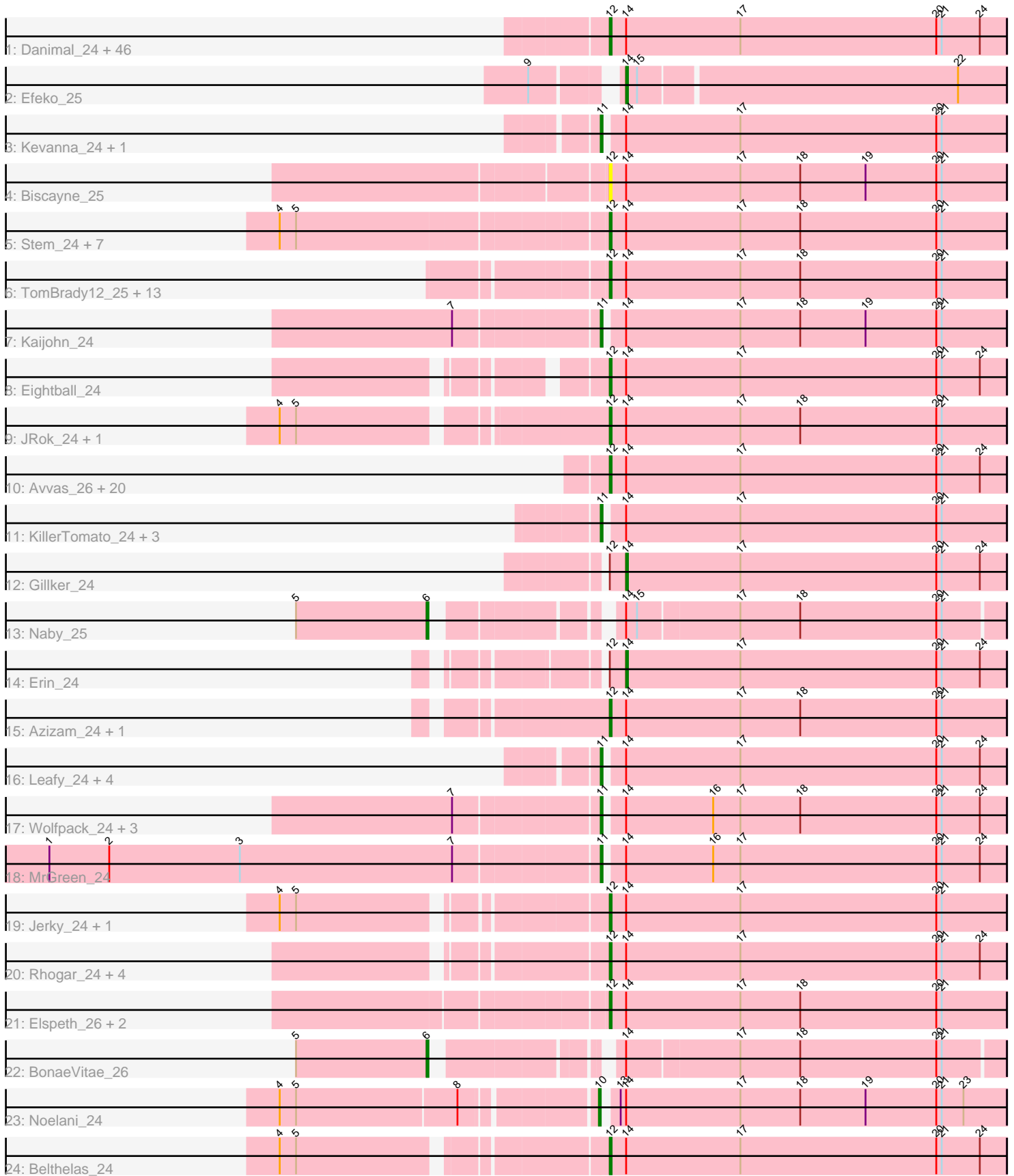


Pham 157678



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 157678 Report

This analysis was run 04/22/24 on database version 561.

Pham number 157678 has 130 members, 26 are drafts.

Phages represented in each track:

- Track 1 : Danimal_24, KyriosFaba_24, Bradley2_24, Picnic_24, Majesty_24, BarBear_24, Luxx_24, Goobery_24, JaimeB_24, Chatham_24, Lola20_24, JoBros_24, Ciel_24, Jahseh_24, NeumannU_24, GoldenBlanche_25, Aztec_24, Pondwater_24, Jannah_24, Witch_24, Yubaba_24, Astro16_24, Baine_25, Minima_24, EdElric_24, Yasuo_24, Anseraureola_24, Dongwon_24, Horacetta_24, Octopus_24, Gardevoir_24, SeaWolves_24, Slentz_24, Dooby_24, PaoPu_24, YertPhresh_24, Hernandez44_24, Alucard_24, Puddles3_25, BurtonThePup_24, ManAs_24, Sara_24, Owens_24, Cayde6_25, Scrunchy_24, LemonPepper_25, BinkBonk_24
- Track 2 : Efeko_25
- Track 3 : Kevanna_24, MelBee03_24
- Track 4 : Biscayne_25
- Track 5 : Stem_24, Bintii_25, MirimarMandM_24, JooneeDee_25, Niffler_24, PoRanda_24, Nobel_24, Upsilon_24
- Track 6 : TomBrady12_25, Snuffles_26, TinyTruffula_24, Publix_25, Clownery_24, Trireme_24, Yami_24, Namsahir_26, Bullzi2019_25, Slizam_24, Miaurora_24, Lunatic_24, Cazares_24, PuffyCat_24
- Track 7 : Kaijohn_24
- Track 8 : Eightball_24
- Track 9 : JRok_24, McShie_24
- Track 10 : Avvas_26, Scamander_24, Kojax4_24, Otwor_24, Vanisius_24, LaviMo_24, SantasSleigh_27, Maneater_26, Godfather_24, Sage7_27, Cheesecake_24, Rhysand_24, Danno_24, RoscoWindex_26, Charbie_24, TimoTea_24, Hulk_24, Gabbspett_25, Aries55_24, Burgy_24, Josuke_24
- Track 11 : KillerTomato_24, Concrete_24, BoomRoasted_24, Bri160_24
- Track 12 : Gillker_24
- Track 13 : Naby_25
- Track 14 : Erin_24
- Track 15 : Azizam_24, Oaklynn_25
- Track 16 : Leafy_24, Loca_24, Douggie_24, Livingwater_24, Quaker_24
- Track 17 : Wolfpack_24, Bodhi17_25, KayPaulus_24, Sippinontea_24
- Track 18 : MrGreen_24
- Track 19 : Jerky_24, VitulaEligans_24
- Track 20 : Rhogar_24, LionelHutz_24, MasterPitts_26, DaftyDuck_26, TeddyBoy_24
- Track 21 : Elspeth_26, HarperAnne_25, Ekko14_25
- Track 22 : BonaeVitae_26

- Track 23 : Noelani_24
- Track 24 : Belthelas_24

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

The start number called the most often in the published annotations is 12, it was called in 83 of the 104 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alucard_24, Anseraureola_24, Aries55_24, Astro16_24, Avvas_26, Azizam_24, Aztec_24, Baine_25, BarBear_24, Belthelas_24, BinkBonk_24, Bintii_25, Biscayne_25, Bradley2_24, Bullzi2019_25, Burgy_24, BurtonThePup_24, Cayde6_25, Cazares_24, Charbie_24, Chatham_24, Cheesecake_24, Ciel_24, Clownery_24, DaftyDuck_26, Danimal_24, Danno_24, Dongwon_24, Dooby_24, EdElric_24, Eightball_24, Ekko14_25, Elspeth_26, Gabbspett_25, Gardevoir_24, Godfather_24, GoldenBlanche_25, Goobery_24, HarperAnne_25, Hernandez44_24, Horacetta_24, Hulk_24, JRok_24, Jahseh_24, JaimeB_24, Jannah_24, Jerky_24, JoBros_24, JooneeDee_25, Josuke_24, Kojax4_24, KyriosFaba_24, LaviMo_24, LemonPepper_25, LionelHutz_24, Lola20_24, Lunatic_24, Luxx_24, Majesty_24, ManAs_24, Maneater_26, MasterPitts_26, McShie_24, Miaurora_24, Minima_24, MirimarMandM_24, Namsahir_26, NeumannU_24, Niffler_24, Nobel_24, Oaklynn_25, Octopus_24, Otwor_24, Owens_24, PaoPu_24, Picnic_24, PoRanda_24, Pondwater_24, Publix_25, Puddles3_25, PuffyCat_24, Rhogar_24, Rhysand_24, RoscoWindex_26, Sage7_27, SantasSleigh_27, Sara_24, Scamander_24, Scrunchy_24, SeaWolves_24, Slentz_24, Slizam_24, Snuffles_26, Stem_24, TeddyBoy_24, TimoTea_24, TinyTruffula_24, TomBrady12_25, Trireme_24, Upsilon_24, Vanisius_24, VitulaEligans_24, Witch_24, Yami_24, Yasuo_24, YertPhresh_24, Yubaba_24,

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

- Erin_24, Gillker_24,

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

- Bodhi17_25, BonaeVitae_26, BoomRoasted_24, Bri160_24, Concrete_24, Duggie_24, Efeko_25, Kaijohn_24, KayPaulus_24, Kevanna_24, KillerTomato_24, Leafy_24, Livingwater_24, Loca_24, MelBee03_24, MrGreen_24, Naby_25, Noelani_24, Quaker_24, Sippinontea_24, Wolfpack_24,

Summary by start number:

Start 6:

- Found in 2 of 130 (1.5%) of genes in pham
- Manual Annotations of this start: 2 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BonaeVitae_26 (EE), Naby_25 (EE),

Start 10:

- Found in 1 of 130 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 104
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Noelani_24 (EE),

Start 11:

- Found in 17 of 130 (13.1%) of genes in pham
- Manual Annotations of this start: 15 of 104
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bodhi17_25 (EE), BoomRoasted_24 (EE), Bri160_24 (EE), Concrete_24 (EE), Douggie_24 (EE), Kaijohn_24 (EE), KayPaulus_24 (EE), Kevanna_24 (EE), KillerTomato_24 (EE), Leafy_24 (EE), Livingwater_24 (EE), Loca_24 (EE), MelBee03_24 (EE), MrGreen_24 (EE), Quaker_24 (EE), Sippinontea_24 (EE), Wolfpack_24 (EE),

Start 12:

- Found in 109 of 130 (83.8%) of genes in pham
- Manual Annotations of this start: 83 of 104
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Alucard_24 (EE), Anseraureola_24 (EE), Aries55_24 (EE), Astro16_24 (EE), Avvas_26 (EE), Azizam_24 (EE), Aztec_24 (EE), Baine_25 (EE), BarBear_24 (EE), Belthelas_24 (EE), BinkBonk_24 (EE), Bintii_25 (EE), Biscayne_25 (EE), Bradley2_24 (EE), Bullzi2019_25 (EE), Burgy_24 (EE), BurtonThePup_24 (EE), Cayde6_25 (EE), Cazares_24 (EE), Charbie_24 (EE), Chatham_24 (EE), Cheesecake_24 (EE), Ciel_24 (EE), Clownery_24 (EE), DaftyDuck_26 (EE), Danimal_24 (EE), Danno_24 (EE), Dongwon_24 (EE), Dooby_24 (EE), EdElric_24 (EE), Eightball_24 (EE), Ekko14_25 (EE), Elspeth_26 (EE), Gabbspett_25 (EE), Gardevoir_24 (EE), Godfather_24 (EE), GoldenBlanche_25 (EE), Goobery_24 (EE), HarperAnne_25 (EE), Hernandez44_24 (EE), Horacetta_24 (EE), Hulk_24 (EE), JRok_24 (EE), Jahseh_24 (EE), JaimeB_24 (EE), Jannah_24 (EE), Jerky_24 (EE), JoBros_24 (EE), JooneeDee_25 (EE), Josuke_24 (EE), Kojax4_24 (EE), KyriosFaba_24 (EE), LaviMo_24 (EE), LemonPepper_25 (EE), LionelHutz_24 (EE), Lola20_24 (EE), Lunatic_24 (EE), Luxx_24 (EE), Majesty_24 (EE), ManAs_24 (EE), Maneater_26 (EE), MasterPitts_26 (EE), McShie_24 (EE), Miaurora_24 (EE), Minima_24 (EE), MirimarMandM_24 (EE), Namsahir_26 (EE), NeumannU_24 (EE), Niffler_24 (EE), Nobel_24 (EE), Oaklynn_25 (EE), Octopus_24 (EE), Otwor_24 (EE), Owens_24 (EE), PaoPu_24 (EE), Picnic_24 (EE), PoRanda_24 (EE), Pondwater_24 (EE), Publix_25 (EE), Puddles3_25 (EE), PuffyCat_24 (EE), Rhogar_24 (EE), Rhysand_24 (EE), RoscoWindex_26 (EE), Sage7_27 (EE), SantasSleigh_27 (EE), Sara_24 (EE), Scamander_24 (EE), Scrunchy_24 (EE), SeaWolves_24 (EE), Slentz_24 (EE), Slizam_24 (EE), Snuffles_26 (EE), Stem_24 (EE), TeddyBoy_24 (EE), TimoTea_24 (EE), TinyTruffula_24 (EE), TomBrady12_25 (EE), Tiresome_24 (EE), Upsilon_24 (EE), Vanisius_24 (EE), VitulaEligans_24 (EE), Witch_24 (EE), Yami_24 (EE), Yasuo_24 (EE), YertPhresh_24 (EE), Yubaba_24 (EE),

Start 14:

- Found in 130 of 130 (100.0%) of genes in pham
- Manual Annotations of this start: 3 of 104
- Called 2.3% of time when present
- Phage (with cluster) where this start called: Efeko_25 (EE), Erin_24 (EE), Gillker_24 (EE),

Summary by clusters:

There is one cluster represented in this pham: EE

Info for manual annotations of cluster EE:

- Start number 6 was manually annotated 2 times for cluster EE.
- Start number 10 was manually annotated 1 time for cluster EE.
- Start number 11 was manually annotated 15 times for cluster EE.
- Start number 12 was manually annotated 83 times for cluster EE.
- Start number 14 was manually annotated 3 times for cluster EE.

Gene Information:

Gene: Alucard_24 Start: 16775, Stop: 16993, Start Num: 12

Candidate Starts for Alucard_24:

(Start: 12 @16775 has 83 MA's), (Start: 14 @16784 has 3 MA's), (17, 16847), (20, 16955), (21, 16958), (24, 16979),

Gene: Anseraureola_24 Start: 16837, Stop: 17055, Start Num: 12

Candidate Starts for Anseraureola_24:

(Start: 12 @16837 has 83 MA's), (Start: 14 @16846 has 3 MA's), (17, 16909), (20, 17017), (21, 17020), (24, 17041),

Gene: Aries55_24 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Aries55_24:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: Astro16_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for Astro16_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Avvas_26 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Avvas_26:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: Azizam_24 Start: 16797, Stop: 17015, Start Num: 12

Candidate Starts for Azizam_24:

(Start: 12 @16797 has 83 MA's), (Start: 14 @16806 has 3 MA's), (17, 16869), (18, 16902), (20, 16977), (21, 16980),

Gene: Aztec_24 Start: 16780, Stop: 16998, Start Num: 12

Candidate Starts for Aztec_24:

(Start: 12 @16780 has 83 MA's), (Start: 14 @16789 has 3 MA's), (17, 16852), (20, 16960), (21, 16963), (24, 16984),

Gene: Baine_25 Start: 16800, Stop: 17018, Start Num: 12

Candidate Starts for Baine_25:

(Start: 12 @16800 has 83 MA's), (Start: 14 @16809 has 3 MA's), (17, 16872), (20, 16980), (21, 16983), (24, 17004),

Gene: BarBear_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for BarBear_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Belthelas_24 Start: 16913, Stop: 17131, Start Num: 12

Candidate Starts for Belthelas_24:

(4, 16754), (5, 16763), (Start: 12 @16913 has 83 MA's), (Start: 14 @16922 has 3 MA's), (17, 16985), (20, 17093), (21, 17096), (24, 17117),

Gene: BinkBonk_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for BinkBonk_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Bintii_25 Start: 16879, Stop: 17097, Start Num: 12

Candidate Starts for Bintii_25:

(4, 16708), (5, 16717), (Start: 12 @16879 has 83 MA's), (Start: 14 @16888 has 3 MA's), (17, 16951), (18, 16984), (20, 17059), (21, 17062),

Gene: Biscayne_25 Start: 16940, Stop: 17158, Start Num: 12

Candidate Starts for Biscayne_25:

(Start: 12 @16940 has 83 MA's), (Start: 14 @16949 has 3 MA's), (17, 17012), (18, 17045), (19, 17081), (20, 17120), (21, 17123),

Gene: Bodhi17_25 Start: 16894, Stop: 17112, Start Num: 11

Candidate Starts for Bodhi17_25:

(7, 16819), (Start: 11 @16894 has 15 MA's), (Start: 14 @16903 has 3 MA's), (16, 16951), (17, 16966), (18, 16999), (20, 17074), (21, 17077), (24, 17098),

Gene: BonaeVitae_26 Start: 16801, Stop: 17085, Start Num: 6

Candidate Starts for BonaeVitae_26:

(5, 16729), (Start: 6 @16801 has 2 MA's), (Start: 14 @16882 has 3 MA's), (17, 16942), (18, 16975), (20, 17050), (21, 17053),

Gene: BoomRoasted_24 Start: 16867, Stop: 17085, Start Num: 11

Candidate Starts for BoomRoasted_24:

(Start: 11 @16867 has 15 MA's), (Start: 14 @16876 has 3 MA's), (17, 16939), (20, 17047), (21, 17050),

Gene: Bradley2_24 Start: 16779, Stop: 16997, Start Num: 12

Candidate Starts for Bradley2_24:

(Start: 12 @16779 has 83 MA's), (Start: 14 @16788 has 3 MA's), (17, 16851), (20, 16959), (21, 16962), (24, 16983),

Gene: Bri160_24 Start: 16854, Stop: 17072, Start Num: 11

Candidate Starts for Bri160_24:

(Start: 11 @16854 has 15 MA's), (Start: 14 @16863 has 3 MA's), (17, 16926), (20, 17034), (21, 17037),

Gene: Bullzi2019_25 Start: 16555, Stop: 16773, Start Num: 12

Candidate Starts for Bullzi2019_25:

(Start: 12 @16555 has 83 MA's), (Start: 14 @16564 has 3 MA's), (17, 16627), (18, 16660), (20, 16735), (21, 16738),

Gene: Burgy_24 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for Burgy_24:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: BurtonThePup_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for BurtonThePup_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Cayde6_25 Start: 16800, Stop: 17018, Start Num: 12

Candidate Starts for Cayde6_25:

(Start: 12 @16800 has 83 MA's), (Start: 14 @16809 has 3 MA's), (17, 16872), (20, 16980), (21, 16983), (24, 17004),

Gene: Cazares_24 Start: 16327, Stop: 16545, Start Num: 12

Candidate Starts for Cazares_24:

(Start: 12 @16327 has 83 MA's), (Start: 14 @16336 has 3 MA's), (17, 16399), (18, 16432), (20, 16507), (21, 16510),

Gene: Charbie_24 Start: 16840, Stop: 17058, Start Num: 12

Candidate Starts for Charbie_24:

(Start: 12 @16840 has 83 MA's), (Start: 14 @16849 has 3 MA's), (17, 16912), (20, 17020), (21, 17023), (24, 17044),

Gene: Chatham_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Chatham_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Cheesecake_24 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for Cheesecake_24:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: Ciel_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for Ciel_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Clownery_24 Start: 16453, Stop: 16671, Start Num: 12

Candidate Starts for Clownery_24:

(Start: 12 @16453 has 83 MA's), (Start: 14 @16462 has 3 MA's), (17, 16525), (18, 16558), (20, 16633), (21, 16636),

Gene: Concrete_24 Start: 16844, Stop: 17062, Start Num: 11

Candidate Starts for Concrete_24:

(Start: 11 @16844 has 15 MA's), (Start: 14 @16853 has 3 MA's), (17, 16916), (20, 17024), (21, 17027),

Gene: DaftyDuck_26 Start: 16797, Stop: 17015, Start Num: 12

Candidate Starts for DaftyDuck_26:

(Start: 12 @16797 has 83 MA's), (Start: 14 @16806 has 3 MA's), (17, 16869), (20, 16977), (21, 16980), (24, 17001),

Gene: Danimal_24 Start: 16776, Stop: 16994, Start Num: 12

Candidate Starts for Danimal_24:

(Start: 12 @16776 has 83 MA's), (Start: 14 @16785 has 3 MA's), (17, 16848), (20, 16956), (21, 16959), (24, 16980),

Gene: Danno_24 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Danno_24:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: Dongwon_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Dongwon_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Dooby_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Dooby_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Douggie_24 Start: 16850, Stop: 17068, Start Num: 11

Candidate Starts for Douggie_24:

(Start: 11 @16850 has 15 MA's), (Start: 14 @16859 has 3 MA's), (17, 16922), (20, 17030), (21, 17033), (24, 17054),

Gene: EdElric_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for EdElric_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Efeko_25 Start: 16548, Stop: 16751, Start Num: 14

Candidate Starts for Efeko_25:

(9, 16509), (Start: 14 @16548 has 3 MA's), (15, 16554), (22, 16725),

Gene: Eightball_24 Start: 16851, Stop: 17069, Start Num: 12

Candidate Starts for Eightball_24:

(Start: 12 @16851 has 83 MA's), (Start: 14 @16860 has 3 MA's), (17, 16923), (20, 17031), (21, 17034), (24, 17055),

Gene: Ekko14_25 Start: 16529, Stop: 16747, Start Num: 12

Candidate Starts for Ekko14_25:

(Start: 12 @16529 has 83 MA's), (Start: 14 @16538 has 3 MA's), (17, 16601), (18, 16634), (20, 16709), (21, 16712),

Gene: Elspeth_26 Start: 16529, Stop: 16747, Start Num: 12

Candidate Starts for Elspeth_26:

(Start: 12 @16529 has 83 MA's), (Start: 14 @16538 has 3 MA's), (17, 16601), (18, 16634), (20, 16709), (21, 16712),

Gene: Erin_24 Start: 16781, Stop: 16990, Start Num: 14

Candidate Starts for Erin_24:

(Start: 12 @16772 has 83 MA's), (Start: 14 @16781 has 3 MA's), (17, 16844), (20, 16952), (21, 16955), (24, 16976),

Gene: Gabbspett_25 Start: 16894, Stop: 17112, Start Num: 12

Candidate Starts for Gabbspett_25:

(Start: 12 @16894 has 83 MA's), (Start: 14 @16903 has 3 MA's), (17, 16966), (20, 17074), (21, 17077), (24, 17098),

Gene: Gardevoir_24 Start: 16808, Stop: 17026, Start Num: 12

Candidate Starts for Gardevoir_24:

(Start: 12 @16808 has 83 MA's), (Start: 14 @16817 has 3 MA's), (17, 16880), (20, 16988), (21, 16991), (24, 17012),

Gene: Gillker_24 Start: 16782, Stop: 16991, Start Num: 14

Candidate Starts for Gillker_24:

(Start: 12 @16773 has 83 MA's), (Start: 14 @16782 has 3 MA's), (17, 16845), (20, 16953), (21, 16956), (24, 16977),

Gene: Godfather_24 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Godfather_24:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: GoldenBlanche_25 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for GoldenBlanche_25:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Goobery_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for Goobery_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: HarperAnne_25 Start: 16528, Stop: 16746, Start Num: 12

Candidate Starts for HarperAnne_25:

(Start: 12 @16528 has 83 MA's), (Start: 14 @16537 has 3 MA's), (17, 16600), (18, 16633), (20, 16708), (21, 16711),

Gene: Hernandez44_24 Start: 16889, Stop: 17107, Start Num: 12

Candidate Starts for Hernandez44_24:

(Start: 12 @16889 has 83 MA's), (Start: 14 @16898 has 3 MA's), (17, 16961), (20, 17069), (21, 17072), (24, 17093),

Gene: Horacetta_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Horacetta_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Hulk_24 Start: 16807, Stop: 17025, Start Num: 12

Candidate Starts for Hulk_24:

(Start: 12 @16807 has 83 MA's), (Start: 14 @16816 has 3 MA's), (17, 16879), (20, 16987), (21, 16990), (24, 17011),

Gene: JRok_24 Start: 16794, Stop: 17012, Start Num: 12

Candidate Starts for JRok_24:

(4, 16629), (5, 16638), (Start: 12 @16794 has 83 MA's), (Start: 14 @16803 has 3 MA's), (17, 16866), (18, 16899), (20, 16974), (21, 16977),

Gene: Jahseh_24 Start: 16780, Stop: 16998, Start Num: 12

Candidate Starts for Jahseh_24:

(Start: 12 @16780 has 83 MA's), (Start: 14 @16789 has 3 MA's), (17, 16852), (20, 16960), (21, 16963), (24, 16984),

Gene: JaimeB_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for JaimeB_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Jannah_24 Start: 16840, Stop: 17058, Start Num: 12

Candidate Starts for Jannah_24:

(Start: 12 @16840 has 83 MA's), (Start: 14 @16849 has 3 MA's), (17, 16912), (20, 17020), (21, 17023), (24, 17044),

Gene: Jerky_24 Start: 16939, Stop: 17157, Start Num: 12

Candidate Starts for Jerky_24:

(4, 16783), (5, 16792), (Start: 12 @16939 has 83 MA's), (Start: 14 @16948 has 3 MA's), (17, 17011), (20, 17119), (21, 17122),

Gene: JoBros_24 Start: 16775, Stop: 16993, Start Num: 12

Candidate Starts for JoBros_24:

(Start: 12 @16775 has 83 MA's), (Start: 14 @16784 has 3 MA's), (17, 16847), (20, 16955), (21, 16958), (24, 16979),

Gene: JooneeDee_25 Start: 16879, Stop: 17097, Start Num: 12

Candidate Starts for JooneeDee_25:

(4, 16708), (5, 16717), (Start: 12 @16879 has 83 MA's), (Start: 14 @16888 has 3 MA's), (17, 16951), (18, 16984), (20, 17059), (21, 17062),

Gene: Josuke_24 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for Josuke_24:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: Kaijohn_24 Start: 16837, Stop: 17055, Start Num: 11

Candidate Starts for Kaijohn_24:

(7, 16762), (Start: 11 @16837 has 15 MA's), (Start: 14 @16846 has 3 MA's), (17, 16909), (18, 16942), (19, 16978), (20, 17017), (21, 17020),

Gene: KayPaulus_24 Start: 16867, Stop: 17085, Start Num: 11

Candidate Starts for KayPaulus_24:

(7, 16792), (Start: 11 @16867 has 15 MA's), (Start: 14 @16876 has 3 MA's), (16, 16924), (17, 16939), (18, 16972), (20, 17047), (21, 17050), (24, 17071),

Gene: Kevanna_24 Start: 16853, Stop: 17071, Start Num: 11

Candidate Starts for Kevanna_24:

(Start: 11 @16853 has 15 MA's), (Start: 14 @16862 has 3 MA's), (17, 16925), (20, 17033), (21, 17036),

Gene: KillerTomato_24 Start: 16854, Stop: 17072, Start Num: 11

Candidate Starts for KillerTomato_24:

(Start: 11 @16854 has 15 MA's), (Start: 14 @16863 has 3 MA's), (17, 16926), (20, 17034), (21, 17037),

Gene: Kojax4_24 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Kojax4_24:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: KyriosFaba_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for KyriosFaba_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: LaviMo_24 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for LaviMo_24:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: Leafy_24 Start: 16819, Stop: 17037, Start Num: 11

Candidate Starts for Leafy_24:

(Start: 11 @16819 has 15 MA's), (Start: 14 @16828 has 3 MA's), (17, 16891), (20, 16999), (21, 17002), (24, 17023),

Gene: LemonPepper_25 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for LemonPepper_25:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: LionelHutz_24 Start: 16860, Stop: 17078, Start Num: 12

Candidate Starts for LionelHutz_24:

(Start: 12 @16860 has 83 MA's), (Start: 14 @16869 has 3 MA's), (17, 16932), (20, 17040), (21, 17043), (24, 17064),

Gene: Livingwater_24 Start: 16862, Stop: 17080, Start Num: 11

Candidate Starts for Livingwater_24:

(Start: 11 @16862 has 15 MA's), (Start: 14 @16871 has 3 MA's), (17, 16934), (20, 17042), (21, 17045), (24, 17066),

Gene: Loca_24 Start: 16887, Stop: 17105, Start Num: 11

Candidate Starts for Loca_24:

(Start: 11 @16887 has 15 MA's), (Start: 14 @16896 has 3 MA's), (17, 16959), (20, 17067), (21, 17070), (24, 17091),

Gene: Lola20_24 Start: 16800, Stop: 17018, Start Num: 12

Candidate Starts for Lola20_24:

(Start: 12 @16800 has 83 MA's), (Start: 14 @16809 has 3 MA's), (17, 16872), (20, 16980), (21, 16983), (24, 17004),

Gene: Lunatic_24 Start: 16327, Stop: 16545, Start Num: 12

Candidate Starts for Lunatic_24:

(Start: 12 @16327 has 83 MA's), (Start: 14 @16336 has 3 MA's), (17, 16399), (18, 16432), (20, 16507), (21, 16510),

Gene: Luxx_24 Start: 16875, Stop: 17093, Start Num: 12

Candidate Starts for Luxx_24:

(Start: 12 @16875 has 83 MA's), (Start: 14 @16884 has 3 MA's), (17, 16947), (20, 17055), (21, 17058), (24, 17079),

Gene: Majesty_24 Start: 16856, Stop: 17074, Start Num: 12

Candidate Starts for Majesty_24:

(Start: 12 @16856 has 83 MA's), (Start: 14 @16865 has 3 MA's), (17, 16928), (20, 17036), (21, 17039), (24, 17060),

Gene: ManAs_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for ManAs_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Maneater_26 Start: 16839, Stop: 17057, Start Num: 12

Candidate Starts for Maneater_26:

(Start: 12 @16839 has 83 MA's), (Start: 14 @16848 has 3 MA's), (17, 16911), (20, 17019), (21, 17022), (24, 17043),

Gene: MasterPitts_26 Start: 16797, Stop: 17015, Start Num: 12

Candidate Starts for MasterPitts_26:

(Start: 12 @16797 has 83 MA's), (Start: 14 @16806 has 3 MA's), (17, 16869), (20, 16977), (21, 16980), (24, 17001),

Gene: McShie_24 Start: 16846, Stop: 17064, Start Num: 12

Candidate Starts for McShie_24:

(4, 16681), (5, 16690), (Start: 12 @16846 has 83 MA's), (Start: 14 @16855 has 3 MA's), (17, 16918), (18, 16951), (20, 17026), (21, 17029),

Gene: MelBee03_24 Start: 16853, Stop: 17071, Start Num: 11

Candidate Starts for MelBee03_24:

(Start: 11 @16853 has 15 MA's), (Start: 14 @16862 has 3 MA's), (17, 16925), (20, 17033), (21, 17036),

Gene: Miaurora_24 Start: 16444, Stop: 16662, Start Num: 12

Candidate Starts for Miaurora_24:

(Start: 12 @16444 has 83 MA's), (Start: 14 @16453 has 3 MA's), (17, 16516), (18, 16549), (20, 16624), (21, 16627),

Gene: Minima_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Minima_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: MirimarMandM_24 Start: 16922, Stop: 17140, Start Num: 12

Candidate Starts for MirimarMandM_24:

(4, 16751), (5, 16760), (Start: 12 @16922 has 83 MA's), (Start: 14 @16931 has 3 MA's), (17, 16994), (18, 17027), (20, 17102), (21, 17105),

Gene: MrGreen_24 Start: 16833, Stop: 17051, Start Num: 11

Candidate Starts for MrGreen_24:

(1, 16536), (2, 16569), (3, 16641), (7, 16758), (Start: 11 @16833 has 15 MA's), (Start: 14 @16842 has 3 MA's), (16, 16890), (17, 16905), (20, 17013), (21, 17016), (24, 17037),

Gene: Naby_25 Start: 16798, Stop: 17082, Start Num: 6

Candidate Starts for Naby_25:

(5, 16726), (Start: 6 @16798 has 2 MA's), (Start: 14 @16879 has 3 MA's), (15, 16885), (17, 16939), (18, 16972), (20, 17047), (21, 17050),

Gene: Namsahir_26 Start: 16588, Stop: 16806, Start Num: 12

Candidate Starts for Namsahir_26:

(Start: 12 @16588 has 83 MA's), (Start: 14 @16597 has 3 MA's), (17, 16660), (18, 16693), (20, 16768), (21, 16771),

Gene: NeumannU_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for NeumannU_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Niffler_24 Start: 16435, Stop: 16653, Start Num: 12

Candidate Starts for Niffler_24:

(4, 16264), (5, 16273), (Start: 12 @16435 has 83 MA's), (Start: 14 @16444 has 3 MA's), (17, 16507), (18, 16540), (20, 16615), (21, 16618),

Gene: Nobel_24 Start: 16461, Stop: 16679, Start Num: 12

Candidate Starts for Nobel_24:

(4, 16290), (5, 16299), (Start: 12 @16461 has 83 MA's), (Start: 14 @16470 has 3 MA's), (17, 16533), (18, 16566), (20, 16641), (21, 16644),

Gene: Noelani_24 Start: 16760, Stop: 16978, Start Num: 10

Candidate Starts for Noelani_24:

(4, 16598), (5, 16607), (8, 16694), (Start: 10 @16760 has 1 MA's), (13, 16766), (Start: 14 @16769 has 3 MA's), (17, 16832), (18, 16865), (19, 16901), (20, 16940), (21, 16943), (23, 16955),

Gene: Oaklynn_25 Start: 16797, Stop: 17015, Start Num: 12

Candidate Starts for Oaklynn_25:

(Start: 12 @16797 has 83 MA's), (Start: 14 @16806 has 3 MA's), (17, 16869), (18, 16902), (20, 16977), (21, 16980),

Gene: Octopus_24 Start: 16780, Stop: 16998, Start Num: 12

Candidate Starts for Octopus_24:

(Start: 12 @16780 has 83 MA's), (Start: 14 @16789 has 3 MA's), (17, 16852), (20, 16960), (21, 16963), (24, 16984),

Gene: Otwor_24 Start: 16866, Stop: 17084, Start Num: 12

Candidate Starts for Otwor_24:

(Start: 12 @16866 has 83 MA's), (Start: 14 @16875 has 3 MA's), (17, 16938), (20, 17046), (21, 17049), (24, 17070),

Gene: Owens_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for Owens_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: PaoPu_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for PaoPu_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Picnic_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Picnic_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: PoRanda_24 Start: 16922, Stop: 17140, Start Num: 12

Candidate Starts for PoRanda_24:

(4, 16751), (5, 16760), (Start: 12 @16922 has 83 MA's), (Start: 14 @16931 has 3 MA's), (17, 16994), (18, 17027), (20, 17102), (21, 17105),

Gene: Pondwater_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Pondwater_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Publix_25 Start: 16588, Stop: 16806, Start Num: 12

Candidate Starts for Publix_25:

(Start: 12 @16588 has 83 MA's), (Start: 14 @16597 has 3 MA's), (17, 16660), (18, 16693), (20, 16768), (21, 16771),

Gene: Puddles3_25 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Puddles3_25:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: PuffyCat_24 Start: 16378, Stop: 16596, Start Num: 12

Candidate Starts for PuffyCat_24:

(Start: 12 @16378 has 83 MA's), (Start: 14 @16387 has 3 MA's), (17, 16450), (18, 16483), (20, 16558), (21, 16561),

Gene: Quaker_24 Start: 16862, Stop: 17080, Start Num: 11

Candidate Starts for Quaker_24:

(Start: 11 @16862 has 15 MA's), (Start: 14 @16871 has 3 MA's), (17, 16934), (20, 17042), (21, 17045), (24, 17066),

Gene: Rhogar_24 Start: 16860, Stop: 17078, Start Num: 12

Candidate Starts for Rhogar_24:

(Start: 12 @16860 has 83 MA's), (Start: 14 @16869 has 3 MA's), (17, 16932), (20, 17040), (21, 17043), (24, 17064),

Gene: Rhysand_24 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for Rhysand_24:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: RoscoWindex_26 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for RoscoWindex_26:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: Sage7_27 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Sage7_27:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: SantasSleigh_27 Start: 16888, Stop: 17106, Start Num: 12

Candidate Starts for SantasSleigh_27:

(Start: 12 @16888 has 83 MA's), (Start: 14 @16897 has 3 MA's), (17, 16960), (20, 17068), (21, 17071), (24, 17092),

Gene: Sara_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for Sara_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Scamander_24 Start: 16864, Stop: 17082, Start Num: 12

Candidate Starts for Scamander_24:

(Start: 12 @16864 has 83 MA's), (Start: 14 @16873 has 3 MA's), (17, 16936), (20, 17044), (21, 17047), (24, 17068),

Gene: Scrunchy_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for Scrunchy_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: SeaWolves_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for SeaWolves_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Sippinontea_24 Start: 16885, Stop: 17103, Start Num: 11

Candidate Starts for Sippinontea_24:

(7, 16810), (Start: 11 @16885 has 15 MA's), (Start: 14 @16894 has 3 MA's), (16, 16942), (17, 16957), (18, 16990), (20, 17065), (21, 17068), (24, 17089),

Gene: Slentz_24 Start: 16857, Stop: 17075, Start Num: 12

Candidate Starts for Slentz_24:

(Start: 12 @16857 has 83 MA's), (Start: 14 @16866 has 3 MA's), (17, 16929), (20, 17037), (21, 17040), (24, 17061),

Gene: Slizam_24 Start: 16383, Stop: 16601, Start Num: 12

Candidate Starts for Slizam_24:

(Start: 12 @16383 has 83 MA's), (Start: 14 @16392 has 3 MA's), (17, 16455), (18, 16488), (20, 16563), (21, 16566),

Gene: Snuffles_26 Start: 16736, Stop: 16954, Start Num: 12

Candidate Starts for Snuffles_26:

(Start: 12 @16736 has 83 MA's), (Start: 14 @16745 has 3 MA's), (17, 16808), (18, 16841), (20, 16916), (21, 16919),

Gene: Stem_24 Start: 16393, Stop: 16611, Start Num: 12

Candidate Starts for Stem_24:

(4, 16222), (5, 16231), (Start: 12 @16393 has 83 MA's), (Start: 14 @16402 has 3 MA's), (17, 16465), (18, 16498), (20, 16573), (21, 16576),

Gene: TeddyBoy_24 Start: 16861, Stop: 17079, Start Num: 12

Candidate Starts for TeddyBoy_24:

(Start: 12 @16861 has 83 MA's), (Start: 14 @16870 has 3 MA's), (17, 16933), (20, 17041), (21, 17044), (24, 17065),

Gene: TimoTea_24 Start: 16839, Stop: 17057, Start Num: 12

Candidate Starts for TimoTea_24:

(Start: 12 @16839 has 83 MA's), (Start: 14 @16848 has 3 MA's), (17, 16911), (20, 17019), (21, 17022), (24, 17043),

Gene: TinyTruffula_24 Start: 16462, Stop: 16680, Start Num: 12

Candidate Starts for TinyTruffula_24:

(Start: 12 @16462 has 83 MA's), (Start: 14 @16471 has 3 MA's), (17, 16534), (18, 16567), (20, 16642), (21, 16645),

Gene: TomBrady12_25 Start: 16565, Stop: 16783, Start Num: 12

Candidate Starts for TomBrady12_25:

(Start: 12 @16565 has 83 MA's), (Start: 14 @16574 has 3 MA's), (17, 16637), (18, 16670), (20, 16745), (21, 16748),

Gene: Trireme_24 Start: 16442, Stop: 16660, Start Num: 12

Candidate Starts for Trireme_24:

(Start: 12 @16442 has 83 MA's), (Start: 14 @16451 has 3 MA's), (17, 16514), (18, 16547), (20, 16622), (21, 16625),

Gene: Upsilon_24 Start: 16922, Stop: 17140, Start Num: 12

Candidate Starts for Upsilon_24:

(4, 16751), (5, 16760), (Start: 12 @16922 has 83 MA's), (Start: 14 @16931 has 3 MA's), (17, 16994), (18, 17027), (20, 17102), (21, 17105),

Gene: Vanisius_24 Start: 16865, Stop: 17083, Start Num: 12

Candidate Starts for Vanisius_24:

(Start: 12 @16865 has 83 MA's), (Start: 14 @16874 has 3 MA's), (17, 16937), (20, 17045), (21, 17048), (24, 17069),

Gene: VitulaEligans_24 Start: 16946, Stop: 17164, Start Num: 12

Candidate Starts for VitulaEligans_24:

(4, 16790), (5, 16799), (Start: 12 @16946 has 83 MA's), (Start: 14 @16955 has 3 MA's), (17, 17018), (20, 17126), (21, 17129),

Gene: Witch_24 Start: 16775, Stop: 16993, Start Num: 12

Candidate Starts for Witch_24:

(Start: 12 @16775 has 83 MA's), (Start: 14 @16784 has 3 MA's), (17, 16847), (20, 16955), (21, 16958), (24, 16979),

Gene: Wolfpack_24 Start: 16867, Stop: 17085, Start Num: 11

Candidate Starts for Wolfpack_24:

(7, 16792), (Start: 11 @16867 has 15 MA's), (Start: 14 @16876 has 3 MA's), (16, 16924), (17, 16939), (18, 16972), (20, 17047), (21, 17050), (24, 17071),

Gene: Yami_24 Start: 16336, Stop: 16554, Start Num: 12

Candidate Starts for Yami_24:

(Start: 12 @16336 has 83 MA's), (Start: 14 @16345 has 3 MA's), (17, 16408), (18, 16441), (20, 16516), (21, 16519),

Gene: Yasuo_24 Start: 16845, Stop: 17063, Start Num: 12

Candidate Starts for Yasuo_24:

(Start: 12 @16845 has 83 MA's), (Start: 14 @16854 has 3 MA's), (17, 16917), (20, 17025), (21, 17028), (24, 17049),

Gene: YertPhresh_24 Start: 16774, Stop: 16992, Start Num: 12

Candidate Starts for YertPhresh_24:

(Start: 12 @16774 has 83 MA's), (Start: 14 @16783 has 3 MA's), (17, 16846), (20, 16954), (21, 16957), (24, 16978),

Gene: Yubaba_24 Start: 16808, Stop: 17026, Start Num: 12

Candidate Starts for Yubaba_24:

(Start: 12 @16808 has 83 MA's), (Start: 14 @16817 has 3 MA's), (17, 16880), (20, 16988), (21, 16991), (24, 17012),