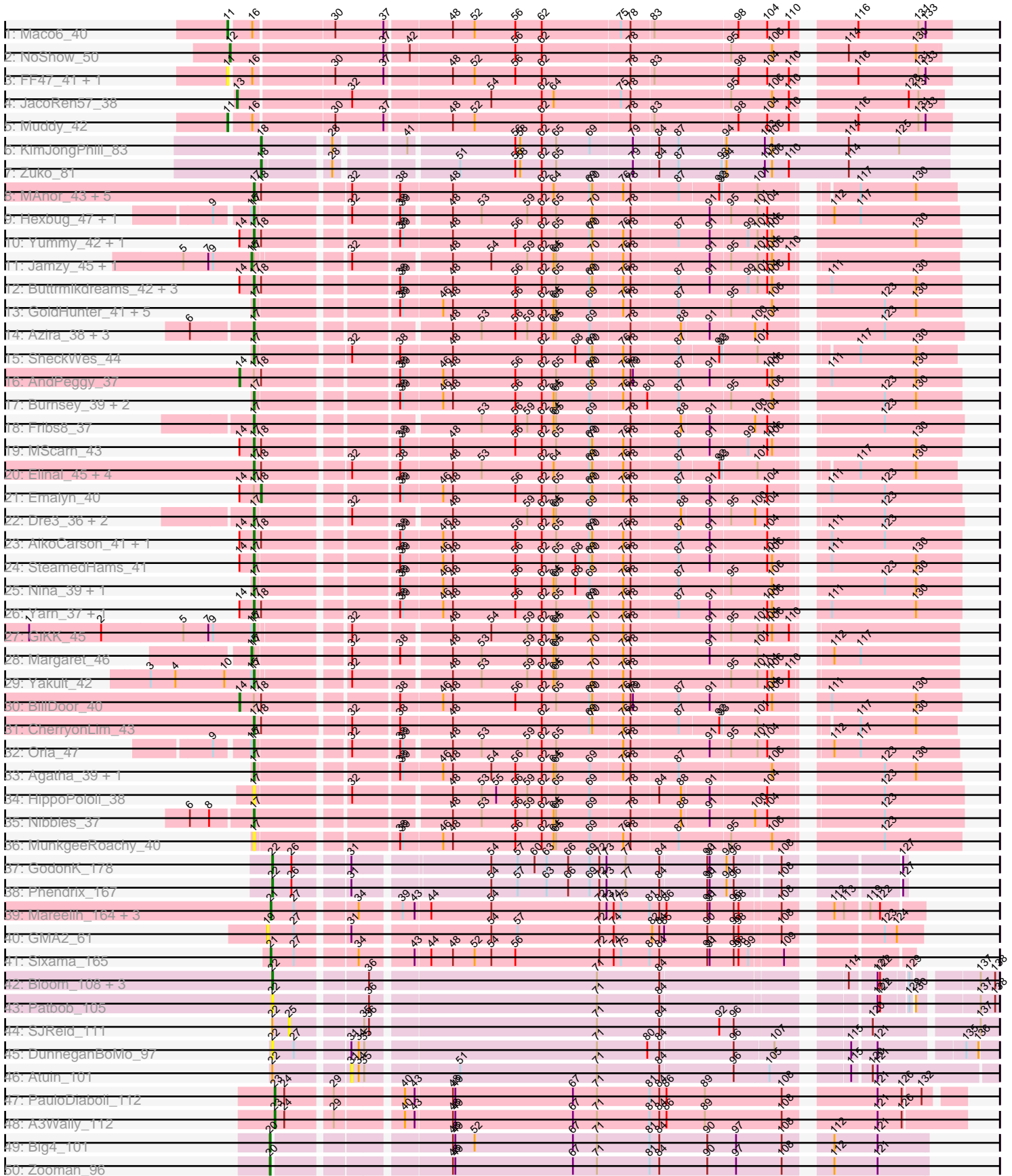


Pham 156291



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 156291 Report

This analysis was run 04/12/24 on database version 558.

Pham number 156291 has 92 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Maco6_40
- Track 2 : NoShow_50
- Track 3 : FF47_41, 8UZL_42
- Track 4 : JacoRen57_38
- Track 5 : Muddy_42
- Track 6 : KimJongPhill_83
- Track 7 : Zuko_81
- Track 8 : MAnor_43, PotPie_43, SummitAcademy_41, BigChungus_41, Mayweather_45, Feastonyeet_41
- Track 9 : Hexbug_47, Nodigi_47
- Track 10 : Yummy_42, Horseradish_42
- Track 11 : Jamzy_45, Button_43
- Track 12 : Buttrmilkdreams_42, Troje_42, SketchMex_40, Biskit_42
- Track 13 : GoldHunter_41, Axym_39, Sopespian_39, PsychoKiller_39, Quasar_40, Elliott_40
- Track 14 : Azira_38, Zareef_40, MaVan_40, Survivors_38
- Track 15 : SheckWes_44
- Track 16 : AndPeggy_37
- Track 17 : Burnsey_39, RedBaron_42, Typhonmarchy_39
- Track 18 : Fribs8_37
- Track 19 : MScarn_43
- Track 20 : Elinal_45, Vine_44, Lauer_38, KayGee_42, Pons_43
- Track 21 : Emalyn_40
- Track 22 : Dre3_36, Gibbous_36, Cleo_36
- Track 23 : AikoCarson_41, Amok_41
- Track 24 : SteamedHams_41
- Track 25 : Nina_39, SweatNTears_41
- Track 26 : Yarn_37, Tolls_41
- Track 27 : GiKK_45
- Track 28 : Margaret_46
- Track 29 : Yakult_42
- Track 30 : BillDoor_40
- Track 31 : CherryonLim_43
- Track 32 : Orla_47
- Track 33 : Agatha_39, Cozz_38
- Track 34 : HippoPololi_38
- Track 35 : Nibbles_37

- Track 36 : MunkgeeRoachy_40
- Track 37 : GodonK_178
- Track 38 : Phendrix_167
- Track 39 : Mareelih_164, Forza_167, Boopy_166, BlueNGold_163
- Track 40 : GMA2_61
- Track 41 : Sixama_165
- Track 42 : Bloom_108, Mimi_110, Racecar_105, Talia1610_106
- Track 43 : Patbob_105
- Track 44 : SJReid_111
- Track 45 : DunneganBoMo_97
- Track 46 : Atuin_101
- Track 47 : PauloDiaboli_112
- Track 48 : A3Wally_112
- Track 49 : Big4_101
- Track 50 : Zooman_96
- Track 51 : Cece_95
- Track 52 : Pumpnickel_109
- Track 53 : Huwbert_81
- Track 54 : Triscuit_80

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

The start number called the most often in the published annotations is 17, it was called in 41 of the 69 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Agatha_39, AikoCarson_41, Amok_41, Axym_39, Azira_38, BigChungus_41, Biskit_42, Burnsey_39, Buttrmikedreams_42, CherryonLim_43, Cleo_36, Cozz_38, Dre3_36, Elinal_45, Elliott_40, Feastonyeet_41, Fribs8_37, GiKK_45, Gibbous_36, GoldHunter_41, Hexbug_47, HippoPololi_38, Horseradish_42, KayGee_42, Lauer_38, MAnor_43, MScarn_43, MaVan_40, Mayweather_45, MunkgeeRoachy_40, Nibbles_37, Nina_39, Nodigi_47, Orla_47, Pons_43, PotPie_43, PsychoKiller_39, Quasar_40, RedBaron_42, SheckWes_44, SketchMex_40, Sopespian_39, SteamedHams_41, SummitAcademy_41, Survivors_38, SweatNTears_41, Tolls_41, Troje_42, Typhonmacy_39, Vine_44, Yakult_42, Yarn_37, Yummy_42, Zareef_40,

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

- AndPeggy_37, BillDoor_40, Button_43, Emalyn_40, Jamzy_45, Margaret_46,

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

- 8UZL_42, A3Wally_112, Atuin_101, Big4_101, Bloom_108, BlueNGold_163, Boopy_166, Cece_95, DunneganBoMo_97, FF47_41, Forza_167, GMA2_61, GodonK_178, Huwbert_81, JacoRen57_38, KimJongPhill_83, Maco6_40, Mareelih_164, Mimi_110, Muddy_42, NoShow_50, Patbob_105, PauloDiaboli_112, Phendrix_167, Pumpnickel_109, Racecar_105, SJReid_111, Sixama_165, Talia1610_106, Triscuit_80, Zooman_96, Zuko_81,

Summary by start number:

Start 11:

- Found in 4 of 92 (4.3%) of genes in pham
- Manual Annotations of this start: 2 of 69
- 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 12:

- Found in 1 of 92 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: NoShow_50 (AB),

Start 13:

- Found in 1 of 92 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57_38 (AB),

Start 14:

- Found in 15 of 92 (16.3%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 13.3% of time when present
- Phage (with cluster) where this start called: AndPeggy_37 (CT), BillDoor_40 (CT),

Start 15:

- Found in 8 of 92 (8.7%) of genes in pham
- Manual Annotations of this start: 3 of 69
- Called 37.5% of time when present
- Phage (with cluster) where this start called: Button_43 (CT), Jamzy_45 (CT), Margaret_46 (CT),

Start 17:

- Found in 60 of 92 (65.2%) of genes in pham
- Manual Annotations of this start: 41 of 69
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Agatha_39 (CT), AikoCarson_41 (CT), Amok_41 (CT), Axym_39 (CT), Azira_38 (CT), BigChungus_41 (CT), Biskit_42 (CT), Burnsey_39 (CT), Buttrmlkdreams_42 (CT), CherryonLim_43 (CT), Cleo_36 (CT), Cozz_38 (CT), Dre3_36 (CT), Elinal_45 (CT), Elliott_40 (CT), Feastonyeet_41 (CT), Fribs8_37 (CT), GiKK_45 (CT), Gibbous_36 (CT), GoldHunter_41 (CT), Hexbug_47 (CT), HippoPololi_38 (CT), Horseradish_42 (CT), KayGee_42 (CT), Lauer_38 (CT), MAnor_43 (CT), MScarn_43 (CT), MaVan_40 (CT), Mayweather_45 (CT), MunkgeeRoachy_40 (CT), Nibbles_37 (CT), Nina_39 (CT), Nodigi_47 (CT), Orla_47 (CT), Pons_43 (CT), PotPie_43 (CT), PsychoKiller_39 (CT), Quasar_40 (CT), RedBaron_42 (CT), SheckWes_44 (CT), SketchMex_40 (CT), Sopespian_39 (CT), SteamedHams_41 (CT), SummitAcademy_41 (CT), Survivors_38 (CT), SweatNTears_41 (CT), Tolls_41 (CT), Troje_42 (CT), Typhonmarchy_39 (CT), Vine_44 (CT), Yakult_42 (CT), Yarn_37 (CT), Yummy_42 (CT), Zareef_40 (CT),

Start 18:

- Found in 28 of 92 (30.4%) of genes in pham
- Manual Annotations of this start: 3 of 69

- Called 10.7% of time when present
- Phage (with cluster) where this start called: Emalyn_40 (CT), KimJongPhill_83 (BR), Zuko_81 (BR),

Start 19:

- Found in 2 of 92 (2.2%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA2_61 (DS), Pumpernickel_109 (GD4),

Start 20:

- Found in 3 of 92 (3.3%) of genes in pham
- Manual Annotations of this start: 3 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Big4_101 (GD2), Cece_95 (GD3), Zooman_96 (GD2),

Start 21:

- Found in 7 of 92 (7.6%) of genes in pham
- Manual Annotations of this start: 7 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold_163 (DS), Boopy_166 (DS), Forza_167 (DS), Huwbert_81 (GG), Mareelih_164 (DS), Sixama_165 (DS), Triscuit_80 (GG),

Start 22:

- Found in 10 of 92 (10.9%) of genes in pham
- Manual Annotations of this start: 3 of 69
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Bloom_108 (FC), DunneganBoMo_97 (FC), GodonK_178 (DK), Mimi_110 (FC), Patbob_105 (FC), Phendrix_167 (DK), Racecar_105 (FC), Talia1610_106 (FC),

Start 23:

- Found in 3 of 92 (3.3%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 66.7% of time when present
- Phage (with cluster) where this start called: A3Wally_112 (GD1), PauloDiaboli_112 (GD1),

Start 25:

- Found in 1 of 92 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SJReid_111 (FC),

Start 31:

- Found in 5 of 92 (5.4%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Atuin_101 (FC),

Summary by clusters:

There are 11 clusters represented in this pham: GD1, GD2, AB, GD4, DK, GG, FC, BR, GD3, DS, CT,

Info for manual annotations of cluster AB:

- Start number 11 was manually annotated 2 times for cluster AB.
- Start number 12 was manually annotated 1 time for cluster AB.
- Start number 13 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster BR:

- Start number 18 was manually annotated 2 times for cluster BR.

Info for manual annotations of cluster CT:

- Start number 14 was manually annotated 2 times for cluster CT.
- Start number 15 was manually annotated 3 times for cluster CT.
- Start number 17 was manually annotated 41 times for cluster CT.
- Start number 18 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster DK:

- Start number 22 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DS:

- Start number 21 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster FC:

- Start number 22 was manually annotated 1 time for cluster FC.

Info for manual annotations of cluster GD1:

- Start number 23 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 20 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 20 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 19 was manually annotated 1 time for cluster GD4.

Info for manual annotations of cluster GG:

- Start number 21 was manually annotated 2 times for cluster GG.

Gene Information:

Gene: 8UZL_42 Start: 30925, Stop: 30080, Start Num: 11

Candidate Starts for 8UZL_42:

(Start: 11 @30925 has 2 MA's), (16, 30901), (30, 30808), (37, 30748), (48, 30670), (52, 30643), (56, 30592), (62, 30559), (78, 30451), (83, 30424), (98, 30322), (104, 30286), (110, 30259), (116, 30196), (131, 30121), (133, 30112),

Gene: A3Wally_112 Start: 76409, Stop: 75603, Start Num: 23

Candidate Starts for A3Wally_112:

(Start: 23 @76409 has 2 MA's), (24, 76397), (29, 76346), (40, 76274), (43, 76262), (48, 76217), (49, 76214), (67, 76067), (71, 76037), (81, 75971), (84, 75959), (86, 75950), (89, 75902), (108, 75806), (121, 75710), (126, 75680),

Gene: Agatha_39 Start: 28608, Stop: 27790, Start Num: 17

Candidate Starts for Agatha_39:

(Start: 17 @28608 has 41 MA's), (38, 28452), (39, 28449), (46, 28401), (48, 28389), (54, 28341), (56, 28311), (62, 28278), (64, 28263), (65, 28260), (69, 28218), (76, 28179), (78, 28170), (87, 28113), (106, 27999), (123, 27885), (130, 27846),

Gene: AikoCarson_41 Start: 28965, Stop: 28147, Start Num: 17

Candidate Starts for AikoCarson_41:

(Start: 14 @28983 has 2 MA's), (Start: 17 @28965 has 41 MA's), (Start: 18 @28959 has 3 MA's), (38, 28809), (39, 28806), (46, 28758), (48, 28746), (56, 28668), (62, 28635), (65, 28617), (69, 28575), (70, 28572), (76, 28536), (78, 28527), (87, 28470), (91, 28431), (104, 28362), (111, 28308), (123, 28242),

Gene: Amok_41 Start: 28989, Stop: 28171, Start Num: 17

Candidate Starts for Amok_41:

(Start: 14 @29007 has 2 MA's), (Start: 17 @28989 has 41 MA's), (Start: 18 @28983 has 3 MA's), (38, 28833), (39, 28830), (46, 28782), (48, 28770), (56, 28692), (62, 28659), (65, 28641), (69, 28599), (70, 28596), (76, 28560), (78, 28551), (87, 28494), (91, 28455), (104, 28386), (111, 28332), (123, 28266),

Gene: AndPeggy_37 Start: 28407, Stop: 27571, Start Num: 14

Candidate Starts for AndPeggy_37:

(Start: 14 @28407 has 2 MA's), (Start: 17 @28389 has 41 MA's), (Start: 18 @28383 has 3 MA's), (38, 28233), (39, 28230), (46, 28182), (48, 28170), (56, 28092), (62, 28059), (65, 28041), (69, 27999), (70, 27996), (76, 27960), (78, 27951), (79, 27948), (87, 27894), (91, 27855), (104, 27786), (106, 27780), (111, 27732), (130, 27627),

Gene: Atuin_101 Start: 84392, Stop: 85141, Start Num: 31

Candidate Starts for Atuin_101:

(Start: 22 @84308 has 3 MA's), (31, 84392), (34, 84401), (35, 84407), (51, 84512), (71, 84683), (84, 84761), (96, 84851), (105, 84893), (115, 84968), (120, 84989), (121, 84995),

Gene: Axym_39 Start: 28586, Stop: 27768, Start Num: 17

Candidate Starts for Axym_39:

(Start: 17 @28586 has 41 MA's), (38, 28430), (39, 28427), (46, 28379), (48, 28367), (56, 28289), (62, 28256), (64, 28241), (65, 28238), (69, 28196), (76, 28157), (78, 28148), (87, 28091), (95, 28028), (106, 27977), (123, 27863), (130, 27824),

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

Candidate Starts for Azira_38:

(6, 28707), (Start: 17 @28635 has 41 MA's), (48, 28419), (53, 28383), (56, 28341), (59, 28326), (62, 28308), (64, 28293), (65, 28290), (69, 28248), (78, 28200), (88, 28140), (91, 28107), (100, 28053), (104, 28038), (123, 27921),

Gene: Big4_101 Start: 75498, Stop: 74737, Start Num: 20

Candidate Starts for Big4_101:

(Start: 20 @75498 has 3 MA's), (48, 75306), (49, 75303), (52, 75279), (67, 75156), (71, 75126), (81, 75060), (84, 75048), (90, 74988), (97, 74952), (108, 74895), (112, 74853), (121, 74799),

Gene: BigChungus_41 Start: 30191, Stop: 29385, Start Num: 17

Candidate Starts for BigChungus_41:

(Start: 17 @30191 has 41 MA's), (Start: 18 @30185 has 3 MA's), (32, 30083), (38, 30029), (48, 29966), (62, 29855), (64, 29840), (69, 29795), (70, 29792), (76, 29756), (78, 29747), (87, 29690), (92, 29642), (93, 29639), (101, 29597), (117, 29504), (130, 29435),

Gene: BillDoor_40 Start: 28078, Stop: 27242, Start Num: 14

Candidate Starts for BillDoor_40:

(Start: 14 @28078 has 2 MA's), (Start: 17 @28060 has 41 MA's), (Start: 18 @28054 has 3 MA's), (38, 27904), (46, 27853), (48, 27841), (56, 27763), (62, 27730), (65, 27712), (69, 27670), (70, 27667), (76, 27631), (78, 27622), (79, 27619), (87, 27565), (91, 27526), (104, 27457), (106, 27451), (111, 27403), (130, 27298),

Gene: Biskit_42 Start: 28753, Stop: 27935, Start Num: 17

Candidate Starts for Biskit_42:

(Start: 14 @28771 has 2 MA's), (Start: 17 @28753 has 41 MA's), (Start: 18 @28747 has 3 MA's), (38, 28597), (39, 28594), (48, 28534), (56, 28456), (62, 28423), (65, 28405), (69, 28363), (70, 28360), (76, 28324), (78, 28315), (87, 28258), (91, 28219), (99, 28174), (101, 28162), (104, 28150), (106, 28144), (111, 28096), (130, 27991),

Gene: Bloom_108 Start: 84483, Stop: 85292, Start Num: 22

Candidate Starts for Bloom_108:

(Start: 22 @84483 has 3 MA's), (36, 84588), (71, 84858), (84, 84936), (114, 85137), (121, 85167), (122, 85170), (129, 85200), (137, 85269), (138, 85287),

Gene: BlueNGold_163 Start: 93500, Stop: 92757, Start Num: 21

Candidate Starts for BlueNGold_163:

(Start: 21 @93500 has 7 MA's), (27, 93473), (34, 93407), (39, 93365), (43, 93350), (44, 93332), (54, 93257), (72, 93122), (73, 93113), (74, 93104), (75, 93095), (81, 93059), (84, 93047), (86, 93038), (90, 92987), (91, 92984), (96, 92954), (98, 92948), (108, 92900), (112, 92858), (113, 92846), (119, 92819), (122, 92807),

Gene: Boopy_166 Start: 93511, Stop: 92768, Start Num: 21

Candidate Starts for Boopy_166:

(Start: 21 @93511 has 7 MA's), (27, 93484), (34, 93418), (39, 93376), (43, 93361), (44, 93343), (54, 93268), (72, 93133), (73, 93124), (74, 93115), (75, 93106), (81, 93070), (84, 93058), (86, 93049), (90, 92998), (91, 92995), (96, 92965), (98, 92959), (108, 92911), (112, 92869), (113, 92857), (119, 92830), (122, 92818),

Gene: Burnsey_39 Start: 28599, Stop: 27781, Start Num: 17

Candidate Starts for Burnsey_39:

(Start: 17 @28599 has 41 MA's), (38, 28443), (39, 28440), (46, 28392), (48, 28380), (56, 28302), (62, 28269), (64, 28254), (65, 28251), (69, 28209), (76, 28170), (78, 28161), (80, 28140), (87, 28104), (95, 28041), (106, 27990), (123, 27876), (130, 27837),

Gene: Button_43 Start: 29230, Stop: 28424, Start Num: 15

Candidate Starts for Button_43:

(5, 29314), (7, 29284), (9, 29278), (Start: 15 @29230 has 3 MA's), (Start: 17 @29227 has 41 MA's), (32, 29128), (48, 29017), (54, 28969), (59, 28924), (62, 28906), (64, 28891), (65, 28888), (70, 28843), (76, 28807), (78, 28798), (91, 28702), (95, 28678), (101, 28645), (104, 28633), (106, 28627), (110, 28606),

Gene: Buttrmilkdreams_42 Start: 29086, Stop: 28268, Start Num: 17

Candidate Starts for Buttrmlkdreams_42:

(Start: 14 @29104 has 2 MA's), (Start: 17 @29086 has 41 MA's), (Start: 18 @29080 has 3 MA's), (38, 28930), (39, 28927), (48, 28867), (56, 28789), (62, 28756), (65, 28738), (69, 28696), (70, 28693), (76, 28657), (78, 28648), (87, 28591), (91, 28552), (99, 28507), (101, 28495), (104, 28483), (106, 28477), (111, 28429), (130, 28324),

Gene: Cece_95 Start: 78538, Stop: 77750, Start Num: 20

Candidate Starts for Cece_95:

(Start: 20 @78538 has 3 MA's), (Start: 23 @78532 has 2 MA's), (27, 78508), (43, 78385), (48, 78337), (50, 78331), (52, 78310), (53, 78301), (61, 78229), (66, 78193), (67, 78187), (71, 78157), (76, 78124), (84, 78079), (88, 78052), (90, 78019), (108, 77926), (118, 77845), (121, 77830),

Gene: CherryonLim_43 Start: 31329, Stop: 30523, Start Num: 17

Candidate Starts for CherryonLim_43:

(Start: 17 @31329 has 41 MA's), (Start: 18 @31323 has 3 MA's), (32, 31221), (38, 31167), (48, 31104), (62, 30993), (69, 30933), (70, 30930), (76, 30894), (78, 30885), (87, 30828), (92, 30780), (93, 30777), (101, 30735), (117, 30642), (130, 30573),

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

Candidate Starts for Cleo_36:

(Start: 17 @28180 has 41 MA's), (32, 28078), (48, 27967), (59, 27874), (62, 27856), (64, 27841), (65, 27838), (69, 27796), (78, 27748), (88, 27688), (91, 27655), (95, 27631), (100, 27601), (104, 27586), (123, 27469),

Gene: Cozz_38 Start: 28196, Stop: 27378, Start Num: 17

Candidate Starts for Cozz_38:

(Start: 17 @28196 has 41 MA's), (38, 28040), (39, 28037), (46, 27989), (48, 27977), (54, 27929), (56, 27899), (62, 27866), (64, 27851), (65, 27848), (69, 27806), (76, 27767), (78, 27758), (87, 27701), (106, 27587), (123, 27473), (130, 27434),

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

Candidate Starts for Dre3_36:

(Start: 17 @27923 has 41 MA's), (32, 27821), (48, 27710), (59, 27617), (62, 27599), (64, 27584), (65, 27581), (69, 27539), (78, 27491), (88, 27431), (91, 27398), (95, 27374), (100, 27344), (104, 27329), (123, 27212),

Gene: DunneganBoMo_97 Start: 80225, Stop: 81043, Start Num: 22

Candidate Starts for DunneganBoMo_97:

(Start: 22 @80225 has 3 MA's), (27, 80252), (31, 80309), (34, 80318), (35, 80324), (71, 80600), (80, 80663), (84, 80678), (96, 80768), (107, 80813), (115, 80882), (121, 80909), (135, 81005), (136, 81020),

Gene: Elinal_45 Start: 30579, Stop: 29773, Start Num: 17

Candidate Starts for Elinal_45:

(Start: 17 @30579 has 41 MA's), (Start: 18 @30573 has 3 MA's), (32, 30471), (38, 30417), (48, 30354), (53, 30318), (62, 30243), (64, 30228), (69, 30183), (70, 30180), (76, 30144), (78, 30135), (87, 30078), (92, 30030), (93, 30027), (101, 29985), (117, 29892), (130, 29823),

Gene: Elliott_40 Start: 28607, Stop: 27789, Start Num: 17

Candidate Starts for Elliott_40:

(Start: 17 @28607 has 41 MA's), (38, 28451), (39, 28448), (46, 28400), (48, 28388), (56, 28310), (62, 28277), (64, 28262), (65, 28259), (69, 28217), (76, 28178), (78, 28169), (87, 28112), (95, 28049), (106, 27998), (123, 27884), (130, 27845),

Gene: Emalyn_40 Start: 28151, Stop: 27339, Start Num: 18

Candidate Starts for Emalyn_40:

(Start: 14 @28175 has 2 MA's), (Start: 17 @28157 has 41 MA's), (Start: 18 @28151 has 3 MA's), (38, 28001), (39, 27998), (46, 27950), (48, 27938), (56, 27860), (62, 27827), (65, 27809), (69, 27767), (70, 27764), (76, 27728), (78, 27719), (87, 27662), (91, 27623), (104, 27554), (111, 27500), (123, 27434),

Gene: FF47_41 Start: 30836, Stop: 29991, Start Num: 11

Candidate Starts for FF47_41:

(Start: 11 @30836 has 2 MA's), (16, 30812), (30, 30719), (37, 30659), (48, 30581), (52, 30554), (56, 30503), (62, 30470), (78, 30362), (83, 30335), (98, 30233), (104, 30197), (110, 30170), (116, 30107), (131, 30032), (133, 30023),

Gene: Feastonyeet_41 Start: 30191, Stop: 29385, Start Num: 17

Candidate Starts for Feastonyeet_41:

(Start: 17 @30191 has 41 MA's), (Start: 18 @30185 has 3 MA's), (32, 30083), (38, 30029), (48, 29966), (62, 29855), (64, 29840), (69, 29795), (70, 29792), (76, 29756), (78, 29747), (87, 29690), (92, 29642), (93, 29639), (101, 29597), (117, 29504), (130, 29435),

Gene: Forza_167 Start: 93428, Stop: 92685, Start Num: 21

Candidate Starts for Forza_167:

(Start: 21 @93428 has 7 MA's), (27, 93401), (34, 93335), (39, 93293), (43, 93278), (44, 93260), (54, 93185), (72, 93050), (73, 93041), (74, 93032), (75, 93023), (81, 92987), (84, 92975), (86, 92966), (90, 92915), (91, 92912), (96, 92882), (98, 92876), (108, 92828), (112, 92786), (113, 92774), (119, 92747), (122, 92735),

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

Candidate Starts for Fribs8_37:

(Start: 17 @28362 has 41 MA's), (53, 28110), (56, 28068), (59, 28053), (62, 28035), (64, 28020), (65, 28017), (69, 27975), (78, 27927), (88, 27867), (91, 27834), (100, 27780), (104, 27765), (123, 27648),

Gene: GMA2_61 Start: 64314, Stop: 63565, Start Num: 19

Candidate Starts for GMA2_61:

(Start: 19 @64314 has 1 MA's), (27, 64284), (31, 64227), (54, 64068), (57, 64035), (72, 63933), (74, 63915), (82, 63867), (84, 63858), (85, 63852), (90, 63798), (96, 63765), (98, 63759), (108, 63711), (123, 63612), (124, 63597),

Gene: GiKK_45 Start: 29557, Stop: 28754, Start Num: 17

Candidate Starts for GiKK_45:

(1, 29836), (2, 29746), (5, 29644), (7, 29614), (9, 29608), (Start: 15 @29560 has 3 MA's), (Start: 17 @29557 has 41 MA's), (32, 29458), (48, 29347), (54, 29299), (59, 29254), (62, 29236), (64, 29221), (65, 29218), (70, 29173), (76, 29137), (78, 29128), (91, 29032), (95, 29008), (101, 28975), (104, 28963), (106, 28957), (110, 28936),

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

Candidate Starts for Gibbous_36:

(Start: 17 @27923 has 41 MA's), (32, 27821), (48, 27710), (59, 27617), (62, 27599), (64, 27584), (65, 27581), (69, 27539), (78, 27491), (88, 27431), (91, 27398), (95, 27374), (100, 27344), (104, 27329), (123, 27212),

Gene: GodonK_178 Start: 89500, Stop: 88790, Start Num: 22

Candidate Starts for GodonK_178:

(Start: 22 @89500 has 3 MA's), (26, 89479), (31, 89419), (54, 89263), (57, 89230), (60, 89209), (63, 89194), (66, 89167), (69, 89140), (72, 89128), (73, 89119), (77, 89095), (84, 89053), (90, 88996), (91, 88993), (94, 88972), (96, 88963), (108, 88912), (127, 88795),

Gene: GoldHunter_41 Start: 28608, Stop: 27790, Start Num: 17

Candidate Starts for GoldHunter_41:

(Start: 17 @28608 has 41 MA's), (38, 28452), (39, 28449), (46, 28401), (48, 28389), (56, 28311), (62, 28278), (64, 28263), (65, 28260), (69, 28218), (76, 28179), (78, 28170), (87, 28113), (95, 28050), (106, 27999), (123, 27885), (130, 27846),

Gene: Hexbug_47 Start: 31341, Stop: 30535, Start Num: 17

Candidate Starts for Hexbug_47:

(9, 31383), (Start: 15 @31344 has 3 MA's), (Start: 17 @31341 has 41 MA's), (32, 31239), (38, 31185), (39, 31182), (48, 31128), (53, 31092), (59, 31035), (62, 31017), (65, 30999), (70, 30954), (78, 30909), (91, 30813), (95, 30789), (101, 30756), (104, 30744), (112, 30690), (117, 30657),

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

Candidate Starts for HippoPololi_38:

(Start: 17 @28375 has 41 MA's), (32, 28273), (48, 28162), (53, 28126), (55, 28108), (56, 28084), (59, 28069), (62, 28051), (65, 28033), (69, 27991), (78, 27943), (84, 27910), (88, 27883), (91, 27850), (104, 27781), (123, 27664),

Gene: Horseradish_42 Start: 28614, Stop: 27796, Start Num: 17

Candidate Starts for Horseradish_42:

(Start: 14 @28632 has 2 MA's), (Start: 17 @28614 has 41 MA's), (Start: 18 @28608 has 3 MA's), (38, 28458), (39, 28455), (48, 28395), (56, 28317), (62, 28284), (65, 28266), (69, 28224), (70, 28221), (76, 28185), (78, 28176), (87, 28119), (91, 28080), (99, 28035), (101, 28023), (104, 28011), (106, 28005), (130, 27852),

Gene: Huwbert_81 Start: 49790, Stop: 50599, Start Num: 21

Candidate Starts for Huwbert_81:

(Start: 21 @49790 has 7 MA's), (42, 49937), (45, 49967), (48, 49988), (62, 50099), (65, 50117), (69, 50159), (70, 50162), (76, 50198), (83, 50234), (87, 50264), (88, 50267), (101, 50360), (106, 50378),

Gene: JacoRen57_38 Start: 31703, Stop: 30873, Start Num: 13

Candidate Starts for JacoRen57_38:

(Start: 13 @31703 has 1 MA's), (32, 31568), (54, 31403), (62, 31340), (64, 31325), (75, 31244), (78, 31232), (95, 31112), (106, 31061), (110, 31040), (128, 30914), (131, 30902),

Gene: Jamzy_45 Start: 29543, Stop: 28737, Start Num: 15

Candidate Starts for Jamzy_45:

(5, 29627), (7, 29597), (9, 29591), (Start: 15 @29543 has 3 MA's), (Start: 17 @29540 has 41 MA's), (32, 29441), (48, 29330), (54, 29282), (59, 29237), (62, 29219), (64, 29204), (65, 29201), (70, 29156), (76, 29120), (78, 29111), (91, 29015), (95, 28991), (101, 28958), (104, 28946), (106, 28940), (110, 28919),

Gene: KayGee_42 Start: 30579, Stop: 29773, Start Num: 17

Candidate Starts for KayGee_42:

(Start: 17 @30579 has 41 MA's), (Start: 18 @30573 has 3 MA's), (32, 30471), (38, 30417), (48, 30354), (53, 30318), (62, 30243), (64, 30228), (69, 30183), (70, 30180), (76, 30144), (78, 30135), (87, 30078), (92, 30030), (93, 30027), (101, 29985), (117, 29892), (130, 29823),

Gene: KimJongPhill_83 Start: 61930, Stop: 62745, Start Num: 18

Candidate Starts for KimJongPhill_83:

(Start: 18 @61930 has 3 MA's), (28, 62008), (41, 62086), (56, 62212), (58, 62218), (62, 62245), (65, 62263), (69, 62305), (79, 62356), (84, 62386), (87, 62410), (94, 62467), (103, 62515), (106, 62524), (114, 62620), (125, 62683),

Gene: Lauer_38 Start: 31388, Stop: 30582, Start Num: 17

Candidate Starts for Lauer_38:

(Start: 17 @31388 has 41 MA's), (Start: 18 @31382 has 3 MA's), (32, 31280), (38, 31226), (48, 31163), (53, 31127), (62, 31052), (64, 31037), (69, 30992), (70, 30989), (76, 30953), (78, 30944), (87, 30887), (92, 30839), (93, 30836), (101, 30794), (117, 30701), (130, 30632),

Gene: MAnor_43 Start: 30921, Stop: 30115, Start Num: 17

Candidate Starts for MAnor_43:

(Start: 17 @30921 has 41 MA's), (Start: 18 @30915 has 3 MA's), (32, 30813), (38, 30759), (48, 30696), (62, 30585), (64, 30570), (69, 30525), (70, 30522), (76, 30486), (78, 30477), (87, 30420), (92, 30372), (93, 30369), (101, 30327), (117, 30234), (130, 30165),

Gene: MScarn_43 Start: 28754, Stop: 27936, Start Num: 17

Candidate Starts for MScarn_43:

(Start: 14 @28772 has 2 MA's), (Start: 17 @28754 has 41 MA's), (Start: 18 @28748 has 3 MA's), (38, 28598), (39, 28595), (48, 28535), (56, 28457), (62, 28424), (65, 28406), (69, 28364), (70, 28361), (76, 28325), (78, 28316), (87, 28259), (91, 28220), (99, 28175), (104, 28151), (106, 28145), (130, 27992),

Gene: MaVan_40 Start: 28664, Stop: 27852, Start Num: 17

Candidate Starts for MaVan_40:

(6, 28736), (Start: 17 @28664 has 41 MA's), (48, 28448), (53, 28412), (56, 28370), (59, 28355), (62, 28337), (64, 28322), (65, 28319), (69, 28277), (78, 28229), (88, 28169), (91, 28136), (100, 28082), (104, 28067), (123, 27950),

Gene: Maco6_40 Start: 30176, Stop: 29331, Start Num: 11

Candidate Starts for Maco6_40:

(Start: 11 @30176 has 2 MA's), (16, 30152), (30, 30059), (37, 29999), (48, 29921), (52, 29894), (56, 29843), (62, 29810), (75, 29714), (78, 29702), (83, 29675), (98, 29573), (104, 29537), (110, 29510), (116, 29447), (131, 29372), (133, 29363),

Gene: Mareelih_164 Start: 92946, Stop: 92203, Start Num: 21

Candidate Starts for Mareelih_164:

(Start: 21 @92946 has 7 MA's), (27, 92919), (34, 92853), (39, 92811), (43, 92796), (44, 92778), (54, 92703), (72, 92568), (73, 92559), (74, 92550), (75, 92541), (81, 92505), (84, 92493), (86, 92484), (90, 92433), (91, 92430), (96, 92400), (98, 92394), (108, 92346), (112, 92304), (113, 92292), (119, 92265), (122, 92253),

Gene: Margaret_46 Start: 30292, Stop: 29483, Start Num: 15

Candidate Starts for Margaret_46:

(Start: 15 @30292 has 3 MA's), (Start: 17 @30289 has 41 MA's), (32, 30187), (38, 30133), (48, 30076), (53, 30040), (59, 29983), (62, 29965), (64, 29950), (65, 29947), (70, 29902), (76, 29866), (78, 29857), (91, 29761), (101, 29704), (112, 29638), (117, 29605),

Gene: Mayweather_45 Start: 31200, Stop: 30394, Start Num: 17

Candidate Starts for Mayweather_45:

(Start: 17 @31200 has 41 MA's), (Start: 18 @31194 has 3 MA's), (32, 31092), (38, 31038), (48, 30975), (62, 30864), (64, 30849), (69, 30804), (70, 30801), (76, 30765), (78, 30756), (87, 30699), (92, 30651), (93, 30648), (101, 30606), (117, 30513), (130, 30444),

Gene: Mimi_110 Start: 83830, Stop: 84639, Start Num: 22

Candidate Starts for Mimi_110:

(Start: 22 @83830 has 3 MA's), (36, 83935), (71, 84205), (84, 84283), (114, 84484), (121, 84514), (122, 84517), (129, 84547), (137, 84616), (138, 84634),

Gene: Muddy_42 Start: 31408, Stop: 30563, Start Num: 11

Candidate Starts for Muddy_42:

(Start: 11 @31408 has 2 MA's), (16, 31384), (30, 31291), (37, 31231), (48, 31153), (52, 31126), (62, 31042), (78, 30934), (83, 30907), (98, 30805), (104, 30769), (110, 30742), (116, 30679), (131, 30604), (133, 30595),

Gene: MunkgeeRoachy_40 Start: 28070, Stop: 27252, Start Num: 17

Candidate Starts for MunkgeeRoachy_40:

(Start: 17 @28070 has 41 MA's), (38, 27914), (39, 27911), (46, 27863), (48, 27851), (56, 27773), (62, 27740), (64, 27725), (65, 27722), (69, 27680), (76, 27641), (78, 27632), (87, 27575), (95, 27512), (106, 27461), (123, 27347),

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

Candidate Starts for Nibbles_37:

(6, 28423), (8, 28399), (Start: 17 @28351 has 41 MA's), (48, 28135), (53, 28099), (56, 28057), (59, 28042), (62, 28024), (64, 28009), (65, 28006), (69, 27964), (78, 27916), (88, 27856), (91, 27823), (100, 27769), (104, 27754), (123, 27637),

Gene: Nina_39 Start: 28732, Stop: 27914, Start Num: 17

Candidate Starts for Nina_39:

(Start: 17 @28732 has 41 MA's), (38, 28576), (39, 28573), (46, 28525), (48, 28513), (56, 28435), (62, 28402), (64, 28387), (65, 28384), (68, 28360), (69, 28342), (76, 28303), (78, 28294), (87, 28237), (95, 28174), (106, 28123), (123, 28009), (130, 27970),

Gene: NoShow_50 Start: 34311, Stop: 33472, Start Num: 12

Candidate Starts for NoShow_50:

(Start: 12 @34311 has 1 MA's), (37, 34125), (42, 34098), (56, 33969), (62, 33936), (78, 33828), (95, 33708), (106, 33657), (114, 33585), (130, 33501),

Gene: Nodigi_47 Start: 31327, Stop: 30521, Start Num: 17

Candidate Starts for Nodigi_47:

(9, 31369), (Start: 15 @31330 has 3 MA's), (Start: 17 @31327 has 41 MA's), (32, 31225), (38, 31171), (39, 31168), (48, 31114), (53, 31078), (59, 31021), (62, 31003), (65, 30985), (70, 30940), (78, 30895), (91, 30799), (95, 30775), (101, 30742), (104, 30730), (112, 30676), (117, 30643),

Gene: Orla_47 Start: 31300, Stop: 30494, Start Num: 17

Candidate Starts for Orla_47:

(9, 31342), (Start: 15 @31303 has 3 MA's), (Start: 17 @31300 has 41 MA's), (32, 31198), (38, 31144), (39, 31141), (48, 31087), (53, 31051), (59, 30994), (62, 30976), (65, 30958), (76, 30877), (78, 30868), (91, 30772), (95, 30748), (101, 30715), (104, 30703), (112, 30649), (117, 30616),

Gene: Patbob_105 Start: 84565, Stop: 85374, Start Num: 22

Candidate Starts for Patbob_105:

(Start: 22 @84565 has 3 MA's), (36, 84670), (71, 84940), (84, 85018), (121, 85249), (122, 85252), (129, 85282), (130, 85285), (137, 85351), (138, 85369),

Gene: PauloDiaboli_112 Start: 75754, Stop: 74960, Start Num: 23

Candidate Starts for PauloDiaboli_112:

(Start: 23 @75754 has 2 MA's), (24, 75742), (29, 75691), (40, 75619), (43, 75607), (48, 75562), (49, 75559), (67, 75412), (71, 75382), (81, 75316), (84, 75304), (86, 75295), (89, 75247), (108, 75151), (121, 75055), (126, 75025), (132, 75004),

Gene: Phendrix_167 Start: 88597, Stop: 87887, Start Num: 22

Candidate Starts for Phendrix_167:

(Start: 22 @88597 has 3 MA's), (26, 88576), (31, 88516), (54, 88360), (57, 88327), (63, 88291), (66, 88264), (69, 88237), (72, 88225), (73, 88216), (77, 88192), (84, 88150), (90, 88093), (91, 88090), (94, 88069), (96, 88060), (108, 88009), (127, 87892),

Gene: Pons_43 Start: 30551, Stop: 29745, Start Num: 17

Candidate Starts for Pons_43:

(Start: 17 @30551 has 41 MA's), (Start: 18 @30545 has 3 MA's), (32, 30443), (38, 30389), (48, 30326), (53, 30290), (62, 30215), (64, 30200), (69, 30155), (70, 30152), (76, 30116), (78, 30107), (87, 30050), (92, 30002), (93, 29999), (101, 29957), (117, 29864), (130, 29795),

Gene: PotPie_43 Start: 31482, Stop: 30676, Start Num: 17

Candidate Starts for PotPie_43:

(Start: 17 @31482 has 41 MA's), (Start: 18 @31476 has 3 MA's), (32, 31374), (38, 31320), (48, 31257), (62, 31146), (64, 31131), (69, 31086), (70, 31083), (76, 31047), (78, 31038), (87, 30981), (92, 30933), (93, 30930), (101, 30888), (117, 30795), (130, 30726),

Gene: PsychoKiller_39 Start: 28608, Stop: 27790, Start Num: 17

Candidate Starts for PsychoKiller_39:

(Start: 17 @28608 has 41 MA's), (38, 28452), (39, 28449), (46, 28401), (48, 28389), (56, 28311), (62, 28278), (64, 28263), (65, 28260), (69, 28218), (76, 28179), (78, 28170), (87, 28113), (95, 28050), (106, 27999), (123, 27885), (130, 27846),

Gene: Pumpernickel_109 Start: 77313, Stop: 76510, Start Num: 19

Candidate Starts for Pumpernickel_109:

(Start: 19 @77313 has 1 MA's), (26, 77283), (27, 77280), (33, 77217), (44, 77127), (47, 77103), (51, 77091), (52, 77073), (63, 76983), (66, 76956), (67, 76950), (71, 76920), (82, 76851), (84, 76842), (102, 76716), (118, 76608), (121, 76593), (123, 76584),

Gene: Quasar_40 Start: 29156, Stop: 28338, Start Num: 17

Candidate Starts for Quasar_40:

(Start: 17 @29156 has 41 MA's), (38, 29000), (39, 28997), (46, 28949), (48, 28937), (56, 28859), (62, 28826), (64, 28811), (65, 28808), (69, 28766), (76, 28727), (78, 28718), (87, 28661), (95, 28598), (106, 28547), (123, 28433), (130, 28394),

Gene: Racecar_105 Start: 84483, Stop: 85292, Start Num: 22

Candidate Starts for Racecar_105:

(Start: 22 @84483 has 3 MA's), (36, 84588), (71, 84858), (84, 84936), (114, 85137), (121, 85167), (122, 85170), (129, 85200), (137, 85269), (138, 85287),

Gene: RedBaron_42 Start: 28845, Stop: 28027, Start Num: 17

Candidate Starts for RedBaron_42:

(Start: 17 @28845 has 41 MA's), (38, 28689), (39, 28686), (46, 28638), (48, 28626), (56, 28548), (62, 28515), (64, 28500), (65, 28497), (69, 28455), (76, 28416), (78, 28407), (80, 28386), (87, 28350), (95, 28287), (106, 28236), (123, 28122), (130, 28083),

Gene: SJReid_111 Start: 76759, Stop: 77565, Start Num: 25

Candidate Starts for SJReid_111:

(Start: 22 @76738 has 3 MA's), (25, 76759), (35, 76837), (36, 76843), (71, 77113), (84, 77191), (92, 77263), (96, 77281), (120, 77419), (137, 77542),

Gene: SheckWes_44 Start: 30075, Stop: 29269, Start Num: 17

Candidate Starts for SheckWes_44:

(Start: 17 @30075 has 41 MA's), (32, 29967), (38, 29913), (48, 29850), (62, 29739), (68, 29697), (69, 29679), (70, 29676), (76, 29640), (78, 29631), (87, 29574), (92, 29526), (93, 29523), (101, 29481), (117, 29388), (130, 29319),

Gene: Sixama_165 Start: 92948, Stop: 92217, Start Num: 21

Candidate Starts for Sixama_165:

(Start: 21 @92948 has 7 MA's), (27, 92921), (34, 92855), (43, 92798), (44, 92780), (48, 92753), (52, 92726), (54, 92705), (56, 92675), (72, 92570), (74, 92552), (75, 92543), (81, 92507), (84, 92495), (90, 92435), (91, 92432), (96, 92402), (98, 92396), (99, 92384), (109, 92345),

Gene: SketchMex_40 Start: 28753, Stop: 27935, Start Num: 17

Candidate Starts for SketchMex_40:

(Start: 14 @28771 has 2 MA's), (Start: 17 @28753 has 41 MA's), (Start: 18 @28747 has 3 MA's), (38, 28597), (39, 28594), (48, 28534), (56, 28456), (62, 28423), (65, 28405), (69, 28363), (70, 28360), (76, 28324), (78, 28315), (87, 28258), (91, 28219), (99, 28174), (101, 28162), (104, 28150), (106, 28144), (111, 28096), (130, 27991),

Gene: Sopespian_39 Start: 28609, Stop: 27791, Start Num: 17

Candidate Starts for Sopespian_39:

(Start: 17 @28609 has 41 MA's), (38, 28453), (39, 28450), (46, 28402), (48, 28390), (56, 28312), (62, 28279), (64, 28264), (65, 28261), (69, 28219), (76, 28180), (78, 28171), (87, 28114), (95, 28051), (106, 28000), (123, 27886), (130, 27847),

Gene: SteamedHams_41 Start: 28529, Stop: 27711, Start Num: 17

Candidate Starts for SteamedHams_41:

(Start: 14 @28547 has 2 MA's), (Start: 17 @28529 has 41 MA's), (38, 28373), (39, 28370), (46, 28322), (48, 28310), (56, 28232), (62, 28199), (65, 28181), (68, 28157), (69, 28139), (70, 28136), (76, 28100), (78, 28091), (87, 28034), (91, 27995), (104, 27926), (106, 27920), (111, 27872), (130, 27767),

Gene: SummitAcademy_41 Start: 30111, Stop: 29305, Start Num: 17

Candidate Starts for SummitAcademy_41:

(Start: 17 @30111 has 41 MA's), (Start: 18 @30105 has 3 MA's), (32, 30003), (38, 29949), (48, 29886), (62, 29775), (64, 29760), (69, 29715), (70, 29712), (76, 29676), (78, 29667), (87, 29610), (92, 29562), (93, 29559), (101, 29517), (117, 29424), (130, 29355),

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

Candidate Starts for Survivors_38:

(6, 28632), (Start: 17 @28560 has 41 MA's), (48, 28344), (53, 28308), (56, 28266), (59, 28251), (62, 28233), (64, 28218), (65, 28215), (69, 28173), (78, 28125), (88, 28065), (91, 28032), (100, 27978), (104, 27963), (123, 27846),

Gene: SweatNTears_41 Start: 28505, Stop: 27687, Start Num: 17

Candidate Starts for SweatNTears_41:

(Start: 17 @28505 has 41 MA's), (38, 28349), (39, 28346), (46, 28298), (48, 28286), (56, 28208), (62, 28175), (64, 28160), (65, 28157), (68, 28133), (69, 28115), (76, 28076), (78, 28067), (87, 28010), (95, 27947), (106, 27896), (123, 27782), (130, 27743),

Gene: Talia1610_106 Start: 83848, Stop: 84657, Start Num: 22

Candidate Starts for Talia1610_106:

(Start: 22 @83848 has 3 MA's), (36, 83953), (71, 84223), (84, 84301), (114, 84502), (121, 84532), (122, 84535), (129, 84565), (137, 84634), (138, 84652),

Gene: Tolls_41 Start: 28634, Stop: 27816, Start Num: 17

Candidate Starts for Tolls_41:

(Start: 14 @28652 has 2 MA's), (Start: 17 @28634 has 41 MA's), (Start: 18 @28628 has 3 MA's), (38, 28478), (39, 28475), (46, 28427), (48, 28415), (56, 28337), (62, 28304), (65, 28286), (69, 28244), (70, 28241), (76, 28205), (78, 28196), (87, 28139), (91, 28100), (104, 28031), (106, 28025), (111, 27977), (130, 27872),

Gene: Triscuit_80 Start: 49756, Stop: 50565, Start Num: 21

Candidate Starts for Triscuit_80:

(Start: 21 @49756 has 7 MA's), (42, 49903), (45, 49933), (48, 49954), (62, 50065), (65, 50083), (69, 50125), (70, 50128), (76, 50164), (87, 50230), (104, 50335), (106, 50341), (110, 50362), (134, 50521),

Gene: Troje_42 Start: 29091, Stop: 28273, Start Num: 17

Candidate Starts for Troje_42:

(Start: 14 @29109 has 2 MA's), (Start: 17 @29091 has 41 MA's), (Start: 18 @29085 has 3 MA's), (38, 28935), (39, 28932), (48, 28872), (56, 28794), (62, 28761), (65, 28743), (69, 28701), (70, 28698), (76, 28662), (78, 28653), (87, 28596), (91, 28557), (99, 28512), (101, 28500), (104, 28488), (106, 28482), (111, 28434), (130, 28329),

Gene: Typhonomachy_39 Start: 28227, Stop: 27409, Start Num: 17

Candidate Starts for Typhonomachy_39:

(Start: 17 @28227 has 41 MA's), (38, 28071), (39, 28068), (46, 28020), (48, 28008), (56, 27930), (62, 27897), (64, 27882), (65, 27879), (69, 27837), (76, 27798), (78, 27789), (80, 27768), (87, 27732), (95, 27669), (106, 27618), (123, 27504), (130, 27465),

Gene: Vine_44 Start: 30838, Stop: 30032, Start Num: 17

Candidate Starts for Vine_44:

(Start: 17 @30838 has 41 MA's), (Start: 18 @30832 has 3 MA's), (32, 30730), (38, 30676), (48, 30613), (53, 30577), (62, 30502), (64, 30487), (69, 30442), (70, 30439), (76, 30403), (78, 30394), (87, 30337), (92, 30289), (93, 30286), (101, 30244), (117, 30151), (130, 30082),

Gene: Yakult_42 Start: 29373, Stop: 28570, Start Num: 17

Candidate Starts for Yakult_42:

(3, 29496), (4, 29466), (10, 29409), (Start: 15 @29376 has 3 MA's), (Start: 17 @29373 has 41 MA's), (32, 29274), (48, 29163), (53, 29127), (59, 29070), (62, 29052), (64, 29037), (65, 29034), (70, 28989), (76, 28953), (78, 28944), (95, 28824), (101, 28791), (104, 28779), (106, 28773), (110, 28752),

Gene: Yarn_37 Start: 28394, Stop: 27576, Start Num: 17

Candidate Starts for Yarn_37:

(Start: 14 @28412 has 2 MA's), (Start: 17 @28394 has 41 MA's), (Start: 18 @28388 has 3 MA's), (38, 28238), (39, 28235), (46, 28187), (48, 28175), (56, 28097), (62, 28064), (65, 28046), (69, 28004), (70, 28001), (76, 27965), (78, 27956), (87, 27899), (91, 27860), (104, 27791), (106, 27785), (111, 27737), (130, 27632),

Gene: Yummy_42 Start: 28728, Stop: 27910, Start Num: 17

Candidate Starts for Yummy_42:

(Start: 14 @28746 has 2 MA's), (Start: 17 @28728 has 41 MA's), (Start: 18 @28722 has 3 MA's), (38, 28572), (39, 28569), (48, 28509), (56, 28431), (62, 28398), (65, 28380), (69, 28338), (70, 28335), (76,

28299), (78, 28290), (87, 28233), (91, 28194), (99, 28149), (101, 28137), (104, 28125), (106, 28119), (130, 27966),

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

Candidate Starts for Zareef_40:

(6, 28726), (Start: 17 @28654 has 41 MA's), (48, 28438), (53, 28402), (56, 28360), (59, 28345), (62, 28327), (64, 28312), (65, 28309), (69, 28267), (78, 28219), (88, 28159), (91, 28126), (100, 28072), (104, 28057), (123, 27940),

Gene: Zooman_96 Start: 73343, Stop: 72582, Start Num: 20

Candidate Starts for Zooman_96:

(Start: 20 @73343 has 3 MA's), (48, 73151), (49, 73148), (67, 73001), (71, 72971), (81, 72905), (84, 72893), (90, 72833), (97, 72797), (108, 72740), (112, 72698), (121, 72644),

Gene: Zuko_81 Start: 61795, Stop: 62607, Start Num: 18

Candidate Starts for Zuko_81:

(Start: 18 @61795 has 3 MA's), (28, 61870), (51, 62005), (56, 62074), (58, 62080), (62, 62107), (65, 62125), (79, 62218), (84, 62248), (87, 62272), (93, 62326), (94, 62329), (103, 62377), (106, 62386), (110, 62407), (114, 62482),