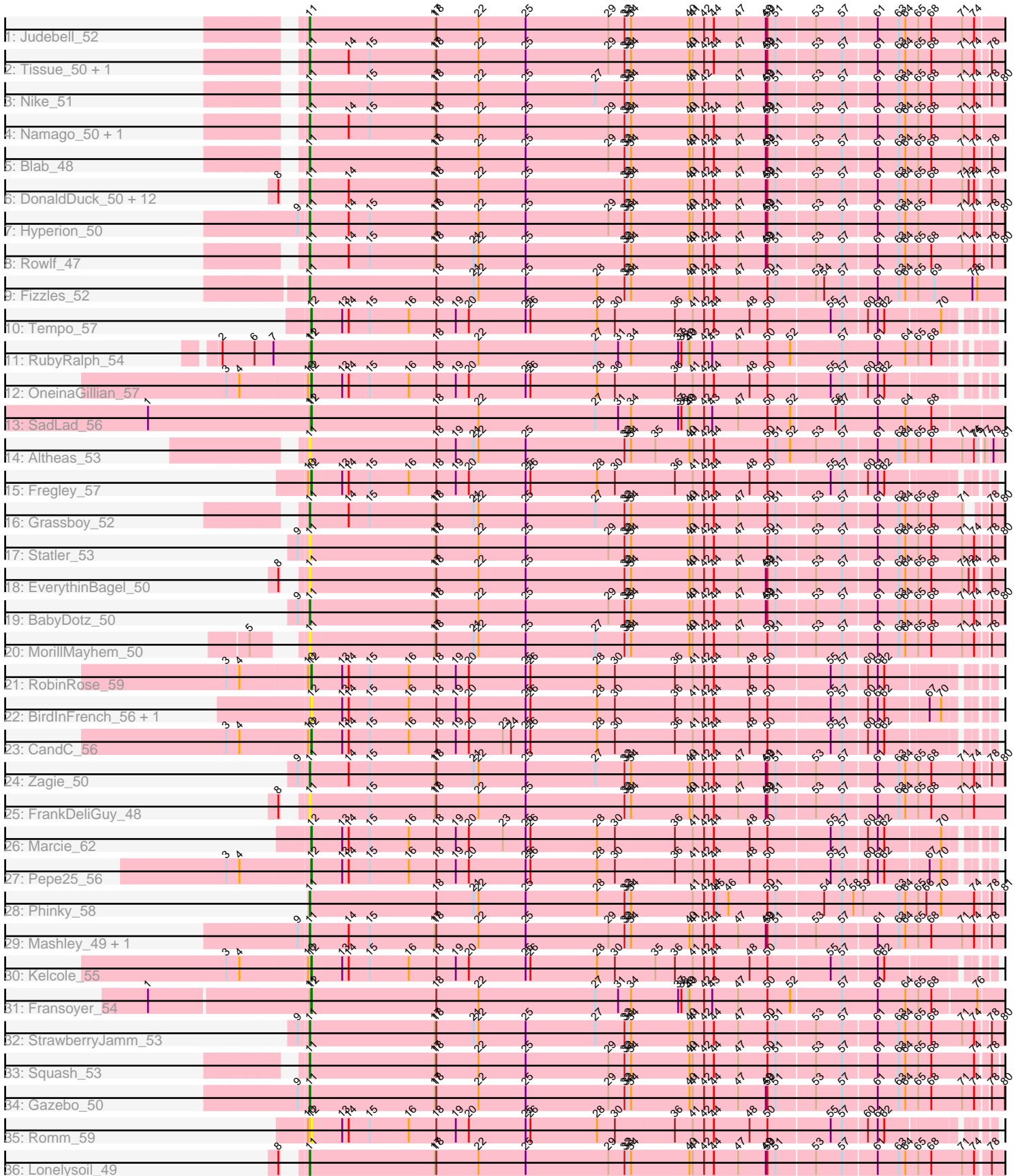


# Zoomed Pham 198131



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 198131 Report

This analysis was run 01/18/25 on database version 583.

Pham number 198131 has 52 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Judebell\_52
- Track 2 : Tissue\_50, SallyK\_51
- Track 3 : Nike\_51
- Track 4 : Namago\_50, Kyva\_52
- Track 5 : Blab\_48
- Track 6 : DonaldDuck\_50, Llemily\_50, Wheelie\_50, Casend\_51, Wayne3\_52, Quammi\_48, Rudy\_48, Jehoshaphat\_52, Viceroy\_49, Zhafia\_53, Teehee\_51, Sillytadpoles\_51, Phabia\_50
- Track 7 : Hyperion\_50
- Track 8 : Rowlf\_47
- Track 9 : Fizzles\_52
- Track 10 : Tempo\_57
- Track 11 : RubyRalph\_54
- Track 12 : OneinaGillian\_57
- Track 13 : SadLad\_56
- Track 14 : Altheas\_53
- Track 15 : Fregley\_57
- Track 16 : Grassboy\_52
- Track 17 : Statler\_53
- Track 18 : EverythinBagel\_50
- Track 19 : BabyDotz\_50
- Track 20 : MorillMayhem\_50
- Track 21 : RobinRose\_59
- Track 22 : BirdInFrench\_56, Wilca\_56
- Track 23 : CandC\_56
- Track 24 : Zagie\_50
- Track 25 : FrankDeliGuy\_48
- Track 26 : Marcie\_62
- Track 27 : Pepe25\_56
- Track 28 : Phinky\_58
- Track 29 : Mashley\_49, AluminumJesus\_48
- Track 30 : Kelcole\_55
- Track 31 : Fransoyer\_54
- Track 32 : StrawberryJamm\_53
- Track 33 : Squash\_53
- Track 34 : Gazebo\_50
- Track 35 : Romm\_59

- Track 36 : Lonelysoil\_49

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

The start number called the most often in the published annotations is 11, it was called in 27 of the 38 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas\_53, AluminumJesus\_48, BabyDotz\_50, Blab\_48, Casend\_51, DonaldDuck\_50, EverythinBagel\_50, Fizzles\_52, FrankDeliGuy\_48, Gazebo\_50, Grassboy\_52, Hyperion\_50, Jehoshaphat\_52, Judebell\_52, Kyva\_52, Llemily\_50, Lonelysoil\_49, Mashley\_49, MorillMayhem\_50, Namago\_50, Nike\_51, Phabia\_50, Phinky\_58, Quammi\_48, Rowlf\_47, Rudy\_48, SallyK\_51, Sillytadpoles\_51, Squash\_53, Statler\_53, StrawberryJamm\_53, Teehee\_51, Tissue\_50, Viceroy\_49, Wayne3\_52, Wheelie\_50, Zagie\_50, Zhafia\_53,

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

- Fransoyer\_54, RubyRalph\_54, SadLad\_56,

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

- BirdInFrench\_56, CandC\_56, Fregley\_57, Kelcole\_55, Marcie\_62, OneinaGillian\_57, Pepe25\_56, RobinRose\_59, Romm\_59, Tempo\_57, Wilca\_56,

### **Summary by start number:**

Start 11:

- Found in 41 of 52 ( 78.8% ) of genes in pham
- Manual Annotations of this start: 27 of 38
- Called 92.7% of time when present
- Phage (with cluster) where this start called: Altheas\_53 (EG), AluminumJesus\_48 (EG), BabyDotz\_50 (EG), Blab\_48 (EG), Casend\_51 (EG), DonaldDuck\_50 (EG), EverythinBagel\_50 (EG), Fizzles\_52 (EG), FrankDeliGuy\_48 (EG), Gazebo\_50 (EG), Grassboy\_52 (EG), Hyperion\_50 (EG), Jehoshaphat\_52 (EG), Judebell\_52 (EG), Kyva\_52 (EG), Llemily\_50 (EG), Lonelysoil\_49 (EG), Mashley\_49 (EG), MorillMayhem\_50 (EG), Namago\_50 (EG), Nike\_51 (EG), Phabia\_50 (EG), Phinky\_58 (EG), Quammi\_48 (EG), Rowlf\_47 (EG), Rudy\_48 (EG), SallyK\_51 (EG), Sillytadpoles\_51 (EG), Squash\_53 (EG), Statler\_53 (EG), StrawberryJamm\_53 (EG), Teehee\_51 (EG), Tissue\_50 (EG), Viceroy\_49 (EG), Wayne3\_52 (EG), Wheelie\_50 (EG), Zagie\_50 (EG), Zhafia\_53 (EG),

Start 12:

- Found in 14 of 52 ( 26.9% ) of genes in pham
- Manual Annotations of this start: 11 of 38
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdInFrench\_56 (EG), CandC\_56 (EG), Fransoyer\_54 (EG), Fregley\_57 (EG), Kelcole\_55 (EG), Marcie\_62 (EG), OneinaGillian\_57 (EG), Pepe25\_56 (EG), RobinRose\_59 (EG), Romm\_59 (EG), RubyRalph\_54 (EG), SadLad\_56 (EG), Tempo\_57 (EG), Wilca\_56 (EG),

### **Summary by clusters:**

There is one cluster represented in this pham: EG

Info for manual annotations of cluster EG:

- Start number 11 was manually annotated 27 times for cluster EG.
- Start number 12 was manually annotated 11 times for cluster EG.

### **Gene Information:**

Gene: Altheas\_53 Start: 39964, Stop: 37784, Start Num: 11

Candidate Starts for Altheas\_53:

(Start: 11 @39964 has 27 MA's), (18, 39730), (19, 39694), (21, 39661), (22, 39652), (25, 39568), (32, 39385), (33, 39382), (34, 39373), (35, 39331), (40, 39268), (41, 39262), (42, 39241), (44, 39223), (50, 39124), (51, 39109), (52, 39082), (53, 39034), (57, 38986), (61, 38926), (63, 38890), (64, 38878), (65, 38854), (68, 38830), (71, 38779), (74, 38758), (75, 38755), (77, 38746), (79, 38734), (81, 38716), (90, 38650), (94, 38581), (95, 38572), (96, 38560), (105, 38386), (108, 38374), (115, 38359), (127, 38248), (133, 38197), (136, 38104), (138, 38047), (145, 37954), (149, 37903), (152, 37876),

Gene: AluminumJesus\_48 Start: 39011, Stop: 36867, Start Num: 11

Candidate Starts for AluminumJesus\_48:

(9, 39029), (Start: 11 @39011 has 27 MA's), (14, 38939), (15, 38900), (17, 38780), (18, 38777), (22, 38699), (25, 38615), (29, 38462), (32, 38432), (33, 38429), (34, 38420), (40, 38315), (41, 38309), (42, 38288), (44, 38270), (47, 38225), (49, 38174), (50, 38171), (51, 38156), (53, 38087), (57, 38039), (61, 37979), (63, 37943), (64, 37931), (65, 37907), (68, 37883), (71, 37829), (74, 37808), (78, 37787), (94, 37679), (95, 37670), (96, 37658), (103, 37508), (114, 37418), (123, 37328), (124, 37313), (130, 37283), (133, 37229), (134, 37175), (135, 37172), (138, 37127), (145, 37034), (149, 36983), (156, 36905),

Gene: BabyDotz\_50 Start: 40022, Stop: 37881, Start Num: 11

Candidate Starts for BabyDotz\_50:

(9, 40040), (Start: 11 @40022 has 27 MA's), (17, 39791), (18, 39788), (22, 39710), (25, 39626), (29, 39473), (32, 39443), (33, 39440), (34, 39431), (40, 39326), (41, 39320), (42, 39299), (44, 39281), (47, 39236), (49, 39185), (50, 39182), (51, 39167), (53, 39098), (57, 39050), (61, 38990), (63, 38954), (64, 38942), (65, 38918), (68, 38894), (71, 38840), (74, 38819), (78, 38798), (80, 38777), (87, 38738), (90, 38708), (94, 38639), (95, 38630), (103, 38468), (117, 38390), (123, 38342), (124, 38327), (130, 38297), (133, 38243), (134, 38189), (135, 38186), (138, 38141), (141, 38093), (145, 38048), (149, 37997), (156, 37919),

Gene: BirdInFrench\_56 Start: 39724, Stop: 37787, Start Num: 12

Candidate Starts for BirdInFrench\_56:

(Start: 12 @39724 has 11 MA's), (13, 39670), (14, 39658), (15, 39619), (16, 39547), (18, 39496), (19, 39460), (20, 39436), (25, 39334), (26, 39325), (28, 39202), (30, 39169), (36, 39061), (41, 39028), (42, 39007), (44, 38989), (48, 38923), (50, 38890), (55, 38782), (57, 38761), (60, 38719), (61, 38701), (62, 38689), (67, 38617), (70, 38596), (85, 38524), (97, 38410), (98, 38395), (107, 38287), (111, 38272), (113, 38254), (126, 38134), (128, 38128), (150, 37858), (155, 37792),

Gene: Blab\_48 Start: 38894, Stop: 36780, Start Num: 11

Candidate Starts for Blab\_48:

(Start: 11 @38894 has 27 MA's), (17, 38663), (18, 38660), (22, 38582), (25, 38498), (29, 38345), (32, 38315), (33, 38312), (34, 38303), (40, 38198), (41, 38192), (42, 38171), (44, 38153), (47, 38108), (49, 38057), (50, 38054), (51, 38039), (53, 37970), (57, 37922), (61, 37862), (63, 37826), (64, 37814), (65,

37790), (68, 37766), (71, 37712), (74, 37691), (78, 37670), (94, 37562), (95, 37553), (104, 37394), (118, 37334), (127, 37250), (133, 37199), (138, 37040), (145, 36947), (149, 36896), (156, 36818),

Gene: CandC\_56 Start: 39618, Stop: 37729, Start Num: 12

Candidate Starts for CandC\_56:

(3, 39765), (4, 39741), (10, 39621), (Start: 12 @39618 has 11 MA's), (13, 39564), (14, 39552), (15, 39513), (16, 39441), (18, 39390), (19, 39354), (20, 39330), (23, 39270), (24, 39255), (25, 39228), (26, 39219), (28, 39096), (30, 39063), (36, 38955), (41, 38922), (42, 38901), (44, 38883), (48, 38817), (50, 38784), (55, 38676), (57, 38655), (60, 38613), (61, 38595), (62, 38583), (85, 38418), (95, 38340), (97, 38304), (98, 38289), (100, 38250), (111, 38157), (113, 38139), (139, 37893), (140, 37890), (147, 37824), (151, 37791), (155, 37734),

Gene: Casend\_51 Start: 39802, Stop: 37565, Start Num: 11

Candidate Starts for Casend\_51:

(8, 39820), (Start: 11 @39802 has 27 MA's), (14, 39730), (17, 39571), (18, 39568), (22, 39490), (25, 39406), (32, 39223), (33, 39220), (34, 39211), (40, 39106), (41, 39100), (42, 39079), (44, 39061), (47, 39016), (49, 38965), (50, 38962), (51, 38947), (53, 38878), (57, 38830), (61, 38770), (63, 38734), (64, 38722), (65, 38698), (68, 38674), (71, 38620), (72, 38608), (74, 38599), (78, 38578), (82, 38539), (90, 38509), (94, 38440), (95, 38431), (99, 38332), (109, 38185), (110, 38143), (120, 38059), (133, 37927), (134, 37873), (135, 37870), (138, 37825), (145, 37732), (149, 37681),

Gene: DonaldDuck\_50 Start: 39151, Stop: 36914, Start Num: 11

Candidate Starts for DonaldDuck\_50:

(8, 39169), (Start: 11 @39151 has 27 MA's), (14, 39079), (17, 38920), (18, 38917), (22, 38839), (25, 38755), (32, 38572), (33, 38569), (34, 38560), (40, 38455), (41, 38449), (42, 38428), (44, 38410), (47, 38365), (49, 38314), (50, 38311), (51, 38296), (53, 38227), (57, 38179), (61, 38119), (63, 38083), (64, 38071), (65, 38047), (68, 38023), (71, 37969), (72, 37957), (74, 37948), (78, 37927), (82, 37888), (90, 37858), (94, 37789), (95, 37780), (99, 37681), (109, 37534), (110, 37492), (120, 37408), (133, 37276), (134, 37222), (135, 37219), (138, 37174), (145, 37081), (149, 37030),

Gene: EverythinBagel\_50 Start: 39539, Stop: 37302, Start Num: 11

Candidate Starts for EverythinBagel\_50:

(8, 39557), (Start: 11 @39539 has 27 MA's), (17, 39308), (18, 39305), (22, 39227), (25, 39143), (32, 38960), (33, 38957), (34, 38948), (40, 38843), (41, 38837), (42, 38816), (44, 38798), (47, 38753), (49, 38702), (50, 38699), (51, 38684), (53, 38615), (57, 38567), (61, 38507), (63, 38471), (64, 38459), (65, 38435), (68, 38411), (71, 38357), (72, 38345), (74, 38336), (78, 38315), (82, 38276), (90, 38246), (94, 38177), (95, 38168), (99, 38069), (109, 37922), (110, 37880), (120, 37796), (133, 37664), (134, 37610), (135, 37607), (138, 37562), (145, 37469), (149, 37418),

Gene: Fizzles\_52 Start: 39934, Stop: 37724, Start Num: 11

Candidate Starts for Fizzles\_52:

(Start: 11 @39934 has 27 MA's), (18, 39700), (21, 39631), (22, 39622), (25, 39538), (28, 39406), (32, 39355), (33, 39352), (34, 39343), (40, 39238), (41, 39232), (42, 39211), (44, 39193), (47, 39148), (50, 39094), (51, 39079), (53, 39010), (54, 38995), (57, 38962), (61, 38902), (63, 38866), (64, 38854), (65, 38830), (69, 38800), (73, 38731), (76, 38722), (95, 38527), (106, 38344), (112, 38305), (125, 38173), (138, 37987), (145, 37894), (149, 37843), (152, 37816),

Gene: FrankDeliGuy\_48 Start: 39162, Stop: 36895, Start Num: 11

Candidate Starts for FrankDeliGuy\_48:

(8, 39180), (Start: 11 @39162 has 27 MA's), (15, 39051), (17, 38931), (18, 38928), (22, 38850), (25, 38766), (32, 38583), (33, 38580), (34, 38571), (40, 38466), (41, 38460), (42, 38439), (44, 38421), (47, 38376), (49, 38325), (50, 38322), (51, 38307), (53, 38238), (57, 38190), (61, 38130), (63, 38094), (64, 38082), (65, 38058), (68, 38034), (71, 37980), (74, 37959), (86, 37863), (89, 37854), (90, 37845), (94,

37776), (95, 37767), (109, 37515), (110, 37473), (120, 37389), (133, 37257), (134, 37203), (135, 37200), (138, 37155), (145, 37062), (149, 37011),

Gene: Fransoyer\_54 Start: 41748, Stop: 39766, Start Num: 12

Candidate Starts for Fransoyer\_54:

(1, 42033), (Start: 11 @41751 has 27 MA's), (Start: 12 @41748 has 11 MA's), (18, 41520), (22, 41442), (27, 41226), (31, 41184), (34, 41160), (37, 41073), (38, 41067), (39, 41055), (40, 41052), (42, 41025), (43, 41010), (47, 40965), (50, 40911), (52, 40869), (57, 40779), (61, 40713), (64, 40665), (65, 40641), (68, 40617), (76, 40539), (94, 40368), (95, 40359), (103, 40221), (122, 40143), (132, 40104), (138, 40041), (142, 39981), (152, 39873), (157, 39819),

Gene: Fregley\_57 Start: 39883, Stop: 37994, Start Num: 12

Candidate Starts for Fregley\_57:

(10, 39886), (Start: 12 @39883 has 11 MA's), (13, 39829), (14, 39817), (15, 39778), (16, 39706), (18, 39655), (19, 39619), (20, 39595), (25, 39493), (26, 39484), (28, 39361), (30, 39328), (36, 39220), (41, 39187), (42, 39166), (44, 39148), (48, 39082), (50, 39049), (55, 38941), (57, 38920), (60, 38878), (61, 38860), (62, 38848), (85, 38683), (93, 38617), (95, 38605), (97, 38569), (98, 38554), (100, 38515), (111, 38422), (113, 38404), (139, 38158), (147, 38089), (148, 38083), (151, 38056), (155, 37999),

Gene: Gazebo\_50 Start: 39682, Stop: 37481, Start Num: 11

Candidate Starts for Gazebo\_50:

(9, 39700), (Start: 11 @39682 has 27 MA's), (17, 39451), (18, 39448), (22, 39370), (25, 39286), (29, 39133), (32, 39103), (33, 39100), (34, 39091), (40, 38986), (41, 38980), (42, 38959), (44, 38941), (47, 38896), (49, 38845), (50, 38842), (51, 38827), (53, 38758), (57, 38710), (61, 38650), (63, 38614), (64, 38602), (65, 38578), (68, 38554), (71, 38500), (74, 38479), (78, 38458), (80, 38437), (92, 38401), (94, 38350), (95, 38341), (96, 38329), (103, 38179), (114, 38089), (123, 37999), (124, 37984), (130, 37954), (133, 37900), (138, 37741), (145, 37648), (156, 37519),

Gene: Grassboy\_52 Start: 39706, Stop: 37532, Start Num: 11

Candidate Starts for Grassboy\_52:

(Start: 11 @39706 has 27 MA's), (14, 39634), (15, 39595), (17, 39475), (18, 39472), (21, 39403), (22, 39394), (25, 39310), (27, 39181), (32, 39127), (33, 39124), (34, 39115), (40, 39010), (41, 39004), (42, 38983), (44, 38965), (47, 38920), (50, 38866), (51, 38851), (53, 38782), (57, 38734), (61, 38674), (63, 38638), (64, 38626), (65, 38602), (68, 38578), (71, 38524), (78, 38503), (80, 38482), (87, 38443), (90, 38413), (95, 38335), (103, 38173), (114, 38083), (123, 37993), (124, 37978), (130, 37948), (133, 37894), (134, 37840), (135, 37837), (138, 37792), (145, 37699), (149, 37648), (151, 37630),

Gene: Hyperion\_50 Start: 39486, Stop: 37282, Start Num: 11

Candidate Starts for Hyperion\_50:

(9, 39504), (Start: 11 @39486 has 27 MA's), (14, 39414), (15, 39375), (17, 39255), (18, 39252), (22, 39174), (25, 39090), (29, 38937), (32, 38907), (33, 38904), (34, 38895), (40, 38790), (41, 38784), (42, 38763), (44, 38745), (47, 38700), (49, 38649), (50, 38646), (51, 38631), (53, 38562), (57, 38514), (61, 38454), (63, 38418), (64, 38406), (65, 38382), (71, 38307), (74, 38286), (78, 38265), (80, 38244), (92, 38208), (94, 38157), (95, 38148), (96, 38136), (110, 37908), (115, 37824), (123, 37743), (124, 37728), (130, 37698), (133, 37644), (134, 37590), (135, 37587), (138, 37542), (145, 37449), (149, 37398),

Gene: Jehoshaphat\_52 Start: 40070, Stop: 37833, Start Num: 11

Candidate Starts for Jehoshaphat\_52:

(8, 40088), (Start: 11 @40070 has 27 MA's), (14, 39998), (17, 39839), (18, 39836), (22, 39758), (25, 39674), (32, 39491), (33, 39488), (34, 39479), (40, 39374), (41, 39368), (42, 39347), (44, 39329), (47, 39284), (49, 39233), (50, 39230), (51, 39215), (53, 39146), (57, 39098), (61, 39038), (63, 39002), (64, 38990), (65, 38966), (68, 38942), (71, 38888), (72, 38876), (74, 38867), (78, 38846), (82, 38807), (90, 38777), (94, 38708), (95, 38699), (99, 38600), (109, 38453), (110, 38411), (120, 38327), (133, 38195),

(134, 38141), (135, 38138), (138, 38093), (145, 38000), (149, 37949),

Gene: Judebell\_52 Start: 39579, Stop: 37330, Start Num: 11

Candidate Starts for Judebell\_52:

(Start: 11 @39579 has 27 MA's), (17, 39348), (18, 39345), (22, 39267), (25, 39183), (29, 39030), (32, 39000), (33, 38997), (34, 38988), (40, 38883), (41, 38877), (42, 38856), (44, 38838), (47, 38793), (49, 38742), (50, 38739), (51, 38724), (53, 38655), (57, 38607), (61, 38547), (63, 38511), (64, 38499), (65, 38475), (68, 38451), (71, 38397), (74, 38376), (88, 38280), (89, 38271), (90, 38262), (94, 38193), (95, 38184), (104, 38028), (115, 37884), (133, 37692), (134, 37638), (135, 37635), (138, 37590), (145, 37497), (149, 37446), (151, 37428),

Gene: Kelcole\_55 Start: 39846, Stop: 37921, Start Num: 12

Candidate Starts for Kelcole\_55:

(3, 39993), (4, 39969), (10, 39849), (Start: 12 @39846 has 11 MA's), (13, 39792), (14, 39780), (15, 39741), (16, 39669), (18, 39618), (19, 39582), (20, 39558), (25, 39456), (26, 39447), (28, 39324), (30, 39291), (35, 39219), (36, 39183), (41, 39150), (42, 39129), (44, 39111), (48, 39045), (50, 39012), (55, 38904), (57, 38883), (61, 38823), (62, 38811), (85, 38646), (93, 38580), (95, 38568), (97, 38532), (98, 38517), (111, 38394), (113, 38376), (137, 38121), (139, 38085), (147, 38016), (151, 37983), (155, 37926),

Gene: Kyva\_52 Start: 39730, Stop: 37532, Start Num: 11

Candidate Starts for Kyva\_52:

(Start: 11 @39730 has 27 MA's), (14, 39658), (15, 39619), (17, 39499), (18, 39496), (22, 39418), (25, 39334), (29, 39181), (32, 39151), (33, 39148), (34, 39139), (40, 39034), (41, 39028), (42, 39007), (44, 38989), (47, 38944), (49, 38893), (50, 38890), (51, 38875), (53, 38806), (57, 38758), (61, 38698), (63, 38662), (64, 38650), (65, 38626), (68, 38602), (71, 38548), (74, 38527), (88, 38431), (89, 38422), (90, 38413), (94, 38344), (95, 38335), (103, 38173), (114, 38083), (123, 37993), (124, 37978), (130, 37948), (133, 37894), (134, 37840), (135, 37837), (138, 37792), (145, 37699), (149, 37648),

Gene: Llemily\_50 Start: 38846, Stop: 36609, Start Num: 11

Candidate Starts for Llemily\_50:

(8, 38864), (Start: 11 @38846 has 27 MA's), (14, 38774), (17, 38615), (18, 38612), (22, 38534), (25, 38450), (32, 38267), (33, 38264), (34, 38255), (40, 38150), (41, 38144), (42, 38123), (44, 38105), (47, 38060), (49, 38009), (50, 38006), (51, 37991), (53, 37922), (57, 37874), (61, 37814), (63, 37778), (64, 37766), (65, 37742), (68, 37718), (71, 37664), (72, 37652), (74, 37643), (78, 37622), (82, 37583), (90, 37553), (94, 37484), (95, 37475), (99, 37376), (109, 37229), (110, 37187), (120, 37103), (133, 36971), (134, 36917), (135, 36914), (138, 36869), (145, 36776), (149, 36725),

Gene: Lonelysoil\_49 Start: 39088, Stop: 36851, Start Num: 11

Candidate Starts for Lonelysoil\_49:

(8, 39106), (Start: 11 @39088 has 27 MA's), (17, 38857), (18, 38854), (22, 38776), (25, 38692), (29, 38539), (32, 38509), (33, 38506), (34, 38497), (40, 38392), (41, 38386), (42, 38365), (44, 38347), (47, 38302), (49, 38251), (50, 38248), (51, 38233), (53, 38164), (57, 38116), (61, 38056), (63, 38020), (64, 38008), (65, 37984), (68, 37960), (71, 37906), (74, 37885), (78, 37864), (82, 37825), (90, 37795), (95, 37717), (109, 37471), (110, 37429), (120, 37345), (133, 37213), (134, 37159), (135, 37156), (138, 37111), (145, 37018), (149, 36967),

Gene: Marcie\_62 Start: 40742, Stop: 38811, Start Num: 12

Candidate Starts for Marcie\_62:

(Start: 12 @40742 has 11 MA's), (13, 40688), (14, 40676), (15, 40637), (16, 40565), (18, 40514), (19, 40478), (20, 40454), (23, 40394), (25, 40352), (26, 40343), (28, 40220), (30, 40187), (36, 40079), (41, 40046), (42, 40025), (44, 40007), (48, 39941), (50, 39908), (55, 39800), (57, 39779), (60, 39737), (61, 39719), (62, 39707), (70, 39614), (85, 39542), (97, 39428), (100, 39374), (111, 39284), (113, 39266),

(129, 39134), (131, 39113), (147, 38906), (150, 38882), (155, 38816),

Gene: Mashley\_49 Start: 39265, Stop: 37121, Start Num: 11

Candidate Starts for Mashley\_49:

(9, 39283), (Start: 11 @39265 has 27 MA's), (14, 39193), (15, 39154), (17, 39034), (18, 39031), (22, 38953), (25, 38869), (29, 38716), (32, 38686), (33, 38683), (34, 38674), (40, 38569), (41, 38563), (42, 38542), (44, 38524), (47, 38479), (49, 38428), (50, 38425), (51, 38410), (53, 38341), (57, 38293), (61, 38233), (63, 38197), (64, 38185), (65, 38161), (68, 38137), (71, 38083), (74, 38062), (78, 38041), (94, 37933), (95, 37924), (96, 37912), (103, 37762), (114, 37672), (123, 37582), (124, 37567), (130, 37537), (133, 37483), (134, 37429), (135, 37426), (138, 37381), (145, 37288), (149, 37237), (156, 37159),

Gene: MorillMayhem\_50 Start: 39399, Stop: 37153, Start Num: 11

Candidate Starts for MorillMayhem\_50:

(5, 39453), (Start: 11 @39399 has 27 MA's), (17, 39171), (18, 39168), (21, 39099), (22, 39090), (25, 39006), (27, 38877), (32, 38823), (33, 38820), (34, 38811), (40, 38706), (41, 38700), (42, 38679), (44, 38661), (47, 38616), (50, 38562), (51, 38547), (53, 38478), (57, 38430), (61, 38370), (63, 38334), (64, 38322), (65, 38298), (68, 38274), (71, 38220), (74, 38199), (78, 38178), (91, 38094), (94, 38028), (95, 38019), (96, 38007), (110, 37779), (115, 37695), (123, 37614), (124, 37599), (130, 37569), (133, 37515), (134, 37461), (135, 37458), (138, 37413), (144, 37326), (145, 37320), (149, 37269), (156, 37191),

Gene: Namago\_50 Start: 38860, Stop: 36662, Start Num: 11

Candidate Starts for Namago\_50:

(Start: 11 @38860 has 27 MA's), (14, 38788), (15, 38749), (17, 38629), (18, 38626), (22, 38548), (25, 38464), (29, 38311), (32, 38281), (33, 38278), (34, 38269), (40, 38164), (41, 38158), (42, 38137), (44, 38119), (47, 38074), (49, 38023), (50, 38020), (51, 38005), (53, 37936), (57, 37888), (61, 37828), (63, 37792), (64, 37780), (65, 37756), (68, 37732), (71, 37678), (74, 37657), (88, 37561), (89, 37552), (90, 37543), (94, 37474), (95, 37465), (103, 37303), (114, 37213), (123, 37123), (124, 37108), (130, 37078), (133, 37024), (134, 36970), (135, 36967), (138, 36922), (145, 36829), (149, 36778),

Gene: Nike\_51 Start: 39824, Stop: 37617, Start Num: 11

Candidate Starts for Nike\_51:

(Start: 11 @39824 has 27 MA's), (15, 39713), (17, 39593), (18, 39590), (22, 39512), (25, 39428), (27, 39299), (32, 39245), (33, 39242), (34, 39233), (40, 39128), (41, 39122), (42, 39101), (47, 39038), (49, 38987), (50, 38984), (51, 38969), (53, 38900), (57, 38852), (61, 38792), (63, 38756), (64, 38744), (65, 38720), (68, 38696), (71, 38642), (74, 38621), (78, 38600), (80, 38579), (92, 38543), (94, 38492), (95, 38483), (96, 38471), (110, 38243), (115, 38159), (123, 38078), (124, 38063), (130, 38033), (133, 37979), (134, 37925), (135, 37922), (138, 37877), (145, 37784), (149, 37733),

Gene: OneinaGillian\_57 Start: 39748, Stop: 37823, Start Num: 12

Candidate Starts for OneinaGillian\_57:

(3, 39895), (4, 39871), (10, 39751), (Start: 12 @39748 has 11 MA's), (13, 39694), (14, 39682), (15, 39643), (16, 39571), (18, 39520), (19, 39484), (20, 39460), (25, 39358), (26, 39349), (28, 39226), (30, 39193), (36, 39085), (41, 39052), (42, 39031), (44, 39013), (48, 38947), (50, 38914), (55, 38806), (57, 38785), (60, 38743), (61, 38725), (62, 38713), (85, 38548), (93, 38482), (95, 38470), (97, 38434), (98, 38419), (111, 38296), (113, 38278), (137, 38023), (139, 37987), (147, 37918), (148, 37912), (151, 37885), (155, 37828),

Gene: Pepe25\_56 Start: 39306, Stop: 37387, Start Num: 12

Candidate Starts for Pepe25\_56:

(3, 39456), (4, 39432), (Start: 12 @39306 has 11 MA's), (13, 39252), (14, 39240), (15, 39201), (16, 39129), (18, 39078), (19, 39042), (20, 39018), (25, 38916), (26, 38907), (28, 38784), (30, 38751), (36,



38643), (41, 38610), (42, 38589), (44, 38571), (48, 38505), (50, 38472), (55, 38364), (57, 38343), (60, 38301), (61, 38283), (62, 38271), (67, 38199), (70, 38178), (85, 38106), (97, 37992), (98, 37977), (107, 37869), (111, 37854), (113, 37836), (126, 37716), (147, 37482), (150, 37458), (153, 37401), (155, 37392),

Gene: Phabia\_50 Start: 39261, Stop: 37024, Start Num: 11

Candidate Starts for Phabia\_50:

(8, 39279), (Start: 11 @39261 has 27 MA's), (14, 39189), (17, 39030), (18, 39027), (22, 38949), (25, 38865), (32, 38682), (33, 38679), (34, 38670), (40, 38565), (41, 38559), (42, 38538), (44, 38520), (47, 38475), (49, 38424), (50, 38421), (51, 38406), (53, 38337), (57, 38289), (61, 38229), (63, 38193), (64, 38181), (65, 38157), (68, 38133), (71, 38079), (72, 38067), (74, 38058), (78, 38037), (82, 37998), (90, 37968), (94, 37899), (95, 37890), (99, 37791), (109, 37644), (110, 37602), (120, 37518), (133, 37386), (134, 37332), (135, 37329), (138, 37284), (145, 37191), (149, 37140),

Gene: Phinky\_58 Start: 41459, Stop: 39381, Start Num: 11

Candidate Starts for Phinky\_58:

(Start: 11 @41459 has 27 MA's), (18, 41225), (21, 41156), (22, 41147), (25, 41063), (28, 40931), (32, 40880), (33, 40877), (34, 40868), (41, 40757), (42, 40736), (44, 40718), (45, 40712), (46, 40691), (50, 40622), (51, 40607), (54, 40523), (57, 40490), (58, 40469), (59, 40451), (63, 40388), (64, 40376), (65, 40352), (66, 40337), (70, 40310), (74, 40256), (78, 40235), (81, 40214), (83, 40193), (94, 40106), (95, 40097), (119, 39845), (121, 39830), (123, 39800), (132, 39740), (133, 39722), (135, 39665), (138, 39620), (143, 39566), (146, 39545), (149, 39497), (152, 39470), (154, 39425), (156, 39419),

Gene: Quammi\_48 Start: 38961, Stop: 36724, Start Num: 11

Candidate Starts for Quammi\_48:

(8, 38979), (Start: 11 @38961 has 27 MA's), (14, 38889), (17, 38730), (18, 38727), (22, 38649), (25, 38565), (32, 38382), (33, 38379), (34, 38370), (40, 38265), (41, 38259), (42, 38238), (44, 38220), (47, 38175), (49, 38124), (50, 38121), (51, 38106), (53, 38037), (57, 37989), (61, 37929), (63, 37893), (64, 37881), (65, 37857), (68, 37833), (71, 37779), (72, 37767), (74, 37758), (78, 37737), (82, 37698), (90, 37668), (94, 37599), (95, 37590), (99, 37491), (109, 37344), (110, 37302), (120, 37218), (133, 37086), (134, 37032), (135, 37029), (138, 36984), (145, 36891), (149, 36840),

Gene: RobinRose\_59 Start: 40260, Stop: 38335, Start Num: 12

Candidate Starts for RobinRose\_59:

(3, 40407), (4, 40383), (10, 40263), (Start: 12 @40260 has 11 MA's), (13, 40206), (14, 40194), (15, 40155), (16, 40083), (18, 40032), (19, 39996), (20, 39972), (25, 39870), (26, 39861), (28, 39738), (30, 39705), (36, 39597), (41, 39564), (42, 39543), (44, 39525), (48, 39459), (50, 39426), (55, 39318), (57, 39297), (60, 39255), (61, 39237), (62, 39225), (85, 39060), (93, 38994), (95, 38982), (97, 38946), (111, 38808), (113, 38790), (137, 38535), (139, 38499), (147, 38430), (151, 38397), (155, 38340),

Gene: Romm\_59 Start: 40257, Stop: 38332, Start Num: 12

Candidate Starts for Romm\_59:

(10, 40260), (Start: 12 @40257 has 11 MA's), (13, 40203), (14, 40191), (15, 40152), (16, 40080), (18, 40029), (19, 39993), (20, 39969), (25, 39867), (26, 39858), (28, 39735), (30, 39702), (36, 39594), (41, 39561), (42, 39540), (44, 39522), (48, 39456), (50, 39423), (55, 39315), (57, 39294), (60, 39252), (61, 39234), (62, 39222), (85, 39057), (93, 38991), (95, 38979), (97, 38943), (98, 38928), (111, 38805), (113, 38787), (137, 38532), (139, 38496), (147, 38427), (148, 38421), (151, 38394), (155, 38337),

Gene: Rowlf\_47 Start: 38966, Stop: 36771, Start Num: 11

Candidate Starts for Rowlf\_47:

(Start: 11 @38966 has 27 MA's), (14, 38894), (15, 38855), (17, 38735), (18, 38732), (21, 38663), (22, 38654), (25, 38570), (32, 38387), (33, 38384), (34, 38375), (40, 38270), (41, 38264), (42, 38243), (44, 38225), (47, 38180), (49, 38129), (50, 38126), (51, 38111), (53, 38042), (57, 37994), (61, 37934), (63,

37898), (64, 37886), (65, 37862), (68, 37838), (71, 37784), (74, 37763), (78, 37742), (80, 37721), (87, 37682), (90, 37652), (94, 37583), (95, 37574), (96, 37562), (103, 37412), (114, 37322), (123, 37232), (124, 37217), (130, 37187), (133, 37133), (134, 37079), (135, 37076), (138, 37031), (144, 36944), (145, 36938), (149, 36887),

Gene: RubyRalph\_54 Start: 41686, Stop: 39695, Start Num: 12

Candidate Starts for RubyRalph\_54:

(2, 41842), (6, 41785), (7, 41752), (Start: 11 @41689 has 27 MA's), (Start: 12 @41686 has 11 MA's), (18, 41458), (22, 41380), (27, 41164), (31, 41122), (34, 41098), (37, 41011), (38, 41005), (39, 40993), (40, 40990), (42, 40963), (43, 40948), (47, 40903), (50, 40849), (52, 40807), (57, 40717), (61, 40651), (64, 40603), (65, 40579), (68, 40555), (84, 40438), (94, 40366), (95, 40357), (103, 40219), (122, 40141), (132, 40033), (138, 39970), (142, 39910), (152, 39802), (157, 39748),

Gene: Rudy\_48 Start: 38994, Stop: 36757, Start Num: 11

Candidate Starts for Rudy\_48:

(8, 39012), (Start: 11 @38994 has 27 MA's), (14, 38922), (17, 38763), (18, 38760), (22, 38682), (25, 38598), (32, 38415), (33, 38412), (34, 38403), (40, 38298), (41, 38292), (42, 38271), (44, 38253), (47, 38208), (49, 38157), (50, 38154), (51, 38139), (53, 38070), (57, 38022), (61, 37962), (63, 37926), (64, 37914), (65, 37890), (68, 37866), (71, 37812), (72, 37800), (74, 37791), (78, 37770), (82, 37731), (90, 37701), (94, 37632), (95, 37623), (99, 37524), (109, 37377), (110, 37335), (120, 37251), (133, 37119), (134, 37065), (135, 37062), (138, 37017), (145, 36924), (149, 36873),

Gene: SadLad\_56 Start: 42740, Stop: 40638, Start Num: 12

Candidate Starts for SadLad\_56:

(1, 43034), (Start: 11 @42743 has 27 MA's), (Start: 12 @42740 has 11 MA's), (18, 42512), (22, 42434), (27, 42218), (31, 42176), (34, 42152), (37, 42065), (38, 42059), (39, 42047), (40, 42044), (42, 42017), (43, 42002), (47, 41957), (50, 41903), (52, 41861), (56, 41783), (57, 41771), (61, 41705), (64, 41657), (68, 41609), (94, 41360), (95, 41351), (122, 41135), (137, 40925), (138, 40913), (152, 40745), (157, 40691),

Gene: SallyK\_51 Start: 39973, Stop: 37676, Start Num: 11

Candidate Starts for SallyK\_51:

(Start: 11 @39973 has 27 MA's), (14, 39901), (15, 39862), (17, 39742), (18, 39739), (22, 39661), (25, 39577), (29, 39424), (32, 39394), (33, 39391), (34, 39382), (40, 39277), (41, 39271), (42, 39250), (44, 39232), (47, 39187), (49, 39136), (50, 39133), (51, 39118), (53, 39049), (57, 39001), (61, 38941), (63, 38905), (64, 38893), (65, 38869), (68, 38845), (71, 38791), (74, 38770), (78, 38749), (91, 38665), (94, 38599), (95, 38590), (115, 38218), (123, 38137), (124, 38122), (130, 38092), (133, 38038), (134, 37984), (135, 37981), (138, 37936), (145, 37843), (149, 37792),

Gene: Sillytadpoles\_51 Start: 38834, Stop: 36597, Start Num: 11

Candidate Starts for Sillytadpoles\_51:

(8, 38852), (Start: 11 @38834 has 27 MA's), (14, 38762), (17, 38603), (18, 38600), (22, 38522), (25, 38438), (32, 38255), (33, 38252), (34, 38243), (40, 38138), (41, 38132), (42, 38111), (44, 38093), (47, 38048), (49, 37997), (50, 37994), (51, 37979), (53, 37910), (57, 37862), (61, 37802), (63, 37766), (64, 37754), (65, 37730), (68, 37706), (71, 37652), (72, 37640), (74, 37631), (78, 37610), (82, 37571), (90, 37541), (94, 37472), (95, 37463), (99, 37364), (109, 37217), (110, 37175), (120, 37091), (133, 36959), (134, 36905), (135, 36902), (138, 36857), (145, 36764), (149, 36713),

Gene: Squash\_53 Start: 39638, Stop: 37479, Start Num: 11

Candidate Starts for Squash\_53:

(Start: 11 @39638 has 27 MA's), (17, 39407), (18, 39404), (22, 39326), (25, 39242), (29, 39089), (32, 39059), (33, 39056), (34, 39047), (40, 38942), (41, 38936), (42, 38915), (44, 38897), (47, 38852), (50, 38798), (51, 38783), (53, 38714), (57, 38666), (61, 38606), (63, 38570), (64, 38558), (65, 38534), (68,

38510), (74, 38435), (78, 38414), (94, 38306), (95, 38297), (96, 38285), (103, 38135), (110, 38057), (120, 37973), (133, 37841), (134, 37787), (135, 37784), (138, 37739), (145, 37646), (149, 37595), (156, 37517),

Gene: Statler\_53 Start: 39658, Stop: 37568, Start Num: 11

Candidate Starts for Statler\_53:

(9, 39676), (Start: 11 @39658 has 27 MA's), (17, 39427), (18, 39424), (22, 39346), (25, 39262), (29, 39109), (32, 39079), (33, 39076), (34, 39067), (40, 38962), (41, 38956), (42, 38935), (44, 38917), (47, 38872), (50, 38818), (51, 38803), (53, 38734), (57, 38686), (61, 38626), (63, 38590), (64, 38578), (65, 38554), (68, 38530), (71, 38476), (74, 38455), (78, 38434), (80, 38413), (92, 38377), (94, 38326), (95, 38317), (96, 38305), (103, 38155), (116, 38077), (123, 38029), (124, 38014), (130, 37984), (133, 37930), (134, 37876), (135, 37873), (138, 37828), (145, 37735), (149, 37684), (156, 37606),

Gene: StrawberryJamm\_53 Start: 39109, Stop: 36965, Start Num: 11

Candidate Starts for StrawberryJamm\_53:

(9, 39127), (Start: 11 @39109 has 27 MA's), (17, 38878), (18, 38875), (21, 38806), (22, 38797), (25, 38713), (27, 38584), (32, 38530), (33, 38527), (34, 38518), (40, 38413), (41, 38407), (42, 38386), (44, 38368), (47, 38323), (50, 38269), (51, 38254), (53, 38185), (57, 38137), (61, 38077), (63, 38041), (64, 38029), (65, 38005), (68, 37981), (71, 37927), (74, 37906), (78, 37885), (80, 37864), (92, 37828), (94, 37777), (95, 37768), (96, 37756), (103, 37606), (114, 37516), (123, 37426), (124, 37411), (130, 37381), (133, 37327), (134, 37273), (135, 37270), (138, 37225), (145, 37132), (149, 37081), (151, 37063),

Gene: Teehee\_51 Start: 40067, Stop: 37830, Start Num: 11

Candidate Starts for Teehee\_51:

(8, 40085), (Start: 11 @40067 has 27 MA's), (14, 39995), (17, 39836), (18, 39833), (22, 39755), (25, 39671), (32, 39488), (33, 39485), (34, 39476), (40, 39371), (41, 39365), (42, 39344), (44, 39326), (47, 39281), (49, 39230), (50, 39227), (51, 39212), (53, 39143), (57, 39095), (61, 39035), (63, 38999), (64, 38987), (65, 38963), (68, 38939), (71, 38885), (72, 38873), (74, 38864), (78, 38843), (82, 38804), (90, 38774), (94, 38705), (95, 38696), (99, 38597), (109, 38450), (110, 38408), (120, 38324), (133, 38192), (134, 38138), (135, 38135), (138, 38090), (145, 37997), (149, 37946),

Gene: Tempo\_57 Start: 40122, Stop: 38215, Start Num: 12

Candidate Starts for Tempo\_57:

(Start: 12 @40122 has 11 MA's), (13, 40068), (14, 40056), (15, 40017), (16, 39945), (18, 39894), (19, 39858), (20, 39834), (25, 39732), (26, 39723), (28, 39600), (30, 39567), (36, 39459), (41, 39426), (42, 39405), (44, 39387), (48, 39321), (50, 39288), (55, 39180), (57, 39159), (60, 39117), (61, 39099), (62, 39087), (70, 38994), (85, 38922), (93, 38856), (95, 38844), (97, 38808), (98, 38793), (101, 38721), (102, 38706), (111, 38643), (139, 38379), (147, 38310), (148, 38304), (151, 38277), (155, 38220),

Gene: Tissue\_50 Start: 39602, Stop: 37305, Start Num: 11

Candidate Starts for Tissue\_50:

(Start: 11 @39602 has 27 MA's), (14, 39530), (15, 39491), (17, 39371), (18, 39368), (22, 39290), (25, 39206), (29, 39053), (32, 39023), (33, 39020), (34, 39011), (40, 38906), (41, 38900), (42, 38879), (44, 38861), (47, 38816), (49, 38765), (50, 38762), (51, 38747), (53, 38678), (57, 38630), (61, 38570), (63, 38534), (64, 38522), (65, 38498), (68, 38474), (71, 38420), (74, 38399), (78, 38378), (91, 38294), (94, 38228), (95, 38219), (115, 37847), (123, 37766), (124, 37751), (130, 37721), (133, 37667), (134, 37613), (135, 37610), (138, 37565), (145, 37472), (149, 37421),

Gene: Viceroy\_49 Start: 38964, Stop: 36727, Start Num: 11

Candidate Starts for Viceroy\_49:

(8, 38982), (Start: 11 @38964 has 27 MA's), (14, 38892), (17, 38733), (18, 38730), (22, 38652), (25, 38568), (32, 38385), (33, 38382), (34, 38373), (40, 38268), (41, 38262), (42, 38241), (44, 38223), (47,

38178), (49, 38127), (50, 38124), (51, 38109), (53, 38040), (57, 37992), (61, 37932), (63, 37896), (64, 37884), (65, 37860), (68, 37836), (71, 37782), (72, 37770), (74, 37761), (78, 37740), (82, 37701), (90, 37671), (94, 37602), (95, 37593), (99, 37494), (109, 37347), (110, 37305), (120, 37221), (133, 37089), (134, 37035), (135, 37032), (138, 36987), (145, 36894), (149, 36843),

Gene: Wayne3\_52 Start: 39830, Stop: 37593, Start Num: 11

Candidate Starts for Wayne3\_52:

(8, 39848), (Start: 11 @39830 has 27 MA's), (14, 39758), (17, 39599), (18, 39596), (22, 39518), (25, 39434), (32, 39251), (33, 39248), (34, 39239), (40, 39134), (41, 39128), (42, 39107), (44, 39089), (47, 39044), (49, 38993), (50, 38990), (51, 38975), (53, 38906), (57, 38858), (61, 38798), (63, 38762), (64, 38750), (65, 38726), (68, 38702), (71, 38648), (72, 38636), (74, 38627), (78, 38606), (82, 38567), (90, 38537), (94, 38468), (95, 38459), (99, 38360), (109, 38213), (110, 38171), (120, 38087), (133, 37955), (134, 37901), (135, 37898), (138, 37853), (145, 37760), (149, 37709),

Gene: Wheelie\_50 Start: 39151, Stop: 36914, Start Num: 11

Candidate Starts for Wheelie\_50:

(8, 39169), (Start: 11 @39151 has 27 MA's), (14, 39079), (17, 38920), (18, 38917), (22, 38839), (25, 38755), (32, 38572), (33, 38569), (34, 38560), (40, 38455), (41, 38449), (42, 38428), (44, 38410), (47, 38365), (49, 38314), (50, 38311), (51, 38296), (53, 38227), (57, 38179), (61, 38119), (63, 38083), (64, 38071), (65, 38047), (68, 38023), (71, 37969), (72, 37957), (74, 37948), (78, 37927), (82, 37888), (90, 37858), (94, 37789), (95, 37780), (99, 37681), (109, 37534), (110, 37492), (120, 37408), (133, 37276), (134, 37222), (135, 37219), (138, 37174), (145, 37081), (149, 37030),

Gene: Wilca\_56 Start: 39724, Stop: 37787, Start Num: 12

Candidate Starts for Wilca\_56:

(Start: 12 @39724 has 11 MA's), (13, 39670), (14, 39658), (15, 39619), (16, 39547), (18, 39496), (19, 39460), (20, 39436), (25, 39334), (26, 39325), (28, 39202), (30, 39169), (36, 39061), (41, 39028), (42, 39007), (44, 38989), (48, 38923), (50, 38890), (55, 38782), (57, 38761), (60, 38719), (61, 38701), (62, 38689), (67, 38617), (70, 38596), (85, 38524), (97, 38410), (98, 38395), (107, 38287), (111, 38272), (113, 38254), (126, 38134), (128, 38128), (150, 37858), (155, 37792),

Gene: Zagie\_50 Start: 39306, Stop: 37162, Start Num: 11

Candidate Starts for Zagie\_50:

(9, 39324), (Start: 11 @39306 has 27 MA's), (14, 39234), (15, 39195), (17, 39075), (18, 39072), (21, 39003), (22, 38994), (25, 38910), (27, 38781), (32, 38727), (33, 38724), (34, 38715), (40, 38610), (41, 38604), (42, 38583), (44, 38565), (47, 38520), (49, 38469), (50, 38466), (51, 38451), (53, 38382), (57, 38334), (61, 38274), (63, 38238), (64, 38226), (65, 38202), (68, 38178), (71, 38124), (74, 38103), (78, 38082), (80, 38061), (92, 38025), (94, 37974), (95, 37965), (96, 37953), (103, 37803), (114, 37713), (123, 37623), (124, 37608), (130, 37578), (133, 37524), (134, 37470), (135, 37467), (138, 37422), (145, 37329), (149, 37278), (151, 37260),

Gene: Zhafia\_53 Start: 39631, Stop: 37394, Start Num: 11

Candidate Starts for Zhafia\_53:

(8, 39649), (Start: 11 @39631 has 27 MA's), (14, 39559), (17, 39400), (18, 39397), (22, 39319), (25, 39235), (32, 39052), (33, 39049), (34, 39040), (40, 38935), (41, 38929), (42, 38908), (44, 38890), (47, 38845), (49, 38794), (50, 38791), (51, 38776), (53, 38707), (57, 38659), (61, 38599), (63, 38563), (64, 38551), (65, 38527), (68, 38503), (71, 38449), (72, 38437), (74, 38428), (78, 38407), (82, 38368), (90, 38338), (94, 38269), (95, 38260), (99, 38161), (109, 38014), (110, 37972), (120, 37888), (133, 37756), (134, 37702), (135, 37699), (138, 37654), (145, 37561), (149, 37510),