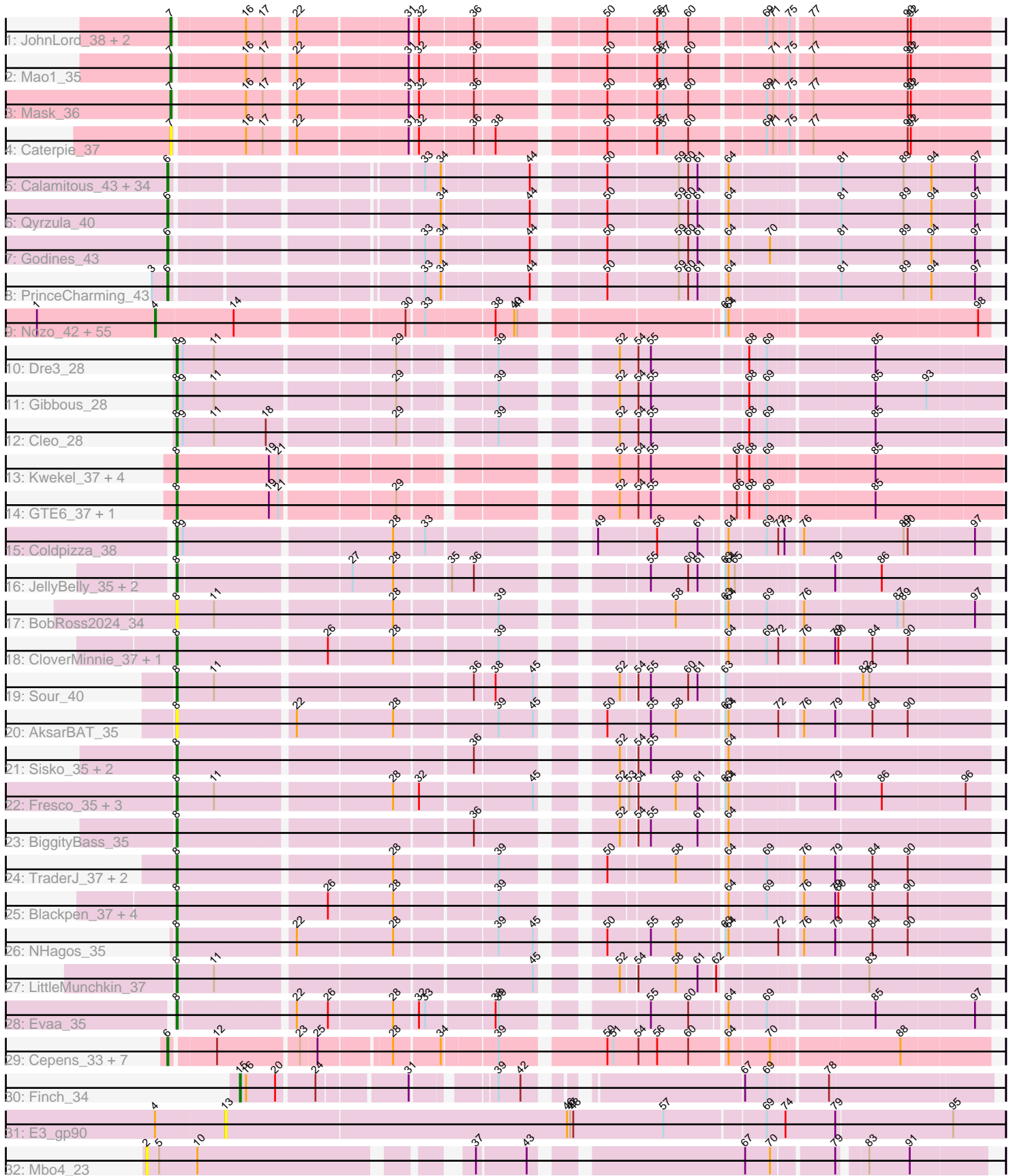


Pham 296315



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 296315 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296315 has 149 members, 18 are drafts.

Phages represented in each track:

- Track 1 : JohnLord_38, Sejanus_36, Dori_37
- Track 2 : Mao1_35
- Track 3 : Mask_36
- Track 4 : Caterpie_37
- Track 5 : Calamitous_43, Lars_43, Faze9_42, Lephleur_43, ItsyBitsy1_43, FrenchFry_43, Allegro_43, Tinciduntolum_44, Bananafish_43, Hedgerow_43, TA17A_44, West99_43, Coffee_43, Kheth_43, Blocker23_43, Tres_43, Holeinone_43, Kaleb_43, Phantasmagoria_43, Sabella_42, Kolhan_43, Rhinoforte_43, LilSmirk_43, LizLemon_43, Brownie5_43, Eaglehorse_43, Boyle_43, Arbiter_42, Vic9_00042, Rosebush_42, Laurie_42, Opia_43, Ares_43, MasterPo_43, Glass_43
- Track 6 : Qyrzula_40
- Track 7 : Godines_43
- Track 8 : PrinceCharming_43
- Track 9 : Nozo_42, Halfpint_41, Yahalom_42, GlenHope_43, Pipefish_44, Phayeta_43, Chandler_42, Briakila_43, MmasiCarm_42, SwainyDoc_42, Daisy_42, Deenasa_42, Abinghost_42, Chalmers_42, Devonte_42, Casbah_41, Glubnar_43, Rita1961_42, Kamiyu_42, Neos5_42, Obutu_42, Bernardo_43, Phaedrus_40, Athena_43, Gervas_42, Philly_41, HarveySr_42, RomaT_42, Marlia_42, Phlyer_42, Shenandoah_42, Yinz_42, Compostia_43, ChaChing_42, Mortcellus_41, Corofin_42, LestyG_42, Ben11_41, TinyTerror_42, Jackstina_39, Marley1013_42, Olivio_41, Mulaychimus_42, Heathcliff_42, SynergyX_42, OrangeOswald_42, RagingRooster_42, Tydolla_42, SlippinJimmy_42, Baloo_42, Akoma_42, Chentzyk_42, Audrey_42, Gadget_43, Morty007_42, Kronus_41
- Track 10 : Dre3_28
- Track 11 : Gibbous_28
- Track 12 : Cleo_28
- Track 13 : Kwekel_37, EdmundFerry_36, RoadKill_35, Chickadee_37, Twonlo_35
- Track 14 : GTE6_37, Tiamoceli_38
- Track 15 : Coldpizza_38
- Track 16 : JellyBelly_35, CharlottesWeb_35, Mariokart_35
- Track 17 : BobRoss2024_34
- Track 18 : CloverMinnie_37, CaiB_37
- Track 19 : Sour_40
- Track 20 : AksarBAT_35
- Track 21 : Sisko_35, Yago84_35, AnClar_36
- Track 22 : Fresco_35, Axumite_35, Shatter_35, Ligma_35

- Track 23 : BiggityBass_35
- Track 24 : TraderJ_37, Yeshua_37, Wooper_37
- Track 25 : Blackpen_37, MossRose_37, AnarQue_37, FelixTres_37, MakoManhole_37
- Track 26 : NHagos_35
- Track 27 : LittleMunchkin_37
- Track 28 : Evaa_35
- Track 29 : Cepens_33, D12_32, Argie_34, PR_33, GodPhather_34, Taptic_33, Jeon_33, Megabear_33
- Track 30 : Finch_34
- Track 31 : E3_gp90
- Track 32 : Mbo4_23

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

The start number called the most often in the published annotations is 4, it was called in 51 of the 131 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abinghost_42, Akoma_42, Athena_43, Audrey_42, Baloo_42, Ben11_41, Bernardo_43, Briakila_43, Casbah_41, ChaChing_42, Chalmers_42, Chandler_42, Chentzyk_42, Compostia_43, Corofin_42, Daisy_42, Deenasa_42, Devonte_42, Gadget_43, Gervas_42, GlenHope_43, Glubnar_43, Halfpint_41, HarveySr_42, Heathcliff_42, Jackstina_39, Kamiyu_42, Kronus_41, LestyG_42, Marley1013_42, Marlia_42, MmasiCarm_42, Mortcellus_41, Morty007_42, Mulaychimus_42, Neos5_42, Nozo_42, Obutu_42, Olivio_41, OrangeOswald_42, Phaedrus_40, Phayeta_43, Philly_41, Phlyer_42, Pipefish_44, RagingRooster_42, Rita1961_42, RomaT_42, Shenandoah_42, SlippinJimmy_42, SwainyDoc_42, SynergyX_42, TinyTerror_42, Tydolla_42, Yahalom_42, Yinz_42,

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

- E3_gp90,

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

- AksarBAT_35, Allegro_43, AnClar_36, AnarQue_37, Arbiter_42, Ares_43, Argie_34, Axumite_35, Bananafish_43, BiggityBass_35, Blackpen_37, Blocker23_43, BobRoss2024_34, Boyle_43, Brownie5_43, CaiB_37, Calamitous_43, Caterpie_37, Cepens_33, CharlottesWeb_35, Chickadee_37, Cleo_28, CloverMinnie_37, Coffee_43, Coldpizza_38, D12_32, Dori_37, Dre3_28, Eaglehorse_43, EdmundFerry_36, Evaa_35, Faze9_42, FelixTres_37, Finch_34, FrenchFry_43, Fresco_35, GTE6_37, Gibbous_28, Glass_43, GodPhather_34, Godines_43, Hedgerow_43, Holeinone_43, ItsyBitsy1_43, JellyBelly_35, Jeon_33, JohnLord_38, Kaleb_43, Kheth_43, Kolhan_43, Kwekel_37, Lars_43, Laurie_42, Lephleur_43, Ligma_35, LilSmirk_43, LittleMunchkin_37, LizLemon_43, MakoManhole_37, Mao1_35, Mariokart_35, Mask_36, MasterPo_43, Mbo4_23, Megabear_33, MossRose_37, NHagos_35, Opia_43, PR_33, Phantasmagoria_43, PrinceCharming_43, Qyrzula_40, Rhinoforte_43, RoadKill_35, Rosebush_42, Sabella_42, Sejanus_36, Shatter_35, Sisko_35, Sour_40, TA17A_44, Taptic_33, Tiamoceli_38, Tinciduntolum_44, TraderJ_37, Tres_43, Twonlo_35, Vic9_00042, West99_43, Wooper_37, Yago84_35, Yeshua_37,

Summary by start number:

Start 2:

- Found in 1 of 149 (0.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mbo4_23 (singleton),

Start 4:

- Found in 57 of 149 (38.3%) of genes in pham
- Manual Annotations of this start: 51 of 131
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Abinghost_42 (B3), Akoma_42 (B3), Athena_43 (B3), Audrey_42 (B3), Baloo_42 (B3), Ben11_41 (B3), Bernardo_43 (B3), Briakila_43 (B3), Casbah_41 (B3), ChaChing_42 (B3), Chalmers_42 (B3), Chandler_42 (B3), Chentzyk_42 (B3), Compostia_43 (B3), Corofin_42 (B3), Daisy_42 (B3), Deenasa_42 (B3), Devonte_42 (B3), Gadjet_43 (B3), Gervas_42 (B3), GlenHope_43 (B3), Glubnar_43 (B3), Halfpint_41 (B3), HarveySr_42 (B3), Heathcliff_42 (B3), Jackstina_39 (B3), Kamiyu_42 (B3), Kronus_41 (B3), LestyG_42 (B3), Marley1013_42 (B3), Marlia_42 (B3), MmasiCarm_42 (B3), Mortcellus_41 (B3), Morty007_42 (B3), Mulaychimus_42 (B3), Neos5_42 (B3), Nozo_42 (B3), Obutu_42 (B3), Olivio_41 (B3), OrangeOswald_42 (B3), Phaedrus_40 (B3), Phayeta_43 (B3), Philly_41 (B3), Phlyer_42 (B3), Pipefish_44 (B3), RagingRooster_42 (B3), Rita1961_42 (B3), RomaT_42 (B3), Shenandoah_42 (B3), SlippinJimmy_42 (B3), SwainyDoc_42 (B3), SynergyX_42 (B3), TinyTerror_42 (B3), Tydolla_42 (B3), Yahalom_42 (B3), Yinz_42 (B3),

Start 6:

- Found in 46 of 149 (30.9%) of genes in pham
- Manual Annotations of this start: 45 of 131
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Allegro_43 (B2), Arbiter_42 (B2), Ares_43 (B2), Argie_34 (W), Bananafish_43 (B2), Blocker23_43 (B2), Boyle_43 (B2), Brownie5_43 (B2), Calamitous_43 (B2), Cepens_33 (W), Coffee_43 (B2), D12_32 (W), Eaglehorse_43 (B2), Faze9_42 (B2), FrenchFry_43 (B2), Glass_43 (B2), GodPhather_34 (W), Godines_43 (B2), Hedgerow_43 (B2), Holeinone_43 (B2), ItsyBitsy1_43 (B2), Jeon_33 (W), Kaleb_43 (B2), Kheth_43 (B2), Kolhan_43 (B2), Lars_43 (B2), Laurie_42 (B2), Lephleur_43 (B2), LilSmirk_43 (B2), LizLemon_43 (B2), MasterPo_43 (B2), Megabear_33 (W), Opia_43 (B2), PR_33 (W), Phantasmagoria_43 (B2), PrinceCharming_43 (B2), Qyrzula_40 (B2), Rhinoforte_43 (B2), Rosebush_42 (B2), Sabella_42 (B2), TA17A_44 (B2), Taptic_33 (W), Tinciduntolum_44 (B2), Tres_43 (B2), Vic9_00042 (B2), West99_43 (B2),

Start 7:

- Found in 6 of 149 (4.0%) of genes in pham
- Manual Annotations of this start: 4 of 131
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caterpie_37 (AD), Dori_37 (AD), JohnLord_38 (AD), Mao1_35 (AD), Mask_36 (AD), Sejanus_36 (AD),

Start 8:

- Found in 38 of 149 (25.5%) of genes in pham

- Manual Annotations of this start: 30 of 131
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AksarBAT_35 (DR), AnClar_36 (DR), AnarQue_37 (DR), Axumite_35 (DR), BiggityBass_35 (DR), Blackpen_37 (DR), BobRoss2024_34 (DR), CaiB_37 (DR), CharlottesWeb_35 (DR), Chickadee_37 (DE3), Cleo_28 (CT), CloverMinnie_37 (DR), Coldpizza_38 (DR), Dre3_28 (CT), EdmundFerry_36 (DE3), Evaa_35 (DR), FelixTres_37 (DR), Fresco_35 (DR), GTE6_37 (DE3), Gibbous_28 (CT), JellyBelly_35 (DR), Kwekel_37 (DE3), Ligma_35 (DR), LittleMunchkin_37 (DR), MakoManhole_37 (DR), Mariokart_35 (DR), MossRose_37 (DR), NHagos_35 (DR), RoadKill_35 (DE3), Shatter_35 (DR), Sisko_35 (DR), Sour_40 (DR), Tiamoceli_38 (DE3), TraderJ_37 (DR), Twonlo_35 (DE3), Wooper_37 (DR), Yago84_35 (DR), Yeshua_37 (DR),

Start 13:

- Found in 1 of 149 (0.7%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: E3_gp90 (singleton),

Start 15:

- Found in 1 of 149 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 131
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finch_34 (singleton),

Summary by clusters:

There are 8 clusters represented in this pham: singleton, AD, DE3, W, B2, B3, DR, CT,

Info for manual annotations of cluster AD:

- Start number 7 was manually annotated 4 times for cluster AD.

Info for manual annotations of cluster B2:

- Start number 6 was manually annotated 37 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 4 was manually annotated 51 times for cluster B3.

Info for manual annotations of cluster CT:

- Start number 8 was manually annotated 3 times for cluster CT.

Info for manual annotations of cluster DE3:

- Start number 8 was manually annotated 6 times for cluster DE3.

Info for manual annotations of cluster DR:

- Start number 8 was manually annotated 21 times for cluster DR.

Info for manual annotations of cluster W:

- Start number 6 was manually annotated 8 times for cluster W.

Gene Information:

Gene: Abinghost_42 Start: 38010, Stop: 38735, Start Num: 4

Candidate Starts for Abinghost_42:

(1, 37896), (Start: 4 @38010 has 51 MA's), (14, 38082), (30, 38229), (33, 38244), (38, 38307), (40, 38325), (41, 38328), (63, 38499), (64, 38502), (98, 38724),

Gene: Akoma_42 Start: 38014, Stop: 38739, Start Num: 4

Candidate Starts for Akoma_42:

(1, 37900), (Start: 4 @38014 has 51 MA's), (14, 38086), (30, 38233), (33, 38248), (38, 38311), (40, 38329), (41, 38332), (63, 38503), (64, 38506), (98, 38728),

Gene: AksarBAT_35 Start: 30939, Stop: 31634, Start Num: 8

Candidate Starts for AksarBAT_35:

(Start: 8 @30939 has 30 MA's), (22, 31044), (28, 31134), (39, 31224), (45, 31257), (50, 31299), (55, 31338), (58, 31362), (63, 31401), (64, 31404), (72, 31446), (76, 31464), (79, 31494), (84, 31527), (90, 31560),

Gene: Allegro_43 Start: 38534, Stop: 39229, Start Num: 6

Candidate Starts for Allegro_43:

(Start: 6 @38534 has 45 MA's), (33, 38744), (34, 38759), (44, 38837), (50, 38894), (59, 38960), (60, 38969), (61, 38978), (64, 38999), (81, 39092), (89, 39152), (94, 39176), (97, 39215),

Gene: AnClar_36 Start: 33290, Stop: 33988, Start Num: 8

Candidate Starts for AnClar_36:

(Start: 8 @33290 has 30 MA's), (36, 33554), (52, 33662), (54, 33674), (55, 33686), (64, 33752),

Gene: AnarQue_37 Start: 32400, Stop: 33092, Start Num: 8

Candidate Starts for AnarQue_37:

(Start: 8 @32400 has 30 MA's), (26, 32535), (28, 32595), (39, 32685), (64, 32862), (69, 32895), (76, 32922), (79, 32952), (80, 32955), (84, 32985), (90, 33018),

Gene: Arbiter_42 Start: 38620, Stop: 39315, Start Num: 6

Candidate Starts for Arbiter_42:

(Start: 6 @38620 has 45 MA's), (33, 38830), (34, 38845), (44, 38923), (50, 38980), (59, 39046), (60, 39055), (61, 39064), (64, 39085), (81, 39178), (89, 39238), (94, 39262), (97, 39301),

Gene: Ares_43 Start: 38604, Stop: 39299, Start Num: 6

Candidate Starts for Ares_43:

(Start: 6 @38604 has 45 MA's), (33, 38814), (34, 38829), (44, 38907), (50, 38964), (59, 39030), (60, 39039), (61, 39048), (64, 39069), (81, 39162), (89, 39222), (94, 39246), (97, 39285),

Gene: Argie_34 Start: 34873, Stop: 35583, Start Num: 6

Candidate Starts for Argie_34:

(Start: 6 @34873 has 45 MA's), (12, 34912), (23, 34984), (25, 34999), (28, 35062), (34, 35104), (39, 35152), (50, 35242), (51, 35248), (54, 35272), (56, 35290), (60, 35320), (64, 35353), (70, 35389), (88, 35503),

Gene: Athena_43 Start: 38761, Stop: 39486, Start Num: 4

Candidate Starts for Athena_43:

(1, 38647), (Start: 4 @38761 has 51 MA's), (14, 38833), (30, 38980), (33, 38995), (38, 39058), (40, 39076), (41, 39079), (63, 39250), (64, 39253), (98, 39475),

Gene: Audrey_42 Start: 38010, Stop: 38735, Start Num: 4

Candidate Starts for Audrey_42:

(1, 37896), (Start: 4 @38010 has 51 MA's), (14, 38082), (30, 38229), (33, 38244), (38, 38307), (40, 38325), (41, 38328), (63, 38499), (64, 38502), (98, 38724),

Gene: Axumite_35 Start: 30447, Stop: 31139, Start Num: 8

Candidate Starts for Axumite_35:

(Start: 8 @30447 has 30 MA's), (11, 30483), (28, 30642), (32, 30663), (45, 30765), (52, 30819), (53, 30825), (54, 30831), (58, 30867), (61, 30888), (63, 30906), (64, 30909), (79, 30999), (86, 31041), (96, 31116),

Gene: Baloo_42 Start: 38013, Stop: 38738, Start Num: 4

Candidate Starts for Baloo_42:

(1, 37899), (Start: 4 @38013 has 51 MA's), (14, 38085), (30, 38232), (33, 38247), (38, 38310), (40, 38328), (41, 38331), (63, 38502), (64, 38505), (98, 38727),

Gene: Bananafish_43 Start: 38540, Stop: 39235, Start Num: 6

Candidate Starts for Bananafish_43:

(Start: 6 @38540 has 45 MA's), (33, 38750), (34, 38765), (44, 38843), (50, 38900), (59, 38966), (60, 38975), (61, 38984), (64, 39005), (81, 39098), (89, 39158), (94, 39182), (97, 39221),

Gene: Ben11_41 Start: 37832, Stop: 38557, Start Num: 4

Candidate Starts for Ben11_41:

(1, 37718), (Start: 4 @37832 has 51 MA's), (14, 37904), (30, 38051), (33, 38066), (38, 38129), (40, 38147), (41, 38150), (63, 38321), (64, 38324), (98, 38546),

Gene: Bernardo_43 Start: 38558, Stop: 39283, Start Num: 4

Candidate Starts for Bernardo_43:

(1, 38444), (Start: 4 @38558 has 51 MA's), (14, 38630), (30, 38777), (33, 38792), (38, 38855), (40, 38873), (41, 38876), (63, 39047), (64, 39050), (98, 39272),

Gene: BiggityBass_35 Start: 32697, Stop: 33395, Start Num: 8

Candidate Starts for BiggityBass_35:

(Start: 8 @32697 has 30 MA's), (36, 32961), (52, 33069), (54, 33081), (55, 33093), (61, 33138), (64, 33159),

Gene: Blackpen_37 Start: 31818, Stop: 32510, Start Num: 8

Candidate Starts for Blackpen_37:

(Start: 8 @31818 has 30 MA's), (26, 31953), (28, 32013), (39, 32103), (64, 32280), (69, 32313), (76, 32340), (79, 32370), (80, 32373), (84, 32403), (90, 32436),

Gene: Blocker23_43 Start: 38658, Stop: 39353, Start Num: 6

Candidate Starts for Blocker23_43:

(Start: 6 @38658 has 45 MA's), (33, 38868), (34, 38883), (44, 38961), (50, 39018), (59, 39084), (60, 39093), (61, 39102), (64, 39123), (81, 39216), (89, 39276), (94, 39300), (97, 39339),

Gene: BobRoss2024_34 Start: 30450, Stop: 31145, Start Num: 8

Candidate Starts for BobRoss2024_34:

(Start: 8 @30450 has 30 MA's), (11, 30486), (28, 30645), (39, 30735), (58, 30873), (63, 30912), (64, 30915), (69, 30948), (76, 30975), (87, 31062), (89, 31068), (97, 31131),

Gene: Boyle_43 Start: 38659, Stop: 39354, Start Num: 6

Candidate Starts for Boyle_43:

(Start: 6 @38659 has 45 MA's), (33, 38869), (34, 38884), (44, 38962), (50, 39019), (59, 39085), (60, 39094), (61, 39103), (64, 39124), (81, 39217), (89, 39277), (94, 39301), (97, 39340),

Gene: Briakila_43 Start: 38780, Stop: 39505, Start Num: 4

Candidate Starts for Briakila_43:

(1, 38666), (Start: 4 @38780 has 51 MA's), (14, 38852), (30, 38999), (33, 39014), (38, 39077), (40, 39095), (41, 39098), (63, 39269), (64, 39272), (98, 39494),

Gene: Brownie5_43 Start: 38665, Stop: 39360, Start Num: 6

Candidate Starts for Brownie5_43:

(Start: 6 @38665 has 45 MA's), (33, 38875), (34, 38890), (44, 38968), (50, 39025), (59, 39091), (60, 39100), (61, 39109), (64, 39130), (81, 39223), (89, 39283), (94, 39307), (97, 39346),

Gene: CaiB_37 Start: 32386, Stop: 33078, Start Num: 8

Candidate Starts for CaiB_37:

(Start: 8 @32386 has 30 MA's), (26, 32521), (28, 32581), (39, 32671), (64, 32848), (69, 32881), (72, 32890), (76, 32908), (79, 32938), (80, 32941), (84, 32971), (90, 33004),

Gene: Calamitous_43 Start: 38545, Stop: 39240, Start Num: 6

Candidate Starts for Calamitous_43:

(Start: 6 @38545 has 45 MA's), (33, 38755), (34, 38770), (44, 38848), (50, 38905), (59, 38971), (60, 38980), (61, 38989), (64, 39010), (81, 39103), (89, 39163), (94, 39187), (97, 39226),

Gene: Casbah_41 Start: 37862, Stop: 38587, Start Num: 4

Candidate Starts for Casbah_41:

(1, 37748), (Start: 4 @37862 has 51 MA's), (14, 37934), (30, 38081), (33, 38096), (38, 38159), (40, 38177), (41, 38180), (63, 38351), (64, 38354), (98, 38576),

Gene: Caterpie_37 Start: 35137, Stop: 35841, Start Num: 7

Candidate Starts for Caterpie_37:

(Start: 7 @35137 has 4 MA's), (16, 35200), (17, 35215), (22, 35239), (31, 35341), (32, 35347), (36, 35395), (38, 35413), (50, 35503), (56, 35548), (57, 35554), (60, 35578), (69, 35644), (71, 35650), (75, 35662), (77, 35680), (90, 35767), (92, 35770),

Gene: Cepens_33 Start: 34588, Stop: 35298, Start Num: 6

Candidate Starts for Cepens_33:

(Start: 6 @34588 has 45 MA's), (12, 34627), (23, 34699), (25, 34714), (28, 34777), (34, 34819), (39, 34867), (50, 34957), (51, 34963), (54, 34987), (56, 35005), (60, 35035), (64, 35068), (70, 35104), (88, 35218),

Gene: ChaChing_42 Start: 38025, Stop: 38750, Start Num: 4

Candidate Starts for ChaChing_42:

(1, 37911), (Start: 4 @38025 has 51 MA's), (14, 38097), (30, 38244), (33, 38259), (38, 38322), (40, 38340), (41, 38343), (63, 38514), (64, 38517), (98, 38739),

Gene: Chalmers_42 Start: 38817, Stop: 39542, Start Num: 4

Candidate Starts for Chalmers_42:

(1, 38703), (Start: 4 @38817 has 51 MA's), (14, 38889), (30, 39036), (33, 39051), (38, 39114), (40, 39132), (41, 39135), (63, 39306), (64, 39309), (98, 39531),

Gene: Chandler_42 Start: 38793, Stop: 39518, Start Num: 4

Candidate Starts for Chandler_42:

(1, 38679), (Start: 4 @38793 has 51 MA's), (14, 38865), (30, 39012), (33, 39027), (38, 39090), (40, 39108), (41, 39111), (63, 39282), (64, 39285), (98, 39507),

Gene: CharlottesWeb_35 Start: 30386, Stop: 31075, Start Num: 8

Candidate Starts for CharlottesWeb_35:

(Start: 8 @30386 has 30 MA's), (27, 30539), (28, 30578), (35, 30626), (36, 30647), (55, 30779), (60, 30815), (61, 30824), (63, 30842), (64, 30845), (65, 30851), (79, 30935), (86, 30977),

Gene: Chentzyk_42 Start: 38374, Stop: 39099, Start Num: 4

Candidate Starts for Chentzyk_42:

(1, 38260), (Start: 4 @38374 has 51 MA's), (14, 38446), (30, 38593), (33, 38608), (38, 38671), (40, 38689), (41, 38692), (63, 38863), (64, 38866), (98, 39088),

Gene: Chickadee_37 Start: 33101, Stop: 33805, Start Num: 8

Candidate Starts for Chickadee_37:

(Start: 8 @33101 has 30 MA's), (19, 33188), (21, 33197), (52, 33464), (54, 33482), (55, 33494), (66, 33572), (68, 33581), (69, 33596), (85, 33689),

Gene: Cleo_28 Start: 23262, Stop: 23966, Start Num: 8

Candidate Starts for Cleo_28:

(Start: 8 @23262 has 30 MA's), (9, 23268), (11, 23298), (18, 23346), (29, 23460), (39, 23538), (52, 23625), (54, 23643), (55, 23655), (68, 23742), (69, 23757), (85, 23850),

Gene: CloverMinnie_37 Start: 32326, Stop: 33018, Start Num: 8

Candidate Starts for CloverMinnie_37:

(Start: 8 @32326 has 30 MA's), (26, 32461), (28, 32521), (39, 32611), (64, 32788), (69, 32821), (72, 32830), (76, 32848), (79, 32878), (80, 32881), (84, 32911), (90, 32944),

Gene: Coffee_43 Start: 38648, Stop: 39343, Start Num: 6

Candidate Starts for Coffee_43:

(Start: 6 @38648 has 45 MA's), (33, 38858), (34, 38873), (44, 38951), (50, 39008), (59, 39074), (60, 39083), (61, 39092), (64, 39113), (81, 39206), (89, 39266), (94, 39290), (97, 39329),

Gene: Coldpizza_38 Start: 34838, Stop: 35533, Start Num: 8

Candidate Starts for Coldpizza_38:

(Start: 8 @34838 has 30 MA's), (9, 34844), (28, 35033), (33, 35060), (49, 35189), (56, 35243), (61, 35282), (64, 35303), (69, 35336), (72, 35345), (73, 35351), (76, 35363), (89, 35456), (90, 35459), (97, 35519),

Gene: Compostia_43 Start: 38441, Stop: 39166, Start Num: 4

Candidate Starts for Compostia_43:

(1, 38327), (Start: 4 @38441 has 51 MA's), (14, 38513), (30, 38660), (33, 38675), (38, 38738), (40, 38756), (41, 38759), (63, 38930), (64, 38933), (98, 39155),

Gene: Corofin_42 Start: 38036, Stop: 38761, Start Num: 4

Candidate Starts for Corofin_42:

(1, 37922), (Start: 4 @38036 has 51 MA's), (14, 38108), (30, 38255), (33, 38270), (38, 38333), (40, 38351), (41, 38354), (63, 38525), (64, 38528), (98, 38750),

Gene: D12_32 Start: 35158, Stop: 35868, Start Num: 6

Candidate Starts for D12_32:

(Start: 6 @35158 has 45 MA's), (12, 35197), (23, 35269), (25, 35284), (28, 35347), (34, 35389), (39, 35437), (50, 35527), (51, 35533), (54, 35557), (56, 35575), (60, 35605), (64, 35638), (70, 35674), (88,

35788),

Gene: Daisy_42 Start: 38037, Stop: 38762, Start Num: 4

Candidate Starts for Daisy_42:

(1, 37923), (Start: 4 @38037 has 51 MA's), (14, 38109), (30, 38256), (33, 38271), (38, 38334), (40, 38352), (41, 38355), (63, 38526), (64, 38529), (98, 38751),

Gene: Deenasa_42 Start: 38772, Stop: 39497, Start Num: 4

Candidate Starts for Deenasa_42:

(1, 38658), (Start: 4 @38772 has 51 MA's), (14, 38844), (30, 38991), (33, 39006), (38, 39069), (40, 39087), (41, 39090), (63, 39261), (64, 39264), (98, 39486),

Gene: Devonte_42 Start: 38001, Stop: 38726, Start Num: 4

Candidate Starts for Devonte_42:

(1, 37887), (Start: 4 @38001 has 51 MA's), (14, 38073), (30, 38220), (33, 38235), (38, 38298), (40, 38316), (41, 38319), (63, 38490), (64, 38493), (98, 38715),

Gene: Dori_37 Start: 34528, Stop: 35232, Start Num: 7

Candidate Starts for Dori_37:

(Start: 7 @34528 has 4 MA's), (16, 34591), (17, 34606), (22, 34630), (31, 34732), (32, 34738), (36, 34786), (50, 34894), (56, 34939), (57, 34945), (60, 34969), (69, 35035), (71, 35041), (75, 35053), (77, 35071), (90, 35158), (92, 35161),

Gene: Dre3_28 Start: 23188, Stop: 23892, Start Num: 8

Candidate Starts for Dre3_28:

(Start: 8 @23188 has 30 MA's), (9, 23194), (11, 23224), (29, 23386), (39, 23464), (52, 23551), (54, 23569), (55, 23581), (68, 23668), (69, 23683), (85, 23776),

Gene: E3_gp90 Start: 51623, Stop: 52363, Start Num: 13

Candidate Starts for E3_gp90:

(Start: 4 @51557 has 51 MA's), (13, 51623), (46, 51950), (47, 51953), (48, 51956), (57, 52043), (69, 52136), (74, 52154), (79, 52202), (95, 52313),

Gene: Eaglehorse_43 Start: 38572, Stop: 39267, Start Num: 6

Candidate Starts for Eaglehorse_43:

(Start: 6 @38572 has 45 MA's), (33, 38782), (34, 38797), (44, 38875), (50, 38932), (59, 38998), (60, 39007), (61, 39016), (64, 39037), (81, 39130), (89, 39190), (94, 39214), (97, 39253),

Gene: EdmundFerry_36 Start: 33130, Stop: 33834, Start Num: 8

Candidate Starts for EdmundFerry_36:

(Start: 8 @33130 has 30 MA's), (19, 33217), (21, 33226), (52, 33493), (54, 33511), (55, 33523), (66, 33601), (68, 33610), (69, 33625), (85, 33718),

Gene: Evaa_35 Start: 31206, Stop: 31898, Start Num: 8

Candidate Starts for Evaa_35:

(Start: 8 @31206 has 30 MA's), (22, 31308), (26, 31338), (28, 31398), (32, 31419), (33, 31425), (38, 31485), (39, 31488), (55, 31602), (60, 31638), (64, 31668), (69, 31701), (85, 31794), (97, 31884),

Gene: Faze9_42 Start: 38668, Stop: 39363, Start Num: 6

Candidate Starts for Faze9_42:

(Start: 6 @38668 has 45 MA's), (33, 38878), (34, 38893), (44, 38971), (50, 39028), (59, 39094), (60, 39103), (61, 39112), (64, 39133), (81, 39226), (89, 39286), (94, 39310), (97, 39349),

Gene: FelixTres_37 Start: 32389, Stop: 33081, Start Num: 8

Candidate Starts for FelixTres_37:

(Start: 8 @32389 has 30 MA's), (26, 32524), (28, 32584), (39, 32674), (64, 32851), (69, 32884), (76, 32911), (79, 32941), (80, 32944), (84, 32974), (90, 33007),

Gene: Finch_34 Start: 28684, Stop: 29307, Start Num: 15

Candidate Starts for Finch_34:

(Start: 15 @28684 has 1 MA's), (16, 28690), (20, 28717), (24, 28750), (31, 28828), (39, 28891), (42, 28912), (67, 29086), (69, 29107), (78, 29158),

Gene: FrenchFry_43 Start: 38662, Stop: 39357, Start Num: 6

Candidate Starts for FrenchFry_43:

(Start: 6 @38662 has 45 MA's), (33, 38872), (34, 38887), (44, 38965), (50, 39022), (59, 39088), (60, 39097), (61, 39106), (64, 39127), (81, 39220), (89, 39280), (94, 39304), (97, 39343),

Gene: Fresco_35 Start: 30447, Stop: 31139, Start Num: 8

Candidate Starts for Fresco_35:

(Start: 8 @30447 has 30 MA's), (11, 30483), (28, 30642), (32, 30663), (45, 30765), (52, 30819), (53, 30825), (54, 30831), (58, 30867), (61, 30888), (63, 30906), (64, 30909), (79, 30999), (86, 31041), (96, 31116),

Gene: GTE6_37 Start: 33622, Stop: 34326, Start Num: 8

Candidate Starts for GTE6_37:

(Start: 8 @33622 has 30 MA's), (19, 33709), (21, 33718), (29, 33820), (52, 33985), (54, 34003), (55, 34015), (66, 34093), (68, 34102), (69, 34117), (85, 34210),

Gene: Gadget_43 Start: 38024, Stop: 38749, Start Num: 4

Candidate Starts for Gadget_43:

(1, 37910), (Start: 4 @38024 has 51 MA's), (14, 38096), (30, 38243), (33, 38258), (38, 38321), (40, 38339), (41, 38342), (63, 38513), (64, 38516), (98, 38738),

Gene: Gervas_42 Start: 37991, Stop: 38716, Start Num: 4

Candidate Starts for Gervas_42:

(1, 37877), (Start: 4 @37991 has 51 MA's), (14, 38063), (30, 38210), (33, 38225), (38, 38288), (40, 38306), (41, 38309), (63, 38480), (64, 38483), (98, 38705),

Gene: Gibbous_28 Start: 23188, Stop: 23892, Start Num: 8

Candidate Starts for Gibbous_28:

(Start: 8 @23188 has 30 MA's), (9, 23194), (11, 23224), (29, 23386), (39, 23464), (52, 23551), (54, 23569), (55, 23581), (68, 23668), (69, 23683), (85, 23776), (93, 23824),

Gene: Glass_43 Start: 38662, Stop: 39357, Start Num: 6

Candidate Starts for Glass_43:

(Start: 6 @38662 has 45 MA's), (33, 38872), (34, 38887), (44, 38965), (50, 39022), (59, 39088), (60, 39097), (61, 39106), (64, 39127), (81, 39220), (89, 39280), (94, 39304), (97, 39343),

Gene: GlenHope_43 Start: 38004, Stop: 38729, Start Num: 4

Candidate Starts for GlenHope_43:

(1, 37890), (Start: 4 @38004 has 51 MA's), (14, 38076), (30, 38223), (33, 38238), (38, 38301), (40, 38319), (41, 38322), (63, 38493), (64, 38496), (98, 38718),

Gene: Glubnar_43 Start: 38003, Stop: 38728, Start Num: 4

Candidate Starts for Glubnar_43:

(1, 37889), (Start: 4 @38003 has 51 MA's), (14, 38075), (30, 38222), (33, 38237), (38, 38300), (40, 38318), (41, 38321), (63, 38492), (64, 38495), (98, 38717),

Gene: GodPhather_34 Start: 35352, Stop: 36062, Start Num: 6

Candidate Starts for GodPhather_34:

(Start: 6 @35352 has 45 MA's), (12, 35391), (23, 35463), (25, 35478), (28, 35541), (34, 35583), (39, 35631), (50, 35721), (51, 35727), (54, 35751), (56, 35769), (60, 35799), (64, 35832), (70, 35868), (88, 35982),

Gene: Godines_43 Start: 38604, Stop: 39299, Start Num: 6

Candidate Starts for Godines_43:

(Start: 6 @38604 has 45 MA's), (33, 38814), (34, 38829), (44, 38907), (50, 38964), (59, 39030), (60, 39039), (61, 39048), (64, 39069), (70, 39105), (81, 39162), (89, 39222), (94, 39246), (97, 39285),

Gene: Halfpint_41 Start: 37830, Stop: 38555, Start Num: 4

Candidate Starts for Halfpint_41:

(1, 37716), (Start: 4 @37830 has 51 MA's), (14, 37902), (30, 38049), (33, 38064), (38, 38127), (40, 38145), (41, 38148), (63, 38319), (64, 38322), (98, 38544),

Gene: HarveySr_42 Start: 37997, Stop: 38722, Start Num: 4

Candidate Starts for HarveySr_42:

(1, 37883), (Start: 4 @37997 has 51 MA's), (14, 38069), (30, 38216), (33, 38231), (38, 38294), (40, 38312), (41, 38315), (63, 38486), (64, 38489), (98, 38711),

Gene: Heathcliff_42 Start: 37975, Stop: 38700, Start Num: 4

Candidate Starts for Heathcliff_42:

(1, 37861), (Start: 4 @37975 has 51 MA's), (14, 38047), (30, 38194), (33, 38209), (38, 38272), (40, 38290), (41, 38293), (63, 38464), (64, 38467), (98, 38689),

Gene: Hedgerow_43 Start: 38644, Stop: 39339, Start Num: 6

Candidate Starts for Hedgerow_43:

(Start: 6 @38644 has 45 MA's), (33, 38854), (34, 38869), (44, 38947), (50, 39004), (59, 39070), (60, 39079), (61, 39088), (64, 39109), (81, 39202), (89, 39262), (94, 39286), (97, 39325),

Gene: Holeinone_43 Start: 38524, Stop: 39219, Start Num: 6

Candidate Starts for Holeinone_43:

(Start: 6 @38524 has 45 MA's), (33, 38734), (34, 38749), (44, 38827), (50, 38884), (59, 38950), (60, 38959), (61, 38968), (64, 38989), (81, 39082), (89, 39142), (94, 39166), (97, 39205),

Gene: ItsyBitsy1_43 Start: 38526, Stop: 39221, Start Num: 6

Candidate Starts for ItsyBitsy1_43:

(Start: 6 @38526 has 45 MA's), (33, 38736), (34, 38751), (44, 38829), (50, 38886), (59, 38952), (60, 38961), (61, 38970), (64, 38991), (81, 39084), (89, 39144), (94, 39168), (97, 39207),

Gene: Jackstina_39 Start: 37934, Stop: 38659, Start Num: 4

Candidate Starts for Jackstina_39:

(1, 37820), (Start: 4 @37934 has 51 MA's), (14, 38006), (30, 38153), (33, 38168), (38, 38231), (40, 38249), (41, 38252), (63, 38423), (64, 38426), (98, 38648),

Gene: JellyBelly_35 Start: 30389, Stop: 31078, Start Num: 8

Candidate Starts for JellyBelly_35:

(Start: 8 @30389 has 30 MA's), (27, 30542), (28, 30581), (35, 30629), (36, 30650), (55, 30782), (60, 30818), (61, 30827), (63, 30845), (64, 30848), (65, 30854), (79, 30938), (86, 30980),

Gene: Jeon_33 Start: 35094, Stop: 35804, Start Num: 6

Candidate Starts for Jeon_33:

(Start: 6 @35094 has 45 MA's), (12, 35133), (23, 35205), (25, 35220), (28, 35283), (34, 35325), (39, 35373), (50, 35463), (51, 35469), (54, 35493), (56, 35511), (60, 35541), (64, 35574), (70, 35610), (88, 35724),

Gene: JohnLord_38 Start: 34641, Stop: 35345, Start Num: 7

Candidate Starts for JohnLord_38:

(Start: 7 @34641 has 4 MA's), (16, 34704), (17, 34719), (22, 34743), (31, 34845), (32, 34851), (36, 34899), (50, 35007), (56, 35052), (57, 35058), (60, 35082), (69, 35148), (71, 35154), (75, 35166), (77, 35184), (90, 35271), (92, 35274),

Gene: Kaleb_43 Start: 38659, Stop: 39354, Start Num: 6

Candidate Starts for Kaleb_43:

(Start: 6 @38659 has 45 MA's), (33, 38869), (34, 38884), (44, 38962), (50, 39019), (59, 39085), (60, 39094), (61, 39103), (64, 39124), (81, 39217), (89, 39277), (94, 39301), (97, 39340),

Gene: Kamiyu_42 Start: 37983, Stop: 38708, Start Num: 4

Candidate Starts for Kamiyu_42:

(1, 37869), (Start: 4 @37983 has 51 MA's), (14, 38055), (30, 38202), (33, 38217), (38, 38280), (40, 38298), (41, 38301), (63, 38472), (64, 38475), (98, 38697),

Gene: Kheth_43 Start: 38547, Stop: 39242, Start Num: 6

Candidate Starts for Kheth_43:

(Start: 6 @38547 has 45 MA's), (33, 38757), (34, 38772), (44, 38850), (50, 38907), (59, 38973), (60, 38982), (61, 38991), (64, 39012), (81, 39105), (89, 39165), (94, 39189), (97, 39228),

Gene: Kolhan_43 Start: 38538, Stop: 39233, Start Num: 6

Candidate Starts for Kolhan_43:

(Start: 6 @38538 has 45 MA's), (33, 38748), (34, 38763), (44, 38841), (50, 38898), (59, 38964), (60, 38973), (61, 38982), (64, 39003), (81, 39096), (89, 39156), (94, 39180), (97, 39219),

Gene: Kronus_41 Start: 38593, Stop: 39318, Start Num: 4

Candidate Starts for Kronus_41:

(1, 38479), (Start: 4 @38593 has 51 MA's), (14, 38665), (30, 38812), (33, 38827), (38, 38890), (40, 38908), (41, 38911), (63, 39082), (64, 39085), (98, 39307),

Gene: Kwekel_37 Start: 33062, Stop: 33766, Start Num: 8

Candidate Starts for Kwekel_37:

(Start: 8 @33062 has 30 MA's), (19, 33149), (21, 33158), (52, 33425), (54, 33443), (55, 33455), (66, 33533), (68, 33542), (69, 33557), (85, 33650),

Gene: Lars_43 Start: 38649, Stop: 39344, Start Num: 6

Candidate Starts for Lars_43:

(Start: 6 @38649 has 45 MA's), (33, 38859), (34, 38874), (44, 38952), (50, 39009), (59, 39075), (60, 39084), (61, 39093), (64, 39114), (81, 39207), (89, 39267), (94, 39291), (97, 39330),

Gene: Laurie_42 Start: 38048, Stop: 38743, Start Num: 6

Candidate Starts for Laurie_42:

(Start: 6 @38048 has 45 MA's), (33, 38258), (34, 38273), (44, 38351), (50, 38408), (59, 38474), (60, 38483), (61, 38492), (64, 38513), (81, 38606), (89, 38666), (94, 38690), (97, 38729),

Gene: Lephleur_43 Start: 38542, Stop: 39237, Start Num: 6

Candidate Starts for Lephleur_43:

(Start: 6 @38542 has 45 MA's), (33, 38752), (34, 38767), (44, 38845), (50, 38902), (59, 38968), (60, 38977), (61, 38986), (64, 39007), (81, 39100), (89, 39160), (94, 39184), (97, 39223),

Gene: LestyG_42 Start: 38014, Stop: 38739, Start Num: 4

Candidate Starts for LestyG_42:

(1, 37900), (Start: 4 @38014 has 51 MA's), (14, 38086), (30, 38233), (33, 38248), (38, 38311), (40, 38329), (41, 38332), (63, 38503), (64, 38506), (98, 38728),

Gene: Ligma_35 Start: 30447, Stop: 31139, Start Num: 8

Candidate Starts for Ligma_35:

(Start: 8 @30447 has 30 MA's), (11, 30483), (28, 30642), (32, 30663), (45, 30765), (52, 30819), (53, 30825), (54, 30831), (58, 30867), (61, 30888), (63, 30906), (64, 30909), (79, 30999), (86, 31041), (96, 31116),

Gene: LilSmirk_43 Start: 38536, Stop: 39231, Start Num: 6

Candidate Starts for LilSmirk_43:

(Start: 6 @38536 has 45 MA's), (33, 38746), (34, 38761), (44, 38839), (50, 38896), (59, 38962), (60, 38971), (61, 38980), (64, 39001), (81, 39094), (89, 39154), (94, 39178), (97, 39217),

Gene: LittleMunchkin_37 Start: 33864, Stop: 34556, Start Num: 8

Candidate Starts for LittleMunchkin_37:

(Start: 8 @33864 has 30 MA's), (11, 33900), (45, 34182), (52, 34236), (54, 34248), (58, 34284), (61, 34305), (62, 34320), (83, 34446),

Gene: LizLemon_43 Start: 38658, Stop: 39353, Start Num: 6

Candidate Starts for LizLemon_43:

(Start: 6 @38658 has 45 MA's), (33, 38868), (34, 38883), (44, 38961), (50, 39018), (59, 39084), (60, 39093), (61, 39102), (64, 39123), (81, 39216), (89, 39276), (94, 39300), (97, 39339),

Gene: MakoManhole_37 Start: 32404, Stop: 33096, Start Num: 8

Candidate Starts for MakoManhole_37:

(Start: 8 @32404 has 30 MA's), (26, 32539), (28, 32599), (39, 32689), (64, 32866), (69, 32899), (76, 32926), (79, 32956), (80, 32959), (84, 32989), (90, 33022),

Gene: Mao1_35 Start: 34444, Stop: 35148, Start Num: 7

Candidate Starts for Mao1_35:

(Start: 7 @34444 has 4 MA's), (16, 34507), (17, 34522), (22, 34546), (31, 34648), (32, 34654), (36, 34702), (50, 34810), (56, 34855), (57, 34861), (60, 34885), (71, 34957), (75, 34969), (77, 34987), (90, 35074), (92, 35077),

Gene: Mariokart_35 Start: 30385, Stop: 31074, Start Num: 8

Candidate Starts for Mariokart_35:

(Start: 8 @30385 has 30 MA's), (27, 30538), (28, 30577), (35, 30625), (36, 30646), (55, 30778), (60, 30814), (61, 30823), (63, 30841), (64, 30844), (65, 30850), (79, 30934), (86, 30976),

Gene: Marley1013_42 Start: 38792, Stop: 39517, Start Num: 4

Candidate Starts for Marley1013_42:

(1, 38678), (Start: 4 @38792 has 51 MA's), (14, 38864), (30, 39011), (33, 39026), (38, 39089), (40, 39107), (41, 39110), (63, 39281), (64, 39284), (98, 39506),

Gene: Marlia_42 Start: 37995, Stop: 38720, Start Num: 4

Candidate Starts for Marlia_42:

(1, 37881), (Start: 4 @37995 has 51 MA's), (14, 38067), (30, 38214), (33, 38229), (38, 38292), (40, 38310), (41, 38313), (63, 38484), (64, 38487), (98, 38709),

Gene: Mask_36 Start: 34437, Stop: 35141, Start Num: 7

Candidate Starts for Mask_36:

(Start: 7 @34437 has 4 MA's), (16, 34500), (17, 34515), (22, 34539), (31, 34641), (32, 34647), (36, 34695), (50, 34803), (56, 34848), (57, 34854), (60, 34878), (69, 34944), (71, 34950), (75, 34962), (77, 34980), (90, 35067), (92, 35070),

Gene: MasterPo_43 Start: 38545, Stop: 39240, Start Num: 6

Candidate Starts for MasterPo_43:

(Start: 6 @38545 has 45 MA's), (33, 38755), (34, 38770), (44, 38848), (50, 38905), (59, 38971), (60, 38980), (61, 38989), (64, 39010), (81, 39103), (89, 39163), (94, 39187), (97, 39226),

Gene: Mbo4_23 Start: 22116, Stop: 22823, Start Num: 2

Candidate Starts for Mbo4_23:

(2, 22116), (5, 22128), (10, 22164), (37, 22389), (43, 22434), (67, 22614), (70, 22638), (79, 22692), (83, 22713), (91, 22752),

Gene: Megabear_33 Start: 34531, Stop: 35241, Start Num: 6

Candidate Starts for Megabear_33:

(Start: 6 @34531 has 45 MA's), (12, 34570), (23, 34642), (25, 34657), (28, 34720), (34, 34762), (39, 34810), (50, 34900), (51, 34906), (54, 34930), (56, 34948), (60, 34978), (64, 35011), (70, 35047), (88, 35161),

Gene: MmasiCarm_42 Start: 37996, Stop: 38721, Start Num: 4

Candidate Starts for MmasiCarm_42:

(1, 37882), (Start: 4 @37996 has 51 MA's), (14, 38068), (30, 38215), (33, 38230), (38, 38293), (40, 38311), (41, 38314), (63, 38485), (64, 38488), (98, 38710),

Gene: Mortcellus_41 Start: 38648, Stop: 39373, Start Num: 4

Candidate Starts for Mortcellus_41:

(1, 38534), (Start: 4 @38648 has 51 MA's), (14, 38720), (30, 38867), (33, 38882), (38, 38945), (40, 38963), (41, 38966), (63, 39137), (64, 39140), (98, 39362),

Gene: Morty007_42 Start: 38792, Stop: 39517, Start Num: 4

Candidate Starts for Morty007_42:

(1, 38678), (Start: 4 @38792 has 51 MA's), (14, 38864), (30, 39011), (33, 39026), (38, 39089), (40, 39107), (41, 39110), (63, 39281), (64, 39284), (98, 39506),

Gene: MossRose_37 Start: 32383, Stop: 33075, Start Num: 8

Candidate Starts for MossRose_37:

(Start: 8 @32383 has 30 MA's), (26, 32518), (28, 32578), (39, 32668), (64, 32845), (69, 32878), (76, 32905), (79, 32935), (80, 32938), (84, 32968), (90, 33001),

Gene: Mulaychimus_42 Start: 37978, Stop: 38703, Start Num: 4

Candidate Starts for Mulaychimus_42:

(1, 37864), (Start: 4 @37978 has 51 MA's), (14, 38050), (30, 38197), (33, 38212), (38, 38275), (40, 38293), (41, 38296), (63, 38467), (64, 38470), (98, 38692),

Gene: NHagos_35 Start: 30942, Stop: 31637, Start Num: 8

Candidate Starts for NHagos_35:

(Start: 8 @30942 has 30 MA's), (22, 31047), (28, 31137), (39, 31227), (45, 31260), (50, 31302), (55, 31341), (58, 31365), (63, 31404), (64, 31407), (72, 31449), (76, 31467), (79, 31497), (84, 31530), (90, 31563),

Gene: Neos5_42 Start: 38807, Stop: 39532, Start Num: 4

Candidate Starts for Neos5_42:

(1, 38693), (Start: 4 @38807 has 51 MA's), (14, 38879), (30, 39026), (33, 39041), (38, 39104), (40, 39122), (41, 39125), (63, 39296), (64, 39299), (98, 39521),

Gene: Nozo_42 Start: 38772, Stop: 39497, Start Num: 4

Candidate Starts for Nozo_42:

(1, 38658), (Start: 4 @38772 has 51 MA's), (14, 38844), (30, 38991), (33, 39006), (38, 39069), (40, 39087), (41, 39090), (63, 39261), (64, 39264), (98, 39486),

Gene: Obutu_42 Start: 37996, Stop: 38721, Start Num: 4

Candidate Starts for Obutu_42:

(1, 37882), (Start: 4 @37996 has 51 MA's), (14, 38068), (30, 38215), (33, 38230), (38, 38293), (40, 38311), (41, 38314), (63, 38485), (64, 38488), (98, 38710),

Gene: Olivio_41 Start: 37865, Stop: 38590, Start Num: 4

Candidate Starts for Olivio_41:

(1, 37751), (Start: 4 @37865 has 51 MA's), (14, 37937), (30, 38084), (33, 38099), (38, 38162), (40, 38180), (41, 38183), (63, 38354), (64, 38357), (98, 38579),

Gene: Opia_43 Start: 38531, Stop: 39226, Start Num: 6

Candidate Starts for Opia_43:

(Start: 6 @38531 has 45 MA's), (33, 38741), (34, 38756), (44, 38834), (50, 38891), (59, 38957), (60, 38966), (61, 38975), (64, 38996), (81, 39089), (89, 39149), (94, 39173), (97, 39212),

Gene: OrangeOswald_42 Start: 38013, Stop: 38738, Start Num: 4

Candidate Starts for OrangeOswald_42:

(1, 37899), (Start: 4 @38013 has 51 MA's), (14, 38085), (30, 38232), (33, 38247), (38, 38310), (40, 38328), (41, 38331), (63, 38502), (64, 38505), (98, 38727),

Gene: PR_33 Start: 35135, Stop: 35845, Start Num: 6

Candidate Starts for PR_33:

(Start: 6 @35135 has 45 MA's), (12, 35174), (23, 35246), (25, 35261), (28, 35324), (34, 35366), (39, 35414), (50, 35504), (51, 35510), (54, 35534), (56, 35552), (60, 35582), (64, 35615), (70, 35651), (88, 35765),

Gene: Phaedrus_40 Start: 37933, Stop: 38658, Start Num: 4

Candidate Starts for Phaedrus_40:

(1, 37819), (Start: 4 @37933 has 51 MA's), (14, 38005), (30, 38152), (33, 38167), (38, 38230), (40, 38248), (41, 38251), (63, 38422), (64, 38425), (98, 38647),

Gene: Phantasmagoria_43 Start: 38543, Stop: 39238, Start Num: 6

Candidate Starts for Phantasmagoria_43:

(Start: 6 @38543 has 45 MA's), (33, 38753), (34, 38768), (44, 38846), (50, 38903), (59, 38969), (60, 38978), (61, 38987), (64, 39008), (81, 39101), (89, 39161), (94, 39185), (97, 39224),

Gene: Phayeta_43 Start: 37878, Stop: 38603, Start Num: 4

Candidate Starts for Phayeta_43:

(1, 37764), (Start: 4 @37878 has 51 MA's), (14, 37950), (30, 38097), (33, 38112), (38, 38175), (40, 38193), (41, 38196), (63, 38367), (64, 38370), (98, 38592),

Gene: Philly_41 Start: 37864, Stop: 38589, Start Num: 4

Candidate Starts for Philly_41:

(1, 37750), (Start: 4 @37864 has 51 MA's), (14, 37936), (30, 38083), (33, 38098), (38, 38161), (40, 38179), (41, 38182), (63, 38353), (64, 38356), (98, 38578),

Gene: Phlyer_42 Start: 38752, Stop: 39477, Start Num: 4

Candidate Starts for Phlyer_42:

(1, 38638), (Start: 4 @38752 has 51 MA's), (14, 38824), (30, 38971), (33, 38986), (38, 39049), (40, 39067), (41, 39070), (63, 39241), (64, 39244), (98, 39466),

Gene: Pipefish_44 Start: 39405, Stop: 40130, Start Num: 4

Candidate Starts for Pipefish_44:

(1, 39291), (Start: 4 @39405 has 51 MA's), (14, 39477), (30, 39624), (33, 39639), (38, 39702), (40, 39720), (41, 39723), (63, 39894), (64, 39897), (98, 40119),

Gene: PrinceCharming_43 Start: 38651, Stop: 39346, Start Num: 6

Candidate Starts for PrinceCharming_43:

(3, 38636), (Start: 6 @38651 has 45 MA's), (33, 38861), (34, 38876), (44, 38954), (50, 39011), (59, 39077), (60, 39086), (61, 39095), (64, 39116), (81, 39209), (89, 39269), (94, 39293), (97, 39332),

Gene: Qyrzula_40 Start: 38689, Stop: 39384, Start Num: 6

Candidate Starts for Qyrzula_40:

(Start: 6 @38689 has 45 MA's), (34, 38914), (44, 38992), (50, 39049), (59, 39115), (60, 39124), (61, 39133), (64, 39154), (81, 39247), (89, 39307), (94, 39331), (97, 39370),

Gene: RagingRooster_42 Start: 38014, Stop: 38739, Start Num: 4

Candidate Starts for RagingRooster_42:

(1, 37900), (Start: 4 @38014 has 51 MA's), (14, 38086), (30, 38233), (33, 38248), (38, 38311), (40, 38329), (41, 38332), (63, 38503), (64, 38506), (98, 38728),

Gene: Rhinoforte_43 Start: 38652, Stop: 39347, Start Num: 6

Candidate Starts for Rhinoforte_43:

(Start: 6 @38652 has 45 MA's), (33, 38862), (34, 38877), (44, 38955), (50, 39012), (59, 39078), (60, 39087), (61, 39096), (64, 39117), (81, 39210), (89, 39270), (94, 39294), (97, 39333),

Gene: Rita1961_42 Start: 37997, Stop: 38722, Start Num: 4

Candidate Starts for Rita1961_42:

(1, 37883), (Start: 4 @37997 has 51 MA's), (14, 38069), (30, 38216), (33, 38231), (38, 38294), (40, 38312), (41, 38315), (63, 38486), (64, 38489), (98, 38711),

Gene: RoadKill_35 Start: 32625, Stop: 33329, Start Num: 8

Candidate Starts for RoadKill_35:

(Start: 8 @32625 has 30 MA's), (19, 32712), (21, 32721), (52, 32988), (54, 33006), (55, 33018), (66, 33096), (68, 33105), (69, 33120), (85, 33213),

Gene: RomaT_42 Start: 38787, Stop: 39512, Start Num: 4

Candidate Starts for RomaT_42:

(1, 38673), (Start: 4 @38787 has 51 MA's), (14, 38859), (30, 39006), (33, 39021), (38, 39084), (40, 39102), (41, 39105), (63, 39276), (64, 39279), (98, 39501),

Gene: Rosebush_42 Start: 38659, Stop: 39354, Start Num: 6

Candidate Starts for Rosebush_42:

(Start: 6 @38659 has 45 MA's), (33, 38869), (34, 38884), (44, 38962), (50, 39019), (59, 39085), (60, 39094), (61, 39103), (64, 39124), (81, 39217), (89, 39277), (94, 39301), (97, 39340),

Gene: Sabella_42 Start: 38536, Stop: 39231, Start Num: 6

Candidate Starts for Sabella_42:

(Start: 6 @38536 has 45 MA's), (33, 38746), (34, 38761), (44, 38839), (50, 38896), (59, 38962), (60, 38971), (61, 38980), (64, 39001), (81, 39094), (89, 39154), (94, 39178), (97, 39217),

Gene: Sejanus_36 Start: 35378, Stop: 36082, Start Num: 7

Candidate Starts for Sejanus_36:

(Start: 7 @35378 has 4 MA's), (16, 35441), (17, 35456), (22, 35480), (31, 35582), (32, 35588), (36, 35636), (50, 35744), (56, 35789), (57, 35795), (60, 35819), (69, 35885), (71, 35891), (75, 35903), (77, 35921), (90, 36008), (92, 36011),

Gene: Shatter_35 Start: 30447, Stop: 31139, Start Num: 8

Candidate Starts for Shatter_35:

(Start: 8 @30447 has 30 MA's), (11, 30483), (28, 30642), (32, 30663), (45, 30765), (52, 30819), (53, 30825), (54, 30831), (58, 30867), (61, 30888), (63, 30906), (64, 30909), (79, 30999), (86, 31041), (96, 31116),

Gene: Shenandoah_42 Start: 37986, Stop: 38711, Start Num: 4

Candidate Starts for Shenandoah_42:

(1, 37872), (Start: 4 @37986 has 51 MA's), (14, 38058), (30, 38205), (33, 38220), (38, 38283), (40, 38301), (41, 38304), (63, 38475), (64, 38478), (98, 38700),

Gene: Sisko_35 Start: 31297, Stop: 31995, Start Num: 8

Candidate Starts for Sisko_35:

(Start: 8 @31297 has 30 MA's), (36, 31561), (52, 31669), (54, 31681), (55, 31693), (64, 31759),

Gene: SlippinJimmy_42 Start: 38779, Stop: 39504, Start Num: 4

Candidate Starts for SlippinJimmy_42:

(1, 38665), (Start: 4 @38779 has 51 MA's), (14, 38851), (30, 38998), (33, 39013), (38, 39076), (40, 39094), (41, 39097), (63, 39268), (64, 39271), (98, 39493),

Gene: Sour_40 Start: 35182, Stop: 35880, Start Num: 8

Candidate Starts for Sour_40:

(Start: 8 @35182 has 30 MA's), (11, 35218), (36, 35446), (38, 35464), (45, 35500), (52, 35554), (54, 35566), (55, 35578), (60, 35614), (61, 35623), (63, 35641), (82, 35764), (83, 35770),

Gene: SwainyDoc_42 Start: 38008, Stop: 38733, Start Num: 4

Candidate Starts for SwainyDoc_42:

(1, 37894), (Start: 4 @38008 has 51 MA's), (14, 38080), (30, 38227), (33, 38242), (38, 38305), (40, 38323), (41, 38326), (63, 38497), (64, 38500), (98, 38722),

Gene: SynergyX_42 Start: 38014, Stop: 38739, Start Num: 4

Candidate Starts for SynergyX_42:

(1, 37900), (Start: 4 @38014 has 51 MA's), (14, 38086), (30, 38233), (33, 38248), (38, 38311), (40, 38329), (41, 38332), (63, 38503), (64, 38506), (98, 38728),

Gene: TA17A_44 Start: 38526, Stop: 39221, Start Num: 6

Candidate Starts for TA17A_44:

(Start: 6 @38526 has 45 MA's), (33, 38736), (34, 38751), (44, 38829), (50, 38886), (59, 38952), (60, 38961), (61, 38970), (64, 38991), (81, 39084), (89, 39144), (94, 39168), (97, 39207),

Gene: Taptic_33 Start: 34531, Stop: 35241, Start Num: 6

Candidate Starts for Taptic_33:

(Start: 6 @34531 has 45 MA's), (12, 34570), (23, 34642), (25, 34657), (28, 34720), (34, 34762), (39, 34810), (50, 34900), (51, 34906), (54, 34930), (56, 34948), (60, 34978), (64, 35011), (70, 35047), (88, 35161),

Gene: Tiamoceli_38 Start: 33958, Stop: 34662, Start Num: 8

Candidate Starts for Tiamoceli_38:

(Start: 8 @33958 has 30 MA's), (19, 34045), (21, 34054), (29, 34156), (52, 34321), (54, 34339), (55, 34351), (66, 34429), (68, 34438), (69, 34453), (85, 34546),

Gene: Tinciduntolum_44 Start: 38664, Stop: 39359, Start Num: 6

Candidate Starts for Tinciduntolum_44:

(Start: 6 @38664 has 45 MA's), (33, 38874), (34, 38889), (44, 38967), (50, 39024), (59, 39090), (60, 39099), (61, 39108), (64, 39129), (81, 39222), (89, 39282), (94, 39306), (97, 39345),

Gene: TinyTerror_42 Start: 37999, Stop: 38724, Start Num: 4

Candidate Starts for TinyTerror_42:

(1, 37885), (Start: 4 @37999 has 51 MA's), (14, 38071), (30, 38218), (33, 38233), (38, 38296), (40, 38314), (41, 38317), (63, 38488), (64, 38491), (98, 38713),

Gene: TraderJ_37 Start: 32386, Stop: 33078, Start Num: 8

Candidate Starts for TraderJ_37:

(Start: 8 @32386 has 30 MA's), (28, 32581), (39, 32671), (50, 32746), (58, 32806), (64, 32848), (69, 32881), (76, 32908), (79, 32938), (84, 32971), (90, 33004),

Gene: Tres_43 Start: 38539, Stop: 39234, Start Num: 6

Candidate Starts for Tres_43:

(Start: 6 @38539 has 45 MA's), (33, 38749), (34, 38764), (44, 38842), (50, 38899), (59, 38965), (60, 38974), (61, 38983), (64, 39004), (81, 39097), (89, 39157), (94, 39181), (97, 39220),

Gene: Twonlo_35 Start: 32576, Stop: 33280, Start Num: 8

Candidate Starts for Twonlo_35:

(Start: 8 @32576 has 30 MA's), (19, 32663), (21, 32672), (52, 32939), (54, 32957), (55, 32969), (66, 33047), (68, 33056), (69, 33071), (85, 33164),

Gene: Tydolla_42 Start: 38748, Stop: 39473, Start Num: 4

Candidate Starts for Tydolla_42:

(1, 38634), (Start: 4 @38748 has 51 MA's), (14, 38820), (30, 38967), (33, 38982), (38, 39045), (40, 39063), (41, 39066), (63, 39237), (64, 39240), (98, 39462),

Gene: Vic9_00042 Start: 39045, Stop: 39740, Start Num: 6

Candidate Starts for Vic9_00042:

(Start: 6 @39045 has 45 MA's), (33, 39255), (34, 39270), (44, 39348), (50, 39405), (59, 39471), (60, 39480), (61, 39489), (64, 39510), (81, 39603), (89, 39663), (94, 39687), (97, 39726),

Gene: West99_43 Start: 38659, Stop: 39354, Start Num: 6

Candidate Starts for West99_43:

(Start: 6 @38659 has 45 MA's), (33, 38869), (34, 38884), (44, 38962), (50, 39019), (59, 39085), (60, 39094), (61, 39103), (64, 39124), (81, 39217), (89, 39277), (94, 39301), (97, 39340),

Gene: Wooper_37 Start: 32392, Stop: 33084, Start Num: 8

Candidate Starts for Wooper_37:

(Start: 8 @32392 has 30 MA's), (28, 32587), (39, 32677), (50, 32752), (58, 32812), (64, 32854), (69, 32887), (76, 32914), (79, 32944), (84, 32977), (90, 33010),

Gene: Yago84_35 Start: 31371, Stop: 32069, Start Num: 8

Candidate Starts for Yago84_35:

(Start: 8 @31371 has 30 MA's), (36, 31635), (52, 31743), (54, 31755), (55, 31767), (64, 31833),

Gene: Yahalom_42 Start: 38024, Stop: 38749, Start Num: 4

Candidate Starts for Yahalom_42:

(1, 37910), (Start: 4 @38024 has 51 MA's), (14, 38096), (30, 38243), (33, 38258), (38, 38321), (40, 38339), (41, 38342), (63, 38513), (64, 38516), (98, 38738),

Gene: Yeshua_37 Start: 32369, Stop: 33061, Start Num: 8

Candidate Starts for Yeshua_37:

(Start: 8 @32369 has 30 MA's), (28, 32564), (39, 32654), (50, 32729), (58, 32789), (64, 32831), (69, 32864), (76, 32891), (79, 32921), (84, 32954), (90, 32987),

Gene: Yinz_42 Start: 38050, Stop: 38775, Start Num: 4

Candidate Starts for Yinz_42:

(1, 37936), (Start: 4 @38050 has 51 MA's), (14, 38122), (30, 38269), (33, 38284), (38, 38347), (40, 38365), (41, 38368), (63, 38539), (64, 38542), (98, 38764),