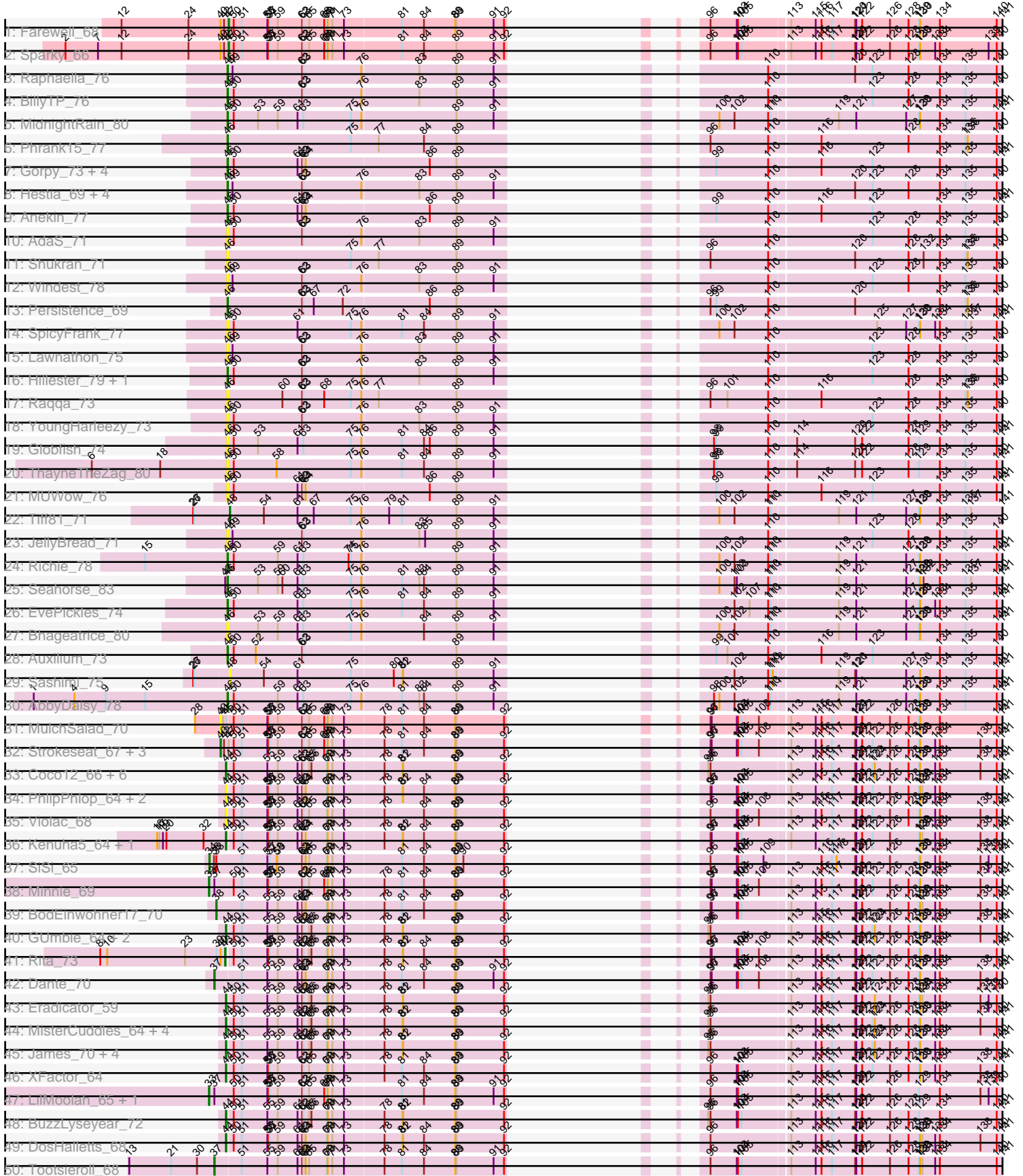
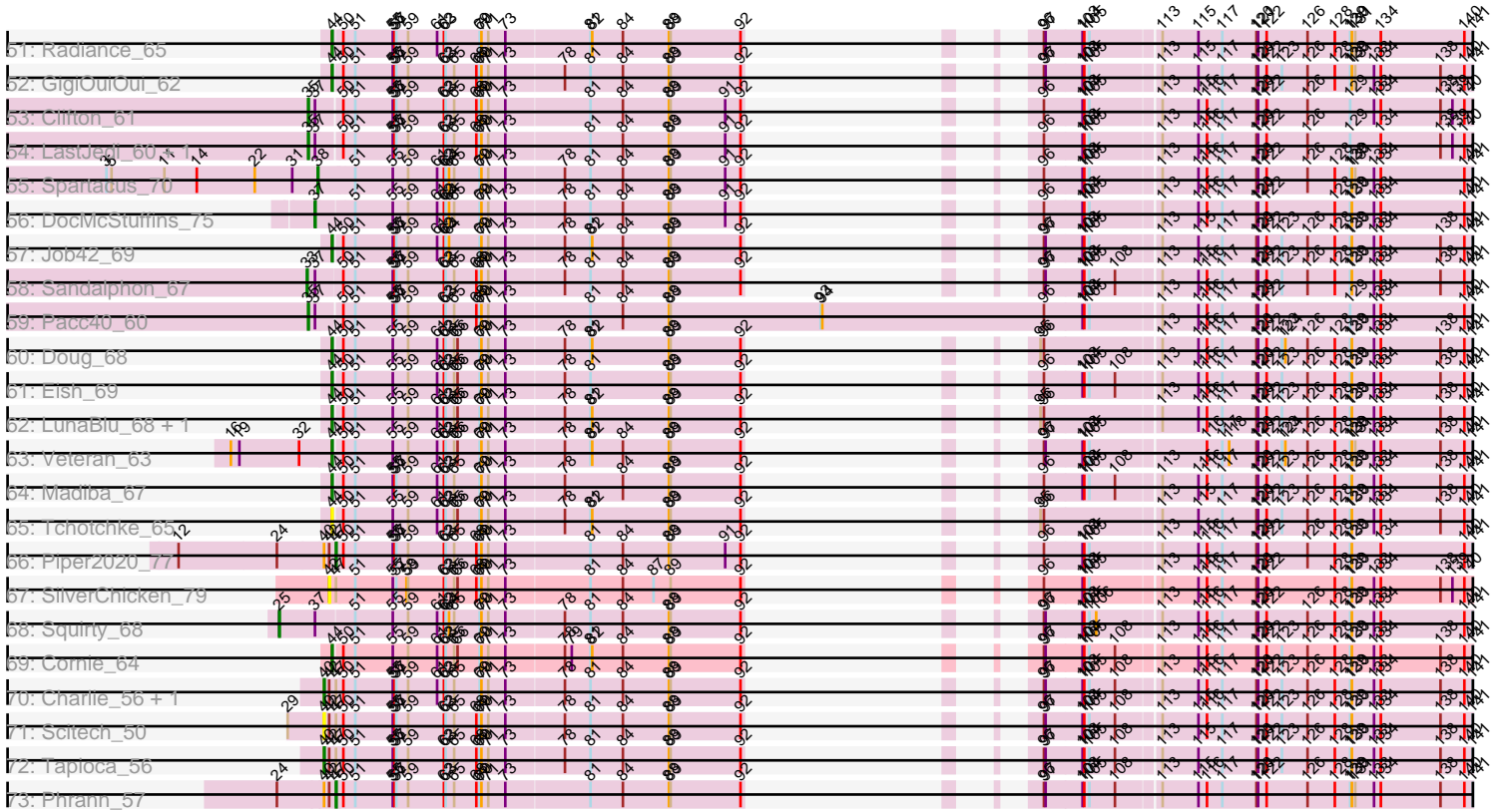


# Zoomed Pham 221275



Zoomed Pham 221275



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 221275 Report

This analysis was run 03/28/25 on database version 593.

Pham number 221275 has 108 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Farewell\_68
- Track 2 : Sparky\_66
- Track 3 : Raphaella\_76
- Track 4 : BillyTP\_76
- Track 5 : MidnightRain\_80
- Track 6 : Phrank15\_77
- Track 7 : Gorpy\_73, BlueShadow\_77, MaterMagnus\_75, Sakai\_72, Aikyam\_74
- Track 8 : Hestia\_69, Isolde\_73, Faja\_78, BenchScraper\_75, CookieBear\_72
- Track 9 : Anekin\_77
- Track 10 : AdaS\_71
- Track 11 : Shukran\_71
- Track 12 : Windest\_78
- Track 13 : Persistence\_69
- Track 14 : SpicyFrank\_77
- Track 15 : Lawnathon\_75
- Track 16 : Hillester\_79, RadFad\_80
- Track 17 : Raqqa\_73
- Track 18 : YoungHarleezy\_73
- Track 19 : Globfish\_74
- Track 20 : ThayneTheZag\_80
- Track 21 : MUWow\_76
- Track 22 : Tiff81\_71
- Track 23 : JellyBread\_71
- Track 24 : Richie\_78
- Track 25 : Seahorse\_83
- Track 26 : EvePickles\_74
- Track 27 : Bhageatrice\_80
- Track 28 : Auxilium\_73
- Track 29 : Sashimi\_75
- Track 30 : AbbyDaisy\_78
- Track 31 : MulchSalad\_70
- Track 32 : Strokeseat\_67, Andies\_52, Hlubikazi\_67, Mandlovu\_67
- Track 33 : Coco12\_66, Cerasum\_63, Brookers\_64, Sarma624\_65, BigPhil\_63, Velveteen\_62, Kingsley\_64
- Track 34 : PhlipPhlop\_64, EmiMonkey\_64, Vivum\_69
- Track 35 : Violac\_68
- Track 36 : Kenuha5\_64, SuperGrey\_70

- Track 37 : SiSi\_65
- Track 38 : Minnie\_69
- Track 39 : BodEinwohner17\_70
- Track 40 : GUmbie\_64, RockyHorror\_67, Lizziana\_72
- Track 41 : Rita\_73
- Track 42 : Dante\_70
- Track 43 : Eradicator\_59
- Track 44 : MisterCuddles\_64, Girr\_64, Zerg\_66, Ruby\_62, Alexphander\_70
- Track 45 : James\_70, Saal\_68, OlympiaSaint\_68, Gorge\_70, Mattes\_70
- Track 46 : XFactor\_64
- Track 47 : LilMoolah\_65, Nivrat\_63
- Track 48 : BuzzLyseyear\_72
- Track 49 : DosHalletts\_68
- Track 50 : Tootsieroll\_68
- Track 51 : Radiance\_65
- Track 52 : GigiOuiOui\_62
- Track 53 : Clifton\_61
- Track 54 : LastJedi\_60, Brocalys\_61
- Track 55 : Spartacus\_70
- Track 56 : DocMcStuffins\_75
- Track 57 : Job42\_69
- Track 58 : Sandalphon\_67
- Track 59 : Pacc40\_60
- Track 60 : Doug\_68
- Track 61 : Eish\_69
- Track 62 : LunaBlu\_68, Galactic\_65
- Track 63 : Veteran\_63
- Track 64 : Madiba\_67
- Track 65 : Tchotchke\_65
- Track 66 : Piper2020\_77
- Track 67 : SilverChicken\_79
- Track 68 : Squirty\_68
- Track 69 : Cornie\_64
- Track 70 : Charlie\_56, Bosection6\_54
- Track 71 : Scitech\_50
- Track 72 : Tapioca\_56
- Track 73 : Phrann\_57

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

The start number called the most often in the published annotations is 44, it was called in 35 of the 81 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Alexphander\_70, BigPhil\_63, Brookers\_64, BuzzLyseyear\_72, Cerasum\_63, Coco12\_66, Cornie\_64, DosHalletts\_68, Doug\_68, Eish\_69, EmiMonkey\_64, Eradicator\_59, GUmbie\_64, Galactic\_65, GigiOuiOui\_62, Girr\_64, Gorge\_70, James\_70, Job42\_69, Kenuha5\_64, Kingsley\_64, Lizziana\_72, LunaBlu\_68, Madiba\_67, Mattes\_70, MisterCuddles\_64, OlympiaSaint\_68, PhilipPhlop\_64, Radiance\_65, RockyHorror\_67, Ruby\_62, Saal\_68, Sarma624\_65, SuperGrey\_70,

Tchotchke\_65, Velveteen\_62, Veteran\_63, Violac\_68, Vivum\_69, XFactor\_64, Zerg\_66,

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

- 

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

- AbbyDaisy\_78, AdaS\_71, Aikyam\_74, Andies\_52, Anekin\_77, Auxilium\_73, BenchScraper\_75, Bhageatrice\_80, BillyTP\_76, BlueShadow\_77, BodEinwohner17\_70, Bosection6\_54, Brocalys\_61, Charlie\_56, Clifton\_61, CookieBear\_72, Dante\_70, DocMcStuffins\_75, EvePickles\_74, Faja\_78, Farewell\_68, Globfish\_74, Gorpy\_73, Hestia\_69, Hillester\_79, Hlubikazi\_67, Isolde\_73, JellyBread\_71, LastJedi\_60, Lawnathon\_75, LilMoolah\_65, MUWow\_76, Mandlovu\_67, MaterMagnus\_75, MidnightRain\_80, Minnie\_69, MulchSalad\_70, Nivrat\_63, Pacc40\_60, Persistence\_69, Phrank15\_77, Phrann\_57, Piper2020\_77, RadFad\_80, Raphaella\_76, Raqqa\_73, Richie\_78, Rita\_73, Sakai\_72, Sandalphon\_67, Sashimi\_75, Scitech\_50, Seahorse\_83, Shukran\_71, SiSi\_65, SilverChicken\_79, Sparky\_66, Spartacus\_70, SpicyFrank\_77, Squirty\_68, Strokeseat\_67, Tapioca\_56, ThayneTheZag\_80, Tiff81\_71, Tootsieroll\_68, Windest\_78, YoungHarleezy\_73,

### Summary by start number:

Start 25:

- Found in 1 of 108 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Squirty\_68 (F3),

Start 33:

- Found in 4 of 108 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 4 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilMoolah\_65 (F1), Minnie\_69 (F1), Nivrat\_63 (F1), Sandalphon\_67 (F1),

Start 34:

- Found in 1 of 108 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: SiSi\_65 (F1),

Start 35:

- Found in 4 of 108 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 4 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Brocalys\_61 (F1), Clifton\_61 (F1), LastJedi\_60 (F1), Pacc40\_60 (F1),

Start 37:

- Found in 12 of 108 ( 11.1% ) of genes in pham
- Manual Annotations of this start: 3 of 81
- Called 25.0% of time when present

- Phage (with cluster) where this start called: Dante\_70 (F1), DocMcStuffins\_75 (F1), Tootsieroll\_68 (F1),

#### Start 38:

- Found in 3 of 108 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 2 of 81
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BodEinwohner17\_70 (F1), Spartacus\_70 (F1),

#### Start 40:

- Found in 14 of 108 ( 13.0% ) of genes in pham
- Manual Annotations of this start: 7 of 81
- Called 64.3% of time when present
- Phage (with cluster) where this start called: Andies\_52 (N), Bosection6\_54 (N), Charlie\_56 (N), Hlubikazi\_67 (F1), Mandlovu\_67 (F1), MulchSalad\_70 (F), Scitech\_50 (N), Strokeseat\_67 (F1), Tapioca\_56 (N),

#### Start 42:

- Found in 13 of 108 ( 12.0% ) of genes in pham
- No Manual Annotations of this start.
- Called 7.7% of time when present
- Phage (with cluster) where this start called: SilverChicken\_79 (F2),

#### Start 43:

- Found in 2 of 108 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Rita\_73 (F1),

#### Start 44:

- Found in 41 of 108 ( 38.0% ) of genes in pham
- Manual Annotations of this start: 35 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alexphander\_70 (F1), BigPhil\_63 (F1), Brookers\_64 (F1), BuzzLyseyear\_72 (F1), Cerasum\_63 (F1), Coco12\_66 (F1), Cornie\_64 (F5), DosHalletts\_68 (F1), Doug\_68 (F1), Eish\_69 (F1), EmiMonkey\_64 (F1), Eradicator\_59 (F1), GUmble\_64 (F1), Galactic\_65 (F1), GigiOuiOui\_62 (F1), Girr\_64 (F1), Gorge\_70 (F1), James\_70 (F1), Job42\_69 (F1), Kenuha5\_64 (F1), Kingsley\_64 (F1), Lizziana\_72 (F1), LunaBlu\_68 (F1), Madiba\_67 (F1), Mattes\_70 (F1), MisterCuddles\_64 (F1), OlympiaSaint\_68 (F1), PhlipPhlop\_64 (F1), Radiance\_65 (F1), RockyHorror\_67 (F1), Ruby\_62 (F1), Saal\_68 (F1), Sarma624\_65 (F1), SuperGrey\_70 (F1), Tchotchke\_65 (F1), Velveteen\_62 (F1), Veteran\_63 (F1), Violiac\_68 (F1), Vivum\_69 (F1), XFactor\_64 (F1), Zerg\_66 (F1),

#### Start 46:

- Found in 35 of 108 ( 32.4% ) of genes in pham
- Manual Annotations of this start: 18 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbyDaisy\_78 (AY), AdaS\_71 (AY), Aikyam\_74 (AY), Anekin\_77 (AY), Auxilium\_73 (AY), BenchScraper\_75 (AY), Bhageatrice\_80 (AY), BillyTP\_76 (AY), BlueShadow\_77 (AY), CookieBear\_72 (AY), EvePickles\_74 (AY), Faja\_78 (AY), Globfish\_74 (AY), Gorpy\_73 (AY), Hestia\_69

(AY), Hillester\_79 (AY), Isolde\_73 (AY), JellyBread\_71 (AY), Lawnathon\_75 (AY), MUWow\_76 (AY), MaterMagnus\_75 (AY), MidnightRain\_80 (AY), Persistence\_69 (AY), Phrank15\_77 (AY), RadFad\_80 (AY), Raphaella\_76 (AY), Raqqa\_73 (AY), Richie\_78 (AY), Sakai\_72 (AY), Seahorse\_83 (AY), Shukran\_71 (AY), SpicyFrank\_77 (AY), ThayneTheZag\_80 (AY), Windest\_78 (AY), YoungHarleezy\_73 (AY),

Start 47:

- Found in 13 of 108 ( 12.0% ) of genes in pham
- Manual Annotations of this start: 4 of 81
- Called 30.8% of time when present
- Phage (with cluster) where this start called: Farewell\_68 (AF), Phrann\_57 (N), Piper2020\_77 (F1), Sparky\_66 (AF),

Start 48:

- Found in 2 of 108 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 1 of 81
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sashimi\_75 (AY), Tiff81\_71 (AY),

### **Summary by clusters:**

There are 8 clusters represented in this pham: F1, F2, F3, F5, AF, F, N, AY,

Info for manual annotations of cluster AF:

- Start number 47 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster AY:

- Start number 46 was manually annotated 18 times for cluster AY.
- Start number 48 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster F1:

- Start number 33 was manually annotated 4 times for cluster F1.
- Start number 34 was manually annotated 1 time for cluster F1.
- Start number 35 was manually annotated 4 times for cluster F1.
- Start number 37 was manually annotated 3 times for cluster F1.
- Start number 38 was manually annotated 2 times for cluster F1.
- Start number 40 was manually annotated 3 times for cluster F1.
- Start number 43 was manually annotated 1 time for cluster F1.
- Start number 44 was manually annotated 34 times for cluster F1.
- Start number 47 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F3:

- Start number 25 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F5:

- Start number 44 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster N:

- Start number 40 was manually annotated 4 times for cluster N.
- Start number 47 was manually annotated 1 time for cluster N.

**Gene Information:**

Gene: AbbyDaisy\_78 Start: 41569, Stop: 44097, Start Num: 46

Candidate Starts for AbbyDaisy\_78:

(1, 41074), (4, 41179), (9, 41260), (15, 41362), (Start: 46 @41569 has 18 MA's), (50, 41584), (59, 41695), (61, 41746), (63, 41761), (75, 41878), (76, 41905), (81, 42004), (83, 42049), (84, 42061), (89, 42145), (91, 42241), (98, 42337), (100, 42349), (102, 42388), (110, 42475), (111, 42481), (119, 42643), (121, 42688), (127, 42817), (129, 42850), (130, 42853), (134, 42904), (135, 42970), (140, 43048), (141, 43063), (143, 43168), (145, 43198), (147, 43231), (151, 43282), (153, 43318), (155, 43345), (162, 43432), (171, 43636), (173, 43663), (174, 43672), (176, 43744), (180, 43798), (182, 43834), (183, 43840), (189, 43912), (190, 43933), (206, 44053),

Gene: AdaS\_71 Start: 37276, Stop: 39807, Start Num: 46

Candidate Starts for AdaS\_71:

(Start: 46 @37276 has 18 MA's), (50, 37291), (62, 37465), (63, 37468), (76, 37612), (83, 37756), (89, 37852), (91, 37948), (110, 38182), (123, 38437), (128, 38530), (134, 38611), (135, 38677), (140, 38758), (143, 38878), (154, 39049), (155, 39055), (161, 39121), (162, 39142), (176, 39454), (177, 39463), (180, 39508), (183, 39550), (187, 39580), (194, 39667), (201, 39718),

Gene: Aikyam\_74 Start: 37985, Stop: 40513, Start Num: 46

Candidate Starts for Aikyam\_74:

(Start: 46 @37985 has 18 MA's), (50, 38000), (61, 38162), (62, 38174), (63, 38177), (64, 38183), (86, 38492), (89, 38561), (99, 38759), (110, 38891), (116, 39014), (123, 39146), (134, 39320), (135, 39386), (140, 39464), (141, 39479), (143, 39584), (151, 39698), (152, 39713), (155, 39761), (162, 39848), (171, 40052), (176, 40160), (179, 40205), (180, 40214), (183, 40256), (187, 40286), (206, 40469),

Gene: Alexphander\_70 Start: 42641, Stop: 45160, Start Num: 44

Candidate Starts for Alexphander\_70:

(Start: 44 @42641 has 35 MA's), (50, 42653), (51, 42671), (55, 42737), (59, 42764), (61, 42815), (62, 42827), (63, 42830), (65, 42845), (66, 42851), (69, 42890), (70, 42893), (71, 42905), (73, 42935), (78, 43031), (81, 43076), (82, 43079), (88, 43214), (89, 43217), (92, 43340), (95, 43394), (96, 43400), (113, 43592), (115, 43655), (116, 43670), (117, 43697), (120, 43757), (121, 43760), (122, 43775), (123, 43802), (124, 43808), (126, 43847), (128, 43895), (129, 43922), (130, 43925), (133, 43964), (134, 43976), (138, 44081), (140, 44120), (141, 44135), (143, 44240), (148, 44318), (150, 44345), (151, 44354), (155, 44417), (156, 44426), (158, 44438), (159, 44441), (162, 44504), (169, 44627), (176, 44816), (178, 44849), (179, 44861), (180, 44870), (181, 44879), (183, 44912), (184, 44918), (188, 44981), (189, 44984), (191, 45014), (192, 45020), (206, 45125),

Gene: Andies\_52 Start: 35603, Stop: 38227, Start Num: 40

Candidate Starts for Andies\_52:

(Start: 40 @35603 has 7 MA's), (42, 35609), (Start: 47 @35618 has 4 MA's), (50, 35630), (51, 35648), (55, 35714), (56, 35717), (57, 35720), (59, 35741), (62, 35804), (63, 35807), (65, 35822), (68, 35861), (69, 35867), (70, 35870), (71, 35882), (73, 35912), (78, 36008), (81, 36053), (84, 36110), (88, 36191), (89, 36194), (92, 36317), (96, 36377), (97, 36380), (103, 36443), (104, 36446), (105, 36455), (108, 36500), (113, 36569), (115, 36632), (116, 36647), (117, 36674), (120, 36734), (121, 36737), (122, 36752), (123, 36779), (126, 36824), (128, 36872), (129, 36899), (130, 36902), (133, 36941), (134, 36953), (138, 37058), (140, 37097), (141, 37112), (143, 37217), (148, 37295), (150, 37322), (151, 37331), (155, 37394), (158, 37415), (159, 37418), (162, 37481), (167, 37607), (168, 37625), (169, 37694), (172, 37784), (176, 37883), (178, 37916), (179, 37928), (180, 37937), (181, 37946), (183, 37979), (184, 37985), (188, 38048), (189, 38051), (191, 38081), (192, 38087), (204, 38165), (206,



38192),

Gene: Anekin\_77 Start: 40557, Stop: 43085, Start Num: 46

Candidate Starts for Anekin\_77:

(Start: 46 @40557 has 18 MA's), (50, 40572), (61, 40734), (62, 40746), (63, 40749), (64, 40755), (86, 41064), (89, 41133), (99, 41331), (110, 41463), (116, 41586), (123, 41718), (134, 41892), (135, 41958), (140, 42036), (141, 42051), (143, 42156), (151, 42270), (153, 42306), (154, 42327), (155, 42333), (157, 42345), (162, 42420), (165, 42495), (171, 42624), (173, 42651), (174, 42660), (176, 42732), (180, 42786), (182, 42822), (183, 42828), (187, 42858), (189, 42900), (190, 42921), (206, 43041),

Gene: Auxilium\_73 Start: 37528, Stop: 40056, Start Num: 46

Candidate Starts for Auxilium\_73:

(Start: 46 @37528 has 18 MA's), (50, 37543), (52, 37597), (62, 37717), (63, 37720), (89, 38104), (99, 38302), (101, 38329), (110, 38434), (116, 38557), (123, 38689), (134, 38863), (135, 38929), (140, 39007), (143, 39127), (151, 39241), (152, 39256), (155, 39304), (162, 39391), (171, 39595), (176, 39703), (179, 39748), (180, 39757), (183, 39799), (206, 40012),

Gene: BenchScraper\_75 Start: 38690, Stop: 41218, Start Num: 46

Candidate Starts for BenchScraper\_75:

(Start: 46 @38690 has 18 MA's), (49, 38702), (62, 38876), (63, 38879), (76, 39023), (83, 39167), (89, 39263), (91, 39359), (110, 39593), (120, 39803), (123, 39848), (128, 39941), (134, 40022), (135, 40088), (140, 40169), (143, 40289), (147, 40352), (154, 40460), (155, 40466), (161, 40532), (162, 40553), (176, 40865), (177, 40874), (180, 40919), (182, 40955), (183, 40961), (187, 40991), (194, 41078), (201, 41129),

Gene: Bhageatrice\_80 Start: 42369, Stop: 44897, Start Num: 46

Candidate Starts for Bhageatrice\_80:

(Start: 46 @42369 has 18 MA's), (53, 42444), (59, 42495), (61, 42546), (63, 42561), (75, 42678), (76, 42705), (84, 42861), (89, 42945), (91, 43041), (100, 43149), (102, 43188), (110, 43275), (111, 43281), (119, 43443), (121, 43488), (127, 43617), (129, 43650), (130, 43653), (134, 43704), (135, 43770), (140, 43848), (141, 43863), (143, 43968), (145, 43998), (147, 44031), (153, 44118), (154, 44139), (155, 44145), (162, 44232), (171, 44436), (173, 44463), (174, 44472), (176, 44544), (180, 44598), (182, 44634), (183, 44640), (187, 44670), (189, 44712), (190, 44733), (206, 44853), (209, 44871),

Gene: BigPhil\_63 Start: 39507, Stop: 42026, Start Num: 44

Candidate Starts for BigPhil\_63:

(Start: 44 @39507 has 35 MA's), (50, 39519), (55, 39603), (59, 39630), (61, 39681), (62, 39693), (63, 39696), (65, 39711), (66, 39717), (69, 39756), (70, 39759), (71, 39771), (73, 39801), (78, 39897), (81, 39942), (82, 39945), (88, 40080), (89, 40083), (92, 40206), (95, 40260), (96, 40266), (113, 40458), (115, 40521), (116, 40536), (117, 40563), (120, 40623), (121, 40626), (122, 40641), (123, 40668), (124, 40674), (126, 40713), (128, 40761), (129, 40788), (130, 40791), (133, 40830), (134, 40842), (138, 40947), (140, 40986), (141, 41001), (143, 41106), (148, 41184), (150, 41211), (151, 41220), (155, 41283), (156, 41292), (158, 41304), (159, 41307), (162, 41370), (169, 41493), (171, 41574), (176, 41682), (178, 41715), (179, 41727), (180, 41736), (181, 41745), (183, 41778), (184, 41784), (188, 41847), (189, 41850), (191, 41880), (192, 41886), (206, 41991),

Gene: BillyTP\_76 Start: 40518, Stop: 43049, Start Num: 46

Candidate Starts for BillyTP\_76:

(Start: 46 @40518 has 18 MA's), (50, 40533), (62, 40707), (63, 40710), (76, 40854), (83, 40998), (89, 41094), (91, 41190), (110, 41424), (123, 41679), (128, 41772), (134, 41853), (135, 41919), (140, 42000), (143, 42120), (154, 42291), (155, 42297), (161, 42363), (162, 42384), (176, 42696), (177, 42705), (180, 42750), (182, 42786), (183, 42792), (187, 42822), (194, 42909), (201, 42960),

Gene: BlueShadow\_77 Start: 39833, Stop: 42361, Start Num: 46

Candidate Starts for BlueShadow\_77:

(Start: 46 @39833 has 18 MA's), (50, 39848), (61, 40010), (62, 40022), (63, 40025), (64, 40031), (86, 40340), (89, 40409), (99, 40607), (110, 40739), (116, 40862), (123, 40994), (134, 41168), (135, 41234), (140, 41312), (141, 41327), (143, 41432), (151, 41546), (152, 41561), (155, 41609), (162, 41696), (171, 41900), (176, 42008), (179, 42053), (180, 42062), (183, 42104), (187, 42134), (206, 42317),

Gene: BodEinwohner17\_70 Start: 43451, Stop: 46000, Start Num: 38

Candidate Starts for BodEinwohner17\_70:

(Start: 38 @43451 has 2 MA's), (51, 43511), (55, 43577), (59, 43604), (61, 43655), (62, 43667), (63, 43670), (64, 43676), (69, 43730), (70, 43733), (71, 43745), (73, 43775), (78, 43871), (81, 43916), (84, 43973), (88, 44054), (89, 44057), (92, 44180), (96, 44240), (97, 44243), (103, 44306), (104, 44309), (105, 44318), (113, 44432), (115, 44495), (117, 44537), (120, 44597), (121, 44600), (122, 44615), (126, 44687), (128, 44735), (129, 44762), (130, 44765), (131, 44771), (133, 44804), (134, 44816), (138, 44921), (140, 44960), (141, 44975), (143, 45080), (148, 45158), (150, 45185), (151, 45194), (155, 45257), (156, 45266), (158, 45278), (159, 45281), (162, 45344), (169, 45467), (176, 45656), (178, 45689), (179, 45701), (180, 45710), (181, 45719), (183, 45752), (184, 45758), (185, 45767), (188, 45821), (189, 45824), (191, 45854), (192, 45860), (199, 45902), (206, 45965),

Gene: Bosection6\_54 Start: 35309, Stop: 37933, Start Num: 40

Candidate Starts for Bosection6\_54:

(Start: 40 @35309 has 7 MA's), (42, 35315), (Start: 47 @35324 has 4 MA's), (50, 35336), (51, 35354), (55, 35420), (56, 35423), (57, 35426), (59, 35447), (61, 35498), (62, 35510), (63, 35513), (65, 35528), (69, 35573), (70, 35576), (71, 35588), (73, 35618), (78, 35714), (81, 35759), (84, 35816), (88, 35897), (89, 35900), (92, 36023), (96, 36083), (97, 36086), (103, 36149), (104, 36152), (105, 36161), (108, 36206), (113, 36275), (115, 36338), (116, 36353), (117, 36380), (120, 36440), (121, 36443), (122, 36458), (123, 36485), (126, 36530), (128, 36578), (129, 36605), (130, 36608), (133, 36647), (134, 36659), (138, 36764), (140, 36803), (141, 36818), (143, 36923), (148, 37001), (150, 37028), (151, 37037), (155, 37100), (158, 37121), (159, 37124), (162, 37187), (167, 37313), (168, 37331), (169, 37400), (172, 37490), (176, 37589), (178, 37622), (179, 37634), (180, 37643), (181, 37652), (183, 37685), (184, 37691), (188, 37754), (189, 37757), (191, 37787), (192, 37793), (204, 37871), (206, 37898), (210, 37925),

Gene: Brocalys\_61 Start: 39655, Stop: 43206, Start Num: 35

Candidate Starts for Brocalys\_61:

(Start: 35 @39655 has 4 MA's), (Start: 37 @39667 has 3 MA's), (50, 39706), (51, 39724), (55, 39790), (56, 39793), (57, 39796), (59, 39817), (62, 39880), (63, 39883), (65, 39898), (68, 39937), (69, 39943), (70, 39946), (71, 39958), (73, 39988), (81, 40129), (84, 40186), (88, 40267), (89, 40270), (91, 40366), (92, 40393), (96, 40453), (103, 40519), (104, 40522), (105, 40531), (113, 40645), (115, 40708), (116, 40723), (117, 40750), (120, 40810), (121, 40813), (122, 40828), (126, 40900), (129, 40975), (134, 41029), (138, 41134), (139, 41155), (140, 41173), (143, 41293), (148, 41371), (155, 41470), (156, 41479), (158, 41491), (159, 41494), (162, 41557), (164, 41587), (176, 41869), (178, 41902), (179, 41914), (180, 41923), (181, 41932), (183, 41965), (184, 41971), (186, 41995), (196, 42112), (197, 42115), (202, 42148), (203, 42151), (205, 42169), (211, 42271), (212, 42319), (213, 42574), (214, 42607), (215, 42649), (216, 42661), (217, 42676), (218, 42727), (219, 42757), (220, 42775), (221, 42781), (222, 42865), (223, 42871), (224, 42919), (225, 42955), (226, 42973), (227, 43027), (228, 43030), (229, 43060), (230, 43066), (234, 43171),

Gene: Brookers\_64 Start: 42458, Stop: 44977, Start Num: 44

Candidate Starts for Brookers\_64:

(Start: 44 @42458 has 35 MA's), (50, 42470), (55, 42554), (59, 42581), (61, 42632), (62, 42644), (63, 42647), (65, 42662), (66, 42668), (69, 42707), (70, 42710), (71, 42722), (73, 42752), (78, 42848), (81, 42893), (82, 42896), (88, 43031), (89, 43034), (92, 43157), (95, 43211), (96, 43217), (113, 43409), (115, 43472), (116, 43487), (117, 43514), (120, 43574), (121, 43577), (122, 43592), (123, 43619), (124, 43625), (126, 43664), (128, 43712), (129, 43739), (130, 43742), (133, 43781), (134, 43793), (138, 43898), (140, 43937), (141, 43952), (143, 44057), (148, 44135), (150, 44162), (151, 44171), (155, 44234), (156, 44243), (158, 44255), (159, 44258), (162, 44321), (169, 44444), (171, 44525), (176, 44633), (178, 44666), (179, 44678), (180, 44687), (181, 44696), (183, 44729), (184, 44735), (188, 44798), (189, 44801), (191, 44831), (192, 44837), (206, 44942),

Gene: BuzzLyseyear\_72 Start: 43958, Stop: 47470, Start Num: 44

Candidate Starts for BuzzLyseyear\_72:

(Start: 44 @43958 has 35 MA's), (50, 43970), (51, 43988), (55, 44054), (59, 44081), (61, 44132), (62, 44144), (63, 44147), (65, 44162), (66, 44168), (69, 44207), (70, 44210), (71, 44222), (73, 44252), (78, 44348), (81, 44393), (82, 44396), (88, 44531), (89, 44534), (92, 44657), (95, 44711), (96, 44717), (103, 44783), (104, 44786), (105, 44795), (113, 44909), (115, 44972), (116, 44987), (117, 45014), (120, 45074), (121, 45077), (122, 45092), (126, 45164), (128, 45212), (129, 45239), (134, 45293), (140, 45437), (141, 45452), (143, 45557), (148, 45635), (155, 45734), (156, 45743), (158, 45755), (159, 45758), (162, 45821), (169, 45944), (176, 46133), (178, 46166), (179, 46178), (180, 46187), (181, 46196), (183, 46229), (184, 46235), (186, 46259), (196, 46376), (197, 46379), (202, 46412), (203, 46415), (205, 46433), (211, 46535), (212, 46583), (213, 46838), (214, 46871), (216, 46925), (217, 46940), (218, 46991), (219, 47021), (220, 47039), (221, 47045), (222, 47129), (223, 47135), (224, 47183), (225, 47219), (226, 47237), (227, 47291), (228, 47294), (229, 47324), (230, 47330), (232, 47372), (233, 47408), (234, 47435),

Gene: Cerasum\_63 Start: 39525, Stop: 42044, Start Num: 44

Candidate Starts for Cerasum\_63:

(Start: 44 @39525 has 35 MA's), (50, 39537), (55, 39621), (59, 39648), (61, 39699), (62, 39711), (63, 39714), (65, 39729), (66, 39735), (69, 39774), (70, 39777), (71, 39789), (73, 39819), (78, 39915), (81, 39960), (82, 39963), (88, 40098), (89, 40101), (92, 40224), (95, 40278), (96, 40284), (113, 40476), (115, 40539), (116, 40554), (117, 40581), (120, 40641), (121, 40644), (122, 40659), (123, 40686), (124, 40692), (126, 40731), (128, 40779), (129, 40806), (130, 40809), (133, 40848), (134, 40860), (138, 40965), (140, 41004), (141, 41019), (143, 41124), (148, 41202), (150, 41229), (151, 41238), (155, 41301), (156, 41310), (158, 41322), (159, 41325), (162, 41388), (169, 41511), (171, 41592), (176, 41700), (178, 41733), (179, 41745), (180, 41754), (181, 41763), (183, 41796), (184, 41802), (188, 41865), (189, 41868), (191, 41898), (192, 41904), (206, 42009),

Gene: Charlie\_56 Start: 34933, Stop: 37557, Start Num: 40

Candidate Starts for Charlie\_56:

(Start: 40 @34933 has 7 MA's), (42, 34939), (Start: 47 @34948 has 4 MA's), (50, 34960), (51, 34978), (55, 35044), (56, 35047), (57, 35050), (59, 35071), (61, 35122), (62, 35134), (63, 35137), (65, 35152), (69, 35197), (70, 35200), (71, 35212), (73, 35242), (78, 35338), (81, 35383), (84, 35440), (88, 35521), (89, 35524), (92, 35647), (96, 35707), (97, 35710), (103, 35773), (104, 35776), (105, 35785), (108, 35830), (113, 35899), (115, 35962), (116, 35977), (117, 36004), (120, 36064), (121, 36067), (122, 36082), (123, 36109), (126, 36154), (128, 36202), (129, 36229), (130, 36232), (133, 36271), (134, 36283), (138, 36388), (140, 36427), (141, 36442), (143, 36547), (148, 36625), (150, 36652), (151, 36661), (155, 36724), (158, 36745), (159, 36748), (162, 36811), (167, 36937), (168, 36955), (169, 37024), (172, 37114), (176, 37213), (178, 37246), (179, 37258), (180, 37267), (181, 37276), (183, 37309), (184, 37315), (188, 37378), (189, 37381), (191, 37411), (192, 37417), (204, 37495), (206, 37522), (210, 37549),

Gene: Clifton\_61 Start: 40006, Stop: 43557, Start Num: 35

Candidate Starts for Clifton\_61:

(Start: 35 @40006 has 4 MA's), (Start: 37 @40018 has 3 MA's), (50, 40057), (51, 40075), (55, 40141), (56, 40144), (57, 40147), (59, 40168), (62, 40231), (63, 40234), (65, 40249), (68, 40288), (69, 40294), (70, 40297), (71, 40309), (73, 40339), (81, 40480), (84, 40537), (88, 40618), (89, 40621), (91, 40717), (92, 40744), (96, 40804), (103, 40870), (104, 40873), (105, 40882), (113, 40996), (115, 41059), (116, 41074), (117, 41101), (120, 41161), (121, 41164), (122, 41179), (126, 41251), (129, 41326), (133, 41368), (134, 41380), (138, 41485), (139, 41506), (140, 41524), (143, 41644), (148, 41722), (150, 41749), (151, 41758), (155, 41821), (158, 41842), (159, 41845), (162, 41908), (164, 41938), (176, 42220), (178, 42253), (179, 42265), (180, 42274), (181, 42283), (183, 42316), (184, 42322), (186, 42346), (196, 42463), (197, 42466), (202, 42499), (203, 42502), (205, 42520), (211, 42622), (212, 42670), (213, 42925), (214, 42958), (215, 43000), (216, 43012), (217, 43027), (218, 43078), (219, 43108), (220, 43126), (221, 43132), (222, 43216), (223, 43222), (224, 43270), (225, 43306), (226, 43324), (227, 43378), (228, 43381), (229, 43411), (230, 43417), (234, 43522),

Gene: Coco12\_66 Start: 43582, Stop: 46101, Start Num: 44

Candidate Starts for Coco12\_66:

(Start: 44 @43582 has 35 MA's), (50, 43594), (55, 43678), (59, 43705), (61, 43756), (62, 43768), (63, 43771), (65, 43786), (66, 43792), (69, 43831), (70, 43834), (71, 43846), (73, 43876), (78, 43972), (81, 44017), (82, 44020), (88, 44155), (89, 44158), (92, 44281), (95, 44335), (96, 44341), (113, 44533), (115, 44596), (116, 44611), (117, 44638), (120, 44698), (121, 44701), (122, 44716), (123, 44743), (124, 44749), (126, 44788), (128, 44836), (129, 44863), (130, 44866), (133, 44905), (134, 44917), (138, 45022), (140, 45061), (141, 45076), (143, 45181), (148, 45259), (150, 45286), (151, 45295), (155, 45358), (156, 45367), (158, 45379), (159, 45382), (162, 45445), (169, 45568), (171, 45649), (176, 45757), (178, 45790), (179, 45802), (180, 45811), (181, 45820), (183, 45853), (184, 45859), (188, 45922), (189, 45925), (191, 45955), (192, 45961), (206, 46066),

Gene: CookieBear\_72 Start: 39164, Stop: 41692, Start Num: 46

Candidate Starts for CookieBear\_72:

(Start: 46 @39164 has 18 MA's), (49, 39176), (62, 39350), (63, 39353), (76, 39497), (83, 39641), (89, 39737), (91, 39833), (110, 40067), (120, 40277), (123, 40322), (128, 40415), (134, 40496), (135, 40562), (140, 40643), (143, 40763), (147, 40826), (154, 40934), (155, 40940), (161, 41006), (162, 41027), (176, 41339), (177, 41348), (180, 41393), (182, 41429), (183, 41435), (187, 41465), (194, 41552), (201, 41603),

Gene: Cornie\_64 Start: 41301, Stop: 43820, Start Num: 44

Candidate Starts for Cornie\_64:

(Start: 44 @41301 has 35 MA's), (50, 41313), (51, 41331), (55, 41397), (59, 41424), (61, 41475), (62, 41487), (63, 41490), (65, 41505), (66, 41511), (69, 41550), (70, 41553), (71, 41565), (73, 41595), (78, 41691), (79, 41703), (81, 41736), (82, 41739), (84, 41793), (88, 41874), (89, 41877), (92, 42000), (96, 42060), (97, 42063), (103, 42126), (104, 42129), (105, 42138), (108, 42183), (113, 42252), (115, 42315), (116, 42330), (117, 42357), (120, 42417), (121, 42420), (122, 42435), (123, 42462), (126, 42507), (128, 42555), (129, 42582), (130, 42585), (133, 42624), (134, 42636), (138, 42741), (140, 42780), (141, 42795), (143, 42900), (148, 42978), (150, 43005), (151, 43014), (155, 43077), (156, 43086), (158, 43098), (159, 43101), (162, 43164), (169, 43287), (171, 43368), (176, 43476), (178, 43509), (179, 43521), (180, 43530), (181, 43539), (183, 43572), (184, 43578), (188, 43641), (189, 43644), (191, 43674), (192, 43680), (206, 43785),

Gene: Dante\_70 Start: 44090, Stop: 47632, Start Num: 37

Candidate Starts for Dante\_70:

(Start: 37 @44090 has 3 MA's), (51, 44150), (55, 44216), (59, 44243), (61, 44294), (62, 44306), (63, 44309), (64, 44315), (69, 44369), (70, 44372), (71, 44384), (73, 44414), (78, 44510), (81, 44555), (84, 44612), (88, 44693), (89, 44696), (91, 44792), (92, 44819), (96, 44879), (97, 44882), (103, 44945), (104, 44948), (105, 44957), (108, 45002), (113, 45071), (115, 45134), (116, 45149), (117, 45176), (120, 45236), (121, 45239), (122, 45254), (123, 45281), (126, 45326), (128, 45374), (129, 45401),

(130, 45404), (133, 45443), (134, 45455), (138, 45560), (140, 45599), (141, 45614), (143, 45719), (148, 45797), (150, 45824), (151, 45833), (155, 45896), (158, 45917), (162, 45983), (169, 46106), (171, 46187), (172, 46196), (176, 46295), (178, 46328), (179, 46340), (180, 46349), (181, 46358), (183, 46391), (184, 46397), (186, 46421), (196, 46538), (197, 46541), (202, 46574), (203, 46577), (205, 46595), (211, 46697), (212, 46745), (213, 47000), (214, 47033), (216, 47087), (217, 47102), (218, 47153), (219, 47183), (220, 47201), (221, 47207), (222, 47291), (223, 47297), (224, 47345), (225, 47381), (226, 47399), (227, 47453), (228, 47456), (229, 47486), (230, 47492), (232, 47534), (234, 47597),

Gene: DocMcStuffins\_75 Start: 46780, Stop: 50322, Start Num: 37

Candidate Starts for DocMcStuffins\_75:

(Start: 37 @46780 has 3 MA's), (51, 46840), (55, 46906), (59, 46933), (61, 46984), (62, 46996), (63, 46999), (64, 47005), (65, 47014), (69, 47059), (70, 47062), (71, 47074), (73, 47104), (78, 47200), (81, 47245), (84, 47302), (88, 47383), (89, 47386), (91, 47482), (92, 47509), (96, 47569), (103, 47635), (104, 47638), (105, 47647), (113, 47761), (115, 47824), (116, 47839), (117, 47866), (120, 47926), (121, 47929), (122, 47944), (128, 48064), (129, 48091), (130, 48094), (133, 48133), (134, 48145), (140, 48289), (141, 48304), (143, 48409), (148, 48487), (155, 48586), (156, 48595), (158, 48607), (159, 48610), (162, 48673), (169, 48796), (172, 48886), (176, 48985), (178, 49018), (179, 49030), (180, 49039), (181, 49048), (183, 49081), (184, 49087), (186, 49111), (196, 49228), (197, 49231), (200, 49243), (202, 49264), (203, 49267), (205, 49285), (211, 49387), (212, 49435), (213, 49690), (214, 49723), (216, 49777), (217, 49792), (218, 49843), (219, 49873), (220, 49891), (221, 49897), (222, 49981), (223, 49987), (224, 50035), (225, 50071), (226, 50089), (227, 50143), (228, 50146), (229, 50176), (230, 50182), (232, 50224), (234, 50287),

Gene: DosHalletts\_68 Start: 43662, Stop: 46181, Start Num: 44

Candidate Starts for DosHalletts\_68:

(Start: 44 @43662 has 35 MA's), (50, 43674), (51, 43692), (55, 43758), (56, 43761), (57, 43764), (59, 43785), (61, 43836), (62, 43848), (63, 43851), (64, 43857), (69, 43911), (70, 43914), (71, 43926), (73, 43956), (78, 44052), (81, 44097), (82, 44100), (84, 44154), (88, 44235), (89, 44238), (92, 44361), (96, 44421), (113, 44613), (115, 44676), (116, 44691), (117, 44718), (120, 44778), (121, 44781), (122, 44796), (126, 44868), (128, 44916), (129, 44943), (130, 44946), (131, 44952), (133, 44985), (134, 44997), (138, 45102), (140, 45141), (141, 45156), (143, 45261), (148, 45339), (150, 45366), (151, 45375), (155, 45438), (156, 45447), (158, 45459), (159, 45462), (162, 45525), (169, 45648), (171, 45729), (176, 45837), (178, 45870), (179, 45882), (180, 45891), (181, 45900), (183, 45933), (184, 45939), (188, 46002), (189, 46005), (191, 46035), (192, 46041), (206, 46146),

Gene: Doug\_68 Start: 42994, Stop: 46506, Start Num: 44

Candidate Starts for Doug\_68:

(Start: 44 @42994 has 35 MA's), (50, 43006), (51, 43024), (55, 43090), (59, 43117), (61, 43168), (62, 43180), (63, 43183), (65, 43198), (66, 43204), (69, 43243), (70, 43246), (71, 43258), (73, 43288), (78, 43384), (81, 43429), (82, 43432), (88, 43567), (89, 43570), (92, 43693), (95, 43747), (96, 43753), (113, 43945), (115, 44008), (116, 44023), (117, 44050), (120, 44110), (121, 44113), (122, 44128), (123, 44155), (124, 44161), (126, 44200), (128, 44248), (129, 44275), (130, 44278), (133, 44317), (134, 44329), (138, 44434), (140, 44473), (141, 44488), (143, 44593), (148, 44671), (150, 44698), (151, 44707), (155, 44770), (156, 44779), (158, 44791), (159, 44794), (162, 44857), (169, 44980), (171, 45061), (176, 45169), (178, 45202), (179, 45214), (180, 45223), (181, 45232), (183, 45265), (184, 45271), (186, 45295), (196, 45412), (197, 45415), (202, 45448), (203, 45451), (205, 45469), (211, 45571), (212, 45619), (215, 45949), (216, 45961), (217, 45976), (218, 46027), (219, 46057), (220, 46075), (221, 46081), (222, 46165), (223, 46171), (224, 46219), (225, 46255), (226, 46273), (228, 46330), (229, 46360), (230, 46366), (234, 46471),

Gene: Eish\_69 Start: 42896, Stop: 45415, Start Num: 44

Candidate Starts for Eish\_69:

(Start: 44 @42896 has 35 MA's), (50, 42908), (51, 42926), (55, 42992), (59, 43019), (61, 43070), (62, 43082), (63, 43085), (65, 43100), (66, 43106), (69, 43145), (70, 43148), (71, 43160), (73, 43190), (78, 43286), (81, 43331), (88, 43469), (89, 43472), (92, 43595), (96, 43655), (103, 43721), (104, 43724), (105, 43733), (108, 43778), (113, 43847), (115, 43910), (116, 43925), (117, 43952), (120, 44012), (121, 44015), (122, 44030), (123, 44057), (126, 44102), (128, 44150), (129, 44177), (130, 44180), (133, 44219), (134, 44231), (138, 44336), (140, 44375), (141, 44390), (143, 44495), (148, 44573), (150, 44600), (151, 44609), (155, 44672), (156, 44681), (158, 44693), (159, 44696), (162, 44759), (169, 44882), (171, 44963), (173, 44990), (176, 45071), (178, 45104), (179, 45116), (180, 45125), (181, 45134), (183, 45167), (184, 45173), (188, 45236), (189, 45239), (191, 45269), (192, 45275), (206, 45380),

Gene: EmiMonkey\_64 Start: 44467, Stop: 46986, Start Num: 44

Candidate Starts for EmiMonkey\_64:

(Start: 44 @44467 has 35 MA's), (50, 44479), (51, 44497), (55, 44563), (56, 44566), (57, 44569), (59, 44590), (61, 44641), (62, 44653), (63, 44656), (64, 44662), (69, 44716), (70, 44719), (71, 44731), (73, 44761), (78, 44857), (81, 44902), (82, 44905), (84, 44959), (88, 45040), (89, 45043), (92, 45166), (96, 45226), (97, 45229), (103, 45292), (104, 45295), (105, 45304), (113, 45418), (115, 45481), (117, 45523), (120, 45583), (121, 45586), (122, 45601), (123, 45628), (126, 45673), (128, 45721), (129, 45748), (130, 45751), (131, 45757), (133, 45790), (134, 45802), (140, 45946), (141, 45961), (143, 46066), (148, 46144), (155, 46243), (158, 46264), (159, 46267), (162, 46330), (164, 46360), (169, 46453), (171, 46534), (176, 46642), (178, 46675), (179, 46687), (180, 46696), (181, 46705), (183, 46738), (184, 46744), (188, 46807), (189, 46810), (191, 46840), (192, 46846), (198, 46882), (206, 46951),

Gene: Eradicator\_59 Start: 40808, Stop: 43327, Start Num: 44

Candidate Starts for Eradicator\_59:

(Start: 44 @40808 has 35 MA's), (50, 40820), (51, 40838), (55, 40904), (59, 40931), (61, 40982), (62, 40994), (63, 40997), (65, 41012), (66, 41018), (69, 41057), (70, 41060), (71, 41072), (73, 41102), (78, 41198), (81, 41243), (82, 41246), (88, 41381), (89, 41384), (92, 41507), (95, 41561), (96, 41567), (113, 41759), (115, 41822), (116, 41837), (117, 41864), (120, 41924), (121, 41927), (122, 41942), (124, 41975), (126, 42014), (128, 42062), (129, 42089), (130, 42092), (131, 42098), (133, 42131), (134, 42143), (138, 42248), (139, 42269), (140, 42287), (143, 42407), (148, 42485), (155, 42584), (156, 42593), (158, 42605), (159, 42608), (162, 42671), (169, 42794), (176, 42983), (178, 43016), (179, 43028), (180, 43037), (181, 43046), (183, 43079), (184, 43085), (185, 43094), (188, 43148), (189, 43151), (191, 43181), (192, 43187), (206, 43292),

Gene: EvePickles\_74 Start: 40431, Stop: 42962, Start Num: 46

Candidate Starts for EvePickles\_74:

(Start: 46 @40431 has 18 MA's), (50, 40443), (61, 40605), (63, 40620), (75, 40740), (76, 40767), (81, 40866), (84, 40923), (89, 41007), (91, 41103), (102, 41250), (107, 41289), (110, 41337), (111, 41343), (119, 41505), (121, 41550), (127, 41679), (129, 41712), (130, 41715), (133, 41754), (134, 41766), (135, 41832), (140, 41913), (141, 41928), (142, 41934), (143, 42033), (146, 42066), (149, 42123), (153, 42183), (154, 42204), (155, 42210), (161, 42276), (162, 42297), (166, 42378), (176, 42609), (177, 42618), (180, 42663), (183, 42705), (206, 42918),

Gene: Faja\_78 Start: 41206, Stop: 43734, Start Num: 46

Candidate Starts for Faja\_78:

(Start: 46 @41206 has 18 MA's), (49, 41218), (62, 41392), (63, 41395), (76, 41539), (83, 41683), (89, 41779), (91, 41875), (110, 42109), (120, 42319), (123, 42364), (128, 42457), (134, 42538), (135, 42604), (140, 42685), (143, 42805), (147, 42868), (154, 42976), (155, 42982), (161, 43048), (162, 43069), (176, 43381), (177, 43390), (180, 43435), (182, 43471), (183, 43477), (187, 43507), (194, 43594), (201, 43645),

Gene: Farewell\_68 Start: 44606, Stop: 47125, Start Num: 47

Candidate Starts for Farewell\_68:

(12, 44336), (24, 44504), (Start: 40 @44585 has 7 MA's), (42, 44594), (Start: 47 @44606 has 4 MA's), (50, 44618), (51, 44636), (55, 44702), (56, 44705), (57, 44708), (59, 44729), (62, 44792), (63, 44795), (65, 44810), (68, 44849), (69, 44855), (70, 44858), (71, 44870), (73, 44900), (81, 45041), (84, 45098), (88, 45179), (89, 45182), (91, 45278), (92, 45305), (96, 45365), (103, 45431), (104, 45434), (105, 45443), (113, 45557), (115, 45620), (116, 45635), (117, 45662), (120, 45722), (121, 45725), (122, 45740), (126, 45812), (128, 45860), (129, 45887), (130, 45890), (134, 45941), (140, 46085), (141, 46100), (143, 46205), (148, 46283), (155, 46382), (156, 46391), (158, 46403), (159, 46406), (162, 46469), (164, 46499), (169, 46592), (175, 46730), (176, 46781), (179, 46826), (180, 46835), (181, 46844), (183, 46877), (184, 46883), (185, 46892), (188, 46946), (189, 46949), (191, 46979), (192, 46985), (204, 47063), (206, 47090), (210, 47117),

Gene: GUmbie\_64 Start: 42035, Stop: 44554, Start Num: 44

Candidate Starts for GUmbie\_64:

(Start: 44 @42035 has 35 MA's), (50, 42047), (51, 42065), (55, 42131), (59, 42158), (61, 42209), (62, 42221), (63, 42224), (65, 42239), (66, 42245), (69, 42284), (70, 42287), (71, 42299), (73, 42329), (78, 42425), (81, 42470), (82, 42473), (88, 42608), (89, 42611), (92, 42734), (95, 42788), (96, 42794), (113, 42986), (115, 43049), (116, 43064), (117, 43091), (120, 43151), (121, 43154), (122, 43169), (123, 43196), (124, 43202), (126, 43241), (128, 43289), (129, 43316), (130, 43319), (133, 43358), (134, 43370), (138, 43475), (140, 43514), (141, 43529), (143, 43634), (148, 43712), (150, 43739), (151, 43748), (155, 43811), (156, 43820), (158, 43832), (159, 43835), (162, 43898), (169, 44021), (171, 44102), (176, 44210), (178, 44243), (179, 44255), (180, 44264), (181, 44273), (183, 44306), (184, 44312), (188, 44375), (189, 44378), (191, 44408), (192, 44414), (206, 44519),

Gene: Galactic\_65 Start: 42192, Stop: 44711, Start Num: 44

Candidate Starts for Galactic\_65:

(Start: 44 @42192 has 35 MA's), (50, 42204), (51, 42222), (55, 42288), (59, 42315), (61, 42366), (62, 42378), (63, 42381), (65, 42396), (66, 42402), (69, 42441), (70, 42444), (71, 42456), (73, 42486), (78, 42582), (81, 42627), (82, 42630), (88, 42765), (89, 42768), (92, 42891), (95, 42945), (96, 42951), (113, 43143), (115, 43206), (116, 43221), (117, 43248), (120, 43308), (121, 43311), (122, 43326), (123, 43353), (126, 43398), (128, 43446), (129, 43473), (130, 43476), (133, 43515), (134, 43527), (138, 43632), (140, 43671), (141, 43686), (143, 43791), (148, 43869), (150, 43896), (151, 43905), (155, 43968), (156, 43977), (158, 43989), (159, 43992), (162, 44055), (169, 44178), (171, 44259), (176, 44367), (178, 44400), (179, 44412), (180, 44421), (181, 44430), (183, 44463), (184, 44469), (188, 44532), (189, 44535), (191, 44565), (192, 44571), (206, 44676),

Gene: GigiOuiOui\_62 Start: 41181, Stop: 43700, Start Num: 44

Candidate Starts for GigiOuiOui\_62:

(Start: 44 @41181 has 35 MA's), (50, 41193), (51, 41211), (55, 41277), (56, 41280), (57, 41283), (59, 41304), (62, 41367), (63, 41370), (65, 41385), (68, 41424), (69, 41430), (70, 41433), (71, 41445), (73, 41475), (78, 41571), (81, 41616), (84, 41673), (88, 41754), (89, 41757), (92, 41880), (96, 41940), (97, 41943), (103, 42006), (104, 42009), (105, 42018), (113, 42132), (115, 42195), (117, 42237), (120, 42297), (121, 42300), (122, 42315), (123, 42342), (126, 42387), (128, 42435), (129, 42462), (130, 42465), (131, 42471), (133, 42504), (134, 42516), (138, 42621), (140, 42660), (141, 42675), (143, 42780), (148, 42858), (150, 42885), (151, 42894), (155, 42957), (156, 42966), (158, 42978), (159, 42981), (162, 43044), (169, 43167), (176, 43356), (178, 43389), (179, 43401), (180, 43410), (181, 43419), (183, 43452), (184, 43458), (188, 43521), (189, 43524), (191, 43554), (192, 43560), (206, 43665),

Gene: Girr\_64 Start: 42051, Stop: 44570, Start Num: 44

Candidate Starts for Girr\_64:

(Start: 44 @42051 has 35 MA's), (50, 42063), (51, 42081), (55, 42147), (59, 42174), (61, 42225), (62, 42237), (63, 42240), (65, 42255), (66, 42261), (69, 42300), (70, 42303), (71, 42315), (73, 42345), (78, 42441), (81, 42486), (82, 42489), (88, 42624), (89, 42627), (92, 42750), (95, 42804), (96, 42810), (113, 43002), (115, 43065), (116, 43080), (117, 43107), (120, 43167), (121, 43170), (122, 43185), (123, 43212), (124, 43218), (126, 43257), (128, 43305), (129, 43332), (130, 43335), (133, 43374), (134, 43386), (138, 43491), (140, 43530), (141, 43545), (143, 43650), (148, 43728), (150, 43755), (151, 43764), (155, 43827), (156, 43836), (158, 43848), (159, 43851), (162, 43914), (169, 44037), (176, 44226), (178, 44259), (179, 44271), (180, 44280), (181, 44289), (183, 44322), (184, 44328), (188, 44391), (189, 44394), (191, 44424), (192, 44430), (206, 44535),

Gene: Globfish\_74 Start: 38895, Stop: 41429, Start Num: 46

Candidate Starts for Globfish\_74:

(Start: 46 @38895 has 18 MA's), (50, 38910), (53, 38970), (61, 39072), (63, 39087), (75, 39207), (76, 39234), (81, 39333), (84, 39390), (86, 39405), (89, 39474), (91, 39570), (98, 39666), (99, 39672), (110, 39804), (114, 39864), (120, 40014), (122, 40032), (128, 40152), (129, 40179), (134, 40233), (135, 40299), (140, 40380), (141, 40395), (142, 40401), (143, 40500), (146, 40533), (149, 40590), (153, 40650), (154, 40671), (155, 40677), (161, 40743), (166, 40845), (176, 41076), (177, 41085), (180, 41130), (183, 41172), (206, 41385),

Gene: Gorge\_70 Start: 43977, Stop: 46496, Start Num: 44

Candidate Starts for Gorge\_70:

(Start: 44 @43977 has 35 MA's), (50, 43989), (51, 44007), (55, 44073), (59, 44100), (61, 44151), (62, 44163), (63, 44166), (65, 44181), (66, 44187), (69, 44226), (70, 44229), (71, 44241), (73, 44271), (78, 44367), (81, 44412), (82, 44415), (88, 44550), (89, 44553), (92, 44676), (95, 44730), (96, 44736), (113, 44928), (115, 44991), (116, 45006), (117, 45033), (120, 45093), (121, 45096), (122, 45111), (123, 45138), (124, 45144), (126, 45183), (128, 45231), (129, 45258), (130, 45261), (133, 45300), (134, 45312), (140, 45456), (141, 45471), (143, 45576), (144, 45600), (148, 45654), (150, 45681), (151, 45690), (155, 45753), (158, 45774), (160, 45804), (162, 45840), (169, 45963), (170, 46029), (176, 46152), (178, 46185), (179, 46197), (180, 46206), (181, 46215), (183, 46248), (184, 46254), (188, 46317), (189, 46320), (191, 46350), (192, 46356), (206, 46461),

Gene: Gorpy\_73 Start: 40405, Stop: 42933, Start Num: 46

Candidate Starts for Gorpy\_73:

(Start: 46 @40405 has 18 MA's), (50, 40420), (61, 40582), (62, 40594), (63, 40597), (64, 40603), (86, 40912), (89, 40981), (99, 41179), (110, 41311), (116, 41434), (123, 41566), (134, 41740), (135, 41806), (140, 41884), (141, 41899), (143, 42004), (151, 42118), (152, 42133), (155, 42181), (162, 42268), (171, 42472), (176, 42580), (179, 42625), (180, 42634), (183, 42676), (187, 42706), (206, 42889),

Gene: Hestia\_69 Start: 37429, Stop: 39957, Start Num: 46

Candidate Starts for Hestia\_69:

(Start: 46 @37429 has 18 MA's), (49, 37441), (62, 37615), (63, 37618), (76, 37762), (83, 37906), (89, 38002), (91, 38098), (110, 38332), (120, 38542), (123, 38587), (128, 38680), (134, 38761), (135, 38827), (140, 38908), (143, 39028), (147, 39091), (154, 39199), (155, 39205), (161, 39271), (162, 39292), (176, 39604), (177, 39613), (180, 39658), (182, 39694), (183, 39700), (187, 39730), (194, 39817), (201, 39868),

Gene: Hillester\_79 Start: 40447, Stop: 42978, Start Num: 46

Candidate Starts for Hillester\_79:

(Start: 46 @40447 has 18 MA's), (50, 40462), (62, 40636), (63, 40639), (76, 40783), (83, 40927), (89, 41023), (91, 41119), (110, 41353), (123, 41608), (128, 41701), (134, 41782), (135, 41848), (140, 41929), (143, 42049), (154, 42220), (155, 42226), (161, 42292), (162, 42313), (176, 42625), (177, 42634), (180, 42679), (183, 42721), (187, 42751), (194, 42838), (201, 42889),



Gene: Hlubikazi\_67 Start: 41441, Stop: 44065, Start Num: 40

Candidate Starts for Hlubikazi\_67:

(Start: 40 @41441 has 7 MA's), (42, 41447), (Start: 47 @41456 has 4 MA's), (50, 41468), (51, 41486), (55, 41552), (56, 41555), (57, 41558), (59, 41579), (62, 41642), (63, 41645), (65, 41660), (68, 41699), (69, 41705), (70, 41708), (71, 41720), (73, 41750), (78, 41846), (81, 41891), (84, 41948), (88, 42029), (89, 42032), (92, 42155), (96, 42215), (97, 42218), (103, 42281), (104, 42284), (105, 42293), (108, 42338), (113, 42407), (115, 42470), (116, 42485), (117, 42512), (120, 42572), (121, 42575), (122, 42590), (123, 42617), (126, 42662), (128, 42710), (129, 42737), (130, 42740), (133, 42779), (134, 42791), (138, 42896), (140, 42935), (141, 42950), (143, 43055), (148, 43133), (150, 43160), (151, 43169), (155, 43232), (158, 43253), (159, 43256), (162, 43319), (167, 43445), (168, 43463), (169, 43532), (172, 43622), (176, 43721), (178, 43754), (179, 43766), (180, 43775), (181, 43784), (183, 43817), (184, 43823), (188, 43886), (189, 43889), (191, 43919), (192, 43925), (204, 44003), (206, 44030),

Gene: Isolde\_73 Start: 39275, Stop: 41803, Start Num: 46

Candidate Starts for Isolde\_73:

(Start: 46 @39275 has 18 MA's), (49, 39287), (62, 39461), (63, 39464), (76, 39608), (83, 39752), (89, 39848), (91, 39944), (110, 40178), (120, 40388), (123, 40433), (128, 40526), (134, 40607), (135, 40673), (140, 40754), (143, 40874), (147, 40937), (154, 41045), (155, 41051), (161, 41117), (162, 41138), (176, 41450), (177, 41459), (180, 41504), (182, 41540), (183, 41546), (187, 41576), (194, 41663), (201, 41714),

Gene: James\_70 Start: 44102, Stop: 46621, Start Num: 44

Candidate Starts for James\_70:

(Start: 44 @44102 has 35 MA's), (50, 44114), (51, 44132), (55, 44198), (59, 44225), (61, 44276), (62, 44288), (63, 44291), (65, 44306), (66, 44312), (69, 44351), (70, 44354), (71, 44366), (73, 44396), (78, 44492), (81, 44537), (82, 44540), (88, 44675), (89, 44678), (92, 44801), (95, 44855), (96, 44861), (113, 45053), (115, 45116), (116, 45131), (117, 45158), (120, 45218), (121, 45221), (122, 45236), (123, 45263), (124, 45269), (126, 45308), (128, 45356), (129, 45383), (130, 45386), (133, 45425), (134, 45437), (140, 45581), (141, 45596), (143, 45701), (144, 45725), (148, 45779), (150, 45806), (151, 45815), (155, 45878), (158, 45899), (160, 45929), (162, 45965), (169, 46088), (170, 46154), (176, 46277), (178, 46310), (179, 46322), (180, 46331), (181, 46340), (183, 46373), (184, 46379), (188, 46442), (189, 46445), (191, 46475), (192, 46481), (206, 46586),

Gene: JellyBread\_71 Start: 39420, Stop: 41948, Start Num: 46

Candidate Starts for JellyBread\_71:

(Start: 46 @39420 has 18 MA's), (49, 39432), (62, 39606), (63, 39609), (76, 39753), (83, 39897), (85, 39912), (89, 39993), (91, 40089), (110, 40323), (123, 40578), (128, 40671), (134, 40752), (135, 40818), (140, 40899), (143, 41019), (154, 41190), (155, 41196), (161, 41262), (162, 41283), (176, 41595), (177, 41604), (180, 41649), (183, 41691), (187, 41721), (194, 41808), (201, 41859),

Gene: Job42\_69 Start: 45077, Stop: 48589, Start Num: 44

Candidate Starts for Job42\_69:

(Start: 44 @45077 has 35 MA's), (50, 45089), (51, 45107), (55, 45173), (56, 45176), (57, 45179), (59, 45200), (61, 45251), (62, 45263), (63, 45266), (64, 45272), (69, 45326), (70, 45329), (71, 45341), (73, 45371), (78, 45467), (81, 45512), (82, 45515), (84, 45569), (88, 45650), (89, 45653), (92, 45776), (96, 45836), (97, 45839), (103, 45902), (104, 45905), (105, 45914), (113, 46028), (115, 46091), (117, 46133), (120, 46193), (121, 46196), (122, 46211), (123, 46238), (126, 46283), (128, 46331), (129, 46358), (130, 46361), (133, 46400), (134, 46412), (138, 46517), (140, 46556), (141, 46571), (143, 46676), (148, 46754), (150, 46781), (151, 46790), (155, 46853), (158, 46874), (162, 46940), (164, 46970), (169, 47063), (176, 47252), (178, 47285), (179, 47297), (180, 47306), (181, 47315), (183, 47348), (184, 47354), (186, 47378), (196, 47495), (197, 47498), (202, 47531), (203, 47534), (205,

47552), (211, 47654), (212, 47702), (213, 47957), (214, 47990), (216, 48044), (217, 48059), (218, 48110), (219, 48140), (220, 48158), (221, 48164), (222, 48248), (223, 48254), (224, 48302), (225, 48338), (226, 48356), (227, 48410), (228, 48413), (229, 48443), (230, 48449), (232, 48491), (234, 48554),

Gene: Kenuha5\_64 Start: 41648, Stop: 44167, Start Num: 44

Candidate Starts for Kenuha5\_64:

(16, 41471), (17, 41477), (19, 41486), (20, 41495), (32, 41591), (Start: 44 @41648 has 35 MA's), (50, 41660), (51, 41678), (55, 41744), (56, 41747), (57, 41750), (59, 41771), (61, 41822), (62, 41834), (63, 41837), (64, 41843), (69, 41897), (70, 41900), (71, 41912), (73, 41942), (78, 42038), (81, 42083), (82, 42086), (84, 42140), (88, 42221), (89, 42224), (92, 42347), (96, 42407), (97, 42410), (103, 42473), (104, 42476), (105, 42485), (113, 42599), (115, 42662), (117, 42704), (120, 42764), (121, 42767), (122, 42782), (123, 42809), (126, 42854), (129, 42929), (130, 42932), (131, 42938), (133, 42971), (134, 42983), (138, 43088), (140, 43127), (141, 43142), (143, 43247), (148, 43325), (150, 43352), (151, 43361), (155, 43424), (158, 43445), (159, 43448), (162, 43511), (164, 43541), (169, 43634), (171, 43715), (176, 43823), (178, 43856), (179, 43868), (180, 43877), (181, 43886), (183, 43919), (184, 43925), (188, 43988), (189, 43991), (191, 44021), (192, 44027), (198, 44063), (206, 44132),

Gene: Kingsley\_64 Start: 42315, Stop: 44834, Start Num: 44

Candidate Starts for Kingsley\_64:

(Start: 44 @42315 has 35 MA's), (50, 42327), (55, 42411), (59, 42438), (61, 42489), (62, 42501), (63, 42504), (65, 42519), (66, 42525), (69, 42564), (70, 42567), (71, 42579), (73, 42609), (78, 42705), (81, 42750), (82, 42753), (88, 42888), (89, 42891), (92, 43014), (95, 43068), (96, 43074), (113, 43266), (115, 43329), (116, 43344), (117, 43371), (120, 43431), (121, 43434), (122, 43449), (123, 43476), (124, 43482), (126, 43521), (128, 43569), (129, 43596), (130, 43599), (133, 43638), (134, 43650), (138, 43755), (140, 43794), (141, 43809), (143, 43914), (148, 43992), (150, 44019), (151, 44028), (155, 44091), (156, 44100), (158, 44112), (159, 44115), (162, 44178), (169, 44301), (171, 44382), (176, 44490), (178, 44523), (179, 44535), (180, 44544), (181, 44553), (183, 44586), (184, 44592), (188, 44655), (189, 44658), (191, 44688), (192, 44694), (206, 44799),

Gene: LastJedi\_60 Start: 40049, Stop: 43600, Start Num: 35

Candidate Starts for LastJedi\_60:

(Start: 35 @40049 has 4 MA's), (Start: 37 @40061 has 3 MA's), (50, 40100), (51, 40118), (55, 40184), (56, 40187), (57, 40190), (59, 40211), (62, 40274), (63, 40277), (65, 40292), (68, 40331), (69, 40337), (70, 40340), (71, 40352), (73, 40382), (81, 40523), (84, 40580), (88, 40661), (89, 40664), (91, 40760), (92, 40787), (96, 40847), (103, 40913), (104, 40916), (105, 40925), (113, 41039), (115, 41102), (116, 41117), (117, 41144), (120, 41204), (121, 41207), (122, 41222), (126, 41294), (129, 41369), (134, 41423), (138, 41528), (139, 41549), (140, 41567), (143, 41687), (148, 41765), (155, 41864), (156, 41873), (158, 41885), (159, 41888), (162, 41951), (164, 41981), (176, 42263), (178, 42296), (179, 42308), (180, 42317), (181, 42326), (183, 42359), (184, 42365), (186, 42389), (196, 42506), (197, 42509), (202, 42542), (203, 42545), (205, 42563), (211, 42665), (212, 42713), (213, 42968), (214, 43001), (215, 43043), (216, 43055), (217, 43070), (218, 43121), (219, 43151), (220, 43169), (221, 43175), (222, 43259), (223, 43265), (224, 43313), (225, 43349), (226, 43367), (227, 43421), (228, 43424), (229, 43454), (230, 43460), (234, 43565),

Gene: Lawnathon\_75 Start: 39525, Stop: 42053, Start Num: 46

Candidate Starts for Lawnathon\_75:

(Start: 46 @39525 has 18 MA's), (49, 39537), (62, 39711), (63, 39714), (76, 39858), (83, 40002), (89, 40098), (91, 40194), (110, 40428), (123, 40683), (128, 40776), (134, 40857), (135, 40923), (140, 41004), (143, 41124), (147, 41187), (154, 41295), (155, 41301), (161, 41367), (162, 41388), (176, 41700), (177, 41709), (180, 41754), (182, 41790), (183, 41796), (187, 41826), (194, 41913), (201, 41964),

Gene: LilMoolah\_65 Start: 42579, Stop: 45227, Start Num: 33

Candidate Starts for LilMoolah\_65:

(Start: 33 @42579 has 4 MA's), (Start: 37 @42591 has 3 MA's), (50, 42630), (51, 42648), (55, 42714), (56, 42717), (57, 42720), (59, 42741), (62, 42804), (63, 42807), (65, 42822), (68, 42861), (69, 42867), (70, 42870), (71, 42882), (73, 42912), (81, 43053), (84, 43110), (88, 43191), (89, 43194), (91, 43290), (92, 43317), (96, 43377), (103, 43443), (104, 43446), (105, 43455), (113, 43569), (115, 43632), (116, 43647), (117, 43674), (120, 43734), (121, 43737), (122, 43752), (126, 43824), (129, 43899), (134, 43953), (138, 44058), (139, 44079), (140, 44097), (143, 44217), (148, 44295), (155, 44394), (156, 44403), (158, 44415), (159, 44418), (162, 44481), (163, 44505), (164, 44511), (165, 44556), (167, 44607), (168, 44625), (176, 44883), (178, 44916), (179, 44928), (180, 44937), (181, 44946), (183, 44979), (184, 44985), (188, 45048), (189, 45051), (191, 45081), (192, 45087), (199, 45129), (206, 45192),

Gene: Lizziana\_72 Start: 43583, Stop: 46102, Start Num: 44

Candidate Starts for Lizziana\_72:

(Start: 44 @43583 has 35 MA's), (50, 43595), (51, 43613), (55, 43679), (59, 43706), (61, 43757), (62, 43769), (63, 43772), (65, 43787), (66, 43793), (69, 43832), (70, 43835), (71, 43847), (73, 43877), (78, 43973), (81, 44018), (82, 44021), (88, 44156), (89, 44159), (92, 44282), (95, 44336), (96, 44342), (113, 44534), (115, 44597), (116, 44612), (117, 44639), (120, 44699), (121, 44702), (122, 44717), (123, 44744), (124, 44750), (126, 44789), (128, 44837), (129, 44864), (130, 44867), (133, 44906), (134, 44918), (138, 45023), (140, 45062), (141, 45077), (143, 45182), (148, 45260), (150, 45287), (151, 45296), (155, 45359), (156, 45368), (158, 45380), (159, 45383), (162, 45446), (169, 45569), (171, 45650), (176, 45758), (178, 45791), (179, 45803), (180, 45812), (181, 45821), (183, 45854), (184, 45860), (188, 45923), (189, 45926), (191, 45956), (192, 45962), (206, 46067),

Gene: LunaBlu\_68 Start: 42851, Stop: 45370, Start Num: 44

Candidate Starts for LunaBlu\_68:

(Start: 44 @42851 has 35 MA's), (50, 42863), (51, 42881), (55, 42947), (59, 42974), (61, 43025), (62, 43037), (63, 43040), (65, 43055), (66, 43061), (69, 43100), (70, 43103), (71, 43115), (73, 43145), (78, 43241), (81, 43286), (82, 43289), (88, 43424), (89, 43427), (92, 43550), (95, 43604), (96, 43610), (113, 43802), (115, 43865), (116, 43880), (117, 43907), (120, 43967), (121, 43970), (122, 43985), (123, 44012), (126, 44057), (128, 44105), (129, 44132), (130, 44135), (133, 44174), (134, 44186), (138, 44291), (140, 44330), (141, 44345), (143, 44450), (148, 44528), (150, 44555), (151, 44564), (155, 44627), (156, 44636), (158, 44648), (159, 44651), (162, 44714), (169, 44837), (171, 44918), (176, 45026), (178, 45059), (179, 45071), (180, 45080), (181, 45089), (183, 45122), (184, 45128), (188, 45191), (189, 45194), (191, 45224), (192, 45230), (206, 45335),

Gene: MUWow\_76 Start: 41130, Stop: 43658, Start Num: 46

Candidate Starts for MUWow\_76:

(Start: 46 @41130 has 18 MA's), (50, 41145), (61, 41307), (62, 41319), (63, 41322), (64, 41328), (86, 41637), (89, 41706), (99, 41904), (110, 42036), (116, 42159), (123, 42291), (134, 42465), (135, 42531), (140, 42609), (141, 42624), (143, 42729), (151, 42843), (152, 42858), (155, 42906), (162, 42993), (171, 43197), (176, 43305), (180, 43359), (182, 43395), (183, 43401), (187, 43431), (189, 43473), (190, 43494), (206, 43614),

Gene: Madiba\_67 Start: 42084, Stop: 44603, Start Num: 44

Candidate Starts for Madiba\_67:

(Start: 44 @42084 has 35 MA's), (50, 42096), (51, 42114), (55, 42180), (56, 42183), (57, 42186), (59, 42207), (61, 42258), (62, 42270), (63, 42273), (65, 42288), (69, 42333), (70, 42336), (71, 42348), (73, 42378), (78, 42474), (84, 42576), (88, 42657), (89, 42660), (92, 42783), (96, 42843), (103, 42909), (104, 42912), (105, 42921), (108, 42966), (113, 43035), (115, 43098), (116, 43113), (117, 43140), (120, 43200), (121, 43203), (122, 43218), (123, 43245), (126, 43290), (128, 43338), (129, 43365), (130, 43368), (133, 43407), (134, 43419), (138, 43524), (140, 43563), (141, 43578), (143, 43683),

(148, 43761), (150, 43788), (151, 43797), (155, 43860), (158, 43881), (159, 43884), (162, 43947), (169, 44070), (171, 44151), (176, 44259), (178, 44292), (179, 44304), (180, 44313), (181, 44322), (183, 44355), (184, 44361), (188, 44424), (189, 44427), (191, 44457), (192, 44463), (206, 44568),

Gene: Mandlovu\_67 Start: 41383, Stop: 44007, Start Num: 40

Candidate Starts for Mandlovu\_67:

(Start: 40 @41383 has 7 MA's), (42, 41389), (Start: 47 @41398 has 4 MA's), (50, 41410), (51, 41428), (55, 41494), (56, 41497), (57, 41500), (59, 41521), (62, 41584), (63, 41587), (65, 41602), (68, 41641), (69, 41647), (70, 41650), (71, 41662), (73, 41692), (78, 41788), (81, 41833), (84, 41890), (88, 41971), (89, 41974), (92, 42097), (96, 42157), (97, 42160), (103, 42223), (104, 42226), (105, 42235), (108, 42280), (113, 42349), (115, 42412), (116, 42427), (117, 42454), (120, 42514), (121, 42517), (122, 42532), (123, 42559), (126, 42604), (128, 42652), (129, 42679), (130, 42682), (133, 42721), (134, 42733), (138, 42838), (140, 42877), (141, 42892), (143, 42997), (148, 43075), (150, 43102), (151, 43111), (155, 43174), (158, 43195), (159, 43198), (162, 43261), (167, 43387), (168, 43405), (169, 43474), (172, 43564), (176, 43663), (178, 43696), (179, 43708), (180, 43717), (181, 43726), (183, 43759), (184, 43765), (188, 43828), (189, 43831), (191, 43861), (192, 43867), (204, 43945), (206, 43972),

Gene: MaterMagnus\_75 Start: 40157, Stop: 42685, Start Num: 46

Candidate Starts for MaterMagnus\_75:

(Start: 46 @40157 has 18 MA's), (50, 40172), (61, 40334), (62, 40346), (63, 40349), (64, 40355), (86, 40664), (89, 40733), (99, 40931), (110, 41063), (116, 41186), (123, 41318), (134, 41492), (135, 41558), (140, 41636), (141, 41651), (143, 41756), (151, 41870), (152, 41885), (155, 41933), (162, 42020), (171, 42224), (176, 42332), (179, 42377), (180, 42386), (183, 42428), (187, 42458), (206, 42641),

Gene: Mattes\_70 Start: 44102, Stop: 46621, Start Num: 44

Candidate Starts for Mattes\_70:

(Start: 44 @44102 has 35 MA's), (50, 44114), (51, 44132), (55, 44198), (59, 44225), (61, 44276), (62, 44288), (63, 44291), (65, 44306), (66, 44312), (69, 44351), (70, 44354), (71, 44366), (73, 44396), (78, 44492), (81, 44537), (82, 44540), (88, 44675), (89, 44678), (92, 44801), (95, 44855), (96, 44861), (113, 45053), (115, 45116), (116, 45131), (117, 45158), (120, 45218), (121, 45221), (122, 45236), (123, 45263), (124, 45269), (126, 45308), (128, 45356), (129, 45383), (130, 45386), (133, 45425), (134, 45437), (140, 45581), (141, 45596), (143, 45701), (144, 45725), (148, 45779), (150, 45806), (151, 45815), (155, 45878), (158, 45899), (160, 45929), (162, 45965), (169, 46088), (170, 46154), (176, 46277), (178, 46310), (179, 46322), (180, 46331), (181, 46340), (183, 46373), (184, 46379), (188, 46442), (189, 46445), (191, 46475), (192, 46481), (206, 46586),

Gene: MidnightRain\_80 Start: 40745, Stop: 43273, Start Num: 46

Candidate Starts for MidnightRain\_80:

(Start: 46 @40745 has 18 MA's), (50, 40760), (53, 40820), (59, 40871), (61, 40922), (63, 40937), (75, 41054), (76, 41081), (89, 41321), (91, 41417), (100, 41525), (102, 41564), (110, 41651), (111, 41657), (119, 41819), (121, 41864), (127, 41993), (129, 42026), (130, 42029), (134, 42080), (135, 42146), (140, 42224), (141, 42239), (143, 42344), (145, 42374), (147, 42407), (154, 42515), (155, 42521), (162, 42608), (171, 42812), (173, 42839), (174, 42848), (176, 42920), (180, 42974), (182, 43010), (183, 43016), (187, 43046), (189, 43088), (190, 43109), (206, 43229), (209, 43247),

Gene: Minnie\_69 Start: 44325, Stop: 47966, Start Num: 33

Candidate Starts for Minnie\_69:

(Start: 33 @44325 has 4 MA's), (Start: 37 @44337 has 3 MA's), (50, 44376), (51, 44394), (55, 44460), (56, 44463), (57, 44466), (59, 44487), (62, 44550), (63, 44553), (65, 44568), (68, 44607), (69, 44613), (70, 44616), (71, 44628), (73, 44658), (78, 44754), (81, 44799), (84, 44856), (88, 44937), (89, 44940), (92, 45063), (96, 45123), (97, 45126), (103, 45189), (104, 45192), (105, 45201), (108, 45246), (113,

45315), (115, 45378), (116, 45393), (117, 45420), (120, 45480), (121, 45483), (122, 45498), (123, 45525), (126, 45570), (128, 45618), (129, 45645), (130, 45648), (133, 45687), (134, 45699), (138, 45804), (140, 45843), (141, 45858), (143, 45963), (148, 46041), (150, 46068), (151, 46077), (155, 46140), (158, 46161), (159, 46164), (162, 46227), (167, 46353), (168, 46371), (169, 46440), (172, 46530), (176, 46629), (178, 46662), (179, 46674), (180, 46683), (181, 46692), (183, 46725), (184, 46731), (186, 46755), (196, 46872), (197, 46875), (202, 46908), (203, 46911), (205, 46929), (211, 47031), (212, 47079), (213, 47334), (214, 47367), (216, 47421), (217, 47436), (218, 47487), (219, 47517), (220, 47535), (221, 47541), (222, 47625), (223, 47631), (224, 47679), (225, 47715), (226, 47733), (227, 47787), (228, 47790), (229, 47820), (230, 47826), (232, 47868), (233, 47904), (234, 47931),

Gene: MisterCuddles\_64 Start: 42051, Stop: 44570, Start Num: 44

Candidate Starts for MisterCuddles\_64:

(Start: 44 @42051 has 35 MA's), (50, 42063), (51, 42081), (55, 42147), (59, 42174), (61, 42225), (62, 42237), (63, 42240), (65, 42255), (66, 42261), (69, 42300), (70, 42303), (71, 42315), (73, 42345), (78, 42441), (81, 42486), (82, 42489), (88, 42624), (89, 42627), (92, 42750), (95, 42804), (96, 42810), (113, 43002), (115, 43065), (116, 43080), (117, 43107), (120, 43167), (121, 43170), (122, 43185), (123, 43212), (124, 43218), (126, 43257), (128, 43305), (129, 43332), (130, 43335), (133, 43374), (134, 43386), (138, 43491), (140, 43530), (141, 43545), (143, 43650), (148, 43728), (150, 43755), (151, 43764), (155, 43827), (156, 43836), (158, 43848), (159, 43851), (162, 43914), (169, 44037), (176, 44226), (178, 44259), (179, 44271), (180, 44280), (181, 44289), (183, 44322), (184, 44328), (188, 44391), (189, 44394), (191, 44424), (192, 44430), (206, 44535),

Gene: MulchSalad\_70 Start: 41683, Stop: 45210, Start Num: 40

Candidate Starts for MulchSalad\_70:

(28, 41620), (Start: 40 @41683 has 7 MA's), (41, 41689), (45, 41698), (50, 41710), (51, 41728), (55, 41794), (56, 41797), (57, 41800), (59, 41821), (62, 41884), (63, 41887), (65, 41902), (68, 41941), (69, 41947), (70, 41950), (71, 41962), (73, 41992), (78, 42088), (81, 42133), (84, 42190), (88, 42271), (89, 42274), (92, 42397), (96, 42457), (97, 42460), (103, 42523), (104, 42526), (105, 42535), (108, 42580), (113, 42649), (115, 42712), (116, 42727), (117, 42754), (120, 42814), (121, 42817), (122, 42832), (126, 42904), (128, 42952), (129, 42979), (130, 42982), (134, 43033), (140, 43177), (141, 43192), (143, 43297), (148, 43375), (155, 43474), (156, 43483), (158, 43495), (159, 43498), (162, 43561), (169, 43684), (176, 43873), (178, 43906), (179, 43918), (180, 43927), (181, 43936), (183, 43969), (184, 43975), (186, 43999), (196, 44116), (197, 44119), (200, 44131), (202, 44152), (203, 44155), (205, 44173), (211, 44275), (212, 44323), (213, 44578), (214, 44611), (216, 44665), (217, 44680), (218, 44731), (219, 44761), (220, 44779), (221, 44785), (222, 44869), (223, 44875), (224, 44923), (225, 44959), (226, 44977), (227, 45031), (228, 45034), (229, 45064), (230, 45070), (232, 45112), (233, 45148), (234, 45175),

Gene: Nivrat\_63 Start: 42452, Stop: 45100, Start Num: 33

Candidate Starts for Nivrat\_63:

(Start: 33 @42452 has 4 MA's), (Start: 37 @42464 has 3 MA's), (50, 42503), (51, 42521), (55, 42587), (56, 42590), (57, 42593), (59, 42614), (62, 42677), (63, 42680), (65, 42695), (68, 42734), (69, 42740), (70, 42743), (71, 42755), (73, 42785), (81, 42926), (84, 42983), (88, 43064), (89, 43067), (91, 43163), (92, 43190), (96, 43250), (103, 43316), (104, 43319), (105, 43328), (113, 43442), (115, 43505), (116, 43520), (117, 43547), (120, 43607), (121, 43610), (122, 43625), (126, 43697), (129, 43772), (134, 43826), (138, 43931), (139, 43952), (140, 43970), (143, 44090), (148, 44168), (155, 44267), (156, 44276), (158, 44288), (159, 44291), (162, 44354), (163, 44378), (164, 44384), (165, 44429), (167, 44480), (168, 44498), (176, 44756), (178, 44789), (179, 44801), (180, 44810), (181, 44819), (183, 44852), (184, 44858), (188, 44921), (189, 44924), (191, 44954), (192, 44960), (199, 45002), (206, 45065),

Gene: OlympiaSaint\_68 Start: 43044, Stop: 45563, Start Num: 44

Candidate Starts for OlympiaSaint\_68:

(Start: 44 @43044 has 35 MA's), (50, 43056), (51, 43074), (55, 43140), (59, 43167), (61, 43218), (62, 43230), (63, 43233), (65, 43248), (66, 43254), (69, 43293), (70, 43296), (71, 43308), (73, 43338), (78, 43434), (81, 43479), (82, 43482), (88, 43617), (89, 43620), (92, 43743), (95, 43797), (96, 43803), (113, 43995), (115, 44058), (116, 44073), (117, 44100), (120, 44160), (121, 44163), (122, 44178), (123, 44205), (124, 44211), (126, 44250), (128, 44298), (129, 44325), (130, 44328), (133, 44367), (134, 44379), (140, 44523), (141, 44538), (143, 44643), (144, 44667), (148, 44721), (150, 44748), (151, 44757), (155, 44820), (158, 44841), (160, 44871), (162, 44907), (169, 45030), (170, 45096), (176, 45219), (178, 45252), (179, 45264), (180, 45273), (181, 45282), (183, 45315), (184, 45321), (188, 45384), (189, 45387), (191, 45417), (192, 45423), (206, 45528),

Gene: Pacc40\_60 Start: 41101, Stop: 45126, Start Num: 35

Candidate Starts for Pacc40\_60:

(Start: 35 @41101 has 4 MA's), (Start: 37 @41113 has 3 MA's), (50, 41152), (51, 41170), (55, 41236), (56, 41239), (57, 41242), (59, 41263), (62, 41326), (63, 41329), (65, 41344), (68, 41383), (69, 41389), (70, 41392), (71, 41404), (73, 41434), (81, 41575), (84, 41632), (88, 41713), (89, 41716), (93, 41980), (94, 41983), (96, 42373), (103, 42439), (104, 42442), (105, 42451), (113, 42565), (115, 42628), (116, 42643), (117, 42670), (120, 42730), (121, 42733), (122, 42748), (129, 42895), (133, 42937), (134, 42949), (140, 43093), (141, 43108), (143, 43213), (148, 43291), (155, 43390), (156, 43399), (158, 43411), (159, 43414), (162, 43477), (169, 43600), (170, 43666), (176, 43789), (178, 43822), (179, 43834), (180, 43843), (181, 43852), (183, 43885), (184, 43891), (186, 43915), (196, 44032), (197, 44035), (202, 44068), (203, 44071), (205, 44089), (211, 44191), (212, 44239), (213, 44494), (214, 44527), (216, 44581), (217, 44596), (218, 44647), (219, 44677), (220, 44695), (221, 44701), (222, 44785), (223, 44791), (224, 44839), (225, 44875), (226, 44893), (227, 44947), (228, 44950), (229, 44980), (230, 44986), (232, 45028), (234, 45091),

Gene: Persistence\_69 Start: 37815, Stop: 40346, Start Num: 46

Candidate Starts for Persistence\_69:

(Start: 46 @37815 has 18 MA's), (62, 38007), (63, 38010), (67, 38037), (72, 38109), (86, 38325), (89, 38394), (96, 38577), (99, 38592), (110, 38724), (120, 38934), (134, 39153), (135, 39219), (136, 39225), (140, 39297), (143, 39417), (149, 39507), (152, 39546), (154, 39588), (155, 39594), (162, 39681), (171, 39885), (176, 39993), (180, 40047), (182, 40083), (183, 40089), (206, 40302), (207, 40308),

Gene: PhlipPhlop\_64 Start: 44467, Stop: 46986, Start Num: 44

Candidate Starts for PhlipPhlop\_64:

(Start: 44 @44467 has 35 MA's), (50, 44479), (51, 44497), (55, 44563), (56, 44566), (57, 44569), (59, 44590), (61, 44641), (62, 44653), (63, 44656), (64, 44662), (69, 44716), (70, 44719), (71, 44731), (73, 44761), (78, 44857), (81, 44902), (82, 44905), (84, 44959), (88, 45040), (89, 45043), (92, 45166), (96, 45226), (97, 45229), (103, 45292), (104, 45295), (105, 45304), (113, 45418), (115, 45481), (117, 45523), (120, 45583), (121, 45586), (122, 45601), (123, 45628), (126, 45673), (128, 45721), (129, 45748), (130, 45751), (131, 45757), (133, 45790), (134, 45802), (140, 45946), (141, 45961), (143, 46066), (148, 46144), (155, 46243), (158, 46264), (159, 46267), (162, 46330), (164, 46360), (169, 46453), (171, 46534), (176, 46642), (178, 46675), (179, 46687), (180, 46696), (181, 46705), (183, 46738), (184, 46744), (188, 46807), (189, 46810), (191, 46840), (192, 46846), (198, 46882), (206, 46951),

Gene: Phrank15\_77 Start: 39240, Stop: 41798, Start Num: 46

Candidate Starts for Phrank15\_77:

(Start: 46 @39240 has 18 MA's), (75, 39552), (77, 39624), (84, 39741), (89, 39825), (96, 40008), (110, 40155), (116, 40278), (128, 40503), (134, 40584), (135, 40650), (136, 40656), (140, 40728), (143, 40848), (149, 40938), (152, 40977), (154, 41019), (155, 41025), (162, 41112), (171, 41316), (176, 41424), (180, 41478), (182, 41514), (183, 41520), (185, 41535), (188, 41589), (191, 41622), (195,

41643), (199, 41670), (201, 41688), (206, 41733), (209, 41751),

Gene: Phrann\_57 Start: 37839, Stop: 40448, Start Num: 47

Candidate Starts for Phrann\_57:

(24, 37737), (Start: 40 @37818 has 7 MA's), (42, 37827), (Start: 47 @37839 has 4 MA's), (50, 37851), (51, 37869), (55, 37935), (56, 37938), (57, 37941), (59, 37962), (62, 38025), (63, 38028), (65, 38043), (68, 38082), (69, 38088), (70, 38091), (71, 38103), (73, 38133), (81, 38274), (84, 38331), (88, 38412), (89, 38415), (92, 38538), (96, 38598), (97, 38601), (103, 38664), (104, 38667), (105, 38676), (108, 38721), (113, 38790), (115, 38853), (116, 38868), (117, 38895), (120, 38955), (121, 38958), (122, 38973), (126, 39045), (128, 39093), (129, 39120), (130, 39123), (131, 39129), (133, 39162), (134, 39174), (138, 39279), (140, 39318), (141, 39333), (143, 39438), (148, 39516), (150, 39543), (151, 39552), (155, 39615), (158, 39636), (159, 39639), (162, 39702), (167, 39828), (168, 39846), (169, 39915), (172, 40005), (176, 40104), (178, 40137), (179, 40149), (180, 40158), (181, 40167), (183, 40200), (184, 40206), (188, 40269), (189, 40272), (191, 40302), (192, 40308), (204, 40386), (206, 40413),

Gene: Piper2020\_77 Start: 46674, Stop: 49193, Start Num: 47

Candidate Starts for Piper2020\_77:

(12, 46404), (24, 46572), (Start: 40 @46653 has 7 MA's), (42, 46662), (Start: 47 @46674 has 4 MA's), (50, 46686), (51, 46704), (55, 46770), (56, 46773), (57, 46776), (59, 46797), (62, 46860), (63, 46863), (65, 46878), (68, 46917), (69, 46923), (70, 46926), (71, 46938), (73, 46968), (81, 47109), (84, 47166), (88, 47247), (89, 47250), (91, 47346), (92, 47373), (96, 47433), (103, 47499), (104, 47502), (105, 47511), (113, 47625), (115, 47688), (116, 47703), (117, 47730), (120, 47790), (121, 47793), (122, 47808), (126, 47880), (128, 47928), (129, 47955), (130, 47958), (134, 48009), (140, 48153), (141, 48168), (143, 48273), (148, 48351), (155, 48450), (156, 48459), (158, 48471), (159, 48474), (162, 48537), (164, 48567), (169, 48660), (176, 48849), (178, 48882), (179, 48894), (180, 48903), (181, 48912), (183, 48945), (184, 48951), (188, 49014), (189, 49017), (191, 49047), (192, 49053), (204, 49131), (206, 49158),

Gene: RadFad\_80 Start: 40447, Stop: 42978, Start Num: 46

Candidate Starts for RadFad\_80:

(Start: 46 @40447 has 18 MA's), (50, 40462), (62, 40636), (63, 40639), (76, 40783), (83, 40927), (89, 41023), (91, 41119), (110, 41353), (123, 41608), (128, 41701), (134, 41782), (135, 41848), (140, 41929), (143, 42049), (154, 42220), (155, 42226), (161, 42292), (162, 42313), (176, 42625), (177, 42634), (180, 42679), (183, 42721), (187, 42751), (194, 42838), (201, 42889),

Gene: Radiance\_65 Start: 42260, Stop: 45772, Start Num: 44

Candidate Starts for Radiance\_65:

(Start: 44 @42260 has 35 MA's), (50, 42272), (51, 42290), (55, 42356), (56, 42359), (57, 42362), (59, 42383), (61, 42434), (62, 42446), (63, 42449), (69, 42509), (70, 42512), (71, 42524), (73, 42554), (81, 42695), (82, 42698), (84, 42752), (88, 42833), (89, 42836), (92, 42959), (96, 43019), (97, 43022), (103, 43085), (104, 43088), (105, 43097), (113, 43211), (115, 43274), (117, 43316), (120, 43376), (121, 43379), (122, 43394), (126, 43466), (128, 43514), (129, 43541), (130, 43544), (131, 43550), (134, 43595), (140, 43739), (141, 43754), (143, 43859), (148, 43937), (155, 44036), (156, 44045), (158, 44057), (159, 44060), (162, 44123), (169, 44246), (176, 44435), (178, 44468), (179, 44480), (180, 44489), (181, 44498), (183, 44531), (184, 44537), (186, 44561), (196, 44678), (197, 44681), (202, 44714), (203, 44717), (205, 44735), (211, 44837), (212, 44885), (213, 45140), (214, 45173), (216, 45227), (217, 45242), (218, 45293), (219, 45323), (220, 45341), (221, 45347), (222, 45431), (223, 45437), (224, 45485), (225, 45521), (226, 45539), (227, 45593), (228, 45596), (229, 45626), (230, 45632), (232, 45674), (233, 45710), (234, 45737),

Gene: Raphaella\_76 Start: 39221, Stop: 41749, Start Num: 46

Candidate Starts for Raphaella\_76:

(Start: 46 @39221 has 18 MA's), (49, 39233), (62, 39407), (63, 39410), (76, 39554), (83, 39698), (89, 39794), (91, 39890), (110, 40124), (120, 40334), (123, 40379), (128, 40472), (134, 40553), (135, 40619), (140, 40700), (143, 40820), (147, 40883), (154, 40991), (155, 40997), (161, 41063), (162, 41084), (165, 41159), (176, 41396), (177, 41405), (180, 41450), (182, 41486), (183, 41492), (187, 41522), (194, 41609), (201, 41660),

Gene: Raqqa\_73 Start: 39905, Stop: 42439, Start Num: 46

Candidate Starts for Raqqa\_73:

(Start: 46 @39905 has 18 MA's), (60, 40043), (62, 40094), (63, 40097), (68, 40148), (75, 40214), (76, 40241), (77, 40286), (89, 40487), (96, 40670), (101, 40712), (110, 40817), (116, 40940), (128, 41165), (134, 41246), (135, 41312), (136, 41318), (140, 41390), (143, 41510), (148, 41588), (149, 41600), (151, 41624), (152, 41639), (154, 41681), (155, 41687), (162, 41774), (171, 41978), (176, 42086), (180, 42140), (183, 42182), (187, 42212), (191, 42284), (206, 42395), (208, 42404),

Gene: Richie\_78 Start: 41089, Stop: 43617, Start Num: 46

Candidate Starts for Richie\_78:

(15, 40882), (Start: 46 @41089 has 18 MA's), (50, 41104), (59, 41215), (61, 41266), (63, 41281), (74, 41392), (75, 41398), (76, 41425), (89, 41665), (91, 41761), (100, 41869), (102, 41908), (110, 41995), (111, 42001), (119, 42163), (121, 42208), (127, 42337), (129, 42370), (130, 42373), (134, 42424), (135, 42490), (140, 42568), (141, 42583), (143, 42688), (145, 42718), (147, 42751), (149, 42778), (152, 42817), (154, 42859), (155, 42865), (162, 42952), (171, 43156), (174, 43192), (176, 43264), (180, 43318), (183, 43360), (187, 43390), (190, 43453), (206, 43573), (209, 43591),

Gene: Rita\_73 Start: 42477, Stop: 45989, Start Num: 43

Candidate Starts for Rita\_73:

(8, 42156), (10, 42174), (23, 42375), (39, 42456), (Start: 40 @42465 has 7 MA's), (Start: 43 @42477 has 1 MA's), (50, 42489), (51, 42507), (55, 42573), (56, 42576), (57, 42579), (59, 42600), (61, 42651), (62, 42663), (63, 42666), (65, 42681), (66, 42687), (69, 42726), (70, 42729), (71, 42741), (73, 42771), (78, 42867), (81, 42912), (82, 42915), (84, 42969), (88, 43050), (89, 43053), (92, 43176), (96, 43236), (97, 43239), (103, 43302), (104, 43305), (105, 43314), (108, 43359), (113, 43428), (115, 43491), (116, 43506), (117, 43533), (120, 43593), (121, 43596), (122, 43611), (123, 43638), (126, 43683), (128, 43731), (129, 43758), (130, 43761), (133, 43800), (134, 43812), (140, 43956), (141, 43971), (143, 44076), (148, 44154), (155, 44253), (156, 44262), (158, 44274), (159, 44277), (162, 44340), (169, 44463), (176, 44652), (178, 44685), (179, 44697), (180, 44706), (181, 44715), (183, 44748), (184, 44754), (186, 44778), (196, 44895), (197, 44898), (202, 44931), (203, 44934), (205, 44952), (211, 45054), (212, 45102), (213, 45357), (214, 45390), (216, 45444), (217, 45459), (218, 45510), (219, 45540), (220, 45558), (221, 45564), (222, 45648), (223, 45654), (224, 45702), (225, 45738), (226, 45756), (227, 45810), (228, 45813), (229, 45843), (230, 45849), (234, 45954),

Gene: RockyHorror\_67 Start: 41923, Stop: 44442, Start Num: 44

Candidate Starts for RockyHorror\_67:

(Start: 44 @41923 has 35 MA's), (50, 41935), (51, 41953), (55, 42019), (59, 42046), (61, 42097), (62, 42109), (63, 42112), (65, 42127), (66, 42133), (69, 42172), (70, 42175), (71, 42187), (73, 42217), (78, 42313), (81, 42358), (82, 42361), (88, 42496), (89, 42499), (92, 42622), (95, 42676), (96, 42682), (113, 42874), (115, 42937), (116, 42952), (117, 42979), (120, 43039), (121, 43042), (122, 43057), (123, 43084), (124, 43090), (126, 43129), (128, 43177), (129, 43204), (130, 43207), (133, 43246), (134, 43258), (138, 43363), (140, 43402), (141, 43417), (143, 43522), (148, 43600), (150, 43627), (151, 43636), (155, 43699), (156, 43708), (158, 43720), (159, 43723), (162, 43786), (169, 43909), (171, 43990), (176, 44098), (178, 44131), (179, 44143), (180, 44152), (181, 44161), (183, 44194), (184, 44200), (188, 44263), (189, 44266), (191, 44296), (192, 44302), (206, 44407),

Gene: Ruby\_62 Start: 42052, Stop: 44571, Start Num: 44

Candidate Starts for Ruby\_62:



(Start: 44 @42052 has 35 MA's), (50, 42064), (51, 42082), (55, 42148), (59, 42175), (61, 42226), (62, 42238), (63, 42241), (65, 42256), (66, 42262), (69, 42301), (70, 42304), (71, 42316), (73, 42346), (78, 42442), (81, 42487), (82, 42490), (88, 42625), (89, 42628), (92, 42751), (95, 42805), (96, 42811), (113, 43003), (115, 43066), (116, 43081), (117, 43108), (120, 43168), (121, 43171), (122, 43186), (123, 43213), (124, 43219), (126, 43258), (128, 43306), (129, 43333), (130, 43336), (133, 43375), (134, 43387), (138, 43492), (140, 43531), (141, 43546), (143, 43651), (148, 43729), (150, 43756), (151, 43765), (155, 43828), (156, 43837), (158, 43849), (159, 43852), (162, 43915), (169, 44038), (176, 44227), (178, 44260), (179, 44272), (180, 44281), (181, 44290), (183, 44323), (184, 44329), (188, 44392), (189, 44395), (191, 44425), (192, 44431), (206, 44536),

Gene: Saal\_68 Start: 43796, Stop: 46315, Start Num: 44

Candidate Starts for Saal\_68:

(Start: 44 @43796 has 35 MA's), (50, 43808), (51, 43826), (55, 43892), (59, 43919), (61, 43970), (62, 43982), (63, 43985), (65, 44000), (66, 44006), (69, 44045), (70, 44048), (71, 44060), (73, 44090), (78, 44186), (81, 44231), (82, 44234), (88, 44369), (89, 44372), (92, 44495), (95, 44549), (96, 44555), (113, 44747), (115, 44810), (116, 44825), (117, 44852), (120, 44912), (121, 44915), (122, 44930), (123, 44957), (124, 44963), (126, 45002), (128, 45050), (129, 45077), (130, 45080), (133, 45119), (134, 45131), (140, 45275), (141, 45290), (143, 45395), (144, 45419), (148, 45473), (150, 45500), (151, 45509), (155, 45572), (158, 45593), (160, 45623), (162, 45659), (169, 45782), (170, 45848), (176, 45971), (178, 46004), (179, 46016), (180, 46025), (181, 46034), (183, 46067), (184, 46073), (188, 46136), (189, 46139), (191, 46169), (192, 46175), (206, 46280),

Gene: Sakai\_72 Start: 39116, Stop: 41644, Start Num: 46

Candidate Starts for Sakai\_72:

(Start: 46 @39116 has 18 MA's), (50, 39131), (61, 39293), (62, 39305), (63, 39308), (64, 39314), (86, 39623), (89, 39692), (99, 39890), (110, 40022), (116, 40145), (123, 40277), (134, 40451), (135, 40517), (140, 40595), (141, 40610), (143, 40715), (151, 40829), (152, 40844), (155, 40892), (162, 40979), (171, 41183), (176, 41291), (179, 41336), (180, 41345), (183, 41387), (187, 41417), (206, 41600),

Gene: Sandalphon\_67 Start: 43303, Stop: 45951, Start Num: 33

Candidate Starts for Sandalphon\_67:

(Start: 33 @43303 has 4 MA's), (Start: 37 @43315 has 3 MA's), (50, 43354), (51, 43372), (55, 43438), (56, 43441), (57, 43444), (59, 43465), (62, 43528), (63, 43531), (65, 43546), (68, 43585), (69, 43591), (70, 43594), (71, 43606), (73, 43636), (78, 43732), (81, 43777), (84, 43834), (88, 43915), (89, 43918), (92, 44041), (96, 44101), (97, 44104), (103, 44167), (104, 44170), (105, 44179), (108, 44224), (113, 44293), (115, 44356), (116, 44371), (117, 44398), (120, 44458), (121, 44461), (122, 44476), (123, 44503), (126, 44548), (128, 44596), (129, 44623), (130, 44626), (133, 44665), (134, 44677), (138, 44782), (140, 44821), (141, 44836), (143, 44941), (148, 45019), (150, 45046), (151, 45055), (155, 45118), (158, 45139), (159, 45142), (162, 45205), (167, 45331), (168, 45349), (169, 45418), (172, 45508), (176, 45607), (178, 45640), (179, 45652), (180, 45661), (181, 45670), (183, 45703), (184, 45709), (188, 45772), (189, 45775), (191, 45805), (192, 45811), (204, 45889), (206, 45916),

Gene: Sarma624\_65 Start: 39507, Stop: 42026, Start Num: 44

Candidate Starts for Sarma624\_65:

(Start: 44 @39507 has 35 MA's), (50, 39519), (55, 39603), (59, 39630), (61, 39681), (62, 39693), (63, 39696), (65, 39711), (66, 39717), (69, 39756), (70, 39759), (71, 39771), (73, 39801), (78, 39897), (81, 39942), (82, 39945), (88, 40080), (89, 40083), (92, 40206), (95, 40260), (96, 40266), (113, 40458), (115, 40521), (116, 40536), (117, 40563), (120, 40623), (121, 40626), (122, 40641), (123, 40668), (124, 40674), (126, 40713), (128, 40761), (129, 40788), (130, 40791), (133, 40830), (134, 40842), (138, 40947), (140, 40986), (141, 41001), (143, 41106), (148, 41184), (150, 41211), (151, 41220), (155, 41283), (156, 41292), (158, 41304), (159, 41307), (162, 41370), (169, 41493), (171, 41574), (176, 41682), (178, 41715), (179, 41727), (180, 41736), (181, 41745), (183, 41778), (184, 41784),

(188, 41847), (189, 41850), (191, 41880), (192, 41886), (206, 41991),

Gene: Sashimi\_75 Start: 39807, Stop: 42329, Start Num: 48

Candidate Starts for Sashimi\_75:

(26, 39723), (27, 39726), (Start: 48 @39807 has 1 MA's), (54, 39891), (61, 39978), (75, 40110), (80, 40215), (81, 40236), (82, 40239), (89, 40377), (91, 40473), (102, 40620), (110, 40707), (111, 40713), (112, 40719), (119, 40875), (120, 40917), (121, 40920), (127, 41049), (130, 41085), (134, 41136), (135, 41202), (140, 41280), (141, 41295), (143, 41400), (145, 41430), (153, 41550), (154, 41571), (155, 41577), (162, 41664), (171, 41868), (176, 41976), (180, 42030), (182, 42066), (183, 42072), (187, 42102), (189, 42144), (206, 42285),

Gene: Scitech\_50 Start: 33763, Stop: 36387, Start Num: 40

Candidate Starts for Scitech\_50:

(29, 33700), (Start: 40 @33763 has 7 MA's), (42, 33769), (Start: 47 @33778 has 4 MA's), (50, 33790), (51, 33808), (55, 33874), (56, 33877), (57, 33880), (59, 33901), (62, 33964), (63, 33967), (65, 33982), (68, 34021), (69, 34027), (70, 34030), (71, 34042), (73, 34072), (78, 34168), (81, 34213), (84, 34270), (88, 34351), (89, 34354), (92, 34477), (96, 34537), (97, 34540), (103, 34603), (104, 34606), (105, 34615), (108, 34660), (113, 34729), (115, 34792), (116, 34807), (117, 34834), (120, 34894), (121, 34897), (122, 34912), (123, 34939), (126, 34984), (128, 35032), (129, 35059), (130, 35062), (133, 35101), (134, 35113), (138, 35218), (140, 35257), (141, 35272), (143, 35377), (148, 35455), (150, 35482), (151, 35491), (155, 35554), (158, 35575), (159, 35578), (162, 35641), (167, 35767), (168, 35785), (169, 35854), (172, 35944), (176, 36043), (178, 36076), (179, 36088), (180, 36097), (181, 36106), (183, 36139), (184, 36145), (188, 36208), (189, 36211), (191, 36241), (192, 36247), (204, 36325), (206, 36352),

Gene: Seahorse\_83 Start: 44779, Stop: 47307, Start Num: 46

Candidate Starts for Seahorse\_83:

(Start: 43 @44773 has 1 MA's), (Start: 46 @44779 has 18 MA's), (53, 44854), (59, 44905), (60, 44917), (61, 44956), (63, 44971), (75, 45088), (76, 45115), (81, 45214), (83, 45259), (84, 45271), (89, 45355), (91, 45451), (100, 45559), (102, 45598), (103, 45604), (110, 45685), (111, 45691), (119, 45853), (121, 45898), (127, 46027), (129, 46060), (130, 46063), (132, 46072), (134, 46114), (135, 46180), (137, 46195), (140, 46258), (141, 46273), (143, 46378), (153, 46528), (154, 46549), (155, 46555), (162, 46642), (165, 46717), (171, 46846), (174, 46882), (176, 46954), (180, 47008), (182, 47044), (183, 47050), (190, 47143), (206, 47263),

Gene: Shukran\_71 Start: 38159, Stop: 40699, Start Num: 46

Candidate Starts for Shukran\_71:

(Start: 46 @38159 has 18 MA's), (75, 38474), (77, 38546), (89, 38747), (96, 38930), (110, 39077), (120, 39287), (128, 39425), (132, 39464), (134, 39506), (135, 39572), (136, 39578), (140, 39650), (143, 39770), (152, 39899), (154, 39941), (155, 39947), (162, 40034), (170, 40223), (171, 40238), (176, 40346), (179, 40391), (180, 40400), (181, 40409), (189, 40514), (190, 40535), (191, 40544), (193, 40553), (204, 40628),

Gene: SiSi\_65 Start: 41752, Stop: 44313, Start Num: 34

Candidate Starts for SiSi\_65:

(Start: 34 @41752 has 1 MA's), (36, 41764), (Start: 38 @41770 has 2 MA's), (51, 41824), (55, 41890), (57, 41896), (58, 41914), (59, 41917), (62, 41980), (63, 41983), (64, 41989), (65, 41998), (69, 42043), (70, 42046), (71, 42058), (73, 42088), (81, 42229), (84, 42286), (88, 42367), (89, 42370), (90, 42388), (92, 42493), (96, 42553), (103, 42619), (104, 42622), (105, 42631), (109, 42688), (116, 42823), (117, 42850), (118, 42862), (120, 42910), (121, 42913), (122, 42928), (126, 43000), (129, 43075), (130, 43078), (133, 43117), (134, 43129), (138, 43234), (139, 43255), (140, 43273), (141, 43288), (143, 43393), (148, 43471), (150, 43498), (151, 43507), (155, 43570), (156, 43579), (158, 43591), (159, 43594), (162, 43657), (169, 43780), (171, 43861), (176, 43969), (178, 44002), (179, 44014), (180,

44023), (181, 44032), (183, 44065), (184, 44071), (188, 44134), (189, 44137), (191, 44167), (192, 44173), (206, 44278),

Gene: SilverChicken\_79 Start: 43476, Stop: 46010, Start Num: 42

Candidate Starts for SilverChicken\_79:

(42, 43476), (Start: 47 @43488 has 4 MA's), (51, 43521), (55, 43587), (57, 43593), (58, 43611), (59, 43614), (62, 43677), (63, 43680), (65, 43695), (66, 43701), (68, 43734), (69, 43740), (70, 43743), (71, 43755), (73, 43785), (81, 43926), (84, 43983), (87, 44037), (89, 44067), (92, 44190), (96, 44250), (103, 44316), (104, 44319), (105, 44328), (113, 44442), (115, 44505), (116, 44520), (117, 44547), (120, 44607), (121, 44610), (122, 44625), (128, 44745), (129, 44772), (130, 44775), (133, 44814), (134, 44826), (138, 44931), (139, 44952), (140, 44970), (143, 45090), (148, 45168), (155, 45267), (156, 45276), (158, 45288), (159, 45291), (162, 45354), (169, 45477), (176, 45666), (178, 45699), (179, 45711), (180, 45720), (181, 45729), (183, 45762), (184, 45768), (185, 45777), (188, 45831), (189, 45834), (191, 45864), (192, 45870), (206, 45975),

Gene: Sparky\_66 Start: 45788, Stop: 48307, Start Num: 47

Candidate Starts for Sparky\_66:

(2, 45374), (7, 45458), (12, 45518), (24, 45686), (Start: 40 @45767 has 7 MA's), (42, 45776), (Start: 47 @45788 has 4 MA's), (50, 45800), (51, 45818), (55, 45884), (56, 45887), (57, 45890), (59, 45911), (62, 45974), (63, 45977), (65, 45992), (68, 46031), (69, 46037), (70, 46040), (71, 46052), (73, 46082), (81, 46223), (84, 46280), (89, 46364), (91, 46460), (92, 46487), (96, 46547), (103, 46613), (104, 46616), (105, 46625), (113, 46739), (115, 46802), (116, 46817), (117, 46844), (120, 46904), (121, 46907), (122, 46922), (126, 46994), (128, 47042), (129, 47069), (130, 47072), (133, 47111), (134, 47123), (139, 47249), (140, 47267), (143, 47387), (148, 47465), (155, 47564), (156, 47573), (158, 47585), (159, 47588), (162, 47651), (169, 47774), (176, 47963), (178, 47996), (179, 48008), (180, 48017), (181, 48026), (183, 48059), (184, 48065), (185, 48074), (188, 48128), (189, 48131), (191, 48161), (192, 48167), (204, 48245), (206, 48272),

Gene: Spartacus\_70 Start: 43606, Stop: 46155, Start Num: 38

Candidate Starts for Spartacus\_70:

(3, 43234), (5, 43243), (11, 43336), (14, 43393), (22, 43495), (31, 43561), (Start: 38 @43606 has 2 MA's), (51, 43666), (55, 43732), (59, 43759), (61, 43810), (62, 43822), (63, 43825), (64, 43831), (65, 43840), (69, 43885), (70, 43888), (71, 43900), (73, 43930), (78, 44026), (81, 44071), (84, 44128), (88, 44209), (89, 44212), (91, 44308), (92, 44335), (96, 44395), (103, 44461), (104, 44464), (105, 44473), (113, 44587), (115, 44650), (116, 44665), (117, 44692), (120, 44752), (121, 44755), (122, 44770), (126, 44842), (128, 44890), (129, 44917), (130, 44920), (131, 44926), (133, 44959), (134, 44971), (140, 45115), (141, 45130), (143, 45235), (148, 45313), (155, 45412), (156, 45421), (158, 45433), (159, 45436), (162, 45499), (169, 45622), (176, 45811), (178, 45844), (179, 45856), (180, 45865), (181, 45874), (183, 45907), (184, 45913), (185, 45922), (188, 45976), (189, 45979), (191, 46009), (192, 46015), (206, 46120),

Gene: SpicyFrank\_77 Start: 39506, Stop: 42046, Start Num: 46

Candidate Starts for SpicyFrank\_77:

(Start: 46 @39506 has 18 MA's), (50, 39518), (61, 39680), (75, 39812), (76, 39839), (81, 39938), (84, 39995), (89, 40079), (91, 40175), (100, 40283), (102, 40322), (110, 40409), (125, 40691), (127, 40766), (129, 40799), (130, 40802), (133, 40841), (134, 40853), (135, 40919), (137, 40934), (140, 40997), (141, 41012), (143, 41117), (145, 41147), (146, 41150), (149, 41207), (153, 41267), (154, 41288), (155, 41294), (162, 41381), (165, 41456), (169, 41504), (171, 41585), (173, 41612), (174, 41621), (176, 41693), (180, 41747), (183, 41789), (190, 41882), (206, 42002), (209, 42020),

Gene: Squirry\_68 Start: 43755, Stop: 47360, Start Num: 25

Candidate Starts for Squirry\_68:

(Start: 25 @43755 has 1 MA's), (Start: 37 @43818 has 3 MA's), (51, 43878), (55, 43944), (59, 43971), (61, 44022), (62, 44034), (63, 44037), (64, 44043), (65, 44052), (69, 44097), (70, 44100), (71, 44112), (73, 44142), (78, 44238), (81, 44283), (84, 44340), (88, 44421), (89, 44424), (92, 44547), (96, 44607), (97, 44610), (103, 44673), (104, 44676), (105, 44685), (106, 44697), (113, 44799), (115, 44862), (116, 44877), (117, 44904), (120, 44964), (121, 44967), (122, 44982), (126, 45054), (128, 45102), (129, 45129), (130, 45132), (133, 45171), (134, 45183), (140, 45327), (141, 45342), (143, 45447), (148, 45525), (155, 45624), (156, 45633), (158, 45645), (159, 45648), (162, 45711), (164, 45741), (169, 45834), (175, 45972), (176, 46023), (178, 46056), (179, 46068), (180, 46077), (181, 46086), (183, 46119), (184, 46125), (186, 46149), (196, 46266), (197, 46269), (202, 46302), (203, 46305), (205, 46323), (211, 46425), (212, 46473), (213, 46728), (214, 46761), (216, 46815), (217, 46830), (218, 46881), (219, 46911), (220, 46929), (221, 46935), (222, 47019), (223, 47025), (224, 47073), (225, 47109), (226, 47127), (227, 47181), (228, 47184), (229, 47214), (230, 47220), (232, 47262), (234, 47325),

Gene: Strokeseat\_67 Start: 41440, Stop: 44064, Start Num: 40

Candidate Starts for Strokeseat\_67:

(Start: 40 @41440 has 7 MA's), (42, 41446), (Start: 47 @41455 has 4 MA's), (50, 41467), (51, 41485), (55, 41551), (56, 41554), (57, 41557), (59, 41578), (62, 41641), (63, 41644), (65, 41659), (68, 41698), (69, 41704), (70, 41707), (71, 41719), (73, 41749), (78, 41845), (81, 41890), (84, 41947), (88, 42028), (89, 42031), (92, 42154), (96, 42214), (97, 42217), (103, 42280), (104, 42283), (105, 42292), (108, 42337), (113, 42406), (115, 42469), (116, 42484), (117, 42511), (120, 42571), (121, 42574), (122, 42589), (123, 42616), (126, 42661), (128, 42709), (129, 42736), (130, 42739), (133, 42778), (134, 42790), (138, 42895), (140, 42934), (141, 42949), (143, 43054), (148, 43132), (150, 43159), (151, 43168), (155, 43231), (158, 43252), (159, 43255), (162, 43318), (167, 43444), (168, 43462), (169, 43531), (172, 43621), (176, 43720), (178, 43753), (179, 43765), (180, 43774), (181, 43783), (183, 43816), (184, 43822), (188, 43885), (189, 43888), (191, 43918), (192, 43924), (204, 44002), (206, 44029),

Gene: SuperGrey\_70 Start: 44825, Stop: 47344, Start Num: 44

Candidate Starts for SuperGrey\_70:

(16, 44648), (17, 44654), (19, 44663), (20, 44672), (32, 44768), (Start: 44 @44825 has 35 MA's), (50, 44837), (51, 44855), (55, 44921), (56, 44924), (57, 44927), (59, 44948), (61, 44999), (62, 45011), (63, 45014), (64, 45020), (69, 45074), (70, 45077), (71, 45089), (73, 45119), (78, 45215), (81, 45260), (82, 45263), (84, 45317), (88, 45398), (89, 45401), (92, 45524), (96, 45584), (97, 45587), (103, 45650), (104, 45653), (105, 45662), (113, 45776), (115, 45839), (117, 45881), (120, 45941), (121, 45944), (122, 45959), (123, 45986), (126, 46031), (129, 46106), (130, 46109), (131, 46115), (133, 46148), (134, 46160), (138, 46265), (140, 46304), (141, 46319), (143, 46424), (148, 46502), (150, 46529), (151, 46538), (155, 46601), (158, 46622), (159, 46625), (162, 46688), (164, 46718), (169, 46811), (171, 46892), (176, 47000), (178, 47033), (179, 47045), (180, 47054), (181, 47063), (183, 47096), (184, 47102), (188, 47165), (189, 47168), (191, 47198), (192, 47204), (198, 47240), (206, 47309),

Gene: Tapioca\_56 Start: 36042, Stop: 38666, Start Num: 40

Candidate Starts for Tapioca\_56:

(Start: 40 @36042 has 7 MA's), (42, 36048), (Start: 47 @36057 has 4 MA's), (50, 36069), (51, 36087), (55, 36153), (56, 36156), (57, 36159), (59, 36180), (62, 36243), (63, 36246), (65, 36261), (68, 36300), (69, 36306), (70, 36309), (71, 36321), (73, 36351), (78, 36447), (81, 36492), (84, 36549), (88, 36630), (89, 36633), (92, 36756), (96, 36816), (97, 36819), (103, 36882), (104, 36885), (105, 36894), (108, 36939), (113, 37008), (115, 37071), (117, 37113), (120, 37173), (121, 37176), (122, 37191), (123, 37218), (126, 37263), (128, 37311), (129, 37338), (130, 37341), (133, 37380), (134, 37392), (138, 37497), (140, 37536), (141, 37551), (143, 37656), (148, 37734), (150, 37761), (151, 37770), (155, 37833), (158, 37854), (159, 37857), (162, 37920), (167, 38046), (168, 38064), (169, 38133), (172, 38223), (176, 38322), (178, 38355), (179, 38367), (180, 38376), (181, 38385), (183, 38418), (184, 38424), (188, 38487), (189, 38490), (191, 38520), (192, 38526), (204, 38604), (206, 38631),

Gene: Tchotchke\_65 Start: 42287, Stop: 44806, Start Num: 44

Candidate Starts for Tchotchke\_65:

(Start: 44 @42287 has 35 MA's), (50, 42299), (51, 42317), (55, 42383), (59, 42410), (61, 42461), (62, 42473), (63, 42476), (65, 42491), (66, 42497), (69, 42536), (70, 42539), (71, 42551), (73, 42581), (78, 42677), (81, 42722), (82, 42725), (88, 42860), (89, 42863), (92, 42986), (95, 43040), (96, 43046), (113, 43238), (115, 43301), (117, 43343), (120, 43403), (121, 43406), (122, 43421), (123, 43448), (126, 43493), (128, 43541), (129, 43568), (130, 43571), (133, 43610), (134, 43622), (138, 43727), (140, 43766), (141, 43781), (143, 43886), (148, 43964), (150, 43991), (151, 44000), (155, 44063), (158, 44084), (159, 44087), (162, 44150), (164, 44180), (169, 44273), (171, 44354), (176, 44462), (178, 44495), (179, 44507), (180, 44516), (181, 44525), (183, 44558), (184, 44564), (188, 44627), (189, 44630), (191, 44660), (192, 44666), (198, 44702), (206, 44771),

Gene: ThayneTheZag\_80 Start: 40139, Stop: 42673, Start Num: 46

Candidate Starts for ThayneTheZag\_80:

(6, 39794), (18, 39971), (Start: 46 @40139 has 18 MA's), (50, 40154), (58, 40262), (75, 40451), (76, 40478), (81, 40577), (84, 40634), (89, 40718), (91, 40814), (98, 40910), (99, 40916), (110, 41048), (114, 41108), (120, 41258), (122, 41276), (128, 41396), (129, 41423), (134, 41477), (135, 41543), (140, 41624), (141, 41639), (142, 41645), (143, 41744), (146, 41777), (147, 41807), (149, 41834), (153, 41894), (154, 41915), (155, 41921), (157, 41933), (161, 41987), (162, 42008), (166, 42089), (174, 42248), (176, 42320), (177, 42329), (180, 42374), (182, 42410), (183, 42416), (206, 42629),

Gene: Tiff81\_71 Start: 38408, Stop: 40924, Start Num: 48

Candidate Starts for Tiff81\_71:

(26, 38324), (27, 38327), (Start: 48 @38408 has 1 MA's), (54, 38486), (61, 38573), (67, 38615), (75, 38705), (76, 38732), (79, 38798), (81, 38831), (89, 38972), (91, 39068), (100, 39176), (102, 39215), (110, 39302), (111, 39308), (119, 39470), (121, 39515), (127, 39644), (129, 39677), (130, 39680), (134, 39731), (135, 39797), (137, 39812), (141, 39890), (143, 39995), (153, 40145), (154, 40166), (155, 40172), (162, 40259), (165, 40334), (171, 40463), (174, 40499), (176, 40571), (180, 40625), (182, 40661), (183, 40667), (187, 40697), (190, 40760), (206, 40880),

Gene: Tootsieroll\_68 Start: 42866, Stop: 46408, Start Num: 37

Candidate Starts for Tootsieroll\_68:

(13, 42647), (21, 42755), (30, 42821), (Start: 37 @42866 has 3 MA's), (51, 42926), (55, 42992), (59, 43019), (61, 43070), (62, 43082), (63, 43085), (64, 43091), (65, 43100), (69, 43145), (70, 43148), (71, 43160), (73, 43190), (78, 43286), (81, 43331), (84, 43388), (88, 43469), (89, 43472), (91, 43568), (92, 43595), (96, 43655), (103, 43721), (104, 43724), (105, 43733), (113, 43847), (115, 43910), (116, 43925), (117, 43952), (120, 44012), (121, 44015), (122, 44030), (126, 44102), (128, 44150), (129, 44177), (130, 44180), (131, 44186), (133, 44219), (134, 44231), (140, 44375), (141, 44390), (143, 44495), (148, 44573), (155, 44672), (156, 44681), (158, 44693), (159, 44696), (162, 44759), (169, 44882), (176, 45071), (178, 45104), (179, 45116), (180, 45125), (181, 45134), (183, 45167), (184, 45173), (186, 45197), (196, 45314), (197, 45317), (202, 45350), (203, 45353), (205, 45371), (211, 45473), (212, 45521), (215, 45851), (216, 45863), (217, 45878), (218, 45929), (219, 45959), (220, 45977), (221, 45983), (222, 46067), (223, 46073), (224, 46121), (225, 46157), (226, 46175), (228, 46232), (229, 46262), (230, 46268), (231, 46304), (234, 46373),

Gene: Velveteen\_62 Start: 39507, Stop: 42026, Start Num: 44

Candidate Starts for Velveteen\_62:

(Start: 44 @39507 has 35 MA's), (50, 39519), (55, 39603), (59, 39630), (61, 39681), (62, 39693), (63, 39696), (65, 39711), (66, 39717), (69, 39756), (70, 39759), (71, 39771), (73, 39801), (78, 39897), (81, 39942), (82, 39945), (88, 40080), (89, 40083), (92, 40206), (95, 40260), (96, 40266), (113, 40458), (115, 40521), (116, 40536), (117, 40563), (120, 40623), (121, 40626), (122, 40641), (123, 40668), (124, 40674), (126, 40713), (128, 40761), (129, 40788), (130, 40791), (133, 40830), (134, 40842),

(138, 40947), (140, 40986), (141, 41001), (143, 41106), (148, 41184), (150, 41211), (151, 41220), (155, 41283), (156, 41292), (158, 41304), (159, 41307), (162, 41370), (169, 41493), (171, 41574), (176, 41682), (178, 41715), (179, 41727), (180, 41736), (181, 41745), (183, 41778), (184, 41784), (188, 41847), (189, 41850), (191, 41880), (192, 41886), (206, 41991),

Gene: Veteran\_63 Start: 41151, Stop: 44663, Start Num: 44

Candidate Starts for Veteran\_63:

(16, 40974), (19, 40989), (32, 41094), (Start: 44 @41151 has 35 MA's), (50, 41163), (51, 41181), (55, 41247), (59, 41274), (61, 41325), (62, 41337), (63, 41340), (65, 41355), (66, 41361), (69, 41400), (70, 41403), (71, 41415), (73, 41445), (78, 41541), (81, 41586), (82, 41589), (84, 41643), (88, 41724), (89, 41727), (92, 41850), (96, 41910), (97, 41913), (103, 41976), (104, 41979), (105, 41988), (116, 42180), (117, 42207), (118, 42219), (120, 42267), (121, 42270), (122, 42285), (123, 42312), (124, 42318), (126, 42357), (128, 42405), (129, 42432), (130, 42435), (131, 42441), (133, 42474), (134, 42486), (138, 42591), (140, 42630), (141, 42645), (143, 42750), (148, 42828), (150, 42855), (151, 42864), (155, 42927), (158, 42948), (159, 42951), (162, 43014), (169, 43137), (176, 43326), (178, 43359), (179, 43371), (180, 43380), (181, 43389), (183, 43422), (184, 43428), (186, 43452), (196, 43569), (197, 43572), (202, 43605), (203, 43608), (205, 43626), (211, 43728), (212, 43776), (213, 44031), (214, 44064), (216, 44118), (217, 44133), (218, 44184), (219, 44214), (220, 44232), (221, 44238), (222, 44322), (223, 44328), (224, 44376), (225, 44412), (226, 44430), (227, 44484), (228, 44487), (229, 44517), (230, 44523), (234, 44628),

Gene: Violac\_68 Start: 43287, Stop: 45806, Start Num: 44

Candidate Starts for Violac\_68:

(Start: 44 @43287 has 35 MA's), (50, 43299), (51, 43317), (55, 43383), (56, 43386), (57, 43389), (59, 43410), (61, 43461), (62, 43473), (63, 43476), (65, 43491), (69, 43536), (70, 43539), (71, 43551), (73, 43581), (78, 43677), (84, 43779), (88, 43860), (89, 43863), (92, 43986), (96, 44046), (103, 44112), (104, 44115), (105, 44124), (108, 44169), (113, 44238), (115, 44301), (116, 44316), (117, 44343), (120, 44403), (121, 44406), (122, 44421), (123, 44448), (126, 44493), (128, 44541), (129, 44568), (130, 44571), (133, 44610), (134, 44622), (138, 44727), (140, 44766), (141, 44781), (143, 44886), (148, 44964), (150, 44991), (151, 45000), (155, 45063), (158, 45084), (159, 45087), (162, 45150), (169, 45273), (176, 45462), (178, 45495), (179, 45507), (180, 45516), (181, 45525), (183, 45558), (184, 45564), (188, 45627), (191, 45660), (192, 45666), (198, 45702), (206, 45771),

Gene: Vivum\_69 Start: 43076, Stop: 45595, Start Num: 44

Candidate Starts for Vivum\_69:

(Start: 44 @43076 has 35 MA's), (50, 43088), (51, 43106), (55, 43172), (56, 43175), (57, 43178), (59, 43199), (61, 43250), (62, 43262), (63, 43265), (64, 43271), (69, 43325), (70, 43328), (71, 43340), (73, 43370), (78, 43466), (81, 43511), (82, 43514), (84, 43568), (88, 43649), (89, 43652), (92, 43775), (96, 43835), (97, 43838), (103, 43901), (104, 43904), (105, 43913), (113, 44027), (115, 44090), (117, 44132), (120, 44192), (121, 44195), (122, 44210), (123, 44237), (126, 44282), (128, 44330), (129, 44357), (130, 44360), (131, 44366), (133, 44399), (134, 44411), (140, 44555), (141, 44570), (143, 44675), (148, 44753), (155, 44852), (158, 44873), (159, 44876), (162, 44939), (164, 44969), (169, 45062), (171, 45143), (176, 45251), (178, 45284), (179, 45296), (180, 45305), (181, 45314), (183, 45347), (184, 45353), (188, 45416), (189, 45419), (191, 45449), (192, 45455), (198, 45491), (206, 45560),

Gene: Windest\_78 Start: 38583, Stop: 41111, Start Num: 46

Candidate Starts for Windest\_78:

(Start: 46 @38583 has 18 MA's), (49, 38595), (62, 38769), (63, 38772), (76, 38916), (83, 39060), (89, 39156), (91, 39252), (110, 39486), (123, 39741), (128, 39834), (134, 39915), (135, 39981), (140, 40062), (143, 40182), (154, 40353), (155, 40359), (161, 40425), (162, 40446), (176, 40758), (177, 40767), (180, 40812), (182, 40848), (183, 40854), (187, 40884), (194, 40971), (201, 41022),

Gene: XFactor\_64 Start: 41191, Stop: 43710, Start Num: 44

Candidate Starts for XFactor\_64:

(Start: 44 @41191 has 35 MA's), (50, 41203), (51, 41221), (55, 41287), (56, 41290), (57, 41293), (59, 41314), (62, 41377), (63, 41380), (65, 41395), (69, 41440), (70, 41443), (71, 41455), (73, 41485), (78, 41581), (81, 41626), (84, 41683), (88, 41764), (89, 41767), (92, 41890), (96, 41950), (103, 42016), (104, 42019), (105, 42028), (113, 42142), (115, 42205), (116, 42220), (117, 42247), (120, 42307), (121, 42310), (122, 42325), (123, 42352), (126, 42397), (128, 42445), (129, 42472), (130, 42475), (133, 42514), (134, 42526), (138, 42631), (140, 42670), (141, 42685), (143, 42790), (148, 42868), (150, 42895), (151, 42904), (155, 42967), (158, 42988), (159, 42991), (162, 43054), (169, 43177), (171, 43258), (176, 43366), (178, 43399), (179, 43411), (180, 43420), (181, 43429), (183, 43462), (184, 43468), (188, 43531), (189, 43534), (191, 43564), (192, 43570), (206, 43675),

Gene: YoungHarleezy\_73 Start: 39488, Stop: 42019, Start Num: 46

Candidate Starts for YoungHarleezy\_73:

(Start: 46 @39488 has 18 MA's), (50, 39503), (62, 39677), (63, 39680), (76, 39824), (83, 39968), (89, 40064), (91, 40160), (110, 40394), (123, 40649), (128, 40742), (134, 40823), (135, 40889), (140, 40970), (143, 41090), (147, 41153), (154, 41261), (155, 41267), (161, 41333), (162, 41354), (176, 41666), (177, 41675), (180, 41720), (182, 41756), (183, 41762), (187, 41792), (194, 41879), (201, 41930),

Gene: Zerg\_66 Start: 42035, Stop: 44554, Start Num: 44

Candidate Starts for Zerg\_66:

(Start: 44 @42035 has 35 MA's), (50, 42047), (51, 42065), (55, 42131), (59, 42158), (61, 42209), (62, 42221), (63, 42224), (65, 42239), (66, 42245), (69, 42284), (70, 42287), (71, 42299), (73, 42329), (78, 42425), (81, 42470), (82, 42473), (88, 42608), (89, 42611), (92, 42734), (95, 42788), (96, 42794), (113, 42986), (115, 43049), (116, 43064), (117, 43091), (120, 43151), (121, 43154), (122, 43169), (123, 43196), (124, 43202), (126, 43241), (128, 43289), (129, 43316), (130, 43319), (133, 43358), (134, 43370), (138, 43475), (140, 43514), (141, 43529), (143, 43634), (148, 43712), (150, 43739), (151, 43748), (155, 43811), (156, 43820), (158, 43832), (159, 43835), (162, 43898), (169, 44021), (176, 44210), (178, 44243), (179, 44255), (180, 44264), (181, 44273), (183, 44306), (184, 44312), (188, 44375), (189, 44378), (191, 44408), (192, 44414), (206, 44519),