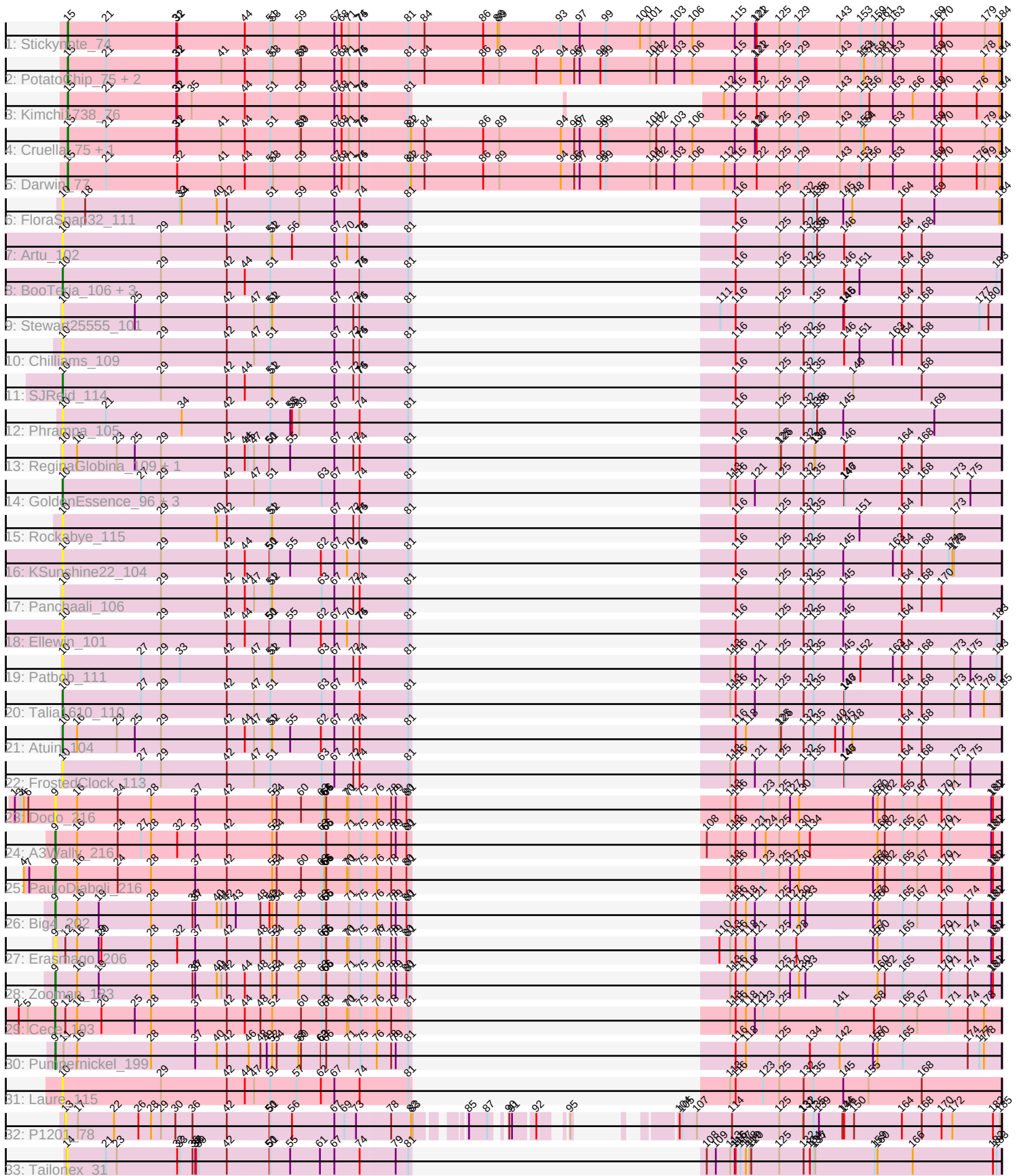




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 280592 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280592 has 43 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Stickynote_74
- Track 2 : PotatoChip_75, Zion_75, PeteyPab_74
- Track 3 : Kimchi1738_76
- Track 4 : Cruella_75, C3PO_75
- Track 5 : Darwin_77
- Track 6 : FloraSnap32_111
- Track 7 : Artu_102
- Track 8 : BooTeria_106, WaddleDee_97, DunneganBoMo_99, Emmetator_102
- Track 9 : Stewart25555_101
- Track 10 : Chilliams_109
- Track 11 : SJReid_114
- Track 12 : Phrampa_105
- Track 13 : ReginaGlobina_109, LeoJr_109
- Track 14 : GoldenEssence_96, Racecar_111, Bloom_114, Mimi_110
- Track 15 : Rockabye_115
- Track 16 : KSunshine22_104
- Track 17 : Panchaali_106
- Track 18 : Ellewin_101
- Track 19 : Patbob_111
- Track 20 : Talia1610_110
- Track 21 : Atuin_104
- Track 22 : FrostedClock_113
- Track 23 : Dodo_216
- Track 24 : A3Wally_216
- Track 25 : PauloDiaboli_216
- Track 26 : Big4_202
- Track 27 : Erasmago_206
- Track 28 : Zooman_183
- Track 29 : Cece_193
- Track 30 : Pumpernickel_199
- Track 31 : Laure_115
- Track 32 : P1201_78
- Track 33 : Tailonex_31

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

The start number called the most often in the published annotations is 10, it was called in 8 of the 22 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Artu_102, Atuin_104, Bloom_114, BooTeria_106, Chilliams_109, DunneganBoMo_99, Ellewin_101, Emmetator_102, FloraSnap32_111, FrostedClock_113, GoldenEssence_96, KSunshine22_104, Laure_115, LeoJr_109, Mimi_110, Panchaali_106, Patbob_111, Phrampa_105, Racecar_111, ReginaGlobina_109, Rockabye_115, SJReid_114, Stewart25555_101, Talia1610_110, WaddleDee_97,

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

-

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

- A3Wally_216, Big4_202, C3PO_75, Cece_193, Cruella_75, Darwin_77, Dodo_216, Erasmago_206, Kimchi1738_76, P1201_78, PauloDiaboli_216, PeteyPab_74, PotatoChip_75, Pumpernickel_199, Stickynote_74, Tailonex_31, Zion_75, Zooman_183,

Summary by start number:

Start 8:

- Found in 1 of 43 (2.3%) of genes in pham
- Manual Annotations of this start: 1 of 22
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cece_193 (GD3),

Start 9:

- Found in 7 of 43 (16.3%) of genes in pham
- Manual Annotations of this start: 5 of 22
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally_216 (GD1), Big4_202 (GD2), Dodo_216 (GD1), Erasmago_206 (GD2), PauloDiaboli_216 (GD1), Pumpernickel_199 (GD4), Zooman_183 (GD2),

Start 10:

- Found in 25 of 43 (58.1%) of genes in pham
- Manual Annotations of this start: 8 of 22
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Artu_102 (FC), Atuin_104 (FC), Bloom_114 (FC), BooTeria_106 (FC), Chilliams_109 (FC), DunneganBoMo_99 (FC), Ellewin_101 (FC), Emmetator_102 (FC), FloraSnap32_111 (FC), FrostedClock_113 (FC), GoldenEssence_96 (FC), KSunshine22_104 (FC), Laure_115 (UNK), LeoJr_109 (FC), Mimi_110 (FC), Panchaali_106 (FC), Patbob_111 (FC), Phrampa_105 (FC), Racecar_111 (FC), ReginaGlobina_109 (FC), Rockabye_115 (FC), SJReid_114 (FC), Stewart25555_101 (FC), Talia1610_110 (FC), WaddleDee_97 (FC),

Start 13:

- Found in 1 of 43 (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: P1201_78 (singleton),

Start 14:

- Found in 1 of 43 (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: Tailonex_31 (singleton),

Start 15:

- Found in 8 of 43 (18.6%) of genes in pham
- Manual Annotations of this start: 8 of 22
- Called 100.0% of time when present
- Phage (with cluster) where this start called: C3PO_75 (EN), Cruella_75 (EN), Darwin_77 (EN), Kimchi1738_76 (EN), PeteyPab_74 (EN), PotatoChip_75 (EN), Stickynote_74 (EN), Zion_75 (EN),

Summary by clusters:

There are 8 clusters represented in this pham: GD1, GD2, GD3, GD4, singleton, FC, EN, UNK,

Info for manual annotations of cluster EN:

- Start number 15 was manually annotated 8 times for cluster EN.

Info for manual annotations of cluster FC:

- Start number 10 was manually annotated 8 times for cluster FC.

Info for manual annotations of cluster GD1:

- Start number 9 was manually annotated 2 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 9 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 8 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 9 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: A3Wally_216 Start: 117654, Stop: 115501, Start Num: 9

Candidate Starts for A3Wally_216:

(Start: 9 @117654 has 5 MA's), (16, 117582), (24, 117447), (27, 117372), (28, 117339), (32, 117252), (37, 117192), (42, 117087), (52, 116937), (54, 116922), (63, 116772), (65, 116760), (66, 116757), (71, 116682), (75, 116643), (76, 116595), (78, 116547), (79, 116532), (80, 116502), (81, 116496), (108, 116466), (113, 116388), (116, 116370), (121, 116313), (124, 116277), (125, 116232), (130, 116166), (134, 116130), (160, 115914), (162, 115890), (165, 115830), (167, 115782), (170, 115701), (171, 115677), (181, 115536), (182, 115530),

Gene: Artu_102 Start: 84180, Stop: 86318, Start Num: 10

Candidate Starts for Artu_102:

(Start: 10 @84180 has 8 MA's), (29, 84498), (42, 84717), (51, 84861), (52, 84867), (56, 84933), (67, 85074), (70, 85116), (74, 85158), (75, 85161), (81, 85320), (116, 85446), (125, 85584), (132, 85665), (135, 85698), (138, 85710), (146, 85797), (164, 85986), (168, 86052),

Gene: Atuin_104 Start: 87692, Stop: 89833, Start Num: 10

Candidate Starts for Atuin_104:

(Start: 10 @87692 has 8 MA's), (16, 87734), (23, 87866), (25, 87923), (29, 88010), (42, 88229), (44, 88289), (47, 88319), (51, 88373), (52, 88379), (55, 88439), (62, 88541), (67, 88586), (72, 88649), (74, 88670), (81, 88832), (116, 88958), (118, 88985), (125, 89096), (126, 89102), (132, 89177), (135, 89210), (140, 89282), (145, 89309), (148, 89336), (164, 89501), (168, 89567),

Gene: Big4_202 Start: 114062, Stop: 111909, Start Num: 9

Candidate Starts for Big4_202:

(Start: 9 @114062 has 5 MA's), (16, 113990), (19, 113918), (28, 113747), (36, 113609), (37, 113600), (40, 113528), (41, 113513), (42, 113495), (43, 113465), (48, 113384), (50, 113354), (52, 113345), (54, 113330), (58, 113258), (63, 113180), (65, 113168), (66, 113165), (71, 113090), (75, 113051), (76, 113003), (78, 112955), (79, 112940), (80, 112910), (81, 112904), (113, 112796), (116, 112778), (118, 112751), (121, 112721), (125, 112640), (127, 112604), (130, 112574), (133, 112553), (157, 112337), (160, 112322), (165, 112238), (167, 112190), (170, 112109), (174, 112022), (181, 111944), (182, 111938),

Gene: Bloom_114 Start: 87765, Stop: 89903, Start Num: 10

Candidate Starts for Bloom_114:

(Start: 10 @87765 has 8 MA's), (27, 88017), (29, 88083), (42, 88302), (47, 88392), (51, 88446), (63, 88617), (67, 88659), (74, 88743), (81, 88905), (113, 89013), (116, 89031), (121, 89088), (125, 89169), (132, 89250), (135, 89283), (146, 89385), (147, 89388), (164, 89571), (168, 89637), (173, 89745), (175, 89799),

Gene: BooTeria_106 Start: 84293, Stop: 86434, Start Num: 10

Candidate Starts for BooTeria_106:

(Start: 10 @84293 has 8 MA's), (29, 84611), (42, 84830), (44, 84890), (51, 84974), (67, 85187), (74, 85271), (75, 85274), (81, 85433), (116, 85559), (125, 85697), (132, 85778), (135, 85811), (146, 85913), (151, 85961), (164, 86102), (168, 86168), (183, 86417),

Gene: C3PO_75 Start: 57202, Stop: 54134, Start Num: 15

Candidate Starts for C3PO_75:

(Start: 15 @57202 has 8 MA's), (21, 57079), (31, 56848), (32, 56845), (41, 56701), (44, 56623), (51, 56539), (59, 56443), (60, 56437), (67, 56326), (68, 56302), (71, 56278), (74, 56242), (75, 56239), (81, 56086), (82, 56077), (84, 56032), (86, 55837), (89, 55783), (94, 55579), (96, 55534), (97, 55516), (98, 55447), (99, 55429), (101, 55282), (102, 55261), (103, 55201), (106, 55141), (115, 55000), (121, 54934), (122, 54928), (125, 54853), (129, 54790), (143, 54658), (153, 54601), (154, 54592), (163, 54496), (169, 54358), (170, 54334), (179, 54190), (184, 54142),

Gene: Cece_193 Start: 118582, Stop: 116429, Start Num: 8

Candidate Starts for Cece_193:

(2, 118702), (5, 118672), (Start: 8 @118582 has 1 MA's), (12, 118549), (16, 118510), (20, 118429), (25, 118321), (28, 118267), (37, 118120), (42, 118015), (44, 117955), (48, 117904), (52, 117865), (60, 117769), (63, 117700), (66, 117685), (70, 117616), (71, 117610), (75, 117571), (76, 117523), (78, 117475), (81, 117424), (113, 117316), (116, 117298), (118, 117271), (121, 117241), (123, 117214), (125, 117160), (141, 116971), (158, 116854), (165, 116758), (167, 116710), (171, 116605), (174,

116542), (178, 116488),

Gene: Chilliams_109 Start: 80522, Stop: 82663, Start Num: 10

Candidate Starts for Chilliams_109:

(Start: 10 @80522 has 8 MA's), (29, 80840), (42, 81059), (47, 81149), (51, 81203), (67, 81416), (72, 81479), (74, 81500), (75, 81503), (81, 81662), (116, 81788), (125, 81926), (132, 82007), (135, 82040), (146, 82142), (151, 82190), (163, 82301), (164, 82331), (168, 82397),

Gene: Cruella_75 Start: 57202, Stop: 54134, Start Num: 15

Candidate Starts for Cruella_75:

(Start: 15 @57202 has 8 MA's), (21, 57079), (31, 56848), (32, 56845), (41, 56701), (44, 56623), (51, 56539), (59, 56443), (60, 56437), (67, 56326), (68, 56302), (71, 56278), (74, 56242), (75, 56239), (81, 56086), (82, 56077), (84, 56032), (86, 55837), (89, 55783), (94, 55579), (96, 55534), (97, 55516), (98, 55447), (99, 55429), (101, 55282), (102, 55261), (103, 55201), (106, 55141), (115, 55000), (121, 54934), (122, 54928), (125, 54853), (129, 54790), (143, 54658), (153, 54601), (154, 54592), (163, 54496), (169, 54358), (170, 54334), (179, 54190), (184, 54142),

Gene: Darwin_77 Start: 57975, Stop: 54907, Start Num: 15

Candidate Starts for Darwin_77:

(Start: 15 @57975 has 8 MA's), (21, 57852), (32, 57618), (41, 57474), (44, 57396), (51, 57312), (53, 57303), (59, 57216), (67, 57099), (68, 57075), (71, 57051), (74, 57015), (75, 57012), (81, 56859), (82, 56850), (84, 56805), (86, 56610), (89, 56556), (94, 56352), (96, 56307), (97, 56289), (98, 56220), (99, 56202), (101, 56055), (102, 56034), (103, 55974), (106, 55914), (112, 55809), (115, 55773), (122, 55701), (125, 55626), (129, 55563), (143, 55431), (153, 55374), (156, 55347), (163, 55269), (169, 55131), (170, 55107), (176, 54990), (179, 54963), (184, 54915),

Gene: Dodo_216 Start: 117456, Stop: 115303, Start Num: 9

Candidate Starts for Dodo_216:

(1, 117591), (3, 117573), (4, 117561), (6, 117546), (Start: 9 @117456 has 5 MA's), (16, 117384), (24, 117249), (28, 117141), (37, 116994), (42, 116889), (52, 116739), (54, 116724), (60, 116643), (63, 116574), (64, 116565), (65, 116562), (66, 116559), (70, 116490), (71, 116484), (75, 116445), (76, 116397), (78, 116349), (79, 116334), (80, 116304), (81, 116298), (113, 116190), (116, 116172), (123, 116088), (125, 116034), (127, 115998), (130, 115968), (157, 115731), (160, 115716), (162, 115692), (165, 115632), (167, 115584), (170, 115503), (171, 115479), (181, 115338), (182, 115332),

Gene: DunneganBoMo_99 Start: 83562, Stop: 85703, Start Num: 10

Candidate Starts for DunneganBoMo_99:

(Start: 10 @83562 has 8 MA's), (29, 83880), (42, 84099), (44, 84159), (51, 84243), (67, 84456), (74, 84540), (75, 84543), (81, 84702), (116, 84828), (125, 84966), (132, 85047), (135, 85080), (146, 85182), (151, 85230), (164, 85371), (168, 85437), (183, 85686),

Gene: Ellewin_101 Start: 82973, Stop: 85111, Start Num: 10

Candidate Starts for Ellewin_101:

(Start: 10 @82973 has 8 MA's), (29, 83291), (42, 83510), (44, 83570), (50, 83651), (51, 83654), (55, 83720), (62, 83822), (67, 83867), (70, 83909), (74, 83951), (75, 83954), (81, 84113), (116, 84239), (125, 84377), (132, 84458), (135, 84491), (145, 84590), (164, 84779), (183, 85094),

Gene: Emmetator_102 Start: 83517, Stop: 85658, Start Num: 10

Candidate Starts for Emmetator_102:

(Start: 10 @83517 has 8 MA's), (29, 83835), (42, 84054), (44, 84114), (51, 84198), (67, 84411), (74, 84495), (75, 84498), (81, 84657), (116, 84783), (125, 84921), (132, 85002), (135, 85035), (146, 85137), (151, 85185), (164, 85326), (168, 85392), (183, 85641),

Gene: Erasmago_206 Start: 112320, Stop: 110167, Start Num: 9

Candidate Starts for Erasmago_206:

(Start: 9 @112320 has 5 MA's), (12, 112287), (16, 112248), (19, 112176), (20, 112167), (28, 112005), (32, 111918), (37, 111858), (42, 111753), (48, 111642), (52, 111603), (54, 111588), (58, 111516), (63, 111438), (65, 111426), (66, 111423), (70, 111354), (71, 111348), (75, 111309), (76, 111261), (77, 111252), (78, 111213), (79, 111198), (80, 111168), (81, 111162), (110, 111090), (113, 111054), (116, 111036), (118, 111009), (121, 110979), (125, 110898), (128, 110841), (157, 110595), (160, 110580), (165, 110496), (170, 110367), (171, 110343), (174, 110280), (181, 110202), (182, 110196),

Gene: FloraSnap32_111 Start: 86664, Stop: 88799, Start Num: 10

Candidate Starts for FloraSnap32_111:

(Start: 10 @86664 has 8 MA's), (18, 86733), (33, 87045), (34, 87051), (40, 87168), (42, 87201), (51, 87345), (59, 87441), (67, 87558), (74, 87642), (81, 87798), (116, 87924), (125, 88062), (132, 88143), (135, 88176), (138, 88188), (145, 88275), (148, 88302), (164, 88467), (169, 88575), (184, 88791),

Gene: FrostedClock_113 Start: 87962, Stop: 90100, Start Num: 10

Candidate Starts for FrostedClock_113:

(Start: 10 @87962 has 8 MA's), (27, 88214), (29, 88280), (42, 88499), (47, 88589), (51, 88643), (63, 88814), (67, 88856), (72, 88919), (74, 88940), (81, 89102), (113, 89210), (116, 89228), (121, 89285), (125, 89366), (132, 89447), (135, 89480), (146, 89582), (147, 89585), (164, 89768), (168, 89834), (173, 89942), (175, 89996),

Gene: GoldenEssence_96 Start: 81557, Stop: 83695, Start Num: 10

Candidate Starts for GoldenEssence_96:

(Start: 10 @81557 has 8 MA's), (27, 81809), (29, 81875), (42, 82094), (47, 82184), (51, 82238), (63, 82409), (67, 82451), (74, 82535), (81, 82697), (113, 82805), (116, 82823), (121, 82880), (125, 82961), (132, 83042), (135, 83075), (146, 83177), (147, 83180), (164, 83363), (168, 83429), (173, 83537), (175, 83591),

Gene: KSunshine22_104 Start: 84574, Stop: 86715, Start Num: 10

Candidate Starts for KSunshine22_104:

(Start: 10 @84574 has 8 MA's), (29, 84892), (42, 85111), (44, 85171), (50, 85252), (51, 85255), (55, 85321), (62, 85423), (67, 85468), (70, 85510), (74, 85552), (75, 85555), (81, 85714), (116, 85840), (125, 85978), (132, 86059), (135, 86092), (145, 86191), (163, 86353), (164, 86383), (168, 86449), (171, 86539), (172, 86551), (173, 86557),

Gene: Kimchi1738_76 Start: 56215, Stop: 54110, Start Num: 15

Candidate Starts for Kimchi1738_76:

(Start: 15 @56215 has 8 MA's), (21, 56092), (31, 55861), (32, 55858), (35, 55813), (44, 55636), (51, 55552), (59, 55456), (67, 55339), (68, 55315), (71, 55291), (74, 55255), (75, 55252), (81, 55099), (112, 55012), (115, 54976), (122, 54904), (125, 54829), (129, 54766), (143, 54634), (153, 54577), (156, 54550), (163, 54472), (166, 54406), (169, 54334), (170, 54310), (176, 54193), (184, 54118),

Gene: Laure_115 Start: 80487, Stop: 82622, Start Num: 10

Candidate Starts for Laure_115:

(Start: 10 @80487 has 8 MA's), (29, 80805), (42, 81024), (44, 81084), (47, 81114), (51, 81168), (57, 81255), (62, 81336), (67, 81381), (74, 81465), (81, 81624), (113, 81732), (116, 81750), (123, 81834), (125, 81888), (132, 81969), (135, 82002), (145, 82101), (155, 82179), (168, 82356),

Gene: LeoJr_109 Start: 87927, Stop: 90065, Start Num: 10

Candidate Starts for LeoJr_109:

(Start: 10 @87927 has 8 MA's), (16, 87969), (23, 88101), (25, 88158), (29, 88245), (42, 88464), (44, 88524), (45, 88533), (47, 88554), (50, 88605), (51, 88608), (55, 88674), (67, 88821), (72, 88884), (74,

88905), (81, 89067), (116, 89193), (125, 89331), (126, 89337), (132, 89412), (136, 89448), (137, 89451), (146, 89547), (164, 89733), (168, 89799),

Gene: Mimi_110 Start: 87112, Stop: 89250, Start Num: 10

Candidate Starts for Mimi_110:

(Start: 10 @87112 has 8 MA's), (27, 87364), (29, 87430), (42, 87649), (47, 87739), (51, 87793), (63, 87964), (67, 88006), (74, 88090), (81, 88252), (113, 88360), (116, 88378), (121, 88435), (125, 88516), (132, 88597), (135, 88630), (146, 88732), (147, 88735), (164, 88918), (168, 88984), (173, 89092), (175, 89146),

Gene: P1201_78 Start: 60988, Stop: 58391, Start Num: 13

Candidate Starts for P1201_78:

(13, 60988), (17, 60952), (22, 60832), (26, 60751), (28, 60709), (29, 60676), (30, 60628), (36, 60574), (42, 60460), (50, 60319), (51, 60316), (56, 60244), (67, 60103), (69, 60070), (73, 60031), (78, 59920), (82, 59854), (83, 59848), (85, 59740), (87, 59695), (90, 59668), (91, 59659), (92, 59605), (95, 59563), (104, 59446), (105, 59437), (107, 59389), (114, 59272), (125, 59116), (131, 59038), (132, 59035), (135, 59002), (139, 58984), (144, 58912), (146, 58906), (150, 58873), (164, 58723), (168, 58657), (170, 58591), (172, 58555), (182, 58420), (185, 58396),

Gene: Panchaali_106 Start: 84551, Stop: 86689, Start Num: 10

Candidate Starts for Panchaali_106:

(Start: 10 @84551 has 8 MA's), (29, 84869), (42, 85088), (44, 85148), (47, 85178), (51, 85232), (52, 85238), (63, 85403), (67, 85445), (72, 85508), (74, 85529), (81, 85691), (116, 85817), (125, 85955), (132, 86036), (135, 86069), (145, 86168), (164, 86357), (168, 86423), (170, 86489),

Gene: Patbob_111 Start: 87847, Stop: 89985, Start Num: 10

Candidate Starts for Patbob_111:

(Start: 10 @87847 has 8 MA's), (27, 88099), (29, 88165), (33, 88228), (42, 88384), (47, 88474), (51, 88528), (52, 88534), (63, 88699), (67, 88741), (72, 88804), (74, 88825), (81, 88987), (113, 89095), (116, 89113), (121, 89170), (125, 89251), (132, 89332), (135, 89365), (145, 89464), (152, 89515), (163, 89623), (164, 89653), (168, 89719), (173, 89827), (175, 89881), (183, 89968),

Gene: PauloDiaboli_216 Start: 115867, Stop: 113714, Start Num: 9

Candidate Starts for PauloDiaboli_216:

(4, 115969), (7, 115954), (Start: 9 @115867 has 5 MA's), (16, 115795), (24, 115660), (28, 115552), (37, 115405), (42, 115300), (52, 115150), (54, 115135), (60, 115054), (63, 114985), (64, 114976), (65, 114973), (66, 114970), (70, 114901), (71, 114895), (75, 114856), (76, 114808), (78, 114760), (80, 114715), (81, 114709), (113, 114601), (116, 114583), (123, 114499), (125, 114445), (127, 114409), (130, 114379), (157, 114142), (160, 114127), (162, 114103), (165, 114043), (167, 113995), (170, 113914), (171, 113890), (181, 113749), (182, 113743),

Gene: PeteyPab_74 Start: 56997, Stop: 53929, Start Num: 15

Candidate Starts for PeteyPab_74:

(Start: 15 @56997 has 8 MA's), (21, 56874), (31, 56643), (32, 56640), (41, 56496), (44, 56418), (51, 56334), (53, 56325), (59, 56238), (60, 56232), (67, 56121), (68, 56097), (71, 56073), (74, 56037), (75, 56034), (81, 55881), (84, 55827), (86, 55632), (89, 55578), (92, 55455), (94, 55374), (96, 55329), (97, 55311), (98, 55242), (99, 55224), (101, 55077), (102, 55056), (103, 54996), (106, 54936), (115, 54795), (121, 54729), (122, 54723), (125, 54648), (129, 54585), (143, 54453), (153, 54396), (154, 54387), (159, 54351), (161, 54327), (163, 54291), (169, 54153), (170, 54129), (178, 53988), (184, 53937),

Gene: Phrampa_105 Start: 89253, Stop: 91385, Start Num: 10

Candidate Starts for Phrampa_105:

(Start: 10 @89253 has 8 MA's), (21, 89391), (34, 89640), (42, 89790), (51, 89934), (55, 90000), (56, 90006), (59, 90030), (67, 90147), (74, 90231), (81, 90387), (116, 90513), (125, 90651), (132, 90732), (135, 90765), (138, 90777), (145, 90864), (169, 91161),

Gene: PotatoChip_75 Start: 56999, Stop: 53931, Start Num: 15

Candidate Starts for PotatoChip_75:

(Start: 15 @56999 has 8 MA's), (21, 56876), (31, 56645), (32, 56642), (41, 56498), (44, 56420), (51, 56336), (53, 56327), (59, 56240), (60, 56234), (67, 56123), (68, 56099), (71, 56075), (74, 56039), (75, 56036), (81, 55883), (84, 55829), (86, 55634), (89, 55580), (92, 55457), (94, 55376), (96, 55331), (97, 55313), (98, 55244), (99, 55226), (101, 55079), (102, 55058), (103, 54998), (106, 54938), (115, 54797), (121, 54731), (122, 54725), (125, 54650), (129, 54587), (143, 54455), (153, 54398), (154, 54389), (159, 54353), (161, 54329), (163, 54293), (169, 54155), (170, 54131), (178, 53990), (184, 53939),

Gene: Pumpernickel_199 Start: 115229, Stop: 113079, Start Num: 9

Candidate Starts for Pumpernickel_199:

(Start: 9 @115229 has 5 MA's), (11, 115205), (16, 115160), (28, 114917), (37, 114770), (40, 114698), (42, 114665), (46, 114593), (48, 114554), (49, 114533), (52, 114515), (54, 114500), (58, 114428), (60, 114419), (62, 114353), (63, 114350), (66, 114335), (71, 114260), (75, 114221), (76, 114173), (78, 114125), (79, 114110), (81, 114074), (116, 113948), (118, 113921), (125, 113810), (134, 113708), (142, 113612), (157, 113507), (160, 113492), (165, 113408), (174, 113192), (177, 113153), (178, 113138),

Gene: Racecar_111 Start: 87765, Stop: 89903, Start Num: 10

Candidate Starts for Racecar_111:

(Start: 10 @87765 has 8 MA's), (27, 88017), (29, 88083), (42, 88302), (47, 88392), (51, 88446), (63, 88617), (67, 88659), (74, 88743), (81, 88905), (113, 89013), (116, 89031), (121, 89088), (125, 89169), (132, 89250), (135, 89283), (146, 89385), (147, 89388), (164, 89571), (168, 89637), (173, 89745), (175, 89799),

Gene: ReginaGlobina_109 Start: 87493, Stop: 89631, Start Num: 10

Candidate Starts for ReginaGlobina_109:

(Start: 10 @87493 has 8 MA's), (16, 87535), (23, 87667), (25, 87724), (29, 87811), (42, 88030), (44, 88090), (45, 88099), (47, 88120), (50, 88171), (51, 88174), (55, 88240), (67, 88387), (72, 88450), (74, 88471), (81, 88633), (116, 88759), (125, 88897), (126, 88903), (132, 88978), (136, 89014), (137, 89017), (146, 89113), (164, 89299), (168, 89365),

Gene: Rockabye_115 Start: 80960, Stop: 83101, Start Num: 10

Candidate Starts for Rockabye_115:

(Start: 10 @80960 has 8 MA's), (29, 81278), (40, 81464), (42, 81497), (51, 81641), (52, 81647), (67, 81854), (72, 81917), (74, 81938), (75, 81941), (81, 82100), (116, 82226), (125, 82364), (132, 82445), (135, 82478), (151, 82628), (164, 82769), (173, 82943),

Gene: SJReid_114 Start: 80008, Stop: 82146, Start Num: 10

Candidate Starts for SJReid_114:

(Start: 10 @80008 has 8 MA's), (29, 80326), (42, 80545), (44, 80605), (51, 80689), (52, 80695), (67, 80902), (72, 80965), (74, 80986), (75, 80989), (81, 81148), (116, 81274), (125, 81412), (132, 81493), (135, 81526), (149, 81655), (168, 81880),

Gene: Stewart25555_101 Start: 84299, Stop: 86437, Start Num: 10

Candidate Starts for Stewart25555_101:

(Start: 10 @84299 has 8 MA's), (25, 84530), (29, 84617), (42, 84836), (47, 84926), (51, 84980), (52, 84986), (67, 85193), (72, 85256), (74, 85277), (75, 85280), (81, 85439), (111, 85514), (116, 85565),

(125, 85703), (135, 85817), (145, 85916), (146, 85919), (164, 86105), (168, 86171), (177, 86363),
(180, 86393),

Gene: Stickynote_74 Start: 57205, Stop: 54137, Start Num: 15

Candidate Starts for Stickynote_74:

(Start: 15 @57205 has 8 MA's), (21, 57082), (31, 56851), (32, 56848), (44, 56626), (51, 56542), (53, 56533), (59, 56446), (67, 56329), (68, 56305), (71, 56281), (74, 56245), (75, 56242), (81, 56089), (84, 56035), (86, 55840), (88, 55792), (89, 55786), (93, 55585), (97, 55519), (99, 55432), (100, 55318), (101, 55285), (103, 55204), (106, 55144), (115, 55003), (121, 54937), (122, 54931), (125, 54856), (129, 54793), (143, 54661), (153, 54604), (159, 54559), (161, 54535), (163, 54499), (169, 54361), (170, 54337), (179, 54193), (184, 54145),

Gene: Tailonex_31 Start: 29851, Stop: 27737, Start Num: 14

Candidate Starts for Tailonex_31:

(14, 29851), (21, 29722), (23, 29686), (32, 29488), (33, 29479), (36, 29440), (37, 29431), (38, 29428), (39, 29419), (42, 29326), (50, 29185), (51, 29182), (55, 29116), (61, 29017), (67, 28969), (74, 28885), (79, 28771), (81, 28735), (108, 28705), (109, 28675), (113, 28627), (115, 28612), (116, 28609), (117, 28597), (118, 28579), (119, 28567), (120, 28561), (125, 28468), (132, 28387), (134, 28366), (135, 28354), (137, 28348), (159, 28159), (160, 28150), (166, 28033), (182, 27766), (183, 27754),

Gene: Talia1610_110 Start: 87131, Stop: 89269, Start Num: 10

Candidate Starts for Talia1610_110:

(Start: 10 @87131 has 8 MA's), (27, 87383), (29, 87449), (42, 87668), (47, 87758), (51, 87812), (63, 87983), (67, 88025), (74, 88109), (81, 88271), (113, 88379), (116, 88397), (121, 88454), (125, 88535), (132, 88616), (135, 88649), (146, 88751), (147, 88754), (164, 88937), (168, 89003), (173, 89111), (175, 89165), (178, 89210), (185, 89264),

Gene: WaddleDee_97 Start: 82748, Stop: 84889, Start Num: 10

Candidate Starts for WaddleDee_97:

(Start: 10 @82748 has 8 MA's), (29, 83066), (42, 83285), (44, 83345), (51, 83429), (67, 83642), (74, 83726), (75, 83729), (81, 83888), (116, 84014), (125, 84152), (132, 84233), (135, 84266), (146, 84368), (151, 84416), (164, 84557), (168, 84623), (183, 84872),

Gene: Zion_75 Start: 56997, Stop: 53929, Start Num: 15

Candidate Starts for Zion_75:

(Start: 15 @56997 has 8 MA's), (21, 56874), (31, 56643), (32, 56640), (41, 56496), (44, 56418), (51, 56334), (53, 56325), (59, 56238), (60, 56232), (67, 56121), (68, 56097), (71, 56073), (74, 56037), (75, 56034), (81, 55881), (84, 55827), (86, 55632), (89, 55578), (92, 55455), (94, 55374), (96, 55329), (97, 55311), (98, 55242), (99, 55224), (101, 55077), (102, 55056), (103, 54996), (106, 54936), (115, 54795), (121, 54729), (122, 54723), (125, 54648), (129, 54585), (143, 54453), (153, 54396), (154, 54387), (159, 54351), (161, 54327), (163, 54291), (169, 54153), (170, 54129), (178, 53988), (184, 53937),

Gene: Zooman_183 Start: 110285, Stop: 108132, Start Num: 9

Candidate Starts for Zooman_183:

(Start: 9 @110285 has 5 MA's), (16, 110213), (19, 110141), (28, 109970), (36, 109832), (37, 109823), (40, 109751), (41, 109736), (42, 109718), (44, 109658), (48, 109607), (52, 109568), (54, 109553), (58, 109481), (63, 109403), (65, 109391), (66, 109388), (71, 109313), (75, 109274), (76, 109226), (78, 109178), (79, 109163), (80, 109133), (81, 109127), (113, 109019), (116, 109001), (118, 108974), (125, 108863), (127, 108827), (130, 108797), (133, 108776), (160, 108545), (162, 108521), (165, 108461), (170, 108332), (171, 108308), (174, 108245), (181, 108167), (182, 108161),