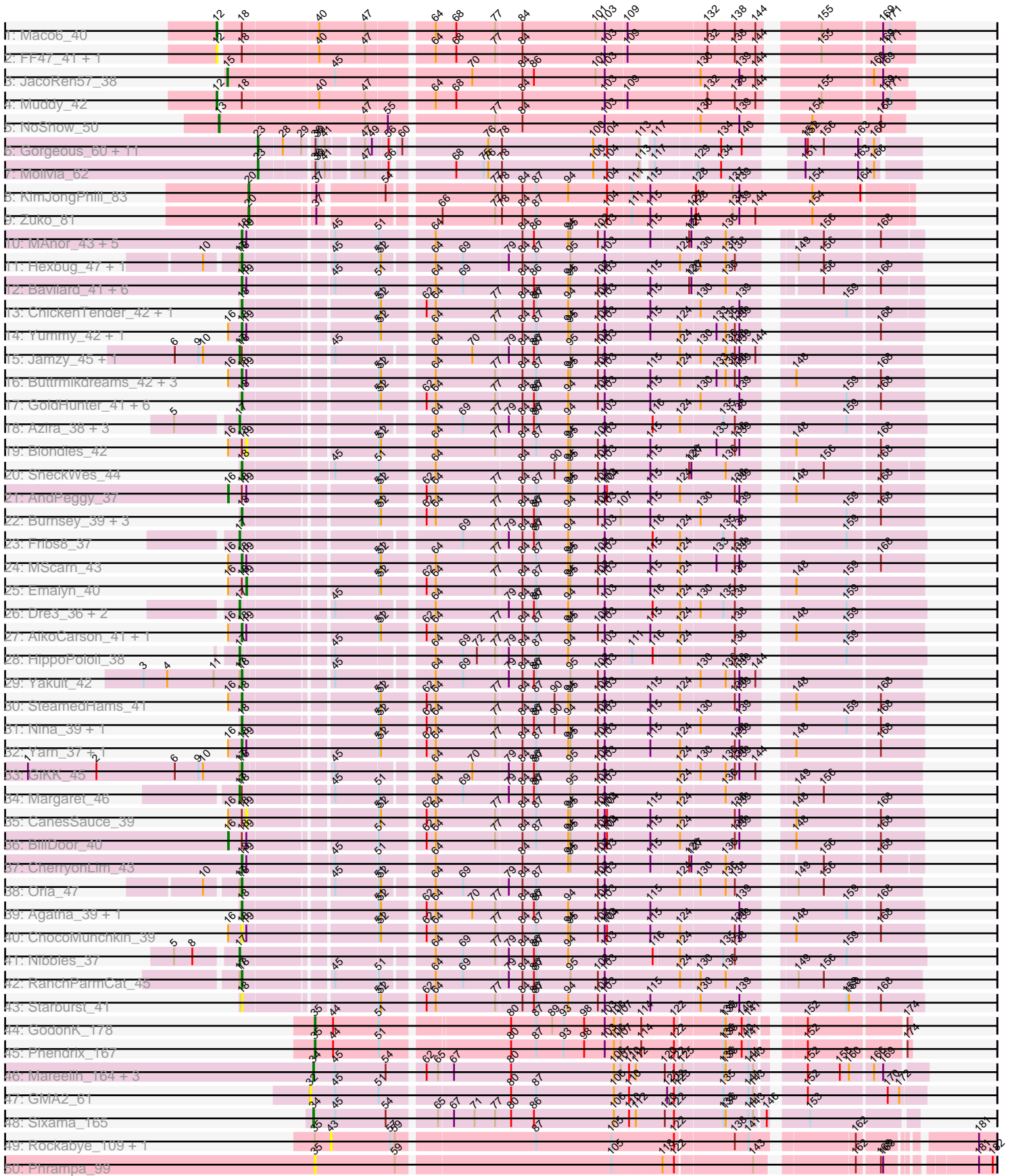
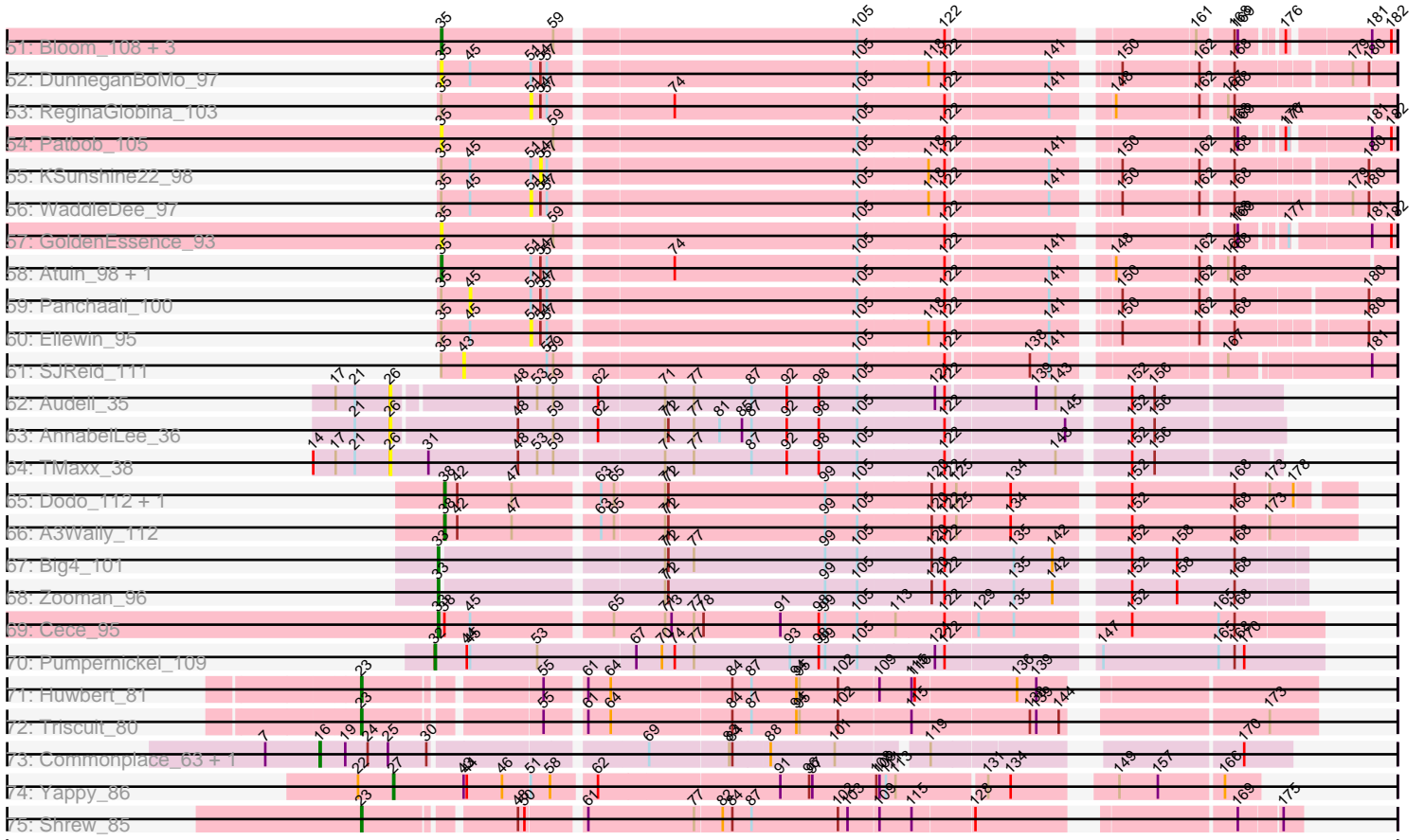


Pham 215947



Pham 215947



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 215947 Report

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

Pham number 215947 has 133 members, 37 are drafts.

Phages represented in each track:

- Track 1 : Maco6_40
- Track 2 : FF47_41, 8UZL_42
- Track 3 : JacoRen57_38
- Track 4 : Muddy_42
- Track 5 : NoShow_50
- Track 6 : Gorgeous_60, Rings_61, Jaek_60, Boersma_63, Heylee_63, SorJuana_60, Amavida_62, Yeezus_60, Amigo_61, Ichor_60, Thunderclap_60, Anansi_60
- Track 7 : Molivia_62
- Track 8 : KimJongPhill_83
- Track 9 : Zuko_81
- Track 10 : MAnor_43, PotPie_42, Feastonyeet_41, SummitAcademy_41, BigChungus_41, Mayweather_45
- Track 11 : Hexbug_47, Nodigi_47
- Track 12 : Bavidard_41, Elinal_45, Yucky_45, Vine_44, Lauer_38, KayGee_43, Pons_43
- Track 13 : ChickenTender_42, MunkgeeRoachy_38
- Track 14 : Yummy_42, Horseradish_42
- Track 15 : Jamzy_45, Button_43
- Track 16 : Buttrmldreams_42, Troje_42, SketchMex_40, Biskit_42
- Track 17 : GoldHunter_41, Axym_39, Sopespian_39, PsychoKiller_39, Quasar_40, Elliott_40, Carsonalex_43
- Track 18 : Azira_38, MaVan_38, Zareef_40, Survivors_38
- Track 19 : Blondies_42
- Track 20 : SheckWes_44
- Track 21 : AndPeggy_37
- Track 22 : Burnsey_39, RedBaron_42, Socotra_41, Typhonmarchy_39
- Track 23 : Fribs8_37
- Track 24 : MScarn_43
- Track 25 : Emalyn_40
- Track 26 : Dre3_36, Gibbous_36, Cleo_36
- Track 27 : AikoCarson_41, Amok_41
- Track 28 : HippoPololi_38
- Track 29 : Yakult_42
- Track 30 : SteamedHams_41
- Track 31 : Nina_39, SweatNTears_41
- Track 32 : Yarn_37, Tolls_41

- Track 33 : GiKK_45
- Track 34 : Margaret_46
- Track 35 : CanesSauce_39
- Track 36 : BillDoor_40
- Track 37 : CherryonLim_43
- Track 38 : Orla_47
- Track 39 : Agatha_39, Cozz_38
- Track 40 : ChocoMunchkin_39
- Track 41 : Nibbles_37
- Track 42 : RanchParmCat_45
- Track 43 : Starburst_41
- Track 44 : GodonK_178
- Track 45 : Phendrix_167
- Track 46 : Mareelih_164, Forza_167, Boopy_166, BlueNGold_163
- Track 47 : GMA2_61
- Track 48 : Sixama_165
- Track 49 : Rockabye_109, Chilliams_103
- Track 50 : Phrampa_99
- Track 51 : Bloom_108, Mimi_104, Racecar_105, Talia1610_104
- Track 52 : DunneganBoMo_97
- Track 53 : ReginaGlobina_103
- Track 54 : Patbob_105
- Track 55 : KSunshine22_98
- Track 56 : WaddleDee_97
- Track 57 : GoldenEssence_93
- Track 58 : Atuin_98, LeoJr_103
- Track 59 : Panchaali_100
- Track 60 : Ellewin_95
- Track 61 : SJReid_111
- Track 62 : Audell_35
- Track 63 : AnnabelLee_36
- Track 64 : TMaxx_38
- Track 65 : Dodo_112, PauloDiaboli_112
- Track 66 : A3Wally_112
- Track 67 : Big4_101
- Track 68 : Zooman_96
- Track 69 : Cece_95
- Track 70 : Pumpernickel_109
- Track 71 : Huwbert_81
- Track 72 : Triscuit_80
- Track 73 : Commonplace_63, Nonagon_62
- Track 74 : Yappy_86
- Track 75 : Shrew_85

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

The start number called the most often in the published annotations is 18, it was called in 39 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agatha_39, AikoCarson_41, Amok_41, Axym_39, Bavidard_41, BigChungus_41, Biskit_42, Burnsey_39, Buttrmlkdreams_42, Carsonalex_43, CherryonLim_43, ChickenTender_42, ChocoMunchkin_39, Cozz_38, Elinal_45, Elliott_40, Feastonyeet_41, GiKK_45, GoldHunter_41, Hexbug_47, Horseradish_42, KayGee_43, Lauer_38, MAnor_43, MScarn_43, Mayweather_45, MunkgeeRoachy_38, Nina_39, Nodigi_47, Orla_47, Pons_43, PotPie_42, PsychoKiller_39, Quasar_40, RanchParmCat_45, RedBaron_42, SheckWes_44, SketchMex_40, Socotra_41, Sopespian_39, Starburst_41, SteamedHams_41, SummitAcademy_41, SweatNTears_41, Tolls_41, Troje_42, Typhonmarchy_39, Vine_44, Yakult_42, Yarn_37, Yucky_45, Yummy_42,

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

- 8UZL_42, AndPeggy_37, BillDoor_40, Blondies_42, Button_43, CanesSauce_39, Emalyn_40, FF47_41, Jamzy_45, Maco6_40, Margaret_46, Muddy_42,

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

- A3Wally_112, Amavida_62, Amigo_61, Anansi_60, AnnabelLee_36, Atuin_98, Audell_35, Azira_38, Big4_101, Bloom_108, BlueNGold_163, Boersma_63, Boopy_166, Cece_95, Chilliams_103, Cleo_36, Commonplace_63, Dodo_112, Dre3_36, DunneganBoMo_97, Ellewin_95, Forza_167, Fribs8_37, GMA2_61, Gibbous_36, GodonK_178, GoldenEssence_93, Gorgeous_60, Heylee_63, HippoPololi_38, Huwbert_81, Ichor_60, JacoRen57_38, Jaek_60, KSunshine22_98, KimJongPhill_83, LeoJr_103, MaVan_38, Mareelih_164, Mimi_104, Molivia_62, Nibbles_37, NoShow_50, Nonagon_62, Panchaali_100, Patbob_105, PauloDiaboli_112, Phendrix_167, Phrampa_99, Pumpernickel_109, Racecar_105, ReginaGlobina_103, Rings_61, Rockabye_109, SJReid_111, Shrew_85, Sixama_165, SorJuana_60, Survivors_38, TMaxx_38, Talia1610_104, Thunderclap_60, Triscuit_80, WaddleDee_97, Yappy_86, Yeezus_60, Zareef_40, Zooman_96, Zuko_81,

Summary by start number:

Start 12:

- Found in 4 of 133 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 8UZL_42 (AB), FF47_41 (AB), Maco6_40 (AB), Muddy_42 (AB),

Start 13:

- Found in 1 of 133 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoShow_50 (AB),

Start 15:

- Found in 1 of 133 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57_38 (AB),

Start 16:

- Found in 20 of 133 (15.0%) of genes in pham

- Manual Annotations of this start: 4 of 96
- Called 20.0% of time when present
- Phage (with cluster) where this start called: AndPeggy_37 (CT), BillDoor_40 (CT), Commonplace_63 (JD), Nonagon_62 (JD),

Start 17:

- Found in 21 of 133 (15.8%) of genes in pham
- Manual Annotations of this start: 12 of 96
- Called 61.9% of time when present
- Phage (with cluster) where this start called: Azira_38 (CT), Button_43 (CT), Cleo_36 (CT), Dre3_36 (CT), Fribs8_37 (CT), Gibbous_36 (CT), HippoPololi_38 (CT), Jamzy_45 (CT), MaVan_38 (CT), Margaret_46 (CT), Nibbles_37 (CT), Survivors_38 (CT), Zareef_40 (CT),

Start 18:

- Found in 64 of 133 (48.1%) of genes in pham
- Manual Annotations of this start: 39 of 96
- Called 81.2% of time when present
- Phage (with cluster) where this start called: Agatha_39 (CT), AikoCarson_41 (CT), Amok_41 (CT), Axym_39 (CT), Bavailard_41 (CT), BigChungus_41 (CT), Biskit_42 (CT), Burnsey_39 (CT), Buttrmlkdreams_42 (CT), Carsonalex_43 (CT), CherryonLim_43 (CT), ChickenTender_42 (CT), ChocoMunchkin_39 (CT), Cozz_38 (CT), Elinal_45 (CT), Elliott_40 (CT), Feastonyeet_41 (CT), GiKK_45 (CT), GoldHunter_41 (CT), Hexbug_47 (CT), Horseradish_42 (CT), KayGee_43 (CT), Lauer_38 (CT), MAnor_43 (CT), MScarn_43 (CT), Mayweather_45 (CT), MunkgeeRoachy_38 (CT), Nina_39 (CT), Nodigi_47 (CT), Orla_47 (CT), Pons_43 (CT), PotPie_42 (CT), PsychoKiller_39 (CT), Quasar_40 (CT), RanchParmCat_45 (CT), RedBaron_42 (CT), SheckWes_44 (CT), SketchMex_40 (CT), Socotra_41 (CT), Sopespian_39 (CT), Starburst_41 (CT), SteamedHams_41 (CT), SummitAcademy_41 (CT), SweatNTears_41 (CT), Tolls_41 (CT), Troje_42 (CT), Typhonomachy_39 (CT), Vine_44 (CT), Yakult_42 (CT), Yarn_37 (CT), Yucky_45 (CT), Yummy_42 (CT),

Start 19:

- Found in 33 of 133 (24.8%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Blondies_42 (CT), CanesSauce_39 (CT), Emalyn_40 (CT),

Start 20:

- Found in 2 of 133 (1.5%) of genes in pham
- Manual Annotations of this start: 2 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KimJongPhill_83 (BR), Zuko_81 (BR),

Start 23:

- Found in 16 of 133 (12.0%) of genes in pham
- Manual Annotations of this start: 16 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amavida_62 (AQ), Amigo_61 (AQ), Anansi_60 (AQ), Boersma_63 (AQ), Gorgeous_60 (AQ), Heylee_63 (AQ), Huwbert_81 (GG), Ichor_60 (AQ), Jaek_60 (AQ), Molivia_62 (AQ), Rings_61 (AQ),

Shrew_85 (singleton), SorJuana_60 (AQ), Thunderclap_60 (AQ), Triscuit_80 (GG), Yeezus_60 (AQ),

Start 26:

- Found in 3 of 133 (2.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnnabelLee_36 (FR), Audell_35 (FR), TMaxx_38 (FR),

Start 27:

- Found in 1 of 133 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Yappy_86 (singleton),

Start 32:

- Found in 2 of 133 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA2_61 (DS), Pumpernickel_109 (GD4),

Start 33:

- Found in 3 of 133 (2.3%) of genes in pham
- Manual Annotations of this start: 3 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Big4_101 (GD2), Cece_95 (GD3), Zooman_96 (GD2),

Start 34:

- Found in 5 of 133 (3.8%) of genes in pham
- Manual Annotations of this start: 5 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold_163 (DS), Boopy_166 (DS), Forza_167 (DS), Mareelih_164 (DS), Sixama_165 (DS),

Start 35:

- Found in 20 of 133 (15.0%) of genes in pham
- Manual Annotations of this start: 6 of 96
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Atuin_98 (FC), Bloom_108 (FC), DunneganBoMo_97 (FC), GodonK_178 (DK), GoldenEssence_93 (FC), LeoJr_103 (FC), Mimi_104 (FC), Patbob_105 (FC), Phendrix_167 (DK), Phrampa_99 (FC), Racecar_105 (FC), Talia1610_104 (FC),

Start 38:

- Found in 4 of 133 (3.0%) of genes in pham
- Manual Annotations of this start: 2 of 96
- Called 75.0% of time when present
- Phage (with cluster) where this start called: A3Wally_112 (GD1), Dodo_112 (GD1), PauloDiaboli_112 (GD1),

Start 43:

- Found in 4 of 133 (3.0%) of genes in pham
- No Manual Annotations of this start.
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Chilliams_103 (FC), Rockabye_109 (FC), SJReid_111 (FC),

Start 45:

- Found in 42 of 133 (31.6%) of genes in pham
- No Manual Annotations of this start.
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Panchaali_100 (FC),

Start 51:

- Found in 68 of 133 (51.1%) of genes in pham
- No Manual Annotations of this start.
- Called 4.4% of time when present
- Phage (with cluster) where this start called: Ellewin_95 (FC), ReginaGlobina_103 (FC), WaddleDee_97 (FC),

Start 54:

- Found in 14 of 133 (10.5%) of genes in pham
- No Manual Annotations of this start.
- Called 7.1% of time when present
- Phage (with cluster) where this start called: KSunshine22_98 (FC),

Summary by clusters:

There are 15 clusters represented in this pham: AQ, singleton, AB, GD4, DK, GD1, FR, GD2, GG, FC, BR, JD, DS, GD3, CT,

Info for manual annotations of cluster AB:

- Start number 12 was manually annotated 2 times for cluster AB.
- Start number 13 was manually annotated 1 time for cluster AB.
- Start number 15 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster AQ:

- Start number 23 was manually annotated 13 times for cluster AQ.

Info for manual annotations of cluster BR:

- Start number 20 was manually annotated 2 times for cluster BR.

Info for manual annotations of cluster CT:

- Start number 16 was manually annotated 2 times for cluster CT.
- Start number 17 was manually annotated 12 times for cluster CT.
- Start number 18 was manually annotated 39 times for cluster CT.
- Start number 19 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster DK:

- Start number 35 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DS:

- Start number 34 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster FC:

- Start number 35 was manually annotated 4 times for cluster FC.

Info for manual annotations of cluster GD1:

- Start number 38 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 33 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 33 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 32 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster GG:

- Start number 23 was manually annotated 2 times for cluster GG.

Info for manual annotations of cluster JD:

- Start number 16 was manually annotated 2 times for cluster JD.

Gene Information:

Gene: 8UZL_42 Start: 30925, Stop: 30080, Start Num: 12

Candidate Starts for 8UZL_42:

(Start: 12 @30925 has 2 MA's), (Start: 18 @30901 has 39 MA's), (40, 30808), (47, 30748), (64, 30670), (68, 30643), (77, 30592), (84, 30559), (103, 30451), (109, 30424), (132, 30322), (138, 30286), (144, 30259), (155, 30196), (169, 30121), (171, 30112),

Gene: A3Wally_112 Start: 76409, Stop: 75603, Start Num: 38

Candidate Starts for A3Wally_112:

(Start: 38 @76409 has 2 MA's), (42, 76397), (47, 76346), (63, 76274), (65, 76262), (71, 76217), (72, 76214), (99, 76067), (105, 76037), (120, 75971), (122, 75959), (125, 75950), (134, 75902), (152, 75806), (168, 75710), (173, 75680),

Gene: Agatha_39 Start: 28608, Stop: 27790, Start Num: 18

Candidate Starts for Agatha_39:

(Start: 18 @28608 has 39 MA's), (51, 28452), (52, 28449), (62, 28401), (64, 28389), (70, 28341), (77, 28311), (84, 28278), (86, 28263), (87, 28260), (94, 28218), (102, 28179), (103, 28170), (115, 28113), (139, 27999), (159, 27885), (168, 27846),

Gene: AikoCarson_41 Start: 28965, Stop: 28147, Start Num: 18

Candidate Starts for AikoCarson_41:

(Start: 16 @28983 has 4 MA's), (Start: 18 @28965 has 39 MA's), (Start: 19 @28959 has 1 MA's), (51, 28809), (52, 28806), (62, 28758), (64, 28746), (77, 28668), (84, 28635), (87, 28617), (94, 28575), (95, 28572), (102, 28536), (103, 28527), (115, 28470), (124, 28431), (138, 28362), (148, 28308), (159, 28242),

Gene: Amavida_62 Start: 40997, Stop: 40257, Start Num: 23

Candidate Starts for Amavida_62:

(Start: 23 @40997 has 16 MA's), (28, 40967), (29, 40943), (36, 40931), (39, 40928), (41, 40922), (47, 40880), (49, 40871), (56, 40856), (60, 40847), (76, 40748), (78, 40733), (100, 40613), (104, 40595), (113, 40556), (117, 40547), (134, 40466), (140, 40439), (151, 40394), (152, 40391), (156, 40370), (163, 40325), (166, 40310),

Gene: Amigo_61 Start: 41212, Stop: 40472, Start Num: 23

Candidate Starts for Amigo_61:

(Start: 23 @41212 has 16 MA's), (28, 41182), (29, 41158), (36, 41146), (39, 41143), (41, 41137), (47, 41095), (49, 41086), (56, 41071), (60, 41062), (76, 40963), (78, 40948), (100, 40828), (104, 40810), (113, 40771), (117, 40762), (134, 40681), (140, 40654), (151, 40609), (152, 40606), (156, 40585), (163, 40540), (166, 40525),

Gene: Amok_41 Start: 28989, Stop: 28171, Start Num: 18

Candidate Starts for Amok_41:

(Start: 16 @29007 has 4 MA's), (Start: 18 @28989 has 39 MA's), (Start: 19 @28983 has 1 MA's), (51, 28833), (52, 28830), (62, 28782), (64, 28770), (77, 28692), (84, 28659), (87, 28641), (94, 28599), (95, 28596), (102, 28560), (103, 28551), (115, 28494), (124, 28455), (138, 28386), (148, 28332), (159, 28266),

Gene: Anansi_60 Start: 40819, Stop: 40079, Start Num: 23

Candidate Starts for Anansi_60:

(Start: 23 @40819 has 16 MA's), (28, 40789), (29, 40765), (36, 40753), (39, 40750), (41, 40744), (47, 40702), (49, 40693), (56, 40678), (60, 40669), (76, 40570), (78, 40555), (100, 40435), (104, 40417), (113, 40378), (117, 40369), (134, 40288), (140, 40261), (151, 40216), (152, 40213), (156, 40192), (163, 40147), (166, 40132),

Gene: AndPeggy_37 Start: 28407, Stop: 27571, Start Num: 16

Candidate Starts for AndPeggy_37:

(Start: 16 @28407 has 4 MA's), (Start: 18 @28389 has 39 MA's), (Start: 19 @28383 has 1 MA's), (51, 28233), (52, 28230), (62, 28182), (64, 28170), (77, 28092), (84, 28059), (87, 28041), (94, 27999), (95, 27996), (102, 27960), (103, 27951), (104, 27948), (115, 27894), (124, 27855), (138, 27786), (139, 27780), (148, 27732), (168, 27627),

Gene: AnnabelLee_36 Start: 23600, Stop: 22806, Start Num: 26

Candidate Starts for AnnabelLee_36:

(21, 23633), (26, 23600), (48, 23486), (59, 23453), (62, 23417), (71, 23357), (72, 23354), (77, 23330), (81, 23306), (85, 23285), (87, 23276), (92, 23243), (98, 23213), (105, 23177), (122, 23099), (145, 22994), (152, 22943), (156, 22922),

Gene: Atuin_98 Start: 84308, Stop: 85141, Start Num: 35

Candidate Starts for Atuin_98:

(Start: 35 @84308 has 6 MA's), (51, 84392), (54, 84401), (57, 84407), (74, 84512), (105, 84683), (122, 84761), (141, 84851), (148, 84893), (162, 84968), (167, 84989), (168, 84995),

Gene: Audell_35 Start: 25989, Stop: 25204, Start Num: 26

Candidate Starts for Audell_35:

(Start: 17 @26040 has 12 MA's), (21, 26022), (26, 25989), (48, 25881), (53, 25863), (59, 25848), (62, 25812), (71, 25752), (77, 25725), (87, 25671), (92, 25638), (98, 25608), (105, 25572), (121, 25503), (122, 25494), (139, 25416), (143, 25398), (152, 25338), (156, 25317),

Gene: Axym_39 Start: 28586, Stop: 27768, Start Num: 18

Candidate Starts for Axym_39:

(Start: 18 @28586 has 39 MA's), (51, 28430), (52, 28427), (62, 28379), (64, 28367), (77, 28289), (84, 28256), (86, 28241), (87, 28238), (94, 28196), (102, 28157), (103, 28148), (115, 28091), (130, 28028), (139, 27977), (159, 27863), (168, 27824),

Gene: Azira_38 Start: 28635, Stop: 27823, Start Num: 17

Candidate Starts for Azira_38:

(5, 28707), (Start: 17 @28635 has 12 MA's), (64, 28419), (69, 28383), (77, 28341), (79, 28326), (84, 28308), (86, 28293), (87, 28290), (94, 28248), (103, 28200), (116, 28140), (124, 28107), (135, 28053), (138, 28038), (159, 27921),

Gene: Bavilard_41 Start: 30011, Stop: 29205, Start Num: 18

Candidate Starts for Bavilard_41:

(Start: 18 @30011 has 39 MA's), (Start: 19 @30005 has 1 MA's), (45, 29903), (51, 29849), (64, 29786), (69, 29750), (84, 29675), (86, 29660), (94, 29615), (95, 29612), (102, 29576), (103, 29567), (115, 29510), (126, 29462), (127, 29459), (136, 29417), (156, 29324), (168, 29255),

Gene: Big4_101 Start: 75498, Stop: 74737, Start Num: 33

Candidate Starts for Big4_101:

(Start: 33 @75498 has 3 MA's), (71, 75306), (72, 75303), (77, 75279), (99, 75156), (105, 75126), (120, 75060), (122, 75048), (135, 74988), (142, 74952), (152, 74895), (158, 74853), (168, 74799),

Gene: BigChungus_41 Start: 30191, Stop: 29385, Start Num: 18

Candidate Starts for BigChungus_41:

(Start: 18 @30191 has 39 MA's), (Start: 19 @30185 has 1 MA's), (45, 30083), (51, 30029), (64, 29966), (84, 29855), (86, 29840), (94, 29795), (95, 29792), (102, 29756), (103, 29747), (115, 29690), (126, 29642), (127, 29639), (136, 29597), (156, 29504), (168, 29435),

Gene: BillDoor_40 Start: 28078, Stop: 27242, Start Num: 16

Candidate Starts for BillDoor_40:

(Start: 16 @28078 has 4 MA's), (Start: 18 @28060 has 39 MA's), (Start: 19 @28054 has 1 MA's), (51, 27904), (62, 27853), (64, 27841), (77, 27763), (84, 27730), (87, 27712), (94, 27670), (95, 27667), (102, 27631), (103, 27622), (104, 27619), (115, 27565), (124, 27526), (138, 27457), (139, 27451), (148, 27403), (168, 27298),

Gene: Biskit_42 Start: 28753, Stop: 27935, Start Num: 18

Candidate Starts for Biskit_42:

(Start: 16 @28771 has 4 MA's), (Start: 18 @28753 has 39 MA's), (Start: 19 @28747 has 1 MA's), (51, 28597), (52, 28594), (64, 28534), (77, 28456), (84, 28423), (87, 28405), (94, 28363), (95, 28360), (102, 28324), (103, 28315), (115, 28258), (124, 28219), (133, 28174), (136, 28162), (138, 28150), (139, 28144), (148, 28096), (168, 27991),

Gene: Blondies_42 Start: 29063, Stop: 28251, Start Num: 19

Candidate Starts for Blondies_42:

(Start: 16 @29087 has 4 MA's), (Start: 18 @29069 has 39 MA's), (Start: 19 @29063 has 1 MA's), (51, 28913), (52, 28910), (64, 28850), (77, 28772), (84, 28739), (87, 28721), (94, 28679), (95, 28676), (102, 28640), (103, 28631), (115, 28574), (133, 28490), (138, 28466), (139, 28460), (148, 28412), (168, 28307),

Gene: Bloom_108 Start: 84483, Stop: 85292, Start Num: 35

Candidate Starts for Bloom_108:

(Start: 35 @84483 has 6 MA's), (59, 84588), (105, 84858), (122, 84936), (161, 85137), (168, 85167), (169, 85170), (176, 85200), (181, 85269), (182, 85287),

Gene: BlueNGold_163 Start: 93500, Stop: 92757, Start Num: 34

Candidate Starts for BlueNGold_163:

(Start: 34 @93500 has 5 MA's), (45, 93473), (54, 93407), (62, 93365), (65, 93350), (67, 93332), (80, 93257), (106, 93122), (107, 93113), (110, 93104), (112, 93095), (120, 93059), (122, 93047), (125, 93038), (135, 92987), (136, 92984), (141, 92954), (143, 92948), (152, 92900), (158, 92858), (160, 92846), (166, 92819), (169, 92807),

Gene: Boersma_63 Start: 41212, Stop: 40472, Start Num: 23

Candidate Starts for Boersma_63:

(Start: 23 @41212 has 16 MA's), (28, 41182), (29, 41158), (36, 41146), (39, 41143), (41, 41137), (47, 41095), (49, 41086), (56, 41071), (60, 41062), (76, 40963), (78, 40948), (100, 40828), (104, 40810), (113, 40771), (117, 40762), (134, 40681), (140, 40654), (151, 40609), (152, 40606), (156, 40585), (163, 40540), (166, 40525),

Gene: Boopy_166 Start: 93511, Stop: 92768, Start Num: 34

Candidate Starts for Boopy_166:

(Start: 34 @93511 has 5 MA's), (45, 93484), (54, 93418), (62, 93376), (65, 93361), (67, 93343), (80, 93268), (106, 93133), (107, 93124), (110, 93115), (112, 93106), (120, 93070), (122, 93058), (125, 93049), (135, 92998), (136, 92995), (141, 92965), (143, 92959), (152, 92911), (158, 92869), (160, 92857), (166, 92830), (169, 92818),

Gene: Burnsey_39 Start: 28599, Stop: 27781, Start Num: 18

Candidate Starts for Burnsey_39:

(Start: 18 @28599 has 39 MA's), (51, 28443), (52, 28440), (62, 28392), (64, 28380), (77, 28302), (84, 28269), (86, 28254), (87, 28251), (94, 28209), (102, 28170), (103, 28161), (107, 28140), (115, 28104), (130, 28041), (139, 27990), (159, 27876), (168, 27837),

Gene: Button_43 Start: 29230, Stop: 28424, Start Num: 17

Candidate Starts for Button_43:

(6, 29314), (9, 29284), (10, 29278), (Start: 17 @29230 has 12 MA's), (Start: 18 @29227 has 39 MA's), (45, 29128), (64, 29017), (70, 28969), (79, 28924), (84, 28906), (86, 28891), (87, 28888), (95, 28843), (102, 28807), (103, 28798), (124, 28702), (130, 28678), (136, 28645), (138, 28633), (139, 28627), (144, 28606),

Gene: Buttrmilkdreams_42 Start: 29086, Stop: 28268, Start Num: 18

Candidate Starts for Buttrmilkdreams_42:

(Start: 16 @29104 has 4 MA's), (Start: 18 @29086 has 39 MA's), (Start: 19 @29080 has 1 MA's), (51, 28930), (52, 28927), (64, 28867), (77, 28789), (84, 28756), (87, 28738), (94, 28696), (95, 28693), (102, 28657), (103, 28648), (115, 28591), (124, 28552), (133, 28507), (136, 28495), (138, 28483), (139, 28477), (148, 28429), (168, 28324),

Gene: CanesSauce_39 Start: 28556, Stop: 27744, Start Num: 19

Candidate Starts for CanesSauce_39:

(Start: 16 @28580 has 4 MA's), (Start: 18 @28562 has 39 MA's), (Start: 19 @28556 has 1 MA's), (51, 28406), (52, 28403), (62, 28355), (64, 28343), (77, 28265), (84, 28232), (87, 28214), (94, 28172), (95, 28169), (102, 28133), (103, 28124), (104, 28121), (115, 28067), (124, 28028), (138, 27959), (139, 27953), (148, 27905), (168, 27800),

Gene: Carsonalex_43 Start: 28636, Stop: 27818, Start Num: 18

Candidate Starts for Carsonalex_43:

(Start: 18 @28636 has 39 MA's), (51, 28480), (52, 28477), (62, 28429), (64, 28417), (77, 28339), (84, 28306), (86, 28291), (87, 28288), (94, 28246), (102, 28207), (103, 28198), (115, 28141), (130, 28078), (139, 28027), (159, 27913), (168, 27874),

Gene: Cece_95 Start: 78538, Stop: 77750, Start Num: 33

Candidate Starts for Cece_95:

(Start: 33 @78538 has 3 MA's), (Start: 38 @78532 has 2 MA's), (45, 78508), (65, 78385), (71, 78337), (73, 78331), (77, 78310), (78, 78301), (91, 78229), (98, 78193), (99, 78187), (105, 78157), (113, 78124), (122, 78079), (129, 78052), (135, 78019), (152, 77926), (165, 77845), (168, 77830),

Gene: CherryonLim_43 Start: 31329, Stop: 30523, Start Num: 18

Candidate Starts for CherryonLim_43:

(Start: 18 @31329 has 39 MA's), (Start: 19 @31323 has 1 MA's), (45, 31221), (51, 31167), (64, 31104), (84, 30993), (94, 30933), (95, 30930), (102, 30894), (103, 30885), (115, 30828), (126, 30780), (127, 30777), (136, 30735), (156, 30642), (168, 30573),

Gene: ChickenTender_42 Start: 28367, Stop: 27552, Start Num: 18

Candidate Starts for ChickenTender_42:

(Start: 18 @28367 has 39 MA's), (51, 28211), (52, 28208), (62, 28160), (64, 28148), (77, 28070), (84, 28037), (86, 28022), (87, 28019), (94, 27977), (102, 27938), (103, 27929), (115, 27872), (130, 27809), (139, 27758), (159, 27644),

Gene: Chilliams_103 Start: 77303, Stop: 78091, Start Num: 43

Candidate Starts for Chilliams_103:

(Start: 35 @77282 has 6 MA's), (43, 77303), (57, 77381), (59, 77387), (87, 77558), (105, 77657), (122, 77735), (138, 77807), (141, 77825), (162, 77942), (181, 78068),

Gene: ChocoMunchkin_39 Start: 28562, Stop: 27744, Start Num: 18

Candidate Starts for ChocoMunchkin_39:

(Start: 16 @28580 has 4 MA's), (Start: 18 @28562 has 39 MA's), (Start: 19 @28556 has 1 MA's), (51, 28406), (52, 28403), (62, 28355), (64, 28343), (77, 28265), (84, 28232), (87, 28214), (94, 28172), (95, 28169), (102, 28133), (103, 28124), (104, 28121), (115, 28067), (124, 28028), (138, 27959), (139, 27953), (148, 27905), (168, 27800),

Gene: Cleo_36 Start: 28180, Stop: 27371, Start Num: 17

Candidate Starts for Cleo_36:

(Start: 17 @28180 has 12 MA's), (45, 28078), (64, 27967), (79, 27874), (84, 27856), (86, 27841), (87, 27838), (94, 27796), (103, 27748), (116, 27688), (124, 27655), (130, 27631), (135, 27601), (138, 27586), (159, 27469),

Gene: Commonplace_63 Start: 41846, Stop: 41034, Start Num: 16

Candidate Starts for Commonplace_63:

(7, 41897), (Start: 16 @41846 has 4 MA's), (Start: 19 @41822 has 1 MA's), (24, 41801), (25, 41783), (30, 41747), (69, 41564), (83, 41492), (84, 41489), (88, 41456), (101, 41396), (119, 41321), (170, 41078),

Gene: Cozz_38 Start: 28196, Stop: 27378, Start Num: 18

Candidate Starts for Cozz_38:

(Start: 18 @28196 has 39 MA's), (51, 28040), (52, 28037), (62, 27989), (64, 27977), (70, 27929), (77, 27899), (84, 27866), (86, 27851), (87, 27848), (94, 27806), (102, 27767), (103, 27758), (115, 27701), (139, 27587), (159, 27473), (168, 27434),

Gene: Dodo_112 Start: 76719, Stop: 75925, Start Num: 38

Candidate Starts for Dodo_112:

(Start: 38 @76719 has 2 MA's), (42, 76707), (47, 76656), (63, 76584), (65, 76572), (71, 76527), (72, 76524), (99, 76377), (105, 76347), (120, 76281), (122, 76269), (125, 76260), (134, 76212), (152,

76116), (168, 76020), (173, 75990), (178, 75969),

Gene: Dre3_36 Start: 27923, Stop: 27114, Start Num: 17

Candidate Starts for Dre3_36:

(Start: 17 @27923 has 12 MA's), (45, 27821), (64, 27710), (79, 27617), (84, 27599), (86, 27584), (87, 27581), (94, 27539), (103, 27491), (116, 27431), (124, 27398), (130, 27374), (135, 27344), (138, 27329), (159, 27212),

Gene: DunneganBoMo_97 Start: 80225, Stop: 81043, Start Num: 35

Candidate Starts for DunneganBoMo_97:

(Start: 35 @80225 has 6 MA's), (45, 80252), (51, 80309), (54, 80318), (57, 80324), (105, 80600), (118, 80663), (122, 80678), (141, 80768), (150, 80813), (162, 80882), (168, 80909), (179, 81005), (180, 81020),

Gene: Elinal_45 Start: 30579, Stop: 29773, Start Num: 18

Candidate Starts for Elinal_45:

(Start: 18 @30579 has 39 MA's), (Start: 19 @30573 has 1 MA's), (45, 30471), (51, 30417), (64, 30354), (69, 30318), (84, 30243), (86, 30228), (94, 30183), (95, 30180), (102, 30144), (103, 30135), (115, 30078), (126, 30030), (127, 30027), (136, 29985), (156, 29892), (168, 29823),

Gene: Elliott_40 Start: 28607, Stop: 27789, Start Num: 18

Candidate Starts for Elliott_40:

(Start: 18 @28607 has 39 MA's), (51, 28451), (52, 28448), (62, 28400), (64, 28388), (77, 28310), (84, 28277), (86, 28262), (87, 28259), (94, 28217), (102, 28178), (103, 28169), (115, 28112), (130, 28049), (139, 27998), (159, 27884), (168, 27845),

Gene: Ellewin_95 Start: 79720, Stop: 80454, Start Num: 51

Candidate Starts for Ellewin_95:

(Start: 35 @79636 has 6 MA's), (45, 79663), (51, 79720), (54, 79729), (57, 79735), (105, 80011), (118, 80074), (122, 80089), (141, 80179), (150, 80224), (162, 80293), (168, 80320), (180, 80431),

Gene: Emalyn_40 Start: 28151, Stop: 27339, Start Num: 19

Candidate Starts for Emalyn_40:

(Start: 16 @28175 has 4 MA's), (Start: 18 @28157 has 39 MA's), (Start: 19 @28151 has 1 MA's), (51, 28001), (52, 27998), (62, 27950), (64, 27938), (77, 27860), (84, 27827), (87, 27809), (94, 27767), (95, 27764), (102, 27728), (103, 27719), (115, 27662), (124, 27623), (138, 27554), (148, 27500), (159, 27434),

Gene: FF47_41 Start: 30836, Stop: 29991, Start Num: 12

Candidate Starts for FF47_41:

(Start: 12 @30836 has 2 MA's), (Start: 18 @30812 has 39 MA's), (40, 30719), (47, 30659), (64, 30581), (68, 30554), (77, 30503), (84, 30470), (103, 30362), (109, 30335), (132, 30233), (138, 30197), (144, 30170), (155, 30107), (169, 30032), (171, 30023),

Gene: Feastonyeet_41 Start: 30191, Stop: 29385, Start Num: 18

Candidate Starts for Feastonyeet_41:

(Start: 18 @30191 has 39 MA's), (Start: 19 @30185 has 1 MA's), (45, 30083), (51, 30029), (64, 29966), (84, 29855), (86, 29840), (94, 29795), (95, 29792), (102, 29756), (103, 29747), (115, 29690), (126, 29642), (127, 29639), (136, 29597), (156, 29504), (168, 29435),

Gene: Forza_167 Start: 93428, Stop: 92685, Start Num: 34

Candidate Starts for Forza_167:

(Start: 34 @93428 has 5 MA's), (45, 93401), (54, 93335), (62, 93293), (65, 93278), (67, 93260), (80, 93185), (106, 93050), (107, 93041), (110, 93032), (112, 93023), (120, 92987), (122, 92975), (125, 92966), (135, 92915), (136, 92912), (141, 92882), (143, 92876), (152, 92828), (158, 92786), (160, 92774), (166, 92747), (169, 92735),

Gene: Fribs8_37 Start: 28362, Stop: 27550, Start Num: 17

Candidate Starts for Fribs8_37:

(Start: 17 @28362 has 12 MA's), (69, 28110), (77, 28068), (79, 28053), (84, 28035), (86, 28020), (87, 28017), (94, 27975), (103, 27927), (116, 27867), (124, 27834), (135, 27780), (138, 27765), (159, 27648),

Gene: GMA2_61 Start: 64314, Stop: 63565, Start Num: 32

Candidate Starts for GMA2_61:

(Start: 32 @64314 has 1 MA's), (45, 64284), (51, 64227), (80, 64068), (87, 64035), (106, 63933), (110, 63915), (121, 63867), (122, 63858), (123, 63852), (135, 63798), (141, 63765), (143, 63759), (152, 63711), (170, 63612), (172, 63597),

Gene: GiKK_45 Start: 29557, Stop: 28754, Start Num: 18

Candidate Starts for GiKK_45:

(1, 29836), (2, 29746), (6, 29644), (9, 29614), (10, 29608), (Start: 17 @29560 has 12 MA's), (Start: 18 @29557 has 39 MA's), (45, 29458), (64, 29347), (70, 29299), (79, 29254), (84, 29236), (86, 29221), (87, 29218), (95, 29173), (102, 29137), (103, 29128), (124, 29032), (130, 29008), (136, 28975), (138, 28963), (139, 28957), (144, 28936),

Gene: Gibbous_36 Start: 27923, Stop: 27114, Start Num: 17

Candidate Starts for Gibbous_36:

(Start: 17 @27923 has 12 MA's), (45, 27821), (64, 27710), (79, 27617), (84, 27599), (86, 27584), (87, 27581), (94, 27539), (103, 27491), (116, 27431), (124, 27398), (130, 27374), (135, 27344), (138, 27329), (159, 27212),

Gene: GodonK_178 Start: 89500, Stop: 88790, Start Num: 35

Candidate Starts for GodonK_178:

(Start: 35 @89500 has 6 MA's), (44, 89479), (51, 89419), (80, 89263), (87, 89230), (89, 89209), (93, 89194), (98, 89167), (103, 89140), (106, 89128), (107, 89119), (114, 89095), (122, 89053), (135, 88996), (136, 88993), (140, 88972), (141, 88963), (152, 88912), (174, 88795),

Gene: GoldHunter_41 Start: 28608, Stop: 27790, Start Num: 18

Candidate Starts for GoldHunter_41:

(Start: 18 @28608 has 39 MA's), (51, 28452), (52, 28449), (62, 28401), (64, 28389), (77, 28311), (84, 28278), (86, 28263), (87, 28260), (94, 28218), (102, 28179), (103, 28170), (115, 28113), (130, 28050), (139, 27999), (159, 27885), (168, 27846),

Gene: GoldenEssence_93 Start: 78275, Stop: 79084, Start Num: 35

Candidate Starts for GoldenEssence_93:

(Start: 35 @78275 has 6 MA's), (59, 78380), (105, 78650), (122, 78728), (168, 78959), (169, 78962), (177, 78995), (181, 79061), (182, 79079),

Gene: Gorgeous_60 Start: 40819, Stop: 40079, Start Num: 23

Candidate Starts for Gorgeous_60:

(Start: 23 @40819 has 16 MA's), (28, 40789), (29, 40765), (36, 40753), (39, 40750), (41, 40744), (47, 40702), (49, 40693), (56, 40678), (60, 40669), (76, 40570), (78, 40555), (100, 40435), (104, 40417), (113, 40378), (117, 40369), (134, 40288), (140, 40261), (151, 40216), (152, 40213), (156, 40192), (163, 40147), (166, 40132),

Gene: Hexbug_47 Start: 31341, Stop: 30535, Start Num: 18

Candidate Starts for Hexbug_47:

(10, 31383), (Start: 17 @31344 has 12 MA's), (Start: 18 @31341 has 39 MA's), (45, 31239), (51, 31185), (52, 31182), (64, 31128), (69, 31092), (79, 31035), (84, 31017), (87, 30999), (95, 30954), (103, 30909), (124, 30813), (130, 30789), (136, 30756), (138, 30744), (149, 30690), (156, 30657),

Gene: Heylee_63 Start: 40997, Stop: 40257, Start Num: 23

Candidate Starts for Heylee_63:

(Start: 23 @40997 has 16 MA's), (28, 40967), (29, 40943), (36, 40931), (39, 40928), (41, 40922), (47, 40880), (49, 40871), (56, 40856), (60, 40847), (76, 40748), (78, 40733), (100, 40613), (104, 40595), (113, 40556), (117, 40547), (134, 40466), (140, 40439), (151, 40394), (152, 40391), (156, 40370), (163, 40325), (166, 40310),

Gene: HippoPololi_38 Start: 28375, Stop: 27566, Start Num: 17

Candidate Starts for HippoPololi_38:

(Start: 17 @28375 has 12 MA's), (45, 28273), (64, 28162), (69, 28126), (72, 28108), (77, 28084), (79, 28069), (84, 28051), (87, 28033), (94, 27991), (103, 27943), (111, 27910), (116, 27883), (124, 27850), (138, 27781), (159, 27664),

Gene: Horseradish_42 Start: 28614, Stop: 27796, Start Num: 18

Candidate Starts for Horseradish_42:

(Start: 16 @28632 has 4 MA's), (Start: 18 @28614 has 39 MA's), (Start: 19 @28608 has 1 MA's), (51, 28458), (52, 28455), (64, 28395), (77, 28317), (84, 28284), (87, 28266), (94, 28224), (95, 28221), (102, 28185), (103, 28176), (115, 28119), (124, 28080), (133, 28035), (136, 28023), (138, 28011), (139, 28005), (168, 27852),

Gene: Huwbert_81 Start: 49790, Stop: 50599, Start Num: 23

Candidate Starts for Huwbert_81:

(Start: 23 @49790 has 16 MA's), (55, 49937), (61, 49967), (64, 49988), (84, 50099), (87, 50117), (94, 50159), (95, 50162), (102, 50198), (109, 50234), (115, 50264), (116, 50267), (136, 50360), (139, 50378),

Gene: Ichor_60 Start: 41212, Stop: 40472, Start Num: 23

Candidate Starts for Ichor_60:

(Start: 23 @41212 has 16 MA's), (28, 41182), (29, 41158), (36, 41146), (39, 41143), (41, 41137), (47, 41095), (49, 41086), (56, 41071), (60, 41062), (76, 40963), (78, 40948), (100, 40828), (104, 40810), (113, 40771), (117, 40762), (134, 40681), (140, 40654), (151, 40609), (152, 40606), (156, 40585), (163, 40540), (166, 40525),

Gene: JacoRen57_38 Start: 31703, Stop: 30873, Start Num: 15

Candidate Starts for JacoRen57_38:

(Start: 15 @31703 has 1 MA's), (45, 31568), (70, 31403), (84, 31340), (86, 31325), (101, 31244), (103, 31232), (130, 31112), (139, 31061), (144, 31040), (166, 30914), (169, 30902),

Gene: Jaek_60 Start: 41212, Stop: 40472, Start Num: 23

Candidate Starts for Jaek_60:

(Start: 23 @41212 has 16 MA's), (28, 41182), (29, 41158), (36, 41146), (39, 41143), (41, 41137), (47, 41095), (49, 41086), (56, 41071), (60, 41062), (76, 40963), (78, 40948), (100, 40828), (104, 40810), (113, 40771), (117, 40762), (134, 40681), (140, 40654), (151, 40609), (152, 40606), (156, 40585), (163, 40540), (166, 40525),

Gene: Jamzy_45 Start: 29543, Stop: 28737, Start Num: 17

Candidate Starts for Jamzy_45:

(6, 29627), (9, 29597), (10, 29591), (Start: 17 @29543 has 12 MA's), (Start: 18 @29540 has 39 MA's), (45, 29441), (64, 29330), (70, 29282), (79, 29237), (84, 29219), (86, 29204), (87, 29201), (95, 29156), (102, 29120), (103, 29111), (124, 29015), (130, 28991), (136, 28958), (138, 28946), (139, 28940), (144, 28919),

Gene: KSunshine22_98 Start: 81330, Stop: 82055, Start Num: 54

Candidate Starts for KSunshine22_98:

(Start: 35 @81237 has 6 MA's), (45, 81264), (51, 81321), (54, 81330), (57, 81336), (105, 81612), (118, 81675), (122, 81690), (141, 81780), (150, 81825), (162, 81894), (168, 81921), (180, 82032),

Gene: KayGee_43 Start: 30579, Stop: 29773, Start Num: 18

Candidate Starts for KayGee_43:

(Start: 18 @30579 has 39 MA's), (Start: 19 @30573 has 1 MA's), (45, 30471), (51, 30417), (64, 30354), (69, 30318), (84, 30243), (86, 30228), (94, 30183), (95, 30180), (102, 30144), (103, 30135), (115, 30078), (126, 30030), (127, 30027), (136, 29985), (156, 29892), (168, 29823),

Gene: KimJongPhill_83 Start: 61930, Stop: 62745, Start Num: 20

Candidate Starts for KimJongPhill_83:

(Start: 20 @61930 has 2 MA's), (37, 62008), (54, 62086), (77, 62212), (78, 62218), (84, 62245), (87, 62263), (94, 62305), (104, 62356), (111, 62386), (115, 62410), (128, 62467), (137, 62515), (139, 62524), (154, 62620), (164, 62683),

Gene: Lauer_38 Start: 31388, Stop: 30582, Start Num: 18

Candidate Starts for Lauer_38:

(Start: 18 @31388 has 39 MA's), (Start: 19 @31382 has 1 MA's), (45, 31280), (51, 31226), (64, 31163), (69, 31127), (84, 31052), (86, 31037), (94, 30992), (95, 30989), (102, 30953), (103, 30944), (115, 30887), (126, 30839), (127, 30836), (136, 30794), (156, 30701), (168, 30632),

Gene: LeoJr_103 Start: 84544, Stop: 85377, Start Num: 35

Candidate Starts for LeoJr_103:

(Start: 35 @84544 has 6 MA's), (51, 84628), (54, 84637), (57, 84643), (74, 84748), (105, 84919), (122, 84997), (141, 85087), (148, 85129), (162, 85204), (167, 85225), (168, 85231),

Gene: MAnor_43 Start: 30921, Stop: 30115, Start Num: 18

Candidate Starts for MAnor_43:

(Start: 18 @30921 has 39 MA's), (Start: 19 @30915 has 1 MA's), (45, 30813), (51, 30759), (64, 30696), (84, 30585), (86, 30570), (94, 30525), (95, 30522), (102, 30486), (103, 30477), (115, 30420), (126, 30372), (127, 30369), (136, 30327), (156, 30234), (168, 30165),

Gene: MScarn_43 Start: 28754, Stop: 27936, Start Num: 18

Candidate Starts for MScarn_43:

(Start: 16 @28772 has 4 MA's), (Start: 18 @28754 has 39 MA's), (Start: 19 @28748 has 1 MA's), (51, 28598), (52, 28595), (64, 28535), (77, 28457), (84, 28424), (87, 28406), (94, 28364), (95, 28361), (102, 28325), (103, 28316), (115, 28259), (124, 28220), (133, 28175), (138, 28151), (139, 28145), (168, 27992),

Gene: MaVan_38 Start: 28664, Stop: 27852, Start Num: 17

Candidate Starts for MaVan_38:

(5, 28736), (Start: 17 @28664 has 12 MA's), (64, 28448), (69, 28412), (77, 28370), (79, 28355), (84, 28337), (86, 28322), (87, 28319), (94, 28277), (103, 28229), (116, 28169), (124, 28136), (135, 28082), (138, 28067), (159, 27950),

Gene: Maco6_40 Start: 30176, Stop: 29331, Start Num: 12

Candidate Starts for Maco6_40:

(Start: 12 @30176 has 2 MA's), (Start: 18 @30152 has 39 MA's), (40, 30059), (47, 29999), (64, 29921), (68, 29894), (77, 29843), (84, 29810), (101, 29714), (103, 29702), (109, 29675), (132, 29573), (138, 29537), (144, 29510), (155, 29447), (169, 29372), (171, 29363),

Gene: Mareelih_164 Start: 92946, Stop: 92203, Start Num: 34

Candidate Starts for Mareelih_164:

(Start: 34 @92946 has 5 MA's), (45, 92919), (54, 92853), (62, 92811), (65, 92796), (67, 92778), (80, 92703), (106, 92568), (107, 92559), (110, 92550), (112, 92541), (120, 92505), (122, 92493), (125, 92484), (135, 92433), (136, 92430), (141, 92400), (143, 92394), (152, 92346), (158, 92304), (160, 92292), (166, 92265), (169, 92253),

Gene: Margaret_46 Start: 30292, Stop: 29483, Start Num: 17

Candidate Starts for Margaret_46:

(Start: 17 @30292 has 12 MA's), (Start: 18 @30289 has 39 MA's), (45, 30187), (51, 30133), (64, 30076), (69, 30040), (79, 29983), (84, 29965), (86, 29950), (87, 29947), (95, 29902), (102, 29866), (103, 29857), (124, 29761), (136, 29704), (149, 29638), (156, 29605),

Gene: Mayweather_45 Start: 31200, Stop: 30394, Start Num: 18

Candidate Starts for Mayweather_45:

(Start: 18 @31200 has 39 MA's), (Start: 19 @31194 has 1 MA's), (45, 31092), (51, 31038), (64, 30975), (84, 30864), (86, 30849), (94, 30804), (95, 30801), (102, 30765), (103, 30756), (115, 30699), (126, 30651), (127, 30648), (136, 30606), (156, 30513), (168, 30444),

Gene: Mimi_104 Start: 83830, Stop: 84639, Start Num: 35

Candidate Starts for Mimi_104:

(Start: 35 @83830 has 6 MA's), (59, 83935), (105, 84205), (122, 84283), (161, 84484), (168, 84514), (169, 84517), (176, 84547), (181, 84616), (182, 84634),

Gene: Molivia_62 Start: 39615, Stop: 38878, Start Num: 23

Candidate Starts for Molivia_62:

(Start: 23 @39615 has 16 MA's), (36, 39552), (39, 39549), (41, 39543), (47, 39501), (56, 39477), (68, 39411), (75, 39375), (76, 39369), (78, 39354), (100, 39234), (104, 39216), (113, 39177), (117, 39168), (129, 39117), (134, 39087), (151, 39015), (163, 38946), (166, 38931),

Gene: Muddy_42 Start: 31408, Stop: 30563, Start Num: 12

Candidate Starts for Muddy_42:

(Start: 12 @31408 has 2 MA's), (Start: 18 @31384 has 39 MA's), (40, 31291), (47, 31231), (64, 31153), (68, 31126), (84, 31042), (103, 30934), (109, 30907), (132, 30805), (138, 30769), (144, 30742), (155, 30679), (169, 30604), (171, 30595),

Gene: MunkgeeRoachy_38 Start: 28070, Stop: 27252, Start Num: 18

Candidate Starts for MunkgeeRoachy_38:

(Start: 18 @28070 has 39 MA's), (51, 27914), (52, 27911), (62, 27863), (64, 27851), (77, 27773), (84, 27740), (86, 27725), (87, 27722), (94, 27680), (102, 27641), (103, 27632), (115, 27575), (130, 27512), (139, 27461), (159, 27347),

Gene: Nibbles_37 Start: 28351, Stop: 27539, Start Num: 17

Candidate Starts for Nibbles_37:

(5, 28423), (8, 28399), (Start: 17 @28351 has 12 MA's), (64, 28135), (69, 28099), (77, 28057), (79, 28042), (84, 28024), (86, 28009), (87, 28006), (94, 27964), (103, 27916), (116, 27856), (124, 27823), (135, 27769), (138, 27754), (159, 27637),

Gene: Nina_39 Start: 28732, Stop: 27914, Start Num: 18

Candidate Starts for Nina_39:

(Start: 18 @28732 has 39 MA's), (51, 28576), (52, 28573), (62, 28525), (64, 28513), (77, 28435), (84, 28402), (86, 28387), (87, 28384), (90, 28360), (94, 28342), (102, 28303), (103, 28294), (115, 28237), (130, 28174), (139, 28123), (159, 28009), (168, 27970),

Gene: NoShow_50 Start: 34311, Stop: 33472, Start Num: 13

Candidate Starts for NoShow_50:

(Start: 13 @34311 has 1 MA's), (47, 34125), (55, 34098), (77, 33969), (84, 33936), (103, 33828), (130, 33708), (139, 33657), (154, 33585), (168, 33501),

Gene: Nodigi_47 Start: 31327, Stop: 30521, Start Num: 18

Candidate Starts for Nodigi_47:

(10, 31369), (Start: 17 @31330 has 12 MA's), (Start: 18 @31327 has 39 MA's), (45, 31225), (51, 31171), (52, 31168), (64, 31114), (69, 31078), (79, 31021), (84, 31003), (87, 30985), (95, 30940), (103, 30895), (124, 30799), (130, 30775), (136, 30742), (138, 30730), (149, 30676), (156, 30643),

Gene: Nonagon_62 Start: 41552, Stop: 40740, Start Num: 16

Candidate Starts for Nonagon_62:

(7, 41603), (Start: 16 @41552 has 4 MA's), (Start: 19 @41528 has 1 MA's), (24, 41507), (25, 41489), (30, 41453), (69, 41270), (83, 41198), (84, 41195), (88, 41162), (101, 41102), (119, 41027), (170, 40784),

Gene: Orla_47 Start: 31300, Stop: 30494, Start Num: 18

Candidate Starts for Orla_47:

(10, 31342), (Start: 17 @31303 has 12 MA's), (Start: 18 @31300 has 39 MA's), (45, 31198), (51, 31144), (52, 31141), (64, 31087), (69, 31051), (79, 30994), (84, 30976), (87, 30958), (102, 30877), (103, 30868), (124, 30772), (130, 30748), (136, 30715), (138, 30703), (149, 30649), (156, 30616),

Gene: Panchaali_100 Start: 81223, Stop: 82020, Start Num: 45

Candidate Starts for Panchaali_100:

(Start: 35 @81196 has 6 MA's), (45, 81223), (51, 81280), (54, 81289), (57, 81295), (105, 81571), (122, 81649), (141, 81739), (150, 81784), (162, 81853), (168, 81880), (180, 81997),

Gene: Patbob_105 Start: 84565, Stop: 85374, Start Num: 35

Candidate Starts for Patbob_105:

(Start: 35 @84565 has 6 MA's), (59, 84670), (105, 84940), (122, 85018), (168, 85249), (169, 85252), (176, 85282), (177, 85285), (181, 85351), (182, 85369),

Gene: PauloDiaboli_112 Start: 75754, Stop: 74960, Start Num: 38

Candidate Starts for PauloDiaboli_112:

(Start: 38 @75754 has 2 MA's), (42, 75742), (47, 75691), (63, 75619), (65, 75607), (71, 75562), (72, 75559), (99, 75412), (105, 75382), (120, 75316), (122, 75304), (125, 75295), (134, 75247), (152, 75151), (168, 75055), (173, 75025), (178, 75004),

Gene: Phendrix_167 Start: 88597, Stop: 87887, Start Num: 35

Candidate Starts for Phendrix_167:

(Start: 35 @88597 has 6 MA's), (44, 88576), (51, 88516), (80, 88360), (87, 88327), (93, 88291), (98, 88264), (103, 88237), (106, 88225), (107, 88216), (114, 88192), (122, 88150), (135, 88093), (136, 88090), (140, 88069), (141, 88060), (152, 88009), (174, 87892),

Gene: Phrampa_99 Start: 85968, Stop: 86774, Start Num: 35

Candidate Starts for Phrampa_99:

(Start: 35 @85968 has 6 MA's), (59, 86073), (105, 86343), (118, 86406), (122, 86421), (143, 86517), (162, 86625), (168, 86652), (169, 86655), (181, 86751), (182, 86769),

Gene: Pons_43 Start: 30551, Stop: 29745, Start Num: 18

Candidate Starts for Pons_43:

(Start: 18 @30551 has 39 MA's), (Start: 19 @30545 has 1 MA's), (45, 30443), (51, 30389), (64, 30326), (69, 30290), (84, 30215), (86, 30200), (94, 30155), (95, 30152), (102, 30116), (103, 30107), (115, 30050), (126, 30002), (127, 29999), (136, 29957), (156, 29864), (168, 29795),

Gene: PotPie_42 Start: 31482, Stop: 30676, Start Num: 18

Candidate Starts for PotPie_42:

(Start: 18 @31482 has 39 MA's), (Start: 19 @31476 has 1 MA's), (45, 31374), (51, 31320), (64, 31257), (84, 31146), (86, 31131), (94, 31086), (95, 31083), (102, 31047), (103, 31038), (115, 30981), (126, 30933), (127, 30930), (136, 30888), (156, 30795), (168, 30726),

Gene: PsychoKiller_39 Start: 28608, Stop: 27790, Start Num: 18

Candidate Starts for PsychoKiller_39:

(Start: 18 @28608 has 39 MA's), (51, 28452), (52, 28449), (62, 28401), (64, 28389), (77, 28311), (84, 28278), (86, 28263), (87, 28260), (94, 28218), (102, 28179), (103, 28170), (115, 28113), (130, 28050), (139, 27999), (159, 27885), (168, 27846),

Gene: Pumpernickel_109 Start: 77313, Stop: 76510, Start Num: 32

Candidate Starts for Pumpernickel_109:

(Start: 32 @77313 has 1 MA's), (44, 77283), (45, 77280), (53, 77217), (67, 77127), (70, 77103), (74, 77091), (77, 77073), (93, 76983), (98, 76956), (99, 76950), (105, 76920), (121, 76851), (122, 76842), (147, 76716), (165, 76608), (168, 76593), (170, 76584),

Gene: Quasar_40 Start: 29156, Stop: 28338, Start Num: 18

Candidate Starts for Quasar_40:

(Start: 18 @29156 has 39 MA's), (51, 29000), (52, 28997), (62, 28949), (64, 28937), (77, 28859), (84, 28826), (86, 28811), (87, 28808), (94, 28766), (102, 28727), (103, 28718), (115, 28661), (130, 28598), (139, 28547), (159, 28433), (168, 28394),

Gene: Racecar_105 Start: 84483, Stop: 85292, Start Num: 35

Candidate Starts for Racecar_105:

(Start: 35 @84483 has 6 MA's), (59, 84588), (105, 84858), (122, 84936), (161, 85137), (168, 85167), (169, 85170), (176, 85200), (181, 85269), (182, 85287),

Gene: RanchParmCat_45 Start: 30427, Stop: 29621, Start Num: 18

Candidate Starts for RanchParmCat_45:

(Start: 17 @30430 has 12 MA's), (Start: 18 @30427 has 39 MA's), (45, 30325), (51, 30271), (64, 30214), (69, 30178), (79, 30121), (84, 30103), (86, 30088), (87, 30085), (95, 30040), (102, 30004), (103, 29995), (124, 29899), (130, 29875), (136, 29842), (149, 29776), (156, 29743),

Gene: RedBaron_42 Start: 28845, Stop: 28027, Start Num: 18

Candidate Starts for RedBaron_42:

(Start: 18 @28845 has 39 MA's), (51, 28689), (52, 28686), (62, 28638), (64, 28626), (77, 28548), (84, 28515), (86, 28500), (87, 28497), (94, 28455), (102, 28416), (103, 28407), (107, 28386), (115, 28350), (130, 28287), (139, 28236), (159, 28122), (168, 28083),

Gene: ReginaGlobina_103 Start: 84193, Stop: 84942, Start Num: 51

Candidate Starts for ReginaGlobina_103:

(Start: 35 @84109 has 6 MA's), (51, 84193), (54, 84202), (57, 84208), (74, 84313), (105, 84484), (122, 84562), (141, 84652), (148, 84694), (162, 84769), (167, 84790), (168, 84796),

Gene: Rings_61 Start: 41260, Stop: 40520, Start Num: 23

Candidate Starts for Rings_61:

(Start: 23 @41260 has 16 MA's), (28, 41230), (29, 41206), (36, 41194), (39, 41191), (41, 41185), (47, 41143), (49, 41134), (56, 41119), (60, 41110), (76, 41011), (78, 40996), (100, 40876), (104, 40858), (113, 40819), (117, 40810), (134, 40729), (140, 40702), (151, 40657), (152, 40654), (156, 40633), (163, 40588), (166, 40573),

Gene: Rockabye_109 Start: 77741, Stop: 78529, Start Num: 43

Candidate Starts for Rockabye_109:

(Start: 35 @77720 has 6 MA's), (43, 77741), (57, 77819), (59, 77825), (87, 77996), (105, 78095), (122, 78173), (138, 78245), (141, 78263), (162, 78380), (181, 78506),

Gene: SJReid_111 Start: 76759, Stop: 77565, Start Num: 43

Candidate Starts for SJReid_111:

(Start: 35 @76738 has 6 MA's), (43, 76759), (57, 76837), (59, 76843), (105, 77113), (122, 77191), (138, 77263), (141, 77281), (167, 77419), (181, 77542),

Gene: SheckWes_44 Start: 30075, Stop: 29269, Start Num: 18

Candidate Starts for SheckWes_44:

(Start: 18 @30075 has 39 MA's), (45, 29967), (51, 29913), (64, 29850), (84, 29739), (90, 29697), (94, 29679), (95, 29676), (102, 29640), (103, 29631), (115, 29574), (126, 29526), (127, 29523), (136, 29481), (156, 29388), (168, 29319),

Gene: Shrew_85 Start: 51163, Stop: 51948, Start Num: 23

Candidate Starts for Shrew_85:

(Start: 23 @51163 has 16 MA's), (48, 51289), (50, 51295), (61, 51340), (77, 51439), (82, 51463), (84, 51472), (87, 51490), (102, 51571), (103, 51580), (109, 51607), (115, 51637), (128, 51691), (169, 51895), (175, 51931),

Gene: Sixama_165 Start: 92948, Stop: 92217, Start Num: 34

Candidate Starts for Sixama_165:

(Start: 34 @92948 has 5 MA's), (45, 92921), (54, 92855), (65, 92798), (67, 92780), (71, 92753), (77, 92726), (80, 92705), (86, 92675), (106, 92570), (110, 92552), (112, 92543), (120, 92507), (122, 92495), (135, 92435), (136, 92432), (141, 92402), (143, 92396), (146, 92384), (153, 92345),

Gene: SketchMex_40 Start: 28753, Stop: 27935, Start Num: 18

Candidate Starts for SketchMex_40:

(Start: 16 @28771 has 4 MA's), (Start: 18 @28753 has 39 MA's), (Start: 19 @28747 has 1 MA's), (51, 28597), (52, 28594), (64, 28534), (77, 28456), (84, 28423), (87, 28405), (94, 28363), (95, 28360), (102, 28324), (103, 28315), (115, 28258), (124, 28219), (133, 28174), (136, 28162), (138, 28150), (139, 28144), (148, 28096), (168, 27991),

Gene: Socotra_41 Start: 28607, Stop: 27789, Start Num: 18

Candidate Starts for Socotra_41:

(Start: 18 @28607 has 39 MA's), (51, 28451), (52, 28448), (62, 28400), (64, 28388), (77, 28310), (84, 28277), (86, 28262), (87, 28259), (94, 28217), (102, 28178), (103, 28169), (107, 28148), (115, 28112), (130, 28049), (139, 27998), (159, 27884), (168, 27845),

Gene: Sopespian_39 Start: 28609, Stop: 27791, Start Num: 18

Candidate Starts for Sopespian_39:

(Start: 18 @28609 has 39 MA's), (51, 28453), (52, 28450), (62, 28402), (64, 28390), (77, 28312), (84, 28279), (86, 28264), (87, 28261), (94, 28219), (102, 28180), (103, 28171), (115, 28114), (130, 28051), (139, 28000), (159, 27886), (168, 27847),

Gene: SorJuana_60 Start: 40819, Stop: 40079, Start Num: 23

Candidate Starts for SorJuana_60:

(Start: 23 @40819 has 16 MA's), (28, 40789), (29, 40765), (36, 40753), (39, 40750), (41, 40744), (47, 40702), (49, 40693), (56, 40678), (60, 40669), (76, 40570), (78, 40555), (100, 40435), (104, 40417), (113, 40378), (117, 40369), (134, 40288), (140, 40261), (151, 40216), (152, 40213), (156, 40192), (163, 40147), (166, 40132),

Gene: Starburst_41 Start: 28602, Stop: 27784, Start Num: 18

Candidate Starts for Starburst_41:

(Start: 18 @28602 has 39 MA's), (51, 28446), (52, 28443), (62, 28395), (64, 28383), (77, 28305), (84, 28272), (86, 28257), (87, 28254), (94, 28212), (102, 28173), (103, 28164), (115, 28107), (130, 28044), (139, 27993), (159, 27879), (160, 27876), (168, 27840),

Gene: SteamedHams_41 Start: 28529, Stop: 27711, Start Num: 18

Candidate Starts for SteamedHams_41:

(Start: 16 @28547 has 4 MA's), (Start: 18 @28529 has 39 MA's), (51, 28373), (52, 28370), (62, 28322), (64, 28310), (77, 28232), (84, 28199), (87, 28181), (90, 28157), (94, 28139), (95, 28136), (102, 28100), (103, 28091), (115, 28034), (124, 27995), (138, 27926), (139, 27920), (148, 27872), (168, 27767),

Gene: SummitAcademy_41 Start: 30111, Stop: 29305, Start Num: 18

Candidate Starts for SummitAcademy_41:

(Start: 18 @30111 has 39 MA's), (Start: 19 @30105 has 1 MA's), (45, 30003), (51, 29949), (64, 29886), (84, 29775), (86, 29760), (94, 29715), (95, 29712), (102, 29676), (103, 29667), (115, 29610), (126, 29562), (127, 29559), (136, 29517), (156, 29424), (168, 29355),

Gene: Survivors_38 Start: 28560, Stop: 27748, Start Num: 17

Candidate Starts for Survivors_38:

(5, 28632), (Start: 17 @28560 has 12 MA's), (64, 28344), (69, 28308), (77, 28266), (79, 28251), (84, 28233), (86, 28218), (87, 28215), (94, 28173), (103, 28125), (116, 28065), (124, 28032), (135, 27978), (138, 27963), (159, 27846),

Gene: SweatNTears_41 Start: 28505, Stop: 27687, Start Num: 18

Candidate Starts for SweatNTears_41:

(Start: 18 @28505 has 39 MA's), (51, 28349), (52, 28346), (62, 28298), (64, 28286), (77, 28208), (84, 28175), (86, 28160), (87, 28157), (90, 28133), (94, 28115), (102, 28076), (103, 28067), (115, 28010), (130, 27947), (139, 27896), (159, 27782), (168, 27743),

Gene: TMaxx_38 Start: 24246, Stop: 23455, Start Num: 26

Candidate Starts for TMaxx_38:

(14, 24318), (Start: 17 @24297 has 12 MA's), (21, 24279), (26, 24246), (31, 24210), (48, 24126), (53, 24108), (59, 24093), (71, 23997), (77, 23970), (87, 23916), (92, 23883), (98, 23853), (105, 23817), (122, 23739), (143, 23643), (152, 23583), (156, 23562),

Gene: Talia1610_104 Start: 83848, Stop: 84657, Start Num: 35

Candidate Starts for Talia1610_104:

(Start: 35 @83848 has 6 MA's), (59, 83953), (105, 84223), (122, 84301), (161, 84502), (168, 84532), (169, 84535), (176, 84565), (181, 84634), (182, 84652),

Gene: Thunderclap_60 Start: 41241, Stop: 40501, Start Num: 23

Candidate Starts for Thunderclap_60:

(Start: 23 @41241 has 16 MA's), (28, 41211), (29, 41187), (36, 41175), (39, 41172), (41, 41166), (47, 41124), (49, 41115), (56, 41100), (60, 41091), (76, 40992), (78, 40977), (100, 40857), (104, 40839), (113, 40800), (117, 40791), (134, 40710), (140, 40683), (151, 40638), (152, 40635), (156, 40614), (163, 40569), (166, 40554),

Gene: Tolls_41 Start: 28634, Stop: 27816, Start Num: 18

Candidate Starts for Tolls_41:

(Start: 16 @28652 has 4 MA's), (Start: 18 @28634 has 39 MA's), (Start: 19 @28628 has 1 MA's), (51, 28478), (52, 28475), (62, 28427), (64, 28415), (77, 28337), (84, 28304), (87, 28286), (94, 28244), (95, 28241), (102, 28205), (103, 28196), (115, 28139), (124, 28100), (138, 28031), (139, 28025), (148, 27977), (168, 27872),

Gene: Triscuit_80 Start: 49756, Stop: 50565, Start Num: 23

Candidate Starts for Triscuit_80:

(Start: 23 @49756 has 16 MA's), (55, 49903), (61, 49933), (64, 49954), (84, 50065), (87, 50083), (94, 50125), (95, 50128), (102, 50164), (115, 50230), (138, 50335), (139, 50341), (144, 50362), (173, 50521),

Gene: Troje_42 Start: 29091, Stop: 28273, Start Num: 18

Candidate Starts for Troje_42:

(Start: 16 @29109 has 4 MA's), (Start: 18 @29091 has 39 MA's), (Start: 19 @29085 has 1 MA's), (51, 28935), (52, 28932), (64, 28872), (77, 28794), (84, 28761), (87, 28743), (94, 28701), (95, 28698), (102, 28662), (103, 28653), (115, 28596), (124, 28557), (133, 28512), (136, 28500), (138, 28488), (139, 28482), (148, 28434), (168, 28329),

Gene: Typhonomachy_39 Start: 28227, Stop: 27409, Start Num: 18

Candidate Starts for Typhonomachy_39:

(Start: 18 @28227 has 39 MA's), (51, 28071), (52, 28068), (62, 28020), (64, 28008), (77, 27930), (84, 27897), (86, 27882), (87, 27879), (94, 27837), (102, 27798), (103, 27789), (107, 27768), (115, 27732), (130, 27669), (139, 27618), (159, 27504), (168, 27465),

Gene: Vine_44 Start: 30838, Stop: 30032, Start Num: 18

Candidate Starts for Vine_44:

(Start: 18 @30838 has 39 MA's), (Start: 19 @30832 has 1 MA's), (45, 30730), (51, 30676), (64, 30613), (69, 30577), (84, 30502), (86, 30487), (94, 30442), (95, 30439), (102, 30403), (103, 30394), (115, 30337), (126, 30289), (127, 30286), (136, 30244), (156, 30151), (168, 30082),

Gene: WaddleDee_97 Start: 79495, Stop: 80229, Start Num: 51

Candidate Starts for WaddleDee_97:

(Start: 35 @79411 has 6 MA's), (45, 79438), (51, 79495), (54, 79504), (57, 79510), (105, 79786), (118, 79849), (122, 79864), (141, 79954), (150, 79999), (162, 80068), (168, 80095), (179, 80191), (180, 80206),

Gene: Yakult_42 Start: 29373, Stop: 28570, Start Num: 18

Candidate Starts for Yakult_42:

(3, 29496), (4, 29466), (11, 29409), (Start: 17 @29376 has 12 MA's), (Start: 18 @29373 has 39 MA's), (45, 29274), (64, 29163), (69, 29127), (79, 29070), (84, 29052), (86, 29037), (87, 29034), (95, 28989), (102, 28953), (103, 28944), (130, 28824), (136, 28791), (138, 28779), (139, 28773), (144, 28752),

Gene: Yappy_86 Start: 44513, Stop: 43758, Start Num: 27

Candidate Starts for Yappy_86:

(22, 44546), (Start: 27 @44513 has 1 MA's), (43, 44447), (44, 44444), (46, 44411), (51, 44387), (58, 44369), (62, 44333), (91, 44168), (96, 44141), (97, 44138), (108, 44078), (109, 44075), (111, 44069), (113, 44060), (131, 43979), (134, 43958), (149, 43883), (157, 43847), (166, 43790),

Gene: Yarn_37 Start: 28394, Stop: 27576, Start Num: 18

Candidate Starts for Yarn_37:

(Start: 16 @28412 has 4 MA's), (Start: 18 @28394 has 39 MA's), (Start: 19 @28388 has 1 MA's), (51, 28238), (52, 28235), (62, 28187), (64, 28175), (77, 28097), (84, 28064), (87, 28046), (94, 28004), (95, 28001), (102, 27965), (103, 27956), (115, 27899), (124, 27860), (138, 27791), (139, 27785), (148, 27737), (168, 27632),

Gene: Yeezus_60 Start: 41211, Stop: 40471, Start Num: 23

Candidate Starts for Yeezus_60:

(Start: 23 @41211 has 16 MA's), (28, 41181), (29, 41157), (36, 41145), (39, 41142), (41, 41136), (47, 41094), (49, 41085), (56, 41070), (60, 41061), (76, 40962), (78, 40947), (100, 40827), (104, 40809), (113, 40770), (117, 40761), (134, 40680), (140, 40653), (151, 40608), (152, 40605), (156, 40584), (163, 40539), (166, 40524),

Gene: Yucky_45 Start: 30778, Stop: 29972, Start Num: 18

Candidate Starts for Yucky_45:

(Start: 18 @30778 has 39 MA's), (Start: 19 @30772 has 1 MA's), (45, 30670), (51, 30616), (64, 30553), (69, 30517), (84, 30442), (86, 30427), (94, 30382), (95, 30379), (102, 30343), (103, 30334), (115, 30277), (126, 30229), (127, 30226), (136, 30184), (156, 30091), (168, 30022),

Gene: Yummy_42 Start: 28728, Stop: 27910, Start Num: 18

Candidate Starts for Yummy_42:

(Start: 16 @28746 has 4 MA's), (Start: 18 @28728 has 39 MA's), (Start: 19 @28722 has 1 MA's), (51, 28572), (52, 28569), (64, 28509), (77, 28431), (84, 28398), (87, 28380), (94, 28338), (95, 28335), (102, 28299), (103, 28290), (115, 28233), (124, 28194), (133, 28149), (136, 28137), (138, 28125), (139, 28119), (168, 27966),

Gene: Zareef_40 Start: 28654, Stop: 27842, Start Num: 17

Candidate Starts for Zareef_40:

(5, 28726), (Start: 17 @28654 has 12 MA's), (64, 28438), (69, 28402), (77, 28360), (79, 28345), (84, 28327), (86, 28312), (87, 28309), (94, 28267), (103, 28219), (116, 28159), (124, 28126), (135, 28072), (138, 28057), (159, 27940),

Gene: Zooman_96 Start: 73343, Stop: 72582, Start Num: 33

Candidate Starts for Zooman_96:

(Start: 33 @73343 has 3 MA's), (71, 73151), (72, 73148), (99, 73001), (105, 72971), (120, 72905), (122, 72893), (135, 72833), (142, 72797), (152, 72740), (158, 72698), (168, 72644),

Gene: Zuko_81 Start: 61795, Stop: 62607, Start Num: 20

Candidate Starts for Zuko_81:

(Start: 20 @61795 has 2 MA's), (37, 61870), (66, 62005), (77, 62074), (78, 62080), (84, 62107), (87, 62125), (104, 62218), (111, 62248), (115, 62272), (127, 62326), (128, 62329), (137, 62377), (139, 62386), (144, 62407), (154, 62482),