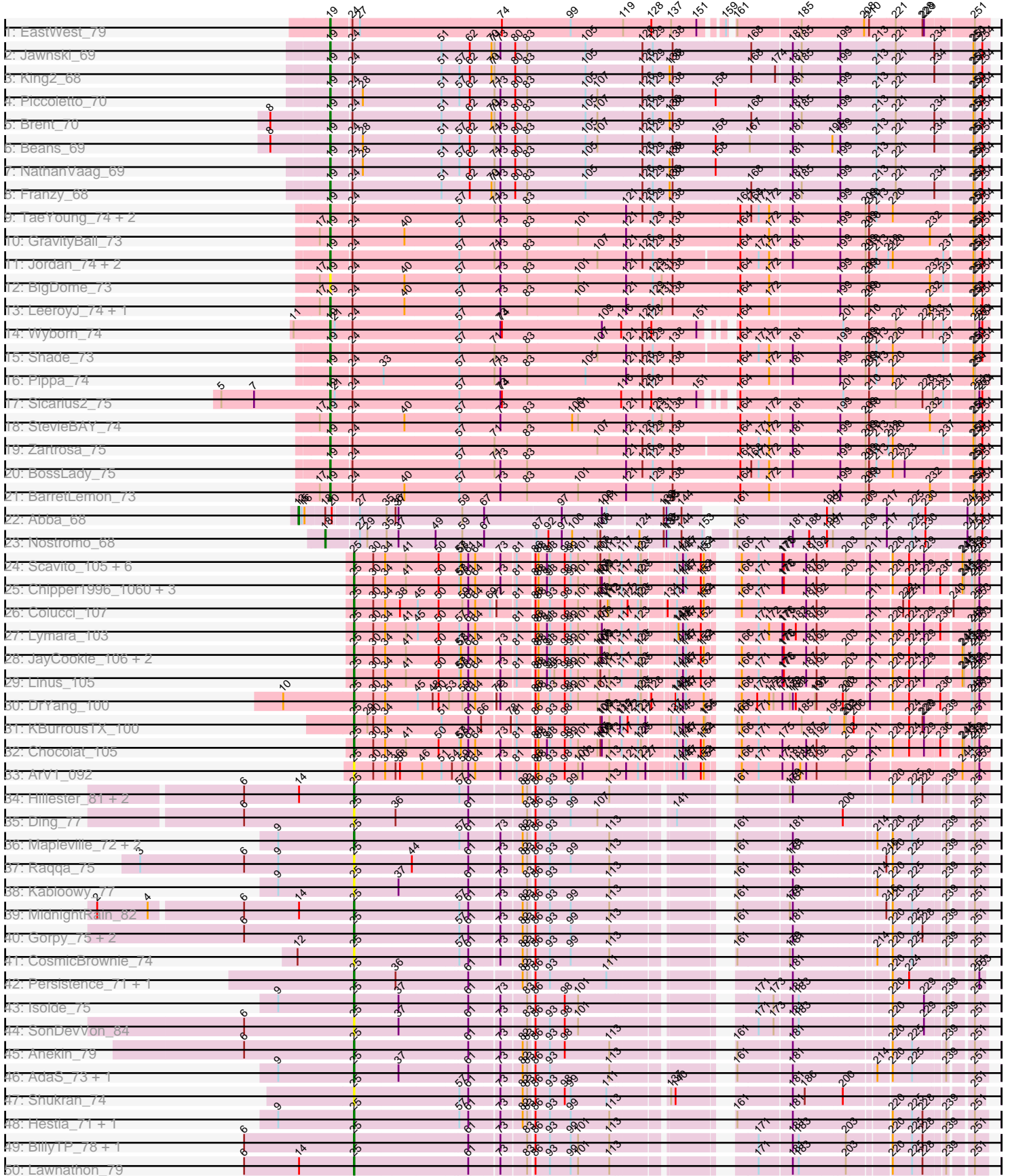


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Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. 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 311370 Report

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

Pham number 311370 has 126 members, 23 are drafts.

Phages represented in each track:

- Track 1 : EastWest\_79
- Track 2 : Jawnski\_69
- Track 3 : King2\_68
- Track 4 : Piccoletto\_70
- Track 5 : Brent\_70
- Track 6 : Beans\_69
- Track 7 : NathanVaag\_69
- Track 8 : Franzy\_68
- Track 9 : TaeYoung\_74, Grekaycon\_74, Martha\_73
- Track 10 : GravityBall\_73
- Track 11 : Jordan\_74, JKerns\_73, Sonny\_73
- Track 12 : BigDome\_73
- Track 13 : LeeroyJ\_74, Timinator\_74
- Track 14 : Wyborn\_74
- Track 15 : Shade\_73
- Track 16 : Pippa\_74
- Track 17 : Sicarius2\_75
- Track 18 : StevieBAY\_74
- Track 19 : Zartrosa\_75
- Track 20 : BossLady\_75
- Track 21 : BarretLemon\_73
- Track 22 : Abba\_68
- Track 23 : Nostromo\_68
- Track 24 : Scavito\_105, PrincessTrina\_105, JaNo\_103, Mordred\_104, HumptyDumpty\_104, Chubster\_104, Kabreeze\_104
- Track 25 : Chipper1996\_1060, Conboy\_104, Tophat\_106, EdgarPoe\_104
- Track 26 : Colucci\_107
- Track 27 : Lymara\_103
- Track 28 : JayCookie\_106, RosiePosie\_105, MoyaNatalis\_105
- Track 29 : Linus\_105
- Track 30 : DrYang\_100
- Track 31 : KBurrousTX\_100
- Track 32 : Chocolat\_105
- Track 33 : ArV1\_092
- Track 34 : Hillester\_81, BasketStar\_77, RadFad\_82
- Track 35 : Ding\_77
- Track 36 : Mapleville\_72, Raphaella\_78, Sporco\_79

- Track 37 : Raqqa\_75
- Track 38 : Kabloowy\_77
- Track 39 : MidnightRain\_82
- Track 40 : Gorpy\_75, MaterMagnus\_77, Sakai\_74
- Track 41 : CosmicBrownie\_74
- Track 42 : Persistence\_71, JakeTheSnake\_80
- Track 43 : Isolde\_75
- Track 44 : SonDevVon\_84
- Track 45 : Anekin\_79
- Track 46 : AdaS\_73, JellyBread\_74
- Track 47 : Shukran\_74
- Track 48 : Hestia\_71, Faja\_80
- Track 49 : BillyTP\_78, Windest\_81
- Track 50 : Lawnathon\_79
- Track 51 : SpicyFrank\_79
- Track 52 : DarwinJr\_81, Crescenzo\_80
- Track 53 : YoungHarleezy\_77, BenchScraper\_77
- Track 54 : Globfish\_77
- Track 55 : ThayneTheZag\_82
- Track 56 : BlueShadow\_75
- Track 57 : LeBruni\_78
- Track 58 : GumGum\_82
- Track 59 : MUWow\_79
- Track 60 : Tiff81\_73
- Track 61 : CookieBear\_76
- Track 62 : MurphyJoseph\_73
- Track 63 : Seahorse\_85
- Track 64 : Richie\_80
- Track 65 : Phrank15\_81
- Track 66 : Nyilah\_80
- Track 67 : EvePickles\_76
- Track 68 : Bhageatrice\_81
- Track 69 : Aikyam\_76
- Track 70 : Lasker\_77
- Track 71 : AbbyDaisy\_80
- Track 72 : Sashimi\_75
- Track 73 : Auxilium\_75
- Track 74 : Satrap\_77
- Track 75 : NewKitty\_79
- Track 76 : Vopal\_79
- Track 77 : Zucker\_74
- Track 78 : Cassini\_74
- Track 79 : BellaJr\_71
- Track 80 : BlackSpider\_66
- Track 81 : Neighly\_49, Larva\_48
- Track 82 : Gengar\_47
- Track 83 : Feyre\_48
- Track 84 : Guillsminger\_48, Paola\_47
- Track 85 : OkiRoe\_47, Leston\_47, Miryou\_50
- Track 86 : Heftyboy\_47, Waterfoul\_48, SoSeph\_47
- Track 87 : Edugator\_46
- Track 88 : Thyatira\_50
- Track 89 : Omnicron\_50

- Track 90 : Bubbykins\_112
- Track 91 : DS6A\_34
- Track 92 : P3MA\_48

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

The start number called the most often in the published annotations is 25, it was called in 61 of the 103 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbyDaisy\_80, AdaS\_73, Aikyam\_76, Anekin\_79, ArV1\_092, Auxilium\_75, BasketStar\_77, BellaJr\_71, BenchScraper\_77, Bhageatrice\_81, BillyTP\_78, BlackSpider\_66, BlueShadow\_75, Bubbykins\_112, Cassini\_74, Chipper1996\_1060, Chocolat\_105, Chubster\_104, Colucci\_107, Conboy\_104, CookieBear\_76, CosmicBrownie\_74, Crescenzo\_80, DarwinJr\_81, Ding\_77, DrYang\_100, EdgarPoe\_104, EvePickles\_76, Faja\_80, Globfish\_77, Gorpy\_75, GumGum\_82, Hestia\_71, Hillester\_81, HumptyDumpty\_104, Isolde\_75, JaNo\_103, JakeTheSnake\_80, JayCookie\_106, JellyBread\_74, KBurrousTX\_100, Kabloowy\_77, Kabreeze\_104, Lasker\_77, Lawnathon\_79, LeBruni\_78, Linus\_105, Lymara\_103, MUWow\_79, Mapleville\_72, MaterMagnus\_77, MidnightRain\_82, Mordred\_104, MoyaNatalis\_105, MurphyJoseph\_73, NewKitty\_79, Nyilah\_80, P3MA\_48, Persistence\_71, Phrank15\_81, PrincessTrina\_105, RadFad\_82, Raphaella\_78, Raqqa\_75, Richie\_80, RosiePosie\_105, Sakai\_74, Sashimi\_75, Satrap\_77, Scavito\_105, Seahorse\_85, Shukran\_74, SonDevVon\_84, SpicyFrank\_79, Sporco\_79, ThayneTheZag\_82, Tiff81\_73, Tophat\_106, Vopal\_79, Windest\_81, YoungHarleezy\_77, Zucker\_74,

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

- DS6A\_34,

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

- Abba\_68, BarretLemon\_73, Beans\_69, BigDome\_73, BossLady\_75, Brent\_70, EastWest\_79, Edugator\_46, Feyre\_48, Franzy\_68, Gengar\_47, GravityBall\_73, Grekaycon\_74, Guillsminger\_48, Heftyboy\_47, JKerns\_73, Jawnski\_69, Jordan\_74, King2\_68, Larva\_48, LeeroyJ\_74, Leston\_47, Martha\_73, Miryou\_50, NathanVaag\_69, Neighly\_49, Nostromo\_68, OkiRoe\_47, Omnicron\_50, Paola\_47, Piccoletto\_70, Pippa\_74, Shade\_73, Sicarius2\_75, SoSeph\_47, Sonny\_73, StevieBAY\_74, TaeYoung\_74, Thyatira\_50, Timinator\_74, Waterfoul\_48, Wyborn\_74, Zartrosa\_75,

**Summary by start number:**

Start 13:

- Found in 1 of 126 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 1 of 103
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abba\_68 (AO3),

Start 18:

- Found in 2 of 126 ( 1.6% ) of genes in pham

- Manual Annotations of this start: 1 of 103
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Nostromo\_68 (AO3),

#### Start 19:

- Found in 26 of 126 ( 20.6% ) of genes in pham
- Manual Annotations of this start: 25 of 103
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BarretLemon\_73 (AO2), Beans\_69 (AO1), BigDome\_73 (AO2), BossLady\_75 (AO2), Brent\_70 (AO1), EastWest\_79 (AO), Franzy\_68 (AO1), GravityBall\_73 (AO2), Grekaycon\_74 (AO2), JKerns\_73 (AO2), Jawnski\_69 (AO1), Jordan\_74 (AO2), King2\_68 (AO1), LeeroyJ\_74 (AO2), Martha\_73 (AO2), NathanVaag\_69 (AO1), Piccoletto\_70 (AO1), Pippa\_74 (AO2), Shade\_73 (AO2), Sicarius2\_75 (AO2), Sonny\_73 (AO2), StevieBAY\_74 (AO2), TaeYoung\_74 (AO2), Timinator\_74 (AO2), Wyborn\_74 (AO2), Zartrosa\_75 (AO2),

#### Start 22:

- Found in 15 of 126 ( 11.9% ) of genes in pham
- Manual Annotations of this start: 12 of 103
- Called 86.7% of time when present
- Phage (with cluster) where this start called: Edugator\_46 (K5), Gengar\_47 (K5), Guillsminger\_48 (K5), Heftyboy\_47 (K5), Larva\_48 (K5), Leston\_47 (K5), Miryou\_50 (K5), Neighly\_49 (K3), OkiRoe\_47 (K5), Omnicron\_50 (K5), Paola\_47 (K5), SoSeph\_47 (K5), Waterfoul\_48 (K5),

#### Start 23:

- Found in 11 of 126 ( 8.7% ) of genes in pham
- Manual Annotations of this start: 2 of 103
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Feyre\_48 (K5), Thyatira\_50 (K5),

#### Start 24:

- Found in 27 of 126 ( 21.4% ) of genes in pham
- Manual Annotations of this start: 1 of 103
- Called 3.7% of time when present
- Phage (with cluster) where this start called: DS6A\_34 (singleton),

#### Start 25:

- Found in 83 of 126 ( 65.9% ) of genes in pham
- Manual Annotations of this start: 61 of 103
- Called 98.8% of time when present
- Phage (with cluster) where this start called: AbbyDaisy\_80 (AY), AdaS\_73 (AY), Aikyam\_76 (AY), Anekin\_79 (AY), ArV1\_092 (AR), Auxilium\_75 (AY), BasketStar\_77 (AY), BellaJr\_71 (FN), BenchScraper\_77 (AY), Bhageatrice\_81 (AY), BillyTP\_78 (AY), BlackSpider\_66 (FN), BlueShadow\_75 (AY), Bubbykins\_112 (UNK), Cassini\_74 (FN), Chipper1996\_1060 (AR), Chocolat\_105 (AR), Chubster\_104 (AR), Colucci\_107 (AR), Conboy\_104 (AR), CookieBear\_76 (AY), CosmicBrownie\_74 (AY), Crescenzo\_80 (AY), DarwinJr\_81 (AY), Ding\_77 (AY), DrYang\_100 (AR), EdgarPoe\_104 (AR), EvePickles\_76 (AY), Faja\_80 (AY), Globfish\_77 (AY), Gorpy\_75 (AY), GumGum\_82 (AY), Hestia\_71 (AY), Hillester\_81 (AY), HumptyDumpty\_104 (AR), Isolde\_75 (AY), JaNo\_103 (AR), JakeTheSnake\_80 (AY), JayCookie\_106 (AR), JellyBread\_74 (AY), KBurrousTX\_100 (AR), Kabloowy\_77 (AY), Kabreeze\_104 (AR), Lasker\_77 (AY), Lawnathon\_79 (AY), LeBruni\_78 (AY), Linus\_105 (AR), Lymara\_103

(AR), MUWow\_79 (AY), Mapleville\_72 (AY), MaterMagnus\_77 (AY), MidnightRain\_82 (AY), Mordred\_104 (AR), MoyaNatalis\_105 (AR), MurphyJoseph\_73 (AY), NewKitty\_79 (AY), Nyilah\_80 (AY), P3MA\_48 (singleton), Persistence\_71 (AY), Phrank15\_81 (AY), PrincessTrina\_105 (AR), RadFad\_82 (AY), Raffaella\_78 (AY), Raqqa\_75 (AY), Richie\_80 (AY), RosiePosie\_105 (AR), Sakai\_74 (AY), Sashimi\_75 (AY), Satrap\_77 (AY), Scavito\_105 (AR), Seahorse\_85 (AY), Shukran\_74 (AY), SonDevVon\_84 (AY), SpicyFrank\_79 (AY), Sporco\_79 (AY), ThayneTheZag\_82 (AY), Tiff81\_73 (AY), Tophat\_106 (AR), Vopal\_79 (AY), Windest\_81 (AY), YoungHarleezy\_77 (AY), Zucker\_74 (FN),

### **Summary by clusters:**

There are 11 clusters represented in this pham: singleton, AO1, AO, K3, AR, AO3, AO2, K5, AY, UNK, FN,

Info for manual annotations of cluster AO:

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

Info for manual annotations of cluster AO1:

- Start number 19 was manually annotated 7 times for cluster AO1.

Info for manual annotations of cluster AO2:

- Start number 19 was manually annotated 17 times for cluster AO2.

Info for manual annotations of cluster AO3:

- Start number 13 was manually annotated 1 time for cluster AO3.
- Start number 18 was manually annotated 1 time for cluster AO3.

Info for manual annotations of cluster AR:

- Start number 25 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster AY:

- Start number 25 was manually annotated 39 times for cluster AY.

Info for manual annotations of cluster FN:

- Start number 25 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster K5:

- Start number 22 was manually annotated 12 times for cluster K5.
- Start number 23 was manually annotated 2 times for cluster K5.

### **Gene Information:**

Gene: Abba\_68 Start: 44124, Stop: 42859, Start Num: 13

Candidate Starts for Abba\_68:

(Start: 13 @44124 has 1 MA's), (15, 44118), (16, 44112), (Start: 18 @44076 has 1 MA's), (20, 44064), (27, 44019), (35, 43965), (36, 43950), (37, 43944), (59, 43815), (67, 43773), (97, 43620), (109, 43539), (111, 43530), (132, 43422), (133, 43416), (135, 43413), (144, 43386), (161, 43344), (194, 43170), (197, 43158), (209, 43092), (217, 43050), (225, 42999), (230, 42975), (247, 42897), (251, 42882),

(254, 42870),

Gene: AbbyDaisy\_80 Start: 44496, Stop: 45578, Start Num: 25

Candidate Starts for AbbyDaisy\_80:

(Start: 25 @44496 has 61 MA's), (36, 44574), (41, 44595), (61, 44712), (73, 44763), (83, 44811), (86, 44820), (93, 44844), (107, 44940), (113, 44964), (114, 44967), (141, 45069), (200, 45342), (203, 45348), (251, 45555),

Gene: AdaS\_73 Start: 40202, Stop: 41284, Start Num: 25

Candidate Starts for AdaS\_73:

(9, 40052), (Start: 25 @40202 has 61 MA's), (37, 40286), (61, 40418), (73, 40469), (82, 40508), (83, 40517), (86, 40526), (93, 40550), (113, 40670), (161, 40850), (181, 40955), (214, 41105), (220, 41129), (225, 41168), (239, 41222), (251, 41261),

Gene: Aikyam\_76 Start: 40908, Stop: 41990, Start Num: 25

Candidate Starts for Aikyam\_76:

(6, 40689), (Start: 25 @40908 has 61 MA's), (61, 41124), (73, 41175), (82, 41214), (83, 41223), (86, 41232), (93, 41256), (98, 41286), (99, 41298), (113, 41376), (161, 41556), (181, 41661), (220, 41835), (225, 41874), (228, 41892), (239, 41928), (251, 41967),

Gene: Anekin\_79 Start: 43480, Stop: 44562, Start Num: 25

Candidate Starts for Anekin\_79:

(6, 43261), (Start: 25 @43480 has 61 MA's), (61, 43696), (73, 43747), (82, 43786), (83, 43795), (86, 43804), (93, 43828), (98, 43858), (113, 43948), (161, 44128), (181, 44233), (220, 44407), (225, 44446), (239, 44500), (251, 44539),

Gene: ArV1\_092 Start: 65759, Stop: 66874, Start Num: 25

Candidate Starts for ArV1\_092:

(Start: 25 @65759 has 61 MA's), (30, 65798), (34, 65819), (36, 65837), (38, 65846), (46, 65888), (51, 65927), (54, 65945), (59, 65963), (61, 65975), (64, 65987), (73, 66029), (81, 66053), (86, 66083), (88, 66089), (93, 66107), (98, 66137), (101, 66164), (103, 66173), (113, 66227), (121, 66254), (123, 66278), (127, 66293), (141, 66341), (145, 66353), (147, 66359), (152, 66389), (154, 66395), (166, 66425), (171, 66458), (175, 66506), (181, 66527), (184, 66542), (187, 66554), (192, 66575), (203, 66626), (211, 66668), (244, 66824), (251, 66848), (253, 66854),

Gene: Auxilium\_75 Start: 40439, Stop: 41521, Start Num: 25

Candidate Starts for Auxilium\_75:

(Start: 25 @40439 has 61 MA's), (57, 40637), (61, 40655), (73, 40706), (82, 40745), (83, 40754), (86, 40763), (93, 40787), (99, 40829), (113, 40907), (161, 41087), (179, 41186), (181, 41192), (216, 41360), (220, 41366), (225, 41405), (239, 41459), (251, 41498),

Gene: BarretLemon\_73 Start: 47845, Stop: 46577, Start Num: 19

Candidate Starts for BarretLemon\_73:

(17, 47863), (Start: 19 @47845 has 25 MA's), (Start: 24 @47806 has 1 MA's), (40, 47701), (57, 47599), (73, 47521), (83, 47467), (101, 47365), (121, 47269), (129, 47215), (138, 47176), (164, 47041), (172, 46984), (199, 46849), (209, 46798), (210, 46792), (232, 46675), (250, 46603), (251, 46600), (254, 46588),

Gene: BasketStar\_77 Start: 43234, Stop: 44316, Start Num: 25

Candidate Starts for BasketStar\_77:

(6, 43015), (14, 43126), (Start: 25 @43234 has 61 MA's), (57, 43432), (61, 43450), (82, 43540), (83, 43549), (86, 43558), (93, 43582), (99, 43624), (113, 43702), (161, 43882), (179, 43981), (181, 43987), (220, 44161), (225, 44200), (228, 44218), (239, 44254), (251, 44293),

Gene: Beans\_69 Start: 47176, Stop: 45905, Start Num: 19

Candidate Starts for Beans\_69:

(8, 47290), (Start: 19 @47176 has 25 MA's), (Start: 24 @47137 has 1 MA's), (28, 47116), (51, 46960), (57, 46930), (62, 46909), (71, 46864), (73, 46852), (80, 46822), (83, 46798), (105, 46681), (107, 46657), (126, 46567), (129, 46546), (138, 46507), (158, 46420), (167, 46354), (181, 46273), (196, 46195), (199, 46180), (213, 46108), (221, 46072), (234, 45997), (250, 45931), (251, 45928), (254, 45916),

Gene: BellaJr\_71 Start: 41562, Stop: 42632, Start Num: 25

Candidate Starts for BellaJr\_71:

(Start: 25 @41562 has 61 MA's), (41, 41661), (53, 41742), (61, 41778), (82, 41868), (83, 41877), (86, 41886), (93, 41910), (107, 42006), (110, 42018), (113, 42030), (121, 42057), (148, 42162), (150, 42171), (171, 42252), (181, 42315), (200, 42408), (215, 42468), (220, 42489), (239, 42576), (251, 42615), (253, 42621),

Gene: BenchScraper\_77 Start: 41613, Stop: 42695, Start Num: 25

Candidate Starts for BenchScraper\_77:

(9, 41463), (Start: 25 @41613 has 61 MA's), (37, 41697), (61, 41829), (73, 41880), (83, 41928), (86, 41937), (93, 41961), (98, 41991), (171, 42303), (173, 42333), (181, 42366), (183, 42378), (220, 42540), (229, 42600), (239, 42633), (251, 42672),

Gene: Bhageatrice\_81 Start: 45280, Stop: 46362, Start Num: 25

Candidate Starts for Bhageatrice\_81:

(Start: 25 @45280 has 61 MA's), (57, 45478), (61, 45496), (73, 45547), (82, 45586), (83, 45595), (86, 45604), (93, 45628), (99, 45670), (113, 45748), (161, 45928), (179, 46027), (181, 46033), (220, 46207), (225, 46246), (239, 46300), (251, 46339),

Gene: BigDome\_73 Start: 48020, Stop: 46752, Start Num: 19

Candidate Starts for BigDome\_73:

(17, 48038), (Start: 19 @48020 has 25 MA's), (Start: 24 @47981 has 1 MA's), (40, 47876), (57, 47774), (73, 47696), (83, 47642), (101, 47540), (121, 47444), (129, 47390), (131, 47372), (138, 47351), (164, 47216), (172, 47159), (199, 47024), (209, 46973), (210, 46967), (232, 46850), (237, 46826), (250, 46778), (251, 46775), (254, 46763),

Gene: BillyTP\_78 Start: 43432, Stop: 44514, Start Num: 25

Candidate Starts for BillyTP\_78:

(6, 43213), (Start: 25 @43432 has 61 MA's), (61, 43648), (73, 43699), (83, 43747), (86, 43756), (93, 43780), (99, 43822), (101, 43837), (113, 43900), (171, 44122), (181, 44185), (183, 44197), (203, 44284), (220, 44359), (225, 44398), (228, 44416), (239, 44452), (251, 44491),

Gene: BlackSpider\_66 Start: 39998, Stop: 41080, Start Num: 25

Candidate Starts for BlackSpider\_66:

(6, 39779), (Start: 25 @39998 has 61 MA's), (61, 40214), (73, 40265), (83, 40313), (86, 40322), (93, 40346), (101, 40403), (113, 40466), (139, 40565), (171, 40688), (179, 40745), (181, 40751), (183, 40763), (220, 40925), (225, 40964), (228, 40982), (239, 41018), (251, 41057), (253, 41063),

Gene: BlueShadow\_75 Start: 42756, Stop: 43838, Start Num: 25

Candidate Starts for BlueShadow\_75:

(1, 42078), (6, 42537), (Start: 25 @42756 has 61 MA's), (57, 42954), (61, 42972), (73, 43023), (83, 43071), (86, 43080), (93, 43104), (113, 43224), (161, 43404), (181, 43509), (220, 43683), (229, 43743), (239, 43776), (251, 43815),

Gene: BossLady\_75 Start: 48370, Stop: 47105, Start Num: 19

Candidate Starts for BossLady\_75:

(Start: 19 @48370 has 25 MA's), (Start: 24 @48334 has 1 MA's), (57, 48127), (71, 48061), (73, 48049), (83, 47995), (121, 47797), (126, 47764), (129, 47743), (138, 47704), (164, 47569), (168, 47548), (171, 47533), (172, 47512), (181, 47470), (199, 47377), (209, 47326), (210, 47320), (213, 47305), (220, 47275), (223, 47251), (250, 47131), (251, 47128), (254, 47116),

Gene: Brent\_70 Start: 47353, Stop: 46082, Start Num: 19

Candidate Starts for Brent\_70:

(8, 47467), (Start: 19 @47353 has 25 MA's), (Start: 24 @47314 has 1 MA's), (51, 47137), (62, 47086), (70, 47044), (71, 47041), (73, 47029), (80, 46999), (83, 46975), (105, 46858), (107, 46834), (126, 46744), (129, 46723), (136, 46690), (138, 46684), (168, 46528), (181, 46450), (185, 46432), (199, 46357), (213, 46285), (221, 46249), (234, 46174), (250, 46108), (251, 46105), (254, 46093),

Gene: Bubbykins\_112 Start: 65103, Stop: 66218, Start Num: 25

Candidate Starts for Bubbykins\_112:

(Start: 25 @65103 has 61 MA's), (31, 65145), (34, 65163), (37, 65187), (51, 65271), (53, 65283), (59, 65307), (65, 65334), (73, 65373), (74, 65376), (78, 65394), (86, 65430), (89, 65439), (93, 65454), (99, 65496), (102, 65517), (107, 65550), (109, 65559), (113, 65574), (123, 65625), (130, 65664), (137, 65673), (141, 65685), (154, 65739), (166, 65769), (171, 65802), (172, 65823), (173, 65832), (178, 65862), (185, 65883), (194, 65931), (211, 66006), (218, 66042), (220, 66045), (223, 66069), (228, 66102), (238, 66138), (254, 66201),

Gene: Cassini\_74 Start: 42425, Stop: 43507, Start Num: 25

Candidate Starts for Cassini\_74:

(6, 42206), (14, 42317), (Start: 25 @42425 has 61 MA's), (61, 42641), (73, 42692), (82, 42731), (83, 42740), (86, 42749), (93, 42773), (101, 42830), (113, 42893), (126, 42953), (161, 43073), (181, 43178), (183, 43190), (220, 43352), (225, 43391), (228, 43409), (239, 43445), (251, 43484),

Gene: Chipper1996\_1060 Start: 66517, Stop: 67632, Start Num: 25

Candidate Starts for Chipper1996\_1060:

(Start: 25 @66517 has 61 MA's), (30, 66556), (34, 66577), (41, 66616), (50, 66679), (57, 66715), (58, 66718), (61, 66733), (64, 66745), (73, 66787), (81, 66811), (86, 66841), (88, 66847), (91, 66862), (93, 66865), (98, 66895), (99, 66907), (101, 66922), (107, 66961), (108, 66967), (109, 66970), (113, 66985), (117, 67006), (123, 67036), (125, 67042), (141, 67099), (145, 67111), (147, 67117), (152, 67147), (154, 67153), (166, 67183), (171, 67216), (175, 67264), (176, 67267), (187, 67312), (192, 67333), (203, 67384), (211, 67426), (220, 67462), (224, 67495), (229, 67522), (236, 67549), (244, 67582), (245, 67585), (249, 67600), (251, 67606), (253, 67612),

Gene: Chocolat\_105 Start: 66228, Stop: 67343, Start Num: 25

Candidate Starts for Chocolat\_105:

(Start: 25 @66228 has 61 MA's), (30, 66267), (34, 66288), (41, 66327), (50, 66390), (57, 66426), (58, 66429), (61, 66444), (64, 66456), (73, 66498), (81, 66522), (86, 66552), (88, 66558), (91, 66573), (93, 66576), (98, 66606), (99, 66618), (101, 66633), (107, 66672), (108, 66678), (109, 66681), (113, 66696), (117, 66717), (123, 66747), (125, 66753), (141, 66810), (145, 66822), (147, 66828), (152, 66858), (154, 66864), (166, 66894), (171, 66927), (175, 66975), (187, 67023), (192, 67044), (203, 67095), (211, 67137), (220, 67173), (224, 67206), (229, 67233), (236, 67260), (244, 67293), (245, 67296), (249, 67311), (251, 67317), (253, 67323),

Gene: Chubster\_104 Start: 66213, Stop: 67328, Start Num: 25

Candidate Starts for Chubster\_104:

(Start: 25 @66213 has 61 MA's), (30, 66252), (34, 66273), (41, 66312), (50, 66375), (57, 66411), (58, 66414), (61, 66429), (64, 66441), (73, 66483), (81, 66507), (86, 66537), (88, 66543), (91, 66558), (93,

66561), (98, 66591), (99, 66603), (101, 66618), (107, 66657), (108, 66663), (113, 66681), (117, 66702), (123, 66732), (125, 66738), (141, 66795), (145, 66807), (147, 66813), (152, 66843), (154, 66849), (166, 66879), (171, 66912), (175, 66960), (176, 66963), (187, 67008), (192, 67029), (203, 67080), (211, 67122), (220, 67158), (224, 67191), (229, 67218), (244, 67278), (245, 67281), (249, 67296), (251, 67302), (253, 67308),

Gene: Colucci\_107 Start: 66656, Stop: 67771, Start Num: 25

Candidate Starts for Colucci\_107:

(Start: 25 @66656 has 61 MA's), (30, 66695), (34, 66716), (38, 66743), (45, 66776), (50, 66818), (59, 66860), (61, 66872), (64, 66884), (69, 66914), (72, 66920), (81, 66950), (86, 66980), (88, 66986), (93, 67004), (98, 67034), (101, 67061), (107, 67100), (108, 67106), (112, 67121), (113, 67124), (117, 67145), (122, 67154), (123, 67175), (125, 67181), (134, 67223), (141, 67238), (152, 67286), (154, 67292), (166, 67322), (171, 67355), (187, 67451), (192, 67472), (211, 67565), (222, 67622), (224, 67634), (240, 67703), (251, 67745), (253, 67751),

Gene: Conboy\_104 Start: 66050, Stop: 67165, Start Num: 25

Candidate Starts for Conboy\_104:

(Start: 25 @66050 has 61 MA's), (30, 66089), (34, 66110), (41, 66149), (50, 66212), (57, 66248), (58, 66251), (61, 66266), (64, 66278), (73, 66320), (81, 66344), (86, 66374), (88, 66380), (91, 66395), (93, 66398), (98, 66428), (99, 66440), (101, 66455), (107, 66494), (108, 66500), (109, 66503), (113, 66518), (117, 66539), (123, 66569), (125, 66575), (141, 66632), (145, 66644), (147, 66650), (152, 66680), (154, 66686), (166, 66716), (171, 66749), (175, 66797), (176, 66800), (187, 66845), (192, 66866), (203, 66917), (211, 66959), (220, 66995), (224, 67028), (229, 67055), (236, 67082), (244, 67115), (245, 67118), (249, 67133), (251, 67139), (253, 67145),

Gene: CookieBear\_76 Start: 42087, Stop: 43169, Start Num: 25

Candidate Starts for CookieBear\_76:

(9, 41937), (Start: 25 @42087 has 61 MA's), (37, 42171), (61, 42303), (73, 42354), (83, 42402), (86, 42411), (93, 42435), (98, 42465), (101, 42492), (171, 42777), (173, 42807), (181, 42840), (183, 42852), (220, 43014), (229, 43074), (239, 43107), (251, 43146),

Gene: CosmicBrownie\_74 Start: 41470, Stop: 42552, Start Num: 25

Candidate Starts for CosmicBrownie\_74:

(12, 41359), (Start: 25 @41470 has 61 MA's), (57, 41668), (61, 41686), (73, 41737), (82, 41776), (83, 41785), (86, 41794), (93, 41818), (99, 41860), (113, 41938), (161, 42118), (179, 42217), (181, 42223), (214, 42373), (220, 42397), (225, 42436), (239, 42490), (251, 42529),

Gene: Crescenzo\_80 Start: 44870, Stop: 45952, Start Num: 25

Candidate Starts for Crescenzo\_80:

(6, 44651), (14, 44762), (Start: 25 @44870 has 61 MA's), (57, 45068), (61, 45086), (73, 45137), (82, 45176), (83, 45185), (86, 45194), (93, 45218), (99, 45260), (113, 45338), (161, 45518), (179, 45617), (181, 45623), (216, 45791), (220, 45797), (225, 45836), (239, 45890), (251, 45929),

Gene: DS6A\_34 Start: 28680, Stop: 29831, Start Num: 24

Candidate Starts for DS6A\_34:

(Start: 24 @28680 has 1 MA's), (Start: 25 @28683 has 61 MA's), (30, 28722), (32, 28731), (33, 28740), (34, 28743), (37, 28767), (38, 28770), (40, 28779), (42, 28785), (43, 28788), (48, 28833), (51, 28851), (53, 28866), (59, 28890), (62, 28905), (66, 28926), (68, 28938), (69, 28944), (77, 28974), (78, 28977), (86, 29013), (98, 29067), (101, 29094), (103, 29103), (104, 29106), (107, 29133), (111, 29151), (115, 29175), (120, 29181), (121, 29184), (123, 29208), (125, 29214), (141, 29271), (143, 29277), (149, 29301), (156, 29337), (165, 29355), (168, 29376), (169, 29379), (170, 29388), (172, 29412), (173, 29421), (178, 29445), (180, 29451), (189, 29490), (191, 29499), (195, 29526), (204, 29559), (220, 29631), (226, 29673), (231, 29700), (238, 29727), (246, 29760), (252, 29781), (255, 29802), (256,

29808), (257, 29826),

Gene: DarwinJr\_81 Start: 44825, Stop: 45907, Start Num: 25

Candidate Starts for DarwinJr\_81:

(6, 44606), (14, 44717), (Start: 25 @44825 has 61 MA's), (57, 45023), (61, 45041), (73, 45092), (82, 45131), (83, 45140), (86, 45149), (93, 45173), (99, 45215), (113, 45293), (161, 45473), (179, 45572), (181, 45578), (216, 45746), (220, 45752), (225, 45791), (239, 45845), (251, 45884),

Gene: Ding\_77 Start: 42621, Stop: 43703, Start Num: 25

Candidate Starts for Ding\_77:

(6, 42402), (Start: 25 @42621 has 61 MA's), (36, 42699), (61, 42837), (83, 42936), (86, 42945), (93, 42969), (99, 43011), (107, 43065), (141, 43194), (200, 43467), (251, 43680),

Gene: DrYang\_100 Start: 65833, Stop: 66951, Start Num: 25

Candidate Starts for DrYang\_100:

(10, 65695), (Start: 25 @65833 has 61 MA's), (30, 65872), (34, 65893), (45, 65956), (48, 65986), (50, 65998), (53, 66016), (59, 66040), (61, 66052), (64, 66064), (72, 66100), (73, 66106), (86, 66160), (88, 66166), (93, 66184), (98, 66214), (99, 66226), (101, 66241), (107, 66280), (113, 66304), (123, 66355), (125, 66361), (128, 66376), (140, 66415), (141, 66418), (145, 66430), (147, 66436), (154, 66472), (166, 66502), (170, 66532), (172, 66556), (173, 66565), (175, 66583), (179, 66598), (181, 66604), (182, 66610), (191, 66649), (192, 66652), (200, 66697), (203, 66703), (211, 66745), (220, 66781), (224, 66814), (236, 66868), (249, 66919), (251, 66925), (253, 66931),

Gene: EastWest\_79 Start: 47327, Stop: 46092, Start Num: 19

Candidate Starts for EastWest\_79:

(Start: 19 @47327 has 25 MA's), (Start: 24 @47291 has 1 MA's), (27, 47276), (74, 46997), (99, 46859), (119, 46754), (128, 46697), (137, 46658), (151, 46607), (159, 46571), (161, 46565), (185, 46442), (208, 46319), (210, 46310), (221, 46259), (228, 46208), (229, 46205), (251, 46115),

Gene: EdgarPoe\_104 Start: 66130, Stop: 67245, Start Num: 25

Candidate Starts for EdgarPoe\_104:

(Start: 25 @66130 has 61 MA's), (30, 66169), (34, 66190), (41, 66229), (50, 66292), (57, 66328), (58, 66331), (61, 66346), (64, 66358), (73, 66400), (81, 66424), (86, 66454), (88, 66460), (91, 66475), (93, 66478), (98, 66508), (99, 66520), (101, 66535), (107, 66574), (108, 66580), (109, 66583), (113, 66598), (117, 66619), (123, 66649), (125, 66655), (141, 66712), (145, 66724), (147, 66730), (152, 66760), (154, 66766), (166, 66796), (171, 66829), (175, 66877), (176, 66880), (187, 66925), (192, 66946), (203, 66997), (211, 67039), (220, 67075), (224, 67108), (229, 67135), (236, 67162), (244, 67195), (245, 67198), (249, 67213), (251, 67219), (253, 67225),

Gene: Edugator\_46 Start: 37339, Stop: 38523, Start Num: 22

Candidate Starts for Edugator\_46:

(Start: 22 @37339 has 12 MA's), (26, 37354), (29, 37375), (33, 37408), (38, 37438), (39, 37444), (47, 37486), (51, 37519), (55, 37543), (56, 37549), (60, 37561), (76, 37642), (83, 37675), (84, 37681), (96, 37729), (108, 37813), (109, 37816), (111, 37825), (116, 37855), (118, 37858), (139, 37957), (146, 37978), (154, 38017), (162, 38068), (163, 38071), (177, 38164), (190, 38215), (193, 38236), (198, 38263), (204, 38281), (216, 38353), (218, 38356), (224, 38392), (226, 38401), (230, 38425), (237, 38455), (241, 38473), (243, 38482), (245, 38488),

Gene: EvePickles\_76 Start: 43345, Stop: 44427, Start Num: 25

Candidate Starts for EvePickles\_76:

(6, 43126), (14, 43237), (Start: 25 @43345 has 61 MA's), (40, 43441), (61, 43561), (73, 43612), (83, 43660), (86, 43669), (93, 43693), (98, 43723), (99, 43735), (101, 43750), (171, 44035), (181, 44098), (203, 44197), (220, 44272), (251, 44404),

Gene: Faja\_80 Start: 44129, Stop: 45211, Start Num: 25

Candidate Starts for Faja\_80:

(9, 43979), (Start: 25 @44129 has 61 MA's), (57, 44327), (61, 44345), (73, 44396), (82, 44435), (83, 44444), (86, 44453), (93, 44477), (99, 44519), (113, 44597), (161, 44777), (181, 44882), (220, 45056), (225, 45095), (228, 45113), (239, 45149), (251, 45188),

Gene: Feyre\_48 Start: 38212, Stop: 39339, Start Num: 23

Candidate Starts for Feyre\_48:

(Start: 22 @38209 has 12 MA's), (Start: 23 @38212 has 2 MA's), (36, 38299), (37, 38305), (42, 38323), (49, 38377), (53, 38404), (63, 38449), (79, 38521), (88, 38569), (94, 38596), (98, 38620), (108, 38692), (109, 38695), (111, 38704), (127, 38779), (154, 38875), (163, 38905), (165, 38908), (171, 38944), (193, 39067), (198, 39094), (199, 39097), (207, 39124), (211, 39136), (214, 39151), (216, 39169), (218, 39172), (222, 39196), (227, 39229), (231, 39247), (242, 39295), (245, 39304),

Gene: Franzy\_68 Start: 47435, Stop: 46164, Start Num: 19

Candidate Starts for Franzy\_68:

(Start: 19 @47435 has 25 MA's), (Start: 24 @47396 has 1 MA's), (51, 47219), (62, 47168), (70, 47126), (71, 47123), (73, 47111), (80, 47081), (83, 47057), (105, 46940), (126, 46826), (129, 46805), (136, 46772), (138, 46766), (168, 46610), (181, 46532), (185, 46514), (199, 46439), (213, 46367), (221, 46331), (234, 46256), (250, 46190), (251, 46187), (254, 46175),

Gene: Gengar\_47 Start: 36820, Stop: 37950, Start Num: 22

Candidate Starts for Gengar\_47:

(Start: 22 @36820 has 12 MA's), (Start: 23 @36823 has 2 MA's), (36, 36910), (37, 36916), (42, 36934), (49, 36988), (63, 37060), (79, 37132), (88, 37180), (94, 37207), (98, 37231), (108, 37303), (109, 37306), (111, 37315), (127, 37390), (154, 37486), (163, 37516), (165, 37519), (171, 37555), (193, 37678), (198, 37705), (199, 37708), (205, 37714), (207, 37735), (211, 37747), (214, 37762), (227, 37840), (231, 37858), (242, 37906), (245, 37915),

Gene: Globfish\_77 Start: 41812, Stop: 42894, Start Num: 25

Candidate Starts for Globfish\_77:

(6, 41593), (14, 41704), (Start: 25 @41812 has 61 MA's), (61, 42028), (73, 42079), (82, 42118), (83, 42127), (86, 42136), (93, 42160), (99, 42202), (101, 42217), (113, 42280), (181, 42565), (220, 42739), (225, 42778), (239, 42832), (250, 42868), (251, 42871), (253, 42877),

Gene: Gorpy\_75 Start: 43328, Stop: 44410, Start Num: 25

Candidate Starts for Gorpy\_75:

(6, 43109), (Start: 25 @43328 has 61 MA's), (57, 43526), (61, 43544), (73, 43595), (82, 43634), (83, 43643), (86, 43652), (93, 43676), (99, 43718), (113, 43796), (161, 43976), (181, 44081), (220, 44255), (225, 44294), (228, 44312), (239, 44348), (251, 44387),

Gene: GravityBall\_73 Start: 48036, Stop: 46768, Start Num: 19

Candidate Starts for GravityBall\_73:

(17, 48054), (Start: 19 @48036 has 25 MA's), (Start: 24 @47997 has 1 MA's), (40, 47892), (57, 47790), (73, 47712), (83, 47658), (101, 47556), (121, 47460), (129, 47406), (138, 47367), (164, 47232), (172, 47175), (181, 47133), (199, 47040), (209, 46989), (210, 46983), (232, 46866), (250, 46794), (251, 46791), (254, 46779),

Gene: Grekaycon\_74 Start: 48283, Stop: 47018, Start Num: 19

Candidate Starts for Grekaycon\_74:

(Start: 19 @48283 has 25 MA's), (Start: 24 @48247 has 1 MA's), (57, 48040), (71, 47974), (73, 47962), (83, 47908), (121, 47710), (126, 47677), (129, 47656), (138, 47617), (164, 47482), (168, 47461), (171,

47446), (172, 47425), (181, 47383), (199, 47290), (209, 47239), (210, 47233), (213, 47218), (220, 47188), (250, 47044), (251, 47041), (254, 47029),

Gene: Guillsminger\_48 Start: 36791, Stop: 37921, Start Num: 22

Candidate Starts for Guillsminger\_48:

(Start: 22 @36791 has 12 MA's), (Start: 23 @36794 has 2 MA's), (36, 36881), (37, 36887), (42, 36905), (49, 36959), (63, 37031), (79, 37103), (88, 37151), (94, 37178), (98, 37202), (108, 37274), (109, 37277), (111, 37286), (127, 37361), (154, 37457), (163, 37487), (165, 37490), (171, 37526), (193, 37649), (198, 37676), (199, 37679), (205, 37685), (207, 37706), (211, 37718), (214, 37733), (218, 37754), (222, 37778), (227, 37811), (231, 37829), (242, 37877), (245, 37886),

Gene: GumGum\_82 Start: 43271, Stop: 44353, Start Num: 25

Candidate Starts for GumGum\_82:

(6, 43052), (Start: 25 @43271 has 61 MA's), (57, 43469), (61, 43487), (82, 43577), (83, 43586), (86, 43595), (93, 43619), (113, 43739), (161, 43919), (181, 44024), (220, 44198), (225, 44237), (239, 44291), (251, 44330),

Gene: Heftyboy\_47 Start: 36966, Stop: 38096, Start Num: 22

Candidate Starts for Heftyboy\_47:

(Start: 22 @36966 has 12 MA's), (Start: 23 @36969 has 2 MA's), (36, 37056), (37, 37062), (42, 37080), (49, 37134), (53, 37161), (63, 37206), (79, 37278), (88, 37326), (94, 37353), (98, 37377), (108, 37449), (109, 37452), (111, 37461), (127, 37536), (154, 37632), (163, 37662), (165, 37665), (171, 37701), (193, 37824), (198, 37851), (199, 37854), (207, 37881), (211, 37893), (214, 37908), (216, 37926), (218, 37929), (222, 37953), (227, 37986), (231, 38004), (242, 38052), (245, 38061),

Gene: Hestia\_71 Start: 40352, Stop: 41434, Start Num: 25

Candidate Starts for Hestia\_71:

(9, 40202), (Start: 25 @40352 has 61 MA's), (57, 40550), (61, 40568), (73, 40619), (82, 40658), (83, 40667), (86, 40676), (93, 40700), (99, 40742), (113, 40820), (161, 41000), (181, 41105), (220, 41279), (225, 41318), (228, 41336), (239, 41372), (251, 41411),

Gene: Hillester\_81 Start: 43361, Stop: 44443, Start Num: 25

Candidate Starts for Hillester\_81:

(6, 43142), (14, 43253), (Start: 25 @43361 has 61 MA's), (57, 43559), (61, 43577), (82, 43667), (83, 43676), (86, 43685), (93, 43709), (99, 43751), (113, 43829), (161, 44009), (179, 44108), (181, 44114), (220, 44288), (225, 44327), (228, 44345), (239, 44381), (251, 44420),

Gene: HumptyDumpty\_104 Start: 65933, Stop: 67048, Start Num: 25

Candidate Starts for HumptyDumpty\_104:

(Start: 25 @65933 has 61 MA's), (30, 65972), (34, 65993), (41, 66032), (50, 66095), (57, 66131), (58, 66134), (61, 66149), (64, 66161), (73, 66203), (81, 66227), (86, 66257), (88, 66263), (91, 66278), (93, 66281), (98, 66311), (99, 66323), (101, 66338), (107, 66377), (108, 66383), (113, 66401), (117, 66422), (123, 66452), (125, 66458), (141, 66515), (145, 66527), (147, 66533), (152, 66563), (154, 66569), (166, 66599), (171, 66632), (175, 66680), (176, 66683), (187, 66728), (192, 66749), (203, 66800), (211, 66842), (220, 66878), (224, 66911), (229, 66938), (244, 66998), (245, 67001), (249, 67016), (251, 67022), (253, 67028),

Gene: Isolde\_75 Start: 42198, Stop: 43280, Start Num: 25

Candidate Starts for Isolde\_75:

(9, 42048), (Start: 25 @42198 has 61 MA's), (37, 42282), (61, 42414), (73, 42465), (83, 42513), (86, 42522), (98, 42576), (101, 42603), (171, 42888), (173, 42918), (181, 42951), (183, 42963), (220, 43125), (229, 43185), (239, 43218), (251, 43257),

Gene: JKerns\_73 Start: 48266, Stop: 47010, Start Num: 19

Candidate Starts for JKerns\_73:

(Start: 19 @48266 has 25 MA's), (Start: 24 @48230 has 1 MA's), (57, 48023), (71, 47957), (73, 47945), (83, 47891), (107, 47750), (121, 47693), (126, 47660), (129, 47639), (138, 47600), (164, 47474), (171, 47438), (172, 47417), (181, 47375), (199, 47282), (209, 47231), (210, 47225), (213, 47210), (219, 47186), (220, 47180), (237, 47084), (250, 47036), (251, 47033), (254, 47021),

Gene: JaNo\_103 Start: 65904, Stop: 67019, Start Num: 25

Candidate Starts for JaNo\_103:

(Start: 25 @65904 has 61 MA's), (30, 65943), (34, 65964), (41, 66003), (50, 66066), (57, 66102), (58, 66105), (61, 66120), (64, 66132), (73, 66174), (81, 66198), (86, 66228), (88, 66234), (91, 66249), (93, 66252), (98, 66282), (99, 66294), (101, 66309), (107, 66348), (108, 66354), (113, 66372), (117, 66393), (123, 66423), (125, 66429), (141, 66486), (145, 66498), (147, 66504), (152, 66534), (154, 66540), (166, 66570), (171, 66603), (175, 66651), (176, 66654), (187, 66699), (192, 66720), (203, 66771), (211, 66813), (220, 66849), (224, 66882), (229, 66909), (244, 66969), (245, 66972), (249, 66987), (251, 66993), (253, 66999),

Gene: JakeTheSnake\_80 Start: 45170, Stop: 46246, Start Num: 25

Candidate Starts for JakeTheSnake\_80:

(Start: 25 @45170 has 61 MA's), (36, 45248), (61, 45386), (82, 45476), (83, 45485), (86, 45494), (93, 45518), (111, 45632), (181, 45923), (220, 46097), (224, 46130), (251, 46229), (253, 46235),

Gene: Jawnski\_69 Start: 46878, Stop: 45607, Start Num: 19

Candidate Starts for Jawnski\_69:

(Start: 19 @46878 has 25 MA's), (Start: 24 @46839 has 1 MA's), (51, 46662), (62, 46611), (70, 46569), (71, 46566), (73, 46554), (80, 46524), (83, 46500), (105, 46383), (126, 46269), (129, 46248), (138, 46209), (168, 46053), (181, 45975), (185, 45957), (199, 45882), (213, 45810), (221, 45774), (234, 45699), (250, 45633), (251, 45630), (254, 45618),

Gene: JayCookie\_106 Start: 66789, Stop: 67904, Start Num: 25

Candidate Starts for JayCookie\_106:

(Start: 25 @66789 has 61 MA's), (30, 66828), (34, 66849), (41, 66888), (50, 66951), (57, 66987), (58, 66990), (61, 67005), (64, 67017), (73, 67059), (81, 67083), (86, 67113), (88, 67119), (91, 67134), (93, 67137), (98, 67167), (99, 67179), (101, 67194), (107, 67233), (108, 67239), (109, 67242), (113, 67257), (117, 67278), (123, 67308), (125, 67314), (141, 67371), (145, 67383), (147, 67389), (152, 67419), (154, 67425), (166, 67455), (171, 67488), (175, 67536), (176, 67539), (187, 67584), (192, 67605), (203, 67656), (211, 67698), (220, 67734), (224, 67767), (229, 67794), (244, 67854), (245, 67857), (249, 67872), (251, 67878), (253, 67884),

Gene: JellyBread\_74 Start: 42343, Stop: 43425, Start Num: 25

Candidate Starts for JellyBread\_74:

(9, 42193), (Start: 25 @42343 has 61 MA's), (37, 42427), (61, 42559), (73, 42610), (82, 42649), (83, 42658), (86, 42667), (93, 42691), (113, 42811), (161, 42991), (181, 43096), (214, 43246), (220, 43270), (225, 43309), (239, 43363), (251, 43402),

Gene: Jordan\_74 Start: 48424, Stop: 47168, Start Num: 19

Candidate Starts for Jordan\_74:

(Start: 19 @48424 has 25 MA's), (Start: 24 @48388 has 1 MA's), (57, 48181), (71, 48115), (73, 48103), (83, 48049), (107, 47908), (121, 47851), (126, 47818), (129, 47797), (138, 47758), (164, 47632), (171, 47596), (172, 47575), (181, 47533), (199, 47440), (209, 47389), (210, 47383), (213, 47368), (219, 47344), (220, 47338), (237, 47242), (250, 47194), (251, 47191), (254, 47179),

Gene: KBurrousTX\_100 Start: 67009, Stop: 68115, Start Num: 25

Candidate Starts for KBurrousTX\_100:

(Start: 25 @67009 has 61 MA's), (29, 67036), (30, 67048), (34, 67069), (51, 67177), (61, 67225), (66, 67249), (78, 67297), (81, 67303), (86, 67333), (93, 67357), (98, 67387), (108, 67459), (109, 67462), (113, 67477), (115, 67495), (117, 67498), (122, 67507), (123, 67528), (127, 67543), (137, 67579), (141, 67591), (145, 67603), (154, 67645), (155, 67648), (161, 67666), (166, 67675), (171, 67708), (185, 67795), (195, 67849), (202, 67873), (203, 67876), (206, 67891), (224, 67987), (228, 68011), (229, 68014), (239, 68050), (251, 68095),

Gene: Kabloowy\_77 Start: 43227, Stop: 44309, Start Num: 25

Candidate Starts for Kabloowy\_77:

(9, 43077), (Start: 25 @43227 has 61 MA's), (37, 43311), (61, 43443), (73, 43494), (83, 43542), (86, 43551), (93, 43575), (113, 43695), (161, 43875), (181, 43980), (214, 44130), (220, 44154), (225, 44193), (239, 44247), (251, 44286),

Gene: Kabreeze\_104 Start: 65990, Stop: 67105, Start Num: 25

Candidate Starts for Kabreeze\_104:

(Start: 25 @65990 has 61 MA's), (30, 66029), (34, 66050), (41, 66089), (50, 66152), (57, 66188), (58, 66191), (61, 66206), (64, 66218), (73, 66260), (81, 66284), (86, 66314), (88, 66320), (91, 66335), (93, 66338), (98, 66368), (99, 66380), (101, 66395), (107, 66434), (108, 66440), (113, 66458), (117, 66479), (123, 66509), (125, 66515), (141, 66572), (145, 66584), (147, 66590), (152, 66620), (154, 66626), (166, 66656), (171, 66689), (175, 66737), (176, 66740), (187, 66785), (192, 66806), (203, 66857), (211, 66899), (220, 66935), (224, 66968), (229, 66995), (244, 67055), (245, 67058), (249, 67073), (251, 67079), (253, 67085),

Gene: King2\_68 Start: 47406, Stop: 46135, Start Num: 19

Candidate Starts for King2\_68:

(Start: 19 @47406 has 25 MA's), (Start: 24 @47367 has 1 MA's), (51, 47190), (57, 47160), (62, 47139), (70, 47097), (71, 47094), (80, 47052), (83, 47028), (105, 46911), (126, 46797), (129, 46776), (136, 46743), (138, 46737), (168, 46581), (174, 46533), (181, 46503), (185, 46485), (199, 46410), (213, 46338), (221, 46302), (234, 46227), (250, 46161), (251, 46158), (254, 46146),

Gene: Larva\_48 Start: 36790, Stop: 37974, Start Num: 22

Candidate Starts for Larva\_48:

(Start: 22 @36790 has 12 MA's), (26, 36805), (29, 36826), (33, 36859), (38, 36889), (39, 36895), (47, 36937), (51, 36970), (55, 36994), (56, 37000), (60, 37012), (76, 37093), (83, 37126), (84, 37132), (96, 37180), (108, 37264), (109, 37267), (111, 37276), (116, 37306), (118, 37309), (139, 37408), (146, 37429), (154, 37468), (162, 37519), (163, 37522), (177, 37615), (190, 37666), (193, 37687), (198, 37714), (204, 37732), (216, 37804), (218, 37807), (224, 37843), (230, 37876), (237, 37906), (241, 37924), (243, 37933), (245, 37939),

Gene: Lasker\_77 Start: 43710, Stop: 44792, Start Num: 25

Candidate Starts for Lasker\_77:

(6, 43491), (14, 43602), (Start: 25 @43710 has 61 MA's), (40, 43806), (57, 43908), (61, 43926), (73, 43977), (82, 44016), (83, 44025), (86, 44034), (93, 44058), (98, 44088), (113, 44178), (161, 44358), (181, 44463), (220, 44637), (225, 44676), (239, 44730), (251, 44769),

Gene: Lawnathon\_79 Start: 42436, Stop: 43518, Start Num: 25

Candidate Starts for Lawnathon\_79:

(6, 42217), (14, 42328), (Start: 25 @42436 has 61 MA's), (61, 42652), (73, 42703), (83, 42751), (86, 42760), (93, 42784), (99, 42826), (101, 42841), (113, 42904), (171, 43126), (181, 43189), (183, 43201), (203, 43288), (220, 43363), (225, 43402), (228, 43420), (239, 43456), (251, 43495),

Gene: LeBruni\_78 Start: 42270, Stop: 43352, Start Num: 25

Candidate Starts for LeBruni\_78:

(Start: 25 @42270 has 61 MA's), (61, 42486), (82, 42576), (83, 42585), (86, 42594), (93, 42618), (99, 42660), (101, 42675), (113, 42738), (181, 43023), (220, 43197), (225, 43236), (228, 43254), (239, 43290), (251, 43329),

Gene: LeeroyJ\_74 Start: 47962, Stop: 46694, Start Num: 19

Candidate Starts for LeeroyJ\_74:

(17, 47980), (Start: 19 @47962 has 25 MA's), (Start: 24 @47923 has 1 MA's), (40, 47818), (57, 47716), (73, 47638), (83, 47584), (101, 47482), (121, 47386), (129, 47332), (131, 47314), (138, 47293), (164, 47158), (172, 47101), (199, 46966), (209, 46915), (210, 46909), (232, 46792), (250, 46720), (251, 46717), (254, 46705),

Gene: Leston\_47 Start: 36920, Stop: 38050, Start Num: 22

Candidate Starts for Leston\_47:

(Start: 22 @36920 has 12 MA's), (Start: 23 @36923 has 2 MA's), (36, 37010), (37, 37016), (42, 37034), (49, 37088), (63, 37160), (79, 37232), (88, 37280), (94, 37307), (98, 37331), (108, 37403), (109, 37406), (111, 37415), (127, 37490), (154, 37586), (163, 37616), (165, 37619), (171, 37655), (193, 37778), (198, 37805), (199, 37808), (205, 37814), (207, 37835), (211, 37847), (214, 37862), (218, 37883), (222, 37907), (227, 37940), (231, 37958), (242, 38006), (245, 38015), (248, 38021),

Gene: Linus\_105 Start: 66438, Stop: 67553, Start Num: 25

Candidate Starts for Linus\_105:

(Start: 25 @66438 has 61 MA's), (30, 66477), (34, 66498), (41, 66537), (50, 66600), (57, 66636), (58, 66639), (61, 66654), (64, 66666), (73, 66708), (81, 66732), (86, 66762), (88, 66768), (91, 66783), (93, 66786), (95, 66795), (98, 66816), (99, 66828), (101, 66843), (107, 66882), (108, 66888), (113, 66906), (117, 66927), (123, 66957), (125, 66963), (141, 67020), (145, 67032), (147, 67038), (152, 67068), (166, 67104), (171, 67137), (175, 67185), (176, 67188), (187, 67233), (192, 67254), (203, 67305), (211, 67347), (220, 67383), (224, 67416), (229, 67443), (244, 67503), (245, 67506), (249, 67521), (251, 67527), (253, 67533),

Gene: Lymara\_103 Start: 65180, Stop: 66295, Start Num: 25

Candidate Starts for Lymara\_103:

(Start: 25 @65180 has 61 MA's), (30, 65219), (34, 65240), (41, 65279), (45, 65300), (50, 65342), (57, 65378), (61, 65396), (64, 65408), (81, 65474), (86, 65504), (88, 65510), (91, 65525), (93, 65528), (98, 65558), (99, 65570), (101, 65585), (107, 65624), (109, 65633), (117, 65669), (123, 65699), (141, 65762), (142, 65765), (145, 65774), (147, 65780), (152, 65810), (171, 65879), (172, 65900), (175, 65927), (176, 65930), (182, 65954), (187, 65975), (192, 65996), (211, 66089), (220, 66125), (224, 66158), (229, 66185), (236, 66212), (249, 66263), (251, 66269), (253, 66275),

Gene: MUWow\_79 Start: 44041, Stop: 45123, Start Num: 25

Candidate Starts for MUWow\_79:

(6, 43822), (Start: 25 @44041 has 61 MA's), (40, 44137), (53, 44221), (61, 44257), (69, 44296), (83, 44356), (86, 44365), (88, 44371), (93, 44389), (107, 44485), (110, 44497), (126, 44569), (171, 44731), (179, 44788), (181, 44794), (203, 44893), (251, 45100),

Gene: Mapleville\_72 Start: 41767, Stop: 42849, Start Num: 25

Candidate Starts for Mapleville\_72:

(9, 41617), (Start: 25 @41767 has 61 MA's), (57, 41965), (61, 41983), (73, 42034), (82, 42073), (83, 42082), (86, 42091), (93, 42115), (113, 42235), (161, 42415), (181, 42520), (214, 42670), (220, 42694), (225, 42733), (239, 42787), (251, 42826),

Gene: Martha\_73 Start: 48219, Stop: 46954, Start Num: 19

Candidate Starts for Martha\_73:

(Start: 19 @48219 has 25 MA's), (Start: 24 @48183 has 1 MA's), (57, 47976), (71, 47910), (73, 47898), (83, 47844), (121, 47646), (126, 47613), (129, 47592), (138, 47553), (164, 47418), (168, 47397), (171, 47382), (172, 47361), (181, 47319), (199, 47226), (209, 47175), (210, 47169), (213, 47154), (220, 47124), (250, 46980), (251, 46977), (254, 46965),

Gene: MaterMagnus\_77 Start: 43080, Stop: 44162, Start Num: 25

Candidate Starts for MaterMagnus\_77:

(6, 42861), (Start: 25 @43080 has 61 MA's), (57, 43278), (61, 43296), (73, 43347), (82, 43386), (83, 43395), (86, 43404), (93, 43428), (99, 43470), (113, 43548), (161, 43728), (181, 43833), (220, 44007), (225, 44046), (228, 44064), (239, 44100), (251, 44139),

Gene: MidnightRain\_82 Start: 43656, Stop: 44738, Start Num: 25

Candidate Starts for MidnightRain\_82:

(2, 43155), (4, 43257), (6, 43437), (14, 43548), (Start: 25 @43656 has 61 MA's), (57, 43854), (61, 43872), (73, 43923), (82, 43962), (83, 43971), (86, 43980), (93, 44004), (99, 44046), (113, 44124), (161, 44304), (179, 44403), (181, 44409), (216, 44577), (220, 44583), (225, 44622), (239, 44676), (251, 44715),

Gene: Miryou\_50 Start: 39122, Stop: 40252, Start Num: 22

Candidate Starts for Miryou\_50:

(Start: 22 @39122 has 12 MA's), (Start: 23 @39125 has 2 MA's), (36, 39212), (37, 39218), (42, 39236), (49, 39290), (63, 39362), (79, 39434), (88, 39482), (94, 39509), (98, 39533), (108, 39605), (109, 39608), (111, 39617), (127, 39692), (154, 39788), (163, 39818), (165, 39821), (171, 39857), (193, 39980), (198, 40007), (199, 40010), (205, 40016), (207, 40037), (211, 40049), (214, 40064), (218, 40085), (222, 40109), (227, 40142), (231, 40160), (242, 40208), (245, 40217), (248, 40223),

Gene: Mordred\_104 Start: 66029, Stop: 67144, Start Num: 25

Candidate Starts for Mordred\_104:

(Start: 25 @66029 has 61 MA's), (30, 66068), (34, 66089), (41, 66128), (50, 66191), (57, 66227), (58, 66230), (61, 66245), (64, 66257), (73, 66299), (81, 66323), (86, 66353), (88, 66359), (91, 66374), (93, 66377), (98, 66407), (99, 66419), (101, 66434), (107, 66473), (108, 66479), (113, 66497), (117, 66518), (123, 66548), (125, 66554), (141, 66611), (145, 66623), (147, 66629), (152, 66659), (154, 66665), (166, 66695), (171, 66728), (175, 66776), (176, 66779), (187, 66824), (192, 66845), (203, 66896), (211, 66938), (220, 66974), (224, 67007), (229, 67034), (244, 67094), (245, 67097), (249, 67112), (251, 67118), (253, 67124),

Gene: MoyaNatalis\_105 Start: 66235, Stop: 67350, Start Num: 25

Candidate Starts for MoyaNatalis\_105:

(Start: 25 @66235 has 61 MA's), (30, 66274), (34, 66295), (41, 66334), (50, 66397), (57, 66433), (58, 66436), (61, 66451), (64, 66463), (73, 66505), (81, 66529), (86, 66559), (88, 66565), (91, 66580), (93, 66583), (98, 66613), (99, 66625), (101, 66640), (107, 66679), (108, 66685), (109, 66688), (113, 66703), (117, 66724), (123, 66754), (125, 66760), (141, 66817), (145, 66829), (147, 66835), (152, 66865), (154, 66871), (166, 66901), (171, 66934), (175, 66982), (176, 66985), (187, 67030), (192, 67051), (203, 67102), (211, 67144), (220, 67180), (224, 67213), (229, 67240), (244, 67300), (245, 67303), (249, 67318), (251, 67324), (253, 67330),

Gene: MurphyJoseph\_73 Start: 41096, Stop: 42166, Start Num: 25

Candidate Starts for MurphyJoseph\_73:

(6, 40877), (Start: 25 @41096 has 61 MA's), (61, 41312), (82, 41402), (83, 41411), (86, 41420), (93, 41444), (110, 41552), (121, 41591), (148, 41696), (150, 41705), (171, 41786), (181, 41849), (200, 41942), (220, 42023), (239, 42110), (251, 42149), (253, 42155),

Gene: NathanVaag\_69 Start: 47108, Stop: 45837, Start Num: 19

Candidate Starts for NathanVaag\_69:

(Start: 19 @47108 has 25 MA's), (Start: 24 @47069 has 1 MA's), (28, 47048), (51, 46892), (57, 46862), (62, 46841), (71, 46796), (73, 46784), (80, 46754), (83, 46730), (105, 46613), (126, 46499), (129, 46478), (136, 46445), (138, 46439), (158, 46352), (181, 46205), (199, 46112), (213, 46040), (221, 46004), (250, 45863), (251, 45860), (254, 45848),

Gene: Neighly\_49 Start: 36789, Stop: 37973, Start Num: 22

Candidate Starts for Neighly\_49:

(Start: 22 @36789 has 12 MA's), (26, 36804), (29, 36825), (33, 36858), (38, 36888), (39, 36894), (47, 36936), (51, 36969), (55, 36993), (56, 36999), (60, 37011), (76, 37092), (83, 37125), (84, 37131), (96, 37179), (108, 37263), (109, 37266), (111, 37275), (116, 37305), (118, 37308), (139, 37407), (146, 37428), (154, 37467), (162, 37518), (163, 37521), (177, 37614), (190, 37665), (193, 37686), (198, 37713), (204, 37731), (216, 37803), (218, 37806), (224, 37842), (230, 37875), (237, 37905), (241, 37923), (243, 37932), (245, 37938),

Gene: NewKitty\_79 Start: 44038, Stop: 45120, Start Num: 25

Candidate Starts for NewKitty\_79:

(9, 43888), (14, 43930), (Start: 25 @44038 has 61 MA's), (61, 44254), (82, 44344), (83, 44353), (86, 44362), (93, 44386), (99, 44428), (113, 44506), (181, 44791), (220, 44965), (225, 45004), (239, 45058), (251, 45097), (253, 45103),

Gene: Nostromo\_68 Start: 44873, Stop: 43611, Start Num: 18

Candidate Starts for Nostromo\_68:

(Start: 18 @44873 has 1 MA's), (27, 44810), (29, 44795), (35, 44756), (37, 44735), (49, 44660), (59, 44606), (67, 44564), (87, 44462), (92, 44438), (97, 44411), (100, 44390), (107, 44339), (108, 44333), (124, 44261), (132, 44213), (133, 44207), (135, 44204), (144, 44177), (153, 44138), (161, 44096), (181, 43991), (188, 43958), (194, 43922), (197, 43910), (209, 43844), (217, 43802), (225, 43751), (230, 43727), (247, 43649), (251, 43634), (254, 43622),

Gene: Nyilah\_80 Start: 42338, Stop: 43420, Start Num: 25

Candidate Starts for Nyilah\_80:

(6, 42119), (Start: 25 @42338 has 61 MA's), (40, 42434), (53, 42518), (61, 42554), (69, 42593), (83, 42653), (86, 42662), (93, 42686), (107, 42782), (110, 42794), (126, 42866), (171, 43028), (179, 43085), (181, 43091), (203, 43190), (227, 43316), (228, 43322), (251, 43397),

Gene: OkiRoe\_47 Start: 36793, Stop: 37923, Start Num: 22

Candidate Starts for OkiRoe\_47:

(Start: 22 @36793 has 12 MA's), (Start: 23 @36796 has 2 MA's), (36, 36883), (37, 36889), (42, 36907), (49, 36961), (63, 37033), (79, 37105), (88, 37153), (94, 37180), (98, 37204), (108, 37276), (109, 37279), (111, 37288), (127, 37363), (154, 37459), (163, 37489), (165, 37492), (171, 37528), (193, 37651), (198, 37678), (199, 37681), (205, 37687), (207, 37708), (211, 37720), (214, 37735), (218, 37756), (222, 37780), (227, 37813), (231, 37831), (242, 37879), (245, 37888), (248, 37894),

Gene: Omnicron\_50 Start: 36355, Stop: 37521, Start Num: 22

Candidate Starts for Omnicron\_50:

(Start: 22 @36355 has 12 MA's), (39, 36457), (47, 36499), (51, 36532), (60, 36574), (76, 36655), (83, 36688), (90, 36718), (108, 36826), (111, 36838), (118, 36871), (125, 36907), (139, 36952), (146, 36973), (162, 37066), (163, 37069), (168, 37093), (170, 37105), (177, 37162), (190, 37213), (193, 37234), (198, 37261), (204, 37279), (216, 37351), (218, 37354), (222, 37378), (224, 37390), (230, 37423), (237, 37453), (241, 37471), (243, 37480), (245, 37486),

Gene: P3MA\_48 Start: 33683, Stop: 34831, Start Num: 25

Candidate Starts for P3MA\_48:

(Start: 25 @33683 has 61 MA's), (27, 33695), (40, 33779), (41, 33782), (46, 33812), (52, 33860), (59, 33890), (75, 33971), (85, 34013), (93, 34046), (106, 34121), (117, 34187), (123, 34217), (157, 34340), (160, 34355), (169, 34388), (172, 34421), (173, 34430), (181, 34466), (186, 34490), (212, 34619), (225, 34682), (230, 34706), (235, 34733),

Gene: Paola\_47 Start: 36791, Stop: 37921, Start Num: 22

Candidate Starts for Paola\_47:

(Start: 22 @36791 has 12 MA's), (Start: 23 @36794 has 2 MA's), (36, 36881), (37, 36887), (42, 36905), (49, 36959), (63, 37031), (79, 37103), (88, 37151), (94, 37178), (98, 37202), (108, 37274), (109, 37277), (111, 37286), (127, 37361), (154, 37457), (163, 37487), (165, 37490), (171, 37526), (193, 37649), (198, 37676), (199, 37679), (205, 37685), (207, 37706), (211, 37718), (214, 37733), (218, 37754), (222, 37778), (227, 37811), (231, 37829), (242, 37877), (245, 37886),

Gene: Persistence\_71 Start: 40729, Stop: 41805, Start Num: 25

Candidate Starts for Persistence\_71:

(Start: 25 @40729 has 61 MA's), (36, 40807), (61, 40945), (82, 41035), (83, 41044), (86, 41053), (93, 41077), (111, 41191), (181, 41482), (220, 41656), (224, 41689), (251, 41788), (253, 41794),

Gene: Phrank15\_81 Start: 43167, Stop: 44249, Start Num: 25

Candidate Starts for Phrank15\_81:

(Start: 25 @43167 has 61 MA's), (61, 43383), (73, 43434), (83, 43482), (86, 43491), (93, 43515), (113, 43635), (161, 43815), (220, 44094), (225, 44133), (239, 44187), (251, 44226),

Gene: Piccoletto\_70 Start: 47270, Stop: 45999, Start Num: 19

Candidate Starts for Piccoletto\_70:

(Start: 19 @47270 has 25 MA's), (Start: 24 @47231 has 1 MA's), (28, 47210), (51, 47054), (57, 47024), (62, 47003), (71, 46958), (73, 46946), (80, 46916), (83, 46892), (105, 46775), (107, 46751), (126, 46661), (129, 46640), (138, 46601), (158, 46514), (181, 46367), (199, 46274), (213, 46202), (221, 46166), (250, 46025), (251, 46022), (254, 46010),

Gene: Pippa\_74 Start: 48274, Stop: 47006, Start Num: 19

Candidate Starts for Pippa\_74:

(Start: 19 @48274 has 25 MA's), (Start: 24 @48238 has 1 MA's), (33, 48175), (57, 48031), (71, 47965), (73, 47953), (83, 47899), (105, 47782), (121, 47701), (126, 47668), (129, 47647), (138, 47608), (164, 47473), (172, 47416), (181, 47374), (199, 47281), (209, 47230), (210, 47224), (213, 47209), (220, 47179), (250, 47035), (251, 47032),

Gene: PrincessTrina\_105 Start: 66220, Stop: 67335, Start Num: 25

Candidate Starts for PrincessTrina\_105:

(Start: 25 @66220 has 61 MA's), (30, 66259), (34, 66280), (41, 66319), (50, 66382), (57, 66418), (58, 66421), (61, 66436), (64, 66448), (73, 66490), (81, 66514), (86, 66544), (88, 66550), (91, 66565), (93, 66568), (98, 66598), (99, 66610), (101, 66625), (107, 66664), (108, 66670), (113, 66688), (117, 66709), (123, 66739), (125, 66745), (141, 66802), (145, 66814), (147, 66820), (152, 66850), (154, 66856), (166, 66886), (171, 66919), (175, 66967), (176, 66970), (187, 67015), (192, 67036), (203, 67087), (211, 67129), (220, 67165), (224, 67198), (229, 67225), (244, 67285), (245, 67288), (249, 67303), (251, 67309), (253, 67315),

Gene: RadFad\_82 Start: 43361, Stop: 44443, Start Num: 25

Candidate Starts for RadFad\_82:

(6, 43142), (14, 43253), (Start: 25 @43361 has 61 MA's), (57, 43559), (61, 43577), (82, 43667), (83, 43676), (86, 43685), (93, 43709), (99, 43751), (113, 43829), (161, 44009), (179, 44108), (181, 44114), (220, 44288), (225, 44327), (228, 44345), (239, 44381), (251, 44420),

Gene: Raphaella\_78 Start: 42144, Stop: 43226, Start Num: 25

Candidate Starts for Raphaella\_78:

(9, 41994), (Start: 25 @42144 has 61 MA's), (57, 42342), (61, 42360), (73, 42411), (82, 42450), (83, 42459), (86, 42468), (93, 42492), (113, 42612), (161, 42792), (181, 42897), (214, 43047), (220, 43071), (225, 43110), (239, 43164), (251, 43203),

Gene: Raqqa\_75 Start: 42837, Stop: 43919, Start Num: 25

Candidate Starts for Raqqa\_75:

(3, 42408), (6, 42618), (9, 42687), (Start: 25 @42837 has 61 MA's), (44, 42948), (61, 43053), (73, 43104), (82, 43143), (83, 43152), (86, 43161), (93, 43185), (99, 43227), (113, 43305), (161, 43485), (179, 43584), (181, 43590), (216, 43758), (220, 43764), (225, 43803), (239, 43857), (251, 43896),

Gene: Richie\_80 Start: 44012, Stop: 45094, Start Num: 25

Candidate Starts for Richie\_80:

(6, 43793), (Start: 25 @44012 has 61 MA's), (61, 44228), (73, 44279), (83, 44327), (86, 44336), (93, 44360), (99, 44402), (101, 44417), (113, 44480), (171, 44702), (181, 44765), (203, 44864), (220, 44939), (225, 44978), (228, 44996), (239, 45032), (251, 45071),

Gene: RosiePosie\_105 Start: 66351, Stop: 67466, Start Num: 25

Candidate Starts for RosiePosie\_105:

(Start: 25 @66351 has 61 MA's), (30, 66390), (34, 66411), (41, 66450), (50, 66513), (57, 66549), (58, 66552), (61, 66567), (64, 66579), (73, 66621), (81, 66645), (86, 66675), (88, 66681), (91, 66696), (93, 66699), (98, 66729), (99, 66741), (101, 66756), (107, 66795), (108, 66801), (109, 66804), (113, 66819), (117, 66840), (123, 66870), (125, 66876), (141, 66933), (145, 66945), (147, 66951), (152, 66981), (154, 66987), (166, 67017), (171, 67050), (175, 67098), (176, 67101), (187, 67146), (192, 67167), (203, 67218), (211, 67260), (220, 67296), (224, 67329), (229, 67356), (244, 67416), (245, 67419), (249, 67434), (251, 67440), (253, 67446),

Gene: Sakai\_74 Start: 42039, Stop: 43121, Start Num: 25

Candidate Starts for Sakai\_74:

(6, 41820), (Start: 25 @42039 has 61 MA's), (57, 42237), (61, 42255), (73, 42306), (82, 42345), (83, 42354), (86, 42363), (93, 42387), (99, 42429), (113, 42507), (161, 42687), (181, 42792), (220, 42966), (225, 43005), (228, 43023), (239, 43059), (251, 43098),

Gene: Sashimi\_75 Start: 42712, Stop: 43794, Start Num: 25

Candidate Starts for Sashimi\_75:

(6, 42493), (Start: 25 @42712 has 61 MA's), (40, 42808), (51, 42880), (61, 42928), (69, 42967), (73, 42979), (82, 43018), (83, 43027), (86, 43036), (93, 43060), (99, 43102), (108, 43162), (110, 43168), (111, 43174), (117, 43201), (148, 43312), (181, 43465), (191, 43510), (203, 43564), (251, 43771),

Gene: Satrap\_77 Start: 42786, Stop: 43868, Start Num: 25

Candidate Starts for Satrap\_77:

(6, 42567), (Start: 25 @42786 has 61 MA's), (57, 42984), (61, 43002), (73, 43053), (82, 43092), (83, 43101), (86, 43110), (93, 43134), (113, 43254), (161, 43434), (173, 43506), (181, 43539), (220, 43713), (225, 43752), (239, 43806), (251, 43845),

Gene: Scavito\_105 Start: 66078, Stop: 67193, Start Num: 25

Candidate Starts for Scavito\_105:

(Start: 25 @66078 has 61 MA's), (30, 66117), (34, 66138), (41, 66177), (50, 66240), (57, 66276), (58, 66279), (61, 66294), (64, 66306), (73, 66348), (81, 66372), (86, 66402), (88, 66408), (91, 66423), (93, 66426), (98, 66456), (99, 66468), (101, 66483), (107, 66522), (108, 66528), (113, 66546), (117, 66567), (123, 66597), (125, 66603), (141, 66660), (145, 66672), (147, 66678), (152, 66708), (154, 66714), (166, 66744), (171, 66777), (175, 66825), (176, 66828), (187, 66873), (192, 66894), (203,

66945), (211, 66987), (220, 67023), (224, 67056), (229, 67083), (244, 67143), (245, 67146), (249, 67161), (251, 67167), (253, 67173),

Gene: Seahorse\_85 Start: 47706, Stop: 48782, Start Num: 25

Candidate Starts for Seahorse\_85:

(Start: 25 @47706 has 61 MA's), (61, 47922), (73, 47973), (83, 48021), (86, 48030), (93, 48054), (99, 48096), (101, 48111), (109, 48159), (111, 48168), (113, 48174), (194, 48525), (251, 48765), (253, 48771),

Gene: Shade\_73 Start: 48030, Stop: 46774, Start Num: 19

Candidate Starts for Shade\_73:

(Start: 19 @48030 has 25 MA's), (Start: 24 @47994 has 1 MA's), (57, 47787), (71, 47721), (83, 47655), (107, 47514), (121, 47457), (126, 47424), (129, 47403), (138, 47364), (164, 47238), (171, 47202), (172, 47181), (181, 47139), (199, 47046), (209, 46995), (210, 46989), (213, 46974), (220, 46944), (237, 46848), (250, 46800), (251, 46797), (254, 46785),

Gene: Shukran\_74 Start: 41608, Stop: 42684, Start Num: 25

Candidate Starts for Shukran\_74:

(Start: 25 @41608 has 61 MA's), (57, 41806), (61, 41824), (73, 41875), (82, 41914), (83, 41923), (86, 41932), (93, 41956), (98, 41986), (99, 41998), (111, 42070), (137, 42169), (140, 42178), (181, 42361), (186, 42385), (200, 42454), (251, 42667),

Gene: Sicarius2\_75 Start: 46185, Stop: 44965, Start Num: 19

Candidate Starts for Sicarius2\_75:

(5, 46404), (7, 46338), (Start: 19 @46185 has 25 MA's), (21, 46179), (Start: 24 @46143 has 1 MA's), (57, 45936), (73, 45858), (74, 45855), (116, 45615), (126, 45573), (128, 45555), (151, 45465), (164, 45429), (201, 45231), (210, 45180), (221, 45129), (228, 45078), (233, 45057), (237, 45042), (251, 44988), (253, 44982), (254, 44976),

Gene: SoSeph\_47 Start: 36966, Stop: 38096, Start Num: 22

Candidate Starts for SoSeph\_47:

(Start: 22 @36966 has 12 MA's), (Start: 23 @36969 has 2 MA's), (36, 37056), (37, 37062), (42, 37080), (49, 37134), (53, 37161), (63, 37206), (79, 37278), (88, 37326), (94, 37353), (98, 37377), (108, 37449), (109, 37452), (111, 37461), (127, 37536), (154, 37632), (163, 37662), (165, 37665), (171, 37701), (193, 37824), (198, 37851), (199, 37854), (207, 37881), (211, 37893), (214, 37908), (216, 37926), (218, 37929), (222, 37953), (227, 37986), (231, 38004), (242, 38052), (245, 38061),

Gene: SonDevVon\_84 Start: 43088, Stop: 44170, Start Num: 25

Candidate Starts for SonDevVon\_84:

(6, 42869), (Start: 25 @43088 has 61 MA's), (37, 43172), (61, 43304), (73, 43355), (83, 43403), (86, 43412), (93, 43436), (98, 43466), (101, 43493), (171, 43778), (173, 43808), (181, 43841), (183, 43853), (220, 44015), (229, 44075), (239, 44108), (251, 44147),

Gene: Sonny\_73 Start: 47985, Stop: 46729, Start Num: 19

Candidate Starts for Sonny\_73:

(Start: 19 @47985 has 25 MA's), (Start: 24 @47949 has 1 MA's), (57, 47742), (71, 47676), (73, 47664), (83, 47610), (107, 47469), (121, 47412), (126, 47379), (129, 47358), (138, 47319), (164, 47193), (171, 47157), (172, 47136), (181, 47094), (199, 47001), (209, 46950), (210, 46944), (213, 46929), (219, 46905), (220, 46899), (237, 46803), (250, 46755), (251, 46752), (254, 46740),

Gene: SpicyFrank\_79 Start: 42429, Stop: 43511, Start Num: 25

Candidate Starts for SpicyFrank\_79:

(6, 42210), (Start: 25 @42429 has 61 MA's), (40, 42525), (61, 42645), (73, 42696), (83, 42744), (86, 42753), (93, 42777), (98, 42807), (99, 42819), (101, 42834), (171, 43119), (181, 43182), (203, 43281), (220, 43356), (225, 43395), (228, 43413), (239, 43449), (251, 43488),

Gene: Sporco\_79 Start: 43824, Stop: 44906, Start Num: 25

Candidate Starts for Sporco\_79:

(9, 43674), (Start: 25 @43824 has 61 MA's), (57, 44022), (61, 44040), (73, 44091), (82, 44130), (83, 44139), (86, 44148), (93, 44172), (113, 44292), (161, 44472), (181, 44577), (214, 44727), (220, 44751), (225, 44790), (239, 44844), (251, 44883),

Gene: StevieBAY\_74 Start: 48255, Stop: 46987, Start Num: 19

Candidate Starts for StevieBAY\_74:

(17, 48273), (Start: 19 @48255 has 25 MA's), (Start: 24 @48216 has 1 MA's), (40, 48111), (57, 48009), (73, 47931), (83, 47877), (100, 47787), (101, 47775), (121, 47679), (129, 47625), (131, 47607), (138, 47586), (164, 47451), (172, 47394), (181, 47352), (199, 47259), (209, 47208), (210, 47202), (232, 47085), (250, 47013), (251, 47010), (254, 46998),

Gene: TaeYoung\_74 Start: 48191, Stop: 46926, Start Num: 19

Candidate Starts for TaeYoung\_74:

(Start: 19 @48191 has 25 MA's), (Start: 24 @48155 has 1 MA's), (57, 47948), (71, 47882), (73, 47870), (83, 47816), (121, 47618), (126, 47585), (129, 47564), (138, 47525), (164, 47390), (168, 47369), (171, 47354), (172, 47333), (181, 47291), (199, 47198), (209, 47147), (210, 47141), (213, 47126), (220, 47096), (250, 46952), (251, 46949), (254, 46937),

Gene: ThayneTheZag\_82 Start: 43056, Stop: 44138, Start Num: 25

Candidate Starts for ThayneTheZag\_82:

(6, 42837), (14, 42948), (Start: 25 @43056 has 61 MA's), (57, 43254), (61, 43272), (73, 43323), (82, 43362), (83, 43371), (86, 43380), (93, 43404), (99, 43446), (113, 43524), (161, 43704), (179, 43803), (181, 43809), (220, 43983), (239, 44076), (251, 44115),

Gene: Thyatira\_50 Start: 39131, Stop: 40258, Start Num: 23

Candidate Starts for Thyatira\_50:

(Start: 22 @39128 has 12 MA's), (Start: 23 @39131 has 2 MA's), (36, 39218), (37, 39224), (42, 39242), (46, 39269), (49, 39296), (63, 39368), (79, 39440), (88, 39488), (94, 39515), (98, 39539), (108, 39611), (109, 39614), (111, 39623), (127, 39698), (154, 39794), (163, 39824), (165, 39827), (171, 39863), (193, 39986), (198, 40013), (199, 40016), (207, 40043), (211, 40055), (214, 40070), (216, 40088), (218, 40091), (222, 40115), (227, 40148), (231, 40166), (242, 40214), (245, 40223),

Gene: Tiff81\_73 Start: 41323, Stop: 42399, Start Num: 25

Candidate Starts for Tiff81\_73:

(Start: 25 @41323 has 61 MA's), (61, 41539), (73, 41590), (83, 41638), (86, 41647), (93, 41671), (99, 41713), (101, 41728), (109, 41776), (111, 41785), (113, 41791), (194, 42142), (216, 42244), (251, 42382), (253, 42388),

Gene: Timinator\_74 Start: 48075, Stop: 46807, Start Num: 19

Candidate Starts for Timinator\_74:

(17, 48093), (Start: 19 @48075 has 25 MA's), (Start: 24 @48036 has 1 MA's), (40, 47931), (57, 47829), (73, 47751), (83, 47697), (101, 47595), (121, 47499), (129, 47445), (131, 47427), (138, 47406), (164, 47271), (172, 47214), (199, 47079), (209, 47028), (210, 47022), (232, 46905), (250, 46833), (251, 46830), (254, 46818),

Gene: Tophat\_106 Start: 66518, Stop: 67633, Start Num: 25

Candidate Starts for Tophat\_106:

(Start: 25 @66518 has 61 MA's), (30, 66557), (34, 66578), (41, 66617), (50, 66680), (57, 66716), (58, 66719), (61, 66734), (64, 66746), (73, 66788), (81, 66812), (86, 66842), (88, 66848), (91, 66863), (93, 66866), (98, 66896), (99, 66908), (101, 66923), (107, 66962), (108, 66968), (109, 66971), (113, 66986), (117, 67007), (123, 67037), (125, 67043), (141, 67100), (145, 67112), (147, 67118), (152, 67148), (154, 67154), (166, 67184), (171, 67217), (175, 67265), (176, 67268), (187, 67313), (192, 67334), (203, 67385), (211, 67427), (220, 67463), (224, 67496), (229, 67523), (236, 67550), (244, 67583), (245, 67586), (249, 67601), (251, 67607), (253, 67613),

Gene: Vopal\_79 Start: 44498, Stop: 45568, Start Num: 25

Candidate Starts for Vopal\_79:

(12, 44387), (Start: 25 @44498 has 61 MA's), (61, 44714), (73, 44765), (83, 44813), (86, 44822), (88, 44828), (93, 44846), (107, 44942), (110, 44954), (121, 44993), (148, 45098), (150, 45107), (171, 45188), (181, 45251), (200, 45344), (215, 45404), (220, 45425), (239, 45512), (251, 45551), (253, 45557),

Gene: Waterfoul\_48 Start: 37028, Stop: 38158, Start Num: 22

Candidate Starts for Waterfoul\_48:

(Start: 22 @37028 has 12 MA's), (Start: 23 @37031 has 2 MA's), (36, 37118), (37, 37124), (42, 37142), (49, 37196), (53, 37223), (63, 37268), (79, 37340), (88, 37388), (94, 37415), (98, 37439), (108, 37511), (109, 37514), (111, 37523), (127, 37598), (154, 37694), (163, 37724), (165, 37727), (171, 37763), (193, 37886), (198, 37913), (199, 37916), (207, 37943), (211, 37955), (214, 37970), (216, 37988), (218, 37991), (222, 38015), (227, 38048), (231, 38066), (242, 38114), (245, 38123),

Gene: Windest\_81 Start: 41494, Stop: 42576, Start Num: 25

Candidate Starts for Windest\_81:

(6, 41275), (Start: 25 @41494 has 61 MA's), (61, 41710), (73, 41761), (83, 41809), (86, 41818), (93, 41842), (99, 41884), (101, 41899), (113, 41962), (171, 42184), (181, 42247), (183, 42259), (203, 42346), (220, 42421), (225, 42460), (228, 42478), (239, 42514), (251, 42553),

Gene: Wyborn\_74 Start: 46920, Stop: 45700, Start Num: 19

Candidate Starts for Wyborn\_74:

(11, 46992), (Start: 19 @46920 has 25 MA's), (21, 46914), (Start: 24 @46878 has 1 MA's), (57, 46671), (73, 46593), (74, 46590), (109, 46389), (116, 46350), (126, 46308), (128, 46290), (151, 46200), (164, 46164), (201, 45966), (210, 45915), (221, 45864), (228, 45813), (233, 45792), (237, 45777), (251, 45723), (253, 45717), (254, 45711),

Gene: YoungHarleezy\_77 Start: 42414, Stop: 43496, Start Num: 25

Candidate Starts for YoungHarleezy\_77:

(9, 42264), (Start: 25 @42414 has 61 MA's), (37, 42498), (61, 42630), (73, 42681), (83, 42729), (86, 42738), (93, 42762), (98, 42792), (171, 43104), (173, 43134), (181, 43167), (183, 43179), (220, 43341), (229, 43401), (239, 43434), (251, 43473),

Gene: Zartrosa\_75 Start: 48282, Stop: 47026, Start Num: 19

Candidate Starts for Zartrosa\_75:

(Start: 19 @48282 has 25 MA's), (Start: 24 @48246 has 1 MA's), (57, 48039), (71, 47973), (83, 47907), (107, 47766), (121, 47709), (126, 47676), (129, 47655), (138, 47616), (164, 47490), (171, 47454), (172, 47433), (181, 47391), (199, 47298), (209, 47247), (210, 47241), (213, 47226), (219, 47202), (220, 47196), (237, 47100), (250, 47052), (251, 47049), (254, 47037),

Gene: Zucker\_74 Start: 43490, Stop: 44560, Start Num: 25

Candidate Starts for Zucker\_74:

(Start: 25 @43490 has 61 MA's), (61, 43706), (83, 43805), (86, 43814), (93, 43838), (107, 43934), (110, 43946), (121, 43985), (148, 44090), (171, 44180), (181, 44243), (200, 44336), (215, 44396),

(220, 44417), (239, 44504), (251, 44543), (253, 44549),