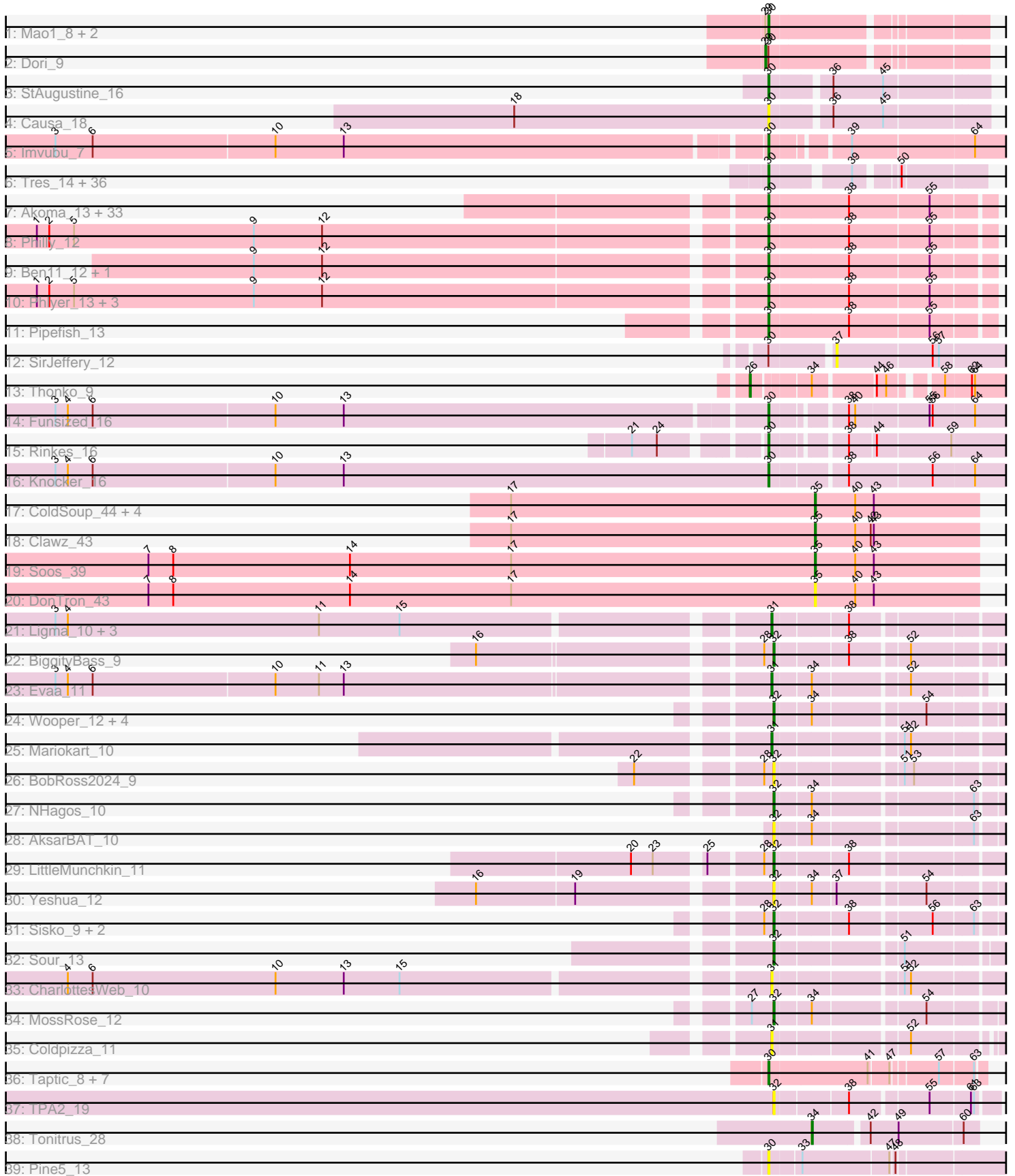


Pham 215945



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 215945 Report

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

Pham number 215945 has 134 members, 25 are drafts.

Phages represented in each track:

- Track 1 : Mao1_8, Mask_9, Sejanus_9
- Track 2 : Dori_9
- Track 3 : StAugustine_16
- Track 4 : Causa_18
- Track 5 : Imvubu_7
- Track 6 : Tres_14, LilSmirk_14, Brownie5_14, Arbiter_14, LizLemon_14, Kheth_14, Kolhan_14, Rhinoforte_14, Opia_14, Ares_14, Rosebush_14, Eaglehorse_14, PrinceCharming_14, Glass_14, Godines_14, ItsyBitsy1_14, Allegro_14, Laurie_14, Faze9_14, MasterPo_14, Lephleur_14, FrenchFry_14, Bananafish_14, Vic9_00014, TA17A_14, Calamitous_14, West99_14, Tinciduntolum_15, Blocker23_14, Lars_14, Hedgerow_14, Holeinone_14, Kaleb_14, Phantasmagoria_14, Boyle_14, Sabella_14, Coffee_14
- Track 7 : Akoma_13, OrangeOswald_13, HarveySr_13, Jackstina_12, Neos5_13, Yinz_13, Tydolla_13, SynergyX_13, LestyG_13, Briakila_13, Corofin_13, TinyTerror_13, Olivio_12, Glubnar_13, Baloo_13, SwainyDoc_13, Gadget_14, Athena_14, Kronus_12, Devonte_13, Deenasa_13, Audrey_13, SlippinJimmy_13, Mortcellus_12, Halfpint_12, MmasiCarm_13, Phayeta_13, Phaedrus_12, Casbah_12, Shenandoah_13, Kamiyu_13, Nozo_13, RagingRooster_13, ChaChing_13
- Track 8 : Philly_12
- Track 9 : Ben11_12, Abinghost_13
- Track 10 : Phlyer_13, Bernardo_13, Heathcliff_13, GlenHope_14
- Track 11 : Pipefish_13
- Track 12 : SirJeffery_12
- Track 13 : Thonko_9
- Track 14 : Funsized_16
- Track 15 : Rinkes_16
- Track 16 : Knocker_16
- Track 17 : ColdSoup_44, Jollymon_44, Sting_42, Amo99_44, KingstonB_43
- Track 18 : Clawz_43
- Track 19 : Soos_39
- Track 20 : DonTron_43
- Track 21 : Ligma_10, Shatter_10, Fresco_10, Axumite_10
- Track 22 : BiggityBass_9
- Track 23 : Evaa_11
- Track 24 : Wooper_12, MakoManhole_12, CaiB_12, CloverMinnie_12, AnarQue_12
- Track 25 : Mariokart_10
- Track 26 : BobRoss2024_9

- Track 27 : NHagos_10
- Track 28 : AksarBAT_10
- Track 29 : LittleMunchkin_11
- Track 30 : Yeshua_12
- Track 31 : Sisko_9, Yago84_9, AnClar_9
- Track 32 : Sour_13
- Track 33 : CharlottesWeb_10
- Track 34 : MossRose_12
- Track 35 : Coldpizza_11
- Track 36 : Taptic_8, PR_08, Argie_9, D12_08, Megabear_8, Cepens_8, GodPhather_9, Jeon_8
- Track 37 : TPA2_19
- Track 38 : Tonitrus_28
- Track 39 : Pine5_13

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

The start number called the most often in the published annotations is 30, it was called in 84 of the 109 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_13, Akoma_13, Allegro_14, Arbiter_14, Ares_14, Argie_9, Athena_14, Audrey_13, Baloo_13, Bananafish_14, Ben11_12, Bernardo_13, Blocker23_14, Boyle_14, Briakila_13, Brownie5_14, Calamitous_14, Casbah_12, Causa_18, Cepens_8, ChaChing_13, Coffee_14, Corofin_13, D12_08, Deenasa_13, Devonte_13, Eaglehorse_14, Faze9_14, FrenchFry_14, Funsized_16, Gadget_14, Glass_14, GlenHope_14, Glubnar_13, GodPhather_9, Godines_14, Halfpint_12, HarveySr_13, Heathcliff_13, Hedgerow_14, Holeinone_14, Imvubu_7, ItsyBitsy1_14, Jackstina_12, Jeon_8, Kaleb_14, Kamiyu_13, Kheth_14, Knocker_16, Kolhan_14, Kronus_12, Lars_14, Laurie_14, Lephleur_14, LestyG_13, LilSmirk_14, LizLemon_14, Mao1_8, Mask_9, MasterPo_14, Megabear_8, MmasiCarm_13, Mortcellus_12, Neos5_13, Nozo_13, Olivio_12, Opia_14, OrangeOswald_13, PR_08, Phaedrus_12, Phantasmagoria_14, Phayeta_13, Philly_12, Phlyer_13, Pine5_13, Pipefish_13, PrinceCharming_14, RagingRooster_13, Rhinoforte_14, Rinkes_16, Rosebush_14, Sabella_14, Sejanus_9, Shenandoah_13, SlippinJimmy_13, StAugustine_16, SwainyDoc_13, SynergyX_13, TA17A_14, Taptic_8, Tinciduntolum_15, TinyTerror_13, Tres_14, Tydolla_13, Vic9_00014, West99_14, Yinz_13,

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

- Dori_9, SirJeffery_12,

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

- AksarBAT_10, Amo99_44, AnClar_9, AnarQue_12, Axumite_10, BiggityBass_9, BobRoss2024_9, CaiB_12, CharlottesWeb_10, Clawz_43, CloverMinnie_12, ColdSoup_44, Coldpizza_11, DonTron_43, Evaa_11, Fresco_10, Jollymon_44, KingstonB_43, Ligma_10, LittleMunchkin_11, MakoManhole_12, Mariokart_10, MossRose_12, NHagos_10, Shatter_10, Sisko_9, Soos_39, Sour_13, Sting_42, TPA2_19, Thonko_9, Tonitrus_28, Wooper_12, Yago84_9, Yeshua_12,

Summary by start number:

Start 26:

- Found in 1 of 134 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thonko_9 (B8),

Start 29:

- Found in 4 of 134 (3.0%) of genes in pham
- Manual Annotations of this start: 1 of 109
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Dori_9 (AD),

Start 30:

- Found in 99 of 134 (73.9%) of genes in pham
- Manual Annotations of this start: 84 of 109
- Called 98.0% of time when present
- Phage (with cluster) where this start called: Abinghost_13 (B3), Akoma_13 (B3), Allegro_14 (B2), Arbitrator_14 (B2), Ares_14 (B2), Argie_9 (W), Athena_14 (B3), Audrey_13 (B3), Baloo_13 (B3), Bananafish_14 (B2), Ben11_12 (B3), Bernardo_13 (B3), Blocker23_14 (B2), Boyle_14 (B2), Briakila_13 (B3), Brownie5_14 (B2), Calamitous_14 (B2), Casbah_12 (B3), Causa_18 (AI), Cepens_8 (W), ChaChing_13 (B3), Coffee_14 (B2), Corofin_13 (B3), D12_08 (W), Deenasa_13 (B3), Devonte_13 (B3), Eaglehorse_14 (B2), Faze9_14 (B2), FrenchFry_14 (B2), Funsized_16 (B9), Gadget_14 (B3), Glass_14 (B2), GlenHope_14 (B3), Glubnar_13 (B3), GodPhather_9 (W), Godines_14 (B2), Halfpint_12 (B3), HarveySr_13 (B3), Heathcliff_13 (B3), Hedgerow_14 (B2), Holeinone_14 (B2), Imvubu_7 (B10), ItsyBitsy1_14 (B2), Jackstina_12 (B3), Jeon_8 (W), Kaleb_14 (B2), Kamiyu_13 (B3), Kheth_14 (B2), Knocker_16 (B9), Kolhan_14 (B2), Kronus_12 (B3), Lars_14 (B2), Laurie_14 (B2), Lephleur_14 (B2), LestyG_13 (B3), LilSmirk_14 (B2), LizLemon_14 (B2), Mao1_8 (AD), Mask_9 (AD), MasterPo_14 (B2), Megabear_8 (W), MmasiCarm_13 (B3), Mortcellus_12 (B3), Neos5_13 (B3), Nozo_13 (B3), Olivio_12 (B3), Opia_14 (B2), OrangeOswald_13 (B3), PR_08 (W), Phaedrus_12 (B3), Phantasmagoria_14 (B2), Phayeta_13 (B3), Philly_12 (B3), Phlyer_13 (B3), Pine5_13 (singleton), Pipefish_13 (B3), PrinceCharming_14 (B2), RagingRooster_13 (B3), Rhinoforte_14 (B2), Rinkes_16 (B9), Rosebush_14 (B2), Sabella_14 (B2), Sejanus_9 (AD), Shenandoah_13 (B3), SlippinJimmy_13 (B3), StAugustine_16 (AI), SwainyDoc_13 (B3), SynergyX_13 (B3), TA17A_14 (B2), Taptic_8 (W), Tinciduntolum_15 (B2), TinyTerror_13 (B3), Tres_14 (B2), Tydolla_13 (B3), Vic9_00014 (B2), West99_14 (B2), Yinz_13 (B3),

Start 31:

- Found in 8 of 134 (6.0%) of genes in pham
- Manual Annotations of this start: 6 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Axumite_10 (DR), CharlottesWeb_10 (DR), Coldpizza_11 (DR), Evaa_11 (DR), Fresco_10 (DR), Ligma_10 (DR), Mariokart_10 (DR), Shatter_10 (DR),

Start 32:

- Found in 17 of 134 (12.7%) of genes in pham
- Manual Annotations of this start: 13 of 109

- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_10 (DR), AnClar_9 (DR), AnarQue_12 (DR), BiggityBass_9 (DR), BobRoss2024_9 (DR), CaiB_12 (DR), CloverMinnie_12 (DR), LittleMunchkin_11 (DR), MakoManhole_12 (DR), MossRose_12 (DR), NHagos_10 (DR), Sisko_9 (DR), Sour_13 (DR), TPA2_19 (singleton), Wooper_12 (DR), Yago84_9 (DR), Yeshua_12 (DR),

Start 34:

- Found in 12 of 134 (9.0%) of genes in pham
- Manual Annotations of this start: 1 of 109
- Called 8.3% of time when present
- Phage (with cluster) where this start called: Tonitrus_28 (singleton),

Start 35:

- Found in 8 of 134 (6.0%) of genes in pham
- Manual Annotations of this start: 3 of 109
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amo99_44 (CP), Clawz_43 (CP), ColdSoup_44 (CP), DonTron_43 (CP), Jollymon_44 (CP), KingstonB_43 (CP), Soos_39 (CP), Sting_42 (CP),

Start 37:

- Found in 2 of 134 (1.5%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: SirJeffery_12 (B5),

Summary by clusters:

There are 12 clusters represented in this pham: singleton, B2, AI, B8, B5, B10, W, B3, CP, DR, B9, AD,

Info for manual annotations of cluster AD:

- Start number 29 was manually annotated 1 time for cluster AD.
- Start number 30 was manually annotated 3 times for cluster AD.

Info for manual annotations of cluster AI:

- Start number 30 was manually annotated 1 time for cluster AI.

Info for manual annotations of cluster B10:

- Start number 30 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B2:

- Start number 30 was manually annotated 33 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 30 was manually annotated 35 times for cluster B3.

Info for manual annotations of cluster B8:

- Start number 26 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 30 was manually annotated 3 times for cluster B9.

Info for manual annotations of cluster CP:

- Start number 35 was manually annotated 3 times for cluster CP.

Info for manual annotations of cluster DR:

- Start number 31 was manually annotated 6 times for cluster DR.
- Start number 32 was manually annotated 13 times for cluster DR.

Info for manual annotations of cluster W:

- Start number 30 was manually annotated 8 times for cluster W.

Gene Information:

Gene: Abinghost_13 Start: 10640, Stop: 10846, Start Num: 30

Candidate Starts for Abinghost_13:

(9, 10166), (12, 10232), (Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: Akoma_13 Start: 10640, Stop: 10846, Start Num: 30

Candidate Starts for Akoma_13:

(Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: AksarBAT_10 Start: 9511, Stop: 9714, Start Num: 32

Candidate Starts for AksarBAT_10:

(Start: 32 @9511 has 13 MA's), (Start: 34 @9541 has 1 MA's), (63, 9682),

Gene: Allegro_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Allegro_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Amo99_44 Start: 22933, Stop: 23091, Start Num: 35

Candidate Starts for Amo99_44:

(17, 22639), (Start: 35 @22933 has 3 MA's), (40, 22972), (43, 22990),

Gene: AnClar_9 Start: 9843, Stop: 10046, Start Num: 32

Candidate Starts for AnClar_9:

(28, 9834), (Start: 32 @9843 has 13 MA's), (38, 9906), (56, 9978), (63, 10014),

Gene: AnarQue_12 Start: 11030, Stop: 11233, Start Num: 32

Candidate Starts for AnarQue_12:

(Start: 32 @11030 has 13 MA's), (Start: 34 @11060 has 1 MA's), (54, 11159),

Gene: Arbiter_14 Start: 12154, Stop: 12327, Start Num: 30

Candidate Starts for Arbiter_14:

(Start: 30 @12154 has 84 MA's), (39, 12220), (50, 12253),

Gene: Ares_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Ares_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Argie_9 Start: 10545, Stop: 10733, Start Num: 30

Candidate Starts for Argie_9:

(Start: 30 @10545 has 84 MA's), (41, 10638), (47, 10656), (57, 10695), (63, 10725),

Gene: Athena_14 Start: 11403, Stop: 11609, Start Num: 30

Candidate Starts for Athena_14:

(Start: 30 @11403 has 84 MA's), (38, 11478), (55, 11553),

Gene: Audrey_13 Start: 10640, Stop: 10846, Start Num: 30

Candidate Starts for Audrey_13:

(Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: Axumite_10 Start: 9533, Stop: 9739, Start Num: 31

Candidate Starts for Axumite_10:

(3, 8870), (4, 8882), (11, 9125), (15, 9203), (Start: 31 @9533 has 6 MA's), (38, 9596),

Gene: Baloo_13 Start: 10640, Stop: 10846, Start Num: 30

Candidate Starts for Baloo_13:

(Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: Bananafish_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Bananafish_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Ben11_12 Start: 10488, Stop: 10694, Start Num: 30

Candidate Starts for Ben11_12:

(9, 10014), (12, 10080), (Start: 30 @10488 has 84 MA's), (38, 10563), (55, 10638),

Gene: Bernardo_13 Start: 10662, Stop: 10868, Start Num: 30

Candidate Starts for Bernardo_13:

(1, 9978), (2, 9990), (5, 10014), (9, 10188), (12, 10254), (Start: 30 @10662 has 84 MA's), (38, 10737), (55, 10812),

Gene: BiggityBass_9 Start: 9351, Stop: 9554, Start Num: 32

Candidate Starts for BiggityBass_9:

(16, 9090), (28, 9342), (Start: 32 @9351 has 13 MA's), (38, 9414), (52, 9465),

Gene: Blocker23_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Blocker23_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: BobRoss2024_9 Start: 9382, Stop: 9585, Start Num: 32

Candidate Starts for BobRoss2024_9:

(22, 9268), (28, 9373), (Start: 32 @9382 has 13 MA's), (51, 9490), (53, 9499),

Gene: Boyle_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Boyle_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Briakila_13 Start: 11429, Stop: 11635, Start Num: 30

Candidate Starts for Briakila_13:

(Start: 30 @11429 has 84 MA's), (38, 11504), (55, 11579),

Gene: Brownie5_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Brownie5_14:
(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: CaiB_12 Start: 11030, Stop: 11233, Start Num: 32
Candidate Starts for CaiB_12:
(Start: 32 @11030 has 13 MA's), (Start: 34 @11060 has 1 MA's), (54, 11159),

Gene: Calamitous_14 Start: 12064, Stop: 12237, Start Num: 30
Candidate Starts for Calamitous_14:
(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Casbah_12 Start: 10492, Stop: 10698, Start Num: 30
Candidate Starts for Casbah_12:
(Start: 30 @10492 has 84 MA's), (38, 10567), (55, 10642),

Gene: Causa_18 Start: 12947, Stop: 13141, Start Num: 30
Candidate Starts for Causa_18:
(18, 12701), (Start: 30 @12947 has 84 MA's), (36, 12998), (45, 13046),

Gene: Cepens_8 Start: 10284, Stop: 10472, Start Num: 30
Candidate Starts for Cepens_8:
(Start: 30 @10284 has 84 MA's), (41, 10377), (47, 10395), (57, 10434), (63, 10464),

Gene: ChaChing_13 Start: 10655, Stop: 10861, Start Num: 30
Candidate Starts for ChaChing_13:
(Start: 30 @10655 has 84 MA's), (38, 10730), (55, 10805),

Gene: CharlottesWeb_10 Start: 9585, Stop: 9791, Start Num: 31
Candidate Starts for CharlottesWeb_10:
(4, 8934), (6, 8958), (10, 9135), (13, 9201), (15, 9255), (Start: 31 @9585 has 6 MA's), (51, 9693), (52, 9699),

Gene: Clawz_43 Start: 22851, Stop: 23009, Start Num: 35
Candidate Starts for Clawz_43:
(17, 22557), (Start: 35 @22851 has 3 MA's), (40, 22890), (42, 22905), (43, 22908),

Gene: CloverMinnie_12 Start: 11030, Stop: 11233, Start Num: 32
Candidate Starts for CloverMinnie_12:
(Start: 32 @11030 has 13 MA's), (Start: 34 @11060 has 1 MA's), (54, 11159),

Gene: Coffee_14 Start: 12181, Stop: 12354, Start Num: 30
Candidate Starts for Coffee_14:
(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: ColdSoup_44 Start: 22933, Stop: 23091, Start Num: 35
Candidate Starts for ColdSoup_44:
(17, 22639), (Start: 35 @22933 has 3 MA's), (40, 22972), (43, 22990),

Gene: Coldpizza_11 Start: 11468, Stop: 11665, Start Num: 31
Candidate Starts for Coldpizza_11:
(Start: 31 @11468 has 6 MA's), (52, 11582),

Gene: Corofin_13 Start: 10665, Stop: 10871, Start Num: 30

Candidate Starts for Corofin_13:
(Start: 30 @10665 has 84 MA's), (38, 10740), (55, 10815),

Gene: D12_08 Start: 10239, Stop: 10427, Start Num: 30
Candidate Starts for D12_08:
(Start: 30 @10239 has 84 MA's), (41, 10332), (47, 10350), (57, 10389), (63, 10419),

Gene: Deenasa_13 Start: 11403, Stop: 11609, Start Num: 30
Candidate Starts for Deenasa_13:
(Start: 30 @11403 has 84 MA's), (38, 11478), (55, 11553),

Gene: Devonte_13 Start: 10640, Stop: 10846, Start Num: 30
Candidate Starts for Devonte_13:
(Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: DonTron_43 Start: 23003, Stop: 23161, Start Num: 35
Candidate Starts for DonTron_43:
(7, 22358), (8, 22382), (14, 22553), (17, 22709), (Start: 35 @23003 has 3 MA's), (40, 23042), (43, 23060),

Gene: Dori_9 Start: 8150, Stop: 8341, Start Num: 29
Candidate Starts for Dori_9:
(Start: 29 @8150 has 1 MA's), (Start: 30 @8153 has 84 MA's),

Gene: Eaglehorse_14 Start: 12082, Stop: 12255, Start Num: 30
Candidate Starts for Eaglehorse_14:
(Start: 30 @12082 has 84 MA's), (39, 12148), (50, 12181),

Gene: Evaa_11 Start: 10856, Stop: 11044, Start Num: 31
Candidate Starts for Evaa_11:
(3, 10193), (4, 10205), (6, 10229), (10, 10403), (11, 10445), (13, 10469), (Start: 31 @10856 has 6 MA's), (Start: 34 @10886 has 1 MA's), (52, 10970),

Gene: Faze9_14 Start: 12181, Stop: 12354, Start Num: 30
Candidate Starts for Faze9_14:
(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: FrenchFry_14 Start: 12181, Stop: 12354, Start Num: 30
Candidate Starts for FrenchFry_14:
(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Fresco_10 Start: 9533, Stop: 9739, Start Num: 31
Candidate Starts for Fresco_10:
(3, 8870), (4, 8882), (11, 9125), (15, 9203), (Start: 31 @9533 has 6 MA's), (38, 9596),

Gene: Funsized_16 Start: 13096, Stop: 13326, Start Num: 30
Candidate Starts for Funsized_16:
(3, 12424), (4, 12436), (6, 12460), (10, 12634), (13, 12700), (Start: 30 @13096 has 84 MA's), (38, 13156), (40, 13162), (55, 13228), (56, 13231), (64, 13270),

Gene: Gadget_14 Start: 10644, Stop: 10850, Start Num: 30
Candidate Starts for Gadget_14:
(Start: 30 @10644 has 84 MA's), (38, 10719), (55, 10794),

Gene: Glass_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Glass_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: GlenHope_14 Start: 10654, Stop: 10860, Start Num: 30

Candidate Starts for GlenHope_14:

(1, 9970), (2, 9982), (5, 10006), (9, 10180), (12, 10246), (Start: 30 @10654 has 84 MA's), (38, 10729), (55, 10804),

Gene: Glubnar_13 Start: 10644, Stop: 10850, Start Num: 30

Candidate Starts for Glubnar_13:

(Start: 30 @10644 has 84 MA's), (38, 10719), (55, 10794),

Gene: GodPhather_9 Start: 10542, Stop: 10730, Start Num: 30

Candidate Starts for GodPhather_9:

(Start: 30 @10542 has 84 MA's), (41, 10635), (47, 10653), (57, 10692), (63, 10722),

Gene: Godines_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Godines_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Halfpint_12 Start: 10489, Stop: 10695, Start Num: 30

Candidate Starts for Halfpint_12:

(Start: 30 @10489 has 84 MA's), (38, 10564), (55, 10639),

Gene: HarveySr_13 Start: 10641, Stop: 10847, Start Num: 30

Candidate Starts for HarveySr_13:

(Start: 30 @10641 has 84 MA's), (38, 10716), (55, 10791),

Gene: Heathcliff_13 Start: 10626, Stop: 10832, Start Num: 30

Candidate Starts for Heathcliff_13:

(1, 9942), (2, 9954), (5, 9978), (9, 10152), (12, 10218), (Start: 30 @10626 has 84 MA's), (38, 10701), (55, 10776),

Gene: Hedgerow_14 Start: 12163, Stop: 12336, Start Num: 30

Candidate Starts for Hedgerow_14:

(Start: 30 @12163 has 84 MA's), (39, 12229), (50, 12262),

Gene: Holeinone_14 Start: 12063, Stop: 12236, Start Num: 30

Candidate Starts for Holeinone_14:

(Start: 30 @12063 has 84 MA's), (39, 12129), (50, 12162),

Gene: Imvubu_7 Start: 7957, Stop: 8193, Start Num: 30

Candidate Starts for Imvubu_7:

(3, 7288), (6, 7324), (10, 7498), (13, 7564), (Start: 30 @7957 has 84 MA's), (39, 8020), (64, 8134),

Gene: ItsyBitsy1_14 Start: 12055, Stop: 12228, Start Num: 30

Candidate Starts for ItsyBitsy1_14:

(Start: 30 @12055 has 84 MA's), (39, 12121), (50, 12154),

Gene: Jackstina_12 Start: 10557, Stop: 10763, Start Num: 30

Candidate Starts for Jackstina_12:

(Start: 30 @10557 has 84 MA's), (38, 10632), (55, 10707),

Gene: Jeon_8 Start: 10272, Stop: 10460, Start Num: 30

Candidate Starts for Jeon_8:

(Start: 30 @10272 has 84 MA's), (41, 10365), (47, 10383), (57, 10422), (63, 10452),

Gene: Jollymon_44 Start: 22933, Stop: 23091, Start Num: 35

Candidate Starts for Jollymon_44:

(17, 22639), (Start: 35 @22933 has 3 MA's), (40, 22972), (43, 22990),

Gene: Kaleb_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Kaleb_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Kamiyu_13 Start: 10635, Stop: 10841, Start Num: 30

Candidate Starts for Kamiyu_13:

(Start: 30 @10635 has 84 MA's), (38, 10710), (55, 10785),

Gene: Kheth_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Kheth_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: KingstonB_43 Start: 22441, Stop: 22599, Start Num: 35

Candidate Starts for KingstonB_43:

(17, 22147), (Start: 35 @22441 has 3 MA's), (40, 22480), (43, 22498),

Gene: Knocker_16 Start: 13569, Stop: 13811, Start Num: 30

Candidate Starts for Knocker_16:

(3, 12882), (4, 12894), (6, 12918), (10, 13092), (13, 13158), (Start: 30 @13569 has 84 MA's), (38, 13635), (56, 13713), (64, 13752),

Gene: Kolhan_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Kolhan_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Kronus_12 Start: 11247, Stop: 11453, Start Num: 30

Candidate Starts for Kronus_12:

(Start: 30 @11247 has 84 MA's), (38, 11322), (55, 11397),

Gene: Lars_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Lars_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Laurie_14 Start: 12065, Stop: 12238, Start Num: 30

Candidate Starts for Laurie_14:

(Start: 30 @12065 has 84 MA's), (39, 12131), (50, 12164),

Gene: Lephleur_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Lephleur_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: LestyG_13 Start: 10644, Stop: 10850, Start Num: 30

Candidate Starts for LestyG_13:

(Start: 30 @10644 has 84 MA's), (38, 10719), (55, 10794),

Gene: Ligma_10 Start: 9533, Stop: 9739, Start Num: 31

Candidate Starts for Ligma_10:

(3, 8870), (4, 8882), (11, 9125), (15, 9203), (Start: 31 @9533 has 6 MA's), (38, 9596),

Gene: LilSmirk_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for LilSmirk_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: LittleMunchkin_11 Start: 10824, Stop: 11030, Start Num: 32

Candidate Starts for LittleMunchkin_11:

(20, 10707), (23, 10728), (25, 10767), (28, 10815), (Start: 32 @10824 has 13 MA's), (38, 10887),

Gene: LizLemon_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for LizLemon_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: MakoManhole_12 Start: 11030, Stop: 11233, Start Num: 32

Candidate Starts for MakoManhole_12:

(Start: 32 @11030 has 13 MA's), (Start: 34 @11060 has 1 MA's), (54, 11159),

Gene: Mao1_8 Start: 8549, Stop: 8737, Start Num: 30

Candidate Starts for Mao1_8:

(Start: 29 @8546 has 1 MA's), (Start: 30 @8549 has 84 MA's),

Gene: Mariokart_10 Start: 9585, Stop: 9791, Start Num: 31

Candidate Starts for Mariokart_10:

(Start: 31 @9585 has 6 MA's), (51, 9693), (52, 9699),

Gene: Mask_9 Start: 8550, Stop: 8738, Start Num: 30

Candidate Starts for Mask_9:

(Start: 29 @8547 has 1 MA's), (Start: 30 @8550 has 84 MA's),

Gene: MasterPo_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for MasterPo_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Megabear_8 Start: 10239, Stop: 10427, Start Num: 30

Candidate Starts for Megabear_8:

(Start: 30 @10239 has 84 MA's), (41, 10332), (47, 10350), (57, 10389), (63, 10419),

Gene: MmasiCarm_13 Start: 10640, Stop: 10846, Start Num: 30

Candidate Starts for MmasiCarm_13:

(Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: Mortcellus_12 Start: 11278, Stop: 11484, Start Num: 30

Candidate Starts for Mortcellus_12:

(Start: 30 @11278 has 84 MA's), (38, 11353), (55, 11428),

Gene: MossRose_12 Start: 11030, Stop: 11233, Start Num: 32

Candidate Starts for MossRose_12:

(27, 11009), (Start: 32 @11030 has 13 MA's), (Start: 34 @11060 has 1 MA's), (54, 11159),

Gene: NHagos_10 Start: 9514, Stop: 9717, Start Num: 32
Candidate Starts for NHagos_10:
(Start: 32 @9514 has 13 MA's), (Start: 34 @9544 has 1 MA's), (63, 9685),

Gene: Neos5_13 Start: 11430, Stop: 11636, Start Num: 30
Candidate Starts for Neos5_13:
(Start: 30 @11430 has 84 MA's), (38, 11505), (55, 11580),

Gene: Nozo_13 Start: 11405, Stop: 11611, Start Num: 30
Candidate Starts for Nozo_13:
(Start: 30 @11405 has 84 MA's), (38, 11480), (55, 11555),

Gene: Olivio_12 Start: 10489, Stop: 10695, Start Num: 30
Candidate Starts for Olivio_12:
(Start: 30 @10489 has 84 MA's), (38, 10564), (55, 10639),

Gene: Opia_14 Start: 12064, Stop: 12237, Start Num: 30
Candidate Starts for Opia_14:
(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: OrangeOswald_13 Start: 10640, Stop: 10846, Start Num: 30
Candidate Starts for OrangeOswald_13:
(Start: 30 @10640 has 84 MA's), (38, 10715), (55, 10790),

Gene: PR_08 Start: 10239, Stop: 10427, Start Num: 30
Candidate Starts for PR_08:
(Start: 30 @10239 has 84 MA's), (41, 10332), (47, 10350), (57, 10389), (63, 10419),

Gene: Phaedrus_12 Start: 10557, Stop: 10763, Start Num: 30
Candidate Starts for Phaedrus_12:
(Start: 30 @10557 has 84 MA's), (38, 10632), (55, 10707),

Gene: Phantasmagoria_14 Start: 12064, Stop: 12237, Start Num: 30
Candidate Starts for Phantasmagoria_14:
(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Phayeta_13 Start: 10516, Stop: 10722, Start Num: 30
Candidate Starts for Phayeta_13:
(Start: 30 @10516 has 84 MA's), (38, 10591), (55, 10666),

Gene: Philly_12 Start: 10530, Stop: 10736, Start Num: 30
Candidate Starts for Philly_12:
(1, 9846), (2, 9858), (5, 9882), (9, 10056), (12, 10122), (Start: 30 @10530 has 84 MA's), (38, 10605),
(55, 10680),

Gene: Phlyer_13 Start: 11397, Stop: 11603, Start Num: 30
Candidate Starts for Phlyer_13:
(1, 10713), (2, 10725), (5, 10749), (9, 10923), (12, 10989), (Start: 30 @11397 has 84 MA's), (38,
11472), (55, 11547),

Gene: Pine5_13 Start: 10872, Stop: 11096, Start Num: 30
Candidate Starts for Pine5_13:

(Start: 30 @10872 has 84 MA's), (33, 10899), (47, 10980), (48, 10983),

Gene: Pipefish_13 Start: 11526, Stop: 11732, Start Num: 30

Candidate Starts for Pipefish_13:

(Start: 30 @11526 has 84 MA's), (38, 11601), (55, 11676),

Gene: PrinceCharming_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for PrinceCharming_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: RagingRooster_13 Start: 10641, Stop: 10847, Start Num: 30

Candidate Starts for RagingRooster_13:

(Start: 30 @10641 has 84 MA's), (38, 10716), (55, 10791),

Gene: Rhinoforte_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Rhinoforte_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Rinkes_16 Start: 13061, Stop: 13291, Start Num: 30

Candidate Starts for Rinkes_16:

(21, 12956), (24, 12980), (Start: 30 @13061 has 84 MA's), (38, 13121), (44, 13145), (59, 13214),

Gene: Rosebush_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for Rosebush_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Sabella_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Sabella_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Sejanus_9 Start: 9366, Stop: 9554, Start Num: 30

Candidate Starts for Sejanus_9:

(Start: 29 @9363 has 1 MA's), (Start: 30 @9366 has 84 MA's),

Gene: Shatter_10 Start: 9533, Stop: 9739, Start Num: 31

Candidate Starts for Shatter_10:

(3, 8870), (4, 8882), (11, 9125), (15, 9203), (Start: 31 @9533 has 6 MA's), (38, 9596),

Gene: Shenandoah_13 Start: 10643, Stop: 10849, Start Num: 30

Candidate Starts for Shenandoah_13:

(Start: 30 @10643 has 84 MA's), (38, 10718), (55, 10793),

Gene: SirJeffery_12 Start: 11124, Stop: 11288, Start Num: 37

Candidate Starts for SirJeffery_12:

(Start: 30 @11070 has 84 MA's), (37, 11124), (56, 11214), (57, 11220),

Gene: Sisko_9 Start: 9345, Stop: 9548, Start Num: 32

Candidate Starts for Sisko_9:

(28, 9336), (Start: 32 @9345 has 13 MA's), (38, 9408), (56, 9480), (63, 9516),

Gene: SlippinJimmy_13 Start: 11402, Stop: 11608, Start Num: 30

Candidate Starts for SlippinJimmy_13:

(Start: 30 @11402 has 84 MA's), (38, 11477), (55, 11552),

Gene: Soos_39 Start: 22170, Stop: 22328, Start Num: 35
Candidate Starts for Soos_39:
(7, 21525), (8, 21549), (14, 21720), (17, 21876), (Start: 35 @22170 has 3 MA's), (40, 22209), (43, 22227),

Gene: Sour_13 Start: 11191, Stop: 11394, Start Num: 32
Candidate Starts for Sour_13:
(Start: 32 @11191 has 13 MA's), (51, 11299),

Gene: StAugustine_16 Start: 12941, Stop: 13135, Start Num: 30
Candidate Starts for StAugustine_16:
(Start: 30 @12941 has 84 MA's), (36, 12992), (45, 13040),

Gene: Sting_42 Start: 22609, Stop: 22767, Start Num: 35
Candidate Starts for Sting_42:
(17, 22315), (Start: 35 @22609 has 3 MA's), (40, 22648), (43, 22666),

Gene: SwainyDoc_13 Start: 10638, Stop: 10844, Start Num: 30
Candidate Starts for SwainyDoc_13:
(Start: 30 @10638 has 84 MA's), (38, 10713), (55, 10788),

Gene: SynergyX_13 Start: 10641, Stop: 10847, Start Num: 30
Candidate Starts for SynergyX_13:
(Start: 30 @10641 has 84 MA's), (38, 10716), (55, 10791),

Gene: TA17A_14 Start: 12064, Stop: 12237, Start Num: 30
Candidate Starts for TA17A_14:
(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: TPA2_19 Start: 12170, Stop: 12361, Start Num: 32
Candidate Starts for TPA2_19:
(Start: 32 @12170 has 13 MA's), (38, 12233), (55, 12302), (61, 12338), (63, 12341),

Gene: Taptic_8 Start: 10239, Stop: 10427, Start Num: 30
Candidate Starts for Taptic_8:
(Start: 30 @10239 has 84 MA's), (41, 10332), (47, 10350), (57, 10389), (63, 10419),

Gene: Thonko_9 Start: 8053, Stop: 8286, Start Num: 26
Candidate Starts for Thonko_9:
(Start: 26 @8053 has 1 MA's), (Start: 34 @8101 has 1 MA's), (44, 8155), (46, 8164), (58, 8203), (62, 8227), (64, 8230),

Gene: Tinciduntolum_15 Start: 12180, Stop: 12353, Start Num: 30
Candidate Starts for Tinciduntolum_15:
(Start: 30 @12180 has 84 MA's), (39, 12246), (50, 12279),

Gene: TinyTerror_13 Start: 10643, Stop: 10849, Start Num: 30
Candidate Starts for TinyTerror_13:
(Start: 30 @10643 has 84 MA's), (38, 10718), (55, 10793),

Gene: Tonitrus_28 Start: 18735, Stop: 18884, Start Num: 34
Candidate Starts for Tonitrus_28:

(Start: 34 @18735 has 1 MA's), (42, 18783), (49, 18810), (60, 18870),

Gene: Tres_14 Start: 12064, Stop: 12237, Start Num: 30

Candidate Starts for Tres_14:

(Start: 30 @12064 has 84 MA's), (39, 12130), (50, 12163),

Gene: Tydolla_13 Start: 11402, Stop: 11608, Start Num: 30

Candidate Starts for Tydolla_13:

(Start: 30 @11402 has 84 MA's), (38, 11477), (55, 11552),

Gene: Vic9_00014 Start: 12507, Stop: 12680, Start Num: 30

Candidate Starts for Vic9_00014:

(Start: 30 @12507 has 84 MA's), (39, 12573), (50, 12606),

Gene: West99_14 Start: 12181, Stop: 12354, Start Num: 30

Candidate Starts for West99_14:

(Start: 30 @12181 has 84 MA's), (39, 12247), (50, 12280),

Gene: Wooper_12 Start: 11030, Stop: 11233, Start Num: 32

Candidate Starts for Wooper_12:

(Start: 32 @11030 has 13 MA's), (Start: 34 @11060 has 1 MA's), (54, 11159),

Gene: Yago84_9 Start: 9354, Stop: 9557, Start Num: 32

Candidate Starts for Yago84_9:

(28, 9345), (Start: 32 @9354 has 13 MA's), (38, 9417), (56, 9489), (63, 9525),

Gene: Yeshua_12 Start: 11034, Stop: 11237, Start Num: 32

Candidate Starts for Yeshua_12:

(16, 10770), (19, 10863), (Start: 32 @11034 has 13 MA's), (Start: 34 @11064 has 1 MA's), (37, 11085), (54, 11163),

Gene: Yinz_13 Start: 10670, Stop: 10876, Start Num: 30

Candidate Starts for Yinz_13:

(Start: 30 @10670 has 84 MA's), (38, 10745), (55, 10820),