Starts for P108C_44:
(Start: 14 @29127 has 3 MA's), (Start: 16 @29130 has 44 MA's),

Gene: P14.4_47 Start: 29362, Stop: 29667, Start Num: 14
Candidate Starts for P14.4_47:
(Start: 14 @29362 has 3 MA's), (Start: 16 @29365 has 44 MA's), (30, 29653),

Gene: P9.1_45 Start: 28850, Stop: 29152, Start Num: 16
Candidate Starts for P9.1_45:
(13, 28838), (Start: 14 @28847 has 3 MA's), (Start: 16 @28850 has 44 MA's), (30, 29138),

Gene: PA6_48 Start: 29388, Stop: 29690, Start Num: 16
Candidate Starts for PA6_48:
(11, 29370), (Start: 16 @29388 has 44 MA's), (30, 29676),

Gene: PAD20_48 Start: 28723, Stop: 29025, Start Num: 16
Candidate Starts for PAD20_48:
(Start: 16 @28723 has 44 MA's), (30, 29011),

Gene: PAS50_48 Start: 28663, Stop: 28968, Start Num: 14
Candidate Starts for PAS50_48:
(13, 28654), (Start: 14 @28663 has 3 MA's), (Start: 16 @28666 has 44 MA's), (30, 28954),

Gene: PHL010M04_45 Start: 29157, Stop: 29459, Start Num: 16
Candidate Starts for PHL010M04_45:
(Start: 16 @29157 has 44 MA's),

Gene: PHL037M02_45 Start: 29090, Stop: 29392, Start Num: 16
Candidate Starts for PHL037M02_45:
(Start: 16 @29090 has 44 MA's), (20, 29186), (30, 29378),

Gene: PHL060L00_46 Start: 29161, Stop: 29463, Start Num: 16
Candidate Starts for PHL060L00_46:
(Start: 16 @29161 has 44 MA's),

Gene: PHL067M10_45 Start: 29024, Stop: 29326, Start Num: 16
Candidate Starts for PHL067M10_45:
(Start: 16 @29024 has 44 MA's), (30, 29312),

Gene: PHL071N05_45 Start: 29114, Stop: 29416, Start Num: 16

Candidate Starts for PHL071N05_45:
(Start: 14 @29111 has 3 MA's), (Start: 16 @29114 has 44 MA's), (30, 29402),

Gene: PHL111M01_45 Start: 28787, Stop: 29089, Start Num: 16
Candidate Starts for PHL111M01_45:
(Start: 14 @28784 has 3 MA's), (Start: 16 @28787 has 44 MA's), (30, 29075),

Gene: PHL112N00_46 Start: 28913, Stop: 29215, Start Num: 16
Candidate Starts for PHL112N00_46:
(Start: 16 @28913 has 44 MA's),

Gene: PHL113M01_44 Start: 28844, Stop: 29149, Start Num: 14
Candidate Starts for PHL113M01_44:
(Start: 14 @28844 has 3 MA's), (Start: 16 @28847 has 44 MA's), (30, 29135),

Gene: PHL114L00_46 Start: 29111, Stop: 29413, Start Num: 16
Candidate Starts for PHL114L00_46:
(Start: 16 @29111 has 44 MA's),

Gene: PaoPu_25 Start: 16989, Stop: 17288, Start Num: 17
Candidate Starts for PaoPu_25:
(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Picnic_25 Start: 16989, Stop: 17288, Start Num: 17
Candidate Starts for Picnic_25:
(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Pirate_44 Start: 28960, Stop: 29262, Start Num: 16
Candidate Starts for Pirate_44:
(Start: 14 @28957 has 3 MA's), (Start: 16 @28960 has 44 MA's), (20, 29056), (30, 29248),

Gene: PoRanda_25 Start: 17137, Stop: 17436, Start Num: 17
Candidate Starts for PoRanda_25:
(9, 17035), (Start: 17 @17137 has 105 MA's), (22, 17266), (23, 17269), (26, 17332), (28, 17380), (29, 17389), (31, 17425),

Gene: Pondwater_25 Start: 16989, Stop: 17288, Start Num: 17
Candidate Starts for Pondwater_25:
(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Procrass1_45 Start: 28983, Stop: 29285, Start Num: 16
Candidate Starts for Procrass1_45:
(Start: 16 @28983 has 44 MA's), (30, 29271),

Gene: Publix_26 Start: 16803, Stop: 17102, Start Num: 17
Candidate Starts for Publix_26:
(9, 16701), (Start: 17 @16803 has 105 MA's), (22, 16932), (23, 16935), (26, 16998), (28, 17046), (29, 17055),

Gene: Puddles3_26 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Puddles3_26:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: PuffyCat_25 Start: 16593, Stop: 16892, Start Num: 17

Candidate Starts for PuffyCat_25:

(9, 16491), (Start: 17 @16593 has 105 MA's), (22, 16722), (23, 16725), (26, 16788), (28, 16836), (29, 16845),

Gene: Quaker_25 Start: 17077, Stop: 17376, Start Num: 17

Candidate Starts for Quaker_25:

(9, 16975), (Start: 17 @17077 has 105 MA's), (22, 17206), (23, 17209), (26, 17272), (28, 17320), (29, 17329), (31, 17365),

Gene: QueenBey_43 Start: 28974, Stop: 29276, Start Num: 16

Candidate Starts for QueenBey_43:

(Start: 14 @28971 has 3 MA's), (Start: 16 @28974 has 44 MA's), (30, 29262),

Gene: Rhogar_25 Start: 17075, Stop: 17374, Start Num: 17

Candidate Starts for Rhogar_25:

(9, 16973), (Start: 17 @17075 has 105 MA's), (22, 17204), (23, 17207), (26, 17270), (28, 17318), (29, 17327), (31, 17363),

Gene: Rhysand_25 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for Rhysand_25:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: RoscoWindex_27 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for RoscoWindex_27:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: SKKY_47 Start: 29230, Stop: 29532, Start Num: 16

Candidate Starts for SKKY_47:

(12, 29215), (Start: 14 @29227 has 3 MA's), (Start: 16 @29230 has 44 MA's),

Gene: Sage7_28 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Sage7_28:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: SantasSleigh_28 Start: 17103, Stop: 17402, Start Num: 17

Candidate Starts for SantasSleigh_28:

(9, 17001), (Start: 17 @17103 has 105 MA's), (22, 17232), (23, 17235), (26, 17298), (28, 17346), (29, 17355), (31, 17391),

Gene: Sara_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for Sara_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Scamander_25 Start: 17079, Stop: 17378, Start Num: 17

Candidate Starts for Scamander_25:

(9, 16977), (Start: 17 @17079 has 105 MA's), (22, 17208), (23, 17211), (26, 17274), (28, 17322), (29, 17331), (31, 17367),

Gene: Scrunchy_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for Scrunchy_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: SeaWolves_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for SeaWolves_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Sippinontea_25 Start: 17100, Stop: 17399, Start Num: 17

Candidate Starts for Sippinontea_25:

(9, 16998), (Start: 17 @17100 has 105 MA's), (22, 17229), (23, 17232), (26, 17295), (28, 17343), (29, 17352), (31, 17388),

Gene: Slentz_25 Start: 17072, Stop: 17371, Start Num: 17

Candidate Starts for Slentz_25:

(Start: 17 @17072 has 105 MA's), (22, 17201), (23, 17204), (26, 17267), (28, 17315), (29, 17324), (31, 17360),

Gene: Slizam_25 Start: 16598, Stop: 16897, Start Num: 17

Candidate Starts for Slizam_25:

(9, 16496), (Start: 17 @16598 has 105 MA's), (22, 16727), (23, 16730), (26, 16793), (28, 16841), (29, 16850),

Gene: Snuffles_27 Start: 16951, Stop: 17250, Start Num: 17

Candidate Starts for Snuffles_27:

(9, 16849), (Start: 17 @16951 has 105 MA's), (22, 17080), (23, 17083), (26, 17146), (28, 17194), (29, 17203),

Gene: Solid_45 Start: 29077, Stop: 29379, Start Num: 16

Candidate Starts for Solid_45:

(Start: 14 @29074 has 3 MA's), (Start: 16 @29077 has 44 MA's), (30, 29365),

Gene: Spartoi_56 Start: 34706, Stop: 35032, Start Num: 15

Candidate Starts for Spartoi_56:

(Start: 15 @34706 has 1 MA's),

Gene: Stem_25 Start: 16608, Stop: 16907, Start Num: 17

Candidate Starts for Stem_25:

(9, 16506), (Start: 17 @16608 has 105 MA's), (22, 16737), (23, 16740), (26, 16803), (28, 16851), (29, 16860),

Gene: Stormborn_46 Start: 28966, Stop: 29268, Start Num: 16

Candidate Starts for Stormborn_46:

(Start: 14 @28963 has 3 MA's), (Start: 16 @28966 has 44 MA's), (30, 29254),

Gene: Supernova_45 Start: 28853, Stop: 29155, Start Num: 16

Candidate Starts for Supernova_45:

(Start: 14 @28850 has 3 MA's), (Start: 16 @28853 has 44 MA's), (30, 29141),

Gene: TeddyBoy_25 Start: 17076, Stop: 17375, Start Num: 17

Candidate Starts for TeddyBoy_25:

(9, 16974), (Start: 17 @17076 has 105 MA's), (22, 17205), (23, 17208), (26, 17271), (28, 17319), (29, 17328), (31, 17364),

Gene: TimoTea_25 Start: 17054, Stop: 17353, Start Num: 17

Candidate Starts for TimoTea_25:

(9, 16952), (Start: 17 @17054 has 105 MA's), (22, 17183), (23, 17186), (26, 17249), (28, 17297), (29, 17306), (31, 17342),

Gene: TinyTruffula_25 Start: 16677, Stop: 16976, Start Num: 17

Candidate Starts for TinyTruffula_25:

(9, 16575), (Start: 17 @16677 has 105 MA's), (22, 16806), (23, 16809), (26, 16872), (28, 16920), (29, 16929),

Gene: TomBrady12_26 Start: 16780, Stop: 17079, Start Num: 17

Candidate Starts for TomBrady12_26:

(9, 16678), (Start: 17 @16780 has 105 MA's), (22, 16909), (23, 16912), (26, 16975), (28, 17023), (29, 17032),

Gene: Trireme_25 Start: 16657, Stop: 16956, Start Num: 17

Candidate Starts for Trireme_25:

(9, 16555), (Start: 17 @16657 has 105 MA's), (22, 16786), (23, 16789), (26, 16852), (28, 16900), (29, 16909),

Gene: Upsilon_25 Start: 17137, Stop: 17436, Start Num: 17

Candidate Starts for Upsilon_25:

(9, 17035), (Start: 17 @17137 has 105 MA's), (22, 17266), (23, 17269), (26, 17332), (28, 17380), (29, 17389), (31, 17425),

Gene: Vanisius_25 Start: 17080, Stop: 17379, Start Num: 17

Candidate Starts for Vanisius_25:

(9, 16978), (Start: 17 @17080 has 105 MA's), (22, 17209), (23, 17212), (26, 17275), (28, 17323), (29, 17332), (31, 17368),

Gene: VitulaEligans_25 Start: 17161, Stop: 17460, Start Num: 17

Candidate Starts for VitulaEligans_25:

(9, 17059), (Start: 17 @17161 has 105 MA's), (22, 17290), (23, 17293), (26, 17356), (28, 17404), (29, 17413), (31, 17449),

Gene: Witch_25 Start: 16990, Stop: 17289, Start Num: 17

Candidate Starts for Witch_25:

(Start: 17 @16990 has 105 MA's), (22, 17119), (23, 17122), (26, 17185), (28, 17233), (29, 17242), (31, 17278),

Gene: Wizzo_44 Start: 29099, Stop: 29401, Start Num: 16

Candidate Starts for Wizzo_44:

(Start: 14 @29096 has 3 MA's), (Start: 16 @29099 has 44 MA's), (30, 29387),

Gene: Wolfpack_25 Start: 17082, Stop: 17381, Start Num: 17

Candidate Starts for Wolfpack_25:

(9, 16980), (Start: 17 @17082 has 105 MA's), (22, 17211), (23, 17214), (26, 17277), (28, 17325), (29, 17334), (31, 17370),

Gene: Yami_25 Start: 16551, Stop: 16850, Start Num: 17

Candidate Starts for Yami_25:

(9, 16449), (Start: 17 @16551 has 105 MA's), (22, 16680), (23, 16683), (26, 16746), (28, 16794), (29, 16803),

Gene: Yasuo_25 Start: 17060, Stop: 17359, Start Num: 17

Candidate Starts for Yasuo_25:

(9, 16958), (Start: 17 @17060 has 105 MA's), (22, 17189), (23, 17192), (26, 17255), (28, 17303), (29, 17312), (31, 17348),

Gene: YertPhresh_25 Start: 16989, Stop: 17288, Start Num: 17

Candidate Starts for YertPhresh_25:

(Start: 17 @16989 has 105 MA's), (22, 17118), (23, 17121), (26, 17184), (28, 17232), (29, 17241), (31, 17277),

Gene: Yubaba_25 Start: 17023, Stop: 17322, Start Num: 17

Candidate Starts for Yubaba_25:

(Start: 17 @17023 has 105 MA's), (22, 17152), (23, 17155), (26, 17218), (28, 17266), (29, 17275), (31, 17311),

Gene: Zucker_98 Start: 53075, Stop: 53380, Start Num: 16

Candidate Starts for Zucker_98:

(Start: 16 @53075 has 44 MA's), (25, 53264), (27, 53279),