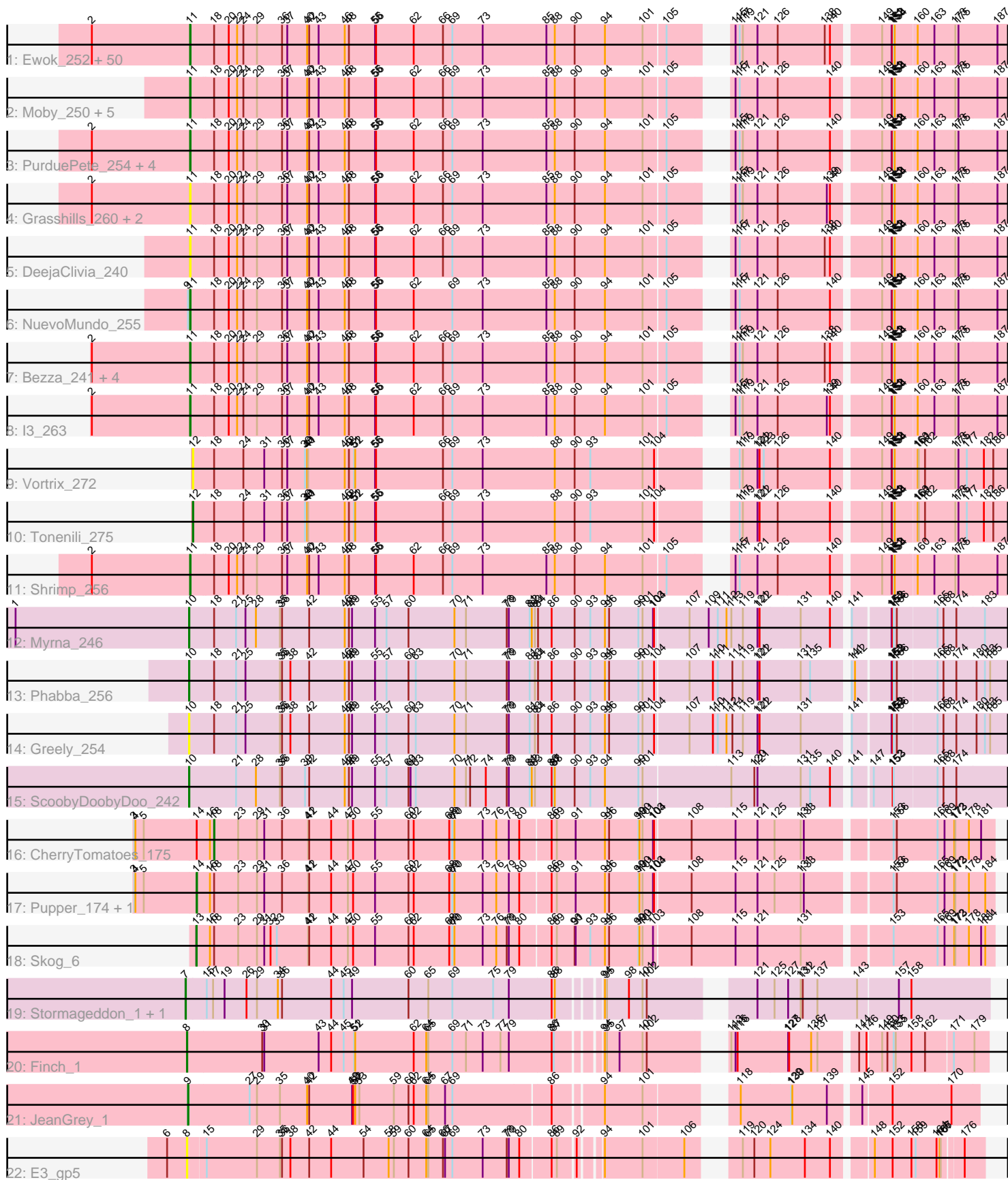


# Pham 308432



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 308432 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308432 has 89 members, 15 are drafts.

Phages represented in each track:

- Track 1 : Ewok\_252, EmToTheThree\_254, Demodog\_261, Daffodil\_259, ShiaLabeouf\_251, Loanshark\_250, ParkTD\_252, DTDevon\_254, Bangla1971\_254, Delylah\_255, TinyTim\_252, Roots515\_256, Erdmann\_255, JigglyPuff\_259, OrediggerDelux\_250, NedWong\_252, Pio\_260, MoMoMixon\_249, Burrough\_254, DrPhinkDaddy\_250, Shnickers\_252, Nappy\_252, Tortoise16\_251, Zeenon\_254, Megamind\_250, Adlitam\_253, Gizmo\_259, Bread\_250, Yucca\_254, Concombre\_259, SrishMeg2525\_251, Bipolarisk\_251, Delilah\_251, Norm\_253, Ava3\_250, MikeLiesIn\_254, Shelob\_254, FoxtrotP1\_252, Maby2021\_254, Zalkecks\_252, Fongie\_253, Tyke\_250, Phox\_254, FudgeTart\_249, Salacia\_255, Dandelion\_259, Bxz1\_239, YemiJoy2021\_254, Caravan\_243, Asterius\_254, Pleione\_257
- Track 2 : Moby\_250, Moiqah\_249, Sebata\_253, JayJay\_253, HyRo\_238, Shifa\_229
- Track 3 : PurduePete\_254, Jessibeth14\_253, McWolfish\_250, Khaleesi\_252, SVoro\_248
- Track 4 : Grasshills\_260, BigCity\_261, EggyFarm\_261
- Track 5 : DeejaClivia\_240
- Track 6 : NuevoMundo\_255
- Track 7 : Bezza\_241, Bigswole\_258, Lethe\_251, Guwapp\_249, BeanWater\_246
- Track 8 : l3\_263
- Track 9 : Vortrix\_272
- Track 10 : Tonenili\_275
- Track 11 : Shrimp\_256
- Track 12 : Myrna\_246
- Track 13 : Phabba\_256
- Track 14 : Greely\_254
- Track 15 : ScoobyDoobyDoo\_242
- Track 16 : CherryTomatoes\_175
- Track 17 : Pupper\_174, SCentae\_173
- Track 18 : Skog\_6
- Track 19 : Stormageddon\_1, RedWattleHog\_1
- Track 20 : Finch\_1
- Track 21 : JeanGrey\_1
- Track 22 : E3\_gp5

**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 62 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adlitam\_253, Asterius\_254, Ava3\_250, Bangla1971\_254, BeanWater\_246, Bezza\_241, BigCity\_261, Bigswole\_258, Bipolarisk\_251, Bread\_250, Burrough\_254, Bxz1\_239, Caravan\_243, Concombre\_259, DTDevon\_254, Daffodil\_259, Dandelion\_259, DeejaClivia\_240, Delilah\_251, Delylah\_255, Demodog\_261, DrPhinkDaddy\_250, EggyFarm\_261, EmToTheThree\_254, Erdmann\_255, Ewok\_252, Fongie\_253, FoxtrotP1\_252, FudgeTart\_249, Gizmo\_259, Grasshills\_260, Guwapp\_249, HyRo\_238, I3\_263, JayJay\_253, Jessibeth14\_253, JigglyPuff\_259, Khaleesi\_252, Letha\_251, Loanshark\_250, Maby2021\_254, McWolfish\_250, Megamind\_250, MikeLiesIn\_254, MoMoMixon\_249, Moby\_250, Moiqah\_249, Nappy\_252, NedWong\_252, Norm\_253, NuevoMundo\_255, OrediggerDelux\_250, ParkTD\_252, Phox\_254, Pio\_260, Pleione\_257, PurduePete\_254, Roots515\_256, SVoro\_248, Salacia\_255, Sebata\_253, Shelob\_254, ShiaLabeouf\_251, Shifa\_229, Shnickers\_252, Shrimp\_256, SrishMeg2525\_251, TinyTim\_252, Tortoise16\_251, Tyke\_250, YemiJoy2021\_254, Yucca\_254, Zalkecks\_252, Zeenon\_254,

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

- 

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

- CherryTomatoes\_175, E3\_gp5, Finch\_1, Greely\_254, JeanGrey\_1, Myrna\_246, Phabba\_256, Pupper\_174, RedWattleHog\_1, SCentae\_173, ScoobyDoobyDoo\_242, Skog\_6, Stormageddon\_1, Tonenili\_275, Vortrix\_272,

### Summary by start number:

Start 7:

- Found in 2 of 89 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 2 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RedWattleHog\_1 (DX), Stormageddon\_1 (DX),

Start 8:

- Found in 2 of 89 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: E3\_gp5 (singleton), Finch\_1 (singleton),

Start 9:

- Found in 2 of 89 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 50.0% of time when present
- Phage (with cluster) where this start called: JeanGrey\_1 (singleton),

Start 10:

- Found in 4 of 89 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 3 of 74

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greely\_254 (C2), Myrna\_246 (C2), Phabba\_256 (C2), ScoobyDoobyDoo\_242 (C2),

#### Start 11:

- Found in 74 of 89 ( 83.1% ) of genes in pham
- Manual Annotations of this start: 62 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adlitam\_253 (C1), Asterius\_254 (C1), Ava3\_250 (C1), Bangla1971\_254 (C1), BeanWater\_246 (C1), Bezza\_241 (C1), BigCity\_261 (C1), Bigswole\_258 (C1), Bipolarisk\_251 (C1), Bread\_250 (C1), Burrough\_254 (C1), Bxz1\_239 (C1), Caravan\_243 (C1), Concombre\_259 (C1), DTDevon\_254 (C1), Daffodil\_259 (C1), Dandelion\_259 (C1), DeejaClivia\_240 (C1), Delilah\_251 (C1), Delylah\_255 (C1), Demodog\_261 (C1), DrPhinkDaddy\_250 (C1), EggyFarm\_261 (C1), EmToTheThree\_254 (C1), Erdmann\_255 (C1), Ewok\_252 (C1), Fongie\_253 (C1), FoxtrotP1\_252 (C1), FudgeTart\_249 (C1), Gizmo\_259 (C1), Grasshills\_260 (C1), Guwapp\_249 (C1), HyRo\_238 (C1), I3\_263 (C1), JayJay\_253 (C1), Jessibeth14\_253 (C1), JigglyPuff\_259 (C1), Khaleesi\_252 (C1), Lethe\_251 (C1), Loanshark\_250 (C1), Maby2021\_254 (C1), McWolfish\_250 (C1), Megamind\_250 (C1), MikeLiesIn\_254 (C1), MoMoMixon\_249 (C1), Moby\_250 (C1), Moiqah\_249 (C1), Nappy\_252 (C1), NedWong\_252 (C1), Norm\_253 (C1), NuevoMundo\_255 (C1), OrediggerDelux\_250 (C1), ParkTD\_252 (C1), Phox\_254 (C1), Pio\_260 (C1), Pleione\_257 (C1), PurduePete\_254 (C1), Roots515\_256 (C1), SVoro\_248 (C1), Salacia\_255 (C1), Sebata\_253 (C1), Shelob\_254 (C1), ShiaLabeouf\_251 (C1), Shifa\_229 (C1), Shnickers\_252 (C1), Shrimp\_256 (C1), SrishMeg2525\_251 (C1), TinyTim\_252 (C1), Tortoise16\_251 (C1), Tyke\_250 (C1), YemiJoy2021\_254 (C1), Yucca\_254 (C1), Zalkecks\_252 (C1), Zeenon\_254 (C1),

#### Start 12:

- Found in 2 of 89 ( 2.2% ) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonenili\_275 (C1), Vortrix\_272 (C1),

#### Start 13:

- Found in 1 of 89 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Skog\_6 (DO),

#### Start 14:

- Found in 3 of 89 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 2 of 74
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Pupper\_174 (DO), SCentae\_173 (DO),

#### Start 18:

- Found in 83 of 89 ( 93.3% ) of genes in pham
- Manual Annotations of this start: 1 of 74
- Called 1.2% of time when present
- Phage (with cluster) where this start called: CherryTomatoes\_175 (DO),

### Summary by clusters:

There are 5 clusters represented in this pham: DO, C1, singleton, DX, C2,

Info for manual annotations of cluster C1:

- Start number 11 was manually annotated 62 times for cluster C1.
- Start number 12 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster C2:

- Start number 10 was manually annotated 3 times for cluster C2.

Info for manual annotations of cluster DO:

- Start number 13 was manually annotated 1 time for cluster DO.
- Start number 14 was manually annotated 2 times for cluster DO.
- Start number 18 was manually annotated 1 time for cluster DO.

Info for manual annotations of cluster DX:

- Start number 7 was manually annotated 2 times for cluster DX.

### **Gene Information:**

Gene: Adlitam\_253 Start: 145825, Stop: 148041, Start Num: 11

Candidate Starts for Adlitam\_253:

(2, 145543), (Start: 11 @145825 has 62 MA's), (Start: 18 @145891 has 1 MA's), (20, 145933), (22, 145957), (24, 145975), (29, 146014), (36, 146086), (37, 146101), (40, 146158), (42, 146164), (43, 146191), (46, 146266), (48, 146278), (55, 146353), (56, 146356), (62, 146464), (66, 146548), (69, 146575), (73, 146662), (85, 146836), (88, 146860), (90, 146917), (94, 147004), (101, 147112), (105, 147172), (115, 147283), (117, 147295), (119, 147304), (121, 147346), (126, 147403), (138, 147535), (140, 147550), (149, 147673), (151, 147700), (152, 147703), (153, 147706), (154, 147709), (160, 147766), (163, 147814), (173, 147874), (175, 147883), (187, 147994),

Gene: Asterius\_254 Start: 145682, Stop: 147898, Start Num: 11

Candidate Starts for Asterius\_254:

(2, 145400), (Start: 11 @145682 has 62 MA's), (Start: 18 @145748 has 1 MA's), (20, 145790), (22, 145814), (24, 145832), (29, 145871), (36, 145943), (37, 145958), (40, 146015), (42, 146021), (43, 146048), (46, 146123), (48, 146135), (55, 146210), (56, 146213), (62, 146321), (66, 146405), (69, 146432), (73, 146519), (85, 146693), (88, 146717), (90, 146774), (94, 146861), (101, 146969), (105, 147029), (115, 147140), (117, 147152), (119, 147161), (121, 147203), (126, 147260), (138, 147392), (140, 147407), (149, 147530), (151, 147557), (152, 147560), (153, 147563), (154, 147566), (160, 147623), (163, 147671), (173, 147731), (175, 147740), (187, 147851),

Gene: Ava3\_250 Start: 145284, Stop: 147500, Start Num: 11

Candidate Starts for Ava3\_250:

(2, 145002), (Start: 11 @145284 has 62 MA's), (Start: 18 @145350 has 1 MA's), (20, 145392), (22, 145416), (24, 145434), (29, 145473), (36, 145545), (37, 145560), (40, 145617), (42, 145623), (43, 145650), (46, 145725), (48, 145737), (55, 145812), (56, 145815), (62, 145923), (66, 146007), (69, 146034), (73, 146121), (85, 146295), (88, 146319), (90, 146376), (94, 146463), (101, 146571), (105, 146631), (115, 146742), (117, 146754), (119, 146763), (121, 146805), (126, 146862), (138, 146994), (140, 147009), (149, 147132), (151, 147159), (152, 147162), (153, 147165), (154, 147168), (160, 147225), (163, 147273), (173, 147333), (175, 147342), (187, 147453),

Gene: Bangla1971\_254 Start: 145533, Stop: 147749, Start Num: 11

Candidate Starts for Bangla1971\_254:

(2, 145251), (Start: 11 @145533 has 62 MA's), (Start: 18 @145599 has 1 MA's), (20, 145641), (22, 145665), (24, 145683), (29, 145722), (36, 145794), (37, 145809), (40, 145866), (42, 145872), (43, 145899), (46, 145974), (48, 145986), (55, 146061), (56, 146064), (62, 146172), (66, 146256), (69, 146283), (73, 146370), (85, 146544), (88, 146568), (90, 146625), (94, 146712), (101, 146820), (105, 146880), (115, 146991), (117, 147003), (119, 147012), (121, 147054), (126, 147111), (138, 147243), (140, 147258), (149, 147381), (151, 147408), (152, 147411), (153, 147414), (154, 147417), (160, 147474), (163, 147522), (173, 147582), (175, 147591), (187, 147702),

Gene: BeanWater\_246 Start: 144669, Stop: 146885, Start Num: 11

Candidate Starts for BeanWater\_246:

(2, 144387), (Start: 11 @144669 has 62 MA's), (Start: 18 @144735 has 1 MA's), (20, 144777), (22, 144801), (24, 144819), (29, 144858), (36, 144930), (37, 144945), (40, 145002), (42, 145008), (43, 145035), (46, 145110), (48, 145122), (55, 145197), (56, 145200), (62, 145308), (66, 145392), (69, 145419), (73, 145506), (85, 145680), (88, 145704), (90, 145761), (94, 145848), (101, 145956), (105, 146016), (115, 146127), (117, 146139), (119, 146148), (121, 146190), (126, 146247), (138, 146379), (140, 146394), (149, 146517), (151, 146544), (152, 146547), (153, 146550), (154, 146553), (160, 146610), (163, 146658), (173, 146718), (175, 146727), (187, 146838),

Gene: Bezza\_241 Start: 144362, Stop: 146578, Start Num: 11

Candidate Starts for Bezza\_241:

(2, 144080), (Start: 11 @144362 has 62 MA's), (Start: 18 @144428 has 1 MA's), (20, 144470), (22, 144494), (24, 144512), (29, 144551), (36, 144623), (37, 144638), (40, 144695), (42, 144701), (43, 144728), (46, 144803), (48, 144815), (55, 144890), (56, 144893), (62, 145001), (66, 145085), (69, 145112), (73, 145199), (85, 145373), (88, 145397), (90, 145454), (94, 145541), (101, 145649), (105, 145709), (115, 145820), (117, 145832), (119, 145841), (121, 145883), (126, 145940), (138, 146072), (140, 146087), (149, 146210), (151, 146237), (152, 146240), (153, 146243), (154, 146246), (160, 146303), (163, 146351), (173, 146411), (175, 146420), (187, 146531),

Gene: BigCity\_261 Start: 147424, Stop: 149640, Start Num: 11

Candidate Starts for BigCity\_261:

(2, 147142), (Start: 11 @147424 has 62 MA's), (Start: 18 @147490 has 1 MA's), (20, 147532), (22, 147556), (24, 147574), (29, 147613), (36, 147685), (37, 147700), (40, 147757), (42, 147763), (43, 147790), (46, 147865), (48, 147877), (55, 147952), (56, 147955), (62, 148063), (66, 148147), (69, 148174), (73, 148261), (85, 148435), (88, 148459), (90, 148516), (94, 148603), (101, 148711), (105, 148771), (115, 148882), (117, 148894), (119, 148903), (121, 148945), (126, 149002), (139, 149140), (140, 149149), (149, 149272), (151, 149299), (152, 149302), (153, 149305), (154, 149308), (160, 149365), (163, 149413), (173, 149473), (175, 149482), (187, 149593),

Gene: Bigswole\_258 Start: 147335, Stop: 149551, Start Num: 11

Candidate Starts for Bigswole\_258:

(2, 147053), (Start: 11 @147335 has 62 MA's), (Start: 18 @147401 has 1 MA's), (20, 147443), (22, 147467), (24, 147485), (29, 147524), (36, 147596), (37, 147611), (40, 147668), (42, 147674), (43, 147701), (46, 147776), (48, 147788), (55, 147863), (56, 147866), (62, 147974), (66, 148058), (69, 148085), (73, 148172), (85, 148346), (88, 148370), (90, 148427), (94, 148514), (101, 148622), (105, 148682), (115, 148793), (117, 148805), (119, 148814), (121, 148856), (126, 148913), (138, 149045), (140, 149060), (149, 149183), (151, 149210), (152, 149213), (153, 149216), (154, 149219), (160, 149276), (163, 149324), (173, 149384), (175, 149393), (187, 149504),

Gene: Bipolarisk\_251 Start: 145552, Stop: 147768, Start Num: 11

Candidate Starts for Bipolarisk\_251:

(2, 145270), (Start: 11 @145552 has 62 MA's), (Start: 18 @145618 has 1 MA's), (20, 145660), (22, 145684), (24, 145702), (29, 145741), (36, 145813), (37, 145828), (40, 145885), (42, 145891), (43,

145918), (46, 145993), (48, 146005), (55, 146080), (56, 146083), (62, 146191), (66, 146275), (69, 146302), (73, 146389), (85, 146563), (88, 146587), (90, 146644), (94, 146731), (101, 146839), (105, 146899), (115, 147010), (117, 147022), (119, 147031), (121, 147073), (126, 147130), (138, 147262), (140, 147277), (149, 147400), (151, 147427), (152, 147430), (153, 147433), (154, 147436), (160, 147493), (163, 147541), (173, 147601), (175, 147610), (187, 147721),

Gene: Bread\_250 Start: 145336, Stop: 147552, Start Num: 11

Candidate Starts for Bread\_250:

(2, 145054), (Start: 11 @145336 has 62 MA's), (Start: 18 @145402 has 1 MA's), (20, 145444), (22, 145468), (24, 145486), (29, 145525), (36, 145597), (37, 145612), (40, 145669), (42, 145675), (43, 145702), (46, 145777), (48, 145789), (55, 145864), (56, 145867), (62, 145975), (66, 146059), (69, 146086), (73, 146173), (85, 146347), (88, 146371), (90, 146428), (94, 146515), (101, 146623), (105, 146683), (115, 146794), (117, 146806), (119, 146815), (121, 146857), (126, 146914), (138, 147046), (140, 147061), (149, 147184), (151, 147211), (152, 147214), (153, 147217), (154, 147220), (160, 147277), (163, 147325), (173, 147385), (175, 147394), (187, 147505),

Gene: Burrough\_254 Start: 146697, Stop: 148913, Start Num: 11

Candidate Starts for Burrough\_254:

(2, 146415), (Start: 11 @146697 has 62 MA's), (Start: 18 @146763 has 1 MA's), (20, 146805), (22, 146829), (24, 146847), (29, 146886), (36, 146958), (37, 146973), (40, 147030), (42, 147036), (43, 147063), (46, 147138), (48, 147150), (55, 147225), (56, 147228), (62, 147336), (66, 147420), (69, 147447), (73, 147534), (85, 147708), (88, 147732), (90, 147789), (94, 147876), (101, 147984), (105, 148044), (115, 148155), (117, 148167), (119, 148176), (121, 148218), (126, 148275), (138, 148407), (140, 148422), (149, 148545), (151, 148572), (152, 148575), (153, 148578), (154, 148581), (160, 148638), (163, 148686), (173, 148746), (175, 148755), (187, 148866),

Gene: Bxz1\_239 Start: 146901, Stop: 149117, Start Num: 11

Candidate Starts for Bxz1\_239:

(2, 146619), (Start: 11 @146901 has 62 MA's), (Start: 18 @146967 has 1 MA's), (20, 147009), (22, 147033), (24, 147051), (29, 147090), (36, 147162), (37, 147177), (40, 147234), (42, 147240), (43, 147267), (46, 147342), (48, 147354), (55, 147429), (56, 147432), (62, 147540), (66, 147624), (69, 147651), (73, 147738), (85, 147912), (88, 147936), (90, 147993), (94, 148080), (101, 148188), (105, 148248), (115, 148359), (117, 148371), (119, 148380), (121, 148422), (126, 148479), (138, 148611), (140, 148626), (149, 148749), (151, 148776), (152, 148779), (153, 148782), (154, 148785), (160, 148842), (163, 148890), (173, 148950), (175, 148959), (187, 149070),

Gene: Caravan\_243 Start: 145598, Stop: 147814, Start Num: 11

Candidate Starts for Caravan\_243:

(2, 145316), (Start: 11 @145598 has 62 MA's), (Start: 18 @145664 has 1 MA's), (20, 145706), (22, 145730), (24, 145748), (29, 145787), (36, 145859), (37, 145874), (40, 145931), (42, 145937), (43, 145964), (46, 146039), (48, 146051), (55, 146126), (56, 146129), (62, 146237), (66, 146321), (69, 146348), (73, 146435), (85, 146609), (88, 146633), (90, 146690), (94, 146777), (101, 146885), (105, 146945), (115, 147056), (117, 147068), (119, 147077), (121, 147119), (126, 147176), (138, 147308), (140, 147323), (149, 147446), (151, 147473), (152, 147476), (153, 147479), (154, 147482), (160, 147539), (163, 147587), (173, 147647), (175, 147656), (187, 147767),

Gene: CherryTomatoes\_175 Start: 126776, Stop: 128935, Start Num: 18

Candidate Starts for CherryTomatoes\_175:

(3, 126554), (4, 126557), (5, 126581), (Start: 14 @126731 has 2 MA's), (16, 126767), (Start: 18 @126776 has 1 MA's), (23, 126845), (29, 126899), (31, 126920), (36, 126971), (41, 127046), (42, 127049), (44, 127112), (47, 127160), (50, 127175), (55, 127238), (60, 127334), (62, 127349), (68, 127451), (69, 127460), (70, 127466), (73, 127547), (76, 127586), (79, 127622), (80, 127652), (86, 127733), (89, 127748), (91, 127802), (94, 127886), (96, 127895), (99, 127979), (100, 127982), (101,

127991), (103, 128021), (104, 128024), (108, 128123), (115, 128246), (121, 128309), (125, 128357), (131, 128432), (133, 128441), (153, 128660), (156, 128669), (165, 128780), (169, 128798), (172, 128822), (173, 128825), (178, 128864), (181, 128897),

Gene: Concombre\_259 Start: 147531, Stop: 149747, Start Num: 11

Candidate Starts for Concombre\_259:

(2, 147249), (Start: 11 @147531 has 62 MA's), (Start: 18 @147597 has 1 MA's), (20, 147639), (22, 147663), (24, 147681), (29, 147720), (36, 147792), (37, 147807), (40, 147864), (42, 147870), (43, 147897), (46, 147972), (48, 147984), (55, 148059), (56, 148062), (62, 148170), (66, 148254), (69, 148281), (73, 148368), (85, 148542), (88, 148566), (90, 148623), (94, 148710), (101, 148818), (105, 148878), (115, 148989), (117, 149001), (119, 149010), (121, 149052), (126, 149109), (138, 149241), (140, 149256), (149, 149379), (151, 149406), (152, 149409), (153, 149412), (154, 149415), (160, 149472), (163, 149520), (173, 149580), (175, 149589), (187, 149700),

Gene: DTDevon\_254 Start: 147565, Stop: 149781, Start Num: 11

Candidate Starts for DTDevon\_254:

(2, 147283), (Start: 11 @147565 has 62 MA's), (Start: 18 @147631 has 1 MA's), (20, 147673), (22, 147697), (24, 147715), (29, 147754), (36, 147826), (37, 147841), (40, 147898), (42, 147904), (43, 147931), (46, 148006), (48, 148018), (55, 148093), (56, 148096), (62, 148204), (66, 148288), (69, 148315), (73, 148402), (85, 148576), (88, 148600), (90, 148657), (94, 148744), (101, 148852), (105, 148912), (115, 149023), (117, 149035), (119, 149044), (121, 149086), (126, 149143), (138, 149275), (140, 149290), (149, 149413), (151, 149440), (152, 149443), (153, 149446), (154, 149449), (160, 149506), (163, 149554), (173, 149614), (175, 149623), (187, 149734),

Gene: Daffodil\_259 Start: 145852, Stop: 148068, Start Num: 11

Candidate Starts for Daffodil\_259:

(2, 145570), (Start: 11 @145852 has 62 MA's), (Start: 18 @145918 has 1 MA's), (20, 145960), (22, 145984), (24, 146002), (29, 146041), (36, 146113), (37, 146128), (40, 146185), (42, 146191), (43, 146218), (46, 146293), (48, 146305), (55, 146380), (56, 146383), (62, 146491), (66, 146575), (69, 146602), (73, 146689), (85, 146863), (88, 146887), (90, 146944), (94, 147031), (101, 147139), (105, 147199), (115, 147310), (117, 147322), (119, 147331), (121, 147373), (126, 147430), (138, 147562), (140, 147577), (149, 147700), (151, 147727), (152, 147730), (153, 147733), (154, 147736), (160, 147793), (163, 147841), (173, 147901), (175, 147910), (187, 148021),

Gene: Dandelion\_259 Start: 148386, Stop: 150602, Start Num: 11

Candidate Starts for Dandelion\_259:

(2, 148104), (Start: 11 @148386 has 62 MA's), (Start: 18 @148452 has 1 MA's), (20, 148494), (22, 148518), (24, 148536), (29, 148575), (36, 148647), (37, 148662), (40, 148719), (42, 148725), (43, 148752), (46, 148827), (48, 148839), (55, 148914), (56, 148917), (62, 149025), (66, 149109), (69, 149136), (73, 149223), (85, 149397), (88, 149421), (90, 149478), (94, 149565), (101, 149673), (105, 149733), (115, 149844), (117, 149856), (119, 149865), (121, 149907), (126, 149964), (138, 150096), (140, 150111), (149, 150234), (151, 150261), (152, 150264), (153, 150267), (154, 150270), (160, 150327), (163, 150375), (173, 150435), (175, 150444), (187, 150555),

Gene: DeejaClivia\_240 Start: 143253, Stop: 145469, Start Num: 11

Candidate Starts for DeejaClivia\_240:

(Start: 11 @143253 has 62 MA's), (Start: 18 @143319 has 1 MA's), (20, 143361), (22, 143385), (24, 143403), (29, 143442), (36, 143514), (37, 143529), (40, 143586), (42, 143592), (43, 143619), (46, 143694), (48, 143706), (55, 143781), (56, 143784), (62, 143892), (66, 143976), (69, 144003), (73, 144090), (85, 144264), (88, 144288), (90, 144345), (94, 144432), (101, 144540), (105, 144600), (115, 144711), (117, 144723), (121, 144774), (126, 144831), (138, 144963), (140, 144978), (149, 145101), (151, 145128), (152, 145131), (153, 145134), (154, 145137), (160, 145194), (163, 145242), (173, 145302), (175, 145311), (187, 145422),

Gene: Delilah\_251 Start: 145945, Stop: 148161, Start Num: 11

Candidate Starts for Delilah\_251:

(2, 145663), (Start: 11 @145945 has 62 MA's), (Start: 18 @146011 has 1 MA's), (20, 146053), (22, 146077), (24, 146095), (29, 146134), (36, 146206), (37, 146221), (40, 146278), (42, 146284), (43, 146311), (46, 146386), (48, 146398), (55, 146473), (56, 146476), (62, 146584), (66, 146668), (69, 146695), (73, 146782), (85, 146956), (88, 146980), (90, 147037), (94, 147124), (101, 147232), (105, 147292), (115, 147403), (117, 147415), (119, 147424), (121, 147466), (126, 147523), (138, 147655), (140, 147670), (149, 147793), (151, 147820), (152, 147823), (153, 147826), (154, 147829), (160, 147886), (163, 147934), (173, 147994), (175, 148003), (187, 148114),

Gene: Delylah\_255 Start: 146222, Stop: 148438, Start Num: 11

Candidate Starts for Delylah\_255:

(2, 145940), (Start: 11 @146222 has 62 MA's), (Start: 18 @146288 has 1 MA's), (20, 146330), (22, 146354), (24, 146372), (29, 146411), (36, 146483), (37, 146498), (40, 146555), (42, 146561), (43, 146588), (46, 146663), (48, 146675), (55, 146750), (56, 146753), (62, 146861), (66, 146945), (69, 146972), (73, 147059), (85, 147233), (88, 147257), (90, 147314), (94, 147401), (101, 147509), (105, 147569), (115, 147680), (117, 147692), (119, 147701), (121, 147743), (126, 147800), (138, 147932), (140, 147947), (149, 148070), (151, 148097), (152, 148100), (153, 148103), (154, 148106), (160, 148163), (163, 148211), (173, 148271), (175, 148280), (187, 148391),

Gene: Demodog\_261 Start: 147541, Stop: 149757, Start Num: 11

Candidate Starts for Demodog\_261:

(2, 147259), (Start: 11 @147541 has 62 MA's), (Start: 18 @147607 has 1 MA's), (20, 147649), (22, 147673), (24, 147691), (29, 147730), (36, 147802), (37, 147817), (40, 147874), (42, 147880), (43, 147907), (46, 147982), (48, 147994), (55, 148069), (56, 148072), (62, 148180), (66, 148264), (69, 148291), (73, 148378), (85, 148552), (88, 148576), (90, 148633), (94, 148720), (101, 148828), (105, 148888), (115, 148999), (117, 149011), (119, 149020), (121, 149062), (126, 149119), (138, 149251), (140, 149266), (149, 149389), (151, 149416), (152, 149419), (153, 149422), (154, 149425), (160, 149482), (163, 149530), (173, 149590), (175, 149599), (187, 149710),

Gene: DrPhinkDaddy\_250 Start: 146630, Stop: 148846, Start Num: 11

Candidate Starts for DrPhinkDaddy\_250:

(2, 146348), (Start: 11 @146630 has 62 MA's), (Start: 18 @146696 has 1 MA's), (20, 146738), (22, 146762), (24, 146780), (29, 146819), (36, 146891), (37, 146906), (40, 146963), (42, 146969), (43, 146996), (46, 147071), (48, 147083), (55, 147158), (56, 147161), (62, 147269), (66, 147353), (69, 147380), (73, 147467), (85, 147641), (88, 147665), (90, 147722), (94, 147809), (101, 147917), (105, 147977), (115, 148088), (117, 148100), (119, 148109), (121, 148151), (126, 148208), (138, 148340), (140, 148355), (149, 148478), (151, 148505), (152, 148508), (153, 148511), (154, 148514), (160, 148571), (163, 148619), (173, 148679), (175, 148688), (187, 148799),

Gene: E3\_gp5 Start: 1661, Stop: 3724, Start Num: 8

Candidate Starts for E3\_gp5:

(6, 1604), (Start: 8 @1661 has 1 MA's), (15, 1709), (29, 1853), (35, 1919), (36, 1925), (38, 1949), (42, 2003), (44, 2066), (54, 2159), (58, 2231), (59, 2246), (60, 2288), (64, 2339), (65, 2345), (66, 2387), (67, 2393), (69, 2414), (73, 2501), (78, 2570), (79, 2576), (80, 2603), (86, 2684), (89, 2699), (92, 2744), (94, 2792), (101, 2897), (106, 3008), (119, 3089), (120, 3122), (124, 3167), (134, 3266), (140, 3338), (148, 3428), (152, 3479), (158, 3533), (159, 3545), (164, 3605), (166, 3614), (167, 3617), (176, 3671),

Gene: EggyFarm\_261 Start: 147425, Stop: 149641, Start Num: 11

Candidate Starts for EggyFarm\_261:

(2, 147143), (Start: 11 @147425 has 62 MA's), (Start: 18 @147491 has 1 MA's), (20, 147533), (22, 147557), (24, 147575), (29, 147614), (36, 147686), (37, 147701), (40, 147758), (42, 147764), (43,

147791), (46, 147866), (48, 147878), (55, 147953), (56, 147956), (62, 148064), (66, 148148), (69, 148175), (73, 148262), (85, 148436), (88, 148460), (90, 148517), (94, 148604), (101, 148712), (105, 148772), (115, 148883), (117, 148895), (119, 148904), (121, 148946), (126, 149003), (139, 149141), (140, 149150), (149, 149273), (151, 149300), (152, 149303), (153, 149306), (154, 149309), (160, 149366), (163, 149414), (173, 149474), (175, 149483), (187, 149594),

Gene: EmToTheThree\_254 Start: 146418, Stop: 148634, Start Num: 11

Candidate Starts for EmToTheThree\_254:

(2, 146136), (Start: 11 @146418 has 62 MA's), (Start: 18 @146484 has 1 MA's), (20, 146526), (22, 146550), (24, 146568), (29, 146607), (36, 146679), (37, 146694), (40, 146751), (42, 146757), (43, 146784), (46, 146859), (48, 146871), (55, 146946), (56, 146949), (62, 147057), (66, 147141), (69, 147168), (73, 147255), (85, 147429), (88, 147453), (90, 147510), (94, 147597), (101, 147705), (105, 147765), (115, 147876), (117, 147888), (119, 147897), (121, 147939), (126, 147996), (138, 148128), (140, 148143), (149, 148266), (151, 148293), (152, 148296), (153, 148299), (154, 148302), (160, 148359), (163, 148407), (173, 148467), (175, 148476), (187, 148587),

Gene: Erdmann\_255 Start: 146386, Stop: 148602, Start Num: 11

Candidate Starts for Erdmann\_255:

(2, 146104), (Start: 11 @146386 has 62 MA's), (Start: 18 @146452 has 1 MA's), (20, 146494), (22, 146518), (24, 146536), (29, 146575), (36, 146647), (37, 146662), (40, 146719), (42, 146725), (43, 146752), (46, 146827), (48, 146839), (55, 146914), (56, 146917), (62, 147025), (66, 147109), (69, 147136), (73, 147223), (85, 147397), (88, 147421), (90, 147478), (94, 147565), (101, 147673), (105, 147733), (115, 147844), (117, 147856), (119, 147865), (121, 147907), (126, 147964), (138, 148096), (140, 148111), (149, 148234), (151, 148261), (152, 148264), (153, 148267), (154, 148270), (160, 148327), (163, 148375), (173, 148435), (175, 148444), (187, 148555),

Gene: Ewok\_252 Start: 145880, Stop: 148096, Start Num: 11

Candidate Starts for Ewok\_252:

(2, 145598), (Start: 11 @145880 has 62 MA's), (Start: 18 @145946 has 1 MA's), (20, 145988), (22, 146012), (24, 146030), (29, 146069), (36, 146141), (37, 146156), (40, 146213), (42, 146219), (43, 146246), (46, 146321), (48, 146333), (55, 146408), (56, 146411), (62, 146519), (66, 146603), (69, 146630), (73, 146717), (85, 146891), (88, 146915), (90, 146972), (94, 147059), (101, 147167), (105, 147227), (115, 147338), (117, 147350), (119, 147359), (121, 147401), (126, 147458), (138, 147590), (140, 147605), (149, 147728), (151, 147755), (152, 147758), (153, 147761), (154, 147764), (160, 147821), (163, 147869), (173, 147929), (175, 147938), (187, 148049),

Gene: Finch\_1 Start: 1, Stop: 2109, Start Num: 8

Candidate Starts for Finch\_1:

(Start: 8 @1 has 1 MA's), (30, 214), (31, 220), (43, 376), (44, 412), (45, 448), (51, 478), (52, 481), (62, 649), (64, 685), (65, 691), (69, 760), (71, 799), (73, 847), (77, 898), (79, 922), (86, 1042), (87, 1048), (94, 1150), (95, 1153), (97, 1189), (101, 1255), (102, 1267), (113, 1423), (115, 1435), (116, 1441), (127, 1585), (128, 1588), (136, 1651), (137, 1669), (144, 1762), (146, 1780), (149, 1816), (150, 1831), (153, 1849), (155, 1855), (158, 1900), (162, 1939), (171, 2014), (179, 2071),

Gene: Fongie\_253 Start: 145878, Stop: 148094, Start Num: 11

Candidate Starts for Fongie\_253:

(2, 145596), (Start: 11 @145878 has 62 MA's), (Start: 18 @145944 has 1 MA's), (20, 145986), (22, 146010), (24, 146028), (29, 146067), (36, 146139), (37, 146154), (40, 146211), (42, 146217), (43, 146244), (46, 146319), (48, 146331), (55, 146406), (56, 146409), (62, 146517), (66, 146601), (69, 146628), (73, 146715), (85, 146889), (88, 146913), (90, 146970), (94, 147057), (101, 147165), (105, 147225), (115, 147336), (117, 147348), (119, 147357), (121, 147399), (126, 147456), (138, 147588), (140, 147603), (149, 147726), (151, 147753), (152, 147756), (153, 147759), (154, 147762), (160, 147819), (163, 147867), (173, 147927), (175, 147936), (187, 148047),

Gene: FoxtrotP1\_252 Start: 146972, Stop: 149188, Start Num: 11

Candidate Starts for FoxtrotP1\_252:

(2, 146690), (Start: 11 @146972 has 62 MA's), (Start: 18 @147038 has 1 MA's), (20, 147080), (22, 147104), (24, 147122), (29, 147161), (36, 147233), (37, 147248), (40, 147305), (42, 147311), (43, 147338), (46, 147413), (48, 147425), (55, 147500), (56, 147503), (62, 147611), (66, 147695), (69, 147722), (73, 147809), (85, 147983), (88, 148007), (90, 148064), (94, 148151), (101, 148259), (105, 148319), (115, 148430), (117, 148442), (119, 148451), (121, 148493), (126, 148550), (138, 148682), (140, 148697), (149, 148820), (151, 148847), (152, 148850), (153, 148853), (154, 148856), (160, 148913), (163, 148961), (173, 149021), (175, 149030), (187, 149141),

Gene: FudgeTart\_249 Start: 145476, Stop: 147692, Start Num: 11

Candidate Starts for FudgeTart\_249:

(2, 145194), (Start: 11 @145476 has 62 MA's), (Start: 18 @145542 has 1 MA's), (20, 145584), (22, 145608), (24, 145626), (29, 145665), (36, 145737), (37, 145752), (40, 145809), (42, 145815), (43, 145842), (46, 145917), (48, 145929), (55, 146004), (56, 146007), (62, 146115), (66, 146199), (69, 146226), (73, 146313), (85, 146487), (88, 146511), (90, 146568), (94, 146655), (101, 146763), (105, 146823), (115, 146934), (117, 146946), (119, 146955), (121, 146997), (126, 147054), (138, 147186), (140, 147201), (149, 147324), (151, 147351), (152, 147354), (153, 147357), (154, 147360), (160, 147417), (163, 147465), (173, 147525), (175, 147534), (187, 147645),

Gene: Gizmo\_259 Start: 148303, Stop: 150519, Start Num: 11

Candidate Starts for Gizmo\_259:

(2, 148021), (Start: 11 @148303 has 62 MA's), (Start: 18 @148369 has 1 MA's), (20, 148411), (22, 148435), (24, 148453), (29, 148492), (36, 148564), (37, 148579), (40, 148636), (42, 148642), (43, 148669), (46, 148744), (48, 148756), (55, 148831), (56, 148834), (62, 148942), (66, 149026), (69, 149053), (73, 149140), (85, 149314), (88, 149338), (90, 149395), (94, 149482), (101, 149590), (105, 149650), (115, 149761), (117, 149773), (119, 149782), (121, 149824), (126, 149881), (138, 150013), (140, 150028), (149, 150151), (151, 150178), (152, 150181), (153, 150184), (154, 150187), (160, 150244), (163, 150292), (173, 150352), (175, 150361), (187, 150472),

Gene: Grasshills\_260 Start: 147424, Stop: 149640, Start Num: 11

Candidate Starts for Grasshills\_260:

(2, 147142), (Start: 11 @147424 has 62 MA's), (Start: 18 @147490 has 1 MA's), (20, 147532), (22, 147556), (24, 147574), (29, 147613), (36, 147685), (37, 147700), (40, 147757), (42, 147763), (43, 147790), (46, 147865), (48, 147877), (55, 147952), (56, 147955), (62, 148063), (66, 148147), (69, 148174), (73, 148261), (85, 148435), (88, 148459), (90, 148516), (94, 148603), (101, 148711), (105, 148771), (115, 148882), (117, 148894), (119, 148903), (121, 148945), (126, 149002), (139, 149140), (140, 149149), (149, 149272), (151, 149299), (152, 149302), (153, 149305), (154, 149308), (160, 149365), (163, 149413), (173, 149473), (175, 149482), (187, 149593),

Gene: Greely\_254 Start: 148790, Stop: 151084, Start Num: 10

Candidate Starts for Greely\_254:

(Start: 10 @148790 has 3 MA's), (Start: 18 @148862 has 1 MA's), (21, 148925), (25, 148952), (35, 149051), (36, 149057), (38, 149081), (42, 149135), (46, 149237), (48, 149249), (49, 149258), (55, 149324), (57, 149357), (60, 149420), (63, 149441), (70, 149552), (71, 149585), (78, 149702), (79, 149708), (81, 149768), (83, 149780), (84, 149789), (86, 149828), (90, 149894), (93, 149939), (94, 149981), (96, 149990), (99, 150074), (101, 150086), (104, 150119), (107, 150212), (110, 150269), (111, 150281), (112, 150305), (114, 150320), (119, 150350), (121, 150392), (122, 150398), (131, 150512), (141, 150632), (151, 150734), (152, 150737), (153, 150740), (156, 150749), (165, 150857), (168, 150872), (174, 150908), (180, 150965), (183, 150989), (185, 151004),

Gene: Guwapp\_249 Start: 144272, Stop: 146488, Start Num: 11

Candidate Starts for Guwapp\_249:

(2, 143990), (Start: 11 @144272 has 62 MA's), (Start: 18 @144338 has 1 MA's), (20, 144380), (22, 144404), (24, 144422), (29, 144461), (36, 144533), (37, 144548), (40, 144605), (42, 144611), (43, 144638), (46, 144713), (48, 144725), (55, 144800), (56, 144803), (62, 144911), (66, 144995), (69, 145022), (73, 145109), (85, 145283), (88, 145307), (90, 145364), (94, 145451), (101, 145559), (105, 145619), (115, 145730), (117, 145742), (119, 145751), (121, 145793), (126, 145850), (138, 145982), (140, 145997), (149, 146120), (151, 146147), (152, 146150), (153, 146153), (154, 146156), (160, 146213), (163, 146261), (173, 146321), (175, 146330), (187, 146441),

Gene: HyRo\_238 Start: 144789, Stop: 147005, Start Num: 11

Candidate Starts for HyRo\_238:

(Start: 11 @144789 has 62 MA's), (Start: 18 @144855 has 1 MA's), (20, 144897), (22, 144921), (24, 144939), (29, 144978), (36, 145050), (37, 145065), (40, 145122), (42, 145128), (43, 145155), (46, 145230), (48, 145242), (55, 145317), (56, 145320), (62, 145428), (66, 145512), (69, 145539), (73, 145626), (85, 145800), (88, 145824), (90, 145881), (94, 145968), (101, 146076), (105, 146136), (115, 146247), (117, 146259), (121, 146310), (126, 146367), (140, 146514), (149, 146637), (151, 146664), (152, 146667), (153, 146670), (154, 146673), (160, 146730), (163, 146778), (173, 146838), (175, 146847), (187, 146958),

Gene: I3\_263 Start: 146580, Stop: 148796, Start Num: 11

Candidate Starts for I3\_263:

(2, 146298), (Start: 11 @146580 has 62 MA's), (Start: 18 @146646 has 1 MA's), (20, 146688), (22, 146712), (24, 146730), (29, 146769), (36, 146841), (37, 146856), (40, 146913), (42, 146919), (43, 146946), (46, 147021), (48, 147033), (55, 147108), (56, 147111), (62, 147219), (66, 147303), (69, 147330), (73, 147417), (85, 147591), (88, 147615), (90, 147672), (94, 147759), (101, 147867), (105, 147927), (115, 148038), (117, 148050), (119, 148059), (121, 148101), (126, 148158), (139, 148296), (140, 148305), (149, 148428), (151, 148455), (152, 148458), (153, 148461), (154, 148464), (160, 148521), (163, 148569), (173, 148629), (175, 148638), (187, 148749),

Gene: JayJay\_253 Start: 144961, Stop: 147177, Start Num: 11

Candidate Starts for JayJay\_253:

(Start: 11 @144961 has 62 MA's), (Start: 18 @145027 has 1 MA's), (20, 145069), (22, 145093), (24, 145111), (29, 145150), (36, 145222), (37, 145237), (40, 145294), (42, 145300), (43, 145327), (46, 145402), (48, 145414), (55, 145489), (56, 145492), (62, 145600), (66, 145684), (69, 145711), (73, 145798), (85, 145972), (88, 145996), (90, 146053), (94, 146140), (101, 146248), (105, 146308), (115, 146419), (117, 146431), (121, 146482), (126, 146539), (140, 146686), (149, 146809), (151, 146836), (152, 146839), (153, 146842), (154, 146845), (160, 146902), (163, 146950), (173, 147010), (175, 147019), (187, 147130),

Gene: JeanGrey\_1 Start: 1, Stop: 2082, Start Num: 9

Candidate Starts for JeanGrey\_1:

(Start: 9 @1 has 1 MA's), (27, 172), (29, 193), (35, 259), (40, 337), (42, 343), (49, 466), (50, 469), (52, 475), (53, 487), (59, 586), (60, 628), (62, 643), (64, 679), (65, 685), (67, 733), (69, 754), (86, 1024), (94, 1153), (101, 1258), (118, 1447), (129, 1591), (130, 1594), (139, 1693), (145, 1771), (152, 1846), (170, 2008),

Gene: Jessibeth14\_253 Start: 146595, Stop: 148811, Start Num: 11

Candidate Starts for Jessibeth14\_253:

(2, 146313), (Start: 11 @146595 has 62 MA's), (Start: 18 @146661 has 1 MA's), (20, 146703), (22, 146727), (24, 146745), (29, 146784), (36, 146856), (37, 146871), (40, 146928), (42, 146934), (43, 146961), (46, 147036), (48, 147048), (55, 147123), (56, 147126), (62, 147234), (66, 147318), (69, 147345), (73, 147432), (85, 147606), (88, 147630), (90, 147687), (94, 147774), (101, 147882), (105, 147942), (115, 148053), (117, 148065), (119, 148074), (121, 148116), (126, 148173), (140, 148320),

(149, 148443), (151, 148470), (152, 148473), (153, 148476), (154, 148479), (160, 148536), (163, 148584), (173, 148644), (175, 148653), (187, 148764),

Gene: JigglyPuff\_259 Start: 147090, Stop: 149306, Start Num: 11

Candidate Starts for JigglyPuff\_259:

(2, 146808), (Start: 11 @147090 has 62 MA's), (Start: 18 @147156 has 1 MA's), (20, 147198), (22, 147222), (24, 147240), (29, 147279), (36, 147351), (37, 147366), (40, 147423), (42, 147429), (43, 147456), (46, 147531), (48, 147543), (55, 147618), (56, 147621), (62, 147729), (66, 147813), (69, 147840), (73, 147927), (85, 148101), (88, 148125), (90, 148182), (94, 148269), (101, 148377), (105, 148437), (115, 148548), (117, 148560), (119, 148569), (121, 148611), (126, 148668), (138, 148800), (140, 148815), (149, 148938), (151, 148965), (152, 148968), (153, 148971), (154, 148974), (160, 149031), (163, 149079), (173, 149139), (175, 149148), (187, 149259),

Gene: Khaleesi\_252 Start: 146062, Stop: 148278, Start Num: 11

Candidate Starts for Khaleesi\_252:

(2, 145780), (Start: 11 @146062 has 62 MA's), (Start: 18 @146128 has 1 MA's), (20, 146170), (22, 146194), (24, 146212), (29, 146251), (36, 146323), (37, 146338), (40, 146395), (42, 146401), (43, 146428), (46, 146503), (48, 146515), (55, 146590), (56, 146593), (62, 146701), (66, 146785), (69, 146812), (73, 146899), (85, 147073), (88, 147097), (90, 147154), (94, 147241), (101, 147349), (105, 147409), (115, 147520), (117, 147532), (119, 147541), (121, 147583), (126, 147640), (140, 147787), (149, 147910), (151, 147937), (152, 147940), (153, 147943), (154, 147946), (160, 148003), (163, 148051), (173, 148111), (175, 148120), (187, 148231),

Gene: Lethe\_251 Start: 146646, Stop: 148862, Start Num: 11

Candidate Starts for Lethe\_251:

(2, 146364), (Start: 11 @146646 has 62 MA's), (Start: 18 @146712 has 1 MA's), (20, 146754), (22, 146778), (24, 146796), (29, 146835), (36, 146907), (37, 146922), (40, 146979), (42, 146985), (43, 147012), (46, 147087), (48, 147099), (55, 147174), (56, 147177), (62, 147285), (66, 147369), (69, 147396), (73, 147483), (85, 147657), (88, 147681), (90, 147738), (94, 147825), (101, 147933), (105, 147993), (115, 148104), (117, 148116), (119, 148125), (121, 148167), (126, 148224), (138, 148356), (140, 148371), (149, 148494), (151, 148521), (152, 148524), (153, 148527), (154, 148530), (160, 148587), (163, 148635), (173, 148695), (175, 148704), (187, 148815),

Gene: Loanshark\_250 Start: 145411, Stop: 147627, Start Num: 11

Candidate Starts for Loanshark\_250:

(2, 145129), (Start: 11 @145411 has 62 MA's), (Start: 18 @145477 has 1 MA's), (20, 145519), (22, 145543), (24, 145561), (29, 145600), (36, 145672), (37, 145687), (40, 145744), (42, 145750), (43, 145777), (46, 145852), (48, 145864), (55, 145939), (56, 145942), (62, 146050), (66, 146134), (69, 146161), (73, 146248), (85, 146422), (88, 146446), (90, 146503), (94, 146590), (101, 146698), (105, 146758), (115, 146869), (117, 146881), (119, 146890), (121, 146932), (126, 146989), (138, 147121), (140, 147136), (149, 147259), (151, 147286), (152, 147289), (153, 147292), (154, 147295), (160, 147352), (163, 147400), (173, 147460), (175, 147469), (187, 147580),

Gene: Maby2021\_254 Start: 146964, Stop: 149180, Start Num: 11

Candidate Starts for Maby2021\_254:

(2, 146682), (Start: 11 @146964 has 62 MA's), (Start: 18 @147030 has 1 MA's), (20, 147072), (22, 147096), (24, 147114), (29, 147153), (36, 147225), (37, 147240), (40, 147297), (42, 147303), (43, 147330), (46, 147405), (48, 147417), (55, 147492), (56, 147495), (62, 147603), (66, 147687), (69, 147714), (73, 147801), (85, 147975), (88, 147999), (90, 148056), (94, 148143), (101, 148251), (105, 148311), (115, 148422), (117, 148434), (119, 148443), (121, 148485), (126, 148542), (138, 148674), (140, 148689), (149, 148812), (151, 148839), (152, 148842), (153, 148845), (154, 148848), (160, 148905), (163, 148953), (173, 149013), (175, 149022), (187, 149133),

Gene: McWolfish\_250 Start: 145273, Stop: 147489, Start Num: 11

Candidate Starts for McWolfish\_250:

(2, 144991), (Start: 11 @145273 has 62 MA's), (Start: 18 @145339 has 1 MA's), (20, 145381), (22, 145405), (24, 145423), (29, 145462), (36, 145534), (37, 145549), (40, 145606), (42, 145612), (43, 145639), (46, 145714), (48, 145726), (55, 145801), (56, 145804), (62, 145912), (66, 145996), (69, 146023), (73, 146110), (85, 146284), (88, 146308), (90, 146365), (94, 146452), (101, 146560), (105, 146620), (115, 146731), (117, 146743), (119, 146752), (121, 146794), (126, 146851), (140, 146998), (149, 147121), (151, 147148), (152, 147151), (153, 147154), (154, 147157), (160, 147214), (163, 147262), (173, 147322), (175, 147331), (187, 147442),

Gene: Megamind\_250 Start: 145598, Stop: 147814, Start Num: 11

Candidate Starts for Megamind\_250:

(2, 145316), (Start: 11 @145598 has 62 MA's), (Start: 18 @145664 has 1 MA's), (20, 145706), (22, 145730), (24, 145748), (29, 145787), (36, 145859), (37, 145874), (40, 145931), (42, 145937), (43, 145964), (46, 146039), (48, 146051), (55, 146126), (56, 146129), (62, 146237), (66, 146321), (69, 146348), (73, 146435), (85, 146609), (88, 146633), (90, 146690), (94, 146777), (101, 146885), (105, 146945), (115, 147056), (117, 147068), (119, 147077), (121, 147119), (126, 147176), (138, 147308), (140, 147323), (149, 147446), (151, 147473), (152, 147476), (153, 147479), (154, 147482), (160, 147539), (163, 147587), (173, 147647), (175, 147656), (187, 147767),

Gene: MikeLiesIn\_254 Start: 146734, Stop: 148950, Start Num: 11

Candidate Starts for MikeLiesIn\_254:

(2, 146452), (Start: 11 @146734 has 62 MA's), (Start: 18 @146800 has 1 MA's), (20, 146842), (22, 146866), (24, 146884), (29, 146923), (36, 146995), (37, 147010), (40, 147067), (42, 147073), (43, 147100), (46, 147175), (48, 147187), (55, 147262), (56, 147265), (62, 147373), (66, 147457), (69, 147484), (73, 147571), (85, 147745), (88, 147769), (90, 147826), (94, 147913), (101, 148021), (105, 148081), (115, 148192), (117, 148204), (119, 148213), (121, 148255), (126, 148312), (138, 148444), (140, 148459), (149, 148582), (151, 148609), (152, 148612), (153, 148615), (154, 148618), (160, 148675), (163, 148723), (173, 148783), (175, 148792), (187, 148903),

Gene: MoMoMixon\_249 Start: 145693, Stop: 147909, Start Num: 11

Candidate Starts for MoMoMixon\_249:

(2, 145411), (Start: 11 @145693 has 62 MA's), (Start: 18 @145759 has 1 MA's), (20, 145801), (22, 145825), (24, 145843), (29, 145882), (36, 145954), (37, 145969), (40, 146026), (42, 146032), (43, 146059), (46, 146134), (48, 146146), (55, 146221), (56, 146224), (62, 146332), (66, 146416), (69, 146443), (73, 146530), (85, 146704), (88, 146728), (90, 146785), (94, 146872), (101, 146980), (105, 147040), (115, 147151), (117, 147163), (119, 147172), (121, 147214), (126, 147271), (138, 147403), (140, 147418), (149, 147541), (151, 147568), (152, 147571), (153, 147574), (154, 147577), (160, 147634), (163, 147682), (173, 147742), (175, 147751), (187, 147862),

Gene: Moby\_250 Start: 144428, Stop: 146644, Start Num: 11

Candidate Starts for Moby\_250:

(Start: 11 @144428 has 62 MA's), (Start: 18 @144494 has 1 MA's), (20, 144536), (22, 144560), (24, 144578), (29, 144617), (36, 144689), (37, 144704), (40, 144761), (42, 144767), (43, 144794), (46, 144869), (48, 144881), (55, 144956), (56, 144959), (62, 145067), (66, 145151), (69, 145178), (73, 145265), (85, 145439), (88, 145463), (90, 145520), (94, 145607), (101, 145715), (105, 145775), (115, 145886), (117, 145898), (121, 145949), (126, 146006), (140, 146153), (149, 146276), (151, 146303), (152, 146306), (153, 146309), (154, 146312), (160, 146369), (163, 146417), (173, 146477), (175, 146486), (187, 146597),

Gene: Moiqah\_249 Start: 144405, Stop: 146621, Start Num: 11

Candidate Starts for Moiqah\_249:

(Start: 11 @144405 has 62 MA's), (Start: 18 @144471 has 1 MA's), (20, 144513), (22, 144537), (24, 144555), (29, 144594), (36, 144666), (37, 144681), (40, 144738), (42, 144744), (43, 144771), (46, 144846), (48, 144858), (55, 144933), (56, 144936), (62, 145044), (66, 145128), (69, 145155), (73, 145242), (85, 145416), (88, 145440), (90, 145497), (94, 145584), (101, 145692), (105, 145752), (115, 145863), (117, 145875), (121, 145926), (126, 145983), (140, 146130), (149, 146253), (151, 146280), (152, 146283), (153, 146286), (154, 146289), (160, 146346), (163, 146394), (173, 146454), (175, 146463), (187, 146574),

Gene: Myrna\_246 Start: 148768, Stop: 151059, Start Num: 10

Candidate Starts for Myrna\_246:

(1, 148270), (Start: 10 @148768 has 3 MA's), (Start: 18 @148837 has 1 MA's), (21, 148900), (25, 148927), (28, 148957), (35, 149026), (36, 149032), (42, 149110), (46, 149212), (48, 149224), (49, 149233), (55, 149299), (57, 149332), (60, 149395), (70, 149527), (71, 149560), (78, 149677), (79, 149683), (81, 149743), (82, 149749), (83, 149755), (84, 149764), (86, 149803), (90, 149869), (93, 149914), (94, 149956), (96, 149965), (99, 150049), (101, 150061), (103, 150091), (104, 150094), (107, 150187), (109, 150232), (111, 150256), (112, 150280), (113, 150292), (119, 150325), (121, 150367), (122, 150373), (131, 150487), (140, 150571), (141, 150607), (151, 150709), (152, 150712), (153, 150715), (156, 150724), (165, 150832), (168, 150847), (174, 150883), (183, 150964),

Gene: Nappy\_252 Start: 146633, Stop: 148849, Start Num: 11

Candidate Starts for Nappy\_252:

(2, 146351), (Start: 11 @146633 has 62 MA's), (Start: 18 @146699 has 1 MA's), (20, 146741), (22, 146765), (24, 146783), (29, 146822), (36, 146894), (37, 146909), (40, 146966), (42, 146972), (43, 146999), (46, 147074), (48, 147086), (55, 147161), (56, 147164), (62, 147272), (66, 147356), (69, 147383), (73, 147470), (85, 147644), (88, 147668), (90, 147725), (94, 147812), (101, 147920), (105, 147980), (115, 148091), (117, 148103), (119, 148112), (121, 148154), (126, 148211), (138, 148343), (140, 148358), (149, 148481), (151, 148508), (152, 148511), (153, 148514), (154, 148517), (160, 148574), (163, 148622), (173, 148682), (175, 148691), (187, 148802),

Gene: NedWong\_252 Start: 145985, Stop: 148201, Start Num: 11

Candidate Starts for NedWong\_252:

(2, 145703), (Start: 11 @145985 has 62 MA's), (Start: 18 @146051 has 1 MA's), (20, 146093), (22, 146117), (24, 146135), (29, 146174), (36, 146246), (37, 146261), (40, 146318), (42, 146324), (43, 146351), (46, 146426), (48, 146438), (55, 146513), (56, 146516), (62, 146624), (66, 146708), (69, 146735), (73, 146822), (85, 146996), (88, 147020), (90, 147077), (94, 147164), (101, 147272), (105, 147332), (115, 147443), (117, 147455), (119, 147464), (121, 147506), (126, 147563), (138, 147695), (140, 147710), (149, 147833), (151, 147860), (152, 147863), (153, 147866), (154, 147869), (160, 147926), (163, 147974), (173, 148034), (175, 148043), (187, 148154),

Gene: Norm\_253 Start: 146254, Stop: 148470, Start Num: 11

Candidate Starts for Norm\_253:

(2, 145972), (Start: 11 @146254 has 62 MA's), (Start: 18 @146320 has 1 MA's), (20, 146362), (22, 146386), (24, 146404), (29, 146443), (36, 146515), (37, 146530), (40, 146587), (42, 146593), (43, 146620), (46, 146695), (48, 146707), (55, 146782), (56, 146785), (62, 146893), (66, 146977), (69, 147004), (73, 147091), (85, 147265), (88, 147289), (90, 147346), (94, 147433), (101, 147541), (105, 147601), (115, 147712), (117, 147724), (119, 147733), (121, 147775), (126, 147832), (138, 147964), (140, 147979), (149, 148102), (151, 148129), (152, 148132), (153, 148135), (154, 148138), (160, 148195), (163, 148243), (173, 148303), (175, 148312), (187, 148423),

Gene: NuevoMundo\_255 Start: 146740, Stop: 148956, Start Num: 11

Candidate Starts for NuevoMundo\_255:

(Start: 9 @146734 has 1 MA's), (Start: 11 @146740 has 62 MA's), (Start: 18 @146806 has 1 MA's), (20, 146848), (22, 146872), (24, 146890), (29, 146929), (36, 147001), (37, 147016), (40, 147073), (42,

147079), (43, 147106), (46, 147181), (48, 147193), (55, 147268), (56, 147271), (62, 147379), (69, 147490), (73, 147577), (85, 147751), (88, 147775), (90, 147832), (94, 147919), (101, 148027), (105, 148087), (115, 148198), (117, 148210), (121, 148261), (126, 148318), (140, 148465), (149, 148588), (151, 148615), (152, 148618), (153, 148621), (154, 148624), (160, 148681), (163, 148729), (173, 148789), (175, 148798), (187, 148909),

Gene: OrediggerDelux\_250 Start: 146929, Stop: 149145, Start Num: 11

Candidate Starts for OrediggerDelux\_250:

(2, 146647), (Start: 11 @146929 has 62 MA's), (Start: 18 @146995 has 1 MA's), (20, 147037), (22, 147061), (24, 147079), (29, 147118), (36, 147190), (37, 147205), (40, 147262), (42, 147268), (43, 147295), (46, 147370), (48, 147382), (55, 147457), (56, 147460), (62, 147568), (66, 147652), (69, 147679), (73, 147766), (85, 147940), (88, 147964), (90, 148021), (94, 148108), (101, 148216), (105, 148276), (115, 148387), (117, 148399), (119, 148408), (121, 148450), (126, 148507), (138, 148639), (140, 148654), (149, 148777), (151, 148804), (152, 148807), (153, 148810), (154, 148813), (160, 148870), (163, 148918), (173, 148978), (175, 148987), (187, 149098),

Gene: ParkTD\_252 Start: 145824, Stop: 148040, Start Num: 11

Candidate Starts for ParkTD\_252:

(2, 145542), (Start: 11 @145824 has 62 MA's), (Start: 18 @145890 has 1 MA's), (20, 145932), (22, 145956), (24, 145974), (29, 146013), (36, 146085), (37, 146100), (40, 146157), (42, 146163), (43, 146190), (46, 146265), (48, 146277), (55, 146352), (56, 146355), (62, 146463), (66, 146547), (69, 146574), (73, 146661), (85, 146835), (88, 146859), (90, 146916), (94, 147003), (101, 147111), (105, 147171), (115, 147282), (117, 147294), (119, 147303), (121, 147345), (126, 147402), (138, 147534), (140, 147549), (149, 147672), (151, 147699), (152, 147702), (153, 147705), (154, 147708), (160, 147765), (163, 147813), (173, 147873), (175, 147882), (187, 147993),

Gene: Phabba\_256 Start: 148154, Stop: 150448, Start Num: 10

Candidate Starts for Phabba\_256:

(Start: 10 @148154 has 3 MA's), (Start: 18 @148226 has 1 MA's), (21, 148289), (25, 148316), (35, 148415), (36, 148421), (38, 148445), (42, 148499), (46, 148601), (48, 148613), (49, 148622), (55, 148688), (57, 148721), (60, 148784), (63, 148805), (70, 148916), (71, 148949), (78, 149066), (79, 149072), (81, 149132), (83, 149144), (84, 149153), (86, 149192), (90, 149258), (93, 149303), (94, 149345), (96, 149354), (99, 149438), (101, 149450), (104, 149483), (107, 149576), (110, 149633), (111, 149645), (114, 149684), (119, 149714), (121, 149756), (122, 149762), (131, 149876), (135, 149903), (141, 149996), (142, 150005), (151, 150098), (152, 150101), (153, 150104), (156, 150113), (165, 150221), (168, 150236), (174, 150272), (180, 150329), (183, 150353), (185, 150368),

Gene: Phox\_254 Start: 145479, Stop: 147695, Start Num: 11

Candidate Starts for Phox\_254:

(2, 145197), (Start: 11 @145479 has 62 MA's), (Start: 18 @145545 has 1 MA's), (20, 145587), (22, 145611), (24, 145629), (29, 145668), (36, 145740), (37, 145755), (40, 145812), (42, 145818), (43, 145845), (46, 145920), (48, 145932), (55, 146007), (56, 146010), (62, 146118), (66, 146202), (69, 146229), (73, 146316), (85, 146490), (88, 146514), (90, 146571), (94, 146658), (101, 146766), (105, 146826), (115, 146937), (117, 146949), (119, 146958), (121, 147000), (126, 147057), (138, 147189), (140, 147204), (149, 147327), (151, 147354), (152, 147357), (153, 147360), (154, 147363), (160, 147420), (163, 147468), (173, 147528), (175, 147537), (187, 147648),

Gene: Pio\_260 Start: 147558, Stop: 149774, Start Num: 11

Candidate Starts for Pio\_260:

(2, 147276), (Start: 11 @147558 has 62 MA's), (Start: 18 @147624 has 1 MA's), (20, 147666), (22, 147690), (24, 147708), (29, 147747), (36, 147819), (37, 147834), (40, 147891), (42, 147897), (43, 147924), (46, 147999), (48, 148011), (55, 148086), (56, 148089), (62, 148197), (66, 148281), (69, 148308), (73, 148395), (85, 148569), (88, 148593), (90, 148650), (94, 148737), (101, 148845), (105,

148905), (115, 149016), (117, 149028), (119, 149037), (121, 149079), (126, 149136), (138, 149268), (140, 149283), (149, 149406), (151, 149433), (152, 149436), (153, 149439), (154, 149442), (160, 149499), (163, 149547), (173, 149607), (175, 149616), (187, 149727),

Gene: Pleione\_257 Start: 146290, Stop: 148506, Start Num: 11

Candidate Starts for Pleione\_257:

(2, 146008), (Start: 11 @146290 has 62 MA's), (Start: 18 @146356 has 1 MA's), (20, 146398), (22, 146422), (24, 146440), (29, 146479), (36, 146551), (37, 146566), (40, 146623), (42, 146629), (43, 146656), (46, 146731), (48, 146743), (55, 146818), (56, 146821), (62, 146929), (66, 147013), (69, 147040), (73, 147127), (85, 147301), (88, 147325), (90, 147382), (94, 147469), (101, 147577), (105, 147637), (115, 147748), (117, 147760), (119, 147769), (121, 147811), (126, 147868), (138, 148000), (140, 148015), (149, 148138), (151, 148165), (152, 148168), (153, 148171), (154, 148174), (160, 148231), (163, 148279), (173, 148339), (175, 148348), (187, 148459),

Gene: Pupper\_174 Start: 126973, Stop: 129177, Start Num: 14

Candidate Starts for Pupper\_174:

(3, 126796), (4, 126799), (5, 126823), (Start: 14 @126973 has 2 MA's), (16, 127009), (Start: 18 @127018 has 1 MA's), (23, 127087), (29, 127141), (31, 127162), (36, 127213), (41, 127288), (42, 127291), (44, 127354), (47, 127402), (50, 127417), (55, 127480), (60, 127576), (62, 127591), (68, 127693), (69, 127702), (70, 127708), (73, 127789), (76, 127828), (79, 127864), (80, 127894), (86, 127975), (89, 127990), (91, 128044), (94, 128128), (96, 128137), (99, 128221), (100, 128224), (101, 128233), (103, 128263), (104, 128266), (108, 128365), (115, 128488), (121, 128551), (125, 128599), (131, 128674), (133, 128683), (153, 128902), (156, 128911), (165, 129022), (169, 129040), (172, 129064), (173, 129067), (178, 129106), (184, 129151),

Gene: PurduePete\_254 Start: 147004, Stop: 149220, Start Num: 11

Candidate Starts for PurduePete\_254:

(2, 146722), (Start: 11 @147004 has 62 MA's), (Start: 18 @147070 has 1 MA's), (20, 147112), (22, 147136), (24, 147154), (29, 147193), (36, 147265), (37, 147280), (40, 147337), (42, 147343), (43, 147370), (46, 147445), (48, 147457), (55, 147532), (56, 147535), (62, 147643), (66, 147727), (69, 147754), (73, 147841), (85, 148015), (88, 148039), (90, 148096), (94, 148183), (101, 148291), (105, 148351), (115, 148462), (117, 148474), (119, 148483), (121, 148525), (126, 148582), (140, 148729), (149, 148852), (151, 148879), (152, 148882), (153, 148885), (154, 148888), (160, 148945), (163, 148993), (173, 149053), (175, 149062), (187, 149173),

Gene: RedWattleHog\_1 Start: 1, Stop: 2160, Start Num: 7

Candidate Starts for RedWattleHog\_1:

(Start: 7 @1 has 2 MA's), (15, 58), (17, 76), (19, 109), (26, 172), (29, 202), (34, 262), (36, 274), (44, 415), (45, 451), (49, 475), (60, 637), (65, 694), (69, 763), (75, 880), (79, 925), (86, 1045), (88, 1054), (94, 1153), (95, 1156), (98, 1219), (101, 1258), (102, 1270), (121, 1504), (125, 1552), (127, 1591), (131, 1627), (132, 1633), (137, 1675), (143, 1789), (157, 1900), (158, 1936),

Gene: Roots515\_256 Start: 147106, Stop: 149322, Start Num: 11

Candidate Starts for Roots515\_256:

(2, 146824), (Start: 11 @147106 has 62 MA's), (Start: 18 @147172 has 1 MA's), (20, 147214), (22, 147238), (24, 147256), (29, 147295), (36, 147367), (37, 147382), (40, 147439), (42, 147445), (43, 147472), (46, 147547), (48, 147559), (55, 147634), (56, 147637), (62, 147745), (66, 147829), (69, 147856), (73, 147943), (85, 148117), (88, 148141), (90, 148198), (94, 148285), (101, 148393), (105, 148453), (115, 148564), (117, 148576), (119, 148585), (121, 148627), (126, 148684), (138, 148816), (140, 148831), (149, 148954), (151, 148981), (152, 148984), (153, 148987), (154, 148990), (160, 149047), (163, 149095), (173, 149155), (175, 149164), (187, 149275),

Gene: SCentae\_173 Start: 127166, Stop: 129370, Start Num: 14

Candidate Starts for SCentae\_173:

(3, 126989), (4, 126992), (5, 127016), (Start: 14 @127166 has 2 MA's), (16, 127202), (Start: 18 @127211 has 1 MA's), (23, 127280), (29, 127334), (31, 127355), (36, 127406), (41, 127481), (42, 127484), (44, 127547), (47, 127595), (50, 127610), (55, 127673), (60, 127769), (62, 127784), (68, 127886), (69, 127895), (70, 127901), (73, 127982), (76, 128021), (79, 128057), (80, 128087), (86, 128168), (89, 128183), (91, 128237), (94, 128321), (96, 128330), (99, 128414), (100, 128417), (101, 128426), (103, 128456), (104, 128459), (108, 128558), (115, 128681), (121, 128744), (125, 128792), (131, 128867), (133, 128876), (153, 129095), (156, 129104), (165, 129215), (169, 129233), (172, 129257), (173, 129260), (178, 129299), (184, 129344),

Gene: SVoro\_248 Start: 145863, Stop: 148079, Start Num: 11

Candidate Starts for SVoro\_248:

(2, 145581), (Start: 11 @145863 has 62 MA's), (Start: 18 @145929 has 1 MA's), (20, 145971), (22, 145995), (24, 146013), (29, 146052), (36, 146124), (37, 146139), (40, 146196), (42, 146202), (43, 146229), (46, 146304), (48, 146316), (55, 146391), (56, 146394), (62, 146502), (66, 146586), (69, 146613), (73, 146700), (85, 146874), (88, 146898), (90, 146955), (94, 147042), (101, 147150), (105, 147210), (115, 147321), (117, 147333), (119, 147342), (121, 147384), (126, 147441), (140, 147588), (149, 147711), (151, 147738), (152, 147741), (153, 147744), (154, 147747), (160, 147804), (163, 147852), (173, 147912), (175, 147921), (187, 148032),

Gene: Salacia\_255 Start: 147430, Stop: 149646, Start Num: 11

Candidate Starts for Salacia\_255:

(2, 147148), (Start: 11 @147430 has 62 MA's), (Start: 18 @147496 has 1 MA's), (20, 147538), (22, 147562), (24, 147580), (29, 147619), (36, 147691), (37, 147706), (40, 147763), (42, 147769), (43, 147796), (46, 147871), (48, 147883), (55, 147958), (56, 147961), (62, 148069), (66, 148153), (69, 148180), (73, 148267), (85, 148441), (88, 148465), (90, 148522), (94, 148609), (101, 148717), (105, 148777), (115, 148888), (117, 148900), (119, 148909), (121, 148951), (126, 149008), (138, 149140), (140, 149155), (149, 149278), (151, 149305), (152, 149308), (153, 149311), (154, 149314), (160, 149371), (163, 149419), (173, 149479), (175, 149488), (187, 149599),

Gene: ScoobyDoobyDoo\_242 Start: 145108, Stop: 147399, Start Num: 10

Candidate Starts for ScoobyDoobyDoo\_242:

(Start: 10 @145108 has 3 MA's), (21, 145240), (28, 145297), (35, 145366), (36, 145372), (39, 145438), (42, 145450), (46, 145552), (48, 145564), (49, 145573), (55, 145639), (57, 145672), (60, 145735), (61, 145741), (63, 145756), (70, 145867), (71, 145900), (72, 145912), (74, 145957), (78, 146017), (79, 146023), (81, 146083), (82, 146089), (83, 146095), (86, 146143), (87, 146149), (88, 146152), (90, 146209), (93, 146254), (94, 146296), (99, 146389), (101, 146401), (113, 146632), (120, 146698), (121, 146707), (131, 146827), (135, 146854), (140, 146911), (141, 146947), (147, 146998), (152, 147052), (153, 147055), (165, 147172), (168, 147187), (174, 147223),

Gene: Sebata\_253 Start: 146149, Stop: 148365, Start Num: 11

Candidate Starts for Sebata\_253:

(Start: 11 @146149 has 62 MA's), (Start: 18 @146215 has 1 MA's), (20, 146257), (22, 146281), (24, 146299), (29, 146338), (36, 146410), (37, 146425), (40, 146482), (42, 146488), (43, 146515), (46, 146590), (48, 146602), (55, 146677), (56, 146680), (62, 146788), (66, 146872), (69, 146899), (73, 146986), (85, 147160), (88, 147184), (90, 147241), (94, 147328), (101, 147436), (105, 147496), (115, 147607), (117, 147619), (121, 147670), (126, 147727), (140, 147874), (149, 147997), (151, 148024), (152, 148027), (153, 148030), (154, 148033), (160, 148090), (163, 148138), (173, 148198), (175, 148207), (187, 148318),

Gene: Shelob\_254 Start: 147424, Stop: 149640, Start Num: 11

Candidate Starts for Shelob\_254:

(2, 147142), (Start: 11 @147424 has 62 MA's), (Start: 18 @147490 has 1 MA's), (20, 147532), (22, 147556), (24, 147574), (29, 147613), (36, 147685), (37, 147700), (40, 147757), (42, 147763), (43, 147790), (46, 147865), (48, 147877), (55, 147952), (56, 147955), (62, 148063), (66, 148147), (69, 148174), (73, 148261), (85, 148435), (88, 148459), (90, 148516), (94, 148603), (101, 148711), (105, 148771), (115, 148882), (117, 148894), (119, 148903), (121, 148945), (126, 149002), (138, 149134), (140, 149149), (149, 149272), (151, 149299), (152, 149302), (153, 149305), (154, 149308), (160, 149365), (163, 149413), (173, 149473), (175, 149482), (187, 149593),

Gene: ShiaLabeouf\_251 Start: 145283, Stop: 147499, Start Num: 11

Candidate Starts for ShiaLabeouf\_251:

(2, 145001), (Start: 11 @145283 has 62 MA's), (Start: 18 @145349 has 1 MA's), (20, 145391), (22, 145415), (24, 145433), (29, 145472), (36, 145544), (37, 145559), (40, 145616), (42, 145622), (43, 145649), (46, 145724), (48, 145736), (55, 145811), (56, 145814), (62, 145922), (66, 146006), (69, 146033), (73, 146120), (85, 146294), (88, 146318), (90, 146375), (94, 146462), (101, 146570), (105, 146630), (115, 146741), (117, 146753), (119, 146762), (121, 146804), (126, 146861), (138, 146993), (140, 147008), (149, 147131), (151, 147158), (152, 147161), (153, 147164), (154, 147167), (160, 147224), (163, 147272), (173, 147332), (175, 147341), (187, 147452),

Gene: Shifa\_229 Start: 144757, Stop: 146973, Start Num: 11

Candidate Starts for Shifa\_229:

(Start: 11 @144757 has 62 MA's), (Start: 18 @144823 has 1 MA's), (20, 144865), (22, 144889), (24, 144907), (29, 144946), (36, 145018), (37, 145033), (40, 145090), (42, 145096), (43, 145123), (46, 145198), (48, 145210), (55, 145285), (56, 145288), (62, 145396), (66, 145480), (69, 145507), (73, 145594), (85, 145768), (88, 145792), (90, 145849), (94, 145936), (101, 146044), (105, 146104), (115, 146215), (117, 146227), (121, 146278), (126, 146335), (140, 146482), (149, 146605), (151, 146632), (152, 146635), (153, 146638), (154, 146641), (160, 146698), (163, 146746), (173, 146806), (175, 146815), (187, 146926),

Gene: Shnickers\_252 Start: 145347, Stop: 147563, Start Num: 11

Candidate Starts for Shnickers\_252:

(2, 145065), (Start: 11 @145347 has 62 MA's), (Start: 18 @145413 has 1 MA's), (20, 145455), (22, 145479), (24, 145497), (29, 145536), (36, 145608), (37, 145623), (40, 145680), (42, 145686), (43, 145713), (46, 145788), (48, 145800), (55, 145875), (56, 145878), (62, 145986), (66, 146070), (69, 146097), (73, 146184), (85, 146358), (88, 146382), (90, 146439), (94, 146526), (101, 146634), (105, 146694), (115, 146805), (117, 146817), (119, 146826), (121, 146868), (126, 146925), (138, 147057), (140, 147072), (149, 147195), (151, 147222), (152, 147225), (153, 147228), (154, 147231), (160, 147288), (163, 147336), (173, 147396), (175, 147405), (187, 147516),

Gene: Shrimp\_256 Start: 147041, Stop: 149257, Start Num: 11

Candidate Starts for Shrimp\_256:

(2, 146759), (Start: 11 @147041 has 62 MA's), (Start: 18 @147107 has 1 MA's), (20, 147149), (22, 147173), (24, 147191), (29, 147230), (36, 147302), (37, 147317), (40, 147374), (42, 147380), (43, 147407), (46, 147482), (48, 147494), (55, 147569), (56, 147572), (62, 147680), (66, 147764), (69, 147791), (73, 147878), (85, 148052), (88, 148076), (90, 148133), (94, 148220), (101, 148328), (105, 148388), (115, 148499), (117, 148511), (121, 148562), (126, 148619), (140, 148766), (149, 148889), (151, 148916), (152, 148919), (153, 148922), (154, 148925), (160, 148982), (163, 149030), (173, 149090), (175, 149099), (187, 149210),

Gene: Skog\_6 Start: 3539, Stop: 5740, Start Num: 13

Candidate Starts for Skog\_6:

(Start: 13 @3539 has 1 MA's), (16, 3575), (Start: 18 @3584 has 1 MA's), (23, 3653), (29, 3707), (31, 3728), (32, 3746), (33, 3764), (41, 3854), (42, 3857), (44, 3920), (47, 3968), (50, 3983), (55, 4046), (60, 4142), (62, 4157), (68, 4259), (69, 4268), (70, 4274), (73, 4355), (76, 4394), (78, 4424), (79, 4430), (80,

4460), (86, 4541), (89, 4556), (90, 4607), (91, 4610), (93, 4652), (94, 4694), (96, 4703), (99, 4787), (100, 4790), (101, 4799), (103, 4829), (108, 4931), (115, 5054), (121, 5117), (131, 5240), (153, 5468), (165, 5588), (169, 5606), (172, 5630), (173, 5633), (178, 5672), (181, 5702), (184, 5714),

Gene: SrishMeg2525\_251 Start: 146536, Stop: 148752, Start Num: 11

Candidate Starts for SrishMeg2525\_251:

(2, 146254), (Start: 11 @146536 has 62 MA's), (Start: 18 @146602 has 1 MA's), (20, 146644), (22, 146668), (24, 146686), (29, 146725), (36, 146797), (37, 146812), (40, 146869), (42, 146875), (43, 146902), (46, 146977), (48, 146989), (55, 147064), (56, 147067), (62, 147175), (66, 147259), (69, 147286), (73, 147373), (85, 147547), (88, 147571), (90, 147628), (94, 147715), (101, 147823), (105, 147883), (115, 147994), (117, 148006), (119, 148015), (121, 148057), (126, 148114), (138, 148246), (140, 148261), (149, 148384), (151, 148411), (152, 148414), (153, 148417), (154, 148420), (160, 148477), (163, 148525), (173, 148585), (175, 148594), (187, 148705),

Gene: Stormageddon\_1 Start: 1, Stop: 2160, Start Num: 7

Candidate Starts for Stormageddon\_1:

(Start: 7 @1 has 2 MA's), (15, 58), (17, 76), (19, 109), (26, 172), (29, 202), (34, 262), (36, 274), (44, 415), (45, 451), (49, 475), (60, 637), (65, 694), (69, 763), (75, 880), (79, 925), (86, 1045), (88, 1054), (94, 1153), (95, 1156), (98, 1219), (101, 1258), (102, 1270), (121, 1504), (125, 1552), (127, 1591), (131, 1627), (132, 1633), (137, 1675), (143, 1789), (157, 1900), (158, 1936),

Gene: TinyTim\_252 Start: 145360, Stop: 147576, Start Num: 11

Candidate Starts for TinyTim\_252:

(2, 145078), (Start: 11 @145360 has 62 MA's), (Start: 18 @145426 has 1 MA's), (20, 145468), (22, 145492), (24, 145510), (29, 145549), (36, 145621), (37, 145636), (40, 145693), (42, 145699), (43, 145726), (46, 145801), (48, 145813), (55, 145888), (56, 145891), (62, 145999), (66, 146083), (69, 146110), (73, 146197), (85, 146371), (88, 146395), (90, 146452), (94, 146539), (101, 146647), (105, 146707), (115, 146818), (117, 146830), (119, 146839), (121, 146881), (126, 146938), (138, 147070), (140, 147085), (149, 147208), (151, 147235), (152, 147238), (153, 147241), (154, 147244), (160, 147301), (163, 147349), (173, 147409), (175, 147418), (187, 147529),

Gene: Tonenili\_275 Start: 150692, Stop: 152905, Start Num: 12

Candidate Starts for Tonenili\_275:

(Start: 12 @150692 has 1 MA's), (Start: 18 @150749 has 1 MA's), (24, 150833), (31, 150893), (36, 150944), (37, 150959), (39, 151010), (40, 151016), (41, 151019), (46, 151124), (48, 151136), (51, 151151), (52, 151154), (55, 151211), (56, 151214), (66, 151406), (69, 151433), (73, 151520), (88, 151721), (90, 151778), (93, 151823), (101, 151973), (104, 152006), (117, 152156), (119, 152165), (121, 152207), (122, 152213), (126, 152264), (140, 152411), (149, 152534), (151, 152561), (152, 152564), (153, 152567), (154, 152570), (160, 152627), (161, 152630), (162, 152648), (173, 152735), (175, 152744), (177, 152768), (182, 152816), (186, 152843),

Gene: Tortoise16\_251 Start: 145373, Stop: 147589, Start Num: 11

Candidate Starts for Tortoise16\_251:

(2, 145091), (Start: 11 @145373 has 62 MA's), (Start: 18 @145439 has 1 MA's), (20, 145481), (22, 145505), (24, 145523), (29, 145562), (36, 145634), (37, 145649), (40, 145706), (42, 145712), (43, 145739), (46, 145814), (48, 145826), (55, 145901), (56, 145904), (62, 146012), (66, 146096), (69, 146123), (73, 146210), (85, 146384), (88, 146408), (90, 146465), (94, 146552), (101, 146660), (105, 146720), (115, 146831), (117, 146843), (119, 146852), (121, 146894), (126, 146951), (138, 147083), (140, 147098), (149, 147221), (151, 147248), (152, 147251), (153, 147254), (154, 147257), (160, 147314), (163, 147362), (173, 147422), (175, 147431), (187, 147542),

Gene: Tyke\_250 Start: 147496, Stop: 149712, Start Num: 11

Candidate Starts for Tyke\_250:

(2, 147214), (Start: 11 @147496 has 62 MA's), (Start: 18 @147562 has 1 MA's), (20, 147604), (22, 147628), (24, 147646), (29, 147685), (36, 147757), (37, 147772), (40, 147829), (42, 147835), (43, 147862), (46, 147937), (48, 147949), (55, 148024), (56, 148027), (62, 148135), (66, 148219), (69, 148246), (73, 148333), (85, 148507), (88, 148531), (90, 148588), (94, 148675), (101, 148783), (105, 148843), (115, 148954), (117, 148966), (119, 148975), (121, 149017), (126, 149074), (138, 149206), (140, 149221), (149, 149344), (151, 149371), (152, 149374), (153, 149377), (154, 149380), (160, 149437), (163, 149485), (173, 149545), (175, 149554), (187, 149665),

Gene: Vortrix\_272 Start: 150007, Stop: 152220, Start Num: 12

Candidate Starts for Vortrix\_272:

(Start: 12 @150007 has 1 MA's), (Start: 18 @150064 has 1 MA's), (24, 150148), (31, 150208), (36, 150259), (37, 150274), (39, 150325), (40, 150331), (41, 150334), (46, 150439), (48, 150451), (51, 150466), (52, 150469), (55, 150526), (56, 150529), (66, 150721), (69, 150748), (73, 150835), (88, 151036), (90, 151093), (93, 151138), (101, 151288), (104, 151321), (117, 151471), (119, 151480), (121, 151522), (122, 151528), (123, 151540), (126, 151579), (140, 151726), (149, 151849), (151, 151876), (152, 151879), (153, 151882), (154, 151885), (160, 151942), (161, 151945), (162, 151963), (173, 152050), (175, 152059), (177, 152083), (182, 152131), (186, 152158),

Gene: YemiJoy2021\_254 Start: 146478, Stop: 148694, Start Num: 11

Candidate Starts for YemiJoy2021\_254:

(2, 146196), (Start: 11 @146478 has 62 MA's), (Start: 18 @146544 has 1 MA's), (20, 146586), (22, 146610), (24, 146628), (29, 146667), (36, 146739), (37, 146754), (40, 146811), (42, 146817), (43, 146844), (46, 146919), (48, 146931), (55, 147006), (56, 147009), (62, 147117), (66, 147201), (69, 147228), (73, 147315), (85, 147489), (88, 147513), (90, 147570), (94, 147657), (101, 147765), (105, 147825), (115, 147936), (117, 147948), (119, 147957), (121, 147999), (126, 148056), (138, 148188), (140, 148203), (149, 148326), (151, 148353), (152, 148356), (153, 148359), (154, 148362), (160, 148419), (163, 148467), (173, 148527), (175, 148536), (187, 148647),

Gene: Yucca\_254 Start: 146919, Stop: 149135, Start Num: 11

Candidate Starts for Yucca\_254:

(2, 146637), (Start: 11 @146919 has 62 MA's), (Start: 18 @146985 has 1 MA's), (20, 147027), (22, 147051), (24, 147069), (29, 147108), (36, 147180), (37, 147195), (40, 147252), (42, 147258), (43, 147285), (46, 147360), (48, 147372), (55, 147447), (56, 147450), (62, 147558), (66, 147642), (69, 147669), (73, 147756), (85, 147930), (88, 147954), (90, 148011), (94, 148098), (101, 148206), (105, 148266), (115, 148377), (117, 148389), (119, 148398), (121, 148440), (126, 148497), (138, 148629), (140, 148644), (149, 148767), (151, 148794), (152, 148797), (153, 148800), (154, 148803), (160, 148860), (163, 148908), (173, 148968), (175, 148977), (187, 149088),

Gene: Zalkecks\_252 Start: 145576, Stop: 147792, Start Num: 11

Candidate Starts for Zalkecks\_252:

(2, 145294), (Start: 11 @145576 has 62 MA's), (Start: 18 @145642 has 1 MA's), (20, 145684), (22, 145708), (24, 145726), (29, 145765), (36, 145837), (37, 145852), (40, 145909), (42, 145915), (43, 145942), (46, 146017), (48, 146029), (55, 146104), (56, 146107), (62, 146215), (66, 146299), (69, 146326), (73, 146413), (85, 146587), (88, 146611), (90, 146668), (94, 146755), (101, 146863), (105, 146923), (115, 147034), (117, 147046), (119, 147055), (121, 147097), (126, 147154), (138, 147286), (140, 147301), (149, 147424), (151, 147451), (152, 147454), (153, 147457), (154, 147460), (160, 147517), (163, 147565), (173, 147625), (175, 147634), (187, 147745),

Gene: Zeenon\_254 Start: 146110, Stop: 148326, Start Num: 11

Candidate Starts for Zeenon\_254:

(2, 145828), (Start: 11 @146110 has 62 MA's), (Start: 18 @146176 has 1 MA's), (20, 146218), (22, 146242), (24, 146260), (29, 146299), (36, 146371), (37, 146386), (40, 146443), (42, 146449), (43, 146476), (46, 146551), (48, 146563), (55, 146638), (56, 146641), (62, 146749), (66, 146833), (69,

146860), (73, 146947), (85, 147121), (88, 147145), (90, 147202), (94, 147289), (101, 147397), (105, 147457), (115, 147568), (117, 147580), (119, 147589), (121, 147631), (126, 147688), (138, 147820), (140, 147835), (149, 147958), (151, 147985), (152, 147988), (153, 147991), (154, 147994), (160, 148051), (163, 148099), (173, 148159), (175, 148168), (187, 148279),